STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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September 27, 2017

Ms. Tracey Larson
Gig Harbor Transmission
5066 SE Hovgaard Rd
Olalla, WA 98359

Re: Opinion on Proposed Cleanup of the following Site:

- **Site Name:** Gig Harbor Transmission
- **Site Address:** 14610 Purdy Dr. NW, Gig Harbor, Pierce County, WA 98332
- **Facility/Site No.:** 11876
- **Cleanup Site No.:** 1952
- **VCP Project No.:** SW1590

Dear Ms. Larson:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the Gig Harbor Transmission 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

Ecology has determined that, upon completion of your proposed cleanup, no further remedial action will likely be 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:

- Total petroleum hydrocarbons (TPH) as heavy oil (TPH-O) into soil.
- Carcinogenic polycyclic aromatic hydrocarbons (cPAHs) into soil.
- Cadmium, lead, and chromium into soil.
- Total lead and potentially chromium into groundwater.

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

Please note the Property is also located within the projected boundaries of the Tacoma Smelter Plume facility (facility Site identification [FSID] #62855481). At this time, we have no information that this Property is actually affected. This opinion does not apply to any contamination associated with the Tacoma Smelter Plume facility.

Basis for the Opinion

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

1. Email correspondence between Mr. Stephen Spencer, EcoCon Inc. (ECI), and Mr. Tim Mullin, Ecology, dated August 21, 2017.

2. ECI, *Gig Harbor Transmission Terrestrial Ecological Evaluation*, received August 7, 2017.

3. ECI, *Cleanup Action Report (CAR)*, dated April 26, 2017.

4. ECI, *Phase I Environmental Site Assessment (ESA)*, dated January 27, 2017.

5. Environmental Management Services, LLC (EMS), *Phase II Subsurface Investigation*, dated February 19, 2010.

6. Alkai Environmental Consultants, *Phase I ESA*, dated January 22, 2010.

7. Ecology, Initial Investigation Field Report, dated July 8, 2009.

7. Ecology, ERTS report #609920, dated December 8, 2008.

The above referenced 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 with 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, upon completion of your proposed cleanup, **no further remedial action** will likely be 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.**

MTCA Site Definition:

The 2009 initial investigation by Tacoma Pierce County Health Department was in response to a complaint received by Ecology on December 8, 2008. The complaint focused on the pressure washing of the underside of vehicles prior to removing transmissions for repair/replacement. The washing reportedly was transferring grease and oil to unpaved surfaces. Ecology recorded the complaint as Environmental Report Tracking System (ERTS) report #609920.

ECI's 2017 Phase I ESA noted at least two exterior hydraulic hoists, including the one which was believed to be the source of the release identified in 2009. ECI's January 2017 Phase I ESA also identified three above ground storage tanks without secondary containment storing new and waste oil. Based on the observations in these reports, current practices at the Site may generate new releases. Ecology encourages you to implement any recommendations from existing reports in order to prevent a future release. Here are some of Ecology's recommendations regarding pollution prevention for automotive repair shops: http://www.ecy.wa.gov/programs/hwtr/p2/sectors/auto1.html.

Based on documentation provided to Ecology, a former service station was present at the Property. Neither the installation of the fueling system nor the decommissioning of the fueling system was documented with Ecology. Based on correspondence with ECI, it is Ecology's understanding that the fueling system was installed, maintained, and removed by a previous owner of the Property. This opinion excludes discussion of the former fueling system and its components, including the USTs. It is unknown if closure of the USTs and associated fueling system infrastructure were closed in accordance with WAC 173-160 and Ecology's Publication No. 90-52, *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. It is unknown if any release(s) is/are associated with the former service station.

This letter does not warranty any release from the historical former service station operations nor does it warranty against any potential future release from current operations. **This opinion is limited to addressing two apparent heavy oil releases at the Site, where the first one occurred prior to March 12, 2009 (ERTS #609920) and a second release which occurred between February 2010 and January 2017.**
In comparison to MTCA Method A cleanup levels, concentrations of Site contaminants

of concern (COCs) exceeded these levels in 2009 in a trench to the west of the main building at the Property (used as the transmission repair shop). The concentrations of Site COCs in soil sampled in 2009 in a trench to the north of an above ground hydraulic hoist were less than the MTCA Method A cleanup levels. These trenches are herein referred to as the "west trench" and the "north trench." In 2010, groundwater samples collected from borings B1, B2, and B6 were all less than the MTCA Method A cleanup levels, except for the concentration of chromium and lead in groundwater sampled from B2.

In 2017, concentrations of Site COCs in soil sampled from the concrete lined west trench[1] exceeded the MTCA Method A cleanup level. Ecology identifies the MTCA "Site" as an area encompassing those areas which have had concentrations of Site COCs in excess of the cleanup levels and where removal of potentially contaminated soils has occurred. In the MTCA Site, Ecology includes west trench and the north trench, and the area in the vicinity of boring B2. Ecology added the approximate MTCA Site boundary to figure 5 in **Enclosure A**. New data may alter the boundaries of the MTCA Site.

Reporting:

1. Please provide disposal documentation related to the removal of contaminated soils in February 2010.
2. The concentration of lead in soil sample S1-surface-031209 did not exceed the MTCA Method A cleanup level. Please revise this value in Table 1 of ECI's *Cleanup Action Report.*

Pathway Analysis:

a. Soils:

i. Direct Contact: This pathway is complete.
In March 2009, Tacoma Pierce County Health District (TPCHD) sampled surficial soils at two locations. One soil sample location was in approximately the center of a concrete lined drainage trench adjacent to the western edge of the current shop building. The second soil sample location was in an unlined trench at approximately the northwest corner of a concrete pad supporting an exterior hydraulic hoist.

[1] See ECI's Figure 4 – Confirmation Soil Sample Location Map, *Cleanup Action Report*, dated April 26, 2017.

The concentrations of gasoline, diesel, BTEX, arsenic, selenium, and silver in soils sampled were all less than the laboratory practical quantitation limit (PQL). However, in the cases of gasoline and diesel, though nothing was detected, the laboratory PQL exceeded the MTCA Method A cleanup level. The concentrations of TPH-O, cPAHs, cadmium, and lead in shallow soils sampled exceeded the MTCA Method A cleanup levels. The concentration of barium in soil sampled was less than the MTCA Method B protection of groundwater cleanup level. The concentrations of chromium and mercury were less than the MTCA Method A cleanup levels in soil for total chromium (trivalent) and mercury. However, chromium has not been speciated in Site soils, and concentrations of chromium in Site soils exceeds the hexavalent chromium cleanup level. Chromium speciation at the Site is discussed in the requested performance monitoring section below.

The contaminated soils identified in March 2009 were apparently excavated by the Property owner[2]. Toxicity Characteristic Leaching Procedure (TCLP) results for soil sampled indicated that the excavated soils were non-hazardous (non-dangerous) waste. Confirmatory soil sampling in 2010 indicated that all Site COC concentrations in soil remaining were less than the MTCA Method A cleanup levels.

Based on the 2017 Phase I ESA findings, ECI sampled soil from the same trenches as completed in 2009. Concentrations of TPH-O, cPAHs, and lead exceeded the MTCA Method A cleanup levels in soil sampled from west trench. Cadmium was not sampled in soil collected from the western trench in 2017, though this contaminant exceeded the MTCA Method A cleanup level in soil sampled in 2009. The west trench is enclosed in concrete (see Figure 4). Petroleum contaminated soils (PCS) in both the west trench and the north trench were removed and disposed of off-Site by PRS Group, Inc.

ECI completed additional required petroleum sampling, consistent with WAC 173-340-900, Table 830-1. Volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs) were analyzed in soil. No detections were reported. VOC results in soils sampled in 2009 only detected trace amounts of acetone and tetrachloroethylene (PCE) at concentrations less than their respective MTCA cleanup levels.

b. Groundwater: This pathway is complete.
   i. ECI reported that shallow groundwater at the Site was first observed between 8.5 to 11.5 feet bgs and is perched in isolated lenses.

[2] EMS, *Phase II Subsurface Investigation*, dated February 19, 2010, p. 11.

ii. Ecology reviewed its well log database, and found that domestic water supply wells are as close as approximately 372 feet south and 700 feet west of the Site. The well to the west is screened as shallow as 28 feet bgs (well log included in **Enclosure B**). Several other water wells, screened as shallow as 33 feet bgs, are present within ½ mile of the Site.

iii. In 2010, groundwater samples were analyzed at the Site from three boring locations: B1, B2, and B6.

iv. All concentrations of Site COCs in groundwater were less than the MTCA Method A cleanup levels, except for the concentrations of chromium (at 50 µg/L, which is at the MTCA Method A cleanup level for total chromium) and total lead (35 and 39 µg/L; both which exceeded the MTCA Method A cleanup level of 15 µg/L).

v. ECI, in their Final Cleanup Action Report, indicated that the concentration of total lead in groundwater at B2 was considered anomalous ". . *.as suspended solids within reconnaissance groundwater samples typically bias metal concentrations high, and none of the carrier contaminants of concern were detected.*"[3]

1. Ecology acknowledges that reconnaissance samples may represent a "worst case scenario" for groundwater quality at the Site; however, the concentration of lead in groundwater collected exceeded the MTCA Method A cleanup level.
2. Boring B2 was the closest groundwater sampling location to the contaminated soil identified at the Site.
3. Groundwater has not been tested after January 2017 when the second release was identified.

vi. Based on the groundwater sampling results and proximity of shallow domestic water supply wells (and thus, drinking water supplies), confirmation of current groundwater quality at the Site is required.

vii. Performance monitoring requirements for groundwater are discussed below.

c. Surface Water: This pathway is likely incomplete.

i. Burley Lagoon is located approximately 850 feet west of the Site. Surface water is not likely to have been contaminated by the release at the Site; however, the surface water pathway should be re-evaluated upon completion of performance groundwater monitoring.

d. Sediment: This pathway is incomplete.

i. No sediment has been observed at the Site, and there is no evidence that sediment would be contaminated by the release at the Site.

[3] ECI, *Final Cleanup Action Report*, dated April 26, 2017, p. 4.

e. Air (vapor): This pathway is incomplete.
   i. Air (vapor) includes soil gas. Site COCs are no longer present at concentrations in soil which might present a risk for vapor intrusion at the Site.

f. Ecological: This pathway is incomplete.
   i. ECI proposed an exclusion from further terrestrial ecological evaluation (TEE) based on the fact that less than 1.5 acres of contiguous undeveloped land is present within 500 feet of the Site. Ecology concurs that this Site can be excluded from further TEE.

Requested Performance Monitoring:

A. In order to verify if the results of the grab groundwater sample at B2 are representative of Site groundwater quality, and to determine whether or not groundwater has been contaminated by the release identified in January 2017, **Ecology requests installation of one monitoring well at boring location B2.**
   i. For example, the monitoring well could be installed with an approximately 10 foot screen over an interval which ensures that:
      1. A representative groundwater sample can be collected from the perched groundwater layer during all seasons of the year.
      2. The same interval which was sampled in February 2010 at boring B2 is accessible for sampling from the new monitoring well.
      3. The top of the monitoring well screen will not be submerged.
   ii. Ecology requests sampling the well consistent with Ecology publication No. 10-09-057: *Guidance for Remediation of Petroleum Contaminated Sites* (see section 10.3).
   iii. Ecology recommends using low flow groundwater methodology to sample the well.
   iv. **Groundwater samples collected from the new monitoring well should be analyzed for: Heavy oil, cPAHs, total and dissolved cadmium, total and dissolved chromium, hexavalent chromium, and total lead and dissolved lead.**
      1. If the concentration of cPAHs from the first sampling event is less than the laboratory PQL, then cPAHs only need to be sampled for once in groundwater.
      2. If the concentration of hexavalent chromium from the first sampling event is less than the laboratory PQL, then hexavalent chromium only needs to be sampled for once in groundwater.
      3. If the concentration of cadmium from the first sampling event is less than the laboratory PQL, then cadmium only needs to be sampled for once in groundwater.

v. Soil samples would only be necessary during the well installation if field screening indicated the likely presence of contamination. If soil samples are necessary, please sample for heavy oil, cPAHs, cadmium, chromium, and lead.
vi. If any contamination in groundwater is identified, delineate the aeral and vertical extent of contamination per WAC 173-340-350(7)(c)(iii)(C).
vii. As metals are being analyzed for in groundwater, Ecology recommends waiting at least two weeks to initially sample the monitoring well, as suspended solids left over from drilling might increase sample turbidity.

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.

Method A and B cleanup levels have been used to screen analytical results. Certain potential contaminants (e.g., gasoline, benzene, toluene, ethylbenzene, and total xylenes, arsenic, selenium, and silver) have not been detected at the Site, and thus, no cleanup levels are required to be established for these contaminants. Other contaminants were detected at concentrations in soil well below the MTCA Method A cleanup levels in soil, and thus are not required to be sampled for in groundwater. The following cleanup levels are applicable at the Site. Standard points of compliance are applicable at the Site.

Site COC	Soil Cleanup Level (in milligrams per kilogram)	Groundwater Cleanup Level (in micrograms per Liter)	MTCA Method
Diesel	2000	500	A
Heavy Oil	2000	500	A
Total cPAHs (referenced to benzo[a]pyrene)	0.1	0.1	A
Barium	1,650	NE[4]	B
Cadmium	2	5	A
Chromium	19/2,000[5]	50	A
Lead	250	15	A
Mercury	2	NE[2]	A

[4] The cleanup level for soil was not exceeded in any sample collected for this analyte at the Site. Thus, a groundwater cleanup level is not required to be established for this contaminant at the Site.
[5] Chromium has not been speciated for trivalent and hexavalent concentrations at the Site. If hexavalent chromium is not detected during groundwater performance monitoring, then the total (trivalent) chromium cleanup levels for soil and groundwater apply.

These are the standard points of compliance applicable for this Site:

Soil – Direct Contact: For soil cleanup levels based on human exposure via direct contact, the point of compliance is: "*. . . throughout the Site from ground surface to 15 feet below the ground surface.*"

Soil Leaching: For sites where soil cleanup levels are based on the protection of groundwater: "*. . . the point of compliance is throughout the Site.*"

Groundwater: For groundwater, the standard point of compliance as established under WAC 173-340-720(8) is: "*...throughout the site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site.*"

Cleanup levels established at the Site have been met at the points of compliance.

3. Selection of cleanup action.

Ecology has determined the cleanup action you proposed for the Site meets the substantive requirements of MTCA.

Though a feasibility study was not conducted as required per WAC 173-340-350, excavation was selected as the cleanup action. Ecology concurs with the selected cleanup action. In 2017, a total of 3.69 tons of contaminated soil within the concrete lined trench along the western side of the shop building and the trench to the north of the hydraulic lift were removed. Some additional contaminated soil was removed in 2009. Off-Site disposal of contaminated soils was handled by the PRS Group, Inc.

The implemented cleanup action meets the requirements of WAC 173-340-360(2):

1. Contaminated soil was permanently removed and disposed of off-Site.
2. Soil removal is a permanent solution to Site contamination.
3. The cleanup complies with MTCA cleanup levels established for the Site.
4. Removal of contaminated soil is protective of human health and the environment, and provides a reasonable restoration timeframe for addressing the release at the Site.

If performance groundwater monitoring results indicate there is no contamination present in groundwater at the Site, then it would be appropriate to submit a No Further Action request to Ecology.

Please be aware that because Ecology's evaluation of the heavy oil releases at Gig Harbor Transmission resulted in a ranked Site (3-Moderate Risk), a minimum 30 day public comment period is required regarding any No Further Action determination for the Site by Ecology.

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 proposed will be substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. Opinion is limited to proposed cleanup.

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Site upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the VCP.

4. 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). As you conduct your cleanup, please do not hesitate to request additional services. 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 360-407-6265 or at Tim.Mullin@ecy.wa.gov.

Sincerely,

Tim Mullin, LG
SWRO Toxics Cleanup Program

TCM : kb

By Certified Mail: [91 7199 9991 7037 0277 7620]

Enclosures (2): A – Description and Diagrams of the Site
B – Email Correspondence and Well Log

cc: Stephen Spencer, ECI
Nick Acklam, Ecology
Stephanie Bussell, Ecology

Enclosure A

Description and Diagrams of the Site

Site Description

Site Description

Site:

The Site is located at 14610 Purdy Drive NW, Gig Harbor, Pierce County, Washington. According to the Pierce County Assessor-Treasurer's website, the Site is associated with parcel 0122133089, which totals 0.36 acres in size (Property). Surfaces at the Site are a mix of asphalt, concrete, and gravel. The Property is zoned commercial.

Property History and Current Use:

The Property was developed in 1951, with a building footprint of approximately 1,025 square feet. An addition used for storage was built adjacent to the main service garage in 1975. Total building space at the Property is approximately 2,405 square feet. The Property is an active transmission repair shop.

Property Vicinity:

The Property is in an area of a mix of residential and commercial properties.

Geology/Soils:

Site soils are predominantly sand with some silt (glacial till), and trace amounts of gravel, clay and organics The maximum depth explored at the Site is 15 feet below ground surface (bgs).

Groundwater:

Six borings (B1 through B6) have been drilled at the Site. Groundwater was present in all borings except B3. Groundwater was observed at approximately 8.5 to 11.5 feet bgs. Grab groundwater samples from B1, B2, and B6 were analyzed for total petroleum hydrocarbons as gasoline, diesel, and heavy oil, benzene, toluene, ethylbenzene, total xylenes, carcinogenic polycyclic aromatic hydrocarbons, cadmium, chromium, and total lead. All concentrations were less than the MTCA Method A cleanup levels, except for chromium which was at the MTCA Method A cleanup level of 50 µg/L, and total lead, which exceeded the MTCA Method A cleanup level.

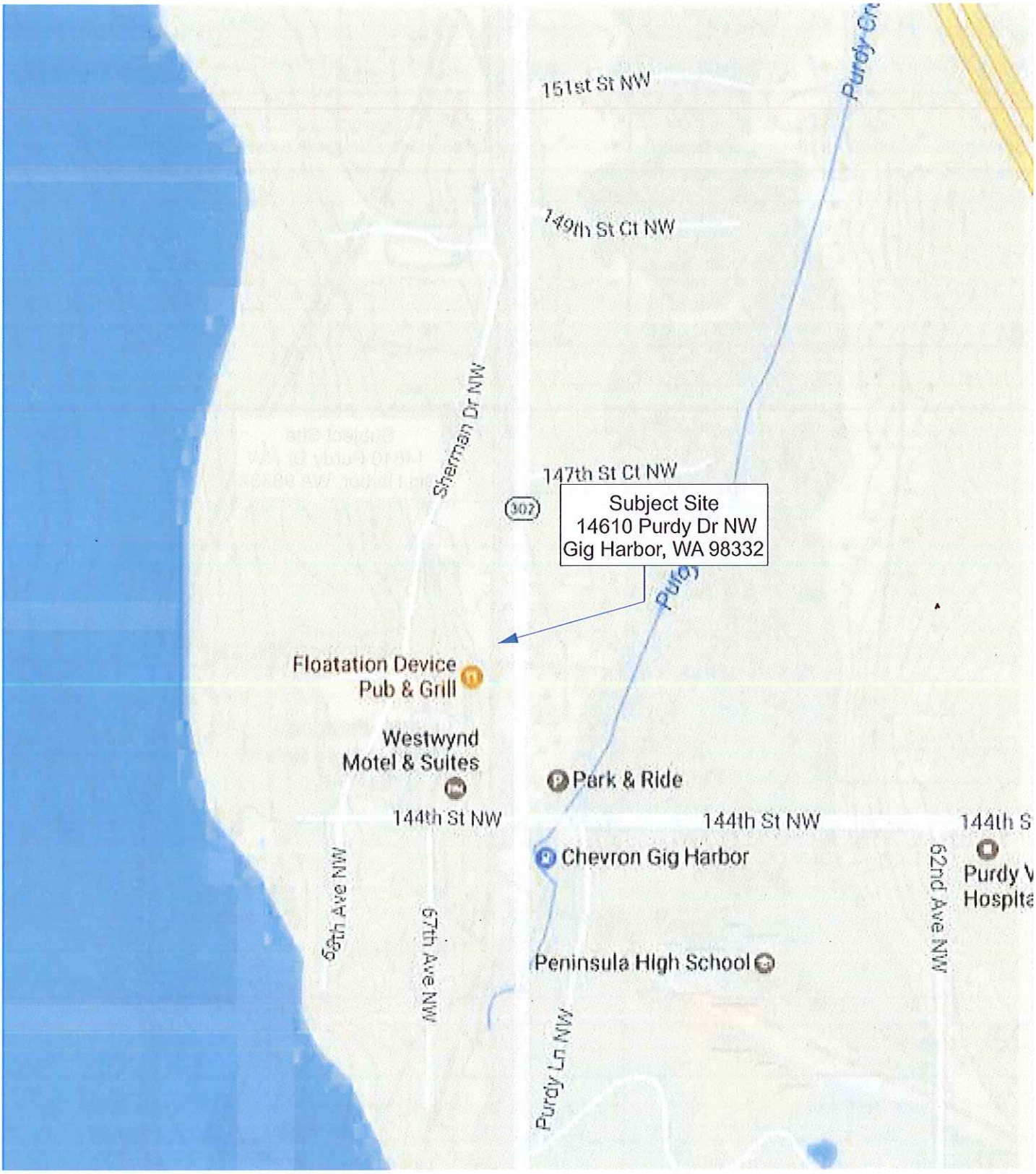
Surface/Storm Water/Septic Systems:

Burley Lagoon is located approximately 850 feet to the west. The Property building is connected to a septic system. No stormwater system is present at the Property.

Source of Contamination & Contamination Extent:

Contamination is believed to have been released related to cleaning the underside of vehicles as part of operations at the transmission shop. Pressure washing of vehicles was observed at one location on the Site in 2008. Contamination has largely been confined to two drainage trenches adjacent to the area of operation suspected of generating the release.

Figures



N
Not To Scale

Property Vicinity Map
Cleanup Action Report
14610 Purdy Dr NW
Gig Harbor, WA 98332

Date:	April 26, 2017
Completed By:	K. Spencer
Reviewed By.:	B. Dixon
Version:	ECI-001
Project No.:	0359-01-04

Figure No.: 01
Sheet 01 of 05

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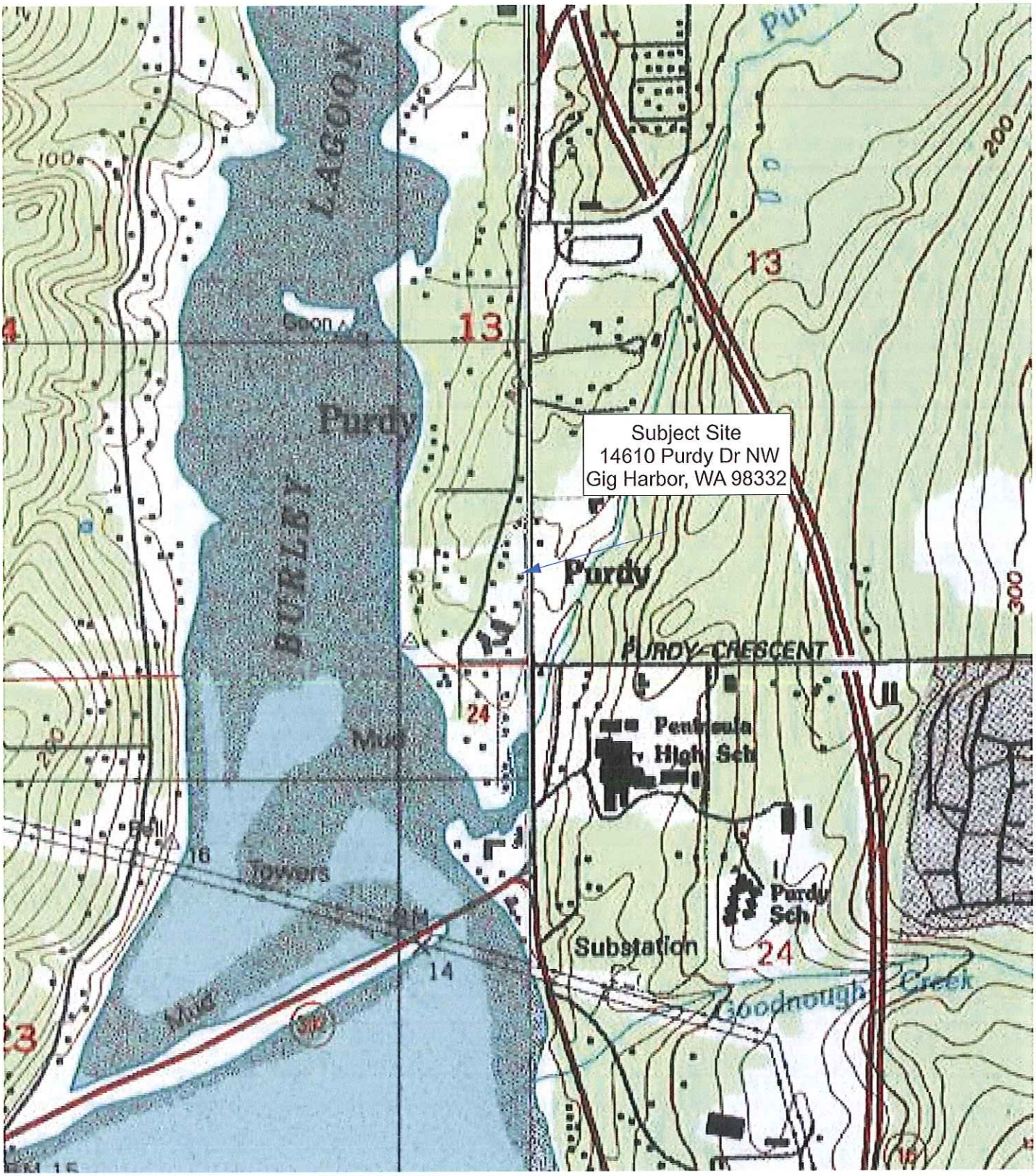

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Property Topographic Map
Cleanup Action Report
14610 Purdy Dr NW
Gig Harbor, WA 98332

Date:	April 26, 2017
Completed By:	K. Spencer
Reviewed By.:	B. Dixon
Version:	ECI-001
Project No.:	0359-01-04

Figure No.: 02
Sheet 02 of 05

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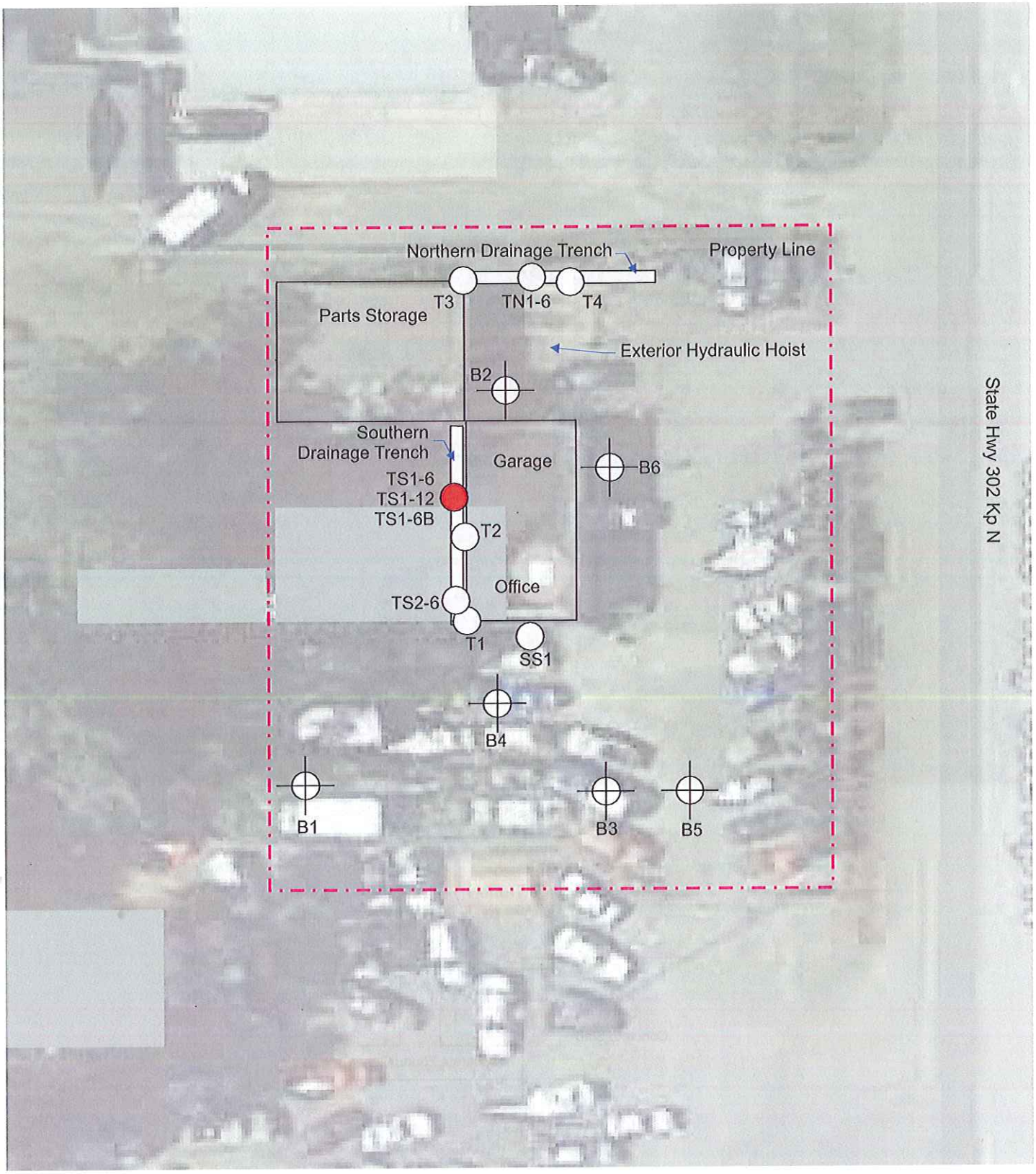

Legend

- Trench/Shallow Sample Location
- Boring Location, EMS 2010
- Contaminant Concentration in Soil Exceeds MTCA Method A Cleanup Level

N

Historical Soil Sample Location Map

Cleanup Action Report
14610 Purdy Dr NW
Gig Harbor, WA 98332

Date:	January 25, 2017
Completed By:	K. Spencer
Reviewed By.:	B. Dixon
Version:	ECI-001
Project No.:	0359-01-04

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Sheet 03 of 05

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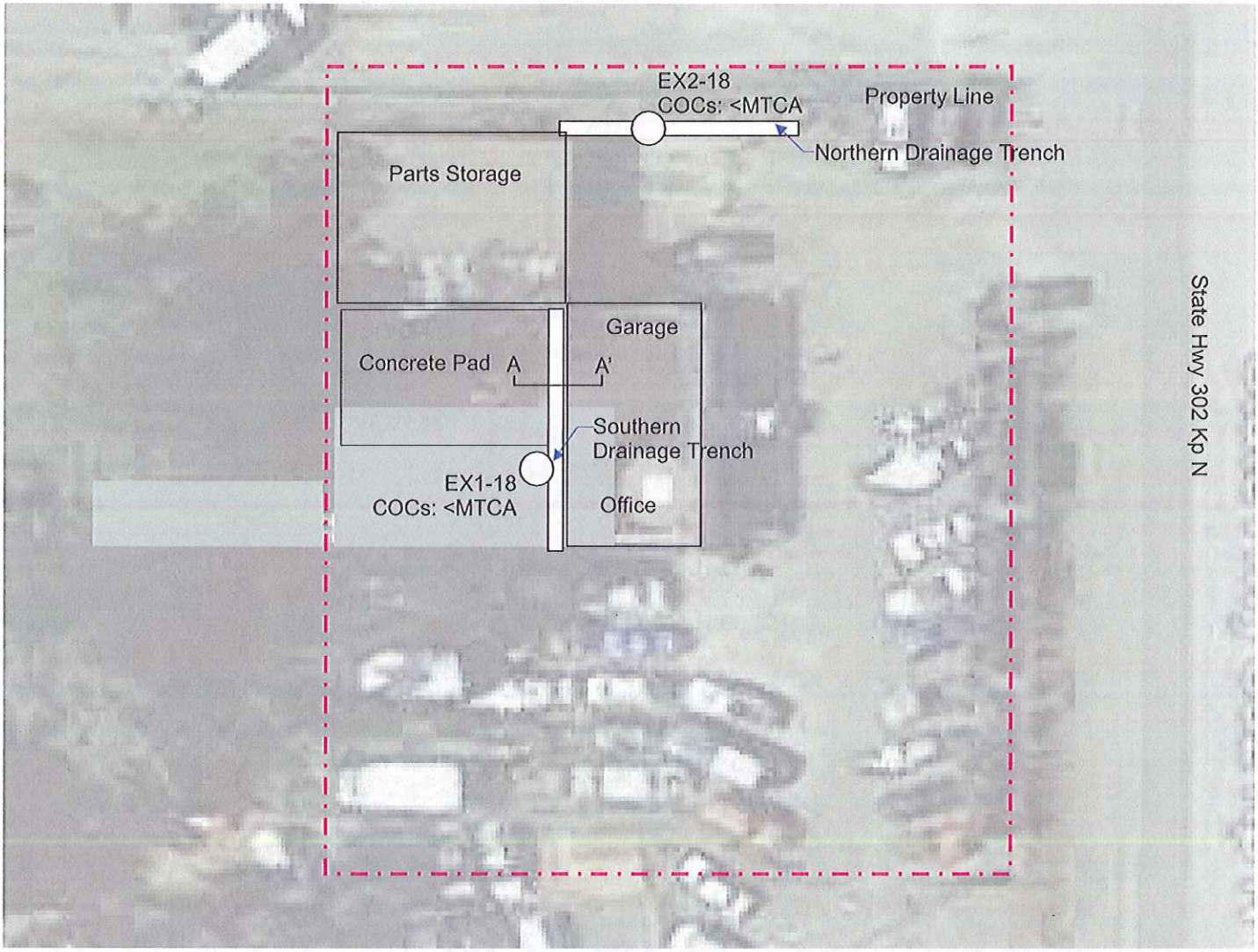
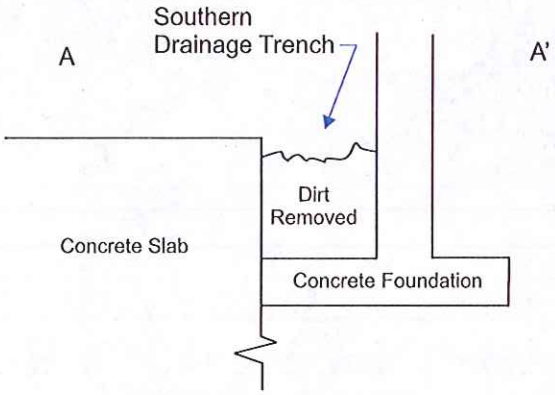


Cross Section



Legend

- Trench/Shallow Sample Location
- COC — Contaminant of Concern
- <MTCA — COC Concentrations below MTCA Method A Cleanup Level

Confirmation Soil Sample Location Map

Cleanup Action Report
14610 Purdy Dr NW
Gig Harbor, WA 98332

Date:	April 26, 2017
Completed By:	K. Spencer
Reviewed By.:	B. Dixon
Version:	ECI-001
Project No.:	0359-01-04

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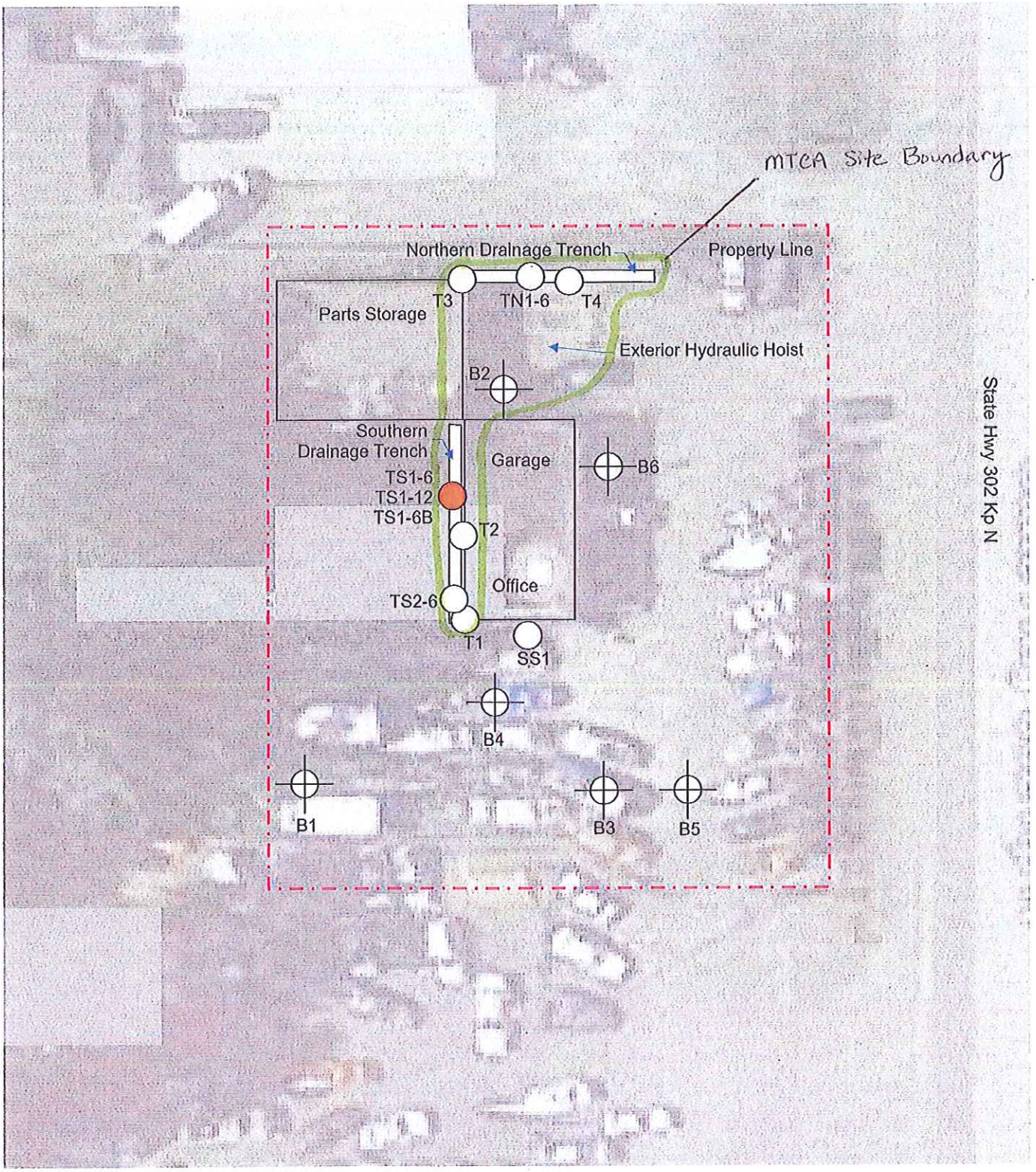
Figure 5



Legend

- Trench/Shallow Sample Location
- Boring Location, EMS 2010
- Contaminant Concentration in Soil Exceeds MTCA Method A Cleanup Level

N

Historical Soil Sample Location Map
Cleanup Action Report
14610 Purdy Dr NW
Gig Harbor, WA 98332

Date:	January 25, 2017
Completed By:	K. Spencer
Reviewed By.:	B. Dixon
Version:	ECI-001
Project No.:	0359-01-04

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Tables

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Table 1: Summary of Soil Analytical Results

Sample ID	Sample Date	Sample Depth (Feet)	Total Petroleum Hydrocarbons (mg/kg)			Volatile Organic Compounds (mg/kg)				Carcinogenic PAHs (mg/kg)								Metals (mg/kg)							
			Gasoline-Range	Diesel- Range	Oil- Range	Benzene	Toluene	Ethylbenzene	Total Xylenes	Benz(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Total cPAHs*	Arsenic	Barium	Cadmium	Total Chromium	Lead	Mercury	Selenium	Silver
TPCHD 2009 - Site Inspection																									
S1-surface-031209	3/12/2009	Surface	<25	<31	180	<0.0012	<0.0062	<0.0012	<0.0037	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	ND	<13	100	<0.63	57	120	<0.31	<13	<0.63
S2-surface-031209	3/12/2009	Surface	<270	<4,200	29,000	<0.0013	<0.0065	<0.0013	<0.0026	0.094	0.21	0.33	<0.090	0.13	0.11	<0.090	0.20	<14	130	8.8	30	400	0.53	<14	<0.68
EMS 2010 - Phase II Subsurface Investigation																									
B1-10-021010	2/10/2010	10	<5	<20	<50	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2-8-021010	2/10/2010	8	--	<20	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3-10-021010	2/10/2010	10	<5	<20	<50	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4-11-021010	2/10/2010	11	<5	<20	<50	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5-14-021010	2/10/2010	14	<5	<20	<50	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6-8-021010	2/10/2010	8	--	<20	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SS1	2/10/2010	0.5-1	--	<20	<50	--	--	--	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	--	--	--	0.6	3.4	17	--	--	--
T1	2/10/2010	0.5-1	--	--	--	--	--	--	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	--	--	--	0.5	8.4	35	--	--	--
T2	2/10/2010	0.5-1	--	--	--	--	--	--	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	--	--	--	0.3	13	20	--	--	--
T3	2/10/2010	0.5-1	--	--	--	--	--	--	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	--	--	--	0.4	35	53	--	--	--
T4	2/10/2010	0.5-1	--	--	--	--	--	--	--	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	--	--	--	1.2	33	30	--	--	--
ECI 2017 - Focused Subsurface Investigation																									
TN1-6	1/24/2017	0.5	--	<50	1,040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TS1-6	1/24/2017	0.5	<10	<50	3,440	<0.02	<0.1	<0.05	<0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TS1-12	1/24/2017	1	--	<50	638	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TS2-6	1/24/2017	0.5	--	<50	714	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TS1-6B	1/24/2017	0.5	--	<50	5,660	--	--	--	--	<0.0703	0.156	0.174	<0.0703	0.0868	<0.0703	<0.0703	0.13	--	--	--	--	660	--	--	--
ECI 2017 - Confirmation Soil Sampling																									
EX1-18	4/4/2017	1.5	--	<50	1,170	--	--	--	--	<0.0451	<0.0451	<0.0451	<0.0451	<0.0451	<0.0451	<0.0451	ND	--	--	--	--	100	--	--	--
EX2-18	4/4/2017	1.5	--	<50	<250	--	--	--	--	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466	ND	--	--	--	--	55	--	--	--
MTCA Method A Cleanup Levels			100	2,000	2,000	0.03	7	6	9	NA	NA	NA	NA	0.1	NA	NA	0.1	20	NA	2	2,000	250	2	NA	NA

ND: Not detected above laboratory reporting limit

*: Total Concentration using the toxicity equivalency methodology in WAC 173-340-708 (8)

Bold: Contaminant Detected Above Laboratory Reporting Limit

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Table 2: Summary of Groundwater Analytical Results

Sample ID	Sample Date	Total Petroleum Hydrocarbons (µg/L)			Volatile Organic Compounds (µg/L)				Carcinogenic PAHs (µg/L)								Metals (µg/L)		
		Gasoline-Range	Diesel- Range	Oil- Range	Benzene	Toluene	Ethylbenzene	Total Xylenes	Benz(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Total cPAHs[1]	Cadmium	Chromium	Lead
ECI 2017 - Focused Subsurface Investigation																			
B1H2O	2/10/2010	<50	<100	<200	<1	<1	<1	<2	--	--	--	--	--	--	--	--	--	--	--
B2H2O	2/10/2010	<50	<100	<200	<1	<1	<1	<2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND	<0.4	**50**	**35[2]**
B6H2O	2/10/2010	<50	<100	<200	<1	<1	<1	<2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND	--	--	--
MTCA Method A Cleanup Levels		800	500	500	5	1,000	700	1,000	NA	NA	NA	NA	0.1	NA	NA	0.1	5	50	15

ND: Not detected above laboratory reporting limit

[1]: Total Concentration using the toxicity equivalency methodology in WAC 173-340-708 (8)

[2]: Concentration is considered anomolous. Reconnassaince groundwater samples tend to bias metal concentrations high due to presence of suspended solids.

--: Not Analyzed

Enclosure B

Email Correspondence and Well Log

Mullin, Tim (ECY)

From: Stephen Spencer <sspencer@ecocon.us>
Sent: Friday, August 18, 2017 9:43 AM
To: Mullin, Tim (ECY)
Subject: RE: SW1590 - Gig Harbor Transmission: request for additional information
Attachments: Libby Page 92 COC.PDF

Tim, Let me know if you have any questions. I was not sure about the page 92 address. I attached the COC for reference. The only address is our office listed as the laboratory Client (ECI).

Based on my initial review of the Site file for SW1590, Gig Harbor Transmission, this is a request for additional information.

1. This is not a complete review of the Cleanup Action Report or the NFA request. However, the following information is required in order to continue my review.-**Understood**
2. It does not appear EIM data has been uploaded. Per WAC 173-340-840(5) and Ecology Policy 840, please upload all the Site data to EIM. All data appears to have been collected after August 2005, so all Site data must be uploaded.-**EIM upload has been completed.**
3. Have the following reports been submitted to Ecology? -**Yes**
    a. Alkai Consultants, LLC. 2010. Phase I Environmental Site Assessment. January 22.
    b. Environmental Management Services. 2010. Phase II Subsurface Investigation. February 19.
    c. EcoCon Inc. 2017. Phase I Environmental Site Assessment. January 27.
    d. EcoCon Inc. 2017. Focused Subsurface Investigation. February 3.
    e. If any of the above have not been submitted to Ecology per WAC 173-340-840(2), please provide three copies of each report. Three copies means 1 electronic copy submitted by email to me and 2 hard copies submitted to: Washington State Department of Ecology, Southwest Regional Office - Toxics Cleanup Program, PO Box 47775, Olympia, WA 98504-7775.
4. Has a terrestrial ecological evaluation been completed for the Site? I don't see the TEE form and any supporting documentation included in ECI's *Cleanup Action Report*, dated April 26, 2017. -**Yes, Attached**
5. Based on ECI's summary in section 2.3.2 of the *Cleanup Action Report*: Alkai Consultants, LLC in its 2010 report identified decommissioning of 4 USTs and associated piping and dispenser islands at the Property in 1989. -**We Concur**
    a. It appears these USTs were part of a fueling system and were likely subject to regulation under Chapter 90.76 RCW. -**We Concur**
    b. Is the UST decommissioning to be included as part of the "Site" in this opinion request?-**No, The UST Decommissioning (Removal) was completed without any paperwork by a previous property owner.**
    c. These USTs do not appear to have been registered with Ecology. -**We Concur**
        i. Based on the 1989 date, no UST registration with Ecology is a frequent occurrence. -**We Concur**
        ii. Does ECI have documentation indicating registration or decommissioning? -**No**
        iii. If not, perhaps the property owner would have copies of submittal of documentation to the local fire jurisdiction or TPCHD? -**The TPCHD has no record of USTs either installation or removal at the property.**
6. On page 2 of the Libby Environmental Inc. report dated February 28, 2017 (p. 92 of the pdf) a different address is identified on the chain of custody for the Gig Harbor Transmission for sample TS1-6B. Is the address in error? **The Libby Environmetnal Report Dated February 28, 2017 does not have an address listed for Gig Harbor Transmission, the cell is blank. The ony address listed is 15 S. Oregon, Tacoma, WA which is ECI's office.**

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 084610

Water Right Permit No. _____

(1) OWNER: Name Julia Lender Address 6804-149TH ST CT NW GIG HARBOR, WA 9833?

(2) LOCATION OF WELL: County Pierce SW ¼ SW ¼ Sec. 13 T. 22 N., R. 1 E W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) 14710 SHERMAN DR NW GIG HARBOR, WA 98332

(3) PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ ☐ Irrigation ☐ Test Well ☐ Other ☐ ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☒ Driven ☐ Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 33 feet. Depth of completed well 33 ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: 6 " Diam. from 0 ft. to 28 ft.
Welded ☒ Liner Installed ☐ Threaded ☐ _____ " Diam. from _____ ft. to _____ ft.
_____ " Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☒
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☒ No ☐
Manufacturer's Name Johnnon
Type _____ Model No. _____
Diam. 5 Slot size 20 from 28 ft. to 33 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentanite
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level _____ ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Baker test 30 gal./min. with 15 ft. drawdown after 1 hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow 10 g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Top Soil	0	3
Brown Hard FAn	3	26
Gravel H&M FAn sand H2o	26	33

Work started 2-25-92 19 Completed 3-2-92 19 92

WELL CONSTRUCTOR CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Tyee Pump & drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address 9711 151 Ave KPN

(Signed) Robert Hatfield (WELL DRILLER) License No. 0467

Contractor's Registration No. Tyeepd 10182 Date 3-15-92

(USE ADDITIONAL SHEETS IF NECESSARY)

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