Data Summary Report
Thompson-Isaacson Property
Tukwila, Washington

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Prepared for

The Boeing Company

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TABLE OF CONTENTS

		Page
1.0	INTRODUCTION	1-1
2.0	PROPERTY DESCRIPTION AND SETTING	2-1
3.0	PROPERTY GEOLOGY/HYDROGEOLOGY	3-1
4.0	HISTORICAL INFORMATION	4-1
5.0	PREVIOUS INVESTIGATIONS AND BOEING RECORDS	5-1
	5.1 PREVIOUS INVESTIGATIONS	5-1
	5.2 REVIEW OF BOEING RECORDS	5-3
6.0	SITE RECONNAISSANCE	6-1
7.0	AREAS OF CONCERN	7-1
8.0	FOCUSED PHASE II INVESTIGATION	8-1
	8.1 FIELD ACTIVITIES	8-1
	8.1.1 Soil and Groundwater Sampling	8-1
	8.1.2 Sump Sampling	8-2
	8.1.3 Compressed Air System Sampling	8-2
	8.1.4 Aboveground Storage Tank Sampling	8-3
	8.2 ANALYTICAL RESULTS FOR SOIL AND GROUNDWATER SAMPLING	8-3
	8.2.1 Metals in Soil and Groundwater	8-4
	8.2.2 Volatile Organic Compounds in Soil and Groundwater	8-4
	8.2.3 Polychlorinated Biphenyls in Soil and Groundwater	8-5
	8.2.4 Semi-Volatile Organic Compounds in Soil and Groundwater	8-5
	8.2.5 Polycyclic Aromatic Hydrocarbons in Soil and Groundwater	8-6
	8.3 ANALYTICAL RESULTS FOR OTHER AREAS OF INVESTIGATION	8-6
	8.3.1 Sump Sampling	8-6
	8.3.2 Compressed Air System Sampling	8-6
	8.3.3 Aboveground Storage Tank Sampling	8-7
9.0	CATCH BASIN SOLIDS SAMPLING	9-1
	9.1 SAMPLING ACTIVITIES	9-1
	9.2 ANALYTICAL RESULTS	9-1
10.0	SOIL MOUND REMOVAL	10-1
	10.1 PRE-CONSTRUCTION ACTIVITIES	10-1
	10.2 CONSTRUCTION ACTIVITIES	10-2
	10.3 RESTORATION	10-3
11.0	12-INCH CORRUGATED METAL DRAIN LINE INVESTIGATION	11-1
12.0	CATCH BASIN RE-ROUTING PROJECT	12-1
13.0	SUMMARY AND CONCLUSIONS	13-1
	13.1 PHASE I ENVIRONMENTAL SITE ASSESSMENTS	13-1
	13.2 PHASE II SOIL AND GROUNDWATER INVESTIGATIONS	13-3
	13.3 CATCH BASIN SOLIDS SAMPLING	13-4

13.4 SOIL MOUND REMOVAL 13-4
13.5 12-INCH CORRUGATED METAL PIPE INVESTIGATION 13-4
13.6 RE-ROUTING OF CATCH BASIN 39 13-5

14.0 USE OF THIS REPORT 14-1

15.0 REFERENCES 15-1

FIGURES

Figure	Title
1	Vicinity Map
2	Site Plan
3	Remedial Excavations
4	Phase II Soil and Groundwater Sampling Locations
5	Phase II Detected Concentrations of Metals in Soil
6	Phase II Detected Concentrations of Arsenic in Groundwater
7	Phase II Detected Concentrations of VOCs in Groundwater
8	Phase II Detected Concentrations of BEHP in Groundwater
9	Detected Concentrations of Metals in Catch Basin Solids
10	Detected Concentrations of BEHP and PCBs in Catch Basin Solids
11	Grading Plan for Soil Mound Removal
12	Mound Removal As-Built
13	Storm Drain Lines Showing Catch Basin 39 Reroute

TABLES

Table	Title
1	Storage Tank Inventory
2	Phase II Analytical Testing Parameters
3	Phase II Soil Analytical Results, Detected Constituents
4	Phase II Groundwater Analytical Results Direct-Push Locations, Detected Constituents
5	Phase II Analytical Results for Sump and Aboveground Storage Tank Sampling
6	Phase II Analytical Results for Compressed Air System Wipe Samples
7	Phase II Groundwater Analytical Results Existing Monitoring Wells, Detected Constituents
8	Phase II Analytical Results for Aboveground Storage Tank Wipe Sample
9	Catch Basin and Oil/Water Separator Solids Analytical Results, Detected Constituents
10	Soil Mound Removal Post-Excavation Soil Sampling Results

APPENDICES

Appendix	Title
A	Thompson Phase I and Isaacson Phase I Environmental Site Assessments
B	Thompson Phase II and Isaacson Phase II Environmental Site Assessments
C	Catch Basin Sampling Report
D	Mound Removal Report
E	Thompson 12-inch Corrugated Metal Drain Line Technical Memorandum

1.0 INTRODUCTION

This report presents a summary of environmental assessments and investigations conducted in 2008 and the first half of 2009 at The Boeing Company's (Boeing's) Thompson-Isaacson Property (Property), located at 8625-8811 East Marginal Way South, in Tukwila, Washington (Figure 1). More specifically, this report presents a summary of data contained in the following documents prepared by Landau Associates for Boeing:

- Technical Memorandum: 12-Inch Corrugated Metal Drain Line, Boeing Thompson Site (Building 14-01), 8811 East Marginal Way South, Tukwila, Washington. February 29, 2008.
- Report: Environment, Health, and Safety Assessment/Phase I Environmental Site Assessment, Boeing Thompson Property, Tukwila, Washington. August 11, 2008.
- Report: Environment, Health, and Safety Assessment/Phase I Environmental Site Assessment, Boeing Isaacson Property, Tukwila, Washington. September 15, 2008.
- Report, Catch Basin Solids Investigation, Boeing Thompson-Isaacson Property, Tukwila, Washington. February 26, 2009.
- Report: Redevelopment Activities: Stabilized Soil Mound Removal and Stormwater System Upgrades, Boeing Isaacson Property, Tukwila, Washington. March 24, 2009.
- Report: Phase II Environmental Site Assessment, Boeing Isaacson Property, 8625 East Marginal Way South, Tukwila, Washington. April 2, 2009.
- Report: Phase II Environmental Site Assessment, Boeing Thompson Property, 8811 East Marginal Way South, Tukwila, Washington. April 2, 2009.

For reference, copies of the complete documents are included as Appendices to this report. In addition, this report describes the rerouting of a catch basin located in the western portion of the Property.

Boeing is negotiating an Agreed Order with the Washington State Department of Ecology (Ecology) and is in the process of preparing a work plan for a remedial investigation (RI) and a feasibility study (FS). This report is being submitted to Ecology in advance of the RI/FS work plan in order to provide Ecology with a summary of recent Property data that has not been previously submitted to Ecology.

2.0 PROPERTY DESCRIPTION AND SETTING

The Property is comprised of two parcels of land. Parcel #0001600014 is a 9.84-acre parcel of land located approximately 60 ft east of the eastern bank of the Lower Duwamish Waterway. This parcel is known as the Boeing Isaacson Property because it was purchased by Boeing from the Isaacson Corporation in 1984. Parcel #0007400033 is a 19.35-acre parcel of land located on the eastern bank of the Duwamish Waterway. This parcel is known as the Boeing Thompson property because the property was purchased from Charles Thompson in 1956. The total size of the Thompson-Isaacson Property is 29.19 acres. The northern portion of the Property (Isaacson parcel) consists of asphalt-paved land that is surrounded by a security fence. There are no structures present on this area of the Property. The southern portion of the Property (Thompson parcel or Thompson facility) is developed with several structures. The Thompson facility includes a 316,000 square foot (ft^2) industrial building (14-01) and several support structures including a boiler house (14-02); two mechanical buildings (14-03 and 14-14); a fire pump house and water tank (14-13); an electrical substation (14-22); two guard shacks (one out-of-use unlabeled structure and Building 14-11); a cafeteria (14-15); a restroom/shower facility (14-12); and hazardous waste storage trailers (unlabeled). A site plan that identifies these structures is provided as Figure 2.

The Property is located in an area of industrial properties and is bordered on the north by the Jorgensen Forge Corporation; on the east by East Marginal Way South, followed by hangars and structures associated with King County International Airport (KCIA)/Boeing Field; on the south by Insurance Auto Auctions [formerly Kenworth Truck Company (PACCAR) and currently owned by Merrill Creek Holdings]; and on the west by a strip of land owned by the Port of Seattle, followed by the Duwamish Waterway.

The Property slopes slightly to the west and is at an average elevation of approximately 10 ft above mean sea level (MSL). Surface topography in the vicinity of the Property is generally level and slopes slightly to the west/southwest toward the Duwamish Waterway (USGS 1983).

3.0 PROPERTY GEOLOGY/HYDROGEOLOGY

The Duwamish River delta has changed significantly within the past century, with the most notable changes including the filling of intertidal marsh areas and the channelization of the Duwamish River. Most of the Duwamish Valley marsh area, including the river channel, was filled with material hydraulically dredged to create the Duwamish Waterway. Based on available historical information, including topographic maps, aerial photographs, and Sanborn fire insurance maps, a meander of the Duwamish River formerly flowed in a west to east direction through the approximate center of the Property. After channelization of the Duwamish River, a portion of the river channel known as Slip 5 remained on the Property. The slip was filled in the 1950s and 1960s to support development of the Property by the Isaacson Steel Corporation (to the north of the slip) and by Boeing (to the south of the slip).

Based on subsurface explorations completed at and in the area of the Property, soil conditions at the Property consist of approximately 6.5 to 17.5 ft of fill overlying native tideflat and river deposits with the thickest layers of fill occurring in the area of the former Slip 5. The fill generally consists of silty sand to sandy gravel. Fill materials within the former Slip 5 area include bricks, wood debris, and slag material (ERM 2002). The native deposits typically consist of fine sand and silty fine sand with silt lenses. The native surficial deposits are characterized by the presence of small in-place roots, wood fragments, and peat, which are indicators of the original ground surface elevation prior to filling. Underlying the silt and silty fine sand is a series of interbedded alluvial sand and silt layers that were deposited within the floodplain of the Duwamish River. Beneath the interbedded alluvial silt and fine sand is a layer of very dark to black, fine to medium sand. This naturally deposited sand is found throughout the Duwamish River Valley and was likely deposited from flood waters.

The near-surface groundwater regime within the Duwamish River Valley is generally characterized as a shallow, single aquifer system. The Property is located on the eastern bank of the Duwamish Waterway, at approximately 10 ft above MSL (USGS 1983). Shallow groundwater [generally less than 15 ft below ground surface (BGS)] is present throughout the area of the Property. Based on topography and groundwater investigations conducted in the area of the Property by Landau Associates and others, the direction of groundwater flow is generally to the west toward the Duwamish Waterway; however, there is also localized groundwater flow toward the former Slip 5. Based on previous investigations, the groundwater gradient is tidally influenced (ERM 2002).

4.0 HISTORICAL INFORMATION

A variety of resources were reviewed to develop the history of the Property and adjacent properties in order to assess the potential for environmental impact to the Property. These resources included the following:

- Aerial photographs (Walker & Associates 1936, 1946, 1956; Washington State Department of Transportation 1961; Washington Department of Natural Resources 1965, 1970, 1978, 1985; USGS 1990, 2002)
- Topographic maps (USGS 1897, 1909, 1949, 1968, 1973, 1983)
- Fire insurance maps (EDR 1929, 1949, 1966)
- City Directories (Puget Sound Regional Archives 1938, 1943-44, 1951, 1956, 1961-62, 1966, 1970, 1975, 1980, 1985, 1989-90, 1994)
- Chain of title documentation (First American Title Company)
- Historical tax records (Puget Sound Regional Archives).

Additional information regarding the Property history and copies of the listed map and documents can be found in the Phase I environmental site assessment (ESA) reports, which are included in Appendix A of this report.

Based on the information reviewed, meanders of the Duwamish River were formerly present in the area of the Property, including a segment of the river that flowed west to east through the approximate center of the Property. Between 1910 and 1917, extensive dredge and fill operations were conducted in the Duwamish River Valley and the river was channelized and placed in its current location to the west of the Property. Remnants of the former meanders were present along the waterway including Slip 5, which was oriented east to west near the center of the Property and extended from the waterway across approximately two-thirds of the Property.

The first known development of the Property occurred shortly after the river channelization. Records indicate that the portion of the Property south of Slip 5 was owned by the Bissell Lumber Company and operated as a sawmill beginning in 1917. Structures associated with the sawmill are shown on Sanborn maps from 1929 and 1949 and are visible in aerial photographs from 1936 and 1946. Title records and aerial photographs indicate that the saw mill was demolished in 1955, prior to Boeing's purchase of the Thompson parcel in 1956.

The Duwamish Lumber Company operated a saw mill in the western portion of the Property, north of the former Slip 5, from approximately 1920 until sometime prior to 1946. The mill is shown on Sanborn maps from 1929 and structures are visible in this area on aerial photographs from 1936. A

planing mill operated by Tyee Lumber Company was present at the eastern end of Slip 5 during this same time period. In addition, a 1945 report (Foster 1945) identified the Mineralized Cell Wood Preserving Company as formerly operating on or in the vicinity of the Property, north of the former location of Slip 5. The practice of this company involved heating a solution of arsenic and sulfate salts of copper and zinc and applying the solution to the base of logs under pressure. Storage tanks associated with this operation were reportedly cleaned twice per day and sludge and remaining chemicals in the tanks were drained directly to the ground surface.

The Isaacson parcel was purchased by Isaacson Iron Works in 1943 and a galvanizing plant was constructed in the northeastern portion of the Property prior to 1946. Between 1946 and 1966, the Isaacson facility was expanded from east to west in phases to cover nearly all of the land surface north of the former Slip 5. The Boeing Thompson facility was developed in the southern portion of the Property beginning in 1966. Filling of Slip 5 occurred in phases to allow development of the Property. Based on aerial photographs, much of the filling occurred in the mid-1960s. The layout of the Thompson facility has remained relatively unchanged since 1967.

Boeing purchased the Isaacson parcel (northern portion of the Property) from the Isaacson Corporation in 1984. The Isaacson Steel facility was dismantled prior to 1990. No structures are visible in the northern portion of the Property in aerial photographs from 1990. With the exception of various earthwork projects, which are discussed later in this report, the layout of the northern portion of the Property has remained relatively unchanged since 1990.

5.0 PREVIOUS INVESTIGATIONS AND BOEING RECORDS

Landau Associates reviewed available records from Boeing's Environment, Health, and Safety (EHS); Industrial Hygiene (IH); Radiation Health Protection (RHP); and Abatement Services (BAS) groups. Relevant information from the records review is included in this section. More detailed information from the records review can be found in the Phase I ESAs included in Appendix A.

5.1 PREVIOUS INVESTIGATIONS

Available EHS records indicate that soil and groundwater investigations at the Property were initiated by The Isaacson Corporation and Boeing in 1983, prior to Boeing's purchase of the Isaacson parcel in 1984. Boeing EHS files contain numerous documents describing the investigations and the findings of the various investigations. This section provides a brief listing of previous investigations and the key findings of those investigations. More detailed descriptions of the investigations can be found in the Phase I ESAs for the Thompson and Isaacson parcels, which are included in Appendix A. Previous investigations at the Property include the following:

- **1983 Dames & Moore and Wicks Site Investigations and Remediation Report**. Investigation identified arsenic in soil at concentrations greater than the cleanup level identified at the time [200 milligrams per kilogram (mg/kg)]. Approximately 500 cubic yards of soil were excavated from the courtyard area between Bay 11 and Bay 14 (Figure 3).

- **1985 No Further Action Letter**. Ecology issued a letter following excavation indicating that no further action would be required unless groundwater monitoring indicated that arsenic was present in groundwater at concentrations greater than the identified cleanup level (Ecology 1985).

- **1985-1987 Groundwater Monitoring**. Monitoring identified arsenic in groundwater at concentrations greater than identified cleanup level.

- **1988 Soil and Groundwater Investigation**. Investigation identified arsenic in soil at concentrations up to 2,840 mg/kg near Bay 13 of the former Isaacson building and in groundwater at concentrations up to 15,000 micrograms per Liter (µg/L) near Bay 5. Based on the results of the investigation, approximately 4,800 cubic yards of soil were excavated from the courtyard between Bay 11 and Bay 14 and from Bay 13 (Figure 3).

- **1989-1990 Storm Drain Construction.** Boeing realigned the King County storm drain line on the Property in 1989 and 1990 in preparation for the planned construction of Building 14-09 (which was not constructed). Sampling completed along the planned storm drain alignment identified 20,000 to 40,000 cubic yards of additional arsenic-impacted soil. During realignment of the storm drain, excavated soil with arsenic concentrations greater than 200 mg/kg [the Washington Model Toxics Control Act (MTCA) Method A cleanup level for industrial soil in 1990] was transported off site for disposal. Excavated soil with arsenic concentrations less than 200 mg/kg was used as backfill (Figure 3).

- **1991 Soil Stabilization.** In 1991, approximately 35,000 tons of arsenic-impacted soil were excavated and treated onsite using a chemical and physical stabilization process. The stabilized soil was replaced in the ground and covered with asphalt paving to prevent stormwater infiltration. The volume of the stabilized soil was greater than the original volume of the treated soil, which resulted in a mound when the stabilized material was placed back in the ground. Soil with arsenic concentrations greater than 200 mg/kg was left in place along the northern boundary of the excavation where excavation was limited due to the presence of the King County storm drain line (Figure 3).

- **1992–1996 Groundwater Monitoring:** Compliance groundwater monitoring was conducted at monitoring wells I-104, I-200, I-203, I-205, and I-206 following soil stabilization (Figure 3). Data indicate that the downgradient wells (I-104, I-203, and I-205) were in compliance with the chronic ambient water quality criterion for arsenic (190 µg/L). The samples from monitoring well I-206 had concentrations greater than the criterion (GeoEngineers 1997).

- **1996 I-206 Supplemental Soil and Groundwater Investigation:** Concentrations of arsenic in samples from well I-206 have historically been significantly higher than the concentrations detected at the remaining monitoring well locations. In 1996, GeoEngineers advanced six soil borings in the area of monitoring well I-206 to determine soil and groundwater concentrations in the vicinity of well I-206 and to identify a source for the arsenic in groundwater at well I-206. Sixty-three (63) soil samples and 6 groundwater samples were collected for analysis. The investigation did not identify a source for the arsenic in groundwater at well I-206 (GeoEngineers 1997).

- **2000 Hydrogeologic Characterization:** Groundwater flow at the Property is generally west toward the Duwamish Waterway and toward the former Slip 5 (west-southwest in the northern portion of the Property and west-northwest in the southern portion of the Property). Tidal effects on groundwater were observed across the Property with the highest degree of fluctuation observed in the wells and piezometers within 400 ft of the waterway (ERM 2002).

- **2000 Request for No Further Action (NFA) Determinations:** In November 2000, Boeing submitted separate requests for NFA determinations for soil and groundwater for the Isaacson property. Ecology indicated that additional soil characterization and possible remediation may be required prior to issuance of an NFA determination. In addition, Ecology indicated that the applicable groundwater cleanup level for arsenic at the Isaacson property would be 2.7 µg/L, based on the background concentration detected in well I-200 (ERM 2002).

- **2006 Sump Removal:** During a reconnaissance in 2006, an open-top sump was discovered under a steel plate in the northeastern corner of the Property. The sump appeared to be associated with the storm drain system and was removed in November 2006, along with approximately 2 ft of soil from along the edges of the sump. Confirmation soil samples collected from the excavation identified arsenic at concentrations ranging from 6.6 mg/kg to 25.1 mg/kg (Landau Associates 2007).

- **2007 and 2008 Groundwater Sampling Events:** Groundwater samples were collected from five existing monitoring wells, two existing piezometers, and one seep located at the Property in September 2007 and June 2008. During the 2007 sampling event, dissolved arsenic was detected at concentrations ranging from 0.9 µg/L at I-200 to 3,600 µg/L at I-104. The detected concentration of dissolved arsenic in the seep sample was 5 µg/L (Syverson 2007). During the 2008 sampling event, dissolved arsenic was detected at concentrations ranging from 0.7 µg/L

- **2008 Stabilized Soil Disposal Characterization:** In January 2008, Landau Associates excavated test pits and collected samples from the stabilized soil mound to characterize the stabilized material for potential excavation and offsite disposal. Total arsenic was detected in each of the samples at concentrations up to 1,700 mg/kg. Toxics Characteristic Leaching Procedure (TCLP) arsenic concentrations ranged from less than 0.1 milligrams per liter (mg/L) to 2.0 mg/L. Based on the analytical results, the stabilized soil is not designated as hazardous waste (Landau Associates 2008a).

5.2 REVIEW OF BOEING RECORDS

EHS records for the Property included information related to stormwater permits, underground and aboveground storage tanks (USTs and ASTs), hazardous waste records, and records regarding removal of an oil/water separator from the Thompson facility. Relevant records are briefly described as follows:

- The facility operates under Industrial Stormwater General Permit #S03-000148D. The permit requires quarterly sampling from two stormwater outfalls located along the western Property boundary. Zinc has been detected at concentrations exceeding the benchmark values during several sampling events.

- Four storage tanks are currently located on the Property: a 20,000-gallon diesel UST (west side of Building 14-02), which was abandoned in place in 2003; a 500-gallon diesel AST (west side of Building 14-02), and a 200-gallon diesel AST (north side of Building 14-13), which are currently active; and a 5,000-gallon aqueous wastewater AST (west of Building 14-01), which is inactive. The ASTs are located within secondary containment.

- Several USTs, ASTs, sumps, and oil/water separators have been removed from the Property. A complete inventory of current and former storage tanks at the Property is provided in Table 1. As is indicated, a release of hydraulic oil occurred from the oil/water separator, sump and/or holding tank associated with the hydraulic test pad located east of Building 14-03 and is discussed in the following bullet.

- In late 1993, approximately 10 inches of petroleum product was observed in a monitoring well in the area of an oil/water separator located on the eastern side of Building 14-03. Based on the results of a soil investigation, petroleum-impacted soil was identified in the area of the oil/water separator. The estimated volume of impacted soil was 825 cubic yards. The oil/water separator system consisted of a 5,000-gallon steel oil/water separator and an associated 4,000-gallon fiberglass holding tank (TS-04; GeoEngineers 1994).

  The oil/water separator system was removed in August 1995. According to an undated internal Boeing memorandum, approximately 900 tons of petroleum-impacted soil was excavated from the area surrounding the oil/water separator and holding tank. The soil was transported to a treatment facility in Oregon operated by TPS Technologies. Daily field reports maintained by Boeing personnel indicate that soil samples were collected from the excavation boundaries; however, the results of sampling were not included in the reviewed files.

- A large area of the western portion of Building 14-01 was formerly used for washing and painting of airplane sections. Workers in this area washed various airplane sections with a solution containing methyl isobutyl ketone (MIBK) to prepare the sections for painting. A water washdown system was in place. Wastewater and overspray were washed into one of three concrete trenches, which ran north to south through the painting area. The trenches conveyed the solution to sumps located on the exterior of the southern side of Building 14-01, near the southwestern corner of the building. The waste was pumped from the sumps to two ASTs located in the western yard of Building 41-01 via underground piping. The ASTs were each approximately 10,000 gallons in capacity and were located within a covered concrete containment structure (Bach 2008).

- Copper brush plating was previously conducted in the southwestern portion of Building 14-01. Waste plating solution was collected in a sump then conveyed to a 5,000-gallon AST located in the western yard of Building 14-01 via underground piping (Bach 2008).

6.0 SITE RECONNAISSANCE

Landau Associates conducted a reconnaissance of the Property and adjacent properties to assess land use activities and environmental conditions. The reconnaissance was documented with notes and photographs. The following observations of conditions at that time were made during the reconnaissance:

- The northern portion of the Property (Isaacson parcel) is completely surrounded by a chain-link fence. There are no structures located on this portion of the Property and the ground surface in this area is entirely covered by asphalt or concrete. Areas of concrete appear to be associated with old building foundations. At the time of the reconnaissance, an asphalt-paved mound was present in the north-central portion of the Property, resulting from a soil stabilization project that was completed in 1991. The mound was removed during a grading project in 2008 (discussed in Section 10.0 of this report).

- A 48-inch storm drain line owned by King County is located on the north portion of the Property and conveys stormwater from a portion of the KCIA located east of the Property, across East Marginal Way South, to the Duwamish Waterway. Seven manholes associated with the drain line are visible on the Property.

- The southern portion of the Property is developed with nine buildings, a water tank, a substation, and several hazardous waste accumulation trailers. Areas outside the building footprints are either asphalt-paved or covered in concrete.

- An aqueous degreaser is located along the western wall of Building 14-01. The degreaser was not in use at the time of the reconnaissance. A sign on the degreaser indicates that Daraclean 212, a non-hazardous substance, was used in the cleaning solution. Pumps and other equipment associated with the degreaser are located in a separate mechanical room to the south of the degreaser. A sump is located within the mechanical room. Liquid was observed in the sump at the time of the reconnaissance. Labels on piping and equipment within the mechanical room indicate that the sump is associated with a brush plating system, which formerly operated near the current location of the aqueous degreaser. The sump and associated piping may have been converted for use associated with the aqueous degreaser.

- Ducting associated with a former small paint booth was observed near the southwestern corner of Building 14-01. Limited paint staining was observed on the surface of the concrete floor in this area.

- Four linear patches were observed in the surface of the concrete floor in the southwestern portion of Building 14-01. The patches are oriented north to south and are approximately 4 ft in length and 18 inches in width. Based on available information, the patches are associated with former trenches that were part of a washdown system (discussed in Section 5.2 of this report).

- Electrical transformers are located along the northern exterior wall of Building 14-03 and are not labeled as to polychlorinated biphenyl (PCB) content.

- An electrical substation (Building 14-22) is located near the southeastern corner of the Property. Dark staining was observed on the gravel surface along the northern side of the substation.

- Stormwater catch basins located throughout the Property are connected to one of two oil/water separators that discharge to the Duwamish Waterway via two outfalls along the western boundary of the Property.

- Hazardous materials sheds are located west of Building 14-01 and south of Building 14-03. The sheds were previously used to temporarily store waste materials pending disposal and were not in use at the time of the reconnaissance. Staining or other evidence of a release from the sheds was not observed at the time of the reconnaissance.

- Four ASTs were observed in the southern portion of the Property associated with the Thompson facility. A 5,000-gallon AST was observed in the western yard of Building 14-01. The AST is labeled "overflow for the aqueous degreaser" and is located within a covered concrete containment structure, which is closed on two sides. A 550-gallon AST containing diesel fuel was observed on the western side of Building 14-02. This AST is associated with an emergency generator. A 240-gallon AST containing diesel fuel was observed on the northern side of Building 14-13 and is associated with an emergency generator for the fire protection system. The diesel ASTs are located within covered concrete containment structures. A propane AST was observed along the western Property boundary. Evidence of releases from the ASTs was not observed during reconnaissance.

- A patch was observed in the asphalt on the western side of Building 14-02. Based on available information discussed in Section 5.2, a 20,000-gallon UST was abandoned in place in this area, and a 1,000-gallon leaded gasoline UST and 500-gallon diesel fuel UST were removed from this area.

7.0 AREAS OF CONCERN

This section summarizes the areas of concern that were identified during the Phase I ESAs completed for the Thompson and Isaacson parcels. These areas were investigated during Phase II soil and groundwater investigations as described in Section 8.0.

- Arsenic has been detected in soil and groundwater at the Property at concentrations greater than the MTCA cleanup levels during previous investigations. Arsenic was detected in groundwater at the Property at concentrations ranging from 0.7 µg/L to 3,640 µg/L during the most recent sampling event in 2008, with the highest concentration detected in the northwestern portion of the property (monitoring well I-104). The highest detected concentration of arsenic in soil at the Property (outside of the areas where excavations have subsequently occurred) is 3,500 mg/kg, which was detected in a sample collected in 1988 from near the northern boundary of the stabilized soil excavation.

- Based on previous subsurface investigations at the Property, fill material within the former Slip 5 area includes bricks, wood debris, and slag material. Debris within the fill material is a potential source of impact to subsurface soil and groundwater at the Property. Metals have been detected in the fill material at concentrations greater than the MTCA Method A cleanup levels.

- A large area of the western portion of Building 14-01 was formerly used for washing and painting of airplane sections. Workers in this area washed various airplane sections with a solution containing MIBK to prepare the sections for painting. Wastewater and overspray were washed into one of three concrete trenches, which ran north to south through the painting area. The trenches conveyed the solution to sumps located on the exterior of the southern side of Building 14-01, near the southwestern corner of the building. The waste was pumped from the sumps to two ASTs located in the western yard of Building 14-01 via underground piping.

- Copper brush plating was previously conducted in the southwestern portion of Building 14-01. Waste plating solution was collected in a sump (discussed below) then conveyed to a 5,000-gallon AST located in the western yard of Building 14-01 via underground piping.

- An aqueous degreaser is located in the southwestern portion of Building 14-01. The degreaser has been out of use since approximately 2001. A sign on the degreaser indicates that Daraclean 212, a non-hazardous substance, was used in the cleaning solution. Pumps and other equipment associated with the degreaser are located in a separate mechanical room to the south of the degreaser. A sump is located within the mechanical room. Liquid was observed in the sump at the time of the reconnaissance. Labels on piping and equipment within the mechanical room indicate that the sump is associated with a brush plating system that is no longer in operation. The sump and associated piping may have been converted for use associated with the aqueous degreaser.

- A 500-gallon diesel UST was removed from the western side of Building 14-02. There are no data available regarding the condition of subsurface soil in the area of the 500-gallon diesel UST.

- A release of hydraulic oil from a holding tank associated with an oil/water separator located in the hydraulic test pad area (eastern yard of Building 14-03) was reported in 1992. The oil/water separator, holding tank, and associated piping were removed in 1995. Approximately

- Dark staining was observed on the gravel surface along the northern wall of the electrical substation (Building 14-22) located at the southeastern corner of the Property, which may be indicative of a release of petroleum from the substation.

- Electrical transformers are located on the northern side of Building 14-02 and 14-03.

- Hazardous materials sheds are located west of Building 14-03 and south of Building 14-03. The sheds were formerly used to store waste materials pending disposal.

- Historical records indicate that the Mineralized Cell Wood Preserving Company formerly operated on or in the vicinity of the Property, on the northern side of the former Slip 5. The practice of this company involved heating a solution of arsenic and sulfate salts of copper and zinc, and applying the solution to the base of logs under pressure. Storage tanks associated with this operation were reportedly cleaned twice per day and sludge and remaining chemicals in the tanks were drained directly to the ground surface.

- Four diesel USTs and one fuel oil UST were formerly located on the northern portion of the Property. Available records indicate that the tanks and sumps were removed in 1985; however, there is no available information regarding the condition of the tanks or the surrounding subsurface soil.

- Three sumps were formerly located on the northern side of Building 14-08. Building 14-08, formerly located east of the Isaacson building as shown on Figure 3 of the Isaacson Phase I ESA (Appendix A), was reportedly used in the late 1980s by Boeing for accumulation of palleted drums of hazardous waste (Bach 2008). The sumps reportedly contained paint sludge and were removed in 1985. There is no available information regarding the condition of the sumps or the surrounding subsurface soil.

- Impacts to soil have been identified at the Jorgensen Forge Corporation site located adjacent to the north of the Property. Impacts to groundwater are also suspected by Ecology to be present. The contaminants of concern consist of PCBs, metals, and cyanide.

- Impacts to soil and groundwater have been identified at the former PACCAR property located adjacent to the south of the Property. Impacts to sediment and surface water are also suspected by Ecology to be present. The contaminants of concern consist of petroleum products, phenolic compounds, non-halogenated solvents, halogenated organic compounds, and metals.

8.0 FOCUSED PHASE II INVESTIGATION

Based on the observations recorded during the reconnaissance and on the records review and interviews, several areas of concern were identified at the Property, as outlined in Section 7.0. Based on the findings of the Phase I ESAs, Landau Associates conducted focused Phase II investigations at the Thompson and Isaacson parcels. The sampling locations for the Phase II ESA were selected based on the findings of the Phase I ESA and a request from Boeing to address standard building considerations in the event of property divestitures (e.g., air compressor line sampling).

To document subsurface conditions at the Property, soil and groundwater in the areas with the highest likelihood of impact from current or former activities were sampled and analyzed. Sampling and analysis of groundwater were also conducted at selected locations near the Property boundaries to document onsite groundwater conditions and the potential for contaminants to have migrated onto the Property from offsite sources.

This section combines data from the Thompson and Isaacson parcels to provide a picture of Property-wide soil and groundwater conditions. Copies of the individual Phase II reports and a letter report are included in Appendix B.

8.1 FIELD ACTIVITIES

The focused Phase II field activities included sampling of soil and groundwater, sampling of water contained in a sump in Building 14-01, collecting wipe samples from the compressed air system at the Thompson facility, and reviewing data for a water sample and wipe sample collected from an AST located west of Building 14-01. Field activities are briefly summarized below. Specific information regarding sampling methodologies can be found in the Phase II reports included in Appendix B of this report.

8.1.1 SOIL AND GROUNDWATER SAMPLING

Soil and groundwater sampling was conducted to address each of the areas of concern identified in Section 7.0. Field investigations were completed at the site between November of 2008 and February of 2009 as follows:

- Between November 3 and November 6, 2008 32 soil borings (TDP-1 through TDP-32) were advanced in the southern portion of the Property using direct-push drilling methods. Thirty-four soil samples and 11 groundwater samples were collected from the direct-push borings.

- Between February 2 and February 4, 2009, 15 soil borings were advanced in the northern portion of the Property using direct-push drilling methods. Twenty-eight soil and 10 water samples were collected from the direct-push borings. In addition, water samples were collected from 12 existing monitoring wells and piezometers.

During drilling of the soil borings, Landau Associates prepared detailed records of the soil and groundwater conditions. Soil from each direct-push boring was field-screened for visual and olfactory indications of impact and was field-screened using a photoionization detector (PID) to evaluate whether volatile organic compounds (VOCs) were present in soil.

Soil samples were selected for laboratory analysis based on the sample depth, the soil conditions encountered, and the results of field-screening. Soil samples were collected directly from the direct-push soil sampler and placed into laboratory-prepared glass jars using a clean, stainless-steel spoon. Samples for volatile organic analysis were collected using U.S. Environmental Protection Agency (EPA) Method 5035A. Groundwater samples from direct-push borings and from existing monitoring wells and piezometers were collected with a peristaltic pump and dedicated disposable tubing. Groundwater samples collected for dissolved metals analysis were field-filtered using a 0.45 µm filter. All individual samples were labeled with the appropriate sample identification and collection information; stored in a closed, cooled container; and transported to the laboratory in accordance with proper chain-of-custody procedures. Soil and groundwater sampling locations, depths, and analytical parameters and methods are summarized in Table 2, along with the area of concern addressed by each of the borings. As is indicated, soil and groundwater samples were selectively analyzed for metals (total for soil, dissolved for water); VOCs; semivolatile organic compounds (SVOCs); total petroleum hydrocarbons (TPH); PCBs; and polycyclic aromatic hydrocarbons (PAHs).

After soil and/or groundwater samples were collected, each boring was properly abandoned and filled with hydrated bentonite chips. The soil and groundwater sample locations are shown on Figure 3. Soil boring logs and as-built well completion logs for the existing monitoring wells and piezometers are included in Appendix B of the Boeing Thompson and Boeing Isaacson Phase II Environmental Site Assessments (Appendix B of this report).

8.1.2 SUMP SAMPLING

On November 6, 2008, one water sample (TH-SUMP) was collected from the sump located in the southwestern portion of Building 14-01. The sump is associated with the former brush plating operations. The water sample was collected using a peristaltic pump and dedicated tubing and was analyzed for VOCs, TPH, and metals.

8.1.3 COMPRESSED AIR SYSTEM SAMPLING

On November 21, 2008, wipe samples were collected from the outside surface of each of the two air compressors located in Building 14-02 (COMP1-WIPE and COMP2-WIPE) and from inside 11 quick-

connect ports located throughout the compressed air system (LINE1-WIPE through LINE11-WIPE) in Buildings 14-01, 14-14, and 14-02. The wipe samples were analyzed for PCBs.

8.1.4 ABOVEGROUND STORAGE TANK SAMPLING

On March 11, 2009, Philip Services Corporation (PSC) and Boeing inspected and collected samples from tank number ATS 721, located in the western yard of Building 14-01. The tank was associated with an aqueous degreaser located in Building 14-01, which is no longer in operation. The tank contained approximately 12 inches of liquid and a stained ring was observed on the interior of the tank, approximately 3 ft below the top of the tank. No sludge was observed in the bottom of the tank. One liquid sample (TANK-ATS721) was collected from the tank using a bailer and one wipe sample (TANK-ATS721) was collected from the stained ring on the interior of the AST. The water sample was analyzed for VOCs and metals, and the wipe sample was analyzed for metals. In addition, the pH of the liquid was tested in the field using pH paper.

8.2 ANALYTICAL RESULTS FOR SOIL AND GROUNDWATER SAMPLING

The analytical results for the soil and groundwater samples are summarized in Tables 3 and 4, respectively. The laboratory data reports are presented in the Phase II reports, which are included in Appendix B. Landau Associates reviewed the laboratory reports to evaluate the analytical data quality using data validation procedures established by the EPA. The quality control information checked by Landau Associates included chain-of-custody forms, holding times, reporting limits, matrix spike/matrix spike duplicate analyses, laboratory control sample/laboratory control sample duplicate, and method blanks. The data review found no issues with data quality, and the analytical results are considered acceptable for use.

Cleanup levels have not been developed for the Thompson-Isaacson Property, but will be developed as part of the planned Remedial Investigation (RI). To provide context for evaluation of the analytical results, the results were compared to standard MTCA Method C formula values for direct human contact (soil only); MTCA Method B (groundwater) and Method C (soil) levels for protection of fresh surface water and for protection of marine surface water; and PACCAR Potential Cleanup Standards proposed by PACCAR in its Interim Action Work Plan (AMEC 2008), for the adjacent property to the south of the Property. The most stringent of these values for the constituents detected at the Property, usually those for protection of fresh surface water, are used as screening levels for comparison with the analytical results. The results of the soil and groundwater investigation are discussed by contaminant group in the following sections.

8.2.1 METALS IN SOIL AND GROUNDWATER

During the soil and groundwater investigation, 43 soil samples were analyzed for total metals and 27 water samples were analyzed for dissolved metals. In addition, 16 soil samples were analyzed for total arsenic and 6 water samples were analyzed for dissolved arsenic. The results for the soil samples are provided in Table 3. As is indicated, arsenic, copper, lead, mercury and zinc were detected in one or more soil samples at concentrations greater than the preliminary screening levels. Detected concentrations of these metals in soil are presented on Figure 4. As is shown on the figure, the highest concentrations of arsenic (333 mg/kg at IDP-5-8'), copper (624 mg/kg at IDP-14-11'), and zinc (estimated 1390 mg/kg at IDP-7-3') in soil were detected in samples collected from along the northern Slip 5 boundary and along the northern boundary of the Property. Mercury was detected at concentrations ranging from 0.05 mg/kg to an estimated 0.52 mg/kg in samples collected from across the Property. Lead was detected at concentrations greater than the preliminary screening level in two soil samples collected from along the northern Slip 5 boundary and in one sample from the along the southern boundary of the Property.

The results for the groundwater samples are provided in Table 4. As is indicated, arsenic is the only metal that was detected in groundwater at concentrations greater than the preliminary screening levels. Detected concentrations of arsenic in groundwater are shown on Figure 5. As is shown on the figure, concentrations of arsenic ranged from non-detect up to 16,600 µg/L. The highest detected concentrations of arsenic in groundwater occurred in samples collected from direct-push drilling locations in the northwestern portion of the Property, north and west of the limit of the arsenic-stabilized soil. Concentrations of arsenic decrease significantly closer to the waterway. Decreasing concentrations of arsenic were observed between the following well pairs: well I-206 (575 µg/L) and PZ-8 (non-detect); well I-203 (122 µg/L) and PZ-7 (5.0 µg/L); and well I-104 (2,270 µg/L) and IDP-1A (77 µg/L).

8.2.2 VOLATILE ORGANIC COMPOUNDS IN SOIL AND GROUNDWATER

Thirty-eight (38) soil samples and 27 groundwater samples were analyzed for VOCs. The results for the soil samples are provided in Table 3. As is indicated, trichloroethene (TCE) was detected in one soil sample at a concentration greater than the preliminary screening level [66 micrograms per kilogram (µg/kg) at TDP-26-8]. Benzene was detected in one soil sample at a concentration greater than the screening level (9.8 µg/kg at IDP-9-3). VOCs were not detected in the remaining 36 soil samples at concentrations greater than the preliminary screening levels. Benzene was not detected in groundwater at concentrations greater than the laboratory reporting limits. TCE was detected in groundwater at the Property as discussed below.

Groundwater results are presented in Table 4. As is indicated, the chlorinated solvents TCE; tetrachloroethene (PCE); and the breakdown products vinyl chloride (VC); 1,1-dichloroethene (1,1-DCE); and cis-1,2-dichloroethene (cis-1,2-DCE) were detected in one or more groundwater samples at concentrations greater than the preliminary screening levels. The distribution of these compounds in groundwater is shown on Figure 6. As is shown on Figure 6, VC was detected in five of eight groundwater samples collected from the area south of the former washdown system near the Property/PACCAR boundary (TDP-7, TDP-8, TDP-16, TDP-25, and TDP-26) and in groundwater samples collected from three locations in the western portion of the Property (IDP-8, I-104, and I-206) at concentrations greater than the screening level (concentrations exceeding the screening level range from 0.2 µg/L to 140 µg/L). The concentration detected in the sample collected from TDP-26 (140 µg/L), located closest to the Property/PACCAR property boundary, is more than 75 times greater than the concentrations detected at the other locations in this area. Other chlorinated solvents (cis-1,2-DCE, 1,1-DCE, PCE, and TCE) were detected in the groundwater samples collected from TDP-25 and TDP-26 at concentrations greater than the screening levels. With the exception of cis-1,2-DCE, which was detected at a concentration well below the screening level at TDP-8, these constituents were not detected in the remaining water samples collected from this area at concentrations greater than the laboratory reporting limits.

8.2.3 POLYCHLORINATED BIPHENYLS IN SOIL AND GROUNDWATER

Twenty-two (22) soil samples and 27 groundwater samples were analyzed for PCBs during the Phase II investigations. PCBs were not detected in any of the soil or groundwater samples collected from the Property at concentrations greater than the laboratory reporting limits.

8.2.4 SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL AND GROUNDWATER

Eighteen (18) soil samples and 27 groundwater samples were analyzed for SVOCs. With the exception of 4-methylphenol, which was detected in soil at TDP-8-8 at a concentration below the preliminary screening level, SVOCs were not detected in soil at concentrations greater than the laboratory reporting limits. PAHs were detected in soil and are discussed in the following section.

Carbazole was detected in one groundwater sample (TDP1-GW) at a concentration greater than the preliminary screening level. Carbazole was not detected in any of the remaining 26 groundwater samples at concentrations greater than the laboratory reporting limits and was not detected in soil. Bis(2-ethylhexyl)phthalate (BEHP) was detected in five groundwater samples at concentrations greater than the preliminary screening levels. The distribution of BEHP in groundwater is shown on Figure 7.

As is shown on the figure, BEHP was detected only in samples collected from direct-push borings in the southern portion of the Property. BEHP was not detected in soil at the Property.

8.2.5 POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL AND GROUNDWATER

Eighteen (18) soil samples and 27 groundwater samples were analyzed for PAHs during the Phase II investigations. Chrysene and benzo(b)fluoranthene were detected in one soil sample (TDP-18-4) at concentrations greater than the preliminary screening levels. Chrysene, benzo(a)anthracene, and benzo(k)fluoranthene were detected in one water sample (TD28-GW) at concentrations greater than the preliminary screening levels. PAHs were not detected at concentrations greater than the laboratory reporting limits in groundwater samples collected from existing monitoring wells.

8.3 ANALYTICAL RESULTS FOR OTHER AREAS OF INVESTIGATION

This section presents analytical results for the sump sampling, compressed air system sampling, and AST samples. These sampling events were completed to assist Boeing with decommissioning the Thompson facility. There results were not compared to the preliminary screening levels.

8.3.1 SUMP SAMPLING

Analytical results for the sump sample are presented in Table 5 and are summarized as follows:

- The VOCs methylene chloride (42 µg/L), toluene (29 µg/L), and styrene (11 µg/L) were detected in the sample at concentrations greater than the laboratory reporting limits.

- Diesel-range (estimated at 2.5 mg/L) and oil-range (estimated at 62 mg/L) petroleum hydrocarbons were detected in the sample at concentrations greater than the laboratory reporting limits.

- The metals arsenic (23.8 µg/L), cadmium (58 µg/L), chromium (510 µg/L), copper (1,950 µg/L), and lead (6 µg/L) were detected in the sample at concentrations greater than the laboratory reporting limits.

The results of the sump sampling will be used by Boeing to characterize the sump contents for disposal.

8.3.2 COMPRESSED AIR SYSTEM SAMPLING

Analytical results for the wipe samples are presented in Table 6 and are summarized as follows:

- PCBs (specifically, Aroclor 1254) were detected in both of the wipe samples collected from the surface of the air compressors in Building 14-02 at concentrations greater than the laboratory reporting limits.

- PCBs were not detected in any of the 11 wipe samples collected from the compressed air system quick-connect ports at concentrations greater than the laboratory reporting limits.

The results of the compressed air system sampling will be used by Boeing to decommission the system components, if necessary.

8.3.3 ABOVEGROUND STORAGE TANK SAMPLING

Analytical results for the water sample are presented in Table 7 and analytical results for the wipe sample are presented in Table 8. The analytical results are summarized as follows:

- The pH of the tank liquid was 6.0.
- VOCs were not detected in the liquid sample at concentrations greater than the laboratory reporting limits.
- The metals barium (0.015 µg/L), cadmium (0.007 µg/L), and chromium (0.014 µg/L) were detected in the liquid sample at concentrations greater than the laboratory reporting limits.
- The metals barium (3 µg/sample), cadmium (1 µg/sample), chromium (11.7 µg/sample), lead (6 µg/sample), and mercury (0.07 µg/sample) were detected in the wipe sample at concentrations greater than the laboratory reporting limits.

The results of the tank sampling will be used by Boeing to characterize the tank and tank contents for disposal.

9.0 CATCH BASIN SOLIDS SAMPLING

In December of 2008, an investigation of catch basin and oil/water separator solids was conducted at the Property. The purpose of this investigation was to collect and analyze samples of solid material from catch basins and oil/water separators within the Property storm drainage system prior to planned annual catch basin cleaning. Solid material from catch basins and oil/water separators was analyzed for the presence of .PCBs; SVOCs; total metals (arsenic, cadmium, chromium, copper, lead, mercury, and zinc); total organic carbon (TOC), and total solids.

9.1 SAMPLING ACTIVITIES

Solid material samples were collected over a period of 3 days from December 8 through December 10, 2008, from 43 catch basins and two oil/water separators. Catch basins, including catch basins with curb and gutter inlets, and oil/water separators are designated with unique identification numbers (#) in this report and on accompanying figures as CB #, CG #, and OWS #, respectively (see Figures 8 and 9). However, because CGs are a type of catch basin, they are listed as CB # on laboratory-provided data in Table 9 and in the laboratory data boxes on Figures 8 and 9.

Based on available storm drainage maps, 45 catch basins (consisting of both CBs and CGs) and two oil/water separator locations were identified as being part of the Property storm drainage system. During sampling activities, Landau Associates discovered that CB 66 was inaccessible and CB 21 could not be found. CB 66 is located adjacent to Building 14-15 under a wheelchair ramp, where there was not enough clearance between the wheel chair ramp and the ground to allow for sampling. Solid material from selected catch basins was combined with solid material from nearby catch basins and homogenized into a single sample. Two additional catch basins that were installed in fall 2008 in the area of CB 12 and CB 16 after removal of the treated soil mound at the Isaacson property were not sampled as part of this investigation.

Solids sampling methods are described in the Catch Basin Solids Investigation report included in Appendix C of this report.

9.2 ANALYTICAL RESULTS

Twenty-two (22) solids samples were submitted to Analytical Resources Inc. (ARI) for analysis using the following laboratory methods: EPA Method SW8082 for PCB aroclors; EPA Method SW8270D for SVOCs; EPA Method SW6010B/SW7471A for total metals; Method PLUMB81TC for TOC; and EPA Method 160.3 for total solids. Laboratory analytical results for detected analytes for the catch basin and oil/water separator solids are summarized in Table 9.

One or two PCB aroclors were detected in 19 of the 22 samples collected. PCB aroclors were not detected at concentrations above the laboratory reporting limit in three samples: TI-CB34, CB35; TI-CB62, CB67; and TI-OWS79. One or more SVOCs were detected in 19 of the 22 samples collected. SVOCs were not detected above the laboratory reporting limit in three samples: TI-CB10, CB11; TI-CB12, CB16; and TI-CB34, CB35. One or more metals were detected in all 22 samples collected.

The analytical results for total metals are presented on Figure 8, and the results for total PCBs and the SVOC bis(2-ethylhexyl)phthalate are presented on Figure 9.

10.0 SOIL MOUND REMOVAL

During the fall of 2008, a redevelopment project was conducted at the northern portion of the Property that involved removal of a mound of previously stabilized soil (including the removal and disposal of the asphalt/concrete cap over the excavated area), installation of additional stormwater conveyance and treatment facilities on site, and the repaving of the project area. Figure 10 shows the pre-construction grade.

Prior to the excavation activities, an asphalt-capped soil mound was located in the north-central portion of the Isaacson parcel, with an elevation of 20.35 ft above mean sea level (MSL) at its highest point. Areas of the Property, outside of the soil mound, ranged in elevation between 13 ft and 16 ft above MSL. The soil mound resulted from the 1991 excavation and treatment of soil that contained elevated levels of arsenic as described previously in this report.

The primary objective of the project was to level the mound in order to make the northern portion of the Property (Isaacson parcel) suitable for lease, divestiture, redevelopment, or Boeing use. The excavation portion of the project consisted of the removal and disposal of a portion of the stabilized soil mound material and surface soil surrounding the mound to reduce the grade. After the excavation of the mound and surrounding surface soil, the excavation area (including remaining stabilized soil) was recapped with asphalt. Stabilized soil was removed from the Property only as was required to reduce the mound to the planned grade; therefore, not all stabilized soil was removed from the Property. New stormwater treatment and conveyance system improvements were installed as required in accordance with the *King County Surface Water Design Manual* (KCDNRP 2005).

10.1 PRE-CONSTRUCTION ACTIVITIES

Permitting and design elements required prior to, during, and after the completion of construction activities consisted of obtaining State Environmental Policy Act (SEPA) compliance, City of Tukwila (City) Grading Permit, and a Construction Stormwater General Permit. In addition, prior to the start of excavation activities associated with the mound removal and stormwater conveyance upgrades, a stormwater treatment system was installed. Additional details on the permitting requirements and the stormwater treatment system are discussed in the Stabilized Soil Mound Removal and Stormwater System Upgrades report included in Appendix D of this report.

10.2 CONSTRUCTION ACTIVITIES

Construction activities for the mound removal included the stormwater system upgrades, mound removal activities, and post-excavation soil sampling. These elements are briefly described in this section.

Excavation activities on the Property were classified by the City as a "redevelopment"; therefore, upgrades to the stormwater treatment and conveyance system were required. All stormwater system upgrades were completed at the beginning of the project (October 2008) to control and treat stormwater runoff during construction activities. The upgrades included the installation of two Vortechs vaults, one on the southeastern side of the project area and the other on the western side of the project area (Figure 11). The size and placement of the vaults were chosen based on estimated calculations for peak stormwater flow through the vaults. Additional stormwater upgrades included three new catch basins; three new sections of stormwater conveyance line (a total of approximately 497 linear ft) connecting all onsite catch basins to the eastern or western Vortechs vaults; and the removal of approximately 320 linear ft of stormwater conveyance lines and CB 15 associated with the old stormwater conveyance system based on the previous grade of the property.

Soil excavation was conducted by Clearcreek and commenced on September 29, 2008. Clearcreek used excavators to load treated material, soil, and pavement into dump trucks and shipping containers. Due to the density of the stabilized material, bulldozers were used to break up the treated material. Boeing contracted with PSC to provide transportation and coordinate disposal of treated and untreated soil, asphalt, and concrete. The area of the excavation was 4.6 acres and the lateral limits of the excavation are shown on Figure 11. In the area of the stabilized soil mound, soil was removed to a maximum depth of approximately 6 ft below ground surface (BGS). In the area surrounding the mound, only the asphalt or concrete and base course material was removed, with the exception of the areas where soil was excavated to install the stormwater system components. A total of 25,116 tons of soil (5,626 tons of unstabilized soil and 19,490 tons of stabilized material) were excavated from the Property. In addition, 60 loads of concrete and 179 loads of asphalt were removed from the surface of the excavated area and recycled offsite. Excavated material was transported to Lafarge, Inc. (soil), located at 5400 West Marginal Way SW, Seattle, Washington; Stoneway Rock and Recycling, Inc. (asphalt and concrete), located at 510 Monster Road in Renton, Washington; and Rabanco Company's Allied Waste Recycling Center (stabilized soil), located at 2733 3rd Avenue South, Seattle, Washington.

Soil samples were taken at 16 locations evenly distributed throughout the excavated area to document soil conditions at the surface of the finished grade of the excavated area. All soil samples were analyzed for total Resource Conservation and Recovery Act (RCRA) metals. In addition, although no

field indications of petroleum contamination were observed during excavation, one soil sample was analyzed for TPH-Dx because diesel-range petroleum hydrocarbons were detected in samples from test pits in the soil mound area prior to mound removal. The locations of the soil samples are indicated on Figure 11. The analytical results are presented in Table 10 and the laboratory analytical reports are included in the full report included in Appendix D.

10.3 RESTORATION

Final restoration of the project area involved placement of gravel base course material, grading and compacting the base course, and then repaving the excavated area. At least 9 inches of base course was placed over the surface of the excavated area. Prior to paving, the base course was leveled and compacted and tested to ensure that at least 95 percent compaction was achieved. Paving was conducted in sections as portions of the excavation were completed in order to minimize the amount of soil that was exposed to stormwater runoff; thereby reducing the amount of temporary stormwater holding capacity needed.

11.0 12-INCH CORRUGATED METAL DRAIN LINE INVESTIGATION

On February 25, 2008, Landau Associates and Applied Professional Services (APS) investigated the starting point of a 12-inch corrugated metal pipe located within a retaining wall along the southern boundary of the Property, approximately 35 ft south of the southwestern corner of Building 14-01 (Landau Associates 2008b; Appendix E). The elevation of the adjacent property to the south of the Property is approximately 7 ft lower than the elevation of the Property. A concrete retaining wall is located along the southern boundary of the Property. The retaining wall runs parallel to the southern side of Building 14-01, except at the western end where the retaining wall angles north at an approximately 30 degree angle. The pipe daylights near the base of the south side of the retaining wall, approximately 1 ft west of the point where the wall angles to the north and approximately 1 ft north of the southern boundary of the Property. Based on field observations, water exiting the pipe would likely drain to the southwest, then to the west toward the Lower Duwamish Waterway, which is approximately 380 ft west of the pipe outlet.

APS inserted a tractor-mounted camera into the pipe at its western end and recorded the view of the interior of the pipe moving east. After the camera was advanced into the pipe approximately 158 ft east, the camera was impeded by a three-prong, industrial-sized electrical plug within the pipe. The camera was retracted from the pipe. The following observations were made during the video survey:

- The pipe is constructed of corrugated metal and is perforated on the northern and southern sides of the lower half of the pipe. The perforations are in sets of three and appear to be approximately ¼-inch diameter holes.
- No standing water was observed within the pipe.
- The pipe runs approximately parallel to the northern side of the retaining wall, approximately 6 ft BGS.
- No lateral lines were observed entering or exiting the pipe along the length of the survey (approximately 158 ft east of the pipe outlet).

In addition to the video survey, APS and Landau Associates inspected each of the manholes located along the length of the retaining wall, between the wall and Building 14-01, including open stormwater drains and sewer manholes. No lateral lines were observed exiting the drains or manholes in the direction of the retaining wall. APS and Landau Associates were not able to locate the eastern end of the 12-inch corrugated pipe. No evidence of the pipe extending farther east or north of the easternmost video survey location was observed.

Based on the results of this investigation, the 12-inch corrugated metal pipe appears to extend east to west parallel to the northern side of the retaining wall along the southern Property boundary. No inlets

to the pipe were observed along its course. The pipe appears to serve as a drain to prevent buildup of groundwater behind the retaining wall. No connections between the pipe and stormwater drains or sewer lines located on the Property in the vicinity of the pipe were observed during this investigation. There was no evidence of water draining onto the property adjacent to the south of the Property from the pipe during this investigation.

12.0 CATCH BASIN RE-ROUTING PROJECT

In 2009, Boeing completed a project to re-route stormwater collected by CB 39. CB 39 is located in the western portion of the Property, near the outfall of the 48-inch King County storm drain line that runs through the northern portion of the Property (Figure 12). The King County storm drain line conveys stormwater from a portion of the KCIA to the Lower Duwamish Waterway. Two pipes were previously connected to CB 39. Drawings showed a pipe entering the catch basin from the north. This pipe had apparently been abandoned previously because reportedly no flow from the pipe had been observed. The pipe may have been related to pre-Boeing operations because no Boeing sources are known to have been located in this area. A second pipe exited CB 39 from the east and allowed water to flow into the King County storm drain line. Both of the existing pipes were plugged with grout. The catch basin was inspected and found to be in good condition with a solid concrete bottom, therefore, the existing structure was retained and a new pipe was installed to route stormwater from the catch basin to the south into the existing Property stormwater system (Figure 12). A new catch basin grate was placed on top of the existing structure to replace the original manhole lid. There are currently no connections between the Property stormwater system and the King County storm drain line.

13.0 SUMMARY AND CONCLUSIONS

This Data Summary Report presents the results of the environmental assessment and investigation activities that were completed at the Boeing Thompson-Isaacson Property in 2008 and the first half of 2009. This Section summarizes the findings of each of the assessments/investigations described in this document.

Boeing is negotiating an Agreed Order with Ecology for completion of a RI, FS, and draft cleanup action plan (CAP) at the Site. The data obtained during the investigations described in this report will be used in the RI work plan to identify data gaps remaining at the Site, which will be addressed in the RI.

13.1 PHASE I ENVIRONMENTAL SITE ASSESSMENTS

Phase I ESAs were completed for the Boeing Thompson and Isaacson parcels in 2008 in order to identify environmental conditions associated with current or historical operations that may pose a liability to Boeing or prospective purchasers of the Property. The assessment process included review of historical maps and photographs of the Property, review of Boeing's EHS records for the Property, and reconnaissance, as described in Sections 4.0 through 6.0 of this report. The findings of the Phase I ESAs are described below.

A meander of the Duwamish River formerly flowed west to east through the approximate center of the Property. The river was channelized and relocated to its current location west of the Property in the early 1900s. Slip 5, a remnant of the former river meander, remained in the approximate center of the Property. Following the river channelization, the Property was developed with saw mills and planing mills to the north and south of Slip 5. The area to the north of Slip 5 was redeveloped as a steel plant beginning in the mid-1940s with phased expansion of the plant continuing through the mid-1960s. Some filling of Slip 5 occurred as part of this development. The southern portion of the Property was redeveloped by Boeing in the mid-1960s. Slip 5 was completely filled by 1966 when the Boeing Thompson facility was developed.

Environmental investigation at the Property began in 1983, prior to Boeing's purchase of the northern portion of the Property from The Isaacson Corporation. Investigations identified the presence of arsenic and other metals in soil and groundwater and VOCs and SVOCs in soil at the Property. Several remedial actions have been completed at the Property, as described in Section 5.0.

The Phase I ESA identified areas of concern at the Property associated with historical operations, filling at the Property, and areas of former Boeing operations. The areas of concern are listed in Section 7.0 and are summarized as follows:

- Arsenic has been detected in soil and groundwater at the Property at concentrations greater than the MTCA cleanup levels during previous investigations.

- Fill material within the former Slip 5 area includes bricks, wood debris, and slag material. Debris within the fill material is a potential source of impact to subsurface soil and groundwater at the Property. Metals have been detected in the fill material at concentrations greater than the MTCA Method A cleanup levels.

- A large area of the western portion of Building 14-01 was formerly used for washing and painting of airplane sections. A solution containing MIBK was used to prepare the sections for painting. Wastewater and overspray were washed into one of three concrete trenches, which conveyed the solution to sumps located on the exterior of the southern side of Building 14-01. The waste was pumped from the sumps to two ASTs located in the western yard of Building 14-01 via underground piping.

- Copper brush plating was previously conducted in the southwestern portion of Building 14-01. Waste plating solution was collected in a sump (discussed below) then conveyed to a 5,000-gallon AST located in the western yard of Building 14-01 via underground piping.

- An aqueous degreaser is located in the southwestern portion of Building 14-01. Daraclean 212, a non-hazardous substance, was used in the cleaning solution.

- A 500-gallon diesel UST was removed from the western side of Building 14-02. There are no data available regarding the condition of subsurface soil in the area of the 500-gallon diesel UST.

- A release of hydraulic oil from a holding tank associated with an oil/water separator located in the hydraulic test pad area (eastern yard of Building 14-03) was reported in 1992. The oil/water separator, holding tank, and associated piping were removed in 1995 and approximately 900 tons of petroleum-impacted soil was excavated from the area of the release. There is no information available regarding the condition of subsurface soil and groundwater in the area of the excavation.

- Dark staining was observed on the gravel surface along the northern wall of the electrical substation (Building 14-22) located at the southeastern corner of the Property, which may be indicative of a release of petroleum from the substation.

- Electrical transformers are located on the northern side of Building 14-02 and 14-03.

- Hazardous materials sheds are located west of Building 14-03 and south of Building 14-03. The sheds were formerly used to store waste materials pending disposal.

- Historical records indicate that the Mineralized Cell Wood Preserving Company formerly operated on or in the vicinity of the Property, on the northern side of the former Slip 5. The practice of this company involved heating a solution of arsenic and sulfate salts of copper and zinc, and applying the solution to the base of logs under pressure. Storage tanks associated with this operation were reportedly cleaned twice per day and sludge and remaining chemicals in the tanks were drained directly to the ground surface.

- Four diesel USTs, three sumps, and one fuel oil UST were formerly in operation on the northern portion of the Property. Available records indicate that the tanks and sumps have been removed; however, there is no available information regarding the condition of the tanks or the surrounding subsurface soil.

- Impacts to soil have been identified at the Jorgensen Forge Corporation site located adjacent to the north of the Property. Impacts to groundwater are also suspected by Ecology to be present. The contaminants of concern consist of PCBs, metals, and cyanide.

- Impacts to soil and groundwater have been identified at the former PACCAR property located adjacent to the south of the Property. Impacts to sediment and surface water are also suspected by Ecology to be present. The contaminants of concern consist of petroleum products, phenolic compounds, non-halogenated solvents, halogenated organic compounds, and metals.

13.2 PHASE II SOIL AND GROUNDWATER INVESTIGATIONS

Phase II soil and groundwater investigations were conducted at the Property in 2008 and 2009 to address the areas of concern identified during the Phase I ESAs. The results of the soil and groundwater investigations are summarized as follows:

- The metals arsenic, copper, lead, mercury, and zinc were detected in soil at concentrations greater than the preliminary screening levels at some locations. The highest concentrations of metals were detected in soil samples collected from north of the former location of Slip 5. Dissolved arsenic was detected in groundwater at concentrations greater than the screening levels at various locations throughout the Property. The highest concentrations of dissolved arsenic were detected in groundwater samples collected from direct-push borings in the northwestern portion of the Property.

- The VOCs TCE, PCE, VC, 1,1-DCE, and cis-1,2-DCE, were detected at concentrations greater than the preliminary screening in groundwater samples collected from near the southern Property boundary and in the southwestern portion of the Property. VC was also detected in two groundwater samples from the northwestern portion of the Property, north of the former Slip 5. VOCs were not detected in soil at concentrations greater than the screening level, with the exception of one detection of benzene in the central portion of the Property and one detection of TCE near the southern Property boundary.

- PCBs were not detected in soil or groundwater samples at concentrations greater than the preliminary screening levels or the laboratory reporting limits.

- Carcinogenic PAHs were detected in one soil sample and one groundwater sample collected from a direct-push boring at concentrations greater than the preliminary screening levels.

- No other SVOCs were detected in soil at concentrations greater than the preliminary screening levels. BEHP was detected in groundwater samples collected from direct-push borings in the south and southwestern portions of the Property at concentrations greater than the preliminary screening levels. In addition, carbazole was detected in one groundwater sample at a concentration greater than the preliminary screening level. No other SVOCs were detected in groundwater at concentrations greater than the preliminary screening level.

13.3 CATCH BASIN SOLIDS SAMPLING

In December of 2008, an investigation of catch basin and oil/water separator solids was conducted at the Property prior to planned annual catch basin cleaning. The findings of the catch basin solids sampling are as follows:

- One or two PCBs aroclors and one or more SVOCs were detected at concentrations greater than the laboratory reporting limits in 19 of the 22 samples collected.
- One or more metals were detected at concentrations greater than the laboratory reporting limits in each of the samples collected.

13.4 SOIL MOUND REMOVAL

During the fall of 2008, a redevelopment project was conducted at the Property that involved removal of a mound of previously stabilized soil (including the removal and disposal of the asphalt/concrete cap over the excavated area); installation of additional stormwater conveyance and treatment facilities on site; and the repaving of the project area. The purpose of the project was to reduce the grade of the stabilized soil mound in order to prepare the northern portion of the Property for reuse by Boeing, or for potential lease or sale. A total of 25,116 tons of soil (including 19, 490 tons of stabilized material) were excavated from the Property and transported offsite for disposal.

13.5 12-INCH CORRUGATED METAL PIPE INVESTIGATION

In 2008, Landau Associates and APS completed an investigation of a 12-inch corrugated metal pipe located within a retaining wall along the southern boundary of the Property. The investigation was completed by inserting a tractor-mounted camera into the pipe at its western end and recording the view of the interior of the pipe moving east. In addition to the video survey, APS and Landau Associates inspected each of the manholes located along the length of the retaining wall, between the wall and Building 14-01, including open stormwater drains and sewer manholes.

Based on the results of this investigation, the 12-inch corrugated metal pipe appears to extend east to west parallel to the northern side of the retaining wall along the southern Property boundary. No inlets to the pipe were observed along its course. The pipe appears to serve as a drain to prevent buildup of groundwater behind the retaining wall. No connections between the pipe and stormwater drains or sewer lines located on the Property in the vicinity of the pipe were observed during this investigation. There was no evidence of water draining onto the property adjacent to the south of the Property from the pipe during this investigation.

13.6 RE-ROUTING OF CATCH BASIN 39

In 2009, Boeing completed a project to re-route stormwater collected by CB 39, located in the western portion of the Property, into the Property stormwater system. Stormwater from CB 39 formerly flowed into the 48-inch King County storm drain line that runs through the northern portion of the Property. Existing pipes were plugged with grout and a new pipe was installed to route stormwater south from CB 39 into the Property stormwater system as shown on Figure 13. With the completion of this project, there are no connections between the Property stormwater system and the King County storm drain line.

14.0 USE OF THIS REPORT

This Data Summary Report has been prepared for the exclusive use of Boeing for specific application to the Thompson-Isaacson Site in Tukwila, Washington. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

This document has been prepared under the supervision and direction of the following key staff.

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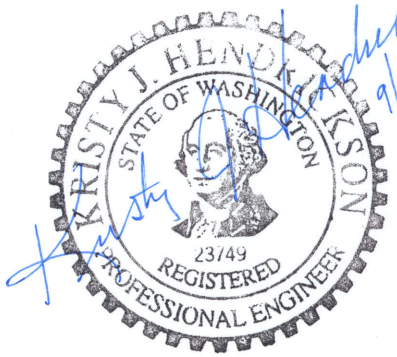

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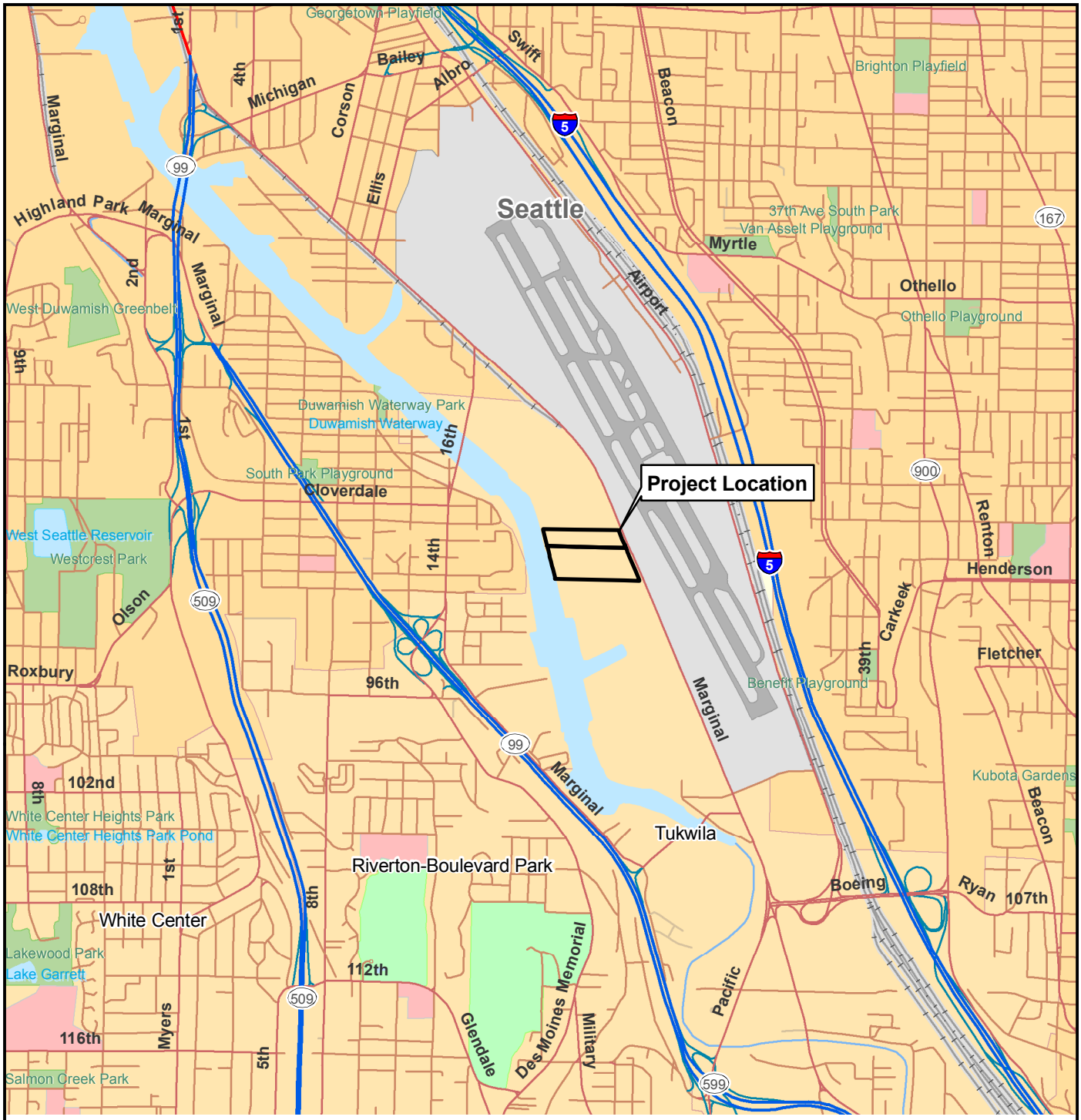

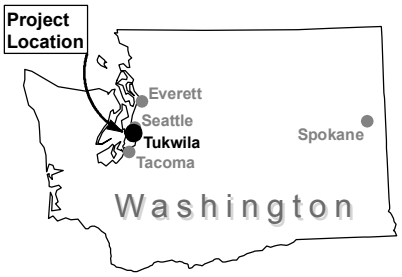

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0 0.5 1

Miles

Data Source: ESRI 2008; King County Parcel Data

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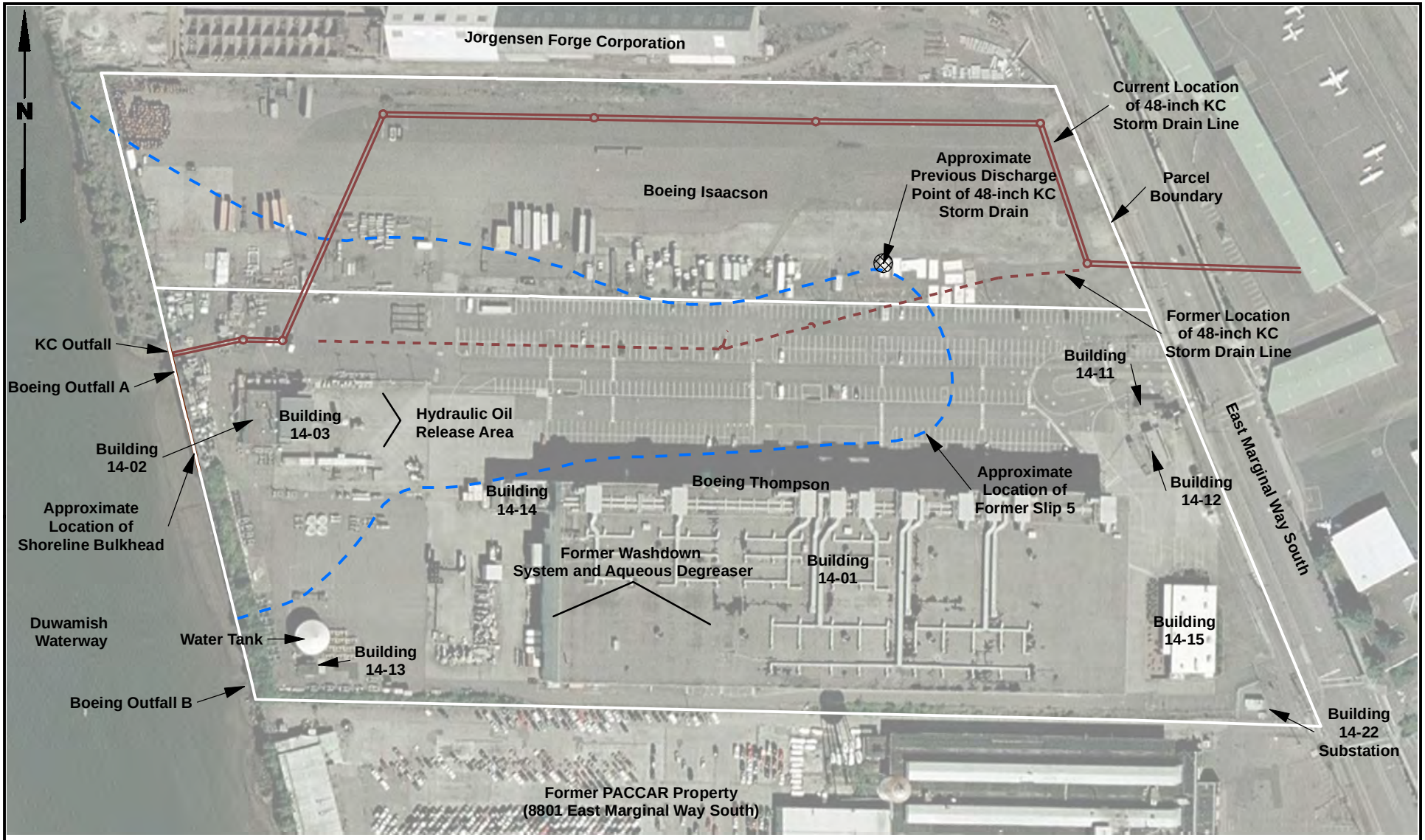
Boeing Thompson-Isaacson Property Tukwila, Washington	**Vicinity Map**	Figure 1

Y:\Projects\025190\MapDocs\Fig2_SitePlan.mxd 9/1/2009 NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet



Data Source: ESRI Image Server; King County Parcel Data

0 200 400

Scale in Feet

LANDAU ASSOCIATES

Boeing Thompson Isaacson Property Tukwila, Washington	**Site Plan**	Figure 2

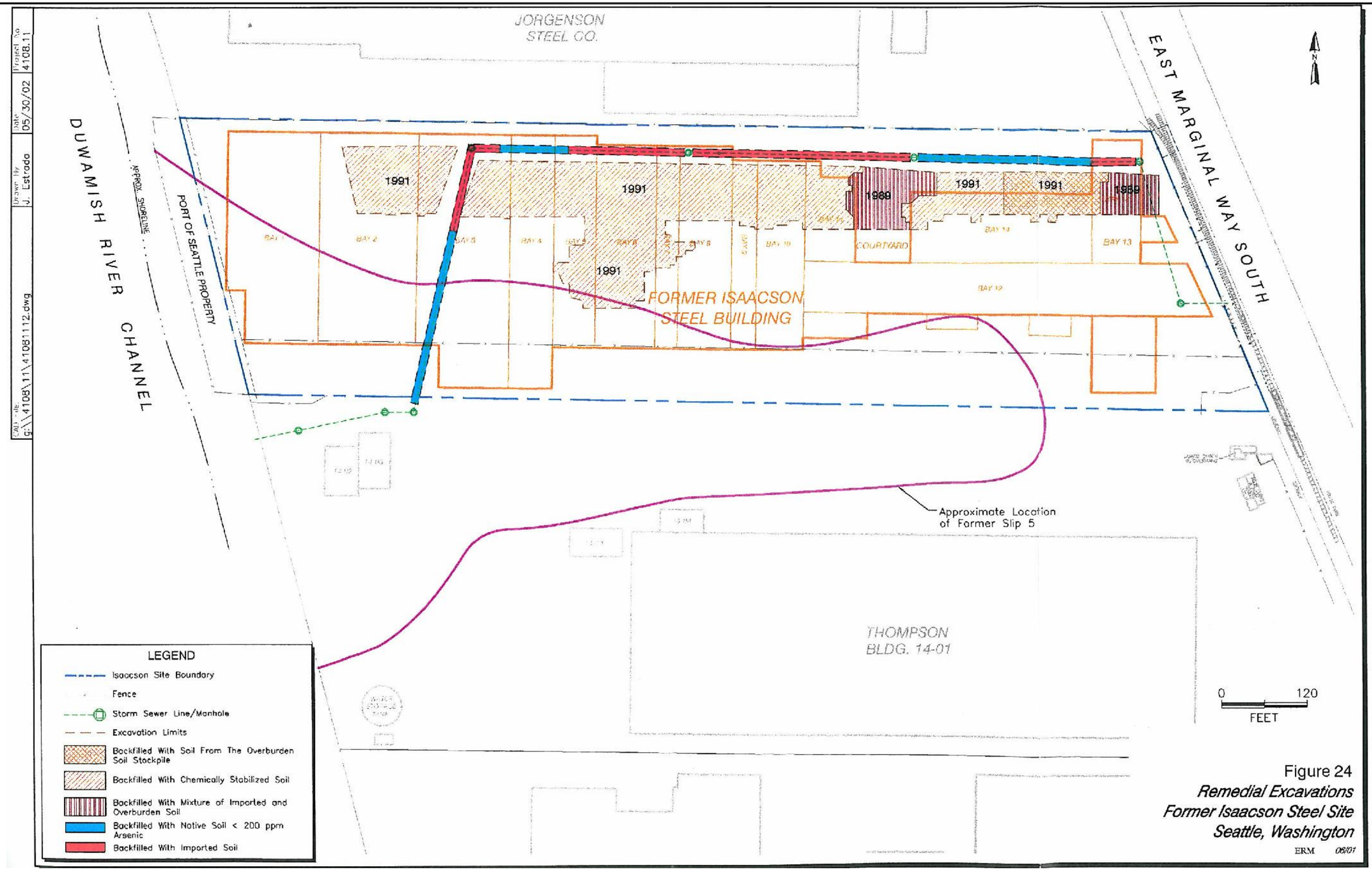


Figure 24
Remedial Excavations
Former Isaacson Steel Site
Seattle, Washington
ERM 06/01

Source: ERM Report Figure 24, 2001

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Boeing Thompson - Isaacson Property Tukwila, Washington	**Remedial Excavations**	Figure 3

LANDAU ASSOCIATES

Drawn By: J. Estrada | Date: 05/30/02 | Project No: 4108.11
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Draft Summary Report | V:\025119010910\011\Fig03.dwg (A) "Figure 3" 9/1/2009

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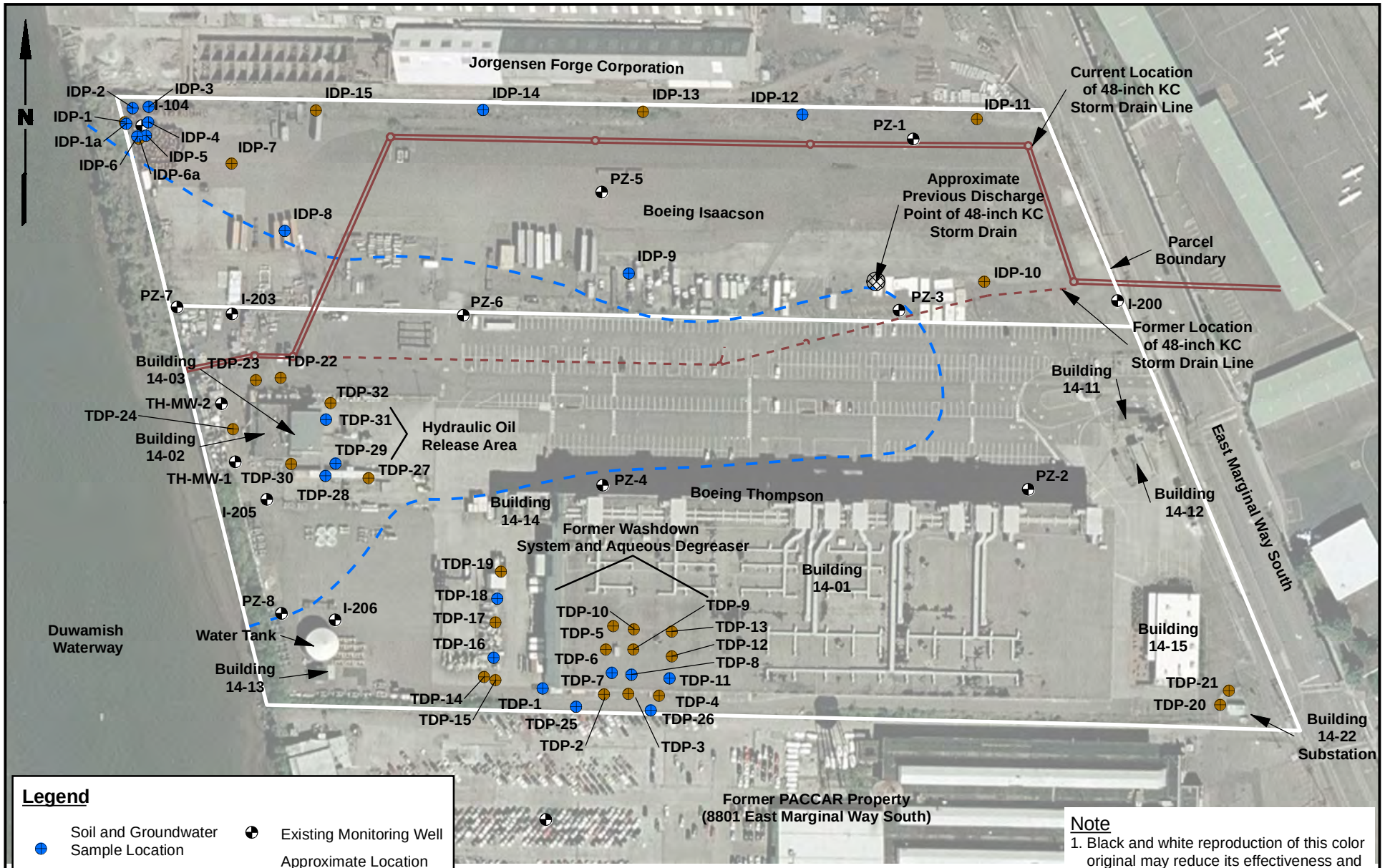

Legend

- Soil and Groundwater Sample Location
- Soil Sample Location
- Existing Monitoring Well
- Approximate Location of Former Slip 5

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Source: ESRI Image Server, King County Parcel Data

0 200 400

Scale in Feet

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Boeing Thompson-Isaacson Property
Tukwila, Washington

Phase II Soil and Groundwater Sample Locations

Figure 4

IDP-1	4'
As	60
Cu	NA
Pb	NA
Hg	NA
Zn	NA

IDP-2	4'
As	180
Cu	NA
Pb	NA
Hg	NA
Zn	NA

IDP-3	4'	8'
As	34	48
Cu	NA	NA
Pb	NA	NA
Hg	NA	NA
Zn	NA	NA

IDP-15	12'
As	274
Cu	47.2
Pb	5
Hg	0.06
Zn	96

IDP-14	11'
As	220
Cu	624
Pb	6
Hg	0.21
Zn	77

IDP-13	12'
As	18
Cu	131
Pb	4
Hg	0.08
Zn	97

IDP-12	12'
As	204
Cu	163
Pb	4
Hg	0.06
Zn	354

IDP-11	11'
As	ND
Cu	13.5
Pb	ND
Hg	ND
Zn	35

IDP-1A	9'	14'
As	186	9
Cu	NA	NA
Pb	NA	NA
Hg	NA	NA
Zn	NA	NA

IDP-7	3'
As	ND
Cu	177J
Pb	420
Hg	0.52J
Zn	1390J

IDP-8	3'
As	32
Cu	27.4
Pb	27
Hg	0.08
Zn	89

IDP-9	3'
As	30
Cu	93.2
Pb	112
Hg	0.18
Zn	267

IDP-10	2'
As	23
Cu	55.6
Pb	59
Hg	0.15
Zn	220

IDP-6	8'	12'
As	71	ND
Cu	26.9	9.1
Pb	3	ND
Hg	0.06	ND
Zn	153	20

IDP-6A	3'
As	14
Cu	20.8
Pb	27
Hg	ND
Zn	68

IDP-5	8'
As	333
Cu	NA
Pb	NA
Hg	NA
Zn	NA

IDP-4	4'	8'
As	15	17
Cu	NA	NA
Pb	NA	NA
Hg	NA	NA
Zn	NA	NA

TDP-22	3'
As	ND
Cu	15.6
Pb	4
Hg	ND
Zn	NA

TDP-32	11'
As	ND
Cu	20.5
Pb	ND
Hg	ND
Zn	NA

TDP-31	12'
As	9
Cu	15.9
Pb	2
Hg	0.05
Zn	NA

TDP-23	3'
As	ND
Cu	17.7
Pb	11
Hg	0.11
Zn	NA

TDP-30	11'
As	13
Cu	35.9
Pb	15
Hg	0.17
Zn	NA

TDP-28	11'
As	6
Cu	20.5
Pb	4
Hg	ND
Zn	NA

TDP-29	11'
As	8
Cu	26.2
Pb	7
Hg	0.1
Zn	NA

TPD-6	8'
As	ND
Cu	20.5J
Pb	ND
Hg	ND
Zn	NA

TDP-5	5'
As	ND
Cu	10.8
Pb	ND
Hg	ND
Zn	NA

TDP-10	7'	8'
As	NA	ND
Cu	NA	18.9
Pb	NA	ND
Hg	NA	ND
Zn	NA	NA

TDP-9	8'
As	ND
Cu	17.7
Pb	ND
Hg	ND
Zn	NA

TDP-13	7'
As	ND
Cu	97.1
Pb	ND
Hg	ND
Zn	NA

TDP-18	4'
As	12
Cu	NA
Pb	28
Hg	0.23
Zn	NA

TDP-27	11'
As	6
Cu	13.7
Pb	ND
Hg	ND
Zn	NA

TDP-19	4'
As	6
Cu	16.4
Pb	30
Hg	0.07
Zn	NA

TDP-12	7'
As	8
Cu	31.3
Pb	13
Hg	0.19
Zn	NA

TDP-17	4'
As	7
Cu	34.3
Pb	5
Hg	0.11
Zn	NA

TDP-8	8'
As	ND
Cu	21.6
Pb	7
Hg	ND
Zn	NA

TDP-21	3'
As	ND
Cu	13.3
Pb	ND
Hg	ND
Zn	NA

TDP-16	3'
As	7
Cu	28.8
Pb	4
Hg	0.05
Zn	NA

TDP-14	4'
As	17
Cu	36.6
Pb	18
Hg	0.13
Zn	NA

TDP-15	4'
As	9
Cu	25.7
Pb	3
Hg	ND
Zn	NA

TDP-1	9'
As	9
Cu	31.6
Pb	17
Hg	0.06
Zn	NA

TDP-25	9'
As	ND
Cu	14.3
Pb	2
Hg	ND
Zn	NA

TDP-2	5'
As	ND
Cu	23.2
Pb	2
Hg	ND
Zn	NA

TDP-7	8'
As	ND
Cu	20.2
Pb	2
Hg	ND
Zn	NA

TDP-3	5'
As	6
Cu	24.8
Pb	139
Hg	0.06
Zn	NA

TDP-26	8'
As	7
Cu	36.6
Pb	12J
Hg	ND
Zn	NA

TDP-4	4'
As	18
Cu	67.1
Pb	106
Hg	0.2
Zn	NA

TDP-11	7'	9'
As	NA	ND
Cu	NA	24.8
Pb	NA	3
Hg	NA	ND
Zn	NA	NA

TDP-20	3'
As	ND
Cu	NA
Pb	3
Hg	ND
Zn	NA

TDP-24

Boeing Isaacson

Boeing Thompson

East Marginal Way South

N

Legend

Soil Sample Location

Sample Location	Depth in Feet
As (Arsenic)	Result mg/kg
Cu (Copper)	
Pb (Lead)	
Hg (Mercury)	
Zn (Zinc)	

Preliminary Screening Levels (mg/kg)	
As	7
Cu	36
Pb	110
Hg	0.1
Zn	86

Notes:
Highlighted text indicates exceedance of screening level.
NA = Not analyzed.
ND = Not Detected.

0 150 300

Scale in Feet

Data Source: ESRI Image Server; King County Parcel Data

Note
1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Y:\Projects\025190\MapDocs\Fig5_Metals.mxd 6/18/2009 NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet

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Boeing Thompson-Isaacson Property
Tukwila, Washington

Phase I Detected Concentrations of Metals in Soil

Figure 5

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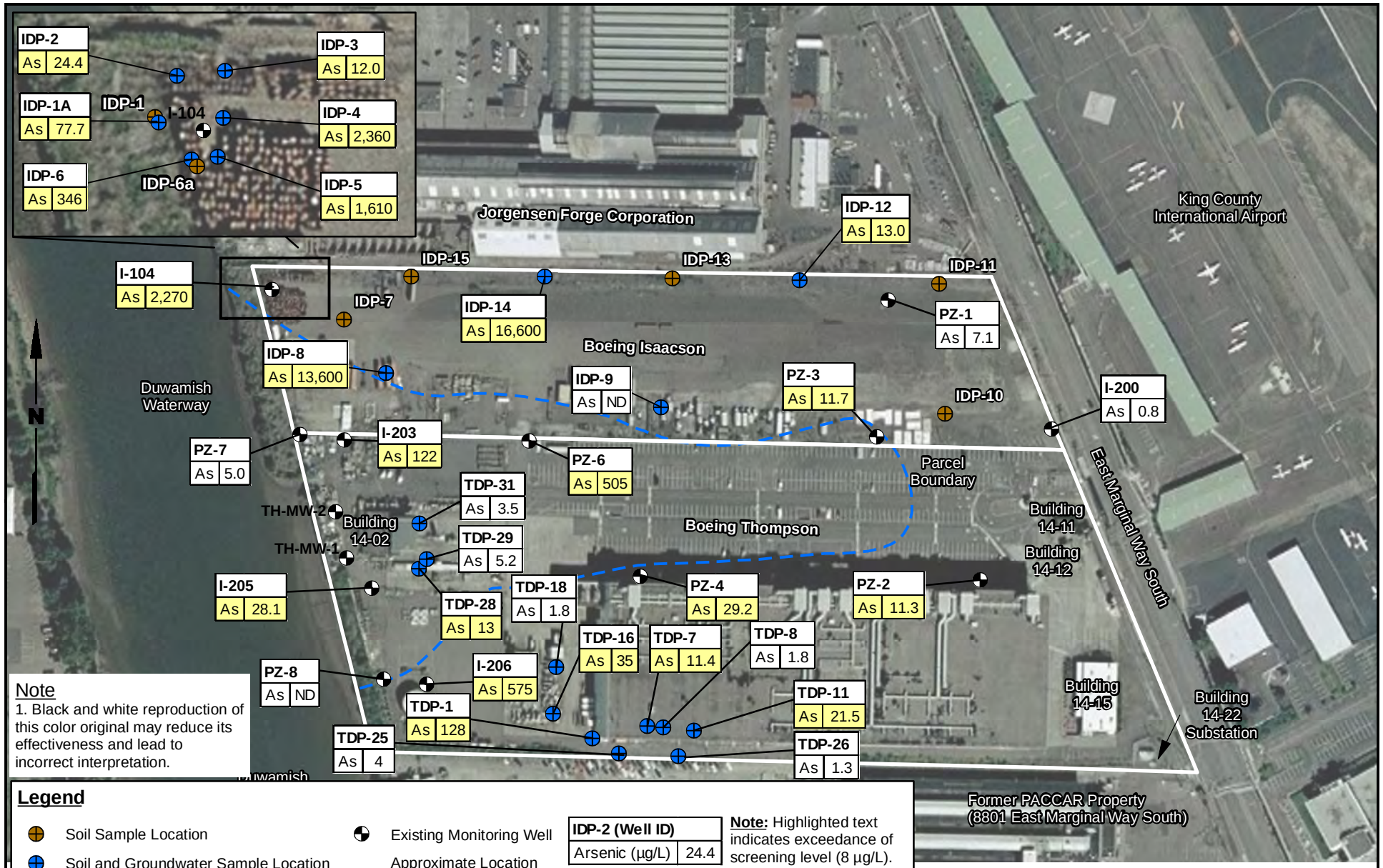

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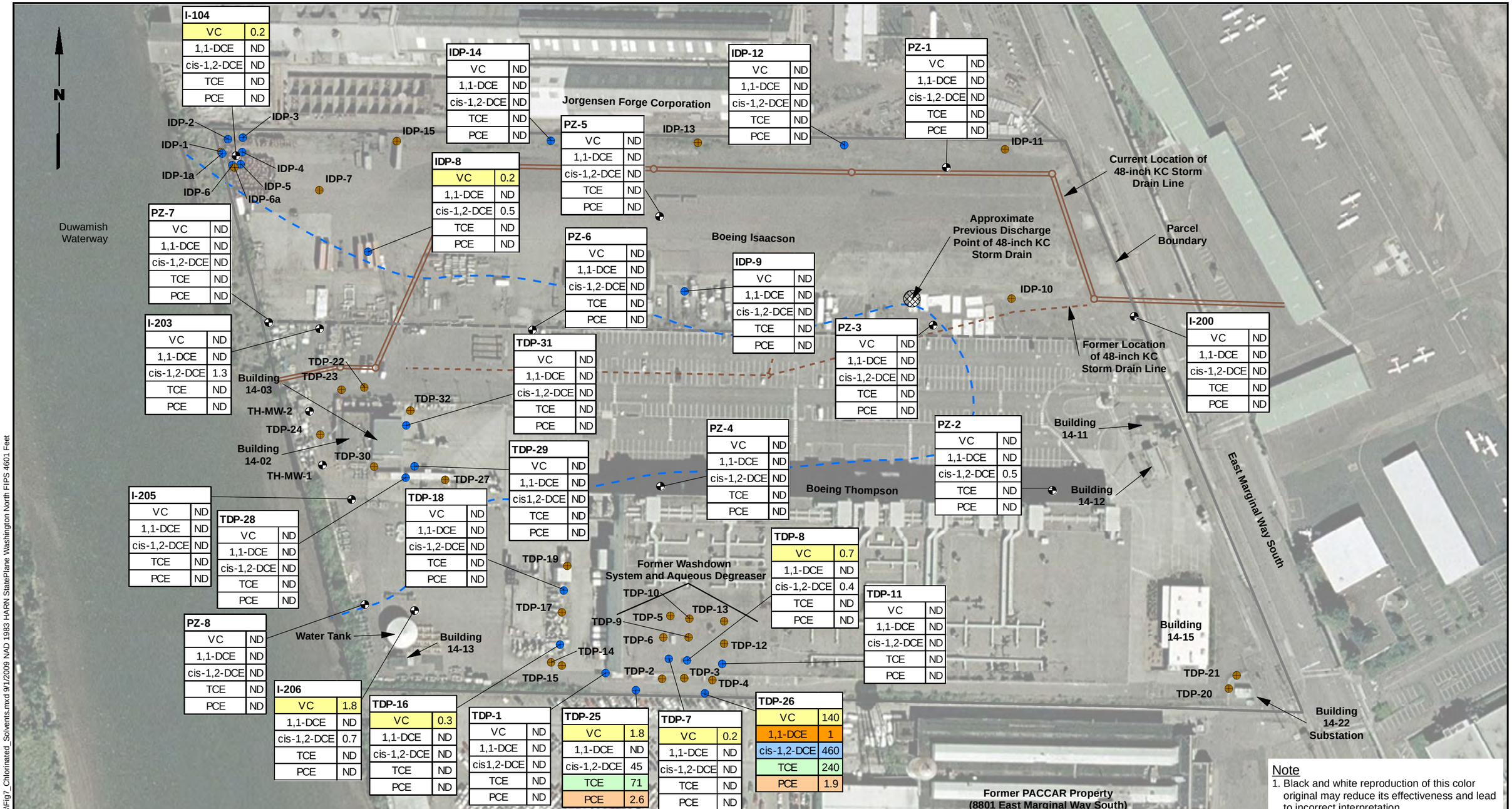
Boeing Thompson-Isaacson Property
Tukwila, Washington

Phase I I Detected Concentrations of Arsenic in Groundwater

Figure
6



Legend

- Soil Sample Location
- Soil and Groundwater Sample Location
- Existing Monitoring Well
- Approximate Location of Former Slip 5

Sample Location	Result µg/L
VC (Vinyl Chloride)	
1,1-DCE (1,1-Dichloroethene)	
cis-1,2-DCE (cis-1,2-Dichloroethene)	
TCE (Trichloroethene)	
PCE (Tetrachloroethene)	

Screening Levels (µg/L)	
VC	0.025
1,1-DCE	0.057
cis 1,2-DCE	70
TCE	2.5
PCE	0.7

Note: Highlighted text indicates exceedances of screening level. ND = Not Detected.

Note
1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

0 150 300
Scale in Feet

Data Source: ESRI Image Server, King County Parcel Data

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Boeing Thompson-Isaacson Property
Tukwila, Washington

Phase II Detected Concentrations of VOCs in Groundwater

Figure 7

Y:\Projects\025190\MapDocs\Fig7_Chlorinated_Solvents.mxd 9/1/2009 NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet

I-104 | BEHP ND
IDP-2
IDP-3
IDP-1
IDP-15
IDP-14 | BEHP ND
Jorgensen Forge Corporation
IDP-12 | BEHP ND
PZ-1 | BEHP ND
IDP-11
IDP-13
IDP-1a
IDP-4
IDP-5
IDP-6
IDP-6a
IDP-7
PZ-5 | BEHP ND
Current Location of 48-inch KC Storm Drain Line
IDP-8 | BEHP ND
Boeing Isaacson
Approximate Previous Discharge Point of 48-inch KC Storm Drain
Parcel Boundary
IDP-9 | BEHP ND
IDP-10
PZ-7 | BEHP ND
I-203 | BEHP ND
PZ-6 | BEHP ND
PZ-3 | BEHP ND
I-200 | BEHP ND
TDP-22
TDP-23
Building 14-03
Former Location of 48-inch KC Storm Drain Line
TDP-32
TDP-31 | BEHP 3
TH-MW-2 | BEHP ND
TDP-24
Building 14-11
Hydraulic Oil Release Area
Building 14-02
TDP-30
PZ-4 | BEHP ND
TDP-29 | BEHP ND
TH-MW-1 | BEHP ND
TDP-27
PZ-2 | BEHP ND
Building 14-12
I-205 | BEHP ND
TDP-28 | BEHP 3.8
Boeing Thompson
Building 14-14
East Marginal Way South
I-206 | BEHP ND
TDP-18 | BEHP 1.8
TDP-19
Former Washdown System and Aqueous Degreaser
Building 14-01
PZ-8 | BEHP ND
TDP-17
TDP-10
TDP-13
TDP-5
TDP-9
Water Tank
TDP-16 | BEHP ND
TDP-12
TDP-8 | BEHP 2.5
TDP-6
Building 14-15
Building 14-13
TDP-14
TDP-15
TDP-2
TDP-11 | BEHP 1.1
TDP-21
TDP-20
TDP-4
TDP-1 | BEHP ND
TDP-25 | BEHP 1.3
TDP-3
TDP-26 | BEHP ND
Building 14-22 Substation
TDP-7 | BEHP 1
Duwamish Waterway
Former PACCAR Property (8801 East Marginal Way South)

N

Legend

- Soil Sample Location
- Soil and Groundwater Sample Location
- Existing Monitoring Well
- Approximate Location of Former Slip 5

Sample Location	
BEHP (bis(2-ethylhexyl)phthalate	Result µg/L

Note: Highlighted text indicates exceedance of screening level (1.2 µg/L).
ND = Not detected.

0 150 300
Scale in Feet

Data Source: ESRI Image Server, King County Parcel Data

Note
1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

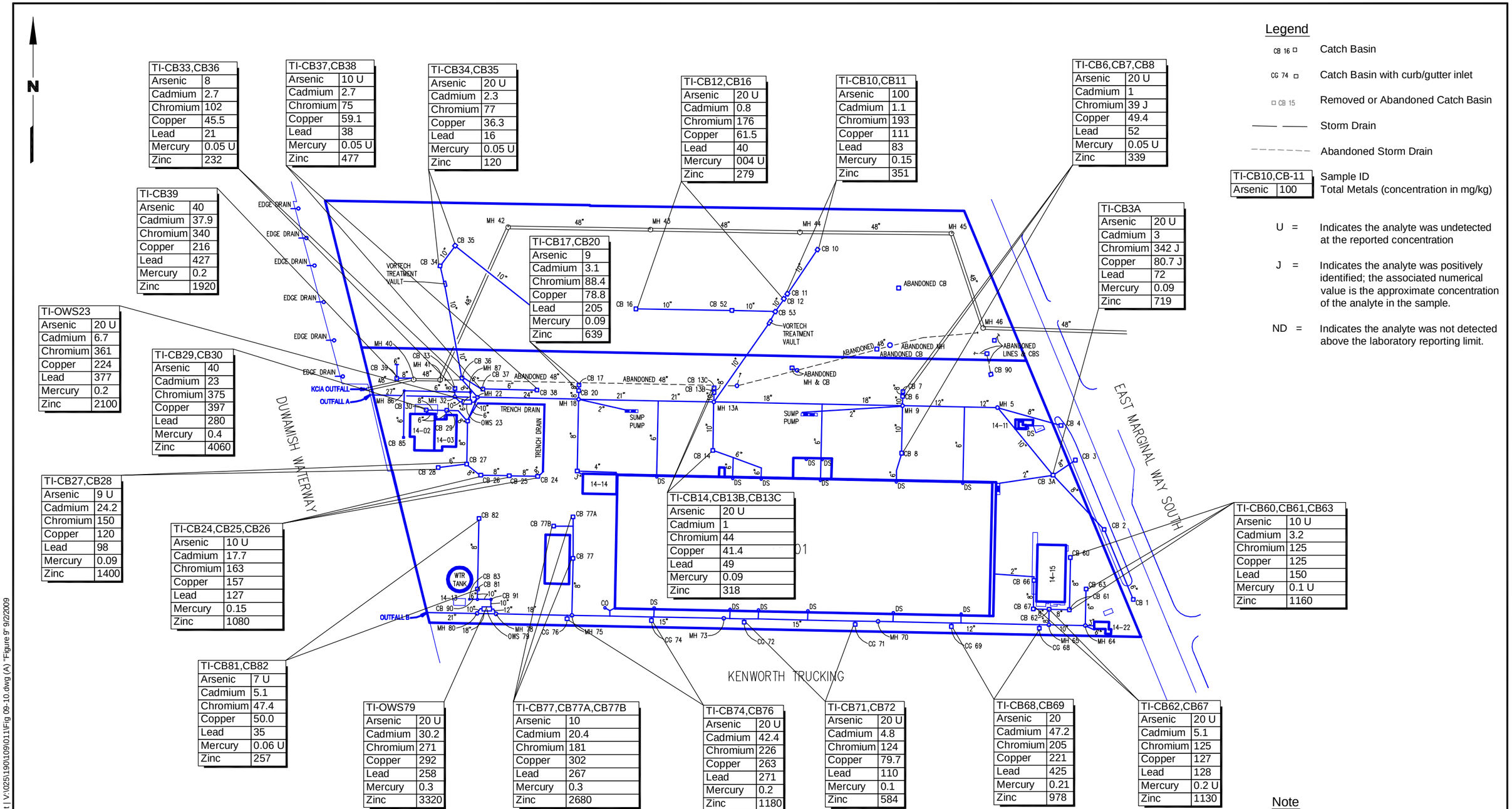
LANDAU ASSOCIATES

Boeing Thompson-Isaacson Property
Tukwila, Washington

Phase II Detected Concentrations of BEHP in Groundwater

Figure 8

Y:\Projects\025190\MapDocs\Fig8_BEHP.mxd 9/1/2009 NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet



Legend

- CB 16 — Catch Basin
- CG 74 — Catch Basin with curb/gutter inlet
- CB 15 — Removed or Abandoned Catch Basin
- Storm Drain
- Abandoned Storm Drain

TI-CB10,CB-11	
Arsenic	100

Sample ID
Total Metals (concentration in mg/kg)

U = Indicates the analyte was undetected at the reported concentration

J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

ND = Indicates the analyte was not detected above the laboratory reporting limit.

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

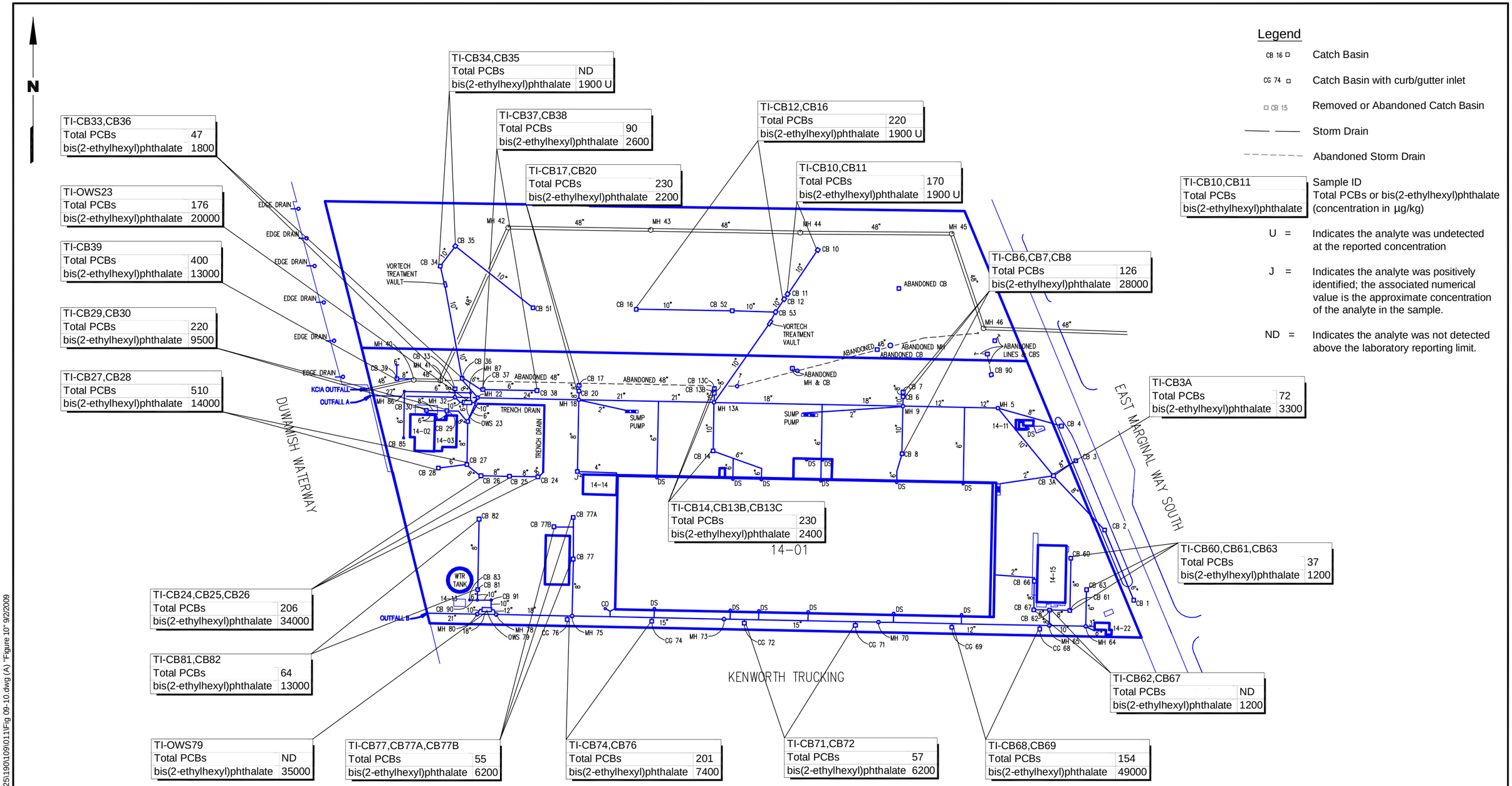
LANDAU ASSOCIATES

Boeing Thompson - Isaacson Property
Tukwila, Washington

Detected Concentrations of Metals in Catch Basin Solids

Figure 9

Draft Summary Report | V:\025\190\109\011\Fig 09-10.dwg (A) "Figure 9" 9/2/2009



Legend

- CB 16 — Catch Basin
- CG 74 — Catch Basin with curb/gutter inlet
- CB 15 — Removed or Abandoned Catch Basin
- Storm Drain
- Abandoned Storm Drain

TI-CB10,CB11	
Total PCBs	
bis(2-ethylhexyl)phthalate	

Sample ID
Total PCBs or bis(2-ethylhexyl)phthalate (concentration in µg/kg)

U = Indicates the analyte was undetected at the reported concentration

J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

ND = Indicates the analyte was not detected above the laboratory reporting limit.

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

0 200 400
Scale in Feet

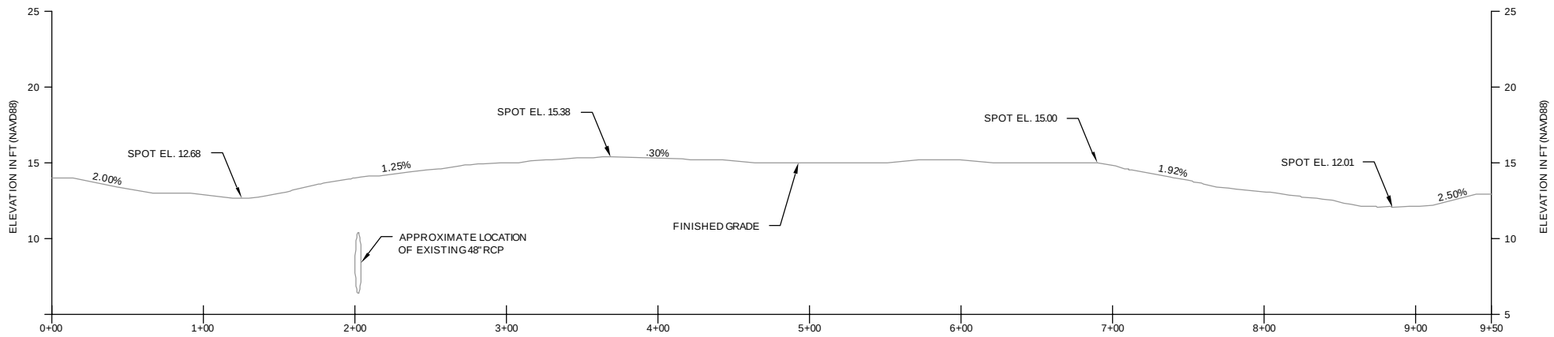
LANDAU ASSOCIATES

Boeing Thompson - Isaacson Property
Tukwila, Washington

Detected Concentrations of BEHP and PCBs in Catch Basin Solids

Figure 10

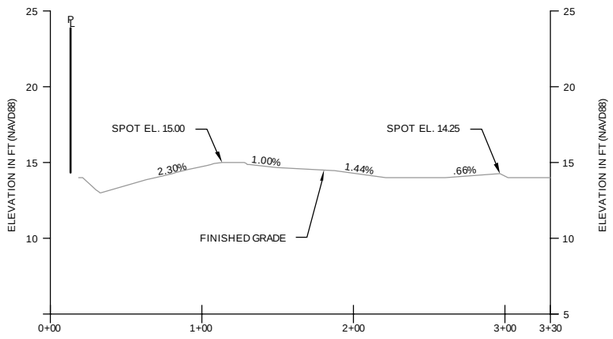
Draft Summary Report | V:\025\190\109\011\Fig 09-10.dwg (A) "Figure 10" 9/2/2009



EAST / WEST SECTION THRU CROWN OF MOUND
(AS-BUILT)

PROFILE 1

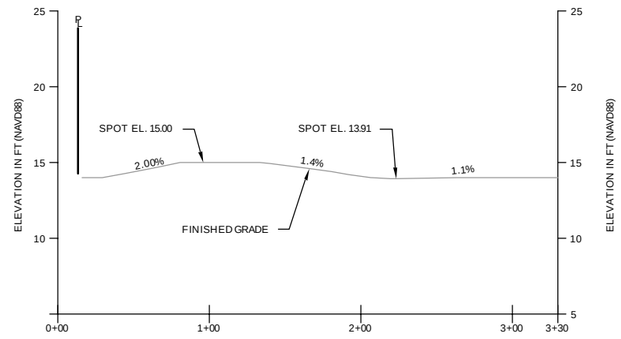
HORIZ SCALE: 1" = 50'
VERT SCALE" 1"=5'



NORTH / SOUTH SECTION THRU CATCH BASIN NO 51 (AS-BUILT)

PROFILE 2

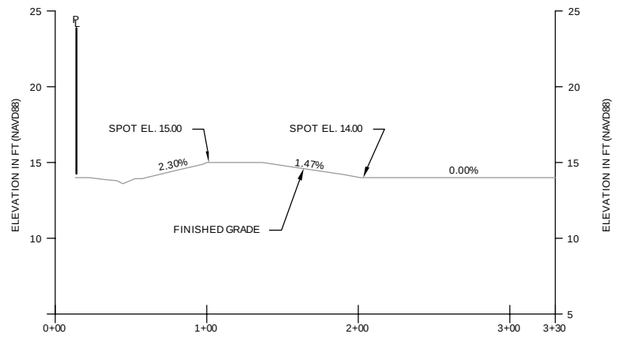
HORIZ SCALE: 1" = 50'
VERT SCALE" 1"=5'



NORTH / SOUTH SECTION THRU CATCH BASIN NO 16 (AS-BUILT)

PROFILE 3

HORIZ SCALE: 1" = 50'
VERT SCALE" 1"=5'



NORTH / SOUTH SECTION THRU CATCH BASIN NO 52 (AS-BUILT)

PROFILE 4

HORIZ SCALE: 1" = 50'
VERT SCALE" 1"=5'

GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2008 EDITION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION," WASHINGTON STATE DEPARTMENT OF TRANSPORTATION; AND THE CITY OF TUKWILA DEVELOPMENT GUIDELINES AND DESIGN CONSTRUCTION STANDARDS. ADDITIONALLY ALL SITE WORK MUST COMPLY WITH THE 2006 IBC.
2. AN APPROVED COPY OF CONSTRUCTION PLANS MUST BE ON SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN STREET USE AND ANY OTHER RELATED PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY IN THE CITY RIGHT-OF-WAY.
4. PRIOR TO ANY CONSTRUCTION ACTIVITY, THE CITY OF TUKWILA MUST BE CONTACTED FOR A PRE-CONSTRUCTION MEETING.
5. ALL LOCATIONS OF EXISTING UTILITIES HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS, AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES WHICH MAY BE AFFECTED BY ITS WORK. THE CONTRACTOR SHALL CONTACT THE UTILITIES UNDERGROUND LOCATION SERVICE (1-800-424-5555) PRIOR TO CONSTRUCTION. THE OWNER OR ITS REPRESENTATIVE SHALL BE IMMEDIATELY CONTACTED IF A UTILITY CONFLICT EXISTS. A FEE OF $35.00 WILL BE CHARGED FOR EACH RE-LOCATE REQUEST.
6. ALL MATERIALS SHALL BE NEW AND UNDAMAGED, OF AN APPROVED BRAND, WITH REPLACEMENT AND REPAIR PARTS READILY AVAILABLE FROM THE GENERAL SEATTLE AREA.
7. SIGNING, FLAGGING AND TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE FOLLOWING STANDARDS, (SEE STANDARD TRAFFIC CONTROL PLANS IN SECTION 4) THE WSDOT TRAFFIC MANUAL, AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
8. STREET SURFACES SHALL BE CLEANED AT THE END OF EACH DAY'S OPERATION WITH A POWER BROOM OR OTHER APPROVED MEANS. NO OPEN CUT CROSSING OF COUNTY ROADS OR STREETS SHALL BE MADE WITHOUT THE PRIOR APPROVAL OF THE COUNTY.
9. THE PERMITTEE WILL BE RESPONSIBLE TO COORDINATE WITH THE STATE DEPARTMENT OF NATURAL RESOURCES FOR ANY CONFLICT BETWEEN PERMIT WORK AND EXISTING MONUMENTATION.
10. TRENCH BACKFILL OF NEW UTILITIES SHALL BE COMPACTED TO 95% RELATIVE COMPACTION UNDER PAVED AREAS AND 90% RELATIVE COMPACTION OF UNPAVED AREAS, PER COMPACTION TESTING AS SPECIFIED IN STANDARD SPECIFICATIONS.
11. STOCKPILES ARE TO BE LOCATED IN SAFE AREAS AND ADEQUATELY PROTECTED BY TEMPORARY SEEDING AND MULCHING. HYDRO-SEED PREFERRED.
12. EXISTING ASPHALT SURFACES DAMAGED AS A RESULT OF SITE WORK, SHALL BE SAW CUT AT LEAST 6" BEYOND EDGE AT DAMAGE & REPAIRED TO A CONDITION MATCHING OR EXCEEDING THE PRE-EXISTING CONDITION.
13. THE CONTRACTOR IS RESPONSIBLE FOR WATER QUALITY.
14. ALL PIPE SHALL BE PLACED ON STABLE EARTH, OR IF IN THE OPINION OF THE ENGINEER THE EXISTING FOUNDATION IS UNSATISFACTORY, THEN IT SHALL BE EXCAVATED BELOW GRADE AND BACKFILLED TO GRADE WITH SAND-GRAVEL, CRUSHED ROCK OR OTHER SUITABLE MATERIAL. NEVER INSTALL PIPE ON SOD, FROZEN EARTH, LARGE BOULDERS OR ROCK.
15. THE BACKFILL SHALL BE PLACED EQUALLY ON BOTH SIDES OF THE PIPE OR PIPE-ARCH IN LAYERS WITH A LOOSE AVERAGE DEPTH OF 6", MAXIMUM DEPTH 8", THOROUGHLY TAMPING EACH LAYER. THESE COMPACTED LAYERS MUST EXTEND FOR ONE DIAMETER ON EACH SIDE OF THE PIPE OR TO THE SIDE OF THE TRENCH. MATERIALS TO COMPLETE THE FILL OVER PIPE SHALL BE THE SAME AS DESCRIBED. (REFER TO WSDOT STD. SPEC).
16. ALL FILLS SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY BY MODIFIED PROCTOR TEST.

0 100 200
Scale in Feet

Boeing Thompson - Isaacson Property
Tukwila, Washington

Grading Plan for Soil Mound Removal

Figure 11

LANDAU ASSOCIATES

Draft Summary Report | V:\025\190\109\011\Fig 11.dwg (A) "Figure 11" 9/1/2009

N

JORGENSEN FORGE CORP.

KING COUNTY STORM LINE

EAST MARGINAL WAY

DUWAMISH WATERWAY

200' BUFFER

REDEVELOPMENT AREA
(ASPHALT - NEW)

IMR-3-081113
IMR-6-081017
IMR-12-081104
IMR-12-081027
IMR-15-081104
IMR-2-081017
IMR-8-081017
IMR-11-081027
IMR-11-081104
IMR-19-081113
IMR-4-081017
IMR-22-081023
IMR-14-081104
IMR-5-081017
IMR-18-081113
IMR-10-081104
IMR-1-081003
IMR-7-081027
IMR-16-081104
IMR-13-081104

ISC-S
ISC-R
ISC-Q
ISC-P
ISC-T
ISC-O
ISC-N
ISC-A
ISC-B
ISC-C
ISC-M
ISC-D
ISC-F
ISC-H
ISC-I
ISC-K
ISC-J
ISC-L
ISC-E
ISC-G

OUTFALL A

OUTFALL B

BOEING - THOMPSON

SD
G
W

LEGEND

- POST-EXCAVATION SAMPLES
- PERIMETER CHARACTERIZATION SAMPLE LOCATIONS
- JUNCTION BOX (AS NOTED)
- TELEPHONE MANHOLE
- CATCH BASIN (CB)
- VORTECH TREATMENT SYSTEM
- STORM MANHOLE (SDMH)
- SANITARY SEWER MANHOLE (SSMH)
- GAS METER
- GAS VALVE
- WATER VALVE (WV)
- FIRE HYDRANT (FH)
- WATER METER
- SIGN
- MONITORING WELL
- MONITORING WELL (ABANDONED)
- CONCRETE
- WATER LINE
- STORM LINE
- STORM LINE (KING COUNTY)
- GAS LINE
- CHAIN LINK FENCE
- RAIL SEGMENT
- PROPERTY LINE
- ASPHALT CAPPED MOUND (REMOVED)
- CONTOURS
- ASPHALT (NEW)

Adapted from: Storm Drainage Plan (As-Built) Dwg No. 14-YD-C454, 1/21/2009

0 100 200
Scale in Feet

LANDAU ASSOCIATES

Boeing Thompson - Isaacson Property
Tukwila, Washington

Mound Removal As-Built

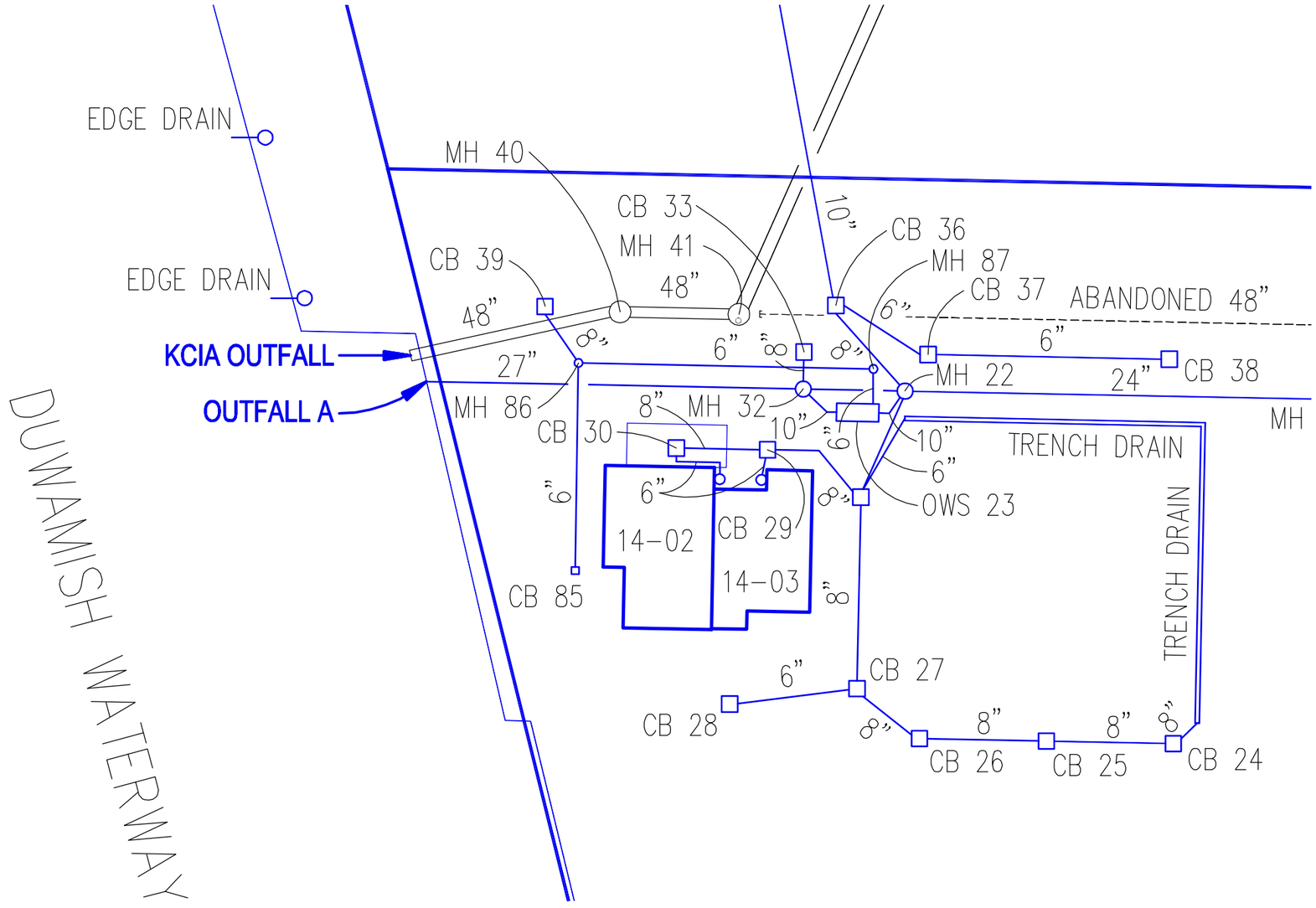
Figure 12

Draft Summary Report | V:\025\190\109\011\Fig 12.dwg (A) "Figure 12" 9/1/2009

N

Legend

- CB 16 — Catch Basin
- CG 74 — Catch Basin with curb/gutter inlet
- CB 15 — Removed or Abandoned Catch Basin
- Storm Drain
- Abandoned Storm Drain



Note

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0 60 120

Scale in Feet

LANDAU ASSOCIATES

Boeing Thompson - Isaacson Property Tukwila, Washington	**Storm Drain Lines Showing Catch Basin 39 Reroute**	Figure **13**

Draft Summary Report | V:\025\1901\109\011\Figure 13.dwg (A) "Figure 13" 9/2/2009

TABLE 1
STORAGE TANK INVENTORY
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Tank Number	Alternate ID	Type	Building	Location	Purpose	Contents	Size (gallons)	Status	Release
TS-01	TS 01	UST	14-02	West Yard	Reserve boiler fuel	Fuel oil #2	20,000	Closed-in-place	no - based on analytical data
TS-02		UST	14-02	West Yard	Storage for dispensing	Gasoline	1,000	Removed	no - based on analytical data
TS-03		UST	14-02	West Yard	Emergency generator fuel	Diesel	500	Removed	unknown
TS-04		UST	14-03	East Yard	Hold tank for OWS TS-92	Stormwater/oil	4,000	Removed	yes
TSA-14	BMA 014 / Tank A	AST	14-01	West Yard	Accumulation for disposal	Paint booth waste	10,000	Removed	unknown
TSA-15	BMA 015 / Tank B	AST	14-01	West Yard	Accumulation for disposal	Paint booth waste	10,000	Removed	unknown
TSA-21	BMA 021 / Tank C / BP-1	AST	14-01	West Yard	Accumulation for disposal	Copper plating / acid / aqueous degreaser overflow	5,000	Inactive	unknown
TSA-25	BMA 025	AST	14-13	North Side	Emergency generator fuel	Diesel	200	Active	none observed
TS-26	BMA 026 / BP-2	Sump	14-01	Column D1-6	Temporary holding sump	Copper plating / aqueous degreaser	400	Inactive	unknown
BMA046		Sump	14-01	Column B-12	Lift station sump	Sewage		Unknown	unknown
BMA050		AST	14-03	Inside Building	Fatigue test	Hydraulic oil	3,100	Removed	unknown
BMA051		AST	14-03	Inside Building	Fatigue test	Hydraulic oil	3,100	Removed	unknown
TS-57	BMA 057	AST	14-02	West Side	Emergency generator fuel	Diesel	500	Active	none observed
BMA064		AST	14-01	West Side	Fueling vehicles	Propane	500	Removed / relocated	none observed
TS-67	BMA 067	Sump	14-01	E7 (Outside)	Wastewater collection	Paint booth waste	100	Removed	unknown
TS-68	BMA 068	Sump	14-01	E8 (Outside)	Wastewater collection	Paint booth waste	100	Removed	unknown
TS-69	BMA 069	Sump	14-01	E9 (Outside)	Wastewater collection	Paint booth waste	100	Removed	unknown
TS-92	SEP 04	OWS	14-03	East Yard	Hydraulics and parking lot	Stormwater/oil		Removed	yes
TS-93	SEP N	OWS	14-01	Southwest Yard	Oil trap for parking lot	Stormwater/oil		Active	unknown
TS-91	SEP S	OWS	14-03	North End	Oil trap for parking lot	Stormwater/oil		Active	unknown
SMPTS1		Sump	14-03	737 Fatigue Test Pad	Hydraulic fluid leaks	Hydraulic fluid		Removed	yes
TS-05		UST	14-05	Southeast Yard	Storage for dispensing	Diesel	6,000	Removed	unknown
TS-06		UST	14-05	Southeast Yard	Storage for dispensing	Diesel	6,000	Removed	unknown
TS-07		UST	14-05	Southeast Yard	Storage for dispensing	Diesel	6,000	Removed	unknown
TS-08		UST	14-05	Southeast Yard	Storage for dispensing	Diesel	6,000	Removed	unknown
TS-09		Sump	14-08	North Yard	Unknown	Paint Sludge		Removed	unknown
TS-10		Sump	14-08	North Yard	Unknown	Paint Sludge		Removed	unknown
TS-11		Sump	14-08	North Yard	Unknown	Paint Sludge		Removed	unknown
TS-12		UST	14-05	North Yard	Reserve Boiler Fuel	Fuel Oil	Unknown	Removed	unknown

UST = Underground storage tank
AST = Aboveground storage tank
OWS = Oil/water separator

TABLE 2
PHASE II ANALYTICAL TESTING PARAMETERS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Sample ID	Boring Depth	Media	Area of Concern	Sample Depth (in ft BGS)	VOCs (Method 8260)	TPH-HCID (Method NWTPH-HCID)	TPH-D (Method NWTPH-Dx)	Dissolved Metals (Method 200.8/6010B/7470A)	Total Metals (SW6010B /7471A)	PAHs (Method 8270-SIM)	PCBs (Method 8082)	SVOCs (Method 8270)	Arsenic (Method 200.8)
TDP1-9		Soil	Former Washdown System and Degreaser / Potential impacts from adjacent property to the south (former PACCAR property)	9	X	X	X		X		X	X	
TDP1-GW		Water			X	X		X		X	X	X	
TDP2-5		Soil		5	X	X	X		X				
TDP3-5		Soil		5	X	X	X		X				
TDP4-4		Soil		4	X	X	X		X				
TDP5-5		Soil		5	X	X			X				
TDP6-8		Soil		8	X	X			X				
TDP7-8		Soil		8	X	X			X		X	X	
TDP7-GW		Water			X	X		X		X	X	X	
TDP8-8		Soil		8	X	X			X		X	X	
TDP8-GW		Water			X	X		X		X	X	X	
TDP9-8		Soil		8	X	X			X				
TDP10-7		Soil		7	X								
TDP10-8		Soil		8	X	X			X				
TDP11-7		Soil		7	X								
TDP11-GW		Water			X	X		X		X	X	X	
TDP11-9		Soil		9	X	X	X		X		X	X	
TDP12-7		Soil		7	X	X	X		X				
TDP13-7		Soil		7	X	X			X				
TDP14-4		Soil		4	X	X			X				
TDP15-4		Soil		4	X	X			X				
TDP16-3		Soil		3	X	X			X		X	X	
TDP16-GW		Water			X	X		X		X	X	X	
TDP17-4		Soil		4	X	X			X				
TDP18-4		Soil		4	X	X			X		X	X	
TDP18-GW		Water			X	X		X		X	X	X	
TDP19-4		Soil		4	X	X	X		X				
TDP20-3		Soil	Substation 14-22	3		X			X		X		
TDP21-3		Soil		3		X			X		X		
TDP22-3		Soil	Transformers	3		X			X		X		
TDP23-3		Soil		3		X			X		X		
TDP24-11		Soil	USTs	11		X							
TDP25-9		Soil	Former Washdown System and Degreaser	9	X	X	X		X		X	X	
TDP25-GW		Water			X	X		X		X	X	X	
TDP26-8		Soil		8	X	X	X		X		X	X	
TDP26-GW		Water			X	X		X		X	X	X	
TDP27-11		Soil	Hazardous Materials Storage Sheds	11	X	X			X				
TDP28-11		Soil		11	X	X			X		X	X	
TDP28-GW		Water			X	X		X		X	X	X	
TDP29-11		Soil		11	X	X			X		X	X	
TDP29-GW		Water			X	X	X	X		X	X	X	
TDP30-11		Soil		11	X	X			X				
TDP31-12		Soil	Former Hydraulic Oil Release Area	12	X	X	X		X		X	X	
TDP31-GW		Water			X	X	X	X		X	X	X	
TDP32-11		Soil		11	X	X	X		X				

TABLE 2
PHASE II ANALYTICAL TESTING PARAMETERS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Sample ID	Boring Depth	Media	Area of Concern	Sample Depth (in ft BGS)	VOCs (Method 8260)	TPH-HCID (Method NWTPH-HCID)	TPH-D (Method NWTPH-Dx)	Dissolved Metals (Method 200.8/6010B/7470A)	Total Metals (SW6010B /7471A)	PAHs (Method 8270-SIM)	PCBs (Method 8082)	SVOCs (Method 8270)	Arsenic (Method 200.8)
IDP-1-4'		Soil	Monitoring Well I-104 Arsenic Source Investigation	4									X
IDP-1A-9'		Soil		9									X
IDP-1A-14'		Soil		14									X
IDP-1A-GW		Water											X
IDP-2-4'		Soil		4									X
IDP-2-8'		Soil		8									X
IDP-2-11'		Soil		11									X
IDP-2-GW		Water											X
IDP-3-4'		Soil		4									X
IDP-3-8'		Soil		8									X
IDP-3-11'		Soil		11									X
IDP-3-GW		Water											X
IDP-4-4'		Soil		4									X
IDP-4-8'		Soil		8									X
IDP-4-11'		Soil		11									X
IDP-4-GW		Water											X
IDP-5-4'		Soil		4									X
IDP-5-8'		Soil		8									X
IDP-5-11'		Soil		11									X
IDP-5-GW		Water											X
IDP-6-4'		Soil		4									X
IDP-6-8'		Soil		8					X		X	X	
IDP-6-12'		Soil		12					X		X	X	
IDP-6A-3'		Soil		3					X		X	X	
IDP-6-GW		Water											X
IDP-7-3'		Soil	Northern Boundary of Former Slip 5 (Mineralized Cell Wood Preserving Co)	3	X	X			X				
IDP-8-3'		Soil		3	X	X			X		X	X	
IDP-8-GW		Water			X	X		X		X	X	X	
IDP-9-3'		Soil		3	X	X			X		X	X	
IDP-9-GW		Water			X	X		X		X	X	X	
IDP-10-2'		Soil		2	X	X	X		X				
IDP-11-11'		Soil	Northern Site Boundary (highest detected concentrations of arsenic)	11	X	X			X				
IDP-12-12'		Soil		12	X	X			X		X	X	
IDP-12-GW		Water			X	X		X		X	X	X	
IDP-13-12'		Soil		12	X	X			X				
IDP-14-11'		Soil		11	X	X			X		X	X	
IDP-14-GW		Water			X	X		X		X	X	X	
IDP-15-12'		Soil		12	X	X			X				
I-104		Water	Site Wide Groundwater		X	X		X		X	X	X	
I-200		Water			X	X		X		X	X	X	
I-203		Water			X	X		X		X	X	X	
I-205		Water			X	X		X		X	X	X	
I-206		Water			X	X		X		X	X	X	
PZ-1		Water			X	X		X		X	X	X	
PZ-2		Water			X	X		X		X	X	X	
PZ-3		Water			X	X		X		X	X	X	
PZ-4		Water			X	X		X		X	X	X	
PZ-6		Water			X	X		X		X	X	X	
PZ-7		Water			X	X		X		X	X	X	
PZ-8		Water			X	X		X		X	X	X	

TABLE 3
PHASE II SOIL ANALYTICAL RESULTS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:		Preliminary Screening Levels			TDP1-9	TDP2-5	TDP3-5	TDP4-4	TDP5-5	TDP6-8	TDP7-8	TDP8-8	TDP9-8	TDP10-7	TDP10-8	TDP11-7	TDP11-9	TDP12-7
Lab ID:	PACCAR Interim Action Work Plan	Method C	Method C Protection of Marine	Method C Protection of Fresh	NX93A	NX93B	NX93C	NX93D	NX93E	NY07A	NY07B	NY07C	NY07D	NY07P	NY07E	NY07F	NY07G	NY07H
Date Collected:	Cleanup Levels (a)	Direct Contact	Surface Water	Surface Water	11/3/2008	11/3/2008	11/3/2008	11/3/2008	11/3/2008	11/4/2008	11/4/2008	11/4/2008	11/4/2008	11/4/2008	11/4/2008	11/4/2008	11/4/2008	11/4/2008
VOLATILES (µg/kg)																		
Method SW8260B																		
Methylene Chloride		18,000,000	2,600	20	**7.7**	1.6 U	1.9 U	2.0 U	2.1 U	2.7 U	1.6 U	2.3 U	1.3 U	2.5 U	1.3 U	1.8 U	1.3 U	2.5 U
Acetone		350,000,000	-	3,200	**280**	**9.2**	**9.0**	**22**	**45**	**59**	**44**	**94**	**50**	**120**	**44**	**97**	**23**	**86**
Carbon Disulfide		350,000,000	-	5,600	**7.7**	0.8 U	1.0 U	1.0 U	1.1 U	**9.8**	**1.0**	**4.4**	**2.3**	**26**	**5.8**	**22**	**2.5**	**8.8**
1,1-Dichloroethane		700,000,000	-	8,700	**1.6**	0.8 U	1.0 U	1.0 U	1.1 U	1.4 U	0.8 U	1.1 U	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
trans-1,2-Dichloroethene		70000000	540000	540	**2.6**	0.8 U	1.0 U	1.0 U	1.1 U	1.4 U	0.8 U	1.1 U	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
cis-1,2-Dichloroethene		35000000	-	350	**74**	0.8 U	1.0 U	1.0 U	1.1 U	1.4 U	0.8 U	**1.5**	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
2-Butanone		1,000,000,000 (b)	-	19,600	**53**	4.1 U	4.8 U	5.1 U	**7.6**	**9.8**	**7.0**	**12**	**9.9**	**25**	**7.4**	**20**	**4.5**	**14**
Trichloroethene		1,100,000	200	16	**6.2**	0.8 U	1.0 U	1.0 U	1.1 U	1.4 U	0.8 U	1.1 U	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
Benzene		2,400,000	290	6.8	**1.5**	0.8 U	1.0 U	1.0 U	1.1 U	1.4 U	0.8 U	**4.3**	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
Tetrachloroethene		240,000	40	7	1.2 U	0.8 U	1.0 U	1.0 U	1.1 U	1.4 U	0.8 U	1.1 U	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
Toluene		280,000,000	109,000	4,600	1.2 U	0.8 U	1.0 U	1.0 U	1.1 U	1.4 U	0.8 U	**2.0**	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane		1,000,000,000 (b)	-	10,500,000	2.4 U	1.6 U	1.9 U	2.0 U	2.1 U	2.7 U	1.6 U	2.3 U	1.3 U	2.5 U	1.3 U	1.8 U	1.3 U	2.5 U
m,p-Xylene					1.2 U	0.8 U	1.0 U	1.0 U	1.1 U	1.4 U	0.8 U	1.1 U	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
o-Xylene					1.2 U	0.8 U	1.0 U	1.0 UJ	1.1 U	1.4 U	0.8 U	1.1 U	0.6 U	1.2 U	0.7 U	0.9 U	0.6 U	1.2 U
Total Xylenes		700,000,000	-	-														
Methyl Iodide		-	-	-														
SEMIVOLATILES (µg/kg)																		
Method SW8270D																		
4-Methylphenol		-	-	200	62 U	NA	NA	NA	NA	NA	63 U	**170**	NA	NA	NA	NA	60 U	NA
Naphthalene		70,000,000	138,000	4,500	62 U	NA	NA	NA	NA	NA	63 U	**260** J	NA	NA	NA	NA	60 U	NA
2-Methylnaphthalene		14,000,000	-	-	62 U	NA	NA	NA	NA	NA	63 U	**64** J	NA	NA	NA	NA	60 U	NA
Acenaphthylene		-	-	-	62 U	NA	NA	NA	NA	NA	63 U	**71** J	NA	NA	NA	NA	60 U	NA
Phenanthrene	70,000,000 / 2,000	-	-	-	62 U	NA	NA	NA	NA	NA	63 U	**160** J	NA	NA	NA	NA	60 U	NA
Fluoranthene		140,000	89,000	88,000	62 U	NA	NA	NA	NA	NA	63 U	**100** J	NA	NA	NA	NA	60 U	NA
Pyrene		110,000,000	3,500,000	650,000	62 U	NA	NA	NA	NA	NA	63 U	**110** J	NA	NA	NA	NA	60 U	NA
Chrysene	17,980,000 / 85	-	140	22	62 U	NA	NA	NA	NA	NA	63 U	61 U	NA	NA	NA	NA	60 U	NA
Benzo(b)fluoranthene	1,798,000 / 289	-	440	69	62 U	NA	NA	NA	NA	NA	63 U	61 U	NA	NA	NA	NA	60 U	NA
Total cPAH		18,000	-	-														
NWTPH-Dx (mg/kg)																		
Diesel Range Organics		2,000 (c)	2,000 (c)	2,000 (c)	**16**	**19**	**110**	**78**	NA	NA	NA	NA	NA	NA	NA	NA	**20**	**140**
Oil Range Organics		2,000 (c)	2,000 (c)	2,000 (c)	**99**	**95**	**740**	**640**	NA	NA	NA	NA	NA	NA	NA	NA	**130**	**990**
TOTAL METALS (mg/kg)																		
Method SW6010B/7471A																		
Arsenic		88	7 (d)	7 (d)	**9**	5 U	**6**	**18**	5 U	6 U	6 U	6 U	6 U	NA	6 U	NA	5 U	**8**
Cadmium		3,500	1.2	1 (d)	**0.4**	0.2 U	**0.2**	**1.0**	0.2 U	0.2 U	0.2 U	**0.2**	0.2 U	NA	0.2 U	NA	0.2 U	**0.8**
Chromium		1,000,000 (b) (e)	1,000,000 (b) (e)	2,000	**12.3**	**21.8**	**21.2**	**29.0**	**8.8**	**13.6**	**16.5**	**13.8**	**15.1**	NA	**20.7**	NA	**17.1**	**20.0**
Copper	129,500/19.6	130,000	36 (d)	36 (d)	**31.6**	**23.2**	**24.8**	**67.1**	**10.8**	**20.5** J	**20.2**	**21.6**	**17.7**	NA	**18.9**	NA	**24.8**	**31.3**
Lead	1,000 / 82	1,000 (a)	1,600	110	**17**	**2**	**139**	**106**	2 U	2 U	**2**	**7**	2 U	NA	2 U	NA	**3**	**13**
Mercury		1,100	0.1 (d)	0.1 (d)	**0.06**	0.05 U	**0.06**	**0.20**	0.04 U	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.06 U	NA	0.04 U	**0.19**
Zinc		1,000,000 (b)	100	86 (d)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3
PHASE II SOIL ANALYTICAL RESULTS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:		Preliminary Screening Levels			TDP13-7	TDP14-4	TDP15-4	TDP16-3	TDP17-4	TDP18-4	TDP19-4	TDP20-3	TDP21-3	TDP22-3	TDP23-3	TDP25-9	TDP26-8	TDP27-11
Lab ID:	PACCAR Interim Action Work Plan	Method C	Method C Protection of Marine	Method C Protection of Fresh	NY07J	NY07K	NY07L	NY44A	NY44B	NY44C	NY44D	NY44E	NY44F	NY44G	NY44H	NY44J	NY64A	NY64B
Date Collected:	Cleanup Levels (a)	Direct Contact	Surface Water	Surface Water	11/4/2008	11/4/2008	11/4/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/5/2008	11/6/2008	11/6/2008
VOLATILES (µg/kg)																		
Method SW8260B																		
Methylene Chloride		18,000,000	2,600	20	2.2 U	2.2 U	1.6 U	1.4 U	2.0 U	2.1 U	2.0 U	NA	NA	NA	NA	1.3 U	1.4 U	1.8 U
Acetone		350,000,000	-	3,200	**51**	**25**	**31**	**20**	**57**	**22**	**77**	NA	NA	NA	NA	**18**	**39**	**25**
Carbon Disulfide		350,000,000	-	5,600	**8.5**	**1.3**	0.8 U	0.7 U	**5.6**	1.1 U	1.0 U	NA	NA	NA	NA	0.7 U	0.7 U	0.9 U
1,1-Dichloroethane		700,000,000	-	8,700	1.1 U	1.1 U	0.8 U	0.7 U	1.0 U	1.1 U	1.0 U	NA	NA	NA	NA	0.7 U	0.7 U	0.9 U
trans-1,2-Dichloroethene		70000000	540000	540	1.1 U	1.1 U	0.8 U	0.7 U	1.0 U	1.1 U	1.0 U	NA	NA	NA	NA	0.7 U	0.7 U	0.9 U
cis-1,2-Dichloroethene		35000000	-	350	1.1 U	1.1 U	0.8 U	0.7 U	1.0 U	1.1 U	1.0 U	NA	NA	NA	NA	0.7 U	**5.1**	0.9 U
2-Butanone		1,000,000,000 (b)	-	19,600	**7.9**	5.5 U	4.0 U	3.5 U	**9.0**	5.3 U	**5.2**	NA	NA	NA	NA	3.3 U	**4.2**	4.6 U
Trichloroethene		1,100,000	200	16	1.1 U	1.1 U	0.8 U	0.7 U	1.0 U	1.1 U	1.0 U	NA	NA	NA	NA	**6.2**	**66**	0.9 U
Benzene		2,400,000	290	6.8	1.1 U	1.1 U	**2.3**	0.7 U	1.0 U	1.1 U	**1.3**	NA	NA	NA	NA	0.7 U	0.7 U	0.9 U
Tetrachloroethene		240,000	40	7	1.1 U	1.1 U	**1.5**	0.7 U	1.0 U	1.1 U	1.0 U	NA	NA	NA	NA	0.7 U	**1.0**	0.9 U
Toluene		280,000,000	109,000	4,600	1.1 U	1.1 U	0.8 U	0.7 U	1.0 U	1.1 U	1.0 U	NA	NA	NA	NA	0.7 U	0.7 U	0.9 U
1,1,2-Trichloro-1,2,2-trifluoroethane		1,000,000,000 (b)	-	10,500,000	2.2 U	2.2 U	1.6 U	1.4 U	2.0 U	2.1 U	2.0 U	NA	NA	NA	NA	1.3 U	1.4 U	1.8 U
m,p-Xylene					1.1 U	1.1 U	0.8 U	0.7 U	1.0 U	1.1 U	1.0 U	NA	NA	NA	NA	0.7 U	0.7 U	0.9 U
o-Xylene					1.1 U	1.1 U	0.8 U	0.7 U	1.0 U	1.1 U	1.0 U	NA	NA	NA	NA	0.7 U	0.7 U	0.9 U
Total Xylenes		700,000,000	-	-														
Methyl Iodide		-	-	-														
SEMIVOLATILES (µg/kg)																		
Method SW8270D																		
4-Methylphenol		-	-	200	NA	NA	NA	62 U	NA	62 U	NA	NA	NA	NA	NA	64 U	59 U	NA
Naphthalene		70,000,000	138,000	4,500	NA	NA	NA	62 U	NA	**110** J	NA	NA	NA	NA	NA	64 U	59 U	NA
2-Methylnaphthalene		14,000,000	-	-	NA	NA	NA	62 U	NA	62 U	NA	NA	NA	NA	NA	64 U	59 U	NA
Acenaphthylene		-	-	-	NA	NA	NA	62 U	NA	62 U	NA	NA	NA	NA	NA	64 U	59 U	NA
Phenanthrene	70,000,000 / 2,000	-	-	-	NA	NA	NA	**71** J	NA	**120** J	NA	NA	NA	NA	NA	64 U	59 U	NA
Fluoranthene		140,000	89,000	88,000	NA	NA	NA	62 U	NA	**150** J	NA	NA	NA	NA	NA	64 U	59 U	NA
Pyrene		110,000,000	3,500,000	650,000	NA	NA	NA	62 U	NA	**120** J	NA	NA	NA	NA	NA	64 U	59 U	NA
Chrysene	17,980,000 / 85	-	140	22	NA	NA	NA	62 U	NA	**91** J	NA	NA	NA	NA	NA	64 U	59 U	NA
Benzo(b)fluoranthene	1,798,000 / 289	-	440	69	NA	NA	NA	62 U	NA	**76** J	NA	NA	NA	NA	NA	64 U	59 U	NA
Total cPAH		18,000	-	-						8.51								
NWTPH-Dx (mg/kg)																		
Diesel Range Organics		2,000 (c)	2,000 (c)	2,000 (c)	NA	NA	NA	NA	NA	NA	**23**	NA	NA	NA	NA	**61**	**6.5**	NA
Oil Range Organics		2,000 (c)	2,000 (c)	2,000 (c)	NA	NA	NA	NA	NA	NA	**110**	NA	NA	NA	NA	**340**	**24**	NA
TOTAL METALS (mg/kg)																		
Method SW6010B/7471A																		
Arsenic		88	7 (d)	7 (d)	10 U	**17**	**9**	**7**	**7**	**12**	6 U	6 U	5 U	5 U	5 U	5 U	**7**	**6**
Cadmium		3,500	1.2	1 (d)	0.6 U	**0.6**	0.2 U	0.3 U	0.3 U	**0.6**	0.3 U	0.3 U	**0.3**	0.2 U	0.2 U	0.2 U	**0.4**	0.2 U
Chromium		1,000,000 (b) (e)	1,000,000 (b) (e)	2,000	**17**	**24.6**	**17.3**	**18.1**	**21.3**	**26.1**	**12.9** J	**14.5**	**15.1**	**24.0**	**24.6**	**35.8**	**20.8**	**16.4**
Copper	129,500/19.6	130,000	36 (d)	36 (d)	**97.1**	**36.6**	**25.7**	**28.8**	**34.3**	NA	**16.4** J	NA	**13.3**	**15.6**	**17.7**	**14.3**	**36.6**	**13.7**
Lead	1,000 / 82	1,000 (a)	1,600	110	6 U	**18**	**3**	**4**	**5**	**28**	**30** J	**3**	2 U	**4**	**11**	**2**	**12** J	2 U
Mercury		1,100	0.1 (d)	0.1 (d)	0.06 U	**0.13**	0.06 U	**0.05**	**0.11**	**0.23**	**0.07**	0.05 U	0.05 U	0.04 U	**0.11**	0.04 U	0.06 U	0.05 U
Zinc		1,000,000 (b)	100	86 (d)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3
PHASE II SOIL ANALYTICAL RESULTS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:	PACCAR Interim	Preliminary Screening Levels			TDP28-11	TDP29-11	TDP30-11	TDP31-12	TDP32-11	IDP-1-4'	IDP-1A-9'	IDP-1A-14'	IDP-2-4'	IDP-3-4'	IDP-3-8'	IDP-4-4'	IDP-4-8'
Lab ID:	Action Work Plan	Method C	Method C Protection of Marine	Method C Protection of Fresh	NY64C (RE)	NY64D	NY64E	NY64F (RE)	NY64G	OK85L	OK85M	OK85N	OK85O	OK85R	OK85S	OK85U	OK85V
Date Collected:	Cleanup Levels (a)	Direct Contact	Surface Water	Surface Water	11/6/2008	11/6/2008	11/6/2008	11/6/2008	11/6/2008	2/2/2009	2/2/2009	2/2/2009	2/2/2009	2/2/2009	2/2/2009	2/2/2009	2/2/2009
VOLATILES (µg/kg)																	
Method SW8260B																	
Methylene Chloride		18,000,000	2,600	20	1.6 U	1.4 U	2.2 U	1.8 U	1.4 U								
Acetone		350,000,000	-	3,200	**48**	**95**	**83**	**29**	**15**								
Carbon Disulfide		350,000,000	-	5,600	**14**	**22**	**22**	**2.7**	**0.9**								
1,1-Dichloroethane		700,000,000	-	8,700	**4.4**	**0.7**	**1.4**	0.9 U	0.7 U								
trans-1,2-Dichloroethene		70000000	540000	540	0.8 U	0.7 U	1.1 U	0.9 U	0.7 U								
cis-1,2-Dichloroethene		35000000	-	350	0.8 U	0.7 U	1.1 U	0.9 U	0.7 U								
2-Butanone		1,000,000,000 (b)	-	19,600	**8.8**	**20**	**16**	4.6 U	3.4 U								
Trichloroethene		1,100,000	200	16	0.8 U	0.7 U	1.1 U	0.9 U	0.7 U								
Benzene		2,400,000	290	6.8	0.8 U	0.7 U	1.1 U	0.9 U	0.7 U								
Tetrachloroethene		240,000	40	7	0.8 U	0.7 U	1.1 U	0.9 U	0.7 U								
Toluene		280,000,000	109,000	4,600	**1.2**	**0.9**	1.1 U	0.9 U	0.7 U								
1,1,2-Trichloro-1,2,2-trifluoroethane		1,000,000,000 (b)	-	10,500,000	1.6 U	1.4 U	2.2 U	**2.6**	1.4 U								
m,p-Xylene					0.8 U	0.7 U	1.1 U	0.9 U	0.7 U								
o-Xylene					0.8 U	0.7 U	1.1 U	0.9 U	0.7 U								
Total Xylenes		700,000,000	-	-													
Methyl Iodide		-	-	-													
SEMIVOLATILES (µg/kg)																	
Method SW8270D																	
4-Methylphenol		-	-	200	61 U	60 U	NA	64 U	NA								
Naphthalene		70,000,000	138,000	4,500	61 U	60 U	NA	64 U	NA								
2-Methylnaphthalene		14,000,000	-	-	61 U	60 U	NA	64 U	NA								
Acenaphthylene		-	-	-	61 U	60 U	NA	64 U	NA								
Phenanthrene	70,000,000 / 2,000	-	-	-	61 U	60 U	NA	64 U	NA								
Fluoranthene		140,000	89,000	88,000	61 U	60 U	NA	64 U	NA								
Pyrene		110,000,000	3,500,000	650,000	61 U	60 U	NA	64 U	NA								
Chrysene	17,980,000 / 85	-	140	22	61 U	60 U	NA	64 U	NA								
Benzo(b)fluoranthene	1,798,000 / 289	-	440	69	61 U	60 U	NA	64 U	NA								
Total cPAH		18,000	-	-													
NWTPH-Dx (mg/kg)																	
Diesel Range Organics		2,000 (c)	2,000 (c)	2,000 (c)	NA	NA	NA	**58**	NA								
Oil Range Organics		2,000 (c)	2,000 (c)	2,000 (c)	NA	NA	NA	**400**	NA								
TOTAL METALS (mg/kg)																	
Method SW6010B/7471A																	
Arsenic		88	7 (d)	7 (d)	**6**	**8**	**13**	**9**	5 U	**60**	**186**	**9**	**180**	**34**	**48**	**15**	**17**
Cadmium		3,500	1.2	1 (d)	**0.3**	**0.7**	**0.8**	0.2 U	0.2 U								
Chromium		1,000,000 (b) (e)	1,000,000 (b) (e)	2,000	**17.8**	**20.4**	**24.8**	**14.7**	**29.4**								
Copper	129,500/19.6	130,000	36 (d)	36 (d)	**20.5**	**26.2**	**35.9**	**15.9**	**20.5**								
Lead	1,000 / 82	1,000 (a)	1,600	110	**4**	**7**	**15**	**2**	2 U								
Mercury		1,100	0.1 (d)	0.1 (d)	0.06 U	**0.10**	**0.17**	**0.05**	0.05 U								
Zinc		1,000,000 (b)	100	86 (d)	NA	NA	NA	NA	NA								

TABLE 3
PHASE II SOIL ANALYTICAL RESULTS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

		Preliminary Screening Levels															
Location:	PACCAR Interim		Method C	Method C	IDP-5-8'	IDP-6-8'	IDP-6-12'	IDP-6A-3	IDP-7-3	IDP-8-3	IDP-9-3	IDP-10-2	IDP-11-11	IDP-12-12	IDP-13-12	IDP-14-11	IDP-15-12
Lab ID:	Action Work Plan	Method C	Protection of Marine	Protection of Fresh	OK85Y	OK85AB	OK85AC	OL03J	OL03A	OL03B	OL03C	OL03D/OL61A	OL03E	OL03F	OL03G	OL03H	OL03I
Date Collected:	Cleanup Levels (a)	Direct Contact	Surface Water	Surface Water	2/2/2009	2/2/2009	2/2/2009	2/3/2009	2/3/2009	2/3/2009	2/3/2009	2/3/2009	2/3/2009	2/3/2009	2/3/2009	2/3/2009	2/3/2009
VOLATILES (µg/kg)																	
Method SW8260B																	
Methylene Chloride		18,000,000	2,600	20					**4.3**	1.3 U	**2.8**	**1.7**	**2.0**	**1.7**	1.5 U	**3.4**	**2.2**
Acetone		350,000,000	-	3,200					**150**	**15**	**57**	**39**	**31**	**21**	**38**	**30**	**58**
Carbon Disulfide		350,000,000	-	5,600					**2.2**	0.6 U	1.3 U	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	**2.6**
1,1-Dichloroethane		700,000,000	-	8,700					1.1 U	0.6 U	1.3 U	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	0.6 U
trans-1,2-Dichloroethene		70000000	540000	540					1.1 U	0.6 U	1.3 U	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	0.6 U
cis-1,2-Dichloroethene		35000000	-	350					1.1 U	0.6 U	1.3 U	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	0.6 U
2-Butanone		1,000,000,000 (b)	-	19,600					**13**	3.2 U	6.6 U	3.9 U	4.0 U	3.0 U	3.8 U	4.3 U	**7.4**
Trichloroethene		1,100,000	200	16					**1.6**	0.6 U	1.3 U	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	0.6 U
Benzene		2,400,000	290	6.8					**2.7**	0.6 U	**9.8**	0.8 U	**0.9**	0.6 U	0.8 U	**0.9**	**0.7**
Tetrachloroethene		240,000	40	7					1.1 U	0.6 U	1.3 U	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	0.6 U
Toluene		280,000,000	109,000	4,600					**1.7**	0.6 U	**17**	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	0.6 U
1,1,2-Trichloro-1,2,2-trifluoroethane		1,000,000,000 (b)	-	10,500,000					2.3 U	1.3 U	2.7 U	1.6 U	1.6 U	1.2 U	1.5 U	1.7 U	1.3 U
m,p-Xylene									1.1 U	0.6 U	**15**	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	0.6 U
o-Xylene									1.1 U	0.6 U	**7.7**	0.8 U	0.8 U	0.6 U	0.8 U	0.9 U	0.6 U
Total Xylenes		700,000,000	-	-							**22.7**						
Methyl Iodide		-	-	-					1.1 U	0.6 U	1.3 U	0.8 U	0.8 U	0.6 U	0.8 U	**3.2**	0.6 U
SEMIVOLATILES (µg/kg)																	
Method SW8270D																	
4-Methylphenol		-	-	200		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
Naphthalene		70,000,000	138,000	4,500		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
2-Methylnaphthalene		14,000,000	-	-		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
Acenaphthylene		-	-	-		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
Phenanthrene	70,000,000 / 2,000	-	-	-		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
Fluoranthene		140,000	89,000	88,000		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
Pyrene		110,000,000	3,500,000	650,000		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
Chrysene	17,980,000 / 85	-	140	22		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
Benzo(b)fluoranthene	1,798,000 / 289	-	440	69		61 U	65 U	59 U		64 U	61 U			64 U		58 U	
Total cPAH		18,000	-	-													
NWTPH-Dx (mg/kg)																	
Diesel Range Organics		2,000 (c)	2,000 (c)	2,000 (c)								**20**					
Oil Range Organics		2,000 (c)	2,000 (c)	2,000 (c)								**150**					
TOTAL METALS (mg/kg)																	
Method SW6010B/7471A																	
Arsenic		88	7 (d)	7 (d)	**333**	**71**	5 U	**14**	50 U	**32**	**30**	**23**	6 U	**204**	**18**	**220**	**274**
Cadmium		3,500	1.2	1 (d)		0.3 U	0.2 U	0.2 U	**4**	**0.4**	**0.6**	**0.6**	0.2 U	0.3 U	0.3 U	0.2 U	0.3 U
Chromium		1,000,000 (b) (e)	1,000,000 (b) (e)	2,000		**19.2**	**9.0**	**52.0**	**262**	**36.9**	**58**	**16.2**	**11.8**	**16.3**	**23.5**	**15.4**	**17.3**
Copper	129,500/19.6	130,000	36 (d)	36 (d)		**26.9**	**9.1**	**20.8**	**177** J	**27.4**	**93.2**	**55.6**	**13.5**	**163**	**131**	**624**	**47.2**
Lead	1,000 / 82	1,000 (a)	1,600	110		**3**	2 U	**27**	**420**	**27**	**112**	**59**	2 U	**4**	**4**	**6**	**5**
Mercury		1,100	0.1 (d)	0.1 (d)		**0.06**	0.05 U	0.05 U	**0.52** J	**0.08**	**0.18**	**0.15**	0.05 U	**0.06**	**0.08**	**0.21**	**0.06**
Zinc		1,000,000 (b)	100	86 (d)		**153**	**20**	**68**	**1,390** J	**89**	**267**	**220**	**35**	**354**	**97**	**77**	**96**

U = Indicates the compound was undetected at the reported concentration.
UJ = The analyte was not detected in the sample; the reported sample detection limit is an estimate.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NA = Not Analyzed,
Boxed value indicates exceedance of protection of fresh surface water screening level.
Shading indicates exceedance of protection of marine surface water screening level.

(a) = Potential cleanup levels identified in PACCAR 2008 Interim Action Work Plan (AMEC 2008). The first number is Method C Ingestion (Method A Industrial for lead). The second number is Soil to Water Partition Calculation.
(b) = Screening level adjusted to 100% (1,000,000 mg/kg or 1,000,000,000 µg/kg)
(c) = MTCA Method A cleanup level for industrial properties.
(d) = Statewide background concentration (Ecology 1994).
(e) = Value listed is for chromium III.

TABLE 4
PHASE II GROUNDWATER ANALYTICAL RESULTS
DIRECT-PUSH LOCATIONS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:	PACCAR Interim	Method B Protection of	Method B Protection of	TDP1-GW	TDP7-GW	TDP8-GW	TDP11-GW	TDP16-GW	TDP18-GW	TDP25-GW	TDP26-GW	TDP28-GW	TDP29-GW	TDP31-GW	IDP-1A	IDP-2
Lab ID:	Action Work Plan	Marine Surface	Fresh Surface	NX93F	NY07N	NY07M	NY07O	NY44K	NY44L	NY44M	NY64H	NY64I	NY64J	NY64K	OK85E	OK85F
Date Collected:	Cleanup Levels (a)	Water	Water	11/3/2008	11/4/2008	11/4/2008	11/4/2008	11/5/2008	11/5/2008	11/5/2008	11/6/2008	11/6/2008	11/6/2008	11/6/2008	2/2/2009	2/2/2009
VOLATILES (µg/L)																
Method SW8260B																
Vinyl Chloride	2.4	2.4	0.025	1.0 U	**0.2**	**0.7**	0.2 U	**0.3**	0.2 U	**1.8**	**140**	0.2 U	0.2 U	0.2 U		
Chloroethane				1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.2**	1.0 U	0.2 U	0.2 U	0.2 U		
Acetone				5.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	**5.8**	5.0 U	3.0 U	3.0 U	3.0 U		
Carbon Disulfide				1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U	**0.4**		
1,1-Dichloroethene		3.2	0.057	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**1.0**	0.2 U	0.2 U	0.2 U		
1,1-Dichloroethane			1,600	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**1.9**	**4.0**	**1.0**	**0.4**	**0.3**		
trans-1,2-Dichloroethene		10,000	100	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.5**	**7.6**	0.2 U	0.2 U	0.2 U		
cis-1,2-Dichloroethene	80		70	1.0 U	0.2 U	**0.4**	0.2 U	0.2 U	0.2 U	**45**	**460**	0.2 U	0.2 U	0.2 U		
1,1,1-Trichloroethane		420,000	200	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.4**	**1.2**	0.2 U	0.2 U	0.2 U		
Trichloroethene	1.5	30	2.5	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**71**	**240**	0.2 U	0.2 U	0.2 U		
Tetrachloroethene	0.39	3.3	0.7	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**2.6**	**1.9**	0.2 U	0.2 U	0.2 U		
Ethylbenzene		2,100	530	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.4**	1.0 U	0.2 U	0.2 U	0.2 U		
1,1,2-Trichloro-1,2,2-trifluoroethane			240,000	2.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U	0.2 U	**0.4**		
o-Xylene			1,600	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.2**	1.0 U	0.2 U	0.2 U	0.2 U		
SEMIVOLATILES (µg/L)																
Method SW8270D																
Phenol		1,100,000	4,800	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**9.1**	1.0 U		
2-Methylphenol			400	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.0**	1.0 U		
4-Methylphenol			40	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.9**	1.0 U		
Benzoic Acid			64,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	**24**	10 U		
2-Methylnaphthalene			32	**7.9**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		
Acenaphthene		640	640	**14**	1.0 U	1.0 U	1.0 U	**28**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		
Diethylphthalate		28,000	12,800	1.0 U	**2.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		
Phenanthrene				**1.8**	1.0 U	1.0 U	1.0 U	**4.7**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		
Carbazole			4.4	**6.9** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		
bis(2-Ethylhexyl)phthalate		2.2	1.2	1.0 U	**1.0**	**2.5**	**1.1**	1.0 U	**1.8**	**1.3**	1.0 U	**3.8**	1.0 U	**3.0**		
1-Methylnaphthalene				**6.9** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		
PAHs (µg/L)																
Method SW8270SIM																
Naphthalene		4,900	160	**0.13**	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**0.13** J	0.10 U	0.10 U	0.10 U	**0.11**		
2-Methylnaphthalene			32	**5.8**	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		
1-Methylnaphthalene				**4.4**	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		
Acenaphthene		640	640	**8.6**	0.10 U	0.10 U	0.10 U	**15**	**0.64**	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		
Fluorene		3,500	640	**0.62**	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		
Phenanthrene				**1.2**	0.10 U	0.10 U	0.10 U	**2.6**	0.10 U	0.10 U	0.10 U	**0.13**	**0.11**	**0.10**		
Fluoranthene		90	90	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**0.39**	0.10 U	0.10 U		
Pyrene		2600	480	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**0.36**	**0.11**	0.10 U		
Benzo(a)anthracene		0.020 (b)	0.028	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**0.14**	0.10 U	0.10 U		
Chrysene		0.019 (b)	0.028	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**0.10**	0.10 U	0.10 U		
Benzo(k)fluoranthene		0.036 (b)	0.028	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**0.10**	0.10 U	0.10 U		
NWTPH-Dx (mg/L)																
Diesel Range Organics	0.5		0.5 (c)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.25 UJ	**0.47** J		
Lube Oil			0.5 (c)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.50 UJ	**3.2** J		
DISSOLVED METALS (µg/L)																
Method EPA200.8/SW6010B/SW7470A																
Arsenic		8 (d)	8 (d)	**128**	**11.4**	**1.8**	**21.5**	**35.0**	**1.8**	**4.0**	**1.3**	**13.0**	**5.2**	**3.5**	**77.7**	**24.4**
Chromium		240000 (e)	57 (e)	**6**	**7**	5 U	**14**	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Copper		20 (d)	20 (d)	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U		
Lead		10 (d)	10 (d)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Zinc		160 (d)	160 (d)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		

TABLE 4
PHASE II GROUNDWATER ANALYTICAL RESULTS
DIRECT-PUSH LOCATIONS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:	IDP-3	IDP-4	IDP-5	IDP-6	IDP-8	IDP-9	IDP-12	IDP-14
Lab ID:	OK85G	OK85H	OK85I	OK85J	OL03K	OL03L	OL03M	OL03N
Date Collected:	2/2/2009	2/2/2009	2/2/2009	2/2/2009	2/3/2009	2/3/2009	2/3/2009	2/3/2009
VOLATILES (µg/L)								
Method SW8260B								
Vinyl Chloride					**0.2**	0.2 U	0.2 U	0.2 U
Chloroethane					0.2 U	0.2 U	0.2 U	0.2 U
Acetone					2.5 U	2.5 U	2.5 U	2.5 U
Carbon Disulfide					0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene					0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane					0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene					0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene					**0.5**	0.2 U	0.2 U	0.2 U
1,1,1-Trichloroethane					0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene					0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene					0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene					0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane					0.2 U	0.2 U	0.2 U	0.2 U
o-Xylene					0.2 U	0.2 U	0.2 U	0.2 U
SEMIVOLATILES (µg/L)								
Method SW8270D								
Phenol					1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
2-Methylphenol					1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
4-Methylphenol					1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Benzoic Acid					10 UJ	10 UJ	10 UJ	10 UJ
2-Methylnaphthalene					1.0 UJ	1.0 U	1.0 UJ	1.0 U
Acenaphthene					1.0 UJ	1.0 U	1.0 UJ	1.0 U
Diethylphthalate					1.0 UJ	1.0 U	1.0 UJ	1.0 U
Phenanthrene					1.0 UJ	1.0 U	1.0 UJ	1.0 U
Carbazole					1.0 UJ	1.0 U	1.0 UJ	1.0 U
bis(2-Ethylhexyl)phthalate					1.0 UJ	1.0 U	1.0 UJ	1.0 U
1-Methylnaphthalene					1.0 UJ	1.0 U	1.0 UJ	1.0 U
PAHs (µg/L)								
Method SW8270SIM								
Naphthalene								
2-Methylnaphthalene								
1-Methylnaphthalene								
Acenaphthene								
Fluorene								
Phenanthrene								
Fluoranthene								
Pyrene								
Benzo(a)anthracene					0.10 U	0.10 U	0.10 U	0.10 U
Chrysene					0.10 U	0.10 U	0.10 U	0.10 U
Benzo(k)fluoranthene					0.10 U	0.10 U	0.10 U	0.10 U
NWTPH-Dx (mg/L)								
Diesel Range Organics								
Lube Oil								
DISSOLVED METALS (µg/L)								
Method EPA200.8/SW6010B/SW7470A								
Arsenic	**12.0**	**2,360**	**1,610**	**346**	**13,600**	0.5 U	**13.0**	**16,600**
Chromium					20 U	5 U	5 U	20 U
Copper					10 U	**6**	**6**	**20**
Lead					**1**	1 U	1 U	1 U
Zinc					50 U	10 U	**40**	50 U

U = Indicates the compound was undetected at the reported concentration.
UJ = The analyte was not detected in the sample; the reported sample detection limit is an estimate.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NA = Not Analyzed.
Bold indicates detected compound.
Boxed values indicate exceedances
Shaded values indicate exceedance of Method B protection of marine surface water screening levels.

(a) Potential cleanup levels identified in PACCAR 2008 Interim Action Work Plan (AMEC 2008).
(b) Adjust up to practical quantitation limit (PQL). PQL calculated from laboratory method detection limit (MDL). PQL = 10 x MDL.
(c) MTCA Method A cleanup level for groundwater.
(d) Statewide background concentraiton (PTI 1989).
(e) Value listed is for chromium III.

TABLE 5
PHASE II ANALYTICAL RESULTS
SUMP AND ABOVEGROUND STORAGE TANK SAMPLING
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

	Location:	TH-SUMP	TANK-ATS721-090311
	Lab ID:	NY64L	OQ13A
	Date Collected:	11/6/2008	3/11/2009
VOLATILES (µg/L)			
Method SW8260B			
Chloromethane		10 U	0.2 U
Bromomethane		10 U	0.5 U
Vinyl Chloride		10 U	0.2 U
Chloroethane		10 U	0.2 U
Methylene Chloride		**42**	0.5 U
Acetone		50 U	2.5 U
Carbon Disulfide		10 U	0.2 U
1,1-Dichloroethene		10 U	0.2 U
1,1-Dichloroethane		10 U	0.2 U
trans-1,2-Dichloroethene		10 U	0.2 U
cis-1,2-Dichloroethene		10 U	0.2 U
Chloroform		10 U	0.2 U
1,2-Dichloroethane		10 U	0.2 U
2-Butanone		50 U	2.5 U
1,1,1-Trichloroethane		10 U	0.2 U
Carbon Tetrachloride		10 U	0.2 U
Vinyl Acetate		50 U	1.0 U
Bromodichloromethane		10 U	0.2 U
1,2-Dichloropropane		10 U	0.2 U
cis-1,3-Dichloropropene		10 U	0.2 U
Trichloroethene		10 U	0.2 U
Dibromochloromethane		10 U	0.2 U
1,1,2-Trichloroethane		10 U	0.2 U
Benzene		10 U	0.2 U
trans-1,3-Dichloropropene		10 U	0.2 U
2-Chloroethylvinylether		50 U	1.0 U
Bromoform		10 U	0.2 U
4-Methyl-2-Pentanone (MIBK)		50 U	2.5 U
2-Hexanone		50 U	2.5 U
Tetrachloroethene		10 U	0.2 U
1,1,2,2-Tetrachloroethane		10 U	0.2 U
Toluene		**29**	0.2 U
Chlorobenzene		10 U	0.2 U
Ethylbenzene		10 U	0.2 U
Styrene		**11**	0.2 U
Trichlorofluoromethane		10 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane		20 U	0.2 U
m,p-Xylene		20 U	0.4 U
o-Xylene		10 U	0.2 U
1,2-Dichlorobenzene		NA	0.2 U
1,3-Dichlorobenzene		NA	0.2 U
1,4-Dichlorobenzene		NA	0.2 U
Acrolein		NA	5.0 U
Methyl Iodide		NA	1.0 U
Bromoethane		NA	0.2 U
Acrylonitrile		NA	1.0 U
1,1-Dichloropropene		NA	0.2 U
Dibromomethane		NA	0.2 U
1,1,1,2-Tetrachloroethane		NA	0.2 U
1,2-Dibromo-3-chloropropane		NA	0.5 U
1,2,3-Trichloropropane		NA	0.5 U
trans-1,4-Dichloro-2-butene		NA	1.0 U
1,3,5-Trimethylbenzene		NA	0.2 U
1,2,4-Trimethylbenzene		NA	0.2 U
Hexachlorobutadiene		NA	0.5 U
Ethylene Dibromide		NA	0.2 U
Bromochloromethane		NA	0.2 U
2,2-Dichloropropane		NA	0.2 U

TABLE 5
PHASE II ANALYTICAL RESULTS
SUMP AND ABOVEGROUND STORAGE TANK SAMPLING
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:	TH-SUMP	TANK-ATS721-090311
Lab ID:	NY64L	OQ13A
Date Collected:	11/6/2008	3/11/2009
1,3-Dichloropropane	NA	0.2 U
Isopropylbenzene	NA	0.2 U
n-Propylbenzene	NA	0.2 U
Bromobenzene	NA	0.2 U
2-Chlorotoluene	NA	0.2 U
4-Chlorotoluene	NA	0.2 U
tert-Butylbenzene	NA	0.2 U
sec-Butylbenzene	NA	0.2 U
4-Isopropyltoluene	NA	0.2 U
n-Butylbenzene	NA	0.2 U
1,2,4-Trichlorobenzene	NA	0.5 U
Naphthalene	NA	0.5 U
1,2,3-Trichlorobenzene	NA	0.5 U
PETROLEUM HYDROCARBONS (mg/L)		
NWTPH-HCID		
Gasoline Range Organics	1.0 U	NA
Diesel Range Organics	**2.5**	NA
Lube Oil	**2.5**	NA
NWTPH-Dx (mg/L)		
Diesel Range Organics	**25** J	NA
Lube Oil	**62** J	NA
TOTAL METALS (µg/L)		
Method EPA200.8/SW6010B/SW7470A		
Arsenic	**23.8**	0.05 U
Barium	NA	**0.015**
Cadmium	**58**	**0.007**
Chromium	**510**	**0.014**
Copper	**1,950**	NA
Lead	**6**	0.02 U
Mercury	2 U	0.0001 U
Selenium	NA	0.05 U
Silver	NA	0.003 U

U = Indicates the compound was undetected at the reported concentration.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NA = Not analyzed
Bold indicates the compound was detected at the reported concentration.

TABLE 6
PHASE II ANALYTICAL RESULTS
COMPRESSED AIR SYSTEM WIPE SAMPLES
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:	LINE1-WIPE	LINE2-WIPE	LINE3-WIPE	LINE4-WIPE	LINE5-WIPE	LINE6-WIPE	LINE7-WIPE	LINE8-WIPE
Lab ID:	OB27A	OB27B	OB27C	OB27D	OB27E	OB27F	OB27G	OB27H
Date Collected:	11/21/2008	11/21/2008	11/21/2008	11/21/2008	11/21/2008	11/21/2008	11/21/2008	11/21/2008
PCBs (µg)								
Method SW8082								
Aroclor 1016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor 1242	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor 1248	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor 1254	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor 1260	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor 1221	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor 1232	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

TABLE 6
PHASE II ANALYTICAL RESULTS
COMPRESSED AIR SYSTEM WIPE SAMPLES
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:	LINE9-WIPE	LINE10-WIPE	LINE11-WIPE	COMP1-WIPE	COMP2-WIPE
Lab ID:	OB27I	OB27J	OB27K	OB27L	OB27M
Date Collected:	11/21/2008	11/21/2008	11/21/2008	11/21/2008	11/21/2008
PCBs (µg)					
Method SW8082					
Aroclor 1016	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Aroclor 1242	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Aroclor 1248	1.0 U	1.0 U	1.0 U	5.0 U	7.5 U
Aroclor 1254	1.0 U	1.0 U	1.0 U	**5.5**	**10**
Aroclor 1260	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Aroclor 1221	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U
Aroclor 1232	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U

U = Indicates the compound was undetected at the reported concentration.
Bold indicates the compound was detected at the reported concentration.

TABLE 7
PHASE II GROUNDWATER ANALYTICAL RESULTS
EXISTING MONITORING WELLS - DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

	PACCAR Interim Action Work Plan Cleanup Levels (a)	Method B Protection of Marine Surface Water	Method B Protection of Fresh Surface Water	I-104 OK85B 2/2/2009	Dup of I-104 I-1044 OK85D 2/2/2009	I-200 OL24C 2/4/2009	I-203 OL19F 2/4/2009	I-205 OL19E 2/4/2009	Dup of I-205 I-2055 OL19G 2/4/2009	I-206 OL19D 2/4/2009	PZ-1 OK85C 2/2/2009	PZ-2 OL19C 2/4/2009	PZ-3 OL24B 2/4/2009	PZ-4 OL19B 2/4/2009	PZ-6 OL24A 2/4/2009	PZ-7 OK85A 2/2/2009	PZ-8 OL19A 2/4/2009
DISSOLVED METALS (µg/L)																	
Method 200.8/6010B/7470A																	
Arsenic		8 (b)	8 (b)	**2,130**	**2,270**	**0.8**	**122**	**28.1**	**27.4**	**575**	**7.1**	**11.3**	**11.7**	**29.2**	**505**	**5.0**	1.0 U
Copper		20 (b)	20 (b)	**13** J	**7** J	2 U	2 U	2 U	2 U	2 U	**17**	2 U	2 U	2 U	2 U	2 U	2 U
Lead		10 (b)	10 (b)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U
Zinc		160 (b)	160 (b)	**20** J	10 U	10 U	10 U	10 U	10 U	10 U	**240**	10 U	**10**	10 U	10 U	10 U	10 U
VOLATILES (µg/L)																	
Method SW8260B																	
Vinyl Chloride	2.4	2.4	0.025	**0.2**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**1.8**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acetone			800	**3.7**	**3.4**	**11**	**3.1**	2.5 U	2.5 U	**4.2**	3.0 U	**2.6**	**7.1**	**3.0**	**3.9**	**4.8**	2.5 U
1,1-Dichloroethane			1,600	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.3**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene		10,000	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.4**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	80		70	0.2 U	0.2 U	0.2 U	**1.3**	0.2 U	0.2 U	**0.7**	0.2 U	**0.5**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane		15	0.50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.3**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Bold indicates detected constituent.
Boxed values indicate exceedance of the Method B protection of fresh surface water screening levels.
Shaded values indicate exceedance of the Method B Protection of marine surface water screening levels.
U = Indicates the compound was undetected at the reported concentration.
UJ = The analyte was not detected in the sample; the reported sample detection limit is an estimate.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

(a) = Potential cleanup levels identified in PACCAR 2008 Interim Action Work Plan (AMEC 2008).
(b) = Statewide background concentration (PTI 1989).

TABLE 8
PHASE II ANALYTICAL RESULTS
ABOVEGROUND STORAGE TANK WIPE SAMPLE
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

Location:	TANK-ATS721-090311
Lab ID:	OQ13B
Date Collected:	3/11/2009

TOTAL METALS (µg/sample) **Method SW6010B/SW7471A**	
Arsenic	2 U
Barium	**3**
Cadmium	**1**
Chromium	**11.7**
Lead	**6**
Mercury	**0.07**
Selenium	2 U
Silver	0.2 U

U = Indicates the compound was undetected at the reported concentration.
Bold indicates the compound was detected at the reported concentration.

TABLE 9
CATCH BASIN AND OIL/WATER SEPARATOR SOLIDS ANALYTICAL RESULTS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

	TI-CB10,CB11 OD48D 12/10/2008	TI-CB12,CB16 OD48F 12/10/2008	TI-CB14,CB13B,CB13C OD48C 12/10/2008	TI-CB17,CB20 OD17F 12/08/2008	TI-CB24,CB25,CB26 OD17C 12/08/2008	TI-CB27,CB28 OD17G 12/08/2008
PCBs (µg/kg)						
Method SW8082						
Aroclor 1254	**170**	**220**	**110**	**110**	**96**	**350**
Aroclor 1260	160 U	160 U	**120**	**120**	**110**	**160** J
Total PCBs	**170**	**220**	**230**	**230**	**206**	**510**
SEMIVOLATILES (µg/kg)						
Method SW8270D						
Phenol	1900 U	1900 U	2000 U	200 U	200 U	**180** J1
Benzyl Alcohol	9500 U	9500 U	9800 U	200 U	**1600**	**2500**
4-Methylphenol	1900 U	1900 U	2000 U	200 U	**140** J1	200 U
Dimethylphthalate	1900 U	1900 U	2000 U	200 U	**100** J1	**140** J1
Acenaphthene	1900 U	1900 U	2000 U	200 U	200 U	200 U
Dibenzofuran	1900 U	1900 U	2000 U	200 U	200 U	200 U
Fluorene	1900 U	1900 U	2000 U	200 U	200 U	200 U
Phenanthrene	1900 U	1900 U	2000 U	**130** J1	**210**	**180** J1
Carbazole	1900 U	1900 U	2000 U	200 U	200 U	200 U
Anthracene	1900 U	1900 U	2000 U	200 U	200 U	200 U
Di-n-Butylphthalate	1900 U	1900 U	2000 U	**260**	**630**	**2600**
Fluoranthene	1900 U	1900 U	2000 U	**250**	**350**	**360**
Pyrene	1900 U	1900 U	2000 U	**190** J1	**250**	**250**
Butylbenzylphthalate	1900 U	1900 U	**2300**	**320**	**930** J	**2300**
Benzo(a)anthracene	1900 U	1900 U	2000 U	200 U	**110** J1	**120** J1
bis(2-Ethylhexyl)phthalate	1900 U	1900 U	**2400**	**2200**	**34000**	**14000**
Chrysene	1900 U	1900 U	2000 U	**200**	**190** J1	**220**
Di-n-Octyl phthalate	1900 U	1900 U	2000 U	200 UJ	**380** J	**320** J
Benzo(b)fluoranthene	1900 U	1900 U	2000 U	**160** J1	**160** J1	**180** J1
Benzo(k)fluoranthene	1900 U	1900 U	2000 U	**98** J1	**140** J1	**180** J1
Benzo(a)pyrene	1900 U	1900 U	2000 U	200 UJ	**110** J1, J	**140** J1, J
Indeno(1,2,3-cd)pyrene	1900 U	1900 U	2000 U	200 U	200 U	200 U
Benzo(g,h,i)perylene	1900 U	1900 U	2000 U	200 U	200 U	200 U
TOTAL METALS (mg/kg)						
Method SW6010B/SW7471A						
Arsenic	**100**	20 U	20 U	**9**	10 U	9 U
Cadmium	**1.1**	**0.8**	**1**	**3.1**	**17.7**	**24.2**
Chromium	**193**	**176**	**44**	**88.4**	**163**	**150**
Copper	**111**	**61.5**	**41.4**	**78.8**	**157**	**120**
Lead	**83**	**40**	**49**	**205**	**127**	**98**
Mercury	**0.15**	0.04 U	**0.09**	**0.09**	**0.15**	**0.09**
Zinc	**351**	**279**	**318**	**639**	**1080**	**1400**
CONVENTIONALS (%)						
Total Organic Carbon (PLUMB81TC)	4.82	5.05	10.3	5.97	13.1	9.61
Total Solids (EPA160.3)	73.30	70.50	67.70	71.60	39.70	49.50

TABLE 9
CATCH BASIN AND OIL/WATER SEPARATOR SOLIDS ANALYTICAL RESULTS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

	TI-CB29,CB30 OD48B 12/10/2008	TI-CB33,CB36 OD32I 12/09/2008	TI-CB34,CB35 OD48E 12/10/2008	TI-CB37,CB38 OD32H 12/09/2008	TI-CB39 OD48A 12/10/2008	TI-CB3A OD32A 12/09/2008	TI-CB6,CB7,CB8 OD17A 12/08/2008	TI-(
PCBs (µg/kg)								
Method SW8082								
Aroclor 1254	**220**	33 U	33 U	**44**	**220**	**37**	**68**	
Aroclor 1260	160 U	**47**	33 U	**46**	**180**	**35**	**58**	
Total PCBs	**220**	**47**	ND	**90**	**400**	**72**	**126**	
SEMIVOLATILES (µg/kg)								
Method SW8270D								
Phenol	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
Benzyl Alcohol	9700 U	1900 U	9300 U	1800 U	9400 U	1900 U	190 U	
4-Methylphenol	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
Dimethylphthalate	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
Acenaphthene	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
Dibenzofuran	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
Fluorene	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
Phenanthrene	**13000**	370 U	1900 U	360 U	1900 U	380 U	**110** J1	
Carbazole	**2400**	370 U	1900 U	360 U	1900 U	380 U	190 U	
Anthracene	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
Di-n-Butylphthalate	1900 U	370 U	1900 U	360 U	1900 U	**390**	190 U	
Fluoranthene	**18000**	370 U	1900 U	360 U	1900 U	**660**	**170** J1	
Pyrene	**13000**	370 U	1900 U	360 U	1900 U	**630**	**140** J1	
Butylbenzylphthalate	**2800**	**870**	1900 U	**420**	**2000**	**700**	**440**	
Benzo(a)anthracene	**4500**	370 U	1900 U	360 U	1900 U	380 U	190 U	
bis(2-Ethylhexyl)phthalate	**9500**	**1800**	1900 U	**2600**	**13000**	**3300**	**28000**	
Chrysene	**9400**	370 U	1900 U	360 U	1900 U	**450**	**210**	
Di-n-Octyl phthalate	1900 U	370 U	1900 U	360 U	1900 U	**550**	190 UJ	
Benzo(b)fluoranthene	**11000**	370 U	1900 U	360 U	1900 U	**480**	**170** J1	
Benzo(k)fluoranthene	**7100**	370 U	1900 U	360 U	1900 U	380 U	190 U	
Benzo(a)pyrene	**5500**	370 U	1900 U	360 U	1900 U	380 U	190 UJ	
Indeno(1,2,3-cd)pyrene	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
Benzo(g,h,i)perylene	1900 U	370 U	1900 U	360 U	1900 U	380 U	190 U	
TOTAL METALS (mg/kg)								
Method SW6010B/SW7471A								
Arsenic	**40**	**8**	20 U	10 U	**40**	20 U	20 U	
Cadmium	**23**	**2.7**	**2.3**	**2.7**	**37.9**	**3**	**1**	
Chromium	**375**	**102**	**77**	**75**	**340**	**342** J	**39** J	
Copper	**397**	**45.5**	**36.3**	**59.1**	**216**	**80.7** J	**49.4**	
Lead	**280**	**21**	**16**	**38**	**427**	**72**	**52**	
Mercury	**0.4**	0.05 U	0.05 U	0.05 U	**0.2**	**0.09**	0.05 U	
Zinc	**4060**	**232**	**120**	**477**	**1920**	**719**	**339**	
CONVENTIONALS (%)								
Total Organic Carbon (PLUMB81TC)	10.2	5.86	3.10	2.28	19.2	3.89	6.30	
Total Solids (EPA160.3)	30.60	71.20	74.20	81.20	44.00	64.50	73.10	

TABLE 9
CATCH BASIN AND OIL/WATER SEPARATOR SOLIDS ANALYTICAL RESULTS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

	CB60,CB61,CB63 OD17D 12/08/2008	TI-CB62,CB67 OD17E 12/08/2008	TI-CB68,CB69 OD32B 12/09/2008	TI-CB71,CB72 OD32C 12/09/2008	TI-CB74,CB76 OD32D 12/09/2008	TI-CB77,CB77A,CB77B OD17B 12/08/2008
PCBs (µg/kg)						
Method SW8082						
Aroclor 1254	**20**	9.9 U	**97**	**57**	**120**	**55**
Aroclor 1260	**17**	9.9 U	**57** P	33 U	**81**	50 U
Total PCBs	**37**	ND	**154**	**57**	**201**	**55**
SEMIVOLATILES (µg/kg)						
Method SW8270D						
Phenol	200 U	200 U	**490**	**400**	**460**	200 U
Benzyl Alcohol	200 U	**210**	**6200**	**4700**	1900 U	**1500**
4-Methylphenol	200 U	**1900**	380 U	**2300**	390 U	200 U
Dimethylphthalate	200 U	200 U	380 U	390 U	390 U	200 U
Acenaphthene	200 U	200 U	380 U	390 U	390 U	200 U
Dibenzofuran	200 U	200 U	380 U	390 U	390 U	200 U
Fluorene	200 U	200 U	380 U	390 U	390 U	200 U
Phenanthrene	**190** J1	**100** J1	**920**	**800**	**650**	**190** J1
Carbazole	200 U	200 U	380 U	390 U	390 U	200 U
Anthracene	200 U	200 U	380 U	390 U	390 U	200 U
Di-n-Butylphthalate	200 U	**140** J1	**1100**	**480**	**1200**	**620**
Fluoranthene	**370**	**220**	**1900**	**1000**	**940**	**320**
Pyrene	**240**	**140** J1	**2000**	**940**	**1000**	**260**
Butylbenzylphthalate	**140** J1	**120** J1	**780**	**1200**	**1900** J	**4000**
Benzo(a)anthracene	200 U	200 U	**570**	390 U	390 U	200 U
bis(2-Ethylhexyl)phthalate	**1200**	**1200**	**49000**	**6200**	**7400**	**6200**
Chrysene	**210**	**120** J1	**1200**	**720**	**700**	**150** J1
Di-n-Octyl phthalate	**510** J	**280** J	**390**	**430**	390 U	**200** J
Benzo(b)fluoranthene	**200**	**120** J1	**1600**	**720**	**720**	**140** J1
Benzo(k)fluoranthene	**140** J1	**110** J1	**1100**	**480**	**590**	200 U
Benzo(a)pyrene	**130** J1, J	200 UJ	**820**	390 U	**390**	200 UJ
Indeno(1,2,3-cd)pyrene	200 U	200 U	380 U	390 U	390 U	200 U
Benzo(g,h,i)perylene	200 U	200 U	**390**	390 U	390 U	200 U
TOTAL METALS (mg/kg)						
Method SW6010B/SW7471A						
Arsenic	10 U	20 U	**20**	20 U	20 U	**10**
Cadmium	**3.2**	**5.1**	**47.2**	**4.8**	**42.4**	**20.4**
Chromium	**125**	**125**	**205**	**124**	**226**	**181**
Copper	**125**	**127**	**221**	**79.7**	**263**	**302**
Lead	**150**	**128**	**425**	**110**	**271**	**267**
Mercury	0.1 U	0.2 U	**0.21**	**0.1**	**0.2**	**0.3**
Zinc	**1160**	**1130**	**978**	**584**	**1180**	**2680**
CONVENTIONALS (%)						
Total Organic Carbon (PLUMB81TC)	17.4	6.97	8.82	11.6	10.2	1.33
Total Solids (EPA160.3)	29.20	43.30	42.70	15.40	23.20	41.90

TABLE 9
CATCH BASIN AND OIL/WATER SEPARATOR SOLIDS ANALYTICAL RESULTS
DETECTED CONSTITUENTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

	TI-CB81,CB82 OD32G 12/09/2008	TI-OWS23 OD32F 12/09/2008	TI-OWS79 OD32E 12/09/2008
PCBs (µg/kg)			
Method SW8082			
Aroclor 1254	**32**	**100**	33 U
Aroclor 1260	**32**	**76**	33 U
Total PCBs	**64**	**176**	ND
SEMIVOLATILES (µg/kg)			
Method SW8270D			
Phenol	370 U	390 U	390 U
Benzyl Alcohol	1900 U	2000 U	2000 U
4-Methylphenol	370 U	**780**	390 U
Dimethylphthalate	370 U	390 U	390 U
Acenaphthene	370 U	390 U	**680**
Dibenzofuran	370 U	390 U	**400**
Fluorene	370 U	390 U	**790**
Phenanthrene	370 U	**840**	**4900**
Carbazole	370 U	390 U	**830**
Anthracene	370 U	390 U	**1000**
Di-n-Butylphthalate	**1200**	**440**	**1000**
Fluoranthene	370 U	**1200**	**4900**
Pyrene	370 U	**1900**	**6000**
Butylbenzylphthalate	**960**	**2200**	**2600**
Benzo(a)anthracene	370 U	**430**	**2000**
bis(2-Ethylhexyl)phthalate	**13000**	**20000**	**35000**
Chrysene	370 U	**910**	**2300**
Di-n-Octyl phthalate	**540**	390 U	**2200**
Benzo(b)fluoranthene	370 U	**800**	**2300**
Benzo(k)fluoranthene	370 U	**690**	**2200**
Benzo(a)pyrene	370 U	**440**	**1800**
Indeno(1,2,3-cd)pyrene	370 U	390 U	**700**
Benzo(g,h,i)perylene	370 U	390 U	**760**
TOTAL METALS (mg/kg)			
Method SW6010B/SW7471A			
Arsenic	7 U	20 U	20 U
Cadmium	**5.1**	**6.7**	**30.2**
Chromium	**47.4**	**361**	**271**
Copper	**50.0**	**224**	**292**
Lead	**35**	**377**	**258**
Mercury	0.06 U	**0.2**	**0.3**
Zinc	**257**	**2100**	**3320**
CONVENTIONALS (%)			
Total Organic Carbon (PLUMB81TC)	3.44	5.64	4.02
Total Solids (EPA160.3)	69.20	27.30	18.60

U = Indicates the compound was undetected at the reported concentration.
UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
P = The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference. The higher of the two values is reported by the laboratory.
J = Data validation flag indicating the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J1 = Laboratory flag indicating the analyte was positively identified; the associated numerical value is an estimated value found between the reporting limit and the method detection limit.
Bold indicates detected compound.

TABLE 10
SOIL MOUND REMOVAL POST-EXCAVATION SOIL SAMPLING RESULTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

	IMR-2 NVO7A 10/17/2008	IMR-3 OA02A 11/13/2008	IMR-4 NVO7B 10/17/2008	IMR-5 NVO7C 10/17/2008	IMR-6 NVO7D 10/17/2008	IMR-7 NW45A 10/27/2008	IMR8 NVO7E 10/17/2008	IMR-10 NY11A 11/4/2008	IMR-11 NW45B 10/27/2008	IMR-11 NY11B 11/4/2008	IMR-12 NW45C 10/27/2008
TOTAL METALS (mg/kg)											
Arsenic	5 U	**294**	**1,120**	**8**	**2,440**	5 U	**253**	**38**	**524**	**439**	**1,780**
Barium	**48.0**	**95.5**	**153**	**61.5**	**78.6**	**31.4**	**57.8**	**30.1**	**85.0**	**46.6**	**93**
Cadmium	0.2 U	**1.6**	**3.1**	**0.6**	**5.6**	0.2 U	**1.0**	**0.3**	**1.4**	**1.6**	**3.1**
Chromium	**19.5**	**65.8**	**55**	**41.2**	**19.7**	**21.3**	**26.4**	**24.4**	**38.6**	**22.9**	**116**
Lead	2 U	**126**	**136**	**56**	**26**	2 U	**44**	2 U	**114**	**40**	**46**
Mercury	0.04 U	**1.44**	**0.46**	**0.10**	**0.68**	0.05 U	**0.81**	0.04 U	**1.82**	**1.12**	**0.70**
Selenium	5 U	6 U	20 U	5 U	6 U	5 U	5 U	5 U	6 U	6 U	20 U
Silver	0.3 U	0.4 U	0.9 U	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	1 U
NWTPH-Dx (mg/kg)											
Diesel	NA	NA	NA	NA	**17**	NA	NA	NA	NA	NA	NA
Motor Oil	NA	NA	NA	NA	**61**	NA	NA	NA	NA	NA	NA

TABLE 10
SOIL MOUND REMOVAL POST-EXCAVATION SOIL SAMPLING RESULTS
BOEING THOMPSON-ISAACSON PROPERTY
TUKWILA, WASHINGTON

	IMR-12 NY11C 11/4/2008	IMR-13 NY11D 11/4/2008	IMR-14 NY11E 11/4/2008	IMR-15 NY11F 11/4/2008	IMR-16 NY11G 11/4/2008	IMR-18 OA02B 11/13/2008	IMR-19 OA02C 11/13/2008
TOTAL METALS (mg/kg)							
Arsenic	**485**	**77**	**70**	**919**	**30**	**397**	**383**
Barium	**61.4**	**75.1**	**157**	**84.2**	**253**	**40.8**	**78.5**
Cadmium	**1.6**	**1.3**	**1.9**	**3.0**	**15**	**1.5**	**1.8**
Chromium	**25.1**	**52.0**	**109**	**19.5**	**536**	**14.6**	**30.9**
Lead	**36**	**86**	**273**	**51**	**1210**	**24**	**87**
Mercury	**0.12**	**0.21**	**0.33**	**0.80**	**0.06**	**0.16**	**0.69**
Selenium	6 U	6 U	10 U	7 U	30 U	6 U	6 U
Silver	0.4 U	0.3 U	0.9 U	0.4 U	**2**	0.3 U	0.4 U
NWTPH-Dx (mg/kg)							
Diesel	NA	NA	NA	NA	NA	NA	NA
Motor Oil	NA	NA	NA	NA	NA	NA	NA

Bold indicates detected compound.
U = Indicates the compound was undetected at the reported concentration.
NA = Not analyzed.