



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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December 2, 2015

Mr. James Okel
Precision Engineering Inc.
8440 North Kerby Avenue
Portland, OR 97217

Re: Further Action at the Following Site:

- **Site Name:** Precision Engineering
- **Site Address:** 1231 South Director Street, Seattle, WA
- **Facility/Site No.:** 2056
- **Cleanup Site Id.:** 4532
- **VCP Project No.:** NW1511

Dear Mr. Okel:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Precision Engineering facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

YES. Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:



- Hexavalent and trivalent chromium, trichloroethene (TCE), vinyl chloride, diesel- and oil-range petroleum hydrocarbons, and poly-aromatic hydrocarbons (PAHs) into the soil.
- Hexavalent and trivalent chromium, TCE, vinyl chloride, diesel- and oil-range petroleum hydrocarbons, and PAHs into the ground water.
- TCE, cis1,2-dichloroethene (DCE), and vinyl chloride into the air.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Maul, Foster, and Alongi Inc., July 17, 2006, Remedial Investigation and Risk Assessment, Precision Engineering Inc.
2. Maul, Foster, and Alongi Inc., December 20, 2006, Draft Cleanup Levels, Supplement to Remedial Investigation and Risk Assessment at the Former Precision Engineering Inc. Site.
3. Maul, Foster, and Alongi Inc., July 21, 2008, Investigation and Risk Assessment Report
4. Maul, Foster, and Alongi Inc., June 8, 2009, Response to Ecology Comments dated December 29, 2008, for the Former Precision Engineering Site.
5. Maul, Foster, Alongi Inc., March 3, 2011, Final Feasibility Study.
6. Maul, Foster, and Alongi Inc., March 9, 2011, Supplemental Information Requested by Ecology for the Former Precision Engineering Site.
7. Washington Department of Ecology, July 8, 2011, Opinion Pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the Precision Engineering Hazardous Waste Site.
8. SAIC, May 2013, Lower Duwamish Waterway RM3.8 to 4.2 West Sea King Industrial Park, Summary of Existing Information and Identification of Data Gaps.

9. Maul, Foster, Alongi Inc., October 4, 2013, Letter to Bob Warren, Department of Ecology.
10. Kennedy-Jenks, December 18, 2013, Former Precision Engineering Facility Site Summary and Data Gaps Assessment.
11. Kennedy-Jenks, August 6, 2015, Remedial Investigation Report Former Precision Engineering Property, Seattle, WA.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7235 or send an email request to NWRO_Public_Request@ecy.wa.gov.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A**.

Characterization of the lateral and vertical extent of contamination was necessary to define the present distribution of contamination on and off the Property and down gradient from the Property boundary. Supplemental Site characterization activities were performed by the Department of Ecology during 2014 through 2015. The purpose of the characterization was to update information regarding site conditions and address Ecology's concerns identified in a prior opinion letters for this Site dated September 21, 2009, and July 8, 2011.

- a. Contamination in ground water which includes chromium, petroleum hydrocarbons, chlorinated solvents, and other metals was observed to migrate off Property detected in several down gradient wells through 2010. An analytical ground water model was used to demonstrate that contamination would not migrate to the Duwamish River located 1,800 feet, down gradient to the east. To check the model results, off Property ground water data was requested in the

Ecology opinion letters issued in 2009 and 2011. No such data was collected and therefore, the utility of the model has not been confirmed.

- b. Ecology's previous opinion letters dated 2009 and 2011 identified the need for ground water sampling at off Property locations to explore the possibility of contaminant migration beyond the Property boundaries. During characterization activities in 2014 and 2015, ground water samples were collected at temporary monitoring wells located a maximum distance of approximately 300 feet down gradient and to the east of the Property. One Property parcel owned by a separate entity exists between the Property boundary and the down gradient temporary wells. Chromium, chlorinated solvents, and petroleum hydrocarbons were not observed at levels above MTCA Method A cleanup levels in these wells. The absence of contamination however does not preclude the possibility that the plume has migrated past the observation points or beyond the Property boundary onto the adjacent property.
- c. Vapor intrusion into the existing building was suspected based on the measured concentration of chlorinated solvents in soil and ground water beneath the building slab. Vapor sampling results reported in 2006 indicated that sub-slab concentrations exceed the Ecology's vapor screening levels, but indoor air sampling indicated that vapor concentrations did not exceed indoor air screening levels. A single sub-slab vapor sample, an indoor air sample, and an outdoor air sample were collected at the Property during 2015. Results indicated that the sub-slab TCE concentration was $95 \mu\text{g}/\text{m}^3$, which exceeds the Method B sub-slab screening level of $12.3 \mu\text{g}/\text{m}^3$. Additionally, the indoor air concentration of TCE was $240 \mu\text{g}/\text{m}^3$. The EPA memorandum "EPA Region 9 Response Action Levels and Recommendations to Address Near-Term Inhalation Exposures to TCE in Air from Subsurface Vapor Intrusion" (2014) states that the "accelerated response action level" (HQ=1) for TCE at a commercial/industrial site is $8 \mu\text{g}/\text{m}^3$. The indoor air screening level for Washington State Method B level is $0.4 \mu\text{g}/\text{m}^3$. The sub-slab integrity was evaluated for samples collected during 2015 field activities by injecting helium below the slab. Results showed that helium was present in indoor air, indicating communication with the sub-slab. Since indoor air TCE concentration is greater than the sub-slab concentration, there may be additional sources of TCE in the building and should be evaluated further. The table below shows the Department of Ecology Method B (commercial/residential) screening level, the Method C (Industrial screening levels), and measure concentration of TCE for indoor air and subslab during 2015.

Table 1. Method B and Method C Screening Levels and 2015 Measured Vapor Concentration

	Method B ($\mu\text{g}/\text{m}^3$) ¹	Method C ($\mu\text{g}/\text{m}^3$) ¹	Measured ($\mu\text{g}/\text{m}^3$)
Indoor Air	0.4	6.3	240
Subslab	12.3	66.7	95

¹ 2015 CLARC Tables for vapor intrusion

- d. At no time were four consecutive quarters of ground water samples collected across the Site that achieved MTCA Method A cleanup levels. Four consecutive Sampling events at ground water wells during 2014 and 2015 demonstrated that petroleum hydrocarbons exceeded cleanup levels at ground water monitoring well MW-6, for two of the four consecutive quarters, and at MW-10, for one quarter during which sampling occurred. Other contaminants of concern including chromium and chlorinated solvents were not observed at conditional point of compliance wells during recent sampling. Arsenic is suspected to exist in ground water naturally in this area at levels above the MTCA Method A cleanup levels. Chlorinated solvents and chromium are present in monitoring well MW-5 located beneath the existing building, but do not appear to be mobile.
- e. An opinion to consider non-potability of the aquifer was requested and addressed in the previous opinion letter. The decision at the time was that the argument was not sufficient to qualify the shallow aquifer as non-potable. Further consideration of the decision is not addressed in this opinion.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

The opinion letters for 2009 and 2011 assume that the Property is used for industrial purposes only. WAC 173-340-745(1)(a)(i) list conditions to qualify as an industrial Site. WAC 173-340-700(5) also states that cleanup levels will be set to comply with "...current and potential pathways of exposure, current and potential receptors, and current and potential land and resource use". The original use of the property was as an industrial chrome plating facility. The current Property use is as a mixed industrial/commercial warehouse for construction and machinery supplies. The commercial and industrial areas are separated in the facility.

Cleanup levels at this Site are required to support industrial land use and be protective of human health and the environment. Therefore, the Site must achieve MTCA Method C cleanup levels for air. Because there is a pathway and receptors hydraulically down

gradient from the Property, Method A cleanup levels are required for soil and ground water. For those contaminants that do not have an established cleanup standard, the cleanup level will be calculated using the Method C equations 720-1 and 720-2 [WAC 173-340-720 (4)(b)] for ground water, equations 740-1 and 740-2 [WAC 173-340-740 (3)(b)] for soil, and equation 750-1 and 750-2 [WAC 173-340-750 (3)(b)] for air. The MTCA cleanup levels for petroleum hydrocarbons for an industrial site are identical for the cleanup levels for unrestricted use. Therefore, petroleum cleanup will be required to comply with Method A, unrestricted use requirements.

A Terrestrial Ecological Evaluation (TEE) must be performed at all cleanup sites to determine if the selected remedy is protective of terrestrial flora and fauna. If the TEE indicates impacts to habitat, the cleanup levels may become more stringent than the standard cleanup levels for unrestricted land use. The Site can qualify for exclusion from the TEE if it meets criteria identified in WAC 173-340-7491. The contaminated soil at the Property is covered by a surface barrier and therefore, qualifies for exclusion from further consideration in the TEE process.

The point of compliance for soil that is protective of ground water shall be established in the soil throughout the Site [WAC 173-340-740(6)(b)].

The point of compliance for air shall be attained in the ambient air throughout the Site [WAC 173-340-750(6)].

The conditional point of compliance for ground water shall be as close as practicable to the source of hazardous substances, but is not to exceed the Property boundary [WAC 173-720(8)(c)].

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site does not meet the substantive requirements of MTCA.

The selected remedy at this Site was excavation and removal of contaminated concrete and soil from beneath the building to the extent practicable and excavation and removal of contaminated soil in a drainage ditch to the south of the Property.

Oil and Diesel range petroleum hydrocarbon contaminated ground water wells MW-6 and MW-10 are located at the eastern boundary of the Property. The southeast corner of the building is known to have contained a used oil tank and was also a drum storage location. One soil sample collected in 2015 at a depth of two feet in the southeast quadrant of the Property contained 10,000 mg/kg of diesel and oil range petroleum hydrocarbons. **Diesel and oil range petroleum hydrocarbon is still present in the soil**

and likely serving as a source of contamination to ground water. Further characterization and remediation is required in this area.

To consider the vapor intrusion pathway from ground water to indoor air, sub-slab soil vapor and indoor air samples were collected in April and June of 2006, respectively, and analyzed for TCE and degradation products cis-1,2-DCE, trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride,. Concentrations of TCE in indoor air were interpreted to be below the MTCA Method C CULs, and the report stated that the detected concentrations do not pose unacceptable risk to future industrial workers (MFA, 2008). A sub-slab vapor intrusion mitigation system was suggested as the remedial action to address concentrations of TCE and vinyl chloride present in ground water at concentrations where vapor intrusion to indoor or outdoor air may occur. The system was not installed. **It will be necessary to evaluate the source of the TCE in the indoor air.** If there is another chlorinated solvents source, then proof must be presented that the sub-slab component is not a significant contributor to the vapor intrusion issue at this Site. If there is communication between the sub-slab air and the indoor air, then sub-slab vapor mitigation will be necessary.

4. Cleanup.

Ecology has determined the cleanup you performed does not meet any cleanup standards at the Site.

The cleanup at the Property included excavation of contaminated concrete and soil beneath the plating tanks 1 and 2 in 1990. In 1992 plating tanks 3, 4, 5, and 6 and a 35 by 50 foot section of concrete were removed. Staining of the soil associated with chromium contamination prompted excavation of soil to a depth of six to 28 inches. An estimated 1,200 cubic yards of soil and concrete were removed. Confirmation samples from the excavation indicated that hexavalent chromium contamination remained above the MTCA cleanup levels in soil.

In 2007, 100 cubic yards of petroleum contaminated soil were excavated from an off-Property drainage ditch adjacent to the south edge of the Property. The excavation was backfilled with clean soil. Confirmation samples in the excavation indicated that the soil in one location remained contaminated with petroleum hydrocarbon above the MTCA Method A cleanup levels.

Ground water on the Site has been monitored intermittently from 2005 through 2010. During the most recent monitoring event, contaminant levels at wells within the interior of the Property remained contaminated with oil and diesel range petroleum hydrocarbons above the MTCA Method A cleanup levels. However, contamination above MTCA cleanup levels was not observed for most constituents except for diesel and oil range

petroleum hydrocarbons at wells hydraulically down gradient along the eastern Property boundary. Petroleum related contamination appears to be located in the southeast corner of the Property and associated with wells MW-6 and MW-10. No cleanup activities in ground water have been reported for this Site.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

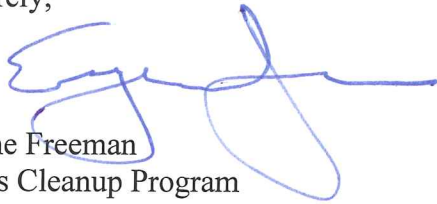
Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

Mr. James Okel
December 2, 2015
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For more information about the VCP and the cleanup process, please visit our web site: www.Ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at 425-649-7191 or e-mail at eufr461@ecy.wa.gov.

Sincerely,



Eugene Freeman
Toxics Cleanup Program

Enclosure: A – Description and Diagrams of the Site

cc: Charles L Frazier, Pacific Industrial Supply
James Maul, Maul, Foster, and Alongi Inc.
Sonia Fernandez, VCP Coordinator

Enclosure A

Description and Diagrams of the Site

Site Description

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

Site Definition and Area Description: The Site is defined by hexavalent and trivalent chromium, TCE, vinyl chloride, diesel- and oil-range petroleum hydrocarbons, and PAHs into the soil and ground water at 1231 South Director Street in Seattle, WA (Property). The Site comprises part of the former Precision Engineering facility and off-Property areas to the south and east. The Site includes a portion of a drainage ditch impacted by runoff from the Property and may include areas to the east, specifically the KASPAC/Chiyoda Property located at 1237 South Director St.

The Site is at the southern edge of the South Park residential area within a broader region known as the Duwamish industrial area which is within the Lower Duwamish Waterway (LDW) Study Area. Land use in the immediate area is mixed residential housing to the north and west, industrial/commercial property to the east, and State Route 99 ramps exist to the south. The Precision Property is zoned industrial, as are the areas to the south and east. Immediately adjoining businesses include a refrigerator sales and repair operation to the west, and Carey Limousine Service to the east. The Property to the east was reportedly used as a paint shop in the 1970s and a fiberglass manufacturing facility before that.

Property History: The Property was developed as early as 1936 for residential land use. Part of the existing building on the Property was constructed in 1966 and an addition was added in 1979. Precision Engineering operated continuously from 1966 through 2005, specializing in the manufacture and repair of large cylinders and metal rolls, large marine items such as propellers, and specialized blade assemblies. Services included grinding, polishing, honing, chrome plating, milling, welding, and coating. Chromic acid was used extensively along with the degreaser, trichloroethene (TCE). The Precision Property is currently occupied by a mixed industrial/commercial warehouse for construction and machinery supplies and is surrounded by an asphalt surface. The commercial and industrial areas are separated in the building.

Physiographic Setting: The Site is situated in the Duwamish River valley, the river is about 1,800 feet east of the Property. The land surface in the valley is generally flat. However, there are a few small hills within the valley, and the surface of the Precision Property has been cut into the side of one of the larger hills (South Park Hill). The north and west edges of the Property consist of steep cut slopes ranging up to 40 feet high. The rest of the Property slopes gently down to the east and south, merging with the flat valley floor.

Surface Water Conditions: Surface water drainage in the area flows east, generally towards the LDW. State Route 99 has disrupted the natural drainage system, creating a complex series of interconnected ditches, buried pipes, and ponds immediately south of the Property. Surface water at the Property drains into one of the highway ditches along the south border of the Property. Part of the drainage is through overland flow; part is through collection in catch basins and discharges via culvert. Flow in the highway drainage ditch enters a 24 inch culvert immediate south of the south Property boundary.

Ecological Conditions: The Property and the surrounding area are developed and little terrestrial habitat exists nearby except for residential yards and vegetation around storm water ponds and drainage features associated with Highway 99. A large vegetated area associated with a former school is located about 500 feet northwest of the Property on top of the South Park Hill.

Geological Conditions: The Property is located at the edge of South Park Hill within the Duwamish River valley. From the ground surface the geologic sequence is about two to seven feet of fill material consisting of reworked alluvial and fluvial deposits. The native soil beneath the fill consists of a clay silt to silty sand, recessional outwash deposit that is up to 18 feet thick at the east boundary. From about 20 to 32 feet below ground surface the material consists of a dense, coarse sand and gravel unit that is identified as a glacial till. Beneath the glacial till, at 32 to 38 feet below ground surface is an advanced outwash unit that consists of silty sand to sand. Beneath the glacial outwash is a dense glacial till consisting of dense silt, sand and gravel.

The Property sits astride a geologic boundary consisting of glacial and fluvial deposits. The western two thirds of the Property is underlain by a dense glacial till. The geologic sequence under the Property is inclined from the west to the east. From the eastern third of the Property to the west, recent Duwamish River floodplain sediments form a wedge lapping onto the glacial till outcropping to the west. The alluvial wedge thickens eastward toward the center of the Duwamish River valley.

Ground water Conditions: Shallow ground water occurs within the alluvial/alluvial soils under unconfined conditions and within a permeable zone of the till. The depth to the water table in the till/alluvial deposits is typically between 2.5 to 6.5 feet below top of casing. Groundwater levels in the deep aquifer, below 20 feet from ground surface range for 0.15 to six feet below top of casing. At adjacent wells completed in upper and lower aquifer, there is a general downward gradient.

The hydraulic head in the outwash aquifer is above land surface on the western part of the Property and below the water table on the eastern portion suggesting rapid discharge into the alluvial aquifer at a location further east, closer to the Waterway.

Flow direction in the till/alluvial deposits is to the east, toward the LDW. The aquifer ultimately discharges to the waterway either directly or indirectly into the surface water drainage. The direction of ground water flow was believed to be due east based on elevation data for the Site. However, ground water elevation measured on the Property to the east of the Property is reportedly higher, suggesting a trough or depression in the water table at the Precision property line. The trough has not been confirmed in any of the sampling events performed during 2015.

Soil Contamination: Contaminants were released at the Property, primarily into the soils directly beneath the Property building. Most of the contamination appears to be associated with an area of historical trenches drains and tank vaults that serviced the chrome shop and grinding shop. Elevated concentrations of TCE and chromium are present throughout the area. Diesel and oil range petroleum hydrocarbons (DRPH, ORPH) are also present below the southeast corner of the building associated with the former boiler room and steam cleaning area. Polycyclic Aromatic Hydrocarbons (PAHs) were also present at low concentrations associated with the petroleum hydrocarbon contamination and chrome shop areas.

Some contaminants also appear to have been released outside the Property building and carried off Property overland via surface water flow into the Highway 99 drainage ditch to the south. Soil contamination in the ditch covering an area about 40 feet wide by 80 feet long and consisted of arsenic, chromium, copper, lead, PAHs, and petroleum hydrocarbons. This area has undergone remedial action to clean up the contamination in the soil.

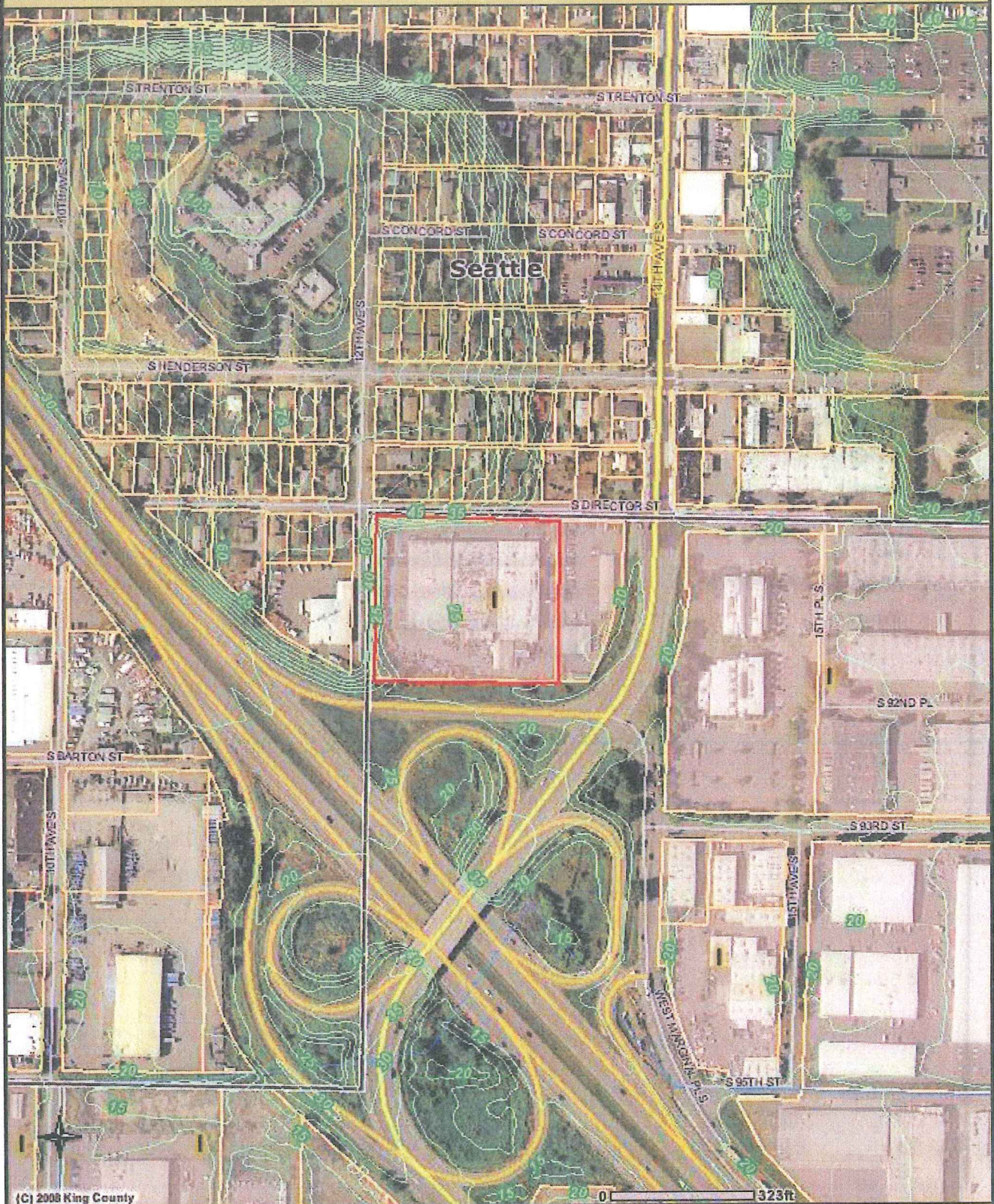
Ground water Contamination: Shallow ground water has been contaminated at the Property with TCE and related decay products cis-1,2-dichloroethene (DCE), vinyl chloride, hexavalent and trivalent chromium, diesel and oil range petroleum hydrocarbons, and PAHs. Arsenic is also present in both the alluvial and outwash aquifer at concentrations above the cleanup levels. The arsenic may be present as background concentrations and subsequently not part of the discharges from the industrial operations at the Property.

During the groundwater sampling event at the Property in July 2010, TCE and PAHs were below cleanup levels. The majority of other contaminants are not migrating off Property with the exception of diesel and oil range petroleum hydrocarbons, which have concentrations above MTCA Method A cleanup levels.

Ground water modeling was performed using an analytical model. The model predicted that most contaminants would not persist beyond 300 to 700 feet from the Property, with the exception of vinyl chloride, which would persist almost to the river. Although requested by Ecology, confirmation of model results from down gradient ground water wells off Property was not performed and therefore the model cannot be validated.

Soil Vapor: TCE and its decay products are continuing to volatilize from contaminated soil and ground water. Consequently, these contaminants are present in soil vapor beneath the Property building, specifically beneath the chrome and grinding shops. The measured TCE concentration in soil vapor below the building slab was above the cleanup screening level reported in the 2009 Ecology opinion letter and is above the revised cleanup screening level for non-carcinogenic TCE reported in the 2015 Department of Ecology CLARC tables.

iMAP



(C) 2008 King County

COMMENTS: Former Precision Engineering Property
1231 S. Director St., Seattle

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Date: 4/7/2014 Source: King County iMAP - Property Information (<http://www.metrokc.gov/GIS/iMAP>)



King County

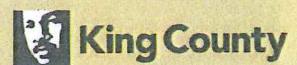
iMAP

Legend

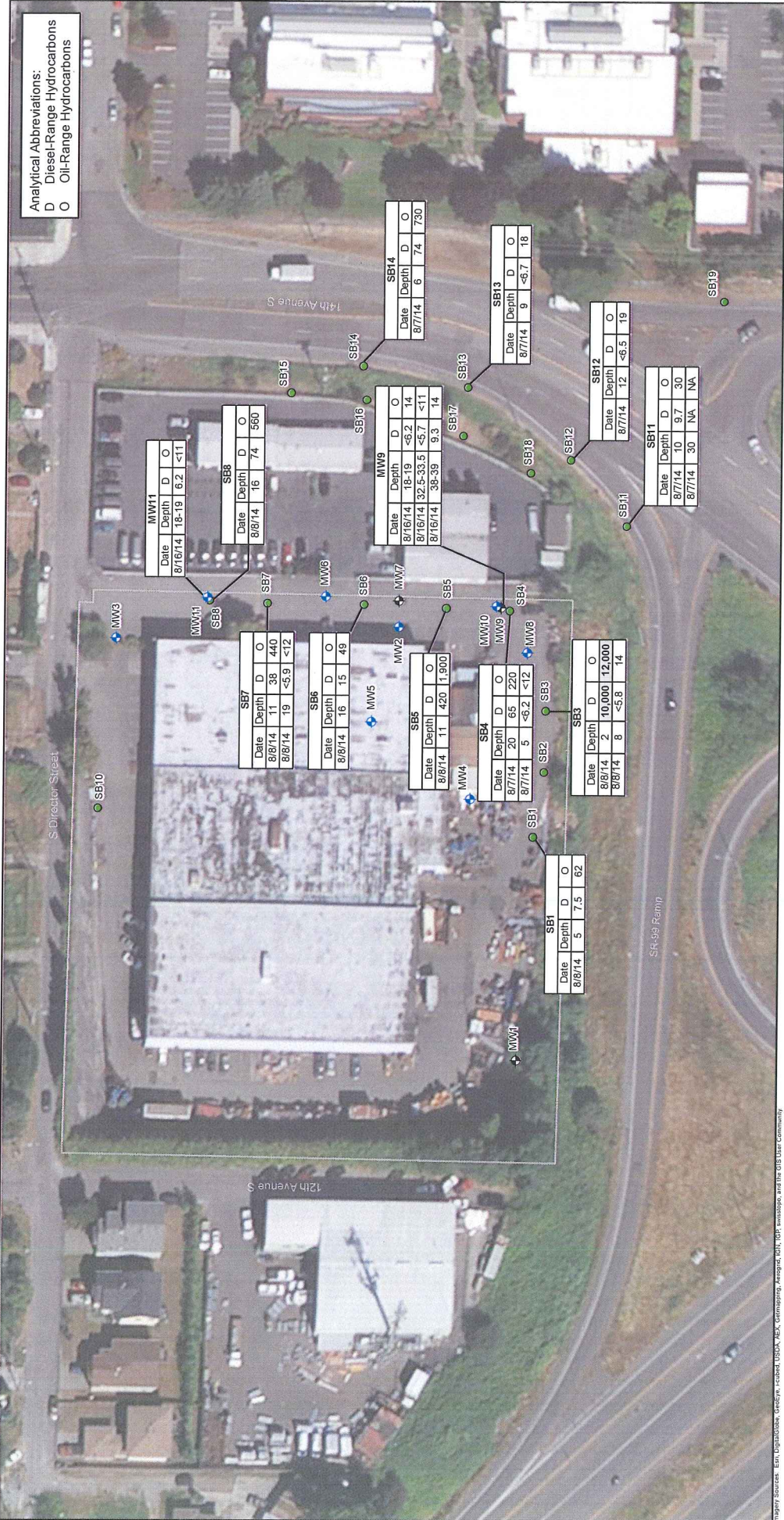
 County Boundary	 Tribal Lands	 R-48 - Residential, 48 DU per acre
 Mountain Peaks	 Parcels	 NB - Neighborhood Business
 Contours (5ft light)	 Parks	 CB - Community Business
 100; 500; 1000	Unincorporated KC Zoning	 RB - Regional Business
 Other	 A-10 - Agricultural, one DU per 10 acres	 O - Office
 Highways	 A-35 - Agricultural, one DU per 35 acres	 I - Industrial
 Forest Production District Boundary	 F - Forest	 Other
 Agricultural Production District Boundary	 M - Mineral	 2009 Color Aerial Photos (6in)
 Urban Growth Area Line	 RA-2.5 - Rural Area, one DU per 5 acres	 2009 Color Aerial Photos (12in)
 Incorporated Area	 RA-5 - Rural Area, one DU per 5 acres	
 Streets	 RA-10 - Rural Area, one DU per 10 acres	
 Highway	 UR - Urban Reserve, one DU per 5 acres	
 Arterials	 R-1 - Residential, one DU per acre	
 Local	 R-4 - Residential, 4 DU per acre	
 Lakes and Large Rivers	 R-6 - Residential, 6 DU per acre	
 Streams	 R-8 - Residential, 8 DU per acre	
	 R-12 - Residential, 12 DU per acre	
	 R-18 - Residential, 18 DU per acre	
	 R-24 - Residential, 24 DU per acre	
	(cont)	

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Date: 4/7/2014 Source: King County iMAP - Property Information (<http://www.metrokc.gov/GIS/iMAP>)



Analytical Abbreviations:
 D Diesel-Range Hydrocarbons
 O Oil-Range Hydrocarbons



Date	Depth	D	O
8/8/14	5	7.5	62

Date	Depth	D	O
8/8/14	11	38	440
8/8/14	19	<5.9	<12

Date	Depth	D	O
8/8/14	18-19	<6.2	14
8/16/14	32.5-33.5	<5.7	<11
8/16/14	35-39	9.3	14

Date	Depth	D	O
8/8/14	16	15	49
8/8/14	11	420	1,900

Date	Depth	D	O
8/7/14	20	65	220
8/7/14	5	<6.2	<12

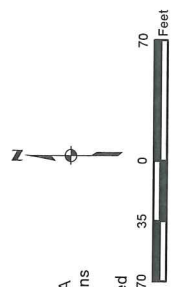
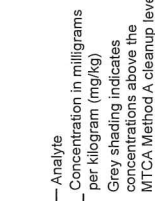
Date	Depth	D	O
8/8/14	2	10,000	12,000
8/8/14	8	<5.8	14

Notes:

- All locations are approximate.
- Soil samples collected on 7, 8, and 16 August 2014 and 15, 16, 17, and 20 April 2015.
- The Model Toxics Control Act (MTCA) Method A cleanup level for diesel- and oil-range hydrocarbons in soil is 2,000 mg/kg.
- Results are only shown for borings with detected concentrations of diesel- and/or oil-range hydrocarbons in soil.

Legend

- Deep Monitoring Well
- Shallow Monitoring Well
- 2014-2015 Soil Boring
- Approximate Parcel Boundary



Map data sources: Esri, DigitalGlobe, GeoEye, iStock, USGS, USDA, DeLorme, AeroGRID, IGN, Esri, Swirecity, and the GIS User Community

