STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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October 31, 2016

Ms. Tracy Sillik
JH Kelly, LLC
821 3rd Ave
Longview, WA 98632-2105

Re: Further Action at the following Site:

- **Site Name:** JH Kelly LLC
- **Site Address:** 821 3rd Ave Longview, WA 98632 Cowlitz Co.
- **Facility/Site No.:** 74552527
- **VCP Project No.:** SW1529

Dear Tracy Sillik:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the JH Kelly LLC 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:

- Gasoline range total petroleum hydrocarbons (TPH-G) into the Soil and Groundwater.

- Diesel range total petroleum hydrocarbons (TPH-D) into the Soil and Groundwater.
- Oil range total petroleum hydrocarbons (TPH-O) into the Soil and Groundwater.
- Benzene, toluene, ethylbenzene, and xylene (BTEX) into the Soil and Groundwater.

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(s) 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. Chris Leaf; ALS Environmental (ALS), Analytical Report for Service Request No: K1607692, August 01, 2016.
2. Jamie Morris-Pease; JH Kelly, Letter to Nicholas Acklam; Department of Ecology; Re: VCP Application, April 29, [2]016.
3. Chris Leaf; ALS, Analytical Report for Service Request No: K1603664, April 22, 2016.
4. Ed Wallace; Columbia Analytical Services, Inc. (Columbia), Letter to JH Helly; RE: GX,BTEX, May 11, 2006.
5. LaVarne Landauer; Columbia, Letter to Jeff Wilson; Cowlitz Clean Sweep; Re: J.H. Kelly Project, April 11, 1996.
6. Ted Coons; J.H. Kelly, Inc., Letter to Patricia L. Martin; Department of Ecology; Attached Laboratory Report, July 16, 1993.
7. Ted Coons; J.H. Kelly, Inc., Letter to Patricia L. Martin; Department of Ecology; Attached Laboratory Report, June 3, 1992.
8. Ted Coons; J.H. Kelly, Inc., Letter to Patricia L. Martin; Department of Ecology; Attached Laboratory Report, January 17, 1992.
9. Pacific Northern Environmental (PNE), J.H. Kelly, Inc. Closure Report, December 2, 1991.
10. SRH Environmental Management (SRH), Report on Soil Sampling and Analysis, September 1, 1989.
11. Ronald L. Uher; AcuTest, Letter to Mr. John Jabusch; Petroleum Services Unlimited, July 21, 1989.

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

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 not** sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

The activities performed to date are not sufficient to characterize the Site. The activities performed by PNE do not characterize the extents of petroleum contaminated soil PCS. Work done at the Site indicates that:

- PNE removed the underground storage tanks and sampled for TPH and BTEX in soil samples taken at 12.5 feet bgs. It is not clear if these samples are from the floor of the excavation or the walls of the excavation (Figure 3).
- PNE did not take any soil samples from the floor of the excavation near the center of the pit, or below the USTs to determine the vertical limits of contamination.
- Two areas were over excavated after initial soil sampling showed exceedances of the 1991 MTCA Method A CULs for soil (Figure 4).
- Although the excavation removed the horizontal extents of PCS in exceedance of 1991 MTCA Method A CULs, there is potentially still benzene present in soil that exceeds the current MTCA Method A CULs (Table 1).

After the UST and PCS removal, a single monitoring well was installed at the Site. The monitoring well has been sampled on an irregular schedule from December 1991 to July 2016 (Table 2). Analytical results show that:

- The Site initially had high concentrations of TPH-G, TPH-O, and benzene in groundwater.
- Benzene concentrations in groundwater have decreased below the MTCA Method A CUL for groundwater for more than a year.

- The Site has not demonstrated four consecutive quarters below the MTCA Method A CULs for TPH-G, TPH-D, and TPH-O.

The groundwater results were presented to Ecology as laboratory reports only, and not as groundwater monitoring reports. Because of this, Ecology cannot determine the quality of the groundwater data. More information would need to be submitted for Ecology to determine if the groundwater data is of good quality and representative of the true conditions at the Site. This additional information is detailed below in the recommendations.

Exposure Pathways

Exposure pathways for the Site as Ecology currently understands them are as follows;

Soil-Direct Contact:
Likely Incomplete. Although the Site was only excavated down to 12.5 feet bgs, and benzene was still present in soil above the MTCA Method A CUL, the PCS appears to have been limited to the area around the UST tank nest, and the site is currently paved.

Soil-Leaching:
Potentially Incomplete. Groundwater concentrations of TPH-G, TPH-D, TPH-O, and benzene appear to have decreased to below their respective CULs. The quality of the groundwater data is questionable, and there has not been four quarters of groundwater sampling showing TPH-G, TPH-D, and TPH-O concentrations below the CULs.

Soil-Vapor:
Likely Incomplete. Contaminated soil does not appear to have extended very far beyond the source and has been mostly excavated with only low levels of benzene left in place. The site was excavated to 12.5 feet bgs. BTEX concentrations in groundwater also appears to have decreased to below CULs.

Groundwater:
Complete. Although TPH-G, TPH-D, TPH-O, and benzene appear to have decreased to below MTCA Method A CULs, Ecology does not have enough information to determine the quality or validity of the data submitted.

Ecological:
Incomplete. A Terrestrial Ecological Evaluation (TEE) has been submitted. The Site qualifies for an exclusion based on Barriers to Exposure (WAC 173-340-7491(1)(b)), were all contaminated soil, is or will be, covered by physical barriers that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Based on a review of the available information, Ecology has the following comments;

1. So that the quality of the groundwater data can be assessed, Ecology recommends summarizing the groundwater data in a groundwater monitoring report that includes the following information;

   - Provide details of the methodologies used to sample the well. Monitoring wells should be sampled using low-flow sampling techniques. For information on proper sampling techniques, please consult Ecologies Guidance for Remediation of Petroleum Contaminated Sites. This guidance document can be found at https://fortress.wa.gov/ecy/publications/SummaryPages/1009057.html
   - Provide the monitoring well boring and construction log so that Ecology can determine if the well was properly constructed and is suitable for groundwater monitoring purposes.
   - Provide a Site map showing the location of the well in relation to the rest of the site, the USTs, the dispensers, and the excavated area.
   - Provide evidence that silicone gel cleanup (SGC) was not used in NWTPH-Dx analysis.
   - Ecology requires four quarters of groundwater sampling showing concentrations below the applicable CULs. Currently, you have only two sampling events showing a TPH-G concentrations below the MTCA Method A CUL, though they are 10 years apart and can be considered to show that TPH-G concentrations have decreased to below the CUL. However, you have only one sampling event showing that either TPH-D, TPH-O, or both are below the MTCA Method A CUL. The provided laboratory report from the June 1993 sampling event has a method detection limit for TPH-G that is above the CUL of 800 µg/L, and is not clear on the interpretation of the other TPH results.
   - If the methodologies used for groundwater sampling meet Ecology's requirements, and the monitoring well is properly constructed, Ecology believes that you have demonstrated that BTEX constituents are no longer a concern at the Site.
   - A minimum of one additional sampling event would be required to show that contamination levels had decreased below the CULs for all constituents of concern at the site. **Details on what should be included for any future sampling are included below.**
   - If the sampling methods used do not meet the standards required by Ecology, it is recommended that additional groundwater sampling is conducted that will meet Ecology's requirements and that will provide usable quality results.

Details on what should be included for any future sampling are included below.

2. Any additional groundwater sampling conducted at the site should include the following;
   - Assure that low-flow sampling techniques are used.
   - Please determine the presence and extents of the constituents listed in MTCA Table 830-1 that are indicated for Gasoline Range Organics and Diesel Range Organics at the Site for all media being sampled. All future sampling plans should incorporate the indicated constituents of concern. It is important to assure that the laboratory method detection limits capture the CULs for all analytes. For example, Ecology recommends you incorporate the use of the EPA method 8011 for EDB in water to assure the laboratory report level is at or below the CUL.
     - Specifically, any future sampling should include TPH-G, TPH-D, TPH-O, BTEX, total lead, 1-2 Dibromoethane (EDB), 1-2 dichloroethane (EDC), and methyl tert-butyl ether (MTBE).
     - Assure that SGC is **not** used for any NWTPH-Dx analysis.
   - Determine the depth to groundwater at the time of sampling.
   - Determine if free product is present at the groundwater surface.

3. Please note, that depending on the information submitted or your findings moving forward, additional groundwater monitoring may necessitate the installation of additional groundwater monitoring wells.

4. In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated for Independent Remedial Actions shall be submitted simultaneously in both a written and electronic format. For additional information regarding electronic format requirements, see the website http://www.ecy.wa.gov/eim. Be advised that according to the policy, any reports containing sampling data that are submitted for Ecology review are considered incomplete until the electronic data has been entered. Please ensure that data generated during on-site activities is submitted pursuant to this policy. **Data must be submitted to Ecology in this format for Ecology to issue a No Further Action determination.** Please be sure to submit all soil and groundwater data collected to date, as well as any future data, in this format. Data collected prior to August 2005 (effective date of this policy) is not required to be submitted; however, you are encouraged to do so if it is available. Be advised that Ecology requires up to two weeks to process the data once it is received.

5. Submission of complete reports is a key aspect to achieving a No Further Action (NFA) on voluntary cleanup projects. Ecology has developed a Checklist and Template to provide clarity on our expectations for reports. The Checklist and Template can be found at http://www.ecy.wa.gov/programs/tcp/policies/checklists.html.

6. **Please note that any document submitted containing geologic, hydrologic, or engineering work must be under the seal of an appropriately licensed professional, as required by Chapters 18.43 and 18.220 RCW.**

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 Site has yet to be fully defined. As such, final cleanup standards cannot yet be established. Currently, MTCA Method A soil and groundwater CULs for unrestricted land use are being used for the Site. Additionally, only the presence of TPH, and BTEX, have been explored throughout the Site. MTCA Table 830-1 lists the constituents of concern that should be included in any sampling plan.

Standard points of compliance are currently being used for the Site. The point of compliance for protection of groundwater is established in the soils throughout the Site. For soil cleanup levels based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway, the point of compliance is established in the soils throughout the Site from the ground surface to 15 feet below ground surface (bgs). In addition, the point of compliance for the groundwater is established throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth that could potentially be affected by the Site.

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA. Although characterization of the Site will need to be completed before a final cleanup action can be identified, PCS removal and natural attenuation with groundwater monitoring is appropriate, and may have been effective at the Site.

4. Cleanup.

Ecology has determined the cleanup you performed meets cleanup standards at the Site.

Cleanup actions at the Site to date have included the removal of PCS in the vicinity of the two USTs, and natural attenuation with groundwater monitoring.

Final compliance with Site cleanup standards for the Site cannot be determined until the quality of current groundwater data can be assessed, or additional groundwater data is acquired that meets Ecologies requirements.

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.

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 (360) 407-6437 or e-mail at Aaren.fiedler@ecy.wa.gov .

Sincerely,

Aaren Fiedler
SWRO Toxics Cleanup Program

AF: hd

By certified mail [91 7108 2133 3939 7042 7209]

Enclosures: A – Description, Diagrams, and Tables of the Site

cc: Mason Evans, Evans Major LLC
Matthew Alexander, Ecology
Nicholas Acklam, Ecology

Enclosure A

Description, Diagrams and Tables of the Site

Site Description

The Site know as JH Kelly LLC is located near the northwest corner of 3rd Avenue and Tennant Way in Longview, Cowlitz County Washington. The Site is made up of several large buildings and is mostly paved with asphalt. Very little of the site is left uncovered. The Site is located in a mixed use area and is surrounded by industrial, commercial, residential, and recreational properties. To the East, across 3rd Ave. from the Site, is an auto salvage yard and a chemical plant as well as the Cowlitz River and some residential properties. The Cowlitz River is approximately 1,060 feet from the site. The chemical plant has a large open green-space that consists of grass and trees. North of the site is multiple commercial properties running along 3rd Avenue. Directly adjacent to the Site on the East side is Ditch Number Five. East of the ditch is an auto dealership, a pond, and a park. South of the Site is Tennant Way and roadside green-space associated with the Tennant Way and 3rd Ave. intersection. The green-space consists mostly of grassy areas and trees with an elongated pond.

The subsurface geology consists of fill material down to approximately 8.5 feet bgs. The fill consisted of chunks of wood, asphalt, concrete, reinforcing bar, and bricks in a matrix of silt, sand, and gravel with small amounts of clay. There was a report of a slight odor of decaying organic material within the fill. Below the fill material is native sands and silts. A layer of grass and roots was reported at the top of the native soils and would indicate that this had once been at the surface. The groundwater flow direction for the site has not been determined. Only one monitoring well has been installed. The likely groundwater flow direction would be toward or away from the Cowlitz River depending on weather the river is a discharge or recharge point for the shallow groundwater zone.

Site History

Pre-Tank Removal (July & September 1989)
As a result of the changed UST regulations in September 1989, JH Kelly had a pressure test conducted on each of the USTs (one 10,000 gallon unleaded fuel tank, and one 4,000 gallon diesel tank) and a sub-surface excavation examination and sampling done next to the tank nest down to 18 feet bgs. Both tanks passed the leak test. Two soil samples were taken from the test pit that were composited by the lab into one sample for analysis. BTEX and TPH (EPA Method 418.1) were analyzed. BTEX constituents where below laboratory detection limits. A total TPH of 58 mg/Kg was reported. Only benzene had a detection limit greater than the CUL. The detection limit for benzene was 0.04 mg/Kg. Reportedly, the excavation location was chosen based on a soil gas survey. That survey was not provided.

Tank Removal (November 1991)
The tanks were decommissioned in November of 1991 by PNE because it was decided to move fueling to a third party vendor. Fuel dispensers, tanks, and ancillary equipment were removed. Field screening with a photo-ionization detector indicated PCS in the soil below the dispensers. PCS was also noted around each of the UST as they were removed. A water sample taken from the excavation had MTCA Method A CUL exceedances for TPH-D (24,000 µg/L), TPH-G (130,000 µg/L), benzene (4,100 µg/L), toluene (18,000 µg/L), ethylbenzene (5,300 µg/L), and xylenes (32,000 µg/L). Four initial excavation samples were taken and analyzed for TPH. One of the samples (JHK-SS3-12.5') had a TPH-O concentration of 480 mg/Kg which exceeded the CUL at that time of 200 mg/Kg. Two of the four excavation samples were also analyzed for BTEX. One of the samples (JHK-SS1-12.5') had a benzene concentration of 1.10 mg/Kg which exceeded the CUL. The area with the TPH-O exceedance and the area with the benzene exceedance where over excavated. After over excavation the sample taken from the area with the TPH-O exceedance (JHK-SS5-12.5') showed a TPH-D level of 120 mg/Kg and a TPH-O level of 120 mg/Kg. The sample taken from the area with the benzene exceedance was below laboratory detection limit for all BTEX constituents. The laboratory detection limit was 0.1 mg/Kg, which is greater than the CUL of 0.03 mg/Kg.

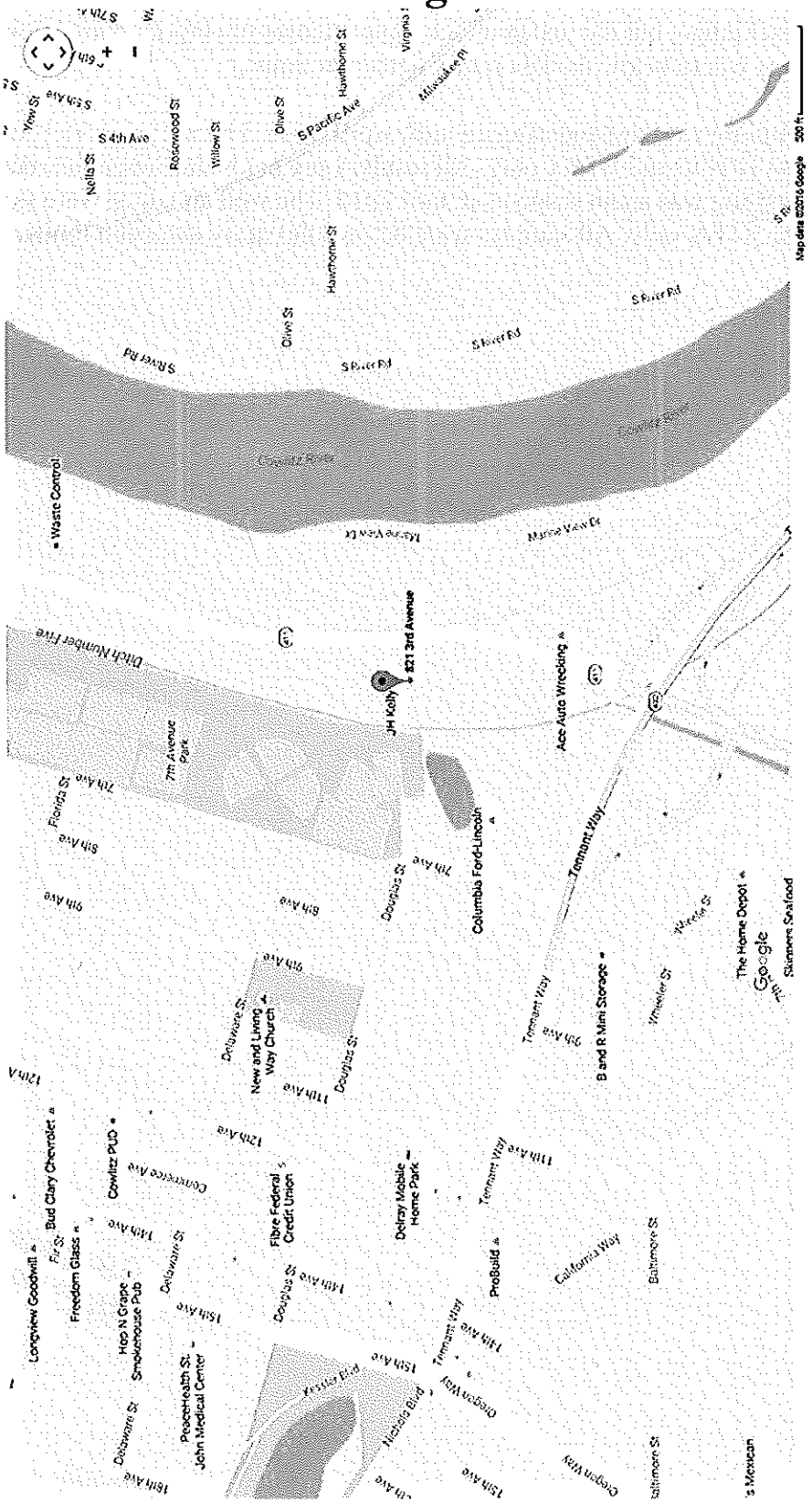
Groundwater Monitoring (December 1991 to present)
One monitoring well was installed on the property. Its location and construction details are unknown at this time. Sampling of the well has been sporadic since installation. The initial sampling results from December 1991 showed exceedances of TPH-G (1,010 µg/L), TPH-O (3,340 µg/L), and benzene (30 µg/L). Follow-up sampling in May 1992 showed no detectible TPH, but still showed an exceedance for benzene (11.1 µg/L).

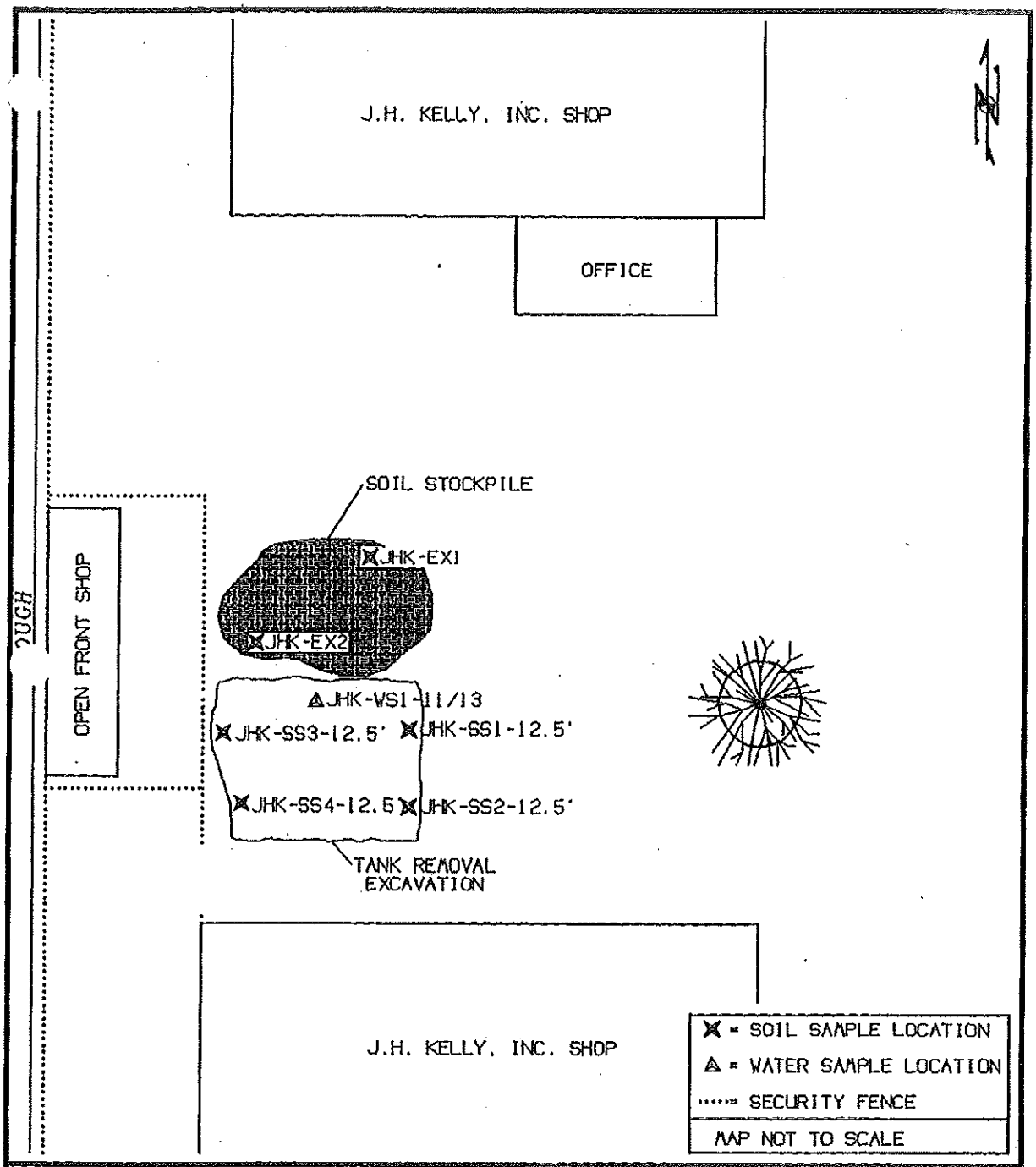
The next sampling event in June 1993 showed an exceedance of TPH-D (270,000 µg/L), and a quantity of TPH designated as "Other" that was 6,000 µg/L. The TPH-D concentration is flagged as not matching the typical diesel fingerprint chromatogram. "Other" is not defined in the laboratory report. There is also no oil range results reported for TPH. It is not clear from the report if TPH-O was not detected, or not analyzed for. None of the BTEX constituents exceeded the CUL.

Groundwater sampling was suspended until April 1996. All TPH was below laboratory detection limits except for something designated as "Other". The "Other" result (279 µg/L) is flagged as eluting in the diesel range, but not matching the typical diesel fingerprint chromatogram. All BTEX constituents where below the laboratory detection limits.

Groundwater sampling was suspended again until April 2006. The well and ditch behind the Site were analyzed for TPH-G and BTEX only. All results were below the laboratory detection limits. Groundwater sampling was again suspended until 2016. The well and ditch were sampled in April and July for BTEX only. All samples were below laboratory detection limits.

Site Diagrams

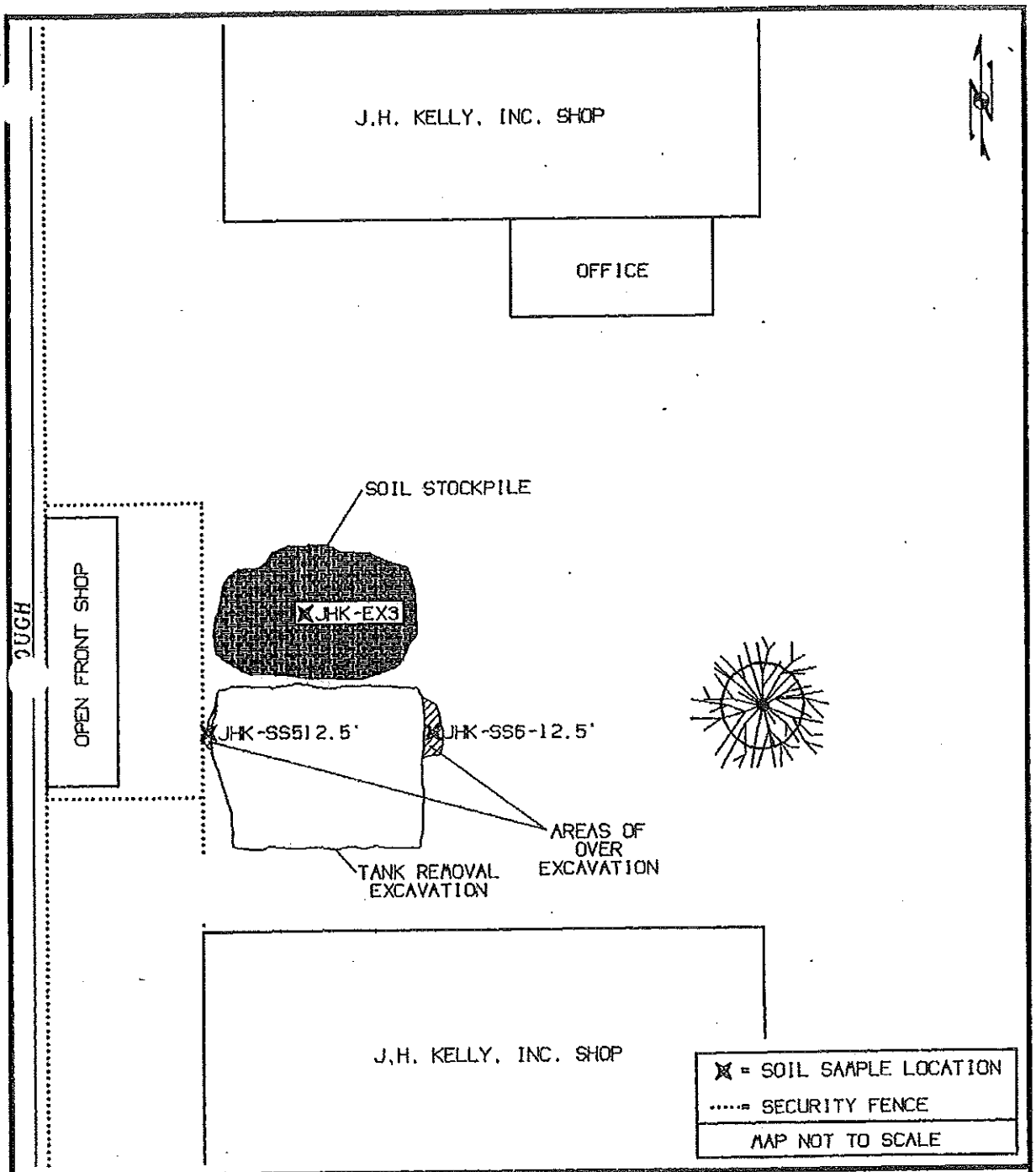




J.H. KELLY, INC.
21 THIRD AVENUE
LONGVIE WASHINGTON 98632

FIGURE 3
11/13/91
SAMPLE LOCATIONS

PACIFIC NORTHERN ENVIRONMENTAL



J.H. KELLY, INC.
21 THIRD AVENUE
LONGVIEW WASHINGTON 98632

FIGURE 4
11/22/91
SAMPLE LOCATIONS

PACIFIC NORTHERN ENVIRONMENTAL

Tables

Table 1
Soil Analytical Results for
Excavation Confirmation Samples

	Units	Method A CUL [1991]	Method A CUL [Current]	Sample ID: JHK-SS1-12.5'	JHK-SS6-12.5' (SS1 Over Excavation)	JHK-SS2-12.5'	JHK-SS3-12.5'	JHK-SS5-12.5' (SS3 Over Excavation)	JHK-SS4-12.5'
TPH-D	mg/Kg	200	2,000	<10	--	<10	<10	<10	<10
TPH-G	mg/Kg	100	30	<10	--	<10	<10	<10	<10
TPH-O	mg/Kg	200	2,000	**70**	--	**130**	480	**70**	**140**
Benzene	mg/Kg	0.5	0.03	**1.10**	<0.05	--	**0.14**	--	--
Toluene	mg/Kg	40	7	<0.10	<0.05	--	<0.05	--	--
Ethylbenzene	mg/Kg	20	6	<0.10	<0.05	--	<0.05	--	--
Xylenes	mg/Kg	20	9	<0.10	<0.05	--	**0.07**	--	--

Orange	Indicates a result in exceedance of the 1991 MTCA Method A CUL, but below the current MTCA Method A CUL
Red	Indicates a result in exceedance of the current MTCA Method A CUL
Bold	Indicates a result above the laboratory detection limit
--	Analyte Not Analyzed

Table 2

Groundwater Monitoring Analytical Results

	Units	Method A CUL [Current]	Monitoring Well (12/10/91)	Monitoring Well (05/14/92)	Monitoring Well (06/30/93)	Monitoring Well (04/04/96)	Monitoring Well (04/27/06)	Monitoring Well (04/12/16)	Monitoring Well (07/11/16)
TPH-G	µg/L	1,000/800	**1,010**	<50	<1,000	<50	<250	--	--
TPH-D	µg/L	500	<50	<50	**270,000 (b)**	<50	--	--	--
TPH-O	µg/L	500	**3,340**	<50	NR	NR	--	--	--
Other* (TPH)	µg/L	NR	**NR**	NR	6,000	**279 (b)**	--	--	--
Benzene	µg/L	5	**30**	**11.1**	**3.7**	<0.5	<0.50	<0.50	<0.50
Toluene	µg/L	1,000	**30**	<1	<1	<1	<1.0	<0.50	<0.50
Ethylbenzene	µg/L	700	**16**	**12**	**1**	<1	<1.0	<0.50	<0.50
Xylenes	µg/L	1,000	**200**	**37**	**1**	<1	<1.0	<0.50	<0.50

Red Indicates a result in exceedance of the current MTCA Method A CUL

Bold Indicates a result above the laboratory detection limit

(b) Quantified as diesel. The Sample contained components that eluted in the diesel range, but the chromatogram did not match the typical diesel fingerprint

* 'Other' is not defined in the laboratory reports

NR TPH in this range was not reported in the laboratory results

-- Analyte Not Analyzed