

SD&C

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October 24, 2016

Mr. Michael Warfel, LG, LHG, RG
Site Manager, Voluntary Cleanup Program
State of Washington, Department of Ecology
NW Regional Office/Toxics Cleanup Program

Re: Response to Ecology's *Opinion Pursuant to WAC 173-340-515(5) on Remedial Action for the Following Hazardous Waste Site:*

Site Name: Lake Goodwin Store 2013
Address: 4726 Lakewood Road, Stanwood, WA 98292
Facility/Site No.: 12889948
Cleanup Site ID No.: 12352
VCP No.: NW2974

Dear Mr. Warfel:

Slotta Design and Consulting (SD&C) has prepared this letter in response to the Washington State Department of Ecology's (Ecology) opinion letter dated February 23, 2016 regarding the completion of remedial actions for the Lake Goodwin Store 2013 Site (Site). The Site is defined as the area impacted by the release of gasoline in December 2013. The intent of this letter is to clarify and resolve technical issues and certain factual matters identified in Ecology's opinion letter, and request a No Further Action (NFA) determination through the Voluntary Cleanup Program (VCP).

This letter is divided into three sections: (1) Response to Ecology Opinion Letter, (2) Response to Ecology Site Description, and (3) Additional Data Presentation and Evaluation. The additional data include a well log survey (Appendix I), interviews with the local water association, and figures presenting groundwater flow fluctuations at the Site. A Terrestrial Ecological Evaluation (TEE) was completed and is included as Appendix II to this letter, and a Subsurface Investigation was conducted to evaluate potential downgradient impacts from the Site which is included in Appendix III. Components of a conceptual site model (CSM) are included in response to Ecology's comments.

1. RESPONSE TO OPINION LETTER

Ecology Opinion:

The release occurred at the Property on the evening of December 11, 2013. Approximately 63 gallons of gasoline were released onto the asphalt during refueling (based on a pump rate of 25 gallons per minute and estimated 2.5 minutes based on surveillance camera footage).

The spill as seen in the surveillance video (viewed by Ecology during the August 2015 Site visit) migrated across the asphalt until reaching the grassy area to the south of the USTs. At that point, a significant amount of gasoline is thought to have entered the subsurface. The fuel delivery driver used kitty litter purchased from the station store to absorb some of the spill and swept the kitty litter/gasoline into the grassy area.

SD&C Response:

The precise discharge volume is currently unknown, but the estimated pumping rate of 25 gallons per minute is low. Based upon conversations with fuel suppliers, the transfer pumping rate is typically 200 gallons per minute. Ecology's Site Description also identifies the spill as 250 gallons in one instance and 62.5 gallons in another. Harris's driver did not report the spill, but later estimated it was 25 gallons, which also appears to be low.

The video of the spill event has been viewed by all parties. However, what could not be seen in the video is the close proximity of the tank and fuel spill to pumping well PW-1. PW-1 was at a lower grade than the surrounding pavement at the time of the release. It is likely that a significant volume of the spill went directly into the well, as evidenced by the free product later removed from the well.

The remaining volume of the spill flowed across the asphalt lined surface of the facility, and was brushed by the fuel supplier's driver into the grass-lined swale south of the gas station. Figure 1.

Ecology Opinion:

Petroleum-contaminated soil was excavated from the grassy swale area to a depth of one foot below the ground surface (bgs) on March 4, 2014. TPH-g and BTEX have been below MTCA Method A cleanup levels in monitoring wells MW-4 through MW-6 in quarterly sampling events since March 5, 2014. An air sparge system was reactivated in March 2014 to remediate the ground water and has been operational since then.

SD&C Response:

Harris Distribution Co. (Harris), subcontracted an emergency response contractor National Response Corporation (NRC) to remediate the site after the spill. Soil excavation activities were conducted on Friday December 13, 2013 by NRC. The general location of NRC's initial excavation is illustrated on Figure 2. It is SD&C's understanding that no action was taken by NRC with respect to the gasoline that was released to PW-1.

On December 19, 2013, SD&C was contacted by the Site owner to evaluate the Site conditions because of a lingering odor and sheen on the ground surface. SD&C inspected PW-1 and determined there was free product in this pumping well and immediately arranged to have the free product removed by Marine Vacuum Service (Marvac). Marvac removed the free product on that same date (i.e., December 19, 2013) and upon completion of this free product removal, water discharged from PW-1 was routed through a treatment system that had been previously constructed at the Site. Soil and groundwater samples were collected by SD&C at that time, and analysis of those samples defined the impacts from the release at the Site.

In addition to the soil removed by NRC, SD&C oversaw the removal of petroleum-contaminated soil by a third party excavation contractor on March 5 and 6, 2014. The contaminated soils were disposed at the Cemex facility in Everett, Washington.

Ecology Opinion:

The following data gaps need to be addressed to confirm the release area and confirm that cleanup levels have been achieved for soil and ground water:

- *A Site conceptual model needs to be developed that shows how and where the TPH-g and BTEX release likely migrated after entering the subsurface. It is unlikely that TPH-g impacts to soil were limited to the upper one foot based on the ground water impacts identified in up gradient monitoring well MW-5 and cross gradient well MW-4. Based on the location of the release, estimated ground water flow direction and the location of PW-1, it is unclear how MW-5 was impacted by this release.*

SD&C Response:

Additional data and analysis are presented in this letter that address the CSM elements necessary to respond to Ecology's comment. In response to the above comment, however, SD&C has prepared Site map/drainage plan (Figure 1) that illustrates the numerous influences on the shallow groundwater flow at the Site. The shallow groundwater in the spill area is influenced by the Snohomish County storm water drainage utility, 8 ft. deep optical fiber vault, the PW-1 pumping well, and mounding from the RV site septic field. SD&C has also tabulated the results of groundwater monitoring data collected from the wells since May 13, 2014 and prepared figures (Figures 3a,b,c/2014, and Figures 4a,b,c,d/2015 and Figure 4e/2016) that illustrate the change of direction in shallow groundwater.

The impact to the nominally "upgradient" MW-5 well is due to several likely factors including the flat gradient at the site, subsurface utilities that influence groundwater flow, and the volume of product released to the groundwater surface. Thus, the release impacted all of the wells at concentrations exceeding MTCA cleanup levels directly after the spill occurred.

Regarding the depth of impacts to soil, it is critical to note that groundwater (which is actually comprised in significant part of proximally infiltrated storm water) would have been encountered less than two feet below ground surface during the soil excavation. Thus, the excavation of soil below one to two feet would have not been practicable. Further discussion regarding this aspect of

the Site is presented below.

Ecology Opinion:

- *The 2015 Soil Excavation and Remediation report stated that pumping well PW-1 discharged approximately 5,000 gallons of ground water a day for nine days (45,000 gallons total) into the grassy area to the south of the underground storage tanks (USTs). However, the pumping rate provided would result in approximately 14,440 gallons per day. Clarification is needed regarding the operation of PW-1, specifically, whether the pump runs continuously, if it was running at the time of the release and how the pumping well influences ground water flow.*

SD&C Response:

The pump that is located in PW-1 was likely installed during construction of the facility in 1998 to control the high water level in the excavation. PW-1 is 12 inches in diameter. The pump is a stainless steel sump pump which operates by a float switch – i.e., it does not operate continuously. As water collects in the well the pump is activated.

The basis for the total maximum discharge volume estimate was that the garden hose to which the pump is connected will restrict the flow to 10 gallons per minute. Because the pump is not operating at all times, the actual discharge would be significantly less than the calculated maximum.

While the general groundwater flow in the area surrounding the Site is towards Lake Goodwin, the gradient of groundwater at the Site (i.e., where impacts from the fuel spill are found) is relatively flat and varied, as discussed above. Operation of the pump would presumably cause a slight depression in groundwater while operating, though its precise influence on the Site has not been measured at this time. When the pump is not operating, the Site frequently floods, causing some mounding which is then reduced as the pump begins to operate again.

As noted above, it appears that the pump was operating at the time of the release. As soon as SD&C encountered the product on the groundwater, the pump was turned off, free product removed, and upon re-start water discharged from the pump was treated with activated carbon. The pump has continued to operate since the time of the release and as a precautionary measure, continues to discharge water through two carbon filters.

Ecology Opinion:

- *The 2015 Soil Excavation and Remediation report states that before ground water sampling on December 19, 2013, approximately 150 gallons of LNAPL and water were pumped out of the monitoring wells prior to sampling. Which wells were pumped needs to be specified.*

SD&C Response:

PW-1 well was purged of 150-gallons of water and product prior to the initial sampling of all wells. The monitoring wells (MW-4, MW-5, and MW-6) were not observed to contain free phase PHC during the initial sampling event.

Ecology Opinion:

- *Pumping well PW-1 discharged approximately 45,000 gallons of petroleum contaminated ground water into the grassy area to the south of the underground storage tanks (USTs) over the nine-day period between when the release occurred and when LNAPL was pumped out of PW-1 (assuming a discharge rate of 5,000 gallons per day). The TPH-g and BTEX concentrations in the initial soil samples collected from locations FS 1 and FS2 at depths of six inches and one foot bgs respectively exceeded the MTCA Method A cleanup level. The vertical and lateral extent of contamination was not delineated. The excavation confirmation samples FS3, FS4 and FS5, which were all collected at a depth of one foot bgs, were not placed appropriately to confirm that all contaminated soil has been removed. Samples should have been collected from the base of the excavation, below the depth of any confirmed exceedances and from the sidewalls of the excavation. The vertical and lateral (eastern) extent of contamination identified at boring location FS-1 needs to be determined. The vertical and lateral (western and southern) extent of contamination identified at boring location FS-2 needs to be determined. As noted above, the Site conceptual model needs to explain contaminant migration. The Site conceptual model should illustrate the likely path the 45,000 gallons of water would take that was discharged to the grassy area.*

SD&C Response:

As discussed above, due to pump capacity and discontinuous operation, it is likely that the amount of water discharged from PW-1 after the release is significantly less than 45,000 gallons.

The samples FS-1 and FS-2 were collected in the swale by SD&C when they arrived on site after NRC conducted the emergency response to the spill Figure 2. The data indicated additional remedial actions were necessary to clean up the soil in the grassy swale, and generally downgradient of the surface spill. Thus, further excavation of impacted soil was conducted in an 800 square foot area, in the grass and beneath the asphalt downgradient of the spill area. The confirmation samples (FS3, FS4, and FS5) were collected from the side walls of the excavation just above the groundwater level at 1-1.5 feet below ground surface. The results of the soil samples and visual observations in the field indicated that the excavation and removal of soil was effective at removing impacted soil exceeding the MTCA Method A cleanup levels. Figure 2 attached to this letter illustrates the excavation location and sample locations. Photo documentation of the shallow excavation is also presented in SD&C's Soil Excavation and Remediation Report dated September 14, 2015.

When SD&C arrived at the Site after the spill, sorbent pads were placed in the grass-lined swale to collect and contain any floating PHC product. There was no sheen in the swale beyond the initial release area. There was no sheen on the water further south in the swale, or Lake Goodwin. SD&C contacted Ecology, which generated an ERTS, and Ecology personnel performed a Site visit. Based on their inspection they reported back via telephone "that it appeared SD&C was doing everything reasonable and necessary to contain the spill".

The PW-1 pump is located at a depth of 10' below ground surface. The PHC floating on the groundwater was pumped out of the well when Marine Vacuum service removed the 18-inches of

floating product. Thus, while some dissolved contamination may have been pumped from PW-1, it is likely that these concentrations were relatively low. Water with low concentrations of dissolved PHC discharged from the pump would have moved through the swale where it would likely infiltrated and become shallow groundwater, and then into the organics-rich septic field immediately south of the swale where attenuation (and likely some bioremediation) of impacts would have occurred. Based upon Site conditions and the absence of any visual or olfactory impacts and the surface water sample collected during May 13, 2014 at or near Lake Goodwin, SD&C is not aware of any evidence of any impacts to Lake Goodwin from PW-1 after the spill and before carbon filters were installed on the PW-1 discharge.

Ecology Opinion:

- *The potential impacts to surface water in Lake Goodwin need to be evaluated. Ground water cleanup levels protective of surface water may be applicable at this Site. An additional well(s) is therefore necessary down gradient of the release to evaluate this potential pathway.*

SD&C Response:

Groundwater in the area of the swale is extremely shallow and is comprised in many instances of surface water discharge as well. Immediately south, and presumably downgradient of the swale, the resort's septic field is located. On September 9, 2016 SD&C conducted a Subsurface Investigation and collected soil and groundwater samples from three boring locations downgradient of the Site. The results of the investigation are included in Appendix III to this letter, and did not contain PHCs at concentrations exceeding MTCA method A cleanup levels in any of the borings.

Ecology Opinion:

- *The laboratory noted that the chromatogram for soil sample FSI and ground water samples collected from monitoring wells MW-4 through MW-6 indicate that the TPH-g detected contains lightly weathered gasoline. The PW-1 ground water samples collected from PW-1 on August 15, 2014, March 31, 2015, and December 31, 2015, also noted that the "Chromatogram indicates that it is likely that the sample contains highly weathered gasoline". The ground water sample collected from the discharge pipe at DIS-1 also indicates the sample contains highly weathered gasoline. The Site conceptual model should include discussion of the weathered gasoline in soil and ground water for a fresh release.*

SD&C Response:

The operation of the air sparging system creates the effect of environmental weathering of the PHC. The chromatograms for PW-1 are illustrative that the gasoline spill is being weathered by removal of the volatile constituents.

Ecology Opinion:

- *All Site plans and diagrams need to include an accurate scale. The Site maps provided in all submitted reports do not meet this minimum requirement.*

SD&C Response:

SD&C has revised the site figures accordingly. See attached Figures 1-6.

Ecology Opinion:

- It is not stated if whether or not the pump and air sparge system in PW-1 was turned off prior to ground water sampling events. Because the pump and air sparge system influence ground water flow and quality, details regarding the timing of system shut down relative to sample time needs to be provided. Also, a summary of the time period the air sparge was in operation and any lapses in operation should be provided.*

SD&C Response:

During the quarterly groundwater sampling, the pumping system is unplugged when first arriving at the Site, and the air sparge system is shut off. After a period of 15 minutes the initial monitoring well is then purged and sampled. Water quality measurements are collected including pH and conductivity to insure that the samples collected are representative of the groundwater conditions. The air sparge system was reactivated on March 5, 2014 and continues to operate at this time.

Ecology Opinion:

- Some PW-1 laboratory analytical results are missing from Table 1 of the Quarterly Groundwater and Treatment System Monitoring Report (QMR) Quarter #4 - 2015 report. TPH-g and benzene concentrations were 220 and 8.1 µg/l respectively for the sample collected on December 28, 2015, and 3, 100 and 36 µg/l respectively for the sample collected on February 4, 2015. In addition, the laboratory analytical data is missing from the hard copy of the QMR submitted for Quarter #4 - 2014. A TPH-g concentration of 930 µg/l, which exceeds the MTCA Method A cleanup level, was detected in the ground water sample collected from PW-1 on March 31, 2015; however, this concentration was not bolded on Table 1 of the QMR Quarter #4 2015. Tables should be resubmitted with errors and omissions corrected. Tables should include footnotes to explain use of various fonts and abbreviations and the selected cleanup levels for the Site.*

SD&C Response:

The QMR #4 – 2015 laboratory analytical results table does not have results containing 220 or 8.1 µg/l in any part of the table nor were there results tabulated for February 4, 2015. The hard copies with the missing data for the quarterly reports will be resubmitted.

The groundwater result for TPH-g of 930 µg/l, does not exceed the MTCA Method A cleanup level because there is no detectable presence of benzene. MTCA states that two cleanup levels for gasoline range organics are provided. “The higher value is based on the assumption that no benzene is present in the groundwater sample. If any detectable amount of benzene is present in the groundwater sample, then the lower TPH cleanup level is used. No interpolation between these cleanup levels is allowed.” Where benzene was not present in any of the samples from a sampling round, the lower Method A cleanup level was used for TPG-g.

The tables include footnotes identifying the use of various fonts and abbreviations.

Ecology Opinion:

- *The QMR Quarter#4 2015 states that the PW-1 and DIS-1 samples were both collected directly from the discharge piping. Clarification is needed regarding where the discharge piping is located for the PW-1 sample.*

SD&C Response:

The PW-1 sample is collected directly from the piping at the groundwater treatment system prior to discharging into the initial carbon canister. The DIS-1 sample is collected from the discharge hose after the initial carbon filter prior to release into the grass swale.

Ecology Opinion:

- *A ground water elevation contour map needs to be provided for each quarterly monitoring event.*

SD&C Response:

The quarterly water level elevation data is summarized on the attached Figures 3a,b,c/2014, Figures 4a,b,c,d/2015, 4e/2016.

Ecology Opinion:

- *The number of municipal and domestic water supply wells in the vicinity of the Property, current use, distance from the Site, depth to water, production rate, screened interval depth and any available water quality data should be submitted. A map (with scale) illustrating the location of nearby wells relative to the Site should also be provided.*

SD&C Response:

SD&C sub-contracted with Environmental Data Resources (EDR) to conduct a well log search for a 1-mile radius of the site. The results of the search are included in Appendix I to this letter. A summary of the findings is discussed below in the Additional Data Evaluation.

Ecology Opinion:

- *This Site likely does not qualify for a Terrestrial Ecological Evaluation (TEE) exclusion because it is bordered to east by Lake Goodwin Park. It must be determined if the Site qualifies for a simplified TEE or if a Site specific TEE is required. The TEE decision-making process must be documented as per WAC 173-340-7490. A TEE process interactive user's guide can be found at: <http://www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm>*

SD&C Response:

The TEE has been attached to this letter as Appendix II.

2. RESPONSE TO ECOLOGY SITE DESCRIPTION

SD&C Response:

The Site Description is presented in an attachment to Ecology's opinion letter. The entire Site Description is not shown here, and the response below is intended to address only those matters presented in certain sections of the Site Description (shown below) where SD&C believes that corrections or clarifications are required.

Contaminant Source and History. The Site Description states that the estimated release of gasoline was 250 gallons, but later states it was 62.5 gallons. SD&C believes that a reasonable estimate is a range between 250 gallons to 500 gallons.

Geology. The geology description should also state that surface water infiltrates the impacted area because of the regional topographic slope, and is "perched" in a shallow porous media underlain by very dense glacial till. Potable groundwater at the Site is typically encountered beneath the till layer at approximately 160 to 170 ft. bgs.

Groundwater. The groundwater description should indicate that the flow direction deviates over time, and appears to be strongly influenced by shallow surficial utility conduits, the pumping system, and the septic mounds in the study area.

Water Supply. The water supply well (MW-5) owned by 7 Lakes Water district is not in use, and is planned for abandonment.

Release and Extent of Soil and Ground Water Contamination. The owner of the facility is not aware of any Notice of Non-Compliance being issued on December 10, 2013 nor is she aware of any repair verification being issued on December 12, 2013. SD&C requests that Ecology provide the referenced documents.

The volume of NAPL and groundwater pumped during the initial event was 150 gallons rather than the 250 identified in the Site Description. PW-1 is 12-inches in diameter and Figure 3 of the quarterly groundwater reports will be corrected. As discussed above, PW-1 is a PVC drainage pipe which was installed to dewater the site during construction. The stainless steel sump pump in PW-1 is operated by a float switch, which is controlled by the groundwater recharge and discharge, and does not operate continuously. As water collects in the well the pump is activated. The maximum discharge volume is 10 gallons per minute. The pump collects groundwater at a depth of 10 feet bgs.

Estimates of the amount of gasoline spilled by Harris, the actual amounts likely pumped from PW-1 prior to the time the Site owner contacted SD&C, and the likely impacts from such pumping – each of which is discussed in this section of the Site Description – were addressed above in response to Ecology's

opinion letter.

The contaminated soil was removed by SD&C's contractor from an approximately 800 square foot area. The Soil Excavation and Remediation Report includes photos that illustrate the depth to groundwater during the excavation, and explains that samples were collected at a depth of 1 ft. bgs because groundwater is extremely shallow and commingled with surface water runoff.

Finally, samples from PW-1 have been below the applicable MTCA Method A cleanup levels for all quarterly sampling events since March 31, 2015 based upon the presence or absence of benzene. Thus, the voluntary cleanup conducted at the Site has demonstrated four consecutive quarterly sampling events with groundwater contaminant concentrations below MTCA method A cleanup levels.

3. ADDITIONAL DATA EVALUATION

Soil

SD&C subcontracted Environmental Data Resources (EDR) to conduct a GeoCheck – Physical Setting Source Addendum to assist in the assessment of contaminant migration. EDR's report is included as Appendix I to this letter. Based on the results of the GeoCheck the topography of the Site and the area between the Site and Lake Goodwin slopes gently to the southeast (toward Lake Goodwin). Hydrogeological information indicates that the inferred depth to groundwater beneath the Site is 200-300 ft. bgs. A locally perched seasonal water table is also present, which is underlain by low permeability till at the site.

EDR summarized the US Department of Agriculture's (USDA) Soil Conservation Service (SCS) map of the area as being underlain by Alderwood soil, which is described as a gravelly sandy loam. EDR's records concur with SD&C's findings that till soils are present at a depth of approximately 10 ft. underlying the Site, which are overlain by pervious sands and gravel with a shallow water level of 1-3 ft. bgs.

Well Logs

EDR conducted a well log search within a radius of one-mile surrounding the Site location. Figure 7 to this letter identifies the location of the wells in relationship to the Site, and Table 1 includes the wells located less than ½ mile from the Site.

Mr. Paul Lucas of The 7 Lakes Water Association was contacted to provide additional data regarding the operational status of the municipal supply wells and other wells in the area. The closest well to the Site is owned by the Orchard Beach Community. According to Mr. Lucas, the well has been converted to irrigation use only. The well is located cross-gradient from the Site and is screened at 47 ft. bgs.

Mr. Lucas provided Figure 8, attached to this letter, from the Seven Lakes Water Association Well Head Protection Plan. This diagram identifies estimated groundwater travel times to water wells in the vicinity of the Site. The well logs indicate that Well #5 is the closest municipal supply well to the Site. Mr. Lucas advised SD&C that this well is not in use and is planned for decommissioning. The logs indicate Well #5 is screened at 170 ft. bgs, and although upgradient, it would not have a hydraulic connection with the Site.

The well logs also contained a Well #1 owned by Lake Goodwin Resort (C11), located ½ to 1 mile west from the Site. Ms. Ryan, owner of the Lake Goodwin Resort, advised SD&C that she was unaware of the well, but conducted further investigation of the well location and determined that the well is located on an adjacent parcel that she owns and is not in use. The well is a total of 18 ft. bgs, but the screened interval and construction details are unknown.

Surface Water / Groundwater Influx

Figure 1 attached to this letter illustrates the localized surficial and shallow subsurface utilities that impact the shallow groundwater flow at the Site. The Site is located in a topographical valley between two hill slopes. The surface geology consists of porous media (sand and gravel), which are underlain by dense glacial till of low permeability, creating a ponding effect near the surface. The Snohomish County PUD installed a surface water diversion conduit bordering the northern property boundary in 2012. Prior to that time there was reportedly frequent flooding at the Site. Further north of the surface water drain is a deep concrete fiber optic utility vault with an 8 ft. internal depth, and concrete foundation that likely extends to 10 ft. depth, which parallels the entire northern portion of the property line. The fiber optic utility vault would very likely trap PHCs released to groundwater on the Site and impede the release from flowing in a northerly direction. An 8" diameter water main transects the property directly through the Site and is reported to be less than 5 ft. below ground surface. There is a septic mound system for the RV Park, which is located, and discharges, directly southeast of the Site.

Subsurface Investigation

On September 9, 2016, SD&C directed the installation of three subsurface borings to collect soil and groundwater samples south of the gas station facility in the direction of Lake Goodwin to evaluate potential downgradient impacts from the site. The Subsurface Investigation Report is attached as Appendix III to this letter. Laboratory results of soil and groundwater samples collected from the borings did not indicate the presence of PHCs in borings GP-1 or GP-2. The groundwater sample from GP-3 had a low level detection of toluene below the MTCA method A cleanup level, and no other PHCs detected. Based on the results of the subsurface investigation conducted downgradient of the site, the soil and groundwater do not appear to be adversely impacted by PHCs.

Conceptual Site Model

Data for the CSM were collected during Site remedial actions which included (1) investigation of known and suspected areas of on-Site PHCs in soil, groundwater, and surface water; (2) assessment of exposure pathways along which PHC constituents are most likely to migrate; and (3) human receptors most likely to contact or be affected by the PHCs. The CSM elements are included in Table 2.¹ Exposure pathways for PHC constituents were determined based on the current land use at the Site. No changes in the use of the Site or the surrounding area are currently planned.

Exposure pathways are the means by which hazardous substances can reach potential receptors. For

¹ This letter does not present a CSM in accordance with ASTM E1739-95, but SD&C respectfully submits that given the size and nature of the impacts from the subject release, it is sufficient to characterize contaminant fate and transport and assess exposure pathways.

exposure to occur, a receptor needs both an exposure point (e.g., contaminated soils located at a place of work) and an exposure route (e.g., inhalation of vapors from contaminated soils). Common exposure pathways can be separated into ways by which humans may be exposed to toxic substances by inhalation, ingestion, or dermal contact. These pathways are further divided into transport routes whereby individuals can be exposed through air, soil, and water media. The following exposure pathways were considered for the Site:

- Exposure pathways from air are limited to inhalation, following contaminant volatilization from soil or groundwater sources.
- Exposure pathways from soil include direct contact (ingestion, dermal contact, and inhalation of particulates or vapors), volatilization to outdoor air with subsequent inhalation, vapor intrusion into buildings with subsequent inhalation, and leaching to groundwater with subsequent ingestion or inhalation of vapors from groundwater.
- Exposure pathways from groundwater include ingestion (by drinking) and inhalation of volatiles, volatilization to outdoor air with subsequent inhalation, vapor intrusion into indoor air, and dermal absorption.

Based on these exposure pathways and on current and projected future use of the Site and surrounding areas and properties, the only pathways that are potentially complete and included for further analysis are the following:

- Volatilization from soil or groundwater into enclosed spaces (i.e., buildings, utility vaults) air with subsequent inhalation.
- Volatilization from soil or groundwater to outdoor air with subsequent inhalation.
- Direct contact (i.e., ingestion, dermal contact, and inhalation of volatiles) with impacted soil, groundwater or surface water.

To complete an exposure pathway, chemicals of concern must be present in the specified medium and a receptor must be present. Because current data indicate that none of the contaminants of concern at the Site are present at concentrations greater than MTCA Method A cleanup levels, no exposure pathway is considered complete. Table 2 displays a summary evaluation of receptor and exposure factors needed to identify potentially complete exposure pathways.

The continued treatment of groundwater discharged from the pumping well through carbon filters are expected to prevent the release of PHCs to the adjacent grassy swale. Additionally, during the remedial activities the swale was retrofitted with river rock to create collection area that discharges through a drainage conduit. The drainage conduit can now be used as a valve to block contaminated water from reaching Lake Goodwin in the event of a spill at the site.

Conclusions

MTCA Method A cleanup levels for unrestricted land use were compared with analytical results from

post-remediation soil investigation activities conducted during March 2014, and groundwater monitoring events conducted from May 2014 through April 2016 (Figures 3a,b,c/2014, 4a,b,c,d/2015 and 4e/2016). Concentrations of chemicals of concern were addressed in soil by removal of contaminated soil and off-Site disposal, and four consecutive quarters of groundwater data confirm that contaminant concentrations in groundwater are below MTCA Method A cleanup levels as illustrated in Figures 5 and 6. An additional subsurface investigation was conducted to evaluate the potential impacts down-gradient from the site. The results of soil and groundwater samples collected from the boings conducted down-gradient from the Site did not contain PHCs at concentrations exceeding the MTCA method A cleanup levels. Based on the results of the conceptual site model, because the PHC impacted soil was removed from the Site, it does not present an exposure pathway. Groundwater has been remediated through carbon treatment and natural attenuation.

Terrestrial Ecological Evaluation (TEE)

The results of the TEE are included as Appendix II, and indicate that the Site qualifies for a simplified evaluation. The simplified evaluation results from MTCA Table 749-1 are included, which indicate the TEE process can be ended.

Closure

SD&C appreciates the opportunity to work with you on this project, and would appreciate the opportunity to meet with you to discuss this matter. Please send me an e-mail at ts4sdc@hotmail.com to discuss your availability.

Sincerely,



Timothy S. Slotta L.G., L.H.G., L.E.G.
Hydrogeologist #2175

Cc: Barry Ziker, Joyce Ziker Parkinson, PLLC
Karen Ryan

Table 1- Water Well Evaluation

System / Well Name	Distance from Site	Well Elevation	Well Depth	No. People Served	Remarks
1. Orchard Beach Community	SW 0-1/8 mile (Up gradient)		47	2	Per Seven Lakes Water district, the well is no longer serving residents. Well are now used for irrigation only.
A2. Seven Lakes Water Association Well #5	West 1/8-1/4 mile (Up gradient)		170	2215	Per Seven Lakes Water district, the well is not in use and is planned for decommission.
A3. USGS Washington Water Science Center	West 1/8-1/4 mile (Up gradient)	180	137	0	
4. USGS Washington Water Science Center	ENE 1/4-1/2 mile (Up gradient)	440	24	0	
5. USGS Washington Water Science Center	WNW 1/4-1/2 mile (Up gradient)	390	14	0	
6. USGS Washington Water Science Center	WNW 1/4-1/2 mile (Up gradient)	395	365	0	
7. Seven Lakes Water Association Well #6	ENE 1/4-1/2 mile (Up gradient)		161	2215	Well is located at a within an estimated 10 year travel time from the site.
C11 Lake Goodwin Resort Well #1	West 1/2-1 mile		18	0	Well is not used, and is mis-located on a western adjacent parcel

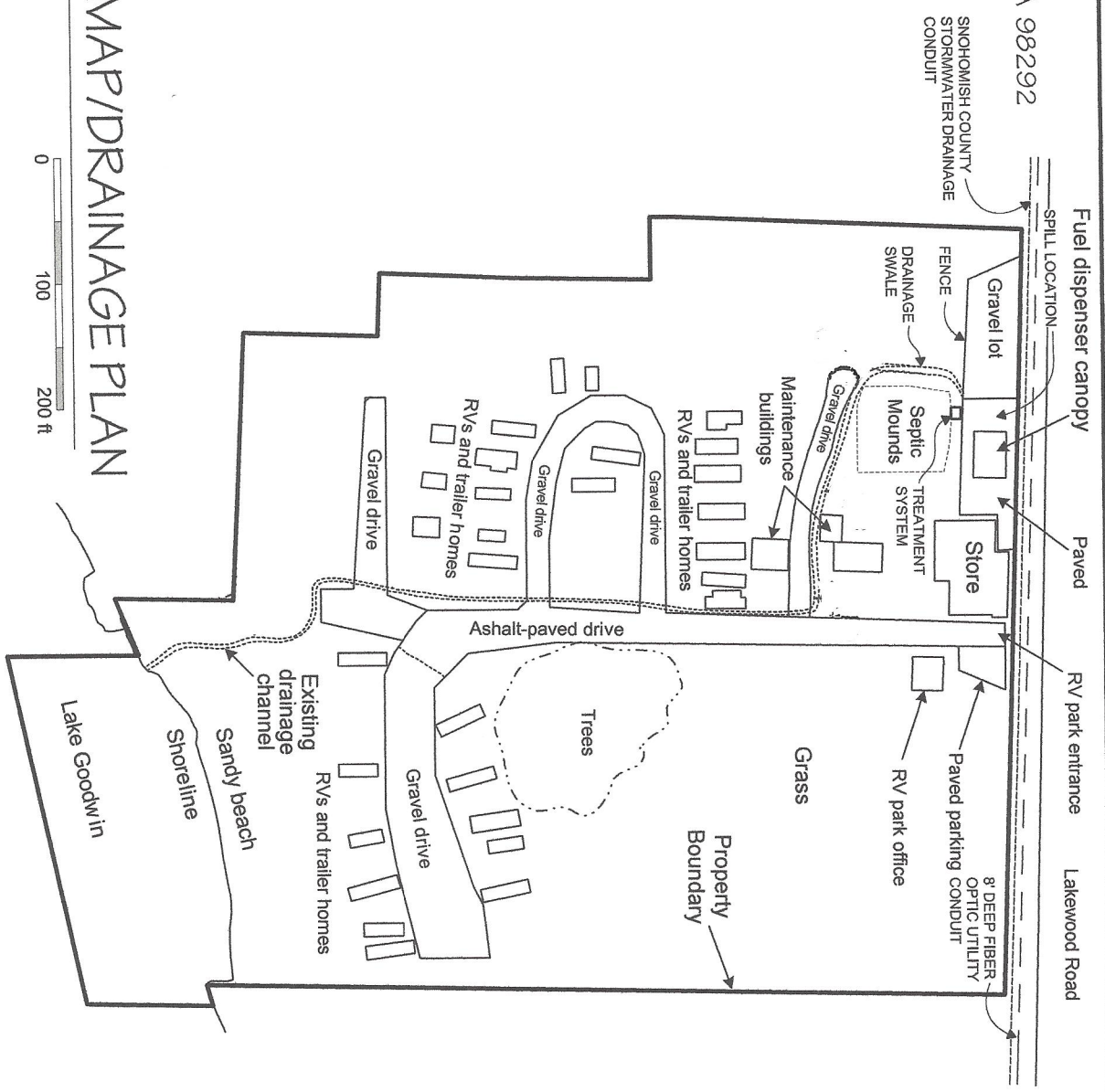
Table 2 – Potential Environmental Exposure Routes and Pathways

	Soil	Surface Water	Ground Water	Air
Gallons Released	Release spill between 250-gallons to 500-gallons.	Small sheen on the surface water in the area of the spill (No sheen observed at or near Lake Goodwin)	The volume of NAPL and groundwater pumped during the initial event was approximately 150-gallons.	No indoor structures affected; fuel to PW-1
Initial Sampling	The soil contained petroleum hydrocarbons (TPH-g) at concentrations exceeding MTCA Method A clean-up levels.	Collected surface water after release, which did not contain concentrations of TPH-g.	Collected water samples that significantly exceeded MTCA method A cleanup levels.	N/A
Volume Removed	Removed 30 cubic yards of soil for disposal off site at Cemex a licensed TSD in Everett WA.	None	Removed 150-gallons of water and PHC product from PW-1 during the initial response.	N/A
Final Sampling	Collected soil samples that indicated post excavation results were at concentrations below MTCA Method A clean-up levels.	Collected an additional sample that did not contain concentrations of TPH-g above MTCA cleanup levels.	Installed a Vapor Extraction and Carbon Treatment system. Collected groundwater samples for 8 monitoring events. Demonstrated 4 consecutive quarters of groundwater samples in all wells that were at concentrations below MTCA method A cleanup levels.	No exceedance above MTCA Method A
Exposure Pathway Complete?	No	No	No	No

PARCEL NO. 31042100402000
 4726 LAKEWOOD RD. STANWOOD, WA 98292



SITE MAP/DRAINAGE PLAN

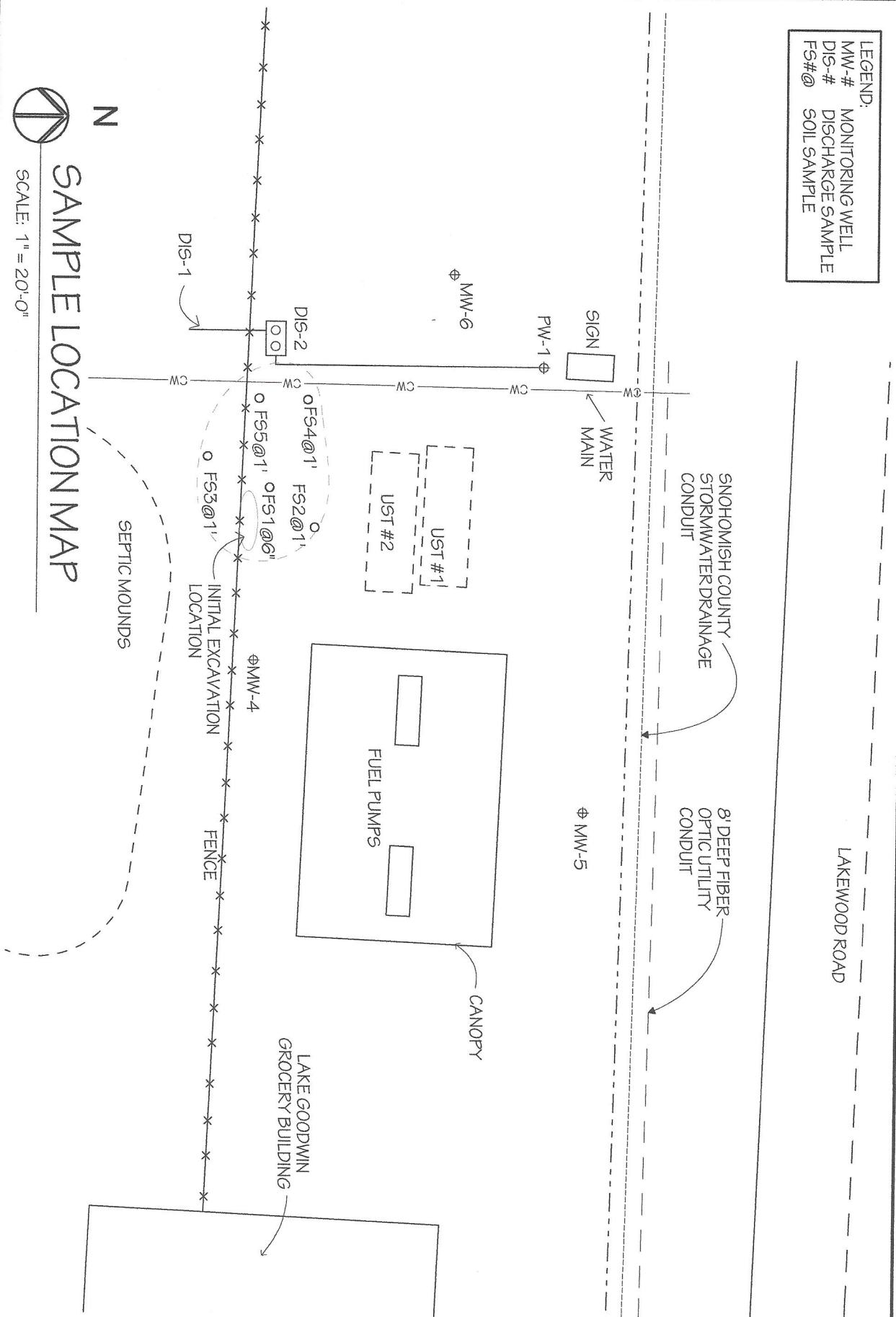


SURFICAL &
 SUBSURFACE
 WATER
 FEATURES
 FIGURE 1

LAKE GOODWIN GROCERY
 4726 Lakewood Rd.
 Stanwood, WA

Slotta Design & Consulting
 P.O. Box 2071 Kirkland, WA 98083
 (206) 459-5775

LEGEND:
 MW-# MONITORING WELL
 DIS-# DISCHARGE SAMPLE
 FS#@ SOIL SAMPLE



SAMPLE LOCATION MAP

SCALE: 1" = 20'-0"



MONITORING WELL ELEVATION DATA CONTOURS - MAY 2014

SCALE: 1" = 10'

0 5' 10' 20'

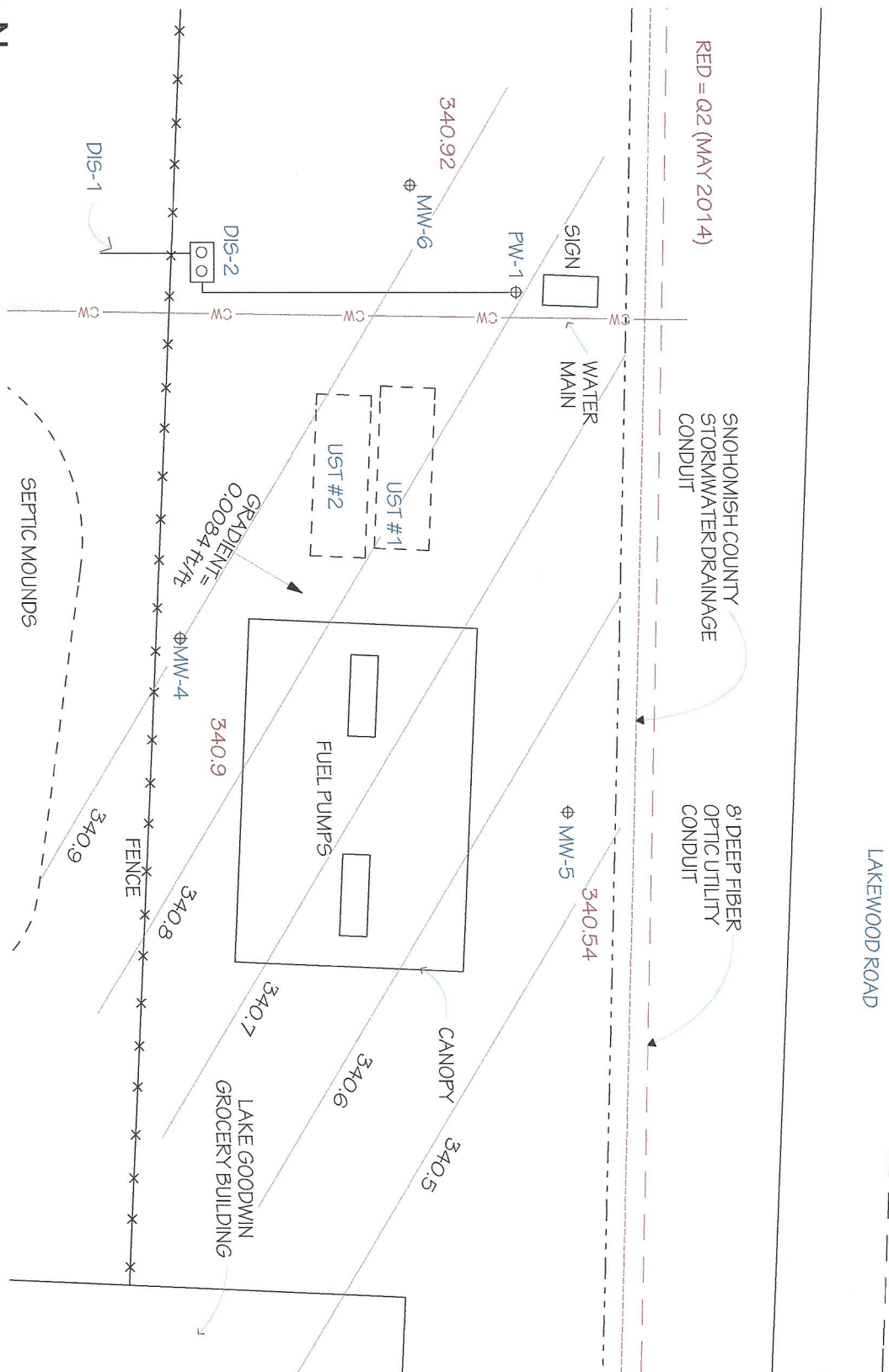


FIGURE 3a

LAKE GOODWIN GROCERY

4726 Lakewood Rd.
Stanwood, WA

Slotta Design & Consulting

P.O. Box 2071 Kirkland, WA 98083
(206) 459-5775



MONITORING WELL ELEVATION DATA CONTOURS-AUG. 2014

SCALE: 1" = 10'

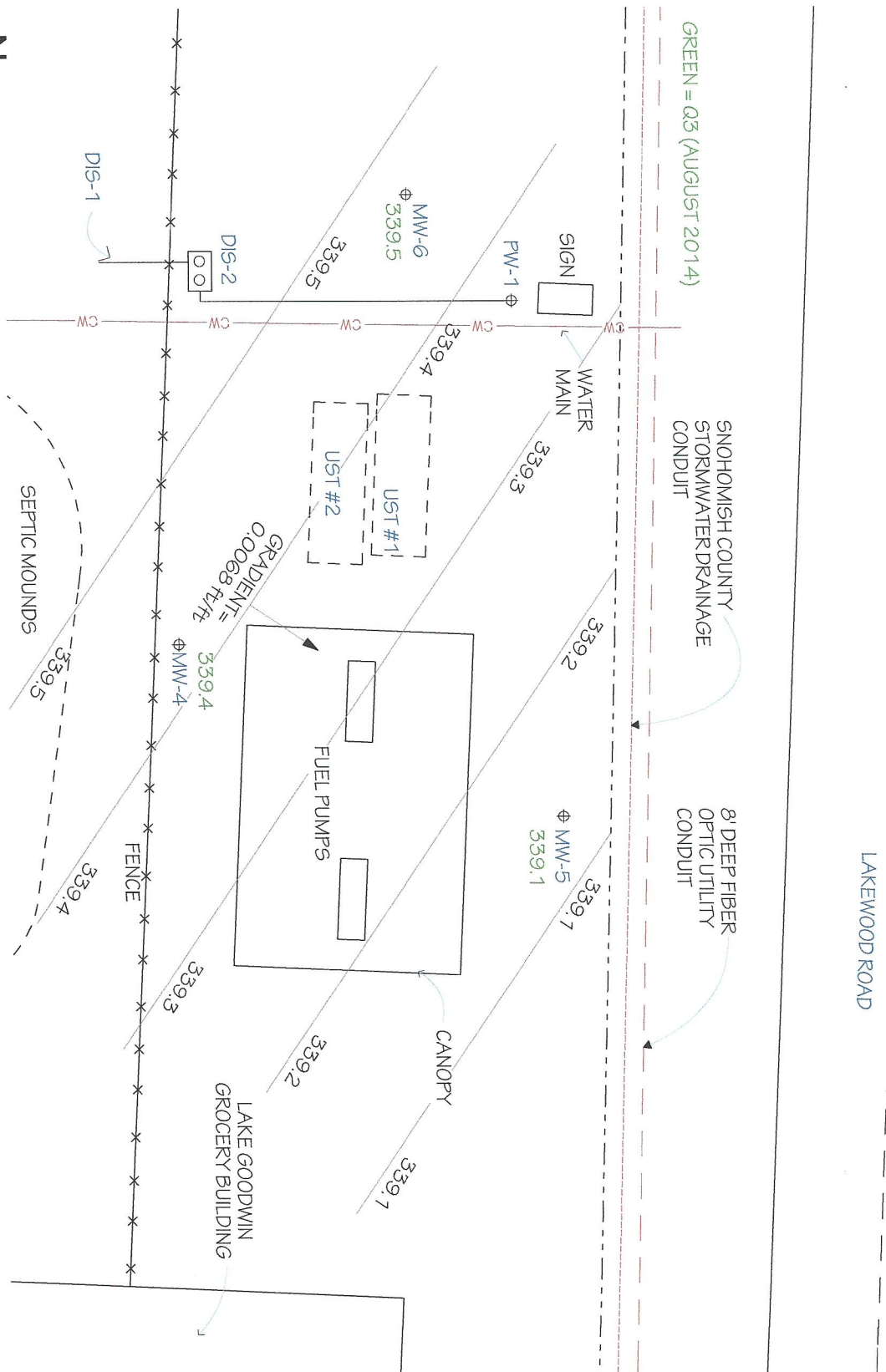


FIGURE 3b

LAKE GOODWIN GROCERY

4726 Lakewood Rd.
Stanwood, WA

Slotta Design & Consulting

P.O. Box 2071 Kirkland, WA 98083
(206) 459-5775



MONITORING WELL ELEVATION DATA CONTOURS-MARCH 2015

SCALE: 1" = 10'

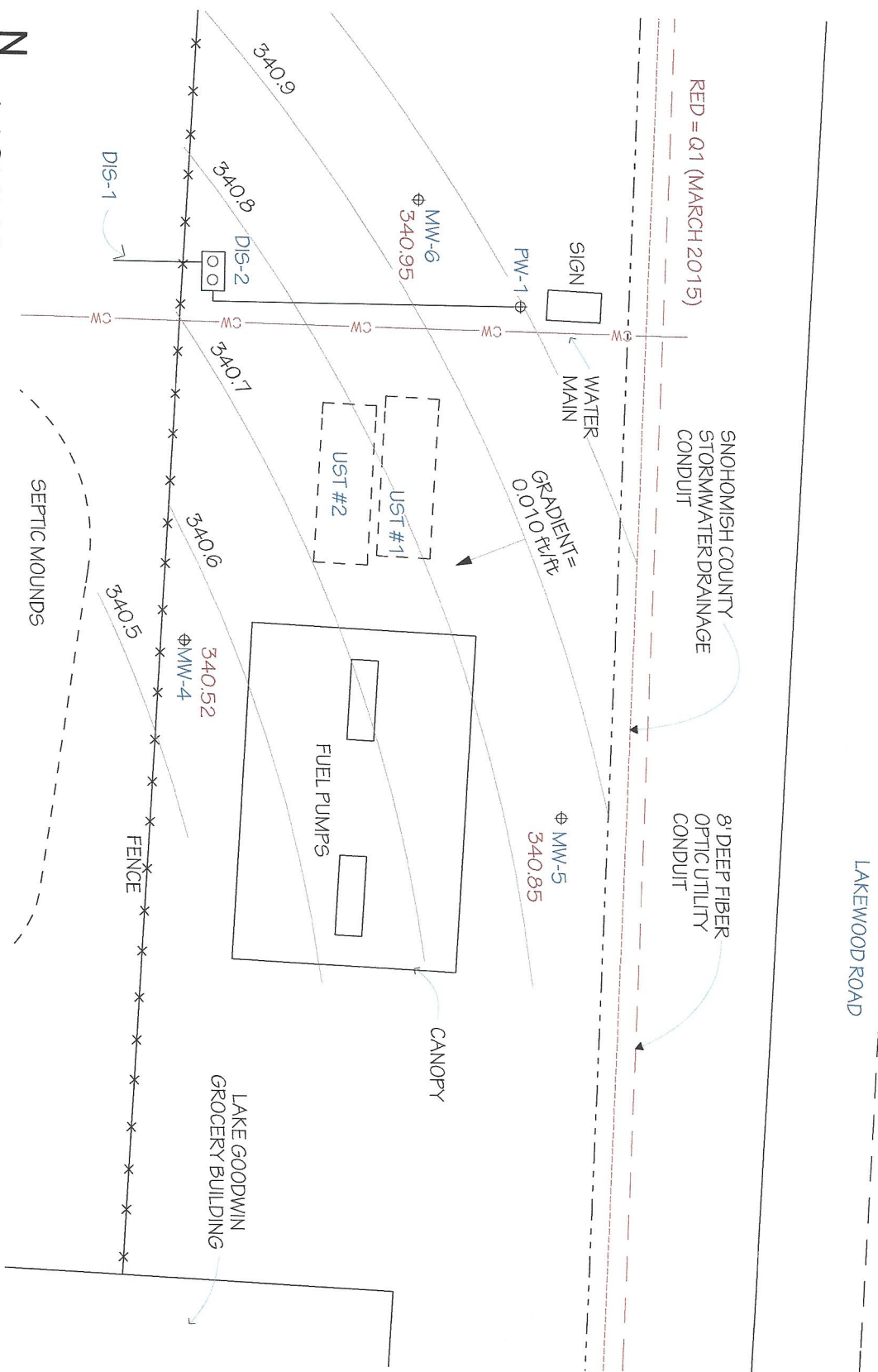


FIGURE 4a

LAKE GOODWIN GROCERY
4726 Lakewood Rd.
Stanwood, WA

Slotta Design & Consulting
P.O. Box 2071 Kirkland, WA 98083
(206) 459-5775



SCALE: 1" = 10'

MONITORING WELL ELEVATION DATA CONTOURS-JUNE 2015

0 5' 10' 20'

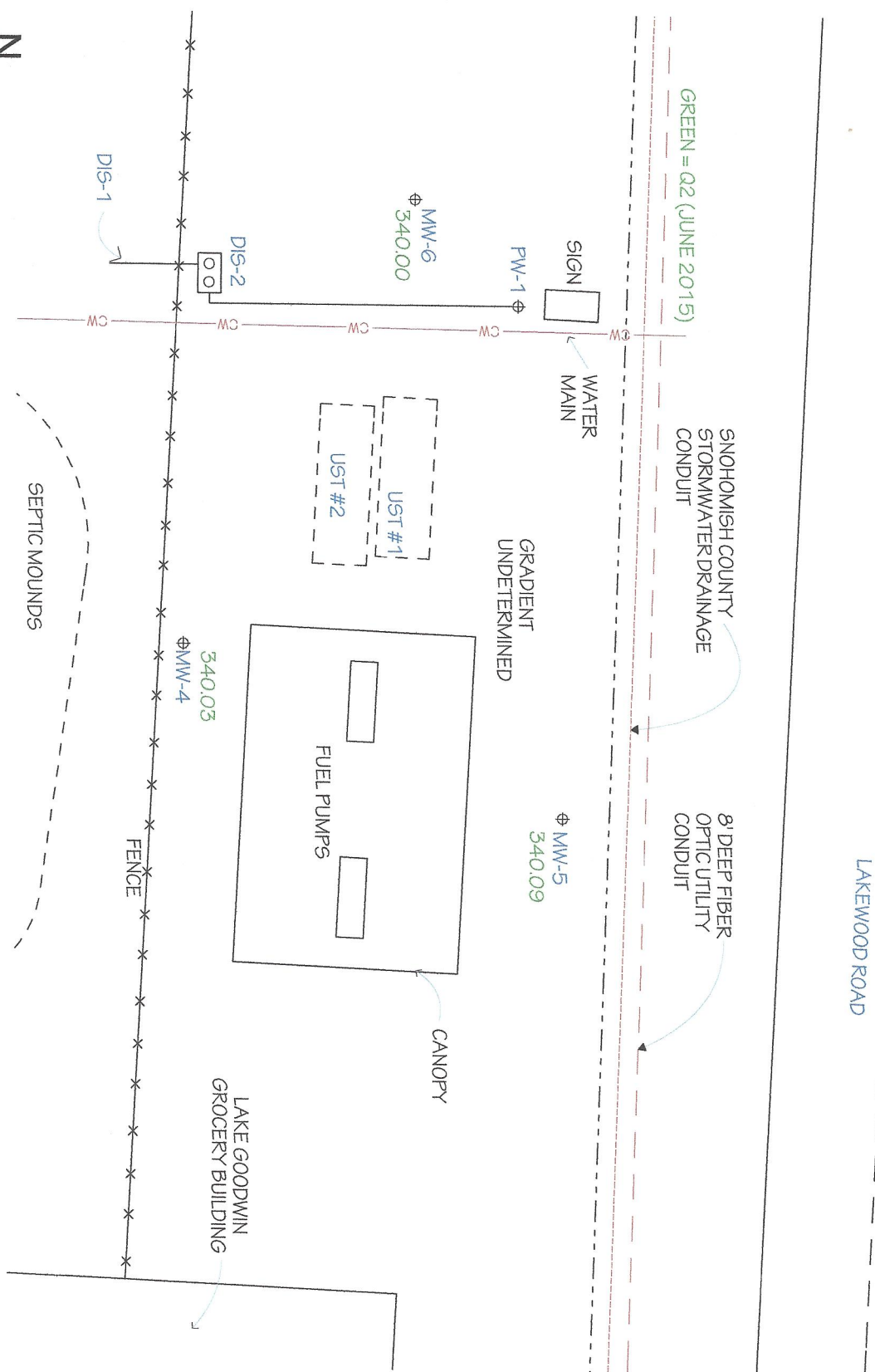


FIGURE 4b

LAKE GOODWIN GROCERY

4726 Lakewood Rd.
Stanwood, WA

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(206) 459-5775

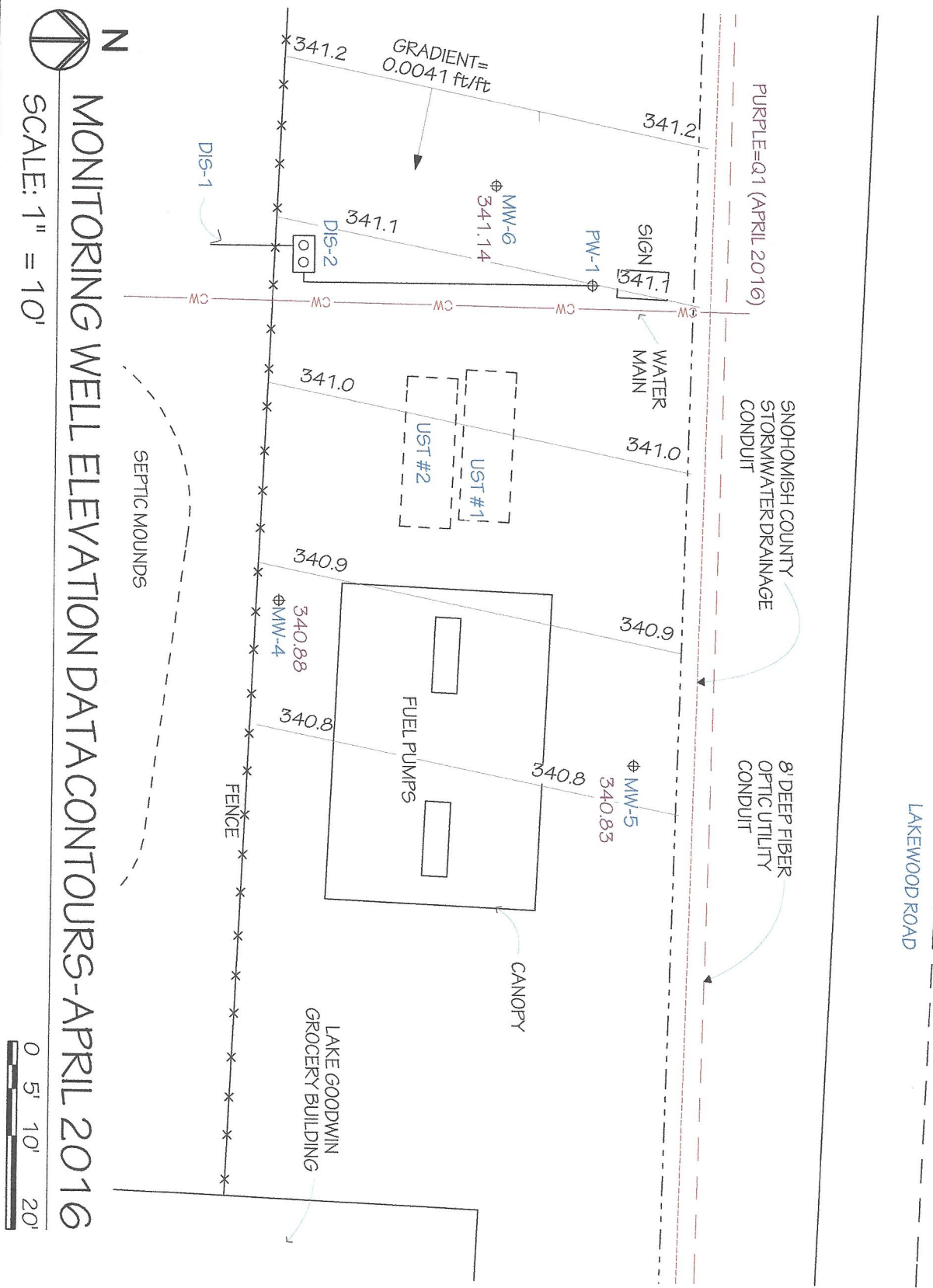
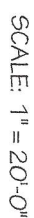


FIGURE 4e

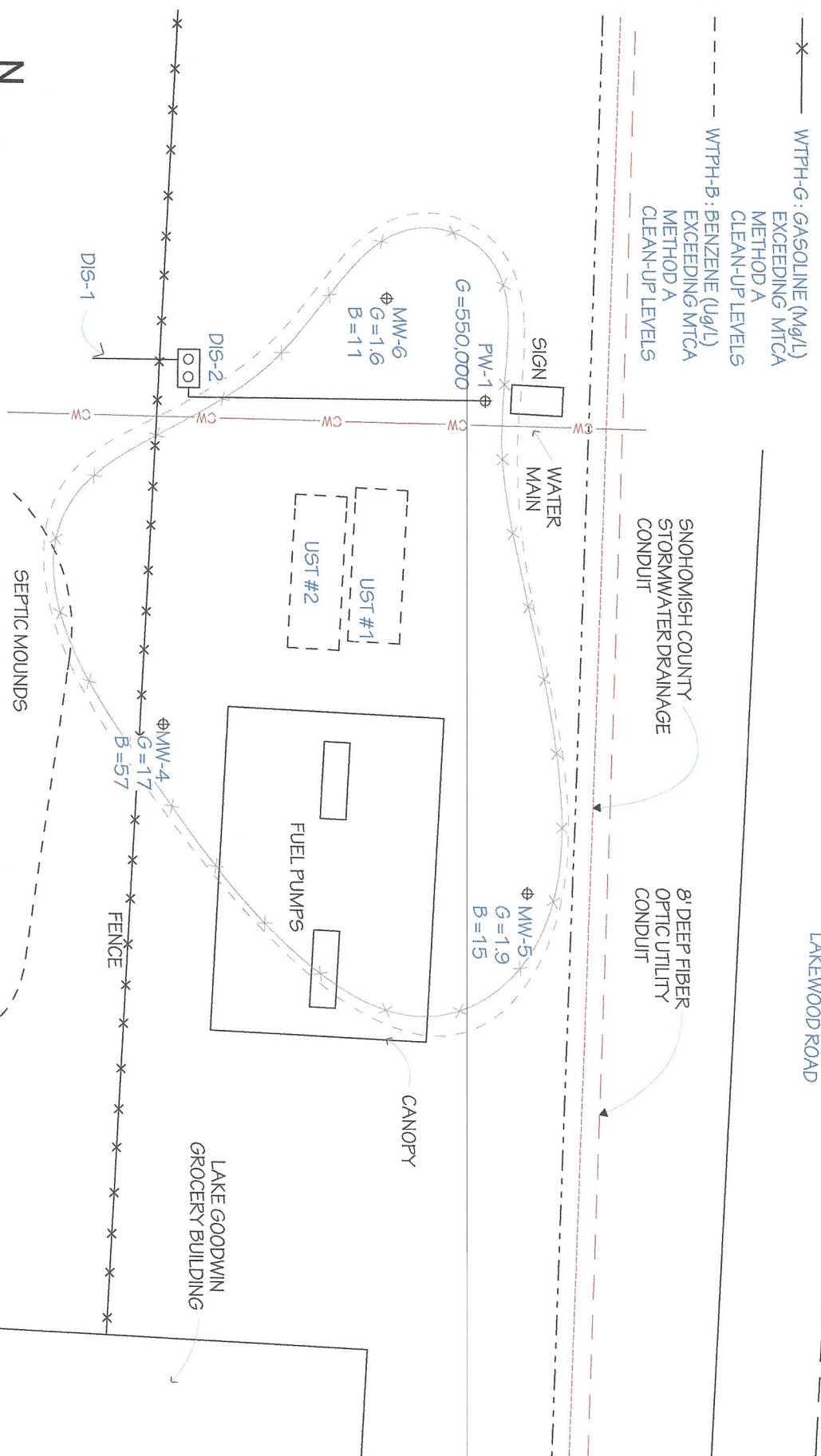
LAKE GOODWIN GROCERY
 4726 Lakewood Rd.
 Stanwood, WA

Slotta Design & Consulting
 P.O. Box 2071 Kirkland, WA 98083
 (206) 459-5775



GROUNDWATER CHEMICAL CONCENTRATIONS POST SPILL

SCALE: 1" = 20'-0"



4726 Lakewood Rd.
Stanwood, WA

P.O. Box 2071 Kirkland, WA 98083
(206) 459-5775

G.W.
CHEMICAL
CONCENTRA-
TIONS
12-19-13
FIGURE 5



SCALE: 1" = 20'-0"

GROUNDWATER CHEMICAL CONCENTRATIONS POST CLEAN-UP

SEPTIC MOUNDS

DIS-1

DIS-2

MW-6
 Φ G=.05
B=<1

PW-1
 Φ G=.068
B=3.6

SIGN

WATER
MAIN

UST #1
UST #2

MW-4
 Φ G=.05
B=3.6

FUEL PUMPS

MW-5
 Φ G=.05
B=<1

CANOPY

LAKE GOODWIN
GROCERY BUILDING

FENCE

WTPH-G: GASOLINE (Mg/L)
BELOW MTCA METHOD A
CLEAN-UP LEVELS
WTPH-B: BENZENE (Ug/L)
BELOW MTCA METHOD A
CLEAN-UP LEVELS

SNOHOMISH COUNTY
STORMWATER DRAINAGE
CONDUIT

8" DEEP FIBER
OPTIC UTILITY
CONDUIT

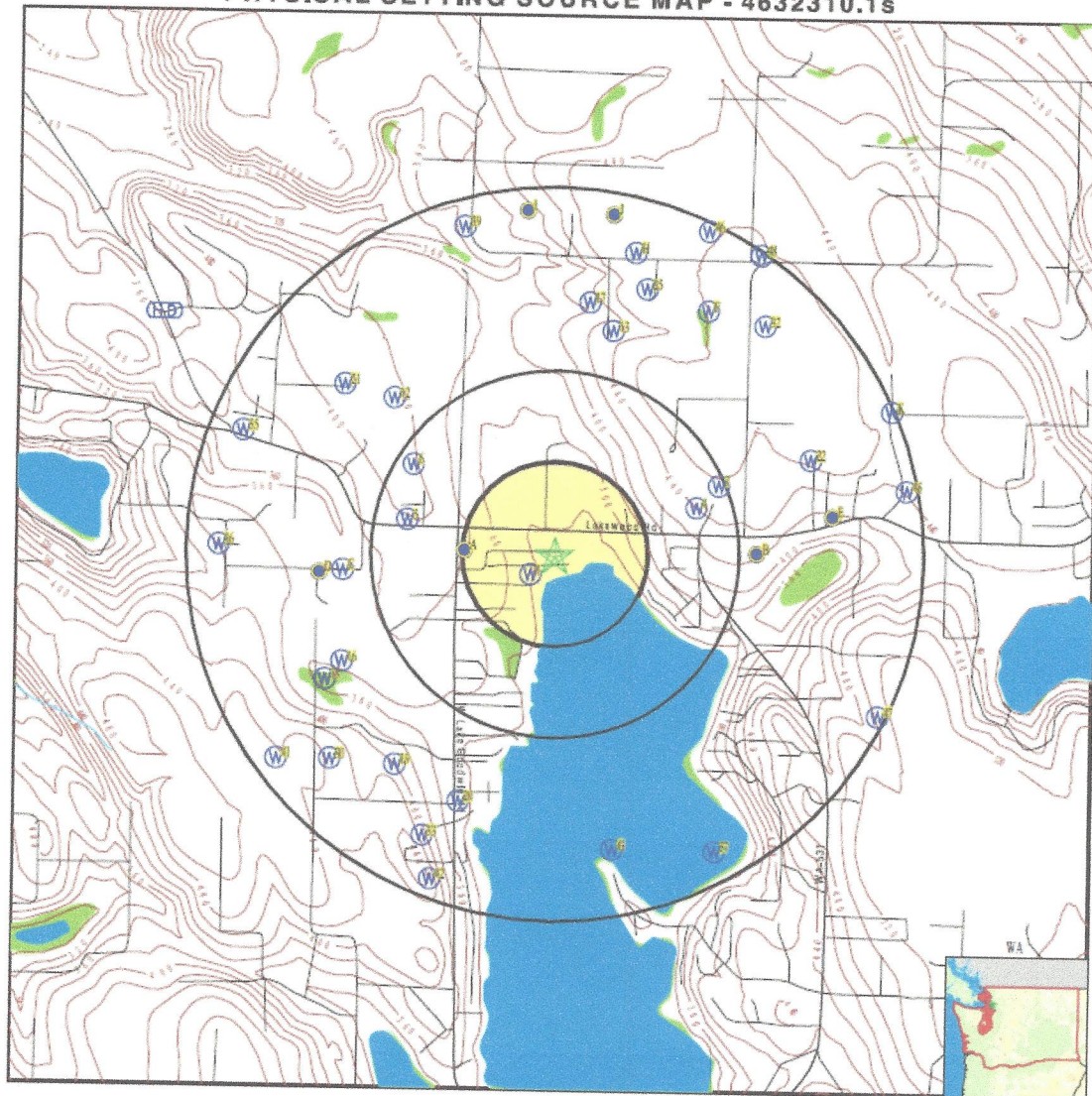
LAKEWOOD ROAD

LAKE GOODWIN GROCERY
4726 Lakewood Rd.
Stanwood, WA

Slotta Design & Consulting
P.O. Box 2071 Kirkland, WA 98083
(206) 459-5775

G.W.
CHEMICAL
CONCENTRA-
TIONS
12-31-15
FIGURE 6

PHYSICAL SETTING SOURCE MAP - 4632310.1s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- National Wetland Inventory



Figure 7

LAKE GOODWIN GROCERY
4726 Lakewood Rd.
Stanwood, WA

Slotta Design & Consulting
P.O. Box 2071 Kirkland, WA 98083
(206) 459-5775

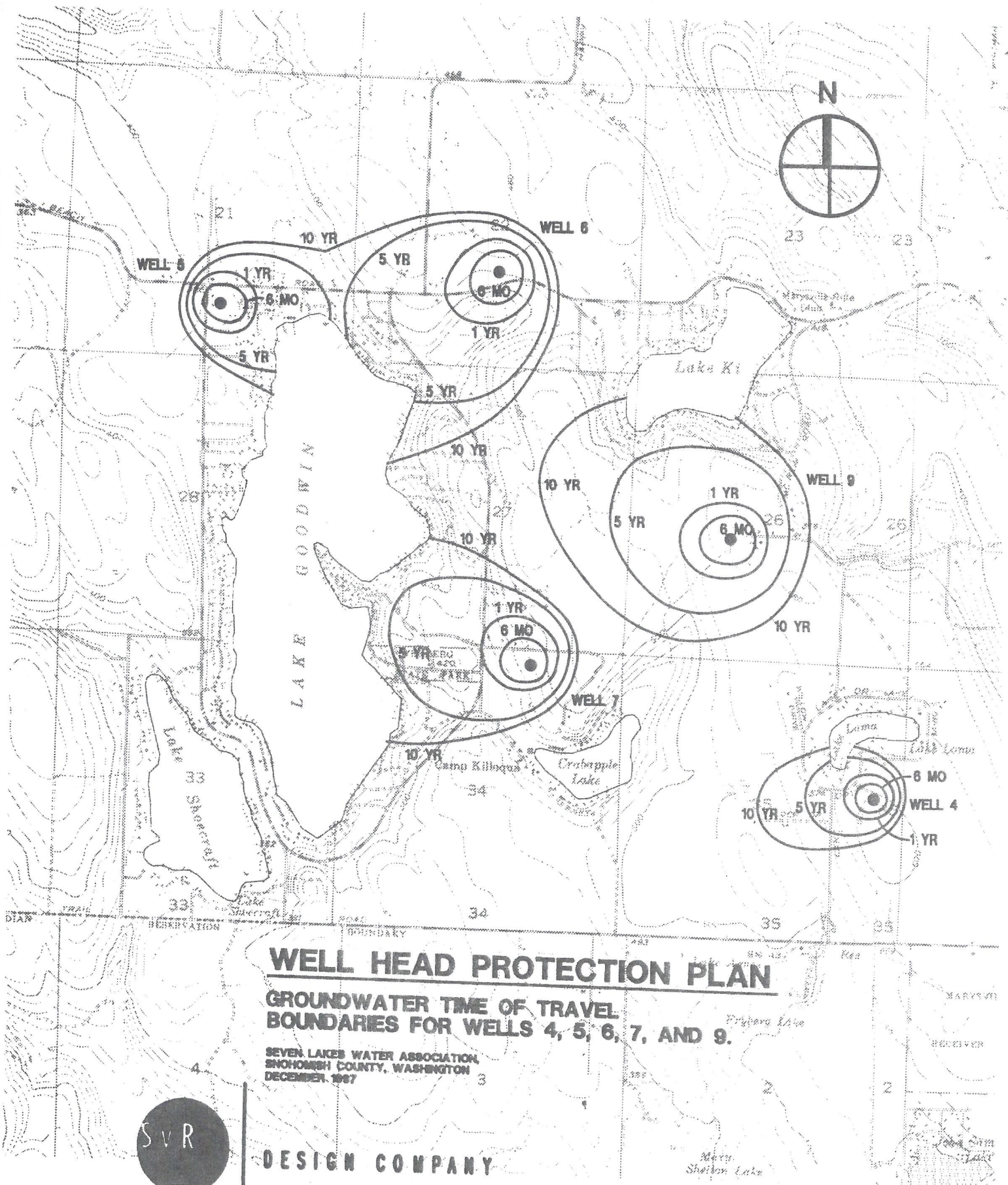


Figure 8

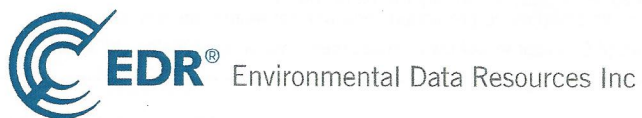
APPENDIX I

EDR GEOCHECK REPORT

Lk Goodwin Grocery
4726 Lakewood Rd
Stanwood, WA 98292

Inquiry Number: 4632310.1s
May 27, 2016

The EDR GeoCheck® Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Physical Setting Source Map	A-11
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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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GEOCHECK® - PHYSICAL SETTING SOURCE REPORT

TARGET PROPERTY ADDRESS

LK GOODWIN GROCERY
4726 LAKEWOOD RD
STANWOOD, WA 98292

TARGET PROPERTY COORDINATES

Latitude (North):	48.154851 - 48° 9' 17.46"
Longitude (West):	122.297579 - 122° 17' 51.28"
Universal Transverse Mercator:	Zone 10
UTM X (Meters):	552241.9
UTM Y (Meters):	5333531.0
Elevation:	334 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	48122-B3 STANWOOD, WA
Version Date:	1978

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

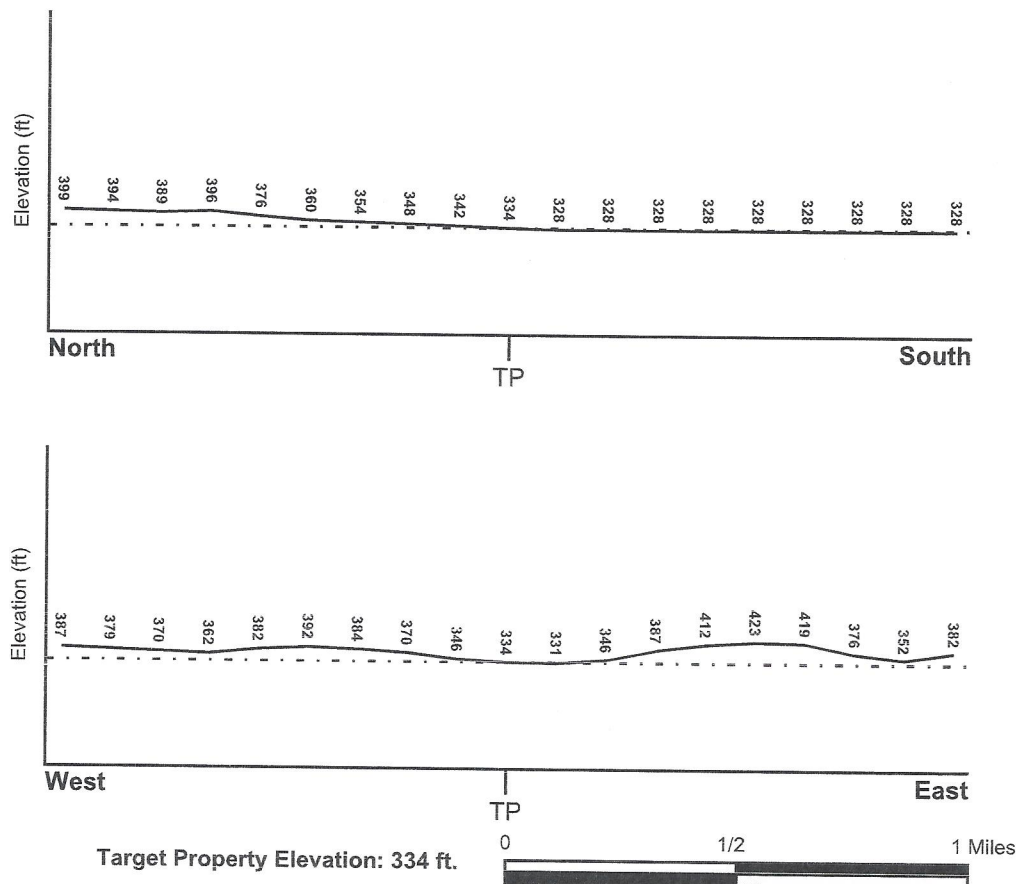
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County
SNOHOMISH, WA

FEMA Flood
Electronic Data
YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: Not Reported

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property
STANWOOD

NWI Electronic
Data Coverage
YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data:*

Search Radius:	1.25 miles
Location Relative to TP:	1 - 2 Miles WNW
Site Name:	SNOHOMISH CO - LAKE GOODWIN LDFL
Site EPA ID Number:	WAD980639017
Groundwater Flow Direction:	NOT AVAILABLE
Inferred Depth to Water:	200 feet to 300 feet
Hydraulic Connection:	A locally perched, seasonal water table may be present above the till at the site. The site is underlain by low permeability till and the deeper Esperance sand aquifer.
Sole Source Aquifer:	No information about a sole source aquifer is available
Data Quality:	Information is inferred in the CERCLIS investigation report(s)

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID
Not Reported

LOCATION
FROM TP

GENERAL DIRECTION
GROUNDWATER FLOW

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

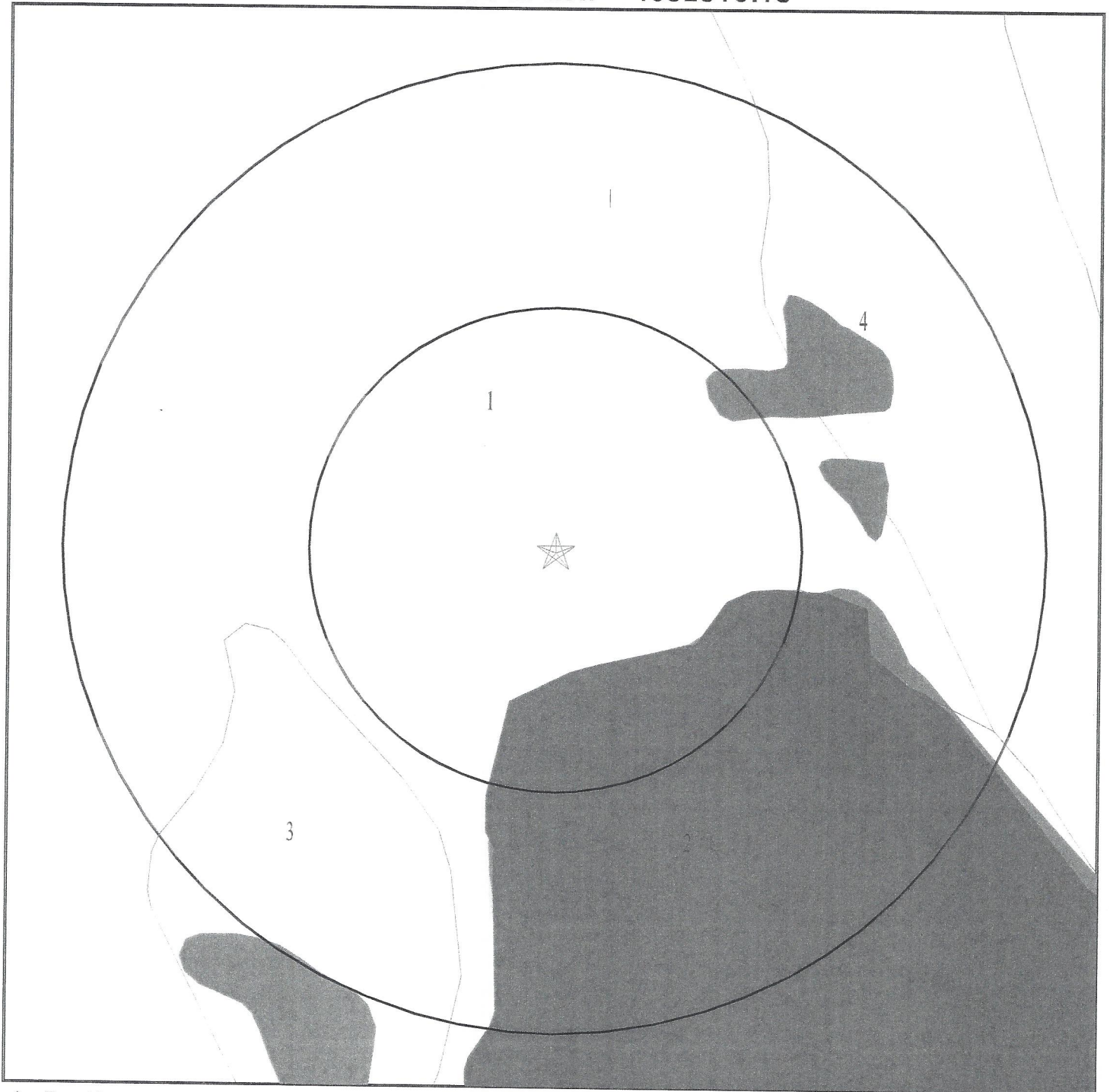
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

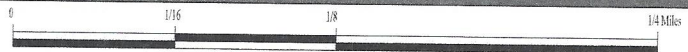
Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4632310.1s



- ★ Target Property
- SSURGO Soil
- Water



SITE NAME: Lk Goodwin Grocery
ADDRESS: 4726 Lakewood Rd
Stanwood WA 98292
LAT/LONG: 48.154851 / 122.297579

CLIENT: SD&C
CONTACT: Tim Slotta
INQUIRY #: 4632310.1s
DATE: May 27, 2016 5:57 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Alderwood

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 69 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 6.5 Min: 5.1
2	7 inches	35 inches	very gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 6.5 Min: 5.6
3	35 inches	59 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 0.42 Min: 0.01	Max: 6.5 Min: 5.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Water

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:
Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Kitsap

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	5 inches	33 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
3	33 inches	59 inches	stratified silt to silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 7.3 Min: 5.6

Soil Map ID: 4

Soil Component Name: Alderwood

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 69 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 6.5 Min: 5.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	7 inches	35 inches	very gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 6.5 Min: 5.6
3	35 inches	59 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 0.42 Min: 0.01	Max: 6.5 Min: 5.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	1.000
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A3	USGS40001285582	1/8 - 1/4 Mile West
4	USGS40001285607	1/4 - 1/2 Mile ENE
5	USGS40001285608	1/4 - 1/2 Mile WNW
6	USGS40001285651	1/4 - 1/2 Mile WNW
B8	USGS40001285581	1/2 - 1 Mile East
12	USGS40001285689	1/2 - 1 Mile NW
13	USGS40001285735	1/2 - 1 Mile NNE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D14	USGS40001285565	1/2 - 1 Mile West
17	USGS40001285750	1/2 - 1 Mile North
18	USGS40001285475	1/2 - 1 Mile WSW
19	USGS40001285369	1/2 - 1 Mile SW
22	USGS40001285654	1/2 - 1 Mile ENE
E23	USGS40001285602	1/2 - 1 Mile East
25	USGS40001285760	1/2 - 1 Mile NNE
F26	USGS40001285745	1/2 - 1 Mile NNE
F27	USGS40001285746	1/2 - 1 Mile NNE
30	USGS40001285379	1/2 - 1 Mile SW
H31	USGS40001285769	1/2 - 1 Mile NNE
32	USGS40001285737	1/2 - 1 Mile NE
33	USGS40001285288	1/2 - 1 Mile SSW
H34	USGS40001285786	1/2 - 1 Mile NNE
I38	USGS40001285800	1/2 - 1 Mile North
39	USGS40001285787	1/2 - 1 Mile NNW
J40	USGS40001285799	1/2 - 1 Mile North
42	USGS40001285191	1/2 - 1 Mile SSW
46	USGS40001285785	1/2 - 1 Mile NNE
47	USGS40001285443	1/2 - 1 Mile ESE
48	USGS40001285778	1/2 - 1 Mile NNE
K49	USGS40001285680	1/2 - 1 Mile ENE
K50	USGS40001285681	1/2 - 1 Mile ENE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

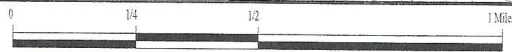
MAP ID	WELL ID	LOCATION FROM TP
1	WA8000000009751	0 - 1/8 Mile SW
A2	WA8000000017904	1/8 - 1/4 Mile West
7	WA8000000013050	1/4 - 1/2 Mile ENE
B9	WA8000000016665	1/2 - 1 Mile East
C10	WA8000000014482	1/2 - 1 Mile West
C11	WA8000000015202	1/2 - 1 Mile West
D15	WA8000000003499	1/2 - 1 Mile West
16	WA8000000002795	1/2 - 1 Mile WSW
20	WA8000000016394	1/2 - 1 Mile SSW
21	WA8000000004589	1/2 - 1 Mile NW
E24	WA8000000016694	1/2 - 1 Mile East
G28	WA8000000005132	1/2 - 1 Mile SSE
G29	WA8000000030691	1/2 - 1 Mile SSE
35	WA8000000014811	1/2 - 1 Mile WNW

PHYSICAL SETTING SOURCE MAP - 4632310.1s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- National Wetland Inventory



SITE NAME: Lk Goodwin Grocery
 ADDRESS: 4726 Lakewood Rd
 Stanwood WA 98292
 LAT/LONG: 48.154851 / 122.297579

CLIENT: SD&C
 CONTACT: Tim Slotta
 INQUIRY #: 4632310.1s
 DATE: May 27, 2016 5:57 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
36	WA8000000004113	1/2 - 1 Mile West
37	WA8000000009680	1/2 - 1 Mile SSE
41	WA80000000027118	1/2 - 1 Mile SW
J43	WA80000000025369	1/2 - 1 Mile North
I44	WA8000000004951	1/2 - 1 Mile North
45	WA80000000025953	1/2 - 1 Mile East

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1

SW

0 - 1/8 Mile

Higher

WA WELLS

WA8000000009751

Fid:	9750	Lerootid:	64770
Srcrootid:	21912	Pwsid:	64030
Srnum:	01	Pwsrcid:	6403001
Systemname:	ORCHARD BEACH COMMUNITY	Systemgrou:	B
Systemtype:	GRPB	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	4	Resconnect:	2
Totalconne:	2	Srname:	LOT 17 WELL
Srctype:	W	Srusecode:	P
Srwelldep:	47	Township:	31
Range :	04E	Section:	21
Qtrqtrsect:	SWSE		
Longitude:	-122.299		
Latitude:	48.15407		
Latlongmet:	QtrQtrSe	Srcsuscept:	U
Srsvulnioc:	Not Reported	Srsvulnvoc:	Not Reported
Srsvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	4257422411
Priconta 1:	Not Reported	Priconta 2:	4903 - 172ND PLACE NW
Priconta 3:	STANWOOD	Priconta 4:	WA
Priconta 5:	98292		
Priconta 6:	Not Reported		
Pwseffecti:	25-OCT-97	Pwsstatusi:	I
Pwsinactiv:	25-OCT-97	Srstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	25-OCT-97
Floodzonei:	N	Priconta 7:	GARY FOWLER
Srswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000009751		

A2

West

1/8 - 1/4 Mile

Higher

WA WELLS

WA8000000017904

Fid:	17903	Lerootid:	65933
Srcrootid:	23729	Pwsid:	77660
Srnum:	05	Pwsrcid:	7766005
Systemname:	SEVEN LAKES WATER ASSOCIATION	Systemgrou:	A
Systemtype:	Comm	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	5557	Resconnect:	2215
Totalconne:	2223	Srname:	AAA903 WELL 5
Srctype:	W	Srusecode:	E
Srwelldep:	170	Township:	31

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	04E	Section:	21
Qtrqtrsect:	SWSE		
Longitude:	-122.30281		
Latitude:	48.15516		
Latlongmet:	GPS	Srctot1yr:	0
Srctot6mo:	0	Srctot10yr:	0
Srctot5yr:	0	Prcontact:	3606528192
Protection:	Assigned	Prcontact 2:	17507 WEST LAKE GOODWIN RD
Prcontact 1:	Not Reported	Prcontact 4:	WA
Prcontact 3:	STANWOOD		
Prcontact 5:	98292		
Prcontact 6:	manager@7lakeswater.com		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srctstatusi:	A
Srceffecti:	01-JAN-70	Srctinactiv:	Not Reported
Floodzonei:	N	Prcontact 7:	PAUL LUCAS
Srctswinfl:	U	Latlongdat:	Not Reported
Site id:	WA8000000017904		

A3

West
1/8 - 1/4 Mile
Higher

FED USGS USGS40001285582

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480918122180501		
Monloc name:	31N/04E-21Q01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1548201
Longitude:	-122.3029808	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refs:	NAD83	Vert measure val:	375
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19791114	Welldepth:	180
Welldepth units:	ft	Wellholedepth:	230
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 37

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2003-04-07	137.64				
Note: The site was being pumped.					
2003-03-02	137.58				
Note: The site was being pumped.					

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
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2003-01-24	126.20	
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2002-11-08	137.60	
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Note: The site was being pumped.

2002-08-13	126.19	
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2002-07-08	137.60	
------------	--------	--

Note: The site was being pumped.

2002-05-29	125.89	
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2002-04-29	137.67	
------------	--------	--

Note: The site was being pumped.

2002-03-27	126.20	
------------	--------	--

2002-02-26	137.60	
------------	--------	--

Note: The site was being pumped.

2002-02-01	126.44	
------------	--------	--

2001-12-28	137.62	
------------	--------	--

Note: The site was being pumped.

2001-11-29	137.62	
------------	--------	--

Note: The site was being pumped.

2001-10-31	137.68	
------------	--------	--

Note: The site was being pumped.

2001-09-27	143.90	
------------	--------	--

Note: The site was being pumped.

2001-08-29	126.31	
------------	--------	--

2001-07-30	137.61	
------------	--------	--

Note: The site had been pumped recently.

2001-05-22	126.27	
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1983-03-16	128.89	
------------	--------	--

1983-01-18	128.46	
------------	--------	--

1982-11-17	128.90	
------------	--------	--

1982-09-17	130.49	
------------	--------	--

1982-06-16	132.05	
------------	--------	--

1982-04-14	129.41	
------------	--------	--

1982-02-16	129.33	
------------	--------	--

1981-12-18	129.93	
------------	--------	--

1981-04-14	129.42	
------------	--------	--

1981-03-10	129.36	
------------	--------	--

Note: The site had been pumped recently.

Date	Feet below Surface	Feet to Sealevel
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1992-09-30	135.16	
------------	--------	--

1983-02-16	128.90	
------------	--------	--

1982-12-17	128.93	
------------	--------	--

1982-10-15	130.58	
------------	--------	--

1982-07-16	131.26	
------------	--------	--

1982-05-19	129.99	
------------	--------	--

1982-03-16	129.50	
------------	--------	--

1982-01-14	129.34	
------------	--------	--

1981-11-16	130.62	
------------	--------	--

4

ENE

1/4 - 1/2 Mile

Higher

FED USGS

USGS40001285607

Org. Identifier:	USGS-WA
Formal name:	USGS Washington Water Science Center
Monloc Identifier:	USGS-480925122171701
Monloc name:	31N/04E-22M01
Monloc type:	Well
Monloc desc:	Not Reported
Huc code:	17110008
Drainagearea Units:	Not Reported
Contrib drainagearea units:	Not Reported
Longitude:	-122.2893137

Drainagearea value:	Not Reported
Contrib drainagearea:	Not Reported
Latitude:	48.1567647
Sourcemap scale:	24000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	440
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19010101	Welldepth:	24
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1944-07-01	23	

5

WNW

1/4 - 1/2 Mile
Higher

FED USGS

USGS40001285608

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480925122181801		
Monloc name:	31N/04E-21L01		
Monloc type:	Well		
Monloc desc:	USGS OBSERVATION WELL 1944		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1561535
Longitude:	-122.3062588	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refs:	NAD83	Vert measure val:	390
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19010101	Welldepth:	14
Welldepth units:	ft	Wellholedepth:	14
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-02-17	3.64		1992-02-17	3.64	
1944-07-01	7				

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

6

WNW

1/4 - 1/2 Mile

Higher

FED USGS

USGS40001285651

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480931122181701		
Monloc name:	31N/04E-21L02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1583202
Longitude:	-122.3059256	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	395
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19931220	Welldepth:	365
Welldepth units:	ft	Wellholeddepth:	370
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2001-10-04	334.72				
2001-05-22	334.39				

Note: The site had been pumped recently.

1994-01-04 323

7

ENE

1/4 - 1/2 Mile

Higher

WA WELLS

WA8000000013050

Fid:	13049	Lerootid:	65933
Srcrootid:	23727	Pwsid:	77660
Srctnum:	03	Pwssrcid:	7766003
Systemname:	SEVEN LAKES WATER ASSOCIATION	Systemgroup:	A
Systemtype:	Comm	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	5557	Resconnect:	2215
Totalconne:	2223	Srctname:	WELL - SWIMME
Srctype:	W	Srctusecode:	E
Srctwelldep:	161	Township:	31

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	04E	Section:	22
Qtrqtrsect:	SEnw		
Longitude:	-122.288		
Latitude:	48.15764		
Latlongmet:	QtrQtrSe	Srcsuscept:	N
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3606528192
Priconata 1:	Not Reported	Priconata 2:	17507 WEST LAKE GOODWIN RD
Priconata 3:	STANWOOD	Priconata 4:	WA
Priconata 5:	98292		
Priconata 6:	manager@7lakeswater.com		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srctstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	03-OCT-91
Floodzonei:	N	Priconata 7:	PAUL LUCAS
Srswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000013050		

B8
East
1/2 - 1 Mile
Higher

FED USGS USGS40001285581

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480918122170501		
Monloc name:	31N/04E-22P02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1548202
Longitude:	-122.2859801	Sourcemap scale:	24000
Horiz Acc measure:	10	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	425
Vert measure units:	feet	Vertacc measure val:	50
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Alluvium		
Aquifer type:	Not Reported		
Construction date:	19680123	Welldepth:	452
Welldepth units:	ft	Wellholedepth:	700
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

	Feet below	Feet to
Date	Surface	Sealevel

1968-07-15 133

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

B9

East
1/2 - 1 Mile
Higher

WA WELLS WA8000000016665

Fid:	16664	Lerootid:	62932
Srcrootid:	19511	Pwsid:	51900
Srnum:	05	Pwssrcid:	5190005
Systemname:	MARYSVILLE UTILITIES	Systemgrou:	A
Systemtype:	Comm	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	62115	Resconnect:	19395
Totalconne:	20683	Srname:	LAKE GOODWIN
Srctype:	W	Srusecode:	P
Srwelldep:	452	Township:	31
Range :	04E	Section:	22
Qtrqtrsect:	SESW		
Longitude:	-122.28551		
Latitude:	48.15521		
Latlongmet:	GPS	Srscuscept:	M
Srsvulnioc:	M	Srsvulnvoc:	M
Srsvulnsoc:	L	Doewelltag:	Not Reported
Srctot6mo:	220	Srctot1yr:	310
Srctot5yr:	700	Srctot10yr:	980
Protection:	CFR	Prcontact:	3603638125
Prconta 1:	MARYSVILLE UTILITIES	Prconta 2:	20 COLUMBIA AVE
Prconta 3:	MARYSVILLE	Prconta 4:	WA
Prconta 5:	98270		
Prconta 6:	DByde@marysvillewa.gov		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srstatusi:	A
Srceffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	N	Prconta 7:	DOUGLAS BYDE
Srswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000016665		

C10

West
1/2 - 1 Mile
Higher

WA WELLS WA8000000014482

Fid:	14481	Lerootid:	62094
Srcrootid:	18456	Pwsid:	46745
Srnum:	01	Pwssrcid:	4674501
Systemname:	LEONARDS RESORT	Systemgrou:	A
Systemtype:	Comm	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	3	Resconnect:	1
Totalconne:	1	Srname:	LEONARD S RESORT
Srctype:	W	Srusecode:	P
Srwelldep:	175	Township:	31

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	04E	Section:	21
Qtrqtrsect:	SESE		
Longitude:	-122.31		
Latitude:	48.15414		
Latlongmet:	QtrQtrSe	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3606529155
Priconta 1:	Not Reported	Priconta 2:	RT 1 BOX 382
Priconta 3:	STANWOOD	Priconta 4:	WA
Priconta 5:	98292		
Priconta 6:	Not Reported		
Pwseffecti:	01-MAR-86	Pwsstatusi:	I
Pwsinactiv:	01-MAR-86	Srcstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	01-MAR-86
Floodzonei:	N	Priconta 7:	ARTHUR LEONARD
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000014482		

C11
West
1/2 - 1 Mile
Higher

WA WELLS WA8000000015202

Fid:	15201	Lerootid:	61621
Srcrootid:	17833	Pwsid:	43930
Srcnum:	01	Pwssrcid:	4393001
Systemname:	LAKE GOODWIN RESORT	Systemgrou:	A
Systemtype:	TNC	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	3	Resconnect:	1
Totalconne:	2	Srcname:	WELL # 1
Srctype:	W	Srcusecode:	P
Srcwelldep:	140	Township:	31
Range :	04E	Section:	21
Qtrqtrsect:	SESE		
Longitude:	-122.31		
Latitude:	48.15414		
Latlongmet:	QtrQtrSe	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3606528169
Priconta 1:	Not Reported	Priconta 2:	4726 176TH N W
Priconta 3:	STANWOOD	Priconta 4:	WA
Priconta 5:	98292		
Priconta 6:	Not Reported		
Pwseffecti:	20-JUL-92	Pwsstatusi:	I
Pwsinactiv:	20-JUL-92	Srcstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	20-JUL-92
Floodzonei:	N	Priconta 7:	MANAGER WS# 43930 LAKE GOODWIN RESO
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000015202		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

12
NW
1/2 - 1 Mile
Higher

Database EDR ID Number

FED USGS USGS40001285689

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480940122182101		
Monloc name:	31N/04E-21F01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1609314
Longitude:	-122.3070924	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	400
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19010101	Welldepth:	23.1
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
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1944-07-01	11	
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13
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40001285735

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480950122173501		
Monloc name:	31N/04E-21R01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1637093
Longitude:	-122.2943143	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	340
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	13.6
Construction date:	19360101	Wellholedepth:	Not Reported
Welldepth units:	ft		
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
------	-----------------------	---------------------

1944-07-01 2

D14
West
1/2 - 1 Mile
Higher

FED USGS USGS40001285565

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480914122183601		
Monloc name:	31N/04E-21N01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1537089
Longitude:	-122.3112589	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	370
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19790731	Welldepth:	220
Welldepth units:	ft	Wellholedepth:	220
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
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1979-08-08 180

D15
West
1/2 - 1 Mile
Higher

WA WELLS WA8000000003499

Fid:	3498	Lerootid:	54353
Srcrootid:	8360	Pwsid:	07581
Srcnum:	01	Pwssrcid:	0758101
Systemname:	WHITESIDE HOMEOWNERS ASSOCIATION	Region:	A
Systemtype:	Comm	Smaid:	Not Reported
County:	SNOHOMISH	Resconnect:	27
Frespopul:	90	Srcname:	WELL #1 AGB542
Totalconne:	27	Srcusecode:	P
Srctype:	W	Township:	31
Srwelldep:	220		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	04E	Section:	20
Qtrqtrsect:	SESE		
Longitude:	-122.31153		
Latitude:	48.15437		
Latlongmet:	GPS	Srctot10yr:	980
Srctot6mo:	220	Srctot1yr:	310
Srctot5yr:	700	Prcontact:	3604664443
Protection:	CFR	Prcontact:	14263 CALHOUN RD
Prconta 1:	WATER & WASTEWATER SERVICE	Prconta 2:	WA
Prconta 3:	MOUNT VERNON	Prconta 4:	
Prconta 5:	98273		
Prconta 6:	kellyw@wwsvc.com		
Pwseffecti:	01-AUG-81	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srctstatusi:	A
Srceffecti:	01-JAN-70	Srctinactiv:	Not Reported
Floodzonei:	N	Prconta 7:	KELLY WYNN
Srctwinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000003499		

16
WSW
1/2 - 1 Mile
Higher

WA WELLS WA8000000002795

Fid:	2794	Lerootid:	51130
Srctrootid:	4834	Pwsid:	04358
Srctnum:	01	Pwssrcid:	0435801
Systemname:	56TH AVE NW WATER SYSTEM	Systemgrou:	B
Systemtype:	GRPB	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopol:	9	Resconnect:	4
Totalconne:	4	Srctname:	WELL #1
Srctype:	W	Srctusecode:	P
Srctwelldep:	0	Township:	31
Range :	04E	Section:	28
Qtrqtrsect:	NWNW		
Longitude:	-122.31		
Latitude:	48.15053		
Latlongmet:	QtrQtrSe	Srctot10yr:	0
Srctvulnioc:	Not Reported	Srctot1yr:	0
Srctvulnsoc:	Not Reported	Prcontact:	3606527395
Srctot6mo:	0	Prconta 2:	15704 56TH AVE NW
Srctot5yr:	0	Prconta 4:	WA
Protection:	Assigned		
Prconta 1:	Not Reported	Pwsstatusi:	I
Prconta 3:	ARLINGTON	Srctstatusi:	I
Prconta 5:	98223	Srctinactiv:	03-AUG-95
Prconta 6:	Not Reported	Prconta 7:	LORI MORAN
Pwseffecti:	03-AUG-95	Latlongdat:	Not Reported
Pwsinactiv:	03-AUG-95		
Srceffecti:	05-JAN-94		
Floodzonei:	N		
Srctwinflu:	U		
Site id:	WA8000000002795		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

17
North
1/2 - 1 Mile
Higher

Database EDR ID Number

FED USGS USGS40001285750

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480954122174001		
Monloc name:	31N/04E-21A02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1648204
Longitude:	-122.2957033	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	410
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19901127	Welldepth:	83
Welldepth units:	ft	Wellholedepth:	83
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
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1991-11-28	21	
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18
WSW
1/2 - 1 Mile
Higher

FED USGS USGS40001285475

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480900122183501		
Monloc name:	31N/04E-28D01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.14982
Longitude:	-122.3109809	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	350
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	142
Construction date:	19780601	Wellholedepth:	142
Welldepth units:	ft		
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1978-06-08	80	

19
SW
1/2 - 1 Mile
Higher

FED USGS USGS40001285369

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480848122182001		
Monloc name:	31N/04E-28F01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1464866
Longitude:	-122.3068139	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	345
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19580101	Welldepth:	67
Welldepth units:	ft	Wellholedepth:	67
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1958-01-01	7	

20
SSW
1/2 - 1 Mile
Higher

WA WELLS WA8000000016394

Fid:	16393	Lerootid:	66588
Srcrootid:	24869	Pwsid:	87123
Srnum:	01	Pwssrid:	8712301
Systemname:	TALL FIRS ASSESSORS PLAT	Systemgrou:	A
Systemtype:	TNC	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	18	Resconnect:	15
Totalconne:	15	Srcname:	AGB933 WELL 1
Srctype:	W	Srcusecode:	P
Srcwelldep:	60	Township:	31

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	04E	Section:	28
Qtrqtrsect:	SWNE		
Longitude:	-122.30305		
Latitude:	48.14508		
Latlongmet:	GPS	Srcsuscept:	M
Srcvulnioc:	L	Srcvulnvoc:	M
Srcvulnsoc:	M	Doewelltag:	AGB933
Srctot6mo:	220	Srctot1yr:	310
Srctot5yr:	700	Srctot10yr:	980
Protection:	CFR	Pricontact:	36052-711
Priconta 1:	Not Reported	Priconta 2:	5120 164TH PL NW
Priconta 3:	STANWOOD	Priconta 4:	WA
Priconta 5:	98292		
Priconta 6:	gcanttila1@yahoo.com		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	N	Priconta 7:	GARY ANTILLA
Srswinflui:	U	Latlongdat:	Not Reported
Site id:	WA80000000016394		

21
NW
1/2 - 1 Mile
Higher

WA WELLS WA8000000004589

Fid:	4588	Lerootid:	56896
Srcrootid:	11669	Pwsid:	16263
Srcnum:	01	Pwssrcid:	1626301
Systemname:	SEVEN LAKES TAVERN	Systemgrou:	A
Systemtype:	NTNC	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	6	Resconnect:	4
Totalconne:	4	Srcname:	SEVEN LAKES TAVERN
Srctype:	W	Srcusecode:	P
Srcwelldp:	178	Township:	31
Range :	04E	Section:	21
Qtrqtrsect:	NWSE		
Longitude:	-122.31		
Latitude:	48.16145		
Latlongmet:	QtrQtrSe	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3606527739
Priconta 1:	Not Reported	Priconta 2:	2121 FREESTAD RD
Priconta 3:	ARLINGTON	Priconta 4:	WA
Priconta 5:	98223		
Priconta 6:	Not Reported		
Pwseffecti:	01-MAR-87	Pwsstatusi:	I
Pwsinactiv:	01-MAR-87	Srcstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	01-MAR-87
Floodzonei:	N	Priconta 7:	BERNICE FREESTAD
Srswinflui:	U	Latlongdat:	Not Reported
Site id:	WA8000000004589		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
22		
ENE		
1/2 - 1 Mile	FED USGS	USGS40001285654
Higher		

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480932122165301		
Monloc name:	31N/04E-22L01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1587092
Longitude:	-122.2826469	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	460
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19010101	Welldepth:	78
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
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1944-07-18

Note: The site was dry (no water level recorded).

E23
East
1/2 - 1 Mile
Higher

FED USGS **USGS40001285602**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480924122165201		
Monloc name:	31N/04E-22L02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1565425
Longitude:	-122.28148	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refs:	NAD83	Vert measure val:	410
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type: Not Reported
 Construction date: 19810804
 Welldepth units: ft
 Wellholedepth units: ft

Welldepth: 186
 Wellholedepth: 193

Ground-water levels, Number of Measurements: 15

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1992-09-30	95.6				
1983-03-16	94.58				
Note: The site was being pumped.					
1983-02-16	94.66				
Note: The site was being pumped.					
1983-01-18	94.58				
Note: The site was being pumped.					
1982-12-17	96.20		1982-11-17	94.54	
1982-09-17	94.46		1982-07-16	94.58	
1982-06-16	95.03		1982-05-19	94.23	
1982-04-14	94.42		1982-03-16	95.67	
1982-02-16	97.77		1982-01-14	99.12	
1981-12-18	95.86				

E24
 East
 1/2 - 1 Mile
 Higher

WA WELLS WA8000000016694

Fid:	16693	Lerootid:	65933
Srrootid:	23731	Pwsid:	77660
Srnum:	07	Pwsrcid:	7766007
Systemname:	SEVEN LAKES WATER ASSOCIATION	Systemgroup:	A
Systemtype:	Comm	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Frespopul:	5557	Resconnect:	2215
Totalconne:	2223	Srname:	AAA907 WELL 6
Srctype:	W	Srusecode:	P
Srwelldep:	186	Township:	31
Range :	04E	Section:	22
Qtrtrsect:	NESW		
Longitude:	-122.2812		
Latitude:	48.15646		
Latlongmet:	GPS	Srcsuscept:	M
Srsvulnioc:	M	Srsvulnvoc:	M
Srsvulsoc:	L	Doewelltag:	AAA907
Srctot6mo:	1000	Srctot1yr:	1750
Srctot5yr:	3250	Srctot10yr:	4200
Protection:	CFR	Pricontact:	3606528192
Priconta 1:	Not Reported	Priconta 2:	17507 WEST LAKE GOODWIN RD
Priconta 3:	STANWOOD	Priconta 4:	WA
Priconta 5:	98292		
Priconta 6:	manager@7lakeswater.com		
Pwseffecti:	01-JAN-70	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srstatusi:	A
Srceffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	N	Priconta 7:	PAUL LUCAS
Srswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000016694		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

25

NNE

1/2 - 1 Mile

Higher

FED USGS

USGS40001285760

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480956122172801		
Monloc name:	31N/04E-21A04		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.165376
Longitude:	-122.2923698	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	450
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900609	Welldepth:	120
Welldepth units:	ft	Wellholedepth:	120
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
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1990-06-09	67	
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F26

NNE

1/2 - 1 Mile

Higher

FED USGS

USGS40001285745

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480953122171501		
Monloc name:	31N/04E-22D01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1645426
Longitude:	-122.2887585	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	450
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	160
Construction date:	19790801	Wellholeddepth:	160
Welldepth units:	ft		
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
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1979-08-01	102	
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F27
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40001285746

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480953122171502		
Monloc name:	31N/04E-22D02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1645426
Longitude:	-122.2887585	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	450
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19770817	Welldepth:	99
Welldepth units:	ft	Wellholeddepth:	99
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
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1977-08-30	69	
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G28
SSE
1/2 - 1 Mile
Lower

WA WELLS WA8000000005132

Fid:	5131	Lerootid:	55991
Srcrootid:	10437	Pwsid:	11918
Srcnum:	01	Pwssrcid:	1191801
Systemname:	CEDAR GROVE RESORT	Systemgrou:	A
Systemtype:	TNC	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	2	Resconnect:	2
Totalconne:	50	Srcname:	WELL
Srctype:	W	Srcusecode:	P
Srcwelldep:	65	Township:	31

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	04E	Section:	28
Qtrqtrsect:	SWNE		
Longitude:	-122.294		
Latitude:	48.14324		
Latlongmet:	QtrQtrSe	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3606527083
Priconta 1:	Not Reported	Priconta 2:	16529 52ND AVE NW
Priconta 3:	STANWOOD	Priconta 4:	WA
Priconta 5:	98292		
Priconta 6:	Not Reported		
Pwseffecti:	23-AUG-93	Pwsstatusi:	I
Pwsinactiv:	23-AUG-93	Srcstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	05-MAY-93
Floodzonei:	Y	Priconta 7:	VERN FUGE
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000005132		

G29
SSE
1/2 - 1 Mile
Lower

WA WELLS WA8000000030691

Fid:	30690	Lerootid:	63260
Srctootid:	19918	Pwsid:	53912
Srctnum:	01	Pwssrcid:	5391201
Systemname:	LAKEWIN LANE ASSOC WATERS	Sysmgrou:	B
Systemtype:	GRPB	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	2	Resconnect:	11
Totalconne:	11	Srctname:	WELL #1
Srctype:	W	Srctusecode:	P
Srctwelldep:	520	Township:	31
Range :	04E	Section:	28
Qtrqtrsect:	SWNE		
Longitude:	-122.294		
Latitude:	48.14324		
Latlongmet:	QtrQtrSe	Srcsuscept:	N
Srcvulnioc:	U	Srcvulnvoc:	H
Srcvulnsoc:	X	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3606527280
Priconta 1:	Not Reported	Priconta 2:	5017 168TH PL NW
Priconta 3:	STANWOOD	Priconta 4:	WA
Priconta 5:	98292		
Priconta 6:	sejd@me.com		
Pwseffecti:	01-NOV-88	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	Y	Priconta 7:	STEVE JANGAARD
Srcswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000030691		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

30

SW

1/2 - 1 Mile

Higher

Database

EDR ID Number

FED USGS

USGS40001285379

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480849122183401		
Monloc name:	31N/04E-28E01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.146681
Longitude:	-122.3106196	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refs:	NAD83	Vert measure val:	430
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900312	Welldepth:	235
Welldepth units:	ft	Wellholedepth:	235
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2001-10-04	183.52		2001-05-21	183.23	
1990-03-13	195				

H31

NNE

1/2 - 1 Mile

Higher

FED USGS

USGS40001285769

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480958122173201		
Monloc name:	31N/04E-21A03		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1665427
Longitude:	-122.2926477	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refs:	NAD83	Vert measure val:	450
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type: Not Reported
 Construction date: 19901129
 Welldepth units: ft
 Wellholeddepth units: ft
 Welldepth: 124
 Wellholeddepth: 124.5

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2001-10-02	70.41				
Note: The site had been pumped recently.					
1992-08-19	72.4				

32
 NE
 1/2 - 1 Mile
 Higher

FED USGS USGS40001285737

Org. Identifier: USGS-WA
 Formal name: USGS Washington Water Science Center
 Monloc Identifier: USGS-480951122170301
 Monloc name: 31N/04E-22C01
 Monloc type: Well
 Monloc desc: Not Reported
 Huc code: 17110008
 Drainagearea Units: Not Reported
 Contrib drainagearea units: Not Reported
 Longitude: -122.285425
 Horiz Acc measure: 10
 Horiz Collection method: Interpolated from map
 Horiz coord refsys: NAD83
 Vert measure units: feet
 Vert accmeasure units: feet
 Vertcollection method: Interpolated from topographic map
 Vert coord refsys: NGVD29
 Aquifername: Not Reported
 Formation type: Not Reported
 Aquifer type: Not Reported
 Construction date: 19470925
 Welldepth units: ft
 Wellholeddepth units: ft
 Drainagearea value: Not Reported
 Contrib drainagearea: Not Reported
 Latitude: 48.1639871
 Sourcemap scale: 24000
 Horiz Acc measure units: seconds
 Vert measure val: 465
 Vertacc measure val: 10
 Countrycode: US
 Welldepth: 176
 Wellholeddepth: 176

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-07-09	126	

33
 SSW
 1/2 - 1 Mile
 Higher

FED USGS USGS40001285288

Org. Identifier: USGS-WA
 Formal name: USGS Washington Water Science Center
 Monloc Identifier: USGS-480838122181401
 Monloc name: 31N/04E-28L01
 Monloc type: Well
 Monloc desc: Not Reported
 Huc code: 17110019
 Drainagearea Units: Not Reported
 Contrib drainagearea units: Not Reported
 Longitude: -122.305147
 Drainagearea value: Not Reported
 Contrib drainagearea: Not Reported
 Latitude: 48.1437088
 Sourcemap scale: 24000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Horiz Acc measure:	10	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	400
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19740126	Welldepth:	62
Welldepth units:	ft	Wellholeddepth:	62
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1974-01-30	31	

H34
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40001285786

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-481002122173201		
Monloc name:	31N/04E-16R01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1670427
Longitude:	-122.293481	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	450
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19770222	Welldepth:	118
Welldepth units:	ft	Wellhoieddepth:	118
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1981-12-18	64.74		1981-09-17	66.33	
1977-03-08	69				

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

35

WNW
1/2 - 1 Mile
Higher

Database EDR ID Number

WA WELLS WA8000000014811

Fid:	14810	Lerootid:	61713
Srcrootid:	17964	Pwsid:	44627
Srcnum:	02	Pwssrcid:	4462702
Systemname:	LAKEWOOD WEST WATER ASSOCIATION	Systemgrou:	A
Systemtype:	Comm	Region:	NW
County:	SNOHOMISH	Smaid:	128
Ftrespopul:	75	Resconnect:	26
Totalconne:	26	Srcname:	AGB957 WELL 2
Srctype:	W	Srcusecode:	P
Srcwelldep:	380	Township:	31
Range :	04E	Section:	20
Qtrqtrsect:	SENE		
Longitude:	-122.31594		
Latitude:	48.15956		
Latlongmet:	GPS	Srcsuscept:	M
Srcvulnioc:	M	Srcvulnvoc:	M
Srcvulnsoc:	L	Doewelltag:	AGB957
Srctot6mo:	700	Srctot1yr:	980
Srctot5yr:	2200	Srctot10yr:	3110
Protection:	CFR	Pricontact:	3606785336
Priconta 1:	KING WATER CO	Priconta 2:	PO BOX 2243
Priconta 3:	OAK HARBOR	Priconta 4:	WA
Priconta 5:	98277		
Priconta 6:	sandra@kingwater.biz		
Pwseffecti:	01-JAN-88	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	19-JUN-95	Srcinactiv:	Not Reported
Floodzonei:	N	Priconta 7:	SANDRA BODAMER
Srcswinfl:	U	Latlongdat:	Not Reported
Site id:	WA8000000014811		

36

West
1/2 - 1 Mile
Higher

WA WELLS WA8000000004113

Fid:	4112	Lerootid:	54353
Srcrootid:	8361	Pwsid:	07581
Srcnum:	02	Pwssrcid:	0758102
Systemname:	WHITESIDE HOMEOWNERS ASSOCIATION	Systemgrou:	A
Systemtype:	Comm	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	90	Resconnect:	27
Totalconne:	27	Srcname:	WELL #2 AGB543
Srctype:	W	Srcusecode:	P
Srcwelldep:	160	Township:	31

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	04E	Section:	21
Qtrqtrsect:	SWSW		
Longitude:	-122.31729		
Latitude:	48.15507		
Latlongmet:	GPS	Srcsuscept:	H
Srcvulnioc:	M	Srcvulnvoc:	M
Srcvulnsoc:	L	Doewelltag:	AGB543
Srcot6mo:	220	Srcot1yr:	310
Srcot5yr:	700	Srcot10yr:	980
Protection:	CFR	Prcontact:	3604664443
Prconta 1:	WATER & WASTEWATER SERVICE	Prconta 2:	14263 CALHOUN RD
Prconta 3:	MOUNT VERNON	Prconta 4:	WA
Prconta 5:	98273		
Prconta 6:	kellyw@wwsvc.com		
Pwseffecti:	01-AUG-81	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srcseffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	N	Prconta 7:	KELLY WYNN
Srcswinfl:	U	Latlongdat:	Not Reported
Site id:	WA8000000004113		

37
SSE
1/2 - 1 Mile
Lower

WA WELLS WA8000000009680

Fid:	9679	Lerootid:	63157
Srcrootid:	19780	Pwsid:	53152
Srcnum:	01	Pwsscid:	5315201
Systemname:	MCREYNOLDS WATER SYSTEM	Systemmgrou:	B
Systemtype:	GRPB	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	6	Resconnect:	1
Totalconne:	2	Srcname:	WELL #1
Srcrctype:	W	Srcusecode:	P
Srcwelldep:	170	Township:	31
Range :	04E	Section:	27
Qtrqtrsect:	SENW		
Longitude:	-122.288		
Latitude:	48.14321		
Latlongmet:	QtrQtrSe	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srcot6mo:	0	Srcot1yr:	0
Srcot5yr:	0	Srcot10yr:	0
Protection:	Assigned	Prcontact:	0005751181
Prconta 1:	Not Reported	Prconta 2:	16830 E LK GOODWIN RD
Prconta 3:	STANWOOD	Prconta 4:	WA
Prconta 5:	98292		
Prconta 6:	Not Reported		
Pwseffecti:	01-AUG-89	Pwsstatusi:	I
Pwsinactiv:	01-AUG-89	Srcstatusi:	I
Srcseffecti:	01-JAN-70	Srcinactiv:	01-AUG-89
Floodzonei:	Y	Prconta 7:	DEAN MCREYNOLDS
Srcswinfl:	U	Latlongdat:	Not Reported
Site id:	WA8000000009680		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

I38

North
1/2 - 1 Mile
Higher

Database EDR ID Number

FED USGS USGS40001285800

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-481006122175501		
Monloc name:	31N/04E-16Q01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1681538
Longitude:	-122.2998703	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	380
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19820521	Welldepth:	131
Welldepth units:	ft	Wellholedepth:	131
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

	Feet below	Feet to
Date	Surface	Sealevel

1982-05-21 85

39

NNW
1/2 - 1 Mile
Higher

FED USGS USGS40001285787

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-481003122180801		
Monloc name:	31N/04E-16P01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1677371
Longitude:	-122.3030926	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	365
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type: Not Reported
 Construction date: 19890824
 Welldepth units: ft
 Wellholeddepth units: ft
 Welldepth: 150
 Wellholeddepth: 151

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2001-10-02	120.45		1992-08-17	120	

J40
 North
 1/2 - 1 Mile
 Higher

FED USGS USGS40001285799

Org. Identifier: USGS-WA
 Formal name: USGS Washington Water Science Center
 Monloc Identifier: USGS-481006122173501
 Monloc name: 31N/04E-16R02
 Monloc type: Well
 Monloc desc: Not Reported
 Huc code: 17110008
 Drainagearea Units: Not Reported
 Contrib drainagearea units: Not Reported
 Longitude: -122.2943145
 Horiz Acc measure: 5
 Horiz Collection method: Interpolated from map
 Horiz coord refs: NAD83
 Vert measure units: feet
 Vert accmeasure units: feet
 Vertcollection method: Interpolated from topographic map
 Vert coord refs: NGVD29
 Aquifername: Not Reported
 Formation type: Not Reported
 Aquifer type: Not Reported
 Construction date: 19790529
 Welldepth units: ft
 Wellholeddepth units: ft
 Drainagearea value: Not Reported
 Contrib drainagearea: Not Reported
 Latitude: 48.1681538
 Sourcemap scale: 24000
 Horiz Acc measure units: seconds
 Vert measure val: 450
 Vertacc measure val: 10
 Countrycode: US
 Welldepth: 65
 Wellholeddepth: 65

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1979-05-31	41	

41
 SW
 1/2 - 1 Mile
 Higher

WA WELLS WA8000000027118

Fid: 27117
 Srcrootid: 5126
 Srcnum: 02
 Systemname: ROCKY POINT COMMUNITY CL
 Systemtype: Comm
 County: ISLAND
 Ftrespopul: 320
 Totalconne: 156
 Srcetype: W
 Srcwelldep: 200
 Lerootid: 51401
 Pwsid: 04629
 Pwssrcid: 0462902
 Systemgrou: A
 Region: NW
 Smaid: 128
 Resconnect: 156
 Srcname: APH299 RPCC 2
 Srcusecode: P
 Township: 32

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	02E	Section:	22
Qtrqtrsect:	NESE		
Longitude:	-122.313777		
Latitude:	48.146665		
Latlongmet:	Map	Srctot1yr:	310
Srctot6mo:	220	Srctot10yr:	980
Srctot5yr:	700	Prcontact:	Not Reported
Protection:	CFR	Prconta 2:	Not Reported
Prconta 1:	Not Reported	Prconta 4:	Not Reported
Prconta 3:	Not Reported		
Prconta 5:	Not Reported		
Prconta 6:	Not Reported		
Pwseffecti:	Not Reported	Pwsstatusi:	Not Reported
Pwsinactiv:	Not Reported	Srctstatusi:	Not Reported
Srceffecti:	Not Reported	Srcinactiv:	Not Reported
Floodzonei:	Not Reported	Prconta 7:	Not Reported
Srctwinflu:	Not Reported	Latlongdat:	Not Reported
Site id:	WA8000000027118		

42
SSW
1/2 - 1 Mile
Higher

FED USGS USGS40001285191

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480827122181201		
Monloc name:	31N/04E-28P02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1419865
Longitude:	-122.3046747	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	430
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900319	Welldepth:	79
Welldepth units:	ft	Wellholedepth:	80
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2001-10-05	48.24		1992-08-20	46.7	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

J43

North
1/2 - 1 Mile
Higher

Database EDR ID Number

WA WELLS WA8000000025369

Fid:	25368	Lerootid:	53948
Srcrootid:	7901	Pwsid:	07176
Srnum:	01	Pwssrcid:	0717601
Systemname:	SHORT PLAT 191-70 WATER SYSTEM	Systemgrou:	B
Systemtype:	GRPB	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	12	Resconnect:	4
Totalconne:	4	Srname:	WELL 01
Srctype:	W	Srusecode:	P
Srwelldep:	150	Township:	31
Range :	04E	Section:	16
Qtrqtrsect:	SESE		
Longitude:	-122.294454		
Latitude:	48.168418		
Latlongmet:	QtrQtrSection	Srctot6mo:	0
Srctot6mo:	0	Srctot5yr:	0
Srctot5yr:	0	Protection:	Assigned
Protection:	Assigned	Priconta 1:	Not Reported
Priconta 1:	Not Reported	Priconta 3:	STANWOOD
Priconta 3:	STANWOOD	Priconta 5:	98292
Priconta 5:	98292	Priconta 6:	Not Reported
Priconta 6:	Not Reported	Pwseffecti:	01-MAR-81
Pwseffecti:	01-MAR-81	Pwsinactiv:	Not Reported
Pwsinactiv:	Not Reported	Srceffecti:	01-JAN-70
Srceffecti:	01-JAN-70	Floodzonei:	N
Floodzonei:	N	Srswinflu:	U
Srswinflu:	U	Site id:	WA8000000025369
Site id:	WA8000000025369		

I44

North
1/2 - 1 Mile
Higher

WA WELLS WA8000000004951

Fid:	4950	Lerootid:	56567
Srcrootid:	11245	Pwsid:	14767
Srnum:	01	Pwssrcid:	1476701
Systemname:	RIDGECREST WATER SYSTEM	Systemgrou:	B
Systemtype:	GRPB	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	18	Resconnect:	7
Totalconne:	7	Srname:	WELL #1
Srctype:	W	Srusecode:	P
Srwelldep:	155	Township:	31

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Range :	04E	Section:	16
Qtrqtrsect:	SWSE		
Longitude:	-122.299		
Latitude:	48.16864		
Latlongmet:	QtrQtrSe	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	4252590031
Priconata 1:	Not Reported	Priconata 2:	4929 188TH ST NW
Priconata 3:	STANWOOD	Priconata 4:	WA
Priconata 5:	98292		
Priconata 6:	Not Reported		
Pwseffecti:	01-DEC-82	Pwsstatusi:	A
Pwsinactiv:	Not Reported	Srcstatusi:	A
Srceffecti:	01-JAN-70	Srcinactiv:	Not Reported
Floodzonei:	N	Priconata 7:	ALVINA DOWNEY
Srswinflu:	U	Latlongdat:	Not Reported
Site id:	WA8000000004951		

45
East
1/2 - 1 Mile
Higher

WA WELLS WA80000000025953

Fid:	25952	Lerootid:	62259
Srcrootid:	18662	Pwsid:	47644
Srctnum:	01	Pwssrcid:	4764401
Systemname:	LOCH-O-RAMA	Systemgrou:	A
Systemtype:	Comm	Region:	NW
County:	SNOHOMISH	Smaid:	Not Reported
Ftrespopul:	63	Resconnect:	19
Totalconne:	19	Srctname:	WELL #1
Srcttype:	W	Srctusecode:	P
Srctwelldep:	200	Township:	31
Range :	04E	Section:	22
Qtrqtrsect:	SWNW		
Longitude:	-122.277		
Latitude:	48.15755		
Latlongmet:	QtrQtrSe	Srcsuscept:	U
Srcvulnioc:	Not Reported	Srcvulnvoc:	Not Reported
Srcvulnsoc:	Not Reported	Doewelltag:	Not Reported
Srctot6mo:	0	Srctot1yr:	0
Srctot5yr:	0	Srctot10yr:	0
Protection:	Assigned	Pricontact:	3606530677
Priconata 1:	Not Reported	Priconata 2:	P O BOX 221
Priconata 3:	STANWOOD	Priconata 4:	WA
Priconata 5:	98292		
Priconata 6:	Not Reported		
Pwseffecti:	12-JUN-92	Pwsstatusi:	I
Pwsinactiv:	12-JUN-92	Srcstatusi:	I
Srceffecti:	01-JAN-70	Srcinactiv:	12-JUN-92
Floodzonei:	N	Priconata 7:	JIM LINDEN
Srswinflu:	U	Latlongdat:	Not Reported
Site id:	WA80000000025953		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

46
NNE
1/2 - 1 Mile
Higher

Database EDR ID Number

FED USGS USGS40001285785

Org. Identifier: USGS-WA
Formal name: USGS Washington Water Science Center
Monloc Identifier: USGS-481002122171601
Monloc name: 31N/04E-15N01
Monloc type: Well
Monloc desc: Not Reported
Huc code: 17110008
Drainagearea Units: Not Reported
Contrib drainagearea units: Not Reported
Longitude: -122.2887587
Horiz Acc measure: .5
Horiz Collection method: Global positioning system (GPS), uncorrected
Horiz coord refsys: NAD83
Vert measure units: feet
Vert accmeasure units: feet
Vertcollection method: Interpolated from topographic map
Vert coord refsys: NGVD29
Aquifername: Not Reported
Formation type: Not Reported
Aquifer type: Not Reported
Construction date: 19790803
Welldepth units: ft
Wellholeddepth units: ft
Drainagearea value: Not Reported
Contrib drainagearea: Not Reported
Latitude: 48.1676816
Sourcemap scale: 24000
Horiz Acc measure units: seconds
Vert measure val: 450
Vertacc measure val: 10
Countrycode: US
Welldepth: 115
Wellholeddepth: 115

Ground-water levels, Number of Measurements: 8

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1983-03-16	67.42		1982-12-16	69.56	
1982-09-17	68.85		1982-06-16	67.16	
1982-04-14	65.55		1981-12-18	68.22	
1981-09-17	69.75		1979-08-14	70	

47
ESE
1/2 - 1 Mile
Higher

FED USGS USGS40001285443

Org. Identifier: USGS-WA
Formal name: USGS Washington Water Science Center
Monloc Identifier: USGS-480856122163801
Monloc name: 31N/04E-27B01
Monloc type: Well
Monloc desc: Not Reported
Huc code: 17110008
Drainagearea Units: Not Reported
Contrib drainagearea units: Not Reported
Longitude: -122.278535
Drainagearea value: Not Reported
Contrib drainagearea: Not Reported
Latitude: 48.1486535
Sourcemap scale: 24000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	500
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19930817	Welldepth:	220
Welldepth units:	ft	Wellholedepth:	220
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2001-06-06	181.69		1993-08-18	183	

48
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40001285778

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-481001122170401		
Monloc name:	31N/04E-15P02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1667649
Longitude:	-122.2857029	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	460
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19910903	Welldepth:	105
Welldepth units:	ft	Wellholedepth:	107
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1992-08-13	74.83		1991-09-03	75	

K49
ENE
1/2 - 1 Mile
Higher

FED USGS USGS40001285680

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480939122163601		
Monloc name:	31N/04E-22G01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1606537
Longitude:	-122.2779245	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	450
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19770228	Welldepth:	146
Welldepth units:	ft	Wellholedepth:	146
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1977-03-14	118	

K50
ENE
1/2 - 1 Mile
Higher

FED USGS USGS40001285681

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480939122163602		
Monloc name:	31N/04E-22G02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.1606537
Longitude:	-122.2779245	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	450
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type: Not Reported
Construction date: 19810115
Welldepth units: ft
Wellholedepth units: ft

Welldepth: 172
Wellholedepth: 172

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
------	-----------------------	---------------------

1981-01-15	126	
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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for SNOHOMISH County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level \geq 2 pCi/L and \leq 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 98292

Number of sites tested: 3

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.167 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Ecology

Telephone: 360-407-6121

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Wells

Source: Department of Health

Telephone: 360-236-3148

Group A and B well locations.

Water Well Listing

Source: Public Utility District

Telephone: 206-779-7656

A listing of water well locations in Kitsap County.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Listing

Source: Department of Natural Resources

Telephone: 360-902-1450

Locations that represent oil and gas test well sites in Washington State from 1890 to present.

RADON

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX II

TERRESTRIAL ECOLOGICAL EVALUATION (TEE)

Terrestrial Ecological Evaluation Process- Simplified or Site-Specific Evaluation?

Documentation Form

	Terrestrial Concern	Response (Circle One)
*1	Is the site is located on or directly adjacent to an area where management or land use plans will maintain or restore <u>native</u> or <u>semi-native</u> vegetation?	Yes / <u>No</u>
*2a	Is the site used by a <u>threatened or endangered species</u> ?	Yes / <u>No</u>
*2b	Is the site used by a <u>wildlife species classified by the state department of fish and wildlife as a "priority species" or "species of concern" under Title 77 RCW?</u>	Yes / <u>No</u>
*2c	Is the site used by a <u>plant species classified by the Washington state department of Natural Resources natural heritage program as "endangered," "threatened," or "sensitive" under Title 79 RCW.</u>	Yes / <u>No</u>
*3	Is the site (area where the contamination is located) located on a property that contains at least ten acres of <u>native vegetation</u> within 500 feet of the area where the contamination is located?	Yes / <u>No</u>
4	Has the department determined that the site may present a risk to significant wildlife populations?	Yes / <u>No</u>

*1 This includes for example, green-belts, protected wetlands, forestlands, locally designated environmentally sensitive areas, open space areas managed for wildlife, and some parks or outdoor recreation areas. This does not include park areas used for intensive sport activities such as baseball or football.

*2a What are the threatened or endangered species in Washington state?

*2b Which plant species are classified as threatened, endangered, or sensitive? Where can I find out more information about this topic?

*2c For plants, "used" means that a plant species grows at the site or has been found growing at the site. For animals, "used" means that individuals of a species have been observed to live, feed or breed at the site.

*3 For this analysis, do not include native vegetation beyond the property boundary.

Table 749-1

Simplified Terrestrial Ecological Evaluation – Exposure Analysis Procedure under WAC 173-340-7492(2)(a)(ii).^a

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre). "Undeveloped land" means land that is not covered by existing buildings, roads, paved areas or other barriers that will prevent wildlife from feeding on plants, earthworms, insects or other food in or on the soil.																					
1) From the table below, find the number of points corresponding to the area and enter this number in the box to the right.	10																				
<table border="1"> <thead> <tr> <th>Area (acres)</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>0.25 or less</td> <td>4</td> </tr> <tr> <td>0.5</td> <td>5</td> </tr> <tr> <td>1.0</td> <td>6</td> </tr> <tr> <td>1.5</td> <td>7</td> </tr> <tr> <td>2.0</td> <td>8</td> </tr> <tr> <td>2.5</td> <td>9</td> </tr> <tr> <td>3.0</td> <td>10</td> </tr> <tr> <td>3.5</td> <td>11</td> </tr> <tr> <td>4.0 or more</td> <td>12</td> </tr> </tbody> </table>	Area (acres)	Points	0.25 or less	4	0.5	5	1.0	6	1.5	7	2.0	8	2.5	9	3.0	10	3.5	11	4.0 or more	12	
Area (acres)	Points																				
0.25 or less	4																				
0.5	5																				
1.0	6																				
1.5	7																				
2.0	8																				
2.5	9																				
3.0	10																				
3.5	11																				
4.0 or more	12																				
2) Is this an industrial or commercial property? See WAC 173-340-7490(3)(c). If yes, enter a score of 3 in the box to the right. If no, enter a score of 1.	3																				
3) Enter a score in the box to the right for the habitat quality of the site, using the rating system shown below ^b . (High = 1, Intermediate = 2, Low = 3)	3																				
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2. See footnote c.	1																				
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	4																				
6) Add the numbers in the boxes on lines 2 through 5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified terrestrial ecological evaluation may be ended under WAC 173-340-7492 (2)(a)(ii).	11																				

Footnotes:

- a It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score (1) for questions 3 and 4.
- b **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:
Low: Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.
High: Area is ecologically significant for one or more of the following reasons: Late-successional native plant communities present; relatively high species diversity; used by an uncommon or rare species; priority habitat (as defined by the Washington Department of Fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.
Intermediate: Area does not rate as either high or low.
- c Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use by mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.

APPENDIX III

SUBSURFACE INVESTIGATION REPORT

Subsurface Investigation Report

**Lake Goodwin Gas Station
4726 Lakewood Road
Stanwood, WA**

Prepared for:

*Ms. Karen Ryan
Lake Goodwin Gas Station
4726 Lakewood Road
Stanwood, WA*

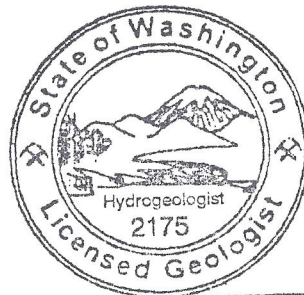
Submitted by:

*Slotta Design & Construction SD&C
PO Box 2071
Kirkland, WA 98083*

September 27, 2016



Timothy S. Slotta L.G. L.H.G. L.E.G.
Washington Hydrogeologist #2175



Timothy S. Slotta

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I	Boring Logs
II	Laboratory Analytical Reports

1.0 INTRODUCTION

1.1 General

Slotta Design and Consulting (SD&C) has prepared this Subsurface Investigation Report based upon recent communications with the Washington Department of Ecology (Ecology) regarding the Voluntary Cleanup Program (VCP # NW2974) review of the Lake Goodwin Gas Station site located at 4726 Lakewood Road in Stanwood, WA (Site). Ecology requested that additional groundwater investigation be conducted to evaluate the potential downgradient impacts between the spill area at the Site and Lake Goodwin.

1.2 Site and Vicinity Description

Lake Goodwin Resort conducts fuel distribution operations at its facility located in a rural/recreational area southeast of the town of Stanwood, Washington (Figure 1). The irregular-shaped property located on the rural Lake Goodwin northern shoreline is approximately 6.79 acres in size (Property). The property is comprised of 13 parcels that together are used mainly as a recreational vehicle (RV) resort (Figure 2). The property includes the Lake Goodwin Grocery, a 1926-vintage convenience store with an office, and a 1998-vintage gas station canopy with two operational underground storage tanks (USTs). The grocery store and fuel distribution canopy are located on the north central portion of the property adjacent to Lakewood Road, and the USTs and pump island dispensers are located west of the convenience store building. The two petroleum storage tanks include one 8,000 gallon tank, and one 12,000 gallon tank. The USTs are serviced by two pump islands with a total of four product dispensers. The area in the immediate vicinity of the building is mostly concrete and asphalt paved and used for parking and fuel distribution. The principal Property features as they relate to the grocery store building are illustrated in Figure 2.

The Property is generally level, sloping very gradually toward Lake Goodwin, which borders the Property to the south/southeast. The RV Park, comprising most of the Property, the store, and gasoline dispensing facility is bordered to the west by undeveloped land and to the east by Snohomish County's Lake Goodwin Park. Rural and residential properties border Lakewood Road to the North of the Property.

1.3 Background

On December 11, 2013 a Harris Distributing employee spilled gasoline onto the ground while delivering fuel at the Site. The spill spread toward the southern edge of the gas station portion of the Site along the existing fence line. A water control well (PW-1) adjacent to the USTs, contained 18" of floating gasoline product on the water surface and groundwater samples were collected from three monitoring wells in the vicinity of the release area (MW-4, 5, and 6) which contained petroleum hydrocarbon compounds (PHC) at concentrations which exceeded MTCA method A cleanup levels.

During March 2014, SD&C directed the excavation in the gasoline release area, and a total of 39.1 tons of Class 3 PHC impacted soil was removed and disposed off-site at Cemex USA (CEMEX) located in Everett, WA. At the completion of the excavation activities, confirmation soil samples were collected that did not exceed MTCA Method A cleanup levels.

Groundwater monitoring and remediation activities were also conducted, including retrofitting the PW-1 discharge to the grass swale with parallel 55-gallon carbon filters and installing an air “sparging” system. The system at PW-1 was composed of a Rotron-blower connected with subsurface 2” PVC piping to sparge beneath the groundwater surface. SD&C conducted quarterly groundwater monitoring at PW-1 and the three groundwater monitoring wells (MW-4, 5 and 6) between March 2013 and December 2015. The results of groundwater samples collected at the Site confirm that PHC concentrations have been below applicable MTCA Method A cleanup levels for four consecutive quarters.

Ecology requested additional sampling at the Property to determine whether impacts from the December 2015 release have migrated to Lake Goodwin. The investigation described in this report was designed and implemented to address this issue.

2.0 FIELD ACTIVITIES

2.1 Scope of Work

The following scope of work was developed to collect soil and groundwater samples downgradient of the release area, towards Lake Goodwin:

1. A Geoprobe was used to conduct three borings to depth 9-10 feet below ground surface (bgs).
2. The geology at each probe location was logged, and soil collected in plastic lined probe sleeves was screened for the presence of organic vapors.
3. Groundwater samples were collected for laboratory analysis from each of the probes.
4. This summary report was prepared to document investigative activities at the Property, present the results of soil and groundwater samples collected, and provide conclusions and recommendations.

2.2 Subsurface Borings

Holocene Drilling of Puyallup, WA was contracted to conduct the borings and collect the groundwater samples on September 9, 2016. The State of Washington one-call utility locating service was previously contacted one week prior to field work, and a private utility locator, CNI, was onsite along with facility personnel to clear each location prior to boring. The boring locations are illustrated in Figure 2 and the logs that describe the subsurface lithology are included as Appendix II. The borings were conducted in the closest downgradient location that could be accessed by the Geoprobe equipment, and not be encumbered by the septic mounds located directly south of the fueling islands.

The borings were conducted in the gravel access roadway at the RV Park which connects the off-leash dog park with the trailer park. The boring GP-1 was located approximately 10 feet to the south and east of the grass-lined surface water discharge swale, GP-2 was located approximately 10 feet south and east of the southwest corner of the septic mound, and GP-3 was located approximately 10 feet southeast of the facility maintenance building.

The soil encountered in the borings was consistent with the other explorations at the Site. The subsurface soil beneath the crushed rock driveway was underlain at a depth of two feet by brown coarse sand with gravel, a native gray silty fine to coarse sand at a depth of 3 ft. bgs, which is underlain at a depth of approximately 8 ft. bgs by very dense Glacial Till. The Till material is comprised of a gray cemented sandy silt with gravel, that creates an aquitard in the area. Soil encountered in the borings did not have obvious visual or olfactory signs of impact from PHCs. Soil samples were collected from the plastic lined sleeves from each of the probes from a depth of 4 feet bgs, above the apparent groundwater level at the time of boring.

2.3 Groundwater Sampling

Groundwater samples were collected directly from each probe using a low flow peristaltic pump into pre-prepared laboratory glassware for volatile organic analysis (40 mL glass vials with Teflon-lined septum caps). The vials contained two drops 1:1 HCL. Two vials were collected from each sampling location. The vials were labeled in accordance with their sampling location including the date, time, and project name. The vials were placed in iced coolers at 4-degrees Celsius for storage until delivery to the laboratory. The groundwater samples collected from the borings did not have a sheen or odor of PHCs.

3.0 CHEMICAL ANALYSES AND RESULTS

3.1 Laboratory Analyses for Soil and Groundwater Samples

The groundwater samples were submitted under chain of custody to ALS Laboratory located in Everett, WA, for analysis for the following PHCs:

- Gasoline using Ecology Method NWTPH-Gx,
- Benzene, Toluene, Ethyl Benzene, and Xylenes using EPA Method 8021B;

The laboratory reports for all of the samples collected are included in Appendix II to this report.

3.2 Results of Soil Sample Analysis

Laboratory results for the soil samples collected from the three borings at 4-feet bgs did not contain detectable concentrations of PHCs and did not exceed the Method A cleanup levels.

3.3 Results of Groundwater Sample Analysis

Laboratory results for groundwater samples did not contain detectable concentrations of PHCs with the exception of toluene in the sample from GP-3. GP-3 contained toluene at 1.3 ug/L which is below the MTCA Method A cleanup level of 1,000 ug/L.

4.0 SUMMARY AND CONCLUSIONS

Ecology requested that an additional groundwater investigation be conducted at the Lake Goodwin Gas Station Site to evaluate the potential downgradient impacts. On September 9, 2016, SD&C directed the installation of three subsurface borings to collect soil and groundwater samples south of the gas station facility in the direction of Lake Goodwin. Laboratory results of soil and groundwater samples collected from the borings did not indicate the presence of PHCs in borings GP-1 or GP-2. The groundwater sample from GP-3 had a low level detection of toluene, and no other PHCs detected. Based on the results of the subsurface investigation conducted downgradient of the site, the soil and groundwater do not appear to be impacted by PHCs.

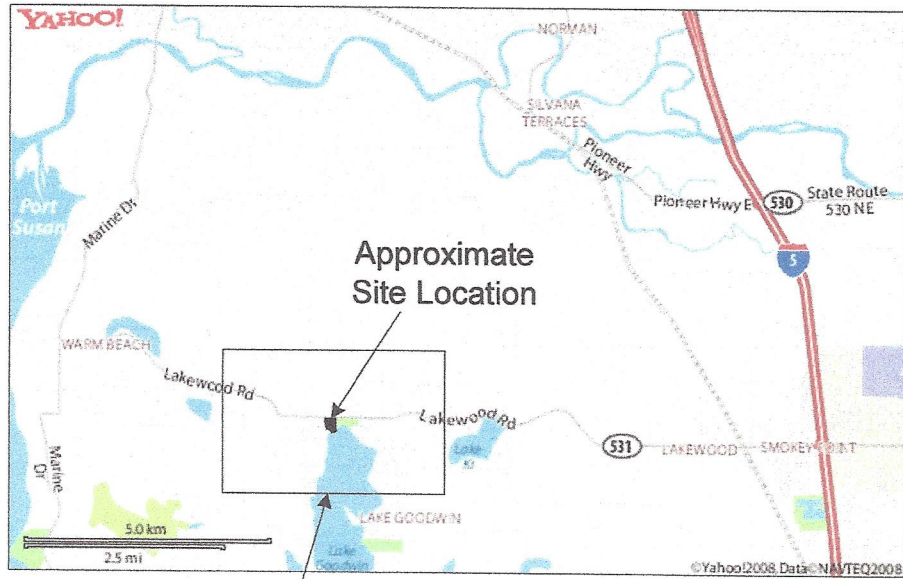
5.0 LIMITATIONS

SD&C conclusions are based on conditions encountered at the time of field activities, information provided to SD&C, and the results of qualitative sampling. The opinions expressed in this report reflect our best estimate of the project requirements based on an evaluation of the subsurface conditions encountered at the sampling locations, and the assumption that the soil and groundwater conditions in proximity to the sample sites do not deviate appreciably from those examined. Any unusual conditions not identified during these cleanup activities should be brought to the attention of SD&C so that modifications may be made to this report if necessary.

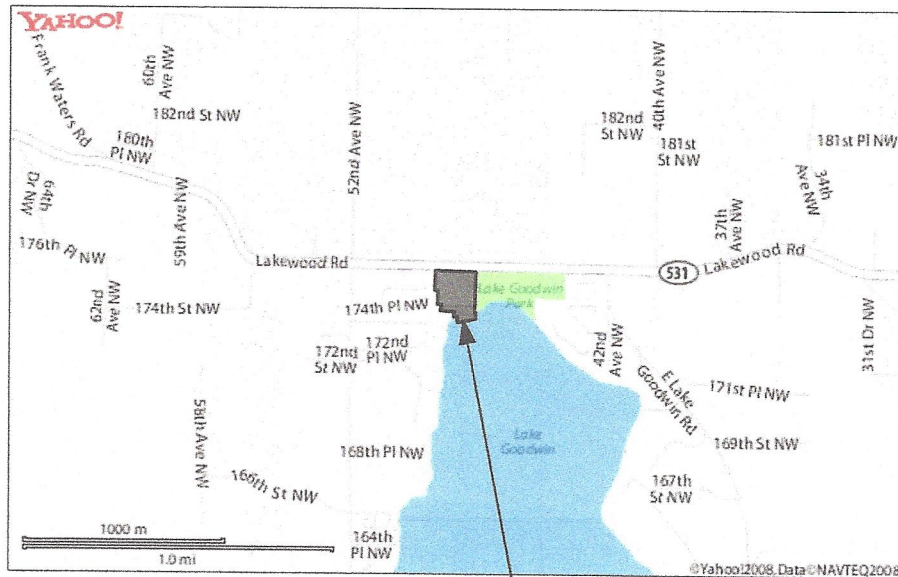
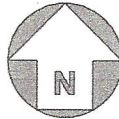
SD&C's work was performed in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

6.0 REFERENCES

Ecology. October 1992. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. Washington State Department of Ecology, Olympia, Washington. 35 pp.

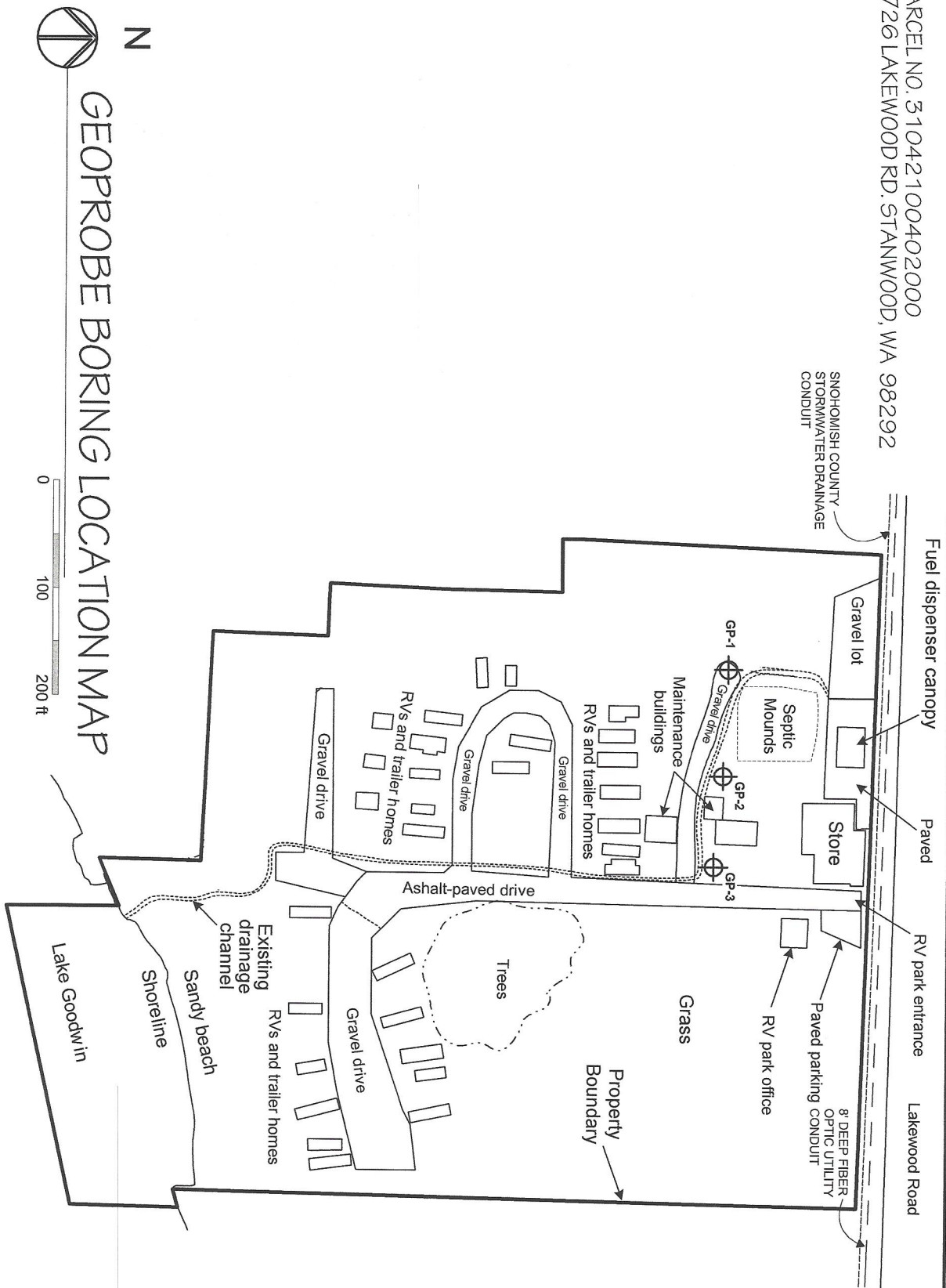


Area enlarged below



Lake Goodwin Gas Station
and RV Resort
4726 Lakewood Road
Stanwood, WA 98292

PARCEL NO. 31042100402000
 4726 LAKEWOOD RD. STANWOOD, WA 98292



GEOPROBE BORING LOCATION MAP

FIGURE 2

GEOPROBE
BORING
LOCATION
MAP

LAKE GOODWIN GROCERY

4726 Lakewood Rd.
 Stanwood, WA

Slotta Design & Consulting

P.O. Box 2071 Kirkland, WA 98083
 (206) 459-5775

APPENDIX I

Boring Logs

Project Lake Goodwin Gas Station Location 4726 Lakewood Road, Stanwood, WA
Date: 9-8-16 Subcontractor and Equipment Holocene Drilling, Geoprobe

Penetration Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Soil Classification
			0	Roadbase Gravel – Gray Angular 5/8-minus Crushed <u>ROCK</u>	
			1	Tan/Brown Silty Fine to Coarse <u>SAND</u> with Gravel ¼”- ½” Sub-Rounded, Damp, Medium Dense	SM
			2		
			3		
			4	Gray Silty Fine to Coarse <u>SAND</u> with Gravel ¼”- ½” Sub-Rounded, Wet, Dense	SM
GP-1@ 4'			5		
			6	No Petroleum Hydrocarbon Odor	
			7	Becomes Saturated	
			8	Gray Fine to Medium Sandy <u>SILT</u> with Gravel ¼”- ½” Sub-Angular, Cemented	ML
			9		
END OF BORING					

SD&C

Boring Log

Boring: GP-1

Project Lake Goodwin Gas Station Location 4726 Lakewood Road, Stanwood, WA
Date: 9-8-16 Subcontractor and Equipment Holocene Drilling, Geoprobe

Penetration Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Soil Classification
			0	Roadbase Gravel – Gray Angular 5/8-minus Crushed <u>ROCK</u>	
			1	Tan/Brown Silty Fine to Coarse <u>SAND</u> with Gravel ¼”- ½” Sub-Rounded, Damp, Medium Dense	SM
			2		
			3		
	GP-2 @ 4’		4	Gray Silty Fine to Coarse <u>SAND</u> with Gravel ¼”- ½” Sub-Rounded, Wet, Dense Becomes Saturated	SM
			5		
			6	No Petroleum Hydrocarbon Odor	
			7		
			8	Gray Fine to Medium Sandy <u>SILT</u> with Gravel ¼”- ½” Sub-Angular, Cemented	ML
			9		
END OF BORING					

Project Lake Goodwin Gas Station Location 4726 Lakewood Road, Stanwood, WA
 Date: 9-8-16 Subcontractor and Equipment Holocene Drilling, Geoprobe

Penetration Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Soil Classification
			0	Roadbase Gravel – Gray Angular 5/8-minus Crushed <u>ROCK</u>	
			1	Tan/Brown Silty Fine to Coarse <u>SAND</u> with Gravel ¼”- ½” Sub-Rounded, Damp, Medium Dense	SM
			2		
			3		
			4	Gray Silty Fine to Coarse <u>SAND</u> with Gravel ¼”- ½” Sub-Rounded, Moist, Dense	SM
GP-3 @ 4'			5		
			6	No Petroleum Hydrocarbon Odor	
			7	Becomes Saturated	
			8	Gray Fine to Medium Sandy <u>SILT</u> with Gravel ¼”- ½” Sub-Angular, Cemented	ML
			9		

END OF BORING

SD&C

Boring Log

Boring: GP-3

APPENDIX II

|

Laboratory Analytical Reports



September 12, 2016

Mr. Tim Slotta
SD & C
PO Box 2071
Kirkland, WA 98083

Dear Mr. Slotta,

On September 8th, 6 samples were received by our laboratory and assigned our laboratory project number EV16090041. The project was identified as your Lk Goodwin. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083
CLIENT CONTACT: Tim Slotta
CLIENT PROJECT: Lk Goodwin
CLIENT SAMPLE ID: GP-1

DATE: 9/12/2016
ALS JOB#: EV16090041
ALS SAMPLE#: EV16090041-01
DATE RECEIVED: 09/08/2016
COLLECTION DATE: 9/8/2016 9:00:00 AM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/09/2016	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	09/09/2016	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	09/09/2016	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/09/2016	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	09/09/2016	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	94.8	09/09/2016	PAB
TFT	EPA-8021	93.4	09/09/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083
DATE: 9/12/2016
ALS JOB#: EV16090041
ALS SAMPLE#: EV16090041-02
CLIENT CONTACT: Tim Slotta
DATE RECEIVED: 09/08/2016
CLIENT PROJECT: Lk Goodwin
COLLECTION DATE: 9/8/2016 9:00:00 AM
CLIENT SAMPLE ID: GP-1@4'
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	09/08/2016	PAB
Benzene	EPA-8021	U	0.030	1	MG/KG	09/08/2016	PAB
Toluene	EPA-8021	U	0.050	1	MG/KG	09/08/2016	PAB
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	09/08/2016	PAB
Xylenes	EPA-8021	U	0.20	1	MG/KG	09/08/2016	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	103	09/08/2016	PAB
TFT	EPA-8021	100	09/08/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083

CLIENT CONTACT: Tim Slotta
CLIENT PROJECT: Lk Goodwin
CLIENT SAMPLE ID: GP-2

DATE: 9/12/2016
ALS JOB#: EV16090041
ALS SAMPLE#: EV16090041-03
DATE RECEIVED: 09/08/2016
COLLECTION DATE: 9/8/2016 10:30:00 AM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/09/2016	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	09/09/2016	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	09/09/2016	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/09/2016	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	09/09/2016	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	95.5	09/09/2016	PAB
TFT	EPA-8021	94.7	09/09/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083

DATE: 9/12/2016

ALS JOB#: EV16090041

ALS SAMPLE#: EV16090041-04

CLIENT CONTACT: Tim Slotta

DATE RECEIVED: 09/08/2016

CLIENT PROJECT: Lk Goodwin

COLLECTION DATE: 9/8/2016 10:30:00 AM

CLIENT SAMPLE ID GP-2@4'

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	09/08/2016	PAB
Benzene	EPA-8021	U	0.030	1	MG/KG	09/08/2016	PAB
Toluene	EPA-8021	U	0.050	1	MG/KG	09/08/2016	PAB
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	09/08/2016	PAB
Xylenes	EPA-8021	U	0.20	1	MG/KG	09/08/2016	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	98.1	09/08/2016	PAB
TFT	EPA-8021	98.0	09/08/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083

CLIENT CONTACT: Tim Slotta
CLIENT PROJECT: Lk Goodwin
CLIENT SAMPLE ID: GP-3

DATE: 9/12/2016
ALS JOB#: EV16090041
ALS SAMPLE#: EV16090041-05
DATE RECEIVED: 09/08/2016
COLLECTION DATE: 9/8/2016 12:00:00 PM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/09/2016	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	09/09/2016	PAB
Toluene	EPA-8021	1.3	1.0	1	UG/L	09/09/2016	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/09/2016	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	09/09/2016	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	95.1	09/09/2016	PAB
TFT	EPA-8021	95.0	09/09/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083

CLIENT CONTACT: Tim Slotta
CLIENT PROJECT: Lk Goodwin
CLIENT SAMPLE ID: GP-3@4'

DATE: 9/12/2016
ALS JOB#: EV16090041
ALS SAMPLE#: EV16090041-06
DATE RECEIVED: 09/08/2016
COLLECTION DATE: 9/8/2016 12:30:00 PM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	09/08/2016	PAB
Benzene	EPA-8021	U	0.030	1	MG/KG	09/08/2016	PAB
Toluene	EPA-8021	U	0.050	1	MG/KG	09/08/2016	PAB
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	09/08/2016	PAB
Xylenes	EPA-8021	U	0.20	1	MG/KG	09/08/2016	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	96.6	09/08/2016	PAB
TFT	EPA-8021	101	09/08/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083

CLIENT CONTACT: Tim Slotta
CLIENT PROJECT: Lk Goodwin

DATE: 9/12/2016
ALS SDG#: EV16090041
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MBG-090716S - Batch 107764 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	MG/KG	3.0	09/07/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MBG-090816W2 - Batch 107859 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	UG/L	50	09/09/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-090716S - Batch 107764 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	MG/KG	0.030	09/07/2016	PAB
Toluene	EPA-8021	U	MG/KG	0.050	09/07/2016	PAB
Ethylbenzene	EPA-8021	U	MG/KG	0.050	09/07/2016	PAB
Xylenes	EPA-8021	U	MG/KG	0.20	09/07/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-090816W2 - Batch 107859 - Water by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	UG/L	1.0	09/09/2016	PAB
Toluene	EPA-8021	U	UG/L	1.0	09/09/2016	PAB
Ethylbenzene	EPA-8021	U	UG/L	1.0	09/09/2016	PAB
Xylenes	EPA-8021	U	UG/L	3.0	09/09/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083

CLIENT CONTACT: Tim Slotta
CLIENT PROJECT: Lk Goodwin

DATE: 9/12/2016
ALS SDG#: EV16090041
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 107764 - Soil by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Volatile Range - BS	NWTPH-GX	90.5			66.5	122.7	09/07/2016	PAB
TPH-Volatile Range - BSD	NWTPH-GX	90.9	0		66.5	122.7	09/07/2016	PAB

ALS Test Batch ID: 107859 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Volatile Range - BS	NWTPH-GX	88.7			66.5	122.7	09/09/2016	PAB
TPH-Volatile Range - BSD	NWTPH-GX	89.1	0		66.5	122.7	09/09/2016	PAB

ALS Test Batch ID: 107764 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	93.6			67.7	124	09/07/2016	PAB
Benzene - BSD	EPA-8021	90.3	4		67.7	124	09/07/2016	PAB
Toluene - BS	EPA-8021	95.9			71	123	09/07/2016	PAB
Toluene - BSD	EPA-8021	92.5	4		71	123	09/07/2016	PAB
Ethylbenzene - BS	EPA-8021	101			69.8	117	09/07/2016	PAB
Ethylbenzene - BSD	EPA-8021	97.9	3		69.8	117	09/07/2016	PAB
Xylenes - BS	EPA-8021	99.7			70	119	09/07/2016	PAB
Xylenes - BSD	EPA-8021	96.1	4		70	119	09/07/2016	PAB

ALS Test Batch ID: 107859 - Water by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	93.6			83	120	09/09/2016	PAB
Benzene - BSD	EPA-8021	93.1	1		83	120	09/09/2016	PAB
Toluene - BS	EPA-8021	96.9			85	115	09/09/2016	PAB
Toluene - BSD	EPA-8021	95.3	2		85	115	09/09/2016	PAB
Ethylbenzene - BS	EPA-8021	101			85	113	09/09/2016	PAB
Ethylbenzene - BSD	EPA-8021	101	0		85	113	09/09/2016	PAB
Xylenes - BS	EPA-8021	99.2			85	116	09/09/2016	PAB
Xylenes - BSD	EPA-8021	99.3	0		85	116	09/09/2016	PAB

APPROVED BY

Laboratory Director

Page 9

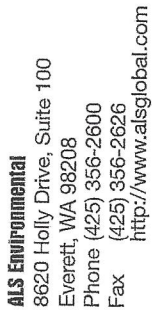
ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626

ALS Group USA, Corp dba ALS Environmental

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



ALS Job# (Laboratory Use Only)

EV1609 0041

Date _____ Page _____ Of _____

SIGNATURES (Name, Company, Date, Time):

SD 9C 9-8-16 1:35 pm

AKS 9/8/16 1:35pm

AKS 9/8/16 1:35pm

AKS 9/8/16 1:35pm

TURNAROUND REQUESTED in Business Days*
OTHER: Organic, Metals & Inorganic Analysis

Specify:

Fuels & Hydrocarbon Analysis

*Turnaround request less than standard may incur Rush Charges