



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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

February 20, 2014

Riley & Vanessa Borden  
Borden, Inc.  
3841 E Agate Rd  
Shelton WA 98584-9510

**Re: Further Action at the following Site:**

- Site Name: Agate Store
- Site Address: 8341 E Agate Rd, Shelton, Washington
- Facility/Site No.: 98116483
- Cleanup Site No.: 11292
- VCP Project No.: SW1341

Dear Mr. & Mrs. Borden:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Agate Store facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

**Issue Presented and Opinion**

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Is further remedial action necessary to clean up contamination at the Site?

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

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

**Description of the Site**

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This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following release:

- Petroleum into the soil



Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

### **Basis for the Opinion**

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

1. Soil and groundwater laboratory data, July 2, 2013.
2. *Final Cleanup Report*, DLH Environmental Consulting (DLH), November 21, 2013.

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

This opinion is void if any of the information contained in those documents is materially false or misleading.

### **Analysis of the Cleanup**

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Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

#### **1. Characterization of the Site.**

Ecology has determined your characterization of the Site is not sufficient to establish cleanup standards and select a cleanup action.

The Site is located on the northeast corner of the intersection of East Agate Road, East Crestview Drive, and East Lighthouse Road in rural Mason County (Figure 1). The Site was developed as a convenience store. Topography is relatively flat and pavement surrounds the store to the west and south. The Site currently dispenses gasoline from above ground storage tanks.

The Site has dispensed gasoline for an unknown amount of time. An approximately 300-gallon gasoline underground storage tank (UST) was previously located at the Site for gasoline dispensation. The tank and pump was reportedly removed in 1980 by the owner. The Site currently has above ground storage tanks.

Site soils consist of a mixture of dark brown silty and loamy sand with old timber and wood debris. A very dense grey clay layer is present at 3 to 4 feet below ground surface (bgs) and is at least 3 feet thick. Many logs and wood debris were encountered near the road.

Groundwater at the Site appears to be perched. During excavation activities, water drained into the excavation from wood debris underlying the road.

In 1993, county workers were reportedly conducting utility work on the road adjacent to the Site when they encountered petroleum in the excavation. After a call from a county worker, the Site was listed on Ecology's Leaking Underground Storage Tank database at that time. Ecology received no other information about the release. No information could be found about this finding although the incident was researched by the present owner.

On July 2, 2013, three direct push boreholes were advanced at the Site in the approximate locations shown on Figure 2. The samples were analyzed for Total Petroleum Hydrocarbons-Gasoline (TPH-G), benzene, toluene, ethylbenzene, total xylenes (BTEX), and lead (Pb). Sample B3 had TPH-G at 250 milligram per kilogram (mg/kg), which was above the Method A cleanup level of 30 mg/kg. Sample B2 had TPH-G at 180 mg/kg, and benzene at 0.04 mg/kg. Sample B1 results were all non-detect. The cleanup level for benzene is 0.03 mg/kg. A water sample collected from B1 was analyzed for TPH-G, BTEX, Pb, and 1,2-dichloroethane. These results were all non-detect.

In August, DLH oversaw excavation of contaminated soils at the Site east of the current pump island (Figure 2). Samples collected at the extent of the excavation showed that the eastern edges of the excavation were clean; however, samples collected near the pump (82113-03-4 and 92513 SE corner), the southwest corner (sample 92512 NW Corner), and the bottom (92513 Bottom) had results for TPH-G above the cleanup level. Benzene was found only in sample 92513-SE Corner at the pump island. Xylenes were also found in this sample at a concentration of 34 mg/kg, which is above the cleanup level of 9 mg/kg. Pb was also found in this sample but was well under the cleanup level of 250 mg/kg. The excavation extended to approximately 3 to 4 feet bgs to the clay layer.

During excavation activities, water was seen draining from the road bed at approximately 2 to 3 feet bgs. The water was not continuous along the excavation face; it only drained out in short stretches. No sheen was noted. No sample was collected since a water sample had been collected previously and found to be clean.

In September, additional excavation of contaminated soil was done south and west of the pump island (Figure 3). Of the six confirmation samples collected in this excavation, samples C-B-NW and PIPES both had TPH-G, benzene, and total xylenes above cleanup levels. The excavation again was extended to the clay layer at approximately 3 to 4 feet bgs. Further excavation in the northeast corner was not feasible due to piping.

During this phase of excavation, again water seeped out of the roadbed where logs and wood debris were found.

After removal of all accessible contaminated soils, 20 gallons of oxygen releasing compound (ORC) was mixed with water and placed in the excavation. ORC is commonly used in petroleum-contaminated soils to enhance bioremediation and thus shorten cleanup time. After the ORC application, the excavation was backfilled with clean fill.

Approximately 40 tons of contaminated soil was disposed at the Olympic View Transfer facility in Bremerton, Washington.

Based on the review of the above-listed reports, Ecology has the following comments:

1. Soil contamination above Method A cleanup levels remain in portions of the sidewalls and bottom of the excavation (Figures 2 and 3). Concentrations of TPH-G up to 1,400 mg/kg, benzene up to 0.5 mg/kg, and xylenes up to 95 mg/kg were left in place. The cleanup levels for these constituents are 30 mg/kg, 0.03 mg/kg, and 9 mg/kg, respectively. To enhance bioremediation in these areas, ORC was applied. When a remedy such as this is implemented, Ecology requires that conformational soil data be collected from the previously affected areas to ensure the ORC application was successful. As such, to demonstrate compliance with cleanup standards, these areas will need to be resampled when the ORC is presumed to have been effective.
2. In accordance with WAC 173-340-7490, a Terrestrial Ecological Evaluation (TEE) needs to be completed for the Site. Please fill out the TEE form and any supporting information (as appropriate) and submit it to Ecology. The form can be found on our website at <http://www.ecy.wa.gov/biblio/ecy090300.html>.
3. In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated for Independent Remedial Actions shall be submitted simultaneously in both a written and electronic format. For additional information regarding electronic format requirements, see the website <http://www.ecy.wa.gov/eim>. Be advised that according to the policy, any reports containing sampling data that are submitted for Ecology review are considered incomplete until the electronic data has been entered. Please ensure that data generated during on-site activities is submitted pursuant to this policy. **Data must be submitted to Ecology in this format for Ecology to issue a No Further Action determination.** Please be sure to submit the previous data not submitted yet, as well as any future data, in this format. Be advised that Ecology requires up to two weeks to process the data once it is received.

**2. Establishment of cleanup standards.**

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

MTCA Method A Cleanup Levels for unrestricted land use for soil and groundwater are being used to characterize the Site.

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

Additional data collection is warranted to determine how far beyond the excavation limits residual contamination is present prior to establishing points of compliance.

**3. Selection of cleanup action.**

Ecology has determined the cleanup action you selected for the Site does not meet the substantive requirements of MTCA.

The cleanup action for the Site consisted of excavation and disposal of all accessible contaminated soil and application of ORC in the excavation.

Additional data collection is needed to determine how far beyond the excavation limits residual contamination is present prior to determining whether additional cleanup is warranted.

**4. Cleanup.**

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

Cleanup actions that took place at the Site consisted of excavation of all accessible contaminated soil. The excavation was extended vertically to a dense clay layer.

Confirmation samples verified that soil contaminated with TPH-G, benzene, and xylenes was left in parts of the excavation that were not accessible due to utilities and the county road.

The approximately 40 tons of contaminated soil was disposed at the Olympic View Transfer facility in Bremerton, Washington.

After all the accessible contaminated soil was removed, ORC was mixed with water and placed in the excavation to enhance biodegradation of remaining contamination.

Confirmation samples will be needed in the future to ascertain if the ORC has worked and that contamination has been reduced to levels below Method A cleanup levels.

### **Limitations of the Opinion**

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**1. Opinion does not settle liability with the state.**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

**2. Opinion does not constitute a determination of substantial equivalence.**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

**3. State is immune from liability.**

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

### **Contact Information**

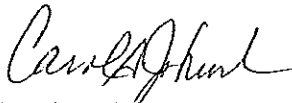
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Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

Mr. & Mrs. Borden  
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For more information about the VCP and the cleanup process, please visit our web site: [www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm](http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm). If you have any questions about this opinion, please contact me by phone at (360) 407-6263 or e-mail at [cjoh461@ecy.wa.gov](mailto:cjoh461@ecy.wa.gov).

Sincerely,



Carol A. Johnston  
SWRO Toxics Cleanup Program

CAJ/ksc: SW1341 Site FA Agate Store

Enclosures (3 figures):

By certified mail: (7012 2920 0000 1182 4513)

cc: Donna Hewitt, DLH Environmental Consulting  
Scott Rose, Ecology  
Dolores Mitchell, Ecology (w/o enclosures)





Google

Address 3841 E Agate Rd  
Shelton, WA 98584

You can enter notes here

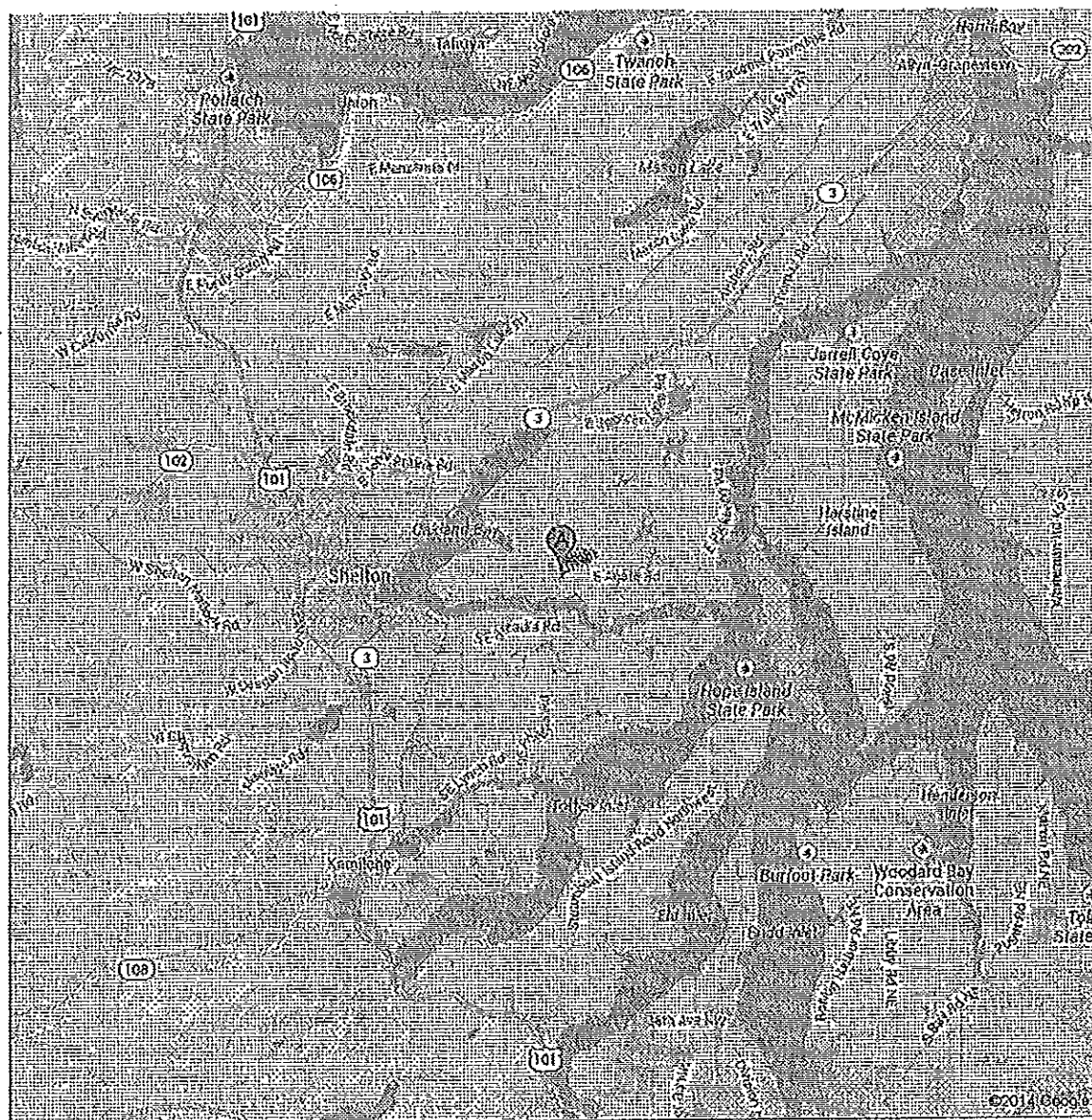
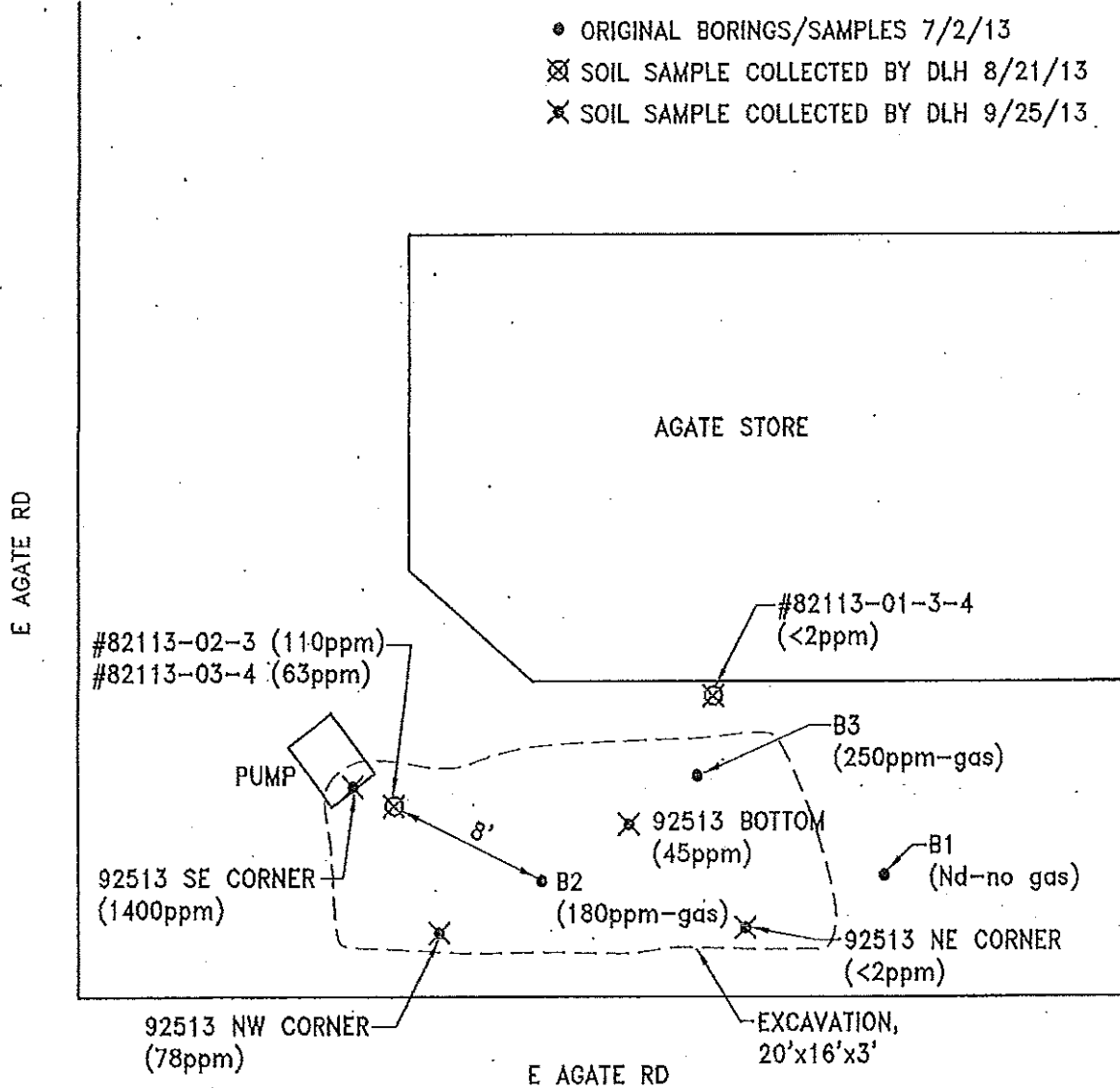


FIGURE 1



AGATE STORE  
 3841 EAST AGATE ROAD, SHELTON, WA 98584

DLH Environmental Consulting

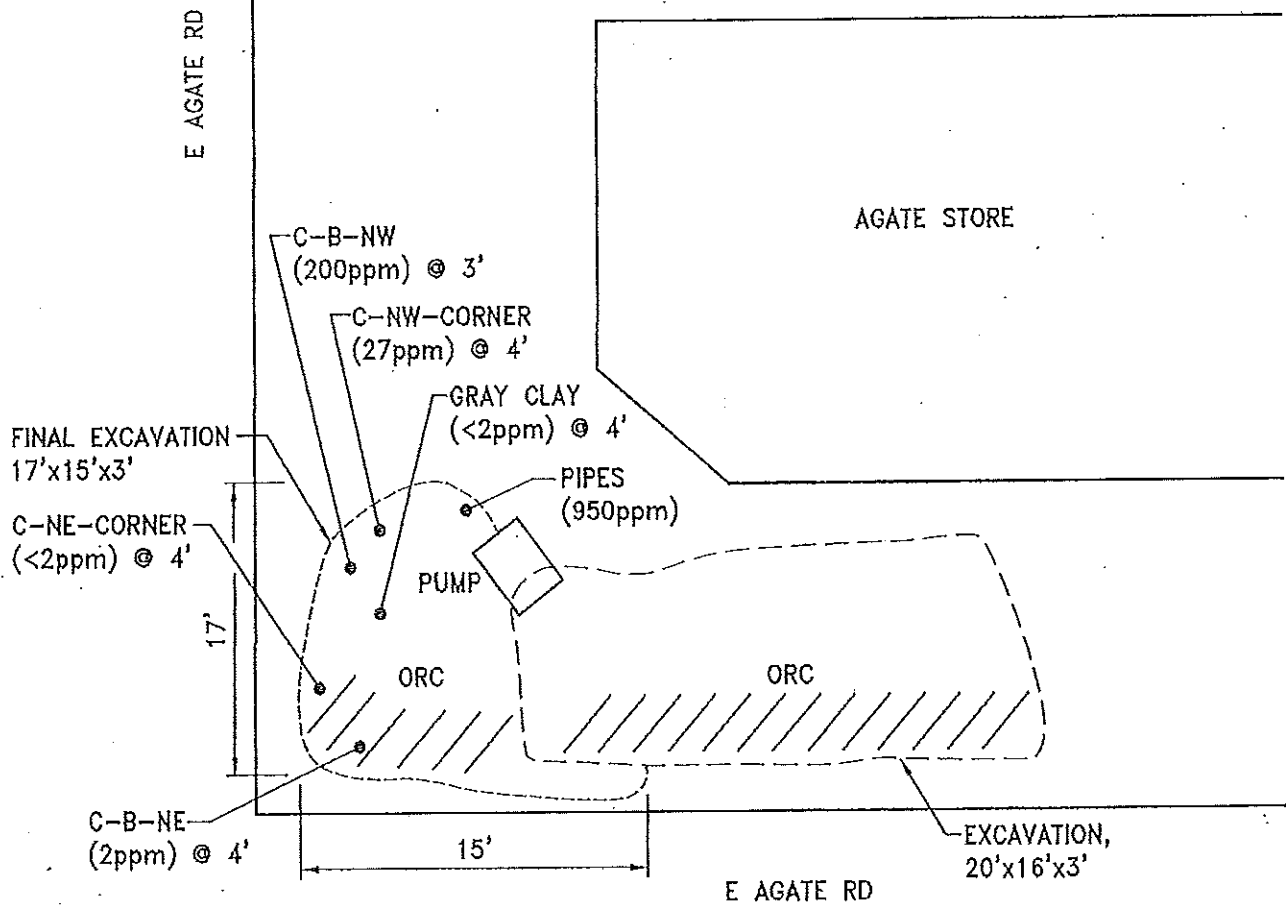
NOT TO SCALE

FIGURE 2

9/25/2013



- FINAL CONFIRMATIONAL SAMPLES 10/18/13  
ORC-PLACEMENT OF OXYGEN RELEASE COMPOUND



AGATE STORE  
3841 EAST AGATE ROAD, SHELTON, WA 98584

DLH Environmental Consulting

NOT TO SCALE

FIGURE 3  
10/19/2013



