



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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November 23, 2015

Mr. Mike Arnold
ERM Inc.
1218 3rd Avenue, Suite 1412
Seattle, WA 98101

Re: Opinion Pursuant to WAC 173-340-515(5) on *Site Characterization Report* for the Following Hazardous Waste Site:

- **Site Name:** K2 Corp
- **Site Address:** 19215 Vashon Highway SW, Vashon, WA 98070
- **Facility/Site No.:** 15413386
- **VCP No.:** NW2894
- **Cleanup Site No.:** 12390

Dear Mr. Arnold:

Thank you for submitting documents regarding your *Site Characterization Report* to complete the Remedial Investigation for the K2 Corp (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

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

- Diesel- (TPH-D) and oil-range total petroleum hydrocarbons (TPH-O) into soil.
- Solvents and petroleum-related volatile organic compounds (VOCs) into soil.
- Dichlorobromomethane, cis-1,2 dichloroethene, trichloroethene (TCE), and vinyl chloride into ground water.
- Arsenic into ground water.

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



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This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding your Remedial Investigation:

1. Draft Phase I Environmental Site Assessment (Phase I ESA), dated December 13, 2007, prepared by Berg Environmental Services.
2. Phase II Environmental Site Assessment (Phase II ESA), dated July 11, 2008, prepared by White Shield, Inc.
3. Underground Heating Oil Storage Tank Decommissioning Report, dated February 11, 2009, prepared by White Shield, Inc.
4. Technical Memorandum Environmental Evaluation K2 Corporation Facility, dated February 13, 2014, prepared by Farallon Consulting, LLC.
5. Draft Final Site Characterization Work Plan and Sampling and Analysis Plan, dated December 2014, prepared by Environmental Resources Management Inc. (ERM).
6. Site Characterization Report Former K2 Facility, dated September 2015, prepared by ERM.

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

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

- Diesel (TPH-D) and oil range total petroleum hydrocarbons (TPH-O) into soil.
- Solvents and petroleum-related volatile organic compounds (VOCs) into soil.
- Dichlorobromomethane, cis-1,2 dichloroethene, trichloroethene (TCE), and vinyl chloride into ground water.
- Arsenic into ground water.

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

The former K2 Corp manufacturing facility located at 19215 Vashon Highway SW is situated in a rural area on Vashon Island. The 2007 Phase I and 2008 Phase II Environmental Site Assessments (ESA's) were limited in scope and did not provide sufficient information regarding the former uses, storage, and disposal of hazardous substances at the facility. Some of this necessary and required information was included in the 2007 Phase I ESA report that identified numerous recognized environmental conditions (RECs) associated with the Site. At a minimum, Ecology requires that each RECs identified in the 2007 Phase I ESA be sufficiently investigated to confirm whether or not there has been a release of hazardous substances exceeding applicable cleanup levels throughout the Property. Where a release has occurred, Ecology requires that the nature and extent of the release be characterized for each medium of concern.

- Based on the previously identified RECs, ERM on behalf of K2 Corp identified specific areas of concern (AOC) for the Site. These AOCs are discussed along with the findings of this Remedial Investigation in Enclosure A, and shown on Figure 5.
- A Site-Specific Terrestrial Ecological Evaluation (TEE) was performed for the Site which is detailed in Appendix A of the Site Characterization Report. In the Initial Exclusion screening, the report states that the Site meets the TEE exclusion criteria because all soil contamination is beneath concrete or dunite slabs. However, this exclusion would require a Feasibility Study (FS) and agreement with Ecology prior to this criteria being accepted. The report next details the Simplified TEE. Ecology concurs with the conclusion that the Site qualifies for ending the Simplified TEE process because the area of soil contamination is less than 350 square feet.
- MTCA Method A cleanup levels (CUL) were used for screening purposes for all contaminants of concern for this Remedial Investigation.
- Eighteen monitoring wells were installed at the Site to evaluate ground water conditions and confirm areas of ground water contamination. The monitoring wells were completed using a truck-mounted, hollow-stem auger drill rig equipped with a hybrid direct-push tool. The monitoring well borings were advanced to total depths of 8.5 to 16.0 feet bgs. Monitoring well locations are shown in Figure 7.
- The depth to ground water in Site monitoring wells ranges from approximately 2 to 10 feet below grade, or elevations of approximately 383 to 396 feet above mean sea level. The ground water is present under unconfined conditions. Aquifer materials encountered consist primarily of silt with variable amounts of sand and gravel. The ground water flow

direction at the Site is toward the south and southeast with an average horizontal gradient of 0.019 feet per foot.

- The Site Characterization Report proposes to use dissolved metals data for ground water characterization. Ecology will approve this method as long as total metals analysis is run in conjunction with dissolved *and* ground water turbidity and data supports this conclusion. Ecology concurs with the following: "With the exception of thallium and silver, each of the metals detected in the ground water samples was also detected in multiple soil samples across the Property at concentrations indicative of naturally-occurring conditions (San Juan 1994; Shacklette and Boerngen 1984)".
- From analysis of Site ground water for TCE and Cross Section A-A (Figure 9), it is apparent that the vertical extent of TCE in ground water has not been defined. The Site is within the 5-year travel time of Vashon Island Wellhead Protection Zones for Water District 19 (WD19). Ground water intakes for WD19's wells 1, 2 and 4 are at roughly 567 feet, 640 feet and 598 feet below ground surface (bgs), respectively. Therefore Ecology is requiring that the vertical extent of the TCE plume be fully characterized. Additionally, Ecology is requiring that all data from this investigation be forwarded to WD19.
- It is Ecology's opinion that the Site has been sufficiently characterized to select an appropriate cleanup standard and to begin the FS. However, the FS cannot be completed until the vertical extent of the TCE plume has been characterized. Note: the cleanup standards for the Storm Water Retention Pond will be for surface water, not Method A ground water cleanup levels.

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

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

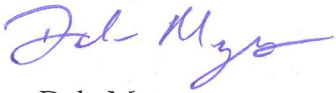
The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

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Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (425) 649-4446 or by email at damy461@ecy.wa.gov.

Sincerely,



Dale Myers
Site Manager
Toxics Cleanup Program

Enclosures: (A) Areas of Concern and Identified Constituents of Concern.
(B) Figures

cc: Sonia Fernandez, VCP Coordinator, Ecology

Enclosure A
Areas of Concern and Identified Constituents of
Concern

Areas of Concern and Identified Constituents of Concern

Property Description: The Former K2 manufacturing facility is on an 11.6 acre property parcel at 19215 Vashon Highway SW in Vashon, King County, WA (Figure 1). The surrounding area is characterized predominately by rural residential development with some scattered commercial and light industrial development. The unincorporated community of Vashon is approximately 1 mile north of the subject property.

K2 acquired the property late 1960s and relocated their manufacturing operations there. At that time, there were two buildings on the property, the machine shop that remains in the northeastern portion of the site, and a fabrication building that makes up the northernmost portion of the current main industrial building at the site. Much of the current industrial building was added in the 1970s as K2 expanded their snow sports equipment manufacturing operations. Fabrication of skis and snowboards ceased in approximately the late 1990s, at which time the facility was repurposed as a production facility for K2 bicycles. Bicycle production ceased at the facility in approximately 2004, and it has been vacant since that time.

Seven areas of concern (AOCs) have been identified at the Site (figure 5), and are summarized below.

AOC 1 – Machine Shop: This area of concern (AOC) was the original manufacturing facility for the K2 plant on the Property, and has the longest history of use by K2. The machine shop houses a gel-coat pit, a paint booth, and reportedly has a sump with an unknown history of use. A 300-gallon heating oil underground storage tank (UST) is also reportedly located beneath the building. A drain field serving a former greenhouse and florist shop on the Property also may be present in whole or in part in AOC 1. The location of this drain field could not be confirmed on existing Property plans.

No contamination associated with operations at the machine shop was detected in soil samples collected from two borings completed adjacent to the east side of the machine shop building in 2008. Reconnaissance activities in November 2014 confirmed the location of the UST, paint booth, and sump. During the reconnaissance, no gel-coat pit was observed in the machine shop and K2 personnel confirmed that no gel-coat pit was present, although available information indicates that fiberglass ski components were manufactured in the building.

The sump was observed to consist of an approximately 10-inch-diameter corrugated, galvanized metal pipe secured into the floor slab and extending down approximately 4 feet below grade. Sediments in the sump prevented confirmation of whether the sump had an open or sealed bottom. K2 personnel indicated that the sump previously collected spilled water and was periodically pumped when it was observed to be full. The sediments in the sump appeared to be wood, plastic, and metal shavings. Former K2 personnel report that the only metal processed (cutting and grinding) at the facility during K2 operations was high-strength steel edging used for skis and snowboards. The most common alloy metals used to create the steel of the type used for edging material are manganese, nickel, chromium, molybdenum, vanadium, silicon, and boron.

Potential constituents of concern in soil and ground water associated with AOC 1 include petroleum hydrocarbons, trichloroethylene (TCE), the semivolatile organic compounds (SVOCs)

bis (2-ethylhexyl) phthalate and pyrene, and 11 metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc). Only TPH-D and TPH-O were detected at concentrations greater than the respective cleanup levels (2,000 milligrams per kilogram (mg/kg) for each), and only in soil sample HA1-1-4.5, which was collected directly below the bottom of the drainage sump. TPH-D was detected at a concentration of 3,800 mg/kg in the sample, and TPH-O was detected at a concentration of 8,300 mg/kg. The inferred distribution of petroleum hydrocarbons in soil at AOC 1 is shown in Figure 10.

No petroleum-related analytes were detected in the soil sample collected from boring B1-1 completed immediately adjacent to the UST beneath the machine shop building.

TCE was detected at a concentration of 0.0019 mg/kg in soil sample HA1-1-4.5 collected directly below the bottom of the drainage sump. The Method A soil cleanup level (CUL) for TCE is 0.030 mg/kg. No other VOCs were detected in AOC 1 soil samples.

The SVOCs bis (2-ethylhexyl) phthalate and pyrene were detected at concentrations less than the respective Method A soil CULs of 16,000 mg/kg and 2,400 mg/kg in soil sample HA1-1-4.5. No other SVOCs were detected in AOC 1 soil samples. Additionally, no organochlorine pesticides or polychlorinated biphenyls (PCBs) were detected in the AOC 1 soil samples analyzed for those parameters.

The metals antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected in one or both soil samples collected from AOC 1, but each of the metals was detected at concentrations less than its respective Method A CUL.

AOC 2 – Decommissioned UST and North Lot: A 300-gallon UST that contained diesel was removed from this area in 2008. Approximately 115 cubic yards of soil contaminated with TPH-D were excavated during removal of the UST in 2008, and TPH-D concentrations greater than the Method A cleanup level remain in soils beneath the main plant building adjacent to the former UST location. The north lot area was also previously used as the chemical loading and off-loading area for the K2 facility, and transformers containing PCBs identified at the Property during a 1989 audit have since been replaced. A drain field serving the former greenhouse and florist on the Property also may be present in whole or in part in AOC 2. The location of this drain field could not be confirmed on existing Property plans.

No petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, or PCBs were detected in soil samples collected from AOC 2. Metals including antimony, arsenic, beryllium, chromium, copper, lead, mercury, nickel, selenium, and zinc were detected in one or more soil samples from AOC 2, but each of the metals was detected at concentrations less than the respective CUL.

The inferred distribution of petroleum hydrocarbons in soil at AOC 2 is shown in Figure 10. The figure includes petroleum hydrocarbon results for soil samples collected during previous investigations, including the 2008 UST removal and soil remedial excavation (White Shield 2009).

TPH-D was detected in the March 2015 ground water samples collected from boring B2-1 and well MW2-1 in AOC 2 at concentrations of 210 micrograms per liter ($\mu\text{g/L}$) and 360 $\mu\text{g/L}$, respectively. Both concentrations detected were less than the Method A CUL for TPH-D of 500 $\mu\text{g/L}$. Monitoring well MW2-1 was installed at the location of the former diesel UST removed from that area in 2008. TPH-G and TPH-O were not detected in the ground water samples from AOC 2.

The VOCs chloroform and methylene chloride were detected in the March 2015 ground water sample collected from well MW2-1 at concentrations less than the respective CULs. No other VOCs were detected in the ground water samples collected from AOC 2. No SVOCs or organochlorine pesticides were detected in the ground water samples collected from AOC 2.

Total arsenic, beryllium, chromium, copper, lead, mercury, nickel, selenium, and zinc were detected in the grab ground water sample collected from boring B2-1 at AOC 2 in March 2015. Of these metals detected, the following were greater than the CULs:

Decommissioned UST and North Lot Ground Water sampling results

Chemical of Concern	Concentration in ground water micro grams/Liter ($\mu\text{g/L}$)	Ground Water Cleanup Level $\mu\text{g/L}$
Arsenic	89	5
Beryllium	4.2	4
Chromium	650	50
Lead	62	15
Nickel	930	100

AOC 3 – Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Areas: AOC 3 includes several chemical handling and storage areas, including the solvent still, the hazardous waste shed, and storage areas periodically used for chemicals, equipment, and supplies. This area also includes the former location of an abandoned vehicle, which was reportedly removed in approximately 2000 along with 3 to 4 feet of underlying soil. In November 2014, ERM discussed the vehicle issue with K2 personnel, who confirmed that this “abandoned” vehicle was actually a truck periodically used for trash hauling from the facility, and that it was eventually sold and driven from the Property under its own power. The former vehicle parking spot was identified by the K2 representative and observed by ERM staff, who confirmed that the parking spot was paved with concrete that was part of the broader facility parking lot, and did not appear to have been cut or have any other indication of excavation activity. K2 personnel confirmed that no excavation had been completed in the area.

In 2008, TCE was detected at concentrations less than applicable regulatory cleanup standards in soil from two of three samples collected from borings completed within AOC 3. No TCE was detected in the third sample.

No petroleum hydrocarbons were detected in the soil samples collected from AOC 3. The VOC methylene chloride was detected at a concentration less than the CUL of 0.020 mg/kg in the soil sample from 3 feet bgs in boring B3-5 (0.0022 mg/kg). The metals antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected in one or more soil samples from AOC 3, but the metals were detected at concentrations less than their respective CULs.

TPH-D was detected in the ground water sample collected from boring B3-3 at AOC 3 at a concentration of 180 µg/L, which is less than the CUL for TPH-D of 500 µg/L. TPH-G and TPH-O were not detected in the ground water samples from AOC 3.

The VOCs acetone, carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-trichloroethane, and TCE were detected in one or more of the ground water samples collected from the borings and wells at AOC 3. Of these detections, only the TCE concentrations detected in ground water samples from borings B3-3 and B3-4 (9.1 µg/L and 16 µg/L, respectively), and wells MW3-4 and MW3-5 (20 µg/L and 26 µg/L, respectively) were greater than the CUL for TCE in ground water of 5.0 µg/L. The distribution of TCE in ground water at AOC 3 and across the Property is shown in Figure 13.

The SVOC naphthalene was detected in the March 2015 ground water sample from well MW3-1 at a concentration of 0.010 µg/L, which is less than the CUL of 160 µg/L. No other SVOCs were detected in AOC 3 ground water samples in the March 2015 round.

Total arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc were detected in one or more ground water samples collected from borings completed at AOC 3. Of these metals detected, the following were greater than the respective Method A CUL:

**Still, Centrifuge Room, and Chemical, Equipment, and Hazardous Waste Storage Areas
ground water sampling results**

Chemical of Concern	Concentration in ground water micro grams/Liter (µg/L)	Ground Water Cleanup Level µg/L
Arsenic	15 - 91	5
Beryllium	6 - 22	4
Chromium	650	50
Cadmium	5.2 - 12	5
Copper	1,900	1,300
Lead	73 - 280	15
Mercury	5.2	2
Nickel	610 - 5,700	100
Selenium	56	50
Thallium	7.4	2

AOC 4 – Former Drain Field and Vapor Degreasers: This AOC includes an area inside the main plant building where two vapor degreasers were previously operated. A second drain field attributed to the former greenhouse and florist operation is also located in this area.

No petroleum hydrocarbons were detected in the soil samples collected from AOC 4. The VOCs acetone, 2-butanone, methylene chloride, toluene, and TCE were detected at concentrations less than their respective CULs in one or more soil samples collected from AOC 4. The metals arsenic, chromium, copper, lead, mercury, nickel, and zinc were detected in one soil sample from AOC 4, but each at a concentration less than the respective CUL.

TPH-D was detected in the ground water sample collected from boring B4-1 at AOC 4 at a concentration of 340 µg/L, which is less than the Method A CUL for TPH-D of 500 µg/L. TPH-G and TPH-O were not detected in the ground water samples from AOC 4.

The VOCs acetone, chloroethane, chloroform, dichlorobromomethane, 1,1-DCE, cis-1,2-DCE, trans-1,2-dichloroethene (trans-1,2-DCE), tetrachloroethene, toluene, 1,1,2-trichloroethane, TCE, and vinyl chloride were detected in one or more of the ground water samples collected from the borings and wells at AOC 4. Of the VOCs detected, the following were at concentrations greater than the CULs:

Former Drain Field and Vapor Degreasers ground water sampling results

Chemical of Concern	Concentration in ground water micro grams/Liter (µg/L)	Ground Water Cleanup Level µg/L
Dichlorobromomethane	0.20	0.083
cis-1,2-DCE	180	70
TCE	13 – 1,600	5
Vinyl chloride	0.69 – 5.9	0.2

The distribution of TCE in ground water at AOC 4, and across the subject property, is shown in Figure 13. TCE distribution in ground water across AOC 4 is also shown in the cross section in Figure 9.

No other SVOCs were detected in AOC 4 ground water samples. Organochlorine pesticides were not detected in the ground water sample collected from boring B4-1 in AOC 4.

Total arsenic, chromium, copper, lead, mercury, nickel, and zinc were detected in the ground water sample collected from boring B4-1 at AOC 4. Of these metals detected, only arsenic was detected at a concentration greater than the respective CULs. The concentration of arsenic detected was 11 µg/L, and the CUL is 5 µg/L. Metals were not detected in the March 2015 ground water sample collected from well MW4-1.

AOC 5 – Former Resin Tank and Grinding Process Area: This AOC includes the aboveground resin storage tanks south of the main plant building, the open lawn area along the south side of the main plant building, and the grinding process area just inside the plant building on the south side. A release of 30 to 50 gallons of resin was reported in the tank area in 1996. The other concerns in this area include potential historical releases of grinding fluids and potential historical releases from the resin storage tanks. No contaminants were detected in soil samples obtained from two borings drilled near the resin tanks and in the lawn area in 2008.

No petroleum hydrocarbons, VOCs, or SVOCs were detected in the soil samples collected from AOC 5. The metals antimony, arsenic, beryllium, chromium, copper, lead, mercury, nickel, and zinc were detected in one soil sample from AOC 5, but the metals were detected at concentrations less than the respective CULs.

TPH-D was detected in the ground water sample collected from boring B5-2 at AOC 5 at a concentration of 130 µg/L, which is less than the CUL for TPH-D of 500 µg/L. TPH-G and TPH-O were not detected in the ground water samples from AOC 5.

TCE was detected at concentrations less than the CUL of 5 µg/L in March 2015 ground water samples collected from boring B5-2 (3.6 µg/L) and well MW5-1 (0.50 µg/L). TCE was not detected in the June 2015 ground water sample collected from well MW5-1. No other VOCs were detected in ground water samples collected from AOC 5.

No SVOCs were detected in AOC 5 ground water samples.

Total arsenic, chromium, copper, lead, mercury, nickel, and zinc were detected in the ground water sample collected from boring B5-1 at AOC 5. Of these metals detected in the sample, the following were detected at a concentration greater than the respective CULs:

Former Resin Tank and Grinding Process ground water sampling results

Chemical of Concern	Concentration in ground water micro grams/Liter (µg/L)	Ground Water Cleanup Level µg/L
Arsenic	7.2	5
Chromium	64	50
Nickel	110	100

AOC 6 – Boiler Room: This AOC includes the plant boiler room, where some petroleum-related staining was reportedly observed on the concrete floor. A transformer that may have contained PCBs was present in this room prior to the 1980s, when it was replaced with a non-PCB transformer.

No soil or ground water sampling characterization has not been completed in this area.

No petroleum hydrocarbons, PCBs, or SVOCs were detected in the soil sample collected from a depth of 3 feet bgs at AOC 6. TCE was detected in the soil sample (HA6-1-3) at a concentration of 8.2 micrograms per kilogram ($\mu\text{g/kg}$), which is less than the CUL of 30 $\mu\text{g/kg}$.

TPH-D was detected in the ground water sample collected from well MW6-1 at AOC 6 at a concentration of 230 $\mu\text{g/L}$, which is less than the CUL for TPH-D of 500 $\mu\text{g/L}$. TPH-G and TPH-O were not detected in the ground water samples from AOC 6.

The VOCs chloroform and vinyl chloride were detected at concentrations less than the respective CULs in the March 2015 ground water sample from well MW6-1. These compounds were not detected in the June 2015 sample from the well, but benzene was detected in that sample at a concentration of 0.21 $\mu\text{g/L}$, which is less than the CUL of 5 $\mu\text{g/L}$. No other VOCs were detected in the ground water samples collected from AOC 6.

The SVOCs 1-methylnaphthalene and naphthalene were detected at concentrations less than their respective CULs in the March and June 2015 ground water samples collected from well MW6-1. No other SVOCs were detected in the samples.

AOC 7 – Storm Water Retention Pond: Surface water from across the Property is collected and channeled to the storm water retention pond, from which it is discharged into the adjacent drainage ditch along the Vashon Highway. Releases of hazardous materials to the ground surface across the Property may have made their way to this retention pond through storm runoff. Two releases to the retention pond and adjoining ditch have been reported by K2: approximately 20 gallons of heating oil in 1993 and an unreported volume of grinding fluid in 1997.

TPH-D was detected in the March 2015 ground water sample collected from well MW7-1 at AOC 7 at a concentration of 130 $\mu\text{g/L}$, which is less than the CUL for TPH-D of 500 $\mu\text{g/L}$. TPH-G and TPH-O were not detected in the ground water samples from AOC 7.

The VOCs cis-1,2-DCE and TCE were detected at concentrations less than the CULs of 70 $\mu\text{g/L}$ and 5 $\mu\text{g/L}$, respectively in both the March and June 2015 ground water samples collected from well MW7-1. No other VOCs were detected in ground water samples collected from AOC 7. No SVOCs or total metals were detected in AOC 7 ground water samples.

Enclosure B

Figures

CAD File:
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Drawn By:
CAK

Date:
07/14/15

Project No.
0266125.02



LEGEND



Soil Boring, White Shield, 2008

--- Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation



0 75 150 300
SCALE IN FEET

Figure 3
*Previous Investigation
Soil Boring Locations
K2 Site Investigation
Vashon, Washington*

ERM 07/15

CAD File:
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Drawn By:
CAK

Date:
06/26/15

Project No.
0266125.02



LEGEND

--- Area of Concern

1 Recognized Environmental
Condition Location from Previous
Investigation

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

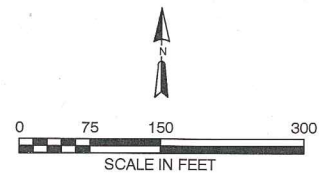


Figure 5
*Areas of Concern Designation
K2 Site Investigation
Vashon, Washington*

ERM 06/15

CAD File:
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Drawn By:
CAK

Date:
06/25/15

Project No.
0266125.02



LEGEND

- MW1-1 Monitoring Well
- B1-1 Soil Boring
- SS7-1 Surface Soil Sample
- Area of Concern
- Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

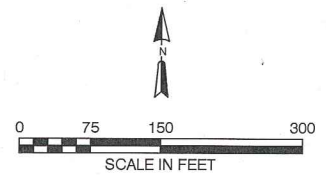


Figure 7
Soil and Groundwater
Sample Locations
K2 Site Investigation
Vashon Highway SW
Vashon, Washington

ERM 06/15

CAD File:
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Date:
07/13/15

Project No.
0266125.02



LEGEND

- MW1-1 Monitoring Well
- B1-1 Soil Boring
- SS7-1 Surface Soil Sample
- Area of Concern
- Property Boundary

Aerial Photo Source: Bing Maps © 2015
Microsoft Corporation

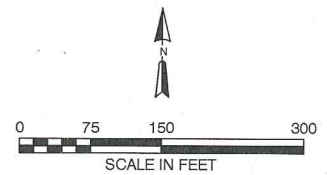


Figure 8
Cross Section A-A' Location
K2 Site Investigation
Vashon, Washington

ERM 07/15

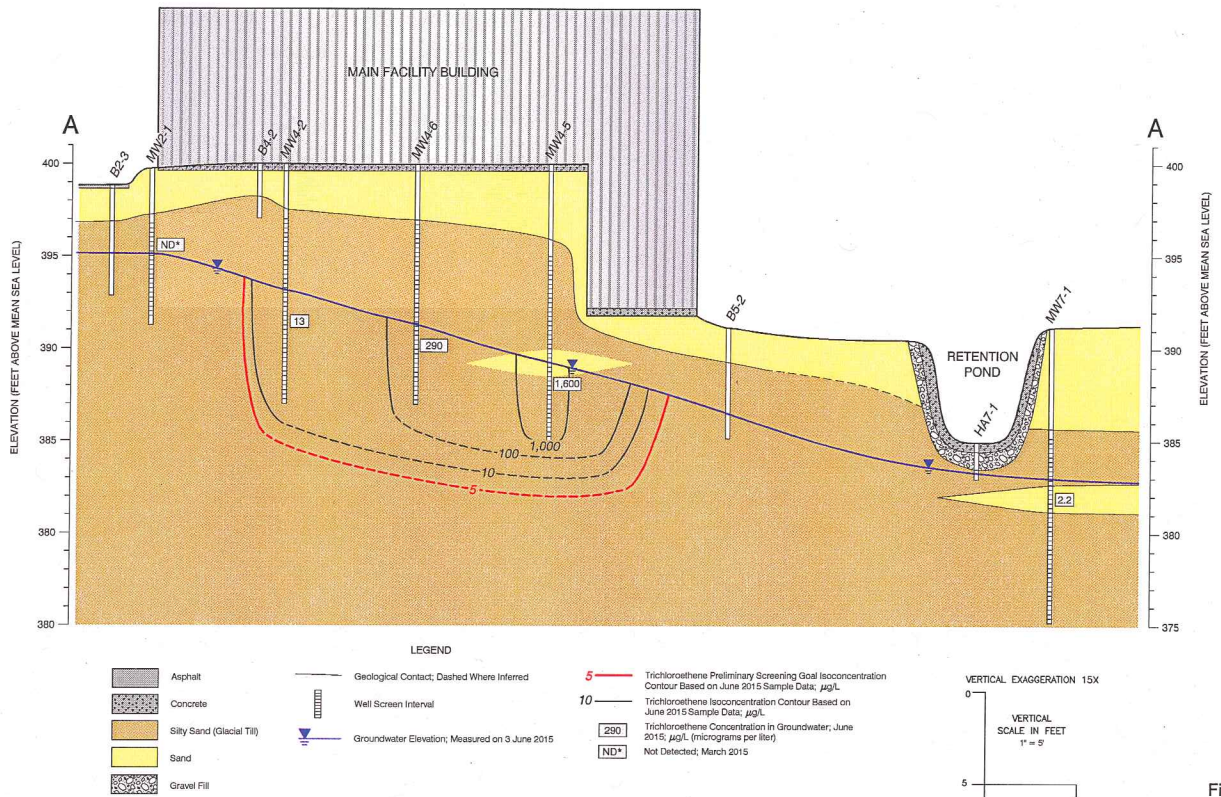


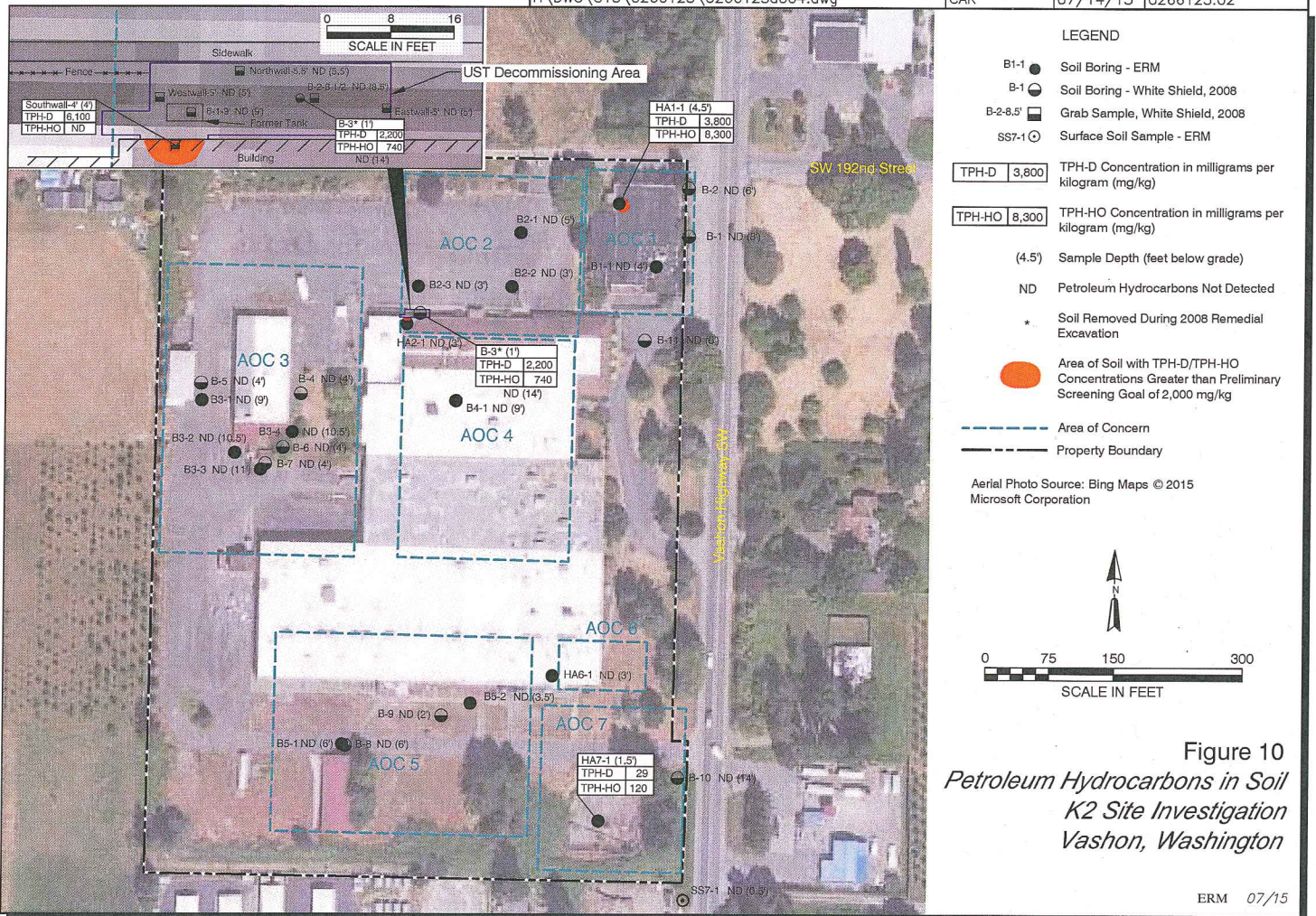
Figure 9
 Cross Section A-A'
 K2 Site Investigation
 Vashon, Washington

CAD File: H:\DWG\G15\0266125\0266125a004.dwg

Drawn By: CAK

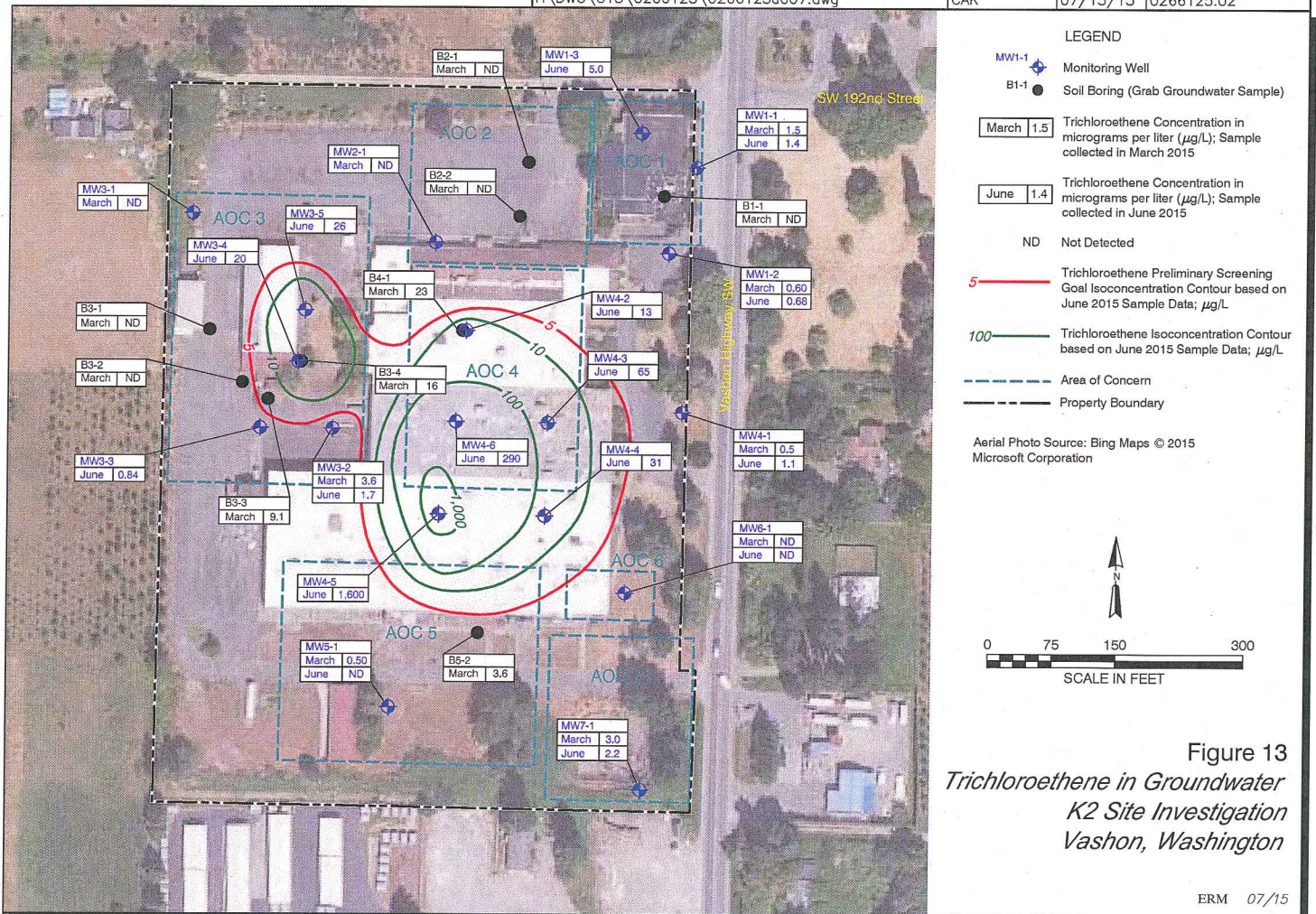
Date: 07/14/15

Project No. 0266125.02



CAD File:
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CAK 07/13/15 0266125.02



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