

# **REVISED DRAFT REMEDIAL INVESTIGATION REPORT**

**CAPITAL INDUSTRIES, INC.  
5801 3<sup>rd</sup> AVENUE SOUTH  
SEATTLE, WASHINGTON  
AGREED ORDER NO. DE 5348**

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## **ACRONYMS, ABBREVIATIONS, AND DEFINITIONS**

1,1-DCE	1,1-dichloroethene
ABP	Art Brass Plating
Agreed Order	Agreed Order No. DE 5348 entered into by Capital Industries, Inc. and the Washington State Department of Ecology on January 24, 2008
BDC	Blaser Die Casting
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
Capital	Capital Industries, Inc.
Capital Area of Investigation	the area south of South Mead Street, north of South Front Street, east of 1 <sup>st</sup> Avenue South, and west of 4 <sup>th</sup> Avenue South, and the property north of Mead Street and west of 4 <sup>th</sup> Avenue South in Seattle, Washington
Capital Property	the property owned by Capital Industries, Inc. at 5801 3 <sup>rd</sup> Avenue South in Seattle, Washington
Capital Site	the area where concentrations of contaminants of potential concern released from the Capital Property exceed applicable regulatory cleanup levels
CCEF	cancer cumulative exceedance factor
cis-1,2-DCE	cis-1,2-dichloroethene
COPCs	contaminants of potential concern
Data Summary Report	<i>Data Summary Report, West Groundwater Investigation Area, Seattle, Washington</i> dated January 2008, prepared by Farallon et al.
DCE	dichloroethene
DNAPL	dense nonaqueous-phase liquid
DQO	data quality objectives
DRO	total petroleum hydrocarbons as diesel-range organics
Ecology	Washington State Department of Ecology
ECS	Environmental Consulting Services, Inc.
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
FSM	Floyd Snider McCarthy, Inc.
HVOCs	halogenated volatile organic compounds



Intermediate Zone	water-bearing zone from 40 to 70 feet below ground surface
IPIM	Inhalation Pathway Interim Measures
IPIMALs	Inhalation Pathway Interim Measures Action Levels
IRIS	Integrated Risk Information System
LDW	Lower Duwamish Waterway
mg/kg	milligrams per kilogram
µg/l	micrograms per liter
mg/l	milligrams per liter
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
NCCEF	non-cancer cumulative exceedance factor
OnSite	OnSite Environmental Inc. of Redmond, Washington
ORO	total petroleum hydrocarbons as oil-range organics
PCE	tetrachloroethene
PGG	Pacific Groundwater Group
PID	photoionization detector
PQLs	practical quantitation limits
PSC	Philip Services Corporation
PVC	polyvinyl chloride
RI	Remedial Investigation
RI Report	<i>Draft Revised Remedial Investigation Report, Capital Industries, Inc., 5801 3<sup>rd</sup> Avenue South, Seattle, Washington</i> dated October 2012, prepared by Farallon Consulting, L.L.C. (this report)
RI Work Plan	<i>Remedial Investigation Work Plan, Capital Industries, Inc., 5801 Third Avenue South, Seattle, Washington</i> dated September 16, 2008, prepared by Farallon Consulting, L.L.C.
SAP	Sampling and Analysis Plan
Shallow Zone	water-bearing zone from 20 to 40 feet below ground surface
TCE	trichloroethene
TOC	total organic carbon
trans-1,2-DCE	trans-1,2-dichloroethene
VI	vapor intrusion
VOCs	volatile organic compounds
WAC	Washington Administrative Code

Water Table Zone

water-bearing zone from the surface to approximately 20 feet below ground surface

## **1.0 INTRODUCTION**

This Revised Draft Remedial Investigation Report (RI Report) has been prepared by Farallon Consulting, L.L.C. (Farallon) on behalf of Capital Industries, Inc. (Capital) to present the results of the Remedial Investigation (RI) of the Capital Area of Investigation (Figure 1). The RI has been conducted in accordance with the *Remedial Investigation Work Plan, Capital Industries, Inc., 5801 Third Avenue South, Seattle, Washington* dated September 16, 2008 prepared by Farallon (2008a) (RI Work Plan) that was reviewed and approved by the Washington State Department of Ecology (Ecology), and meets the requirements of Agreed Order No. DE 5348 entered into by Capital and Ecology on January 24, 2008 (Agreed Order).

The RI Work Plan defined the Capital Area of Investigation as the area south of South Mead Street, north of South Front Street, east of 1<sup>st</sup> Avenue South, and west of 4<sup>th</sup> Avenue South, and the property north of Mead Street and west of 4<sup>th</sup> Avenue South. The Capital Area of Investigation was modified based on the analytical results for groundwater samples collected during the RI field investigation as shown on Figure 1. In accordance with Exhibit B of the Agreed Order and with Section 200 of Chapter 173-340 of the Washington Administrative Code (WAC 173-340-200), the Capital Site is defined as the area where concentrations of contaminants of potential concern (COPCs) released from the Capital Property, located at 5801 3<sup>rd</sup> Avenue South in Seattle, Washington, exceed applicable regulatory cleanup levels.

The RI Report is a deliverable required by the Agreed Order and was prepared in accordance with the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in WAC 173-340-350 and pursuant to the Agreed Order.

### **1.1 PURPOSE AND OBJECTIVES**

The purpose of the RI was to collect sufficient information to enable development and evaluation of technically feasible cleanup alternatives in accordance with WAC 173-340-360 through 173-340-390. The objectives of the RI are to characterize the nature and extent of volatile organic compounds (VOCs) in groundwater, soil, and indoor ambient air exceeding applicable screening levels. The screening levels used in the RI Report to delineate the nature and extent of VOCS are based on those defined by Philip Services Corporation (PSC) (2006b) and those

summarized in the *Data Summary Report, West Groundwater Investigation Area, Seattle, Washington* dated January 2008, prepared by Farallon et al. (2008) (Data Summary Report). The screening levels were updated in 2012 to reflect the changes in toxicological information for tetrachloroethene (PCE) and trichloroethene (TCE) in the U.S. Environmental Protection Agency (EPA) (2012) Integrated Risk Information System (IRIS) database.

The RI provides sufficient data to develop a Conceptual Site Model for use in evaluating technically feasible cleanup alternatives for selection of a final cleanup action applicable to the Capital Site and to comply with the requirements of WAC 173-340-350 and the Agreed Order.

## **1.2 REPORT ORGANIZATION**

The format of the RI Report is in accordance with WAC 173-340-810 through 173-340-840 and the Agreed Order. Section 2 of the RI Report provides a description of the Capital Area of Investigation and vicinity, a summary of background information, including previous investigations conducted at the Capital Property and surrounding properties, a description of the environmental setting of the Capital Site, and the hydrogeologic setting. Section 3 describes the technical elements of the RI, including potential exposure pathways, applicable screening levels, the COPCs, and affected media. Sections 4 and 5 present the RI Field Program and the RI results, respectively. Section 6 provides the Conceptual Site Model developed for the Capital Site. Section 7 presents the RI conclusions and recommendations. The documents cited in the RI Report are listed in Section 8. Section 9 presents the standard limitations for the RI as performed by Farallon.

Figure 1 depicts the Capital Property, and Figure 2 depicts regional features near the Capital Property. Figure 3 shows historical and RI boring and monitoring well locations. Figure 4 depicts the Capital Area of Investigation. Figures 5 and 6 depict the historical and RI laboratory analytical data for soil samples collected at the Capital Area of Investigation. Figures 7 through 9 depict the reconnaissance groundwater data collected from direct-push borings in the Water Table, Shallow, and Intermediate Zones. Figures 10 through 33 depict the laboratory analytical results for groundwater samples collected from the monitoring well network during the groundwater monitoring events conducted from March 2010 through June 2012 for the Water

Table, Shallow, and Intermediate Zone aquifers. Figures 34 through 37 provide cross-sections depicting subsurface lithology and distribution of COPCs. Figure 38 illustrates the reductive dehalogenation of chlorinated ethenes.

Tables 1 and 2 provide the screening levels for the COPCs in soil and groundwater, respectively. Table 3 provides the screening levels for vapor intrusion assessments. Table 4 provides a summary of groundwater elevations. Table 5 provides a summary of historical soil analytical results. Table 6 summarizes the analytical results for COPCs in soil samples collected during the RI. Table 7 provides the analytical results for total organic carbon (TOC) in soil. Table 8 summarizes historical reconnaissance groundwater analytical results. Table 9 summarizes the laboratory analytical results for COPCs for reconnaissance groundwater samples collected during the RI. Table 10 provides the laboratory analytical results for groundwater samples collected from the monitoring well network during the monitoring events conducted from March 2010 through June 2012 for the Water Table, Shallow, and the Intermediate Zone aquifers at the Capital Property, and from the Blaser Die Casting (BDC) and Art Brass Plating (ABP) monitoring well networks in February 2010 and May 2012 for the Water Table, Shallow, and Intermediate Zone aquifers. Table 11 provides the analytical results for total organic carbon in monitoring well groundwater samples. Table 12 provides the analytical results for 1,4-dioxane for groundwater samples collected from the Capital Property monitoring well network in June 2010, March 2011, and May 2012, and from the BDC monitoring well network in June 2009 and March 2011. Table 13 provides the analytical results for monitored natural attenuation parameters for groundwater samples collected from the Capital Property monitoring well network in June and December 2010 and May 2012, and from the BDC monitoring well network in February 2008 and June and November 2009. Table 14 provides the water quality parameters recorded during the monitoring well sampling events. Tables 15 and 16 provide fate and transport modeling input parameters and results, respectively, for the Capital Property BIOCHLOR modeling study. Table 17 provides the results of the sensitivity analysis conducted for the fate and transport modeling.

The RI includes several appendices to support the analyses and discussions in the report, including:

- Appendix A – Borings and Well Construction Logs
- Appendix B – Tidal Study Data and Aquifer Characterization Results
- Appendix C – Data Gap Analysis
- Appendix D – Historical Data
- Appendix E – Laboratory Analytical Reports and Quality Assurance Data Validation Reports
- Appendix F – Tier 3 Vapor Intrusion Assessment Data Tables
- Appendix G – Side Sewer Cards
- Appendix H – BIOCHLOR Two-Dimensional Modeling Data
- Appendix I –Terrestrial Ecological Evaluation Exclusion

## **2.0 SITE BACKGROUND**

This section provides a description of the Capital Area of Investigation and a summary of background information, the environmental setting, and the hydrogeologic setting. Sources of historical data include reports describing previous investigations conducted at the Capital Property by Floyd Snider McCarthy, Inc. (FSM) (2004); Environmental Consulting Services, Inc. (ECS) (2005); and Farallon. Additional background information is provided in the RI Work Plan.

The Capital Area of Investigation is located within the area defined in the Data Summary Report as the West of 4<sup>th</sup> Groundwater Investigation Area. Known sources of VOCs to groundwater in the West of 4<sup>th</sup> Groundwater Investigation Area defined in the Data Summary Report include the Capital Property, the PSC facility, the ABP facility, the BDC facility, and the CalPortland Facility. A suspected source of VOCs has been identified at the Pacific Food Systems North Building, east of Capital Plant 2 (Figure 2).

Historical and background data for the Capital Property, PSC facility, ABP facility, and BDC facility are summarized in the Data Summary Report and discussed below. The screening levels defined by PSC (2006b) were used to evaluate the historical data collected at each of the source areas. The screening levels used to evaluate the current RI data were revised by PSC (Geomatrix 2009), and have been further updated to reflect changes in toxicity information since 2010. Section 3, Technical Elements, provides additional detail on current screening levels. The definitions of the Water Table Zone, the Shallow Zone, and the Intermediate Zone used to describe the groundwater-bearing zones are consistent with the nomenclature adopted by PSC (2003), and are discussed below in Section 2.4.2, Hydrogeology.

### **2.1 SITE DESCRIPTION**

#### **2.1.1 Capital Property**

The Capital Property is defined as the property owned by Capital at 5801 3<sup>rd</sup> Avenue South in Seattle, Washington (Figure 1). The Capital Property consists of four parcels totaling 182,468 square feet developed with five adjoining tilt-up slab-on-grade buildings designated as Capital Plant 1 through Capital Plant 5, and an open lot used for storage of finished products, including

containers and dumpsters (Figure 2). Subsurface utilities that enter the Capital Property from the north and south include natural gas, sanitary sewer, and water services. A more-detailed description of the Capital Property and facilities located within or adjacent to the Capital Area of Investigation is provided in the RI Work Plan and in the Data Summary Report.

### **2.1.2 Up-Gradient Source Areas**

Known sources of VOCs to groundwater that may have been released or may have migrated in groundwater to the West of 4<sup>th</sup> Groundwater Investigation Area include the BDC facility, the ABP facility, and the PSC facility (Figure 2). A discussion of each of these potential source areas is provided below and in the Data Summary Report.

#### **2.1.2.1 Blaser Die Casting Facility**

The BDC facility is at the intersection of South Orcas Street and 3<sup>rd</sup> Avenue South, up-gradient and northeast of the Capital Property (Figure 2). Concentrations of halogenated volatile organic compounds (HVOCs) exceeding the screening levels have been detected in soil beneath a building addition and in groundwater down-gradient of the BDC facility to the south-southwest (Pacific Groundwater Group [PGG] 2006).

BDC completed an interim action at the BDC facility that consisted of excavation of soil with concentrations of HVOCs from the southwestern corner of the BDC facility to a depth of 8 feet below ground surface (bgs) in December 2007 and January 2008 (PGG 2007a, 2008). The excavation extended laterally until analytical results for HVOCs in soil were below the screening levels. However, soil containing concentrations of HVOCs exceeding the screening levels remains in-place (PGG 2008). A total of 1,200 tons of contaminated soil and construction debris were removed from the BDC facility.

#### **2.1.2.2 Art Brass Plating Facility**

The Art Brass Plating Facility is at the intersection of South Findlay Street and 3<sup>rd</sup> Avenue South, up-gradient and northeast of the Capital Property (Figure 2). A release of HVOCs to soil and groundwater has been confirmed at the ABP facility (Aspect Consulting 2005a, 2005b, 2007). Concentrations of HVOCs exceeding screening levels



have been detected in groundwater down-gradient of the ABP facility (Aspect Consulting 2007).

#### **2.1.2.3 Philip Services Corporation Facility**

The PSC facility is located up-gradient and northeast of the Capital Property and is a Resource Conservation and Recovery Act-permitted former hazardous waste treatment, storage, and disposal facility. Operations associated with the treatment and storage of materials at the PSC (2003) facility resulted in releases of contaminants to soil and groundwater. Concentrations of HVOCs and other contaminants exceeding screening levels have been detected in groundwater down-gradient of the PSC facility and in the West of 4<sup>th</sup> Groundwater Investigation Area.

## **2.2 CAPITAL PROPERTY HISTORY**

A history of Capital Property operations and prior investigations is provided in the RI Work Plan, and is summarized below. Sampling locations from prior investigations conducted at the Capital Property are shown on Figure 3.

### **2.2.1 Capital Property**

Capital has occupied its current location since 1965. The Capital Property was developed in five phases: Capital Plant 2 was constructed in 1965, Capital Plant 3 in 1973, Capital Plant 4 in 1978, Capital Plant 1 in 1980, and Capital Plant 5 in 2005. The Capital Property has been operated exclusively for metal fabrication and related work such as painting since 1965.

Capital Plant 2 was destroyed by fire in January 2004 and was reconstructed later that year. Reconstruction of Capital Plant 2 included excavation of soil from within the building footprint to approximately 5 feet below the base of the slab elevation in some areas. Approximately 330 cubic yards of soil was removed during reconstruction.

A chemical and paint storage area existed in the Capital Plant 2 canopy area, and a paint station was located in the southwestern corner of Capital Plant 2 from 1968 to 1978. Solvents were used in a hot-solvent degreasing unit formerly located in an area between Capital Plant 3 and Capital Plant 4. A small quantity of a degreasing solvent reportedly was spilled onto the concrete floor

in the area between Capital Plant 3 and Capital Plant 4 in 1988 during a refilling operation of the degreaser unit (ECS 2005).

### **2.2.2 Previous Investigations**

Previous investigations conducted at the Capital Property by Farallon and others have detected concentrations of TCE, PCE, cis-1,2-dichloroethene (cis-1,2-DCE), and/or vinyl chloride (collectively referred to as HVOCs) exceeding the screening levels in groundwater in the Water Table and Shallow Zones at the Capital Area of Investigation. Concentrations of vinyl chloride and TCE exceeding screening levels were detected in groundwater in the Intermediate Zone. Concentrations of TCE exceeding the screening levels were detected in soil at Capital Plant 4.

This section summarizes previous investigations conducted at the Capital Property and adjacent properties by Farallon and others. Investigations at the Capital Property were conducted between January 2004 and May 2007 and included sub-slab soil vapor sampling and analysis after Capital Plant 2 was destroyed by fire in January 2004; soil vapor, construction monitoring, and soil sampling during reconstruction of Capital Plant 2 (FSM 2004; ECS 2005); three phases of subsurface investigations conducted to evaluate the nature and extent of HVOCs in soil and groundwater at the Capital Property (ECS 2005); and subsurface investigations at the Capital Property to assess the nature and extent of HVOCs in groundwater up- and down-gradient of the Capital Property (Farallon et al. 2008). A more-detailed summary of previous investigations is presented in the Data Summary Report.

#### **2.2.2.1 Floyd Snider McCarthy, Inc. 2004 Soil Vapor Monitoring**

Soil vapor monitoring was conducted during the reconstruction of Capital Plant 2 after the plant was destroyed by fire in January 2004 (FSM 2004). Sub-slab soil vapor monitoring was conducted to assess whether HVOCs in groundwater beneath Capital Plant 2 posed a potential impact to indoor air quality in new Capital Plant 2. Concentrations of TCE above the laboratory detection limit were detected in 2 of the 12 soil vapor samples collected, and concentrations of PCE above the laboratory detection limit were detected in 10 of the 12 soil vapor samples collected (FSM 2004).

The analytical results for the sub-slab soil vapor samples were used to develop a vapor intrusion (VI) model using the Johnson & Ettinger Model for Surface Vapor Intrusion into Buildings Guidance to evaluate the potential for sub-slab soil vapors beneath Capital Plant 2 to impact indoor ambient air quality in new Capital Plant 2 (Environmental Quality Management 2000; EPA 2002a; FSM 2004). Modeling results predicted that HVOCs and aromatic petroleum hydrocarbon concentrations in the new Capital Plant 2 office and shop areas would be below applicable MTCA Method B ambient cleanup levels (FSM 2004).

#### **2.2.2.2 Floyd Snider McCarthy, Inc. 2004 Construction Monitoring**

Reconstruction of Capital Plant 2 began in May 2004 and required removal of the concrete slab and excavation of soil to install a stormwater detention vault, footings, and utility trenches. A Soil Vapor and Construction Monitoring Report was prepared to govern the sampling proceedings associated with the Capital Plant 2 reconstruction excavation (ECS 2005). The soil excavated for Capital Plant 2 reconstruction was field-screened using a photoionization detector (PID), and soil exhibiting elevated readings was segregated and stockpiled. Soil samples were collected and analyzed for HVOCs. Soil that did not contain HVOCs above laboratory practical quantitation limits (PQLs) was used as backfill or disposed of as nonhazardous/non-regulated waste, with approximately 330 cubic yards of soil exported from the Capital Property (ESC 2005).

#### **2.2.2.3 Environmental Consulting Services, Inc. 2004 Subsurface Investigation**

A subsurface investigation of the Capital Property was conducted in November 2004 to evaluate the source of TCE detected in groundwater samples collected by PSC (2003) from monitoring wells CG-137-WT and CG-137-40, located proximate to Capital Plant 2 (Figure 3) (ECS 2005).

Concentrations of TCE exceeding the screening level applicable at that time were detected in reconnaissance groundwater samples collected from the Water Table Zone in borings located adjacent to and up- and down-gradient of the Capital Property (Figure 3). Concentrations of PCE exceeding the screening level were detected in reconnaissance

groundwater samples collected from the Water Table Zone in borings located adjacent to and down-gradient of Capital Plant 4.

Concentrations of TCE were detected in reconnaissance groundwater samples collected from the Shallow Zone in borings located adjacent to and up- and down-gradient of the Capital Property. Concentrations of TCE or PCE were not detected in the reconnaissance groundwater sample collected from the Shallow Zone in the boring located adjacent to and down-gradient of Capital Plant 4. Concentrations of vinyl chloride and other HVOCs were detected in reconnaissance groundwater samples collected from the Shallow Zone in borings advanced adjacent to and up- and down-gradient of the Capital Property.

Concentrations of HVOCs detected in soil samples were below the laboratory reporting limits or screening levels in all of the soil samples analyzed.

#### **2.2.2.4 Environmental Consulting Services, Inc. 2005 Subsurface Investigations**

A subsurface investigation using Gore Sorber passive soil vapor samplers was conducted at Capital Plant 2 and Capital Plant 4 in February 2005 (ECS 2005). A total of 19 soil vapor samplers were installed at Capital Plant 2, and 11 at Capital Plant 4. Concentrations of PCE were detected in the Gore Sorber passive soil vapor samples collected beneath the concrete slab at Capital Plant 2, with the highest concentrations detected at locations GS-64, GS-66, GS-67, and GS-68 in the central and southern portions of the Plant 2 Canopy, and location GS-90 at the southwest corner of Plant 2. A map of the Gore Sorber sampling locations is presented in Appendix C. Concentrations of TCE and PCE were detected in soil vapor samples collected beneath the concrete slab at Capital Plant 4, with the highest concentrations detected at the southwest corner of Capital Plant 4 and in the Capital Plant 4 canopy area.

Subsurface investigations that included collection of soil and reconnaissance groundwater samples from borings located in Capital Plant 2 and Capital Plant 4 were conducted in April and May 2005 (ECS 2005). Concentrations of TCE exceeding the screening level were detected in reconnaissance groundwater samples collected from the Water Table Zone beneath the Capital Plant 2 canopy area and beneath the southwestern corner of

Capital Plant 2. Concentrations of HVOCs exceeding the screening levels were not detected in soil samples collected at Capital Plant 2. Concentrations of PCE and TCE exceeding the screening levels were detected in reconnaissance groundwater samples collected from the Water Table Zone beneath the southern portion of Capital Plant 4 and beneath the Capital Plant 4 canopy area. Concentrations of TCE and PCE exceeding the screening levels were detected in soil samples collected from borings located in Capital Plant 4 at depths ranging from 0.7 foot to 6.8 feet bgs.

#### **2.2.2.5 Farallon 2006 Subsurface Investigations**

Subsurface investigations were completed at Capital Plant 2 and Capital Plant 4 in January and February 2006 to ascertain the groundwater flow direction proximate to the Capital Property, to assess the impact of an up-gradient source of TCE on groundwater at Capital Plant 2, and to assess the down-gradient extent of TCE and PCE in groundwater originating at Capital Plant 2 and Capital Plant 4 (Farallon et al. 2008). Concentrations of TCE exceeding the screening level were detected in reconnaissance groundwater samples and in groundwater samples collected from monitoring wells located in the Capital Plant 2 canopy area and up- and down-gradient of Capital Plant 2. Concentrations of PCE and TCE exceeding the screening levels were detected in reconnaissance and monitoring well groundwater samples collected inside and down-gradient of Capital Plant 4 in the Water Table and Shallow Zones. Concentrations of PCE or TCE above the laboratory PQLs were not detected in groundwater monitoring well samples collected up-gradient of Capital Plant 4.

Groundwater monitoring and sampling events were conducted by Farallon in February 2006, and by Farallon, Aspect Consulting, PGG, and PSC in May 2007 as part of the West of 4th Groundwater Investigation Area. Results from these groundwater monitoring and sampling events at monitoring wells screened in the Water Table and Shallow Zones at the Capital Property were summarized in the Data Summary Report.

#### **2.2.2.6 Second Avenue South Redevelopment**

Capital developed a vacated portion of 2<sup>nd</sup> Avenue South between South Mead Street and South Fidalgo Street between Capital Plant 1 and Capital Plant 2 in June 2008. Redevelopment included asphalt paving of soil (Farallon 2008b). Sampling activities were conducted by Farallon at the 2<sup>nd</sup> Avenue South redevelopment area at opportune locations for analysis for HVOCs and petroleum hydrocarbons in soil. Soil samples were collected from test pits, a utility trench, and an electrical vault. Sampling locations are shown on Figures 2 and 3, and data tables summarizing the analytical results are provided in Appendix C.

Concentrations of HVOCs above the laboratory PQLs were not detected in soil samples collected from test pits or the electrical vault excavation area. Concentrations of total petroleum hydrocarbons as gasoline-range organics, or benzene, toluene, ethylbenzene, or xylenes (BTEX) above the laboratory PQLs or applicable MTCA cleanup levels for soil were not detected in soil samples collected from test pits. Concentrations of total petroleum hydrocarbons as oil-range organics (ORO) ranging from below the laboratory PQL to 1,900 milligrams per kilogram (mg/kg) were detected in soil samples collected from test pits and the utility trench. Concentrations of total petroleum hydrocarbons as diesel-range organics (DRO) detected at these locations ranged from below the laboratory PQL to 360 mg/kg. Concentrations of ORO and DRO detected in the samples analyzed are below the MTCA Method A cleanup level of 2,000 mg/kg.

### **2.3 ENVIRONMENTAL SETTING**

#### **2.3.1 Land Use**

The Capital Property is located within Seattle city limits in King County, Washington (Figure 1) and is zoned as Industrial Light Manufacturing (King County, Washington 2007). Surrounding properties are a mixture of light industrial, commercial, and residential properties.

### **2.3.2 Demographics**

The Capital Property is south of downtown Seattle in the Georgetown neighborhood, which consists predominantly of industrial, commercial office, retail, and residential properties. The population of Seattle is approximately 668,660 (U.S. Census Bureau 2011).

### **2.3.3 Topography**

The Capital Area of Investigation topography is relatively flat, sloping slightly toward the northeast. The ground surface elevation at the Capital Area of Investigation is approximately 15.5 to 20.5 feet above mean sea level (Alta/ACSM Title Land Survey 2004).

### **2.3.4 Meteorology**

The climate of the Seattle area is maritime, characterized by cool summers and mild winters influenced by ocean air. The average annual minimum temperature is 45.1 degrees Fahrenheit, and the average annual maximum temperature is 61.5 degrees Fahrenheit. The average annual precipitation in Seattle is 36.22 inches, with over 4 inches of precipitation per month from November through March.

### **2.3.5 Groundwater Use**

Potable water for the Capital Area of Investigation is supplied by the City of Seattle from the Cedar River and South Fork Tolt River watersheds. Use of groundwater as a drinking water source within Seattle city limits is prohibited by ordinance. There are no drinking water supply wells within a 0.5-mile radius of the Capital Area of Investigation (Ecology no date). Groundwater at the Capital Area of Investigation is not used as a drinking water source.

The determination of groundwater non-potability in the Georgetown neighborhood is supported by Ecology, based on comments pertaining to the PSC (2003) Remedial Investigation Report. Ecology (2004) stated, “Nevertheless, the use of Georgetown groundwater in the future for drinking water seems remote and at this time Ecology does not believe it reasonable to require PSC to actively remediate groundwater to protect such a future use. The Draft PSC Corrective Action Plan (Geomatrix 2009) states that groundwater is not used for drinking water now and presently is considered non-potable per the definitions and tests of WAC 173-340-720(2). The groundwater contains natural background concentrations of constituents that would require

treatment before use as drinking water, and as a consequence, would lead to costs that make this use currently impracticable. Therefore, groundwater at the Capital Area of Investigation is considered to be non-potable.

### **2.3.6 Surface Water**

The Capital Area of Investigation is located within the floor of the north-south-trending Duwamish Valley, where the land surface is relatively level, with ground surface elevations ranging from approximately 15 to 25 feet above mean sea level (Farallon et al. 2008). The valley floor is approximately 6,000 feet wide in this area, and bounded to the east and west by steeply sloped uplands that rise to elevations of 300 to 500 feet above mean sea level. The Capital Area of Investigation is east-adjacent to the Lower Duwamish Waterway (LDW), approximately 2 miles upstream from the point of discharge to the marine waters of Elliott Bay. No other surface water bodies are known to be present in the Capital Area of Investigation.

The LDW was dredged and straightened in the early 1900s. Prior to that time, the Green-Duwamish River meandered as it flowed north through the Duwamish Valley toward Elliott Bay. Slip No. 2, approximately 1,000 feet southwest of the Capital Property (Figure 3), likely is an artifact of the original river course. The former river meander curved from the east, crossing the Duwamish Valley floor in the area south of the Capital Area of Investigation (Booth and Herman 1998). The abandoned meanders reportedly were filled with dredged material during the LDW straightening project.

The stretch of the LDW west of the Capital Area of Investigation is tidally influenced and has variable salinity concentrations. PSC (2003) compiled data showing that tidal fluctuations from -4.6 to +14.8 feet Mean Lower Low Water occur in the LDW, and that tide-induced flow reversals have been observed as far as 13 miles upstream from Elliott Bay. PSC (2003) compiled depth-specific salinity data for sampling stations at the Spokane Street and 16<sup>th</sup> Avenue South bridges. The time-weighted average salinity at depth was 30.64 parts per thousand near Spokane Street, and 27.58 parts per thousand near 16<sup>th</sup> Avenue South.



## **2.4 HYDROGEOLOGIC SETTING**

A summary of the regional geology and hydrology in the vicinity of the Capital Area of Investigation is provided below. The locations of the soil borings and monitoring wells proximate to the Capital Property are depicted on Figure 3. The boring and well logs are provided in Appendix A.

### **2.4.1 Regional Geology**

The regional geology in the vicinity of the Capital Property was defined by investigations conducted at the ABP facility, the BDC facility, and the Capital Property (PSC 2003) and was summarized by Farallon in the Data Summary Report. The regional geology of the area has been described by Booth and Herman (1998), who defined two stratigraphic units: the Younger Alluvium and the Older Alluvium. PSC (2003) identified the following geologic units relevant to the local hydrogeology, presented in order of increasing depth:

- Shallow Sand Unit;
- Intermediate Sand and Silt Unit;
- Silt Unit;
- Deep Sand and Silt Unit; and
- Bedrock.

The Shallow Sand Unit correlates to the Younger Alluvium unit defined by Booth and Herman (1998) and is described as soft, moderately sorted deposits of silt, sand, and sandy silt, and containing abundant wood and organics. The Shallow Sand Unit is present from a few feet above sea level to below current sea level and represents channel and overbank floodplain sediments deposited by the LDW in an estuarine and deltaic environment. The upper portion of the Shallow Sand Unit includes fill material in some areas, which is largely reworked native material (Younger Alluvium) or imported soil for construction and grading purposes, which locally may contain woody debris or brick fragments.

The Intermediate Sand and Silt Unit correlates to the Older Alluvium unit defined by Booth and Herman (1998) and consists of interbedded sands and silts with discontinuous gravel lenses and

trace amounts of shells and wood that is moderately dense to dense. It is considered to be of fluvial and marine origin.

The Silt Unit has been identified in deeper borings east of 4<sup>th</sup> Avenue South. PSC (2003) interpreted the Silt Unit as dipping to the west, beneath the Capital Area of Investigation. It is unclear whether this unit is present beneath the Capital Area of Investigation. If present, it likely is found at a depth greater than 75 feet bgs.

The Deep Sand and Silt Unit consists of sandy silt with fine sand and interbedded silty sand, with local gravel and cobbles. Wood fragments and shells are present in trace amounts. The Intermediate Sand and Silt Unit, the Silt Unit, and the Deep Sand and Silt Unit all likely are part of the Older Alluvium unit defined by Booth and Herman (1998).

Bedrock consists of marine and continental sedimentary rocks consisting of claystone, siltstone, sandstone, and some coal (PSC 2003). The estimated depth to Bedrock ranges from 330 to 660 feet bgs near the LDW (U.S. Geological Survey 1991).

Although encountered in the vicinity of the PSC facility, the Silt Unit, the Deep Sand and Silt Unit, or Bedrock were not encountered to the total depth drilled in the borings located in the West of 4<sup>th</sup> Groundwater Investigation Area. These units were inferred by PSC to dip toward the west-southwest at the PSC (2003) Facility. It is expected that the Silt Unit, the Deep Sand and Silt Unit, and Bedrock may be present at a depth greater than 150 feet bgs within the West of 4<sup>th</sup> Groundwater Investigation Area (Farallon et al. 2008).

## **2.4.2 Hydrogeology**

The regional hydrogeology of the Capital Area of Investigation summarized below is based on information from PSC (2003) and more-recent investigations conducted at the ABP facility, the BDC facility, and the Capital Property, as well as results from the RI field investigation.

### **2.4.2.1 Zones**

The following hydrogeologic units, presented in order of increasing depth, have been identified in the region:

- Shallow Aquifer Zone; and
- Intermediate Aquifer Zone.

These hydrogeologic units correlate with the geologic units described in Section 2.4.1, Regional Geology, and are consistent with the terminology used by PSC (2003). The Shallow Aquifer Zone corresponds to the Shallow Sand Unit, is continuous across the region, and extends to a depth of 40 feet bgs. Groundwater in the Shallow Aquifer Zone is unconfined and appears to be hydraulically connected to the underlying Intermediate Aquifer Zone.

The Intermediate Aquifer Zone corresponds to the Intermediate Sand and Silt Unit and is continuous across the region. The Intermediate Aquifer Zone is interpreted to extend from a depth of approximately 40 to 70 feet bgs beneath the Capital Area of Investigation. In the vicinity of the PSC facility, the top of the Silt Aquitard within the Silt Unit forms the base of the Intermediate Aquifer Zone. However, the Silt Aquitard may not be present beneath the Capital Area of Investigation. The Intermediate Aquifer Zone was inferred by PSC (2003) to discharge to the LDW to the west. The overlying Water Table and Shallow Aquifer Zones also discharge to the LDW.

PSC (2003) adopted standardized nomenclature for groundwater monitoring and sampling intervals that was incorporated into the Data Summary Report and is used in this RI Report. For sampling purposes, the water-bearing zones have been segregated into four depth intervals that generally correspond to the upper and lower portions of the Shallow Aquifer, Intermediate Aquifer, and Deep Aquifer Zones, although the actual depth of each aquifer zone may vary in some areas. Uniform interval nomenclature was selected based on depth rather than hydraulic characteristics. The general nomenclature for the groundwater monitoring and sampling intervals developed by PSC (2003) is used for the assessment of groundwater conditions at the Capital Property for the RI. The depth intervals are as follows:

- **Water Table Zone**—This zone corresponds to approximately the upper 10 feet of the Shallow Aquifer Zone from first-encountered groundwater to approximately 20 feet bgs.
- **Shallow Zone**—This zone is below 20 feet bgs and above 40 feet bgs, and generally within the Shallow Aquifer Zone.
- **Intermediate Zone**—This zone includes the water-bearing zone below 40 feet bgs and has been encountered to a depth of 70 feet bgs, the maximum depth of investigation. The depth of the Intermediate Zone may be greater and may lie above the Silt Aquitard (if present in the area).
- **Deep Aquifer Zone**—No data have been collected from the Deep Aquifer Zone, and it is unknown whether this zone is present in the vicinity of the Capital Area of Investigation.

### **3.0 TECHNICAL ELEMENTS**

This section summarizes the technical elements applicable to the Capital Area of Investigation that were considered in the RI. The technical elements were developed from the RI Work Plan and modified, as appropriate, based on field observations during the RI Field Investigation.

#### **3.1 POTENTIAL EXPOSURE PATHWAYS**

Potential affected media in the West of 4<sup>th</sup> Groundwater Investigation Area include soil, groundwater, air, and surface water. Potential exposure pathways for these media are summarized below and evaluated in Section 6, Conceptual Site Model.

Potential direct pathways in soil include:

- Direct human exposure via ingestion, inhalation, or dermal contact by temporary construction workers performing intrusive subsurface work on the Capital Site. This pathway is incomplete for office and industrial workers because the Capital Site is covered by buildings and paving.
- Soil leaching to groundwater.

Groundwater in the West of 4<sup>th</sup> Groundwater Investigation Area is not a current or future source of drinking water. (See Section 2.3.5, Groundwater Use, for an evaluation of the potability of groundwater in the West of 4<sup>th</sup> Groundwater Investigation Area). Potential groundwater pathways include:

- Direct human exposure via inhalation or ingestion by construction workers working below the water table; and
- Discharge to surface water.

Potential exposure pathways for air include:

- Inhalation of vapors in indoor air.

Potential surface water pathways include:

- Ecological exposure to aquatic receptors; and
- Human exposure via ingestion of aquatic organisms.

### **3.2 SCREENING LEVELS**

Cleanup levels have not been established for the West of 4<sup>th</sup> Groundwater Investigation Area or the Capital Area of Investigation. Therefore, screening levels have been used for this RI to identify the concentrations of contaminants of potential concern (COPCs) that present a potential risk to human health and the environment in soil, groundwater, surface water, and indoor air at the West of 4<sup>th</sup> Groundwater Investigation Area. Capital is within the area evaluated by PSC when PSC established its cleanup levels. The screening levels are based on cleanup levels established in the PSC Final Cleanup Action Plan (Geomatrix 2009). The screening levels for soil, groundwater, and indoor air have been modified from the PSC cleanup levels based on the following:

- Changes in risk-based cleanup level assumptions, including fish consumption.
- Changes in toxicological information for PCE and TCE in the EPA (2012) IRIS database. Although the Ecology Cleanup Levels and Risk Calculations database has not been updated to incorporate these changes, Ecology has recommended that the screening levels for the RI be revised to reflect the new toxicological information.

#### **Soil Screening Levels**

Screening levels for soil are derived from soil direct human exposure via ingestion, inhalation, or dermal absorption, and soil leaching to groundwater/surface water pathways. Table 1 provides the applicable soil screening levels, which are the lowest of:

- MTCA Method B, Direct Contact (Ingestion only) Unrestricted Land Use Values;
- MTCA Method C Direct Contact (Ingestion only), Industrial Land Use Values; or

- MTCA Method B Leaching to Groundwater Values. Screening levels established for the Water Table Zone were used to calculate soil screening levels protective of groundwater quality.

### **Groundwater Screening Levels**

Groundwater screening levels were calculated for the three groundwater zones (Water Table, Shallow, and Intermediate Zones) using the revised TCE and PCE toxicity information provided in the EPA (2012) IRIS database and are based on the exposure pathways applicable to each zone. Screening levels for groundwater include:

- Groundwater concentrations protective of residential and commercial inhalation of indoor air, calculated in accordance with WAC 173-340-750. The groundwater screening levels are calculated from the indoor air screening levels using the Inhalation Pathway Interim Measures (IPIM) approach (PSC 2006b).
- Groundwater concentrations protective of surface water. Surface water concentrations were calculated using MTCA Modified Method B cleanup levels, modified to include Asian Pacific Island Exposure scenarios for the consumption of fish for the groundwater-to-surface-water pathway.
- Federal Clean Water Act Ambient Water Quality Criteria based on human health consumption of organisms for the groundwater-to-surface-water pathway.
- Ecological risk assessment screening level (Buchman 2008).

### **Indoor Air Screening Levels**

Screening levels for indoor air were calculated following the MTCA requirements established in WAC 173-340-750. The inhalation risk is then assessed following the IPIM process (PSC 2006b).

The screening levels for soil are presented in Table 1, and for surface water and groundwater in the Water Table, Shallow, and Intermediate Zones in Table 2. Indoor air screening levels as Inhalation Pathway Interim Measures Action Levels (IPIMALs) are presented in Table 3.

### **3.3 CONTAMINANTS OF POTENTIAL CONCERN**

The RI Work Plan identified COPCs for consideration for the RI that were based on the results from prior investigations and the Agreed Order. The groundwater samples collected in the Capital Area of Investigation for the RI were analyzed for all of the COPCs in at least three of the eight monitoring events. The COPCs include:

- PCE;
- TCE;
- cis-1,2-DCE;
- trans-1,2-dichloroethene (trans-1,2-DCE);
- Vinyl chloride;
- 1,4-dioxane;
- Iron; and
- Manganese.

The COPCs that have been retained for consideration in the Conceptual Site Model, as discussed in Section 6 of this RI Report, are based on the chemicals that present a potential risk to human health or the environment and have known or suspected sources that affect the Capital Area of Investigation.

### **3.4 AFFECTED MEDIA**

Soil, groundwater, soil gas, and indoor air are the media of concern for the Capital Site. Surface water down-gradient of the Capital Area of Investigation has not been sampled and may be a medium of concern from releases within the Capital Area of Investigation from sources other than the Capital Property (See Section 3.1.3.25 for a discussion of the results of the investigation at the CalPortland Property). One or more of the COPCs exceeding screening levels were detected in soil and groundwater in the Water Table, Shallow, and Intermediate Zones at and up- and down-gradient of the Capital Property. COPCs have been detected in soil gas and indoor air samples collected at facilities within the Capital Area of Investigation. The media of concern



represent the highest probable risk to human health and the environment based on the exposure pathway analysis performed, as described in Section 6, Conceptual Site Model.

## **4.0 REMEDIAL INVESTIGATION FIELD PROGRAM**

This section describes the RI Field Program conducted within the Capital Area of Investigation to assess the nature and extent of the COPCs that may have been released at the Capital Property. The RI Field Program was conducted in accordance with the Ecology-approved RI Work Plan and included an assessment of soil quality to ascertain the lateral and vertical extent of HVOCs in soil proximate to Capital Plant 4, collection of Tier 1 reconnaissance groundwater samples from soil borings immediately up- and down-gradient of Capital Plant 2 and Capital Plant 4, collection of Tier 2 reconnaissance groundwater samples to characterize the lateral and vertical extent of HVOCs not fully defined by the results of the Tier 1 reconnaissance groundwater sampling, and installation and sampling of monitoring wells to assess the lateral and vertical extent of COPCs in groundwater exceeding screening levels in the Water Table, Shallow, and Intermediate Zones down-gradient of Capital Plant 2 and Capital Plant 4. Groundwater elevations were measured to define flow direction during eight groundwater monitoring events.

This section provides a discussion of the aquifer characterization, tidal investigation activities, and vapor intrusion assessment activities conducted as part of the RI Field Program. The approach and scope of work for the RI Field Program were discussed in detail in the RI Work Plan and the Vapor Intrusion Assessment Work Plan (Farallon 2008b), both approved by Ecology.

The RI Field Program included collection of soil samples from three depth intervals at five boring locations in areas east and south of Capital Plant 4 for laboratory analysis for HVOCs, and collection of soil samples from three depth intervals at four boring locations up- and down-gradient of Capital Plant 2 and Capital Plant 4 for laboratory analysis for TOC content. The groundwater characterization portion of the RI Field Program included reconnaissance groundwater sampling of the Water Table, Shallow, and Intermediate Zones from 21 boring locations, and installation and sampling of 5 monitoring wells in the Water Table Zone, 1 well cluster in the Shallow and Intermediate Zones, and an additional 11 well clusters composed of monitoring wells installed in the Water Table, Shallow, and Intermediate Zones.

A data gap analysis was conducted in December of 2011 following the initial evaluation of the RI data. The results of the data gap analysis indicated that additional groundwater data were necessary to delineate the down-gradient edge of the groundwater plume, near the LDW. No other RI data gaps were identified (Appendix C). Monitoring well clusters were installed to address data gaps near the LDW, including 3 monitoring well clusters in the Water Table and Shallow Zones and 1 monitoring well cluster in the Water Table, Shallow, and Intermediate Zones.

The soil and reconnaissance groundwater borings and monitoring well locations are shown on Figure 3. Drilling was conducted by Cascade Drilling, Inc. of Woodinville, Washington. Boring logs pertaining to the RI Field Program are provided in Appendix A. Soil and groundwater samples were submitted to OnSite Environmental Inc. of Redmond, Washington (OnSite) for laboratory analysis.

#### **4.1 SOIL SAMPLING**

Borings B14, B15, and B18 were completed in December 2008 for the Tier 1 reconnaissance groundwater sampling of the RI Field Program in areas south and east of Capital Plant 4 (Figure 3). Soil samples were collected from borings B14, B15, and B18 at depths of 2, 5, and 7 feet bgs using EPA Method 5035 sampling protocols, and were submitted to OnSite for analysis for HVOCs by EPA Method 8260B.

Borings B25 and B26 were completed as part of the Tier 2 reconnaissance groundwater sampling to delineate the nature and extent of concentrations of HVOCs in soil exceeding soil screening levels. Boring B25 is located south of South Fidalgo Street, southeast of Capital Plant 4 and east of prior boring location B15. Boring B26 is located in the area east of the Gull Industries Building and west of 4<sup>th</sup> Avenue South (Figure 6).

Soil samples were collected from borings B6, B9, B13, and B17 at three discrete depth intervals: between 15 and 15.5 feet; 30 and 30.5 feet; and 60 and 60.5 feet bgs at each location, and were submitted for laboratory analysis for TOC content. Borings B6, B9, and B13 were located in the areas south of South Fidalgo Street, and boring B17 was located in the building north of Capital Plant 4 in the Capital Area of Investigation (Figure 3). With the exception of the soil sample

collected at boring B9 at 60 to 60.5 feet bgs, the soil samples collected for TOC content were analyzed by EPA Method SW9060. The soil sample collected at boring B9 at 60 to 60.5 feet bgs was analyzed using Plumb (1981) protocols.

## **4.2 RECONNAISSANCE GROUNDWATER SAMPLING**

The reconnaissance groundwater sampling conducted for the RI Field Program was conducted in two phases. The first-phase Tier 1 reconnaissance groundwater sampling was conducted to assess the lateral and vertical nature and extent of HVOCs in groundwater at concentrations exceeding screening levels in Water Table Zone, Shallow Zone, and Intermediate Zone groundwater down-gradient of the Capital Property and migrating to the Capital Property from up-gradient source areas. The second-phase Tier 2 reconnaissance groundwater sampling was conducted to address data gaps identified from the analytical results for the Tier 1 reconnaissance groundwater sampling, and to support selection of appropriate locations for installation of monitoring wells. The reconnaissance groundwater sampling approach for the RI Field Program is presented in the following sections. Data from the reconnaissance groundwater sampling are presented on Figures 7, 8, and 9 and in Tables 8 and 9.

### **4.2.1 Tier 1 Reconnaissance Groundwater Sampling**

Tier 1 reconnaissance groundwater sampling included advancing soil borings B6 through B18 down-gradient of Capital Plant 2 and up-, cross-, and down-gradient of Capital Plant 4 to collect reconnaissance groundwater samples at variable depths in the water column for analysis for HVOCs.

Borings B6 through B12 were located south and down-gradient of Capital Plant 2, and borings B13 through B18 were located up-, cross-, and down-gradient of Capital Plant 4. Drilling for the Tier 1 reconnaissance sampling was completed between November 10 and December 16, 2008 using direct-push drilling methods. The soil borings were completed to depths ranging from 68 to 70 feet bgs, with the exception of boring B18, which was completed at a depth of 12 feet bgs (Appendix A).

#### **4.2.2 Tier 2 Reconnaissance Groundwater Sampling**

The scope of work for Tier 2 reconnaissance groundwater sampling was developed after review and evaluation of the analytical results for the reconnaissance groundwater samples collected for Tier 1, and included advancing one soil boring south and down-gradient of Capital Plant 4 and seven soil borings cross- and down-gradient of Capital Plant 2 to collect reconnaissance groundwater samples for analysis for HVOCs. Borings B19 and B21 were located down-gradient of Capital Plant 4, and borings B20, B22 through B24, B27, and B28 were located cross- and down-gradient of Capital Plant 2 (Figure 3). Drilling was completed between June 29 and July 9, 2009 using direct-push drilling methods. Borings were completed to depths ranging from 68 to 78 feet bgs (Appendix A).

Reconnaissance groundwater samples were collected from each boring in each of the water-bearing zones in accordance with the RI Work Plan. The reconnaissance groundwater sampling intervals were developed by Farallon and approved by Ecology to target the water-bearing zones that may contain concentrations of HVOCs exceeding the screening levels based on the vertical distribution of concentrations of HVOCs detected in the Tier 1 reconnaissance groundwater sampling. The Tier 2 reconnaissance groundwater samples were submitted to OnSite for analysis by EPA Method 8260B.

#### **4.3 MONITORING WELL INSTALLATION**

The monitoring well network includes 49 monitoring wells and was developed to facilitate monitoring of the three water-bearing zones described in the RI Work Plan. The monitoring well network is composed of wells MW-2 through MW-6 installed within the Water Table Zone; monitoring well cluster CI-15, which includes two monitoring wells: one installed in the Shallow Zone, and one in the Intermediate Zone; monitoring well clusters CI-17 through CI-19, each of which includes two monitoring wells, one installed in the Water Table Zone and one in the Shallow Zone; and monitoring well clusters CI-1, CI-7 through CI-14, CI-16, CI-137, and CI-141, each of which includes three monitoring wells: one installed in the Water Table Zone, one in the Shallow Zone, and one in the Intermediate Zone. The monitoring well network at the Capital Area of Investigation is shown on Figure 3. Monitoring well logs are included in Appendix A.

Monitoring wells MW-1 through MW-8 were installed in February 2006, each completed in the Water Table Zone. Monitoring well clusters CG-137 and CG-141 were installed by PSC in 2002 and were incorporated into the Capital RI monitoring well network in 2010. Monitoring well clusters CI-7, CI-8, and CI-10 were installed in February 2010, and monitoring well clusters CI-12 and CI-15 were installed in early March 2010 following completion of Tier 1 and Tier 2 reconnaissance groundwater monitoring. Monitoring well clusters CI-11, CI-13, and CI-14 in the down-gradient portion of the Capital Area of Investigation were completed in May and June 2010. Monitoring well clusters CI-16 through CI-19 were installed in March 2012 to address data gaps identified near the LDW. The monitoring wells installed by Farallon were constructed in accordance with the procedures outlined in the Ecology-approved Sampling and Analysis Plan (SAP) provided in Appendix A of the Groundwater Monitoring Plan (Farallon 2010a).

With two exceptions, each monitoring well was constructed using 2-inch-diameter Schedule 40 polyvinyl chloride (PVC) well casing. Monitoring wells MW-2 and MW-6 were constructed of 4-inch-diameter PVC. The monitoring wells were constructed with 10 feet of 0.010-inch machine-slotted screen, with the exception of monitoring well CI-10-65, which was constructed with a 15-foot screen interval. The construction details for the monitoring well network are provided in Appendix A and summarized in Table 4.

The screened intervals and total depth of the monitoring wells installed by Farallon were designed to screen a discrete depth range within the Water Table, Shallow, or Intermediate Zone. The specific screened interval of each monitoring well in the CI monitoring well clusters installed by Farallon was selected based on the results from the Tier 1 and Tier 2 reconnaissance groundwater sampling conducted as part of the RI Field Program. Well development was conducted in accordance with the protocols outlined in Attachment 1 of the SAP provided with the Groundwater Monitoring Plan (Farallon 2010a).

The locations and screened intervals of the monitoring wells installed in 2010 combined with the monitoring wells completed in the Capital Area of Investigation in 2006 allow a comprehensive evaluation of both vertical and horizontal groundwater gradients, as well as collection of groundwater samples for analysis for COPCs and natural attenuation parameters within each of the three water-bearing zones across the Capital Area of Investigation.

Following installation of the monitoring wells, the horizontal and vertical coordinates of each well and the top of the casing in each monitoring well were surveyed by Professional Land Surveyors, Inc. of Issaquah, Washington, a surveyor licensed in the state of Washington, relative to the NAVD88 vertical datum.

#### **4.4 GROUNDWATER MONITORING AND SAMPLING**

A total of eight groundwater monitoring and sampling events have been conducted at the Capital Area of Investigation between March 2010 and June 2012. The groundwater monitoring and sampling event conducted in March 2010 included monitoring and sampling of 28 individual monitoring wells that had been installed for the Capital monitoring network. The groundwater monitoring and sampling events conducted in June, September, and December 2010 and March 2011 included the 28 monitoring wells installed prior to March 2010, and 12 monitoring wells installed after March 2010, for a total of 40 monitoring wells. The groundwater monitoring and sampling event conducted in September 2011 included a selected subset of the Capital monitoring network that consisted of 19 monitoring wells. The groundwater monitoring and sampling event conducted in May 2012 included the 25 monitoring wells sampled in 2010 [28 stated above] and the nine monitoring wells installed in March 2012. The groundwater monitoring and sampling event conducted in June 2012 included only the nine monitoring wells installed March 2012. The sampling protocols implemented during these events are discussed in detail in the Groundwater Monitoring Plan, the Addendum to Groundwater Monitoring Plan, the September 2011 Groundwater Monitoring Plan, and the Draft 2012 Groundwater Monitoring Plan (Farallon 2010a, 2011c, 2011h, 2012d) and are summarized below.

The groundwater monitoring program included conducting monitoring well inspections prior to sampling, measuring groundwater levels at each monitoring well, and groundwater quality sampling. An inspection of the condition of each monitoring well was conducted concurrently with collection of water-level measurements. Field personnel noted the condition of the flush-mounted monument, monument seal, and casing to identify required maintenance activities. Water-level monitoring events were coordinated with ABP, BDC, and PSC to ensure that measurements were taken on approximately the same day. Water-level measurements were completed before each quarterly groundwater quality sampling event was initiated. Water-level

measurements were collected in accordance with the procedure described in the SAP provided in Appendix A of the Groundwater Monitoring Plan (Farallon 2010a).

Each monitoring well was purged at a low-flow rate using a decontaminated bladder pump or dedicated down-hole submersible pump (monitoring well installations C1-M1, CI-137, and CG-141), with the intake placed at the approximate mid-point of the well screen interval or the mid-point between the water table and the bottom of the well screen if the water table was lower than the top of the well-screen interval. The parameters temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential were monitored using a Yellow Springs Instruments multi-parameter water-quality meter equipped with a flow-through cell during purging to ascertain when stabilization of these parameters occurred. Following stabilization of the temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential parameters, groundwater samples were collected directly from the low-flow pump outlet.

The quarterly groundwater sampling and analysis program implemented as part of the RI Field Program included collecting groundwater samples for analysis for HVOCs during five quarterly events, and supplemental analyses as specified in the Ecology-approved Groundwater Monitoring Plan (Farallon 2010a). Because not all Capital Site groundwater monitoring well network wells had been installed at the time of the March 2010 quarterly event, monitoring and sampling was conducted in March 2011 to provide four consecutive quarterly events for the entire well network. The quarterly groundwater monitoring and sampling program was implemented in accordance with the procedures described in the Ecology-approved Groundwater Monitoring Plan and SAP (Farallon 2010a). Groundwater monitoring and sampling events were conducted in September 2011, May 2012, and June 2012. The laboratory analytical program for the monitoring and sampling events is summarized below:

- **Quarter 1 2010 (March 2010)**—Analysis included HVOCs by EPA Method 8260B of groundwater samples collected from all monitoring wells installed at that time.
- **Quarter 2 2010 (June 2010)**—Analysis included HVOCs by EPA Method 8260B; 1,4-dioxane by EPA Method 8270C; total and dissolved manganese and iron by EPA Method 6010; and natural attenuation parameters, as discussed in the SAP (Farallon



2010a). Analysis for HVOCs; 1,4-dioxane; and total and dissolved manganese and iron was conducted at monitoring wells throughout the Capital Site monitoring well network. Analysis for natural attenuation parameters was conducted at a subset of monitoring well clusters within the Capital monitoring well network that included MW-7/CI-7, CI-9, CI-10, CI-11, CI-13, and CG-137.

- **Quarter 3 2010 (September 2010)**—Analysis included HVOCs by EPA Method 8260B of groundwater samples collected from all monitoring wells in the Capital Site monitoring well network.
- **Quarter 4 2010 (December 2010)**—Analysis included HVOCs by EPA Method 8260B of groundwater samples collected from all monitoring wells in the Capital Site monitoring well network, and analysis for natural attenuation parameters at monitoring well clusters MW-7/CI-7, CI-9, CI-10, CI-11, CI-13, and CG-137 in the Capital Site monitoring well network.
- **Quarter 1 2011 (March 2011)**—Analysis included HVOCs by EPA Method 8260B of groundwater samples collected from all monitoring wells in the Capital monitoring well network, and analysis for 1,4-dioxane by EPA Method 8270C in a subset of monitoring wells within the Capital monitoring well network that included CI-7-40, CI-7-60, CI-8-40, CI-8-60, CI-9-40, CI-9-70, CI-MW-1-40, CI-MW-1-60, and CI-15-60.
- **September 2011**—Analysis included HVOCs by EPA Method 8260B of groundwater samples collected from a subset of 19 monitoring wells in the Capital Site monitoring well network, including MW-7, MW-8, C-10-WT, C-11-WT, C-12-WT, C-13-WT, C-14-WT, C-10-35, C-11-30, C-12-30, C-13-30, C-14-35, C-15-40, C-10-65, C-11-60, C-12-60, C-13-60, C-14-70, and CI-15-60.
- **May 2012**—Analysis included HVOCs by EPA Method 8260B of groundwater samples collected from 34 monitoring wells in the Capital Site monitoring well network. Groundwater samples from MW-7, CI-11-WT, CI-16-WT, CI-17-WT, CI-18-WT, CI-19-WT, CI-7-40, CI-11-30, CI-16-30, CI-17-30, CI-18-30, CI-19-30, CI-7-60, and CI-

11-60 were analyzed for iron and manganese. The groundwater sample from well CI-137-WT was analyzed for 1,4-dioxane by EPA Method 8270C.

- **June 2012**—Analysis included HVOCs by EPA Method 8260B of groundwater samples collected from the a subset of nine monitoring wells installed in March 2012 within the Capital monitoring well network.

#### **4.5 AQUIFER CHARACTERIZATION—TIDAL STUDY AND SLUG TEST**

Wet (April 2012) and dry (July/August 2010) season tidal studies were performed to assess tidal influences on groundwater elevations and gradients near the LDW. The tidal studies were conducted in accordance with the Ecology-approved Groundwater Monitoring Plan and the 2012 Groundwater Monitoring Plan (Farallon 2010a, 2012b). Field activities for the dry season tidal studies conducted in July and August 2010 and the wet season tidal study conducted in April 2012 consisted of a multi-well tidal study and aquifer characterization using slug tests in selected monitoring wells.

The tidal studies evaluated the effects of the inland propagation of the pressure wave caused by the rise in surface water in the LDW that can cause groundwater levels and horizontal and vertical gradients to fluctuate. Filtering methods developed by Serfes (1991) were used to determine tidally averaged groundwater elevations. These data were then used to calculate the mean hydraulic gradients (horizontal and vertical) and the direction of groundwater flow at various times during the tidal cycle. Hydraulic conductivity also was estimated from the tidal data using the methods of Ferris (1963).

To further evaluate hydraulic conductivity in aquifer zones within the Capital Area of Investigation, slug tests were performed in a total of 12 monitoring wells. A detailed description of the tidal studies and slug testing methods is provided in Appendix B.

#### **4.6 VAPOR INTRUSION ASSESSMENT**

The VI assessment program was conducted to evaluate the VI exposure pathway for migration of VOCs to ambient indoor air of commercial and industrial buildings within the Capital Area of

Investigation, as defined in the Ecology-approved Vapor Intrusion Assessment Work Plan (Farallon 2008b).

The VI assessment program was conducted in accordance with the *Revised Inhalation Pathway Interim Measures Work Plan* prepared by PSC (2002), the *Summary of Inhalation Pathway Interim Measure Approach* prepared by PSC (2006b), and the *Interim Vapor Intrusion Plan, West of 4th Avenue South Investigation Area, Seattle, Washington* prepared by Arrow Environmental et al. (2007). A detailed scope of work is provided in the Vapor Intrusion Assessment Work Plan, Capital Industries, Inc. (Farallon 2008b) and the Addendum to the Vapor Intrusion Assessment Work Plan, Capital Industries, Inc. (Farallon 2011a), summarized below.

The IPIM Approach used for the VI assessment program uses the analytical results for groundwater samples to assess for the potential for a VI pathway in buildings within the Capital Area of Investigation. The IPIM program includes four tiers of assessment:

- **Tier 1 and Tier 2 Assessments**—Concentrations of VOCs detected in reconnaissance groundwater samples collected from direct-push borings and in groundwater samples collected from monitoring wells in the Water Table Zone proximate to residential and commercial buildings were compared to the Groundwater IPIMALs defined in the IPIM Approach (PSC 2002, 2006b). Tier 1 Assessments are conducted at target residences where concentrations of VOCs exceed groundwater IPIMALs. No residences are located within the Capital Area of Investigation. Tier 2 Assessments were conducted at commercial and industrial properties.
- **Tier 3 Assessment**—Commercial and industrial properties within the Capital Area of Investigation and situated above groundwater in the Water Table Zone with concentrations of VOCs exceeding the Groundwater IPIMALs defined by PSC (2006b) were identified under the Tier 2 Assessment as having a potential for a VI exposure pathway. A Tier 3 Assessment was conducted at these buildings (Figure 4).

A Tier 3 Assessment was conducted of commercial buildings south and east of Capital Plant 4 even though groundwater data collected from monitoring wells did not indicate the need for Tier 3 assessment based on the IPIM process. Concentrations of PCE and

TCE were detected in soil samples collected near these buildings such that Ecology (2011) warranted a Tier 3 Assessment at the three buildings east of Capital Plant 4 and at one building south of Capital Plant 4.

The Tier 3 Assessments included collection of co-located indoor ambient air, outdoor ambient air, and/or sub-slab soil vapor and groundwater samples and analysis for VOCs. Concentrations of VOCs in indoor ambient air relative to outdoor ambient air were evaluated, and Non-Carcinogenic and Carcinogenic Cumulative Exceedance Factors were calculated and compared to a benchmark of 10 in accordance with the IPIM Approach (PSC 2002, 2006a).

The results of the Tier 3 Assessments conducted at buildings in the Capital Area of Investigation are summarized in Section 5.3, Vapor Intrusion Assessment Results.

- **Tier 4 Assessment**—Commercial and industrial locations where concentrations of VOCs in indoor ambient air exceed the Exceedance Factors (PSC 2002, 2006a) require interim measures to mitigate or eliminate the VI exposure pathway from groundwater to indoor ambient air. Interim measures for commercial and industrial locations may include subsurface ventilation, as defined by PSC (2002, 2003, 2006b). A summary of the design and implementation of mitigation systems for indoor ambient air that have been installed within the Capital Area of Investigation is provided in Section 5.3, Vapor Intrusion Assessment Results. A detailed summary of mitigation systems that may be necessary at buildings within the Capital Area of Investigation will be provided in the Vapor Intrusion Mitigation Work Plan that will be prepared specific to each building in accordance with the Agreed Order.

## **5.0 REMEDIAL INVESTIGATION RESULTS**

This section provides a summary of the results of the soil, reconnaissance groundwater, and monitoring well sampling and analyses conducted prior to and as part of the RI Field Program. Figures 10 through 33 present the interpreted groundwater flow direction and the areal nature and extent of TCE, PCE, and vinyl chloride as isoconcentration contours for the Water Table, Shallow, and Intermediate Zones for each of the eight groundwater monitoring events. Figures with isoconcentration contours were prepared only for the areal nature and extent of TCE, PCE, and vinyl chloride. Preparation of isoconcentration maps is not warranted for cis-1,2-DCE or trans-1,2-DCE because concentrations in groundwater did not exceed the screening levels, with the exception of cis-1,2-DCE, which exceeded the screening level in a groundwater sample collected from only one monitoring well located up-gradient of the Capital Property. The concentration of 1,4-dioxane in groundwater exceeded the screening level at only one monitoring well cluster location down-gradient of the Capital Property and at three monitoring wells located up-gradient of the Capital Property. The concentrations of cis-1,2-DCE, trans-1,2-DCE, redox-sensitive metals, and 1,4-dioxane in groundwater do not warrant preparation of isoconcentration maps.

The interpretation of groundwater flow direction incorporates the data collected within the Capital Area of Investigation by Farallon, in addition to data collected by PGG (2012) at the BDC facility and by Aspect (2011) at the ABP facility, which are located north and up- or cross-gradient of the Capital Area of Investigation. The interpretation of the nature and extent of COPCs in soil and groundwater in the Capital Area of Investigation used data collected by Farallon, FSM (2004), and ECS (2005). The analytical data used to develop the interpretation of groundwater flow direction and the nature and extent of TCE, PCE, and vinyl chloride are summarized in Table 10; the analytical data for cis-1,2-DCE, trans-1,2-DCE, 1,4-dioxane, iron, and manganese are summarized in Tables 10, 12, and 13.

Interpretation of the subsurface soil stratigraphy and vertical nature and extent of TCE, PCE, and vinyl chloride as isoconcentration contours are shown on northeast-southwest cross-section A-A' that extends through the BDC facility/Capital Plant 2 to Slip 2 of the LDW (Figures 35 and 35a),

east-west cross-section B-B' that extends from 1<sup>st</sup> Avenue South to 4<sup>th</sup> Avenue South through the southern portion of the Capital Property (Figures 36 and 36a), and northeast-southwest cross-section C-C' that extends from Capital Plant 4 to monitoring well CI-16 (Figures 37 and 37a). A detailed interpretation of the areal and vertical nature and extent of TCE, PCE, and vinyl chloride in a Conceptual Site Model is provided in Section 6.

## **5.1 PRE-RI INVESTIGATIONS**

Pre-RI investigations included soil and groundwater sampling conducted by FSM (2004), ECS (2005), and Farallon (as documented in Farallon et al. 2008). The following sections summarize the results of the pre-RI subsurface investigations completed at the Capital Property. Data tables and maps from previous subsurface investigations are provided in Appendix C.

### **5.1.1 Soil Gas and Construction Monitoring Report**

FSM (2004) conducted soil gas monitoring during the reconstruction of Capital Plant 2 after the plant was destroyed by fire in 2004. The purpose of the soil gas monitoring was to investigate for the presence of VOCs and BTEX vapors in soil gas below the concrete pad of Capital Plant 2. The monitoring conducted prior to removal of the concrete slab included collection of 12 soil gas samples for analysis for HVOCs using EPA Method 8021B by an on-site laboratory, and collection of 6 soil gas samples in Summa Canisters for analysis for VOCs using EPA Method TO-14.

TCE was detected in 2 of the 12 soil gas samples and PCE was detected in 10 of the 12 soil gas samples collected from beneath the concrete slab and analyzed on-site. TCE was detected in soil gas samples collected in the Summa Canisters at locations VP-7 and VP-11, located in the southwest and northwest corners of Capital Plant 2, respectively. Elevated concentrations of toluene, ethylbenzene, and xylenes were detected in two soil gas samples collected in Summa Canisters from the southeast corner of Capital Plant 2. The locations of the soil gas samples collected in Summa Canisters and the analytical results are presented on Figure 3.1 and in Table 4-1 in Appendix C.

FSM (2004) monitored soil conditions after the removal of the concrete pad during excavation of soil from Capital Plant 2 for reconstruction of the building in April and May 2004. Soil within

the building footprint was excavated and removed to a depth of approximately 4 feet bgs. Approximately 330 cubic yards of soil was removed for disposal off Capital Plant 2.

A total of four soil samples were collected from the concrete rubble generated by the removal of the concrete slab on the northeast, northwest, central, and southeast sections of the Capital Plant 2 footprint. Concentrations of PCE, TCE, dichloroethene (DCE), vinyl chloride, or BTEX were not detected above the laboratory PQL in the soil samples collected from the concrete rubble.

The extensive PID monitoring conducted during the excavation for footings, vaults, and utility trenches did not identify contaminated soil within the building footprint. Most of the Capital Plant 2 building footprint was excavated to a depth of 4 feet bgs for foundations and utility trenches, which would have removed shallow contaminated soil. Figure 1 in Appendix C is a schematic showing the approximate distribution of footing and utility trench excavations. Where PID readings exceeded 5, the suspect soil was removed and stockpiled, as summarized below:

- Two cubic yards of soil was excavated from the stormwater vault in the northwest corner of Capital Plant 2 and stockpiled;
- Ten cubic yards of soil exhibiting a PID reading over 5 was excavated from two footings along the south wall of Capital Plant 2 and stockpiled; and
- Seven cubic yards of soil was excavated from a footing in the southwest corner of Capital Plant 2 and stockpiled.

Six soil samples were collected from the stockpiled soil and analyzed for VOCs. Concentrations of PCE, TCE, DCE, vinyl chloride, or BTEX constituents were not detected above the laboratory PQL in any of the soil samples analyzed. The soil was either used as backfill or disposed of off the site as nonhazardous material. The location(s) where soil that was excavated and placed as backfill at Capital Plant 2 is unknown.

The excavation from footings, utility vaults, and trenches for the reconstruction of Capital Plant 2 removed soil throughout the building footprint to a depth of up to 4 feet bgs. FSM (2004) documented, “There were more than 500 PID readings obtained as soil was excavated at the site” and “nearly all of the soil excavated resulted in a background reading on the PID.” Two soil

samples were collected for analysis to confirm the PID readings: one from the northwestern area; and one from the southern portion of Capital Plant 2 at a depth of 1 foot bgs. Concentrations of PCE, TCE, DCE, vinyl chloride, or BTEX were not detected above the laboratory PQL in either of the soil samples analyzed.

Concentrations of VOCs above the laboratory PQL were not detected in soil samples collected by FMS (2004) from soil excavated from beneath the Capital Plant 2 building footprint.

### **5.1.2 Draft Remedial Investigation Report**

Subsurface investigations were conducted on the Capital Property in 2004 and 2005, after the reconstruction of Capital Plant 2, to characterize soil conditions above the water table in the vicinity of Capital Plant 2 and Capital Plant 4 (ECS 2005). The boring locations and analytical data are presented on Figures 5 and 6 and in Tables 5 and 6.

ECS (2005) identified the following “Areas of Potential Use of Chlorinated Solvents” (Figure 4-4, Appendix C) based on past operations on the Capital Property:

- Former chemical/paint storage area in the Capital Plant 2 Canopy (1968 through 1978);
- Former “Waterfall” paint station in the southwest corner of Capital Plant 2 (1968 through 1978);
- Former drum storage areas in the southern portion of Capital Plant 4 (1978 through 1985);
- Former paint still in the southern portion of Capital Plant 4, installed in 1985; and
- Former degreaser in the southern portion of Capital Plant 4 (1987 through 1982).

ECS (2005) conducted the following scope of work to investigate these potential former sources:

- Collection of 30 Gore Sorber soil gas samples from Capital Plant 2, the Capital Plant 2 Canopy, and Capital Plant 4 to identify areas of soil with VOCs in soil gas for subsequent soil sampling.
- Collection of a total of 41 soil samples at depths ranging from 2.5 to 9.5 feet bgs from 18 soil borings located in and around Capital Plant 2 and Capital Plant 4 based on the results



of the Gore Sorber soil gas samples. The soil samples were analyzed for VOCs using EPA Method 8260/8270.

The Gore Sorber soil gas samples collected from Capital Plant 2 and the Capital Plant 2 Canopy detected relatively low concentrations of PCE and trichloroethane, but did not detect TCE (Figures 5-6a and 5-6b, Appendix C). Concentrations of TCE above the laboratory PQL were not detected in soil samples collected above the water table in or near Capital Plant 2 or the Capital Plant 2 Canopy. Concentrations of PCE above the laboratory PQL and below the screening level were detected in soil samples collected from borings ECS34 and ECS35, located at the southwest corner of the Capital Plant 2 Canopy (Figures 5 and 6). Concentrations of PCE were not detected above the laboratory PQL in any of the other soil samples collected in or near Capital Plant 2 or the Capital Plant 2 Canopy.

Concentrations of TCE and PCE were detected in the Gore Sorber soil gas samples collected in Capital Plant 4. A total of 22 soil samples were collected from 9 boring locations in Capital Plant 4, ranging in depth from 0.6 foot to 8.3 feet bgs (Figure 5-9, Appendix C). VOCs above the screening levels were not detected in the soil samples, with the exception of TCE detected in the soil sample collected at 2.9 feet bgs in boring ECS30, located in the Capital Plant 4 building, as summarized below:

- PCE was detected in 14 soil samples at concentrations ranging from 0.0028 to 0.038 mg/kg, below the current screening level protective of groundwater of 0.052 mg/kg.
- TCE was detected in 20 soil samples at concentrations ranging from 0.0024 to 0.14 mg/kg. A concentration of TCE exceeding the current screening level of 0.058mg/kg was detected in one soil sample collected from boring ECS30 at 2.9 ft bgs, located in the southern portion of Capital Plant 4. TCE was not detected above the screening level in the remaining 19 soil samples.
- cis-1,2-DCE was detected in 16 soil samples at concentrations ranging from 0.0017 to 0.038 mg/kg, below the screening level of 3.369 mg/kg.

- trans 1,2-DCE and vinyl chloride were not detected above laboratory PQLs in any of the soil samples.

The only detection of a VOC that exceeded the screening level in soil samples collected on the Capital Property by ECS (2005) was a concentration of TCE exceeding the current screening level in only one soil sample, collected at a depth of 2.9 ft bgs from boring ECS30, located in the southern portion of Capital Plant 4. TCE above the screening level was not detected in soil samples collected at a greater depth from boring ECS 30.

Concentrations of VOCs above the current screening levels that are protective of groundwater were not detected in soil in or around Capital Plant 2 or the Capital Plant 2 Canopy during the ECS (2005) investigation. TCE above the screening level was detected in only one vadose zone soil sample collected in Capital Plant 4, beneath the building slab. Concentrations of TCE above the screening levels were not detected in deeper soil samples collected from the same boring.

### **5.1.3 Farallon 2006 Subsurface Investigations**

Farallon collected soil, reconnaissance groundwater, and groundwater samples for laboratory analysis at Capital Plant 2 and Capital Plant 4 in 2006 to investigate the groundwater flow direction proximate to the Capital Property, concentrations of VOCs in groundwater up-gradient of Capital Plant 2, and concentrations of VOCs in groundwater down-gradient of Capital Plant 2 and Capital Plant 4 (as documented in Farallon et al. 2008). The subsurface investigation included:

- Collection of reconnaissance groundwater and soil samples from five direct-push borings in and around Capital Plant 2 for analysis for VOCs by EPA Method 8260B (Figures 5 through 9); and
- Installation of, and collection of soil and groundwater samples for analysis for VOCs from, monitoring wells MW-1 through MW-8 (Figure 3; Table 6, Appendix D).

Concentrations of TCE above the current screening level were detected in reconnaissance groundwater samples (Figures 7, 8, and 9) and in groundwater samples collected from monitoring wells located in the Capital Plant 2 canopy area, and up- and down-gradient of

Capital Plant 2 in the Water Table and Shallow Zones. Concentrations of PCE and TCE above the screening levels were detected in reconnaissance and monitoring well groundwater samples collected inside and down-gradient of Capital Plant 4 in the Water Table and Shallow Zones. Concentrations of PCE and TCE above laboratory PQLs were not detected in groundwater samples collected from monitoring wells located up-gradient of Capital Plant 4.

Soil samples were collected from borings B1 through B5 and the borings for monitoring wells MW-1 to MW-8 for analysis for VOCs (Figures 3 through 5). VOCs that exceeded the current screening levels are summarized below:

- Concentrations of TCE above the screening level were detected in soil samples collected at or below the water table in monitoring wells MW-2 (8.5 to 9.0 feet bgs) and MW-6 (7.5 to 8.0 feet bgs). These soil samples were collected at or below groundwater; therefore, these results likely represent groundwater conditions.
- Concentrations of TCE and PCE were detected above the screening levels in soil samples collected from monitoring wells MW-6 and MW-7 at a depth of 5 to 6.5 feet bgs. These soil samples were collected just above groundwater, and the results likely represent groundwater conditions.
- Concentrations of VOC above the screening level were detected in a soil sample collected at or below the water table in borings B1 (29.5 to 30 feet bgs), B2 (33.5 to 34 feet bgs), and B5 (33.5 to 34 feet bgs). These soil samples were collected at or below groundwater; therefore, these results likely represent groundwater conditions.

The results confirmed a source of VOCs to groundwater up-gradient of Capital Plant 2, a former source of VOCs to groundwater in Capital Plant 2 and the Capital Plant 2 Canopy, and at Capital Plant 4 (as documented in Farallon et al. 2008). A residual source of VOCs in soil to groundwater was not identified at the Capital Property.

#### **5.1.4 Pre-RI Investigation Conclusions**

Farallon developed the following conclusions based on the data presented in the pre-RI investigation reports:

- A residual source of VOCs in shallow soil to groundwater at the Capital Property was not identified by the pre-RI investigations;
- VOCs above the current screening levels were not detected in soil samples collected from native soil at or near the vadose zone by ECS (2005);
- The concentrations of VOCs detected in the soil samples collected from beneath and near Capital Plant 2 in the pre-RI investigations are representative of current conditions in the backfill placed beneath the concrete slab and the native soil beneath the backfill and surrounding the building;
- Most of the building footprint for Capital Plant 2 was excavated to a depth of 4 to 5 feet bgs and was backfilled with imported fill or clean soil; and
- A source of VOCs to groundwater up-gradient of Capital Plant 2, a former source of VOCs to groundwater in Capital Plant 2 and the Capital Plant 2 Canopy, and a former source of VOCs at Capital Plant 4 were identified by the pre-RI investigations.

#### **5.2 REMEDIAL INVESTIGATION**

The results of the pre-RI investigations were used to develop a Preliminary Conceptual Site Model to identify data gaps to be filled by the RI. A data quality assessment was not performed on the prior data, in some cases due to the age of the investigations and/or lack of availability of laboratory reports. In general, laboratory reporting limits were appropriate for evaluation of data against screening levels, and the data are valid. There is some uncertainty about older historical data.

The RI-field program was conducted in phases such that the scope of work for each phase was based on evaluation of the results for the prior phase. The evaluation of each phase and subsequent scope of work was reviewed and approved by Ecology. The RI field program phases, as defined in the RI Work Plan, are:

- Second Avenue Redevelopment—Opportunistic soil sampling conducted during redevelopment prior to completion of the RI Work Plan;
- Remedial Investigation Field Program, First Phase—Tier 1 and Tier 2 soil and reconnaissance groundwater sampling and analysis (Farallon 2009a);
- Remedial Investigation Field Program—Installation of monitoring well clusters, tidal study, and groundwater monitoring (Farallon 2010a);
- Additional RI Field Program—Installation of additional monitoring wells, tidal study, and groundwater monitoring to address data needs identified by Ecology (Farallon 2011c).

### **5.2.1 Farallon 2008 Second Avenue Redevelopment Investigation**

Capital redeveloped a vacated portion of 2<sup>nd</sup> Avenue South between South Mead Street and South Fidalgo Street between Capital Plant 1 and Capital Plant 2 in 2008 prior to completion of the RI Work Plan. The analytical results for soil samples collected from the area were presented in the RI Work Plan.

Farallon collected 17 soil samples at depths ranging from 0.5 foot to 9.5 feet bgs from test pits excavated in the Second Avenue South area during the redevelopment. The soil samples were analyzed for VOCs by EPA Method 8260B. Concentrations of PCE, TCE, DCE, or vinyl chloride were not detected above the laboratory PQLs in any of the soil samples collected for the investigation (Farallon 2008a) Figure 13 in Appendix C shows the sampling locations, and Table 8 provides the analytical results.

### **5.2.2 RI Work Plan**

The Preliminary Conceptual Site Model presented in the RI Work Plan identified the applicable COPCs, the confirmed or potential sources of COPCs, the media of concern with concentrations of COPCs above the screening levels applicable at that time, and potential migration and

exposure pathways. Data gaps identified in the RI Work Plan as information needed to accomplish the goals of the RI and enable evaluation and selection of a technically feasible cleanup alternative included:

- The specific COPCs that have been released from the Capital Property that exceed the screening levels;
- The vertical and lateral nature and extent of concentrations of COPCs above the screening levels in soil and groundwater within the Capital Area of Investigation;
- The concentrations of COPCs in groundwater migrating to the Capital Property from up-gradient sources;
- The groundwater flow direction and gradient in the Water Table Zone, the Shallow Zone, and the Intermediate Zone south of Fidalgo Street;
- The potential for concentrations of COPCs above the applicable screening levels released from the Capital Property to reach surface water of the Duwamish Waterway;
- The lateral and vertical extent of concentrations of COPCs above the screening levels in soil at Capital Plant 4; and
- The potential for natural attenuation processes to effectively mitigate threats to human health and the environment posed by the Capital Property.

The RI Work Plan presented a scope of work for the RI to address these data gaps that was reviewed and approved by Ecology.

### **5.2.3 Remedial Investigation Field Program, First Phase**

Farallon (2009b) completed the First Phase RI of the Capital Area of Investigation in accordance with the Ecology-approved RI Work Plan. The First Phase of the RI Field Program was conducted in Tier 1 and Tier 2 reconnaissance groundwater sampling. The Tier 1 reconnaissance sampling was conducted to evaluate the nature and extent of VOCs in soil and/or groundwater within the Capital Area of Investigation. The Tier 2 reconnaissance sampling was conducted to address data gaps identified from the analytical results from the Tier 1 reconnaissance sampling.

The scope of work for the First Phase of the RI included collection of reconnaissance groundwater samples from various depths from borings B-6 through B-28, and soil samples from 2, 5, and 7 feet bgs from borings B14, B15, B18, B25, and B26 (Figures 5 through 9). The reconnaissance groundwater and soil samples were analyzed for VOCs using EPA Method 8260B. The results are summarized in the Remedial Investigation Field Program, First Phase Report (Farallon 2009b).

#### **5.2.3.1 Soil Sampling Results**

Soil encountered in the borings completed for the First Phase RI within the Capital Area of Investigation consisted of poorly graded sand with lesser amounts of silty sand and silt (Appendix A). The upper 10 feet of soil that underlies the area consists of silt and sand with minor amounts of poorly graded gravel. Poorly graded fine black sand was encountered in each of the borings from approximately 10 feet bgs to the total depth explored of 78 feet bgs. Thin discontinuous layers of silt and sandy silt ranging from approximately 0.3 foot to 9 feet in thickness were encountered at varied depths within the sand and were observed to increase in thickness and frequency between the depths of approximately 25 and 45 feet bgs. Increasing amounts of silt were noted in the sand at depths greater than 45 feet bgs, with frequent observations of silty sand and sandy silt.

Organic material consisting of woody debris was observed in soil samples collected from borings B8, B9, B14, B21, B24, and B26 at depths ranging from the ground surface to 56 feet bgs. No evidence of odor or sheen was noted in the soil samples collected from the borings, with the exception of borings B17 and B25. A slight “sweet” odor was noted in the soil samples collected from boring B17 at depths of 24 to 57 feet bgs within the Shallow and Intermediate Zones. Field-screening indicated elevated PID readings in soil samples collected from boring B17 at depths of 7.5 to 57 feet bgs. An odor was noted in the soil sample collected from boring B25 at depths of 0.25 foot to 4.5 feet bgs. PID readings in the field were elevated in the soil sample collected from boring B25 at a depth of 2 feet bgs. Elevated PID readings were not measured in the field in soil samples collected from any other borings completed during the RI Field Program.

Concentrations of VOCs that exceed the screening levels were not detected in the pre-RI investigations or the excavation of the soil beneath Capital Plant 2. The location and number of soil samples collected and analyzed from and near Capital Plant 2 adequately characterized the nature and extent of VOCs in soil. Therefore, soil sampling conducted during the First Phase RI Field Program focused on evaluating the lateral and vertical extent of VOCs in soil proximate to Capital Plant 4.

Concentrations of PCE and/or TCE below current screening levels were detected in soil samples collected from above the water table in borings B15, B18, and B25 (Table 6). Concentrations of PCE ranging from 0.0039 to 0.091 mg/kg were detected in soil samples collected at depths ranging from 2 to 7 feet bgs at borings B14, B15, B18, and B25. PCE was detected at 0.091 mg/kg, above the current screening level, in the soil sample collected from boring B14 at 2 feet bgs. Concentrations of PCE were below screening levels in soil samples collected from 5 and 7 feet bgs in this boring. TCE concentrations ranging from 0.0035 to 0.024 mg/kg, below the current screening level, were detected in soil samples collected at depths ranging from 2 to 7 feet bgs at borings B18 and B25. Borings B14, B15, and B25 are located south of Capital Plant 4. Boring B18 is located east of Capital Plant 4 (Figure 6; Table 6). The HVOCs cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride were not detected at concentrations at or above the laboratory PQLs or exceeding applicable screening levels in any of the other soil samples analyzed.

The only VOC detected above the screening levels for soil was PCE, detected in boring B14 at 2 feet bgs. Concentrations of PCE were not detected in the soil sample collected from boring B14 at 5 to 7 feet bgs. Therefore, the PCE detected in the soil sample collected from boring B14 is not an ongoing source of PCE to groundwater.

The northern extent of VOC concentrations that exceed the laboratory PQL detected in soil is defined by boring ECS41 (Figure 5) in the area south of the northeast corner of Capital Plant 4, installed during a previous subsurface investigation (ECS 2005). The southern extent of VOC concentrations detected in soil is defined by boring B26 (Figure 4). Although the lateral extent of concentrations of VOCs that exceed the laboratory



PQL in soil east of the Capital Property has not been defined, the lateral extent of concentrations of VOCs that exceed the screening levels has been define. Concentrations of TCE, PCE, cis-1,2-DCE, trans-1,2-DCE, or vinyl chloride exceeding the applicable screening level established for the soil leaching to groundwater pathway were not detected in any of the soil samples collected during the pre-RI or RI investigations, with the exception of one soil sample collected from boring B14, and one from boring ECS 30.

Soil samples were collected at boring locations B6, B9, B13, and B17 within the Water Table, Shallow, and Intermediate Zones for TOC analysis. Concentrations of TOC ranging from 80 to 1,220 mg/kg were detected in soil samples collected from the Water Table Zone, with an average TOC concentration of 488 mg/kg. Concentrations of TOC ranging from 380 to 2,100 mg/kg were detected in soil samples collected from the Shallow Zone, with an average TOC concentration of 1,388 mg/kg. Concentrations of TOC ranging from 680 to 5,120 mg/kg were detected in soil samples collected from the Intermediate Zone, with an average TOC concentration of 2,045 mg/kg (Table 7).

The average TOC concentrations were derived using an arithmetic mean because TOC values generally fall within one order of magnitude. Use of a geometric mean would produce an artificially low bias in the mean. The sample locations were selected to provide a range of TOC values across a relatively broad area to provide representative values within the BIOCHLOR model domain. TOC data were obtained up-gradient of the Capital Property at boring B17, and down-gradient of the Capital Property at borings B6, B9, and B13 (Figure 3). The TOC data were used in the calculation of retardation factors, which were then used in BIOCHLOR modeling to assess potential impacts of contaminants of concern on the Duwamish Waterway. Potential variations in TOC concentrations, and retardation are accounted for in model sensitivity analysis.

The soil samples were not analyzed for 1,4-dioxane, iron, or manganese, as these constituents were not included in the Ecology approved RI Work Plan.

A data gap analysis was performed in 2011, and the results of this analysis is presented in Appendix C, Data Gap Analysis. The Data Gap Analysis concluded that there was adequate soil data collected during the RI, and no additional data gathering was necessary to complete the RI.

#### **5.2.3.2 Reconnaissance Groundwater Sampling Results**

The observed groundwater conditions and analytical results for Tier 1 and Tier 2 reconnaissance groundwater samples collected during the First Phase RI Field Program are discussed below. Groundwater was first encountered in the borings during drilling at depths ranging from 6 to 16 feet bgs. Saturated soils extended from first-encountered groundwater throughout the total depth of each boring. The maximum depth of the borings was 78 feet bgs.

The laboratory analytical results for the reconnaissance groundwater samples collected during the First Phase RI Field Program for each of the three water-bearing zones are summarized below, in Table 9, and on Figures 7 through 9. Reconnaissance groundwater samples were analyzed for HVOCs using EPA Method 8260B. The laboratory analytical reports showing reporting limits and the data validation summary reports are provided in Appendix E. All data are considered usable for the purposes of the RI.

#### **Water Table Zone**

The laboratory analytical results for the reconnaissance groundwater samples collected from the Water Table Zone (Figure 7) are summarized as follows:

- Concentrations of vinyl chloride exceeded the screening level in the reconnaissance groundwater samples collected in boring B17, located north and up-gradient of the Capital Property, and in the reconnaissance groundwater samples collected in borings B6, B7, B21, and B22, located south and down-gradient of the Capital Property;
- Concentrations of PCE exceeded the screening level in the reconnaissance groundwater samples collected in borings B13, B14, and B15, located

down-gradient of Capital Plant 4, and in boring B18, located cross-gradient and east of Capital Plant 4;

- Concentrations of TCE exceeded the screening level in the reconnaissance groundwater samples collected in borings B7 through B9 and B12 through B15; and
- Concentrations of 1,1-dichloroethene (1,1-DCE) and trans-1,2-DCE exceeded the laboratory PQL and were below the screening levels.

### **Shallow Zone**

The laboratory analytical results for the reconnaissance groundwater samples (Figure 8) collected from the Shallow Zone are summarized as follows:

- Concentrations of vinyl chloride exceeded the screening level in reconnaissance groundwater samples collected in borings B17 and B28, located up-gradient of the Capital Property, and in the reconnaissance groundwater samples collected in borings B6 through B13, B15, B16, B20 through B23, and B27, located down-gradient of the Capital Property;
- Concentrations of PCE did not exceed either the laboratory PQLs or the screening level in any of the reconnaissance groundwater samples;
- Concentrations of TCE exceeded the screening level in the reconnaissance groundwater samples collected in borings B9, B12, and B23;
- Concentrations of cis-1,2-DCE and trans-1,2-DCE exceeded the laboratory PQLs and were below screening levels.

### **Intermediate Zone**

The laboratory analytical results for the reconnaissance groundwater samples (Figure 9) collected from the Intermediate Zone are summarized as follows:

- Concentrations of vinyl chloride exceeded the screening level in reconnaissance groundwater samples collected in borings B17 and B28, located up-gradient of the Capital Property, and in the reconnaissance groundwater samples collected in

borings B6 through B13, B15, B20, B21, and B23, located down-gradient of the Capital Property.

- Concentrations of PCE did not exceed either the laboratory PQLs or the screening level.
- Concentrations of TCE exceeded the screening level in the reconnaissance groundwater samples collected in borings B8, B9, and B23.
- Concentrations of cis-1,2-DCE or trans-1,2-DCE were not detected above the laboratory PQLs.

#### **5.2.3.3 Reconnaissance Groundwater Sampling Summary**

PCE was detected at concentrations at or exceeding the screening levels in the reconnaissance groundwater samples collected from the Water Table Zone in borings B13, B14, and B15, located proximate to Capital Plant 4 (Figure 7; Table 9). PCE was not detected at concentrations at or above the laboratory PQLs or exceeding the screening level in the reconnaissance groundwater samples collected from the Water Table Zone in any of the other borings, or from the Shallow or Intermediate Zones (Figures 8 and 9).

TCE was detected at concentrations exceeding the screening level in reconnaissance groundwater samples collected from borings located up-gradient of the Capital Property in the Water Table and Shallow Zones, and from borings located down-gradient of the Capital Property in the Water Table, Shallow, and Intermediate Zones (Figures 7 through 9; Table 9). Concentrations of cis-1,2-DCE or trans 1,2-DCE exceeding the screening level were not detected in the reconnaissance groundwater samples collected from any of the three water-bearing zones in borings located down-gradient of the Capital Property (Table 9).

Vinyl chloride was detected at concentrations exceeding the screening level in reconnaissance groundwater samples collected from all of the water-bearing zones in borings located up- and down-gradient of the Capital Property (Figures 7 through 9; Table 9). Concentrations of vinyl chloride exceeding the screening level in the Shallow Zone east and southeast of the Capital Property were bounded by the laboratory

analytical results for the reconnaissance groundwater samples collected from borings B19 and B24. The lateral and vertical extent of concentrations of vinyl chloride exceeding the screening level in the Intermediate Zone was bounded by the laboratory analytical results for the reconnaissance groundwater samples collected from borings B19, B21, B22, B24, and B27 (Table 9).

The results of the Tier 1 and Tier 2 reconnaissance groundwater sampling were evaluated to identify data gaps for selection of monitoring well locations and screening depths. Farallon (2009b) identified the monitoring well locations to Ecology in the Remedial Investigation Field Program, First Phase Report, and met with Ecology to confirm approval of the final monitoring well locations presented in the Groundwater Monitoring Plan (Farallon 2010a).

#### **5.2.4 Monitoring Well Groundwater Sampling Results**

The laboratory analytical results for the eight groundwater monitoring and sampling events conducted for the RI Field Program between May 2010 and June 2012 are summarized below for each of the three water-bearing zones (Table 10). Not all of the monitoring wells sampled by Farallon were installed at the time the groundwater monitoring events commenced, as discussed below. Not all of the monitoring wells were sampled and not all of the analytes were sampled for in each of the monitoring and sampling events. The results are as follows:

- Monitoring wells installed prior to May 2010 groundwater monitoring include wells CG-137-WT, CG-137-40, CI-137-50, CG-141-WT, CG-141-40, CI-141-50, CI-10-WT, CI-10-35, CI-10-65, CI-12-WT, CI-12-30, CI-12-60, CI-15-40, CI-15-60, CI-7-40, CI-7-60, CI-8-40, CI-8-60, CI-MW-1-WT, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, and MW-8.
- Monitoring wells installed after May 2010 and prior to August 2010 groundwater monitoring include wells CI-9-WT, CI-9-40, CI-9-70, CI-11-WT, CI-11-30, CI-11-60, CI-13-WT, CI-13-30, CI-13-60, CI-14-WT, CI-14-35, CI-MW-1-40, CI-MW-1-60, and CI-14-70.

- Monitoring wells installed in April 2012 include wells CI-16-WT, CI-16-30, CI-16-60 CI-17-WT, CI-18-WT, CI-19-WT, CI-17-30, CI-18-30, and CI-19-30.

All of the groundwater monitoring events included analysis of groundwater samples for HVOCs. 1,4-dioxane was analyzed for only in groundwater samples collected from select monitoring wells in the June 2010, March 2011, and May 2012 monitoring events (Table 12). The laboratory analytical results for groundwater samples collected by Farallon from monitoring wells installed in the Capital Area of Investigation, by PGG installed at the BDC area, and by Aspect at the ABP area are summarized in Tables 10, 11, and 12. Monitoring well locations are shown on Figure 3. The laboratory analytical reports and the data validation summary report for the monitoring well analyses are provided in Appendix E.

#### **5.2.5 Water Table Zone**

The laboratory analytical results for the groundwater samples collected from monitoring wells screened in the Water Table Zone are summarized as follows:

- **Vinyl chloride** exceeded the screening level in groundwater samples collected from monitoring well MW-5, located up- and cross gradient of Capital Plant 2, for four of the five monitoring events, and in down-gradient monitoring well CI-11-WT in three of seven monitoring events. Concentrations of vinyl chloride did not exceed the screening level in monitoring wells MW-5 or CI-11-WT after the December 2010 monitoring event. Vinyl chloride exceeded the screening level in down-gradient monitoring well CG-137-WT in six of seven monitoring events. A concentration of vinyl chloride exceeding the screening level was detected in monitoring well CI-14-WT in the December 2010 monitoring event only. A concentration of vinyl chloride exceeding the screening level was detected in monitoring well MW-2 in the September 2010 quarterly monitoring event only.
- **PCE** exceeded the screening level in monitoring wells MW-6 and MW-7, located proximate to Capital Plant 4, in all of the monitoring events, with the exception of the December 2010 monitoring event at monitoring well MW-7. PCE was detected at concentrations exceeding the screening level in monitoring well CI-9-WT in the

September 2011 monitoring event. PCE was detected at concentrations exceeding the screening level in the May 2012 monitoring event in monitoring well MW-17-WT, located on the CalPortland Property near the LDW.

- **TCE** exceeded the screening level in up-gradient monitoring wells MW-5 and CI-MW-1-WT and at down-gradient monitoring wells MW-2, MW-6, MW-7, CI-9-WT, and CI-10-WT, in all of the monitoring events. TCE exceeded the screening level at monitoring well MW-6 in only the March 2012 monitoring event; TCE exceeded the screening level at monitoring wells MW-7 and CG-137-WT in six of seven monitoring events.
- **cis-1,2-DCE and trans-1,2-DCE** did not exceed the screening levels in any of the groundwater samples analyzed.
- **1,4-dioxane** did not exceed the screening level in any of the monitoring wells. 1,4-dioxane was detected above laboratory PQLs in monitoring well CI-137-WT, located at Capital Plant 2, in the June 2012 monitoring event, but was not detected at concentrations above the laboratory PQLs in the May 2012 monitoring event.

#### **5.2.6 Shallow Zone**

The laboratory analytical results for the groundwater samples collected from monitoring wells screened in the Shallow Zone are summarized as follows:

- **Vinyl chloride** exceeded the screening level in groundwater samples collected from all of the monitoring wells for all of the monitoring events, with the exception of monitoring wells CI-11-30 and CI-13-30 for the March and September 2011 and May 2012 monitoring events, monitoring well CI-15-40 for the May 2012 monitoring event, and monitoring wells CI-9-40 and CI-MW1-40 for all of the monitoring events. Vinyl chloride exceeded the screening level in the groundwater sample collected from monitoring well CI-19-30, located down-gradient of the Capital Property along the LDW on the Certaineed Gypsum Property, for the May and June 2012 monitoring events.
- **PCE** was not detected at concentrations at or above the laboratory PQLs or exceeding the screening level in any of the monitoring wells for any of the monitoring events.

- **TCE** exceeded the screening level in groundwater samples collected from down-gradient monitoring well CI-14-35 for all of the monitoring events. TCE exceeded the screening level in groundwater samples collected from down-gradient monitoring well CI-10-35 in the March 2011 and May 2012 monitoring events.
- **cis-1,2-DCE and trans-1,2-DCE** did not exceed the screening levels in any of the monitoring wells for any of the monitoring events.
- **1,4-dioxane** exceeded the screening level in groundwater samples collected from monitoring well CI-8-40, located up-gradient of Capital Plant 4, for the June 2010 and March 2011 monitoring events, and from monitoring well CI-7-40, located down-gradient of Capital Plant 4, for the June 2010 monitoring event only. Concentrations of 1,4-dioxane exceeding the screening level were not detected in any of the other monitoring wells for the March 2011 monitoring event.

#### **5.2.7 Intermediate Zone**

The laboratory analytical results for the groundwater samples collected from monitoring wells screened in the Intermediate Zone are summarized as follows:

- **Vinyl chloride** exceeded the screening levels in groundwater samples collected from down-gradient monitoring wells CG-141-50 and CI-15-60 in all eight monitoring events, and from down-gradient monitoring well CI-137-50 in all of the monitoring events, with the exception of the June 2010 event. Vinyl chloride exceeded the screening level in groundwater samples collected from up-gradient monitoring well CI-MW-1-60 in the June 2009 monitoring event.
- **PCE** was not detected at concentrations at or above the laboratory PQLs or exceeding the screening level in any of the monitoring wells for any of the monitoring events.
- **TCE** exceeded the screening level in the groundwater samples collected from monitoring well CI-137-50 for the June 2010 monitoring event only.
- **cis-1,2-DCE and trans-1,2-DCE** did not exceed the screening levels in any of the groundwater samples analyzed.



- **1,4-dioxane** exceeded the screening level in groundwater samples collected from monitoring well CI-MW1-60, located up-gradient of Capital Plant 2, and at monitoring well CI-7-60, located down-gradient of Capital Plant 4, for the June 2010 monitoring event only. Concentrations of 1,4-dioxane exceeding the screening level were not detected at these two locations or in any of the other monitoring wells sampled for 1,4-dioxane for the March 2011 monitoring event.

### **5.2.8 Iron and Manganese Groundwater Analytical Results**

Groundwater samples were collected from select monitoring wells screened in each water-bearing zone within the Capital Area of Investigation for the June and December 2010 and May 2012 monitoring events and analyzed for total iron (ferric [ $\text{Fe}^{3+}$ ] and ferrous [ $\text{Fe}^{2+}$ ]) and total manganese ( $\text{Mn}^{4+}$  and  $\text{Mn}^{2+}$ ). Groundwater samples from select monitoring wells were analyzed also for dissolved iron and manganese, which typically is more representative of groundwater quality because the samples are filtered and contain minimal soil particulates that contribute to total metals concentrations. The soluble forms of these metals are the reduced forms  $\text{Fe}^{2+}$  and  $\text{Mn}^{2+}$ . The purpose of the analyses was to evaluate whether concentrations of these naturally occurring minerals exceed screening levels set forth by Ecology for protection of surface water, as well as the availability of the oxidized forms of these compounds ( $\text{Fe}^{3+}$  and  $\text{Mn}^{4+}$ ) to support biodegradation of HVOCs present in groundwater. The analytical results are presented in Table 13.

Concentrations of total iron at or exceeding the screening level of 1,000 micrograms per liter ( $\mu\text{g/l}$ ) were detected in all monitoring wells sampled in all water-bearing zones for at least one of the monitoring events, with the exception of monitoring wells CI-14-WT and CI-18-WT, screened in the Water Table Zone. Total iron concentrations ranged from 380 to 58,000  $\mu\text{g/l}$  in the Water Table Zone; from 5,300 to 52,000  $\mu\text{g/l}$  in the Shallow Zone; and from 1,000 to 32,000  $\mu\text{g/l}$  in the Intermediate Zone.

Dissolved iron concentrations are more representative of groundwater quality, and typically result from the metabolic reaction of iron bacteria or when acidic conditions are present. Based on the groundwater monitoring data, the average pH of groundwater is 6.6, 6.7, and 7.2 for the

Water Table, Shallow, and Intermediate Zones, respectively. These conditions are representative of neutral conditions and are not expected to result in leaching of ferric iron into groundwater.

The natural attenuation parameters discussed in detail in Section 6 indicate that reducing conditions are present in each of the water-bearing zones and increase with depth. Oxidation reduction potential readings (Table 14) indicate an average oxidation-reduction potential of 57.7, 3.8, and -11.7 for the Water Table, Shallow, and Intermediate Zones, respectively. These results are indicative of moderately reducing conditions that support reductive dechlorination of the HVOCs present. Production of  $\text{Fe}^{2+}$  is a by-product of the reductive dechlorination process by the consortium of bacteria that use  $\text{Fe}^{3+}$  as an electron receptor. The presence of  $\text{Fe}^{2+}$  generally corresponds with areas where HVOCs have been detected within each water-bearing zone. Concentrations of  $\text{Fe}^{2+}$  ranged from 101 to 24,200  $\mu\text{g/l}$  in the Water Table Zone; from 78 to 40,400  $\mu\text{g/l}$  in the Shallow Zone; and from 380 to 7,460  $\mu\text{g/l}$  in the Intermediate Zone.

Concentrations of total manganese at or exceeding the screening level of 100  $\mu\text{g/l}$  were detected in all monitoring wells in all water-bearing zones for at least one of the monitoring events, with the exception of monitoring wells CI-12-WT, CI-13-WT, and MW-2, all screened in the Water Table Zone. Total manganese concentrations ranged from 70 to 2,100  $\mu\text{g/l}$  in the Water Table Zone; from 250 to 1,400  $\mu\text{g/l}$  in the Shallow Zone; and from 69 to 1,300  $\mu\text{g/l}$  in the Intermediate Zone.

Concentrations of dissolved manganese are associated with the reduced form,  $\text{Mn}^{2+}$ . Concentrations of dissolved manganese ranged from 101 to 24,200  $\mu\text{g/l}$  in the Water Table Zone; from 78 to 40,400  $\mu\text{g/l}$  in the Shallow Zone; and from 380 to 7,460  $\mu\text{g/l}$  in the Intermediate Zone. The neutral groundwater conditions noted above are not expected to result in leaching of manganese into groundwater. However, the reductive dechlorination process for HVOCs present in groundwater uses  $\text{Mn}^{4+}$  as an electron receptor, resulting in production of  $\text{Mn}^{2+}$ . The presence of  $\text{Mn}^{2+}$  generally corresponds with areas where HVOCs have been detected within each water-bearing zone. The  $\text{Mn}^{2+}$  data also correlate with the presence of  $\text{Fe}^{2+}$  in each water-bearing zone.

### **5.2.9 Monitored Natural Attenuation Parameters Sampling Results**

Groundwater samples collected at select monitoring wells for quarterly groundwater monitoring events through May 2012 were analyzed for geochemical and water quality parameters used to evaluate subsurface conditions and the natural attenuation processes that may be occurring. The parameters included key electron receptors, metabolic by-products of the reductive dechlorination process, and general water quality indicators. The parameters analyzed included the following:

#### **Electron Receptors**

- Dissolved oxygen by direct measurement using a YSI 556 Multi Probe System Instrument
- Nitrate by EPA Method 353.2
- Total iron ( $\text{Fe}^{3+}$  and  $\text{Fe}^{2+}$ ) by EPA Method 6010B
- Total Manganese ( $\text{Mn}^{4+}$  and  $\text{Mn}^{2+}$ ) by EPA Method 6010B
- Sulfate by EPA Method 375.4

#### **Metabolic By-Products**

- Nitrite by EPA Method 353.2
- Ferrous iron ( $\text{Fe}^{2+}$ ) as dissolved iron by EPA Methods 6010B and SM3500FE
- $\text{Mn}^{2+}$  as dissolved manganese by EPA Method 6010B
- Sulfide by EPA Method 376.1
- Methane, ethane, and ethane by EPA Method 8015B
- Chloride by EPA Method 325.2/325.3
- Alkalinity by EPA Method 310.2

#### **Water Quality Indicators**

- pH/eh

- Temperature
- Conductivity
- Oxidation-reduction potential

The laboratory analytical results for the groundwater monitoring and sampling events that included the monitored natural attenuation parameters conducted during the RI Field Program are summarized for each of the three water-bearing zones in Tables 13 and 14. Monitoring well locations are shown on Figure 3. The distribution of these parameters in groundwater has not been contoured on figures, as there is no discernible pattern and the results would not be useful. The laboratory analytical reports and the data validation summary report for the monitoring well analyses are provided in Appendix E.

A discussion of these results and the potential for natural attenuation of COPCs is provided in Section 7.1.5, Monitored Natural Attenuation Data.

#### **5.2.10 Groundwater Gradient and Flow Direction**

Groundwater monitoring events were conducted by Capital, BDC, ABP, and PSC from February 2010 through January 2011, September 2011, and May 2012 at monitoring wells screened in the Water Table, Shallow, and Intermediate Zones and monitoring wells located west of 4<sup>th</sup> Avenue South, as part of the RI for the Capital Area of Investigation. The groundwater elevation data for the 2010, 2011, and 2012 groundwater monitoring events are provided in Table 4. The groundwater elevation contours for the groundwater monitoring events conducted in February, May, August, and October 2010, January and September 2011, and May 2012 are shown on Figures 10 through 33. The results of the 2010 to 2012 groundwater monitoring events indicate the following:

- Groundwater elevation ranged from 2.57 to 10.16 feet (Vertical Datum NAVD88) (Table 4) in the monitoring wells screened in the Water Table, Shallow, and Intermediate Zones.
- Water elevations in the monitoring wells screened in the Water Table, Shallow, and Intermediate Zones for the Capital Area of Investigation fluctuate seasonally, with lower

elevations observed during the summer months, and highest elevations observed during the winter months.

- The potentiometric head differences for nested monitoring wells screened in the Water Table, Shallow, and Intermediate Zones for the Capital Area of Investigation were negligible, indicating that vertical hydraulic gradient is not a factor in vertical transport of contaminants.

### **Water Table Zone**

- The approximate direction of groundwater flow in the Water Table Zone for the Capital Area of Investigation was southwest toward Slip 2, with very little deviation, for all of the monitoring events. A slight southerly deflection in the groundwater flow direction in the Water Table Zone was noted in the vicinity of the intersection of 1<sup>st</sup> Avenue South and East Marginal Way for the May 2010 monitoring event (Figure 12), and a slightly more westerly direction in the same area was noted for the December 2010 monitoring event (Figure 13). The cause of the shift in groundwater flow is not clear, but may be seasonal variations in groundwater elevations or other factors.
- Flow direction north of Orcas Street was more generally toward the west.
- The average horizontal hydraulic gradient for the Water Table Zone for the Capital Area of Investigation ranged from 0.002 to 0.003 foot per foot.
- Tidally averaged groundwater elevations in the Water Table Zone from the April 2012 tidal study are contoured on Figure 17. Groundwater flow direction is to the southwest, with a slight westerly deflection noted at East Marginal Way near well cluster MW-16.

### **Shallow Zone**

- The approximate direction of groundwater flow in the Shallow Zone for the Capital Area of Investigation was southwest toward Slip 2. A slight southerly deflection in the groundwater flow direction for the Shallow Zone was noted in the vicinity of the intersection of 1<sup>st</sup> Avenue South and East Marginal Way for the June and September 2010 monitoring events (Figures 19 and 20, respectively).

- Flow direction north of Orcas Street was generally toward the west.
- The average horizontal hydraulic gradient for the Shallow Zone in the Capital Area of Investigation ranged from 0.001 to 0.002 foot per foot.
- Tidally averaged groundwater elevations in the Shallow Zone from the April 2012 tidal study are contoured on Figure 25. Groundwater flow direction is to the southwest toward the LDW. Little or no deflection of the groundwater flow direction toward Slip 2 is noted.

### **Intermediate Zone**

- The approximate direction of groundwater flow in the Intermediate Zone for the Capital Area of Investigation during the 2010 and 2011 groundwater monitoring events was southwest. A slight westerly deflection in the groundwater flow direction for the Intermediate Zone was noted in the vicinity of the intersection of 1<sup>st</sup> Avenue South and East Marginal Way for the March 2011 monitoring event (Figure 30). A slight southerly deflection in the groundwater flow direction for the Intermediate Zone was noted in the vicinity of the intersection of South Fidalgo Street and East Marginal Way for the September 2011 monitoring event (Figure 31).
- The average horizontal hydraulic gradient for the Intermediate Zone in the Capital Area of Investigation was 0.002 foot per foot.
- Tidally averaged groundwater elevations in the Intermediate Zone from the April 2012 tidal study are contoured on Figure 33. Groundwater flow direction is to the southwest, with a slight westward deflection noted at East Marginal Way near well cluster MW-16.

#### **5.2.11 Tidal Study and Aquifer Characterization**

A tidal study was conducted at the Capital Area of Investigation in July and August 2010 in accordance with the scope of work presented in the Groundwater Monitoring Plan (Farallon 2010a) and approved by Ecology. The tidal study was performed to assess tidal influences on groundwater elevations and gradients near Slip 2 of the LDW (Figure 3). The tidal study evaluated the effects of the inland propagation of the pressure wave caused by the rise in surface

water in the LDW that can cause groundwater levels and horizontal and vertical gradients to fluctuate. Detailed results from the tidal study and the aquifer characterization study are provided in Appendix B.

Subsequent tidal data were collected between July 30 and August 2, 2011 (dry season tidal study), and from April 21 through 23, 2012 (wet season tidal study) to verify the groundwater flow patterns and gradients previously calculated and to determine whether flow patterns and gradients vary between wet and dry seasons. These additional tidal studies included wells installed in March 2012 near the LDW. The data collection and analysis methods used for these additional tidal studies are the same as those described in Appendix B. The tidally averaged groundwater elevations for the July through August 2011 and the April 2012 tidal study periods are presented in Tables 1 and 2 in Appendix B. The average vertical gradients are provided in Tables 3 and 4 in Appendix B. Groundwater contour maps developed using tidally averaged groundwater elevations for the Water Table, Shallow, and Intermediate Zones during the wet and dry season tidal studies are provided in Appendix B. Graphs showing the tidal averaging process for each well also are provided in Appendix B. The tidally averaged groundwater elevation contours for the April 2012 tidal study are depicted on Figures 17, 25, and 33 for the Water Table, Shallow, and Intermediate Zones, respectively.

The results of the wet and dry season tidal studies show that the hydraulic gradient and groundwater flow direction in the three aquifer zones are relatively consistent during a tidal cycle. The only exception was noted in the Intermediate Zone during the dry season tidal study, when the hydraulic gradient increased to approximately 0.008 near the LDW and flattened to the northeast. An anomalously high groundwater elevation was calculated in well CI-19-WT during the April 2012 tidal study. The reason for this anomalous elevation is unclear, although it may be due to the proximity of the LDW and/or the type of fill material in which the monitoring well was constructed. Based on these data, tidal influence extends approximately 600 to 700 feet inland from the bank of Slip 2 of the LDW, and approximately 1200 feet inland from the bank of the LDW near well cluster CI-19. Although minor variations in flow direction occur as a result of tidal influence, the flow direction within the Capital Area of Investigation remains predominantly southwest toward Slip 2 of the LDW during a tidal cycle.

The tidal influence zone was established based on the interpreted tidal response in each of the well clusters. The tidal response was clearly evident in well clusters CI-11, CI-12, CI-13, CI-14, CI-16, CI-17, CI-18, and CI-19, but was negligible in well cluster CI-10, which showed head changes ranging from approximately 0.02 to 0.1 foot during a tidal cycle. In addition, the diurnal tidal response observed in other well clusters was not seen in cluster CI-10. Average groundwater elevations were calculated for cluster CI-10. To determine the length of tidal influence, a distance between well cluster CI-19 (located on the banks of the LDW) and well cluster CI-10 (located approximately 1,200 feet from the LDW with negligible tidal response) was chosen. However, because a minor tidal response in well cluster CI-10 is unlikely but cannot be ruled out, the tidal influence zone is established as the distance to well cluster CI-10 (1,200 feet). Average groundwater elevations are calculated in well clusters located within this zone of influence.

Hydraulic conductivity estimates obtained using both tidal data and slug test results indicate relatively high hydraulic conductivity in both the Water Table and Shallow Zones (approximately 100 to 200 feet per day). Based on slug test results, hydraulic conductivity in the Intermediate Zone appears to be lower than that in the Water Table Zone (approximately 5 to 10 feet per day). The results of the slug test are provided in Appendix B.

### **5.3 VAPOR INTRUSION ASSESSMENT RESULTS**

#### **5.3.1 Tier 1 and Tier 2 VI Assessments**

The Tier 1 and Tier 2 VI Assessments compared concentrations of VOCs detected in groundwater samples collected from the Water Table Zone within the Capital Area of Investigation to groundwater IPIMALs provided in the Vapor Intrusion Assessment Work Plan (Farallon 2008b) to determine whether the potential for VI exists in nearby buildings. The groundwater data were used to calculate a cancer cumulative exceedance factor (CCEF) and a non-cancer cumulative exceedance factor (NCCEF). If either the CCEF or the NCCEF exceeded a factor of 10 (indicating a carcinogenic risk greater than 1E-05 or hazard index greater than 1), the building was further evaluated under Tier 3 or proceeded directly to Tier 4. The analytical results for groundwater samples that triggered Tier 3 Assessment in the buildings to the east, and



to the south of the Capital Property were reported in the letter regarding Vapor Intrusion Tier 2 Assessment (Farallon 2010b) and are summarized below.

The analytical results for groundwater samples collected from the following monitoring wells identified these associated buildings for Tier 3 VI assessment (Figure 4):

- Monitoring well CI-MW-1-WT—Capital Plant 2;
- Monitoring well MW-2—Capital Plant 2 Canopy Area;
- Monitoring well MW-5—Capital Plant 1, Capital Plant 2, and Capital Plant 2 Canopy Area;
- Monitoring well CI-9-WT—Mobile Crane Office Building canopy structures;
- Monitoring well CI-10-WT—Beckwith and Kuffel Building; and
- Monitoring well CG-137-WT—Capital Plant 2 Canopy Area, Olympic Medical Building, and Mobile Crane Office Building.

Based on the IPIM Approach approved by Ecology and the groundwater sampling results for monitoring wells proximate to the east side of Capital Plant 4, a Tier 3 Assessment of the commercial buildings on the east side of Capital Plant 4 was not warranted. No soil screening levels have been established that would trigger a Tier 3 Assessment under the IPIM Approach. However, concentrations of VOCs were detected in soil samples collected at 2 to 5 feet bgs between the east wall of Capital Plant 4 and the west wall of the commercial buildings to the east (Figure 6). Based on the concentrations of VOCs detected in soil samples ESC-28, ECS-38, ECS-39, and ECS-40, proximate to the three southernmost commercial buildings, Ecology required that Tier 3 Assessments be conducted at these three buildings. The Gull Industries Building was included for Tier 3 Assessment based on concentrations of VOCs detected in reconnaissance groundwater samples (Farallon 2010c).

The buildings identified for Tier 3 VI Assessment, listed with their address in Seattle, Washington, included:

- The Shipping Office in Capital Plant 1 at 5801 Third Avenue South;

- The QC and Laser Office in Capital Plant 2 at 5801 Third Avenue South;
- The Mobile Crane Office Building at 5914 Fourth Avenue South;
- The Beckwith and Kuffel Building at 5930 First Avenue South;
- The commercial building east of Capital Plant 4 (Chinese Restaurant) at 5807 Fourth Avenue South;
- The commercial building east of Capital Plant 4 (Pacific Food Systems North Building) at 5815 Fourth Avenue South;
- The commercial building east of Capital Plant 4 (Pacific Food Systems South Building) at 5815 Fourth Avenue South;
- The Gull Industries Building south of Capital Plant 4 at 5901 Fourth Avenue South; and
- The Olympic Medical Building at 5900 First Avenue South.

Capital Plant 2 was not included in the Tier 3 VI Assessment because the building is a large metal building with large rollup doors that are open during operation. The high ceilings and open doors allow for continuous air transfer and preclude accumulation of VOC vapors.

The Capital Plant 2 Canopy was not included in the Tier 3 VI Assessment because the area is a canopy with open sides that allow for continuous air transfer and preclude accumulation of VOC vapors.

### **5.3.2 Tier 3 VI Assessments**

Inspections of eight of the buildings were completed in March 2011; the Gull Industries Building was inspected in December 2011. Site-specific SAPs were prepared for each of the buildings identified for Tier 3 Assessment. All of the prepared SAPs were approved by Ecology.

Tier 3 VI Assessments were conducted on April 13 and 14, 2011 at five of the buildings identified, on January 29, 2012 at the Gull Industries Building, and on February 21 through 24, 2012 at the remaining three buildings east of Capital Plant 4 (Figure 4). The results of the Tier 3 Assessments conducted at each building are summarized below. Note that the evaluations use the IPIMALs in place at the time the Tier 3 VI Assessments were completed. The IPIMALs

provided in Table 3 reflect current IPIMALs, which were revised based on recent changes to PCE and TCE toxicity values in the EPA (2012) IRIS database. Data tables for the VI Assessments are included in Appendix F.

### **Shipping Office in Capital Plant 1**

Tier 3 VI Assessment sampling included collection of one indoor air sample in the Shipping Office (Figure 2) and one outdoor ambient air sample along the exterior of the southern wall of the Capital Plant 1 building (Farallon 2011b). TCE was detected at a concentration of 0.066 micrograms per cubic meter in the indoor air sample, and at a concentration of 0.033 micrograms per cubic meter in the outdoor air sample (Appendix F). No other HVOCs were detected in the air samples collected. The concentration of TCE detected did not exceed the IPIMAL of 0.23 micrograms per cubic meter for either the indoor or the outdoor sample. The calculated CCEF value is 0.1, which is below the target value of 10. Therefore, Tier 4 mitigation measures are not warranted at the Shipping Office in Capital Plant 1.

### **QC and Laser Office in Capital Plant 2**

Tier 3 VI Assessment sampling included collection of one indoor air sample in the QC and Laser Office and one outdoor ambient air sample along the southern wall of the eastern portion of the Capital Plant 2 building (Farallon 2011c). TCE was detected at a concentration of 0.42 micrograms per cubic meter in the indoor air sample, and at a concentration of 0.046 micrograms per cubic meter in the outdoor air sample (Appendix F). No other HVOCs were detected in the air samples collected. The calculated CCEF value is 2, which is below the target value of 10. Therefore, Tier 4 mitigation measures are not warranted at the QC and Laser Office in the Capital Plant 2 building.

### **Mobile Crane Office Building**

Tier 3 VI Assessment sampling included collection of one indoor air sample in the office portion of the Mobile Crane Office Building near the main first floor entrance, and one outdoor ambient air sample along the southern wall of the building (Farallon 2011e). TCE was detected at a concentration of 2.0 micrograms per cubic meter in the indoor air sample, and at a concentration of 0.036 micrograms per cubic meter in the outdoor air sample (Appendix F). No other HVOCs

were detected in the air samples collected. The calculated CCEF value is 9, which is below the target value of 10. Therefore, Tier 4 mitigation measures are not warranted at the Mobile Crane Office Building.

### **Beckwith and Kuffel Building**

Tier 3 VI Assessment sampling included collection of two indoor air samples in existing office spaces, one outdoor ambient air sample along the southern wall of the western portion of the Beckwith and Kuffel Building, and two sub-slab soil gas samples (Farallon 2011i).

PCE was detected at concentrations of 13 and 14 micrograms per cubic meter, and TCE was detected at concentrations of 0.070 and 0.064 micrograms per cubic meter in the two indoor air samples (Appendix F). TCE was detected in the outdoor ambient air sample at a concentration of 0.059 micrograms per cubic meter. No other HVOCs were detected in either the indoor air or outdoor ambient air samples. The calculated CCEF values are 14 and 13 for the two indoor air samples, which exceed the target value of 10. The concentrations of PCE are significant factors in the calculated CCEF.

Concentrations of PCE, TCE, and/or 1,1-dichloroethene were detected in the two sub-slab soil gas samples. PCE was detected at concentrations of 14 and 1.5 micrograms per cubic meter, and TCE was detected at concentrations of 1.6 and 0.33 micrograms per cubic meter (Appendix F). The concentration of PCE detected in the sub-slab soil gas sample collected near the northeastern office space exceeded the IPIMAL for PCE of 9.7 micrograms per cubic meter for commercial buildings. Concentrations of TCE and 1,1-dichloroethene were below the IPIMALs. The calculated CCEF values are 0.30 and 2.14, and NCCEF values are 0.04 and 0.01, which are based on the cumulative risk of HVOCs present in the sub-slab soil gas samples. Both the CCEF and the NCCEF values are below the target value of 10.

PCE was not detected at concentrations above the laboratory detection limits in the groundwater samples collected from monitoring wells CL-10-WT or MW-3 or in the reconnaissance groundwater samples collected from borings B-6, B-7, B-8, or B-11, located up-gradient of the Beckwith and Kuffel Building. TCE was detected at concentrations up to 520 micrograms per

liter in groundwater samples collected from these monitoring wells and borings. Groundwater is not a source of PCE to soil gas or ambient indoor air at the Beckwith and Kuffel Building.

The concentrations of PCE detected in the indoor air samples, in comparison with those detected in outdoor air or sub-slab samples, indicate a likely source of PCE from operations inside the Beckwith and Kuffel Building. The source of PCE likely is associated with chemical use in the building, and not from a release to groundwater from the Capital Property.

When PCE is factored out of the CCEF calculations for indoor air quality, the CCEF values are below the target value of 10. The concentrations of TCE in groundwater associated with the Capital Area of Investigation have not resulted in exceedance of a CCEF in either sub-slab soil gas samples or indoor air samples. Tier 4 mitigation measures are not warranted for the Beckwith and Kuffel Building.

#### **Commercial Building East of Capital Plant 4 (Chinese Restaurant)**

Tier 3 VI Assessment sampling included collection of two indoor air samples in the restaurant, one outdoor ambient air sample along the southern wall, and one sub-slab soil gas sample at the Chinese Restaurant Building (Farallon 2012c).

PCE was detected in the two indoor air samples at concentrations of 0.36 and 0.56 micrograms per cubic meter (Appendix F). Concentrations of other target HVOCs were not detected in the indoor air samples at or above the laboratory reporting limits. HVOCs were not detected at concentrations at or above the laboratory reporting limits in the outdoor air sample. Concentrations of HVOCs were not detected at concentrations at or above the laboratory reporting limits in the sub-slab soil gas sample. The calculated CCEF and NCCEF values for the indoor air samples do not exceed the threshold value of 10.

Concentrations of target HVOCs were not detected in the sub-slab soil gas sample collected beneath the building. However, although helium was not detected in the sub-slab soil gas sample train during the initial leak testing conducted before sampling was initiated, helium was detected in the sub-slab soil gas sample during laboratory analysis at concentrations indicating that leakage of ambient air occurred during sampling. Introduction of ambient air into the sample

canister has the potential to dilute the sample, biasing the results low, or to introduce COPCs into the sample if COPCs are present in indoor air. Although concentrations of PCE were detected in indoor air during the indoor air sampling, PCE was not detected in the sub-slab soil gas sample. These results suggest that the sub-slab soil gas sample likely was not biased high by ambient air incursion into the sample. However, the results may still be biased low for other target HVOCs. Therefore, the indoor air sampling results are considered more representative of VI potential for the building.

The origin of the PCE detected in the indoor air samples is uncertain. Because target HVOCs were not detected in the sub-slab soil gas samples at concentrations at or above the laboratory reporting limits, a source of PCE may be present in the building. Alternatively, the sub-slab soil gas sample results may be biased low, and similarly low concentrations of PCE may be present in soil gas beneath the building slab. Insufficient groundwater data are available for this area to evaluate potential concentrations of target HVOCs in groundwater. PCE was not detected in soil samples collected from boring ECS41, the boring closest to the building, at concentrations at or above the laboratory reporting limit, indicating that a source of PCE in soil has not been detected near the building.

The results of the Tier 3 Assessment indicate that concentrations of PCE were detected in the indoor air samples collected. However, the CCEF and NCCEF values indicate that the cumulative risk posed by the concentrations of PCE in indoor air does not exceed a cancer risk of 1E-05 or a non-cancer hazard index of 1. Therefore, in accordance with the Draft *Interim Vapor Intrusion Plan* (Arrow et al. 2007), Tier 4 mitigation is not warranted at the commercial building east of Capital Plant 4. No additional VI Assessment sampling is warranted.

#### **Commercial Building East of Capital Plant 4 (Pacific Food Systems North Building)**

Tier 3 VI Assessment sampling included collection and analysis of two indoor air samples in the building, one outdoor ambient air sample, and two sub-slab soil gas samples beneath the building at the Pacific Food Systems North Building (Farallon 2012d).

Concentrations of PCE, TCE, and cis-1,2-DCE above the laboratory reporting limits were detected in the two indoor air samples (Appendix F). PCE was detected at concentrations of 1.5

and 0.60 micrograms per cubic meter. TCE was detected at concentrations of 4.4 and 1.9 micrograms per cubic meter. cis-1,2-DCE was detected at concentrations of 0.98 and 0.32 micrograms per cubic meter. One of the concentrations of PCE detected in the indoor air samples exceeds the IPIMAL for PCE of 0.97 micrograms per cubic meter for commercial buildings (Appendix F). The concentrations of TCE detected in both indoor samples exceeded the IPIMAL for TCE of 0.23 micrograms per cubic meter for commercial buildings. The concentrations of cis-1,2-DCE in both indoor air samples are below the IPIMAL of 6.8 micrograms per cubic meter for commercial buildings.

The concentrations of all target HVOCs were below the laboratory reporting limits in the outdoor air sample. The results indicate that concentrations of HVOCs in ambient air are negligible, and that ambient air quality will not bias indoor air sampling data.

The calculated CCEF value for one of the indoor air sampling locations is 20.2, and the NCCEF value is 0.8. Both values are based on the cumulative risk of HVOCs present in the samples. The CCEF value is above the target value of 10 for indoor air. The calculated CCEF value for the other indoor air sampling location is 8.4, and the NCCEF value is 0.3. Both values are based on the cumulative risk of HVOCs present in the samples (Appendix F). Both the CCEF and the NCCEF values are below the target value of 10 for indoor air.

Concentrations of PCE, TCE, and cis-1,2-DCE were detected in the sub-slab soil gas samples. PCE was detected at concentrations ranging from 840 to 4,200 micrograms per cubic meter, TCE was detected at concentrations ranging from 1,400 to 28,000 micrograms per cubic meter, and cis-1,2-DCE was detected in one sample at a concentration of 74 micrograms per cubic meter. The highest concentrations of TCE and PCE were both detected in the soil gas sample located near the center of the building, and are significantly higher than the PCE and TCE concentrations detected at the western most sampling location, proximate to Plant 4. The concentrations of PCE detected in both sub-slab soil gas samples exceeded the IPIMAL for PCE of 9.7 micrograms per cubic meter for commercial buildings (Appendix F). The concentrations of TCE detected in both sub-slab soil gas samples exceeded the IPIMAL for TCE of 2.3 micrograms per cubic meter for commercial buildings (Appendix F). The concentration of cis-1,2-DCE exceeded the IPIMAL of 68 micrograms per cubic meter for commercial buildings. The calculated CCEF values for the

sub-slab soil gas samples were 695 and 12,609, and the NCCEF values were 22 and 416, which are based on the cumulative risk of HVOCs present in the samples. Both the CCEF and the NCCEF values are above the target value of 10 for soil gas.

PCE, TCE, and/or cis-1,2-dichloroethene were detected in the two sub-slab soil gas samples collected at the building in April 2011 at concentrations that exceeded the IPIMALs for commercial buildings and the CCEF and NCCEF values of 10 for cumulative compound risk. These results indicate the potential for VI into the building, as confirmed by the presence of these compounds in the indoor air samples collected. Farallon recommended that an additional investigation be conducted to confirm the initial results, and that the investigation include three to four indoor air samples, including two in the warehouse area, and one to two in the enclosed offices or restroom spaces. The collective results could be used to evaluate whether Tier 4 measures should be implemented.

Ecology has recommended that Tier 4 mitigation be implemented, based on the elevated levels of both TCE and PCE detected in the sub-slab soil gas samples. Alternatively, a long-term indoor air monitoring program may be implemented to address the potential indoor air threat.

#### **Commercial Building East of Capital Plant 4 (Pacific Food Systems, South Building)**

Tier 3 VI Assessment sampling included collection and analysis of two indoor air samples, one outdoor ambient air sample, and two sub-slab soil gas samples in the Pacific Food Systems, South Building (Farallon 2012e).

Concentrations of PCE and TCE were detected in the two indoor air samples (Appendix F). PCE was detected at concentrations of 0.75 and 0.92 micrograms per cubic meter, and TCE was detected at concentrations of 0.42 and 0.57 micrograms per cubic meter. The concentrations of PCE detected in both indoor air samples did not exceed the IPIMAL for PCE of 0.97 micrograms per cubic meter for commercial buildings. Concentrations of TCE detected in both indoor samples exceeded the IPIMAL for TCE of 0.23 micrograms per cubic meter for commercial buildings. The target HVOCs were not detected in outdoor air samples above the laboratory reporting limits. The calculated CCEF and NCCEF values for the indoor air samples are below the target value of 10.



Concentrations of PCE and TCE were detected in both the sub-slab soil gas samples collected. PCE was detected at concentrations ranging from 15 to 1,300 micrograms per cubic meter, and TCE was detected at concentrations ranging from 95 to 1,400 micrograms per cubic meter. The other target HVOCs were not detected at concentrations at or above the laboratory reporting limits.

The concentrations of PCE detected in both sub-slab soil gas samples exceeded the IPIMAL for PCE of 9.7 micrograms per cubic meter for commercial buildings (Appendix F). Concentrations of TCE detected in both sub-slab soil gas samples exceeded the IPIMAL for TCE of 2.3 micrograms per cubic meter for commercial buildings (Appendix F).

The calculated CCEF value for the sub-slab soil gas samples ranged from 42.89 to 742.89. The NCCEF values ranged from 1.42 to 21.72 and are based on the cumulative risk of HVOCs present in the samples. The CCEF and one of the NCCEF values are above the target value of 10 for soil gas.

The results of the Tier 3 VI Assessment indicate that concentrations of PCE and TCE are present beneath the building slab at concentrations that pose a potential VI risk, as confirmed by the presence of these compounds in the indoor air samples collected. However, the CCEF and NCCEF values indicate that the cumulative risk posed by the concentrations of PCE and TCE in indoor air does not exceed a cancer risk of  $1\text{E-}05$  or a non-cancer hazard index of 1. Therefore, in accordance with the Draft *Interim Vapor Intrusion Plan* (Arrow et al. 2007), Tier 4 mitigation is not warranted at this building.

Additional indoor air sampling to confirm that indoor air quality remains below the CCEF and NCCEF threshold values is scheduled for the winter of 2012/2013.

#### **Gull Industries Building South of Capital Plant 4**

Tier 3 VI Assessment sampling included collection and analysis of three indoor air samples, one outdoor ambient air sample, and two sub-slab soil gas samples in the Gull Industries Building south of Capital Plant 4 (Farallon 2012a).

Concentrations of PCE and TCE were detected in the three indoor air samples (Appendix F). PCE was detected at concentrations ranging from 0.46 to 0.55 microgram per cubic meter, and TCE was detected at concentrations ranging from 0.20 to 1.4 micrograms per cubic meter. A concentration of PCE of 1.1 micrograms per cubic meter and a concentration of TCE of 8.2 micrograms per cubic meter were detected in the outdoor ambient air sample.

The initial vacuum of the Summa Canister that was used to collect the outdoor ambient air sample indicated that the canister appeared to have leaked during transit from the laboratory. The data from this canister are not considered representative of ambient air conditions and are not usable. Therefore, for the purposes of calculating the CCEF and NCCEF values, it was assumed that the outdoor samples did not contain the target compounds, and one-half of the method reporting limit for each compound was used for the outdoor concentration input parameter in the CCEF and NCCEF calculation.

All of the CCEF values calculated for indoor air at the building ranged from 1 to 6, below the target value of 10. The NCCEF values were 0 for all three samples.

Concentrations of PCE and TCE were detected in the two sub-slab soil gas samples. PCE was detected at a concentration of 2,700 micrograms per cubic meter in both samples, and TCE was detected at concentrations of 380 and 4,100 micrograms per cubic meter in the two samples. Concentrations of PCE detected in both sub-slab soil gas samples exceeded the IPIMAL for PCE of 9.7 micrograms per cubic meter for commercial buildings. Concentrations of TCE detected in both sub-slab soil gas samples exceeded the IPIMAL for TCE of 2.3 micrograms per cubic meter for commercial buildings.

The calculated CCEF value for the sub-slab soil gas samples ranged from 443.83 to 2,061.35. The NCCEF values ranged from 7.91 to 62.66. The CCEF value is above the target value of 10 in both of the sub-slab soil gas samples, and the NCCEF value is above the target value of 10 in one sample.

Concentrations of PCE and TCE were detected in sub-slab soil gas samples collected from beneath the building slab. However, the calculated CCEF and NCCEF values for the indoor air

samples do not exceed the threshold value of 10. The results of the Tier 3 VI Assessment confirm that the concentrations of PCE and TCE detected in the sub-slab soil gas samples collected beneath the building slab are not migrating to the interior of the building and are not adversely affecting indoor air at concentrations that could potentially lead to a cumulative cancer risk of  $1E-05$  or a non-cancer hazard index of 1. Therefore, in accordance with the *Draft Interim Vapor Intrusion Plan* (Arrow et al. 2007), Tier 4 mitigation is not warranted at the Gull Industries Building. However, based on the elevated levels of PCE and TCE detected in the sub-slab soil gas samples, Ecology is requiring that confirmatory indoor air sampling be conducted in the winter of 2012/2013.

### **Olympic Medical Building**

A Tier 3 VI Assessment was conducted at the Olympic Medical Building by PSC (2005) by sampling ambient indoor and outdoor air. The samples were analyzed for HVOCs to determine whether the commercial ambient air CCEF and NCCEF exceeded the benchmark of 10 established by Ecology. Based on the concentrations of TCE detected in indoor ambient air, a mitigation system was proposed by PSC for the warehouse area on the east side of the Olympic Medical Building.

The results of the Tier 3 VI Assessment conducted in accordance with the Vapor Intrusion Assessment Work Plan (Farallon 2008b) confirmed that Tier 4 VI Mitigation is necessary at the Olympic Medical Building. Tier 4 Mitigation was required as discussed below.

A Tier 4 VI Mitigation sub-slab depressurization system was installed at the Olympic Medical Building on January 29, 2009 in accordance with the Vapor Intrusion Mitigation Work Plan, Olympic Medical Facility (Farallon 2009a). The sub-slab depressurization system currently is operating in accordance with the Vapor Intrusion, Inspection, Monitoring, and Maintenance Work Plan, Olympic Medical Facility (Farallon 2009c).

### **5.3.3 Preferential VI Pathways Analysis**

Underground utility corridors, side sewers, and drainage laterals may act as preferential pathways for soil gas near the buildings targeted for Tier 3 VI Assessments. Seattle Department of Planning and Development and Seattle Department of Public Utilities records were obtained

to investigate the nature and construction of utilities in the vicinity of the Capital Area of Investigation that may affect the movement of soil gas.

A combined sewer main line trends east to west in South Fidalgo Street, bordering the southern boundary of the Capital Property. The Seattle Department of Public Utilities indicates that the combined sewer is a 27-inch-diameter line located 10 to 15 feet bgs between 1<sup>st</sup> Avenue South and 4<sup>th</sup> Avenue South. Elevations for drainage and wastewater maintenance holes (manholes) located south of Capital Plant 3 and the Capital Plant 2 Canopy are listed as 7.31 and 9.14 feet. This line is located below the top of the water table, which generally occurs at approximately 6 to 9 feet bgs. Because the combined sewer line occurs below the water table, it would not act as a preferential pathway for soil gas.

Seattle Department of Planning and Development side sewer cards (Appendix G) indicate that numerous connections tie the individual buildings along South Fidalgo Street to the main combined sewer line in South Fidalgo Street, including side sewers for sanitary discharges and drainage laterals. The size, construction, and depth of these side sewers are not known. Depending on the method of construction, the type of bedding used, and the manner in which the line enters the building, these lines may or may not provide preferential pathways for soil gas migration. It is uncertain whether the levels of COPCs detected in subsurface soil gas and indoor air at the target buildings during the Tier 3 Assessments are a result of preferential migration of contaminated soil gas along the side sewers to the buildings.

## **5.4 DATA QUALITY AND USABILITY**

Farallon performed data review and validation of analytical data received from the RI field investigation, including data reported for soil and groundwater, in accordance with the Quality Assurance Project Plan provided in Appendix B of the RI Work Plan.

The data quality objectives (DQOs) were developed to ensure that the data collected are of sufficient quality to adequately address the objectives of the RI at the Capital Site as defined in the RI Work Plan SAP. The observations and measurements were made and recorded in a manner so as to yield results representative of the media and conditions observed and/or measured. Goals for representativeness were met by ensuring that sampling locations were

selected properly, that a sufficient number of samples were collected, and that field-screening and laboratory analyses were conducted properly.

#### **5.4.1 Laboratory Data Validation**

The quality of the laboratory data was assessed according to the parameters of precision, accuracy, representativeness, completeness, and comparability. Analytical data validation for all RI soil and groundwater data was performed by Saylor Data Solutions, Inc. Laboratory DQOs have been established by Onsite, the analytical laboratory. The data validation reports and laboratory analytical reports are provided in Appendix E.

The following quality control information was reviewed during the data review and validation:

- Method deviations;
- Sample extraction and holding times;
- Method reporting limits;
- Blank samples (equipment rinsate and laboratory method);
- Duplicate samples;
- Matrix spike/matrix spike duplicate samples (accuracy);
- Surrogate recoveries;
- Percent completeness and relative percent difference (precision); and
- Final analytical data packages for samples collected during the subsurface investigation.

The laboratory quality assurance/quality control data were within acceptable ranges of tolerance, and the analytical data are acceptable for use as described by the DQOs.

#### **5.4.2 Field Parameter Data**

Farallon reviewed field records and results of field observations and measurements to ensure that procedures were properly performed and documented. The review of field procedures included the following factors:

- Completeness and legibility of field logs;

- Preparation and frequency of field quality control samples;
- Equipment calibration and maintenance; and
- Chain of Custody forms.

No violations or deviations from established field protocols were noted.

#### **5.4.3 Use of Reconnaissance and Monitoring Well Data**

Monitoring well data have been used to determine the vertical and lateral extent of contamination at the Capital Area of Investigation in this RI. The use of direct-push or reconnaissance groundwater sampling was to identify data gaps in previous investigations, define source areas, and guide the location of monitoring wells. Both older reconnaissance probe data and more-recent monitoring well data are presented in this RI. However, the reconnaissance groundwater data may be somewhat different than the monitoring well data due to differences in sampling methods, sampling intervals, and the age of the samples. Therefore, the reconnaissance samples are not directly comparable to the monitoring well data.

## **6.0 CONCEPTUAL SITE MODEL**

The Conceptual Site Model has been developed to:

- Identify sources of COPCs to soil or groundwater in the Capital Area of Investigation;
- Summarize the current understanding of the nature and extent and persistence of COPCs that exceed the screening levels in the subsurface at the Capital Area of Investigation;
- Identify the media of concern with concentrations of COPCs exceeding screening levels; and
- Determine potential migration and exposure pathways.

The sources of data used in developing the Conceptual Site Model were identified in the RI Work Plan and include the results of pre-RI investigations conducted by others, the results of investigations conducted at the BDC facility by PGG and at ABP facility by Aspect, and the data collected in the RI field investigation. The Conceptual Site Model is a tool for identification, development, evaluation, and selection of technically feasible cleanup alternatives at the Capital Area of Investigation for the Feasibility Study.

The elements comprising the Conceptual Site Model include:

- Sources of COPCs;
- Affected media;
- Contaminant fate and transport; and
- Known or suspected human and environmental receptors and exposure pathways.

These elements are summarized below.

### **6.1 SOURCES OF COPCS**

The following section describes sources of COPCs identified on the Capital Property and at up-gradient locations.

### **6.1.1 Capital Property Source Areas**

Former operations at the Capital Property that may have resulted in releases of HVOCs to soil and groundwater include use of a vapor degreaser formerly located in Capital Plant 4, and use of a solvent-based parts cleaner formerly located in Capital Plant 2. There is no documented record of a significant release of solvents from either of these units.

#### **6.1.1.1 Capital Plant 4 Source Area**

The nature and extent of VOCs in soil and groundwater in the Water Table Zone suggest that a release(s) of VOCs may have occurred from degreasing operations that formerly took place in the Capital Plant 4 building. The results of the pre-RI investigations and the RI did not detect residual concentrations of VOCs in soil that could act as a source of VOCs to groundwater at Capital Plant 4.

Concentrations of PCE, TCE, or cis-1,2-DCE have not been detected in soil at concentrations exceeding screening levels protective of groundwater, with the exception of one soil sample collected at 2.9 feet bgs from boring ECS30, located in the Capital Plant 4 building near the former degreasing unit (ECS 2005; Farallon 2009b). PCE and TCE were detected above the laboratory PQL and below the screening levels in the soil samples collected above the Water Table Zone from borings ECS38, ECS39, and ECS40, located along the eastern wall of Capital Plant 4 (Figure 6). TCE was detected above the laboratory PQL and below the screening level in the soil sample collected above the Water Table Zone from boring ECS32. Concentrations of PCE or TCE were not detected above laboratory PQLs in soil samples collected from boring ECS41, located along the eastern wall of Capital Plant 4 to the north. Therefore, the nature and extent of VOCs in soil exceeding the screening levels have been bounded at Capital Plant 4.

#### **6.1.1.2 Capital Plant 2 Source Area**

The nature and extent of VOCs in groundwater in the Water Table Zone suggest that a release(s) may have occurred from a degreaser formerly located at the southwest corner of Capital Plant 2, and from the former storage of chemicals at the Capital Plant 2 Canopy. The results of the pre-RI investigations, soil gas monitoring, and soil sampling



conducted during the excavation and reconstruction of the Capital Plant 2 building and during the RI did not detect residual concentrations of VOCs in soil that could act as a source of VOCs to groundwater at the Capital Plant 2 building or the Capital Plant 2 Canopy.

Subsurface soil conditions at Capital Plant 2 and the adjacent Capital Plant 2 Canopy were investigated during the pre-RI investigations, and are summarized in Section 5.1, Pre-RI Investigations (FSM 2004; ECS 2005; Farallon et al. 2008), and below. Concentrations of VOCs exceeding the screening levels were not detected in shallow soil samples collected in Capital Plant 2 (FSM 2004; ECS 2005). VOCs were not detected in PID monitoring conducted during the excavation and reconstruction of Capital Plant 2 (FSM 2004). Concentrations of VOCs exceeding the screening levels were detected in soil samples collected from depths ranging from 8.5 to 34 feet bgs in boring locations B1, B2, B5, and MW2, which are in the saturated Water Table Zone and considered to be representative of groundwater conditions (Farallon et al. 2008).

Most of the soil beneath Capital Plant 2 was excavated for the foundation and utility trenches for reconstruction of Capital Plant 2. Soil with elevated PID readings was screened and stockpiled, and soil samples were analyzed for HVOCs. Approximately 330 cubic yards of soil with no PID readings above background levels and no concentrations of VOCs detected was transported off the Capital Plant 2 site for use as fill on other construction sites. Approximately 19 cubic yards of “suspect soil” was stockpiled and analyzed for HVOCs. Stockpiled soil that did not contain HVOCs was reused as backfill (FSM 2004).

There are no analytical results or PID monitoring results that indicate there are concentrations of VOCs above the screening levels in soil remaining beneath Capital Plant 2 or the Capital Plant 2 Canopy.

COPCs exceeding the screening levels have been detected in groundwater in the Water Table Zone in and up- and down-gradient of Capital Plant 2. Concentrations of TCE in groundwater samples collected from the Water Table Zone are higher in samples

down-gradient of Capital Plant 2 than in groundwater samples collected from the Water Table Zone up-gradient of Capital Plant 2. The observed distribution of COPCs in groundwater suggests that releases of COPCs may have occurred in Capital Plant 2 or the Capital Plant 2 Canopy that migrated to groundwater and commingled with releases from up-gradient off-site sources at the BDC facility and/or the PSC facility (See Section 2.1.2, Up-Gradient Source Areas).

## **6.1.2 Up-Gradient Source Areas**

Known sources of COPCs to groundwater up-gradient of the Capital Property include the ABP facility, the BDC facility, and the PSC facility (Figure 4). A detailed discussion of each of these source areas is provided in the Data Summary Report and the RI Work Plan.

### **6.1.2.1 Art Brass Plating Facility**

The ABP facility is located approximately 700 feet north-northeast of the Capital Property, up-gradient of Capital Plant 1 and Capital Plant 5, on the western portion of the Capital Property (Figure 2). The ABP facility appears to be a contributing source of vinyl chloride detected in the Shallow and Intermediate Zones at Capital Plant 1 and Capital Plant 5 (Figures 19 to 33).

Concentrations of vinyl chloride above the screening level have been detected in groundwater in the Shallow and Intermediate Zones in monitoring well cluster CG-141, located southwest of Capital Plant 1, and in reconnaissance groundwater samples collected from the Shallow Zone from borings ECS15 and ECS16, located up-gradient of Capital Plant 5 and down-gradient of the ABP facility, and in boring ECS14, located west of Capital Plant 5. Concentrations of TCE and/or vinyl chloride exceeding the screening levels have been detected in reconnaissance groundwater samples collected from the Shallow and Intermediate Zones in ABP borings SPO 17, SPO 18, and SPO 19 (Aspect 2011), and in groundwater samples collected from the Shallow and Intermediate Zones in ABP monitoring wells MW-17-40 and MW-17-60, located along 1<sup>st</sup> Avenue South, north and up-gradient of Capital Plant 5 and down-gradient of the ABP facility.

Operations in Capital Plant 1 and Capital Plant 5 have not included the use or storage of any chemicals that could have been released to the environment. Concentrations of COPCs have not been detected in the Water Table Zone in monitoring well cluster CG-141, confirming that there has not been a release of COPCs at Capital Plant 1 or Capital Plant 5.

#### **6.1.2.2 Blaser Die Casting Facility**

Releases of COPCs to soil and groundwater have occurred at the BDC facility located north and up-gradient of Capital Plant 2 and the Capital Plant 2 Canopy (Figure 2). A release(s) of COPCs from the BDC facility have migrated to and commingled with a release(s) at Capital Plant 2 and the Capital Plant 2 Canopy in the Water Table, Shallow, and Intermediate Zones.

##### **Water Table Zone**

Concentrations of TCE and vinyl chloride above the screening levels have been detected in groundwater samples collected from the Water Table Zone in monitoring wells BDC-2-WT, BDC-3-WT, BDC-6-WT, and CG-136-WT (TCE only), all of which are located up-gradient of Capital Plant 2 and the Capital Plant 2 Canopy and down-gradient of the BDC facility (Figures 10 through 17). These results confirm that TCE released at the BDC facility has migrated to Capital Plant 2 and the Capital Plant 2 Canopy area in the Water Table Zone.

##### **Shallow Zone**

Concentrations of vinyl chloride above the screening levels have been detected in groundwater samples collected from the Shallow Table Zone in monitoring wells BDC-3-40, BDC-6-30, BDC-11-40, and CI-MW1-40, all of which are located up-gradient of Capital Plant 2 and the Capital Plant 2 Canopy and down-gradient of the BDC facility (Figures 19 through 25). These results confirm that vinyl chloride released at the BDC facility has migrated to Capital Plant 2 and the Capital Plant 2 Canopy area in the Shallow Zone.

### **Intermediate Zone**

Concentrations of vinyl chloride above the screening levels have been detected in groundwater samples collected from the Intermediate Zone in monitoring wells BDC-3-60, BDC-6-60, BDC-11-60 (one event only), and CI-MW1-60, all of which are located up-gradient of Capital Plant 2 and the Capital Plant 2 Canopy and down-gradient of the BDC facility (Figures 26 through 33). These results confirm that vinyl chloride released at the BDC facility has migrated to Capital Plant 2 and the Capital Plant 2 Canopy area in the Intermediate Zone.

BDC excavated 1,200 tons of soil with concentrations of HVOCs above the screening levels in 2008 as an interim cleanup action (PGG 2012). An unknown amount of residual contaminated soil remains beneath the BDC building. Concentrations of HVOCs above the screening levels have been detected in groundwater in the Water Table, Shallow, and Intermediate Zones after the completion of the interim action at the BDC facility.

#### **6.1.2.3 Philip Services Corporation Facility**

The PSC facility is located northeast and up-gradient of the Capital Property (Figure 2). Operations associated with treatment and storage of hazardous substances at the PSC (2003) facility released COPCs to soil and groundwater. A release(s) of COPCs from the PSC facility have migrated to and commingled with a release(s) at Capital Plant 2 and the Capital Plant 2 Canopy in the Shallow and Intermediate Zones.

Concentrations of vinyl chloride exceeding screening levels have been detected in groundwater in the Shallow and Intermediate Zones down-gradient of the PSC facility and up-gradient of the BDC facility and the Capital Property. Concentrations of vinyl chloride above the screening levels have been detected in groundwater samples collected from the Shallow and Intermediate Zones in monitoring wells BDC-10-40 and BDC-10-60, located north and up-gradient of the BDC facility. Concentrations of vinyl chloride above the screening levels, and 1,4-dioxane have been detected in groundwater samples collected from the Shallow Zone in monitoring well CG-134-40, located northeast and up-gradient of Capital Plant 4 (Table 12; Figures 18 and 23). Concentrations of

1,4-dioxane have not been detected above the screening level in groundwater samples collected from the Shallow Zone in monitoring wells BDC-10-40, BDC10-60, CI-8-40, CI-7-40, or CI-7-60 (Table 12). The concentrations of vinyl chloride and 1,4-dioxane in groundwater in the Shallow and/or Intermediate Zone up-gradient of the BDC facility and the Capital Property indicate that releases from the PSC facility have migrated west-southwest to the Capital Area of Investigation.

### **6.1.3 Other Source Areas**

The results of the RI have identified other potential sources of COPCs to groundwater within the Capital Area of Investigation, described below. These potential sources were unknown prior to the RI.

#### **6.1.3.1 Pacific Food Systems North Building**

The results of the Tier 3 VI Assessment of the Pacific Food Systems North Building located at 5815 4<sup>th</sup> Avenue South in Seattle, Washington indicate that there likely is a separate source of HVOCs in soil beneath the building. The Pacific Food Systems North Building is located northeast and up-gradient of the area where the degreaser in Capital Plant 4 was formerly located. The Pacific Food Systems North Building was occupied from 1985 to 1988 by Wear-Cote NW, a nickel-plating company; from 1988 to 1999 by Advance Forklift, a forklift repair shop; and from 1999 to the present by Pacific Food Systems for office and warehouse use.

Tier 3 VI Assessment sampling included collection and analysis of two indoor air samples in the building, one outdoor ambient air sample, and two sub-slab soil gas samples beneath the building. Concentrations of PCE, TCE, and cis-1,2-DCE above the laboratory reporting limits were detected in the two indoor air samples (Appendix F). Concentrations of PCE ranged from 840 to 4,200 micrograms per cubic meter; TCE ranged from 1,400 to 28,000 micrograms per cubic meter; and cis-1,2-dichloroethene was detected in one sub-slab soil gas sample at a concentration of 74 micrograms per cubic meter.

The analytical results for soil samples collected at 2, 5, and 7 feet bgs from boring B-18, located southeast of the Pacific Food Systems North Building detected concentrations of PCE and TCE below screening levels that are protective of groundwater (Figure 6). The analytical results for soil samples collected from borings ECS28, ECS38, ECS 39, and ECS40, located west-southwest of the Pacific Food Systems North Building detected concentrations of PCE and TCE in shallow soil (2 to 7 feet bgs) above the laboratory PQL and below the screening levels.

The nature and extent of PCE and TCE detected in shallow soil samples collected proximate to the Pacific Food Systems North Building, the up-gradient location relative to the suspected source area in Capital Plant 4, prior operations in the Pacific Food Systems North Building, and results from the Tier 3 VI Assessment suggest that there is a source of VOCs at the Pacific Food Systems North Building. Soil samples have not been collected from beneath the building slab. However, the weight of evidence suggests that the source of PCE and TCE is separate and distinct from the Plant 4 source. The nature and extent of a potential release of HVOCs at the Pacific Food Systems North Building has not been determined.

#### **6.1.3.2 CalPortland Property**

The results of the groundwater monitoring conducted for the RI have identified a source of HVOCs to groundwater on the CalPortland Property located at the southern end of the Capital Area of Investigation near Slip 2 of the LDW at 5975 East Marginal Way South in Seattle, Washington (Figure 2). The CalPortland Property includes a general truck and equipment maintenance and repair shop at the CalPortland eastern property boundary, approximately 75 feet east of Slip 2.

The RI included installation and monitoring of monitoring well clusters on and up-gradient of the CalPortland Property (Figure 3). Monitoring well clusters CI-17-WT and CI-17-30 are located approximately 50 feet south of the CalPortland Maintenance Building. Monitoring well clusters up-gradient of CI-17 include CI-18-WT and CI-18-30, located approximately 150 feet north-northwest of CI-17; CI-13-WT, CI-13-30, and

CI-13-60, located approximately 150 feet north of well cluster CI-17; and CI-16-WT, CI-16-30, and CI-16-60, located east of CI-17.

### **Water Table Zone**

Concentrations of PCE above the screening levels and concentrations of TCE, cis-1,2-DCE, and vinyl chloride above the laboratory PQL and below the screening levels have been detected in groundwater in the Water Table Zone in monitoring well CI-17-WT (Figure 16). Concentrations of PCE, TCE, or vinyl chloride have not been detected above the laboratory PQLs in groundwater in the Water Table Zone in monitoring wells CI-13-WT, CI-16-WT, or CI-18-WT, located up- and cross-gradient of monitoring well CI-17-WT. The detection of PCE and TCE in groundwater in the Water Table Zone in monitoring well CI-17-WT, which were not detected in groundwater in the Water Table Zone in up-gradient wells, indicates a release of PCE and TCE on the CalPortland Property.

Concentrations of PCE and TCE above the laboratory PQLs have not been detected in groundwater samples collected from the Shallow Zone in monitoring well CI-17-30, and have not been detected in groundwater samples collected from the Shallow Zone in monitoring wells CI-13-30, CI-16-30, or CI-18-30, or in the Intermediate Zone in monitoring wells CI-13-60 or CI-16-60, located up- and cross-gradient of CI-17-WT up-gradient wells. The detection of concentrations of PCE and TCE in groundwater in the Water Table Zone and not in the deeper Shallow Zone in monitoring well CI-17-30 indicates a release of PCE and TCE on the CalPortland Property.

## **6.2 CONTAMINANT FATE AND TRANSPORT**

This section presents the fate, transport, and potential migration pathways of the COPCs at the Capital Area of Investigation. The discussion is based on the hydrogeologic setting and the identification of a contaminant source(s) to provide a framework for subsequent risk evaluations.

### **6.2.1 Contaminant Transport Processes**

Subsurface contaminant movement depends on site environmental, physical, chemical, and biological characteristics and contaminant chemical properties. Migration pathway, mobility, and persistence are chemical-dependent and are affected by site environmental factors, including the concentration of other chemicals, oxidation-reduction potential, organic matter content, and the presence of microorganisms. Mobility is defined as the potential for a contaminant to migrate from a source. Persistence is a measure of how long a contaminant will remain in the environment.

The results of previous investigations confirm that PCE, TCE, and the associated degradation products are the primary COPCs at the Capital Area of Investigation. *cis*-1,2-DCE, *trans*-1,2-DCE, and vinyl chloride, the typical degradation products of PCE and/or TCE, have been detected at concentrations above laboratory PQLs or exceeding screening levels, and are included as primary COPCs for the Capital Area of Investigation. Iron, 1,4-dioxane, and manganese are contaminants that have not been released at Capital Industries and are not considered primary COPCs. Concentrations of 1,4-dioxane, iron, and manganese may have been released to groundwater by reaction with the primary COPCs, and are considered secondary COPCs.

The Agreed Order includes 1,4-dioxane, iron, and manganese as COPCs for the Capital Site; however, operations at the Capital Property have not included and do not include the use of chemicals that could be a source of 1,4-dioxane. Concentrations of 1,4-dioxane have been detected in groundwater above the laboratory PQL and below the screening level at the following locations:

#### **Water Table Zone Monitoring Wells**

- Down-gradient of the Capital Property at monitoring well CG-137-WT, located on the south side of Capital Plant 2; and at monitoring well MW-7, located on the south side of Capital Plant 4.



### **Shallow Zone Monitoring Wells**

- Down-gradient of the Capital Property at monitoring wells CG-137-40, CI-10-35, CI-14-35, and CI-9-40; and
- Up-gradient of the Capital Property at monitoring wells CI-MW-1-40 and BDC-3-40.

### **Intermediate Monitoring Wells**

- Down-gradient of the Capital Property at monitoring wells CG-141-50, CI-9-70, CI-10-50, and CI-14-35; and
- Up-gradient of the Capital Property at monitoring well BDC-3-60.

Concentrations of 1,4-dioxane that exceed the screening levels in the Shallow Zone have been detected in monitoring wells CI-7-40, CI-8-40, and BDC-10-40; and in the Intermediate Zone in monitoring well CI-7-60, located down gradient of Capital Plant 4, and monitoring wells CI-MW-1-60 and BDC-10-60, located up-gradient of the BDC facility (Table 12).

Concentrations of iron and manganese that exceed the screening levels have been detected throughout the Capital Area of Investigation in the Water Table, Shallow, and Intermediate Zone monitoring wells. Note that concentrations of iron and manganese in up-gradient BDC wells exceed screening levels in the Water Table, Shallow, and Intermediate Zones (Table 13).

For purposes of the contaminant fate and transport, the discussion focuses on the nature and extent of the primary COPCs in the Capital Area of Investigation (i.e., PCE, TCE, and vinyl chloride), as these would be indicative of the nature and extent of the secondary COPCs.

#### **6.2.1.1 Aquifer Properties and Tidal Influence**

Aquifer hydraulic properties, vertical gradients, and impacts of tidal influence from the LDW affect contaminant fate and transport within the Capital Area of Investigation. The hydrogeologic setting was discussed in Section 2.4. The results of the dry and wet season tidal investigations, which include the results of aquifer slug testing performed across the Capital Area of Investigation, were provided in a letter report (Farallon 2011b) and are

summarized in Appendix B. Aquifer properties calculated from the tidal studies and from data from the BDC facility are included in subsequent modeling activities.

Vertical gradients are interpreted to be moderate and variable between aquifer zones, and likely have little impact on contaminant migration. Tidal data indicate that horizontal gradients are relatively uniform within the area of tidal influence near the LDW, although some variation in flow direction and gradient was observed during a tidal cycle. Tidal mixing in the aquifers near the LDW likely affects contaminant concentrations near the shoreline.

#### **6.2.1.2 Vadose Zone Processes**

Contaminants occur in the vadose zone near the locations of the release (i.e., source areas). VOCs can volatilize from groundwater, and vapors can migrate by diffusion from groundwater to the ground surface. Contaminants released at the Capital Property source area have infiltrated into the subsurface and migrated downward by gravity or vapor-phase transport through the vadose zone. When low-permeability soil is encountered, contaminants may migrate laterally along the permeability contrast.

Chlorinated VOCs typically are released as dense nonaqueous-phase liquid (DNAPL) or dissolved in water. The relatively low concentrations of COPCs detected in groundwater at the Capital Property do not suggest the presence of DNAPL at the Capital Area of Investigation; however, COPCs are present in groundwater as dissolved phase. When the soil moisture content is low, pore water movement becomes limited, and contamination dissolved in pore water and sorbed to soil can remain in the vadose zone for long time periods. Therefore, contamination in the vadose zone can present a long-term source of COPCs to shallow groundwater. However, the shallow depth to the Water Table Zone at the Capital Area of Investigation limits the amount of vadose zone soil available as a potential source.

As discussed in more detail in Sections 5.1 and 5.2, a residual source of COPCs in soil was not detected in 75 soil samples collected from within the vadose zone at the Capital Property during the pre-RI investigations or the RI. Concentrations of COPCs above the

screening level were detected in only 1 of the 75 vadose zone soil samples collected at the Capital Property.

VOCs with high vapor pressure may volatilize from shallow groundwater and migrate as vapors through the vadose zone, resulting in potential exposure to contaminant vapors in ambient indoor air. Elevated VOC vapor concentrations and contaminant mass flux into buildings would be expected in areas of shallow groundwater with high VOC concentrations. Groundwater with low VOC concentrations, and deep or confined groundwater is not expected to present a potential for substantial upward migration of VOC vapors. Volatilization from groundwater in areas away from the source(s) of contamination is expected to be limited by the rate of the contaminant diffusion from groundwater.

#### **6.2.1.3 Saturated Zone Processes**

The movement of contaminants dissolved in groundwater is controlled by the mechanisms of advection and hydrodynamic dispersion. Of these mechanisms, advection is the dominant factor that transports the plume in the direction of groundwater flow in the predominantly sandy aquifer zones present at the Capital Area of Investigation.

##### **Advection and Dispersion**

Advection is the transport of a solute (or dissolved contaminant) by groundwater flow at a rate equal to the velocity of the flowing groundwater. Advection is the dominant transport mechanism for the COPCs at the Capital Area of Investigation.

Hydrodynamic dispersion is a combination of mechanical dispersion and molecular diffusion. Dispersion is the effect of non-uniform distribution of flow velocities at the pore scale due to aquifer heterogeneities that results in the spreading of solute along (longitudinal dispersion) and perpendicular to (transverse dispersion), the direction of groundwater flow. Increased dispersion results in a larger volume of contaminated groundwater at lower concentrations. Longitudinal dispersion typically is one to two orders of magnitude greater than horizontal transverse dispersion, which in turn is one to two orders of magnitude greater than vertical transverse dispersion. Vertical dispersion

may be important, depending on the vertical hydraulic gradients between aquifer zones. Vertical dispersion is expected to be minimal based on observed vertical gradients between zones at the Capital Area of Investigation.

Diffusion is driven by the solute concentration gradients according to Fick's Law. Diffusion is expected to be a very slow process relative to advection in the relatively permeable aquifers at the Capital Area of Investigation.

### **Sorption**

Sorption is the tendency for a chemical to adsorb to the soil grains within water-bearing zones. VOCs are known to adsorb to organic carbon, to mineral surfaces, and to the interface between air and water in the vadose zone. Because phase partitioning is fast relative to advective transport of VOCs, local equilibrium (i.e., instantaneous sorption and desorption) can be assumed. Sorption to organic carbon can be described by a linear partitioning coefficient,  $K_{oc}$ .

Sorption reduces the rate of contaminant migration, as the solute continuously sorbs and desorbs to maintain local equilibrium. This reduction in migration rate is referred to as retardation of contaminant in groundwater. Because VOCs also adsorb to mineral surfaces, some sorption is expected even if organic carbon content is low. For PCE, the threshold of organic carbon mass fraction is 0.0002 for surfaces of organic materials to be the primary sorption sites. However, sorption onto mineral surfaces is difficult to quantify (Fetter 1993).

The RI at the Capital Area of Investigation included collection of 12 soil samples for analysis for TOC, four soil samples from each of the three aquifer zones (the Water Table, Shallow, and Intermediate Zones) (Table 6). TOC ranged from 80 to 5,120 mg/kg, with an average of 1,293 mg/kg (corresponding to mass fractions ranging from approximately 0.00008 to 0.005, with an average of 0.0013). The average TOC fractions in the Water Table, Shallow, and Intermediate Zones were approximately 0.00045, 0.0014, and 0.002, respectively. Total organic carbon samples were collected at the BDC facility to the north, which indicated somewhat higher TOC values in soil (an

average mass fraction of 0.0029). These results indicate that VOC sorption to organic carbon occurs in groundwater at the Capital Area of Investigation; however, sorption is not a major factor controlling contaminant migration.

### **Degradation**

Figure 38 illustrates the biological degradation pathways for the chlorinated compounds present at the Capital Area of Investigation. The resulting daughter product of PCE dechlorination is TCE, which similarly may be reduced to cis-1,2-DCE, trans-1,2-DCE, and 1,1-DCE. These daughter products may be further reduced to vinyl chloride, and ultimately to ethene, ethane, and carbon dioxide if subsurface conditions are conducive to complete reductive dechlorination.

Reductive dechlorination is a biodegradation process that occurs under anaerobic conditions. During the reductive dechlorination process, bacteria use chlorinated ethenes as electron receptors, and the chlorine atom subsequently is replaced with a hydrogen atom. This process, also termed halorespiration, provides anaerobic bacteria with energy for metabolic growth. Reductive dechlorination is believed to be the primary degradation process occurring at the Capital Area of Investigation. The bacteria that biodegrade the chlorinated ethenes require food, energy, and shelter.

The food source is termed the electron donor, which is a source of carbon that is metabolized by various bacteria in groundwater to generate the hydrogen needed to fuel the reductive dechlorination process. Electron donors consist of small simplistic molecules such as sugars, organic acids, alcohols, organic compounds such as edible oils and chitin, man-made organic compounds such as aromatic hydrocarbons, and naturally occurring organic carbon such as peat. In most clean groundwater systems, the various bacterial communities aggressively compete for the available electron donor, including the bacteria known to biodegrade chlorinated ethenes.

The energy source is the electron receptor, which gains electrons during the biodegradation process. Bacteria typically can use multiple electron donors, but are limited to one or two electron receptors. Therefore, bacterial strains that can use

chlorinated ethenes as an electron receptor must be present for natural attenuation via biodegradation to be a viable remedial alternative. The electron receptors commonly present (listed in the order preferred by most bacteria) are oxygen, nitrate, manganese IV ( $\text{Mn}^{4+}$ ),  $\text{Fe}^{3+}$ , sulfate, and carbon dioxide.

The shelter for bacteria is the soil matrix, as the soil particles provide a surface for bacterial growth. In most groundwater systems, the bacteria typically are well protected within the pore spaces of the soil matrix, and are able to readily multiply in the presence of adequate supplies of electron donors and acceptors.

PCE and TCE degrade under anaerobic conditions by biodegradation processes only. These compounds will not abiotically degrade aerobically or anaerobically, and are not biodegraded aerobically. The subsurface environment typically must be nitrate-reducing to manganese-reducing to be sufficiently anaerobic to promote growth of the beneficial strains of bacteria for biodegradation of chlorinated ethenes. Because sulfate-reducing to methanogenic conditions are the most reducing/anaerobic environments, they are ideal for complete biodegradation of PCE and TCE.

Under anaerobic conditions, the rate of biodegradation typically decreases with each step of dechlorination. PCE will rapidly biodegrade to TCE, which will rapidly biodegrade to one or more of the DCE isomers. The most common DCE isomer produced typically is cis-1,2-DCE, followed by trans-1,2-DCE. Production of 1,1-DCE typically is the least common. Biodegradation of the DCE isomers to vinyl chloride typically is the slowest process, and occurs only under sulfate-reducing to methanogenic conditions. The biodegradation of vinyl chloride to ethene also is a relatively slow process that occurs under sulfate-reducing to methanogenic conditions.

PCE and TCE in groundwater extend from the Capital Property and the up-gradient BDC, PSC, and ABP facilities down-gradient toward the LDW. Concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride have been detected in groundwater on and down-gradient of the Capital Property. Detections of vinyl chloride are more widespread across the Capital Area of Investigation. The distribution of vinyl chloride and ratios of

parent to daughter products, especially within the Shallow and Intermediate Zones are indicative of a source(s) of HVOCs besides the Capital Property.

The daughter and end products of reductive dechlorination have greater transport velocities than the parent compounds. The presence of higher concentrations of vinyl chloride than what would be expected due to biodegradation of parent products at and down-gradient of suspected source locations at the Capital Property indicate an up-gradient source(s) of parent products undergoing reductive dechlorination and commingling plumes migrating across the Capital Property and the Capital Area of Investigation.

Detections of cis-1,2-DCE are commonly associated with detections of PCE or TCE in the Water Table Zone, and are believed to be a degradation product of TCE based on reasonable ratios of parent to daughter products and groundwater geochemistry that indicates moderately reducing conditions conducive to the biodegradation of PCE and TCE to cis-1,2-DCE. Similarly, concentrations of vinyl chloride in the Water Table Zone are within ranges expected for the biodegradation of the available cis-1,2-DCE under the reducing conditions present.

Although the extent of cis-1,2-DCE is broadly similar to that of PCE and TCE in the Water Table Zone, detected concentrations of vinyl chloride in the Shallow and Intermediate Zones exceed the likely rates of biodegradation based on the ratios of PCE and/or TCE to cis-1,2-DCE, and of cis-1,2-DCE to vinyl chloride. Concentrations of vinyl chloride are elevated with respect to concentrations of the parent products and do not consistently correspond with locations of the source(s) of PCE and/or TCE at the Capital Property.

Biodegradation rates of the parent products PCE and TCE are rapid under moderately reducing conditions. The reduction of cis-1,2-DCE to vinyl chloride requires more-substantial reducing conditions (i.e., sulfate-reducing to methanogenic conditions) to support complete reductive dechlorination at a rate at which natural attenuation becomes a viable remedial alternative without enhancement of existing subsurface

conditions. The geochemical data discussed in detail below indicate that the degree of reducing conditions increases with depth, and varies, possibly due to localized geologic conditions across the Capital Area of Investigation and up-gradient areas.

The HVOC data in groundwater indicates that biodegradation is occurring, since both parent and daughter products through ethene and chloride are present. The rate of biodegradation is expected to be more rapid in the Shallow and Intermediate Zones, where reducing conditions are more amenable to reductive dechlorination. However, a determination of a reliable rate of biodegradation is not possible due to the continuing influx of parent and daughter products from up-gradient sources.

### **6.2.2 Natural Attenuation Parameters**

Field water-quality measurements and analyses for the parameters listed in Section 5.2.9, Monitored Natural Attenuation Parameters Sampling Results, were conducted on groundwater samples collected from monitoring wells screened within the Water Table, Shallow, and Intermediate Zones. The field measurements and analytical results have been used to assess groundwater geochemistry and the potential for natural attenuation as a component of future remedial actions for the Capital Site. The results are summarized in Tables 13 and 14. Compounds indicative of biodegradation of PCE and/or TCE were detected, including DCE isomers and vinyl chloride, indicating the presence of anaerobic groundwater conditions capable of supporting reductive dechlorination. Groundwater geochemistry was further assessed for the degree of reducing conditions, including whether groundwater in each zone is sufficiently reducing to support complete biodegradation of PCE and TCE to ethene, and then to carbon dioxide and chloride ions.

#### **6.2.2.1 Water Table Zone**

The results for the groundwater samples collected from monitoring wells screened in the Water Table Zone indicate that groundwater conditions are reducing. The degree of reducing conditions appears to vary within the plume area.

Dissolved-oxygen measurements throughout the Site are typically less than 2.0 milligrams per liter (mg/l) (Table 14), indicating depletion of oxygen and reducing



conditions. Nitrate concentrations are low to below detection levels, indicating that nitrate is being used as an electron receptor in the biodegradation of PCE and/or TCE, and is being depleted. Nitrite, the reduced form of nitrate, was detected once at a very low concentration. The absence of nitrite is typical of most groundwater systems, and may be indicative of bacteria using the available nitrogen from the reduction of nitrate rather than formation of nitrite.

Concentrations of the reduced states of iron and manganese,  $\text{Fe}^{2+}$  and  $\text{Mn}^{2+}$ , have been detected, indicating that the oxidized states of these metals,  $\text{Fe}^{3+}$ , and  $\text{Mn}^{4+}$ , also are being used as electron receptors in the biodegradation of PCE and/or TCE, resulting in the production of  $\text{Fe}^{2+}$  and  $\text{Mn}^{2+}$ .

Sulfate is present in groundwater at most monitoring well locations at concentrations above 20 mg/l. Concentrations of sulfate less than 20 mg/l and decreasing trends in sulfate concentrations typically are desirable, indicating the presence of sulfate-reducing conditions. Sulfate-reducing conditions are necessary for accelerated reduction of DCE isomers to vinyl chloride, and ethene to carbon dioxide and chloride. The available results are insufficient to evaluate whether there is a decreasing trend in sulfate concentrations to indicate that groundwater conditions are sufficiently reducing to support sufficient populations of bacteria capable of using sulfate as an electron receptor in the biodegradation of DCE isomers and vinyl chloride. Sulfide, the reduced form of sulfate, also was analyzed for, and was absent. The absence of sulfide is typical under sulfate-reducing conditions because the sulfide may be mineralized and not detected.

Ethane, ethene, and methane were analyzed for. Ethane and ethene are degradation products of chlorinated ethenes, and are indicative of sulfate to methanogenic-reducing conditions necessary for the complete reductive dechlorination of PCE and/or TCE. Methane typically is indicative of the presence of methanogenic bacteria under extreme reducing conditions, or the presence of decaying organic materials within the water-bearing zone associated with the soil matrix materials. Methane was detected at variable concentrations, although concentrations were generally low, indicating that methanogenic-reducing conditions likely are present but are not predominant. The

absence of ethene and ethane at many of the monitoring well locations may be due to the relatively low concentrations of vinyl chloride available for biodegradation to ethane and ethene volatilization to the unsaturated soil zone, or the rapid biodegradation of these gases, which are readily biodegraded in the absence of a continuing source of parent compounds.

Chloride is a breakdown product of PCE and TCE biodegradation, and typically is higher in concentration at and down-gradient of the source area in comparison to up-gradient areas. Chloride was detected at monitoring wells where HVOCs were detected, and in down-gradient wells, indicating that reductive dechlorination of PCE and/or TCE is occurring.

Alkalinity is used as an indicator of carbon dioxide production resulting from biodegradation or, where methanogenic conditions exist, the use of carbon dioxide by bacteria. Typically, elevated alkalinity values within a source area and down-gradient within a plume of HVOCs relative to areas where HVOCs are not present are indicative that biodegradation likely is occurring. Alkalinity concentrations were generally similar in all monitoring wells sampled.

#### **6.2.2.2 Shallow Zone**

Results for groundwater samples collected from monitoring wells screened in the Shallow Zone indicate that groundwater conditions are reducing. Groundwater geochemistry is similar to that in the overlying Water Table Zone, but appears indicative of more sulfate to methanogenic-reducing conditions. Dissolved oxygen and nitrate are essentially depleted, as in the Water Table Zone. Both  $\text{Fe}^{2+}$  and  $\text{Mn}^{2+}$  are present, supporting conditions conducive to reduction of PCE and/or TCE to DCE isomers. Sulfate is present, but generally at lower concentrations within the Capital Area of Investigation. Concentrations of sulfate in groundwater samples collected by PGG at the BDC facility are similar to those in the Water Table Zone. Concentrations of methane are greater in the Shallow Zone than in the Water Table Zone, indicating that stronger reducing conditions likely are present. Alkalinity values also are higher in the Water

Table Zone, suggesting increased bacterial activity in this zone. The presence of chloride is indicative of biodegradation of HVOCs.

#### **6.2.2.3 Intermediate Zone**

Results for groundwater samples collected from monitoring wells screened in the Intermediate Zone indicate that groundwater conditions are reducing. Groundwater geochemistry is similar to that in the overlying Shallow Zone and also appears indicative of sulfate to methanogenic-reducing conditions. The geochemical parameters are indicative that complete reductive dechlorination of PCE and/or TCE is occurring. This conclusion is supported by the presence of chloride and/or ethene at multiple monitoring well locations. The BDC area appears particularly conducive to the reductive dechlorination process. Concentrations of ethane and ethene are greater at this area than at the Capital Property. Further, sulfate concentrations are notably lower at most monitoring well locations within the Intermediate Zone.

### **6.2.3 Physical and Chemical Properties of COPCs**

The fate and transport of COPCs in the Capital Area of Investigation is affected by the physical, chemical, and biological processes of the compounds and subsurface conditions. A brief discussion of each property is provided below.

#### **6.2.3.1 Water Solubility**

Water solubility is the maximum quantity of a chemical that can dissolve in a fixed quantity of water at a given temperature and pH. Solubility is compound-dependent. PCE and TCE are less soluble in water than is cis-1,2-DCE or vinyl chloride, but all are soluble and can migrate in the dissolved phase in groundwater.

#### **6.2.3.2 Pressure/Henry's Law Constant**

Evaporation of a chemical can occur wherever a contaminant is exposed to the atmosphere, generally at the ground surface, in the vadose zone, and at the water table. Vapor pressure provides an indication of the rate at which a chemical volatilizes. Chemicals with higher vapor pressures are expected to enter the atmosphere much more readily than chemicals with lower vapor pressures. Henry's Law constant (H) is a

conventional measure of volatility, and defines the potential for a dissolved contaminant to evaporate.  $H$  is more accurate than vapor pressure in estimating releases from water to air. Chemicals with  $H$  values higher than  $10^{-3}$  atmosphere-cubic meter per mole indicate a greater tendency for a dissolved contaminant to partition into the vapor phase. PCE and TCE have relatively high  $H$  and low solubility, and will readily volatilize from water to air.

#### **6.2.3.3 Density and Viscosity**

Most of the COPCs at the Capital Area of Investigation such as PCE, TCE, and cis-1,2-DCE are denser than water. When present in free phase, these compounds would form DNAPL, which has a potential for gravity-driven vertical migration through soil. However, as noted earlier, there are no data to suggest that DNAPL is present within the Capital Area of Investigation. The density of these compounds has a negligible effect when they are dissolved in groundwater. For example, PCE at its solubility of 150,000  $\mu\text{g/l}$  increases the density of pure water by only approximately 0.0057 percent. Naturally occurring dissolved inorganic compounds have a much greater effect on the density of groundwater than dissolved PCE.

#### **6.2.4 Fate and Transport in Groundwater**

This section provides a discussion of the migration and transformation of PCE, TCE, cis-1,2-DCE, and vinyl chloride within the Capital Area of Investigation. These contaminants are present at higher concentrations and/or frequency at the Capital Area of Investigation than are the remaining COPCs. The results of this assessment are used as initial input to the analytical flow and transport model described in Section 6.2.5, Groundwater Flow and Solute Transport Model Results.

As noted earlier, the confirmed and potential sources of the COPCs detected exceeding the screening levels at the Capital Area of Investigation include the ABP facility, the BDC facility, the PSC facility, and the Capital Property. Concentrations of COPCs have migrated down-gradient from each of these facilities in groundwater in the Water Table, Shallow, and Intermediate Zones that may have reached groundwater beneath and down-gradient of the Capital Property.

The interpretation of the groundwater data by Farallon supports the conclusion that the sources of concentrations of COPCs exceeding the screening levels detected in groundwater at and down-gradient of Capital Plant 2 likely are the result of releases of HVOCs at the Capital Property, the ABP facility, the BDC facility, and the PSC facility. The sources of the concentrations of COPCs exceeding the screening levels detected in groundwater in the Water Table Zone at and down-gradient of Capital Plant 2 likely are the result of commingling of releases from the Capital Property and an up-gradient source at the BDC facility, while COPCs in the Shallow and Intermediate Zones at and down-gradient of the Capital Property may be from releases at the Capital Property and other, up-gradient sources, including the BDC facility and the PSC facility. COPCs detected in groundwater in the Shallow and Intermediate Zones at the western portion of the Capital Area of Investigation likely are the result of commingling of releases from the up-gradient source at the ABP facility.

The interpretation of the groundwater data by Farallon supports the conclusion that the concentrations of COPCs detected in groundwater in the Water Table Zone at and down-gradient of Capital Plant 4 likely are the result of releases at the Capital Property. The concentrations of COPCs detected in the Shallow and Intermediate Zones at the Capital Property likely are from up-gradient sources at the BDC facility and the PSC facility that may have commingled with releases from Capital.

While multiple sources are contributing to the COPCs detected in groundwater at and down-gradient of the Capital Property, this discussion focuses on the fate and transport of COPCs as currently identified in groundwater irrespective of the potential source. As discussed with and approved by Ecology, the purpose of the fate and transport analysis is to evaluate the migration and transformation of COPCs in groundwater and the potential impact to down-gradient receptors.

The extent of COPCs in groundwater in each of the three water-bearing zones was evaluated over eight monitoring periods from March 2010 through June 2012 using monitoring well data. The analytical results from reconnaissance groundwater sampling were used to identify data gaps and guide the placement of the monitoring wells and are presented on Figures 7 through 9 and in Tables 8 and 9. Although the analytical results for the reconnaissance groundwater samples

were used to select monitoring well locations and screening depths, these data were not used to develop the groundwater COPC distribution contouring maps. The interpreted COPC distribution in each water-bearing zone for each of the monitoring events is shown on Figures 10 through 33. These data were used to estimate the extent of dissolved COPCs. The COPC distribution in each aquifer zone is described below.

#### **6.2.4.1 Water Table Zone**

The interpreted lateral distribution of COPCs in the Water Table Zone is shown on Figures 10 through 17. These maps illustrate the TCE and vinyl chloride plumes at concentrations exceeding screening levels emanating from the vicinity of Capital Plant 2 and the up-gradient BDC facility, and the PCE plume originating near Capital Plant 4. The COPC distribution is shown in cross-section on Figures 35 through 37.

The COPC data indicate that contaminant plumes have migrated down-gradient of the Capital Property in the Water Table Zone and have not reached the LDW. The TCE plume extends approximately 900 feet down-gradient of the Capital Property between wells CI-14-WT and CI-13-WT. Wells CI-16-WT, CI-18-WT, and CI-19-WT are the nearest wells to the LDW and act as “sentry” wells to indicate potential further migration of COPCs in the Water Table Zone. The concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride increase in well CI-17-WT compared to concentrations in up-gradient wells, indicating a separate source on the CalPortland property. The distribution of vinyl chloride in the Water Table Zone is less extensive than that of TCE in the area directly down-gradient of the Capital Property. Low concentrations of vinyl chloride were detected in the Water Table Zone in monitoring wells near Capital Plant 2, and sporadically in wells down-gradient of the Capital Property, including well CI-11-WT. The PCE plume emanating from the Capital Plant 4 area extends approximately 500 feet down-gradient of the Capital Property and does not approach the LDW. No COPCs have been detected in the other sentry wells, indicating that COPCs have not reached the LDW in the Water Table Zone.

The COPC maps indicate that the plumes are relatively stable and that COPC concentrations in the Water Table Zone have not increased significantly during the

28-month monitoring period. COPCs at concentrations exceeding screening levels have not reached beyond sentry well CI-13-WT, located proximate to and up-gradient of the LDW.

Concentrations of 1,4-dioxane have not been detected exceeding the screening level in the Water Table Zone. Iron and manganese are present throughout the Capital Area of Investigation at concentrations exceeding screening levels.

#### **6.2.4.2 Shallow Zone**

The interpreted distribution of COPCs in the Shallow Zone is shown in plan view on Figures 18 through 25. These figures illustrate the TCE and vinyl chloride plumes at concentrations exceeding screening levels emanating from the vicinity of Capital Plant 2 (and the up-gradient BDC and PSC facilities). PCE was not detected exceeding screening levels in the Shallow Zone in any of the monitoring wells during the eight monitoring events. The COPC distribution in the Shallow Zone is shown also in cross-section on Figures 35 through 37.

The data indicate that contaminant plumes have migrated down-gradient of the Capital Property in the Shallow Zone, but have not reached the LDW. A TCE plume is evident up-gradient of the Capital Property at well BDC-6-30, and down-gradient of Capital Plant-2, encompassing wells CI-10-35 and CI-14-35. The plume is approximately 600 feet in length and extends to an area between wells CI-14-35 and CI-13-30. Wells CI-16-30, CI-18-30, and C1-19-30 are the nearest wells to the LDW and act as sentry wells to indicate potential further migration of COPCs in the Shallow Zone. No TCE has been detected in wells CI-16-30 or CI-18-30.

The distribution of vinyl chloride is more extensive in the Shallow Zone than in the Water Table Zone and likely reflects up-gradient contributions of degradation products from the PSC facility or other sources. Although low concentrations of vinyl chloride have been detected down-gradient of the Capital Property, including in well CI-13-35, the highest vinyl chloride concentrations have been detected to the northwest in well CG-141-40, down-gradient of the ABP facility. Vinyl chloride has been detected in the

Shallow Zone in well CI-19-30, indicating that vinyl chloride may be discharging to the LDW. Vinyl chloride detected in this well likely represents the southern edge of the vinyl chloride plume from the ABP facility. Vinyl chloride has been detected in well CI-17-30 on the CalPortland property and likely represents the vertical migration from the source identified in the Water Table Zone.

The COPC maps indicate that the plumes are relatively stable and that COPC concentrations in the Shallow Zone have not increased significantly during the 28-month monitoring period. COPCs have not reached sentry wells CI-16-30 or CI-18-30, located proximate to and up-gradient of the LDW. 1,4-dioxane is present at concentrations exceeding screening levels both up- and down-gradient of Capital Plant 4. 1,4-dioxane is present in wells located up-gradient and north and northeast of Capital Plant 4, indicating that 1,4-dioxane is migrating onto the Capital Property from the PSC facility. Iron and manganese are present throughout the Capital Area of Investigation at concentrations exceeding screening levels.

#### **6.2.4.3 Intermediate Zone**

The interpreted distribution of COPCs in the Intermediate Zone is shown in plan view on Figures 17 through 21. These maps illustrate the vinyl chloride plume at concentrations exceeding screening levels in the Intermediate Zone. PCE and TCE were not detected in monitoring wells exceeding screening levels in the Intermediate Zone. The COPC distribution in the Intermediate Zone is shown in cross-section on Figures 35 through 37.

The vinyl chloride data indicate that a dissolved-phase plume is present in the Intermediate Zone down-gradient of the Capital Plant 1 and Capital Plant 5 area, with concentrations increasing laterally to the northwest (monitoring well CI-141-50), indicating a likely source up-gradient and to the northeast at the Capital Property at the ABP facility. Vinyl chloride has migrated down-gradient of the Capital Property in the Intermediate Zone, but has not reached the LDW. The vinyl chloride plume extends approximately 600 feet from the Capital Property to an area between monitoring wells CI-15-60 and CI-12-60. Monitoring wells CI-13-60 and CI-16-60 are located nearest the LDW and act as Intermediate Zone sentry wells to assess potential further migration of



COPCs in the Intermediate Zone. Vinyl chloride has not been detected exceeding screening levels in the Intermediate Zone sentry wells.

The COPC maps indicate that the vinyl chloride plume is relatively stable and that concentrations in the Intermediate Zone have not increased significantly during the 28-month monitoring period. COPCs exceeding screening levels have not reached beyond sentry wells CI-13-60 or CI-16-60, located up-gradient of the LDW.

1,4-dioxane is present at concentrations exceeding screening levels both up- and down-gradient of Capital Plant 4, and up-gradient of Capital Plant 2 in the Intermediate Zone. Iron and manganese are present throughout the Capital Area of Investigation at concentrations exceeding screening levels.

## **6.2.5 Groundwater Flow and Solute Transport Model Results**

An analytical fate and transport model was developed with the objective of simulating contaminant migration at the Capital Area of Investigation. The model serves as a tool for evaluation and development of technically feasible cleanup alternatives. The model development and results are summarized in the following sections.

### **6.2.5.1 Modeling Approach and Model Development**

The EPA BIOCHLOR model was used to evaluate the fate and transport of dissolved contaminants in groundwater at the Capital Area of Investigation. BIOCHLOR is an analytical fate and transport model that simulates one-dimensional advection, three-dimensional dispersion, linear adsorption, and reductive dechlorination with or without decay.

#### **Modeling Approach**

The modeling approach for the RI was based on prior discussions with Ecology, who requested a modeling approach differing from traditional methods that include model calibration. Specifically, Ecology requested a simplified approach whereby a source term is assigned and the model is run forward to simulate future conditions without calibrating to existing data, rather than constructing a model and running simulations with a given

set of input parameters for some length of time to simulate current conditions (the typical calibration method). The source term(s) would be representative of current HVOC concentrations in groundwater. At Ecology's request, source terms were specified as the maximum COPC concentration measured in groundwater over the RI monitoring period. The average COPC concentration measured over the RI monitoring period also was modeled as a source term. It was understood that there may be more than one "source" spatially for a given COPC, depending on the interpreted plume configuration. In terms of model development, existing concentrations of HVOCs in groundwater would essentially be ignored other than to help establish source terms. A source term would reflect a relative "hot spot" of HVOC concentrations. If more than one source term was applied within an aquifer zone (i.e., multiple hot spots), separate models would be run for each source. Although the aquifer zones are hydraulically connected, the hydraulic properties and contaminant concentrations vary vertically; therefore, each water-bearing zone was modeled independently.

While this approach will not provide the typical initial "picture" of groundwater concentrations to use as a starting point for future simulations, it will simulate down-gradient concentrations at receptors (e.g., the LDW) over time based on current sources. Although this approach will not necessarily help to establish how the plumes developed over time, it will reduce uncertainties associated with the history matching process. Uncertainty in the results will be assessed using sensitivity analysis. This approach is used for the Capital RI modeling discussed below.

### **Model Development**

Model inputs were based on field measurements where available, or on literature values if site-specific data were unavailable. A summary of model inputs used in the BIOCHLOR modeling is provided in Table 15. The BIOCHLOR input screens for each modeled water-bearing zone are provided in Appendix H. These inputs were discussed in advance with consultants for BDC and ABP so that similar model inputs would be used for the modeling effort for each facility. Key model inputs are discussed below.

## **Source Concentrations**

As noted above, source concentrations were selected based on HVOC concentrations detected in groundwater over the RI monitoring period. At Ecology's request, the maximum detected HVOC concentrations were used as source concentrations in the modeling. Ecology requested the use of maximum concentrations if a decreasing trend in concentrations could not be established, and due to the absence of monitoring (sentry) wells along the LDW, down-gradient of the Capital Area of Investigation. However, additional monitoring (sentry) wells have since been installed by Capital near the LDW to help evaluate HVOC concentrations in areas where groundwater is expected to discharge. In addition, stable or decreasing concentrations were observed at most monitoring wells representing source areas. For this reason, average HVOC concentrations measured over the RI monitoring period also were modeled as source terms for comparison, since these concentrations likely represent a more-realistic representation of source area concentrations over the RI monitoring period.

The sources were selected based on both HVOC concentrations and distance from the LDW. If multiple monitoring wells were present at roughly the same distance from the LDW, the greatest HVOC concentration (maximum or highest average concentration) in the group of monitoring wells was selected as the source. The specific HVOC source concentrations are listed in Table 15. The sources within each aquifer zone are identified as follows:

- **Water Table Zone**

- Source 1: Wells CI-12-WT and CI-14-WT, approximately 550 feet from the LDW
- Source 2: Well CI-10-WT, approximately 850 feet from the LDW
- Source 3: Wells MW-5, MW-6, and BDC-6-WT, approximately 1,500 feet from the LDW

- **Shallow Zone**
  - Source 1: Wells CI-12-30 and CI-14-35, approximately 550 feet from the LDW
  - Source 2: Well CI-14-40, approximately 1,050 feet from the LDW
- **Intermediate Zone**
  - Source 1: Well CI-15-60, approximately 850 feet from the LDW

### **Source Type and Simulation Time**

A continuous source was assumed for each source term. This is a conservative approach since the dissolved-phase “source” terms likely will decrease over time. A decaying source was simulated for some source areas if simulation results using a constant source indicated that HVOC concentrations may be exceeded at the LDW. Each model was run for a period of 500 years to ensure that steady-state conditions would be reached.

### **Hydraulic Conductivity**

Hydraulic conductivity values were based on slug testing performed in Capital monitoring wells (Appendix B). Aquifer slug test data obtained from the nearby BDC facility were used to calculate average hydraulic conductivity values for modeling. The geometric mean of the available hydraulic conductivity estimates was selected. Hydraulic conductivity values for each zone were as follows:

Water Table Zone	1.13E-02 centimeters per second
Shallow Zone	9.99E-03 centimeters per second
Intermediate Zone	2.13E-03 centimeters per second

### **Biotransformation Rate (Half-Life)**

Rates were selected based on a review of literature values to obtain rates that would be realistic and representative of site conditions. The values selected were obtained from Newell et al. (2002) and represent the 25<sup>th</sup> percentile of biodegradation rates for COPCs based on a review of BIOCHLOR modeling studies. The selected half-lives represent

relatively conservative values given the observed degradation of COPCs at the Capital Area of Investigation. The selected half-lives for BIOCHLOR modeling are as follows:

PCE	1.2 years
TCE	1.8 years
cis-1,2-DCE	1.6 years
Vinyl chloride	1.7 years

### **Dispersion**

The modified Xu and Eckstein (1995) method was used to calculate the longitudinal dispersivity value used in the model. The Xu and Eckstein (1995) method provides lower-range estimates of dispersivity, especially for large values of  $x$ , and was developed after weighing the reliability of the various field data compiled by Gelhar et al. (EPA 2000). Low-end estimates for transverse and vertical dispersivity ( $0.10 * \alpha x$  and 0, respectively) were selected to be conservative, and because these relations better fit high-reliability field data reported by Gelhar et al. (EPA 2000). Dispersivity was calculated assuming a plume length of 1,730 feet, a conservative assumption based on the longest expected plume length. The same dispersivity value was assigned for all model simulations.

### **Model Area Width and Length**

The model width was set to 500 feet, which represents a reasonable width for centerline plume estimates. The model area length corresponds to the specific distance from each source to the LDW.

### **Source Area Thickness and Width**

The source area thickness was set to 20 feet, which represents the approximate thickness of each water-bearing zone. The source area width was set to 50 feet at each source, a reasonable and conservative estimate of the aquifer width likely to contain the maximum source concentration for each simulation. While the observed plumes are wider than 50

feet, the full width of each plume contains COPC concentrations at much lower concentrations than the maximum observed values used for each source term.

### **Effective Porosity, Bulk Density, and Fraction Organic Carbon**

Effective porosity and bulk density values were selected based on literature values for similar sediment types. Fraction organic carbon values were based on analytical results for soil samples collected within the Capital Area of Investigation and from the BDC facility.

### **Retardation**

Adsorption to the soil matrix can reduce the concentration of dissolved contaminants moving through groundwater. The retardation factor is the ratio of the groundwater seepage velocity to the rate that organic chemicals migrate in the groundwater (EPA 2000). The degree of retardation depends on both aquifer and constituent properties. Retardation (R) is estimated from soil and chemical data using the following equation:

$$R = 1 + K_d \cdot \rho_b / n$$

Where:  $K_d$  = distribution coefficient

$\rho_b$  = bulk density

$n$  = effective porosity

The distribution coefficient ( $K_d$ ) is calculated as follows:

$$K_d = K_{oc} \cdot f_{oc}$$

Where:  $K_{oc}$  = organic carbon-water partition coefficient

$f_{oc}$  = fraction organic carbon on uncontaminated soil

Retardation factors were calculated for the COPCs included in the modeling analysis. The  $K_d$  value is dependent on both  $K_{oc}$  and  $f_{oc}$  values.  $K_{oc}$  values were obtained from the MTCA Cleanup Levels and Risk Calculations tables developed by Ecology. As noted above, fraction organic carbon ( $f_{oc}$ ) was

calculated based on data collected within the Capital Area of Investigation and the BDC facility.

The calculated retardation values ranged from 1.25 to 5. The retardation values used in each water-bearing zone are provided in the input screens for each model (Appendix H).

#### **6.2.5.2 Solute Transport Modeling**

Solute transport simulations were performed to evaluate the fate and transport of dissolved contaminants in groundwater within the Capital Area of Investigation. Specifically, the modeling objectives were to estimate:

- Which COPCs may reach the LDW as the plumes migrate down-gradient from each source area over time, and at what concentrations; and
- Peak concentrations of COPCs that may reach the LDW during plume migration.

Using the model inputs described above, BIOCHLOR simulations were performed for each source area within each water-bearing zone. Each model was run using both the maximum and average COPC concentration measured over the RI monitoring period. Simulations were run for a period of 500 years to ensure that steady-state conditions were reached. Centerline plume analysis was performed to estimate the maximum COPC concentrations at the modeled end point.

After each simulation had been completed, the simulated COPC concentrations were evaluated, and both peak and long-term COPC concentrations were recorded. The BIOCHLOR model simulates the generation of daughter products, and these values were automatically incorporated into the BIOCHLOR results.

### **Modeling Results**

The simulated peak and long-term COPC concentrations are presented in Table 16. The centerline plume results for each BIOCHLOR simulation are presented graphically in Appendix H. The simulation results indicate that neither peak nor long-term PCE, TCE,

or cis-1,2-DCE concentrations exceeding screening levels reach the LDW in the Water Table, Shallow, or Intermediate Zones using both maximum and average COPC concentrations as source terms. Simulations indicate that vinyl chloride may reach the LDW at concentrations slightly exceeding screening levels in the Water Table Zone using maximum observed vinyl chloride concentrations as source terms from Source Area 1 (wells CI-12-12 and CI-14-WT) and Source Area 2 (well CI-10-WT). However, simulations using average vinyl chloride concentrations as source terms did not indicate any concentrations exceeding screening levels at the LDW.

Simulations also indicate that vinyl chloride may reach the LDW at concentrations slightly exceeding screening levels in the Shallow Zone under both long-term and peak scenarios from Source Area 1 near wells CI-12-40 and CI-14-35 using both maximum and average vinyl chloride concentrations as source terms. Vinyl chloride does not appear to reach the LDW at concentrations exceeding screening levels in the Intermediate Zone. These simulations are conservative (i.e., continuous source terms and long half-lives) and do not account for tidal mixing that will dilute COPC concentrations before they enter the LDW.

For simulations that indicated the potential for vinyl chloride to reach the LDW at concentrations slightly exceeding the screening level, additional modeling was performed to assess the impact of a decaying source on model results. Although this approach is less conservative than the use of a continuous source term, it is more realistic because the modeled “source” represents dissolved-phase VOCs that will attenuate over time due to degradation and dispersion. As shown in Table 16 and noted above, three simulations indicated the potential for vinyl chloride to exceed screening levels at the LDW: one from Source Area 1 in the Water Table Zone; one from Source Area 2 in the Water Table Zone; and one from Source Area 1 in the Shallow Zone.

In the Water Table Zone, only simulations using maximum observed COPC concentrations indicated that vinyl chloride may exceed screening levels at the LDW, while both maximum and average COPC data resulted in exceedances in the Shallow Zone. COPC data from source area wells generally indicated stable COPC



concentrations in the Water Table Zone over the RI monitoring period, while data from the Shallow Zone indicated a downward trend in concentrations over time (Appendix H) and support the use of a decaying source term.

When a decaying source was used in the BIOCHLOR model (all other inputs remaining the same), the results indicated that both peak and long-term vinyl chloride concentrations would remain below screening levels at the LDW in the Water Table Zone (using maximum COPC concentrations) and in the Shallow Zone when using average COPC source concentrations. Shallow Zone simulations using a decaying source term continue to indicate vinyl chloride exceeding screening levels when maximum concentrations are used; however, the observed downward trend in vinyl chloride concentrations (Appendix H) indicates that the use of maximum concentrations is overly conservative. A relatively low source decay rate of 0.1 per year was used in these simulations. The results indicate that screening levels are unlikely to be exceeded for any of the COPCs reaching the LDW. Recent data from monitoring wells CI-17, CI-18, and CI-19 installed near the LDW indicate that COPCs originating from the Capital Property currently are not reaching the LDW in excess of screening levels. However, sources on the CalPortland Property have released HVOCs near the LDW, and therefore the modeling results cannot be confirmed. Although the effects of tidal mixing cannot be incorporated into the BIOCHLOR model, tidal mixing will decrease the concentrations of COPCs reaching the LDW, as noted above. Tidally influenced dispersion and mixing have been recognized in groundwater for over 50 years (Cooper 1959; Kohout 1960). Dilution and dispersion associated with tidal mixing in groundwater have been found to decrease contaminant concentrations reaching surface water bodies by a factor of 3 to 10 or more in many coastal areas. Therefore, tidal influences would further decrease the simulated COPC concentrations potentially reaching the LDW.

Sensitivity analysis was performed to establish the effect of uncertainty on the calibrated model. In BIOCHLOR, sensitivity analysis is recommended when literature values are used or when there is uncertainty in model input parameters (EPA 2000). Sensitivity analysis is performed by varying one input parameter while holding the others constant

and evaluating the effect of the parameter variation on the model results. For this modeling effort, a number of input parameters were tested for sensitivity. These parameters were source concentration, hydraulic conductivity, longitudinal dispersivity, solute half-life (biotransformation), and retardation. These parameters are considered most likely to have a significant impact on model results. Sensitivity analysis was completed for each water-bearing zone and source area using average source concentrations as the base case. Model inputs were increased or decreased by a factor of 2 for source concentration, dispersivity, and retardation, and inputs were modified by a factor of 5 for source concentration and a factor of 10 for hydraulic conductivity, as requested by Ecology.

Results of the sensitivity analysis are presented in Table 17. The most-sensitive parameters are source concentration, hydraulic conductivity, and solute half-life, each resulting in a roughly 200 to 300 percent increase or decrease in simulated COPC concentrations over baseline conditions. The sensitivity analysis indicates that vinyl chloride and TCE concentrations may exceed screening levels at the LDW under scenarios in which source concentration, hydraulic conductivity, and/or solute half-life are increased. However, both source concentration and hydraulic conductivity are reasonably well-established by site-specific data. For solute half-life, relatively conservative baseline literature values were selected for the modeling. Overall, the sensitivity analysis results support the conclusion that current source concentrations will not result in COPCs above screening levels reaching the LDW within a reasonable range of input parameters.

### **6.3 EXPOSURE ASSESSMENT**

This section presents the evaluation and conclusions pertaining to the potential exposure pathways from COPCs in the Capital Area of Investigation. Exposure scenarios are identified based on the current and future industrial use of the area and existing surface conditions that will be used to develop, evaluate, and select the final cleanup standards and cleanup action alternative.

The evaluation of soil, groundwater, and soil vapor analytical data collected for the RI indicates that the COPCs that exceed screening levels and present a potential risk to human health and the environment include PCE, TCE, vinyl chloride, 1,4-dioxane, iron, and manganese. Potential receptors of COPCs include humans and terrestrial ecological receptors (i.e., wildlife, soil biota, and plants). The results of the evaluation are as follows:

- **Human Receptors**—The Capital Area of Investigation is zoned Commercial or Industrial and is covered with structures or pavement, minimizing the exposure pathway. Although potential human contact with COPCs is limited, humans are considered to be potential receptors.
- **Terrestrial Ecological Receptors**—The Capital Area of Investigation is covered with buildings and pavement, with landscaping confined to small discontinuous areas. As a result, terrestrial ecological receptors (i.e., wildlife, soil biota, and plants) are not considered to be potential receptors. In addition, WAC 173-340-7491(1)(c)(i) confirms that facilities that contain less than 1.5 acres of contiguous undeveloped land on the facility or within 500 feet of any area of the facility affected by hazardous substances are excluded from having to conduct a Terrestrial Ecological Evaluation. The Capital Area of Investigation is covered with buildings and pavement that prevent exposure of wildlife receptors to Capital Area of Investigation soil. Therefore, the Capital Area of Investigation meets the necessary criteria for Primary Exclusions 2 and 3 of the Terrestrial Ecological Evaluation. The Ecology Terrestrial Ecological Evaluation—Primary Exclusion form is included in Appendix I.

### **6.3.1 Vapor Pathways**

The potential human health exposure pathways for vapor within the Capital Area of Investigation are:

- Incidental exposure to vapors volatilizing from contaminated soil and/or groundwater by future construction workers; and
- Vapor intrusion from soil vapor to indoor ambient air.

The exposure risk posed by incidental exposure to vapors by future construction workers can be mitigated by institutional and engineering controls. These controls may include a restrictive covenant that may include monitoring requirements or engineering controls during excavation.

The exposure risk posed by vapor intrusion to indoor ambient air has been evaluated under the Vapor Intrusion Assessment Work Plan (Farallon 2008b) and the Addendum to the Vapor Intrusion Assessment Work Plan (Farallon 2011a). The results of the Tier 3 VI Assessments conducted confirmed that the VI pathway for potential indoor air receptors is incomplete at five of the nine buildings assessed within the Capital Area of Investigation. Additional Tier 3 sampling will be conducted at the Gull Industries Building and the Pacific Food Systems South Building to confirm that the VI pathway is incomplete. Tier 4 mitigation has been recommended at the Pacific Food Systems North Building based on indoor air sampling results. Tier 4 mitigation is currently in place at the Olympic Medical Building based on a Tier 3 VI assessment conducted prior to the RI Investigation.

### **6.3.2 Soil Pathway**

The potential human health exposure pathways for soil within the Capital Area of Investigation are:

- Incidental ingestion and dermal contact with COPCs in soil by construction workers during excavations; and
- Inhalation of soil contaminants (as particulates) from fugitive dust generated during excavation.

Concentrations of COPCs have not been detected in soil in the vadose zone above screening levels that are protective of direct contact or inhalation for construction workers during excavations. The limited area of soil where concentrations of COPCs have been detected above the laboratory PQLs is covered with concrete, asphalt, and/or building structures, which minimizes the risk of direct contact.

### **6.3.3 Groundwater Pathway**

The potential human health exposure pathways for groundwater within the Capital Area of Investigation are:

- Incidental ingestion and dermal contact with COPCs in groundwater by construction workers during excavations that extend into groundwater; and
- Ingestion of groundwater as a drinking water source.

The ground surface is capped with concrete, asphalt, and/or building structures; therefore, excavation activities would be required for direct contact with groundwater to become a potential risk to human health. Potential exposure pathways include the direct contact pathway through dermal contact with and/or incidental ingestion of groundwater by current or future construction workers during excavations. Future development activities at the Capital Area of Investigation could result in short-term exposure of contaminated groundwater to construction workers.

No groundwater supply wells used for potable water supply are present at or in the vicinity of the Capital Area of Investigation. In addition, use of groundwater as a potable water supply is not permitted within Seattle city limits. As discussed in Section 2.3.5, Groundwater Use, groundwater is considered a non-potable resource and cannot be used as a drinking water source at the Capital Area of Investigation or adjacent properties, and there is no practical use for groundwater in the Capital Area of Investigation.

### **6.3.4 Surface Water Pathway**

The potential exposure risks associated with the discharge of groundwater with COPCs to the surface water pathway to the LDW are:

- Incidental ingestion and dermal contact with COPCs in surface water from discharge of groundwater with COPCs;
- Human consumption of fish from the LDW that has come into contact with contaminated surface water; and

- Exposure of ecological receptors to COPCs either through direct contact with contaminated surface water or sediments or by ingesting other ecological receptors that have become contaminated due to groundwater discharges.

The results from the RI, specifically groundwater monitoring data from well clusters CI-16 and CI-18 coupled with the results from groundwater modeling, confirm that concentrations of COPCs exceeding screening levels (which are protective of surface water) do not and will not discharge to the LDW. Therefore, there is no complete exposure pathway for surface water.

The results of the conservative BIOCHLOR model confirm that concentrations of vinyl chloride exceeding the screening level may reach surface water of the LDW in 15 years. Although there may be a surface water exposure pathway in the future, the model parameters are extremely conservative, and the potential for contaminated groundwater to reach the LDW is low. Sensitivity analysis results support the conclusion that current source concentrations will not result in COPCs above screening levels reaching the LDW within a reasonable range of input parameters.

## **6.4 CONCEPTUAL SITE MODEL SUMMARY**

This section summarizes the Conceptual Site Model, including the nature and extent of contamination, sources of contamination, contaminant fate and transport, and potential exposure and receptor pathways.

### **6.4.1 Nature and Extent of Contamination**

The primary COPCs that include the chlorinated solvents PCE, TCE, cis-1,2-DCE, and vinyl chloride and the secondary COPCs that include 1,4-dioxane, iron, and manganese have been detected in one or more of the water-bearing zones underlying the Capital Area of Investigation. The sources of the COPCs include the Capital Property; the BDC, PSC, and ABP facilities; the CalPortland Property; and a former tenant at the Pacific Food Systems North Building.

#### **6.4.1.1 Water Table Zone**

Concentrations of PCE, TCE, and vinyl chloride above the screening levels have been detected beneath and down-gradient of the Capital Property in groundwater in the Water

Table Zone that originate from sources at the Capital Property and from up-gradient sources at BDC. The concentrations of TCE and vinyl chloride that exceed the screening levels in groundwater in the Water Table Zone extend from beneath the Capital Plant 2 area and up-gradient of the BDC facility to the southwest in the direction of groundwater flow toward the LDW. Concentrations of 1,4-dioxane have not been detected in groundwater exceeding the screening level in the Water Table Zone. Concentrations of iron and manganese have been detected in groundwater throughout the Capital Area of Investigation exceeding the screening levels. Monitoring well data and groundwater modeling confirm that COPCs have not reached and will not reach the LDW from sources within the Capital Area of Investigation.

#### **6.4.1.2 Shallow Zone**

Concentrations of TCE and vinyl chloride above the screening levels have been detected in groundwater up- and down-gradient of the Capital Property in the Shallow Zone. Concentrations of TCE extend in groundwater in the Shallow Zone down-gradient of Capital Plant 2. Concentrations of vinyl chloride are widespread across the Capital Area of Investigation in groundwater in the Shallow Zone, with concentrations increasing to the west, suggesting a primary parent product (TCE) source area up-gradient to the northeast at the PSC facility. Concentrations of PCE have not been detected exceeding screening levels in the Shallow Zone. Concentrations of 1,4-dioxane exceeding screening levels have been detected in groundwater both up- and down-gradient of Capital Plant 4. Concentrations of 1,4-dioxane have been detected in groundwater up-gradient and north and northeast of Capital Plant 4, indicating that 1,4-dioxane is migrating onto the Capital Property from the PSC facility. Concentrations of iron and manganese have been detected in groundwater present throughout the Capital Area of Investigation in the Shallow Zone.

#### **6.4.1.3 Intermediate Zone**

Vinyl chloride is the only COPC detected at concentrations exceeding screening levels in groundwater in the Intermediate Zone, with the exception of TCE detected in reconnaissance groundwater samples collected south of the Olympic Medical Building.

Concentrations of TCE have not been detected in Intermediate Zone groundwater samples collected from the monitoring well at this location. Vinyl chloride concentrations are not as widespread in the Intermediate Zone as in the Shallow Zone, and are greatest in the northwest portion of the Capital Area of Investigation. The data suggest a primary parent source area northeast of the Capital Property at the PSC facility.

The data indicate that COPCs are distributed differently within the three water-bearing zones. Although the Water Table, Shallow, and Intermediate Zones are hydraulically connected, there appears to be stratification of COPCs vertically. PCE, for example, is not detected exceeding the screening level in the Shallow or Intermediate Zones, but is present in the vicinity of Capital Plant 4 in the Water Table Zone. Similarly, TCE is not detected in the Intermediate Zone (with the exception of south of the Olympic Medical Building, where it was detected in reconnaissance samples) exceeding the screening level, but is present in the Water Table and Shallow Zones.

COPC concentrations decrease with depth within the Capital Area of Investigation. These data suggest that vertical flow of groundwater (and hence advective transport of COPCs) is limited within the Capital Area of Investigation. Data from the tidal study performed by Capital confirm that vertical gradients are relatively small and variable between zones during a tidal cycle. The COPC plumes appeared to be relatively stable over the eight groundwater monitoring events conducted between March 2010 and June 2012. The contaminant distribution in each zone follows the main direction of groundwater flow at the Capital Area of Investigation, to the southwest from the Capital Property, toward the LDW.

#### **6.4.2 Sources of Contamination**

Suspected sources of contamination at the Capital Property include releases from a vapor degreaser that was formerly located in Capital Plant 4, a solvent-based parts cleaner that was formerly associated with painting operations in Capital Plant 2, and former chemical storage in the Capital Plant 2 Canopy. Concentrations of PCE above the screening level were detected in one soil sample at Capital Plant 4. COPCs have not been detected in soil above the screening levels elsewhere at the Capital Plant or within the Capital Area of Investigation. A residual source of HVOCs in soil was not identified from the analytical results for the soil samples collected from the Capital Property.



Up-gradient sources of COPCs include the BDC, ABP, and PSC facilities. The data indicate that TCE and vinyl chloride in the Water Table and Shallow Zones are migrating in groundwater onto the Capital Area of Investigation from these up-gradient sources. A down-gradient source of HVOCs to groundwater has been identified at the CalPortland Property, adjacent to Slip 2 of the LDW. There is a likely source of HVOCs to soil at the Pacific Food Systems North Building.

### **6.4.3 Contaminant Fate and Transport**

The Conceptual Site Model summary relating to COPC fate and transport in groundwater is discussed below.

#### **6.4.3.1 Groundwater**

The fate and transport of COPCs in groundwater within the Capital Area of Investigation is affected by a variety of chemical, physical, and biological processes. Some of the chemical and biological processes are destructive and result in contaminant mass removal from groundwater.

The presence of the primary COPCs PCE and TCE daughter products throughout the Capital Area of Investigation indicates that these compounds are undergoing degradation. The extent of PCE and TCE is less than that of the daughter products, particularly vinyl chloride. The greater extent of the daughter products may be an indication that PCE and TCE are degrading both at the source areas and farther down-gradient. These data suggest that natural attenuation is effectively limiting the down-gradient migration of the PCE and TCE plumes toward the LDW.

The groundwater monitoring and modeling results confirm that PCE, TCE, and cis-1,2-DCE will not reach the LDW in any of the water-bearing zones based on the modeling approach stipulated by Ecology using current COPC concentrations to represent non-decaying source terms. This indication holds true for both peak and long-term scenarios. However, the very conservative modeling results suggest that vinyl chloride concentrations may slightly exceed the screening level in groundwater that discharges to the LDW from the Water Table and Shallow Zones over time. Peak concentrations at

one of the modeled source areas in the Water Table Zone indicate a possible vinyl chloride concentration of approximately 1.5 µg/l roughly 15 to 20 years from the present, which only slightly exceeds the screening level of 1.28 µg/l. Similarly, simulated vinyl chloride concentrations in the Shallow Zone indicate a potential vinyl chloride concentration of 2.9 µg/l under long-term scenarios (500 years), slightly exceeding the screening level of 1.69 µg/l. However, these simulations were run under very conservative assumptions, including a continuous source of COPCs for 500 years, which is highly unlikely given the dissolved-phase nature of the source. The simulations also assume relatively long half-lives and do not account for tidal mixing that will dilute COPC concentrations before they enter the LDW. As noted in Section 6.2.5, Groundwater Flow and Solute Transport Model Results, the use of a decaying source term, which is more realistic based on known source conditions, results in modeled concentrations that do not exceed screening levels at the LDW.

Concentrations of the secondary COPC 1,4-dioxane have been detected in groundwater up-gradient of and at the Capital Property. These results suggest an up-gradient source of 1,4-dioxane at the PSC facility, or organic reaction with the primary COPCs that have released 1,4-dioxane to groundwater. Concentrations of iron and manganese above the screening level have been detected in groundwater throughout the Capital Area of Investigation and are co-located with concentrations of the primary COPCs, suggesting that the concentrations of iron and manganese are the result of organic reaction with the primary COPCs.

The site data and modeling results support consideration of monitored natural attenuation as a viable option for treatment of the COPCs present within the Capital Area of Investigation. Monitored natural attenuation will be evaluated with other technically feasible cleanup alternatives in the Feasibility Study.

## **7.0 REMEDIAL INVESTIGATION SUMMARY AND CONCLUSIONS**

The RI Report has been prepared in accordance with the requirements of the Agreed Order and the Ecology-approved RI Work Plan. The initial phases of the RI were completed in March 2011. Data gaps identified in 2011 and discussed with Ecology (Appendix C) were addressed with additional data gathering in 2012. The results of the RI adequately characterize the nature and extent of contamination and subsurface conditions at the Capital Area of Investigation to evaluate technically feasible cleanup alternatives consistent with the requirements of WAC 173-340-350. This section presents a summary of the RI and conclusions.

### **7.1 CONCEPTUAL SITE MODEL SUMMARY**

The following provides a summary of the Conceptual Site Model that identifies the COPCs and media of concern, the sources of COPCs, and the nature and extent of COPCs in soil and groundwater. Monitored natural attenuation data, groundwater flow direction, VI assessments, fate and transport modeling, and the exposure pathway evaluation also are discussed.

#### **7.1.1 Contaminants of Potential Concern and Media of Concern**

The COPCs defined by the Agreed Order for the Capital Area of Investigation include:

- PCE;
- TCE;
- cis-1,2-DCE;
- trans-1,2-DCE;
- Vinyl chloride;
- 1,4-dioxane;
- Iron; and
- Manganese.

Based on the results of the RI, the COPCs that exceed screening levels in soil or groundwater that have been retained based on known sources in the Capital Area of Investigation for evaluation by the Conceptual Site Model include:

- PCE;
- TCE;
- Vinyl chloride;
- 1,4-dioxane;
- Iron; and
- Manganese.

Concentrations of 1,4-dioxane that exceed the screening levels have been detected in groundwater samples collected from the Shallow and Intermediate Zones down-gradient of Capital Plant 4 and at locations up-gradient of Capital Plant 2 and Capital Plant 4. Operations at the Capital Property have not included and do not include the use of chemicals that could be a source of 1,4-dioxane. Concentrations of iron and manganese that exceed the screening levels have been detected throughout the Capital Area of Investigation in groundwater in Water Table, Shallow, and Intermediate Zone monitoring wells. Concentrations of iron and manganese in groundwater in up-gradient BDC wells exceed screening levels in the Water Table, Shallow, and Intermediate Zones.

For purposes of contaminant fate and transport, the discussion focused on the nature and extent of PCE, TCE, and vinyl chloride.

#### **7.1.2 Sources of Contaminants of Potential Concern**

The known sources of COPCs to the Capital Area of Investigation include releases of solvents from former operations at Capital Plant 2 and Capital Plant 4. Other sources include releases from the BDC, ABP, and PSC facilities, the Pacific Food Systems North Building; and the CalPortland facility. COPCs have migrated in groundwater to the Capital Area of Investigation from the up-gradient sources at the BDC, ABP, and PSC facilities and have comeled with the COPCs from the Capital Industries sources.

### **7.1.3 Nature and Extent of Contaminants of Potential Concern in Soil**

The only detection of COPCs that exceeds the screening levels in soil at the Capital Area of Investigation is TCE, which exceeded screening levels in one soil sample collected in Capital Plant 4 at a depth of 2.9 feet bgs. Concentrations of COPCs exceeding screening levels have not been detected in soil in any other areas within the Capital Area of Investigation. There is no evidence of a residual source of COPCs in soil that could affect groundwater at the Capital Area of Investigation.

The results of the RI have delineated the vertical and lateral extent of VOCs in soil at the Capital Area of Investigation. The known nature and extent of VOCs in soil at the Capital Area of Investigation with the exception of the Pacific Food System North Building source area, is sufficiently delineated to evaluate technically feasible cleanup alternatives.

### **7.1.4 Nature and Extent of Contaminants of Potential Concern in Groundwater**

The RI used the nomenclature for three water-bearing zones that is consistent with the water-bearing zones defined by PSC (2003). The Water Table Zone corresponds to approximately the upper 10 feet of the Shallow Aquifer, from first-encountered groundwater to approximately 20 feet bgs; the Shallow Zone is below 20 feet bgs and above 40 feet bgs; and the Intermediate Zone includes the water-bearing zone below 40 feet bgs extending to a depth of 70 feet bgs. The groundwater flow direction in all of the water-bearing zones is southwest. Concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride have been detected in groundwater in one or more of the water-bearing zones underlying the Capital Area of Investigation.

#### **Water Table Zone**

Concentrations of PCE, TCE, and vinyl chloride have been detected in groundwater in monitoring wells located up- and down-gradient of the Capital Property in the Water Table Zone. The dissolved-phase TCE and vinyl chloride plumes in the Water Table Zone extend from the BDC facility to beneath the Capital Plant 2 area to the southwest in the direction of groundwater flow toward Slip 2 of the LDW. Concentrations of PCE and TCE have been detected in groundwater in wells located at and down-gradient of Plant 4. Monitoring well data suggest that

PCE, TCE, and vinyl chloride in the Water Table Zone have not reached the LDW from sources within the Capital Area of Investigation based on data from sentinel wells CI-18-WT and CI-16-WT. There is a source of PCE, TCE, and vinyl chloride in the Water Table Zone at the CalPortland facility adjacent to Slip 2, which prevents conclusive monitoring of the down-gradient edge of the contaminant plumes at well cluster location CI-17. Concentrations of iron and manganese exceeding screening levels have been detected in groundwater in the Water Table Zone throughout the Capital monitoring well network. The concentrations of iron and/or manganese may be the results of reaction of VOCs with the subsurface. Concentrations of 1,4-dioxane have not been detected above screening levels in groundwater in the Water Table Zone.

### **Shallow Zone**

Concentrations of TCE and vinyl chloride have been detected in groundwater up- and down-gradient of the Capital Property in the Shallow Zone. Elevated concentrations of TCE have been detected in groundwater in the Shallow Zone in the vicinity of monitoring wells CI-10-35 and CI-14-35, south of the Olympic Medical Building, that are higher than concentrations of TCE and vinyl chloride detected in groundwater samples collected immediately down-gradient of Capital Plant 2.

Concentrations of vinyl chloride are widespread across the Capital Area of Investigation in groundwater in the Shallow Zone. Concentrations of vinyl chloride increase in the vicinity of monitoring well MW-17-40 to the west and down-gradient of a source area identified up-gradient and north of Capital Plant 5, and northeast of monitoring well CG-141-40. Concentrations of vinyl chloride exceeding screening levels detected in monitoring wells BDC-3-40, BDC-6-30, and CG-136-40, located up-gradient of Capital Plant 2, indicate that vinyl chloride is migrating beneath Capital Plant 2 in the Shallow Zone. Concentrations of vinyl chloride exceeding the screening level were detected in monitoring well CI-8-40, located north of Capital Plant 4, indicating that vinyl chloride is migrating onto the Capital Property. This well is located cross-gradient of the BDC facility, and the source of the vinyl chloride is likely releases from the PSC facility, up-gradient and to the northeast.

PCE exceeding the screening level was not detected in groundwater in the Shallow Zone within the Capital Area of Investigation.

Concentrations of 1,4-dioxane exceeding the screening level were detected in Shallow Zone wells located up- and down-gradient of Capital Plant 4. Concentrations of 1,4-dioxane above the screening level were detected in groundwater in up-gradient wells CG-134-40 and CG-131-40, indicating that 1,4-dioxane is migrating beneath Capital Plant 4 and is likely from an up-gradient source, possibly from a documented release at the PSC facility.

Concentrations of iron and manganese exceeding the screening levels have been detected in groundwater in the Shallow Zone throughout the Capital Area of Investigation.

### **Intermediate Zone**

Vinyl chloride was detected in groundwater at concentrations exceeding the screening level in the Intermediate Zone. Concentrations of vinyl chloride are not as widespread in groundwater in the Intermediate Zone as in groundwater in the Shallow Zone. Concentrations of vinyl chloride are greatest in the northwest portion of the Capital Area of Investigation, in the vicinity of monitoring well MW-17-60, down-gradient of a source area identified up-gradient and north of Capital Plant 5 and northeast of monitoring well CG-141-40.

Concentrations of 1,4-dioxane exceeding the screening level were detected in monitoring well CI-MW-1-60, located up-gradient of Capital Plant 2, and monitoring well CI-7-60, located down-gradient of Capital Plant 4 during one sampling event. Concentrations of 1,4-dioxane exceeding the screening level were not detected at these two locations during the March 2011 monitoring event.

Concentrations of iron and manganese exceeded the screening level at all monitoring wells sampled during the monitoring events.

#### **7.1.5 Monitored Natural Attenuation Data**

The geochemical results for groundwater samples collected from the Water Table Zone support the chemical analytical data, indicating that PCE and/or TCE are being biodegraded through reductive dechlorination. The geochemical data indicate that groundwater conditions are

sufficiently reducing to support the complete reduction of PCE and/or TCE to chloride and carbon dioxide. Natural attenuation or enhanced natural attenuation appears to be a potentially viable remedial alternative for the Water Table Zone.

Geochemical conditions in the Shallow Zone indicate that groundwater conditions are amenable to the complete reductive dechlorination of PCE and/or TCE. Natural attenuation or enhanced natural attenuation appears to be a potentially viable remedial alternative for the Shallow Zone.

Geochemical conditions in the Intermediate Zone indicate that groundwater conditions are amenable to the complete reductive dechlorination of PCE and/or TCE. Natural attenuation or enhanced natural attenuation appears to be a potentially viable remedial alternative for the Intermediate Zone.

The HVOC data in groundwater indicate that biodegradation is occurring, since both parent and daughter products through ethene and chloride are present. The rate of biodegradation is expected to be more rapid in the Shallow and Intermediate Zones, where reducing conditions are more amenable to reductive dechlorination. However, determination of a reliable rate of biodegradation is not possible due to the continuing influx of parent and daughter products from up-gradient sources.

#### **7.1.6 Groundwater Flow Direction**

Groundwater elevations ranged from 2.57 to 10.16 feet in the monitoring wells screened in the Water Table, Shallow, and Intermediate Zones.

##### **Water Table Zone**

The approximate direction of groundwater flow in the Water Table Zone for the Capital Area of Investigation was southwest, with a slight southerly deflection in the groundwater flow direction for the Water Table Zone noted in the vicinity of the intersection of 1<sup>st</sup> Avenue South and East Marginal Way for the June 2010 monitoring event, and a slightly more-westerly direction in the same area noted for the December 2010 monitoring event. Flow direction north of Orcas Street was more generally toward the west. The average horizontal hydraulic gradient for the Water Table Zone for the Capital Area of Investigation ranged from 0.002 to 0.003 foot per foot.



### **Shallow Zone**

The approximate direction of groundwater flow in the Shallow Zone was southwest, with a slight southerly deflection in the groundwater flow direction for the Shallow Zone noted in the vicinity of the intersection of 1<sup>st</sup> Avenue South and East Marginal Way for the June and September 2010 monitoring events. Flow direction north of Orcas Street was more generally toward the west. The average horizontal hydraulic gradient for the Shallow Zone ranged from 0.001 to 0.002 foot per foot.

### **Intermediate Zone**

The approximate direction of groundwater flow in the Intermediate Zone was southwest. A slight westerly deflection in the groundwater flow direction for the Intermediate Zone was noted in the vicinity of the intersection of 1<sup>st</sup> Avenue South and East Marginal Way for the March 2011 monitoring event. A slight southerly deflection in the groundwater flow direction for the Intermediate Zone was noted in the vicinity of the intersection of South Fidalgo Street and East Marginal Way for the September 2011 monitoring event. The average horizontal hydraulic gradient for the Intermediate Zone in the Capital Area of Investigation was 0.002 foot per foot.

The potentiometric head differences for nested monitoring wells screened in the Water Table, Shallow, and Intermediate Zones for the Capital Area of Investigation were negligible, indicating that vertical hydraulic gradient is not a factor in vertical transport of contaminants.

The results for the wet and dry season tidal studies show that the hydraulic gradient and groundwater flow direction in the three aquifer zones are relatively consistent during a tidal cycle. The only exception was noted in the Intermediate Zone during the dry season tidal study, when the hydraulic gradient increased to approximately 0.008 near the LDW, and flattened to the northeast. An anomalously high groundwater elevation was calculated in well CI-19-WT during the April 2012 tidal study. The reason for this anomalous elevation is unclear, although it may be due to the proximity of the LDW and/or the type of fill material in which the monitoring well was constructed. Based on these data, tidal influence extends approximately 600 to 700 feet inland from the bank of Slip 2 of the LDW, and approximately 1200 feet inland from the bank of the LDW near well cluster CI-19. Although minor variations in flow direction occur as a result

of tidal influence, the flow direction within the Capital Area of Investigation remains predominantly southwest, toward Slip 2 of the LDW, during a tidal cycle.

Hydraulic conductivity estimates obtained using both tidal data and slug test results indicate relatively high hydraulic conductivity in the Water Table and Shallow Zones (approximately 100 to 200 feet per day). Hydraulic conductivity in the Intermediate Zone appears to be lower than that in the Water Table Zone based on slug test results (approximately 5 to 10 feet per day).

#### **7.1.7 Vapor Intrusion Assessments**

The VI Assessment program was conducted to evaluate the VI exposure pathway for migration of VOCs to ambient indoor air of commercial and industrial buildings within the Capital Area of Investigation, as defined in the Ecology-approved Vapor Intrusion Assessment Work Plan (Farallon 2008b). Commercial and industrial properties within the Capital Area of Investigation and situated above groundwater in the Water Table Zone with concentrations of VOCs exceeding the Groundwater IPIMALs defined by PSC (2006a) were identified under the Tier 2 Assessment as having a potential for a VI exposure pathway. Tier 3 VI Assessments of commercial buildings south and east of Capital Plant 4 were conducted even though groundwater data collected from monitoring wells did not indicate a need for Tier 3 Assessment based on the IPIM process. Concentrations of PCE and TCE were detected in soil samples collected near these buildings such that Ecology (2011) warranted a Tier 3 VI assessment at the three buildings east of Capital Plant 4 and at one building south of Capital Plant 4. Tier 3 VI Assessments were conducted at the following buildings located in Seattle, Washington:

- The Shipping Office in Capital Plant 1 at 5801 Third Avenue South;
- The QC and Laser Office in Capital Plant 2 at 5801 Third Avenue South;
- The Mobile Crane Office Building at 5914 Fourth Avenue South;
- The Beckwith and Kuffel Building at 5930 First Avenue South;
- The commercial building east of Capital Plant 4 (Chinese Restaurant) at 5807 Fourth Avenue South;

- The commercial building east of Capital Plant 4 (Pacific Food Systems North Building) at 5815 Fourth Avenue South;
- The commercial building east of Capital Plant 4 (Pacific Food Systems South Building) at 5815 Fourth Avenue South;
- The Gull Industries Building south of Capital Plant 4 at 5901 Fourth Avenue South; and
- The Olympic Medical Building at 5900 1st Avenue South.

The Tier 3 VI Assessments included collection of co-located indoor ambient air, outdoor ambient air, and/or sub-slab soil vapor and groundwater samples and analysis for VOCs. Concentrations of VOCs in indoor ambient air relative to outdoor ambient air were evaluated, and NCCEFs and CCEFs were calculated and compared to a benchmark of 10 in accordance with the IPIM Approach (PSC 2002, 2006b).

### **Shipping Office in Capital Plant 1**

Tier 3 VI assessment sampling included collection of one indoor air sample in the Shipping Office (Figure 2) and one outdoor ambient air sample along the exterior of the southern wall of the Capital Plant 1 building. TCE was detected in the indoor air sample. No other HVOCs were detected in the air samples collected. The concentration of TCE detected did not exceed the IPIMAL of 0.23 micrograms per cubic meter for the indoor air sample. The calculated CCEF value is 0.1, which is below the target value of 10. The VI pathway is incomplete at this building. Therefore, Tier 4 VI mitigation measures are not warranted at the Shipping Office in Capital Plant 1.

### **QC and Laser Office in Capital Plant 2**

Tier 3 VI assessment sampling included collection of one indoor air sample in the QC and Laser Office and one outdoor ambient air sample along the southern wall of the eastern portion of the Capital Plant 2 building. TCE was detected in the indoor air sample. No other HVOCs were detected in the air samples collected. The calculated CCEF value is 2, which is below the target value of 10. The vapor intrusion pathway is incomplete in the building. Therefore, Tier 4 VI mitigation measures are not warranted at the QC and Laser Office in the Capital Plant 2 building.

### **Mobile Crane Office Building**

Tier 3 VI Assessment sampling included collection of one indoor air sample in the office portion of the Mobile Crane Office Building near the main first floor entrance, and one outdoor ambient air sample along the southern wall of the building. TCE was detected in the indoor air sample. No other HVOCs were detected in the air samples collected. The calculated CCEF value is 9, which is below the target value of 10. The vapor intrusion pathway is incomplete in the building. Therefore, Tier 4 VI mitigation measures are not warranted at the Mobile Crane Office Building.

### **Beckwith and Kuffel Building**

Tier 3 VI Assessment sampling included collection of two indoor air samples in existing office spaces, one outdoor ambient air sample along the southern wall of the western portion of the Beckwith and Kuffel Building, and two sub-slab soil gas samples. PCE was detected in the two indoor air samples. No other HVOCs were detected in the indoor air samples. The calculated CCEF values are 14 and 13 for the two indoor air samples, which exceed the target value of 10. The concentrations of PCE are significant factors in the calculated CCEF.

Concentrations of PCE, TCE, and/or 1,1-DCE were detected in the two sub-slab soil gas samples. The calculated CCEF values are 0.30 and 2.14, and the NCCEF values are 0.04 and 0.01, which are based on the cumulative risk of HVOCs present in the sub-slab soil gas samples. Both the CCEF and the NCCEF values are below the target value of 10.

PCE was not detected at concentrations above the laboratory detection limits in the groundwater samples collected from monitoring wells CL-10-WT or MW-3 or in the reconnaissance groundwater samples collected from borings B-6, B-7, B-8, or B-11, located up-gradient of the Beckwith and Kuffel Building. Groundwater is not a source of PCE to soil gas or ambient indoor air at the Beckwith and Kuffel Building.

The concentrations of PCE detected in the indoor air samples, in comparison with those detected in sub-slab samples, indicate a likely source of PCE from operations inside the Beckwith and Kuffel Building. The source of PCE likely is associated with chemical use in the building, and

not with a release to groundwater from the Capital Property. Therefore, Tier 4 VI mitigation measures are not warranted for the Beckwith and Kuffel Building.

#### **Commercial Building East of Capital Plant 4 (Chinese Restaurant)**

Tier 3 VI Assessment sampling included collection of two indoor air samples in the restaurant, one outdoor ambient air sample along the southern wall, and one sub-slab soil gas sample at the Chinese Restaurant Building.

PCE was detected in the two indoor air samples. Concentrations of other target HVOCs were not detected in the indoor air samples. Concentrations of HVOCs were not detected at concentrations at or above the laboratory reporting limits in the sub-slab soil gas sample. The calculated CCEF and NCCEF values for the indoor air samples do not exceed the threshold value of 10.

The origin of the PCE detected in the indoor air samples is uncertain. Because target HVOCs were not detected in the sub-slab soil gas samples at concentrations at or above the laboratory reporting limits, a source of PCE may be present in the building. Therefore, Tier 4 VI mitigation is not warranted at the commercial building east of Capital Plant 4 (Chinese Restaurant), and no additional VI Assessment sampling is warranted.

#### **Commercial Building East of Capital Plant 4 (Pacific Food Systems North Building)**

Tier 3 VI Assessment sampling included collection and analysis of two indoor air samples in the Pacific Food Systems North Building, one outdoor ambient air sample, and two sub-slab soil gas samples beneath the building.

Concentrations of PCE, TCE, and cis-1,2-DCE above the laboratory reporting limits were detected in the two indoor air samples. The concentrations of PCE and TCE detected in the indoor air samples exceed the respective IPIMALs for PCE and TCE for commercial buildings. The calculated CCEF value for one of the indoor air sampling locations is 20.2, and the NCCEF value is 0.8. Both values are based on the cumulative risk of HVOCs present in the samples. The CCEF value is above the target value of 10 for indoor air.

Concentrations of PCE, TCE, and cis-1,2-DCE were detected in the sub-slab soil gas samples. PCE was detected at concentrations ranging from 840 to 4,200 micrograms per cubic meter, TCE was detected at concentrations ranging from 1,400 to 28,000 micrograms per cubic meter, and cis-1,2-DCE was detected in one sample at a concentration of 74 micrograms per cubic meter. The concentrations of PCE detected in both sub-slab soil gas samples exceeded the IPIMAL for PCE for commercial buildings. The concentrations of TCE detected in both sub-slab soil gas samples exceeded the IPIMAL for TCE for commercial buildings. The calculated CCEF values for the sub-slab soil gas samples were 695 and 12,609, and the NCCEF values were 22 and 416, which are based on the cumulative risk of HVOCs present in the samples. Both the CCEF and the NCCEF values are above the target value of 10 for soil gas. These results indicate the potential for VI into the building, as confirmed by the presence of these compounds in the indoor air samples collected.

Tier 4 VI mitigation is warranted, based on the elevated levels of both TCE and PCE detected in the sub-slab soil gas samples. Alternatively, a long-term indoor air monitoring program may be implemented to address the potential indoor air threat.

#### **Commercial Building East of Capital Plant 4 (Pacific Food Systems South Building)**

Tier 3 VI Assessment sampling included collection and analysis of two indoor air samples, one outdoor ambient air sample, and two sub-slab soil gas samples at the Pacific Food Systems South Building.

Concentrations of PCE and TCE were detected in the two indoor air samples at concentrations that did not exceed the IPIMAL for PCE for commercial buildings. Concentrations of TCE detected in both indoor samples exceeded the IPIMAL for TCE for commercial buildings. The calculated CCEF and NCCEF values for the indoor air samples are below the target value of 10.

Concentrations of PCE and TCE were detected in both sub-slab soil gas samples collected. The other target HVOCs were not detected at concentrations at or above the laboratory reporting limits. The concentrations of PCE detected in the sub-slab soil gas samples exceeded the IPIMAL for PCE for commercial buildings. Concentrations of TCE detected in the sub-slab soil gas samples exceeded the IPIMAL for TCE for commercial buildings. The calculated CCEF

value for the sub-slab soil gas samples ranged from 42.89 to 742.89. The NCCEF values ranged from 1.42 to 21.72 and are based on the cumulative risk of HVOCs present in the samples. The CCEF value and one of the NCCEF values are above the target value of 10 for soil gas.

The results of the Tier 3 VI Assessment indicate that concentrations of PCE and TCE are present beneath the building slab at concentrations that pose a potential VI risk, as confirmed by the presence of these compounds in the indoor air samples collected. However, the CCEF and NCCEF values indicate that the cumulative risk posed by the concentrations of PCE and TCE in indoor air does not exceed a cancer risk of 1E-05 or a non-cancer hazard index of 1. Therefore, Tier 4 VI mitigation is not warranted at the Pacific Food Systems South Building. Additional indoor air sampling to confirm that indoor air quality remains below the CCEF and NCCEF threshold values is scheduled for the winter of 2012-2013.

#### **Gull Industries Building South of Capital Plant 4**

Tier 3 VI Assessment sampling included collection and analysis of three indoor air samples, one outdoor ambient air sample, and two sub-slab soil gas samples at the Gull Industries Building south of Capital Plant 4.

Concentrations of PCE and TCE were detected in the three indoor air samples. The CCEF values calculated for indoor air at the building ranged from 1 to 6, below the target value of 10. The NCCEF values were 0 for all three samples.

Concentrations of PCE and TCE were detected in the two sub-slab soil gas samples. PCE was detected at a concentration of 2,700 micrograms per cubic meter in both samples, and TCE was detected at concentrations of 380 and 4,100 micrograms per cubic meter. Concentrations of PCE detected in both sub-slab soil gas samples exceeded the IPIMAL for PCE for commercial buildings. Concentrations of TCE detected in both sub-slab soil gas samples exceeded the IPIMAL for TCE for commercial buildings. The calculated CCEF value for the sub-slab soil gas samples ranged from 443.83 to 2,061.35. The NCCEF values ranged from 7.91 to 62.66. The CCEF value is above the target value of 10 in both of the sub-slab soil gas samples, and the NCCEF value is above the target value of 10 in one sample.

The results from the Tier 3 VI Assessment confirm that the concentrations of PCE and TCE detected in the sub-slab soil gas samples collected beneath the building slab are not migrating to the interior of the building and are not adversely affecting indoor air at concentrations that could potentially lead to a cumulative cancer risk of  $1E-05$  or a non-cancer hazard index of 1. Therefore, Tier 4 VI mitigation is not warranted at the Gull Industries Building. However, based on the elevated levels of PCE and TCE detected in the sub-slab soil gas samples, Ecology is requiring that confirmatory indoor air sampling be conducted in the winter of 2012/2013.

### **Olympic Medical Building**

A Tier 3 VI Assessment of the Olympic Medical Building was conducted by PSC (2005) by sampling ambient indoor and outdoor air. The samples were analyzed for HVOCs to determine whether the commercial ambient air CCEF and NCCEF exceeded the benchmark of 10 established by Ecology. Based on the concentrations of TCE detected in indoor ambient air, a mitigation system for the warehouse area on the east side of the Olympic Medical Building was proposed by PSC.

A Tier 4 VI mitigation sub-slab depressurization system was installed at the Olympic Medical Building on January 29, 2009 in accordance with the Vapor Intrusion Mitigation Work Plan, Olympic Medical Facility (Farallon 2009a). The sub-slab depressurization system currently is operating in accordance with the Vapor Intrusion, Inspection, Monitoring, and Maintenance Work Plan, Olympic Medical Facility (Farallon 2009c).

#### **7.1.8 Fate and Transport Modeling**

The fate and transport modeling conducted using the BIOCHLOR model indicates that PCE, TCE, and cis-1,2-DCE are unlikely to reach the LDW in any of the water-bearing zones. The simulation results indicate that neither peak nor long-term PCE, TCE, or cis-1,2-DCE concentrations reach the LDW exceeding screening levels in the Water Table, Shallow, or Intermediate Zones using both maximum and average COPC concentrations as source terms.

The modeling suggests that vinyl chloride may reach the LDW at concentrations slightly exceeding screening levels in the Water Table Zone using maximum observed vinyl chloride concentrations as source terms from Source Area 1 (wells CI-12-12 and CI-14-WT) and Source



Area 2 (well CI-10-WT). However, simulations using average vinyl chloride concentrations as source terms did not indicate any concentrations exceeding screening levels at the LDW. Simulations also indicate that vinyl chloride may reach the LDW at concentrations slightly exceeding screening levels in the Shallow Zone under both long-term and peak scenarios from Source Area 1 near wells CI-12-40 and CI-14-35 using both maximum and average vinyl chloride concentrations as source terms. Vinyl chloride does not appear to reach the LDW at concentrations exceeding screening levels in the Intermediate Zone.

These simulations are very conservative assumptions, including a continuous source of COPCs for 500 years, which is highly unlikely given the dissolved-phase nature of the source. The simulations assume relatively long half-lives and do not account for tidal mixing that likely will dilute COPC concentrations before they enter the LDW. Dilution and dispersion associated with tidal mixing in groundwater have been found to decrease contaminant concentrations reaching surface water bodies by a factor of 3 to 10 or more in many coastal areas. The use of a decaying source term, which is more realistic based on known source conditions, results in modeled concentrations that do not exceed screening levels at the LDW.

### **7.1.9 Exposure Pathways**

The exposure pathways evaluated in the RI include direct contact with soil, direct contact with groundwater, vapor to ambient air, and groundwater discharge to surface water. Potential receptors include:

- **Human Receptors.** The Capital Area of Investigation is zoned Commercial or Industrial; humans are considered to be potential receptors.
- **Terrestrial Ecological Receptors.** The Capital Area of Investigation contains less than 1.5 acres of contiguous undeveloped land on or within 500 feet of any area. Therefore, Terrestrial Ecological Receptors are not considered potential receptors.

Exposure pathways include the following:

### **Soil Pathways**

The potential human health exposure pathways for soil within the Capital Area of Investigation are:

- Incidental ingestion and dermal contact with COPCs in soil by construction workers during excavations; and
- Inhalation of soil contaminants (as particulates) from fugitive dust generated during excavation.

Concentrations of COPCs have not been detected in soil in the vadose zone above screening levels that are protective of direct contact or inhalation for construction workers during excavations. The limited area of soil where concentrations of COPCs have been detected above the laboratory PQLs is covered with concrete, asphalt, and/or building structures, which minimizes the risk of direct contact.

### **Groundwater Pathways**

The potential human health exposure pathways for groundwater within the Capital Area of Investigation are:

- Incidental ingestion and dermal contact with COPCs in groundwater by construction workers (trenchers) during excavations that extend into groundwater; and
- Ingestion of groundwater as a drinking water source.

The ground surface is capped with concrete, asphalt, and/or building structures; therefore, excavation activities would be required for direct contact with groundwater to become a potential risk to human health. Groundwater is considered a non-potable resource and cannot be used as a drinking water source at the Capital Area of Investigation or adjacent properties. Therefore, the pathway for drinking water receptors is currently incomplete.

### **Vapor Pathway**

The potential human health exposure pathways for vapor within the Capital Area of Investigation are:

- Incidental exposure to vapors volatilizing from contaminated soil and/or groundwater by future construction workers; and
- Vapor intrusion from soil vapor to indoor ambient air.

The exposure risk posed by incidental exposure to vapors by future construction workers can be mitigated by institutional and engineering controls. These controls may include a restrictive covenant that may include monitoring requirements or engineering controls during excavation.

The exposure risk posed by vapor intrusion to indoor ambient air has been evaluated under the Vapor Intrusion Assessment Work Plan (Farallon 2008b) and the Addendum to the Vapor Intrusion Assessment Work Plan (Farallon 2011a). The results from the Tier 3 VI assessments conducted confirmed that the VI pathway for potential indoor air receptors is incomplete at five of the nine buildings assessed within the Capital Area of Investigation. Additional Tier 3 sampling will be conducted at the Gull Industries Building and the Pacific Food Systems South Building to confirm that the VI pathway is incomplete. Tier 4 VI mitigation has been recommended at the Pacific Food Systems North Building based on indoor air sampling results. Tier 4 VI mitigation is currently occurring at the Olympic Medical Building based on a Tier 3 VI Assessment conducted prior to the RI.

### **Surface Water Pathway**

The potential exposure risk associated with the discharge of groundwater with COPCs to the surface water pathway to the LDW is:

- Incidental ingestion and dermal contact with COPCs in surface water from discharge of groundwater with COPCs;
- Human consumption of fish from the LDW that has come into contact with contaminated surface water; and

- Exposure of ecological receptors to COPCs either through direct contact with contaminated surface water or sediments, or by ingesting other ecological receptors that have become contaminated due to groundwater discharges.

Results from the RI and groundwater modeling confirm that COPCs exceeding screening levels are not discharging and will not discharge to the LDW. There is no complete exposure pathway for surface water.

The results for the conservative BIOCHLOR model confirm that concentrations of vinyl chloride exceeding the screening level may reach surface water of the LDW in 15 years. Although there may be a surface water exposure pathway in the future, the model parameters are extremely conservative, and the potential for contaminated groundwater to reach the LDW is low. Sensitivity analysis results support the conclusion that current source concentrations will not result in COPCs above screening levels reaching the LDW within a reasonable range of input parameters.

## **7.2 CONCLUSIONS**

The RI collected sufficient information to characterize the Capital Area of Investigation. The RI included development of a Conceptual Site Model that defines source areas, COPCs, media of concern, and the nature and extent of COPCs, and provides an exposure pathway analysis. The vertical and horizontal extent of COPCs in groundwater has been fully delineated. The groundwater plume at and down-gradient of Capital Industries has been sufficiently characterized, including COPCs migrating from up-gradient sources which are comingling with the COPCs originating from the Capital Industries source areas.

No additional investigation is warranted to complete the RI and meet the requirements of the Agreed Order.

The results of the RI confirm that concentrations of one or more of the COPCs exceed screening levels and MTCA cleanup levels that may be applicable to the Site. There is sufficient information to evaluate and select a technically feasible cleanup alternative.

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## **9.0 LIMITATIONS**

The conclusions and recommendations contained in this report/assessment are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location and are subject to the following inherent limitations:

- **Accuracy of Information.** Certain information utilized by Farallon in this report/assessment has been obtained, reviewed, and evaluated from various sources believed to be reliable, including the local health districts, fire departments, and the previously discussed interviews. Although Farallon's conclusions, opinions, and recommendations are based in part on such information, Farallon's services did not include the verification of its accuracy or authenticity. Should such information prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.
- **Reconnaissance.** Farallon performed a reconnaissance of the site that is the subject of this report/assessment to document current conditions. Farallon focused on areas deemed more likely to exhibit hazardous materials conditions, while other areas received limited attention or were inaccessible at the time of our reconnaissance.

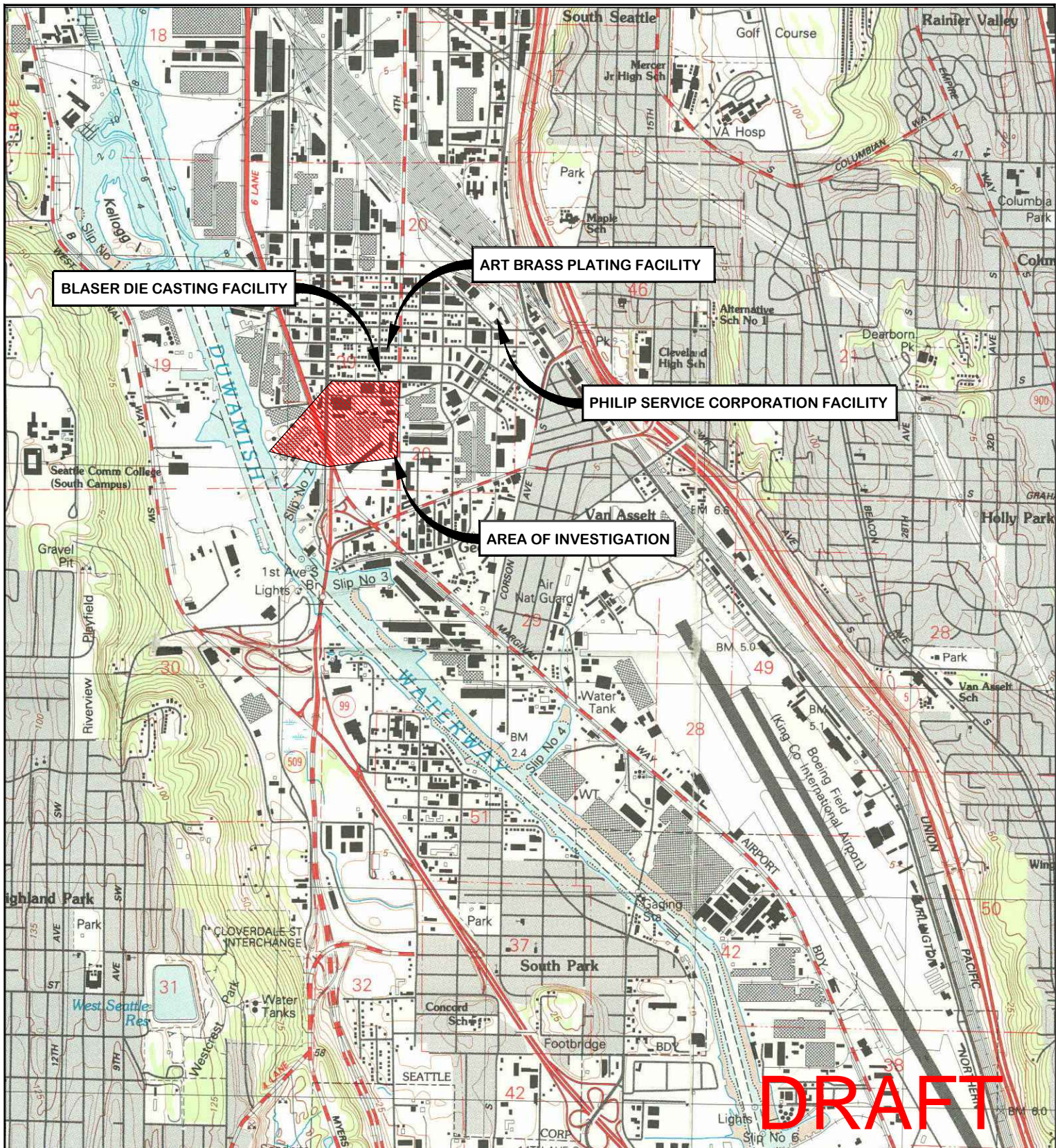
## **FIGURES**

### **REVISED DRAFT REMEDIAL INVESTIGATION REPORT**

**Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington**

**Farallon PN: 457-004**





REFERENCE: 7.5 MINUTE USGS QUADRANGLE SOUTH SEATTLE, WASHINGTON. DATED 1983

0 500  
APPROXIMATE SCALE IN METERS



## FIGURE 1

CAPITAL AREA OF INVESTIGATION  
LOCATION MAP  
REMEDIAL INVESTIGATION  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

FARALLON PN: 457-004

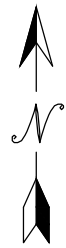
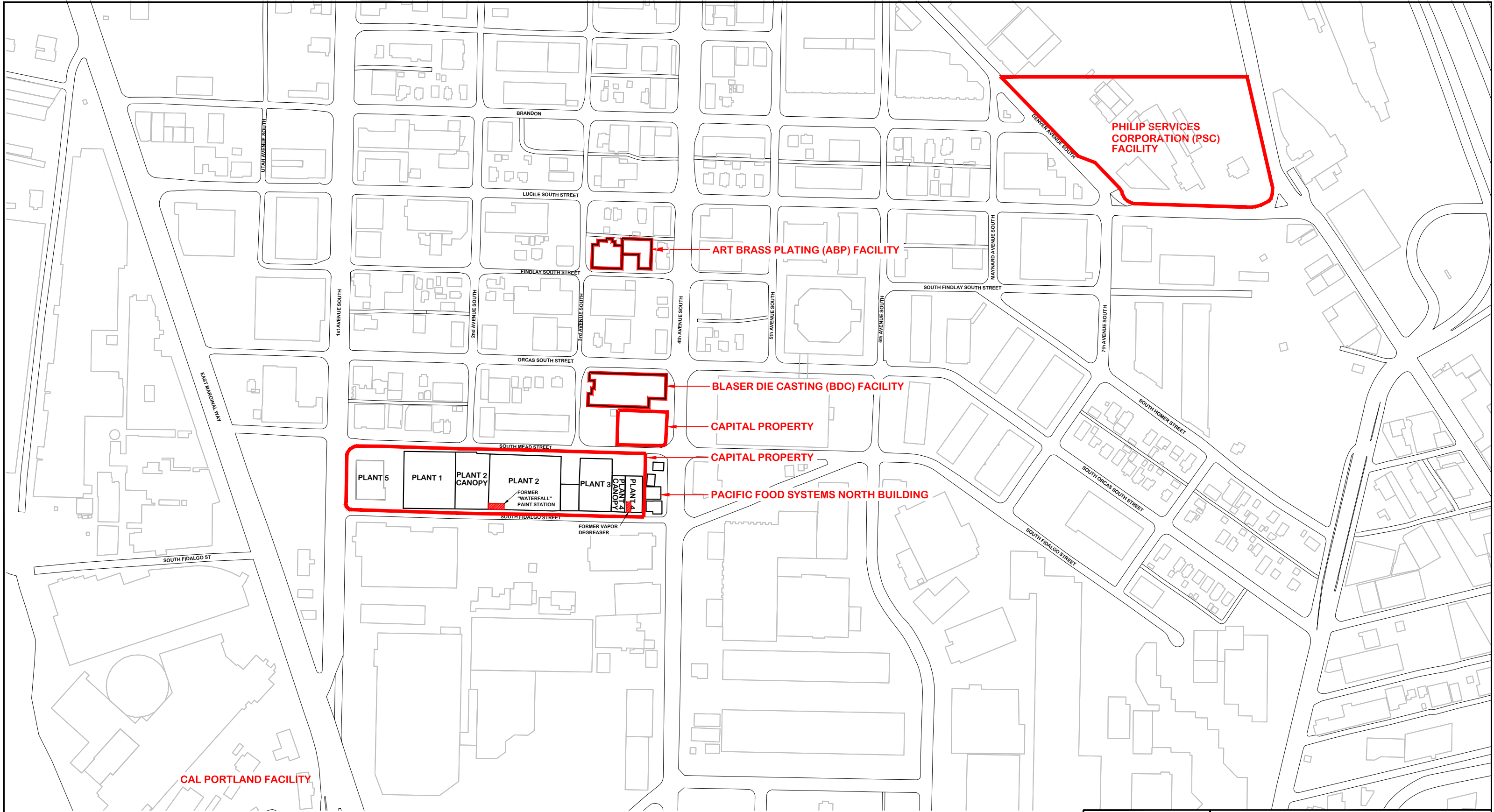
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Date: 9/24/12

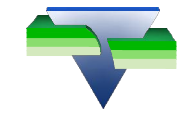
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0 300  
APPROXIMATE SCALE IN FEET

**DRAFT**



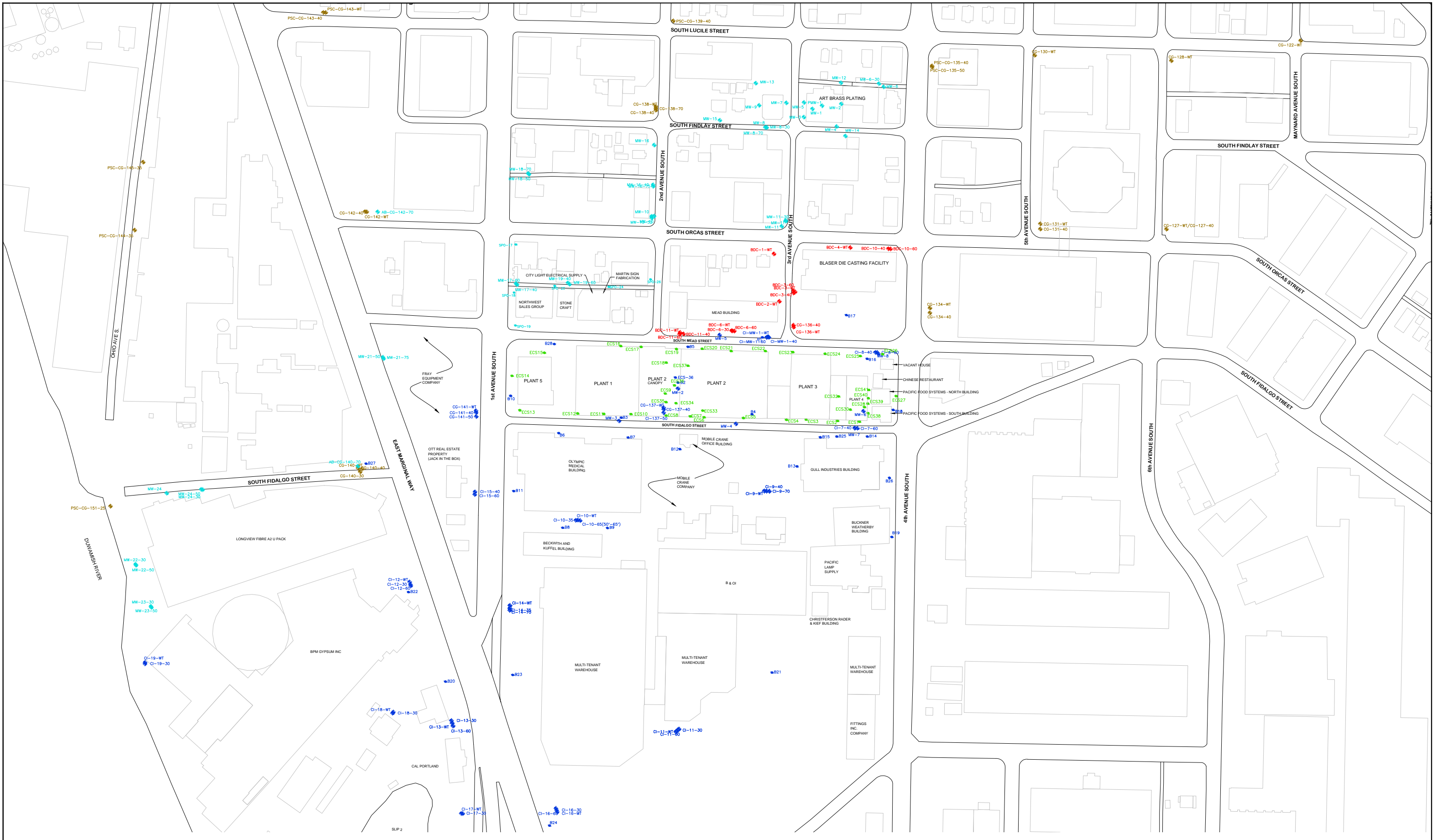
**FARALLON CONSULTING**  
975 5th Avenue Northwest  
Issaquah, WA 98027

**FIGURE 2**  
REGIONAL PLAN MAP  
REMEDIAL INVESTIGATION  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

FARALLON PN: 457-004

Drawn By:DEW	Checked By:AF/PJ	Date:9/24/12	Disk Reference:457004j
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DRAFT



LEGEND	
	CAPITAL INDUSTRIES MONITORING WELL
	BLASER DIE CASTING MONITORING WELL
	PSC MONITORING WELL
	ART BRASS PLATING MONITORING WELL
	CAPITAL INDUSTRIES BORING
	DIRECT-PUSH BORING BY ENVIRONMENTAL CONSULTING SERVICES (ECS) (2004-2005)
	ART BRASS PLATING BORING
ALL LOCATIONS ARE APPROXIMATE	

FARALLON CONSULTING  
975 5th Avenue Northwest  
Issaquah, WA 98027

FIGURE 3

SITE PLAN  
REMEDIAL INVESTIGATION  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

FARALLON PN: 457-004

Drawn By: DEW

Checked By: AF

Date: 9/24/12

Disk Reference: 457-004J

DRAFT

LEGEND



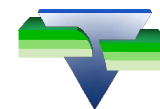
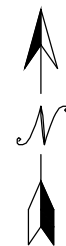
BUILDING IDENTIFIED FOR TIER 3 VAPOR INTRUSION ASSESSMENT



BUILDING WITH TIER 4 VAPOR INTRUSION MITIGATION IMPLEMENTED



APPROXIMATE SCALE IN FEET



FARALLON CONSULTING  
975 5th Avenue Northwest  
Issaquah, WA 98027

FIGURE 4

CAPITAL AREA OF INVESTIGATION  
VAPOR INTRUSION ASSESSMENT LOCATIONS  
REMEDIAL INVESTIGATION  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

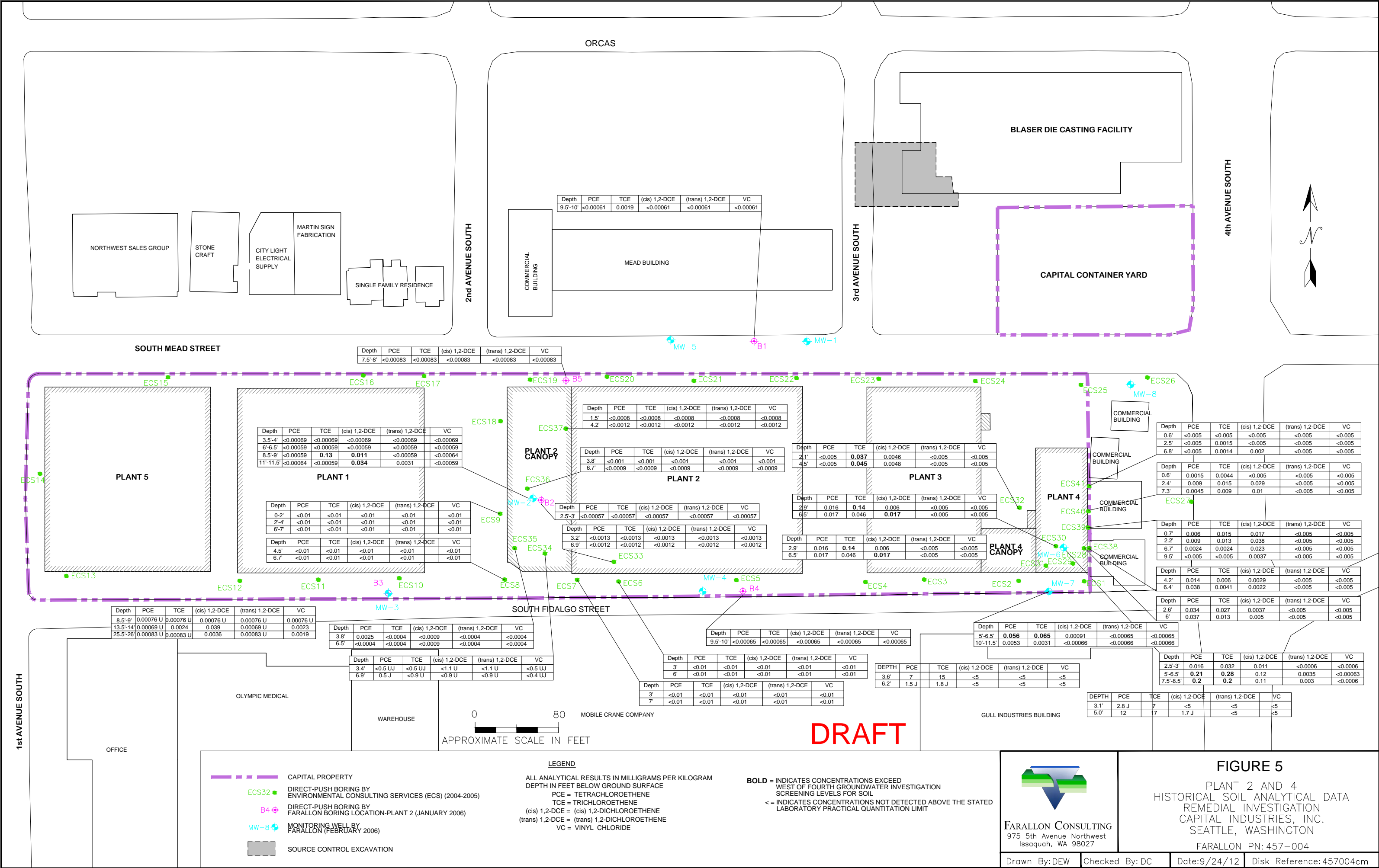
FARALLON PN: 457-004

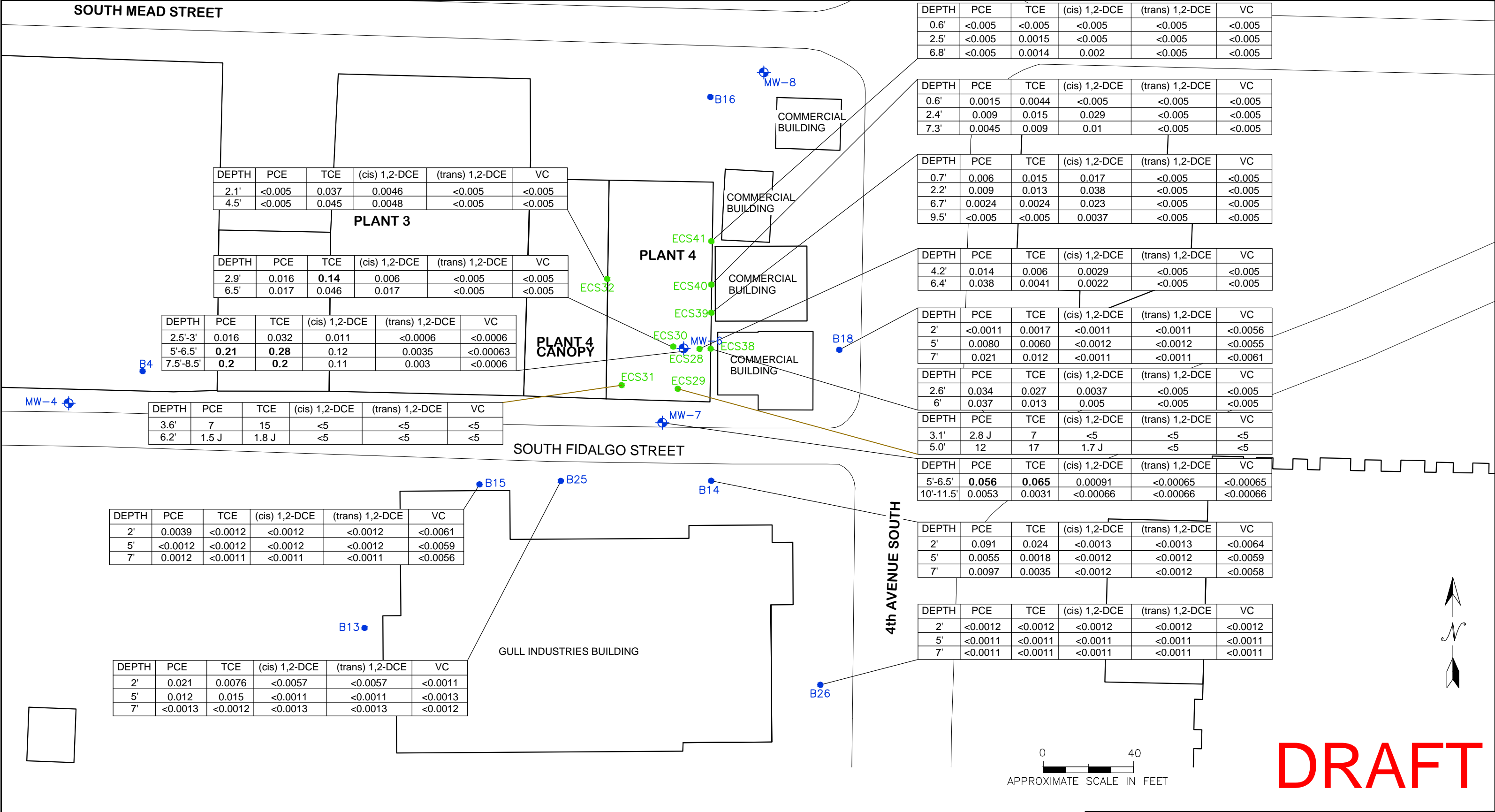
Drawn By:DEW

Checked By:AF

Date:9/24/12

Disk Reference:457004j






ECS32 ● DIRECT-PUSH BORING BY ENVIRONMENTAL CONSULTING SERVICES (ECS) (2004-2005)

● CAPITAL INDUSTRIES BORING

⊕ CAPITAL INDUSTRIES MONITORING WELL



**FARALLON CONSULTING**  
975 5th Avenue Northwest  
Issaquah, WA 98027

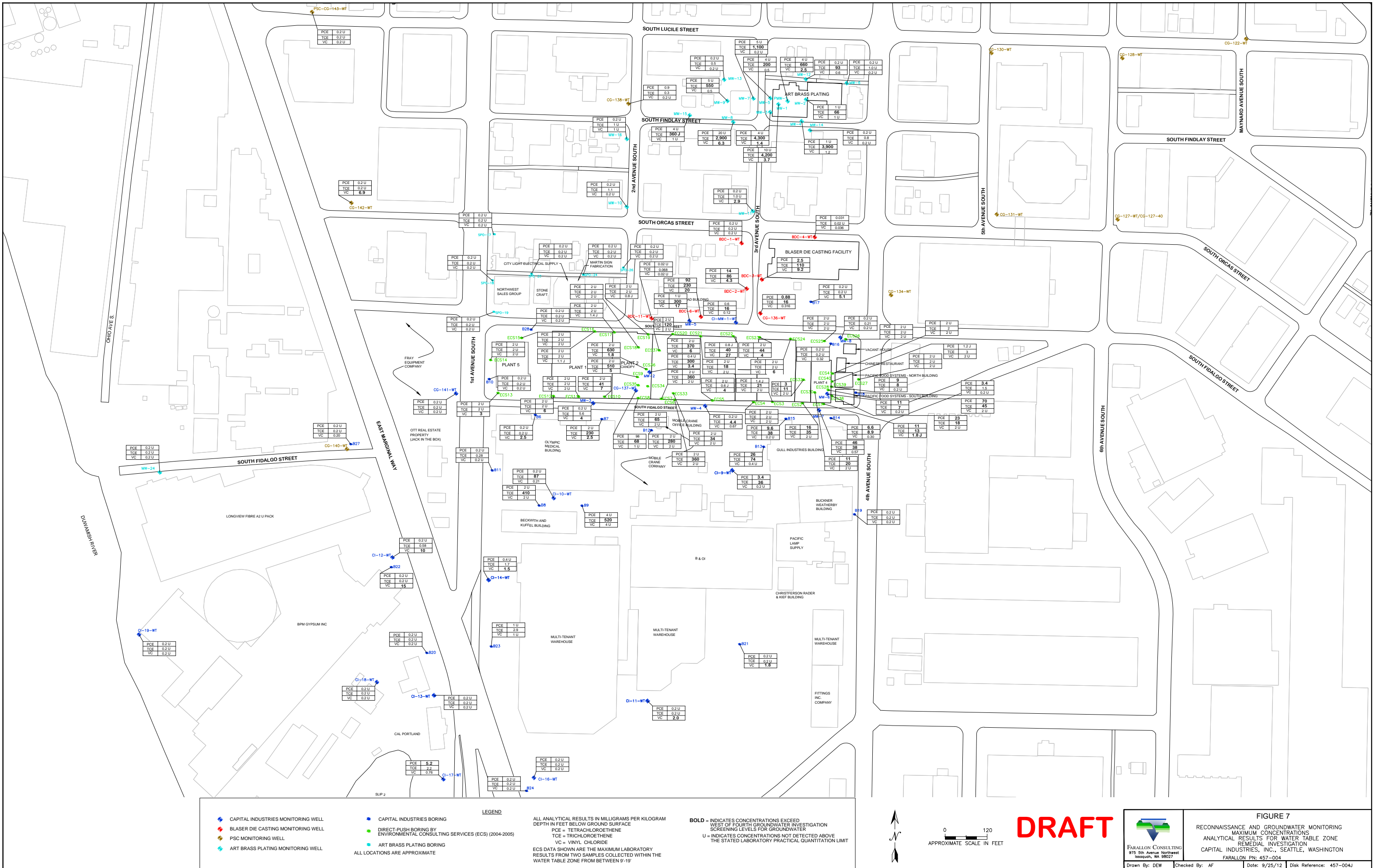
**FIGURE 6**

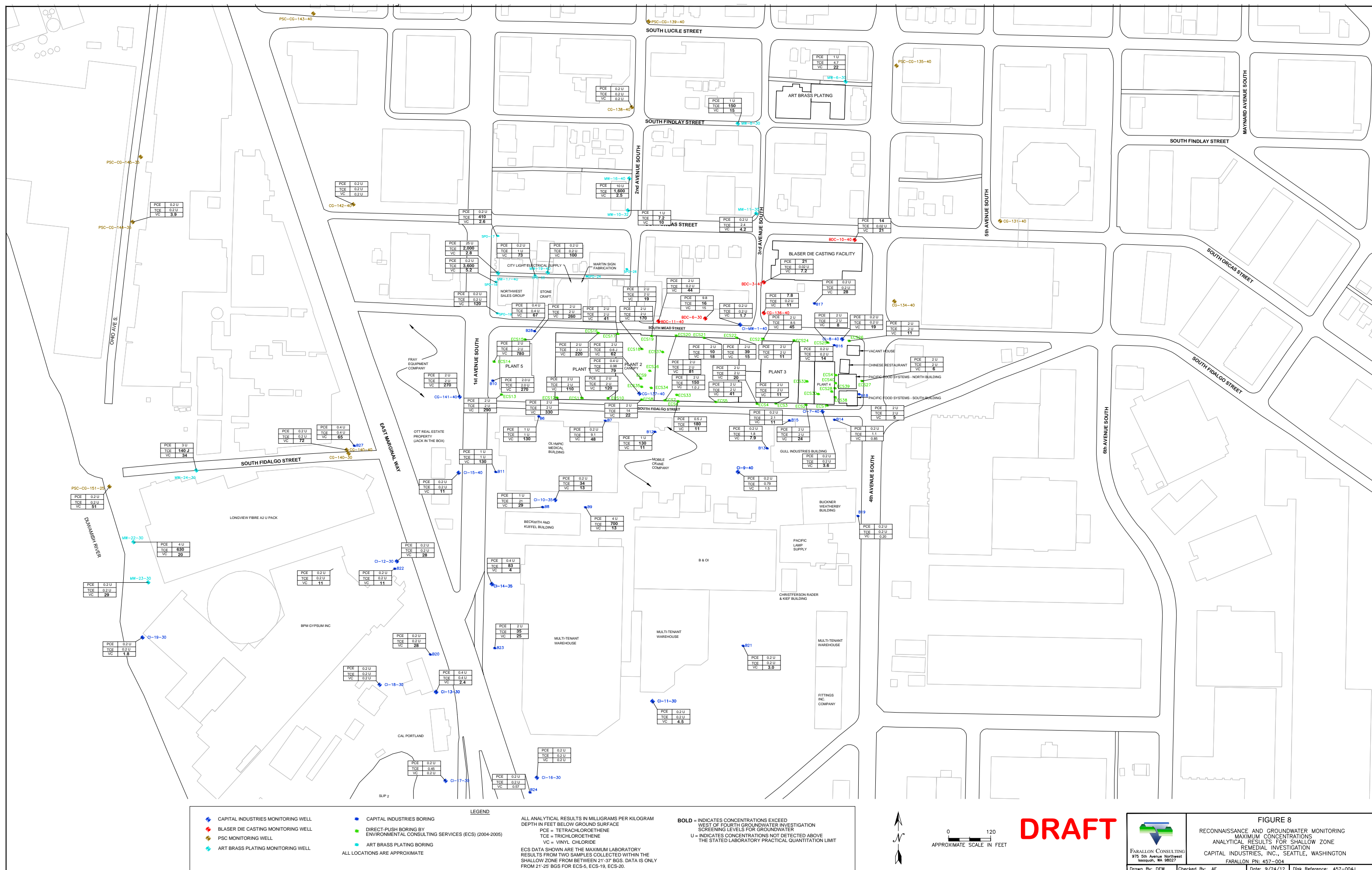
PLANT 4 HISTORICAL AND REMEDIAL INVESTIGATION SOIL ANALYTICAL DATA  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

FARALLON PN: 457-004

Drawn By:DEW	Checked By:AF	Date:9/26/12	Disk Reference:457004G
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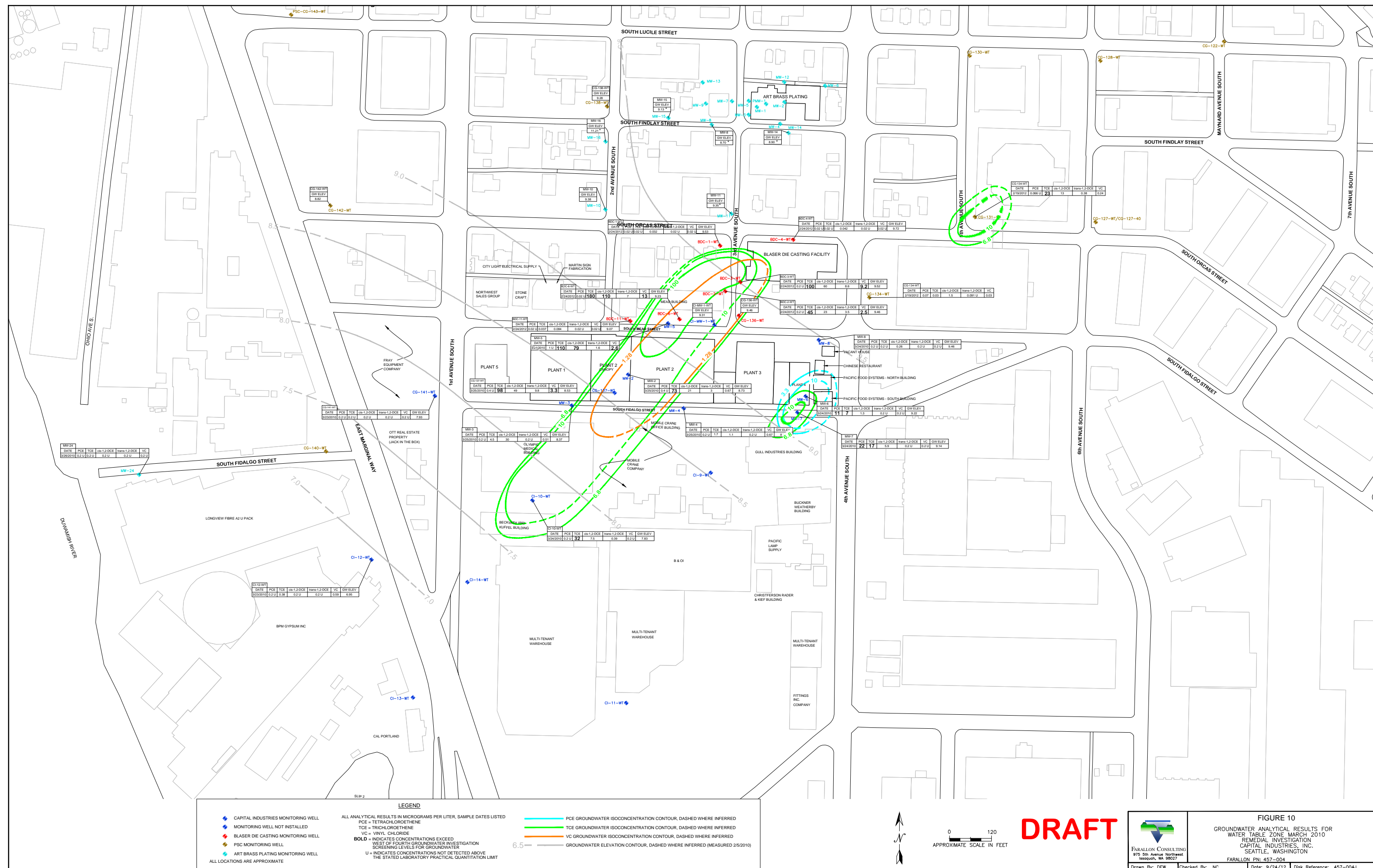




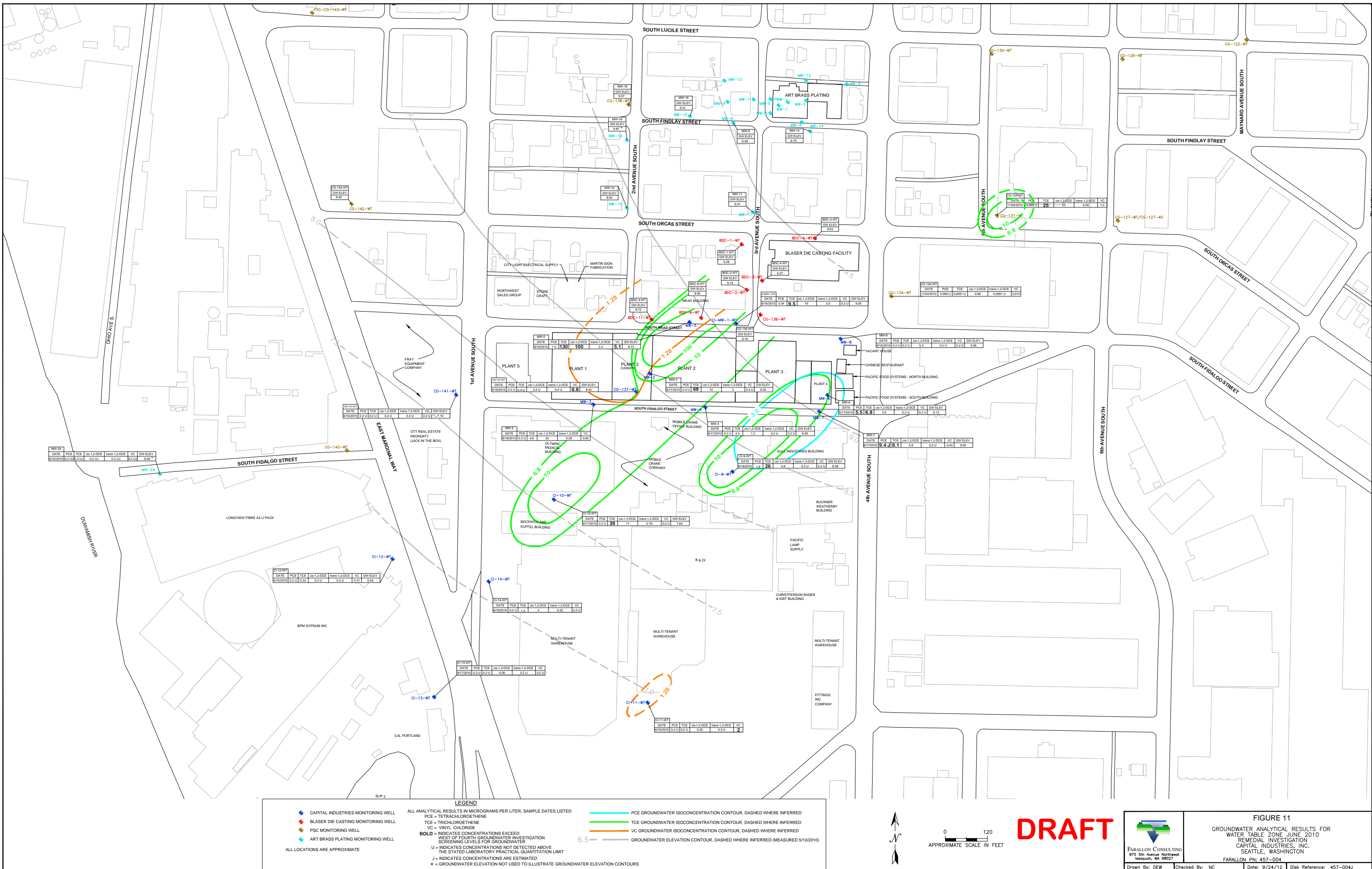




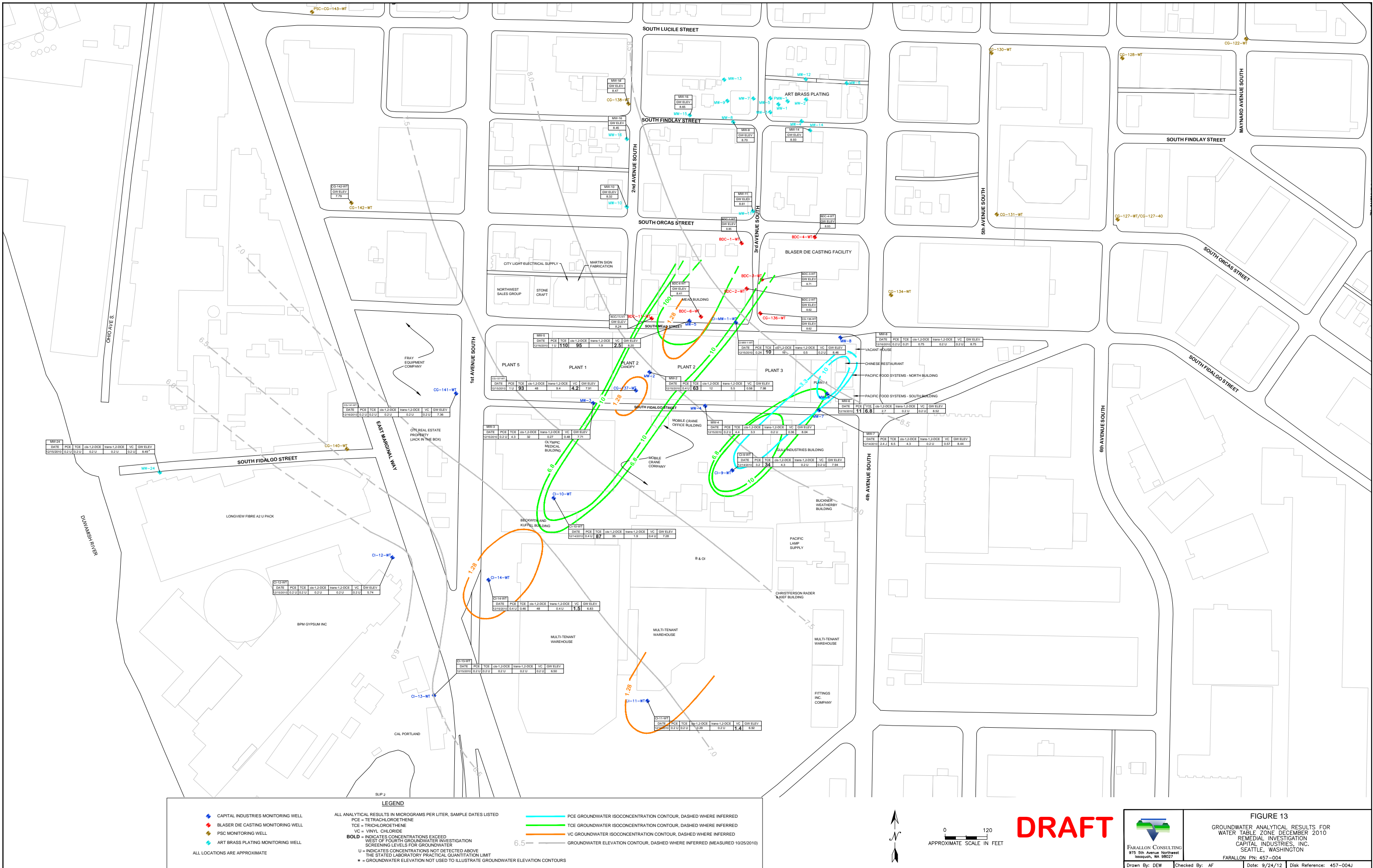




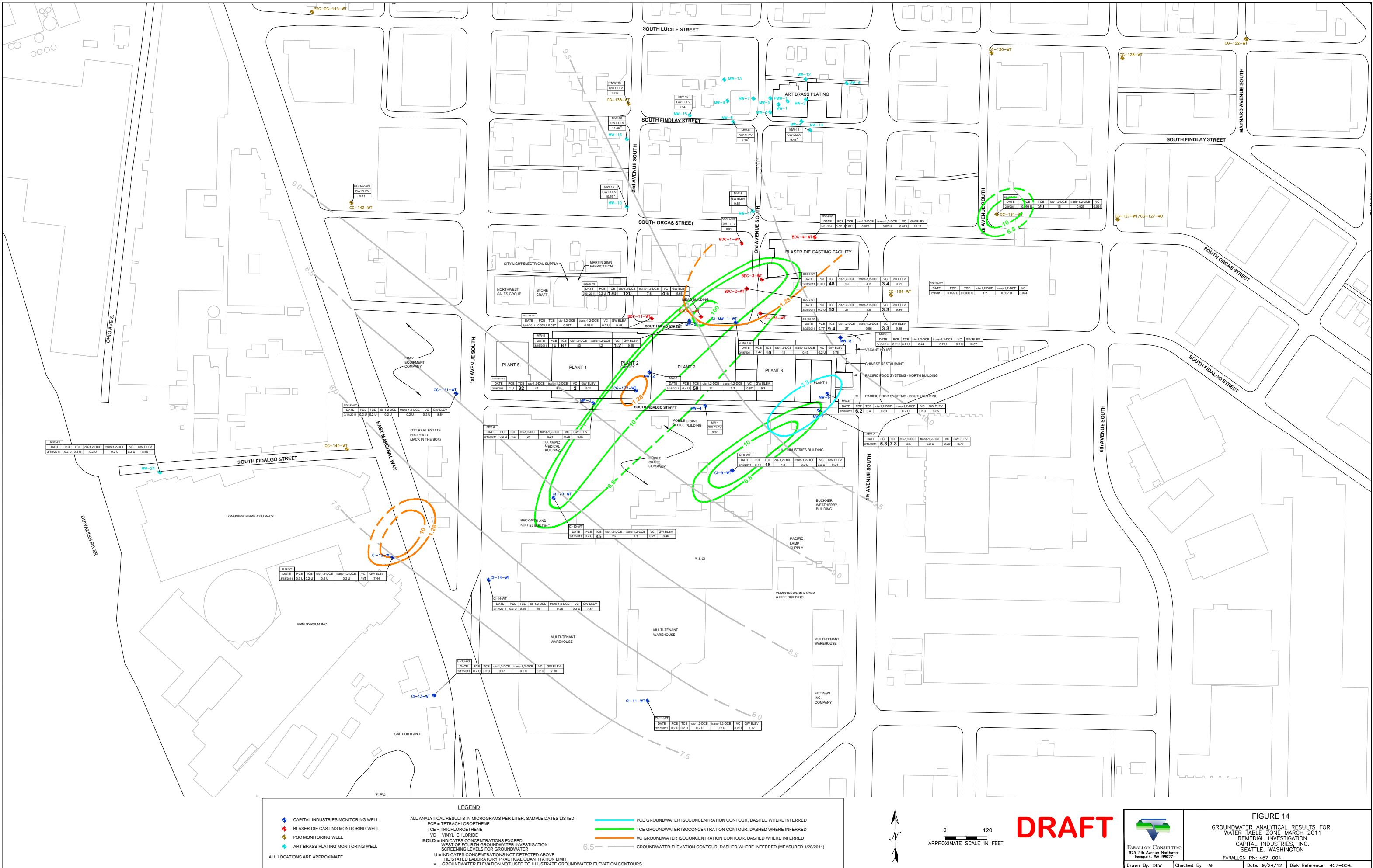


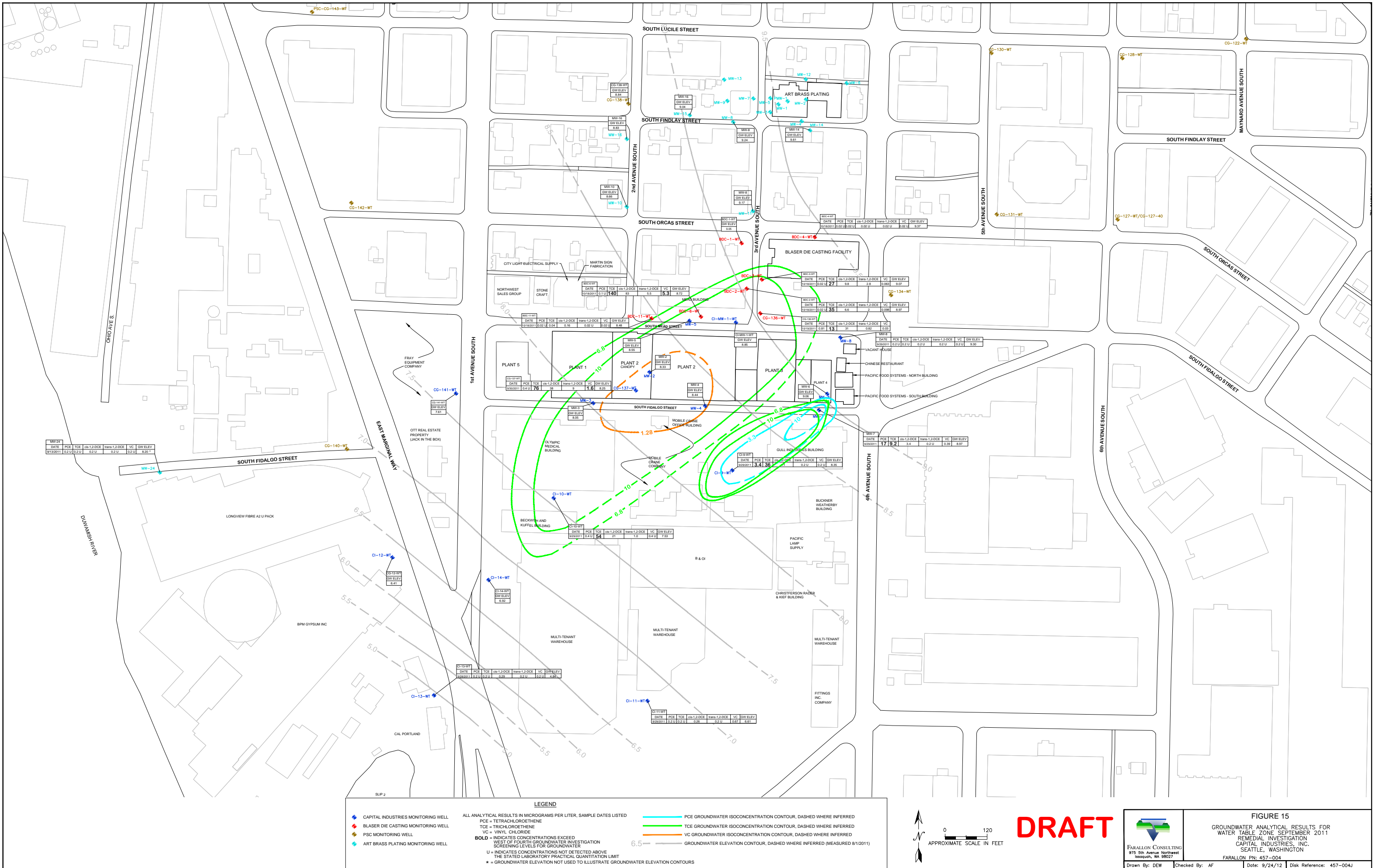


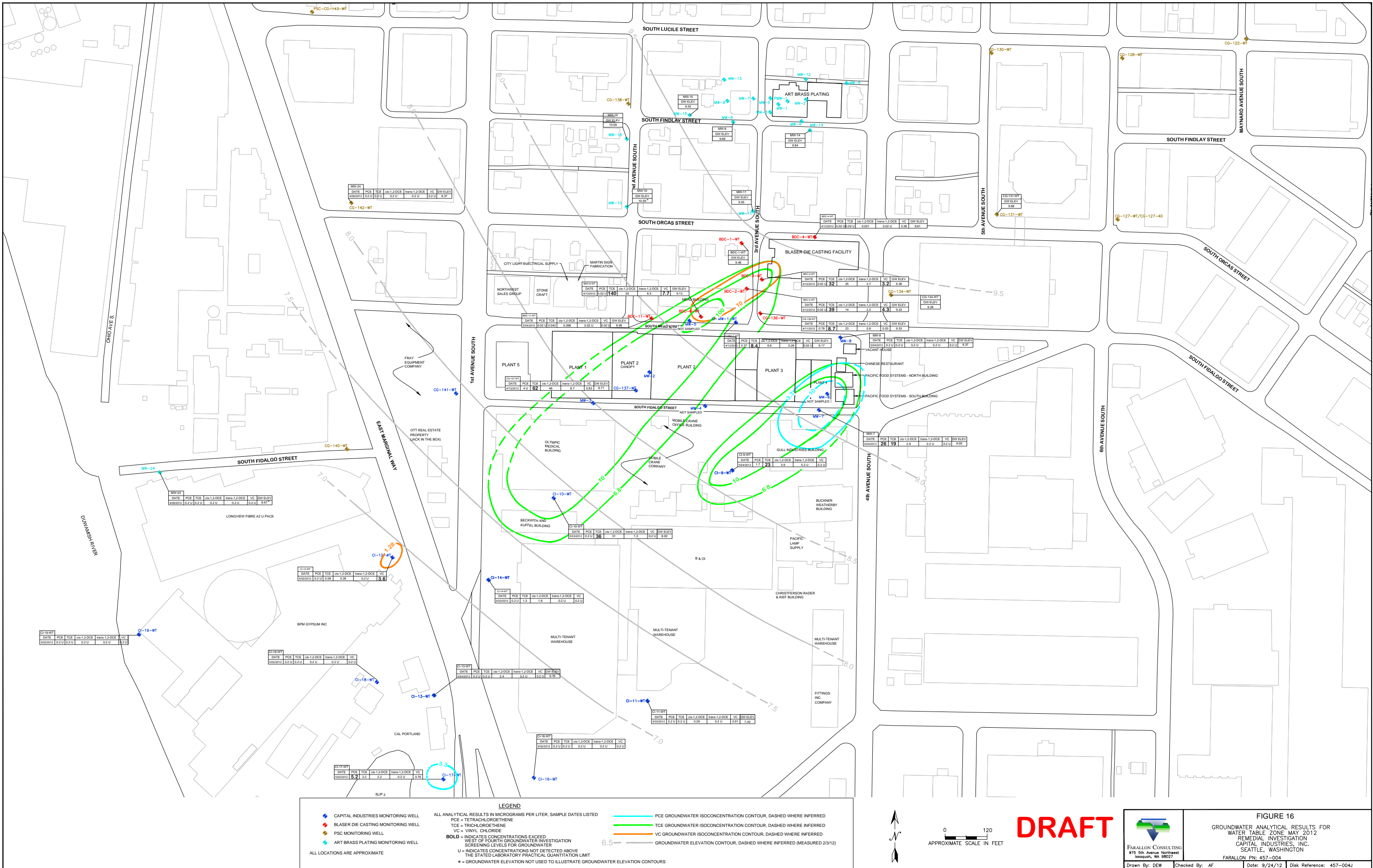




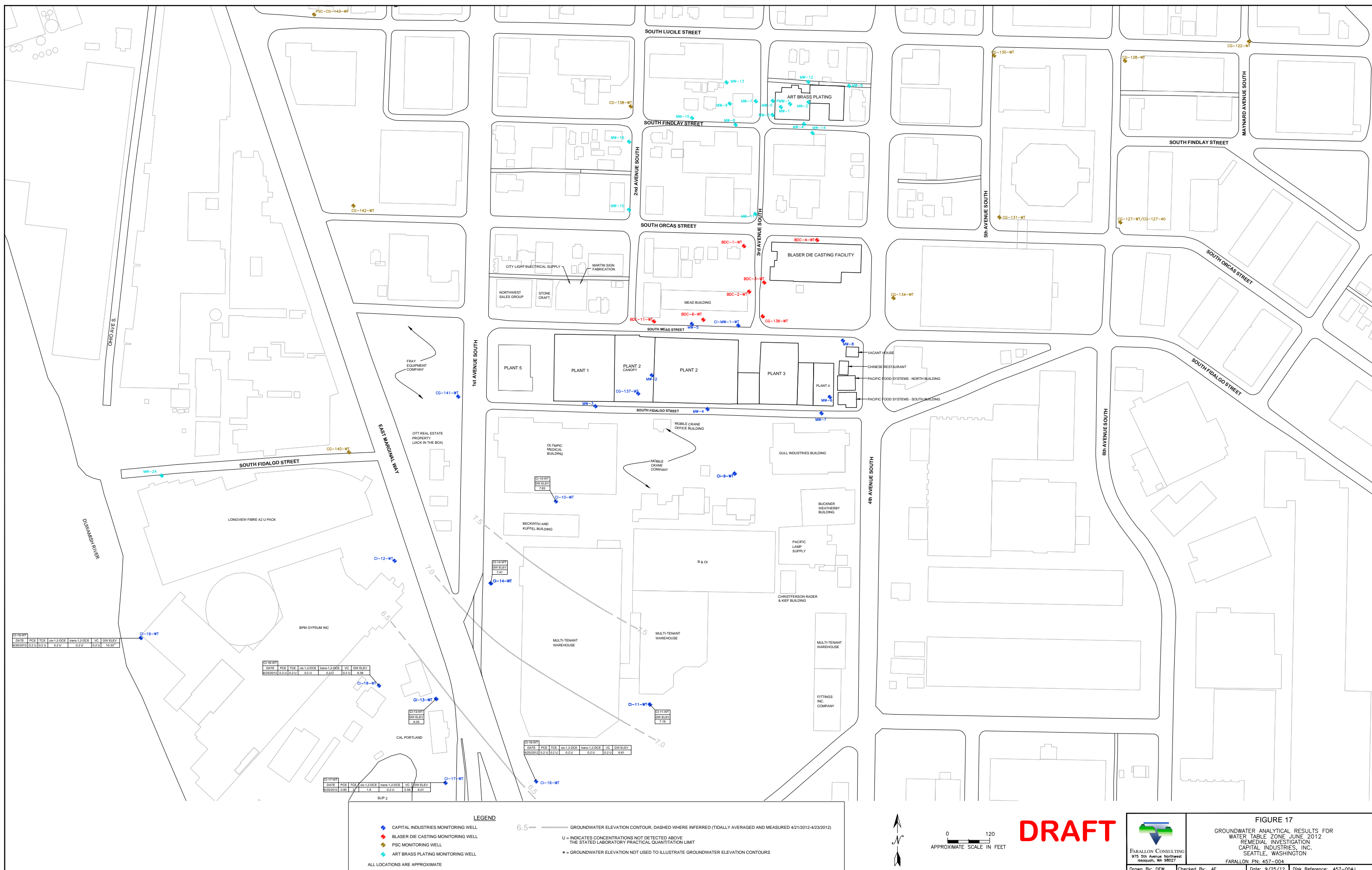






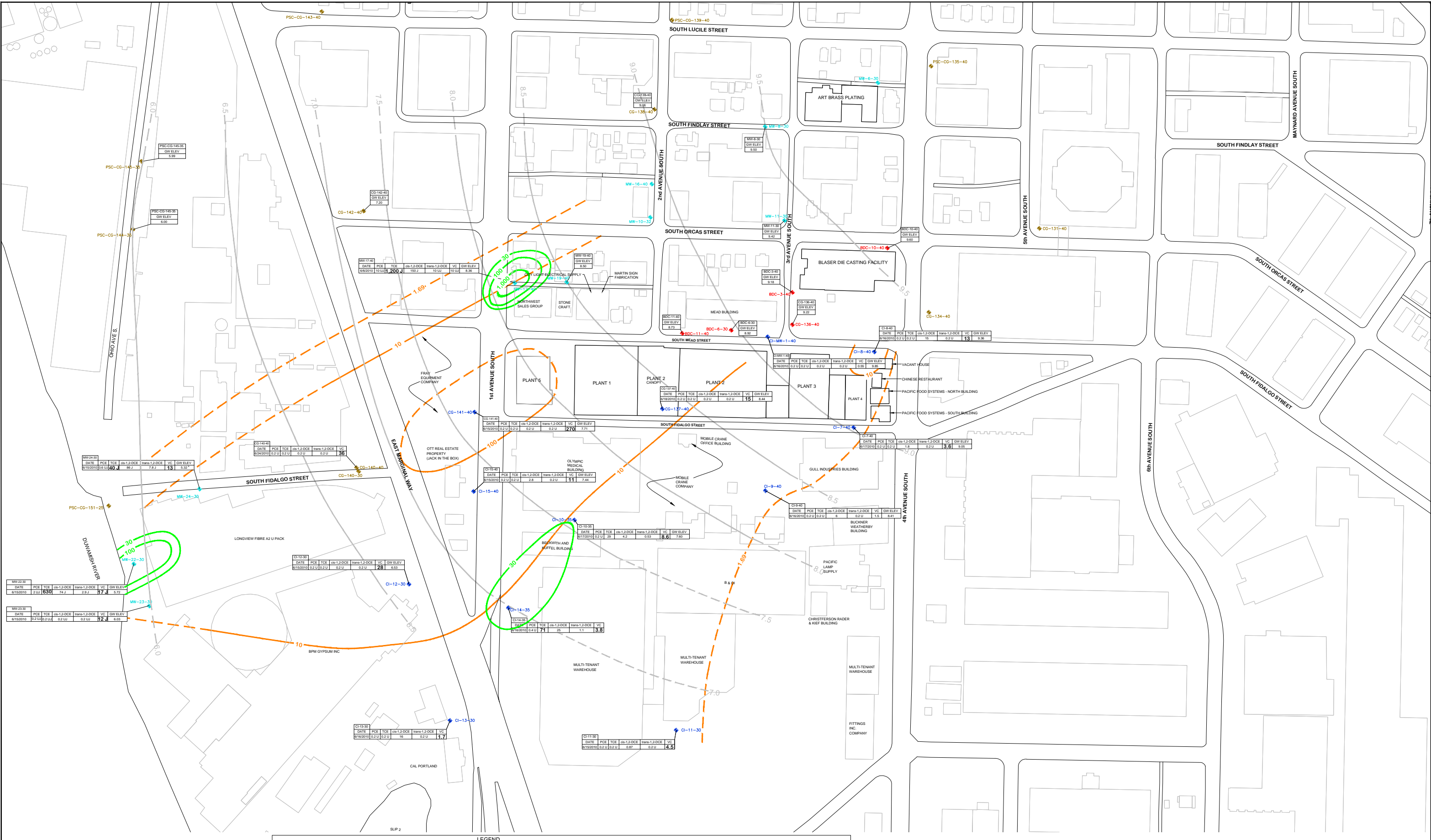












MW-23-30	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	2 U	1630	74.5	2.9 U	17.3	5.75	

MW-23-30	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	12.3	6.25

MW-23-30	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	17.3	5.75

MW-24-30	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	13	5.75

MW-17-40	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	10 U	1200	190.2	10 U	10 U	8.36	

PSC-CG-145-35	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	5.99	

PSC-CG-145-35	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	5.99	

PSC-CG-145-35	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	5.99	

PSC-CG-145-35	DATE	PCE	TCE	db-1.2.DCE	trans-1.2.DCE	VC	GW ELEV
6/15/2010	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	5.99	

◆ CAPITAL INDUSTRIES MONITORING WELL

◆ BLASER DIE CASTING MONITORING WELL

◆ PSC MONITORING WELL

◆ ART BRASS PLATING MONITORING WELL

ALL LOCATIONS ARE APPROXIMATE

ALL ANALYTICAL RESULTS IN MICROGRAMS PER LITER, SAMPLE DATES LISTED

TCE = TRICHLOROETHENE

VC = VINYL CHLORIDE

**BOLD** = INDICATES CONCENTRATIONS EXCEED WEST OF FOURTH GROUNDWATER INVESTIGATION SCREENING LEVELS FOR GROUNDWATER

U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTIFICATION LIMIT

J = INDICATES CONCENTRATIONS ARE ESTIMATED

\* = GROUNDWATER ELEVATION NOT USED TO ILLUSTRATE GROUNDWATER ELEVATION CONTOURS

— TCE GROUNDWATER ISOCONCENTRATION CONTOUR, DASHED WHERE INFERRED

— VC GROUNDWATER ISOCONCENTRATION CONTOUR, DASHED WHERE INFERRED

6.5 — GROUNDWATER ELEVATION CONTOUR, DASHED WHERE INFERRED (MEASURED ON 5/10/2010)

▲

▲

▲

APPROXIMATE SCALE IN FEET

0 120

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FARALLON CONSULTING  
975 5th Avenue Northwest  
Issaquah, WA 98027

FIGURE 19

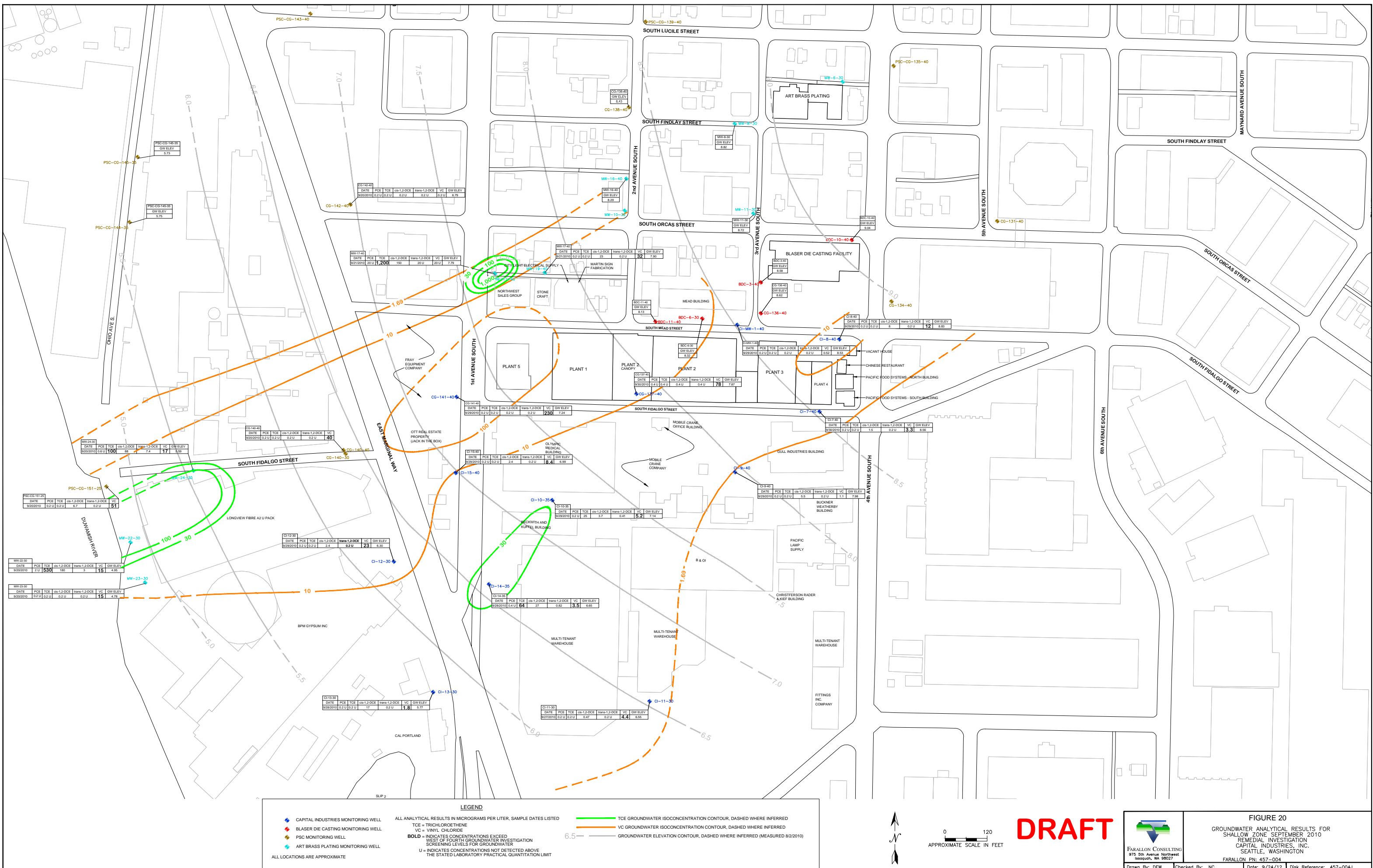
GROUNDWATER ANALYTICAL RESULTS FOR  
SHALLOW ZONE JUNE 2010  
REMEDIAL INVESTIGATION  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON  
FARALLON PN: 457-004

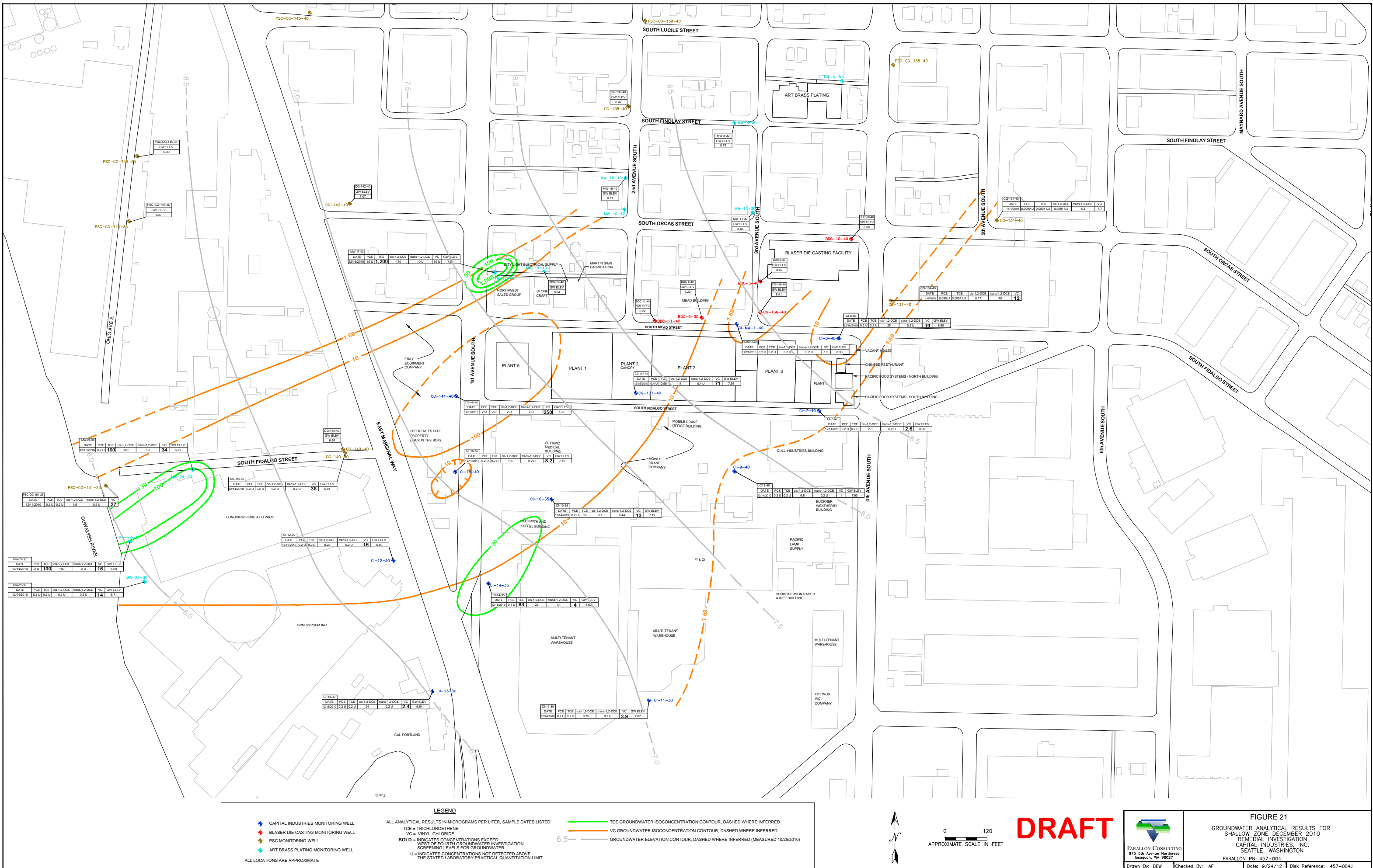
Drawn By: DEW

Checked By: NC

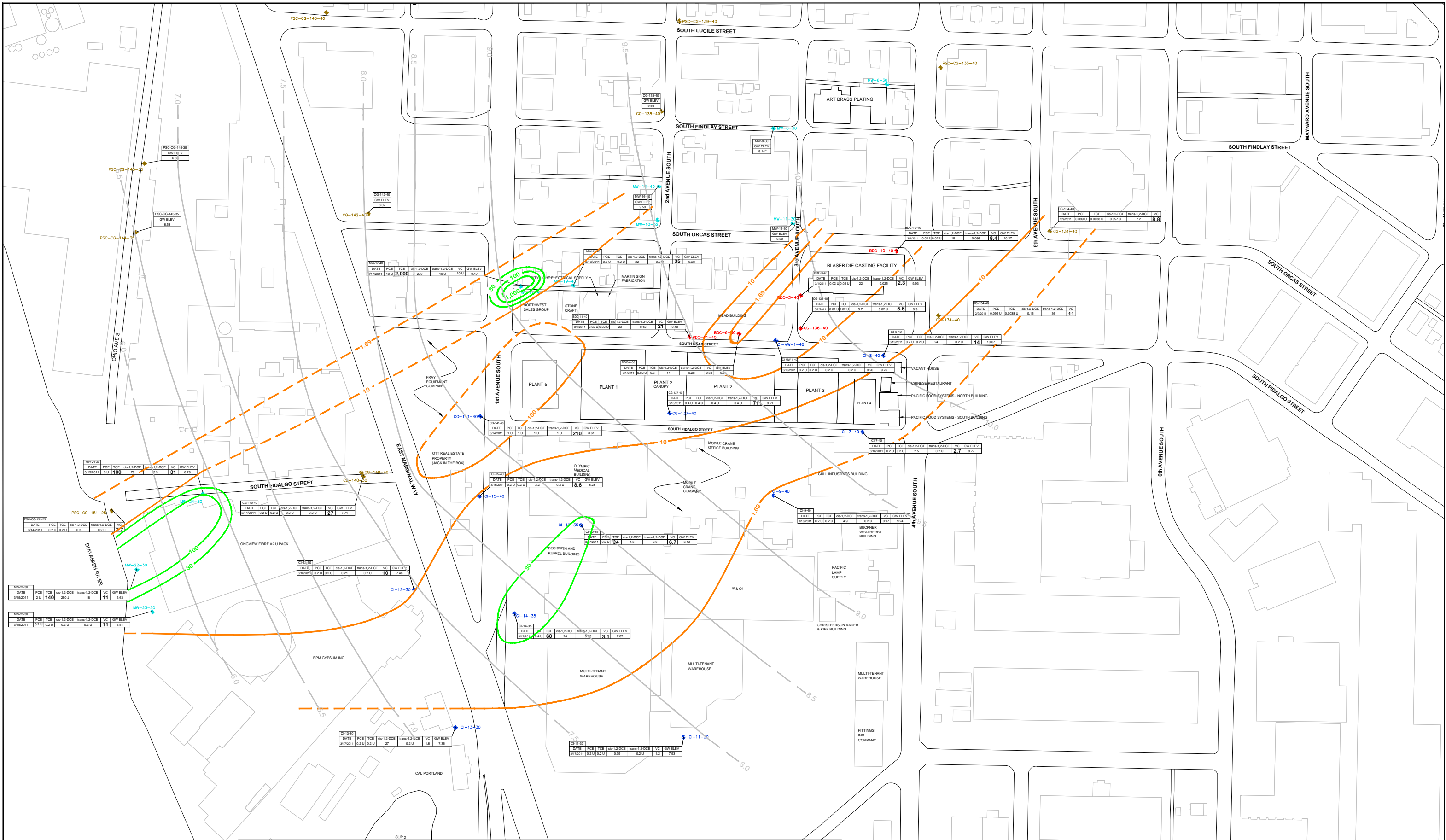
Date: 9/24/12

Disk Reference: 457-004J









CAPITAL INDUSTRIES MONITORING WELL

BLASER DIE CASTING MONITORING WELL

PSC MONITORING WELL

ART BRASS PLATING MONITORING WELL

ALL LOCATIONS ARE APPROXIMATE

**LEGEND**

ALL ANALYTICAL RESULTS IN MICROGRAMS PER LITER, SAMPLE DATES LISTED

TCE = TRICHLOROETHENE

VC = VINYL CHLORIDE

**BOLD** = INDICATES CONCENTRATIONS EXCEED WEST OF FOURTH GROUNDWATER INVESTIGATION SCREENING LEVELS FOR GROUNDWATER

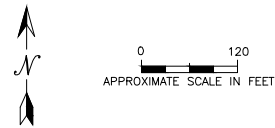
U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

\* = GROUNDWATER ELEVATION NOT USED TO ILLUSTRATE GROUNDWATER ELEVATION CONTOURS

TCE GROUNDWATER ISOCONCENTRATION CONTOUR, DASHED WHERE INFERRED

VC GROUNDWATER ISOCONCENTRATION CONTOUR, DASHED WHERE INFERRED

GROUNDWATER ELEVATION CONTOUR, DASHED WHERE INFERRED (MEASURED 1/28/2011)



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FARALLON CONSULTING  
975 5th Avenue Northwest  
Issaquah, WA 98027

**FIGURE 22**

GROUNDWATER ANALYTICAL RESULTS FOR  
SHALLOW ZONE MARCH 2011  
REMEDIAL INVESTIGATION  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

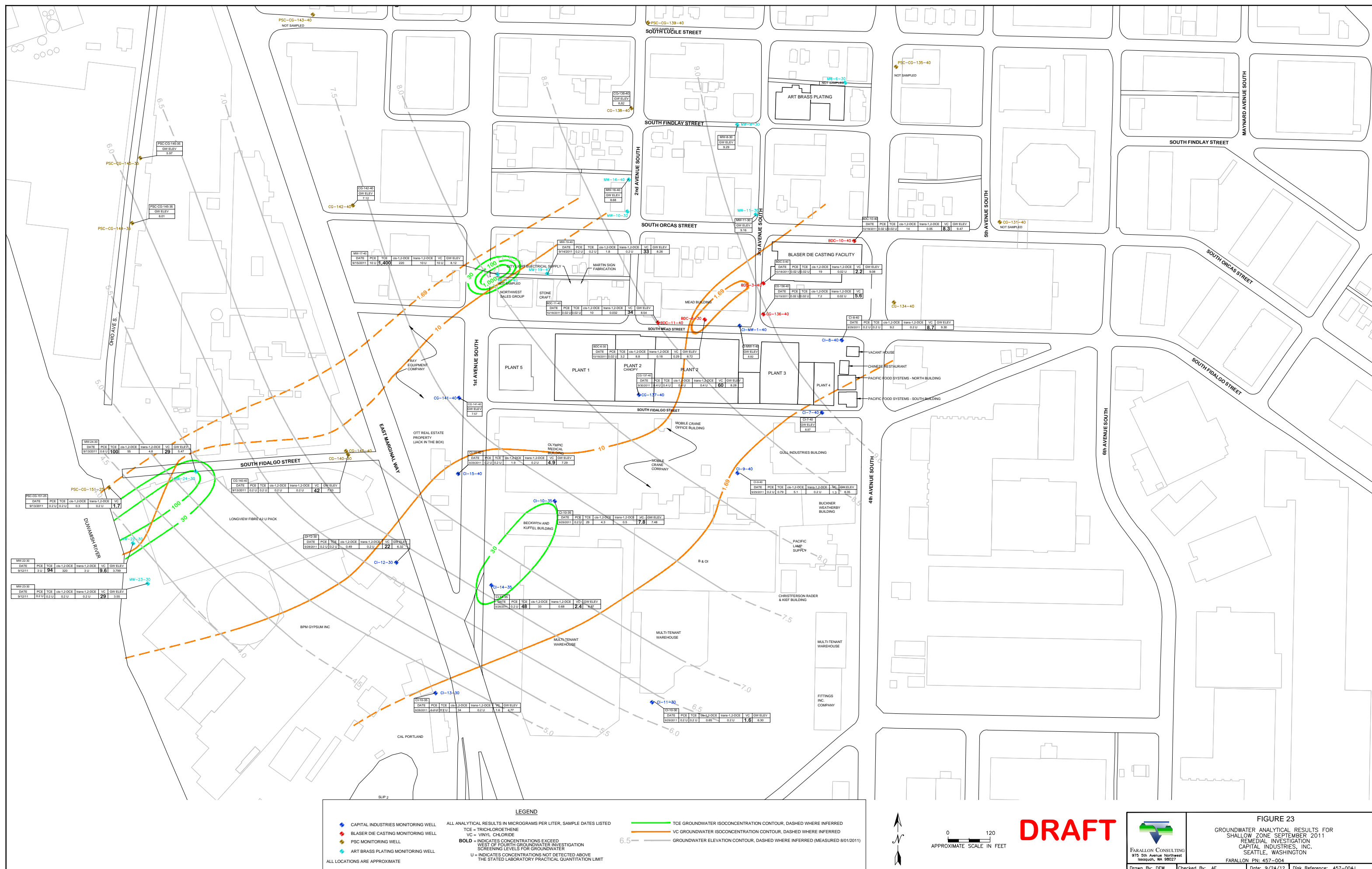
FARALLON PN: 457-004

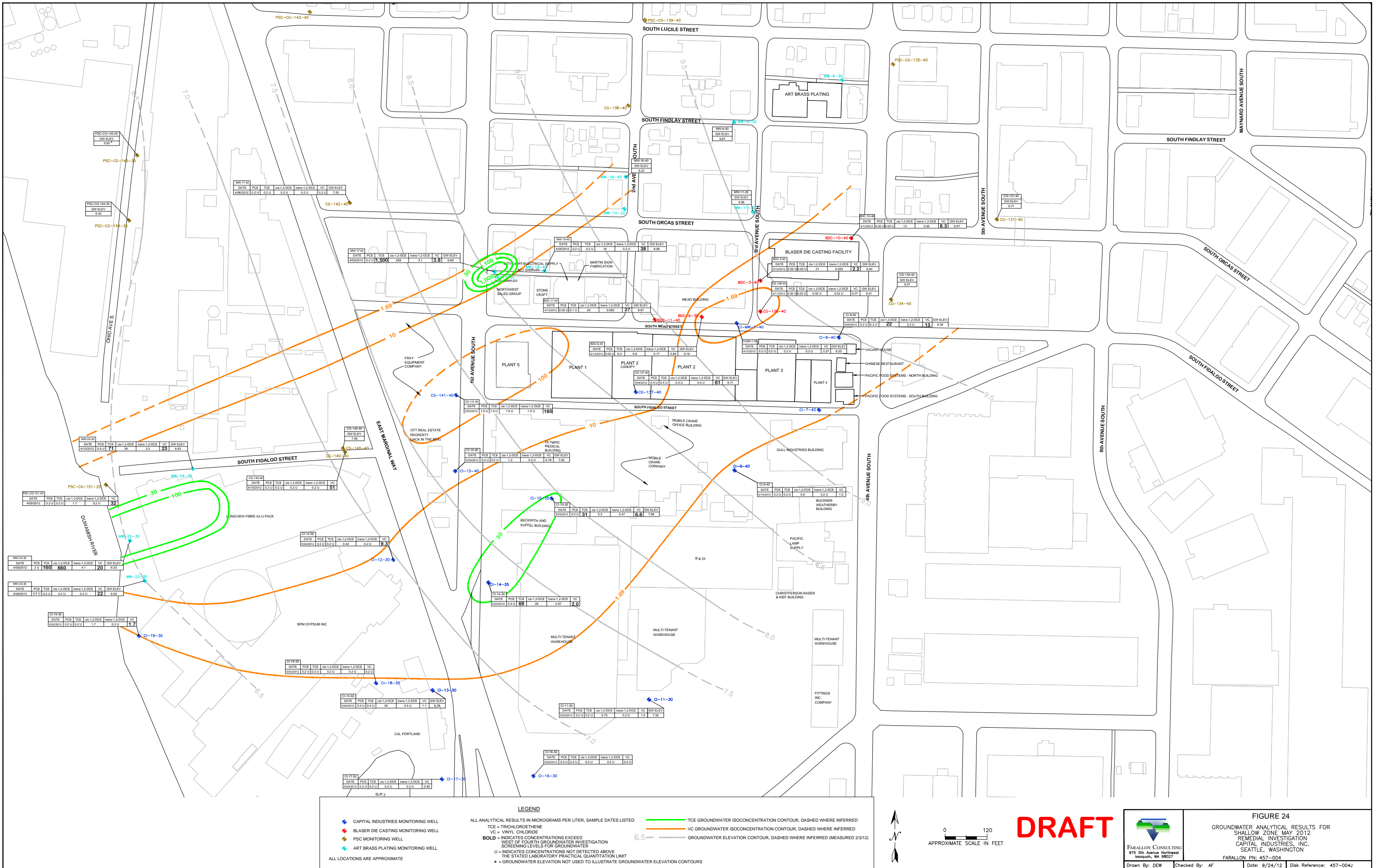
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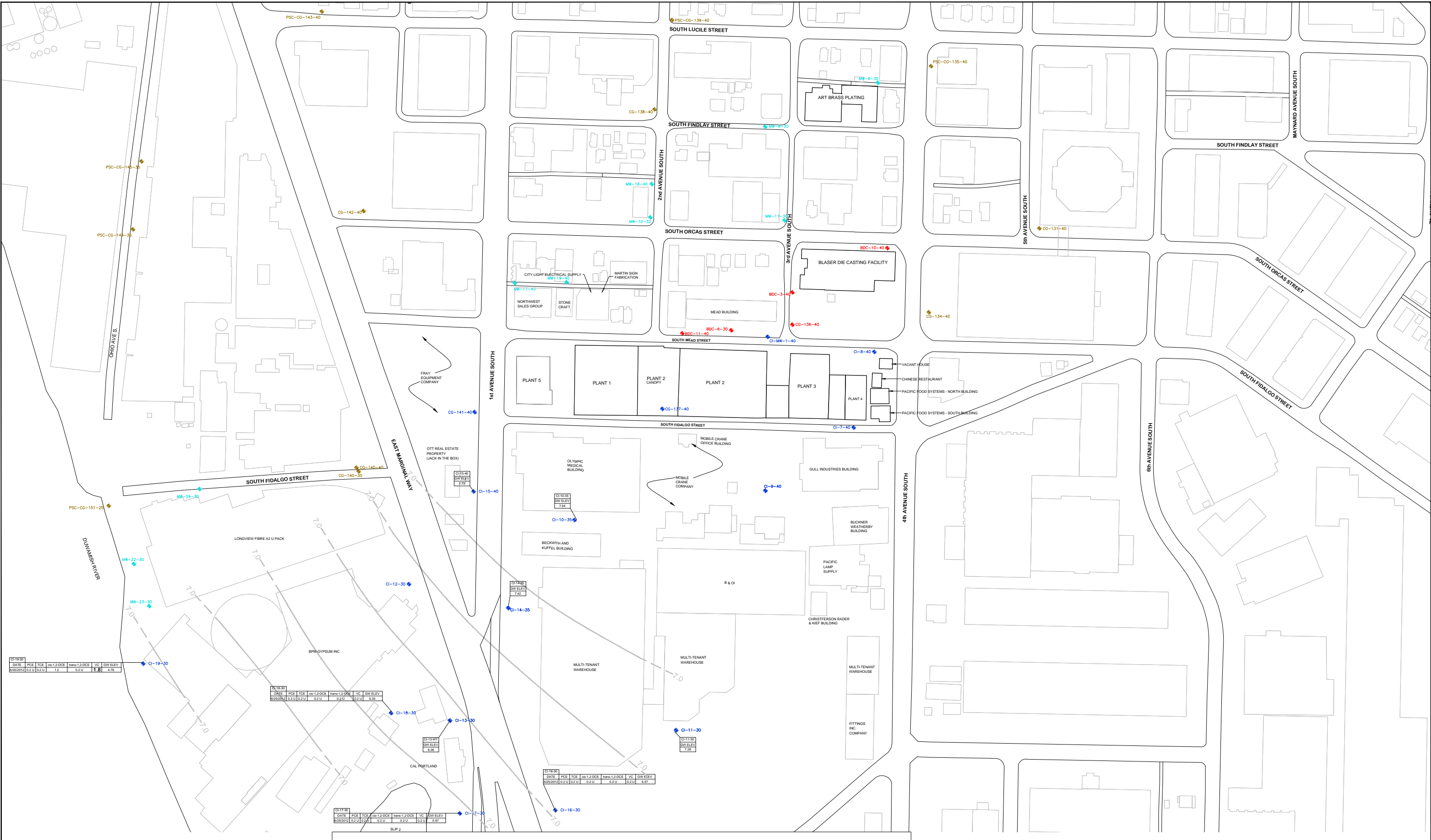
Date: 9/24/12

Disk Reference: 457-004J









CI-19-30						
DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	GW ELEV
6/25/2012	0.2 U	0.2 U	1.2	0.2 U	1.8	4.76

CI-18-30						
DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	GW ELEV
8/25/2012	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	6.35

CI-13-WT
GW ELEV
6.36

CI-16-30						
DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	GW ELEV
8/25/2012	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	6.57

CI-17-30						
DATE	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	GW ELEV
8/25/2012	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	6.97

◆ CAPITAL INDUSTRIES MONITORING WELL

◆ BLASER DIE CASTING MONITORING WELL

◆ PSC MONITORING WELL

◆ ART BRASS PLATING MONITORING WELL

ALL LOCATIONS ARE APPROXIMATE

**LEGEND**

ALL ANALYTICAL RESULTS IN MICROGRAMS PER LITER, SAMPLE DATES LISTED

TCE = TRICHLOROETHENE

VC = VINYL CHLORIDE

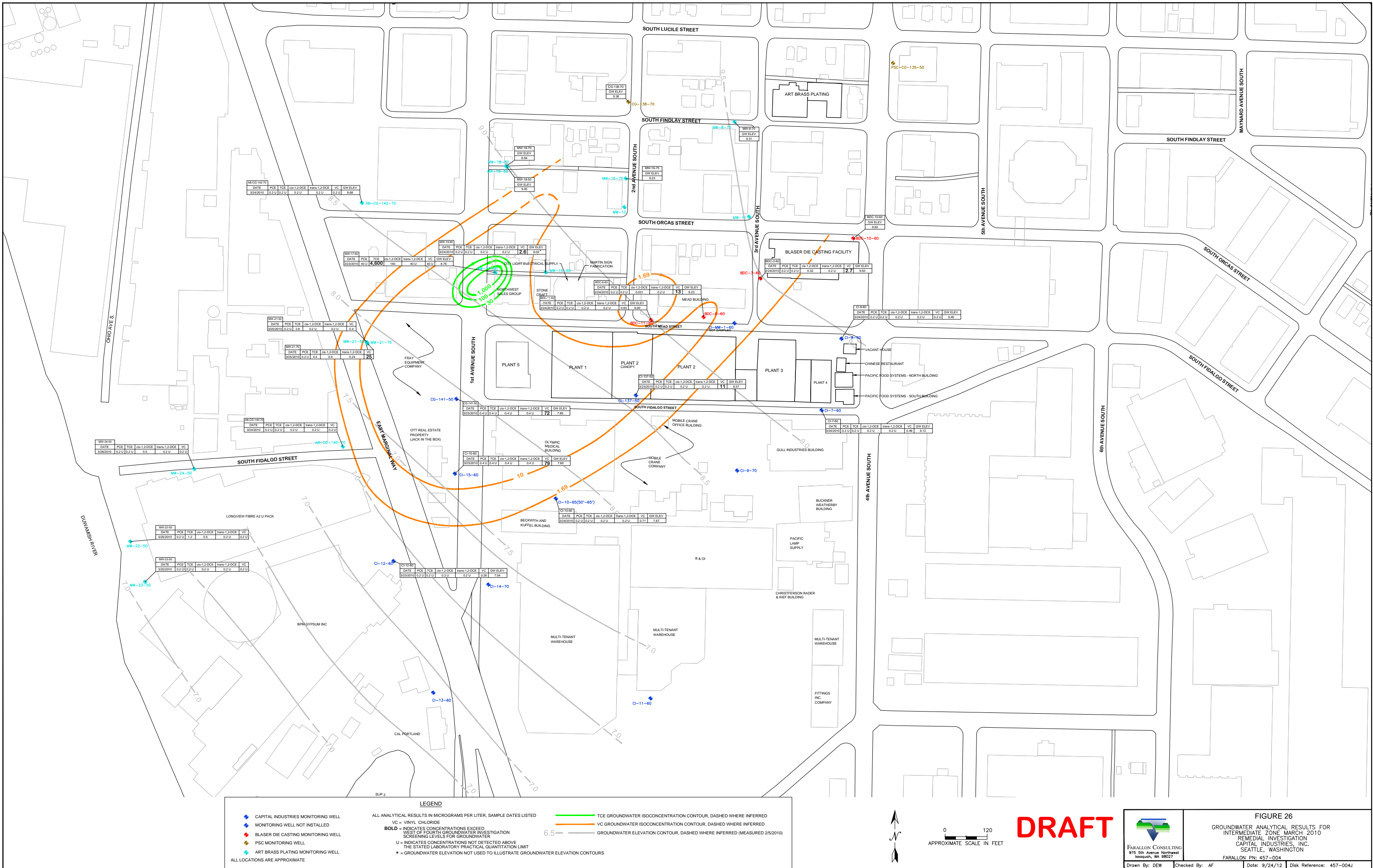
**BOLD** = INDICATES CONCENTRATIONS EXCEED WEST OF FOURTH GROUNDWATER INVESTIGATION SCREENING LEVELS FOR GROUNDWATER

U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

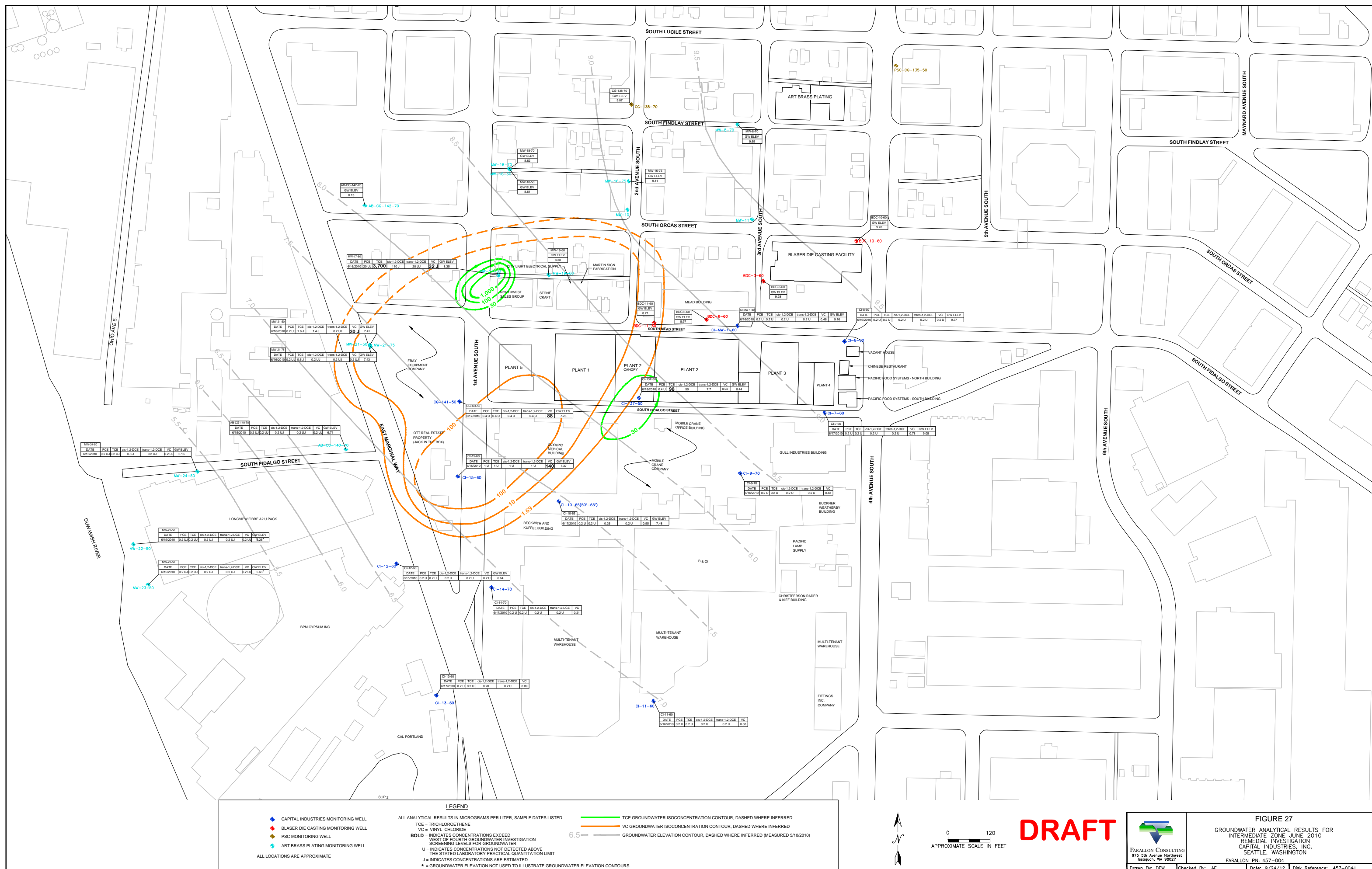
\* = GROUNDWATER ELEVATION NOT USED TO ILLUSTRATE GROUNDWATER ELEVATION CONTOURS

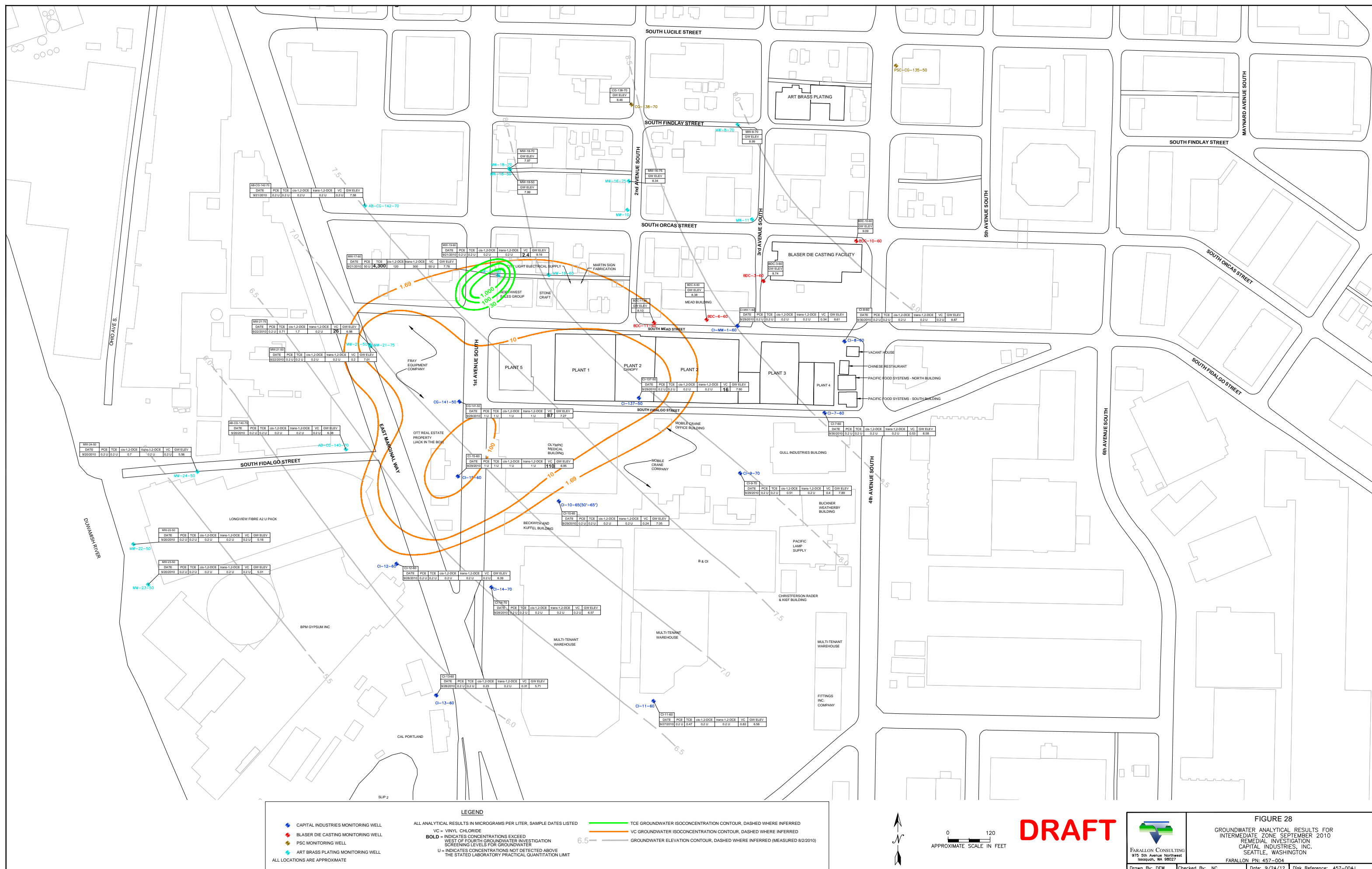
— VC GROUNDWATER ISOCONCENTRATION CONTOUR, DASHED WHERE INFERRED

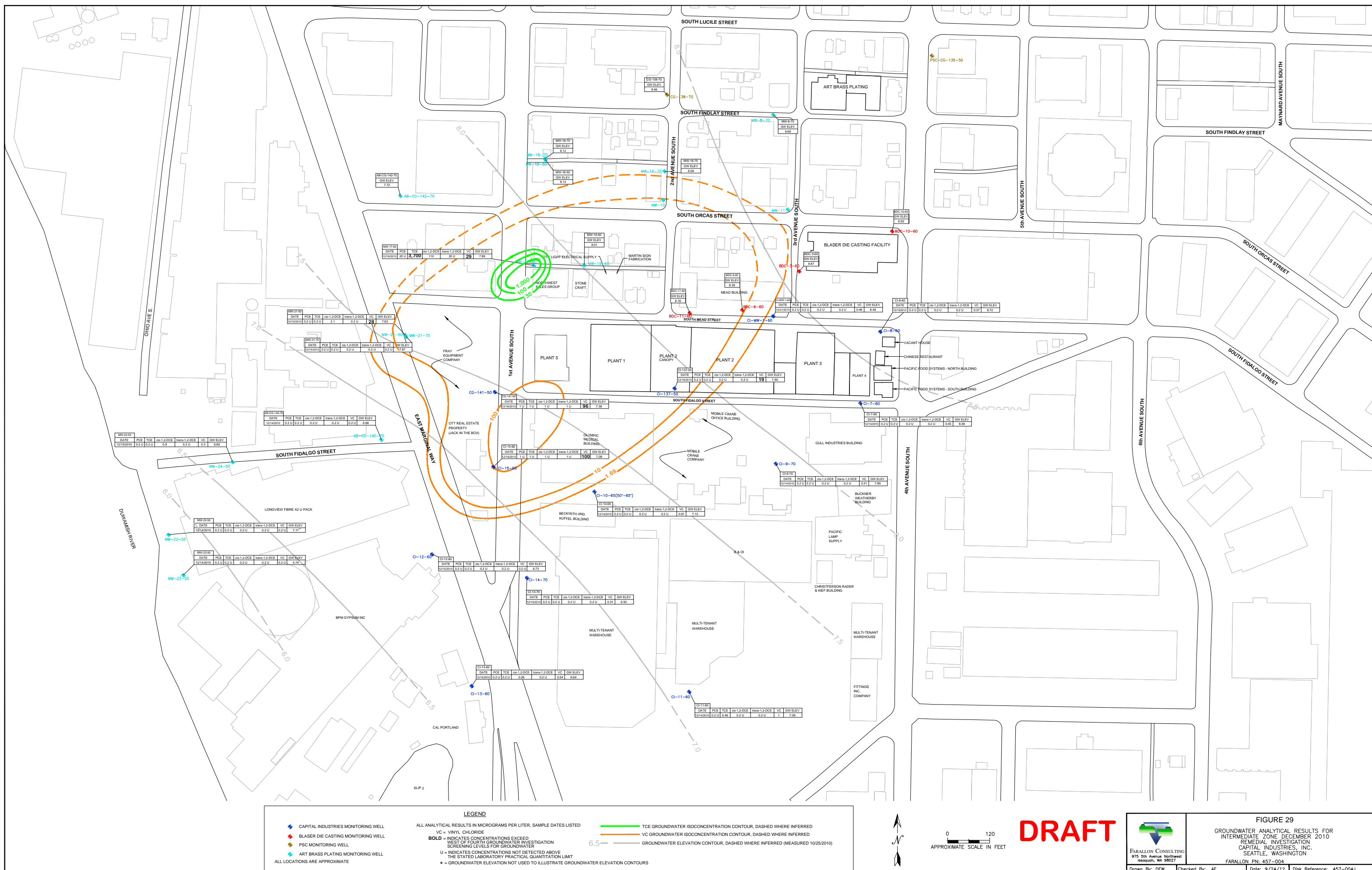
6.5 — GROUNDWATER ELEVATION CONTOUR, DASHED WHERE INFERRED (TIDALLY AVERAGED AND MEASURED 4/21/2012-4/23/2012)



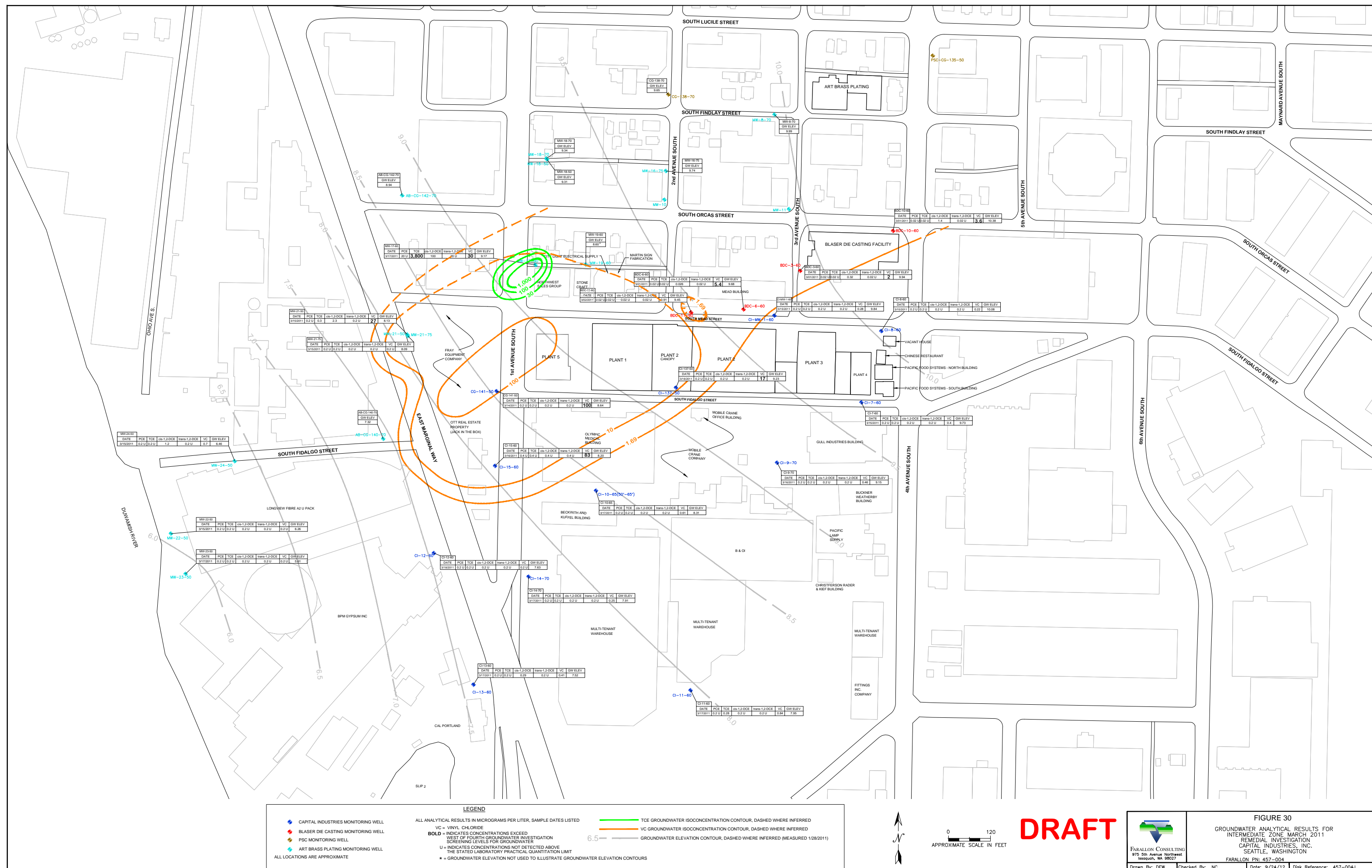


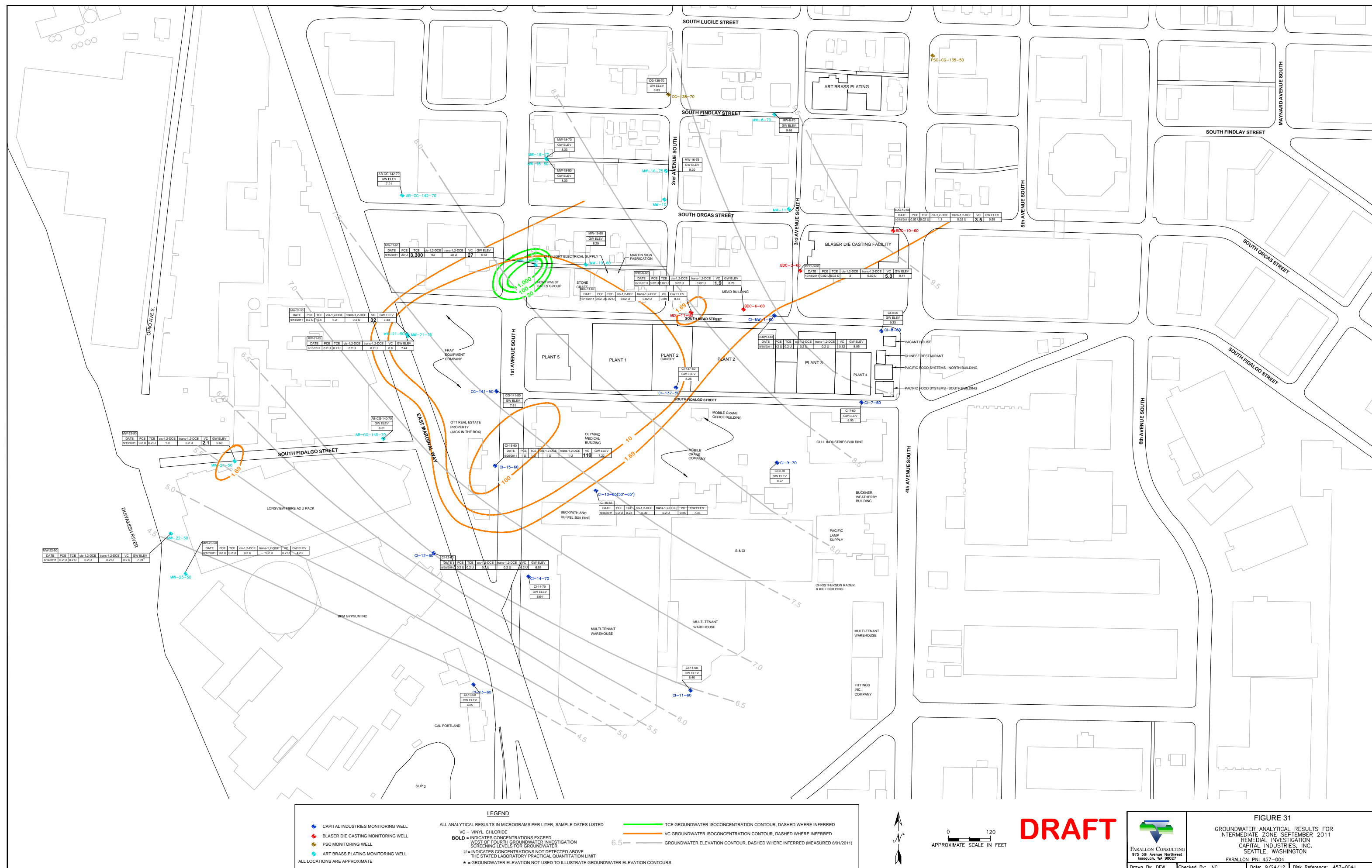


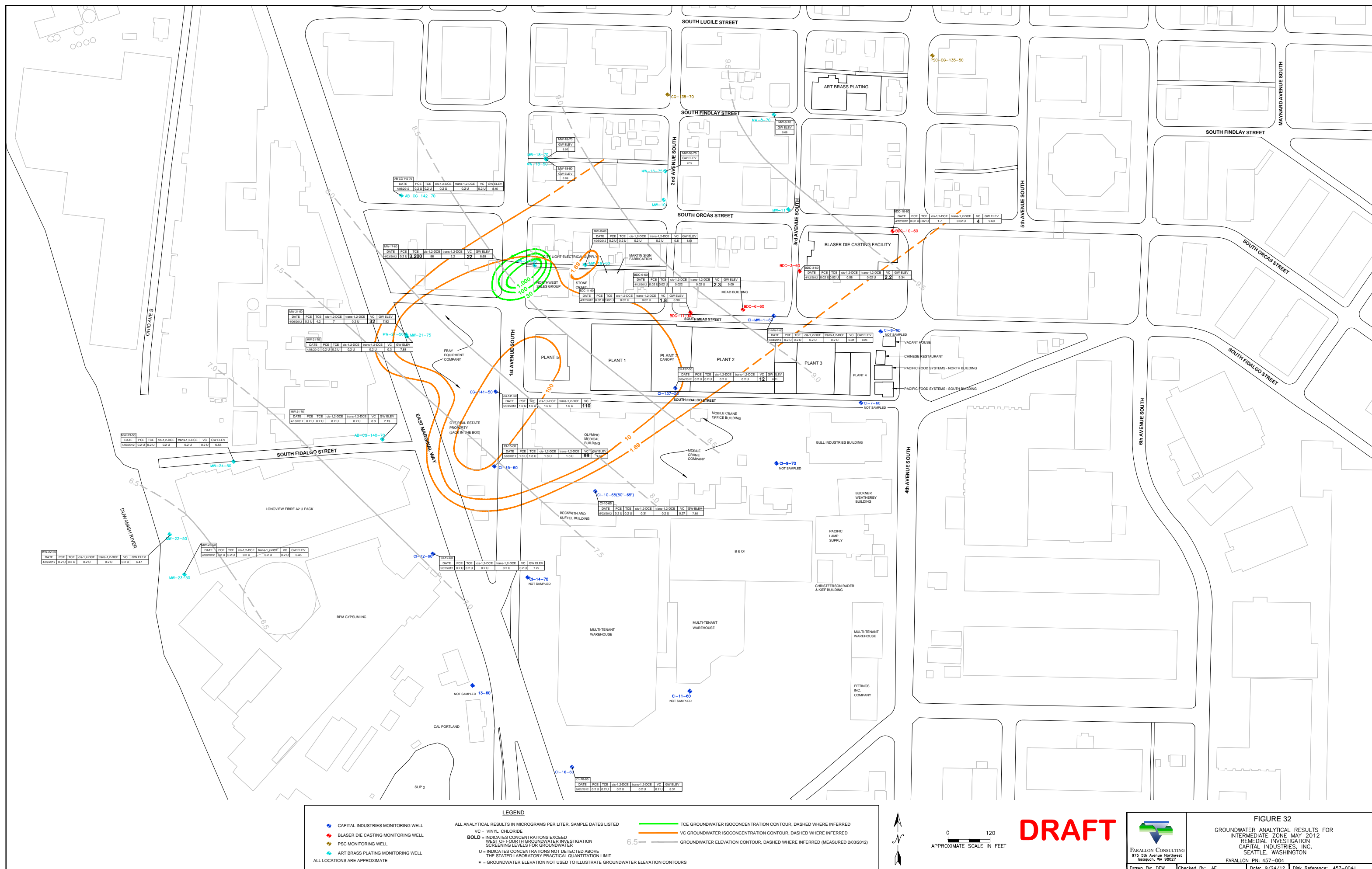






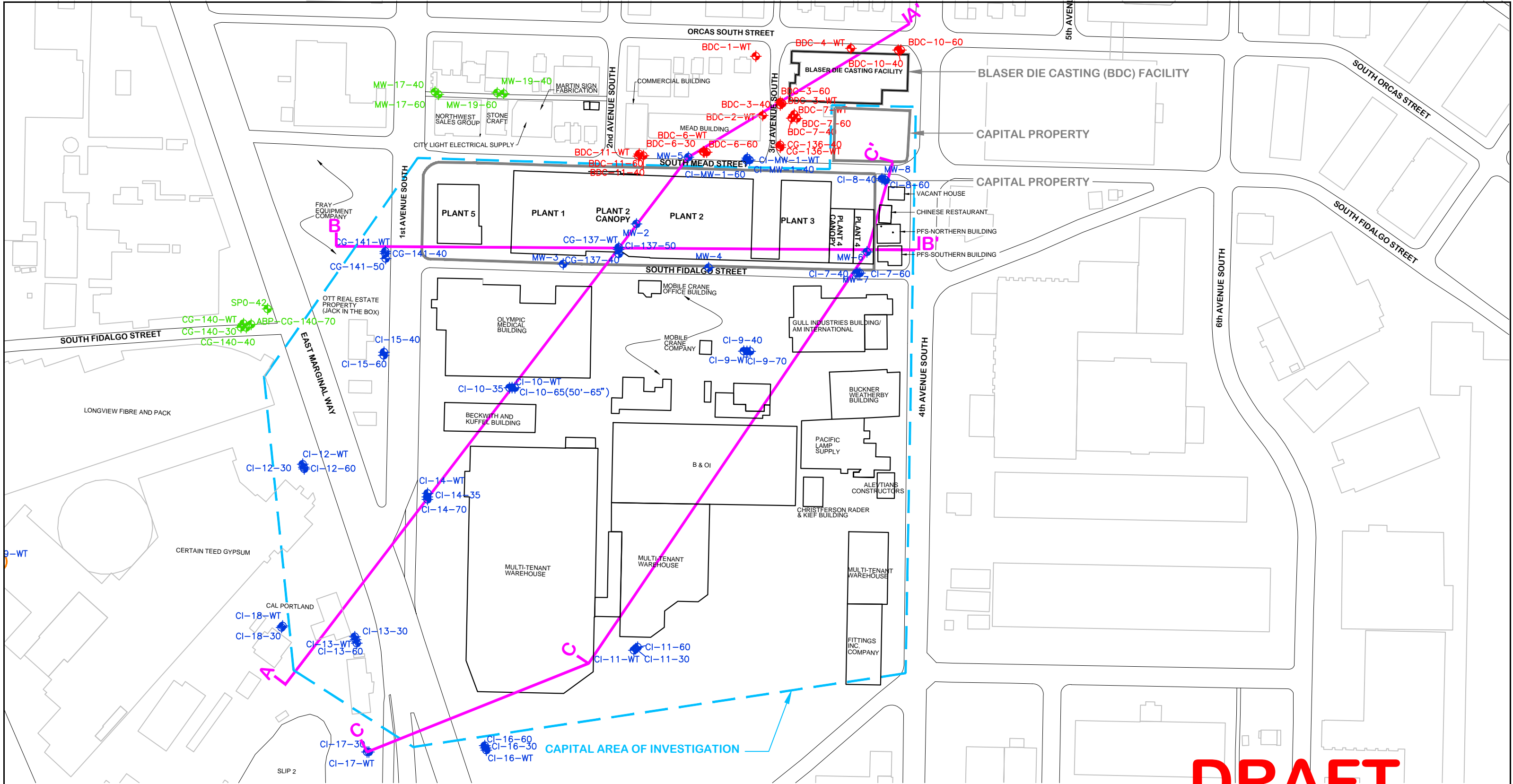




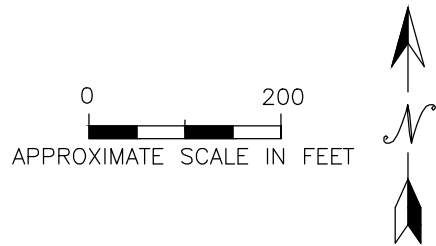








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LINE OF CROSS-SECTION



CAPITAL INDUSTRIES MONITORING WELL



BLASER DIE CASTING BORING MONITORING WELL

LEGEND

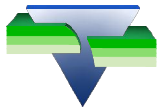


PSC MONITORING WELL



ART BRASS PLATING BORING MONITORING WELL

ALL LOCATIONS ARE APPROXIMATE



FARALLON CONSULTING  
975 5th Avenue Northwest  
Issaquah, WA 98027

FIGURE 34

SITE PLAN SHOWING  
LINE OF CROSS-SECTIONS  
REMEDIAL INVESTIGATION  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

FARALLON PN: 457-004

Drawn By:DEW

Checked By:AF

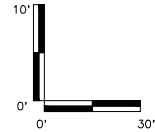
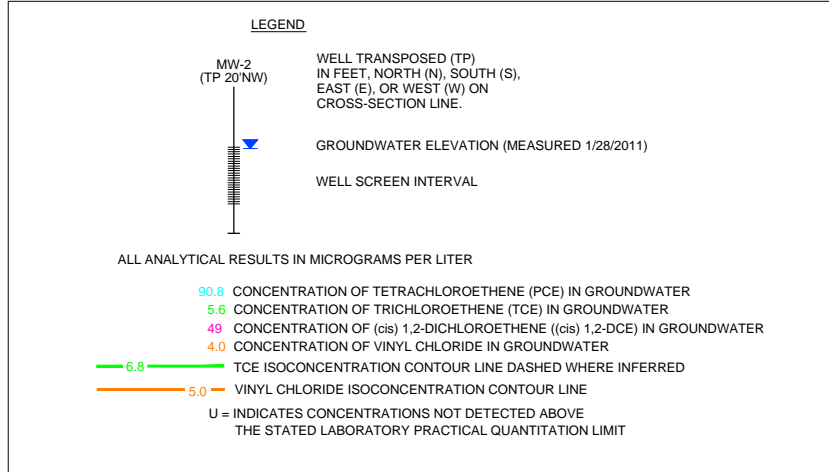
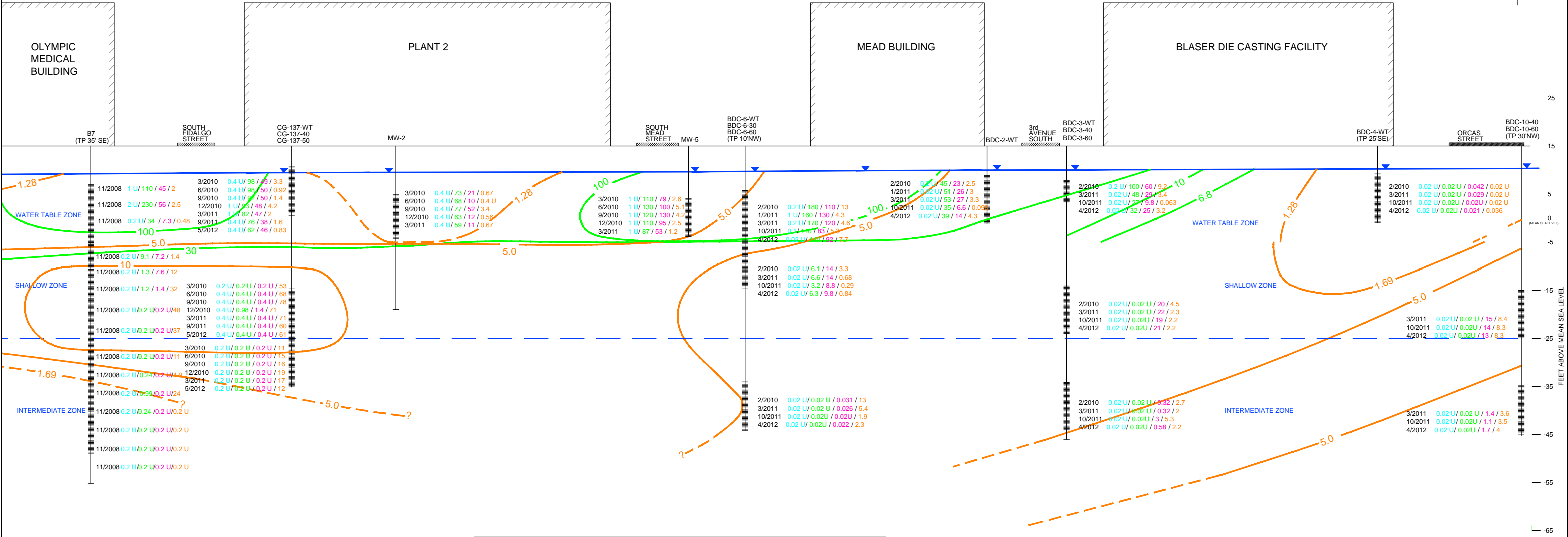
Date:9/24/12

Disk Reference:457004j

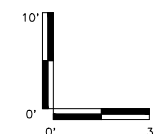
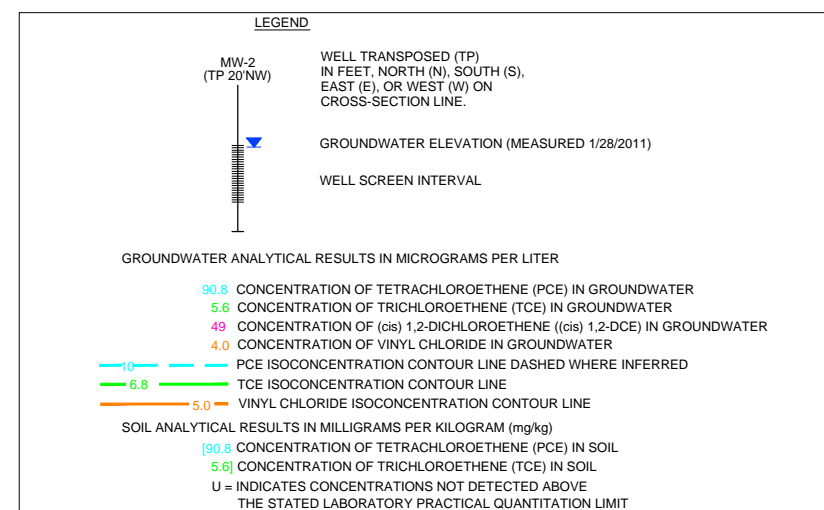
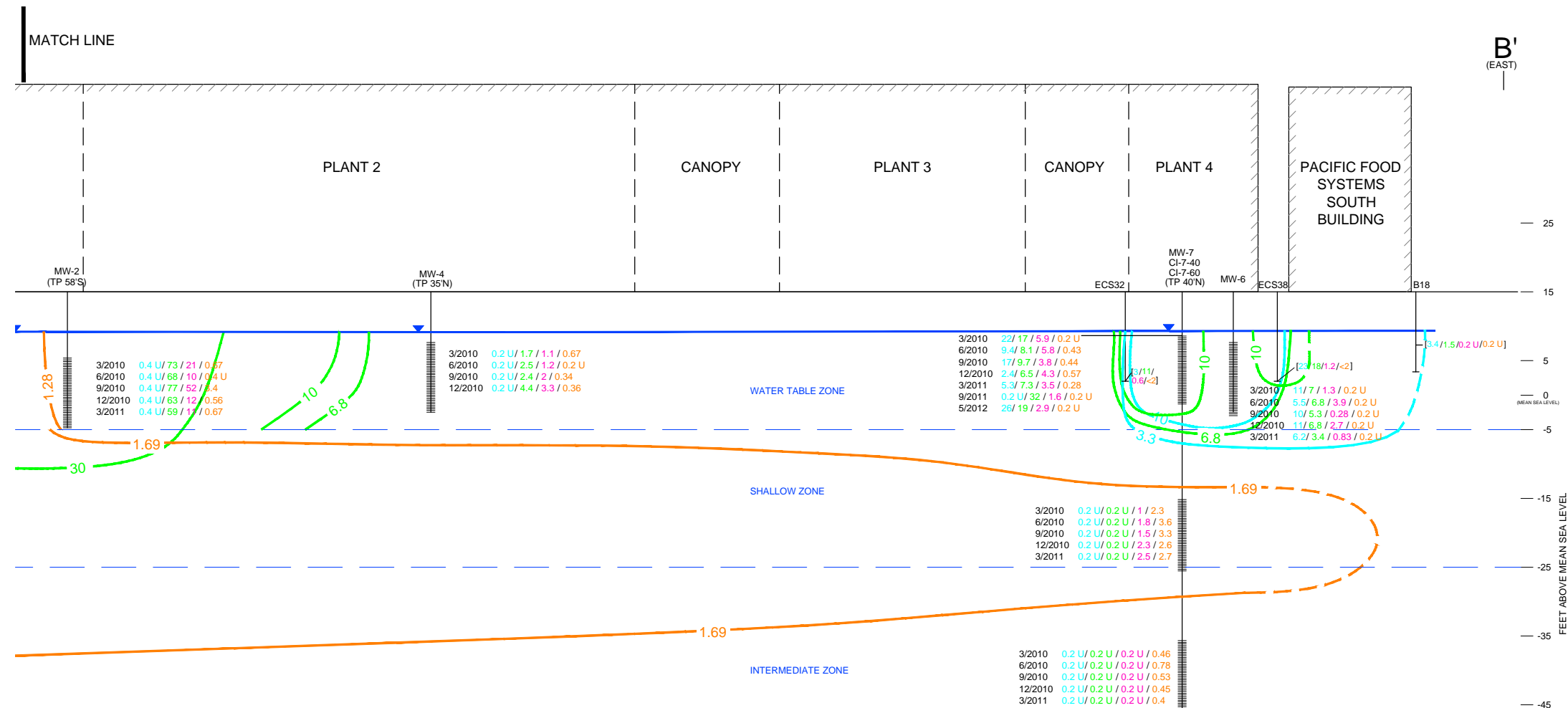


MATCH LINE

A'  
(NORTHEAST)

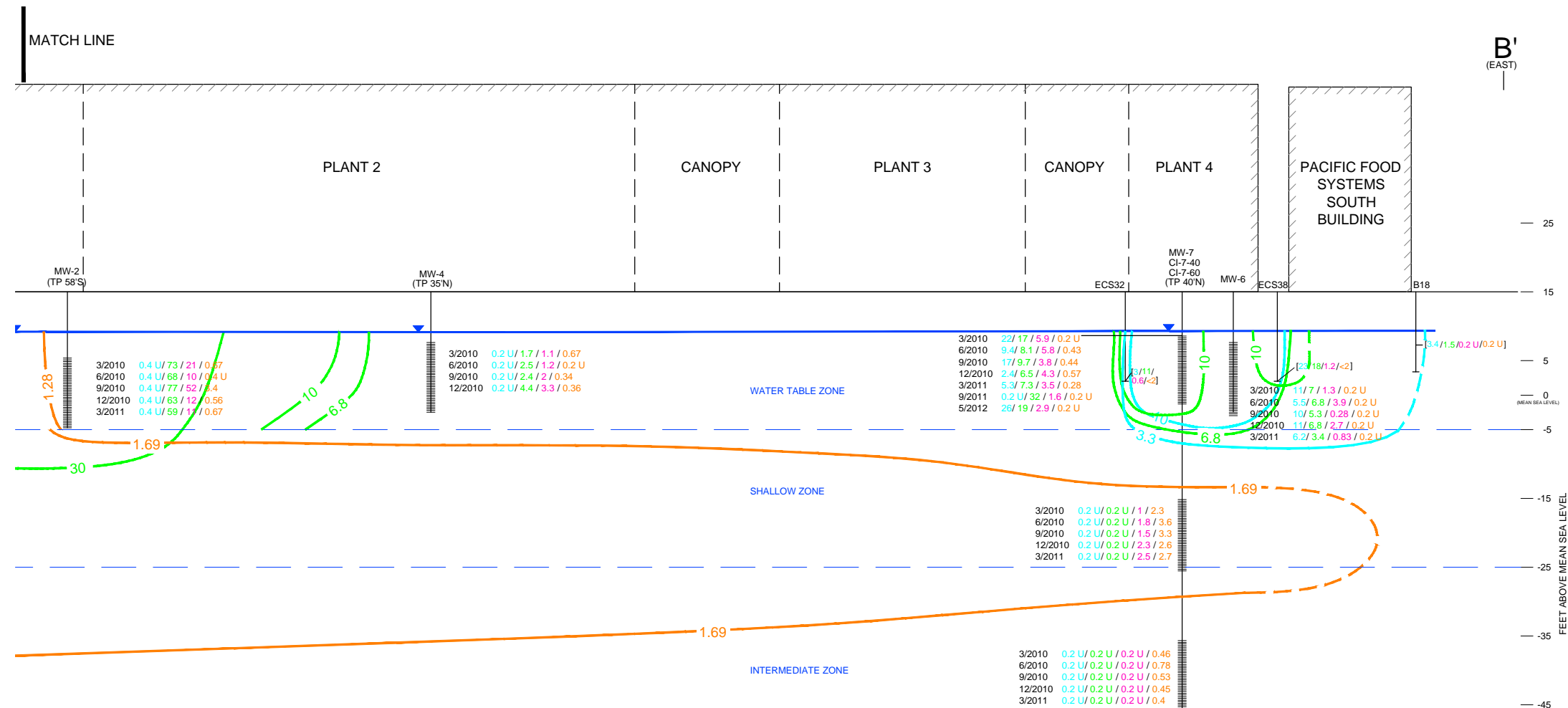


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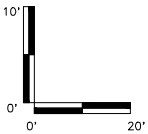
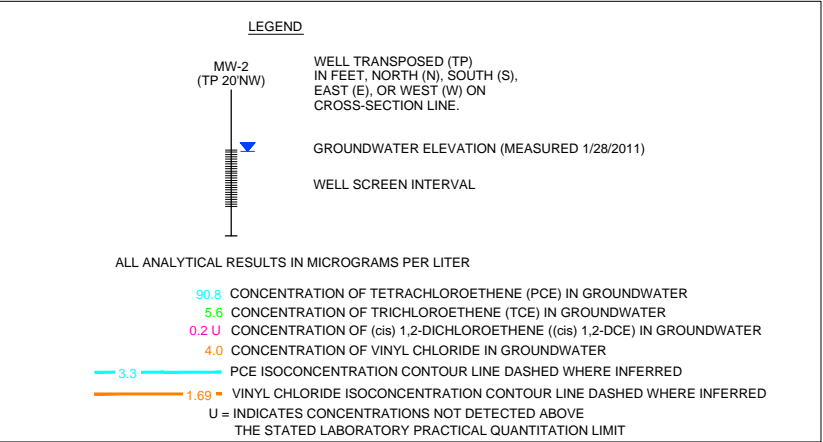
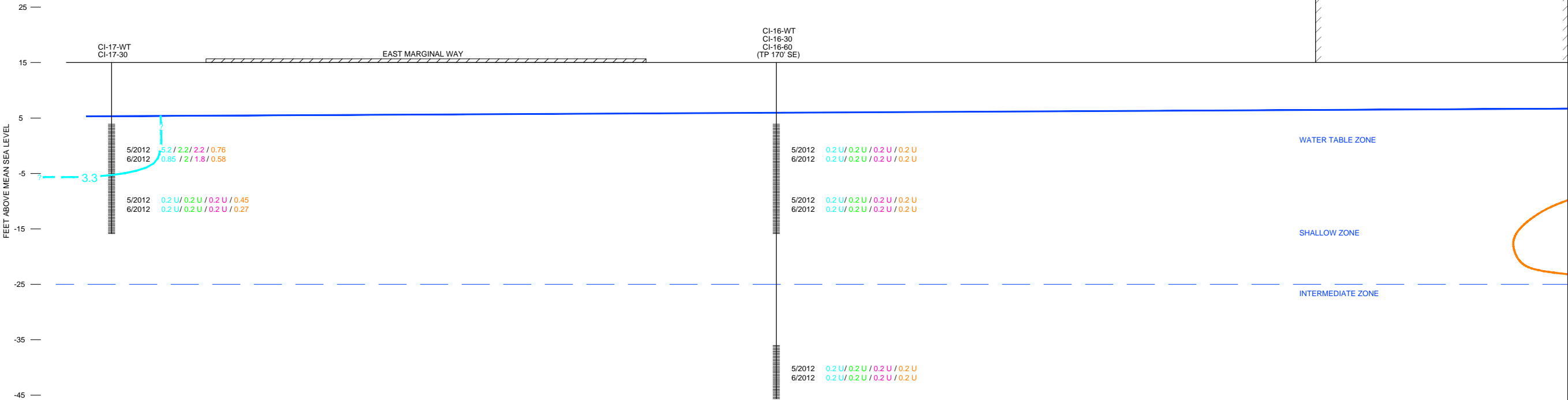
C  
|  
(SOUTHWEST)

MATCH LINE

CAL PORTLAND

MULTI-TENANT WAREHOUSE

DEFLECTION IN CROSS SECTION



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MATCH LINE

MATCH LINE

MULTI-TENANT BUILDING

B & OI

CI-11-WT  
CI-11-30  
CI-11-60  
(TP 70' NW)

B21  
(TP 190' NW)

6/2010 0.2 U / 0.2 U / 0.32 / 0.2 U  
9/2010 0.2 U / 0.2 U / 0.23 / 0.2 U  
12/2010 0.2 U / 0.2 U / 0.29 / 0.2 U  
3/2011 0.2 U / 0.2 U / 0.2 U / 0.2 U  
9/2011 0.2 U / 0.2 U / 0.26 / 0.67  
5/2012 0.2 U / 0.2 U / 0.33 / 0.88

6/2010 0.2 U / 0.2 U / 0.87 / 4.5  
9/2010 0.2 U / 0.2 U / 0.47 / 4.4  
12/2010 0.2 U / 0.2 U / 0.75 / 3.9  
3/2011 0.2 U / 0.2 U / 0.39 / 1.2  
9/2011 0.2 U / 0.2 U / 0.65 / 1.6  
5/2012 0.2 U / 0.2 U / 0.75 / 1.5

6/2010 0.2 U / 0.2 U / 0.2 U / 0.88  
9/2010 0.2 U / 0.47 / 0.2 U / 0.82  
12/2010 0.2 U / 0.46 / 0.2 U / 1  
3/2011 0.2 U / 0.28 / 0.2 U / 0.84

7/2009 0.2 U / 0.2 U / 0.2 U / 1.4

WATER TABLE ZONE

7/2009 0.2 U / 0.2 U / 0.22 / 1.8

7/2009 0.2 U / 0.2 U / 0.2 U / 3

SHALLOW ZONE

7/2009 0.2 U / 0.2 U / 0.22 / 2.3

INTERMEDIATE ZONE  
7/2009 0.2 U / 0.2 U / 0.2 U / 1.6

7/2009 0.2 UJ / 0.2 UJ / 0.2 UJ / 1.5 J

7/2009 0.2 UJ / 0.2 UJ / 0.2 UJ / 1.4 J

7/2009 0.2 U / 0.2 U / 0.2 U / 0.2 U

7/2009 0.2 U / 0.2 U / 0.2 U / 0.2 U

LEGEND

MW-2  
(TP 20' NW)

WELL TRANSPOSED (TP)  
IN FEET, NORTH (N), SOUTH (S),  
EAST (E), OR WEST (W) ON  
CROSS-SECTION LINE.

GROUNDWATER ELEVATION (MEASURED 1/28/2011)

WELL SCREEN INTERVAL

ALL ANALYTICAL RESULTS IN MICROGRAMS PER LITER

90.8 CONCENTRATION OF TETRACHLOROETHENE (PCE) IN GROUNDWATER  
5.6 CONCENTRATION OF TRICHLOROETHENE (TCE) IN GROUNDWATER  
49 CONCENTRATION OF (cis) 1,2-DICHLOROETHENE ((cis) 1,2-DCE) IN GROUNDWATER  
4.0 CONCENTRATION OF VINYL CHLORIDE IN GROUNDWATER

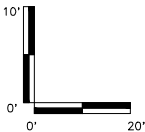
3.3 PCE ISOCONCENTRATION CONTOUR LINE DASHED WHERE INFERRED  
6.8 TCE ISOCONCENTRATION CONTOUR LINE  
1.28 VINYL CHLORIDE ISOCONCENTRATION CONTOUR LINE

SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)

90.8 CONCENTRATION OF TETRACHLOROETHENE (PCE) IN SOIL  
5.6 CONCENTRATION OF TRICHLOROETHENE (TCE) IN SOIL

U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE  
THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

J = INDICATES CONCENTRATIONS ESTIMATED



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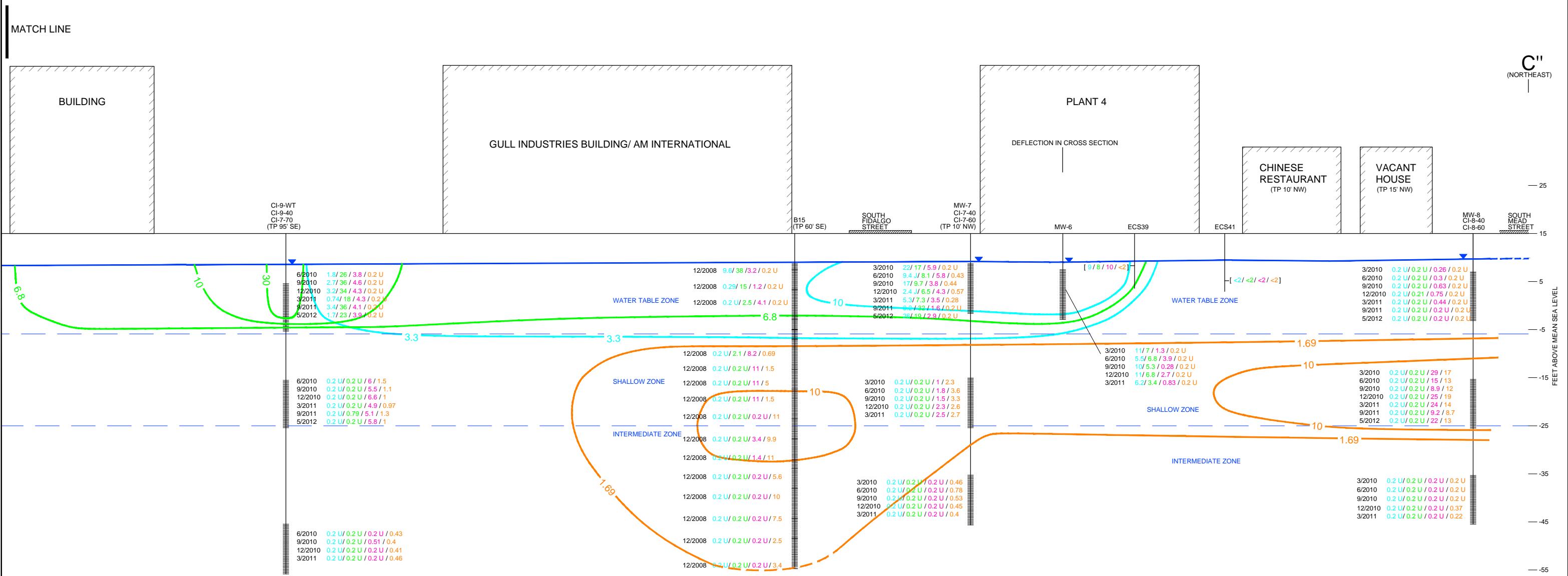


FARALLON CONSULTING  
975 5th Avenue, Northwest  
Issaquah, WA 98027

FIGURE 37a

CROSS-SECTION C-C'  
(CENTRAL PORTION)  
REMEDIAL INVESTIGATION  
CAPITAL INDUSTRIES, INC.  
SEATTLE, WASHINGTON

FARALLON PN: 457-004



**LEGEND**

MW-2 (TP 20'NW)

WELL TRANSPosed (TP) IN FEET, NORTH (N), SOUTH (S), EAST (E), OR WEST (W) ON CROSS-SECTION LINE.

GROUNDWATER ELEVATION (MEASURED 1/28/2011)

WELL SCREEN INTERVAL

ALL ANALYTICAL RESULTS IN MICROGRAMS PER LITER

- 90.8 CONCENTRATION OF TETRACHLOROETHENE (PCE) IN GROUNDWATER
- 5.6 CONCENTRATION OF TRICHLOROETHENE (TCE) IN GROUNDWATER
- 4.9 CONCENTRATION OF (cis) 1,2-DICHLOROETHENE ((cis) 1,2-DCE) IN GROUNDWATER
- 4.0 CONCENTRATION OF VINYL CHLORIDE IN GROUNDWATER

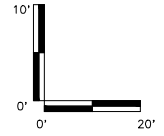
10 PCE ISOCONCENTRATION CONTOUR LINE DASHED WHERE INFERRED

6.8 TCE ISOCONCENTRATION CONTOUR LINE

1.69 VINYL CHLORIDE ISOCONCENTRATION CONTOUR LINE

SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)

- 90.8 CONCENTRATION OF TETRACHLOROETHENE (PCE) IN SOIL
- 5.6 CONCENTRATION OF TRICHLOROETHENE (TCE) IN SOIL
- U = INDICATES CONCENTRATIONS NOT DETECTED ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT



DRAFT

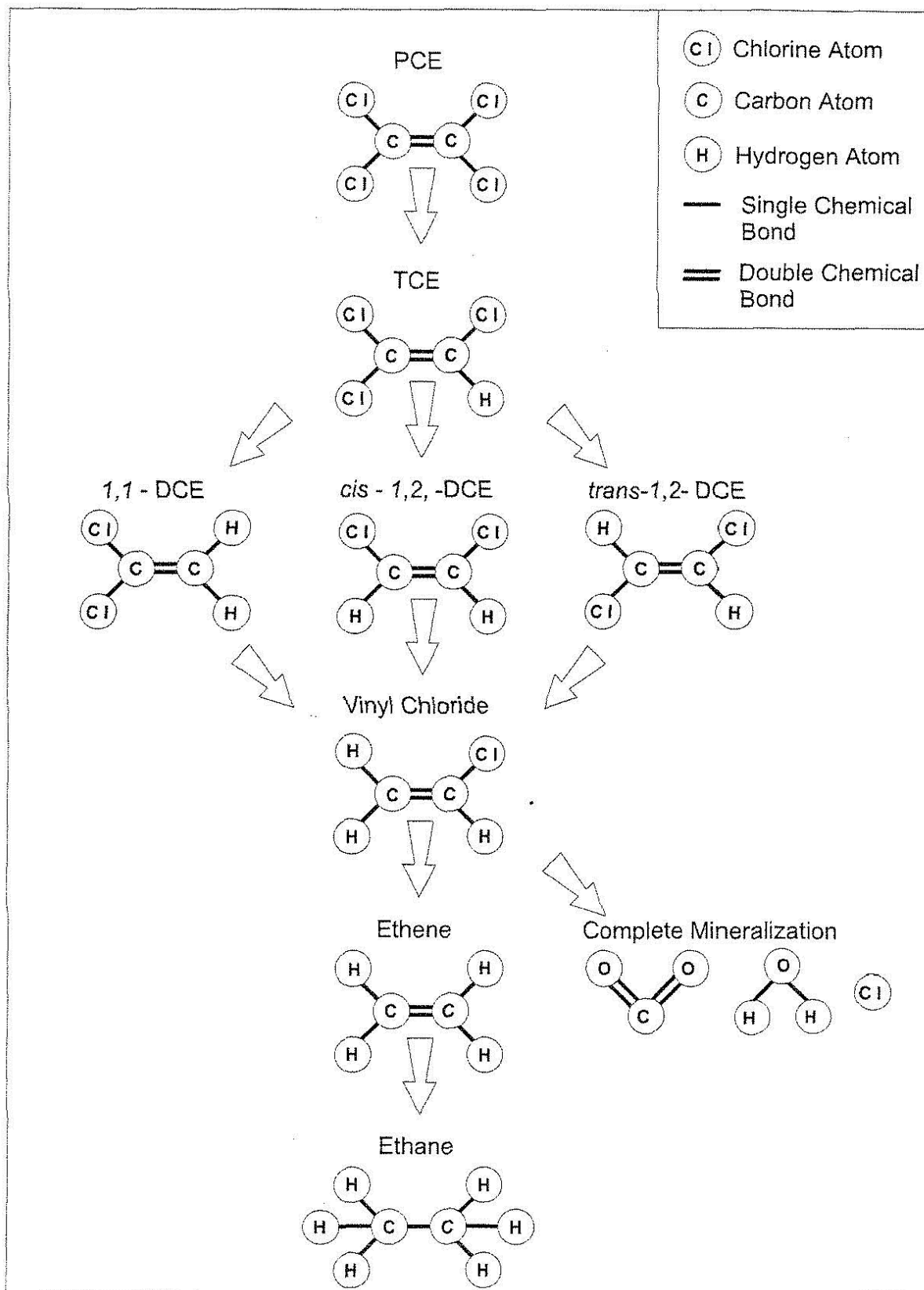


FIGURE PROVIDED BY EPA, 1998



## **TABLES**

### **REVISED DRAFT REMEDIAL INVESTIGATION REPORT**

**Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington**

**Farallon PN: 457-004**

**Table 1**  
**Soil Screening Levels**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Analyte	Soil Cleanup Levels (milligrams per kilogram)				
	Method B Direct Contact Carcinogenic <sup>1</sup>	Method B Direct Contact Non-Carcinogenic <sup>1</sup>	Method C Direct Contact Carcinogenic	Method C Direct Contact Non-Carcinogenic <sup>1</sup>	Method B Protection of Groundwater <sup>2</sup>
Tetrachloroethylene	476.2	480	62,500	21,000	<b>0.052</b>
Trichloroethylene	11.5	40	2,853	1,750	<b>0.058</b>
cis-1,2-Dichloroethene	—	160	—	7,000	<b>3.369</b>
trans-1,2-Dichloroethene	—	1,600	—	70,000	<b>0.35</b>
Vinyl chloride	0.67	240	87.5	10,500	<b>0.0087</b>
1,4-Dioxane	10	2,400	1,313	105,000	—
Iron	—	56,000	—	2,450,000	—
Manganese	—	11,200	—	490,000	—

NOTES:

**Bold** indicates most stringent soil screening level.

— denotes not applicable

<sup>1</sup>Calculated using Ecology Workbook Tools for Calculating Soil and Groundwater Cleanup Levels under MTCA, User's Guide For MTCATPH 11.1 & MTCASGL 11.0, Publication No. 01-09-073, Revised December 2007, [http://www.ecy.wa.gov/programs/tcp/tools/mtca\\_11/MTCA%20Workbook%20User's%20Guide%2011.1.pdf](http://www.ecy.wa.gov/programs/tcp/tools/mtca_11/MTCA%20Workbook%20User's%20Guide%2011.1.pdf), [MTCASGL11.xls](http://www.ecy.wa.gov/programs/tcp/tools/toolmain.html), <http://www.ecy.wa.gov/programs/tcp/tools/toolmain.html>

<sup>2</sup>Protective of Water Table Interval, using the most stringent water screening level.

**Table 2**  
**Groundwater Screening Levels**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

	<b>Tetrachloroethene</b>	<b>Trichloroethene</b>	<b>cis-dichloroethene</b>	<b>trans-dichloroethene</b>	<b>Vinyl Chloride</b>	<b>1,4-dioxane</b>	<b>Iron</b>	<b>Manganese</b>
Groundwater, Method B, Carcinogenic, Residential, Groundwater to Indoor Air <sup>1</sup>	104	6.8	--	--	1.28			
Groundwater, Method B, Carcinogenic, Residential, Groundwater to Indoor Air <sup>1</sup>	210	17	--	56	21	--		
Groundwater, Method B, Carcinogenic, Residential, Groundwater to Indoor Air <sup>1</sup>	250	16	--	--	3			
Groundwater, Method B, Carcinogenic, Residential, Groundwater to Indoor Air <sup>1</sup>	50	4	--	238	88			
Surface Water, Method B, Carcinogenic, Human Health, Fish Consumption - API Fisher <sup>2</sup>	45	5	--	--	1.69	69		
Surface Water, Method B, Non-Carcinogenic, Human Health, Fish Consumption - API Fisher <sup>2</sup>	535	130	3,000	3,500	710	20,700		
Surface Water, - Aquatic Biota Screening Benchmark <sup>3</sup>	98	47	590	12,000	12,000			
Surface Water ARAR - Aquatic Life-Marine/Organism only - Clean Water Act 305	3.3	30	--	10,000	2.4		1,000	100
Water Table Interval, Most Stringent	3.3	6.8	590	56	1.28	69	1,000	100
Shallow Interval, Most Stringent	3.3	30	590	3,500	1.69	69	1,000	100
Intermediate Interval, Most Stringent	3.3	30	590	3,500	1.69	69	1,000	100

**NOTES:**

<sup>1</sup> MTCA Cleanup Levels and Risk Calculations, Method B Values for Residential Exposure scenarios for inhalation of indoor air exposure pathway.

ARAR = Applicable or Relevant and Appropriate Requirement

<sup>2</sup> Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations Method B Modified based on Asian Pacific Island (API) Exposure scenarios for the consumption of fish for the groundwater-to-surface water pathway using equation 730-2.

<sup>3</sup> Buchman, M.F. 2008. NOAA Screening Quick Reference Tables. NOAA OR&R Report 08-1, Seattle, Washington. Office of Response and Restoration Division, National Oceanic and Atmospheric Administration.

<sup>4</sup> Surface Water, Human Health Consumption of Organism only

**Table 3**  
**Indoor and Groundwater IPIMALs for Residential and Commercial Scenarios**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Compound	Indoor Air IPIMALs ( $\mu\text{g}/\text{m}^3$ ) <sup>1,2</sup>				Groundwater IPIMALs ( $\mu\text{g}/\text{L}$ ) <sup>1,2</sup>			
	Residential		Commercial		Residential		Commercial	
	Cancer	Non-cancer	Cancer	Non-cancer	Cancer	Non-cancer	Cancer	Non-cancer
1,1-Dichloroethene	-	9.1	-	39	-	53	-	230
cis-1,2 Dichloroethene	-	1.6	-	6.8	-	73	-	310
Tetrachloroethene	8.8	1.8	21	4.2	104	21	250	50
Trichloroethene	0.37	0.09	0.87	0.22	6.8	1.7	16	4
Vinyl Chloride	0.28	4.6	0.66	19	1.3	21	3	88

**NOTES:**

- denotes no toxicity value was available. Therefore, an IPIMAL could not be calculated.

<sup>1</sup>The IPIMALs presented in this table were calculated by Pioneer Technologies Corporation in January 2009.

<sup>2</sup>PCE and TCE IPIMALs were revised based on toxicity information provided in the U.S. Environmental Protection Agency (EPA) IRIS database, ( Washington State Department of Ecology e-mail, June 6, 2012)

IPIMAL = Inhalation pathway interim measure action level

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

$\mu\text{g}/\text{L}$  = micrograms per liter

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
<b>Water Table Zone</b>						
Capital Industries, Inc.	CG-137-WT	05/10/2010	CG-137-WT-WL-051010	5.75 to -4.25	10 to 20	8.42
	CG-137-WT	08/02/2010	CG-137-WT-WL-080210	5.75 to -4.25	10 to 20	7.88
	CG-137-WT	10/25/2010	CG-137-WT-WL-102510	5.75 to -4.25	10 to 20	7.91
	CG-137-WT	01/28/2011	CG-137-WT-WL-012811	5.75 to -4.25	10 to 20	9.21
	CG-137-WT	8/1/2011	CG-137-WT-WL-080111	5.75 to -4.25	10 to 20	8.25
	CG-137-WT	2/3/2012	CG-137-WT-WL-020312	5.75 to -4.25	10 to 20	8.71
	CG-137-WT	4/23/2012	CG-137-WT-WL-042312	5.75 to -4.25	10 to 20	8.79
	CG-141-WT	05/10/2010	CG-141-WT-WL-051010	7.01 to -2.99	10 to 20	7.72
	CG-141-WT	08/02/2010	CG-141-WT-WL-080210	7.01 to -2.99	10 to 20	7.27
	CG-141-WT	10/25/2010	CG-141-WT-WL-102510	7.01 to -2.99	10 to 20	7.36
	CG-141-WT	01/28/2011	CG-141-WT-WL-012811	7.01 to -2.99	10 to 20	8.64
	CG-141-WT	8/1/2011	CG-141-WT-WL-080111	7.01 to -2.99	10 to 20	7.61
	CG-141-WT	4/23/2012	CG-141-WT-WL-042312	7.01 to -2.99	10 to 20	8.04
	CI-10-WT	05/10/2010	CI-10-WT-WL-051010	5.68 to -4.32	10 to 20	7.74
	CI-10-WT	08/02/2010	CI-10-WT-WL-080210	5.68 to -4.32	10 to 20	7.19
	CI-10-WT	10/25/2010	CI-10-WT-WL-102510	5.68 to -4.32	10 to 20	7.28
	CI-10-WT	01/28/2011	CI-10-WT-WL-012811	5.68 to -4.32	10 to 20	8.46
	CI-10-WT	8/1/2011	CI-10-WT-WL-080111	5.68 to -4.32	10 to 20	7.53
	CI-10-WT	2/3/2012	CI-10-WT-WL-020312	5.68 to -4.32	10 to 20	8
	CI-10-WT	4/23/2012	CI-10-WT-WL-042312	5.68 to -4.32	10 to 20	7.99
	CI-11-WT	08/02/2010	CI-11-WT-WL-080210	3.42 to -6.58	10 to 20	6.44
	CI-11-WT	10/25/2010	CI-11-WT-WL-102510	3.42 to -6.58	10 to 20	6.92
	CI-11-WT	01/28/2011	CI-11-WT-WL-012811	3.42 to -6.58	10 to 20	7.77
	CI-11-WT	8/1/2011	CI-11-WT-WL-080111	3.42 to -6.58	10 to 20	6.61
	CI-11-WT	2/3/2012	CI-11-WT-WL-020312	3.42 to -6.58	10 to 20	7.2
	CI-11-WT	4/23/2012	CI-11-WT-WL-042312	3.42 to -6.58	10 to 20	6.95

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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Capital Industries, Inc. (continued)	CI-12-WT	05/10/2010	CI-12-WT-WL-051010	5.44 to -4.56	10 to 20	6.55
	CI-12-WT	08/02/2010	CI-12-WT-WL-080210	5.44 to -4.56	10 to 20	6.29
	CI-12-WT	10/25/2010	CI-12-WT-WL-102510	5.44 to -4.56	10 to 20	5.74
	CI-12-WT	01/28/2011	CI-12-WT-WL-012811	5.44 to -4.56	10 to 20	7.44
	CI-12-WT	8/1/2011	CI-12-WT-WL-080111	5.44 to -4.56	10 to 20	6.41
	CI-12-WT	4/23/2012	CI-12-WT-WL-042312	5.44 to -4.56	10 to 20	6.78
	CI-13-WT	08/02/2010	CI-13-WT-WL-080210	5.58 to -4.42	10 to 20	5.79
	CI-13-WT	10/25/2010	CI-13-WT-WL-102510	5.58 to -4.42	10 to 20	6.5
	CI-13-WT	01/28/2011	CI-13-WT-WL-012811	5.58 to -4.42	10 to 20	7.3
	CI-13-WT	8/1/2011	CI-13-WT-WL-080111	5.58 to -4.42	10 to 20	4.84
	CI-13-WT	2/3/2012	CI-13-WT-WL-020312	5.58 to -4.42	10 to 20	6.76
	CI-13-WT	4/23/2012	CI-13-WT-WL-042312	5.58 to -4.42	10 to 20	5.26
	CI-14-WT	08/02/2010	CI-14-WT-WL-080210	5.08 to -4.92	10 to 20	6.68
	CI-14-WT	10/25/2010	CI-14-WT-WL-102510	5.08 to -4.92	10 to 20	6.83
	CI-14-WT	01/28/2011	CI-14-WT-WL-012811	5.08 to -4.92	10 to 20	7.87
	CI-14-WT	8/1/2011	CI-14-WT-WL-080111	5.08 to -4.92	10 to 20	6.92
	CI-14-WT	4/23/2012	CI-14-WT-WL-042312	5.08 to -4.92	10 to 20	7.41
	CI-16-WT	4/23/2012	CI-16-WT-WL-042312	4.4 to -5.6	10 to 20	6.11
	CI-17-WT	4/23/2012	CI-17-WT-WL-042312	4.72 to -5.28	10 to 20	3.42
	CI-18-WT	4/23/2012	CI-18-WT-WL-042312	6.73 to -3.27	10 to 20	5.41
	CI-19-WT	4/23/2012	CI-19-WT-WL-042312	5.79 to -4.21	10 to 20	2.93
	CI-9-WT	08/02/2010	CI-9-WT-WL-080210	5.83 to -4.17	10 to 20	7.96
	CI-9-WT	10/25/2010	CI-9-WT-WL-102510	5.83 to -4.17	10 to 20	7.94
	CI-9-WT	01/28/2011	CI-9-WT-WL-012811	5.83 to -4.17	10 to 20	9.24
	CI-9-WT	8/1/2011	CI-9-WT-WL-080111	5.83 to -4.17	10 to 20	8.35
	CI-9-WT	4/23/2012	CI-9-WT-WL-042312	5.83 to -4.17	10 to 20	8.82

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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Capital Industries, Inc. (continued)	CI-MW-1-WT	02/05/2010	CI-MW-1-WT-WL-020510	6.45 to -3.55	10 to 20	9.24
	CI-MW-1-WT	05/10/2010	CI-MW-1-WT-WL-051010	6.45 to -3.55	10 to 20	8.89
	CI-MW-1-WT	08/02/2010	CI-MW-1-WT-WL-080210	6.45 to -3.55	10 to 20	8.01
	CI-MW-1-WT	10/25/2010	CI-MW-1-WT-WL-102510	6.45 to -3.55	10 to 20	8.34
	CI-MW-1-WT	01/28/2011	CI-MW-1-WT-WL-012811	6.45 to -3.55	10 to 20	9.62
	CI-MW-1-WT	4/23/2012	CI-MW-1-WT-WL-042312	6.45 to -3.55	10 to 20	9.38
	MW-2	02/05/2010	MW-2-WL-020510	6.58 to -3.42	10 to 20	8.89
	MW-2	05/10/2010	MW-2-WL-051010	6.58 to -3.42	10 to 20	8.52
	MW-2	08/02/2010	MW-2-WL-080210	6.58 to -3.42	10 to 20	7.96
	MW-2	10/25/2010	MW-2-WL-102510	6.58 to -3.42	10 to 20	7.98
	MW-2	01/28/2011	MW-2-WL-012811	6.58 to -3.42	10 to 20	9.3
	MW-2	8/1/2011	MW-2-WL-080111	6.58 to -3.42	10 to 20	8.33
	MW-2	4/23/2012	MW-2-WL-042312	6.58 to -3.42	10 to 20	8.87
	MW-3	02/05/2010	MW-3-WL-020510	5.85 to -4.15	10 to 20	8.86
	MW-3	08/02/2010	MW-3-WL-080210	5.85 to -4.15	10 to 20	7.74
	MW-3	10/25/2010	MW-3-WL-102510	5.85 to -4.15	10 to 20	7.71
	MW-3	01/28/2011	MW-3-WL-012811	5.85 to -4.15	10 to 20	9.06
	MW-3	8/1/2011	MW-3-WL-080111	5.85 to -4.15	10 to 20	8.05
	MW-3	4/23/2012	MW-3-WL-042312	5.85 to -4.15	10 to 20	8.58
	MW-4	02/05/2010	MW-4-WL-020510	5.73 to -4.27	10 to 20	8.95
	MW-4	05/10/2010	MW-4-WL-051010	5.73 to -4.27	10 to 20	8.59
	MW-4	08/02/2010	MW-4-WL-080210	5.73 to -4.27	10 to 20	8.11
	MW-4	10/25/2010	MW-4-WL-102510	5.73 to -4.27	10 to 20	8.04
	MW-4	01/28/2011	MW-4-WL-012811	5.73 to -4.27	10 to 20	9.37
	MW-4	8/1/2011	MW-4-WL-080111	5.73 to -4.27	10 to 20	8.44
	MW-4	4/23/2012	MW-4-WL-042312	5.73 to -4.27	10 to 20	8.96
	MW-5	02/05/2010	MW-5-WL-020510	6.02 to -3.98	10 to 20	9.15
	MW-5	05/10/2010	MW-5-WL-051010	6.02 to -3.98	10 to 20	8.73
	MW-5	08/02/2010	MW-5-WL-080210	6.02 to -3.98	10 to 20	8.15
	MW-5	10/25/2010	MW-5-WL-102510	6.02 to -3.98	10 to 20	8.2
	MW-5	01/28/2011	MW-5-WL-012811	6.02 to -3.98	10 to 20	9.45
	MW-5	8/1/2011	MW-5-WL-080111	6.02 to -3.98	10 to 20	8.55
	MW-5	4/23/2012	MW-5-WL042312	6.02 to -3.98	10 to 20	9.22

**Table 4**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Capital Industries, Inc. (continued)	MW-6	02/05/2010	MW-6-WL-020510	7.52 to -2.48	10 to 20	9.39
	MW-6	05/10/2010	MW-6-WL-051010	7.52 to -2.48	10 to 20	9.13
	MW-6	08/02/2010	MW-6-WL-080210	7.52 to -2.48	10 to 20	8.62
	MW-6	10/25/2010	MW-6-WL-102510	7.52 to -2.48	10 to 20	8.52
	MW-6	01/28/2011	MW-6-WL-012811	7.52 to -2.48	10 to 20	9.85
	MW-6	8/1/2011	MW-6-WL-080111	7.52 to -2.48	10 to 20	9.06
	MW-6	4/23/2012	MW-6-WL-042312	7.52 to -2.48	10 to 20	9.48
	MW-7	02/05/2010	MW-7-WL-020510	7.04 to -2.96	10 to 20	9.29
	MW-7	05/10/2010	MW-7-WL-051010	7.04 to -2.96	10 to 20	9.05
	MW-7	08/02/2010	MW-7-WL-080210	7.04 to -2.96	10 to 20	8.56
	MW-7	10/25/2010	MW-7-WL-102510	7.04 to -2.96	10 to 20	8.44
	MW-7	01/28/2011	MW-7-WL-012811	7.04 to -2.96	10 to 20	9.77
	MW-7	8/1/2011	MW-7-WL-080111	7.04 to -2.96	10 to 20	8.97
	MW-7	2/3/2012	MW-7-WL-020312	7.04 to -2.96	10 to 20	9.09
	MW-7	4/23/2012	MW-7-WL-042312	7.04 to -2.96	10 to 20	9.39
	MW-8	02/05/2010	MW-8-WL-020510	6.77 to -3.23	10 to 20	9.58
	MW-8	05/10/2010	MW-8-WL-051010	6.77 to -3.23	10 to 20	9.36
	MW-8	08/02/2010	MW-8-WL-080210	6.77 to -3.23	10 to 20	8.84
	MW-8	10/25/2010	MW-8-WL-102510	6.77 to -3.23	10 to 20	8.75
	MW-8	01/28/2011	MW-8-WL-012811	6.77 to -3.23	10 to 20	10.07
	MW-8	8/1/2011	MW-8-WL-080111	6.77 to -3.23	10 to 20	9.3
	MW-8	2/3/2012	MW-8-WL-020312	6.77 to -3.23	10 to 20	9.37
	MW-8	4/23/2012	MW-8-WL-042312	6.77 to -3.23	10 to 20	9.7



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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting	BDC-11-WT	05/18/2009	BDC-11-WT WL	9.19 to -0.81	10.4 to 20.4	8.34
	BDC-11-WT	06/03/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	8.19
	BDC-11-WT	08/04/2009	BDC-11-WT WL	9.19 to -0.81	10.4 to 20.4	7.62
	BDC-11-WT	08/18/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	7.58
	BDC-11-WT	10/23/2009	BDC-11-WT WL	9.19 to -0.81	10.4 to 20.4	7.73
	BDC-11-WT	11/17/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	8.44
	BDC-11-WT	02/05/2010	BDC-11-WT WL	9.19 to -0.81	10.4 to 20.4	9.07
	BDC-11-WT	02/24/2010	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	9.08
	BDC-11-WT	05/10/2010	BDC-11-WT WL	9.19 to -0.81	10.4 to 20.4	8.72
	BDC-11-WT	8/2/2010	BDC-11-WT WL	9.19 to -0.81	10.4 to 20.4	8.1
	BDC-11-WT	10/25/2010	BDC-11-WT WL	9.19 to -0.81	10.4 to 20.4	8.24
	BDC-11-WT	01/28/2011	BDC-11-WT WL	9.19 to -0.81	10.4 to 20.4	9.48
	BDC-11-WT	03/01/2011	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	9.45
	BDC-11-WT	5/6/2011	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	9.28
	BDC-11-WT	8/1/2011	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	8.48
	BDC-11-WT	10/24/2011	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	7.96
	BDC-11-WT	02/03/2012	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	8.99
	BDC-1-WT	02/01/2008	BDC-1	11.18 to 1.18	5.9 to 15.9	9.08
	BDC-1-WT	05/18/2009	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	8.83
	BDC-1-WT	08/04/2009	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	8.04
	BDC-1-WT	10/23/2009	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	8.08
	BDC-1-WT	11/17/2009	BDC-1-WT	11.18 to 1.18	5.9 to 15.9	8.82
	BDC-1-WT	02/05/2010	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	9.53
	BDC-1-WT	02/24/2010	BDC-1-WT	11.18 to 1.18	5.9 to 15.9	9.57
	BDC-1-WT	05/10/2010	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	9.26
	BDC-1-WT	08/02/2010	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	8.62
	BDC-1-WT	10/25/2010	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	8.85
	BDC-1-WT	01/27/2011	BDC-1-WT	11.18 to 1.18	5.9 to 15.9	10.29
	BDC-1-WT	01/28/2011	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	9.84
	BDC-1-WT	5/6/2011	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	9.88
	BDC-1-WT	8/1/2011	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	9.05
	BDC-1-WT	10/24/2011	BDC-1-WT WL	11.18 to 1.18	5.9 to 15.9	8.43
	BDC-1-WT	02/03/2012	BDC-1-WT	11.18 to 1.18	5.9 to 15.9	9.46

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Blaser Die Casting (continued)	BDC-2-WT	02/01/2008	BDC-2	9.33 to -0.67	6.4 to 16.4	8.99
	BDC-2-WT	05/18/2009	BDC-2-WT WL	9.33 to -0.67	6.4 to 16.4	8.71
	BDC-2-WT	06/02/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	8.59
	BDC-2-WT	08/04/2009	BDC-2-WT WL	9.33 to -0.67	6.4 to 16.4	7.98
	BDC-2-WT	08/18/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	7.93
	BDC-2-WT	10/23/2009	BDC-2-WT WL	9.33 to -0.67	6.4 to 16.4	8
	BDC-2-WT	11/16/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	8.49
	BDC-2-WT	02/05/2010	BDC-2-WT WL	9.33 to -0.67	6.4 to 16.4	9.45
	BDC-2-WT	02/24/2010	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	9.46
	BDC-2-WT	05/10/2010	BDC-2-WT WL	9.33 to -0.67	6.4 to 16.4	9.19
	BDC-2-WT	08/02/2010	BDC-2-WT WL	9.33 to -0.67	6.4 to 16.4	8.54
	BDC-2-WT	10/25/2010	BDC-2-WT WL	9.33 to -0.67	6.4 to 16.4	8.62
	BDC-2-WT	01/27/2011	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	10.05
	BDC-2-WT	01/28/2011	BDC-2-WT WL	9.33 to -0.67	6.4 to 16.4	9.84
	BDC-2-WT	03/01/2011	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	9.9
	BDC-2-WT	5/6/2011	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	9.79
	BDC-2-WT	8/1/2011	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	8.97
	BDC-2-WT	10/24/2011	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	8.4
	BDC-2-WT	02/03/2012	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	9.33

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting (continued)	BDC-3-WT	02/01/2008	BDC-3	7.89 to 2.89	7.4 to 12.4	9.07
	BDC-3-WT	05/18/2009	BDC-3-WT WL	7.89 to 2.89	7.4 to 12.4	8.81
	BDC-3-WT	06/02/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	8.61
	BDC-3-WT	08/04/2009	BDC-3-WT WL	7.89 to 2.89	7.4 to 12.4	8.06
	BDC-3-WT	08/18/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	8
	BDC-3-WT	10/23/2009	BDC-3-WT WL	7.89 to 2.89	7.4 to 12.4	8.05
	BDC-3-WT	11/16/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	8.57
	BDC-3-WT	02/05/2010	BDC-3-WT WL	7.89 to 2.89	7.4 to 12.4	9.52
	BDC-3-WT	02/24/2010	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	9.56
	BDC-3-WT	05/10/2010	BDC-3-WT WL	7.89 to 2.89	7.4 to 12.4	9.27
	BDC-3-WT	08/02/2010	BDC-3-WT WL	7.89 to 2.89	7.4 to 12.4	8.64
	BDC-3-WT	10/25/2010	BDC-3-WT WL	7.89 to 2.89	7.4 to 12.4	8.71
	BDC-3-WT	01/28/2011	BDC-3-WT WL	7.89 to 2.89	7.4 to 12.4	9.91
	BDC-3-WT	03/01/2011	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	9.98
	BDC-3-WT	5/6/2011	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	9.89
	BDC-3-WT	8/1/2011	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	9.07
	BDC-3-WT	10/24/2011	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	8.44
	BDC-3-WT	02/03/2012	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	9.38

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**Summary of Groundwater Elevations**  
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**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting (continued)	BDC-4-WT	02/01/2008	BDC-4	11.43 to 1.43	6.4 to 16.4	9.33
	BDC-4-WT	05/18/2009	BDC-4-WT WL	11.43 to 1.43	6.4 to 16.4	9.06
	BDC-4-WT	06/02/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	8.95
	BDC-4-WT	08/04/2009	BDC-4-WT WL	11.43 to 1.43	6.4 to 16.4	8.3
	BDC-4-WT	08/18/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	8.24
	BDC-4-WT	10/23/2009	BDC-4-WT WL	11.43 to 1.43	6.4 to 16.4	8.29
	BDC-4-WT	11/17/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	8.83
	BDC-4-WT	02/05/2010	BDC-4-WT WL	11.43 to 1.43	6.4 to 16.4	9.72
	BDC-4-WT	02/24/2010	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	9.8
	BDC-4-WT	05/10/2010	BDC-4-WT WL	11.43 to 1.43	6.4 to 16.4	9.53
	BDC-4-WT	08/02/2010	BDC-4-WT WL	11.43 to 1.43	6.4 to 16.4	8.92
	BDC-4-WT	10/25/2010	BDC-4-WT WL	11.43 to 1.43	6.4 to 16.4	8.93
	BDC-4-WT	01/28/2011	BDC-4-WT WL	11.43 to 1.43	6.4 to 16.4	10.12
	BDC-4-WT	03/01/2011	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	8.25
	BDC-4-WT	5/6/2011	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	10.18
	BDC-4-WT	8/1/2011	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	9.37
	BDC-4-WT	10/24/2011	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	8.7
	BDC-4-WT	02/03/2012	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	9.61

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**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting (continued)	BDC-6-WT	02/01/2008	BDC-6	8.85 to -1.15	9.4 to 19.4	8.78
	BDC-6-WT	05/18/2009	BDC-6-WT WL	8.85 to -1.15	9.4 to 19.4	8.52
	BDC-6-WT	06/02/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	8.35
	BDC-6-WT	08/04/2009	BDC-6-WT WL	8.85 to -1.15	9.4 to 19.4	7.88
	BDC-6-WT	08/18/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	7.74
	BDC-6-WT	10/23/2009	BDC-6-WT WL	8.85 to -1.15	9.4 to 19.4	7.87
	BDC-6-WT	11/16/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	8.35
	BDC-6-WT	02/05/2010	BDC-6-WT WL	8.85 to -1.15	9.4 to 19.4	9.23
	BDC-6-WT	02/24/2010	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	9.26
	BDC-6-WT	05/10/2010	BDC-6-WT WL	8.85 to -1.15	9.4 to 19.4	8.95
	BDC-6-WT	08/02/2010	BDC-6-WT WL	8.85 to -1.15	9.4 to 19.4	8.33
	BDC-6-WT	10/25/2010	BDC-6-WT WL	8.85 to -1.15	9.4 to 19.4	8.41
	BDC-6-WT	01/27/2011	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	9.81
	BDC-6-WT	01/28/2011	BDC-6-WT WL	8.85 to -1.15	9.4 to 19.4	9.66
	BDC-6-WT	03/01/2011	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	9.64
	BDC-6-WT	5/6/2011	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	9.52
	BDC-6-WT	8/1/2011	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	8.72
	BDC-6-WT	10/24/2011	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	8.15
	BDC-6-WT	02/03/2012	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	9.13
	CG-136-WT	05/18/2009	CG-136-WT WL	7.67 to -2.33	7.36 to 17.36	8.72
	CG-136-WT	06/02/2009	CG-136-WT	7.67 to -2.33	7.36 to 17.36	8.61
	CG-136-WT	08/04/2009	CG-136-WT WL	7.67 to -2.33	7.36 to 17.36	8.02
	CG-136-WT	10/23/2009	CG-136-WT WL	7.67 to -2.33	7.36 to 17.36	8.12
	CG-136-WT	11/16/2009	CG-136-WT	7.67 to -2.33	7.36 to 17.36	8.52
	CG-136-WT	02/05/2010	CG-136-WT WL	7.67 to -2.33	7.36 to 17.36	9.46
	CG-136-WT	05/10/2010	CG-136-WT WL	7.67 to -2.33	7.36 to 17.36	9.19
	CG-136-WT	08/02/2010	CG-136-WT WL	7.67 to -2.33	7.36 to 17.36	8.58
	CG-136-WT	10/25/2010	CG-136-WT WL	7.67 to -2.33	7.36 to 17.36	8.62
	CG-136-WT	01/28/2011	CG-136-WT WL	7.67 to -2.33	7.36 to 17.36	9.89
	CG-136-WT	03/02/2011	CG-136-WT	7.67 to -2.33	7.36 to 17.36	9.93
	CG-136-WT	5/6/2011	CG-136-WT	7.67 to -2.33	7.36 to 17.36	9.81
	CG-136-WT	10/24/2011	CG-136-WT	7.67 to -2.33	7.36 to 17.36	8.43
	CG-136-WT	02/03/2012	CG-136-WT	7.67 to -2.33	7.36 to 17.36	9.33

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting (continued)	CI-MW-1-WT	05/18/2009	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	8.61
	CI-MW-1-WT	06/03/2009	CI-MW-1-WT	9.34 to -0.66	7.11 to 17.11	8.46
	CI-MW-1-WT	08/04/2009	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	7.9
	CI-MW-1-WT	10/23/2009	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	7.92
	CI-MW-1-WT	11/16/2009	CI-MW-1-WT	9.34 to -0.66	7.11 to 17.11	8.4
	CI-MW-1-WT	02/05/2010	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	9.31
	CI-MW-1-WT	05/10/2010	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	9.05
	CI-MW-1-WT	08/02/2010	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	8.42
	CI-MW-1-WT	10/25/2010	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	8.46
	CI-MW-1-WT	01/28/2011	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	9.76
	CI-MW-1-WT	5/6/2011	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	9.64
	CI-MW-1-WT	8/1/2011	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	8.85
	CI-MW-1-WT	10/24/2011	CI-MW-1-WT WL	9.34 to -0.66	7.11 to 17.11	8.27
	CI-MW-1-WT	02/03/2012	CI-MW-1-WT	9.34 to -0.66	7.11 to 17.11	9.17
Art Brass Plating	MW-10	12/15/2008	MW-10-WL-121508	11.91 to 1.91	5 to 15	7.97
	MW-10	03/23/2009	MW-10-WL-032309	11.91 to 1.91	5 to 15	8.67
	MW-10	05/18/2009	MW-10-WL-051809	11.91 to 1.91	5 to 15	8.52
	MW-10	08/04/2009	MW-10-WL-080409	11.91 to 1.91	5 to 15	7.74
	MW-10	10/23/2009	MW-10-WL-102309	11.91 to 1.91	5 to 15	7.86
	MW-10	02/05/2010	MW-10-WL-020510	11.91 to 1.91	5 to 15	9.38
	MW-10	05/10/2010	MW-10-WL-051010	11.91 to 1.91	5 to 15	8.94
	MW-10	08/02/2010	MW-10-WL-080210	11.91 to 1.91	5 to 15	8.28
	MW-10	10/25/2010	MW-10-WL-102510	11.91 to 1.91	5 to 15	8.32
	MW-10	01/28/2011	MW-10-WL-012811	11.91 to 1.91	5 to 15	10.59
	MW-10	5/6/2011	MW-10-WL-050611	11.91 to 1.91	5 to 15	10.26
	MW-10	8/1/2011	MW-10-WL-080111	11.91 to 1.91	5 to 15	8.66
	MW-10	10/24/2011	MW-10-WL-102411	11.91 to 1.91	5 to 15	8.09
	MW-10	2/3/2012	MW-10-WL-020312	11.91 to 1.91	5 to 15	10.59

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<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (Continued)	MW-11	12/15/2008	MW-11-WL-121508	12.24 to 2.24	5 to 15	8.32
	MW-11	03/23/2009	MW-11-WL-032309	12.24 to 2.24	5 to 15	8.84
	MW-11	05/18/2009	MW-11-WL-051809	12.24 to 2.24	5 to 15	8.95
	MW-11	08/04/2009	MW-11-WL-080409	12.24 to 2.24	5 to 15	8.12
	MW-11	10/23/2009	MW-11-WL-102309	12.24 to 2.24	5 to 15	8.14
	MW-11	02/05/2010	MW-11-WL-020510	12.24 to 2.24	5 to 15	9.35
	MW-11	05/10/2010	MW-11-WL-051010	12.24 to 2.24	5 to 15	9.41
	MW-11	08/02/2010	MW-11-WL-080210	12.24 to 2.24	5 to 15	8.72
	MW-11	10/25/2010	MW-11-WL-102510	12.24 to 2.24	5 to 15	8.61
	MW-11	01/28/2011	MW-11-WL-012811	12.24 to 2.24	5 to 15	9.81
	MW-11	5/6/2011	MW-11-WL-050611	12.24 to 2.24	5 to 15	10.01
	MW-11	8/1/2011	MW-11-WL-080111	12.24 to 2.24	5 to 15	9.17
	MW-11	10/24/2011	MW-11-WL-102411	12.24 to 2.24	5 to 15	8.51
	MW-11	2/3/2012	MW-11-WL-020312	12.24 to 2.24	5 to 15	9.55
	MW-14	12/15/2008	MW-14-WL-121508	11.81 to 1.81	4 to 14	8.57
	MW-14	03/23/2009	MW-14-WL-032309	11.81 to 1.81	4 to 14	9.17
	MW-14	05/18/2009	MW-14-WL-051809	11.81 to 1.81	4 to 14	9.26
	MW-14	08/04/2009	MW-14-WL-080409	11.81 to 1.81	4 to 14	8.45
	MW-14	10/23/2009	MW-14-WL-102309	11.81 to 1.81	4 to 14	8.41
	MW-14	02/05/2010	MW-14-WL-020510	11.81 to 1.81	4 to 14	8.9
	MW-14	05/10/2010	MW-14-WL-051010	11.81 to 1.81	4 to 14	9.75
	MW-14	08/02/2010	MW-14-WL-080210	11.81 to 1.81	4 to 14	9.11
	MW-14	10/25/2010	MW-14-WL-102510	11.81 to 1.81	4 to 14	8.93
	MW-14	01/28/2011	MW-14-WL-012811	11.81 to 1.81	4 to 14	9.43
	MW-14	5/6/2011	MW-14-WL-050611	11.81 to 1.81	4 to 14	10.42
	MW-14	8/1/2011	MW-14-WL-080111	11.81 to 1.81	4 to 14	9.61
	MW-14	10/24/2011	MW-14-WL-102411	11.81 to 1.81	4 to 14	8.87
	MW-14	2/3/2012	MW-14-WL-020312	11.81 to 1.81	4 to 14	9.84

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<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (Continued)	MW-15	12/15/2008	MW-15-WL-121508	11.20 to 1.20	4 to 14	8.26
	MW-15	03/23/2009	MW-15-WL-032309	11.20 to 1.20	4 to 14	8.78
	MW-15	05/18/2009	MW-15-WL-051809	11.20 to 1.20	4 to 14	8.85
	MW-15	08/04/2009	MW-15-WL-080409	11.20 to 1.20	4 to 14	8.01
	MW-15	10/23/2009	MW-15-WL-102309	11.20 to 1.20	4 to 14	8.08
	MW-15	02/05/2010	MW-15-WL-020510	11.20 to 1.20	4 to 14	9.13
	MW-15	05/10/2010	MW-15-WL-051010	11.20 to 1.20	4 to 14	9.31
	MW-15	08/02/2010	MW-15-WL-080210	11.20 to 1.20	4 to 14	8.61
	MW-15	10/25/2010	MW-15-WL-102510	11.20 to 1.20	4 to 14	8.65
	MW-15	01/28/2011	MW-15-WL-012811	11.20 to 1.20	4 to 14	9.54
	MW-15	5/6/2011	MW-15-WL-050611	11.20 to 1.20	4 to 14	9.92
	MW-15	8/1/2011	MW-15-WL-080111	11.20 to 1.20	4 to 14	9.04
	MW-15	10/24/2011	MW-15-WL-102411	11.20 to 1.20	4 to 14	8.43
	MW-15	2/3/2012	MW-15-WL-020312	11.20 to 1.20	4 to 14	9.55
	MW-16	03/23/2009	MW-16-WL-032309	12.34 to 2.34	5 to 15	8.58
	MW-16	05/18/2009	MW-16-WL-051809	12.34 to 2.34	5 to 15	8.69
	MW-16	08/04/2009	MW-16-WL-080409	12.34 to 2.34	5 to 15	7.85
	MW-16	10/23/2009	MW-16-WL-102309	12.34 to 2.34	5 to 15	7.93
	MW-16	02/05/2010	MW-16-WL-020510	12.34 to 2.34	5 to 15	11.21
	MW-16	05/10/2010	MW-16-WL-051010	12.34 to 2.34	5 to 15	9.87
	MW-16	08/02/2010	MW-16-WL-080210	12.34 to 2.34	5 to 15	8.4
	MW-16	10/25/2010	MW-16-WL-102510	12.34 to 2.34	5 to 15	8.45
	MW-16	01/28/2011	MW-16-WL-012811	12.34 to 2.34	5 to 15	11.86
	MW-16	5/6/2011	MW-16-WL-050611	12.34 to 2.34	5 to 15	11.17
	MW-16	8/1/2011	MW-16-WL-080111	12.34 to 2.34	5 to 15	8.83
	MW-16	10/24/2011	MW-16-WL-102411	12.34 to 2.34	5 to 15	8.2
	MW-16	2/3/2012	MW-16-WL-020312	12.34 to 2.34	5 to 15	10.09



**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (Continued)	MW-24	05/10/2010	MW-24-WL-051010	7.63 to -2.37	5 to 15	8
	MW-24	08/02/2010	MW-24-WL-080210	7.63 to -2.37	5 to 15	8.1
	MW-24	10/25/2010	MW-24-WL-102510	7.63 to -2.37	5 to 15	8.49
	MW-24	01/28/2011	MW-24-WL-012811	7.63 to -2.37	5 to 15	8.6
	MW-24	5/6/2011	MW-24-WL-050611	7.63 to -2.37	5 to 15	5.69
	MW-24	8/1/2011	MW-24-WL-080111	7.63 to -2.37	5 to 15	8.2
	MW-24	10/24/2011	MW-24-WL-102411	7.63 to -2.37	5 to 15	8.03
	MW-24	02/03/2012	MW-24-WL-020312	7.63 to -2.37	5 to 15	8.67
	MW-8	12/15/2008	MW-8-WL-121508	10.39 to 0.39	5 to 15	8.59
	MW-8	03/23/2009	MW-8-WL-032309	10.39 to 0.39	5 to 15	8.93
	MW-8	05/18/2009	MW-8-WL-051809	10.39 to 0.39	5 to 15	9.01
	MW-8	08/04/2009	MW-8-WL-080409	10.39 to 0.39	5 to 15	8.18
	MW-8	10/23/2009	MW-8-WL-102309	10.39 to 0.39	5 to 15	8.23
	MW-8	02/05/2010	MW-8-WL-020510	10.39 to 0.39	5 to 15	8.7
	MW-8	05/10/2010	MW-8-WL-051010	10.39 to 0.39	5 to 15	9.49
	MW-8	08/02/2010	MW-8-WL-080210	10.39 to 0.39	5 to 15	8.82
	MW-8	10/25/2010	MW-8-WL-102510	10.39 to 0.39	5 to 15	8.7
	MW-8	01/28/2011	MW-8-WL-012811	10.39 to 0.39	5 to 15	9.14
	MW-8	5/6/2011	MW-8-WL-050611	10.39 to 0.39	5 to 15	10.13
	MW-8	8/1/2011	MW-8-WL-080111	10.39 to 0.39	5 to 15	9.24
	MW-8	10/24/2011	MW-8-WL-102411	10.39 to 0.39	5 to 15	8.6
	MW-8	2/3/2012	MW-8-WL-020312	10.39 to 0.39	5 to 15	9.66

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Art Brass Plating (Continued)	PSC-CG-138-WT	12/15/2008	PSC-CG-138-WT-WL-121508	12.12 to 2.12	4.5 to 14.5	8.11
	PSC-CG-138-WT	03/23/2009	PSC-CG-138-WT-WL-032309	12.12 to 2.12	4.5 to 14.5	8.61
	PSC-CG-138-WT	05/18/2009	PSC-CG-138-WT-WL-051809	12.12 to 2.12	4.5 to 14.5	8.72
	PSC-CG-138-WT	08/04/2009	PSC-CG-138-WT-WL-080409	12.12 to 2.12	4.5 to 14.5	7.89
	PSC-CG-138-WT	10/23/2009	PSC-CG-138-WT-WL-102309	12.12 to 2.12	4.5 to 14.5	7.96
	PSC-CG-138-WT	02/05/2010	PSC-CG-138-WT-WL-020510	12.12 to 2.12	4.5 to 14.5	9.28
	PSC-CG-138-WT	05/10/2010	PSC-CG-138-WT-WL-051010	12.12 to 2.12	4.5 to 14.5	9.07
	PSC-CG-138-WT	08/02/2010	PSC-CG-138-WT-WL-080210	12.12 to 2.12	4.5 to 14.5	8.42
	PSC-CG-138-WT	10/25/2010	PSC-CG-138-WT-WL-102510	12.12 to 2.12	4.5 to 14.5	8.47
	PSC-CG-138-WT	01/28/2011	PSC-CG-138-WT-WL-012811	12.12 to 2.12	4.5 to 14.5	9.66
	PSC-CG-138-WT	05/06/2011	PSC-CG-138-WT-WL-050611	12.12 to 2.12	4.5 to 14.5	9.74
	PSC-CG-138-WT	08/01/2011	PSC-CG-138-WT-WL-080111	12.12 to 2.12	4.5 to 14.5	8.84
	PSC-CG-138-WT	10/24/2011	PSC-CG-138-WT-WL-102411	12.12 to 2.12	4.5 to 14.5	8.27
	PSC-CG-142-WT	12/15/2008	PSC-CG-142-WT-WL-121508	12.73 to 2.73	4.5 to 14.5	7.8
	PSC-CG-142-WT	03/23/2009	PSC-CG-142-WT-WL-032309	12.73 to 2.73	4.5 to 14.5	8.24
	PSC-CG-142-WT	08/04/2009	PSC-CG-142-WT-WL-080409	12.73 to 2.73	4.5 to 14.5	7.55
	PSC-CG-142-WT	10/23/2009	PSC-CG-142-WT-WL-102309	12.73 to 2.73	4.5 to 14.5	7.6
	PSC-CG-142-WT	02/05/2010	PSC-CG-142-WT-WL-020510	12.73 to 2.73	4.5 to 14.5	8.82
	PSC-CG-142-WT	05/11/2010	PSC-CG-142-WT-WL-051110	12.73 to 2.73	4.5 to 14.5	8.4
	PSC-CG-142-WT	08/02/2010	PSC-CG-142-WT-WL-080210	12.73 to 2.73	4.5 to 14.5	7.9
	PSC-CG-142-WT	10/25/2010	PSC-CG-142-WT-WL-102510	12.73 to 2.73	4.5 to 14.5	7.79
	PSC-CG-142-WT	01/28/2011	PSC-CG-142-WT-WL-012811	12.73 to 2.73	4.5 to 14.5	9.11
	PSC-CG-142-WT	10/24/2011	PSC-CG-142-WT-WL-102411	12.73 to 2.73	4.5 to 14.5	7.53
	PSC-CG-142-WT	02/03/2012	PSC-CG-142-WT-WL-020312	12.73 to 2.73	4.5 to 14.5	8.37
Phillip Services Corporation	PSC-CG-131-WT	02/03/2012	PSC-CG-131-WT-WL-020312	Unknown	Unknown	9.68
	PSC-CG-134-WT	02/03/2012	PSC-CG-134-WT-WL-020312	Unknown	Unknown	9.28

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
<b>Shallow Zone</b>						
Capital Industries, Inc.	CG-137-40	05/10/2010	CG-137-40-WL-051010	-14.21 to -24.21	30 to 40	8.44
	CG-137-40	08/02/2010	CG-137-40-WL-080210	-14.21 to -24.21	30 to 40	7.87
	CG-137-40	10/25/2010	CG-137-40-WL-102510	-14.21 to -24.21	30 to 40	7.94
	CG-137-40	01/28/2011	CG-137-40-WL-012811	-14.21 to -24.21	30 to 40	9.21
	CG-137-40	8/1/2011	CG-137-40-WL-080111	-14.21 to -24.21	30 to 40	8.28
	CG-137-40	2/3/2012	CG-137-40-WL-020312	-14.21 to -24.21	30 to 40	8.71
	CG-137-40	4/23/2012	CG-137-40-WL-042312	-14.21 to -24.21	30 to 40	8.79
	CG-141-40	05/10/2010	CG-141-40-WL-051010	-12.99 to -22.99	30 to 40	7.71
	CG-141-40	08/02/2010	CG-141-40-WL-080210	-12.99 to -22.99	30 to 40	7.24
	CG-141-40	10/25/2010	CG-141-40-WL-102510	-12.99 to -22.99	30 to 40	7.33
	CG-141-40	01/28/2011	CG-141-40-WL-012811	-12.99 to -22.99	30 to 40	8.61
	CG-141-40	8/1/2011	CG-141-40-WL-080111	-12.99 to -22.99	30 to 40	7.57
	CG-141-40	4/23/2012	CG-141-40-WL-042312	-12.99 to -22.99	30 to 40	8.06
	CI-10-35	05/10/2010	CI-10-35-WL-051010	-9.32 to -19.32	25 to 35	7.6
	CI-10-35	08/02/2010	CI-10-35-WL-080210	-9.32 to -19.32	25 to 35	7.14
	CI-10-35	10/25/2010	CI-10-35-WL-102510	-9.32 to -19.32	25 to 35	7.19
	CI-10-35	01/28/2011	CI-10-35-WL-012811	-9.32 to -19.32	25 to 35	8.43
	CI-10-35	8/1/2011	CI-10-35-WL-080111	-9.32 to -19.32	25 to 35	7.48
	CI-10-35	2/3/2012	CI-10-35-WL-020312	-9.32 to -19.32	25 to 35	7.96
	CI-10-35	4/23/2012	CI-10-35-WL-042312	-9.32 to -19.32	25 to 35	7.94
	CI-11-30	08/02/2010	CI-11-30-WL-080210	-6.68 to -16.68	20 to 30	6.55
	CI-11-30	10/25/2010	CI-11-30-WL-102510	-6.68 to -16.68	20 to 30	7.07
	CI-11-30	01/28/2011	CI-11-30-WL-012811	-6.68 to -16.68	20 to 30	7.36
	CI-11-30	8/1/2011	CI-11-30-WL-080111	-6.68 to -16.68	20 to 30	6.3
	CI-11-30	2/3/2012	CI-11-30-WL-020312	-6.68 to -16.68	20 to 30	7.35
	CI-11-30	4/23/2012	CI-11-30-WL-042312	-6.68 to -16.68	20 to 30	6.86
	CI-12-30	05/10/2010	CI-12-30-WL-051010	-4.55 to -14.55	20 to 30	6.53
	CI-12-30	08/02/2010	CI-12-30-WL-080210	-4.55 to -14.55	20 to 30	6.3
	CI-12-30	10/25/2010	CI-12-30-WL-102510	-4.55 to -14.55	20 to 30	6.8
	CI-12-30	01/28/2011	CI-12-30-WL-012811	-4.55 to -14.55	20 to 30	7.48
	CI-12-30	8/1/2011	CI-12-30-WL-080111	-4.55 to -14.55	20 to 30	6.32
	CI-12-30	4/23/2012	CI-12-30-WL-042312	-4.55 to -14.55	20 to 30	6.74

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Capital Industries, Inc. (continued)	CI-13-30	08/02/2010	CI-13-30-WL-080210	-4.17 to -14.17	20 to 30	5.77
	CI-13-30	10/25/2010	CI-13-30-WL-102510	-4.17 to -14.17	20 to 30	6.54
	CI-13-30	01/28/2011	CI-13-30-WL-012811	-4.17 to -14.17	20 to 30	7.36
	CI-13-30	8/1/2011	CI-13-30-WL-080111	-4.17 to -14.17	20 to 30	4.77
	CI-13-30	2/3/2012	CI-13-30-WL-020312	-4.17 to -14.17	20 to 30	6.78
	CI-13-30	4/23/2012	CI-13-30-WL-042312	-4.17 to -14.17	20 to 30	4.99
	CI-14-35	08/02/2010	CI-14-35-WL-080210	-9.88 to -19.88	25 to 35	6.65
	CI-14-35	10/25/2010	CI-14-35-WL-102510	-9.88 to -19.88	25 to 35	6.82
	CI-14-35	01/28/2011	CI-14-35-WL-012811	-9.88 to -19.88	25 to 35	7.87
	CI-14-35	8/1/2011	CI-14-35-WL-080111	-9.88 to -19.88	25 to 35	6.87
	CI-14-35	4/23/2012	CI-14-35-WL-042312	-9.88 to -19.88	25 to 35	7.35
	CI-15-40	05/10/2010	CI-15-40-WL-051010	-13.4 to -23.4	30 to 40	7.44
	CI-15-40	08/02/2010	CI-15-40-WL-080210	-13.4 to -23.4	30 to 40	6.99
	CI-15-40	10/25/2010	CI-15-40-WL-102510	-13.4 to -23.4	30 to 40	7.1
	CI-15-40	01/28/2011	CI-15-40-WL-012811	-13.4 to -23.4	30 to 40	8.28
	CI-15-40	8/1/2011	CI-15-40-WL-080111	-13.4 to -23.4	30 to 40	7.29
	CI-15-40	2/3/2012	CI-15-40-WL-020312	-13.4 to -23.4	30 to 40	7.92
	CI-15-40	4/23/2012	CI-15-40-WL-042312	-13.4 to -23.4	30 to 40	7.75
	CI-16-30	04/23/2012	CI-16-30-WL-042312	-5.52 to -15.52	20 to 30	5.34
	CI-17-30	04/23/2012	CI-17-30-WL-042312	-5.52 to -15.52	20 to 30	3.33
	CI-18-30	04/23/2012	CI-18-30-WL-042312	-5.52 to -15.52	20 to 30	5.27
	CI-19-30	04/23/2012	CI-19-30-WL-042312	-5.52 to -15.52	20 to 30	5.42
	CI-7-40	05/10/2010	CI-7-40-WL-051010	-13.21 to -23.21	30 to 40	9.05
	CI-7-40	08/02/2010	CI-7-40-WL-080210	-13.21 to -23.21	30 to 40	8.56
	CI-7-40	10/25/2010	CI-7-40-WL-102510	-13.21 to -23.21	30 to 40	8.39
	CI-7-40	01/28/2011	CI-7-40-WL-012811	-13.21 to -23.21	30 to 40	9.77
	CI-7-40	8/1/2011	CI-7-40-WL-080111	-13.21 to -23.21	30 to 40	8.97
	CI-7-40	4/23/2012	CI-7-40-WL-042312	-13.21 to -23.21	30 to 40	9.4

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<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Capital Industries, Inc. (continued)	CI-8-40	05/10/2010	CI-8-40-WL-051010	-13.5 to -23.5	30 to 40	9.36
	CI-8-40	08/02/2010	CI-8-40-WL-080210	-13.5 to -23.5	30 to 40	8.83
	CI-8-40	10/25/2010	CI-8-40-WL-102510	-13.5 to -23.5	30 to 40	8.68
	CI-8-40	01/28/2011	CI-8-40-WL-012811	-13.5 to -23.5	30 to 40	10.07
	CI-8-40	8/1/2011	CI-8-40-WL-080111	-13.5 to -23.5	30 to 40	9.3
	CI-8-40	2/3/2012	CI-8-40-WL-020312	-13.5 to -23.5	30 to 40	9.38
	CI-8-40	4/23/2012	CI-8-40-WL-042312	-13.5 to -23.5	30 to 40	9.72
	CI-9-40	08/02/2010	CI-9-40-WL-080210	-14.19 to -24.19	30 to 40	7.98
	CI-9-40	10/25/2010	CI-9-40-WL-102510	-14.19 to -24.19	30 to 40	7.93
	CI-9-40	01/28/2011	CI-9-40-WL-012811	-14.19 to -24.19	30 to 40	9.24
	CI-9-40	8/1/2011	CI-9-40-WL-080111	-14.19 to -24.19	30 to 40	8.35
	CI-9-40	4/23/2012	CI-9-40-WL-042312	-14.19 to -24.19	30 to 40	8.84
	CI-MW-1-40	08/02/2010	CI-MW-1-40-WL-080210	-13.96 to -23.96	30 to 40	8.53
	CI-MW-1-40	10/25/2010	CI-MW-1-40-WL-102510	-13.96 to -23.96	30 to 40	8.38
	CI-MW-1-40	01/28/2011	CI-MW-1-40-WL-012811	-13.96 to -23.96	30 to 40	9.74
	CI-MW-1-40	8/1/2011	CI-MW-1-40-WL-080111	-13.96 to -23.96	30 to 40	8.86
	CI-MW-1-40	4/23/2012	CI-MW-1-40-WL-042312	-13.96 to -23.96	30 to 40	9.37

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**Seattle, Washington**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting	BDC-10-40	05/18/2009	BDC-10-40 WL	-12.21 to -22.21	30.4 to 40.4	9.07
	BDC-10-40	06/02/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	9.01
	BDC-10-40	08/04/2009	BDC-10-40 WL	-12.21 to -22.21	30.4 to 40.4	8.41
	BDC-10-40	10/23/2009	BDC-10-40 WL	-12.21 to -22.21	30.4 to 40.4	8.3
	BDC-10-40	11/17/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	8.75
	BDC-10-40	02/05/2010	BDC-10-40 WL	-12.21 to -22.21	30.4 to 40.4	9.76
	BDC-10-40	05/10/2010	BDC-10-40 WL	-12.21 to -22.21	30.4 to 40.4	9.6
	BDC-10-40	08/02/2010	BDC-10-40 WL	-12.21 to -22.21	30.4 to 40.4	9.04
	BDC-10-40	10/25/2010	BDC-10-40 WL	-12.21 to -22.21	30.4 to 40.4	8.86
	BDC-10-40	01/28/2011	BDC-10-40 WL	-12.21 to -22.21	30.4 to 40.4	10.27
	BDC-10-40	03/01/2011	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	10.27
	BDC-10-40	5/6/2011	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	10.24
	BDC-10-40	8/1/2011	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	9.47
	BDC-10-40	10/24/2011	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	8.83
	BDC-10-40	02/03/2012	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	9.57
	BDC-11-40	05/18/2009	BDC-11-40 WL	-11.03 to -21.03	30.4 to 40.4	8.35
	BDC-11-40	06/03/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	8.19
	BDC-11-40	08/04/2009	BDC-11-40 WL	-11.03 to -21.03	30.4 to 40.4	7.62
	BDC-11-40	08/18/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	7.6
	BDC-11-40	10/23/2009	BDC-11-40 WL	-11.03 to -21.03	30.4 to 40.4	7.72
	BDC-11-40	11/17/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	8.39
	BDC-11-40	02/05/2010	BDC-11-40 WL	-11.03 to -21.03	30.4 to 40.4	9.06
	BDC-11-40	02/24/2010	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	9.07
	BDC-11-40	05/10/2010	BDC-11-40 WL	-11.03 to -21.03	30.4 to 40.4	8.73
	BDC-11-40	08/02/2010	BDC-11-40 WL	-11.03 to -21.03	30.4 to 40.4	8.13
	BDC-11-40	10/25/2010	BDC-11-40 WL	-11.03 to -21.03	30.4 to 40.4	8.22
	BDC-11-40	01/28/2011	BDC-11-40 WL	-11.03 to -21.03	30.4 to 40.4	9.48
	BDC-11-40	03/01/2011	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	9.45
	BDC-11-40	5/6/2011	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	9.29
	BDC-11-40	8/1/2011	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	8.54
	BDC-11-40	10/24/2011	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	7.98
	BDC-11-40	02/03/2012	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	8.97

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting (continued)	BDC-3-40	05/18/2009	BDC-3-40 WL	-15.34 to -25.34	30.4 to 40.4	8.81
	BDC-3-40	06/02/2009	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	8.68
	BDC-3-40	08/04/2009	BDC-3-40 WL	-15.34 to -25.34	30.4 to 40.4	8.09
	BDC-3-40	08/18/2009	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	8.02
	BDC-3-40	10/23/2009	BDC-3-40 WL	-15.34 to -25.34	30.4 to 40.4	8.07
	BDC-3-40	11/16/2009	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	8.55
	BDC-3-40	02/05/2010	BDC-3-40 WL	-15.34 to -25.34	30.4 to 40.4	9.51
	BDC-3-40	02/24/2010	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	9.55
	BDC-3-40	05/10/2010	BDC-3-40 WL	-15.34 to -25.34	30.4 to 40.4	9.18
	BDC-3-40	08/02/2010	BDC-3-40 WL	-15.34 to -25.34	30.4 to 40.4	8.58
	BDC-3-40	10/25/2010	BDC-3-40 WL	-15.34 to -25.34	30.4 to 40.4	8.69
	BDC-3-40	01/28/2011	BDC-3-40 WL	-15.34 to -25.34	30.4 to 40.4	9.93
	BDC-3-40	03/01/2011	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	9.96
	BDC-3-40	5/6/2011	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	9.89
	BDC-3-40	8/1/2011	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	9.08
	BDC-3-40	10/24/2011	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	8.45
	BDC-3-40	02/03/2012	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	9.4

**Table 4**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting (continued)	BDC-6-30	02/01/2008	BDC-5	-1.21 to -11.21	19.4 to 29.4	8.78
	BDC-6-30	05/18/2009	BDC-6-30 WL	-1.21 to -11.21	19.4 to 29.4	8.54
	BDC-6-30	06/03/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	8.38
	BDC-6-30	08/04/2009	BDC-6-30 WL	-1.21 to -11.21	19.4 to 29.4	7.85
	BDC-6-30	08/18/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	7.77
	BDC-6-30	10/23/2009	BDC-6-30 WL	-1.21 to -11.21	19.4 to 29.4	7.88
	BDC-6-30	11/16/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	8.37
	BDC-6-30	02/05/2010	BDC-6-30 WL	-1.21 to -11.21	19.4 to 29.4	9.24
	BDC-6-30	02/24/2010	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	9.25
	BDC-6-30	05/10/2010	BDC-6-30 WL	-1.21 to -11.21	19.4 to 29.4	8.92
	BDC-6-30	08/02/2010	BDC-6-30 WL	-1.21 to -11.21	19.4 to 29.4	8.32
	BDC-6-30	10/25/2010	BDC-6-30 WL	-1.21 to -11.21	19.4 to 29.4	8.4
	BDC-6-30	01/28/2011	BDC-6-30 WL	-1.21 to -11.21	19.4 to 29.4	9.67
	BDC-6-30	03/01/2011	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	9.65
	BDC-6-30	5/6/2011	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	9.52
	BDC-6-30	8/1/2011	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	8.72
	BDC-6-30	10/24/2011	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	8.17
	BDC-6-30	02/03/2012	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	9.16
	CG-136-40	05/18/2009	CG-136-40 WL	-15.66 to -25.66	30.38 to 40.38	8.74
	CG-136-40	06/02/2009	CG-136-40	-15.66 to -25.66	30.38 to 40.38	8.65
	CG-136-40	08/04/2009	CG-136-40 WL	-15.66 to -25.66	30.38 to 40.38	8.07
	CG-136-40	10/23/2009	CG-136-40 WL	-15.66 to -25.66	30.38 to 40.38	8.03
	CG-136-40	11/16/2009	CG-136-40	-15.66 to -25.66	30.38 to 40.38	8.49
	CG-136-40	02/05/2010	CG-136-40 WL	-15.66 to -25.66	30.38 to 40.38	9.47
	CG-136-40	05/10/2010	CG-136-40 WL	-15.66 to -25.66	30.38 to 40.38	9.22
	CG-136-40	08/02/2010	CG-136-40 WL	-15.66 to -25.66	30.38 to 40.38	8.62
	CG-136-40	10/25/2010	CG-136-40 WL	-15.66 to -25.66	30.38 to 40.38	8.61
	CG-136-40	01/28/2011	CG-136-40 WL	-15.66 to -25.66	30.38 to 40.38	9.9
	CG-136-40	03/02/2011	CG-136-40	-15.66 to -25.66	30.38 to 40.38	9.94
	CG-136-40	5/6/2011	CG-136-40	-15.66 to -25.66	30.38 to 40.38	9.83
	CG-136-40	10/24/2011	CG-136-40	-15.66 to -25.66	30.38 to 40.38	8.47
	CG-136-40	02/03/2012	CG-136-40	-15.66 to -25.66	30.38 to 40.38	9.31



**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Blaser Die Casting (continued)	CI-MW-1-40	05/18/2009	CI-MW-1-40 WL	-14.36 to -24.36	30.4 to 40.4	8.6
	CI-MW-1-40	06/03/2009	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	7.36
	CI-MW-1-40	08/04/2009	CI-MW-1-40 WL	-14.36 to -24.36	30.4 to 40.4	7.9
	CI-MW-1-40	10/23/2009	CI-MW-1-40 WL	-14.36 to -24.36	30.4 to 40.4	7.91
	CI-MW-1-40	11/17/2009	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	8.5
	CI-MW-1-40	02/05/2010	CI-MW-1-40 WL	-14.36 to -24.36	30.4 to 40.4	9.28
	CI-MW-1-40	05/10/2010	CI-MW-1-40 WL	-14.36 to -24.36	30.4 to 40.4	9.05
	CI-MW-1-40	08/02/2010	CI-MW-1-40 WL	-14.36 to -24.36	30.4 to 40.4	8.27
	CI-MW-1-40	10/25/2010	CI-MW-1-40 WL	-14.36 to -24.36	30.4 to 40.4	8.44
	CI-MW-1-40	01/28/2011	CI-MW-1-40 WL	-14.36 to -24.36	30.4 to 40.4	9.76
	CI-MW-1-40	03/01/2011	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	9.72
	CI-MW-1-40	5/6/2011	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	9.63
	CI-MW-1-40	8/1/2011	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	8.82
	CI-MW-1-40	10/24/2011	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	8.29
	CI-MW-1-40	02/03/2012	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	9.2
Art Brass Plating	MW-11-30	12/15/2008	MW-11-30-WL-121508	-2.25 to -12.25	19.5 to 29.5	8.34
	MW-11-30	03/23/2009	MW-11-30-WL-032309	-2.25 to -12.25	19.5 to 29.5	8.83
	MW-11-30	05/18/2009	MW-11-30-WL-051809	-2.25 to -12.25	19.5 to 29.5	8.96
	MW-11-30	08/04/2009	MW-11-30-WL-080409	-2.25 to -12.25	19.5 to 29.5	8.12
	MW-11-30	10/23/2009	MW-11-30-WL-102309	-2.25 to -12.25	19.5 to 29.5	8.14
	MW-11-30	02/05/2010	MW-11-30-WL-020510	-2.25 to -12.25	19.5 to 29.5	9.43
	MW-11-30	05/10/2010	MW-11-30-WL-051010	-2.25 to -12.25	19.5 to 29.5	9.42
	MW-11-30	08/02/2010	MW-11-30-WL-080210	-2.25 to -12.25	19.5 to 29.5	8.72
	MW-11-30	10/25/2010	MW-11-30-WL-102510	-2.25 to -12.25	19.5 to 29.5	8.66
	MW-11-30	01/28/2011	MW-11-30-WL-012811	-2.25 to -12.25	19.5 to 29.5	9.8
	MW-11-30	5/6/2011	MW-11-30-WL-050611	-2.25 to -12.25	19.5 to 29.5	10.02
	MW-11-30	8/1/2011	MW-11-30-WL-080111	-2.25 to -12.25	19.5 to 29.5	9.16
	MW-11-30	10/24/2011	MW-11-30-WL-102411	-2.25 to -12.25	19.5 to 29.5	8.51
	MW-11-30	2/3/2012	MW-11-30-WL-020312	-2.25 to -12.25	19.5 to 29.5	9.56

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**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (continued)	MW-16-40	03/23/2009	MW-16-40-WL-032309	-12.94 to -22.94	30 to 40	8.47
	MW-16-40	05/18/2009	MW-16-40-WL-051809	-12.94 to -22.94	30 to 40	8.59
	MW-16-40	08/04/2009	MW-16-40-WL-080409	-12.94 to -22.94	30 to 40	7.76
	MW-16-40	10/23/2009	MW-16-40-WL-102309	-12.94 to -22.94	30 to 40	7.96
	MW-16-40	02/05/2010	MW-16-40-WL-020510	-12.94 to -22.94	30 to 40	9.13
	MW-16-40	08/02/2010	MW-16-40-WL-080210	-12.94 to -22.94	30 to 40	8.29
	MW-16-40	10/25/2010	MW-16-40-WL-102510	-12.94 to -22.94	30 to 40	8.27
	MW-16-40	01/28/2011	MW-16-40-WL-012811	-12.94 to -22.94	30 to 40	9.59
	MW-16-40	5/6/2011	MW-16-40-WL-050611	-12.94 to -22.94	30 to 40	9.55
	MW-16-40	8/1/2011	MW-16-40-WL-080111	-12.94 to -22.94	30 to 40	8.68
	MW-16-40	10/24/2011	MW-16-40-WL-102411	-12.94 to -22.94	30 to 40	8.09
	MW-16-40	2/3/2012	MW-16-40-WL-020312	-12.94 to -22.94	30 to 40	9.22
	MW-17-40	03/23/2009	MW-17-40-WL-032309	-12.96 to -22.96	30 to 40	7.96
	MW-17-40	05/18/2009	MW-17-40-WL-051809	-12.96 to -22.96	30 to 40	8.1
	MW-17-40	08/04/2009	MW-17-40-WL-080409	-12.96 to -22.96	30 to 40	7.35
	MW-17-40	10/26/2009	MW-17-40-WL-102609	-12.96 to -22.96	30 to 40	7.57
	MW-17-40	02/05/2010	MW-17-40-WL-020510	-12.96 to -22.96	30 to 40	8.75
	MW-17-40	05/10/2010	MW-17-40-WL-051010	-12.96 to -22.96	30 to 40	8.36
	MW-17-40	08/02/2010	MW-17-40-WL-080210	-12.96 to -22.96	30 to 40	7.79
	MW-17-40	10/25/2010	MW-17-40-WL-102510	-12.96 to -22.96	30 to 40	7.84
	MW-17-40	01/28/2011	MW-17-40-WL-012811	-12.96 to -22.96	30 to 40	9.17
	MW-17-40	5/6/2011	MW-17-40-WL-050611	-12.96 to -22.96	30 to 40	8.9
	MW-17-40	8/1/2011	MW-17-40-WL-080111	-12.96 to -22.96	30 to 40	8.12
	MW-17-40	10/24/2011	MW-17-40-WL-102411	-12.96 to -22.96	30 to 40	7.61
	MW-17-40	02/03/2012	MW-17-40-WL-020312	-12.96 to -22.96	30 to 40	8.69

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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Art Brass Plating (continued)	MW-19-40	03/23/2009	MW-19-40-WL-032309	-14.65 to -24.65	30 to 40	8.09
	MW-19-40	05/18/2009	MW-19-40-WL-051809	-14.65 to -24.65	30 to 40	8.25
	MW-19-40	08/04/2009	MW-19-40-WL-080409	-14.65 to -24.65	30 to 40	7.45
	MW-19-40	10/23/2009	MW-19-40-WL-102309	-14.65 to -24.65	30 to 40	7.58
	MW-19-40	02/05/2010	MW-19-40-WL-020510	-14.65 to -24.65	30 to 40	8.97
	MW-19-40	05/10/2010	MW-19-40-WL-051010	-14.65 to -24.65	30 to 40	8.5
	MW-19-40	08/02/2010	MW-19-40-WL-080210	-14.65 to -24.65	30 to 40	7.9
	MW-19-40	10/25/2010	MW-19-40-WL-102510	-14.65 to -24.65	30 to 40	8.04
	MW-19-40	01/28/2011	MW-19-40-WL-012811	-14.65 to -24.65	30 to 40	9.28
	MW-19-40	5/6/2011	MW-19-40-WL-050611	-14.65 to -24.65	30 to 40	9.01
	MW-19-40	8/1/2011	MW-19-40-WL-080111	-14.65 to -24.65	30 to 40	8.26
	MW-19-40	10/24/2011	MW-19-40-WL-102411	-14.65 to -24.65	30 to 40	7.74
	MW-19-40	02/03/2012	MW-19-40-WL-020312	-14.65 to -24.65	30 to 40	8.86
	MW-22-30	05/10/2010	MW-22-30-WL-051010	-7.69 to -17.69	20 to 30	5.72
	MW-22-30	08/02/2010	MW-22-30-WL-080210	-7.69 to -17.69	20 to 30	4.95
	MW-22-30	10/25/2010	MW-22-30-WL-102510	-7.69 to -17.69	20 to 30	6.09
	MW-22-30	01/28/2011	MW-22-30-WL-012811	-7.69 to -17.69	20 to 30	5.63
	MW-22-30	5/6/2011	MW-22-30-WL-050611	-7.69 to -17.69	20 to 30	5.68
	MW-22-30	8/1/2011	MW-22-30-WL-080111	-7.69 to -17.69	20 to 30	3.79
	MW-22-30	10/24/2011	MW-22-30-WL-102411	-7.69 to -17.69	20 to 30	3.01
	MW-22-30	02/03/2012	MW-22-30-WL-020312	-7.69 to -17.69	20 to 30	6.53
	MW-23-30	05/10/2010	MW-23-30-WL-051010	-6.28 to -16.28	20 to 30	6.03
	MW-23-30	08/02/2010	MW-23-30-WL-080210	-6.28 to -16.28	20 to 30	4.78
	MW-23-30	10/25/2010	MW-23-30-WL-102510	-6.28 to -16.28	20 to 30	5.71
	MW-23-30	01/28/2011	MW-23-30-WL-012811	-6.28 to -16.28	20 to 30	5.51
	MW-23-30	5/6/2011	MW-23-30-WL-050611	-6.28 to -16.28	20 to 30	5.62
	MW-23-30	8/1/2011	MW-23-30-WL-080111	-6.28 to -16.28	20 to 30	3.55
	MW-23-30	10/24/2011	MW-23-30-WL-102411	-6.28 to -16.28	20 to 30	2.57
	MW-23-30	02/03/2012	MW-23-30-WL-020312	-6.28 to -16.28	20 to 30	6.5

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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Art Brass Plating (continued)	MW-24-30	05/10/2010	MW-24-30-WL-051010	-6.99 to -16.99	20 to 30	5.32
	MW-24-30	08/02/2010	MW-24-30-WL-080210	-6.99 to -16.99	20 to 30	5.59
	MW-24-30	10/25/2010	MW-24-30-WL-102510	-6.99 to -16.99	20 to 30	6.21
	MW-24-30	01/28/2011	MW-24-30-WL-012811	-6.99 to -16.99	20 to 30	6.29
	MW-24-30	5/6/2011	MW-24-30-WL-050611	-6.99 to -16.99	20 to 30	6.48
	MW-24-30	8/1/2011	MW-24-30-WL-080111	-6.99 to -16.99	20 to 30	5.47
	MW-24-30	10/24/2011	MW-24-30-WL-102411	-6.99 to -16.99	20 to 30	4.68
	MW-24-30	02/03/2012	MW-24-30-WL-020312	-6.99 to -16.99	20 to 30	6.63
	MW-8-30	12/15/2008	MW-8-30-WL-121508	-4.23 to -14.23	19.5 to 29.5	8.54
	MW-8-30	03/23/2009	MW-8-30-WL-032309	-4.23 to -14.23	19.5 to 29.5	8.91
	MW-8-30	05/18/2009	MW-8-30-WL-051809	-4.23 to -14.23	19.5 to 29.5	9.1
	MW-8-30	08/04/2009	MW-8-30-WL-080409	-4.23 to -14.23	19.5 to 29.5	8.22
	MW-8-30	10/23/2009	MW-8-30-WL-102309	-4.23 to -14.23	19.5 to 29.5	8.23
	MW-8-30	02/05/2010	MW-8-30-WL-020510	-4.23 to -14.23	19.5 to 29.5	8.71
	MW-8-30	05/10/2010	MW-8-30-WL-051010	-4.23 to -14.23	19.5 to 29.5	9.5
	MW-8-30	08/02/2010	MW-8-30-WL-080210	-4.23 to -14.23	19.5 to 29.5	8.82
	MW-8-30	10/25/2010	MW-8-30-WL-102510	-4.23 to -14.23	19.5 to 29.5	8.78
	MW-8-30	01/28/2011	MW-8-30-WL-012811	-4.23 to -14.23	19.5 to 29.5	9.14
	MW-8-30	5/6/2011	MW-8-30-WL-050611	-4.23 to -14.23	19.5 to 29.5	10.16
	MW-8-30	8/1/2011	MW-8-30-WL-080111	-4.23 to -14.23	19.5 to 29.5	9.29
	MW-8-30	10/24/2011	MW-8-30-WL-102411	-4.23 to -14.23	19.5 to 29.5	8.61
	MW-8-30	2/3/2012	MW-8-30-WL-020312	-4.23 to -14.23	19.5 to 29.5	9.67

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<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (continued)	PSC-CG-138-40	12/15/2008	PSC-CG-138-40-WL-121508	-13.26 to -23.26	29.92 to 39.92	8.11
	PSC-CG-138-40	03/23/2009	PSC-CG-138-40-WL-032309	-13.26 to -23.26	29.92 to 39.92	8.56
	PSC-CG-138-40	05/18/2009	PSC-CG-138-40-WL-051809	-13.26 to -23.26	29.92 to 39.92	8.72
	PSC-CG-138-40	08/04/2009	PSC-CG-138-40-WL-080409	-13.26 to -23.26	29.92 to 39.92	7.87
	PSC-CG-138-40	10/23/2009	PSC-CG-138-40-WL-102309	-13.26 to -23.26	29.92 to 39.92	7.95
	PSC-CG-138-40	02/05/2010	PSC-CG-138-40-WL-020510	-13.26 to -23.26	29.92 to 39.92	9.35
	PSC-CG-138-40	05/10/2010	PSC-CG-138-40-WL-051010	-13.26 to -23.26	29.92 to 39.92	9.06
	PSC-CG-138-40	08/02/2010	PSC-CG-138-40-WL-080210	-13.26 to -23.26	29.92 to 39.92	8.43
	PSC-CG-138-40	10/25/2010	PSC-CG-138-40-WL-102510	-13.26 to -23.26	29.92 to 39.92	8.47
	PSC-CG-138-40	01/28/2011	PSC-CG-138-40-WL-012811	-13.26 to -23.26	29.92 to 39.92	9.66
	PSC-CG-138-40	5/6/2011	PSC-CG-138-40-WL-050611	-13.26 to -23.26	29.92 to 39.92	9.71
	PSC-CG-138-40	08/01/2011	PSC-CG-138-40-WL-080111	-13.26 to -23.26	29.92 to 39.92	8.82
	PSC-CG-138-40	10/24/2011	PSC-CG-138-40-WL-102411	-13.26 to -23.26	29.92 to 39.92	8.24

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (continued)	PSC-CG-140-30	10/25/2010	PSC-CG-140-30-WL-102510	-4.32 to -14.32	20 to 30	6.81
	PSC-CG-140-30	5/6/2011	PSC-CG-140-30-WL-102510	-4.32 to -14.32	20 to 30	7.18
	PSC-CG-140-30	8/1/2011	PSC-CG-140-30-WL-102510	-4.32 to -14.32	20 to 30	7.03
	PSC-CG-140-30	10/24/2011	PSC-CG-140-30-WL-102510	-4.32 to -14.32	20 to 30	5.95
	PSC-CG-140-30	02/03/2012	PSC-CG-140-30-WL-102510	-4.32 to -14.32	20 to 30	7.08
	PSC-CG-140-40	05/10/2010	PSC-CG-140-40-WL-051010	-14.35 to -24.35	30 to 40	6.68
	PSC-CG-140-40	10/25/2010	PSC-CG-140-40-WL-102510	-14.35 to -24.35	30 to 40	6.68
	PSC-CG-140-40	01/28/2011	PSC-CG-140-40-WL-012811	-14.35 to -24.35	30 to 40	7.71
	PSC-CG-142-40	12/15/2008	PSC-CG-142-40-WL-121508	-12.84 to -22.84	30 to 40	6.83
	PSC-CG-142-40	03/23/2009	PSC-CG-142-40-WL-032309	-12.84 to -22.84	30 to 40	6.88
	PSC-CG-142-40	08/04/2009	PSC-CG-142-40-WL-080409	-12.84 to -22.84	30 to 40	6.53
	PSC-CG-142-40	10/23/2009	PSC-CG-142-40-WL-102309	-12.84 to -22.84	30 to 40	6.83
	PSC-CG-142-40	02/05/2010	PSC-CG-142-40-WL-020510	-12.84 to -22.84	30 to 40	7.94
	PSC-CG-142-40	05/10/2010	PSC-CG-142-40-WL-051010	-12.84 to -22.84	30 to 40	7.2
	PSC-CG-142-40	08/02/2010	PSC-CG-142-40-WL-080210	-12.84 to -22.84	30 to 40	6.79
	PSC-CG-142-40	10/25/2010	PSC-CG-142-40-WL-102510	-12.84 to -22.84	30 to 40	7.07
	PSC-CG-142-40	01/28/2011	PSC-CG-142-40-WL-012811	-12.84 to -22.84	30 to 40	8.02
	PSC-CG-142-40	5/6/2011	PSC-CG-142-40-WL-050611	-12.84 to -22.84	30 to 40	7.67
	PSC-CG-142-40	8/1/2011	PSC-CG-142-40-WL-080111	-12.84 to -22.84	30 to 40	7.12
	PSC-CG-142-40	10/24/2011	PSC-CG-142-40-WL-102411	-12.84 to -22.84	30 to 40	6.58
	PSC-CG-142-40	02/03/2012	PSC-CG-142-40-WL-020312	-12.84 to -22.84	30 to 40	7.53

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**Capital Industries, Inc.**  
**Seattle, Washington**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Art Brass Plating (continued)	PSC-CG-144-35	05/10/2010	PSC-CG-144-35-WL-051010	-9.11 to -19.11	25 to 35	6
	PSC-CG-144-35	08/02/2010	PSC-CG-144-35-WL-080210	-9.11 to -19.11	25 to 35	5.75
	PSC-CG-144-35	10/25/2010	PSC-CG-144-35-WL-102510	-9.11 to -19.11	25 to 35	6.27
	PSC-CG-144-35	01/28/2011	PSC-CG-144-35-WL-012811	-9.11 to -19.11	25 to 35	6.53
	PSC-CG-144-35	5/6/2011	PSC-CG-144-35-WL-050611	-9.11 to -19.11	25 to 35	6.29
	PSC-CG-144-35	8/1/2011	PSC-CG-144-35-WL-080111	-9.11 to -19.11	25 to 35	6.01
	PSC-CG-144-35	10/24/2011	PSC-CG-144-35-WL-102411	-9.11 to -19.11	25 to 35	5.5
	PSC-CG-144-35	02/03/2012	PSC-CG-144-35-WL-020312	-9.11 to -19.11	25 to 35	6.42
	PSC-CG-145-35	05/10/2010	PSC-CG-145-35-WL-051010	-9.17 to -19.17	25 to 35	5.99
	PSC-CG-145-35	08/02/2010	PSC-CG-145-35-WL-080210	-9.17 to -19.17	25 to 35	5.73
	PSC-CG-145-35	10/25/2010	PSC-CG-145-35-WL-102510	-9.17 to -19.17	25 to 35	6.3
	PSC-CG-145-35	01/28/2011	PSC-CG-145-35-WL-012811	-9.17 to -19.17	25 to 35	6.83
	PSC-CG-145-35	5/6/2011	PSC-CG-145-35-WL-050611	-9.17 to -19.17	25 to 35	6.25
	PSC-CG-145-35	8/1/2011	PSC-CG-145-35-WL-080111	-9.17 to -19.17	25 to 35	5.97
	PSC-CG-145-35	10/24/2011	PSC-CG-145-35-WL-102411	-9.17 to -19.17	25 to 35	5.45
	PSC-CG-145-35	02/03/2012	PSC-CG-145-35-WL-020312	-9.17 to -19.17	25 to 35	5.5
Phillip Services Corporation	PSC-CG-131-40	02/03/2012	PSC-CG-131-40-WL-020312	Unknown	Unknown	9.71
	PSC-CG-134-40	02/03/2012	PSC-CG-134-40-WL-020312	Unknown	Unknown	9.27

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**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
<b>Intermediate Zone</b>						
Capital Industries, Inc.	CG-141-50	05/10/2010	CG-141-50-WL-051010	-22.94 to -32.94	40 to 50	7.76
	CG-141-50	08/02/2010	CG-141-50-WL-080210	-22.94 to -32.94	40 to 50	7.27
	CG-141-50	10/25/2010	CG-141-50-WL-102510	-22.94 to -32.94	40 to 50	7.36
	CG-141-50	01/28/2011	CG-141-50-WL-012811	-22.94 to -32.94	40 to 50	8.64
	CG-141-50	8/1/2011	CG-141-50-WL-080111	-22.94 to -32.94	40 to 50	7.61
	CG-141-50	4/23/2012	CG-141-50-WL-042312	-22.94 to -32.94	40 to 50	8.13
	CI-10-65	05/10/2010	CI-10-65-WL-051010	-34.37 to -44.37	50 to 60	7.48
	CI-10-65	08/02/2010	CI-10-65-WL-080210	-34.37 to -44.37	50 to 60	7.05
	CI-10-65	10/25/2010	CI-10-65-WL-102510	-34.37 to -44.37	50 to 60	7.13
	CI-10-65	01/28/2011	CI-10-65-WL-012811	-34.37 to -44.37	50 to 60	8.31
	CI-10-65	8/1/2011	CI-10-65-WL-080111	-34.37 to -44.37	50 to 60	7.35
	CI-10-65	2/3/2012	CI-10-65-WL-020312	-34.37 to -44.37	50 to 60	7.85
	CI-10-65	4/23/2012	CI-10-65-WL-042312	-34.37 to -44.37	50 to 60	7.82
	CI-11-60	08/02/2010	CI-11-60-WL-080210	-36.49 to -46.49	50 to 60	6.56
	CI-11-60	10/25/2010	CI-11-60-WL-102510	-36.49 to -46.49	50 to 60	7.09
	CI-11-60	01/28/2011	CI-11-60-WL-012811	-36.49 to -46.49	50 to 60	7.95
	CI-11-60	8/1/2011	CI-11-60-WL-080111	-36.49 to -46.49	50 to 60	6.4
	CI-11-60	4/23/2012	CI-11-60-WL-042312	-36.49 to -46.49	50 to 60	6.95
	CI-12-60	05/10/2010	CI-12-60-WL-051010	-34.37 to -44.37	50 to 60	6.64
	CI-12-60	08/02/2010	CI-12-60-WL-080210	-34.37 to -44.37	50 to 60	6.39
	CI-12-60	10/25/2010	CI-12-60-WL-102510	-34.37 to -44.37	50 to 60	6.73
	CI-12-60	01/28/2011	CI-12-60-WL-012811	-34.37 to -44.37	50 to 60	7.63
	CI-12-60	8/1/2011	CI-12-60-WL-080111	-34.37 to -44.37	50 to 60	6.51
	CI-12-60	2/3/2012	CI-12-60-WL-020312	-34.37 to -44.37	50 to 60	7.25
	CI-12-60	4/23/2012	CI-12-60-WL-042312	-34.37 to -44.37	50 to 60	6.96
	CI-13-60	08/02/2010	CI-13-60-WL-080210	-34.7 to -44.7	50 to 60	6.57
	CI-13-60	10/25/2010	CI-13-60-WL-102510	-34.7 to -44.7	50 to 60	6.64
	CI-13-60	01/28/2011	CI-13-60-WL-012811	-34.7 to -44.7	50 to 60	7.52
	CI-13-60	8/1/2011	CI-13-60-WL-080111	-34.7 to -44.7	50 to 60	4.05
	CI-13-60	4/23/2012	CI-13-60-WL-042312	-34.7 to -44.7	50 to 60	4.49



**Table 4**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Capital Industries, Inc. (continued)	CI-137-50	05/10/2010	CI-137-50-WL-051010	-23.45 to -33.45	40 to 50	8.44
	CI-137-50	08/02/2010	CI-137-50-WL-080210	-23.45 to -33.45	40 to 50	7.9
	CI-137-50	10/25/2010	CI-137-50-WL-102510	-23.45 to -33.45	40 to 50	7.9
	CI-137-50	01/28/2011	CI-137-50-WL-012811	-23.45 to -33.45	40 to 50	9.23
	CI-137-50	8/1/2011	CI-137-50-WL-080111	-23.45 to -33.45	40 to 50	8.26
	CI-137-50	2/3/2012	CI-137-50-WL-020312	-23.45 to -33.45	40 to 50	8.71
	CI-137-50	4/23/2012	CI-137-50-WL-042312	-23.45 to -33.45	40 to 50	8.77
	CI-14-70	08/02/2010	CI-14-70-WL-080210	-44.87 to -54.87	60 to 70	6.57
	CI-14-70	10/25/2010	CI-14-70-WL-102510	-44.87 to -54.87	60 to 70	6.92
	CI-14-70	01/28/2011	CI-14-70-WL-012811	-44.87 to -54.87	60 to 70	7.91
	CI-14-70	8/1/2011	CI-14-70-WL-080111	-44.87 to -54.87	60 to 70	6.64
	CI-14-70	4/23/2012	CI-14-70-WL-042312	-44.87 to -54.87	60 to 70	7.12
	CI-15-60	05/10/2010	CI-15-60-WL-051010	-33.42 to -43.42	50 to 60	7.37
	CI-15-60	08/02/2010	CI-15-60-WL-080210	-33.42 to -43.42	50 to 60	6.95
	CI-15-60	10/25/2010	CI-15-60-WL-102510	-33.42 to -43.42	50 to 60	7.08
	CI-15-60	01/28/2011	CI-15-60-WL-012811	-33.42 to -43.42	50 to 60	8.2
	CI-15-60	8/1/2011	CI-15-60-WL-080111	-33.42 to -43.42	50 to 60	7.22
	CI-15-60	2/3/2012	CI-15-60-WL-020312	-33.42 to -43.42	50 to 60	7.83
	CI-15-60	4/23/2012	CI-15-60-WL-042312	-33.42 to -43.42	50 to 60	7.72
	CI-16-60	4/23/2012	CI-16-60-WL-042312	-35.43 to -45.43	50 to 60	5.33
	CI-7-60	05/10/2010	CI-7-60-WL-051010	-32.96 to -42.96	50 to 60	9.05
	CI-7-60	08/02/2010	CI-7-60-WL-080210	-32.96 to -42.96	50 to 60	8.58
	CI-7-60	10/25/2010	CI-7-60-WL-102510	-32.96 to -42.96	50 to 60	8.38
	CI-7-60	01/28/2011	CI-7-60-WL-012811	-32.96 to -42.96	50 to 60	9.73
	CI-7-60	8/1/2011	CI-7-60-WL-080111	-32.96 to -42.96	50 to 60	8.95
	CI-7-60	4/23/2012	CI-7-60-WL-042312	-32.96 to -42.96	50 to 60	9.36
	CI-8-60	05/10/2010	CI-8-60-WL-051010	-33.38 to -43.38	50 to 60	9.37
	CI-8-60	08/02/2010	CI-8-60-WL-080210	-33.38 to -43.38	50 to 60	8.87
	CI-8-60	10/25/2010	CI-8-60-WL-102510	-33.38 to -43.38	50 to 60	8.72
	CI-8-60	01/28/2011	CI-8-60-WL-012811	-33.38 to -43.38	50 to 60	10.08
	CI-8-60	8/1/2011	CI-8-60-WL-080111	-33.38 to -43.38	50 to 60	9.33
	CI-8-60	4/23/2012	CI-8-60-WL-042312	-33.38 to -43.38	50 to 60	9.71

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Capital Industries, Inc. (continued)	CI-9-70	08/02/2010	CI-9-70-WL-080210	-44.25 to -54.25	60 to 70	7.89
	CI-9-70	10/25/2010	CI-9-70-WL-102510	-44.25 to -54.25	60 to 70	7.89
	CI-9-70	01/28/2011	CI-9-70-WL-012811	-44.25 to -54.25	60 to 70	9.15
	CI-9-70	8/1/2011	CI-9-70-WL-080111	-44.25 to -54.25	60 to 70	8.27
	CI-9-70	4/23/2012	CI-9-70-WL-042312	-44.25 to -54.25	60 to 70	8.74
	CI-MW-1-60	08/02/2010	CI-MW-1-60-WL-080210	-33.69 to -43.69	50 to 60	8.61
	CI-MW-1-60	10/25/2010	CI-MW-1-60-WL-102510	-33.69 to -43.69	50 to 60	8.5
	CI-MW-1-60	01/28/2011	CI-MW-1-60-WL-012811	-33.69 to -43.69	50 to 60	9.81
	CI-MW-1-60	8/1/2011	CI-MW-1-60-WL-080111	-33.69 to -43.69	50 to 60	8.96
	CI-MW-1-60	2/3/2012	CI-MW-1-60-WL-020312	-33.69 to -43.69	50 to 60	9.25
	CI-MW-1-60	4/23/2012	CI-MW-1-60-WL-042312	-33.69 to -43.69	50 to 60	9.46

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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting	BDC-10-60	05/18/2009	BDC-10-60 WL	-32.11 to -42.11	50.35 to 60.35	9.17
	BDC-10-60	06/02/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	9.08
	BDC-10-60	08/04/2009	BDC-10-60 WL	-32.11 to -42.11	50.35 to 60.35	8.51
	BDC-10-60	10/23/2009	BDC-10-60 WL	-32.11 to -42.11	50.35 to 60.35	8.37
	BDC-10-60	11/17/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	8.79
	BDC-10-60	02/05/2010	BDC-10-60 WL	-32.11 to -42.11	50.35 to 60.35	9.83
	BDC-10-60	05/10/2010	BDC-10-60 WL	-32.11 to -42.11	50.35 to 60.35	9.7
	BDC-10-60	08/02/2010	BDC-10-60 WL	-32.11 to -42.11	50.35 to 60.35	9.09
	BDC-10-60	10/25/2010	BDC-10-60 WL	-32.11 to -42.11	50.35 to 60.35	8.92
	BDC-10-60	01/28/2011	BDC-10-60 WL	-32.11 to -42.11	50.35 to 60.35	10.38
	BDC-10-60	03/01/2011	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	10.34
	BDC-10-60	5/6/2011	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	10.34
	BDC-10-60	8/1/2011	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	9.59
	BDC-10-60	10/24/2011	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	8.84
	BDC-10-60	02/03/2012	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	9.6
	BDC-11-60	05/18/2009	BDC-11-60 WL	-31.3 to -41.3	50.4 to 60.4	8.3
	BDC-11-60	06/03/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	8.17
	BDC-11-60	08/04/2009	BDC-11-60 WL	-31.3 to -41.3	50.4 to 60.4	7.62
	BDC-11-60	08/18/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	7.52
	BDC-11-60	10/23/2009	BDC-11-60 WL	-31.3 to -41.3	50.4 to 60.4	7.71
	BDC-11-60	11/17/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	8.3
	BDC-11-60	02/05/2010	BDC-11-60 WL	-31.3 to -41.3	50.4 to 60.4	9
	BDC-11-60	02/24/2010	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	9.02
	BDC-11-60	05/10/2010	BDC-11-60 WL	-31.3 to -41.3	50.4 to 60.4	8.71
	BDC-11-60	08/02/2010	BDC-11-60 WL	-31.3 to -41.3	50.4 to 60.4	8.1
	BDC-11-60	10/25/2010	BDC-11-60 WL	-31.3 to -41.3	50.4 to 60.4	8.18
	BDC-11-60	01/28/2011	BDC-11-60 WL	-31.3 to -41.3	50.4 to 60.4	9.45
	BDC-11-60	03/02/2011	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	9.46
	BDC-11-60	5/6/2011	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	9.26
	BDC-11-60	8/1/2011	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	8.47
	BDC-11-60	10/24/2011	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	7.98
	BDC-11-60	02/03/2012	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	8.9

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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting (continued)	BDC-3-60	05/18/2009	BDC-3-60 WL	-35.27 to -45.27	50.41 to 60.41	8.8
	BDC-3-60	06/02/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	8.69
	BDC-3-60	08/04/2009	BDC-3-60 WL	-35.27 to -45.27	50.41 to 60.41	8.1
	BDC-3-60	08/18/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	8.05
	BDC-3-60	10/23/2009	BDC-3-60 WL	-35.27 to -45.27	50.41 to 60.41	8.07
	BDC-3-60	11/16/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	8.54
	BDC-3-60	02/05/2010	BDC-3-60 WL	-35.27 to -45.27	50.41 to 60.41	9.5
	BDC-3-60	02/24/2010	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	9.55
	BDC-3-60	05/10/2010	BDC-3-60 WL	-35.27 to -45.27	50.41 to 60.41	9.28
	BDC-3-60	08/02/2010	BDC-3-60 WL	-35.27 to -45.27	50.41 to 60.41	8.74
	BDC-3-60	10/25/2010	BDC-3-60 WL	-35.27 to -45.27	50.41 to 60.41	8.67
	BDC-3-60	01/28/2011	BDC-3-60 WL	-35.27 to -45.27	50.41 to 60.41	9.94
	BDC-3-60	03/01/2011	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	9.95
	BDC-3-60	5/6/2011	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	9.89
	BDC-3-60	8/1/2011	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	9.11
	BDC-3-60	10/24/2011	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	8.53
	BDC-3-60	02/03/2012	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	9.34
	BDC-6-60	05/18/2009	BDC-6-60 WL	-32.2 to -42.2	50.4 to 60.4	8.52
	BDC-6-60	06/02/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	8.39
	BDC-6-60	08/04/2009	BDC-6-60 WL	-32.2 to -42.2	50.4 to 60.4	7.75
	BDC-6-60	08/18/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	7.83
	BDC-6-60	10/23/2009	BDC-6-60 WL	-32.2 to -42.2	50.4 to 60.4	7.87
	BDC-6-60	11/16/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	8.34
	BDC-6-60	02/05/2010	BDC-6-60 WL	-32.2 to -42.2	50.4 to 60.4	9.23
	BDC-6-60	02/24/2010	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	9.26
	BDC-6-60	05/10/2010	BDC-6-60 WL	-32.2 to -42.2	50.4 to 60.4	8.97
	BDC-6-60	08/02/2010	BDC-6-60 WL	-32.2 to -42.2	50.4 to 60.4	8.38
	BDC-6-60	10/25/2010	BDC-6-60 WL	-32.2 to -42.2	50.4 to 60.4	8.39
	BDC-6-60	01/28/2011	BDC-6-60 WL	-32.2 to -42.2	50.4 to 60.4	9.68
	BDC-6-60	03/01/2011	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	9.67
	BDC-6-60	5/6/2011	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	9.54
	BDC-6-60	8/1/2011	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	8.78
	BDC-6-60	10/24/2011	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	8.25
	BDC-6-60	02/03/2012	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	9.09

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Blaser Die Casting (continued)	CI-MW-1-60	05/18/2009	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	8.68
	CI-MW-1-60	06/03/2009	CI-MW-1-60	-34.09 to -44.09	50.4 to 60.4	8.57
	CI-MW-1-60	08/04/2009	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	8.01
	CI-MW-1-60	10/23/2009	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	7.97
	CI-MW-1-60	11/16/2009	CI-MW-1-60	-34.09 to -44.09	50.4 to 60.4	8.43
	CI-MW-1-60	02/05/2010	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	7.36
	CI-MW-1-60	05/10/2010	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	9.16
	CI-MW-1-60	08/02/2010	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	8.7
	CI-MW-1-60	10/25/2010	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	8.48
	CI-MW-1-60	01/28/2011	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	9.84
	CI-MW-1-60	5/6/2011	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	9.74
	CI-MW-1-60	8/1/2011	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	8.95
	CI-MW-1-60	10/24/2011	CI-MW-1-60 WL	-34.09 to -44.09	50.4 to 60.4	8.38
	CI-MW-1-60	02/03/2012	CI-MW-1-60	-34.09 to -44.09	50.4 to 60.4	9.26
Art Brass Plating	AB-CG-140-70	05/10/2010	AB-CG-140-70-WL-051010	-44.18 to -54.18	60 to 70	6.71
	AB-CG-140-70	08/02/2010	AB-CG-140-70-WL-080210	-44.18 to -54.18	60 to 70	6.38
	AB-CG-140-70	10/25/2010	AB-CG-140-70-WL-102510	-44.18 to -54.18	60 to 70	6.68
	AB-CG-140-70	01/28/2011	AB-CG-140-70-WL-012811	-44.18 to -54.18	60 to 70	7.32
	AB-CG-140-70	5/6/2011	AB-CG-140-70-WL-050611	-44.18 to -54.18	60 to 70	7.34
	AB-CG-140-70	8/1/2011	AB-CG-140-70-WL-080111	-44.18 to -54.18	60 to 70	6.81
	AB-CG-140-70	10/24/2011	AB-CG-140-70-WL-102411	-44.18 to -54.18	60 to 70	6.21
	AB-CG-140-70	2/3/2012	AB-CG-140-70-WL-020312	-44.18 to -54.18	60 to 70	7.19

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**Capital Industries, Inc.**  
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**Farallon PN: 457-004**

<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (continued)	AB-CG-142-70	12/15/2008	AB-CG-142-70-WL-121508	-42.95 to -52.95	60 to 70	7.42
	AB-CG-142-70	03/23/2009	AB-CG-142-70-WL-032309	-42.95 to -52.95	60 to 70	7.7
	AB-CG-142-70	05/18/2009	AB-CG-142-70-WL-051809	-42.95 to -52.95	60 to 70	7.83
	AB-CG-142-70	08/04/2009	AB-CG-142-70-WL-080409	-42.95 to -52.95	60 to 70	7.17
	AB-CG-142-70	10/23/2009	AB-CG-142-70-WL-102309	-42.95 to -52.95	60 to 70	7.36
	AB-CG-142-70	02/05/2010	AB-CG-142-70-WL-020510	-42.95 to -52.95	60 to 70	8.68
	AB-CG-142-70	05/10/2010	AB-CG-142-70-WL-051010	-42.95 to -52.95	60 to 70	8.13
	AB-CG-142-70	08/02/2010	AB-CG-142-70-WL-080210	-42.95 to -52.95	60 to 70	7.58
	AB-CG-142-70	10/25/2010	AB-CG-142-70-WL-102510	-42.95 to -52.95	60 to 70	7.72
	AB-CG-142-70	01/28/2011	AB-CG-142-70-WL-012811	-42.95 to -52.95	60 to 70	8.94
	AB-CG-142-70	5/6/2011	AB-CG-142-70-WL-050611	-42.95 to -52.95	60 to 70	8.64
	AB-CG-142-70	8/1/2011	AB-CG-142-70-WL-080111	-42.95 to -52.95	60 to 70	7.91
	AB-CG-142-70	10/24/2011	AB-CG-142-70-WL-102411	-42.95 to -52.95	60 to 70	7.41
	AB-CG-142-70	2/3/2012	AB-CG-142-70-WL-020312	-42.95 to -52.95	60 to 70	8.45
	MW-16-75	03/23/2009	MW-16-75-WL-032309	-47.99 to -57.99	65 to 75	8.44
	MW-16-75	05/18/2009	MW-16-75-WL-051809	-47.99 to -57.99	65 to 75	8.58
	MW-16-75	08/04/2009	MW-16-75-WL-080409	-47.99 to -57.99	65 to 75	7.8
	MW-16-75	10/23/2009	MW-16-75-WL-102309	-47.99 to -57.99	65 to 75	7.83
	MW-16-75	02/05/2010	MW-16-75-WL-020510	-47.99 to -57.99	65 to 75	9.23
	MW-16-75	05/10/2010	MW-16-75-WL-051010	-47.99 to -57.99	65 to 75	9.11
	MW-16-75	08/02/2010	MW-16-75-WL-080210	-47.99 to -57.99	65 to 75	8.34
	MW-16-75	10/25/2010	MW-16-75-WL-102510	-47.99 to -57.99	65 to 75	8.09
	MW-16-75	01/28/2011	MW-16-75-WL-012811	-47.99 to -57.99	65 to 75	9.74
	MW-16-75	5/6/2011	MW-16-75-WL-050611	-47.99 to -57.99	65 to 75	9.97
	MW-16-75	8/1/2011	MW-16-75-WL-080111	-47.99 to -57.99	65 to 75	9.2
	MW-16-75	10/24/2011	MW-16-75-WL-102411	-47.99 to -57.99	65 to 75	8.15
	MW-16-75	2/3/2012	MW-16-75-WL-020312	-47.99 to -57.99	65 to 75	9.19

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**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
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<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (continued)	MW-17-60	03/23/2009	MW-17-60-WL-032309	-33.03 to -43.03	50 to 60	7.96
	MW-17-60	05/18/2009	MW-17-60-WL-051809	-33.03 to -43.03	50 to 60	8.08
	MW-17-60	08/04/2009	MW-17-60-WL-080409	-33.03 to -43.03	50 to 60	7.35
	MW-17-60	10/26/2009	MW-17-60-WL-102609	-33.03 to -43.03	50 to 60	7.54
	MW-17-60	02/05/2010	MW-17-60-WL-020510	-33.03 to -43.03	50 to 60	8.76
	MW-17-60	05/10/2010	MW-17-60-WL-051010	-33.03 to -43.03	50 to 60	8.35
	MW-17-60	08/02/2010	MW-17-60-WL-080210	-33.03 to -43.03	50 to 60	7.78
	MW-17-60	10/25/2010	MW-17-60-WL-102510	-33.03 to -43.03	50 to 60	7.89
	MW-17-60	01/28/2011	MW-17-60-WL-012811	-33.03 to -43.03	50 to 60	9.17
	MW-17-60	5/6/2011	MW-17-60-WL-050611	-33.03 to -43.03	50 to 60	8.9
	MW-17-60	8/1/2011	MW-17-60-WL-080111	-33.03 to -43.03	50 to 60	8.13
	MW-17-60	10/24/2011	MW-17-60-WL-102411	-33.03 to -43.03	50 to 60	7.62
	MW-17-60	2/3/2012	MW-17-60-WL-020312	-33.03 to -43.03	50 to 60	8.69
	MW-18-50	03/23/2009	MW-18-50-WL-032309	-24.74 to -34.74	40 to 50	8.15
	MW-18-50	05/18/2009	MW-18-50-WL-051809	-24.74 to -34.74	40 to 50	8.34
	MW-18-50	08/04/2009	MW-18-50-WL-080409	-24.74 to -34.74	40 to 50	7.55
	MW-18-50	10/23/2009	MW-18-50-WL-102309	-24.74 to -34.74	40 to 50	7.69
	MW-18-50	02/05/2010	MW-18-50-WL-020510	-24.74 to -34.74	40 to 50	9.05
	MW-18-50	05/10/2010	MW-18-50-WL-051010	-24.74 to -34.74	40 to 50	8.61
	MW-18-50	08/02/2010	MW-18-50-WL-080210	-24.74 to -34.74	40 to 50	7.99
	MW-18-50	10/25/2010	MW-18-50-WL-102510	-24.74 to -34.74	40 to 50	8.12
	MW-18-50	01/28/2011	MW-18-50-WL-012811	-24.74 to -34.74	40 to 50	9.31
	MW-18-50	5/6/2011	MW-18-50-WL-050611	-24.74 to -34.74	60 to 70	9.15
	MW-18-50	8/1/2011	MW-18-50-WL-080111	-24.74 to -34.74	60 to 70	8.33
	MW-18-50	10/24/2011	MW-18-50-WL-102411	-24.74 to -34.74	60 to 70	7.81
	MW-18-50	2/3/2012	MW-18-50-WL-020312	-24.74 to -34.74	60 to 70	8.89

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**Remedial Investigation**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Art Brass Plating (continued)	MW-18-70	03/23/2009	MW-18-70-WL-032309	-44.68 to -54.68	60 to 70	8.11
	MW-18-70	05/18/2009	MW-18-70-WL-051809	-44.68 to -54.68	60 to 70	8.25
	MW-18-70	08/04/2009	MW-18-70-WL-080409	-44.68 to -54.68	60 to 70	7.54
	MW-18-70	10/23/2009	MW-18-70-WL-102309	-44.68 to -54.68	60 to 70	7.64
	MW-18-70	02/05/2010	MW-18-70-WL-020510	-44.68 to -54.68	60 to 70	8.94
	MW-18-70	05/10/2010	MW-18-70-WL-051010	-44.68 to -54.68	60 to 70	8.62
	MW-18-70	08/02/2010	MW-18-70-WL-080210	-44.68 to -54.68	60 to 70	7.97
	MW-18-70	10/25/2010	MW-18-70-WL-102510	-44.68 to -54.68	60 to 70	8.12
	MW-18-70	01/28/2011	MW-18-70-WL-012811	-44.68 to -54.68	60 to 70	9.34
	MW-18-70	5/6/2011	MW-18-70-WL-050611	-44.68 to -54.68	60 to 70	9.14
	MW-18-70	8/1/2011	MW-18-70-WL-080111	-44.68 to -54.68	60 to 70	8.33
	MW-18-70	10/24/2011	MW-18-70-WL-102411	-44.68 to -54.68	60 to 70	7.82
	MW-18-70	2/3/2012	MW-18-70-WL-020312	-44.68 to -54.68	60 to 70	8.92
	MW-19-60	03/23/2009	MW-19-60-WL-032309	-34.77 to -44.77	50 to 60	8.09
	MW-19-60	05/18/2009	MW-19-60-WL-051809	-34.77 to -44.77	50 to 60	8.2
	MW-19-60	08/04/2009	MW-19-60-WL-080409	-34.77 to -44.77	50 to 60	7.45
	MW-19-60	10/23/2009	MW-19-60-WL-102309	-34.77 to -44.77	50 to 60	7.46
	MW-19-60	02/05/2010	MW-19-60-WL-020510	-34.77 to -44.77	50 to 60	8.02
	MW-19-60	05/10/2010	MW-19-60-WL-051010	-34.77 to -44.77	50 to 60	8.38
	MW-19-60	08/02/2010	MW-19-60-WL-080210	-34.77 to -44.77	50 to 60	8.16
	MW-19-60	10/25/2010	MW-19-60-WL-102510	-34.77 to -44.77	50 to 60	8.01
	MW-19-60	01/28/2011	MW-19-60-WL-012811	-34.77 to -44.77	50 to 60	8.6
	MW-19-60	5/6/2011	MW-19-60-WL-050611	-34.77 to -44.77	50 to 60	8.7
	MW-19-60	8/1/2011	MW-19-60-WL-080111	-34.77 to -44.77	50 to 60	8.29
	MW-19-60	10/24/2011	MW-19-60-WL-102411	-34.77 to -44.77	50 to 60	8.3
	MW-19-60	2/3/2012	MW-19-60-WL-020312	-34.77 to -44.77	50 to 60	8.51



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<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (continued)	MW-21-50	05/10/2010	MW-21-50-WL-051010	-23.38 to -33.38	40 to 50	7.41
	MW-21-50	08/02/2010	MW-21-50-WL-080210	-23.38 to -33.38	40 to 50	6.98
	MW-21-50	10/25/2010	MW-21-50-WL-102510	-23.38 to -33.38	40 to 50	7.63
	MW-21-50	01/28/2011	MW-21-50-WL-012811	-23.38 to -33.38	40 to 50	8.13
	MW-21-50	5/6/2011	MW-21-50-WL-050611	-23.38 to -33.38	40 to 50	7.93
	MW-21-50	8/1/2011	MW-21-50-WL-080111	-23.38 to -33.38	40 to 50	7.43
	MW-21-50	10/24/2011	MW-21-50-WL-102411	-23.38 to -33.38	40 to 50	6.77
	MW-21-50	2/3/2012	MW-21-50-WL-020312	-23.38 to -33.38	40 to 50	7.82
	MW-21-75	05/10/2010	MW-21-75-WL-051010	-48.41 to -58.41	65 to 75	7.43
	MW-21-75	08/02/2010	MW-21-75-WL-080210	-48.41 to -58.41	65 to 75	7.01
	MW-21-75	10/25/2010	MW-21-75-WL-102510	-48.41 to -58.41	65 to 75	7.87
	MW-21-75	01/28/2011	MW-21-75-WL-012811	-48.41 to -58.41	65 to 75	8.09
	MW-21-75	5/6/2011	MW-21-75-WL-050611	-48.41 to -58.41	65 to 75	7.98
	MW-21-75	8/1/2011	MW-21-75-WL-080111	-48.41 to -58.41	65 to 75	7.44
	MW-21-75	10/24/2011	MW-21-75-WL-102411	-48.41 to -58.41	65 to 75	6.85
	MW-21-75	2/3/2012	MW-21-75-WL-020312	-48.41 to -58.41	65 to 75	7.88
	MW-22-50	05/10/2010	MW-22-50-WL-051010	-27.66 to -37.66	40 to 50	5.26
	MW-22-50	08/02/2010	MW-22-50-WL-080210	-27.66 to -37.66	40 to 50	5.16
	MW-22-50	10/25/2010	MW-22-50-WL-102510	-27.66 to -37.66	40 to 50	7.17
	MW-22-50	01/28/2011	MW-22-50-WL-012811	-27.66 to -37.66	40 to 50	6.26
	MW-22-50	5/6/2011	MW-22-50-WL-050611	-27.66 to -37.66	40 to 50	6.24
	MW-22-50	8/1/2011	MW-22-50-WL-080111	-27.66 to -37.66	40 to 50	7.01
	MW-22-50	10/24/2011	MW-22-50-WL-102411	-27.66 to -37.66	40 to 50	3.79
	MW-22-50	2/3/2012	MW-22-50-WL-020312	-27.66 to -37.66	40 to 50	6.47

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<b>Area of Investigation<sup>1</sup></b>	<b>Sample Location</b>	<b>Sample Date</b>	<b>Sample Identification</b>	<b>Screened Interval Elevation (feet)<sup>2</sup></b>	<b>Screened Interval Depth (feet)<sup>3</sup></b>	<b>Groundwater Elevation (feet)<sup>2</sup></b>
Art Brass Plating (continued)	MW-23-50	05/10/2010	MW-23-50-WL-051010	-26.21 to -36.21	40 to 50	5.63
	MW-23-50	08/02/2010	MW-23-50-WL-080210	-26.21 to -36.21	40 to 50	5.01
	MW-23-50	10/25/2010	MW-23-50-WL-102510	-26.21 to -36.21	40 to 50	5.74
	MW-23-50	01/28/2011	MW-23-50-WL-012811	-26.21 to -36.21	40 to 50	5.61
	MW-23-50	5/6/2011	MW-23-50-WL-050611	-26.21 to -36.21	40 to 50	6.23
	MW-23-50	8/1/2011	MW-23-50-WL-080111	-26.21 to -36.21	40 to 50	4.23
	MW-23-50	10/24/2011	MW-23-50-WL102411	-26.21 to -36.21	40 to 50	3.3
	MW-23-50	2/3/2012	MW-23-50-WL-020312	-26.21 to -36.21	40 to 50	6.45
	MW-24-50	05/10/2010	MW-24-50-WL-051010	-27 to -37	40 to 50	5.16
	MW-24-50	08/02/2010	MW-24-50-WL-080210	-27 to -37	40 to 50	5.56
	MW-24-50	10/25/2010	MW-24-50-WL-102510	-27 to -37	40 to 50	6.69
	MW-24-50	01/28/2011	MW-24-50-WL-012811	-27 to -37	40 to 50	6.46
	MW-24-50	5/6/2011	MW-24-50-WL-050611	-27 to -37	40 to 50	6.55
	MW-24-50	8/1/2011	MW-24-50-WL-080111	-27 to -37	40 to 50	5.6
	MW-24-50	10/24/2011	MW-24-50-WL-102411	-27 to -37	40 to 50	4.67
	MW-24-50	2/3/2012	MW-24-50-WL-020312	-27 to -37	40 to 50	6.58

**Table 4**  
**Summary of Groundwater Elevations**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Elevation (feet) <sup>2</sup>
Art Brass Plating (continued)	MW-8-70	12/15/2008	MW-8-70-WL-121508	-44.76 to -54.76	60 to 70	8.57
	MW-8-70	03/23/2009	MW-8-70-WL-032309	-44.76 to -54.76	60 to 70	8.98
	MW-8-70	05/18/2009	MW-8-70-WL-051809	-44.76 to -54.76	60 to 70	9.09
	MW-8-70	08/04/2009	MW-8-70-WL-080409	-44.76 to -54.76	60 to 70	8.36
	MW-8-70	10/23/2009	MW-8-70-WL-102309	-44.76 to -54.76	60 to 70	8.37
	MW-8-70	02/05/2010	MW-8-70-WL-020510	-44.76 to -54.76	60 to 70	9.51
	MW-8-70	05/10/2010	MW-8-70-WL-051010	-44.76 to -54.76	60 to 70	9.69
	MW-8-70	08/02/2010	MW-8-70-WL-080210	-44.76 to -54.76	60 to 70	8.99
	MW-8-70	10/25/2010	MW-8-70-WL-102510	-44.76 to -54.76	60 to 70	8.69
	MW-8-70	01/28/2011	MW-8-70-WL-012811	-44.76 to -54.76	60 to 70	9.99
	MW-8-70	5/6/2011	MW-8-70-WL-050611	-44.76 to -54.76	60 to 70	10.09
	MW-8-70	8/1/2011	MW-8-70-WL-080111	-44.76 to -54.76	60 to 70	9.46
	MW-8-70	10/24/2011	MW-8-70-WL-102411	-44.76 to -54.76	60 to 70	8.91
	MW-8-70	2/3/2012	MW-8-70-WL-020312	-44.76 to -54.76	60 to 70	9.68
	PSC-CG-138-70	12/15/2008	PSC-CG-138-70-WL-121508	-43.35 to -53.35	60 to 70	8.1
	PSC-CG-138-70	03/23/2009	PSC-CG-138-70-WL-032309	-43.35 to -53.35	60 to 70	8.6
	PSC-CG-138-70	05/18/2009	PSC-CG-138-70-WL-051809	-43.35 to -53.35	60 to 70	8.71
	PSC-CG-138-70	08/04/2009	PSC-CG-138-70-WL-080409	-43.35 to -53.35	60 to 70	7.9
	PSC-CG-138-70	10/23/2009	PSC-CG-138-70-WL-102309	-43.35 to -53.35	60 to 70	7.98
	PSC-CG-138-70	02/05/2010	PSC-CG-138-70-WL-020510	-43.35 to -53.35	60 to 70	9.38
	PSC-CG-138-70	05/10/2010	PSC-CG-138-70-WL-051010	-43.35 to -53.35	60 to 70	9.07
	PSC-CG-138-70	08/02/2010	PSC-CG-138-70-WL-080210	-43.35 to -53.35	60 to 70	8.46
	PSC-CG-138-70	10/25/2010	PSC-CG-138-70-WL-102510	-43.35 to -53.35	60 to 70	8.46
	PSC-CG-138-70	01/28/2011	PSC-CG-138-70-WL-012811	-43.35 to -53.35	60 to 70	9.65
	PSC-CG-138-70	05/06/2011	PSC-CG-138-70-WL-050611	-43.35 to -53.35	60 to 70	9.71
	PSC-CG-138-70	08/01/2011	PSC-CG-138-70-WL-080111	-43.35 to -53.35	60 to 70	8.83
	PSC-CG-138-70	10/24/2011	PSC-CG-138-70-WL-102411	-43.35 to -53.35	60 to 70	8.23

**NOTES:**

<sup>1</sup> Areas where the potentially liable parties have conducted their respective remedial investigations in accordance with their respective Agreed/Enforcement orders.

<sup>2</sup> Vertical Datum is NAVD88.

<sup>3</sup> Depth in feet below ground surface.

Intermediate Zone = Groundwater collected from 40 to 70 feet below ground surface

Shallow Zone = Groundwater collected from 20 to 40 feet below ground surface.

Water Table Zone = Groundwater collected from the first encountered groundwater to 20 feet below ground surface.

**Table 5**  
**Historical Direct-Push Soil Analytical Results**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

	Vinyl chloride	1,1-dichloroethene	Trans-1,2-dichloroethene	1,1-dichloroethane	cis-1,2-dichloroethene	1,1,1-trichloroethane	1,2-dichloroethane	Trichloroethene	Tetrachloroethene
<b>November 2004 Geoprobe Investigation -- Analysis by CCI</b>									
<b>ECS6-S-3.0</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>ECS6-S-6.0</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>ECS7-S-3.0</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>ECS7-S-7.0</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>ECS8-S-4.5</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>ECS8-S-6.7</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>ECS9-S-0.0</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>ECS9-S-2.0</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>ECS9-S-6.0</b>	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U	<10U
<b>April 2005 Geoprobe Investigation -- Analysis by CCI</b>									
<b>ECS28-S-2.6</b>	<5U	<5U	<5U	<5U	3.7J	<5U	<5U	27	34
<b>ECS28-S-6.0</b>	<5U	<5U	<5U	<5U	5	<5U	<5U	13	37
<b>ECS29-S-3.1</b>	<5U	<5U	<5U	<5U	<5U	<5U	<5U	7	2.8J
<b>ECS29-S-5.0</b>	<5U	<5U	<5U	<5U	1.7J	<5U	<5U	17	12
<b>ECS30-S-2.9</b>	<5U	<5U	<5U	<5U	6	<5U	<5U	<b>140</b>	16
<b>ECS30-S-6.5</b>	<5U	<5U	<5U	<5U	17	<5U	<5U	46	17
<b>ECS31-S-3.6</b>	<5U	<5U	<5U	<5U	<5U	<5U	<5U	15	7
<b>ECS31-S-6.2</b>	<5U	<5U	<5U	<5U	<5U	<5U	<5U	1.8J	1.5J
<b>ECS32-S-2.1</b>	<5U	<5U	<5U	<5U	4.6J	<5U	<5U	37	<5U
<b>ECS32-S-4.5</b>	<5U	<5U	<5U	<5U	4.8J	<5U	<5U	45	<5U

**Table 5**  
**Historical Direct-Push Soil Analytical Results**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

	Vinyl chloride	1,1-dichloroethene	Trans-1,2-dichloroethene	1,1-dichloroethane	cis-1,2-dichloroethene	1,1,1-trichloroethane	1,2-dichloroethane	Trichloroethene	Tetrachloroethene
<b>April 2005 Geoprobe Investigation -- Analysis by ARI</b>									
<b>ECS33-S-3.2</b>	<0.6UJ	<1.3U	<1.3U	<1.3U	<1.3U	<1.3U	<1.3U	<0.6UJ	<0.6UJ
<b>ECS33-S-6.9</b>	<0.6UJ	<1.2U	<1.2U	<1.2U	<1.2U	<1.2U	<1.2U	<0.6UJ	<0.6UJ
<b>ECS34-S-3.4</b>	<0.5UJ	<1.1U	<1.1U	<1.1U	<1.1U	<1.1U	<1.1U	<0.5UJ	<0.5UJ
<b>ECS34-S-6.9</b>	<0.4UJ	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.5J
<b>ECS35-S-3.8</b>	<0.4UJ	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.4UJ	2.5
<b>ECS35-S-6.5</b>	<0.4UJ	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.4UJ	<0.4UJ
<b>ECS36-S-3.8</b>	<0.5UJ	<1.0U	<1.0U	<1.0U	<1.0U	<1.0U	<1.0U	<0.5UJ	<0.5UJ
<b>ECS36-S-6.7</b>	<0.4UJ	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.9U	<0.4UJ	<0.4UJ
<b>ECS37-S-1.5</b>	<0.4UJ	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U	<0.4UJ	<0.4UJ
<b>ECS37-S-4.2</b>	<0.6UJ	<1.2U	<1.2U	<1.2U	<1.2U	<1.2U	<1.2U	<0.6UJ	<0.6UJ
<b>May 2005 Geoprobe Investigation -- Analysis by CCI</b>									
<b>ECS38-S-4.2</b>	<5U	<5U	<5U	<5U	2.9J	<5U	<5U	6	14
<b>ECS38-S-6.4</b>	<5U	<5U	<5U	<5U	2.2J	<5U	<5U	4.1J	38
<b>ECS39-S-0.7</b>	<5U	<5U	<5U	<5U	17	<5U	<5U	15	6
<b>ECS39-S-2.2</b>	<5U	<5U	<5U	<5U	38	<5U	<5U	13	9
<b>ECS39-S-6.7</b>	<5U	<5U	<5U	<5U	23	<5U	<5U	2.4J	2.4J
<b>ECS39-S-9.5</b>	<5U	<5U	<5U	<5U	3.7J	<5U	<5U	<5U	<5U
<b>ECS40-S-0.6</b>	<5U	<5U	<5U	<5U	<5U	<5U	<5U	4.4J	1.5J
<b>ECS40-S-2.4</b>	<5U	<5U	<5U	<5U	29	<5U	<5U	15	9
<b>ECS40-S-7.3</b>	<5U	<5U	<5U	<5U	10	<5U	<5U	9	4.5J
<b>ECS41-S-0.6</b>	<5U	<5U	<5U	<5U	<5U	<5U	<5U	<5U	<5U
<b>ECS41-S-2.5</b>	<5U	<5U	<5U	<5U	<5U	<5U	<5U	1.5J	<5U
<b>ECS41-S-6.8</b>	<5U	<5U	<5U	<5U	2J	<5U	<5U	1.4J	<5U

**NOTES:**

Results in **bold** denote concentrations above applicable screening levels (Table 1).

Results tabulated by Environmental Consulting Services, Inc. (2005)

Concentrations in micrograms per kilogram

Value after S in the sample identification is the approximate depth in feet to the top of the sample interval. Refer to the boring log for more information.

All borings vertically oriented except May 2005, which were oriented due east, 60 degrees below horizontal. Multiply depth by 0.87 for true depth below ground surface.

DCE = dichloroethene

J = an estimated concentration below the reporting limit.

PCE = tetrachloroethene

TCE = trichloroethene

U = not detected at reported detection level.

**Table 6**  
**Analytical Results for HVOCs in Soil Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Depth (feet) <sup>2</sup>	Soil Analytical Results (mg/kg) <sup>3</sup>				
					cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Previous Investigation (Farallon 2006)									
Capital Industries, Inc.	B1	1/16/2006	B1-011606-9.5-10	9.5-10	0.00061 U	0.00061 U	0.00061 U	0.0019	0.00061 U
		1/16/2006	B1-011606-29.5-30	29.5-30	0.00073 U	0.00073 U	0.00073 U	0.00073 U	<b>0.019</b>
		1/16/2006	B1-011606-33.5-34	33.5-34	0.00079 U	0.00079 U	0.00079 U	0.00079 U	0.00079 U
	B2	1/17/2006	B2-011706-2.5-3	2.5-3	0.00057 U	0.00057 U	0.00057 U	0.00057 U	0.00057 U
		1/17/2006	B2-011706-5.5-6	5.5-6	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U
		1/17/2006	B2-011706-32.5-33	32.5-33	0.0022	0.00078 U	0.00078 U	0.00078 U	0.0074
		1/17/2006	B2-011706-33.5-34	33.5-34	0.00081 U	0.00081 U	0.00081 U	0.00081 U	<b>0.068</b>
	B3	1/17/2006	B3-011706-8.5-9	8.5-9	0.00076 U	0.00076 U	0.00076 U	0.00076 U	0.00076 U
		1/17/2006	B3-011706-13.5-14	13.5-14	0.039	0.00069 U	0.00069 U	0.0024	0.0023
		1/17/2006	B3-011706-25.5-26	25.5-26	0.0036	0.00083 U	0.00083 U	0.00083 U	0.0019
	B4	1/16/2006	B4-011606-9.5-10	9.5-10	0.00065 U	0.00065 U	0.00065 U	0.00065 U	0.00065 U
		1/16/2006	B4-011606-13.5-14	13.5-14	0.0007 U	0.0007 U	0.0007 U	0.0007 U	0.0007 U
		1/16/2006	B4-011606-17.5-18	17.5-18	0.0095	0.00073 U	0.00073 U	0.00073 U	0.0021
	B5	1/16/2006	B5-011606-7.5-8	7.5-8	0.00083 U	0.00083 U	0.00083 U	0.00083 U	0.00083 U
		1/16/2006	B5-011606-13.5-14	13.5-14	0.0056	0.00065 U	0.00065 U	0.0013	0.00065 U
		1/16/2006	B5-011606-17.5-18	17.5-18	0.00092	0.00072 U	0.00072 U	0.00072 U	0.00072 U
		1/16/2006	B5-011606-33.5-34	33.5-34	0.0035	0.00063 U	0.00063 U	0.00063 U	<b>0.031</b>
	MW-1	2/7/2006	MW1-020706-5-6.5	5-6.5	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U
		2/7/2006	MW1-020706-15-16.5	15-16.5	0.0064	0.00062 U	0.00062 U	0.0034	0.00062 U
	MW-2	2/7/2006	MW2-020706-3.5-4	3.5-4	0.00069 U	0.00069 U	0.00069 U	0.00069 U	0.00069 U
		2/7/2006	MW2-020706-6-6.5	6-6.5	0.00059 U	0.00059 U	0.00059 U	0.00059 U	0.00059 U
		2/7/2006	MW2-020706-8.5-9	8.5-9	0.011	0.00059 U	0.00059 U	<b>0.13</b>	0.00064 U
		2/7/2006	MW2-020706-11-11.5	11-11.5	0.034	0.0031	0.00064 U	0.00059 U	0.00059 U
	MW-3	2/6/2006	MW3-020606-4-5.5	4-5.5	0.00057 U	0.00057 U	0.00057 U	0.00057 U	0.00057 U
		2/6/2006	MW3-020606-15-16.5	15-16.5	0.012	0.00068 U	0.00068 U	0.0019	0.0024
	MW-4	2/6/2006	MW4-020606-5-6.5	5-6.5	0.00062 U	0.00062 U	0.00062 U	0.00062 U	0.00062 U
		2/6/2006	MW4-020606-17-18.5	17-18.5	0.00058 U	0.00058 U	0.00058 U	0.00071	0.00058 U
	MW-5	2/7/2006	MW5-020706-5-6.5	5-6.5	0.00061 U	0.00061 U	0.00061 U	0.00061 U	0.00061 U
		2/7/2006	MW5-020706-10-11.5	10-11.5	0.0052	0.0006 U	0.0006 U	0.0022	0.0006 U
	MW-6	2/7/2006	MW6-020706-2.5-3	2.5-3	0.011	0.0006 U	0.016	0.032	0.0006 U
		2/7/2006	MW6-020706-5-6.5	5-6.5	0.12	0.0035	<b>0.21</b>	<b>0.28</b>	0.00063 U
		2/7/2006	MW6-020706-7.5-8.5	7.5-8.5	0.11	0.003	<b>0.2</b>	<b>0.2</b>	0.0006 U
	MW-7	2/6/2006	MW7-020606-5-6.5	5-6.5	0.00091	0.00065 U	<b>0.056</b>	<b>0.065</b>	0.00065 U
		2/6/2006	MW7-020606-10-11.5	10-11.5	0.00066 U	0.00066 U	0.0053	0.0031	0.00066 U
	MW-8	2/6/2006	MW8-020606-5-6.5	5-6.5	0.00062 U	0.00062 U	0.00062 U	0.00062 U	0.00062 U
		2/6/2006	MW8-020606-16.5-18	16.5-18	0.0037	0.00063 U	0.00063 U	0.00063 U	0.00063 U
MTCA Method C Screening Levels					<b>3.369</b> <sup>4</sup>	<b>0.35</b> <sup>4</sup>	<b>0.052</b> <sup>4</sup>	<b>0.058</b> <sup>4</sup>	<b>0.0087</b> <sup>4</sup>

**Table 6**  
**Analytical Results for HVOCs in Soil Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Depth (feet) <sup>2</sup>	Soil Analytical Results (mg/kg) <sup>3</sup>				
					cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Remedial Investigation									
Capital Industries, Inc. (continued)	B14	12/04/2008	B14-120408-2	2	0.0013 U	0.0013 U	<b>0.091</b>	0.024	0.0064 U
		12/04/2008	B14-120408-5	5	0.0012 U	0.0012 U	0.0055	0.0018	0.0059 U
		12/04/2008	B14-120408-7	7	0.0012 U	0.0012 U	0.0097	0.0035	0.0058 U
	B15	12/02/2008	B15-120208-2	2	0.0012 U	0.0012 U	0.0039	0.0012 U	0.0061 U
		12/02/2008	B15-120208-5	5	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0059 U
		12/02/2008	B15-120208-7	7	0.0011 U	0.0011 U	0.0012	0.0011 U	0.0056 U
	B18	12/09/2008	B18-120908-2	2	0.0011 U	0.0011 U	0.0011 U	0.0017	0.0055 U
		12/09/2008	B18-120908-5	5	0.0012 U	0.0012 U	0.008	0.006	0.0061 U
		12/09/2008	B18-120908-7	7	0.0011 U	0.0011 U	0.021	0.012	0.0053 U
		12/09/2008	Dup-B18-120908-7	7	0.0011 U	0.0011 U	0.026	0.015	0.0056 U
	B25	07/30/2009	B25-073009-2	2	0.0011 U	0.0011 U	0.021	0.0076	0.0011 U
		07/30/2009	B25-073009-5	5	0.0011 U	0.0011 U	0.012	0.015	0.0011 U
		07/30/2009	B25-073009-7	7	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.0013 U
	B26	07/30/2009	B26-073009-2	2	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
		07/30/2009	B26-073009-5	5	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
		07/30/2009	B26-073009-7	7	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
MTCA Method C Screening Levels					<b>3.369<sup>4</sup></b>	<b>0.35<sup>4</sup></b>	<b>0.052<sup>4</sup></b>	<b>0.058<sup>4</sup></b>	<b>0.0087<sup>4</sup></b>

**Table 6**  
**Analytical Results for HVOCs in Soil Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Depth (feet) <sup>2</sup>	Soil Analytical Results (mg/kg) <sup>3</sup>				
					cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Remedial Investigation Work Plan - Second Avenue South Soil Analytical Data									
Capital Industries, Inc. (continued)	SSR-1A	6/30/2008	SSR-1A-9.5-063008 <sup>5</sup>	9.5	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
	SSR-1	7/16/2008	SSR-1-0.5-071608	0.5	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
		7/16/2008	SSR-1-1.0-071608	1	<0.00091	<0.00091	<0.00091	<0.00091	<0.00091
	SSR-2	7/16/2008	SSR-2-0.5-071608	0.5	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
		7/16/2008	SSR-2-1.0-071608	1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	SSR-3	7/16/2008	SSR-3-0.5-071608	0.5	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
		7/16/2008	SSR-3-1.0-071608	1	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
	SSR-4	7/16/2008	SSR-4-0.5-071608	0.5	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
		7/16/2008	SSR-4-1.0-071608	1	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
	SSR-5	7/16/2008	SSR-5-0.5-071608	0.5	<0.00087	<0.00087	<0.00087	<0.00087	<0.00087
		7/16/2008	SSR-5-1.0-071608	1	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
	SSR-6	7/16/2008	SSR-6-0.5-071608	0.5	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
		7/16/2008	SSR-6-1.0-071608	1	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
	SSR-7	7/16/2008	SSR-7-0.5-071608	0.5	<0.00089	<0.00089	<0.00089	<0.00089	<0.00089
		7/16/2008	SSR-7-1.0-071608	1	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
	SSR-8	7/16/2008	SSR-8-0.5-071608	0.5	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
7/16/2008		SSR-8-1.0-071608	1	<0.00093	<0.00093	<0.00093	<0.00093	<0.00093	
Soil Screening Levels					0.00993	0.00969	0.0031	0.0028	0.005

**NOTES:**

Results in **bold** denote concentrations above applicable screening levels (Table 1).

<sup>1</sup> Areas where the potentially liable parties have conducted their respective remedial investigations in accordance with their respective Agreed/Enforcement orders.

<sup>2</sup> Depth in feet below ground surface.

<sup>3</sup> Analyzed by U.S. Environmental Protection Agency Method 8260B.

<sup>4</sup> Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Protection of Groundwater)  
<https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx>

<sup>5</sup> During the soil sampling activities conducted by Farallon on July 16, 2008, boring identification SSR-1 was repeated from the sampling activities conducted on June 30, 2008. The identifier for the sample collected from the electrical vault at 9.5 feet below ground surface on June 30, 2008 has been modified to SSR-1A.

DCE = dichloroethene

HVOCs = halogenated volatile organic compounds

J = Value reported was below the practical quantitation limit, and is an estimate

mg/kg = milligrams per kilogram

PCE = tetrachloroethene

TCE = trichloroethene

U = Result is less than the laboratory practical quantitation limit or was not detected at or above the reporting limit listed.



**Table 7**  
**Analytical Results for Total Organic Carbon in Soil Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Depth (feet) <sup>3</sup>	Soil Analytical Results (mg/kg)
					Total Organic Carbon
Capital Industries, Inc.	B06	11/24/2008	B6-112408-15-15.5	15 to 15.5	1,220 <sup>4</sup>
		11/24/2008	B6-112408-30-30.5	30 to 30.5	2,100 <sup>4</sup>
		11/24/2008	B6-112408-60-60.5	60 to 60.5	1,280 <sup>4</sup>
	B09	11/14/2008	B9-111408-15-15.5	15 to 15.5	80 <sup>4</sup>
		11/14/2008	B9-111408-30-30.5	30 to 30.5	2,000 <sup>4</sup>
		11/18/2008	B9-111808-60-60.5	60 to 60.5	5,120 <sup>5</sup>
	B13	12/01/2008	B13-120108-15-15.5	15 to 15.5	270 <sup>4</sup>
		12/01/2008	B13-120108-30-30.5	30 to 30.5	380 <sup>4</sup>
		12/01/2008	B13-120108-60-60.5	60 to 60.5	1,100 <sup>4</sup>
	B17	11/10/2008	B17-111008-30-30.5	30 to 30.5	1,070 <sup>4</sup>
		11/10/2008	B17-111108-60-60.5	60 to 60.5	680 <sup>4</sup>
		11/11/2008	B17-111008-15-15.5	15 to 15.5	220 <sup>4</sup>

**NOTES:**

<sup>1</sup>Areas where the potentially liable parties have conducted their respective remedial investigations in accordance with their respective Agreed/Enforcement orders. mg/kg = milligrams per kilogram

<sup>2</sup>Vertical Datum is NAVD88.

<sup>3</sup>Depth in feet below ground surface.

<sup>4</sup>Analyzed by U.S. Environmental Protection Agency Method SW9060

<sup>5</sup>Analyzed by Laboratory Method Plumb, 1981.

**Table 8**  
**Historical Reconnaissance Groundwater Analytical Results for Selected Halogenated Volatile Organic Compounds**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Sample Identification	Source	Water-Bearing Zone	Sample Depth <sup>1</sup>	Sample Date	Analytical Results (micrograms per liter) <sup>2</sup>				
					PCE	TCE	(cis) 1,2-DCE	(trans) 1,2-DCE	Vinyl Chloride
ECS01	Environmental Consulting Services	Water Table Zone	13	11/16/04	<b>11</b>	<b>13</b>	0.5J	<2	<2
			19	11/16/04	0.9	4	10	<2	<b>1.8J</b>
		Shallow Zone	25	11/16/04	<2	<2	5	<2	<b>5</b>
			37	11/16/04	<2	<2	<2	<2	<b>5</b>
ECS02	Environmental Consulting Services	Water Table Zone	13	11/16/04	<b>23</b>	<b>35</b>	50	<2	<2
			19	11/16/04	0.8J	6	4	<2	<2
		Shallow Zone	25	11/16/04	<2	<2	15	<2	<b>7</b>
			37	11/16/04	<2	<2	5	<2	<b>24</b>
ECS03	Environmental Consulting Services	Water Table Zone	13	11/16/04	1.4	<b>21</b>	1.8J	<2	<2
			19	11/16/04	<2	<2	0.7J	<2	<2
		Shallow Zone	25	11/16/04	<2	<2	14	<2	<2
			37	11/16/04	<2	<2	28	<2	<b>11</b>
ECS04	Environmental Consulting Services	Water Table Zone	13	11/16/04	<2	<2	<2	<2	<2
			19	11/16/04	<2	<2	2	<2	<2
		Shallow Zone	25	11/16/04	<2	<2	26	<2	<b>12</b>
			37	11/16/04	<2	<2	6	<2	<b>20</b>
ECS05	Environmental Consulting Services	Water Table Zone	13	11/15/04	<2	0.6J	1.6J	<2	<2
			19	11/15/04	<2	<2	25	<2	<b>4</b>
		Shallow Zone	25	11/15/04	<2	<2	49	<2	<b>41</b>
ECS06	Environmental Consulting Services	Water Table Zone	13	11/15/04	<2	<b>92</b>	68	1.8	<2
			19	11/15/04	<2	<b>360</b>	250	14	<2
		Shallow Zone	25	11/15/04	<2	<b>170</b>	53	1	1.1J
			37	11/15/04	<2	<b>180</b>	27	0.7	<b>11</b>
ECS07	Environmental Consulting Services	Water Table Zone	13	11/15/04	<2	<b>29</b>	68	1.3	<2
			19	11/15/04	<2	<b>100</b>	140	1.6	<2
		Shallow Zone	25	11/15/04	<2	<b>140</b>	92	0.9	<2
			37	11/15/04	<2	<b>150</b>	69	0.7	1.0J
ECS08	Environmental Consulting Services	Water Table Zone	13	11/15/04	<2	<b>65</b>	20	1.2	<2
			19	11/15/04	<2	<b>50</b>	6	0.6	<2
		Shallow Zone	25	11/15/04	<2	14	1.8J	<2	<b>3</b>
			37	11/15/04	<2	<2	<2	<2	<b>22</b>
ECS09	Environmental Consulting Services	Water Table Zone	13	11/15/04	<2	<b>510</b>	150	28	<b>5</b>
			19	11/15/04	<2	6	14	<2	<2
		Shallow Zone	25	11/15/04	<2	0.6J	14	<2	<b>4</b>
			37	11/15/04	<2	0.6J	5	<2	<b>62</b>
ECS10	Environmental Consulting Services	Water Table Zone	13	11/17/04	<2	<b>41</b>	280	1.8	<b>7</b>
			19	11/17/04	<2	<b>29</b>	190	1.2	<b>7</b>
		Shallow Zone	25	11/17/04	<2	<2	12	<2	<b>8</b>
			37	11/17/04	<2	<2	<2	<2	<b>120</b>

**Table 8**  
**Historical Reconnaissance Groundwater Analytical Results for Selected Halogenated Volatile Organic Compounds**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Sample Identification	Source	Water-Bearing Zone	Sample Depth <sup>1</sup>	Sample Date	Analytical Results (micrograms per liter) <sup>2</sup>				
					PCE	TCE	(cis) 1,2-DCE	(trans) 1,2-DCE	Vinyl Chloride
ECS11	Environmental Consulting Services	Water Table Zone	13	11/17/04	<2	<2	<2	<2	<2
			19	11/17/04	<2	<2	<2	<2	<2
		Shallow Zone	25	11/17/04	<2	<2	40	<2	38
			37	11/17/04	<2	<2	15	<2	110
ECS12	Environmental Consulting Services	Water Table Zone	13	11/17/04	<2	<2	<2	<2	<2
			19	11/17/04	<2	<2	<2	<2	6
		Shallow Zone	25	11/17/04	<2	<2	71	<2	190
			37	11/17/04	<2	<2	<2	<2	330
ECS13	Environmental Consulting Services	Water Table Zone	13	11/17/04	<2	<2	<2	<2	<2
			19	11/17/04	<2	<2	<2	<2	3
		Shallow Zone	25	11/17/04	<2	<2	23	<2	290
			37	11/17/04	<2	<2	<2	<2	<2
ECS14	Environmental Consulting Services	Water Table Zone	13	11/18/04	<2	<2	<2	<2	<2
			19	11/18/04	<2	<2	<2	<2	<2
		Shallow Zone	25	11/18/04	<2	<2	1J	<2	9
			37	11/18/04	<2	<2	3	<2	780
ECS15	Environmental Consulting Services	Water Table Zone	13	11/18/04	<2	<2	<2	<2	<2
			19	11/18/04	<2	<2	<2	<2	<2
		Shallow Zone	25	11/18/04	<2	<2	32	<2	36
			37	11/18/04	<2	<2	120	<2	260
ECS16	Environmental Consulting Services	Water Table Zone	13	11/17/04	<2	<2	<2	<2	<2
			19	11/17/04	<2	<2	5	<2	1.1J
		Shallow Zone	25	11/17/04	<2	<2	150	<2	210
			37	11/17/04	<2	<2	120	<2	220
ECS17	Environmental Consulting Services	Water Table Zone	13	11/17/04	<2	<2	<2	<2	<2
			19	11/17/04	<2	<2	15	<2	1.4J
		Shallow Zone	25	11/17/04	<2	<2	99	0.6	27
			37	11/17/04	<2	<2	<2	<2	41
ECS18	Environmental Consulting Services	Water Table Zone	13	11/15/04	<2	<2	<2	<2	<2
			19	11/15/04	<2	<2	0.6J	<2	<2
		Shallow Zone	25	11/15/04	<2	<2	3	<2	<2
			37	11/15/04	<2	<2	5	<2	170

**Table 8**  
**Historical Reconnaissance Groundwater Analytical Results for Selected Halogenated Volatile Organic Compounds**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Sample Identification	Source	Water-Bearing Zone	Sample Depth <sup>1</sup>	Sample Date	Analytical Results (micrograms per liter) <sup>2</sup>				
					PCE	TCE	(cis) 1,2-DCE	(trans) 1,2-DCE	Vinyl Chloride
ECS19	Environmental Consulting Services	Water Table Zone	13	11/15/04	<2	<2	<2	<2	<2
			19	11/15/04	<2	<2	5	<2	0.8J
		Shallow Zone	25	11/15/04	<2	<2	55	<2	<b>19</b>
ECS20	Environmental Consulting Services	Water Table Zone	13	11/15/04	<2	<b>370</b>	150	4	<b>5</b>
			19	11/15/04	<2	<b>30</b>	62	1.1J	<b>6</b>
		Shallow Zone	25	11/15/04	<2	<2	16	<2	<b>81</b>
ECS21	Environmental Consulting Services	Water Table Zone	13	11/16/04	<2	<b>15</b>	3	<2	<2
			19	11/16/04	<2	<b>18</b>	4	<2	<2
		Shallow Zone	25	11/16/04	<2	10	1.6J	<2	<2
			37	11/16/04	<2	<2	<2	<2	<b>18</b>
ECS22	Environmental Consulting Services	Water Table Zone	13	11/16/04	0.8J	<b>40</b>	430	4	<2
			19	11/16/04	0.8J	<b>18</b>	20	<2	<b>27</b>
		Shallow Zone	25	11/16/04	<2	<b>39</b>	27	<2	<b>15</b>
			37	11/16/04	<2	<2	<2	<2	<2
ECS23	Environmental Consulting Services	Water Table Zone	13	11/16/04	<2	<b>44</b>	13	<2	<2
			19	11/16/04	<2	<b>40</b>	22	<2	<b>4</b>
		Shallow Zone	25	11/16/04	<2	10	30	<2	<b>14</b>
			37	11/16/04	<2	<2	48	<2	<b>45</b>
ECS24	Environmental Consulting Services	Water Table Zone	13	11/16/04	<2	<2	5	<2	<2
			19	11/16/04	<2	<2	48	<2	<b>6</b>
		Shallow Zone	25	11/16/04	<2	<2	58	<2	<b>11</b>
			37	11/16/04	<2	<2	<2	<2	<b>5</b>
ECS25	Environmental Consulting Services	Water Table Zone	13	11/17/04	<2	<2	<2	<2	<2
			19	11/17/04	<2	<2	6	<2	<2
		Shallow Zone	25	11/17/04	<2	<2	29	<2	<b>6</b>
			37	11/17/04	<2	<2	2	<2	<b>8</b>
ECS26	Environmental Consulting Services	Water Table Zone	13	11/17/04	<2	<2	<2	<2	<2
			19	11/17/04	<2	<2	2	<2	<2
		Shallow Zone	25	11/17/04	<2	<2	37	0.6	<b>11</b>
			37	11/17/04	<2	<2	4	<2	<b>5</b>
ECS27	Environmental Consulting Services	Water Table Zone	13	11/18/04	<2	<2	<2	<2	<2
			19	11/18/04	<2	<2	5	<2	<2
		Shallow Zone	25	11/18/04	<2	<2	12	<2	<b>2</b>
			37	11/18/04	<2	<2	<2	<2	<b>6</b>
ECS28	Environmental Consulting Services	Water Table Zone	13	04/03/05	<b>70</b>	<b>45</b>	28	<2	<2

**Table 8**  
**Historical Reconnaissance Groundwater Analytical Results for Selected Halogenated Volatile Organic Compounds**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Sample Identification	Source	Water-Bearing Zone	Sample Depth <sup>1</sup>	Sample Date	Analytical Results (micrograms per liter) <sup>2</sup>				
					PCE	TCE	(cis) 1,2-DCE	(trans) 1,2-DCE	Vinyl Chloride
ECS30	Environmental Consulting Services	Water Table Zone	13	04/03/05	11	20	40	<2	<2
ECS32	Environmental Consulting Services	Water Table Zone	13	04/03/05	3	11	0.6	<2	<2
ECS33	Environmental Consulting Services	Water Table Zone	13.6	04/03/05	<2	34	120	1.3	<2
ECS36	Environmental Consulting Services	Water Table Zone	13.5	04/03/05	<2	630	160	20	1.8
ECS37	Environmental Consulting Services	Water Table Zone	13.5	04/03/05	<2	120	25	1.1	<2
ECS38	Environmental Consulting Services	Water Table Zone	13	05/22/05	23	18	1.2	<2	<2
ECS39	Environmental Consulting Services	Water Table Zone	13	05/22/05	9	8	10	<2	<2
ECS40	Environmental Consulting Services	Water Table Zone	13	05/22/05	1.2J	3	<2	<2	<2
ECS41	Environmental Consulting Services	Water Table Zone	13	05/22/05	<2	2	<2	<2	<2

**NOTES:**

Results in **bold** denote concentrations above applicable screening levels (Table 2).

— = not analyzed

< denotes no detectable concentrations above the listed laboratory practical quantitation limit

<sup>1</sup>Depth in feet below ground surface.

<sup>2</sup>Analyzed using U.S. Environmental Protection Agency Method 8260.

<sup>3</sup>Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Groundwater Cleanup Level, Chapter 173-340 of the Washington Administrative Code, as amended February 2001.

<sup>4</sup>Cleanup Levels and Risk Calculations Database Washington State Department of Ecology 2008.

DCE = dichloroethene

PCE = tetrachloroethene

TCE = trichloroethene

J = an estimated concentration below the reporting limit.

**Table 9**  
**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Water Table Zone										
Capital Industries, Inc.	B6	11/24/2008	B6-112408-10	-	10 to 14	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		11/24/2008	B6-112408-14	-	14 to 18	1.7	0.2 U	0.2 U	0.2 U	0.26
		11/24/2008	B6-112408-18	-	18 to 22	22	0.2 U	0.2 U	0.2 U	2.5
		11/24/2008	Dup-B6-112408-18	-	18 to 22	22	0.2	0.2 U	0.2 U	2.6
	B7	11/13/2008	B7-111308-12	-	12 to 16	56	6.5	2 U	230	2.5
		11/13/2008	B7-111308-16	-	16 to 20	7.3	0.35	0.2 U	34	0.48
		11/13/2008	B7-111308-8	-	8 to 12	45	9.5	1 U	110	2
	B8	11/25/2008	B8-112508-12	-	12 to 16	90	7.6	2 U	410	2 U
		11/25/2008	B8-112508-16	-	16 to 20	110	6	2 U	330	2 U
		11/25/2008	B8-112508-8	-	8 to 12	29	4.5	1 U	180	1 U
	B9	11/14/2008	B9-111408-10	-	10 to 14	43	2	0.4 U	57	0.4 U
		11/14/2008	B9-111408-14	-	14 to 18	250	13	4 U	520	4 U
		11/14/2008	B9-111408-18	-	18 to 22	150	4.9	2 U	410	2 U
	B10	11/20/2008	B10-112008-12	-	12 to 16	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		11/20/2008	B10-112008-16	-	16 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		11/20/2008	B10-112008-8	-	8 to 12	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B11	11/19/2008	B11-111908-12	-	12 to 16	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		11/19/2008	B11-111908-16	-	16 to 20	0.2 U	0.2 U	0.2 U	0.28	0.2 U
		11/19/2008	B11-111908-8	-	8 to 12	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B12	12/08/2008	B12-120808-12	-	12 to 16	43	1.9	1 U	210	1 U
		12/08/2008	B12-120808-16	-	16 to 20	49	2.2	2 U	280	2 U
		12/08/2008	B12-120808-8	-	8 to 12	3.6	0.24	0.2 U	27	0.2 U
	B13	12/01/2008	B13-120108-10	-	10 to 14	35	0.4 U	26	74	0.4 U
		12/01/2008	B13-120108-14	-	14 to 18	4.9	0.2 U	9.3	43	0.2 U
		12/01/2008	B13-120108-18	-	18 to 22	3.4	0.2 U	0.32	29	0.2 U
	B14	12/04/2008	B14-120408-12	-	12 to 16	2.9	0.21	4	8.9	0.2 U
		12/04/2008	B14-120408-16	-	16 to 20	8.6	0.2 U	0.73	3.5	0.3
		12/04/2008	B14-120408-8	-	8 to 12	0.41	0.2 U	6.6	5.7	0.2 U
	B15	12/02/2008	B15-120208-12	-	12 to 16	1.2	0.2 U	0.29	15	0.2 U
		12/02/2008	B15-120208-8	-	8 to 12	3.2	0.23	9.6	38	0.2 U
		12/03/2008	B15-120308-16	-	16 to 20	4.1	0.2 U	0.2 U	2.5	0.2 U
	B16	11/11/2008	B16-111108-12	-	12 to 16	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		11/11/2008	B16-111108-16	-	16 to 20	5.8 J	0.29	0.2 U	0.2 U	0.32 J
		11/11/2008	Dup-B16-111108-16	-	16 to 20	11 J	0.2 U	0.2 U	0.2 U	0.75 J
		11/11/2008	B16-111108-8	-	8 to 12	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B17	11/10/2008	B17-111008-12	-	12 to 16	23	0.2 U	0.2 U	0.2 U	4.1
		11/10/2008	B17-111008-16	-	16 to 20	28	0.2 U	0.2 U	0.2 U	5.1
		11/10/2008	B17-111008-8	-	8 to 12	1.4	0.2 U	0.2 U	0.2 U	0.2 U
MTCA Method C Modified Screening Levels-Water Table Zone						590 <sup>5</sup>	56 <sup>6</sup>	3.3 <sup>7</sup>	6.8 <sup>6</sup>	1.28 <sup>6</sup>

**Table 9**  
**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Capital Industries, Inc. (continued)	B18	12/09/2008	B18-120908-8	-	8 to 12	0.2 U	0.2 U	<b>3.4</b>	1.5	0.2 U
	B19	06/30/2009	B19-063009-10	-	10 to 14	0.4	0.2 U	0.2 U	0.2 U	0.2 U
		06/30/2009	B19-063009-16	-	16 to 20	2.3	0.2 U	0.2 U	0.2 U	0.2 U
		06/30/2009	DUP-B19-063009-16	-	16 to 20	2.6	0.2 U	0.2 U	0.2 U	0.2 U
	B20	07/07/2009	B20-070709-10	-	10 to 14	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/07/2009	B20-070709-16	-	16 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B21	07/06/2009	B21-070609-10	-	10 to 14	0.2 U	0.2 U	0.2 U	0.2 U	<b>1.4</b>
		07/06/2009	B21-070609-16	-	16 to 20	0.22	0.2 U	0.2 U	0.2 U	<b>1.8</b>
	B22	07/09/2009	B22-070909-10	-	10 to 14	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/09/2009	B22-070909-18	-	18 to 22	0.2 U	0.2 U	0.2 U	0.2 U	<b>15</b>
	B23	07/01/2009	B23-070109-10	-	10 to 14	14	0.39	0.2 U	2.9	0.2 U
		07/01/2009	B23-070109-16	-	16 to 20	93	1 U	1 U	1 U	1 U
	B24	07/02/2009	B24-070209-10	-	10 to 14	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/02/2009	B24-070209-16	-	16 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Blaser Die Casting	B27	06/29/2009	B27-062909-16	-	16 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2
	B28	07/08/2009	B28-070809-10	-	10 to 14	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	BDC-7-WT	11/16/2009	BDC-7-WT	5 to -5	10 to 20	0.57	0.02 U	0.046	1.2	0.22
	BDC-9-WT	11/16/2009	BDC-9-WT	5 to -5	10 to 20	7.2	0.067	0.02 U	0.25	0.12
	PGG-10-GW	05/01/2006	PGG-10-GW	-	-	140	<b>110</b>	<i>10 U</i>	<b>700</b>	<i>10 U</i>
	PGG-16-GW	07/21/2006	PGG-16-GW	-	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	PGG-17-GW	07/21/2006	PGG-17-GW	-	-	18	1.7	1 U	<b>24</b>	1 U
	PGG-19-GW	07/21/2006	PGG-19-GW	-	-	0.2 U	0.2 U	0.2 U	3.7	0.2 U
	PGG-1-GW13-16	05/02/2006	PGG-1-GW13-16	-	-	0.6	0.2 U	0.2 U	1.3	0.2 U
	PGG-1-GW18-21	05/02/2006	PGG-1-GW18-21	-	-	2.2	0.2 U	0.2 U	0.8	0.2
	PGG-1-GW8-11	05/02/2006	PGG-1-GW8-11	-	-	<b>1800</b>	30 U	<i>30 U</i>	<b>2000</b>	<b>550</b>
	PGG-20	08/03/2007	PGG-20	-	-	2.2	0.2 U	0.2 U	4.2	0.2 U
	PGG-21	08/03/2007	PGG-21	-	-	59	2.4	1 U	<b>120</b>	1 U
	PGG-22	08/03/2007	PGG-22	-	-	160	33	1 U	<b>830</b>	1 U
	PGG-23	08/03/2007	PGG-23	-	-	4.8	0.7	0.4 U	<b>7.7</b>	0.4 U
	PGG-24	08/03/2007	PGG-24	-	-	35	20	1 U	<b>130</b>	1 U
	PGG-25	08/03/2007	PGG-25	-	-	1.2	0.2 U	0.2 U	<b>13</b>	0.2 U
	PGG-27-10	11/05/2007	PGG-27-10	-	-	0.2 U	0.2 U		0.2 U	0.2 U
	PGG-27-15	11/05/2007	PGG-27-15	-	-	0.2 U	0.2 U		0.2 U	0.2 U
	PGG-27-20	11/05/2007	PGG-27-20	-	-	13	0.2 U		0.2 U	0.7
	PGG-28-10	11/05/2007	PGG-28-10	-	-	0.8	0.2 U		0.2 U	0.2 U
	PGG-28-15	11/05/2007	PGG-28-15	-	-	33	0.5		<b>10</b>	1
	PGG-29-10	11/06/2007	PGG-29-10	-	-	75	10		<b>350</b>	<b>1.4</b>
	PGG-29-15	11/06/2007	PGG-29-15	-	-	100	3.3		<b>100</b>	<b>2.9</b>
	PGG-2-GW	05/01/2006	PGG-2-GW	-	-	270	<b>180</b>	0.2 U	<b>2200</b>	<b>1.4</b>
<b>MTCA Method C Modified Screening Levels-Water Table Zone</b>						<b>590<sup>5</sup></b>	<b>56<sup>6</sup></b>	<b>3.3<sup>7</sup></b>	<b>6.8<sup>6</sup></b>	<b>1.28<sup>6</sup></b>

**Table 9**  
**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Blaser Die Casting (continued)	PGG-30-10	11/07/2007	PGG-30-10	-	-	1.3	0.2 U		<b>24</b>	0.2 U
	PGG-30-15	11/07/2007	PGG-30-15	-	-	2.6	0.2 U		<b>13</b>	0.2 U
	PGG-31-WT	11/06/2007	PGG-31-WT	-	-	0.2 U	0.2 U		0.2 U	0.2 U
	PGG-32-WT	11/06/2007	PGG-32-WT	-	-	0.2 U	0.2 U		0.2 U	0.2 U
	PGG-33-17	01/04/2008	PGG-33-17	-	-	1.3	0.2 U		0.2 U	0.2 U
	PGG-33B-10	09/09/2008	PGG-33B-10	-	-	0.051	0.02 U	0.11	0.02 U	0.02 U
	PGG-33B-15	09/09/2008	PGG-33B-15	-	-	13	0.45	0.02 U	0.13	0.39
	PGG-33B-19	09/09/2008	PGG-33B-19	-	-	63	0.39	0.02 U	0.2	<b>12</b>
	PGG-34-10	09/08/2008	PGG-34-10	-	-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	PGG-34-15	09/08/2008	PGG-34-15	-	-	0.88	0.022	0.02 U	0.023	0.02 U
	PGG-34-19	09/08/2008	PGG-34-19	-	-	35	0.27	0.02 U	0.37	<b>1.7</b>
	PGG-35-10	09/08/2008	PGG-35-10	-	-	0.61	0.034	0.048	4.8	0.02
	PGG-35-15	09/08/2008	PGG-35-15	-	-	0.3	0.02 U	0.02	1.3	0.045
	PGG-35-19	09/08/2008	PGG-35-19	-	-	0.42	0.02 U	0.02 U	0.16	0.73
	PGG-36-10	09/08/2008	PGG-36-10	-	-	5.6	0.17	0.02 U	1.9	0.1
	PGG-36-15	09/08/2008	PGG-36-15	-	-	1.9	0.02 U	0.02 U	0.037	0.02 U
	PGG-36-19	09/08/2008	PGG-36-19	-	-	25	0.26	0.02 U	0.063	0.59
	PGG-37-10	09/08/2008	PGG-37-10	-	-	12	4.3	0.02 U	<b>23</b>	0.16
	PGG-37-15	09/08/2008	PGG-37-15	-	-	0.22	0.038	0.02 U	0.55	0.02 U
	PGG-37-19	09/08/2008	PGG-37-19	-	-	2.4	0.039	0.02 U	0.78	0.051
	PGG-38-10	09/08/2008	PGG-38-10	-	-	1.7	0.041	0.27	2.6	0.02 U
	PGG-39-10	09/09/2008	PGG-39-10	-	-	0.23	0.02 U	0.02 U	0.63	0.02 U
	PGG-4-GW	05/01/2006	PGG-4-GW	-	-	26	2.4	1 U	<b>49</b>	1 U
	PGG-5-GW	05/01/2006	PGG-5-GW	-	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	PGG-6-GW	05/01/2006	PGG-6-GW	-	-	0.7	0.2 U	0.2 U	0.2	0.2 U
	PGG-7-GW	05/01/2006	PGG-7-GW	-	-	440	8.3	0.2 U	<b>720</b>	<b>5</b>
	PGG-8-GW	05/01/2006	PGG-8-GW	-	-	330	5 U	5 U	<b>58</b>	<b>13</b>
	PGG-9-GW	05/01/2006	PGG-9-GW	-	-	270	24	5 U	<b>450</b>	<b>8.2</b>
MTCA Method C Modified Screening Levels-Water Table Zone						<b>590<sup>5</sup></b>	<b>56<sup>6</sup></b>	<b>3.3<sup>7</sup></b>	<b>6.8<sup>6</sup></b>	<b>1.28<sup>6</sup></b>



**Table 9**  
**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>									
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride					
Shallow Zone															
Capital Industries, Inc.	B6	11/24/2008	B6-112408-22	-	22 to 26	34	0.28	0.2 U	0.2 U	13					
		11/24/2008	B6-112408-26	-	26 to 30	1 U	1 U	1 U	1 U	130					
		11/24/2008	B6-112408-30	-	30 to 34	1 U	1 U	1 U	1 U	78					
		11/24/2008	B6-112408-34	-	34 to 38	1.8	1 U	1 U	1 U	110					
		11/24/2008	B6-112408-38	-	38 to 42	1 U	1 U	1 U	1 U	66					
	B7	11/13/2008	B7-111308-20	-	20 to 24	7.2	0.2 U	0.2 U	9.1	1.4					
		11/13/2008	B7-111308-24	-	24 to 28	7.6	0.2 U	0.2 U	1.3	12					
		11/13/2008	B7-111308-28	-	28 to 32	1.4	0.2 U	0.2 U	1.2	32					
		11/13/2008	Dup-B7-111308-28	-	28 to 32	1.4	0.2 U	0.2 U	1.2	32					
		11/13/2008	B7-111308-32	-	32 to 36	0.2 U	0.2 U	0.2 U	0.2 U	48					
	B8	11/13/2008	B7-111308-36	-	36 to 40	0.2 U	0.2 U	0.2 U	0.2 U	37					
		11/25/2008	B8-112508-20	-	20 to 24	21	0.9	0.2 U	21	0.98					
		11/25/2008	B8-112508-24	-	24 to 28	8.8	0.23	0.2 U	4.8	4.1					
		11/25/2008	B8-112508-28	-	28 to 32	1.4	0.2 U	0.2 U	0.71	24					
		11/25/2008	B8-112508-32	-	32 to 36	2.4	1 U	1 U	10	29					
	B9	11/25/2008	B8-112508-36	-	36 to 40	2.9	0.34	0.2 U	7.8	23					
		11/14/2008	B9-111408-22	-	22 to 26	37	4 U	4 U	550	4 U					
		11/14/2008	B9-111408-26	-	26 to 30	34	6	4 U	730	4 U					
		11/14/2008	B9-111408-30	-	30 to 34	84	8.5	2 U	370	6					
		11/14/2008	B9-111408-34	-	34 to 38	190	15	1 U	230	13					
	B10	11/14/2008	B9-111408-38	-	38 to 42	240	66	1 U	220	8.4					
		11/20/2008	B10-112008-20	-	20 to 24	1.9	0.2 U	0.2 U	0.2 U	5.3					
		11/20/2008	B10-112008-24	-	24 to 28	7.3	0.2 U	0.2 U	0.2 U	13					
		11/20/2008	B10-112008-28	-	28 to 32	11	0.4 U	0.4 U	0.4 U	44					
		11/21/2008	B10-112108-32	-	32 to 36	7.3	2 U	2 U	2 U	200					
	B11	11/21/2008	B10-112108-36	-	36 to 40	2.5	2 U	2 U	2 U	270					
		11/21/2008	Dup-B10-112108-36	-	36 to 40	2.6	2 U	2 U	2 U	260					
		11/19/2008	B11-111908-20	-	20 to 24	11	0.22	0.2 U	0.2 U	5.7					
		11/19/2008	Dup-B11-111908-20	-	20 to 24	12	0.2 U	0.2 U	0.2 U	6					
		11/19/2008	B11-111908-24	-	24 to 28	18	0.4 U	0.4 U	0.4 U	63					
	B12	11/19/2008	B11-111908-28	-	28 to 32	0.2 U	0.2 U	0.2 U	0.2 U	17					
		11/19/2008	B11-111908-32	-	32 to 36	0.4 U	0.4 U	0.4 U	0.4 U	62					
		11/19/2008	B11-111908-36	-	36 to 40	1 U	1 U	1 U	1 U	130					
		12/08/2008	B12-120808-20	-	20 to 24	22	1 U	1 U	130	2.7					
		12/08/2008	Dup-B12-120808-20	-	20 to 24	22	1 U	1 U	120	3					
							12/08/2008	B12-120808-24	-	24 to 28	25	0.83	0.4 U	55	7.2
							12/08/2008	B12-120808-28	-	28 to 32	21	1.6	0.4 U	67	11
							12/08/2008	B12-120808-32	-	32 to 36	11	1.2	0.2 U	16	6.2
							12/08/2008	B12-120808-36	-	36 to 40	2	0.2 U	0.2 U	0.81	1.1
MTCA Method C Modified Screening Levels-Shallow Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>					

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**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Capital Industries, Inc. (continued)	B13	12/01/2008	B13-120108-22	-	22 to 26	11	0.2 U	0.2 U	1.8	1.8
		12/01/2008	Dup-B13-120108-22	-	22 to 26	11	0.2 U	0.2 U	1.7	1.7
		12/01/2008	B13-120108-26	-	26 to 30	11	0.2 U	0.2 U	1.2	2
		12/01/2008	B13-120108-30	-	30 to 34	0.4	0.2 U	0.2 U	0.36	1.2
		12/01/2008	B13-120108-34	-	34 to 38	0.44	0.2 U	0.2 U	0.2 U	6.2
	12/01/2008	B13-120108-38	-	38 to 42	0.73	0.2 U	0.2 U	0.2 U	7.9	
	B14	12/04/2008	B14-120408-20	-	20 to 24	8.5	0.2 U	0.2 U	1.1	0.65
		12/04/2008	B14-120408-24	-	24 to 28	6	0.2 U	0.2 U	0.25	0.66
		12/05/2008	B14-120508-28	-	28 to 32	3.2	0.2 U	0.2 U	0.2 U	0.85
		12/05/2008	B14-120508-32	-	32 to 36	0.56	0.2 U	0.2 U	0.2 U	0.56
		12/05/2008	B14-120508-36	-	36 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.35
	B15	12/03/2008	B15-120308-20	-	20 to 24	8.2	0.2 U	0.2 U	2.1	0.69
		12/03/2008	B15-120308-24	-	24 to 28	11	0.2 U	0.2 U	0.2 U	1.5
		12/03/2008	B15-120308-28	-	28 to 32	11	0.2 U	0.2 U	0.2 U	5
		12/03/2008	B15-120308-32	-	32 to 36	11	0.2 U	0.2 U	0.21	1.5
		12/03/2008	Dup-B15-120308-32	-	32 to 36	10	0.2 U	0.2 U	0.2	1.5
		12/03/2008	B15-120308-36	-	36 to 40	0.2 U	0.2 U	0.2 U	0.2 U	11
	B16	11/11/2008	B16-111108-20	-	20 to 24	11	0.2 U	0.2 U	0.2 U	0.71
		11/11/2008	B16-111108-24	-	24 to 28	17	0.2 U	0.2 U	0.2 U	5.2
		11/11/2008	B16-111108-28	-	28 to 32	11	0.2 U	0.2 U	0.2 U	14
		11/12/2008	B16-111208-32	-	32 to 36	2.3	0.2 U	0.2 U	0.2 U	5.1
		11/12/2008	B16-111208-36	-	36 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.22
	B17	11/10/2008	B17-111008-20	-	20 to 24	41	0.21	0.2 U	0.2 U	28
		11/10/2008	B17-111008-24	-	24 to 28	0.26	0.2 U	0.2 U	0.2 U	1.9
		11/10/2008	B17-111008-28	-	28 to 32	0.2 U	0.2 U	0.2 U	0.2 U	1.3
		11/10/2008	B17-111008-32	-	32 to 36	0.55	0.2 U	0.2 U	0.2 U	1.4
		11/10/2008	B17-111008-36	-	36 to 40	0.2 U	0.2 U	0.2 U	0.2 U	3.3
	B19	06/30/2009	B19-063009-26	-	26 to 30	0.46	0.2 U	0.2 U	0.2 U	0.2 U
		06/30/2009	B19-063009-38	-	38 to 42	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B20	07/07/2009	B20-070709-24	-	24 to 28	0.2 U	0.2 U	0.2 U	0.2 U	23
		07/07/2009	B20-070709-30	-	30 to 34	0.2 U	0.2 U	0.2 U	0.2 U	28
		07/07/2009	B20-070709-36	-	36 to 40	0.38	0.2 U	0.2 U	0.2 U	9.6
	B21	07/06/2009	B21-070609-26	-	26 to 30	0.2 U	0.2 U	0.2 U	0.2 U	3
07/06/2009		B21-070609-38	-	38 to 42	0.22	0.2 U	0.2 U	0.2 U	2.3	
B22	07/09/2009	B22-070909-26	-	26 to 30	0.2 U	0.2 U	0.2 U	0.2 U	11	
	07/09/2009	B22-070909-34	-	34 to 38	0.2 U	0.2 U	0.2 U	0.2 U	5.9	
B23	07/01/2009	B23-070109-22	-	22 to 26	180	1.9	1 U	1 U	1 U	
	07/01/2009	B23-070109-28	-	28 to 32	400	3.2	2 U	30	2.5	
	07/01/2009	B23-070109-34	-	34 to 38	370	2.1	2 U	35	25	
MTCA Method C Modified Screening Levels-Shallow Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>

**Table 9**  
**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Capital Industries, Inc. (continued)	B24	07/02/2009	B24-070209-24	-	24 to 28	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/02/2009	B24-070209-30	-	30 to 34	0.2 U	0.2 U	0.2 U	0.2 U	0.57
		07/02/2009	B24-070209-36	-	36 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.24
	B27	06/29/2009	B27-062909-24	-	24 to 28	0.2 U	0.2 U	0.2 U	0.2 U	<b>31</b>
		06/29/2009	B27-062909-32	-	32 to 36	0.4 U	0.4 U	0.4 U	0.4 U	<b>65</b>
		06/29/2009	B27-062909-38	-	38 to 42	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B28	07/08/2009	B28-070809-20	-	20 to 24	0.85	0.2 U	0.2 U	0.2 U	1.3
		07/08/2009	B28-070809-30	-	30 to 34	31	0.4 U	0.4 U	0.4 U	<b>67</b>
Blaser Die Casting	BDC-7-40A	11/16/2009	BDC-7-40A	-15 to -18	30 to 33	0.21	0.02 U	0.02 U	0.17	<b>6.8</b>
	BDC-7-40B	11/16/2009	BDC-7-40B	-19 to -22	34 to 37	0.75	0.02 U	0.02 U	0.21	<b>7</b>
	BDC-7-40C	11/16/2009	BDC-7-40C	-22 to -25	37 to 40	2.6	0.02 U	0.02 U	0.022	<b>15</b>
	BDC-9-40A	11/16/2009	BDC-9-40A	-15 to -18	30 to 33	25	0.022	0.02 U	0.02 U	<b>19</b>
	BDC-9-40B	11/16/2009	BDC-9-40B	-19 to -22	34 to 37	8.2	0.02 U	0.02 U	0.024	<b>47</b>
	BDC-9-40C	11/16/2009	BDC-9-40C	-22 to -25	37 to 40	5.2	0.2 U	0.2 U	0.2 U	<b>120</b>
	BDC-12-40	04/10/2012	BDC-12-40	-30 to -40	-	54	0.24	0.02 U	0.02 U	<b>41</b>
	PGG-1-GW23-26	05/02/2006	PGG-1-GW23-26	-	-	23	0.6 U	0.6 U	0.6 U	0.6 U
	PGG-1-GW28-31	05/02/2006	PGG-1-GW28-31	-	-	42	1 U	1 U	1	<b>4.4</b>
	PGG-26-12	08/03/2007	PGG-26-12	-	-	5.2	2.1	1 U	<b>91</b>	1 U
	PGG-26-17	08/03/2007	PGG-26-17	-	-	0.2	0.2 U	0.2 U	2.1	0.2 U
	PGG-26-22	08/03/2007	PGG-26-22	-	-	0.5	0.2 U	0.2 U	0.2	0.2 U
	PGG-27-25	11/05/2007	PGG-27-25	-	-	43	0.2 U		0.2 U	<b>15</b>
	PGG-27-30	11/05/2007	PGG-27-30	-	-	0.3	0.2 U		0.2 U	<b>120</b>
	PGG-28-20	11/05/2007	PGG-28-20	-	-	7.8	0.2 U		1.3	1.3
	PGG-28-25	11/05/2007	PGG-28-25	-	-	12	0.2 U		0.2 U	0.3
	PGG-28-30	11/05/2007	PGG-28-30	-	-	31	0.2 U		0.2 U	<b>7.3</b>
	PGG-28-35	11/05/2007	PGG-28-35	-	-	2.6	0.2 U		0.2 U	<b>100</b>
	PGG-28-40	11/05/2007	PGG-28-40	-	-	0.7	0.2 U		0.2 U	<b>52</b>
	PGG-29-20	11/06/2007	PGG-29-20	-	-	1.3	0.2 U		1	0.2 U
	PGG-29-25	11/06/2007	PGG-29-25	-	-	8.6	0.2 U		1.4	0.3
	PGG-29-30	11/06/2007	PGG-29-30	-	-	15	0.2 U		1.2	<b>16</b>
	PGG-29-35	11/06/2007	PGG-29-35	-	-	0.2 U	0.2 U		0.6	<b>36</b>
	PGG-29-40	11/06/2007	PGG-29-40	-	-	0.2 U	0.2 U		0.2 U	<b>130</b>
	PGG-30-20	11/07/2007	PGG-30-20	-	-	1.1	0.2 U		0.3	0.8
	PGG-30-25	11/07/2007	PGG-30-25	-	-	4.6	0.2 U		0.2 U	<b>8.6</b>
	PGG-30-30	11/07/2007	PGG-30-30	-	-	0.2 U	0.2 U		0.2 U	<b>36</b>
	PGG-30-35	11/07/2007	PGG-30-35	-	-	0.2 U	0.2 U		0.2 U	<b>31</b>
	PGG-30-40	11/07/2007	PGG-30-40	-	-	0.2 U	0.2 U		0.2 U	<b>150</b>
	PGG-33-22	01/04/2008	PGG-33-22	-	-	10	0.2		0.2 U	0.3
	PGG-33-27	01/04/2008	PGG-33-27	-	-	12	0.2 U		0.2 U	<b>6.3</b>
	PGG-33-32	01/04/2008	PGG-33-32	-	-	0.3	0.2 U		0.2 U	<b>9.8</b>
	PGG-33-37	01/04/2008	PGG-33-37	-	-	0.2 U	0.2 U		0.2 U	0.2 U
<b>MTCA Method C Modified Screening Levels-Shallow Zone</b>						<b>590<sup>5</sup></b>	<b>3,500<sup>8</sup></b>	<b>3.3<sup>7</sup></b>	<b>30<sup>7</sup></b>	<b>1.69<sup>8</sup></b>

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**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Blaser Die Casting (continued)	PGG-33B-24	09/09/2008	PGG-33B-24	-	-	39	0.3	0.02 U	0.061	<b>13</b>
	PGG-33B-30	09/09/2008	PGG-33B-30	-	-	42	0.3	0.02 U	0.02 U	<b>11</b>
	PGG-33B-34	09/09/2008	PGG-33B-34	-	-	12	0.094	0.024	0.053	<b>2.3</b>
	PGG-33B-37	09/09/2008	PGG-33B-37	-	-	37	0.15	0.02 U	0.02 U	<b>74</b>
	PGG-34-24	09/08/2008	PGG-34-24	-	-	77	0.6	0.02 U	0.95	<b>4.9</b>
	PGG-34-30	09/08/2008	PGG-34-30	-	-	70	0.42	0.02 U	0.24	<b>14</b>
	PGG-34-34	09/09/2008	PGG-34-34	-	-	54	0.31	0.02 U	0.02 U	<b>62</b>
	PGG-34-37	09/09/2008	PGG-34-37	-	-	32	0.14	0.02 U	0.02 U	<b>28</b>
	PGG-35-24	09/08/2008	PGG-35-24	-	-	3	0.02 U	0.022	0.02 U	<b>3.6</b>
	PGG-35-30	09/08/2008	PGG-35-30	-	-	1.4	0.02 U	0.02 U	0.027	<b>6.9</b>
	PGG-35-34	09/08/2008	PGG-35-34	-	-	0.5	0.02 U	0.055	0.04	<b>13</b>
	PGG-35-37	09/08/2008	PGG-35-37	-	-	0.085	0.02 U	0.032	0.13	<b>5</b>
	PGG-36-24	09/08/2008	PGG-36-24	-	-	32	0.04	0.02 U	0.053	<b>19</b>
	PGG-36-30	09/08/2008	PGG-36-30	-	-	30	0.055	0.02 U	0.035	<b>29</b>
	PGG-36-34	09/08/2008	PGG-36-34	-	-	61	0.17	0.02 U	0.02 U	<b>6.8</b>
	PGG-36-37	09/08/2008	PGG-36-37	-	-	60	0.17	0.02 U	0.02 U	<b>4.6</b>
	PGG-37-24	09/08/2008	PGG-37-24	-	-	19	0.095	0.02 U	0.85	<b>1</b>
	PGG-37-30	09/08/2008	PGG-37-30	-	-	24	0.054	0.02 U	0.097	<b>3.4</b>
	PGG-37-34	09/08/2008	PGG-37-34	-	-	11	0.039	0.028	0.95	<b>6.6</b>
	PGG-37-37	09/08/2008	PGG-37-37	-	-	4.3	0.02 U	0.02 U	0.18	<b>10</b>
	PGG-3-GW	05/01/2006	PGG-3-GW	-	-	17	2.7	0.6 U	<b>31</b>	0.6 U
MTCA Method C Modified Screening Levels-Shallow Zone						<b>590</b> <sup>5</sup>	<b>3,500</b> <sup>8</sup>	<b>3.3</b> <sup>7</sup>	<b>30</b> <sup>7</sup>	<b>1.69</b> <sup>8</sup>

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**Remedial Investigation**  
**Capital Industries, Inc.**  
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Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Intermediate Zone										
Capital Industries, Inc.	B06	11/24/2008	B6-112408-42	-	42 to 46	3.1	1 U	1 U	1 U	69
		11/24/2008	B6-112408-46	-	46 to 50	8.3	1 U	1 U	1 U	67
		11/24/2008	B6-112408-50	-	50 to 54	1 U	1 U	1 U	1 U	64
		11/24/2008	B6-112408-54	-	54 to 58	0.2 U	0.2 U	0.2 U	0.2 U	1.9
		11/24/2008	Dup-B6-112408-54	-	54 to 58	0.2 U	0.2 U	0.2 U	0.2 U	1.9
		11/24/2008	B6-112408-58	-	58 to 62	0.2 U	0.2 U	0.2 U	0.2 U	0.21
		11/25/2008	B6-112508-62	-	62 to 66	0.2 U	0.2 U	0.2 U	0.2 U	0.76
	11/25/2008	B6-112508-66	-	66 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
	B07	11/13/2008	B7-111308-40	-	40 to 44	0.2 U	0.2 U	0.2 U	0.2 U	11
		11/13/2008	B7-111308-44	-	44 to 48	0.2 U	0.2 U	0.2 U	0.24	4.9
		11/13/2008	B7-111308-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.99	24
		11/13/2008	B7-111308-52	-	52 to 56	0.2 U	0.2 U	0.2 U	0.24	0.2 U
		11/14/2008	B7-111408-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		11/14/2008	B7-111408-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		11/14/2008	B7-111408-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	11/14/2008	Dup-B7-111408-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
	B08	11/25/2008	B8-112508-40	-	40 to 44	4	0.61	0.2 U	21	17
		11/25/2008	Dup-B8-112508-40	-	40 to 44	3.8	0.61	0.2 U	21	17
		11/25/2008	B8-112508-44	-	44 to 48	12	1.3	0.4 U	100	11
		11/26/2008	B8-112608-48	-	48 to 52	29	4 U	4 U	580	8.1
		11/26/2008	B8-112608-52	-	52 to 56	16	1.1	0.2 U	37	8.9
		11/26/2008	B8-112608-56	-	56 to 60	27	1.9	0.4 U	92	8.5
		11/26/2008	B8-112608-60	-	60 to 64	2.4	0.2 U	0.2 U	8.1	1.5
	11/26/2008	B8-112608-64	-	64 to 68	2.7	0.2 U	0.2 U	3.6	2.1	
	B09	11/18/2008	B9-111808-42	-	42 to 46	75	21	0.4 U	36	1.9
		11/18/2008	B9-111808-46	-	46 to 50	0.6	0.2 U	0.2 U	2.5	0.2 U
		11/18/2008	Dup-B9-111808-46	-	46 to 50	0.54	0.2 U	0.2 U	2.3	0.2 U
		11/18/2008	B9-111808-50	-	50 to 54	0.8	0.2 U	0.2 U	5	0.2 U
		11/18/2008	B9-111808-54	-	54 to 58	0.26	0.2 U	0.2 U	1.4	0.2 U
		11/18/2008	B9-111808-58	-	58 to 62	0.46	0.2 U	0.2 U	2.5	0.2 U
		11/18/2008	B9-111808-62	-	62 to 66	0.57	0.2 U	0.2 U	3.1	0.2 U
	11/18/2008	B9-111808-66	-	66 to 70	0.21	0.2 U	0.2 U	1.8	0.63	
	B10	11/21/2008	B10-112108-40	-	40 to 44	3.1	2 U	2 U	2 U	270
		11/21/2008	B10-112108-44	-	44 to 48	2 U	2 U	2 U	2 U	190
		11/21/2008	B10-112108-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.2 U	20
		11/21/2008	B10-112108-52	-	52 to 56	0.4 U	0.4 U	0.4 U	0.4 U	56
		11/21/2008	B10-112108-56	-	56 to 60	0.4 U	0.4 U	0.4 U	0.4 U	42
		11/21/2008	B10-112108-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	11/21/2008	B10-112108-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
MTCA Method C Modified Screening Levels-Intermediate Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>

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**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Capital Industries, Inc. (continued)	B11	11/19/2008	B11-111908-40	-	40 to 44	1 U	1 U	1 U	1 U	130
		11/19/2008	B11-111908-44	-	44 to 48	1 U	1 U	1 U	1 U	120
		11/19/2008	B11-111908-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.2 U	35
		11/20/2008	B11-112008-52	-	52 to 56	0.4 U	0.4 U	0.4 U	0.4 U	36
		11/20/2008	B11-112008-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	12
		11/20/2008	B11-112008-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.2 U	0.55
		11/20/2008	Dup-B11-112008-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.2 U	0.51
	B12	11/20/2008	B11-112008-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.27
		12/08/2008	B12-120808-40	-	40 to 44	0.2 U	0.2 U	0.2 U	0.73	0.2 U
		12/08/2008	B12-120808-44	-	44 to 48	0.2 U	0.2 U	0.2 U	0.2 U	0.32
		12/08/2008	B12-120808-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.22	0.2 U
		12/08/2008	B12-120808-52	-	52 to 56	0.2 U	0.2 U	0.2 U	0.2 U	1.2
		12/09/2008	B12-120908-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	1.4
		12/09/2008	Dup-B12-120908-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	1.3
	B13	12/09/2008	B12-120908-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.24	2.9
		12/09/2008	B12-120908-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.24	0.56
		12/01/2008	B13-120108-42	-	42 to 46	0.47	0.2 U	0.2 U	0.2 U	5.2
		12/01/2008	B13-120108-46	-	46 to 50	0.2 U	0.2 U	0.2 U	0.21	12
		12/02/2008	B13-120208-50	-	50 to 54	0.2 U	0.2 U	0.2 U	0.2 U	11
		12/02/2008	B13-120208-54	-	54 to 58	0.2 U	0.2 U	0.2 U	0.2 U	1
		12/02/2008	B13-120208-58	-	58 to 62	0.2 U	0.2 U	0.2 U	0.2 U	2.1
	B14	12/02/2008	Dup-B13-120208-58	-	58 to 62	0.2 U	0.2 U	0.2 U	0.2 U	2
		12/02/2008	B13-120208-62	-	62 to 66	0.2 U	0.2 U	0.2 U	0.2 U	2.5
		12/02/2008	B13-120208-66	-	66 to 70	0.2 U	0.2 U	0.2 U	0.2 U	2.3
		12/05/2008	B14-120508-40	-	40 to 44	0.2 U	0.2 U	0.2 U	0.2 U	0.25
		12/05/2008	B14-120508-44	-	44 to 48	0.2 U	0.2 U	0.2 U	0.2 U	0.3
		12/05/2008	Dup-B14-120508-44	-	44 to 48	0.2 U	0.2 U	0.2 U	0.2 U	0.29
		12/05/2008	B14-120508-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B15	12/05/2008	B14-120508-52	-	52 to 56	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		12/05/2008	B14-120508-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		12/05/2008	B14-120508-60	-	60 to 64	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
		12/05/2008	B14-120508-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		12/03/2008	B15-120308-40	-	40 to 44	3.4	0.2 U	0.2 U	0.2 U	9.9
		12/03/2008	B15-120308-44	-	44 to 48	1.4	0.2 U	0.2 U	0.2 U	11
		12/04/2008	B15-120408-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.2 U	5.6
		12/04/2008	B15-120408-52	-	52 to 56	0.2 U	0.2 U	0.2 U	0.2 U	10
12/04/2008		B15-120408-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	7.5	
	12/04/2008	B15-120408-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.2 U	2.5	
	12/04/2008	B15-120408-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	3.4	
	12/04/2008	Dup-B15-120408-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	3.3	
MTCA Method C Modified Screening Levels-Intermediate Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>

**Table 9**  
**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>					
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	
Capital Industries, Inc. (continued)	B16	11/12/2008	B16-111208-40	-	40 to 44	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		11/12/2008	B16-111208-44	-	44 to 48	0.2 U	0.2 U	0.2 U	0.2 U	0.22	
		11/12/2008	B16-111208-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		11/12/2008	B16-111208-52	-	52 to 56	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		11/12/2008	Dup-B16-111208-52	-	52 to 56	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		11/12/2008	B16-111208-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		11/12/2008	B16-111208-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.2 U	0.46	
	B17	11/12/2008	B16-111208-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		11/10/2008	B17-111008-40	-	40 to 44	0.2 U	0.2 U	0.2 U	0.2 U	3.3	
		11/10/2008	Dup-B17-111008-40	-	40 to 44	0.2 U	0.2 U	0.2 U	0.2 U	3.1	
		11/10/2008	B17-111008-44	-	44 to 48	0.2 U	0.2 U	0.2 U	0.2 U	1.3	
		11/10/2008	B17-111008-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.2 U	0.23	
		11/11/2008	B17-111108-52	-	52 to 56	0.2 U	0.2 U	0.2 U	0.2 U	0.25	
		11/11/2008	B17-111108-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.37	
		11/11/2008	B17-111108-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.2 U	0.79	
	B19	11/11/2008	B17-111108-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.35	
		11/11/2008	B17-111108-68	-	68 to 72	0.2 U	0.2 U	0.2 U	0.2 U	1.5	
		06/30/2009	B19-063009-46	-	46 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		06/30/2009	B19-063009-52	-	52 to 56	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		06/30/2009	B19-063009-62	-	62 to 66	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
	B20	06/30/2009	B19-063009-68	-	68 to 72	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		06/30/2009	B19-063009-74	-	74 to 78	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		07/07/2009	DUP-B20-070709-36	-	36 to 40	0.36	0.2 U	0.2 U	0.2 U	9.9	
		07/07/2009	B20-070709-42	-	42 to 46	0.2 U	0.2 U	0.2 U	0.2 U	4.1	
		07/07/2009	B20-070709-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		07/07/2009	B20-070709-54	-	54 to 58	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
	B21	07/07/2009	B20-070709-60	-	60 to 64	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		07/07/2009	B20-070709-66	-	66 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		07/06/2009	DUP-B21-070609-38	-	38 to 42	0.2 U	0.2 U	0.2 U	0.2 U	2.2	
		07/06/2009	B21-070609-46	-	46 to 50	0.2 U	0.2 U	0.2 U	0.2 U	1.6	
		07/06/2009	B21-070609-52	-	52 to 56	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	1.5 J	
		07/06/2009	B21-070609-62	-	62 to 66	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	1.4 J	
							0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
							0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
MTCA Method C Modified Screening Levels-Intermediate Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>	

**Table 9**  
**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Capital Industries, Inc. (continued)	B22	07/09/2009	B22-070909-40	-	40 to 44	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/09/2009	B22-070909-46	-	46 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/09/2009	B22-070909-54	-	54 to 58	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/09/2009	B22-070909-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/09/2009	DUP-B22-070909-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B23	07/01/2009	DUP-B23-070109-28	-	28 to 32	380	3.2	2 U	<b>32</b>	<b>2.8</b>
		07/01/2009	B23-070109-40	-	40 to 44	310	2.4	2 U	3.8	<b>13</b>
		07/01/2009	B23-070109-46	-	46 to 50	27	0.2 U	0.2 U	0.2 U	<b>8.7</b>
		07/01/2009	B23-070109-52	-	52 to 56	57	0.45	0.4 U	0.4 U	<b>11</b>
		07/01/2009	B23-070109-58	-	58 to 62	0.31	0.2 U	0.2 U	0.2 U	0.2 U
		07/01/2009	B23-070109-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/01/2009	B23-070109-70	-	70 to 74	0.41	0.2 U	0.2 U	0.21	0.2 U
	B24	07/02/2009	DUP-B24-070209-24	-	24 to 28	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/02/2009	B24-070209-42	-	42 to 46	0.2 U	0.2 U	0.2 U	0.2 U	1.1
		07/02/2009	B24-070209-50	-	50 to 54	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		07/02/2009	B24-070209-58	-	58 to 62	0.2 U	0.2 U	0.2 U	0.2 U	0.22
		07/02/2009	B24-070209-66	-	66 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B27	06/29/2009	B27-062909-44	-	44 to 48	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/29/2009	B27-062909-48	-	48 to 52	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/29/2009	B27-062909-56	-	56 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/29/2009	B27-062909-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	B28	07/08/2009	B28-070809-40	-	40 to 44	97	0.51	0.4 U	0.4 U	<b>61</b>
		07/08/2009	B28-070809-48	-	48 to 52	53	0.27	0.2 U	0.2 U	<b>35</b>
		07/08/2009	DUP-B28-070809-48	-	48 to 52	55	0.2	0.2 U	0.2 U	<b>36</b>
		07/08/2009	B28-070809-56	-	56 to 60	9.3	0.2 U	0.2 U	0.2 U	<b>28</b>
		07/08/2009	B28-070809-64	-	64 to 68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Blaser Die Casting	BDC-7-60A	11/16/2009	BDC-7-60A	-35 to -38	50 to 53	6.3	0.02 U	0.02 U	0.02 U	<b>17</b>
	BDC-7-60B	11/16/2009	BDC-7-60B	-39 to -42	54 to 57	5.7	0.02 U	0.02 U	0.051	<b>16</b>
	BDC-7-60C	11/16/2009	BDC-7-60C	-42 to -45	57 to 60	1.4	0.02 U	0.02 U	0.053	<b>24</b>
	BDC-9-60A	11/16/2009	BDC-9-60A	-35 to -38	50 to 53	0.36	0.02 U	0.02 U	0.02 U	0.97
	BDC-9-60B	11/16/2009	BDC-9-60B	-39 to -42	54 to 57	0.12	0.02 U	0.02 U	0.02 U	0.034
	BDC-9-60C	11/16/2009	BDC-9-60C	-42 to -45	57 to 60	0.85	0.02 U	0.02 U	0.02 U	1.2
	CG-136-60A	11/16/2009	CG-136-60A	-35 to -38	50 to 53	0.027	0.02 U	0.02 U	0.069	0.25
	CG-136-60B	11/16/2009	CG-136-60B	-39 to -42	54 to 57	0.086	0.02 U	0.02 U	0.1	<b>3.2</b>
	CG-136-60C	11/16/2009	CG-136-60C	-42 to -45	57 to 60	0.26	0.02 U	0.02 U	0.056	<b>26</b>
	CG-136-66	05/30/2012	CG-136-66	-63 to -66	-	0.02 U	0.02 U	0.02 U	0.072	0.19
MTCA Method C Modified Screening Levels-Intermediate Zone						<b>590</b> <sup>5</sup>	<b>3,500</b> <sup>8</sup>	<b>3.3</b> <sup>7</sup>	<b>30</b> <sup>7</sup>	<b>1.69</b> <sup>8</sup>



**Table 9**  
**Analytical Results for HVOCs in Reconnaissance Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Reconnaissance Groundwater Analytical Results (µg/l) <sup>3</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
'Blaser Die Casting (continued)	PGG-33B-42	09/09/2008	PGG-33B-42	-	-	51	0.26	0.02 U	0.02 U	<b>44</b>
	PGG-33B-46	09/09/2008	PGG-33B-46	-	-	46	0.26	0.02 U	0.02 U	<b>31</b>
	PGG-33B-50	09/09/2008	PGG-33B-50	-	-	8.4	0.06	0.02 U	0.02 U	<b>6.4</b>
	PGG-33B-54	09/09/2008	PGG-33B-54	-	-	24	0.1	0.02 U	0.02 U	<b>16</b>
	PGG-33B-57	09/09/2008	PGG-33B-57	-	-	0.74	0.02 U	0.02 U	0.02 U	0.64
	PGG-34-46	09/09/2008	PGG-34-46	-	-	0.35	0.02 U	0.02 U	0.02 U	0.96
	PGG-34-50	09/09/2008	PGG-34-50	-	-	0.087	0.02 U	0.02 U	0.02 U	0.8
	PGG-34-54	09/09/2008	PGG-34-54	-	-	0.17	0.02 U	0.02 U	0.02 U	0.37
	PGG-34-57	09/09/2008	PGG-34-57	-	-	0.13	0.02 U	0.02 U	0.02 U	0.24
	PGG-35-42	09/08/2008	PGG-35-42	-	-	0.091	0.02 U	0.02 U	0.062	1
	PGG-35-46	09/08/2008	PGG-35-46	-	-	2	0.02 U	0.032	0.02 U	<b>13</b>
	PGG-35-50	09/08/2008	PGG-35-50	-	-	7.5	0.027	0.054	0.02 U	<b>36</b>
	PGG-35-54	09/08/2008	PGG-35-54	-	-	0.87	0.02 U	0.032	0.039	<b>50</b>
	PGG-35-57	09/08/2008	PGG-35-57	-	-	0.1	0.02 U	0.042	0.027	<b>9.2</b>
	PGG-36-42	09/09/2008	PGG-36-42	-	-	63	0.22	0.02 U	0.039	<b>4.5</b>
	PGG-36-46	09/09/2008	PGG-36-46	-	-	52	0.2	0.02 U	0.026	<b>7.4</b>
	PGG-36-50	09/09/2008	PGG-36-50	-	-	0.59	0.02 U	0.02 U	0.07	0.82
	PGG-36-54	09/09/2008	PGG-36-54	-	-	0.17	0.02 U	0.02 U	0.021	<b>6.3</b>
	PGG-36-57	09/09/2008	PGG-36-57	-	-	0.25	0.02 U	0.02 U	0.02 U	1.2
	PGG-37-42	09/08/2008	PGG-37-42	-	-	0.57	0.02 U	0.02 U	0.29	<b>5.1</b>
	PGG-37-46	09/08/2008	PGG-37-46	-	-	0.21	0.02 U	0.02 U	0.13	<b>7.5</b>
	PGG-37-50	09/08/2008	PGG-37-50	-	-	0.45	0.02 U	0.02 U	0.068	<b>18</b>
	PGG-37-54	09/08/2008	PGG-37-54	-	-	0.61	0.02 U	0.02 U	0.6	<b>11</b>
	PGG-37-57	09/08/2008	PGG-37-57	-	-	1	0.032	0.02 U	1.4	<b>3.5</b>
	PGG-34-42	09/09/2008	PGG-34-42	-	-	11	0.057	0.02 U	0.02 U	<b>14</b>
<b>MTCA Method C Modified Screening Levels-Intermediate Zone</b>						<b>590</b> <sup>5</sup>	<b>3,500</b> <sup>8</sup>	<b>3.3</b> <sup>7</sup>	<b>30</b> <sup>7</sup>	<b>1.69</b> <sup>8</sup>

**NOTES:**

Results in **bold** denote concentrations above applicable cleanup levels (Table 2)

Results in *italics* denote concentrations are non-detect but above applicable screening levels (Table 2).

<sup>1</sup>Areas where the potentially liable parties have conducted their respective remedial investigations in accordance with their respective

<sup>2</sup>Vertical Datum is NAVD88.

<sup>3</sup>Depth in feet below ground surface.

<sup>4</sup>Analyzed by U.S. Environmental Protection Agency Method 8260B.

<sup>5</sup>Buchman, M.F. 2008. NOAA Screening Quick Reference Tables. NOAA OR&R Report 08-1, Seattle, Washington. Office of Response and Restoration Division, National Oceanic and Atmospheric Administration.

<sup>6</sup>MTCA Cleanup Levels and Risk Calculations, Method B Values for Residential Exposure scenarios for inhalation of indoor air exposure pathway.

<sup>7</sup>Applicable or Relevant and Appropriate Requirement (ARAR) Ambient Water Quality Criteria.

<sup>8</sup>Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations Method B Modified based on Asian Pacific Island (API) Exposure scenarios for the consumption of fish for the groundwater-to-surface water pathway using equation 730-2.

DCE = dichloroethene

HVOCs = halogenated volatile organic compounds

Intermediate Zone = Groundwater collected from 40 to 70 feet below ground surface

J = Value reported was below the practical quantitation limit. The value is an estimate.

µg/l = micrograms per liter

PCE = tetrachloroethene

Shallow Zone = Groundwater collected from 20 to 40 feet below ground surface.

TCE = trichloroethene

U = Result is less than laboratory practical quantitative limit or not detected at or above the reporting limit listed.

Water Table Zone = Groundwater collected from the first encountered groundwater to 20 feet below ground surface.

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>							
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chlorid			
Water Table Zone													
Capital Industries, Inc.	CG-137-WT	03/25/2010	CG-137-WT-032510	5.75 to -4.25	10 to 20	49	9.8	0.4 U	98	3.3			
		03/25/2010	DUP-CG-137-WT-032510	5.75 to -4.25	10 to 20	47	9.6	0.4 U	98	3.1			
		06/18/2010	CG-137-WT-061810	5.75 to -4.25	10 to 20	0.4 U	0.4 U	0.4 U	0.4 U	68			
		09/30/2010	CG-137-WT-093010	5.75 to -4.25	10 to 20	50	9.7	0.4 U	92	1.4			
		12/15/2010	CI-137-WT-121510	5.75 to -4.25	10 to 20	48	9.4	1 U	93	4.2			
		03/16/2011	CG-137-WT-031611	5.75 to -4.25	10 to 20	47	8.6	1 U	82	2			
		09/30/2011	CG-137-WT-093011	5.75 to -4.25	10 to 20	38	9	0.4 U	76	1.6			
		09/30/2011	DUP-093011	5.75 to -4.25	10 to 20	39	9.5	0.4 U	78	1.5			
		05/04/2012	CG-137-WT-050412	5.75 to -4.25	10 to 20	46	8.7	0.4 U	62	0.83			
	CG-141-WT	03/23/2010	CG-141-WT-032310	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		06/15/2010	CG-141-WT-061510	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		06/15/2010	DUP-CG-141-WT-061510	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		09/29/2010	CG-141-WT-092910	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		09/29/2010	DUP-CG-141-WT-092910	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		12/16/2010	CG-141-WT-121610	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		12/16/2010	CG-141-WT-121610-DUP	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		03/14/2011	CG-141-WT-031411	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		03/14/2011	DUP-CG-141-WT-031411	7.01 to -2.99	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
	CI-10-WT	03/24/2010	CI-10-WT-032410	5.68 to -4.32	10 to 20	7.5	0.39	0.2 U	32	0.2 U			
		06/17/2010	CI-10-WT-061710	5.68 to -4.32	10 to 20	17	0.79	0.2 U	39	0.2 U			
		09/29/2010	CI-10-WT-092910	5.68 to -4.32	10 to 20	19	0.78	0.4 U	51	0.4 U			
		12/14/2010	CI-10-WT-121410	5.68 to -4.32	10 to 20	35	1.9	0.4 U	87	0.4 U			
		03/17/2011	CI-10-WT-031711	5.68 to -4.32	10 to 20	26	1.1	0.2 U	45	0.21			
		09/29/2011	CI-10-WT-092911	5.68 to -4.32	10 to 20	21	1	0.4 U	54	0.4 U			
		05/03/2012	CI-10-WT-050312	5.68 to -4.32	10 to 20	31	1.3	0.2 U	36	0.2 U			
	CI-11-WT	06/15/2010	CI-11-WT-061510	3.42 to -6.58	10 to 20	0.32	0.2 U	0.2 U	0.2 U	2			
		09/27/2010	CI-11-WT-092710	3.42 to -6.58	10 to 20	0.23	0.2 U	0.2 U	0.2 U	1.4			
		12/14/2010	CI-11-WT-121410	3.42 to -6.58	10 to 20	0.29	0.2 U	0.2 U	0.2 U	1.4			
		03/17/2011	CI-11-WT-031711	3.42 to -6.58	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		09/29/2011	CI-11-WT-092911	3.42 to -6.58	10 to 20	0.26	0.2 U	0.2 U	0.2 U	0.67			
		05/03/2012	CI-11-WT-050312	3.42 to -6.58	10 to 20	0.29	0.2 U	0.2 U	0.2 U	0.91			
	CI-12-WT	05/03/2012	QA/QC-3-050312	3.42 to -6.58	10 to 20	0.33	0.2 U	0.2 U	0.2 U	0.88			
		03/23/2010	CI-12-WT-032310	5.44 to -4.56	10 to 20	0.2 U	0.2 U	0.2 U	0.38	0.59			
		06/15/2010	CI-12-WT-061510	5.44 to -4.56	10 to 20	0.2 U	0.2 U	0.2 U	0.33	0.31			
		09/28/2010	CI-12-WT-092810	5.44 to -4.56	10 to 20	0.2 U	0.2 U	0.2 U	0.21	0.2 U			
		12/15/2010	CI-12-WT-121510	5.44 to -4.56	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
		03/18/2011	CI-12-WT-031811	5.44 to -4.56	10 to 20	0.22	0.2 U	0.2 U	0.38	10			
05/02/2012						CI-12-WT-050212	5.44 to -4.56	10 to 20	0.28	0.2 U	0.2 U	0.58	3.6
MTCA Method C Modified Screening Levels-Water Table Zone						590 <sup>5</sup>	56 <sup>6</sup>	3.3 <sup>7</sup>	6.8 <sup>6</sup>	1.28 <sup>6</sup>			

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Capital Industries, Inc. (Continued)	CI-13-WT	06/17/2010	CI-13-WT-061710	5.58 to -4.42	10 to 20	0.26	0.2 U	0.2 U	0.2 U	0.2 U
		09/28/2010	CI-13-WT-092810	5.58 to -4.42	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		12/15/2010	CI-13-WT-121510	5.58 to -4.42	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		03/17/2011	CI-13-WT-031711	5.58 to -4.42	10 to 20	0.97	0.2 U	0.2 U	0.2 U	0.2 U
		09/28/2011	CI-13-WT-092811	5.58 to -4.42	10 to 20	0.29	0.2 U	0.2 U	0.2 U	0.2 U
		05/04/2012	CI-13-WT-050412	5.58 to -4.42	10 to 20	2.4	0.2 U	0.2 U	0.2 U	0.2 U
		05/04/2012	QA/QC-4-050412	5.58 to -4.42	10 to 20	2.3	0.2 U	0.2 U	0.2 U	0.2 U
	CI-14-WT	06/16/2010	CI-14-WT-061610	5.08 to -4.92	10 to 20	3	0.22	0.2 U	1.2	0.2 U
		09/28/2010	CI-14-WT-092810	5.08 to -4.92	10 to 20	3	0.25	0.2 U	1.7	0.2 U
		12/15/2010	CI-14-WT-121510	5.08 to -4.92	10 to 20	48	0.4 U	0.4 U	0.46	<b>1.5</b>
		03/17/2011	CI-14-WT-031711	5.08 to -4.92	10 to 20	15	0.28	0.2 U	0.99	0.2 U
		05/03/2012	CI-14-20-050312	5.08 to -4.92	10 to 20	1.8	0.2 U	0.2 U	1.3	0.2 U
	CI-16-WT	05/02/2012	CI-16-WT-050212	4.4 to -5.6	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/25/2012	CI-16-WT-062512	4.4 to -5.6	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	CI-17-WT	05/02/2012	CI-17-WT-050212	4.72 to -5.28	10 to 20	2.2	0.2 U	<b>5.2</b>	2.2	0.76
		06/25/2012	CI-17-WT-062512	4.72 to -5.28	10 to 20	1.8	0.2 U	0.85	2	0.58
	CI-18-WT	05/02/2012	CI-18-WT-050212	6.73 to -3.27	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/25/2012	CI-18-WT-062512	6.73 to -3.27	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	CI-19-WT	05/02/2012	CI-19-WT-050212	5.79 to -4.21	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/25/2012	CI-19-WT-062512	5.79 to -4.21	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/16/2010	CI-9-WT-061610	5.83 to -4.17	10 to 20	3.8	0.2 U	1.8	<b>26</b>	0.2 U
	CI-9-WT	09/29/2010	CI-9-WT-092910	5.83 to -4.17	10 to 20	4.6	0.2 U	2.7	<b>36</b>	0.2 U
		12/14/2010	CI-9-WT-121410	5.83 to -4.17	10 to 20	4.3	0.2 U	3.2	<b>34</b>	0.2 U
		03/15/2011	CI-9-WT-031511	5.83 to -4.17	10 to 20	4.3	0.2 U	0.74	<b>18</b>	0.2 U
		09/29/2011	CI-9-WT-092911	5.83 to -4.17	10 to 20	4.1	0.2 U	<b>3.4</b>	<b>36</b>	0.2 U
		05/04/2012	CI-9-WT-050412	5.83 to -4.17	10 to 20	3.9	0.2 U	1.7	<b>23</b>	0.2 U
	CI-MW-1-WT	06/16/2010	CI-MW-1-WT-061610	6.45 to -3.55	10 to 20	19	0.5	0.34	<b>9.5</b>	0.2 U
		09/29/2010	CI-MW-1-WT-092910	6.45 to -3.55	10 to 20	22	0.68	0.36	<b>11</b>	0.2 U
		12/21/2010	CI-MW-1-WT-122110	6.45 to -3.55	10 to 20	16	0.5	0.24	<b>10</b>	0.2 U
		03/15/2011	CI-MW-1-WT-031511	6.45 to -3.55	10 to 20	11	0.43	0.47	<b>10</b>	0.2 U
	MW-2	03/25/2010	MW-2-032510	6.58 to -3.42	10 to 20	21	3	0.4 U	<b>73</b>	0.67
		06/17/2010	MW-2-061710	6.58 to -3.42	10 to 20	10	3	0.4 U	<b>68</b>	0.4 U
		09/30/2010	MW-2-093010	6.58 to -3.42	10 to 20	52	7.5	0.4 U	<b>77</b>	<b>3.4</b>
		12/15/2010	MW-2-121510	6.58 to -3.42	10 to 20	12	5.5	0.4 U	<b>63</b>	0.56
		03/16/2011	MW2-031611	6.58 to -3.42	10 to 20	11	3.2	0.4 U	<b>59</b>	0.67
	MW-3	03/25/2010	MW-3-032510	5.85 to -4.15	10 to 20	30	0.2 U	0.2 U	4.5	0.51
06/16/2010		MW-3-061610	5.85 to -4.15	10 to 20	33	0.26	0.2 U	4.6	0.65	
09/29/2010		MW-3-092910	5.85 to -4.15	10 to 20	39	0.3	0.2 U	5.1	0.65	
12/15/2010		MW-3-121510	5.85 to -4.15	10 to 20	32	0.27	0.2 U	4.3	0.48	
03/16/2011		MW3-031611	5.85 to -4.15	10 to 20	24	0.21	0.2 U	4.6	0.28	
MTCA Method C Modified Screening Levels-Water Table Zone						<b>590</b> <sup>5</sup>	<b>56</b> <sup>6</sup>	<b>3.3</b> <sup>7</sup>	<b>6.8</b> <sup>6</sup>	<b>1.28</b> <sup>6</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Capital Industries, Inc. (continued)	MW-4	03/25/2010	MW-4-032510	5.73 to -4.27	10 to 20	1.1	0.2 U	0.2 U	1.7	0.67
		06/17/2010	MW-4-061710	5.73 to -4.27	10 to 20	1.2	0.2 U	0.2 U	2.5	0.2 U
		09/29/2010	MW-4-092910	5.73 to -4.27	10 to 20	2	0.2 U	0.2 U	2.4	0.34
		12/15/2010	MW-4-121510	5.73 to -4.27	10 to 20	3.3	0.2 U	0.2 U	4.4	0.36
	MW-5	03/24/2010	MW-5-032410	6.02 to -3.98	10 to 20	79	1.6	1 U	110	2.6
		06/16/2010	MW-5-061610	6.02 to -3.98	10 to 20	100	2.2	1 U	130	5.1
		09/29/2010	MW-5-092910	6.02 to -3.98	10 to 20	130	2	1 U	120	4.2
		12/16/2010	MW-5-121610	6.02 to -3.98	10 to 20	95	1.9	1 U	110	2.5
		03/15/2011	MW-5-031511	6.02 to -3.98	10 to 20	53	1.2	1 U	87	1.2
	MW-6	03/24/2010	MW-6-032410	7.52 to -2.48	10 to 20	1.3	0.2 U	11	7	0.2 U
		06/17/2010	MW-6-061710	7.52 to -2.48	10 to 20	3.9	0.2 U	5.5	6.8	0.2 U
		09/28/2010	MW-6-092810	7.52 to -2.48	10 to 20	0.28	0.2 U	10	5.3	0.2 U
		12/16/2010	MW-6-121610	7.52 to -2.48	10 to 20	2.7	0.2 U	11	6.8	0.2 U
		03/18/2011	MW-6-031811	7.52 to -2.48	10 to 20	0.83	0.2 U	6.2	3.4	0.2 U
	MW-7	03/24/2010	MW-7-032410	7.04 to -2.96	10 to 20	5.9	0.2 U	22	17	0.2 U
		06/17/2010	DUP-MW-7-061710	7.04 to -2.96	10 to 20	6.2	0.2 U	13 J	9.3	0.38
		06/17/2010	MW-7-061710	7.04 to -2.96	10 to 20	5.8	0.2 U	9.4 J	8.1	0.43
		09/30/2010	DUP-MW-7-093010	7.04 to -2.96	10 to 20	3.8	0.2 U	18	9.6	0.45
		09/30/2010	MW-7-093010	7.04 to -2.96	10 to 20	3.8	0.2 U	17	9.7	0.44
		12/14/2010	MW-7-121410	7.04 to -2.96	10 to 20	4.3	0.2 U	2.4 J	6.5	0.57
		12/14/2010	MW-7-121410-DUP	7.04 to -2.96	10 to 20	4.3	0.2 U	3.5 J	5.8	0.47
		03/15/2011	DUP-MW-7-031511	7.04 to -2.96	10 to 20	3.3	0.2 U	5.8	7.9	0.22
		03/15/2011	MW-7-031511	7.04 to -2.96	10 to 20	3.5	0.2 U	5.3	7.3	0.28
		09/29/2011	MW-7-092911	7.04 to -2.96	10 to 20	3.4	0.2 U	17	9.2	0.39
	MW-8	05/04/2012	MW-7-050412	7.04 to -2.96	10 to 20	2.9	0.2 U	26	19	0.2 U
		03/24/2010	MW-8-032410	6.77 to -3.23	10 to 20	0.26	0.2 U	0.2 U	0.2 U	0.2 U
		06/16/2010	MW-8-061610	6.77 to -3.23	10 to 20	0.3	0.2 U	0.2 U	0.2 U	0.2 U
		09/30/2010	MW-8-093010	6.77 to -3.23	10 to 20	0.63	0.2 U	0.2 U	0.2 U	0.2 U
		12/16/2010	MW-8-121610	6.77 to -3.23	10 to 20	0.75	0.2 U	0.2 U	0.21	0.2 U
		03/15/2011	MW-8-031511	6.77 to -3.23	10 to 20	0.44	0.2 U	0.2 U	0.2 U	0.2 U
		09/29/2011	MW-8-092911	6.77 to -3.23	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		05/04/2012	MW-8-050412	6.77 to -3.23	10 to 20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Blaser Die Casting	BDC-11-WT	06/03/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	0.1	0.02 U	0.02 U	0.052	0.02 U
		08/18/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	0.15	0.02 U	0.02 U	0.054	0.02 U
		11/17/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	0.088	0.02 U	0.02 U	0.068	0.02 U
		02/24/2010	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	0.084	0.02 U	0.02 U	0.037	0.02 U
		03/01/2011	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	0.057	0.02 U	0.02 U	0.037	0.02 U
		10/18/2011	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	0.16	0.02 U	0.02 U	0.04	0.02 U
		04/13/2012	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	0.096	0.02 U	0.02 U	0.042	0.02 U
	BDC-1-WT	02/01/2008	BDC-1	11.18 to 1.18	5.9 to 15.9	0.2 U	0.2 U		0.2 U	0.2 U
		02/24/2010	BDC-1-WT	11.18 to 1.18	5.9 to 15.9	0.032	0.02 U	0.02 U	0.02 U	0.02 U
		01/27/2011	BDC-1-WT	11.18 to 1.18	5.9 to 15.9	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
MTCA Method C Modified Screening Levels-Water Table Zone						590 <sup>5</sup>	56 <sup>6</sup>	3.3 <sup>7</sup>	6.8 <sup>6</sup>	1.28 <sup>6</sup>

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**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chlorid
Blaser Die Casting (Continued)	BDC-2-WT	02/01/2008	BDC-2	9.33 to -0.67	6.4 to 16.4	15	3.7		86	0.4
		06/02/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	36	5.5	0.2 U		1.5
		08/18/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	13	3.2	0.02 U	40	0.38
		11/16/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	13	3.9	0.02 U	58	0.14
		02/24/2010	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	23	3.5	0.2 U	45	2.5
		01/27/2011	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	26	3.2	0.02 U	51	3
		03/01/2011	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	27	3.5	0.02 U	53	3.3
		10/18/2011	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	6.6	2	0.02 U	35	0.098
	BDC-3-WT	04/12/2012	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	14	2.5	0.02 U	39	4.3
		02/01/2008	BDC-3	7.89 to 2.89	7.4 to 12.4	52	6		75	5
		06/02/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	59	13	0.2 U	110	3.6
		08/18/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	27	9.1	0.2 U	87	0.2
		11/16/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	17	5.2	0.02 U	57	0.11
		02/24/2010	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	60	8.6	0.2 U	100	9.2
		03/01/2011	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	29	4.2	0.02 U	48	3.4
		10/18/2011	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	9.8	2.8	0.02 U	27	0.063
	BDC-4-WT	04/12/2012	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	25	3.7	0.02 U	32	3.2
		02/01/2008	BDC-4	11.43 to 1.43	6.4 to 16.4	0.2 U	0.2 U		0.2 U	0.2 U
		06/02/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	0.041	0.02 U	0.02 U	0.02 U	0.02 U
		08/18/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	0.028	0.02 U	0.02 U	0.02 U	0.02 U
		11/17/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
		02/24/2010	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	0.042	0.02 U	0.02 U	0.02 U	0.02 U
		03/01/2011	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	0.029	0.02 U	0.02 U	0.02 U	0.02 U
		10/18/2011	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
	BDC-6-WT	04/12/2012	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	0.021	0.02 U	0.02 U	0.02 U	0.036
		02/01/2008	BDC-6	8.85 to -1.15	9.4 to 19.4	110	6.4		230	8.5
		06/02/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	69	4.8	0.2 U	200	12
		08/18/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	43	3.4	0.2 U	150	20
		11/16/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	56	4.5	1 U	160	12
		02/24/2010	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	110	7	0.2 U	180	13
		01/27/2011	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	130	7.3	1 U	160	4.3
		03/01/2011	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	120	7.8	0.2 U	170	4.6
		10/18/2011	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	83	5.5	0.1 U	140	5.3
	CG-136-WT	04/13/2012	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	92	6.5 E	0.02 U	140	7.7
		06/02/2009	CG-136-WT	7.67 to -2.33	7.36 to 17.36	46	1.4	1	14	0.36
		11/16/2009	CG-136-WT	7.67 to -2.33	7.36 to 17.36	45	1.2	0.88	16	0.059
		03/02/2011	CG-136-WT	7.67 to -2.33	7.36 to 17.36	27	0.96	0.77	9.4	0.026
		10/19/2011	CG-136-WT	7.67 to -2.33	7.36 to 17.36	31	0.82	0.81	13	0.031
		04/11/2012	CG-136-WT	7.67 to -2.33	7.36 to 17.36	23	0.8	0.78	8.7	0.03
	CI-MW-1-WT	06/03/2009	CI-MW-1-WT	9.34 to -0.66	7.11 to 17.11	34	0.8	0.6	13	0.12
		11/16/2009	CI-MW-1-WT	9.34 to -0.66	7.11 to 17.11	28	0.63	0.38	11	0.045
		04/12/2012	CI-MW-1-WT	9.34 to -0.66	7.11 to 17.11	6.6	0.26	0.37	8.4	0.02 U
MTCA Method C Modified Screening Levels-Water Table Zone						590 <sup>5</sup>	56 <sup>6</sup>	3.3 <sup>7</sup>	6.8 <sup>6</sup>	1.28 <sup>6</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Art Brass Plating	MW-24	03/14/2011	MW-2-031411	12.66 to 2.66	4 to 14	2.4	1 U	1 U	6.5	1 U
		03/26/2010	MW-24-032610	7.63 to -2.37	5 to 15	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/15/2010	MW-24-061510	7.63 to -2.37	5 to 15	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
		09/20/2010	MW-24-092010	7.63 to -2.37	5 to 15	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		12/15/2010	MW-24-121510	7.63 to -2.37	5 to 15	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		03/15/2011	MW-24-031511	7.63 to -2.37	5 to 15	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		09/13/2011	MW-24-091311	7.63 to -2.37	5 to 15	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		04/09/2012	MW-24-040912	7.63 to -2.37	5 to 15	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	PSC-CG-142-WT	12/16/2008	PSC-CG-142-WT-121608	12.73 to 2.73	4.5 to 14.5	0.2 U	0.2 U	0.2 U	0.2 U	6.9
		09/20/2010	PSC-142-WT-092010	12.73 to 2.73	4.5 to 14.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
04/06/2012		PSC-142-WT-040612	12.73 to 2.73	4.5 to 14.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Phillips Services Corporation	PSC-CG-131-WT	5/8/2002	PSC-CG-131-WT-050802	Unknown	Unknown	59	0.716	1 U	39.7	25.3
		8/1/2002	PSC-CG-131-WT-080102	Unknown	Unknown	98.5	1.3	0.05 U	44.1	40.3
		11/4/2002	PSC-CG-131-WT-110402	Unknown	Unknown	89.4	1 U	1 U	49.8	24.4
		2/17/2003	PSC-CG-131-WT-021703	Unknown	Unknown	59.2	1.06	0.05 U	38.4	6.95
		5/8/2003	PSC-CG-131-WT-050802	Unknown	Unknown	49.3	1 U	0.05 U	37.6	13.3
		8/6/2003	PSC-CG-131-WT-080603	Unknown	Unknown	49.1	1	0.05 U	42	12.9
		10/29/2003	PSC-CG-131-WT-102903	Unknown	Unknown	78.4	1.01		44.1	14.3
		2/4/2004	PSC-CG-131-WT-020404	Unknown	Unknown	44.3	1 U	0.01 U	37.5	10.2
		5/7/2004	PSC-CG-131-WT-050704	Unknown	Unknown	78.7	2 U	0.05 U	37.2	17.1
		7/24/2004	PSC-CG-131-WT-072404	Unknown	Unknown	82.8	1 U	1 U	46.7	17.2
		11/8/2004	PSC-CG-131-WT-110804	Unknown	Unknown	73.6	1 U	0.05 U	56.8	12.7
		2/1/2005	PSC-CG-131-WT-020105	Unknown	Unknown	61.1	1 U	0.05 U	44.9	5.76
		11/4/2005	PSC-CG-131-WT-110405	Unknown	Unknown	38	0.46	0.5 U	36	1.7
		2/3/2006	PSC-CG-131-WT-020306	Unknown	Unknown	37	0.34	0.5 U	26	0.82
		11/2/2006	PSC-CG-131-WT-110206	Unknown	Unknown	45	0.61	0.5 U	27	3.3
		1/31/2007	PSC-CG-131-WT-013107	Unknown	Unknown	28	0.31	0.5 U	26	1.1
		11/14/2007	PSC-CG-131-WT-111407	Unknown	Unknown	70	0.59	0.13 U	34	5.6
		2/13/2008	PSC-CG-131-WT-021308	Unknown	Unknown	59	0.49	0.13 U	44	3.8
		11/10/2008	PSC-CG-131-WT-111008	Unknown	Unknown	46	0.48	0.077 U	43	1.8
		2/12/2009	PSC-CG-131-WT-021209	Unknown	Unknown	28	0.35	0.077 U	35	0.82
		11/2/2009	PSC-CG-131-WT-110209	Unknown	Unknown	26	0.39	0.066 U	31	0.58
		2/19/2010	PSC-CG-131-WT-021910	Unknown	Unknown	13	0.38	0.066 U	23	0.24
		11/4/2010	PSC-CG-131-WT-110410	Unknown	Unknown	23	0.29	0.099 U	25	1.2
		2/9/2011	PSC-CG-131-WT-020911	Unknown	Unknown	15	0.29	0.099 U	20	0.24
MTCA Method C Modified Screening Levels-Water Table Zone						590 <sup>5</sup>	56 <sup>6</sup>	3.3 <sup>7</sup>	6.8 <sup>6</sup>	1.28 <sup>6</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Phillips Services Corporation (continued)	PSC-CG-134-WT	5/8/2002	PSC-CG-134-WT-050802	Unknown	Unknown	0.95	1 U	1 U	1 U	1 U
		7/17/2002	PSC-CG-134-WT-071702	Unknown	Unknown	1 U	1 U	0.05 U	0.054	0.02 U
		11/4/2002	PSC-CG-134-WT-110402	Unknown	Unknown	1 U	1 U	0.069	0.136	0.02 U
		2/17/2003	PSC-CG-134-WT-021703	Unknown	Unknown	1.04	1 U	0.05 U	0.034	0.055
		5/8/2003	PSC-CG-134-WT-050803	Unknown	Unknown	1 U	1 U	0.05 U	0.036 U	0.036
		8/6/2003	PSC-CG-134-WT-080603	Unknown	Unknown	1 U	1 U	0.05 U	0.07	0.06
		10/29/2003	PSC-CG-134-WT-102903	Unknown	Unknown	1 U	1 U	0.05 U	0.05	0.06
		2/4/2004	PSC-CG-134-WT-020404	Unknown	Unknown	1 U	1 U	0.05 U	0.052	0.791
		5/7/2004	PSC-CG-134-WT-050704	Unknown	Unknown	1 U	1 U	0.05 U	0.04	0.079
		11/8/2004	PSC-CG-134-WT-110804	Unknown	Unknown	1 U	1 U	0.05 U	0.045	0.02 U
		2/1/2005	PSC-CG-134-WT-020105	Unknown	Unknown	1 U	1 U	0.05 U	0.05 U	0.057
		11/4/2005	PSC-CG-134-WT-110405	Unknown	Unknown	0.27	0.5 U	0.5 U	0.043	0.042
		2/3/2006	PSC-CG-134-WT-020306	Unknown	Unknown	0.43	0.5 U	0.5 U	0.024	0.19
		11/2/2006	PSC-CG-134-WT-110206	Unknown	Unknown	0.58	0.5 U	0.5 U	0.044	0.11
		2/1/2007	PSC-CG-134-WT-020107	Unknown	Unknown	0.34	0.5 U	0.5 U	0.03 U	0.16
		11/14/2007	PSC-CG-134-WT-111407	Unknown	Unknown	0.54	0.15 U	0.13 U	0.044	0.11
		2/13/2008	PSC-CG-134-WT-021308	Unknown	Unknown	0.36	0.15 U	0.13 U	0.043	0.055
		11/10/2008	PSC-CG-134-WT-111008	Unknown	Unknown	0.38	0.048 U	0.077 U	0.053	0.031
		2/12/2009	PSC-CG-134-WT-021209	Unknown	Unknown	0.51	0.048 U	0.077 U	0.042	0.032
		11/2/2009	PSC-CG-134-WT-110209	Unknown	Unknown	0.83	0.091 U	0.066 U	0.041	0.015
		2/19/2010	PSC-CG-134-WT-021910	Unknown	Unknown	1.5	0.091 U	0.07	0.03	0.03
		11/4/2010	PSC-CG-134-WT-110410	Unknown	Unknown	0.98	0.091 U	0.099 U	0.0091 U	0.015
		2/9/2011	PSC-CG-134-WT-020911	Unknown	Unknown	1.2	0.057 U	0.099 U	0.0038 U	0.024
MTCA Method C Modified Screening Levels-Water Table Zone						590 <sup>5</sup>	56 <sup>6</sup>	3.3 <sup>7</sup>	6.8 <sup>6</sup>	1.28 <sup>6</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
						Shallow Zone				
Capital Industries, Inc.	CG-137-40	03/25/2010	CG-137-40-032510	-14.21 to -24.21	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	53
		06/18/2010	CG-137-40-061810	-14.21 to -24.21	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	15
		06/18/2010	DUP-CG-137-40-061810	-14.21 to -24.21	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	16
		09/30/2010	CG-137-40-093010	-14.21 to -24.21	30 to 40	0.4 U	0.4 U	0.4 U	0.4 U	78
		09/30/2010	DUP-CG-137-40-093010	-14.21 to -24.21	30 to 40	0.4 U	0.4 U	0.4 U	0.4 U	79
		12/15/2010	CI-137-40-121510	-14.21 to -24.21	30 to 40	1.4	0.4 U	0.4 U	0.98	71
		12/15/2010	CI-137-40-121510-DUP	-14.21 to -24.21	30 to 40	1.2	0.4 U	0.4 U	0.89	73
		03/16/2011	CG-137-40-031611	-14.21 to -24.21	30 to 40	0.4 U	0.4 U	0.4 U	0.4 U	71
		03/16/2011	Dup-CG-137-40-031611	-14.21 to -24.21	30 to 40	0.4 U	0.4 U	0.4 U	0.4 U	70
		09/30/2011	CG-137-40-093011	-14.21 to -24.21	30 to 40	0.4 U	0.4 U	0.4 U	0.4 U	60
		05/04/2012	CG-137-40-050412	-14.21 to -24.21	30 to 40	0.4 U	0.4 U	0.4 U	0.4 U	61
	CG-141-40	03/23/2010	CG-141-40-032310	-12.99 to -22.99	30 to 40	1 U	1 U	1 U	1 U	150
		06/15/2010	CG-141-40-061510	-12.99 to -22.99	30 to 40	2 U	2 U	2 U	2 U	270
		09/29/2010	CG-141-40-092910	-12.99 to -22.99	30 to 40	2 U	2 U	2 U	2 U	230
		12/16/2010	CG-141-40-121610	-12.99 to -22.99	30 to 40	2 U	2 U	2 U	2 U	250
		03/14/2011	CG-141-40-031411	-12.99 to -22.99	30 to 40	1 U	1 U	1 U	1 U	210
		05/03/2012	CG-141-40-050312	-12.99 to -22.99	30 to 40	1 U	1 U	1 U	1 U	170
	CI-10-35	05/03/2012	QA/QC-2-050312	-12.99 to -22.99	30 to 40	1 U	1 U	1 U	1 U	180
		03/24/2010	CI-10-35-032410	-9.32 to -19.32	25 to 35	3.4	0.43	0.2 U	25	7.2
		06/17/2010	CI-10-35-061710	-9.32 to -19.32	25 to 35	4.2	0.53	0.2 U	29	8.6
		09/29/2010	CI-10-35-092910	-9.32 to -19.32	25 to 35	3.7	0.41	0.2 U	25	5.2
		12/14/2010	CI-10-35-121410	-9.32 to -19.32	25 to 35	3.7	0.44	0.2 U	19	13
		03/17/2011	CI-10-35-031711	-9.32 to -19.32	25 to 35	4.8	0.6	0.2 U	34	6.7
		09/29/2011	CI-10-35-092911	-9.32 to -19.32	25 to 35	4.3	0.5	0.2 U	29	7.8
	CI-11-30	05/03/2012	CI-10-35-050312	-9.32 to -19.32	25 to 35	5.3	0.47	0.2 U	31	6.6
		06/15/2010	CI-11-30-061510	-6.68 to -16.68	20 to 30	0.87	0.2 U	0.2 U	0.2 U	4.5
		09/27/2010	CI-11-30-092710	-6.68 to -16.68	20 to 30	0.47	0.2 U	0.2 U	0.2 U	4.4
		12/14/2010	CI-11-30-121410	-6.68 to -16.68	20 to 30	0.75	0.2 U	0.2 U	0.2 U	3.9
		03/17/2011	CI-11-30-031711	-6.68 to -16.68	20 to 30	0.39	0.2 U	0.2 U	0.2 U	1.2
		09/29/2011	CI-11-30-092911	-6.68 to -16.68	20 to 30	0.65	0.2 U	0.2 U	0.2 U	1.6
		05/03/2012	CI-11-30-050312	-6.68 to -16.68	20 to 30	0.75	0.2 U	0.2 U	0.2 U	1.5
		CI-12-30	03/23/2010	CI-12-30-032310	-4.55 to -14.55	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U
	06/15/2010		CI-12-30-061510	-4.55 to -14.55	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	28
	09/28/2010		CI-12-30-092810	-4.55 to -14.55	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	23
	12/15/2010		CI-12-30-121510	-4.55 to -14.55	20 to 30	0.28	0.2 U	0.2 U	0.2 U	16
	03/18/2011		CI-12-30-031811	-4.55 to -14.55	20 to 30	0.21	0.2 U	0.2 U	0.2 U	10
	09/28/2011		CI-12-30-092811	-4.55 to -14.55	20 to 30	0.49	0.2 U	0.2 U	0.2 U	22
05/02/2012	CI-12-30-050212		-4.55 to -14.55	20 to 30	0.42	0.2 U	0.2 U	0.2 U	9.3	
MTCA Method C Modified Screening Levels-Shallow Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>



**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Capital Industries, Inc. (continued)	CI-13-30	06/17/2010	CI-13-30-061710	-4.17 to -14.17	20 to 30	16	0.2 U	0.2 U	0.2 U	1.7
		09/28/2010	CI-13-30-092810	-4.17 to -14.17	20 to 30	17	0.2 U	0.2 U	0.2 U	1.8
		12/15/2010	CI-13-30-121510	-4.17 to -14.17	20 to 30	24	0.2 U	0.2 U	0.2 U	2.4
		03/17/2011	CI-13-30-031711	-4.17 to -14.17	20 to 30	27	0.2 U	0.2 U	0.2 U	1.6
		09/28/2011	CI-13-30-092811	-4.17 to -14.17	20 to 30	34	0.2 U	0.2 U	0.2 U	1.6
		05/04/2012	CI-13-30-050412	-4.17 to -14.17	20 to 30	39	0.4 U	0.4 U	0.4 U	1.1
	CI-14-35	06/16/2010	CI-14-35-061610	-9.88 to -19.88	25 to 35	25	1.1	0.4 U	71	3.8
		09/28/2010	CI-14-35-092810	-9.88 to -19.88	25 to 35	27	0.82	0.4 U	64	3.5
		12/15/2010	CI-14-35-121510	-9.88 to -19.88	25 to 35	22	1.1	0.4 U	83	4
		03/17/2011	CI-14-35-031711	-9.88 to -19.88	25 to 35	24	0.96	0.4 U	68	3.1
		09/28/2011	CI-14-35-092811	-9.88 to -19.88	25 to 35	33	0.68	0.2 U	48	2.4
		05/03/2012	CI-14-35-050312	-9.88 to -19.88	25 to 35	26	0.97	0.4 U	69	2
	CI-15-40	03/23/2010	CI-15-40-032310	-13.4 to -23.4	30 to 40	2.9	0.2 U	0.2 U	0.2 U	7.8
		06/15/2010	CI-15-40-061510	-13.4 to -23.4	30 to 40	2.8	0.2 U	0.2 U	0.2 U	11
		09/29/2010	CI-15-40-092910	-13.4 to -23.4	30 to 40	2.4	0.2 U	0.2 U	0.2 U	8.4
		12/16/2010	CI-15-40-121610	-13.4 to -23.4	30 to 40	1.8	0.2 U	0.2 U	0.2 U	8.2
		03/16/2011	CI-15-40-031611	-13.4 to -23.4	30 to 40	3.2	0.2 U	0.2 U	0.2 U	8.6
		09/29/2011	CI-15-40-092911	-13.4 to -23.4	30 to 40	1.9	0.2 U	0.2 U	0.2 U	4.9
	CI-16-30	05/02/2012	CI-16-30-050212	-5.52 to -15.52	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/25/2012	CI-16-30-062512	-5.52 to -15.52	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		CI-17-30	05/02/2012	CI-17-30-050212	-5.42 to -15.42	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U
	06/25/2012		CI-17-30-062512	-5.42 to -15.42	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	0.27
	CI-18-30	05/02/2012	CI-18-30-050212	-3.26 to -13.26	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/25/2012	CI-18-30-062512	-3.26 to -13.26	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	CI-19-30	05/02/2012	CI-19-30-050212	-4.43 to -14.43	20 to 30	1.7	0.2 U	0.2 U	0.2 U	1.7
		06/25/2012	CI-19-30-062512	-4.43 to -14.43	20 to 30	1.2	0.2 U	0.2 U	0.2 U	1.8
	CI-7-40	03/25/2010	CI-7-40-032510	-13.21 to -23.21	30 to 40	1	0.2 U	0.2 U	0.2 U	2.3
		06/17/2010	CI-7-40-061710	-13.21 to -23.21	30 to 40	1.8	0.2 U	0.2 U	0.2 U	3.6
		09/30/2010	CI-7-40-093010	-13.21 to -23.21	30 to 40	1.5	0.2 U	0.2 U	0.2 U	3.3
		12/14/2010	CI-7-40-121410	-13.21 to -23.21	30 to 40	2.3	0.2 U	0.2 U	0.2 U	2.6
		03/16/2011	CI-7-40-031611	-13.21 to -23.21	30 to 40	2.5	0.2 U	0.2 U	0.2 U	2.7
	CI-8-40	03/24/2010	CI-8-40-032410	-13.5 to -23.5	30 to 40	29	0.2 U	0.2 U	0.2 U	17
		06/16/2010	CI-8-40-061610	-13.5 to -23.5	30 to 40	15	0.2 U	0.2 U	0.2 U	13
		09/30/2010	CI-8-40-093010	-13.5 to -23.5	30 to 40	8.9	0.2 U	0.2 U	0.2 U	12
		12/16/2010	CI-8-40-121610	-13.5 to -23.5	30 to 40	25	0.2 U	0.2 U	0.2 U	19
		03/15/2011	CI-8-40-031511	-13.5 to -23.5	30 to 40	24	0.2 U	0.2 U	0.2 U	14
		09/29/2011	CI-8-40-092911	-13.5 to -23.5	30 to 40	9.2	0.2 U	0.2 U	0.2 U	8.7
		05/04/2012	CI-8-40-050412	-13.5 to -23.5	30 to 40	22	0.2 U	0.2 U	0.2 U	13
		MTCA Method C Modified Screening Levels-Shallow Zone						590 <sup>5</sup>	3,500 <sup>6</sup>	3.3 <sup>7</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chlorid
Capital Industries, Inc. (continued)	CI-9-40	06/16/2010	CI-9-40-061610	-14.19 to -24.19	30 to 40	6	0.2 U	0.2 U	0.2 U	1.5
		09/29/2010	CI-9-40-092910	-14.19 to -24.19	30 to 40	5.5	0.2 U	0.2 U	0.2 U	1.1
		12/14/2010	CI-9-40-121410	-14.19 to -24.19	30 to 40	6.6	0.2 U	0.2 U	0.2 U	1
		03/16/2011	CI-9-40-031611	-14.19 to -24.19	30 to 40	4.9	0.2 U	0.2 U	0.2 U	0.97
		09/29/2011	CI-9-40-092911	-14.19 to -24.19	30 to 40	5.1	0.2 U	0.2 U	0.79	1.3
		05/04/2012	CI-9-40-050412	-14.19 to -24.19	30 to 40	5.8	0.2 U	0.2 U	0.2 U	1
	CI-MW-1-40	06/16/2010	CI-MW-1-40-061610	-13.96 to -23.96	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.55
		09/29/2010	CI-MW-1-40-092910	-13.96 to -23.96	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.52
		12/21/2010	CI-MW-1-40-122110	-13.96 to -23.96	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	1.2
		03/15/2011	CI-MW-1-40-031511	-13.96 to -23.96	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.26
Blaser Die Casting	BDC-10-40	06/02/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	20	0.1	0.02 U	0.02 U	21
		11/17/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	18	0.054	0.02 U	0.02 U	12
		03/01/2011	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	15	0.066	0.02 U	0.02 U	8.4
		10/18/2011	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	14	0.053	0.02 U	0.02 U	8.3
		04/12/2012	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	13	0.05	0.02 U	0.02 U	8.3
	BDC-11-40	06/03/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	20	0.071	0.02 U	0.02 U	41
		08/18/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	8.2	0.037	0.02 U	0.02 U	37
		11/17/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	24	0.092	0.02 U	0.02 U	24
		02/24/2010	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	21	0.19	0.02 U	0.02 U	28
		03/01/2011	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	23	0.12	0.02 U	0.02 U	21
		10/18/2011	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	10	0.032	0.02 U	0.02 U	34
		04/13/2012	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	20	0.092	0.02 U	0.1 U	27
		BDC-3-40	06/02/2009	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	21	0.02 U	0.02 U	0.02 U
	08/18/2009		BDC-3-40	-15.34 to -25.34	30.4 to 40.4	17	0.02 U	0.02 U	0.02 U	6.9
	11/16/2009		BDC-3-40	-15.34 to -25.34	30.4 to 40.4	19	0.02 U	0.02 U	0.02 U	5.2
	02/24/2010		BDC-3-40	-15.34 to -25.34	30.4 to 40.4	20	0.062	0.02 U	0.02 U	4.5
	03/01/2011		BDC-3-40	-15.34 to -25.34	30.4 to 40.4	22	0.025	0.02 U	0.02 U	2.3
	10/18/2011		BDC-3-40	-15.34 to -25.34	30.4 to 40.4	19	0.02 U	0.02 U	0.02 U	2.2
	04/12/2012		BDC-3-40	-15.34 to -25.34	30.4 to 40.4	21	0.025	0.02 U	0.02 U	2.2
	BDC-6-30	02/01/2008	BDC-5	-1.21 to -11.21	19.4 to 29.4	20	0.4		16	6.6
		06/03/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	19	0.3	0.02 U	12	9.8
		08/18/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	8.9	0.13	0.02 U	5.1	15
		11/16/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	13	0.16	0.02 U	7.9	7.3
		02/24/2010	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	14	0.17	0.02 U	6.1	3.3
		03/01/2011	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	14	0.28	0.02 U	6.6	0.68
		10/18/2011	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	8.8	0.18	0.02 U	3.2	0.29
		04/13/2012	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	9.8	0.17	0.02 U	6.3	0.84
MTCA Method C Modified Screening Levels-Shallow Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Blaser Die Casting (continued)	CG-136-40	06/02/2009	CG-136-40	-15.66 to -25.66	30.38 to 40.38	5.8	0.02 U	0.02 U	0.02 U	11
		11/16/2009	CG-136-40	-15.66 to -25.66	30.38 to 40.38	5.2	0.02 U	0.02 U	0.02 U	7.1
		03/02/2011	CG-136-40	-15.66 to -25.66	30.38 to 40.38	5.7	0.02 U	0.02 U	0.02 U	5.6
		10/19/2011	CG-136-40	-15.66 to -25.66	30.38 to 40.38	7.2	0.02 U	0.02 U	0.02 U	5.6
		04/11/2012	CG-136-40	-15.66 to -25.66	30.38 to 40.38	7	0.02 U	0.02 U	0.02 U	5
	CI-MW-1-40	06/03/2009	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	0.02 U	0.02 U	0.02 U	0.02 U	1.7
		11/17/2009	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	0.02 U	0.02 U	0.02 U	0.02 U	0.56
		04/12/2012	CI-MW-1-40	-14.36 to -24.36	30.4 to 40.4	0.02 U	0.02 U	0.02 U	0.02 U	0.27
Art Brass Plating	MW-17-40	03/26/2009	MW-17-40-032609	-12.96 to -22.96	30 to 40	260	1.2	0.2 U	1600	2.1
		06/24/2009	MW-17-40-062409	-12.96 to -22.96	30 to 40	120	2.2	0.2 U	770	2.3
		09/16/2009	MW-17-40-091609	-12.96 to -22.96	30 to 40	120	2.1	0.2 U	780	1.3
		03/23/2010	MW-17-40-032310	-12.96 to -22.96	30 to 40	190	25 U	25 U	1500	25 U
		06/16/2010	MW-17-40-061610	-12.96 to -22.96	30 to 40	150 J	10 UJ	10 UJ	1200 J	10 UJ
		09/21/2010	MW-17-40-092110	-12.96 to -22.96	30 to 40	150	20 U	20 U	1200	20 U
		12/16/2010	MW-17-40-121610	-12.96 to -22.96	30 to 40	190	10 U	10 U	1200	10 U
		03/17/2011	MW-17-40-031711	-12.96 to -22.96	30 to 40	270	10 U	10 U	2000	10 U
		06/09/2011	MW-17-40-060911	-12.96 to -22.96	30 to 40	220	3.2	0.2 U	1600	2.6
		09/15/2011	MW-17-40-091511	-12.96 to -22.96	30 to 40	220	10 U	10 U	1400	10 U
		04/03/2012	MW-17-40-040312	-12.96 to -22.96	30 to 40	250	3.1	0.2 U	1500	2.8
		06/13/2012	MW-17-40-061312	-12.96 to -22.96	30 to 40	270	10 U	10 U	1600	5.5 J
	MW-19-40	03/30/2009	MW-19-40-033009	-14.65 to -24.65	30 to 40	18	0.3	0.2 U	0.2 U	100
		06/24/2009	MW-19-40-062409	-14.65 to -24.65	30 to 40	24	0.2 U	0.2 U	0.2 U	89
		09/15/2009	MW-19-40-091509	-14.65 to -24.65	30 to 40	14	0.2 U	0.2 U	0.2 U	60
		03/24/2010	MW-19-40-032410	-14.65 to -24.65	30 to 40	20	0.2 U	0.2 U	0.2 U	52
		09/21/2010	MW-19-40-092110	-14.65 to -24.65	30 to 40	23	0.2 U	0.2 U	0.2 U	32
		03/18/2011	MW-19-40-031811	-14.65 to -24.65	30 to 40	22	0.2 U	0.2 U	0.2 U	35
		09/14/2011	MW-19-40-091411	-14.65 to -24.65	30 to 40	18	0.2 U	0.2 U	0.2 U	33
		04/05/2012	MW-19-40-040512	-14.65 to -24.65	30 to 40	18	0.2 U	0.2 U	0.2 U	38
	MW-22-30	03/25/2010	MW-22-30-032510	-7.69 to -17.69	20 to 30	42	1.6	0.2 U	320	19
		06/15/2010	MW-22-30-061510	-7.69 to -17.69	20 to 30	74 J	2.9 J	2 UJ	630	17 J
		06/15/2010	MW-22-30-061510-D	-7.69 to -17.69	20 to 30	67 J	2.8 J	2 UJ	590 J	16 J
		09/20/2010	MW-22-30-092010	-7.69 to -17.69	20 to 30	180	3	2 U	530	15
		12/14/2010	MW-22-30-121410	-7.69 to -17.69	20 to 30	180	2 U	2 U	100	16
		12/14/2010	MW-22-30-121410D	-7.69 to -17.69	20 to 30	180	2.8	2 U	96	16
		03/15/2011	MW-22-30-031511	-7.69 to -17.69	20 to 30	250 J	18	2 U	140	11
		03/15/2011	MW-22-30-031511-D	-7.69 to -17.69	20 to 30	260	20	2 U	150	10
		06/09/2011	MW-22-30-060911	-7.69 to -17.69	20 to 30	210	1.6	0.2 U	200	8.3
		09/12/2011	MW-22-30-091211	-7.69 to -17.69	20 to 30	320	3 U	3 U	94	9.6
		04/09/2012	MW-22-30-040912	-7.69 to -17.69	20 to 30	660	4.1	2 U	160	20
		06/11/2012	MW-22-30-061112	-7.69 to -17.69	20 to 30	520	3 J	4 U	110	19
		06/11/2012	MW-22-30-061112-D	-7.69 to -17.69	20 to 30	550	3.4 J	4 U	120	19
		MTCA Method C Modified Screening Levels-Shallow Zone				590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Art Brass Plating (Continued)	MW-23-30	03/25/2010	MW-23-30-032510	-6.28 to -16.28	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	7.5
		06/15/2010	MW-23-30-061510	-6.28 to -16.28	20 to 30	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	12 J
		09/20/2010	MW-23-30-092010	-6.28 to -16.28	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	15
		12/14/2010	MW-23-30-121410	-6.28 to -16.28	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	14
		03/15/2011	MW-23-30-031511	-6.28 to -16.28	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	11
		09/12/2011	MW-23-30-091211	-6.28 to -16.28	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	29
	MW-24-30	04/09/2012	MW-23-30-040912	-6.28 to -16.28	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	22
		03/26/2010	MW-24-30-032610	-6.99 to -16.99	20 to 30	72	6.4	0.2 U	110	14
		06/15/2010	MW-24-30-061510	-6.99 to -16.99	20 to 30	86 J	7.8 J	0.6 UJ	140 J	13 J
		09/20/2010	MW-24-30-092010	-6.99 to -16.99	20 to 30	88	7.4	0.6 U	100	17
		12/15/2010	MW-24-30-121510	-6.99 to -16.99	20 to 30	120	10	0.2 U	100	34
		03/15/2011	MW-24-30-031511	-6.99 to -16.99	20 to 30	79	5.9	3 U	100	31
		06/09/2011	MW-24-30-060911	-6.99 to -16.99	20 to 30	63	5.7	0.2 U	120	29
		09/13/2011	MW-24-30-091311	-6.99 to -16.99	20 to 30	55	4.8	0.6 U	100	29
		09/13/2011	MW-24-30-091311-D	-6.99 to -16.99	20 to 30	51	4.7	0.6 U	94	28
		04/10/2012	MW-24-30-041012	-6.99 to -16.99	20 to 30	39	3.3	0.6 U	71	23
	PSC-CG-140-30	06/11/2012	MW-24-30-061112	-6.99 to -16.99	20 to 30	69	5.6	0.4 U	100	28
		06/24/2010	PSC-140-30-062410	-4.32 to -14.32	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	36
		09/20/2010	PSC-140-30-092010	-4.32 to -14.32	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	40
		12/14/2010	PSC-140-30-121410	-4.32 to -14.32	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	38
		03/14/2011	PSC-140-30-031411	-4.32 to -14.32	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	27
		09/13/2011	PSC-CG-140-30-091311	-4.32 to -14.32	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	42
		04/10/2012	PSC-140-30-041012	-4.32 to -14.32	20 to 30	0.2 U	0.2 U	0.2 U	0.2 U	51
		PSC-CG-140-40	03/23/2010	PSC-140-40-032310	-14.35 to -24.35	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U
	PSC-CG-142-40		12/16/2008	PSC-CG-142-40-121608	-12.84 to -22.84	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U
		03/23/2010	PSC-142-40-032310	-12.84 to -22.84	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		09/20/2010	PSC-142-40-092010	-12.84 to -22.84	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		04/06/2012	PSC-142-40-040612	-12.84 to -22.84	30 to 40	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	PSC-CG-151-25	03/23/2010	PSC-151-25-032310	-2.98 to -12.98	15 to 25	2.5	0.2 U	0.2 U	0.2 U	16
		06/15/2010	PSC-151-25-061510	-2.98 to -12.98	15 to 25	3 J	0.2 UJ	0.2 UJ	0.2 UJ	18 J
		09/20/2010	PSC-151-25-092010	-2.98 to -12.98	15 to 25	6.7	0.2 U	0.2 U	0.2 U	51
		12/14/2010	PSC-151-25-121410	-2.98 to -12.98	15 to 25	1.5	0.2 U	0.2 U	0.2 U	27
		03/14/2011	PSC-151-25-031411	-2.98 to -12.98	15 to 25	0.3	0.2 U	0.2 U	0.2 U	3.7
		09/13/2011	PSC-CG-151-25-091311	-2.98 to -12.98	15 to 25	0.2 U	0.2 U	0.2 U	0.2 U	1.7
		04/09/2012	PSC-151-25-040912	-2.98 to -12.98	15 to 25	1.7	0.2 U	0.2 U	0.2 U	32
MTCA Method C Modified Screening Levels-Shallow Zone						590 <sup>s</sup>	3,500 <sup>s</sup>	3.3 <sup>r</sup>	30 <sup>r</sup>	1.69 <sup>s</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Phillips Services Corporation	PSC-CG-131-40	11/4/2002	PSC-CG-131-40-110402	Unknown	Unknown	1 U	10.3	0.05 U	0.02 U	13.6
		5/8/2002	PSC-CG-131-40-050802	Unknown	Unknown	1 U	6.51	1 U	1 U	10.8
		8/1/2002	PSC-CG-131-40-080102	Unknown	Unknown	1 U	8.46	0.05 U	0.02 U	20.3
		10/29/2003	PSC-CG-131-40-102903	Unknown	Unknown	1 U	14.3	1 U	1 U	13.7
		2/17/2003	PSC-CG-131-40-021703	Unknown	Unknown	1 U	7.28	0.05 U	0.05	8.8
		5/8/2003	PSC-CG-131-40-050803	Unknown	Unknown	1 U	7.64	0.05 U	0.024 U	11.5
		8/6/2003	PSC-CG-131-40-080603	Unknown	Unknown	1 U	10	0.05 U	0.06	12.2
		11/8/2004	PSC-CG-131-40-110804	Unknown	Unknown	1 U	9.61	0.05 U	0.02 U	12.2
		2/4/2004	PSC-CG-131-40-020404	Unknown	Unknown	1 U	9.66	0.01 U	0.01 U	9.6
		5/7/2004	PSC-CG-131-40-050704	Unknown	Unknown	1 U	10.3	0.05 U	0.02 U	9.43
		11/4/2005	PSC-CG-131-40-110405	Unknown	Unknown	0.5 U	11	0.5 U	0.02 U	6.9
		2/1/2005	PSC-CG-131-40-020105	Unknown	Unknown	1 U	9.37	0.05 U	0.05 U	10.2
		11/2/2006	PSC-CG-131-40-110206	Unknown	Unknown	0.5 U	9.8	0.5 U	0.02 U	8.4
		2/3/2006	PSC-CG-131-40-020306	Unknown	Unknown	0.5 U	6.1	0.5 U	0.02 U	3.3
		1/31/2007	PSC-CG-131-40-013107	Unknown	Unknown	0.5 U	7.8	0.5 U	0.0061 U	7.5
		11/14/2007	PSC-CG-131-40-111407	Unknown	Unknown	0.15 U	13	0.13 U	0.0067 U	12
		11/10/2008	PSC-CG-131-40-111008	Unknown	Unknown	0.06	8.7	0.077 U	0.0091 U	11
		2/13/2008	PSC-CG-131-40-021308	Unknown	Unknown	0.15 U	14	0.13 U	0.0067 U	13
		11/2/2009	PSC-CG-131-40-110209	Unknown	Unknown	0.091 U	10	0.066 U	0.0091 U	11
		2/12/2009	PSC-CG-131-40-021209	Unknown	Unknown	0.06	11	0.077 U	0.0091 U	10
		2/19/2010	PSC-CG-131-40-021910	Unknown	Unknown	0.091 U	7.6	0.066 U	0.0091 U	9.4
		11/04/2010	PSC-CG-131-40-110410	Unknown	Unknown	0.091 U	6.3	0.099 U	0.0091 U	7.7
		2/9/2011	PSC-CG-131-40-020911	Unknown	Unknown	0.057 U	7.2	0.099 U	0.0038 U	8.3
	PSC-CG-134-40	5/8/2002	PSC-CG-134-40-050802	Unknown	Unknown	1 U	23	1 U	1 U	21
		7/17/2002	PSC-CG-134-40-071702	Unknown	Unknown	1 U	20.4	0.05 U	0.02 U	27
		11/4/2002	PSC-CG-134-40-110402	Unknown	Unknown	1 U	16.3	0.05 U	0.02 U	17.4
		2/17/2003	PSC-CG-134-40-021703	Unknown	Unknown	1 U	26.2	0.05 U	0.02 U	15.8
		5/8/2003	PSC-CG-134-40-050803	Unknown	Unknown	1 U	35.6	0.05 U	0.02 U	21
		8/6/2003	PSC-CG-134-40-080603	Unknown	Unknown	1 U	28.6	0.05 U	0.05 U	17.7
		10/29/2003	PSC-CG-134-40-102903	Unknown	Unknown	1 U	33.3	0.05 U	0.05 U	14.5
		2/4/2004	PSC-CG-134-40-020404	Unknown	Unknown	1 U	37.6	0.05 U	0.02 U	19.2
		5/7/2004	PSC-CG-134-40-050704	Unknown	Unknown	1 U	32.6	0.05 U	0.02 U	14.1
		11/8/2004	PSC-CG-134-40-110804	Unknown	Unknown	1 U	33.6	0.05 U	0.02 U	14.9
2/1/2005		PSC-CG-134-40-020105	Unknown	Unknown	1 U	37.1	0.05 U	0.05 U	18.1	
11/4/2005		PSC-CG-134-40-110405	Unknown	Unknown	0.5 U	37	0.5 U	0.02 U	9.3	
2/3/2006		PSC-CG-134-40-020306	Unknown	Unknown	0.5 U	41	0.5 U	0.02 U	10	
11/2/2006		PSC-CG-134-40-110206	Unknown	Unknown	0.15	41	0.5 U	0.0057	12	
2/1/2007		PSC-CG-134-40-020107	Unknown	Unknown	0.5 U	36	0.5 U	0.02 U	17	
11/14/2007		PSC-CG-134-40-111407	Unknown	Unknown	0.15	40	0.13 U	0.016	15	
2/13/2008		PSC-CG-134-40-021308	Unknown	Unknown	0.15 U	37	0.13 U	0.0067 U	15	
11/10/2008		PSC-CG-134-40-111008	Unknown	Unknown	0.13	38	0.077 U	0.0091 U	16	
2/12/2009		PSC-CG-134-40-021209	Unknown	Unknown	0.12	33	0.077 U	0.0091 U	14	
11/2/2009	PSC-CG-134-40-110209	Unknown	Unknown	0.17	39	0.066 U	0.0091 U	19		
2/19/2010	PSC-CG-134-40-021910	Unknown	Unknown	0.19	33	0.066 U	0.021	17		
11/4/2010	PSC-CG-134-40-110410	Unknown	Unknown	0.17	40	0.099 U	0.0091 U	12		
2/9/2011	PSC-CG-134-40-020911	Unknown	Unknown	0.16	36	0.099 U	0.0038 U	11		
MTCA Method C Modified Screening Levels-Shallow Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chlorid
Intermediate Zone										
Capital Industries, Inc.	CG-141-50	03/23/2010	CG-141-50-032310	-22.94 to -32.94	40 to 50	0.4 U	0.4 U	0.4 U	0.4 U	72
		06/17/2010	CG-141-50-061710	-22.94 to -32.94	40 to 50	0.4 U	0.4 U	0.4 U	0.4 U	88
		09/29/2010	CG-141-50-092910	-22.94 to -32.94	40 to 50	1 U	1 U	1 U	1 U	87
		12/16/2010	CG-141-50-121610	-22.94 to -32.94	40 to 50	1 U	1 U	1 U	1 U	96
		03/14/2011	CG-141-50-031411	-22.94 to -32.94	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	100
		05/03/2012	CG-141-50-050312	-22.94 to -32.94	40 to 50	1 U	1 U	1 U	1 U	110
	CI-10-65	05/03/2012	QA/QC-1-050312	-22.94 to -32.94	40 to 50	1 U	1 U	1 U	1 U	110
		03/24/2010	CI-10-65-032410	-34.37 to -49.37	50 to 65	0.2 U	0.2 U	0.2 U	0.2 U	0.71
		03/24/2010	DUP-CI-10-65-032410	-34.37 to -49.37	50 to 65	0.2 U	0.2 U	0.2 U	0.2 U	0.65
		06/17/2010	CI-10-65-061710	-34.37 to -49.37	50 to 65	0.26	0.2 U	0.2 U	0.2 U	0.95
		09/29/2010	CI-10-65-092910	-34.37 to -49.37	50 to 65	0.2 U	0.2 U	0.2 U	0.2 U	0.24
		12/14/2010	CI-10-60-121410	-34.37 to -44.37	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.61
		03/17/2011	CI-10-70-031711	-34.37 to -49.37	50 to 65	0.2 U	0.2 U	0.2 U	0.2 U	0.23
		09/29/2011	CI-10-65-092911	-34.37 to -49.37	50 to 65	0.39	0.2 U	0.2 U	0.23	0.85
		05/03/2012	CI-10-65-050312	-34.37 to -49.37	50 to 65	0.31	0.2 U	0.2 U	0.2 U	0.37
	CI-11-60	06/15/2010	CI-11-60-061510	-36.49 to -46.49	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.88
		09/27/2010	CI-11-60-092710	-36.49 to -46.49	50 to 60	0.2 U	0.2 U	0.2 U	0.47	0.82
		12/14/2010	CI-11-60-121410	-36.49 to -46.49	50 to 60	0.2 U	0.2 U	0.2 U	0.46	1
		03/17/2011	CI-11-60-031711	-36.49 to -46.49	50 to 60	0.2 U	0.2 U	0.2 U	0.28	0.84
	CI-12-60	03/23/2010	CI-12-60-032310	-34.37 to -44.37	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.28
		06/15/2010	CI-12-60-061510	-34.37 to -44.37	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		09/28/2010	CI-12-60-092810	-34.37 to -44.37	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		12/15/2010	CI-12-60-121510	-34.37 to -44.37	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		03/18/2011	CI-12-60-031811	-34.37 to -44.37	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		09/28/2011	CI-12-60-092811	-34.37 to -44.37	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		05/02/2012	CI-12-60-050212	-34.37 to -44.37	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	CI-13-60	06/17/2010	CI-13-60-061710	-34.7 to -44.7	50 to 60	0.28	0.2 U	0.2 U	0.2 U	0.89
		09/28/2010	CI-13-60-092810	-34.7 to -44.7	50 to 60	0.23	0.2 U	0.2 U	0.2 U	0.31
		12/15/2010	CI-13-60-121510	-34.7 to -44.7	50 to 60	0.26	0.2 U	0.2 U	0.2 U	0.54
		03/17/2011	CI-13-60-031711	-34.7 to -44.7	50 to 60	0.29	0.2 U	0.2 U	0.2 U	0.41
	CI-137-50	03/25/2010	CI-137-50-032510	-23.45 to -33.45	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	11
		06/18/2010	CG-137-50-061810	-23.45 to -33.45	40 to 50	50	7.7	0.4 U	98	0.92
		09/29/2010	CG-137-50-092910	-23.45 to -33.45	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	16
		12/15/2010	CI-137-50-121510	-23.45 to -33.45	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	19
		03/16/2011	CI-137-50-031611	-23.45 to -33.45	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	17
		05/04/2012	CI-137-50-050412	-23.45 to -33.45	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	12
MTCA Method C Modified Screening Levels-Intermediate Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>					
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chlorid	
Capital Industries, Inc.	CI-14-70	06/16/2010	CI-14-70-061610	-44.87 to -54.87	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.21	
		06/16/2010	DUP-CI-14-70-061610	-44.87 to -54.87	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.22	
		09/28/2010	CI-14-70-092810	-44.87 to -54.87	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.26	
		09/28/2010	DUP-CI-14-70-092810	-44.87 to -54.87	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.23	
		12/15/2010	CI-14-70-12	-44.87 to -54.87	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.31	
		03/17/2011	CI-14-70-031711	-44.87 to -54.87	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.25	
		03/17/2011	DUP-CI-14-70-031711	-44.87 to -54.87	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2	
	CI-15-60	03/23/2010	CI-15-60-032310	-33.42 to -43.42	50 to 60	0.4 U	0.4 U	0.4 U	0.4 U	79	
		06/15/2010	CI-15-60-061510	-33.42 to -43.42	50 to 60	1 U	1 U	1 U	1 U	140	
		09/29/2010	CI-15-60-092910	-33.42 to -43.42	50 to 60	1 U	1 U	1 U	1 U	110	
		12/16/2010	CI-15-60-121610	-33.42 to -43.42	50 to 60	1 U	1 U	1 U	1 U	100	
		12/16/2010	CI-15-60-121610-DUP	-33.42 to -43.42	50 to 60	1 U	1 U	1 U	1 U	100	
		03/16/2011	CI-15-60-031611	-33.42 to -43.42	50 to 60	0.4 U	0.4 U	0.4 U	0.4 U	83	
		09/29/2011	CI-15-60-092911	-33.42 to -43.42	50 to 60	1 U	1 U	1 U	1 U	110	
		05/03/2012	CI-15-60-050312	-33.42 to -43.42	50 to 60	1 U	1 U	1 U	1 U	99	
		CI-16-60	05/02/2012	CI-16-60-050212	-33.42 to -43.42	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
			06/25/2012	CI-16-60-062512	-33.42 to -43.42	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	CI-7-60	03/24/2010	CI-7-60-032410	-32.96 to -42.96	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.46	
		06/17/2010	CI-7-60-061710	-32.96 to -42.96	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.78	
		09/30/2010	CI-7-60-093010	-32.96 to -42.96	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.53	
		12/14/2010	CI-7-60-121410	-32.96 to -42.96	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.45	
		03/15/2011	CI-7-60-031511	-32.96 to -42.96	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.4	
	CI-8-60	03/24/2010	CI-8-60-032410	-33.38 to -43.38	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		06/16/2010	CI-8-60-061610	-33.38 to -43.38	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		09/30/2010	CI-8-60-093010	-33.38 to -43.38	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		12/16/2010	CI-8-60-121610	-33.38 to -43.38	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.37	
		03/15/2011	CI-8-60-031511	-33.38 to -43.38	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.22	
	CI-9-70	06/16/2010	CI-9-70-061610	-44.25 to -54.25	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.43	
		09/29/2010	CI-9-70-092910	-44.25 to -54.25	60 to 70	0.51	0.2 U	0.2 U	0.2 U	0.4	
		12/14/2010	CI-9-70-121410	-44.25 to -54.25	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.41	
		03/16/2011	CI-9-70-031611	-44.25 to -54.25	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.46	
	CI-MW-1-60	06/16/2010	CI-MW-1-60-061610	-33.69 to -43.69	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.46	
		09/29/2010	CI-MW-1-60-092910	-33.69 to -43.69	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.34	
		12/21/2010	CI-MW-1-60-122110	-33.69 to -43.69	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.46	
		03/15/2011	CI-MW-1-60-031511	-33.69 to -43.69	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.28	
		09/30/2011	CI-MW-1-60-093011	-33.69 to -43.69	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.32	
		05/04/2012	CI-MW-1-60-050412	-33.69 to -43.69	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.31	
MTCA Method C Modified Screening Levels-Intermediate Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>	

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Blaser Die Casting	BDC-10-60	06/02/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	0.6	0.02 U	0.02 U	0.02 U	2.8
		11/17/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	0.73	0.02 U	0.02 U	0.02 U	2.4
		03/01/2011	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	1.4	0.02 U	0.02 U	0.02 U	3.6
		10/18/2011	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	1.1	0.02 U	0.02 U	0.02 U	3.5
		04/12/2012	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	1.7	0.02 U	0.02 U	0.02 U	4
	BDC-11-60	06/03/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	1.1
		08/18/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	1.2
		11/17/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	0.71
		02/24/2010	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	0.93
		03/02/2011	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	0.91
		10/18/2011	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	0.89
		04/13/2012	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	1.8
	BDC-3-60	06/02/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	2	0.02 U	0.02 U	0.02 U	9.8
		08/18/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	2.3	0.02 U	0.02 U	0.02 U	12
		11/16/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	0.5	0.02 U	0.02 U	0.02 U	4.2
		02/24/2010	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	0.32	0.02 U	0.02 U	0.02 U	2.7
		03/01/2011	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	0.32	0.02 U	0.02 U	0.02 U	2
		10/18/2011	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	3	0.02 U	0.02 U	0.02 U	5.3
		04/12/2012	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	0.58	0.02 U	0.02 U	0.02 U	2.2
	BDC-6-60	06/02/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	0.034	0.02 U	0.02 U	0.024	40
		08/18/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	26
		11/16/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	10
		02/24/2010	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	0.031	0.02 U	0.02 U	0.02 U	13
		03/01/2011	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	0.026	0.02 U	0.02 U	0.02 U	5.4
		10/18/2011	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	1.9
		04/13/2012	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	0.022	0.02 U	0.02 U	0.02 U	2.3
	CI-MW-1-60	06/03/2009	CI-MW-1-60	-34.09 to -44.09	50.4 to 60.4	0.046	0.02 U	0.02 U	0.02 U	1.9
		11/16/2009	CI-MW-1-60	-34.09 to -44.09	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	0.29
		04/13/2012	CI-MW-1-60	-34.09 to -44.09	50.4 to 60.4	0.02 U	0.02 U	0.02 U	0.02 U	0.24
MTCA Method C Modified Screening Levels-Intermediate Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>



**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>				
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
Art Brass Plating	AB-CG-140-70	03/24/2010	AB-140-70-032410	-44.18 to -54.18	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2
		06/15/2010	AB-CG-140-70-061510	-44.18 to -54.18	60 to 70	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
		09/20/2010	AB-140-70-092010	-44.18 to -54.18	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		12/14/2010	AB-140-70-121410	-44.18 to -54.18	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		04/10/2012	AB-140-70-041012	-44.18 to -54.18	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	AB-CG-142-70	12/17/2008	AB-CG-142-70-121708	-42.95 to -52.95	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		06/24/2009	AB-142-70-062409	-42.95 to -52.95	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		03/24/2010	AB-142-70-032410	-42.95 to -52.95	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		09/21/2010	AB-142-70-092110	-42.95 to -52.95	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	MW-17-60	04/06/2012	AB-142-70-040612	-42.95 to -52.95	60 to 70	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
		03/26/2009	MW-17-60-032609	-33.03 to -43.03	50 to 60	120	1.9	0.2 U	5100	26
		06/24/2009	MW-17-60-062409	-33.03 to -43.03	50 to 60	140	2.2	0.2 U	5100	34
		09/16/2009	MW-17-60-091609	-33.03 to -43.03	50 to 60	130	2	0.2 U	4300	23
		12/15/2009	MW-17-60-121509	-33.03 to -43.03	50 to 60	130	2.2	0.2 U	4100	25
		03/23/2010	MW-17-60-032310	-33.03 to -43.03	50 to 60	140	40 U	40 U	4600	40 U
		06/16/2010	MW-17-60-061610	-33.03 to -43.03	50 to 60	110 J	20 UJ	20 UJ	3700 J	32 J
		09/21/2010	MW-17-60-092110	-33.03 to -43.03	50 to 60	120	50 U	50 U	4300	50 U
		12/16/2010	MW-17-60-121610	-33.03 to -43.03	50 to 60	110	20 U	20 U	3700	29
		03/17/2011	MW-17-60-031711	-33.03 to -43.03	50 to 60	100	20 U	20 U	3800	30
		06/09/2011	MW-17-60-060911	-33.03 to -43.03	50 to 60	85	2.2	0.2 U	3400	25
		09/15/2011	MW-17-60-091511	-33.03 to -43.03	50 to 60	93	20 U	20 U	3300	27
		04/03/2012	MW-17-60-040312	-33.03 to -43.03	50 to 60	86	2.2	0.2 U	3200	22
		06/13/2012	MW-17-60-061312	-33.03 to -43.03	50 to 60	92	20 U	20 U	3600	41
		MW-19-60	03/30/2009	MW-19-60-033009	-34.77 to -44.77	50 to 60	0.9	0.2 U	0.2 U	0.2 U
	06/24/2009		MW-19-60-062409	-34.77 to -44.77	50 to 60	0.5	0.2 U	0.2 U	0.2 U	33
	09/15/2009		MW-19-60-091509	-34.77 to -44.77	50 to 60	0.2	0.2 U	0.2 U	0.2 U	5.3
	03/24/2010		MW-19-60-032410	-34.77 to -44.77	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	2.6
	09/21/2010		MW-19-60-092110	-34.77 to -44.77	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	2.4
	04/05/2012		MW-19-60-040512	-34.77 to -44.77	50 to 60	0.2 U	0.2 U	0.2 U	0.2 U	0.6
	MW-21-50	03/25/2010	MW-21-50-032510	-23.38 to -33.38	40 to 50	0.9	0.2 U	0.2 U	4.4	25
		06/16/2010	MW-21-50-061610	-23.38 to -33.38	40 to 50	1.4 J	0.2 UJ	0.2 UJ	1.6 J	30 J
		09/22/2010	MW-21-50-092210	-23.38 to -33.38	40 to 50	1.7	0.2 U	0.2 U	0.7	26
		12/15/2010	MW-21-50-121510	-23.38 to -33.38	40 to 50	2.1	0.2 U	0.2 U	0.2 U	28
		03/15/2011	MW-21-50-031511	-23.38 to -33.38	40 to 50	2.3	0.2 U	0.2 U	0.3	27
		09/13/2011	MW-21-50-091311	-23.38 to -33.38	40 to 50	5.2	0.2 U	0.2 U	0.4	32
			04/06/2012	MW-21-50-040612	-23.38 to -33.38	40 to 50	7	0.2 U	0.2 U	4.2
MTCA Method C Modified Screening Levels-Intermediate Zone						590 <sup>5</sup>	3,500 <sup>8</sup>	3.3 <sup>7</sup>	30 <sup>7</sup>	1.69 <sup>8</sup>

**Table 10**  
**Analytical Results for HVOCs in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>					
						cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chlorid	
Art Brass Plating (Continued)	MW-21-75	03/25/2010	MW-21-75-032510	-48.41 to -58.41	65 to 75	0.2 U	0.2 U	0.2 U	2.8	0.4	
		06/16/2010	MW-21-75-061610	-48.41 to -58.41	65 to 75	0.2 UJ	0.2 UJ	0.2 UJ	0.6 J	0.2 UJ	
		09/22/2010	MW-21-75-092210	-48.41 to -58.41	65 to 75	0.2 U	0.2 U	0.2 U	0.2	0.2	
		12/15/2010	MW-21-75-121510	-48.41 to -58.41	65 to 75	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		03/15/2011	MW-21-75-031511	-48.41 to -58.41	65 to 75	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
		09/13/2011	MW-21-75-091311	-48.41 to -58.41	65 to 75	0.2 U	0.2 U	0.2 U	0.2 U	0.6	
	04/06/2012	MW-21-75-040612	-48.41 to -58.41	65 to 75	0.2 U	0.2 U	0.2 U	0.2 U	0.3		
	06/15/2010	MW-22-50-061510	-27.66 to -37.66	40 to 50	0.2 J	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ		
	09/20/2010	MW-22-50-092010	-27.66 to -37.66	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	12/14/2010	MW-22-50-121410	-27.66 to -37.66	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	03/15/2011	MW-22-50-031511	-27.66 to -37.66	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	09/12/2011	MW-22-50-091211	-27.66 to -37.66	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	04/09/2012	MW-22-50-040912	-27.66 to -37.66	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	06/15/2010	MW-23-50-061510	-26.21 to -36.21	40 to 50	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ		
	09/20/2010	MW-23-50-092010	-26.21 to -36.21	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	12/14/2010	MW-23-50-121410	-26.21 to -36.21	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	03/17/2011	MW-23-50-031711	-26.21 to -36.21	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	09/12/2011	MW-23-50-091211	-26.21 to -36.21	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	04/09/2012	MW-23-50-040912	-26.21 to -36.21	40 to 50	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	06/15/2010	MW-24-50-061510	-27 to -37	40 to 50	0.8 J	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ		
	09/20/2010	MW-24-50-092010	-27 to -37	40 to 50	0.7	0.2 U	0.2 U	0.2 U	0.2 U		
	12/15/2010	MW-24-50-121510	-27 to -37	40 to 50	0.9	0.2 U	0.2 U	0.2 U	0.3		
	03/15/2011	MW-24-50-031511	-27 to -37	40 to 50	1.2	0.2 U	0.2 U	0.2 U	0.7		
	09/13/2011	MW-24-50-091311	-27 to -37	40 to 50	1.9	0.2 U	0.2 U	0.2 U	<b>2.1</b>		
	04/10/2012	MW-24-50-041012	-27 to -37	40 to 50	2.3	0.2 U	0.2 U	0.2 U	<b>2</b>		
	MTCA Method C Modified Screening Levels-Intermediate Zone						<b>590<sup>5</sup></b>	<b>3,500<sup>8</sup></b>	<b>3.3<sup>7</sup></b>	<b>30<sup>7</sup></b>	<b>1.69<sup>8</sup></b>

**NOTES:**

Results in **bold** denote concentrations above applicable cleanup levels (Table 2)

Results in *italics* denote concentrations are non-detect but above applicable screening levels (Table 2).

<sup>1</sup> Areas where the potentially liable parties have conducted their respective remedial investigations in accordance with their respective Agreed/Enforcement orders.

<sup>2</sup> Vertical Datum is NAVD88.

<sup>3</sup> Depth in feet below ground surface.

<sup>4</sup> Analyzed by U.S. Environmental Protection Agency Method 8260B.

<sup>5</sup> Buchman, M.F. 2008. NOAA Screening Quick Reference Tables. NOAA OR&R Report 08-1, Seattle, Washington. Office of Response and Restoration Division, National Oceanic and Atmospheric Administration.

<sup>6</sup> MTCA Cleanup Levels and Risk Calculations, Method B Values for Residential Exposure scenarios for inhalation of indoor air exposure pathway.

<sup>7</sup> Applicable or Relevant and Appropriate Requirement (ARAR) Ambient Water Quality Criteria.

<sup>8</sup> Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations Method B Modified based on Asian Pacific Island (API) Exposure scenarios for the consumption of fish for the groundwater-to-surface water pathway using equation 730-2.

DCE = dichloroethene

HVOCs = halogenated volatile organic compounds

Intermediate Zone = Groundwater collected from 40 to 70 feet below ground surface

J = Value reported was below the practical quantitation limit. The value is an estimate.

µg/l = micrograms per liter

PCE = tetrachloroethene

Shallow Zone = Groundwater collected from 20 to 40 feet below ground surface.

TCE = trichloroethene

U = Result is less than laboratory practical quantitative limit or not detected at or above the reporting limit listed.

Water Table Zone = Groundwater collected from the first encountered groundwater to 20 feet below ground surface.

**Table 11**  
**Analytical Results for Total Organic Carbon in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (mg/L) <sup>4</sup>
						Total Organic Carbon
Water Table Zone						
Blaser Die Casting	BDC-11-WT	06/03/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	4.89
		11/17/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4	4.32
	BDC-2-WT	06/02/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	8.02
		11/16/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4	5.49
	BDC-3-WT	06/02/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	5.13
		11/16/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	3.76
	BDC-4-WT	06/02/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	1.89
		11/17/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	1.57
	BDC-6-WT	06/02/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	7.69
		11/16/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4	8.74
BDC-9-WT	11/16/2009	BDC-9-WT	5 to -5	10 to 20	5.63	
Shallow Zone						
Blaser Die Casting	BDC-10-40	06/02/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	7.83
		11/17/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	8.59
	BDC-11-40	06/03/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	6.78
		11/17/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4	5.68
	BDC-3-40	06/02/2009	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	7.74
		11/16/2009	BDC-3-40	-15.34 to -25.34	30.4 to 40.4	6.69
	BDC-6-30	06/03/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	3.73
		11/16/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4	2.65

**Table 11**  
**Analytical Results for Total Organic Carbon in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (mg/L) <sup>4</sup>
						Total Organic Carbon
Intermediate Zone						
Blaser Die Casting	BDC-10-60	06/02/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	8.07
		11/17/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	7.9
	BDC-11-60	06/03/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	6.6
		11/17/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4	5.53
	BDC-3-60	06/02/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	8.27
		11/16/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	6.34
	BDC-6-60	06/02/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	8.04
		11/16/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4	6.72

**NOTES:**

<sup>1</sup> Areas where the potentially liable parties have conducted their respective remedial investigations in accordance with their respective Agreed/Enforcement orders.

<sup>2</sup> Vertical Datum is NAVD88.

<sup>3</sup> Depth in feet below ground surface.

<sup>4</sup> Analyzed by U.S. Environmental Protection Agency Method 415.1

Intermediate Zone = Groundwater collected from 40 to 70 feet below ground surface

mg/L = milligrams per liter

Shallow Zone = Groundwater collected from 20 to 40 feet below ground surface.

Water Table Zone = Groundwater collected from the first encountered groundwater to 20 feet below ground surface.

**Table 12**  
**Analytical Results for 1,4-Dioxane in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>
						1,4-Dioxane
Water Table Zone						
Capital Industries, Inc.	CG-137-WT	06/18/2010	CG-137-WT-061810	5.75 to -4.25	10 to 20	29
		5/4/2012	CG-137-WT-050412	5.75 to -4.25	10 to 20	1 U
	CG-141-WT	06/15/2010	CG-141-WT-061510	7.01 to -2.99	10 to 20	2 U
		06/15/2010	DUP-CG-141-WT-061510	7.01 to -2.99	10 to 20	2 U
	CI-10-WT	06/17/2010	CI-10-WT-061710	5.68 to -4.32	10 to 20	2 U
	CI-11-WT	06/15/2010	CI-11-WT-061510	3.42 to -6.58	10 to 20	4.8 J
	CI-12-WT	06/15/2010	CI-12-WT-061510	5.44 to -4.56	10 to 20	2 U
	CI-13-WT	06/17/2010	CI-13-WT-061710	5.58 to -4.42	10 to 20	2 U
	CI-14-WT	06/16/2010	CI-14-WT-061610	5.08 to -4.92	10 to 20	2 U
	CI-9-WT	06/16/2010	CI-9-WT-061610	5.83 to -4.17	10 to 20	2 U
	CI-MW-1-WT	06/16/2010	CI-MW-1-WT-061610	6.45 to -3.55	10 to 20	2 U
	MW-2	06/17/2010	MW-2-061710	6.58 to -3.42	10 to 20	2 U
	MW-3	06/16/2010	MW-3-061610	5.85 to -4.15	10 to 20	2 U
	MW-4	06/17/2010	MW-4-061710	5.73 to -4.27	10 to 20	2 U
	MW-5	06/16/2010	MW-5-061610	6.02 to -3.98	10 to 20	2 U
	MW-6	06/17/2010	MW-6-061710	7.52 to -2.48	10 to 20	2 U
	MW-7	06/17/2010	DUP-MW-7-061710	7.04 to -2.96	10 to 20	4.8
		06/17/2010	MW-7-061710	7.04 to -2.96	10 to 20	9.3
	MW-8	06/16/2010	MW-8-061610	6.77 to -3.23	10 to 20	2 U
Blaser Die Casting	BDC-3-WT	06/02/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4	2 U
	BDC-4-WT	06/02/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4	2 U
MTCA Method C Modified Screening Level for Groundwater-Water Table, Shallow, and Intermediate Zones						69 <sup>5</sup>

**Table 12**  
**Analytical Results for 1,4-Dioxane in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>
						1,4-Dioxane
Phillip Services Corporation	PSC-CG-131-WT	2/17/2003	PSC-CG-131-WT-021703	Unknown	Unknown	30.9
		5/8/2003	PSC-CG-131-WT-0050803	Unknown	Unknown	50.6
		10/29/2003	PSC-CG-131-WT-102903	Unknown	Unknown	<b>87.4</b>
		2/4/2004	PSC-CG-131-WT-020404	Unknown	Unknown	23.1
		11/8/2004	PSC-CG-131-WT-110804	Unknown	Unknown	8.53
		11/4/2005	PSC-CG-131-WT-110405	Unknown	Unknown	2.3
		11/2/2006	PSC-CG-131-WT-110206	Unknown	Unknown	16
		11/10/2008	PSC-CG-131-WT-111008	Unknown	Unknown	0.24 U
	11/4/2010	PSC-CG-131-WT-110410	Unknown	Unknown	0.93	
	PSC-CG-134-WT	5/8/2003	PSC-CG-134-WT-050803	Unknown	Unknown	1 U
		10/29/2003	PSC-CG-134-WT-102903	Unknown	Unknown	1 U
		2/4/2004	PSC-CG-134-WT-020404	Unknown	Unknown	1 U
		11/8/2004	PSC-CG-134-WT-110804	Unknown	Unknown	1 UJ
		2/1/2005	PSC-CG-134-WT-020105	Unknown	Unknown	1 U
		11/4/2005	PSC-CG-134-WT-110405	Unknown	Unknown	1 U
		2/3/2006	PSC-CG-134-WT-020306	Unknown	Unknown	0.49
		11/2/2006	PSC-CG-134-WT-110206	Unknown	Unknown	0.51
		2/1/2007	PSC-CG-134-WT-020107	Unknown	Unknown	1 U
		11/14/2007	PSC-CG-134-WT-111407	Unknown	Unknown	0.38
		2/13/2008	PSC-CG-134-WT-021308	Unknown	Unknown	0.26 U
		11/10/2008	PSC-CG-134-WT-111008	Unknown	Unknown	0.24 U
		2/12/2009	PSC-CG-134-WT-021209	Unknown	Unknown	0.24 U
		11/2/2009	PSC-CG-134-WT-110209	Unknown	Unknown	0.16 U
		2/19/2010	PSC-CG-134-WT-021910	Unknown	Unknown	0.22
		11/4/2010	PSC-CG-134-WT-110410	Unknown	Unknown	0.16 UJ
		2/9/2011	PSC-CG-134-WT-020911	Unknown	Unknown	0.28
MTCA Method C Modified Screening Level for Groundwater-Water Table, Shallow, and Intermediate Zones						<b>69</b> <sup>5</sup>

**Table 12**  
**Analytical Results for 1,4-Dioxane in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>
						1,4-Dioxane
Shallow Zone						
Capital Industries, Inc.	CG-137-40	06/18/2010	CG-137-40-061810	-14.21 to -24.21	30 to 40	25
		06/18/2010	DUP-CG-137-40-061810	-14.21 to -24.21	30 to 40	26
	CG-141-40	06/15/2010	CG-141-40-061510	-12.99 to -22.99	30 to 40	36 J
	CI-10-35	06/17/2010	CI-10-35-061710	-9.32 to -19.32	25 to 35	5.4
	CI-11-30	06/15/2010	CI-11-30-061510	-6.68 to -16.68	20 to 30	9.8 J
	CI-12-30	06/15/2010	CI-12-30-061510	-4.55 to -14.55	20 to 30	6.3 J
	CI-13-30	06/17/2010	CI-13-30-061710	-4.17 to -14.17	20 to 30	2 U
	CI-14-35	06/16/2010	CI-14-35-061610	-9.88 to -19.88	25 to 35	2.9
	CI-15-40	06/15/2010	CI-15-40-061510	-13.4 to -23.4	30 to 40	3.3 J
	CI-7-40	06/17/2010	CI-7-40-061710	-13.21 to -23.21	30 to 40	87
		03/16/2011	CI-7-40-031611	-13.21 to -23.21	30 to 40	42
	CI-8-40	06/16/2010	CI-8-40-061610	-13.5 to -23.5	30 to 40	120
		03/15/2011	CI-8-40-031511	-13.5 to -23.5	30 to 40	76
	CI-9-40	06/16/2010	CI-9-40-061610	-14.19 to -24.19	30 to 40	8.8
		03/16/2011	CI-9-40-031611	-14.19 to -24.19	30 to 40	4.2
	CI-MW-1-40	06/16/2010	CI-MW-1-40-061610	-13.96 to -23.96	30 to 40	57
		03/15/2011	CI-MW-1-40-031511	-13.96 to -23.96	30 to 40	29
Blaser Die Casting	BDC-10-40	06/02/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	150
		03/01/2011	BDC-10-40	-12.21 to -22.21	30.4 to 40.4	100
	BDC-3-40	06/02/2009	BDC-3-40	-15.34 - -25.34	30.4 to 40.4	30
MTCA Method C Modified Screening Level for Groundwater-Water Table, Shallow, and Intermediate Zones						69 <sup>5</sup>

**Table 12**  
**Analytical Results for 1,4-Dioxane in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>
						1,4-Dioxane
Phillip Services Corporation	PSC-CG-131-40	10/29/2003	PSC-CG-131-40-102903	Unknown	Unknown	627
		2/17/2003	PSC-CG-131-40-021703	Unknown	Unknown	300
		5/8/2003	PSC-CG-131-40-050803	Unknown	Unknown	375
		11/8/2004	PSC-CG-131-40-110804	Unknown	Unknown	500
		2/4/2004	PSC-CG-131-40-020404	Unknown	Unknown	462
		11/4/2005	PSC-CG-131-40-110405	Unknown	Unknown	280
		11/2/2006	PSC-CG-131-40-110206	Unknown	Unknown	260
		11/14/2007	PSC-CG-131-40-111407	Unknown	Unknown	230
		2/13/2008	PSC-CG-131-40-021308	Unknown	Unknown	300
		2/12/2009	PSC-CG-131-40-021209	Unknown	Unknown	250
	2/19/2010	PSC-CG-131-40-021910	Unknown	Unknown	220	
	PSC-CG-134-40	5/8/2003	PSC-CG-134-40-050803	Unknown	Unknown	207
		10/29/2003	PSC-CG-134-40-102903	Unknown	Unknown	350
		2/4/2004	PSC-CG-134-40-020404	Unknown	Unknown	374
		11/8/2004	PSC-CG-134-40-110804	Unknown	Unknown	230
		2/1/2005	PSC-CG-134-40-020105	Unknown	Unknown	249
		11/4/2005	PSC-CG-134-40-110405	Unknown	Unknown	190
		2/3/2006	PSC-CG-134-40-020306	Unknown	Unknown	170
		11/2/2006	PSC-CG-134-40-110206	Unknown	Unknown	210
		2/1/2007	PSC-CG-134-40-020107	Unknown	Unknown	170
		11/14/2007	PSC-CG-134-40-111407	Unknown	Unknown	170
		2/13/2008	PSC-CG-134-40-021308	Unknown	Unknown	170
		11/10/2008	PSC-CG-134-40-111008	Unknown	Unknown	190
		2/12/2009	PSC-CG-134-40-021209	Unknown	Unknown	160
		11/2/2009	PSC-CG-134-40-110209	Unknown	Unknown	180
		2/19/2010	PSC-CG-134-40-021910	Unknown	Unknown	190
		11/4/2010	PSC-CG-134-40-110410	Unknown	Unknown	150
		2/9/2011	PSC-CG-134-40-020911	Unknown	Unknown	170
MTCA Method C Modified Screening Level for Groundwater-Water Table, Shallow, and Intermediate Zones						69 <sup>5</sup>



**Table 12**  
**Analytical Results for 1,4-Dioxane in Monitoring Well Groundwater Samples**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN:457-004**

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results (µg/l) <sup>4</sup>
						1,4-Dioxane
Intermediate Zone						
Capital Industries, Inc.	CG-141-50	06/17/2010	CG-141-50-061710	-22.94 to -32.94	40 to 50	23
	CI-10-65	06/17/2010	CI-10-65-061710	-34.37 to -49.37	50 to 65	6.6
	CI-11-60	06/15/2010	CI-11-60-061510	-36.49 to -46.49	50 to 60	19 J
	CI-12-60	06/15/2010	CI-12-60-061510	-34.37 to -44.37	50 to 60	2 U
	CI-13-60	06/17/2010	CI-13-60-061710	-34.7 to -44.7	50 to 60	6.4
	CI-137-50	06/18/2010	CG-137-50-061810	-23.45 to -33.45	40 to 50	2 U
	CI-14-70	06/16/2010	CI-14-70-061610	-44.87 to -54.87	60 to 70	2 U
		06/16/2010	DUP-CI-14-70-061610	-44.87 to -54.87	60 to 70	2 U
	CI-15-60	06/15/2010	CI-15-60-061510	-33.42 to -43.42	50 to 60	43 J
		03/16/2011	CI-15-60-031611	-33.42 to -43.42	50 to 60	17
	CI-7-60	06/17/2010	CI-7-60-061710	-32.96 to -42.96	50 to 60	100
		03/15/2011	CI-7-60-031511	-32.96 to -42.96	50 to 60	38
	CI-8-60	06/16/2010	CI-8-60-061610	-33.38 to -43.38	50 to 60	11
		03/15/2011	CI-8-60-031511	-33.38 to -43.38	50 to 60	8
	CI-9-70	06/16/2010	CI-9-70-061610	-44.25 to -54.25	60 to 70	50
		03/16/2011	CI-9-70-031611	-44.25 to -54.25	60 to 70	31
	CI-MW-1-60	06/16/2010	CI-MW-1-60-061610	-33.69 to -43.69	50 to 60	110
		03/15/2011	CI-MW-1-60-031511	-33.69 to -43.69	50 to 60	58
Blaser Die Casting	BDC-10-60	06/02/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	110
		03/01/2011	BDC-10-60	-32.11 to -42.11	50.35 to 60.35	92
	BDC-3-60	06/02/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41	18
MTCA Method C Modified Screening Level for Groundwater-Water Table, Shallow, and Intermediate Zones						69 <sup>5</sup>

**NOTES:**

Results in **bold** denote concentrations above applicable cleanup levels (Table 2).

<sup>1</sup>Areas where the potentially liable parties have conducted their respective remedial investigations in accordance with their respective Agreed/Enforcement orders.

<sup>2</sup>Vertical Datum is NAVD88.

<sup>3</sup>Depth in feet below ground surface.

<sup>4</sup>Analyzed by U.S. Environmental Protection Agency Method 8270C.

<sup>5</sup>Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations Method B Modified based on Asian Pacific Island (API) Exposure scenarios for the consumption of fish for the groundwater-to-surface-water pathway using equation 730-2.

DCE = dichloroethene

HVOCs = halogenated volatile organic compounds

Intermediate Zone = Groundwater collected from 40 to 70 feet below ground surface

J = Value reported was below the practical quantitation limit. The value is an estimate.

µg/l = micrograms per liter

PCE = tetrachloroethene

Shallow Zone = Groundwater collected from 20 to 40 feet below ground surface.

TCE = trichloroethene

U = Result is less than laboratory practical quantitative limit or not detected at or above the reporting limit listed.

Water Table Zone = Groundwater collected from the first encountered groundwater to 20 feet below ground surface.

Table 13

Analytical Results for MNA Parameters and Select Metals in Monitoring Well Groundwater Samples  
Remedial Investigation Report  
Capital Industries, Inc.  
Seattle, Washington  
Farallon PN:457-004

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results														
						Chloride <sup>4</sup> mg-Cl/L	Ferrous Iron <sup>5</sup> mg/L	Nitrate as N <sup>6</sup> mg-N/L	Nitrite as N <sup>6</sup> mg-N/L	Nitrate + Nitrite as N <sup>6</sup> mg-N/L	Sulfide <sup>7</sup> mg/L	Sulfate <sup>8</sup> mg/L	Methane <sup>9</sup> ug/L	Ethane <sup>9</sup> ug/L	Ethene <sup>9</sup> ug/L	Alkalinity as CaCO <sub>3</sub> , Total <sup>10</sup> mg-CaCO <sub>3</sub> /L	Iron <sup>11</sup> ug/L	Iron, Dissolved <sup>11</sup> ug/L	Manganese <sup>11</sup> ug/L	Manganese, Dissolved <sup>11</sup> ug/L
Water Table Zone																				
Capital Industries, Inc.	CG-137-WT	06/18/2010	CG-137-WT-061810	5.75 to -4.25	10 to 20	14	8.04	0.064	0.05 U		0.05 U	8.1	3,000	250 U	250 U	280	8,900		610	
		12/15/2010	CI-137-WT-121510	5.75 to -4.25	10 to 20	3.6		1.8	0.05 U			11	130	10 U	10 U	35	3,200		86	
	CG-141-WT	06/15/2010	CG-141-WT-061510	7.01 to -2.99	10 to 20												1,100 J		130	
		06/15/2010	DUP-CG-141-WT-061510	7.01 to -2.99	10 to 20												1,600 J		150	
	CI-10-WT	06/17/2010	CI-10-WT-061710	5.68 to -4.32	10 to 20			1.4	0.05 U		0.05 U									
		06/17/2010	CI-10-WT-061710	5.68 to -4.32	10 to 20	4.6	0.333					32	6	1 U	1 U	90	920		78	
		12/14/2010	CI-10-WT-121410	5.68 to -4.32	10 to 20	7.4		0.05 U	0.05 U		0.055	46	20	4	1 U	200	2,600		160	
	CI-11-WT	06/15/2010	CI-11-WT-061510	3.42 to -6.58	10 to 20	16	24.2	0.065	0.05 U		0.05 U	10 U	16,000	1,000 U	1,000 U	170	23,000		870	
		12/14/2010	CI-11-WT-121410	3.42 to -6.58	10 to 20	16		0.05 U	0.05 U		0.05 U	100 U	7,600	600 U	500 U	160	25,000		900	
		5/3/2012	CI-11-WT-050312	3.42 to -6.58	10 to 20												27,000	12,000	970	930
		5/3/2012	QA/QC-3-050312	3.42 to -6.58	10 to 20												27,000	12,000	980	980
	CI-12-WT	06/15/2010	CI-12-WT-061510	5.44 to -4.56	10 to 20												1,300		70	
	CI-13-WT	06/17/2010	CI-13-WT-061710	5.58 to -4.42	10 to 20			1.8	0.05 U		0.05 U									
		06/17/2010	CI-13-WT-061710	5.58 to -4.42	10 to 20	19	0.101					100	1	1 U	1 U	170	380		84	
		12/15/2010	CI-13-WT-121510	5.58 to -4.42	10 to 20	19		0.64	0.05 U			170	6	1 U	1 U	120	7,300		91	
	CI-14-WT	06/16/2010	CI-14-WT-061610	5.08 to -4.92	10 to 20												560		140	
	CI-16-WT	5/2/2012	CI-16-WT-050212	4.4 to -5.6	10 to 20												24,000	21,000	730	760
	CI-17-WT	5/2/2012	CI-17-WT-050212	4.72 to -5.28	10 to 20												1900	56 U	230	180
	CI-18-WT	5/2/2012	CI-18-WT-050212	6.73 to -3.27	10 to 20												190	56 U	11 U	11 U
	CI-19-WT	5/2/2012	CI-19-WT-050212	5.79 to -4.21	10 to 20												2,500	130	760	700
	CI-9-WT	06/16/2010	CI-9-WT-061610	5.83 to -4.17	10 to 20	7.1	0.929	4.9	0.05 U		0.05 U	41	38	3 U	3 U	97	1,300		210	
		12/14/2010	CI-9-WT-121410	5.83 to -4.17	10 to 20	12		3.9	0.05 U		0.05 U	51	31	2 U	2 U	95	14,000		140	
	CI-MW-1-WT	06/16/2010	CI-MW-1-WT-061610	6.45 to -3.55	10 to 20												12,000		120	
	MW-2	06/17/2010	MW-2-061710	6.58 to -3.42	10 to 20												2,800		49	
	MW-3	06/16/2010	MW-3-061610	5.85 to -4.15	10 to 20												32,000		310	
	MW-4	06/17/2010	MW-4-061710	5.73 to -4.27	10 to 20												26,000		2,100	
	MW-5	06/16/2010	MW-5-061610	6.02 to -3.98	10 to 20												22,000		470	
	MW-6	06/17/2010	MW-6-061710	7.52 to -2.48	10 to 20												2,900		250	
MW-7	06/17/2010	DUP-MW-7-061710	7.04 to -2.96	10 to 20	8.4	5.75	5.1 J	0.05 U		0.05 U	43	110 J	28 J	10 U	13	30,000 J		240		
	06/17/2010	MW-7-061710	7.04 to -2.96	10 to 20	9	5.41	3.2 J	0.05 U		0.05 U	42	200 J	53 J	15 U	20	42,000 J		280		
	12/14/2010	MW-7-121410	7.04 to -2.96	10 to 20	13		0.43 J	0.05 U		0.05 U	38	83	21	6 U	74	18,000		220		
	12/14/2010	MW-7-121410 Dup	7.04 to -2.96	10 to 20	12		1.2 J	0.05 U		0.05 U	38				70					
	12/14/2010	MW-7-121410-DUP	7.04 to -2.96	10 to 20								79	21	6 U		16,000		220		
	5/4/2012	MW-7-050412	7.04 to -2.96	10 to 20												38,000	1,300	100	62	
MW-8	06/16/2010	MW-8-061610	6.77 to -3.23	10 to 20												58,000		250		
Blaser Die Casting	BDC-11-WT	06/03/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4		5.55	0.015	0.01 U	0.015	0.05 U	38.7	5	1 U	1 U	110		5,780		273
		11/17/2009	BDC-11-WT	9.19 to -0.81	10.4 to 20.4		6.34	0.1 U	0.1 U		0.05 U	41.5	12	1 U	1 U	110	5,830	6,140	237	251
	BDC-1-WT	02/01/2008	BDC-1	11.18 to 1.18	5.9 to 15.9		2.22	0.1 U	0.1 U			35.3	9	1 U	1 U	83.9				372
	BDC-2-WT	02/01/2008	BDC-2	9.33 to -0.67	6.4 to 16.4		7.35	0.1 U	0.1 U			54	52	1 U	1 U	138				442
		06/02/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4		6.25	0.031	0.01 U	0.031	0.05 U	37	52	1 U	1 U	120		6,710		357
		11/16/2009	BDC-2-WT	9.33 to -0.67	6.4 to 16.4		6.15	0.2 U	0.2 U	0.2 U	0.05 U	49.8	29	1 U	1 U	102	5,930	5,920	286	307
	BDC-3-WT	02/01/2008	BDC-3	7.89 to 2.89	7.4 to 12.4		0.81	0.2	0.1 U			47.9	49	1 U	1 U	134				198
		06/02/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4		2.92	0.029	0.01 U	0.029	0.05 U	38.8	12	1 U	1 U	81		3,760		255
		11/16/2009	BDC-3-WT	7.89 to 2.89	7.4 to 12.4		2.36	0.092	0.01 U	0.092	0.05 U	39.4	1 U	1 U	1 U	114	4,120	2,160	194	206
	BDC-4-WT	02/01/2008	BDC-4	11.43 to 1.43	6.4 to 16.4		3.58	0.7	0.1 U			33.3	30	1 U	1 U	47				123
		06/02/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4		3.18	1.13	0.012	1.14	0.05 U	44.2	1 U	1 U	1 U	54.6		3,630		104
		11/17/2009	BDC-4-WT	11.43 to 1.43	6.4 to 16.4		1.56	1.1	0.1 U		0.05 U	39.7	3	1 U	1 U	51.8	2,240	1,840	116	116
	BDC-6-WT	02/01/2008	BDC-6	8.85 to -1.15	9.4 to 19.4		6.5	0.1 U	0.1 U			41.7	25	1 U	1 U	122				406
		06/02/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4		7.85	0.032	0.01 U	0.032	0.05 U	47.4	33	1 U	1 U	132		7,990		502
		11/16/2009	BDC-6-WT	8.85 to -1.15	9.4 to 19.4		7.75	0.2 U	0.2 U	0.2 U	0.05 U	54	51	1 U	1 U	160	7,080	7,390	494	530
BDC-9-WT	11/16/2009	BDC-9-WT	5 to -5	10 to 20		56	0.1 U	0.1 U	0.1 U	0.05 U	41.5	192	27	1 U	96.2	33,100	10,700	371	207	
CG-136-WT	06/02/2009	CG-136-WT	7.67 to -2.33	7.36 to 17.36													810		165	
	11/16/2009	CG-136-WT	7.67 to -2.33	7.36 to 17.36												850	260	170	78	
MTCA Method B Modified Screening Levels for Groundwater-Water Table, Shallow, and Intermediate Zones																	1,000 <sup>12</sup>	1,000 <sup>12</sup>	100 <sup>13</sup>	100 <sup>13</sup>

Table 13

Analytical Results for MNA Parameters and Select Metals in Monitoring Well Groundwater Samples  
Remedial Investigation Report  
Capital Industries, Inc.  
Seattle, Washington  
Farallon PN:457-004

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results															
						Chloride <sup>4</sup>	Ferrous Iron <sup>5</sup>	Nitrate as N <sup>6</sup>	Nitrite as N <sup>6</sup>	Nitrate + Nitrite as N <sup>6</sup>	Sulfide <sup>7</sup>	Sulfate <sup>8</sup>	Methane <sup>9</sup>	Ethane <sup>9</sup>	Ethene <sup>9</sup>	Alkalinity as CaCO <sub>3</sub> , Total <sup>10</sup>	Iron <sup>11</sup>	Iron, Dissolved <sup>11</sup>	Manganese <sup>11</sup>	Manganese, Dissolved <sup>11</sup>	
						mg-Cl/L	mg/L	mg-N/L	mg-N/L	mg-N/L	mg/L	mg/L	ug/L	ug/L	ug/L	mg-CaCO <sub>3</sub> /L	ug/L	ug/L	ug/L	ug/L	
Shallow Zone																					
Capital Industries, Inc.	CG-137-40	06/18/2010	CG-137-40-061810	-14.21 to -24.21	30 to 40	20	6.56	2.9 J	0.05 U		0.05 U	5 U	1,200 J	50 U	50 U	220	6,600		650		
		06/18/2010	DUP-CG-137-40-061810	-14.21 to -24.21	30 to 40	20	6.28	0.1 J	0.05 U		0.05 U	5 U	3,500 J	210 U	210 U	200	6,700		650		
		12/15/2010	CI-137-40-121510	-14.21 to -24.21	30 to 40	12		1.7 J	0.05 U			13	2,400	500 U	500 U	170	7,100		540		
		12/15/2010	CI-137-40-121510 DUP	-14.21 to -24.21	30 to 40								2,700	500 U	500 U						
		12/15/2010	CI-137-40-121510-DUP	-14.21 to -24.21	30 to 40	12		0.062 J	0.05 U			12				190	7,200		540		
	CG-141-40	06/15/2010	CG-141-40-061510	-12.99 to -22.99	30 to 40												20,000		830		
	CI-10-35	06/17/2010	CI-10-35-061710	-9.32 to -19.32	25 to 35			0.17	0.05 U		0.08										
		06/17/2010	CI-10-35-061710	-9.32 to -19.32	25 to 35	9.3	19.4					20	520	50 U	50 U	53	20,000		410		
		12/14/2010	CI-10-35-121410	-9.32 to -19.32	25 to 35	12		0.05 U	0.05 U		0.05 U	11	420	50 U	50 U	64	20,000		440		
	CI-11-30	06/15/2010	CI-11-30-061510	-6.68 to -16.68	20 to 30	25	40.4	0.15	0.05 U		0.05 U	25 U	9,800	1,000 U	1,000 U	120	39,000		930		
		12/14/2010	CI-11-30-121410	-6.68 to -16.68	20 to 30	22		0.05 U	0.05 U		0.05 U	5 U	9,400	650 U	500 U	170	46,000		880		
		5/3/2012	CI-11-30-050312	-6.68 to -16.68	20 to 30												51,000	38,000	1,100	1,000	
	CI-12-30	06/15/2010	CI-12-30-061510	-4.55 to -14.55	20 to 30												15,000		320		
	CI-13-30	06/17/2010	CI-13-30-061710	-4.17 to -14.17	20 to 30			0.058	0.05 U		0.05 U										
		06/17/2010	CI-13-30-061710	-4.17 to -14.17	20 to 30	21	7.98					61	110	11	10 U	120	9,000		400		
		12/15/2010	CI-13-30-121510	-4.17 to -14.17	20 to 30	14		0.13	0.05 U			32	110	19	10 U	150	15,000		300		
	CI-14-35	06/16/2010	CI-14-35-061610	-9.88 to -19.88	25 to 35												14,000		430		
	CI-15-40	06/15/2010	CI-15-40-061510	-13.4 to -23.4	30 to 40												18,000		400		
	CI-16-30	5/2/2012	CI-16-30-050212	-5.52 to -15.52	20 to 30												29,000	17,000	1,300	1,200	
	CI-17-30	5/2/2012	CI-17-30-050212	-5.42 to -15.42	20 to 30												52,000	34,000	1,400	1,300	
	CI-18-30	5/2/2012	CI-18-30-050212	-3.26 to -13.26	20 to 30												5,300	1,500	250	200	
	CI-19-30	5/2/2012	CI-19-30-050212	-4.43 to -14.43	20 to 30												16,000	78	480	330	
	CI-7-40	06/17/2010	CI-7-40-061710	-13.21 to -23.21	30 to 40			5.1	0.05 U		0.05 U										
		06/17/2010	CI-7-40-061710	-13.21 to -23.21	30 to 40	27	9.32					5 U	8,200	500 U	500 U	210	18,000		930		
		12/14/2010	CI-7-40-121410	-13.21 to -23.21	30 to 40	27		0.05	0.05 U		0.05 U	5 U	3,300	500 U	500 U	150	19,000		670		
		5/4/2012	CI-7-40-050412	-13.21 to -23.21	30 to 40												35,000	5,300	720	490	
	CI-8-40	06/16/2010	CI-8-40-061610	-13.5 to -23.5	30 to 40												29,000		990		
	CI-9-40	06/16/2010	CI-9-40-061610	-14.19 to -24.19	30 to 40	10	13.4	0.12	0.05 U		0.05 U	25	580	50 U	50 U	80	14,000		470		
12/14/2010		CI-9-40-121410	-14.19 to -24.19	30 to 40	11		0.05 U	0.05 U		0.05 U	56	380	25 U	25 U	92	15,000		360			
CI-MW-1-40	06/16/2010	CI-MW-1-40-061610	-13.96 to -23.96	30 to 40												23,000		870			
Blaser Die Casting	BDC-10-40	06/02/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4		23.2	0.011	0.019	0.03	0.05 U	13	13,600	860	19	249		25,200		906	
		11/17/2009	BDC-10-40	-12.21 to -22.21	30.4 to 40.4		26	0.1 U	0.1 U		0.057	17.9	15,100	913	14	240	24,700	25,100	760	786	
	BDC-11-40	06/03/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4		11	0.019	0.012	0.031	0.079	33	6,470	246	157	200		10,500		1,040	
		11/17/2009	BDC-11-40	-11.03 to -21.03	30.4 to 40.4		21.8	0.1 U	0.1 U		0.096	51.1	5,200	240	85	164	21,100	20,100	890	895	
	BDC-3-40	06/02/2009	BDC-3-40	-15.34 to -25.34	30.4 to 40.4		25.2	0.017	0.029	0.046	0.05 U	46.2	5,900	381	1 U	180		26,400		727	
		11/16/2009	BDC-3-40	-15.34 to -25.34	30.4 to 40.4		24.4	0.1 U	0.01 U	0.1 U	0.05 U	48.6	4,990	324	2	178	21,400	23,200	609	652	
	BDC-6-30	02/01/2008	BDC-5	-1.21 to -11.21	19.4 to 29.4		12.2	0.1 U	0.1 U			48.8	80	8	1 U	90.6				265	
		06/03/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4		14.4	0.015	0.017	0.032	0.05 U	58.4	53	7	1 U	90.9		14,900		298	
		11/16/2009	BDC-6-30	-1.21 to -11.21	19.4 to 29.4		11.2	0.2 U	0.2 U	0.2 U	0.05 U	47.6	52	1 U	1 U	78.6	10,600	10,700	193	208	
CG-136-40	06/02/2009	CG-136-40	-15.66 to -25.66	30.38 to 40.38													25,500		772		
	11/16/2009	CG-136-40	-15.66 to -25.66	30.38 to 40.38												23,500	23,600	736	743		
MTCA Method B Modified Screening Levels for Groundwater-Water Table, Shallow, and Intermediate Zones																	1,000 <sup>12</sup>	1,000 <sup>12</sup>	100 <sup>13</sup>	100 <sup>13</sup>	

Table 13

Analytical Results for MNA Parameters and Select Metals in Monitoring Well Groundwater Samples

Remedial Investigation Report

Capital Industries, Inc.

Seattle, Washington

Farallon PN:457-004

Area of Investigation <sup>1</sup>	Sample Location	Sample Date	Sample Identification	Screened Interval Elevation (feet) <sup>2</sup>	Screened Interval Depth (feet) <sup>3</sup>	Groundwater Analytical Results														
						Chloride <sup>4</sup>	Ferrous Iron <sup>5</sup>	Nitrate as N <sup>6</sup>	Nitrite as N <sup>6</sup>	Nitrate + Nitrite as N <sup>6</sup>	Sulfide <sup>7</sup>	Sulfate <sup>8</sup>	Methane <sup>9</sup>	Ethane <sup>9</sup>	Ethene <sup>9</sup>	Alkalinity as CaCO3, Total <sup>10</sup>	Iron <sup>11</sup>	Iron, Dissolved <sup>11</sup>	Manganese <sup>11</sup>	Manganese, Dissolved <sup>11</sup>
Intermediate Zone																				
Capital Industries, Inc.	CG-141-50	06/17/2010	CG-141-50-061710	-22.94 to -32.94	40 to 50											5,500		600		
	CI-10-65	06/17/2010	CI-10-65-061710	-34.37 to -49.37	50 to 65			0.05 U	0.05 U		0.05 U									
		06/17/2010	CI-10-65-061710	-34.37 to -49.37	50 to 65	20	1.6					5 U	9,500	500 U	500 U	210	1,700		380	
		12/14/2010	CI-10-60-121410	-34.37 to -44.37	50 to 60	20		0.05 U	0.05 U		0.05 U	5 U	5,300	500 U	500 U	210	3,500		340	
	CI-11-60	06/15/2010	CI-11-60-061510	-36.49 to -46.49	50 to 60	57	1.24	0.05 U	0.05 U		0.05 U	13	13,000	1,000 U	1,000 U	320	1,600		600	
		12/14/2010	CI-11-60-121410	-36.49 to -46.49	50 to 60	54		0.05 U	0.05 U		0.05 U	5 U	14,000	1,000 U	1,000 U	390	15,000		870	
		5/3/2012	CI-11-60-050312	-36.49 to -46.49	50 to 60												12,000	380	790	630
	CI-12-60	06/15/2010	CI-12-60-061510	-34.37 to -44.37	50 to 60											1,000		240		
	CI-13-60	06/17/2010	CI-13-60-061710	-34.7 to -44.7	50 to 60			0.59	0.05 U		0.05 U									
		06/17/2010	CI-13-60-061710	-34.7 to -44.7	50 to 60	17	1.26					14	6,400	500 U	500 U	300	3,800		170	
		12/15/2010	CI-13-60-121510	-34.7 to -44.7	50 to 60	20		0.098	0.05 U			5 U	9,200	500 U	500 U	290	1,200		170	
	CI-137-50	06/18/2010	CG-137-50-061810	-23.45 to -33.45	40 to 50	2 U	2.04	0.11	0.05 U		0.05 U	12	8	1 U	1 U	29	3,000		69	
		12/15/2010	CI-137-50-121510	-23.45 to -33.45	40 to 50	21		0.057	0.05 U			5 U	2,000	100 U	100 U	250	2,800		540	
	CI-14-70	06/16/2010	CI-14-70-061610	-44.87 to -54.87	60 to 70												1,700 J		210	
		06/16/2010	DUP CI-14-70-061610	-44.87 to -54.87	60 to 70												1,200 J		200	
	CI-15-60	06/15/2010	CI-15-60-061510	-33.42 to -43.42	50 to 60												4,900		740	
	CI-16-60	5/2/2012	CI-16-60-050212	-33.42 to -43.42	50 to 60												19,000	940	350	84
	CI-7-60	06/17/2010	CI-7-60-061710	-32.96 to -42.96	50 to 60			4.1	0.05 U		0.05 U									
		06/17/2010	CI-7-60-061710	-32.96 to -42.96	50 to 60	35	7.46					10	7,700	500 U	500 U	210	15,000		870	
		12/14/2010	CI-7-60-121410	-32.96 to -42.96	50 to 60	37		0.05 U	0.05 U		0.05 U	5.4	6,300	500 U	500 U	300	23,000		850	
		5/4/2012	CI-7-60-050412	-32.96 to -42.96	50 to 60												20,000	3,300	860	760
	CI-8-60	06/16/2010	CI-8-60-061610	-33.38 to -43.38	50 to 60												6,900		360	
	CI-9-70	06/16/2010	CI-9-70-061610	-44.25 to -54.25	60 to 70	31	4.78	0.05 U	0.05 U		0.05 U	5 U	5,800	500 U	500 U	200	5,700		1,300	
		12/14/2010	CI-9-70-121410	-44.25 to -54.25	60 to 70	30		0.05 U	0.05 U		0.05 U	5 U	6,100	500 U	500 U	200	9,600		880	
	CI-MW-1-60	06/16/2010	CI-MW-1-60-061610	-33.69 to -43.69	50 to 60												32,000		1,200	
Blaser Die Casting	BDC-10-60	06/02/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35		23.8	0.012	0.022	0.034	0.05 U	5.8	14,400	673	147	226		25,400		1,050
		11/17/2009	BDC-10-60	-32.11 to -42.11	50.35 to 60.35		25.2	0.1 U	0.1 U		0.05 U	9	16,300	791	132	220	24,200	24,500	1,020	1,030
	BDC-11-60	06/03/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4		1.24	0.01 U	0.01 U	0.01 U	0.05 U	5.3	9,410	116	666	283		1,210		615
		11/17/2009	BDC-11-60	-31.3 to -41.3	50.4 to 60.4		3.29	0.1 U	0.1 U		0.05 U	6.4	9,490	126	676	278	3,100	3,060	690	632
	BDC-3-60	06/02/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41		15	0.02	0.01 U	0.02	0.05 U	50.3	6,400	149	6	192		15,800		732
		11/16/2009	BDC-3-60	-35.27 to -45.27	50.41 to 60.41		19.5	0.2 U	0.2 U	0.2 U	0.05 U	24.1	11,200	159	12	210	18,600	18,900	689	722
	BDC-6-60	06/02/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4		2.92	0.01 U	0.01 U	0.01 U	0.05 U	6	9,320	154	171	258		4,710		722
		11/16/2009	BDC-6-60	-32.2 to -42.2	50.4 to 60.4		6.55	0.1 U	0.01 U	0.1 U	0.05 U	7.7	8,610	183	223	253	5,580	6,200	1,020	1,070
MTCA Method B Modified Screening Levels for Groundwater-Water Table, Shallow, and Intermediate Zones																1,000 <sup>12</sup>	1,000 <sup>12</sup>	100 <sup>13</sup>	100 <sup>13</sup>	

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels (Table 2).

<sup>1</sup>Areas where the potentially liable parties have conducted their respective remedial investigations in accordance with their respective Agreed/Enforcement orders.

<sup>2</sup>Vertical Datum is NAVD88.

<sup>3</sup>Depth in feet below ground surface.

<sup>4</sup>Analyzed by SM4500-Cl E

<sup>5</sup>Analyzed by SM3500-FE

<sup>6</sup>Analyzed by U.S. Environmental Protection Agency (EPA) Method 353.2

<sup>7</sup>Analyzed by EPA Method 376.1

<sup>8</sup>Analyzed by EPA Method 375.4

<sup>9</sup>Analyzed by EPA Method 8015B

<sup>10</sup>Analyzed by EPA Method 310.2

<sup>11</sup>Analyzed by EPA Method 6010B

<sup>12</sup>EPA ECOTOX Thresholds for Ecological Clean Water Act Ambient Water Quality Criteria (AWQC) based on human health consumption of organisms for the groundwater-to-surface-water pathway.

<sup>13</sup>Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations Method B Modified based on Asian Pacific Island (API) Exposure scenarios for the consumption of fish for the groundwater-to-surface-water pathway using equation 730-2.

DCE = dichloroethene

HVOCs = halogenated volatile organic compounds

Intermediate Zone = Groundwater collected from 40 to 70 feet below ground surface

J = Value reported was below the practical quantitation limit. The value is an estimate.

µg/l = micrograms per liter

MNA = monitored natural attenuation

PCE = tetrachloroethene

Shallow Zone = Groundwater collected from 20 to 40 feet below ground surface.

TCE = trichloroethene

U = Result is less than laboratory practical quantitative limit or not detected at or above the reporting limit listed.

Water Table Zone = Groundwater collected from the first encountered groundwater to 20 feet below ground surface.

**Table 14**  
**Groundwater Monitoring Well Water Quality Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Monitoring Well	Date	Temperature (C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	ORP (mV)
<b>Water Table Zone</b>						
CG-137-WT	3/25/2010	16.11	7.57	0.102	0.14	-41.4
	6/18/2010	15.94	6.61	0.404	2.08	20.9
	9/30/2010	17.41	6.53	0.105	0.56	33.7
	12/15/2010	16.47	6.81	0.101	0.30	21.6
	3/16/2011	15.70	6.76	0.127	0.21	73.0
	9/30/2011	17.41	6.77	0.088	0.28	-49.4
	5/4/2012	15.74	6.31	0.123	0.16	-24.7
CG-141-WT	3/23/2010	12.23	6.33	0.235	0.91	104.5
	6/15/2010	13.27	6.45	0.263	1.25	110.2
	9/29/2010	15.62	6.24	0.298	0.63	-106.8
	12/16/2010	13.86	5.87	0.272	4.86	17.0
	3/14/2011	12.67	6.26	0.530	0.53	93.3
CI-10-WT	3/24/2010	14.58	6.29	0.278	0.52	70.2
	6/17/2010	16.41	6.23	0.236	0.49	139.1
	9/29/2010	16.92	7.06	0.292	3.88	51.7
	12/14/2010	16.64	6.50	0.235	2.76	184.5
	3/17/2011	13.73	6.54	0.220	3.50	102.7
	9/29/2011	19.20	6.37	0.244	0.60	11.1
	5/3/2012	14.85	6.34	0.240	3.25	29.0
CI-11-WT	6/15/2010	15.48	6.47	0.506	0.41	29.3
	9/27/2010	13.42	7.09	0.533	1.77	23.0
	12/14/2010	13.97	6.18	0.446	8.34	4.5
	3/17/2011	13.30	6.42	1.954	2.97	92.6
	9/29/2011	16.16	6.53	0.645	0.94	-103.1
	5/3/2012	15.04	6.57	0.591	1.67	-67.2
CI-12-WT	3/23/2010	12.26	6.40	0.450	0.96	-5.7
	6/15/2010	13.56	6.32	0.610	0.72	223.8
	9/28/2010	13.91	6.51	0.946	1.01	51.4
	12/15/2010	12.54	5.91	0.497	2.57	21.1
	3/18/2011	12.68	6.51	0.410	2.39	86.9
	5/2/2012	11.84	6.32	0.618	0.44	-50.1

**Table 14**  
**Groundwater Monitoring Well Water Quality Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Monitoring Well	Date	Temperature (C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	ORP (mV)
CI-13-WT	6/17/2010	14.11	6.40	0.492	0.26	73.4
	9/28/2010	13.53	7.06	0.606	1.21	41.1
	12/15/2010	13.92	5.98	0.527	7.02	-4.9
	3/17/2011	14.24	7.78	0.594	0.99	17.8
	9/28/2011	15.16	6.42	0.534	1.68	42.7
	5/4/2012	13.48	6.55	0.567	0.65	60.4
CI-14-WT	6/16/2010	15.21	6.11	0.396	0.50	213.8
	9/28/2010	14.43	5.72	0.376	3.25	45.9
	12/15/2010	16.09	6.01	0.328	0.87	10.6
	3/17/2011	14.90	7.80	0.395	1.52	28.7
	5/3/2012	13.87	6.10	0.416	0.57	88.2
CI-16-WT	5/2/2012	13.71	6.07	0.566	0.54	-81.1
	6/25/2012	15.51	5.53	0.468	0.18	-70.3
CI-17-WT	5/2/2012	12.54	6.71	1.058	2.31	-50.3
	6/25/2012	16.69	6.63	0.873	0.24	-92.1
CI-18-WT	5/2/2012	12.43	6.52	0.574	2.88	-17.5
	6/25/2012	15.15	6.30	0.574	1.13	62.0
CI-19-WT	5/2/2012	13.71	6.99	6.653	0.85	-164.9
	6/25/2012	14.48	6.86	6.481	0.25	-134.1
CI-9-WT	6/16/2010	15.06	6.24	0.310	0.34	95.8
	9/29/2010	17.12	7.17	0.282	1.67	49.7
	12/14/2010	15.77	6.00	0.322	5.57	-4.3
	3/15/2011	13.80	8.00	0.280	0.58	35.5
	9/29/2011	19.22	6.28	0.288	0.73	35.2
	5/4/2012	13.69	6.22	0.304	0.88	29.3
CI-MW-1-WT	6/16/2010	14.85	6.85	0.253	0.42	76.0
	9/29/2010	17.44	6.29	0.303	0.53	-33.6
	3/15/2011	14.79	6.50	0.382	0.31	64.9

**Table 14**  
**Groundwater Monitoring Well Water Quality Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Monitoring Well	Date	Temperature (C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	ORP (mV)
MW-2	3/25/2010	16.39	7.47	0.151	0.28	-37.8
	6/17/2010	16.87	6.99	0.063	0.48	103.4
	9/30/2010	17.55	6.47	0.321	5.87	28.3
	12/15/2010	17.31	6.83	0.066	5.22	118.6
	3/16/2011	16.47	6.80	0.088	3.07	67.6
MW-3	3/25/2010	14.07	7.20	0.388	0.49	-16.1
	6/16/2010	15.90	6.68	0.294	0.70	87.7
	9/29/2010	16.16	7.19	0.354	0.85	52.9
	12/15/2010	14.95	6.48	0.312	1.86	84.3
	3/16/2011	13.46	7.94	0.401	0.30	-11.4
MW-4	3/25/2010	13.29	7.41	0.457	1.88	47.0
	6/17/2010	15.64	6.78	0.343	2.07	112.3
	9/29/2010	16.18	7.40	0.461	2.37	55.5
	12/15/2010	14.57	6.46	0.358	1.58	157.0
MW-5	3/24/2010	15.12	6.27	0.340	0.66	8.3
	6/16/2010	14.24	6.95	0.290	0.65	77.6
	9/29/2010	17.11	6.43	0.288	0.57	-58.1
	12/16/2010	15.31	6.62	0.245	2.33	107.5
	3/15/2011	14.14	7.58	0.364	0.43	9.2
MW-6	3/24/2010	16.23	6.03	0.240	0.37	78.0
	6/17/2010	16.32	6.20	0.230	1.19	36.8
	9/28/2010	14.64	6.65	0.224	2.08	53.0
	12/16/2010	16.51	6.66	0.210	7.29	207.7
	3/18/2011	15.45	6.24	0.243	0.29	82.8
MW-7	3/24/2010	16.06	5.70	0.285	0.43	47.8
	6/17/2010	14.81	7.04	0.243	1.05	88.2
	9/30/2010	18.00	6.48	0.283	0.59	-30.0
	12/14/2010	14.49	6.52	0.239	0.57	104.5
	3/15/2011	12.68	6.40	0.362	0.70	67.9
	9/29/2011	17.31	6.43	0.236	0.90	-23.2
	5/4/2012	13.84	6.14	0.210	1.98	28.2
MW-8	3/24/2010	14.77	5.85	0.410	0.32	51.0
	6/16/2010	14.70	6.40	0.277	0.66	95.9
	9/30/2010	17.31	6.14	0.354	0.74	-2.4
	12/16/2010	15.39	6.22	0.288	1.70	186.2
	3/15/2011	13.03	7.54	0.421	2.83	75.9
	9/29/2011	19.24	6.09	0.325	0.88	38.8
	5/4/2012	13.74	NA	0.260	2.59	88.9

**Table 14**  
**Groundwater Monitoring Well Water Quality Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Monitoring Well	Date	Temperature (C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	ORP (mV)
<b>Shallow Zone</b>						
CG-137-40	3/25/2010	15.87	7.54	0.424	0.57	-67.6
	6/18/2010	16.44	6.66	0.384	0.71	15.0
	9/30/2010	16.14	6.54	0.451	0.31	-16.3
	12/15/2010	15.87	6.70	0.329	0.31	6.6
	3/16/2011	15.72	6.71	0.422	0.28	68.9
	9/30/2011	16.24	6.67	0.351	0.43	-59.2
	5/4/2012	15.50	6.54	0.424	0.30	-49.9
CG-141-40	3/23/2010	13.75	6.32	0.435	0.40	-55.4
	6/15/2010	13.83	7.15	0.354	0.94	72.7
	9/29/2010	14.42	6.50	0.382	0.86	-123.2
	12/16/2010	12.89	6.14	0.361	8.70	-11.0
	3/14/2011	13.47	6.52	0.462	0.50	89.7
	5/3/2012	12.82	6.40	0.467	0.59	-56.1
CI-10-35	3/24/2010	15.10	6.33	0.273	0.58	-67.0
	6/17/2010	16.74	6.23	0.263	0.32	19.8
	9/29/2010	16.61	6.34	0.271	1.62	49.1
	12/14/2010	15.47	6.55	0.237	5.50	111.5
	3/17/2011	15.55	6.49	0.306	0.27	77.1
	9/29/2011	18.52	6.48	0.267	0.45	-66.1
	5/3/2012	15.90	6.44	0.298	0.43	-29.0
CI-11-30	6/15/2010	16.20	6.08	0.524	0.34	-61.7
	9/27/2010	13.53	6.24	0.562	0.93	17.3
	12/14/2010	11.80	6.19	0.423	2.55	-59.3
	3/17/2011	14.67	6.60	0.635	1.67	89.8
	9/29/2011	17.41	6.64	0.444	0.84	-120.6
	5/3/2012	14.75	6.56	0.526	0.17	-89.2
CI-12-30	3/23/2010	12.55	6.23	0.327	0.47	-51.3
	6/15/2010	13.76	6.31	0.323	0.58	68.7
	9/28/2010	12.88	7.15	0.325	0.85	39.3
	12/15/2010	13.92	6.08	0.320	4.64	-16.0
	3/18/2011	12.77	7.11	0.355	0.20	-9.6
	9/28/2011	16.13	6.29	0.311	0.88	-27.4
	5/2/2102	12.60	6.30	0.353	0.16	-2.8
CI-13-30	6/17/2010	14.13	6.30	0.433	0.35	80.0
	9/28/2010	13.08	7.29	0.400	1.02	37.3
	12/15/2010	14.15	6.12	0.328	0.55	-14.4
	3/17/2011	14.35	7.71	0.466	0.20	-2.5
	9/28/2011	14.91	6.44	0.336	0.65	-30.6
	5/4/2012	13.44	6.44	0.422	5.07	-17.3



**Table 14**  
**Groundwater Monitoring Well Water Quality Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Monitoring Well	Date	Temperature (C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	ORP (mV)
CI-14-35	6/16/2010	15.28	6.36	0.253	0.31	37.8
	9/28/2010	13.88	6.80	0.255	4.14	32.3
	12/15/2010	15.71	6.18	0.241	1.07	-6.4
	3/17/2011	15.09	7.79	0.291	1.39	-26.1
	9/28/2011	16.98	6.48	0.227	0.57	-49.3
	5/3/2012	14.86	6.59	0.305	0.96	-44.1
CI-15-40	3/23/2010	13.67	6.30	0.367	0.34	-58.8
	6/15/2010	14.50	6.60	0.296	1.00	108.0
	9/29/2010	14.37	6.39	0.278	0.79	-81.7
	12/16/2010	13.67	6.13	0.310	2.60	-8.9
	3/16/2011	13.25	8.16	0.378	6.45	-15.2
	9/29/2011	14.31	6.44	0.321	0.84	-42.3
	5/3/2012	12.83	6.54	0.107	9.10	-5.0
CI-16-30	5/2/2012	14.71	6.45	0.607	0.22	-49.8
	6/25/2012	15.06	6.47	0.621	7.09	-38.4
CI-17-30	5/2/2012	14.70	6.65	0.528	0.25	-115.0
	6/25/2012	15.50	5.36	0.646	0.18	-99.9
CI-18-30	5/2/2012	13.10	6.46	0.560	0.19	22.0
	6/25/2012	14.35	6.20	0.573	0.29	-0.7
CI-19-30	5/2/2012	14.25	6.58	0.501	0.12	-11.5
	6/25/2012	15.24	5.76	0.581	0.38	-20.0
CI-7-40	3/25/2010	13.80	7.30	0.518	0.22	-59.8
	6/17/2010	15.20	6.90	0.378	0.60	101.0
	9/30/2010	17.53	6.59	0.452	0.57	-90.7
	12/14/2010	14.33	6.72	0.378	4.37	111.6
	3/16/2011	13.61	6.70	0.483	2.25	81.8
	5/4/2012	14.71	NA	0.450	3.97	77.9
CI-8-40	3/24/2010	15.52	6.27	0.518	0.31	-57.0
	6/16/2010	14.73	7.04	0.423	0.81	82.6
	9/30/2010	15.77	6.86	0.508	0.80	-114.4
	12/16/2010	14.62	6.64	0.456	1.54	14.4
	3/15/2011	14.01	7.84	0.551	0.77	-26.6
	9/29/2011	17.01	6.61	0.511	0.93	-65.5
	5/4/2012	14.79	6.47	0.555	0.42	-58.1
CI-9-40	6/16/2010	16.10	6.22	0.307	0.30	16.3
	9/29/2010	16.63	7.06	0.283	0.83	47.1
	12/14/2010	12.44	6.09	0.256	5.71	-45.3
	3/16/2011	14.06	7.66	0.327	3.12	-26.0
	9/29/2011	18.11	6.52	0.328	0.55	-61.5
	5/4/2012	14.70	6.46	0.422	0.24	-61.2
CI-MW-1-40	6/16/2010	15.60	7.33	0.438	0.71	73.1
	9/29/2010	16.79	6.94	0.520	0.59	-145.2
	3/15/2011	15.42	7.11	0.608	0.16	58.8

**Table 14**  
**Groundwater Monitoring Well Water Quality Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
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Monitoring Well	Date	Temperature (C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	ORP (mV)
<b>Intermediate Zone</b>						
CI-137-50	3/25/2010	14.57	7.97	0.427	0.27	-122.3
	6/18/2010	15.52	6.78	0.090	1.76	-1.2
	9/29/2010	15.21	7.93	0.352	0.68	39.5
	12/15/2010	13.33	7.28	0.371	2.71	5.7
	3/16/2011	14.92	7.15	0.479	0.24	55.9
	9/30/2011	16.87	7.02	0.398	0.50	-92.1
	5/14/2012	14.88	NA	0.463	0.55	-195.2
CG-141-50	3/23/2010	13.72	6.54	0.433	0.83	-70.1
	6/17/2010	14.64	6.84	0.333	2.02	106.2
	9/29/2010	14.34	6.94	0.383	1.33	-160.8
	12/16/2010	12.53	6.29	0.360	8.44	-14.5
	3/14/2011	13.60	6.74	0.477	0.47	109.4
	5/3/2012	12.34	6.74	0.467	0.46	-20.6
CI-10-65	3/24/2010	15.44	7.00	0.414	0.30	-100.9
	6/17/2010	16.22	6.83	0.391	0.58	-51.5
	9/29/2010	15.45	7.01	0.309	1.89	40.9
	12/14/2010	13.84	7.19	0.330	1.43	67.6
	3/17/2011	14.70	7.26	0.416	3.61	80.8
	9/29/2011	18.64	7.15	0.368	0.39	-117.3
	5/3/2012	14.97	7.01	0.420	5.66	-59.6
CI-11-60	6/15/2010	16.02	6.75	0.714	0.33	4.7
	9/27/2010	14.04	7.31	0.706	0.26	27.6
	12/14/2010	14.33	6.65	0.617	3.40	-64.9
	3/17/2011	14.48	6.94	0.744	0.17	70.5
	5/3/2012	14.66	6.88	0.762	5.32	-79.9
CI-12-60	3/23/2010	13.10	7.37	0.448	0.31	-113.6
	6/15/2010	14.11	7.30	0.398	0.63	-59.1
	9/28/2010	13.49	7.55	0.388	0.74	14.9
	12/15/2010	13.50	7.24	0.332	0.48	-43.6
	3/18/2011	12.65	7.44	0.429	0.41	-61.8
	9/28/2011	15.41	7.61	0.346	0.34	-146.1
	5/2/2012	12.93	7.52	0.440	6.00	-126.9

**Table 14**  
**Groundwater Monitoring Well Water Quality Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
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Monitoring Well	Date	Temperature (C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/l)	ORP (mV)
CI-13-60	6/17/2010	14.18	7.41	0.498	0.45	31.1
	9/28/2010	12.86	7.34	0.508	0.97	39.0
	12/15/2010	13.77	7.45	0.436	2.80	-50.8
	3/17/2011	14.05	8.18	0.540	0.46	-32.0
CI-14-70	6/16/2010	15.23	6.96	0.179	2.79	19.6
	9/28/2010	13.72	7.58	0.390	3.83	32.3
	12/15/2010	15.43	6.82	0.356	3.05	-9.8
	3/17/2011	14.84	8.05	0.463	8.12	-26.7
CI-15-60	3/23/2010	13.84	6.63	0.482	0.35	-69.5
	6/15/2010	14.65	7.03	0.358	0.83	94.9
	9/29/2010	14.43	6.78	0.393	0.69	-118.7
	12/16/2010	13.19	6.54	0.378	2.86	-18.4
	3/16/2011	13.65	8.29	0.478	6.52	-34.3
	9/29/2011	14.38	6.81	0.380	0.71	-78.4
	5/3/2012	12.78	6.74	0.467	0.14	-43.6
CI-16-60	5/2/2012	16.16	7.73	0.827	6.59	-89.6
	6/25/2012	16.08	7.68	0.792	0.06	-73.8
CI-7-60	3/24/2010	16.36	6.48	0.699	0.36	-70.5
	6/17/2010	14.54	7.15	0.472	0.77	91.9
	9/30/2010	16.36	6.94	0.510	0.68	-126.0
	12/14/2010	13.93	7.03	0.463	5.23	88.2
	3/15/2011	13.79	7.06	0.597	4.96	62.1
	5/4/2012	14.30	19.89	0.549	4.19	47.2
CI-8-60	3/24/2010	15.40	6.98	0.465	0.27	-102.5
	6/16/2010	14.90	7.28	0.362	0.63	77.7
	9/30/2010	15.87	7.14	0.418	0.51	-141.6
	12/16/2010	14.40	7.34	0.394	6.49	107.9
	3/15/2011	13.77	8.02	0.503	0.21	-67.2
CI-9-70	6/16/2010	15.68	6.53	0.454	0.69	16.8
	9/29/2010	16.18	7.30	0.493	1.80	47.6
	12/14/2010	13.88	6.54	0.421	1.12	-90.5
	3/16/2011	13.33	8.06	0.514	0.47	-54.8
CI-MW-1-60	6/16/2010	14.46	7.02	0.418	0.71	81.0
	9/29/2010	16.95	6.67	0.495	0.50	-110.4
	3/15/2011	14.31	6.85	0.554	7.83	62.3
	9/30/2011	15.95	6.78	0.406	1.88	-46.9
	5/4/2012	15.90	6.39	0.588	0.24	-69.3

**NOTES:**

C = Celsius

mg/l = milligrams per liter

mS/cm = microSiemens per centimeter

mV = millivolts

NA = not available

ORP = oxidation reduction potential

**Table 15**  
**Fate and Transport Modeling Input Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Model Parameter	Units	Data Source	Water Table Zone	Shallow Zone	Intermediate Zone
Hydraulic Gradient	foot per foot	Remedial Investigation	0.0017	0.0016	0.0016
Hydraulic Conductivity	cm/s	Aquifer Slug tests	1.13E-02	9.99E-03	2.13E-03
Effective Porosity	--	Nominal Value	0.25	0.25	0.25
Dispersivity	--				
Longitudinal ( $\alpha_x$ )		Xu & Eckstein	31.2	31.2	31.2
Transverse ( $\alpha_y$ )		( $\alpha_x$ ) * 0.1	3.1	3.1	3.1
Vertical ( $\alpha_z$ )		No Vertical Dispersion	1.0E-99	1.0E-99	1.0E-99
Plume length for estimation	feet		1730	1730	1730
Soil Bulk Density	kg/L	MTCA Common Assumption	1.51	1.51	1.51
Soil Fraction Organic Carbon (foc)	per cent	Soil Measurements	0.2	0.22	0.25
<i>Koc</i>					
PCE	L/kg	MTCA CLARC tables	265	265	265
TCE	L/kg	MTCA CLARC tables	94	94	94
cis-1,2 DCE	L/kg	MTCA CLARC tables	35.5	35.5	35.5
VC	L/kg	MTCA CLARC tables	19	19	19
Source Area Dimensions					
Width	feet	Remedial Investigation	50	50	50
Height	feet	Remedial Investigation	20	20	20
<i>Biodegradation Rates (half life)</i>					
PCE	years	Literature Value (Newell 25 <sup>th</sup> percentile)	1.2	1.2	1.2
TCE	years	Literature Value (Newell 25 <sup>th</sup> percentile)	1.8	1.8	1.8
cis-1,2 DCE	years	Literature Value (Newell 25 <sup>th</sup> percentile)	1.6	1.6	1.6
VC	years	Literature Value (Newell 25 <sup>th</sup> percentile)	1.7	1.7	1.7

**Table 15**  
**Fate and Transport Modeling Input Parameters**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
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Model Parameter	Units	Data Source	Water Table Zone	Shallow Zone	Intermediate Zone
<b>Source Area Concentrations</b>					
1 Centerline "Source" Well(s)			CI-12-WT; CI-14-WT	CI-12-30; CI-14-35	CI-15-60
PCE	ug/L	Average Concentration over RI Period	0.2 U	0.4 U	0.4 U
		Maximum Concentration over RI Period	0.2 U	0.4 U	0.4 U
TCE	ug/L	Average Concentration over RI Period	1.1	67.2	0.4 U
		Maximum Concentration over RI Period	1.7	83	0.4 U
cis-1,2 DCE	ug/L	Average Concentration over RI Period	14.2	26.2	0.4 U
		Maximum Concentration over RI Period	48	33	0.4 U
VC	ug/L	Average Concentration over RI Period	2.5	19.2	103
		Maximum Concentration over RI Period	10	28	140
2 Centerline "Source" Well(s)			CI-10-WT	CG-141-40	NA
PCE	ug/L	Average Concentration over RI Period	0.2 U	1 U	
		Maximum Concentration over RI Period	0.2 U	1 U	
TCE	ug/L	Average Concentration over RI Period	49.1	1 U	
		Maximum Concentration over RI Period	87	1 U	
cis-1,2 DCE	ug/L	Average Concentration over RI Period	22.4	1 U	
		Maximum Concentration over RI Period	35	1 U	
VC	ug/L	Average Concentration over RI Period	0.21	213.3	
		Maximum Concentration over RI Period	0.21	270	
3 Centerline "Source" Well(s)			MW-5; MW-6; BDC-6-WT	NA	NA
PCE	ug/L	Average Concentration over RI Period	8.7		
		Maximum Concentration over RI Period	11		
TCE	ug/L	Average Concentration over RI Period	170		
		Maximum Concentration over RI Period	230		
cis-1,2 DCE	ug/L	Average Concentration over RI Period	91.4		
		Maximum Concentration over RI Period	130		
VC	ug/L	Average Concentration over RI Period	9.7		
		Maximum Concentration over RI Period	20		
Source Type	--	Assumed	Continuous*	Continuous*	Continuous
Simulation Time	years	Nominal Value	500	500	500

**NOTES:**

Biodegradation rates from Figure 5 of Newell, C. et al, 2002. Calculation and Use of First Order Rate Constants for U.S. Environmental Protection Agency (EPA) Studies. November.

Some source areas represented using multiple wells at approximately the same distance from Duwamish to represent maximum contaminants of concern concentration (PCE, TCE, etc.) at that location.

Hydraulic conductivity values discussed in Remedial Investigation Report. Geometric mean of slug test values for each zone used for modeling.

\* Decaying source used for some alternate simulations in the Water Table Zone (Source 2) and Shallow Zone (Source 1)

CLARC = Cleanup Levels and Risk Calculations

cm/s = centimeters per second

DCE = dichloroethene

kg/L = kilograms per liter

L/kg = liters per kilogram

u/g = micrograms per liter

MTCA = Washington State Model Toxics Control Act Cleanup Regulation

NA = not analyzed

PCE = tetrachloroethene

TCE = trichloroethene

U = not detected at reporting limit indicated

VC = vinyl chloride

**Table 16**  
**Fate and Transport Modeling Results**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Aquifer Zone	Source Area Number and Wells	Source Distance from Duwamish (feet)	PCE Source Concentration (Average & Maximum)	Simulated PCE Concentration at Duwamish		TCE Source Concentration (Average & Maximum)	Simulated TCE Concentration at Duwamish		cis-1,2-DCE Source Concentration (Average & Maximum)	Simulated cis-1,2-DCE Concentration at Duwamish		Vinyl Chloride Source Concentration (Average & Maximum)	Simulated Vinyl Chloride Concentration at Duwamish		
				Long-Term	Peak		Long-Term	Peak		Long-Term	Peak		Long-Term	Peak	Peak (Decaying Source)
Water Table Zone	1. CI-12-WT; CI-14-WT	550	0	0	0	1.1	0.04	0.04	14.2	0.39	0.39	2.5	0.66	0.66	--
			0	0	0	1.7	0.05	0.05	48	1.24	1.24	10	<b>2.21</b>	<b>2.21</b>	1.18 (15 yrs)
	2. CI-10-WT	850	0	0	0	49.1	0.35	0.35	22.4	0.79	0.79	0.21	1.12	1.12	--
			0	0	0	87	0.62	0.62	35	1.37	1.37	0.21	<b>1.92</b>	<b>2.67 (15 yrs)</b>	0.95 (25 yrs)
	3. MW-5; MW-6; BDC-6-WT	1500	8.7	0	0	170	0.06	0.06	91.4	0.20	0.20	9.7	0.46	0.46	--
			11	0	0	230	0.09	0.09	130	0.27	0.27	20	0.63	0.63	--
Shallow Zone	1. CI-12-30; CI-14-35	550	0	0	0	67.2	1.40	1.40	26.2	2.54	2.54	19.2	<b>3.13</b>	<b>3.13</b>	1.52 (20 yrs)
			0	0	0	83	1.72	1.72	33	3.15	3.15	28	<b>3.96</b>	<b>3.96</b>	<b>1.92 (20 yrs)</b>
	2. CG-141-40	1050	0	0	0	0	0	0	0	0	0	213.3	0.2	0.2	--
			0	0	0	0	0	0	0	0	0	270	0.25	0.25	--
Intermediate Zone	1. CI-15-60	850	0	0	0	0	0	0	0	0	0	103	0	0	--
			0	0	0	0	0	0	0	0	0	140	0	0	--

**NOTES:**

All concentrations reported in micrograms per liter (ug/L).

Source areas represent Average and Maximum groundwater concentrations over RI Monitoring Period at each well grouping and distance.

Average source concentration is listed in upper row for each COC; maximum source concentration in lower row

Long-term simulated concentrations represent concentrations at 500 years and assume biotransformation is occurring.

Peak concentrations represent maximum simulated concentration if greater than long-term concentration.

Simulations performed using U.S. Environmental Protection Agency BIOCHLOR model.

DCE = dichloroethene

PCE = tetrachloroethene

TCE = trichloroethene

Continuous source terms were modeled unless a decaying source is indicated

Bold = simulated concentration above applicable screening level

Source decay rate of 0.1 (1/yr) was used for each decaying source simulation

**Table 17**  
**Sensitivity Analysis**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Aquifer Zone	Source Area Number and Wells	Source Distance from Duwamish (feet)	Sensitivity Analysis Variation	Simulated PCE Concentration at Duwamish	Simulated TCE Concentration at Duwamish	Simulated cis-1,2-DCE Concentration at Duwamish	Simulated Vinyl Chloride Concentration at Duwamish
Water Table Zone	1. CI-12-WT; CI-14-WT	550	Base Case	0	0.04	0.39	0.66
			Source Concentration x2	0	0.07	0.78	<b>1.33</b>
			Source Concentration x0.5	0	0.02	0.20	0.33
			Half Life x5	0	0.22	2.70	<b>1.46</b>
			Half Life x0.2	0	0	0	0.002
			Hydraulic Conductivity x10	0	0.28	3.55	<b>1.29</b>
			Hydraulic Conductivity x0.1	0	0	0	0
			Retardation x2	0	0.04	0.39	0.66
			Retardation x0.5	0	0.04	0.39	0.66
	2. CI-10-WT	850	Dispersivity x2	0	0.03	0.35	0.52
			Dispersivity x0.5	0	0.04	0.46	0.86
			Base Case	0	0.35	0.79	1.12
			Source Concentration x2	0	0.70	1.58	<b>2.23</b>
			Source Concentration x0.5	0	0.18	0.39	0.66
			Half Life x5	0	<b>1.93</b>	2.99	<b>2.56</b>
			Half Life x0.2	0	0	0	0
			Hydraulic Conductivity x10	0	<b>8.79</b>	6.34	<b>1.55</b>
			Hydraulic Conductivity x0.1	0	0	0	0
			Retardation x2	0	0.35	0.79	1.12
Water Table Zone	3. MW-5; MW-6; BDC-6-WT	1500	Retardation x0.5	0	0.35	0.79	1.12
			Dispersivity x2	0	0.34	0.7	0.88
			Dispersivity x0.5	0	0.39	0.95	<b>1.45</b>
			Base Case	0	0.06	0.20	0.46
			Source Concentration x2	0	0.13	0.40	0.93
			Source Concentration x0.5	0	0.03	0.10	0.23
			Half Life x5	0.22	<b>8.96</b>	11.94	<b>8.57</b>
			Half Life x0.2	0	0	0.00	0
			Hydraulic Conductivity x10	0.61	<b>17.56</b>	16.93	<b>7.56</b>
			Hydraulic Conductivity x0.1	0	0	0.00	0
			Retardation x2	0	0.06	0.20	0.46
			Retardation x0.5	0	0.06	0.20	0.46
			Dispersivity x2	0	0.08	0.23	0.46
			Dispersivity x0.5	0	0.06	0.21	0.52

**Table 17**  
**Sensitivity Analysis**  
**Remedial Investigation**  
**Capital Industries, Inc.**  
**Seattle, Washington**  
**Farallon PN: 457-004**

Aquifer Zone	Source Area Number and Wells	Source Distance from Duwamish (feet)	Sensitivity Analysis Variation	Simulated PCE Concentration at Duwamish	Simulated TCE Concentration at Duwamish	Simulated cis-1,2-DCE Concentration at Duwamish	Simulated Vinyl Chloride Concentration at Duwamish
Shallow Zone	1. CI-12-30; CI-14-35	550	Base Case	0	1.40	2.54	<b>3.13</b>
			Source Concentration x2	0	2.79	5.08	<b>6.26</b>
			Source Concentration x0.5	0	0.70	1.27	1.56
			Half Life x5	0	<b>11.96</b>	9.40	<b>6.42</b>
			Half Life x0.2	0	0.00	0.003	0.009
			Hydraulic Conductivity x10	0	<b>16.21</b>	9.7	<b>6.37</b>
			Hydraulic Conductivity x0.1	0	0	0	0
			Retardation x2	0	1.40	2.54	<b>3.13</b>
			Retardation x0.5	0	1.40	2.54	<b>3.13</b>
			Dispersivity x2	0	1.32	2.12	<b>2.38</b>
Shallow Zone	2. CG-141-40	1050	Base Case	0	0	0	0.2
			Source Concentration x2	0	0	0	0.4
			Source Concentration x0.5	0	0	0	0.1
			Half Life x5	0	0	0	<b>14.86</b>
			Half Life x0.2	0	0	0	0
			Hydraulic Conductivity x10	0	0	0	<b>27.42</b>
			Hydraulic Conductivity x0.1	0	0	0	0
			Retardation x2	0	0	0	0.2
			Retardation x0.5	0	0	0	0.2
			Dispersivity x2	0	0	0	0.25
Intermediate Zone	1. CI-15-60	850	Base Case	0	0	0	0
			Source Concentration x2	0	0	0	0
			Source Concentration x0.5	0	0	0	0
			Half Life x5	0	0	0	0.37
			Half Life x0.2	0	0	0	0
			Hydraulic Conductivity x10	0	0	0	<b>2.78</b>
			Hydraulic Conductivity x0.1	0	0	0	0
			Retardation x2	0	0	0	0
			Retardation x0.5	0	0	0	0
			Dispersivity x2	0	0	0	0
Intermediate Zone	1. CI-15-60	850	Dispersivity x0.5	0	0	0	0

**NOTES:**

All concentrations reported in micrograms per liter (ug/L).

Base case simulations represent average groundwater source concentrations over RI monitoring period at each well grouping and distance.

Simulated concentrations at 500 years and assume biotransformation is occurring.

Bold = simulated concentration exceeds applicable screening level

Simulations performed using U.S. Environmental Protection Agency BIOCHLOR model.



**APPENDIX A**  
**BORING AND WELL CONSTRUCTION LOGS**

REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT

Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington

Farallon PN: 457-004

**APPENDIX B  
TIDAL STUDY DATA AND  
AQUIFER CHARACTERIZATION RESULTS**

REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT  
Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington

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**APPENDIX C  
DATA GAP ANALYSIS**

**REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT**

Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington

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**APPENDIX D  
HISTORICAL DATA**

**REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT**

Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington

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**APPENDIX E  
LABORATORY ANALYTICAL REPORTS AND  
QUALITY ASSURANCE DATA VALIDATION REPORTS**

REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT  
Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington

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**APPENDIX F**  
**TIER 3 VAPOR INTRUSION ASSESSMENT DATA**

REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT

Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington

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**APPENDIX G  
SIDE SEWER CARDS**

REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT

Capital Industries, Inc.  
5801 3rd Avenue South  
Seattle, Washington

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**APPENDIX H**  
**BIOCHLOR TWO-DIMENSIONAL MODELING DATA**

REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT

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**APPENDIX I  
TERRESTRIAL ECOLOGICAL EVALUATION EXCLUSION**

REVISED DRAFT  
REMEDIAL INVESTIGATION REPORT

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