



PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

Ms. Sandi Thompson
Mason County Transportation Cooperative
700 S. First Street
Shelton, WA 98584

- **Site Name:** Mason County Transportation Cooperative
- **Site Address:** 3740 Shelton Springs Road, Shelton
- **Facility/Site No.:** 23634752
- **VCP Project No.:** SW0579

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Mason County Transportation Cooperative 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.

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

- Petroleum hydrocarbons and related constituents into the Soil and Groundwater.



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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. Site Monitoring Report, Fall 2009, Mason County Transportation Cooperative, Shelton, Washington, dated January 28, 2010 by PBS Engineering & Environmental (PBS).
2. E-mail from Mr. Scott Rose (Ecology) to Mr. Ulysses Cooley (PBS), RE: Mason County Bus Barn Site, Ecology comments on work plan, dated September 29, 2009.
3. Letter from Mr. Ulysses Cooley (PBS) to Mr. Scott Rose (Ecology), RE: Mason County Transportation Cooperative, Work Plan Addendum, dated September 22, 2009.
4. Letter from Ms. Sandi Thompson (Mason County Transportation Cooperative) to Mr. Scott Rose (Ecology), RE: Mason County Transportation Cooperative, Status Letter, dated June 11, 2009.
5. Letter from Mr. Scott Rose (Ecology) to Ms. Sandi Thompson (Mason County Transportation Cooperative), RE: Further Action Determination, dated October 2, 2007.

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.

Underground storage tanks (USTs) containing gasoline and diesel fuel were removed from the Site in September 1994. Of the confirmation soil samples collected, six samples contained concentrations of diesel-range petroleum hydrocarbons above MTCA cleanup levels ranging from 5,000 milligrams per kilogram (mg/kg) to 21,000 mg/kg. A grab groundwater sample collected adjacent to the USTs just prior to their removal contained gasoline-range petroleum hydrocarbons (TPH-G) at 17,000 micrograms per liter ($\mu\text{g/L}$) and TPH-D at 820,000 $\mu\text{g/L}$.

In June 2007, soil borings were advanced and monitoring wells were installed on Site in the vicinity of the current USTs and pump island; however, the locations did not generally correspond to the locations of the confirmation samples containing elevated TPH-D noted above. None of the contaminants analyzed for in soil were detected above MTCA cleanup levels. None of the contaminants analyzed for in groundwater were detected above MTCA cleanup levels; however, the samples were not analyzed for TPH-G or TPH-D.

On October 2, 2007, Ecology issued an opinion letter on activities conducted to date. The opinion letter indicated a need for:

- Further characterization of the contaminated soils identified during the 1994 tank removal, or justification for leaving contamination in place if these areas were inaccessible.
- Further sampling of the groundwater for TPH-G, TPH-D, and oil-range petroleum hydrocarbons (TPH-O), and the installation of at least one well downgradient of the USTs and pump island since one does not currently exist.
- Sampling of soil on the eastern portion of the Site where soils from the 1994 UST removal were spread out to promote biodegradation rather than disposing of the soil off Site.

Based on a review of the above-listed information provided to Ecology since the October 2, 2007 opinion letter was issued, Ecology has the following comments:

1. No information has yet been provided to Ecology regarding the status of the impacted soil beneath the UST nest and pump island. Based on intrusive activities conducted in 2007, it appears that residual petroleum-contaminated soil (PCS) is limited to the

area beneath the UST nest and pump island; however, the vertical extent of the PCS is unknown. As noted in the October 2007 opinion letter, if these areas are inaccessible for further characterization and/or excavation, a Feasibility Study and Disproportionate Cost Analysis should be provided to Ecology to justify leaving contamination above MTCA cleanup levels in place under an Environmental Covenant.

2. While the groundwater data collected in October 2009 showing no contaminants above MTCA cleanup levels is promising, it is not sufficient to demonstrate compliance for groundwater. Ecology requires that four consecutive quarters of groundwater data showing concentrations below MTCA cleanup levels be collected to demonstrate compliance. The primary reason for this is that contaminant concentrations can vary seasonally. Quarterly groundwater monitoring should be ongoing to determine any seasonal variation in contaminant concentrations and groundwater flow direction.
3. The potentiometric surface map created by PBS shows groundwater flowing to the southwest. There are no monitoring wells located downgradient of the UST nest and pump island, which is where residual impacts to groundwater would be expected to be present. The October 2007 opinion letter indicated the need for a well in this area. Also, the June 2009 response letter from Mason County noted the intent to install an additional well. However, that did not take place as part of the most recent investigation. Since MW-1 did not contain any water during the sampling event, it is recommended that at least two wells be installed downgradient to characterize the extent of residual impacts to groundwater.
4. As presented in the September 2009 Work Plan Addendum, PBS collected three soil samples from the eastern portion of the Site where the former soil stockpile had been spread out. Ecology comments to the work plan provided via email requested that those samples also be analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) compounds. PBS responded on September 29, 2009 indicating that they would include BTEX analysis on the soil samples. According to the most recent report, the soil samples were only analyzed for TPH-G. The area needs to be re-sampled and analyzed for BTEX compounds. Samples should be analyzed using EPA Method 5035 methodology.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site do not meet the substantive requirements of MTCA.

MTCA Method A soil cleanup levels for unrestricted land use are being used for the Site.

Standard points of compliance are 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 does not meet the substantive requirements of MTCA.

Cleanup activities conducted to date have included UST removal, the excavation and on-Site treatment of PCS, and natural attenuation for groundwater.

Since the Site has yet to be fully characterized, selection of a cleanup action is premature at this time.

4. Cleanup.

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

In September 1994, two 3,000-gallon gasoline USTs and one 12,000-gallon diesel UST were excavated and removed from the Site. Numerous (exact number unknown) confirmation soil samples were collected from the excavation. Concentrations of TPH-D above the MTCA Method A cleanup level of 2,000 mg/kg were present in five of the samples as deep as 15 feet bgs. These concentrations ranged from 5,000 mg/kg to 12,400 mg/kg. In addition, a soil sample collected from a boring advanced adjacent to the pump island contained TPH-D at 21,000 mg/kg at 2 feet bgs. Reportedly, no evidence of gasoline contamination in the soil was identified (*see attached Figure 2 – Map of Historic Sample Locations and Current Boring Locations*).

Between 600 and 1,000 cubic yards of soil were excavated and stockpiled on Site to be aerated. The soil stockpile was sampled by PBS in November 1995 and again in May

1998, and analyzed for TPH-D. In 1995, concentrations of TPH-D ranged from 89 mg/kg to 900 mg/kg, and in 1998 from 36 mg/kg to 83 mg/kg. At some point in time, the stockpile was spread out and capped with gravel. In October 2009, PBS collected three soil samples from this area from 6 to 12 inches bgs for analysis for TPH-G. TPH-G was not detected in any of the samples.

In 1998, a 2,000-gallon waste oil UST was excavated and removed from the Site north of the building. Upon removal of the UST, the tank appeared to be structurally sound and no evidence of contamination was noted. Three confirmation soil samples were collected from the floor, and the east and south sidewalls of the excavation. The samples were analyzed for TPH-D and TPH-O by Ecology Method NWTPH-Dx/Extended. TPH-D and TPH-O were not detected in any of the samples above the laboratory method detection limits.

Additional characterization of the Site is warranted before a final cleanup action can be identified.

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.

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3. State is immune from liability.

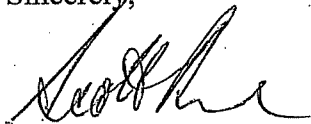
The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. See RCW 70.105D.030(1)(i).

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 at (360) 407-6347 or via email at sros461@ecy.wa.gov.

Sincerely,



Scott Rose, L.G.
VCP Unit Manager
SWRO Toxics Cleanup Program

SIR/ksc:Mason Co Transportation Coop Further Action

Enclosures (1): A – Description of the Site

By certified mail: (7009 2820 0001 7155 2575)

cc: Ulysses Cooley – PBS Engineering & Environmental
Carol Johnston – Ecology
Dolores Mitchell – Ecology

Enclosure A

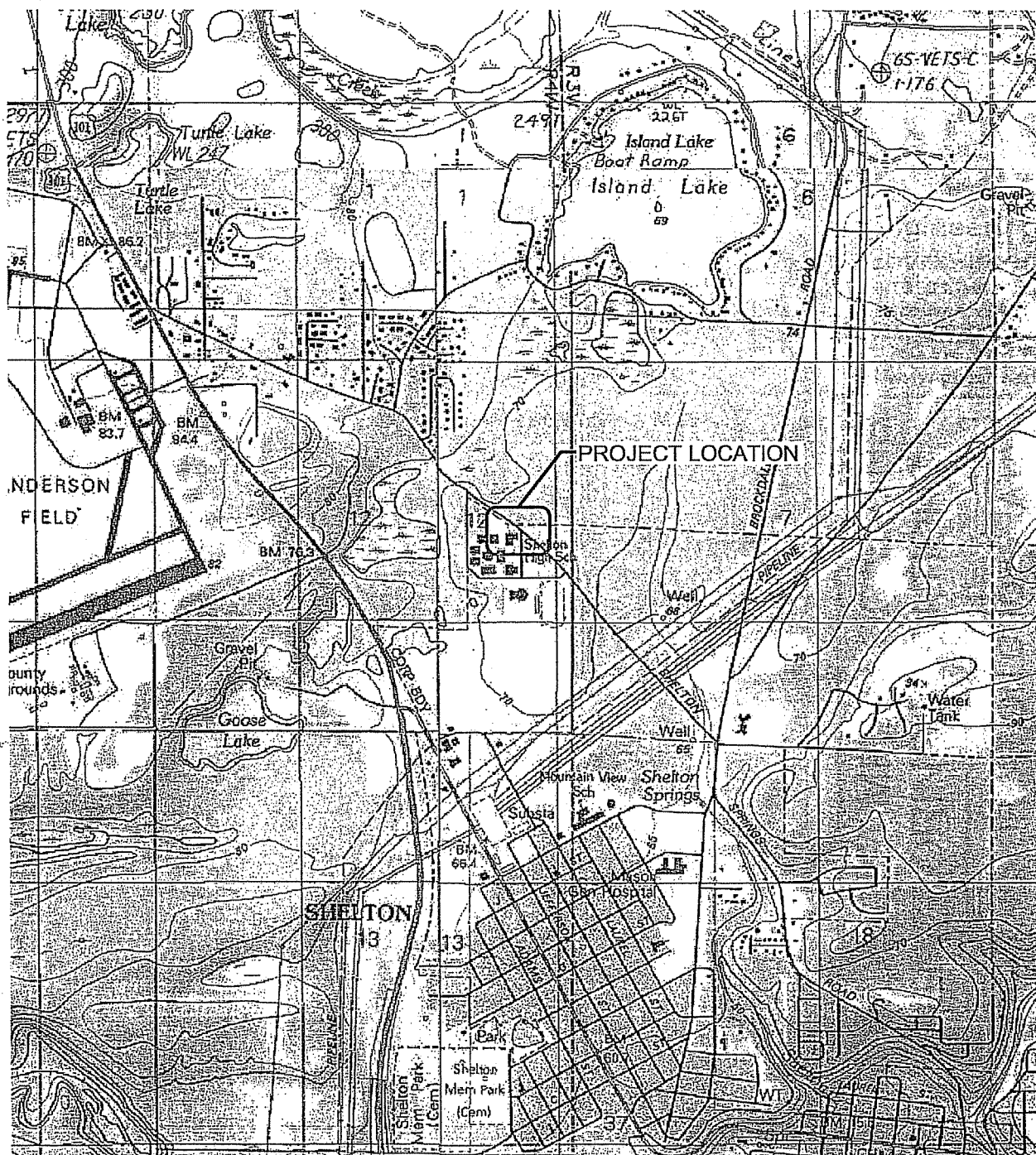
Description and Diagrams of the Site

Site Description

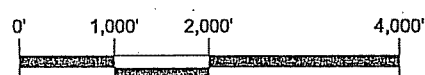
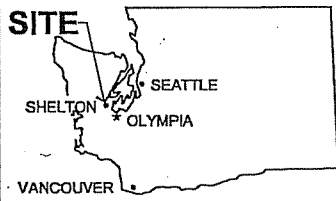
The Mason County Transportation Coop site is located at 3740 Shelton Springs Road in Shelton, Mason County, Washington. The site is located within Mason County Parcel #420124160000, which comprises 42.53 acres and is owned by School District #309. The site is bounded to the southeast by Shelton Springs Road and to the north by single-family residences. Shelton High School and associated athletic fields are located to the west and south of the site, and vacant, undeveloped land is located east of the site. The site currently consists of a school bus maintenance and fueling facility. The on-site building includes bus maintenance bays, wash bays, and personnel offices. Water inside the maintenance and wash bays is directed to two oil/water separators before going into the sanitary sewer. The fueling area is located south of the building and includes a pump island and USTs. The current USTs at the site include one 12,000-gallon diesel UST and one 8,000-gallon unleaded gasoline UST.

The property was purchased as a vacant lot by the school district in 1984. Shortly thereafter, the school bus maintenance building and fueling facility were constructed. In 1994, two 3,000-gallon gasoline underground storage tanks (USTs) and one 12,000-gallon diesel UST were excavated and removed from the site. Soil and groundwater impacts were noted, and impacted soil was reportedly left in place beneath the pump island and to the north of the excavation. In 1998, a 2,000-gallon waste oil UST was also excavated and removed from the site north of the building.

The site area is covered with Vashon recessional outwash deposits, which consist of permeable sand and gravel deposits with some clay and silt. These deposits were encountered in borings advanced on site up to 20 feet below ground surface (bgs). The outwash deposits are underlain by Vashon till, which is a low-permeability unit composed of a dense and poorly sorted mixture of silt, sand, gravel, cobbles, and boulders. Groundwater was encountered beneath the site at 12 feet bgs within sandy gravels. The direction of groundwater flow varies from the southwest to the southeast.

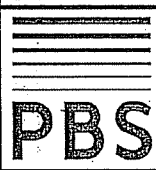


SOURCE: USGS SHELTON VALLEY QUADRANGLE, OR 1975, PHOTO REVISED 1981.



SCALE: 1" = 2,000'

Prepared for: MASON COUNTY TRANSPORTATION COOPERATIVE



PROJECT #
76133.000
DATE
JAN 2010

SITE LOCATION MAP
3740 SHELTON SPRINGS ROAD
SHELTON, WASHINGTON

FIGURE

1

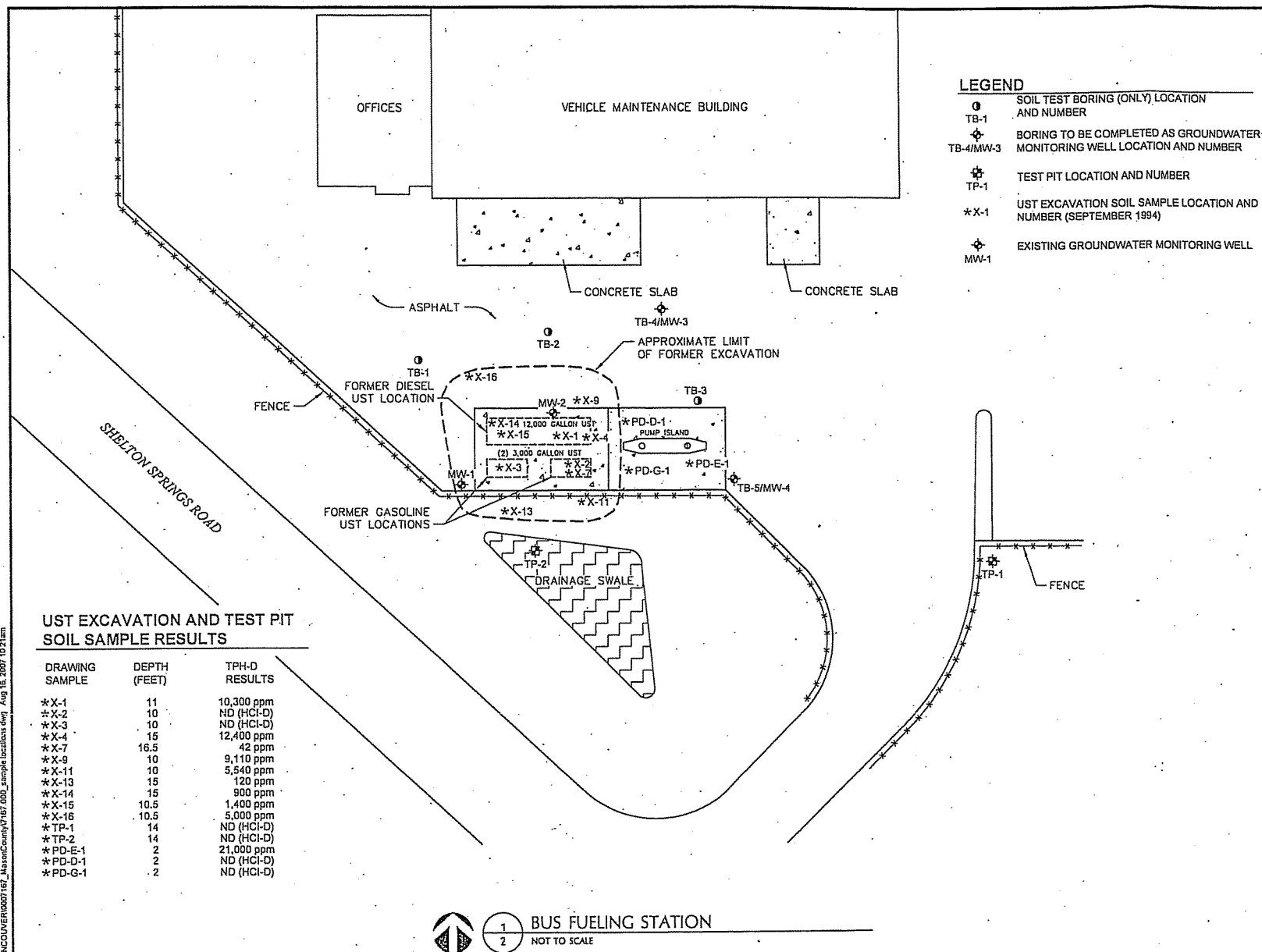
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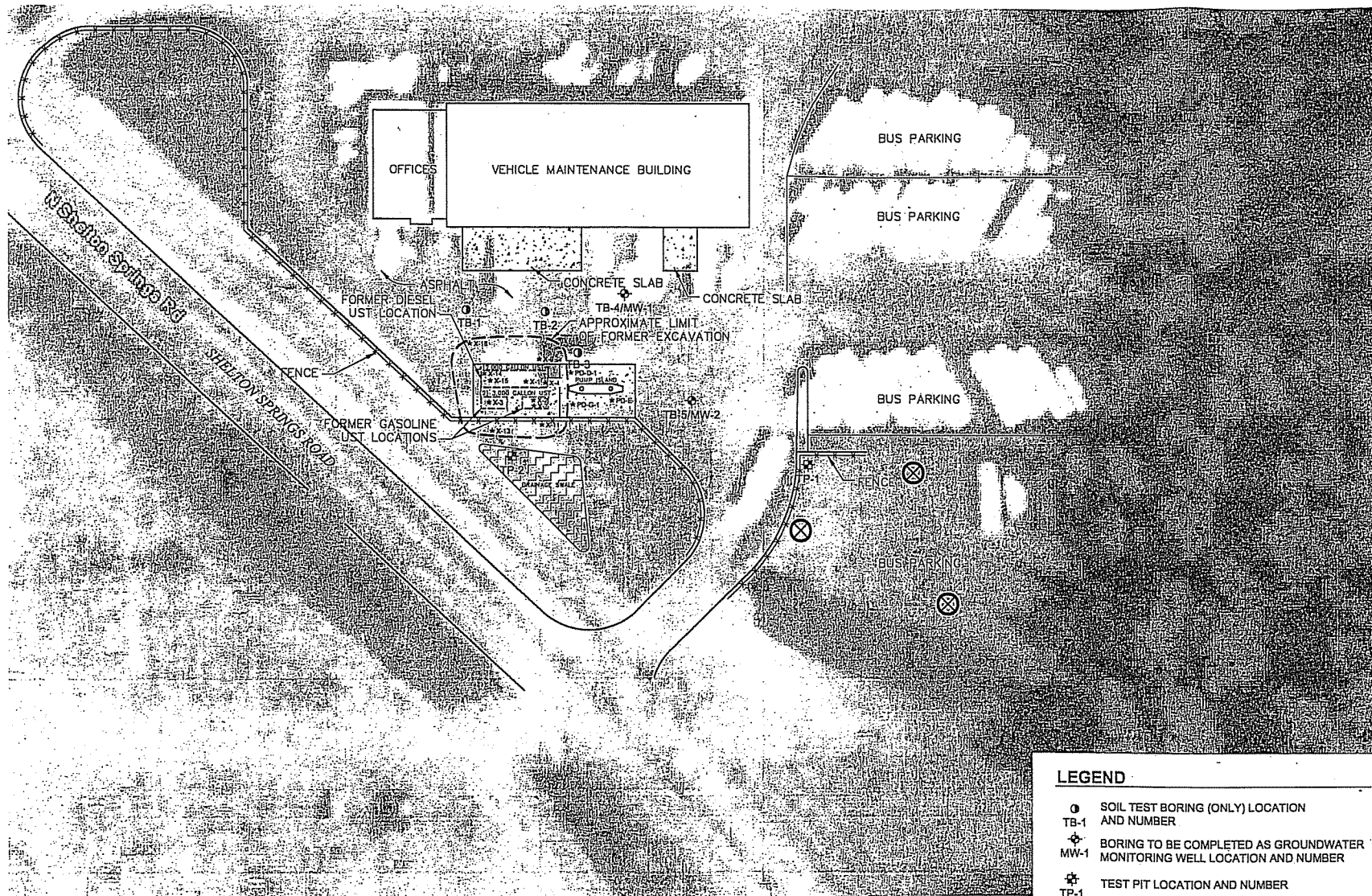
MAP OF HISTORIC SAMPLE LOCATIONS
& CURRENT BORING LOCATIONS

MASON COUNTY TRANSPORTATION COOPERATIVE
SHELTON, WASHINGTON

SAMPLE LOCATION	
PLAN	
PROJECT:	7167.000
DATE:	AUGUST 2007
FIGURE:	

2





BUS FUELING STATION

APPROXIMATE SCALE: 1" = 50'

LEGEND

- SOIL TEST BORING (ONLY) LOCATION AND NUMBER
- TB-1
- ⊕ BORING TO BE COMPLETED AS GROUNDWATER MONITORING WELL LOCATION AND NUMBER
- MW-1
- ⊗ TEST PIT LOCATION AND NUMBER
- TP-1
- * X-1 UST EXCAVATION SOIL SAMPLE LOCATION AND NUMBER (SEPTEMBER 1994)
- ⊗ PROPOSED SOIL SAMPLING LOCATIONS

PBS
Engineering +
Environmental
1310 Main Street
Vancouver, WA 98660
360.690.4331 Main
360.696.9064 Fax
www.pbsenv.com

SOIL SAMPLE LOCATIONS
MASON COUNTY TRANSPORTATION COOPERATIVE
SHELTON, WASHINGTON

SAMPLE

LOCATION PLAN

PROJECT: 78133.000

DATE: JANUARY 2010

FIGURE:

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