ENVIRONMENTAL
ASSOCIATES, INC.

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July 13, 2012 JN-28248-3 (VCP NW-1621)

Ms. Jing Liu
Toxics Cleanup Program - NWRO
Washington State Department of Ecology
3190 - 160th Avenue SE
Bellevue, Washington 98008

Subject: **Revised Work Plan - Proposed Independent Cleanup Action**
Taco Time Northwest Restaurant
1420 East Madison Street, Seattle, WA
Facility / Site No.: 5460498
VCP Project No.: NW1621

Dear Ms. Liu:

On September 8, 2011, you issued an opinion letter to Mr. Robby Tonkin, ownership representative for the subject parcel, regarding the adequacy of a proposed cleanup action. A copy of that document is included in the packet accompanying this letter as Inclusion #1. Your September 2011 opinion letter was issued in response to a request through the Voluntary Cleanup Program (VCP) to review a Remediation Investigation Summary, Feasibility Study (FS), and Cleanup Action Plan (CA) for the above referenced property. A summary letter of the above three(3) documents, dated August 4, 2011, was submitted to you by TechSolve Environmental, Inc (TEI), who was then representing a prospective purchaser who desired to redevelop the site. A copy of that summary letter is enclosed herewith as Inclusion #2. All additional reports and documents listed as references in your September 2011 opinion letter should reside within the WDOE's file room.

Environmental Associates, Inc (EAI) is currently retained as the environmental consultant for this VCP site, and we have included the appropriate Change In Contact Form to reflect that detail. The site ownership contact through whom the VCP agreement for review and payment of WDOE review fees shall remain Mr. Robby Tonkin / Taco Time Northwest.

Brief Project Review History

At the conclusion of your September 2011 review and issuance of an opinion letter, the parties involved with the property favored traditional groundwater "pump and treat" to address site groundwater marginally impaired with 1,2, dichloroethane (EDC also known as DCA), and isolated occurrences of dissolved diesel range total petroleum hydrocarbons (TPH). This "pump and treat" system was originally envisioned to be installed and operated, and successful results hopefully achieved prior to the start of any site redevelopment.

Despite numerous phases of exploration with the laboratory analysis of more than 70 soil samples, no chlorinated solvents have been found in soil samples above WDOE target compliance levels for unrestricted land use. Some limited areas of diesel impacted soil were encountered. Remediation plans for the petroleum-impacted soil included direct excavation and off-site treatment / disposal to be performed in conjunction with site redevelopment.

Since your September 2011 review, property ownership has retained Environmental Associates, Inc., to resample select groundwater monitoring wells to evaluate if "natural attenuation" may be occurring, and to further evaluate the feasibility of implementing a groundwater "pump and treat" system. EAI's findings in this regard are presented in a letter report dated April 17, 2012, which accompanies this Revised Work Plan as Inclusion #3.

Summary of Current Remediation Plan

The only significant difference in the currently proposed remediation plan when compared to the previous one is that the parties would now prefer to address the groundwater contamination at the time of site redevelopment instead of waiting for a "classic" groundwater pump and treat system to achieve some degree of success. As documented in EAI's April 2012 report (Inclusion #3), the most recent round of groundwater sampling appears to suggest that some degree of natural attenuation may still be occurring and a preliminary assessment of site hydraulic conductivities performed by us (EAI) has raised reasonable questions as to how long a groundwater pump and treat system may have to operate to achieve favorable results and at what cost. Therefore the revised Independent Cleanup Action Plan presented here is as follows:

- Direct excavation of and off-site disposal of soil during site redevelopment, which is anticipated to include three levels of underground parking, thus removing the bulk of site soil down to and below the elevation of the current water table. Excavation of soil is accompanied by the implementation of an engineered shoring plan. Soil excavation is anticipated to be monitored by environmental staff in an effort to segregate suspect "clean" soil from that which may contain some residual concentrations of petroleum hydrocarbons. Selected soil disposal facilities will be advised in advance of current site environmental conditions so that they may properly profile the soil for acceptance at their facility. Representative soil samples will be collected to document soil cleanup progress and to document the environmental condition of soil at the final limits of excavation.

- Groundwater is anticipated to be managed through the combination of a perimeter dewatering system and /or direct pumping of exposed and accumulated groundwater from the floor of the excavation as it progresses below the water table elevation. All pumped / accumulated groundwater is anticipated to be discharged to the local sanitary sewer under a permit. Pre-treatment of the discharged groundwater may be required to meet permit requirements. It is further anticipated that given the relatively low levels of contaminants dissolved in the groundwater, pre-treatment might be accomplished with activated carbon canisters and/or shallow bubble tray diffusers. Routine sampling and monitoring of the discharged groundwater will be performed to ensure permit standards are being maintained.

- With the proposed underground parking levels residing below the pre-construction elevation of the water table, the subject building / garage will require a permanent dewatering system. Such a system would accumulate groundwater from all areas of the understructure and likely pump it to the municipal sanitary sewer. Such a system will essentially act as a giant groundwater pumping well. In the event that groundwater retains concentrations of contaminants above threshold values desired by the WDOE following completion of building construction, longer-term groundwater monitoring (if required) is anticipated to be accomplished through periodically sampling and analyzing the discharge of the parking garage sump system. Such monitoring may also be supplemented by the installation and periodic monitoring of perimeter monitoring wells. Periodic monitoring would continue until a minimum of four (4) consecutive quarters of monitoring demonstrated continued compliance with WDOE standards and/or until the WDOE was satisfied with the findings.

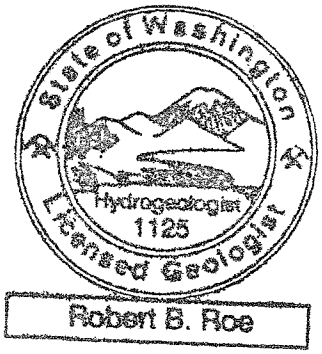
- With the proposed excavation of the vast majority of subject site soil and essentially "mining" of site groundwater, a vapor intrusion hazard is not anticipated to be an issue for this property. The multiple levels of underground parking will likely trigger the need for supplemental ventilation as is common in such structures. With such a system in place, it presently appears unlikely that building occupants would be at any direct risk of exposure to volatile compounds from subsurface sources.

Request For A Revised NFA Opinion Letter

Our Client (Taco Time Northwest) presently desires an updated opinion letter from your offices that would hopefully state that "upon successful completion of the above revised proposed cleanup approach, no further remedial action is likely to be necessary to cleanup contamination at the Site," as was originally stated in your September 8, 2011 letter. While EAI and the Client understand that such statements are not binding, this type of opinion letter from the WDOE still had substantial value in terms of aiding the developer and City officials with permit process and potentially aiding lenders and investors that may be solicited to provide construction funding and/or long term funding. As these objectives and the proposed approach are consistent with WDOE's traditional commitment to improvement of environmental conditions in a manner supportive of beneficial land use, this request appears both reasonable and prudent for all concerned.

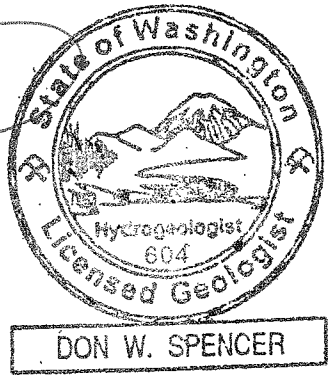
Thank you for your ongoing assistance with this project. If you have any questions or if we may be of additional service, please do not hesitate to contact us.

Respectfully submitted,
Environmental Associates, Inc.



Robert B. Roe, M.Sc., P.G.
Hydrogeologist / Project Manager

License: 1125 (Washington)



Don W. Spencer, M.Sc., P.G., R.E.A.
Principal

License: 604 (Washington)
License: 11464 (Oregon)
License: 876 (California)
License: 5195 (Illinois)
License: 0327 (Mississippi)

DEPARTMENT OF ECOLOGY
State of Washington

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

CHANGE OF CONTACT FORM

Use this form to notify the Department of Ecology (Ecology) of any changes to the designated points of contact for a project under the Voluntary Cleanup Program (VCP). Include any changes to the contact information for those persons (for example: phone number or address). Please submit only one form for each point of contact.

Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are providing new contact information. This information may be found on the VCP Agreement.

Facility/Site Name: Taco Time NW Restaurant	
Facility/Site Address: 1420 East Madison Street, Seattle, WA	
Facility/Site No: 5460498	VCP Project No.: NW1621

Step 2: IDENTIFY CONTACT PERSON

Please identify the role of the person for whom you are providing new contact information. Check all that apply.

- ☐ Project Manager
- ☐ Project Billing Contact
- ☒ Project Consultant
- ☐ Project Attorney
- ☐ Property Owner
- ☐ Other – please specify:

Please provide below the new contact information for this person:

Name: Robert Roe	Title: HydroGeologist (1125)	
Organization: Environmental Associates, Inc.		
Mailing address: 1380 112th Ave NE, Suite 300		
City: Bellevue	State: WA	Zip code: 98004
Phone: (425) 455-9025	Fax: (425) 455-2316	E-mail: Rroe@environmentalassociatesinc.com

Step 3: IDENTIFY PRIOR CONTACT PERSON (IF APPLICABLE)

Is the new contact person replacing an existing point of contact?

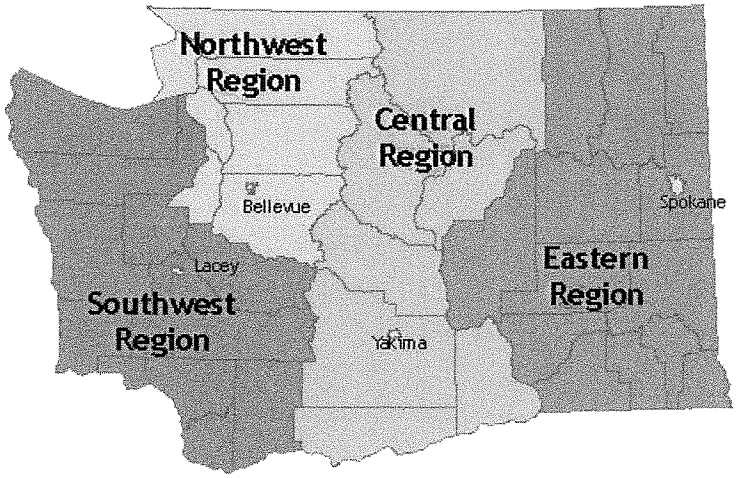
☒ Yes
☐ No

If you answered "YES" above, please identify below the person who is being replaced:

Name: Unknown		Title:
Organization: TechSolve Environmental, Inc. ?		
Mailing address:		
City:	State:	Zip code:
Phone:	Fax:	E-mail:

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: Sara Maser 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: Mark Dunbar 15 W. Yakima Ave., Suite 200 Yakima, WA 98902
Southwest Region: Attn: Scott Rose P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: Patti Carter N. 4601 Monroe Spokane WA 99205-1295

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

September 8, 2011

Mr. Robby Tonkin
3300 Maple Valley Highway
Renton, WA 98058

Re: Opinion on Proposed Cleanup of the following Site:

- **Site Name:** Taco Time NW Restaurant
- **Site Address:** 1420 East Madison Street, Seattle, WA
- **Facility/Site No.:** 5460498
- **VCP Project No.:** NW1621

Dear Mr. Robby Tonkin:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the Taco Time NW Restaurant 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

Upon completion of the proposed cleanup, will further remedial action likely be necessary to clean up contamination at the Site?

NO. Ecology has determined that, upon completion of your proposed cleanup, no further remedial action will likely be necessary to clean up contamination at the Site.

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

Description of the Site

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

- 1,2-dichloroethane (EDC, also known as DCA) into the groundwater.
- Diesel and oil-range total petroleum hydrocarbons into the soil, and diesel range total petroleum hydrocarbons into the groundwater.

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

Ecology.

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

Basis for the Opinion

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

1. Taco Time Northwest Restaurant, 1420 East Madison Street, Seattle, Wasington, Facility/Site No.: 5460498; VCP Project No. NW 1621, Remedial Investigation Summary, Feasibility Study (FS), and Cleanup Action Plan. Prepared by TechSolve Environmental dated August 4, 2011.

2. Well Installation and Groundwater Sampling, Taco Time Property, 1420 East Madison Street, Seattle, WA. Prepared by G-Logics dated September 15, 2010.

3. Well Installation and Groundwater Sampling, Taco Time Property, 1420 East Madison Street, Seattle, WA. Prepared by G-Logics dated April 16, 2010.

4. Groundwater Monitoring – August 2009, Taco Time Property, 1420 East Madison Street, Seattle, WA 98122. Prepared by G-Logics dated November 2, 2009.

5. Subsurface Assessment, Taco Time Property, 1420 East Madison Street, Seattle, WA 98122. Prepared by G-Logics dated March 2, 2009.

6. Opinion pursuant to WAC 173-340-515(5) on Remedial Action for the following Hazardous Waste Site: Name: Taco Time NW Restaurant, Address: 1420 East Madison Street, Seattle, WA, Facility/Site No.: 5460498, VCP No.: NW1621. Prepared by Ecology dated August 9, 2006.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7190.

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

Analysis of the Cleanup

Ecology has concluded that, upon completion of your proposed cleanup, **no further remedial**

action will likely be necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

i. Cleanup levels.

Soil:

The Site is located in a mixed commercial and residential area. Soil cleanup levels suitable for unrestricted land uses are therefore applicable to this Site.

Soil cleanup level protective of terrestrial species are also potentially applicable. However, it was deemed not-applicable for this Site based on the exclusion relating to proximity of undeveloped land in accordance with WAC173-340-7491(1)(c)(i).

Because the cleanup at this Site was relatively straight forward and involved few hazardous substances, the MTCA Method A cleanup levels for unrestricted land uses were deemed applicable and appropriate. Note that the Method A cleanup levels were established based on protection of groundwater and direct contact.

Groundwater:

The MTCA Method A cleanup levels have been applied to the contaminants as identified above. The cleanup levels were set for groundwater based on its use as a potential drinking water source.

ii. Points of Compliance

Soil:

The soil cleanup levels were set based on protection of groundwater, the point of

compliance is therefore in soil throughout the site.

Groundwater:

The standard point of compliance for groundwater is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site.

3. Selection of cleanup action.

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

The selected cleanup actions include groundwater pump and treatment to address EDC contaminated groundwater, followed by quarterly groundwater monitoring. Petroleum contaminated soil will be removed during site redevelopment.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

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

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

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

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

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

3. Opinion is limited to proposed cleanup.

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

4. State is immune from liability.

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

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at (425) 649-4310 or e-mail at jliu461@ecy.wa.gov.

Sincerely,

Jing Liu
NWRO Toxics Cleanup Program

jl: kp

Enclosure: A – Description and Diagrams of the Site

cc: Larry Roberts, TechSolve Environmental
Mike Hubbard, Capstone Partners
Donna Musa, Ecology

Enclosure A

Description and Diagrams of the Site

Site: The Site comprises petroleum hydrocarbon releases to soil and groundwater, and EDC into groundwater at the property located at 1420 East Madison Street, Seattle, Washington (the Property). The Property is approximately 0.3 acre in size. The Property and the Site are shown on the attached Site Map.

Area Description: The Property is situated in the Capital Hill area of downtown Seattle. The area is completely developed, and dominated by commercial business operations and residential condominiums. Most surfaces are paved or covered by buildings. The Property is bordered by an apartment building and alley to the north, 15th Avenue to the east, East Madison Street to the south, and a parking lot to the west.

Property History and Current Use:

The Property was a Taco Time restaurant from 1965 through 2010. Prior to the construction of the restaurant, the Property was occupied by several commercial businesses, including a laundry, a rug cleaner, a dye works, sheet-metal shops, and several service/repair businesses. The restaurant building was demolished in 2010. The Property is currently vacant.

Sources of Contamination: It has not been determined the exact source of the contamination at the Property. However, potential contamination sources could consist of leaks and spills associated with the historical operations at the Property. The type of contamination expected would mostly be petroleum hydrocarbons and solvents.

Physiographic Setting: The Site and surrounding area is within the historical "Capitol Hill" area. It is at about 365 feet above sea level and slopes to the west.

Surface/Storm Water System: Surface water runoff in the area is collected in municipal storm drains. There are no creeks or surface water bodies in the immediate vicinity of the Site. The closest surface water bodies are Elliot Bay, located about 2,500 meters to the west, and Lake Washington, located 2,750 meters to the east.

Ecological Setting: There is little terrestrial or aquatic habitat in the area. The area is heavily developed, with most surfaces paved or covered by buildings.

Geology: Subsurface soils consist of approximately 5 to 10 feet of fill, overlying glacial till to depths ranging from about 20 to 30 feet below ground surface (bgs). A transitional zone of interbedded till/outwash underlies the glacial till to approximately 40 feet bgs. Underlying this transitional zone is outwash sand to the maximum depth explored about 50 feet bgs.

Groundwater: Groundwater occurs within the transitional zone of interbedded till/outwash underlying the glacial till and generally under confined conditions (Groundwater generally encountered at 22 to 30 feet bgs, and stabilized at about 12 to 15 feet bgs in monitoring wells.) Groundwater consistently flows to the west.

Water Supply: The City of Seattle provides water for the area.

Soil and Groundwater Contamination:

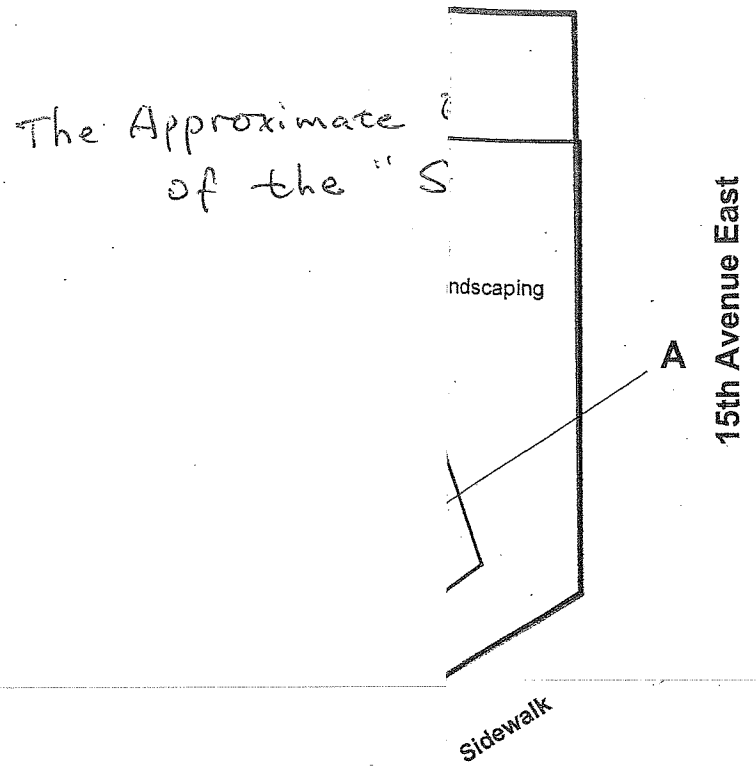
The Property can be divided into the following three primary source/contaminant type areas:

- South-central area of the Property: Groundwater has been contaminated by EDC. The highest concentration was 18 µg/L from the most recent groundwater sampling event conducted in August 2010. However, EDC was not detected in any soil samples which reached the depth of 50 feet bgs. No other chlorinated solvents were detected in soil and groundwater. EDC or any other VOCs was not detected in the soil-vapor samples collected in this area. It is likely that the presence of EDC is associated with historical operations on this portion of the Property. EDC contaminated groundwater has not migrated off-Property to the west.

- Northeast of the former restaurant building: Has elevated concentrations of diesel-range petroleum hydrocarbons in soil at a depth of 10 to 15 feet. No contaminants of concern were detected in groundwater in this area except that diesel was detected once in MW-10 slightly above the MTCA Method A cleanup level. The source of the contamination has not been determined. It is likely from leaks and spills associated with historical on-site activities.

- Northwest corner of the Property: Has elevated concentrations of diesel and oil range petroleum within the upper 4 feet of the subsurface soil. The source of the contamination has not been determined. It is likely from leaks and spills associated with historical on-site activities. Groundwater is not likely being impacted.

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.



Legend

- Approximate Property Line
- Monitoring Well (installed 2006)
- Monitoring Well (installed 2009)
- Monitoring Well (installed 2010)
- **MW-1** Monitoring Well Identification
- **77.97'** **(August 20, 2010)** Groundwater Elevation in Feet
- **351'** Approximately GW elevation contour
- Schematic Cross-Section A-A' (Figure 3)

Notes

1. The contours represent an interpretation of available data, for t
contours may change with additional measurements and/or dat
activities, and/or other influences.
2. Mapping Reference: Geotech Consultants, Noll Environmental
Mapping, G-Logics' Site Visit Measurements, Google Aerial Ph

ter Contours – 08/20/2010

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Figure
2

Project File: 01-0609-F-F2.vsd

August 4, 2011

Mrs. Jing Liu
Department of Ecology
3190 160th Ave SE
Bellevue, Washington 98008-5452

RE: Taco Time Northwest Restaurant
1420 East Madison Street, Seattle, Washington
Facility/Site No.: 5460498; VCP Project No. NW1621
Remedial Investigation Summary, Feasibility Study (FS),
and Cleanup Action Plan (CAP)

Dear Ms. Liu:

On behalf of Capstone Mercer LLC and Taco Time Northwest, TechSolve Environmental, Inc. (TechSolve) has prepared the following response to Ecology's Opinion letter for the above-referenced site (the Site) dated August 9, 2006 (attached as Appendix 1). Per Ecology's request, additional investigation activities have been completed at the Site to delineate contamination at the site. The following response provides a summary of the Remedial Investigation (RI) activities conducted at the Site, and a Feasibility Study (FS) and Cleanup Action Plan (CAP) for mitigating the environmental impacts detected at the Site, the property based on the RI results. These documents were prepared to meet the cleanup and reporting requirements for the Voluntary Cleanup Program (VCP) of the Washington Model Toxics Control Act (MTCA) Chapter 70.105D WAC and Chapter 173-34 WAC (Ecology, 2001).

We would like to request a meeting with you as soon as possible to assist you with reviewing these data, and to obtain your comments/approval of the remediation approach that has been selected for the property. The property ownership is currently in the due diligence phase for ownership transfer (Taco Time to Capstone) and completion of the transfer is partly contingent on receiving Ecology's approval of the CAP.

The CAP has been developed for this site based on TechSolve's experience with a similar site (The Braeburn, Facility/Site No.: 535227421, VCP No.: NW0887) located a few blocks from the Taco Time site. The Braeburn has similar site hydrogeology characteristics, and similar contaminants and concentrations. A letter of No Further Action (NFA) was received for the site upon completion of the cleanup and confirmation monitoring activities (Ecology, 2008). Management of this site was initially assigned to Mr. Jerome Cruz, but was transferred to you for the site closure determination.

Several site investigation reports were previously submitted to Ecology, which include the following:

1. Limited Phase II Environmental Site Assessment, Proposed Madison Street Apartments, 1420 East Madison Street; Prepared for Taco Time, report dated July 30, 2003 by GeoScience Management, Inc.
2. Results of Phase II Environmental Site Assessment, Taco Time Restaurant Site,1420 East Madison Street; Prepared for Taco Time Corporation, report dated November 2, 2005 by Noll Environmental, Inc.
3. Monitoring Well Installation and Soil & Groundwater Sampling Results, TacoTime Restaurant, 1420 East Madison Street; Prepared for Taco Time Corporation, report dated February 3,2006 by Noll Environmental, Inc.
4. Monitoring Well Installation and Sampling, Taco Time Restaurant, 1420 East Madison Street; Prepared for Taco Time, report dated July 28, 2006 by GeoScience Management, Inc.

Additional site investigation activities that have been conducted since these reports were submitted to Ecology have been completed and are summarized in the following four reports, which have not been previously submitted to Ecology but are included in this submittal as Appendix B:

1. Subsurface Assessment, Taco Time Property, 1420 East Madison Street, Seattle, Washington, 98122. March 2, 2009 by G-Logics, Inc.
2. Groundwater Monitoring – August 2009, Taco Time Property, 1420 East Madison Street, Seattle, Washington, 98122. November 2, 2009 by G-Logics, Inc.
3. Well Installation and Groundwater Sampling, Taco Time Property, 1420 East Madison Street, Seattle, Washington, 98122. April 16, 2010 by G-Logics, Inc.
4. Well Installation and Groundwater Sampling, Taco Time Property, 1420 East Madison Street, Seattle, Washington, 98122. September 15, 2010 by G-Logics, Inc.

We look forward to meeting and working with you. If you have any questions or if we can be of any additional assistance, please feel free to call me at 425-402-8277.

Sincerely,

TechSolve Environmental, Inc.

Larry Roberts, LG,LHG

President/Principal Hydrogeologist

FIGURES

Figure 1: Site Location Maps
Figure 2: Groundwater Elevation and Contour Map
Figure 3: Schematic Cross Section A-A'
Figure 4: Boring Locations

TABLES

Table 1: Monitoring Well Construction and Groundwater Elevation Measurements
Table 2: Soil Sample Analytical Results
Table 3: Groundwater Sample Analytical Results

APPENDICES

Appendix A: Ecology Opinion Letter pursuant to WAC173-340-515(5) on Remedial Action for the following Hazardous Waste Site: Taco Time NW Restaurant, 1420 East Madison Street, Seattle, WA, Facility/Site N.: 5460498, VCP No.: August 9, 2006.

Appendix B: Site Investigation Reports (4) Completed Since 2006

Site Name: Taco Time Northwest Restaurant
Location: 1420 East Madison Street, Seattle, Washington
Facility/Site No.: 5460498
VCP Project No.: NW1621

This document summarizes the results of Remedial Investigation (RI) activities conducted at the former Taco Time site located on Capitol Hill, Seattle (the Site), and presents a Feasibility Study (FS) and Cleanup Action Plan (CAP) for the property based on the RI results. These documents were prepared to meet the cleanup and reporting requirements for the Voluntary Cleanup Program (VCP) of the Washington Model Toxics Control Act (MTCA) Chapter 70.105D WAC and Chapter 173-34 WAC (Ecology, 2001).

INTRODUCTION

The Site is located at the northwest corner of East Madison Street and 15th Avenue East in Seattle, Washington (Figure 1). The Site is currently a vacant lot but was the location of a former Taco Time restaurant from 1965 through 2010. Site uses prior to the construction of the restaurant included a laundry, a rug cleaner, a dye works, three sheet-metal shops, and several service/repair businesses. Additional information regarding historical site uses is included in the Phase II report prepared by GeoTech in 2003 (GeoTech, 2003). The Site slopes to the East following the natural regional topography. Extensive drilling and soil sampling, monitoring well installations, and groundwater monitoring activities show that the Site is underlain by approximately 5 to 10 feet of fill that is underlain by very dense (low permeability) Glacial Till (often referred to as "hardpan" by construction contractors) to a depth of approximately 50 feet below ground surface. Groundwater occurs at approximately 15 to 20 feet bgs and flows consistently to the east at a gradient of approximately 0.13 feet (vertically) per foot (horizontally) (ft/ft) with no noticeable seasonal change in direction (Figure 2). Groundwater is unconfined but acts as being somewhat semi-confined in that water levels encountered during drilling tended to rise a few feet overnight in a completed well due to the low permeability (ability to transmit fluids) of the till (determined by comparing water levels shown on boring logs with water levels measured in completed wells included in Table 1). The groundwater gradient is fairly steep, again reflecting the low permeability of the till (e.g. resistance to flow) and the regional sloping topography. An east to west cross section of the Site is included Figure 3.

SUMMARY OF SITE INVESTIGATIONS

The results of the extensive soil and groundwater sampling activities and laboratory analysis of selected samples for total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs) show that some dissolved 1, 2-dichloroethane (DCA) is located in the groundwater at the Site and is confined mostly to the south-central area of the Site near Wells MW-1, MW-5, MW-6, and MW-8; Figure 2). The source of DCA cannot be clearly correlated with any specific on-site historical activities, nor can it be attributed to an off-site source. The source may be from a one-time historical release or from historical on-site activities (there is some suggestion of past dry cleaning or machine shop-type but they cannot be verified; G-Logics, 2009a). The data indicate that the DCA is only in groundwater and is not migrating.

DCA concentrations in groundwater have decreased markedly since sampling began in 2006 (Table 3). No evidence of contamination was observed from soil samples collected during drilling of soil borings (e.g. no staining or detections of volatile compounds using field instruments) with the exception of soil samples collected from approximately 14 feet bgs near the water table during drilling of Well MW-8. Soil samples were collected every 5 feet and were used to prepare boring logs for each borehole (copies of the logs are included in the attached Site investigation reports; Appendix B). In the absence of field evidence of contamination, two soils samples from each boring were selected for laboratory analysis, generally from about 6 to 8 feet bgs and from 10 to 14 feet bgs. A few near surface samples (i.e. 4 feet bgs or less) were also submitted to the laboratory for analysis from the initial soil borings; GeoScience Management, 2006). The results of laboratory analyses are summarized in the attached Tables 2 and 3; copies of the laboratory reports are included in the attached Site investigation reports; Appendix B.

DCA was not detected in any of the 70 soil samples selected for laboratory analyses (Table 2). In addition to soil sampling, a soil vapor survey was conduct in 2008 (G-Logics, 2009a) Seventeen vapor probes (VP-1 through VP-17) were installed to depths of approximately 4 feet bgs in the area were DCA was detected in groundwater (the probe locations are shown on Figure 4). Soil vapor samples were collected and submitted to the laboratory for analysis of VOCs. No VOCs were detected in any of the samples analyzed (G-Logics, 2009a).

Further evidence that there is no remaining residual source of DCA is supported by the marked decrease of DCA concentrations in groundwater samples collected periodically since 2006; Table 3). In addition, the DCA concentrations are much lower than concentrations that would indicate that the DCA has sunk to the bottom of the aquifer (a concern expressed in Ecology's Opinion letter, Appendix A; Ecology, 2006). For there to be an indication that DCA has sunk through the aquifer, concentrations need to be greater than 1 gram per liter (g/L) or 1,000,000 micrograms per liter (µg/L) (Schwille, 1988). The highest concentrations of DCA detected at the Site were from Well MW-1 at 69 µg/L in 2006 and 18 µg/L in 2010. However, in response to Ecology's request to install a deeper well on-site to evaluate the potential that the DCA sank through the aquifer, a soil boring (GB01) was drilled between (and slightly north of) the impacted wells MW-1 and MW-5 (Figure 4). A well could not be installed in this soil boring due to the presence of heaving sands (liquefied sands that are forced up through the drill casing due to hydraulic pressure). No other VOCs were detected above MTCA cleanup levels in the soil or groundwater samples analyzed except for occasional minor detections of a couple of VOC compounds that were generally at or near the detection level. Additional details regarding the soil sampling, well installation, and groundwater sampling are provided below.

TPH has been detected in a few soil samples collected from the Site (Table 2). TPH as diesel and heavy oil (TPH-D and TPH-O, respectively) were detected in a soil sample collected from Boring B-3 (Figure 4) at a depth of 2.5 to 4 feet bgs (180 and 860 milligrams per kilogram (mg/k), respectively). These concentrations are well below the MTCA Method A cleanup levels for TPH-D and TPH-O in soil (2,000 mg/k). TPH-D was detected (3900 mg/k) above the cleanup levels in soil samples collected from Soil Boring GL-8 (located near Well MW-10; Figure 4) at a depth of 14 feet bgs, and in a soil sample collected from Boring GB-03 (located next to Well MW-08) at a depth of 10 feet bgs (2100 mg/k TPH-D). A total of five other soils samples from various borings also had some TPH detections but well below the MTCA soil

cleanup levels and with no particular pattern to the detections (Table 2). The sporadic TPH detections in soil are not unusual for commercial property in an urban location and could be attributed to drips and dribbles of oil from heavy equipment/construction activities. TPH was generally not detected in groundwater samples collected from the monitoring wells, with the exception of one sample collected in 2009 from Well MW-10 (590 µg/L), above the cleanup level for groundwater (500 µg/L). Three sampling events since this detection did not detect any THP.

Summary of Well Installations and Sampling

A total of 15 groundwater monitoring wells have been installed at the Site (Wells MW-1 through MW-15; Figure 2) to characterize soil and groundwater conditions. The wells were installed progressively from 2006 through 2010 due to 1,2-dichloroethane (DCA) that was detected above MTCA Method A cleanup levels for groundwater (5 µg/L) in two groundwater samples collected from soil borings installed at the Site in 2003 (Table 3; GeoTech, 2003). The samples were collected using temporary sampling methods; wells were not installed). These results were previously reported to Ecology as part of entering the VCP program (the locations of the soil borings, B-1 through B-3 and SB-1 through SB-5, are shown on Figure 4). The DCA was found in two locations at the Site, in the northwestern area of the Site (Boring B-3) and the south-central area (Boring B-1).

Monitoring Wells MW-1 and MW-3 were subsequently installed adjacent to the soil borings where DCA was detected. Groundwater samples were collected three times from MW-1 in 2006 that contained DCA concentrations between 50 and 70 µg/L (Table 3). Groundwater samples collected from MW-2 and MW-3 did not detect DCA or TPH above MTCA cleanup levels. Monitoring Wells (MW-4 through MW-6) were then installed up-gradient from MW-1 to further delineate the dissolved DCA. DCA was detected above cleanup levels in groundwater samples collected in 2006 from MW-5 and MW-6 at concentrations of 61 and 32 µg/L, respectively. DCA was also detected in 2006 in groundwater samples collected from MW-4 at a concentration of 6 µg/L, slightly above the MTCA cleanup level.

Monitoring Wells MW-7 through MW-13 were installed in 2009 to further delineate the dissolved DCA. DCA was only detected above MTCA cleanup levels in groundwater samples collected from MW-8 (7.6 µg/L). Wells MW-14 and MW-15 were then installed in 2010 up-gradient of MW-6 and MW-8. No detection of DCA was found in the groundwater samples collected from these wells, which completed the delineation of the dissolved DCA. Additional wells cannot be installed cross-gradient to the south of impacted Wells MW-1 and MW-5 due to the presence of East Madison Street, but the dissolved plume does not appear to extend beyond the southern property boundary due to the steep groundwater gradient to the west and the rapidly decreasing concentration gradient between wells in this area.

FEASIBILITY STUDY

A Feasibility Study was conducted to evaluate potential remedial technologies to mitigate the dissolved DCA in groundwater at the Site based on the results of the site investigation activities. Nine alternatives were evaluated:

Alternative 1 – Natural Attenuation and Monitoring
Alternative 2 – Anaerobic Dechlorination
Alternative 3 – Aerobic Co-metabolic Dechlorination
Alternative 4 – In-situ Chemical Oxidation
Alternative 5 – Zero Valent Iron
Alternative 6 – Air Sparging
Alternative 7 – Groundwater Pump and Treat
Alternative 8 – In-situ Groundwater Circulation/Stripping
Alternative 9 – Dual-phase Extraction

These alternatives were evaluated under the supervision of a professional Hydrogeologist with assistance of a professional Engineer (specialist in remediation systems), both registered and licensed in the State of Washington. Alternative 7 – Groundwater Pump and Treat was selected as the preferred alternative for the Site. The evaluation of these remedial technologies described below, followed by the rationale for retaining or omitting the alternative for further consideration at the Site. The rationale for selecting a preferred alternative, groundwater pump and treat, is then presented followed by a Cleanup Action Plan for the Site. The cleanup goal for the Site is to achieve cleanup levels for the impacted groundwater within approximately one year of system operation, followed by confirmation through groundwater monitoring for approximately one year following cessation of active remediation activities.

The evaluation of alternatives for this site is partly based on TechSolve's experience with a similar site (The Braeburn, Facility/Site No.: 535227421, VCP No.: NW0887) located a few blocks from the Taco Time site. The Braeburn has similar site hydrogeology characteristics, and similar contaminants and concentrations. A letter of No Further Action (NFA) was received for the site upon completion of the cleanup and confirmation monitoring activities (Ecology, 2008).

Alternative 1 – Natural Attenuation and Monitoring

The DCA at the Site has only been detected in groundwater and the dissolved plume appears stable (e.g. not migrating), and the concentrations have been decreasing markedly since monitoring began in 2006 (the concentrations are roughly half of what they were in 2006). There is no imminent threat to human health or the environment; however, the current rate of decrease will likely not reach the cleanup levels desired for redevelopment of the Site in the next few years due to the recalcitrant nature of DCA (i.e. requires anaerobic conditions for significant natural degradation, conditions that are not common in natural settings and not at this site).

Alternative 2 – Anaerobic Dechlorination

Anaerobic dechlorination is a process whereby an organic carbon source, such as sodium lactate, whey, or molasses (among others), is added to a dissolved and/or residual-phase plume

of CVOCs. Indigenous or introduced microbes feed on the organic carbon and create increasingly anaerobic (anoxic) and reducing conditions. Under reducing conditions, the population of microbes capable of consuming the targeted contaminants is increased. The CVOCs are thus reduced biologically through anaerobic respiration to produce daughter products, followed by either natural or induced aerobic conditions for final contaminant destruction.

Anaerobic dechlorination can be effective at reducing contaminant concentrations as high as 500 milligrams per liter (mg/L) but is of limited value at lower concentration limits. Specifically, at concentrations below approximately 100 micrograms per liter (µg/L), there is insufficient contaminant loading for the respiration process to continue and the microbes are suffocated. At the former Taco Time property, the starting concentration is currently approximately 20 µg/L at the area of highest concentrations (Well MW-1), well below the 100 µg/L threshold described above. For this reason, anaerobic dechlorination is not expected to be effective and was not retained for further consideration.

Alternative 3 – Aerobic Co-metabolic Dechlorination

Aerobic dechlorination shares some of the same processes as the anaerobic process described in Alternative 2. For this alternative, a carbon source consisting of dissolved propane, ethane, or butane (again among others) is introduced into the subsurface. For the co-metabolic process, aerobic (oxygen-rich) conditions are maintained as the microbes capable of degrading the CVOCs are oxygen-respiring. The CVOCs do not provide any benefit to the microbe and are degraded fortuitously by an enzyme produced by the microbes.

Aerobic dechlorination, unfortunately, is not effective for chlorine-saturated compounds such as DCA. For this reason, this alternative was not retained for further consideration.

Alternative 4 – In-situ Chemical Oxidation

Chemical oxidation is a physical/chemical process involving the introduction of a strong oxidant to directly "attack" the targeted contaminant. Compounds such as Fenton's reagent, hydrogen peroxide, and potassium permanganate have been used in environmental applications such as the former Taco Time site to varying degrees of success. The oxidant has a limited lifetime in the subsurface, which limits the distance at which the oxidants travel in the subsurface before they are inactive. Because oxidation requires direct contact between the contaminant and the oxidant, a dense network of injection wells/points may be required to achieve successful treatment.

Oxidation is a very rapid process, which accounts for its popularity under a variety of conditions. Where applicable, oxidation may reduce contaminant concentrations over a period of days or weeks, compared to many other alternatives that may require months, years, or even decades to achieve closure status. Because of its applicability to the targeted contaminant at this site (DCA) and speed of treatment, oxidation is retained for future consideration should the selected alternative not perform as expected. This alternative was not selected at this time due to the uncertainty of its performance under conditions encountered at this site, and the relatively high capital cost for implementation.

Alternative 5 – Zero Valent Iron

Zero valent iron (ZVI) treatment is another physical/chemical treatment process that involves the direct reduction of CVOCs through a corrosion process (iron is oxidized and the solvent is reduced in a redox-reaction). Hydrogen is also produced by the iron, which may influence additional breakdown of the contaminant through biological means. ZVI treatment has been used for a number of years within permeable reactive barriers (PRBs) that treat groundwater flowing under natural gradient conditions. The PRBs provide for containment of the plume with little routine, day-to-day operations. More recently, small particles of ZVI have been injected directly into a plume of chlorinated compounds to treat the
solvents where they reside within the subsurface. The injection of the ZVI is considered an innovative but currently unproven technology.

Given the applicability of competing alternatives, and unproven status for this alternative, ZVI was not selected as the alternative for immediate application at the site. As with the other alternatives retained for future consideration, ZVI will be re-evaluated should the selected alternative not perform as expected.

Alternative 6 – Air Sparging

Air sparging is a physical process that takes advantage of a contaminant's volatility and low solubility. Briefly, sparging involves the introduction of compressed air to the targeted contaminant plume. For compounds with high Henry's Law coefficients, the contaminants preferentially partition into the injected air and are removed in vapor phase. Air sparging systems are typically combined with a soil vapor extraction system (SVE) to remove the volatilized contaminants from the subsurface and to prevent the build-up or uncontrolled migration of these compounds. DCA is one of the compounds that can respond favorably to the injection of air into the subsurface given its physical properties.

Air sparging is most affective in aquifer soils that have a high permeability. Though glacial till tends to have very low permeability overall, there can be localized lenses of soils with higher permeability due variations in the physical properties associated with the glacial depositional systems. TechSolve used this technology a couple of years ago as part of a remediation system that was used to successfully cleanup up a similar groundwater problem at a site located a couple of blocks from the former Taco Time site that has similar subsurface conditions (The Breburn, VCP No. NW 0887; NFA dated March 8, 2008; Ecology, 2008). The remediation system at that site employed multiple technologies and the air sparging portion of the system was not very effective because of the low permeability of the till. Air sparging is retained as a potential future remedial alternative, but has not been selected as the preferred alternative for immediate application. The alternative is also less favorable than the alternative selected due to its relatively high capital cost and potential for short-circuiting within the subsurface. In the event that the selected alternative does not perform as expected, air sparging may be further evaluated for potential application at this site.

Alternative 7 – Groundwater Pump and Treat

Pump and treat is one of the earliest technologies applied to environmental cleanups. The

alternative involves the removal of groundwater from within the plume area, above-ground treatment (when necessary to achieved discharge standards), and off-site disposal or re-infiltration of the treated groundwater. Pump and treat has demonstrated its ability to maintain hydraulic control over a plume preventing potential migration, and has demonstrated success at reducing concentrations of dissolved constituents to levels applicable for a "clean closure". Some challenges with pump and treat systems is that the contaminants have been found to solubilize very slowly from the soil matrix resulting in potential minimal contaminant mass removal rates and a longer (if not indefinite) project duration. However, this technology proved to be affective at assisting with mitigating a plume of similar CVOCs of similar concentrations within approximately one year of operation at the Braeburn site. Therefore, pump and treat is retained as the preferred alternative for implementation at this time. The effectiveness of the pump and treat technology will be re-evaluated should the selected alternative not perform as expected.

Alternative 8 – In-situ Groundwater Circulation/Stripping

Alternative 8- in-situ groundwater circulation/stripping, involves the continuous pumping of groundwater within the dissolved plume. In contrast to the pump and treat alternative (Alternative 7), the pumped water in this alternative is simply discharged within the pumping well creating highly agitated conditions within the well bore. Simultaneous with the discharge of water within the bore, air is injected to further increase the interaction between air and the dissolved contaminants. As described previously, the targeted contaminant at the site (DCA) will preferentially partition into the injected air where it can be removed in vapor phase. For this alternative, a vacuum is applied at the wellhead to remove the contaminant-laden air, which can then be discharged to the atmosphere if the concentrations are within permit requirements, or treated using carbon adsorption, if needed.

This alternative combines many of the aspects of air sparging and groundwater pump and treat, without the requirement for off-site disposal of groundwater. This alternative was used successfully at the Braeburn site; however, the plume size at the Braeburn was smaller than that detected at the former Taco Time site. In addition, monitoring of the Braeburn system suggested that the groundwater pumping portion of the system was the most effective part of the system. Therefore, this alternative has not been selected for implementation at the site but is retained for future consideration, if needed.

Alternative 9 – Dual-phase Extraction

Dual-phase extraction combines groundwater pump and treat (Alterative 7) with vapor extraction. The alternative locally reduces groundwater levels (through dewatering) and allows for the removal of contaminants in vapor phase through the simultaneous withdrawal of contaminant-laden vapors from the dewatered soils (released from groundwater to the soil pore spaces as a result of the dewatering).

Dual-phase extraction is typically employed at sites with much higher contaminant concentrations than are found at the former Taco Time site. The technology is capital and labor intensive and, thus, applicable to sites where an aggressive, high energy approach is warranted based on the level of contamination. Given the expected performance of the selected alternative,

dual-phase extraction was not retained for immediate application at this property but will be re-evaluated should the pump and treat alternative not achieve the results expected.

The selected remedial alternative, groundwater pump and treat- Alternative 7, has been selected for the site, pending Ecology's concurrence. The planned activities for the system design and implemented is discussed in the following section.

SITE CLEANUP ACTION PLAN

Alternative 7- groundwater pump and treat has been selected for initial implementation at the site based primarily on TechSolve's experience at the Braeburn site that is located a couple of blocks from the former Taco Time site and had similar CVOC contaminants and site conditions. Groundwater extraction wells are anticipated to be needed to be installed in the area of the impacted monitoring wells (MW-1, MW-5, MW-6, and MW-8; Figure 2). A pumping test is planned to be conducted initially using the existing wells to aid in the system design for determining the radius of capture that can be expected per well, the number of extraction wells needed, well diameters, depths and spacing, and to assist in permitting and disposal options for the recovered groundwater. It is anticipated that the groundwater will be able to be discharged to the storm sewer though treatment using carbon adsorption may be needed. The pumping test will also assist with determining pumping sizes and anticipated flow rates, and for sizing/designing piping and system controls. In addition to installing a system to address the dissolved DCA, the soils contained sporadic detections of TPH above MTCA cleanup levels will likely be removed during the planned site redevelopment activities (i.e. excavation for underground parking). A field scientist could be on hand during the excavation activities to monitor for and segregate contaminated soils for proper disposal.

The performance goals for the remediation system is to achieve cleanup within approximately one year of operation, before site redevelopment activities are initiated. The effectiveness of the system to achieve these goals will be continuously evaluated during operation activities through system and groundwater monitoring. Upon achieving the cleanup goals, groundwater monitoring is planned to be continued for approximately one year to ensure that there are no rebound effects after the pumping system has been discontinued. The system design activities will be conducted under the supervision of a professional engineer registered in the state of Washington. In addition, all activities will be conducted under the supervision of a professional hydrogeologist also registered in the state of Washington. Ecology will be kept appraised of the project progress and will be included in the decision processes.

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_____, 2008. No Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site: Braeburn Condominiums/Former Red Apple Market, 1400 East Pine Street, Seattle, Washington, 98122. Facility/Site No.: 535227421, VCP No.: NW0887, March 20, 2008.

FIGURES

Figure 1: Site Location Maps
Figure 2: Groundwater Elevation and Contour Map
Figure 3: Schematic Cross Section A-A'
Figure 4: Boring Locations

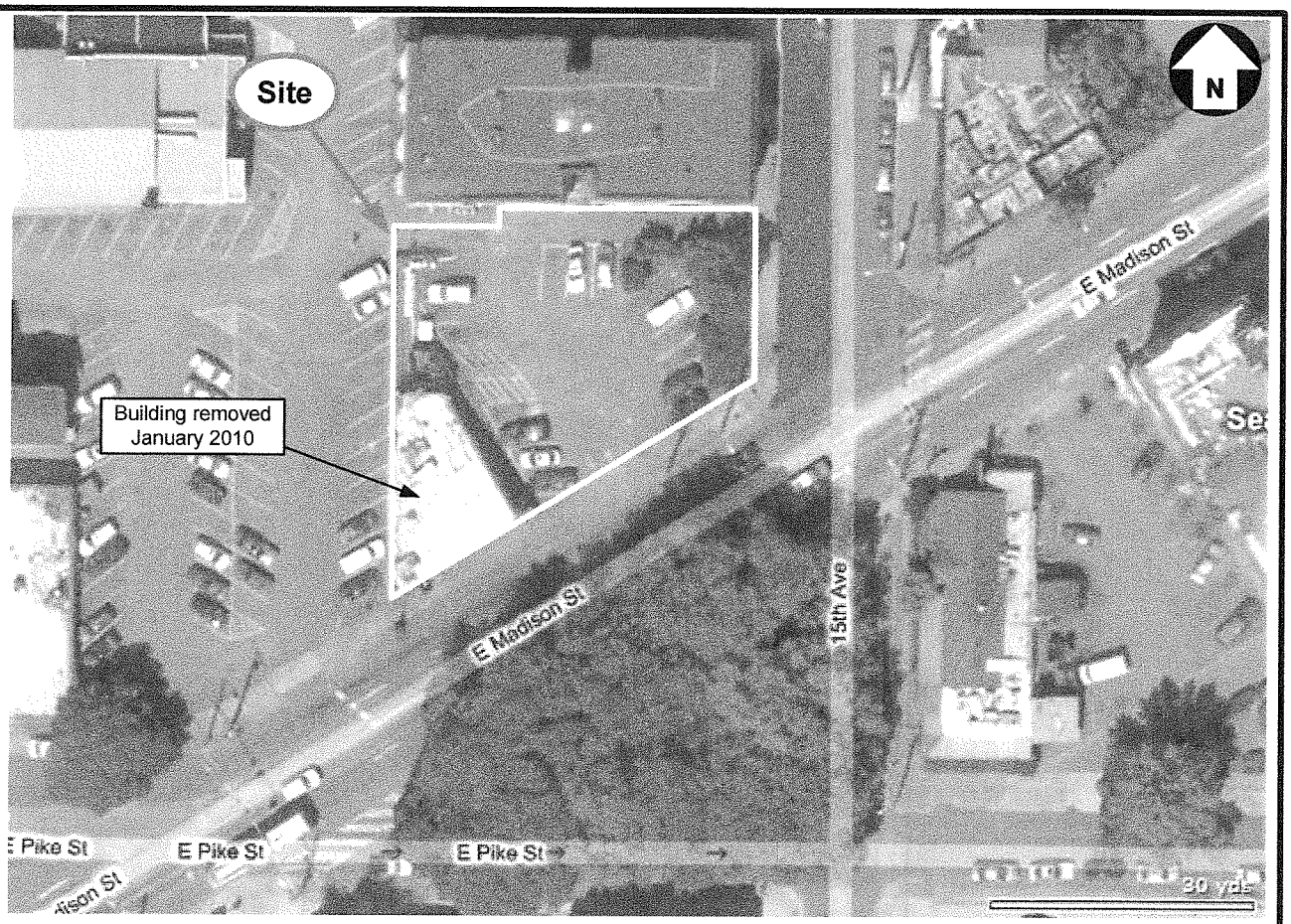
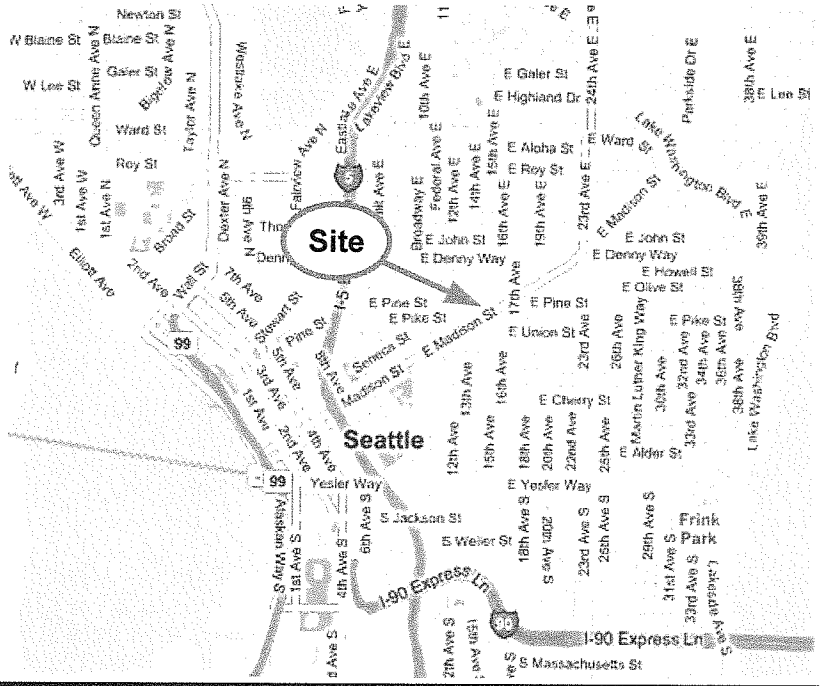
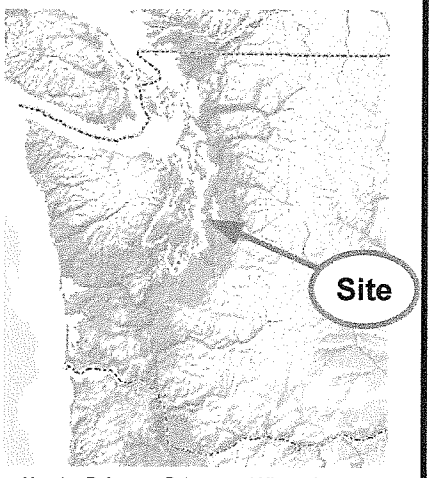


Photo circa 2007





Mapping Reference: Delorme and Microsoft Virtual Earth

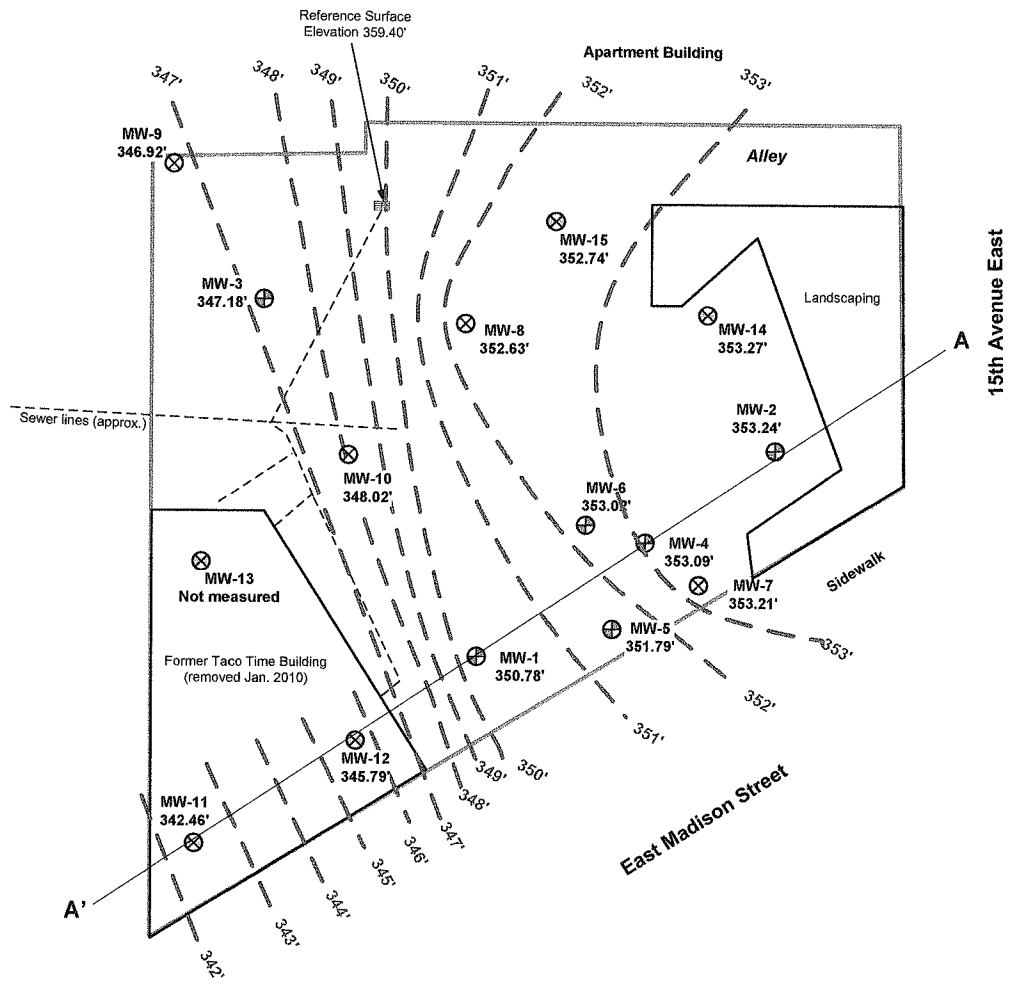
g-logics

Project File: 01-0609-F-F1.vsd

Site Location Maps
Taco Time
1420 East Madison Street
Seattle, Washington

Figure
1

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.



Legend

- Approximate Property Line
- Monitoring Well (installed 2006)
- Monitoring Well (installed 2009)
- Monitoring Well (installed 2010)
- MW-1 77.97' — Monitoring Well Identification (August 20, 2010) Groundwater Elevation in Feet
- 351' — Approximately GW elevation contour
- Schematic Cross-Section A-A' (Figure 3)

Notes

1. The contours represent an interpretation of available data, for the indicated date. Site groundwater contours may change with additional measurements and/or data points, weather changes, construction activities, and/or other influences.
2. Mapping Reference: Geotech Consultants, Noll Environmental, and GeoScience Management Mapping, G-Logics' Site Visit Measurements, Google Aerial Photography, Taco Time Survey

Approximate Drawing Scale: 1" = 20'
0 ft. 12 ft. 20 ft. 40 ft.

g-logics

Groundwater Contours – 08/20/2010
Taco Time
1420 East Madison Street
Seattle, Washington

Figure 2

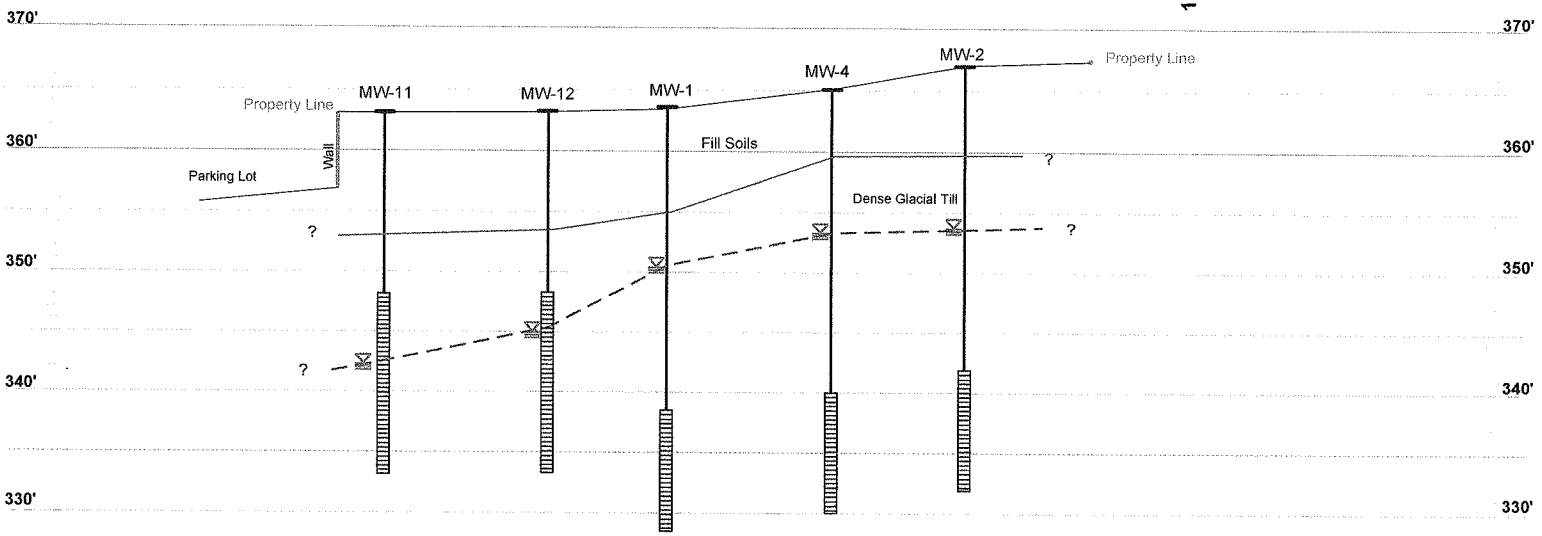
Project File: 01-0609-F-F2.vsd

g-logics

A'

A

15th Avenue East



Legend

- Ground Surface
- Approximate Groundwater Table (08/2010)
- Approximate Fill / Native Interface

Approximate Horizontal Scale: 1" = 20'

0 ft. 12 ft. 20 ft. 40 ft.

Vertical Scale: 1" = 10'

0

10

Schematic Cross-Section A-A'

Former Taco Time

1420 East Madison Street

Seattle, Washington

Figure 3

Project File: 01-0609-F3.vsd

Mapping Reference: Taco Time Survey and G-Logics' Site Visit Measurements

ENVIRONMENTAL
ASSOCIATES, INC.

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April 17, 2012 JN-28248-2

Mr. Robby Tonkin
Taco Time Northwest
3300 Maple Valley Highway
Renton, Washington 98058

RE: Groundwater Sampling & Preliminary Hydraulic Conductivity Assessment
Former Taco Time
1420 East Madison Street
Seattle, Washington

Dear Mr. Tonkin:

Environmental Associates Inc (EAI) has completed sampling and laboratory testing of groundwater from eight (8) of the 15 on-site groundwater monitoring wells. Additionally, EAI has performed a preliminary field evaluation of the hydraulic conductivity of the groundwater bearing zone encountered to date below the subject site. The aforementioned sampling results along with some preliminary groundwater flow modeling have resulted in recommendations for modification of proposed site environmental remediation plans, as will be presented in this letter report. This work was performed in fulfillment of the scope of work outlined in our general consulting agreement PR-28248-2, dated February 17, 2012, and subsequent proposal PR-28248-2A, dated March 12, 2012.

March 2012 Groundwater Sampling Event

On March 15 and 16, 2012, EAI visited the site to collect representative groundwater samples from eight (8) of the 15 on-site monitoring wells. The sampled wells included (MW-1, MW-5, MW-6, MW-8, MW-10, MW-11, MW-12, and MW-14). The selected monitoring wells included locations where environmental contaminants of interest (namely 1,2 dichloroethane [DCA] and petroleum hydrocarbons) had historically been present, and included select locations to evaluate the current lateral extent of contaminants.

Water Table Survey

Prior to sampling the selected monitoring wells, an electronic meter was used to measure the depth to groundwater below the top of each well casing. The following Table-1 presents the recorded data and the corresponding elevation of the water table deduced from prior survey data:

Table 1: Water Table Survey Data

Monitoring Well	Depth to Water below top of casing (ft)	Water Table Elevation (ft) above mean sea-level
MW-1	12.45	351.15
MW-5	13.68	352.21
MW-6	11.56	353.35
MW-8	9.37	352.88
MW-10	13.22	349.18
MW-11	20.62	342.58
MW-12	16.70	346.63
MW-14	11.78	353.72

An analysis of groundwater table elevations as part of a larger groundwater modeling effort (to be discussed in later sections) deduced a generalized westerly groundwater flow direction, consistent with flow directions reported during prior site environmental investigations by other past consultants.

Groundwater Sample Collection

Prior to sampling each selected monitoring well the stagnant water within the well casing was "micro-purged" utilizing a peristaltic pump. Purging continued until parameters such as pH, temperature, conductivity, and other geo-chemical properties of the groundwater suggested that the extracted water was representative of natural groundwater conditions. Samples were then transferred directly into laboratory-prepared sample-ware for transport to the project laboratory for analysis.

Additional groundwater samples from four (4) of the monitoring wells (MW-1, MW-8, MW-11, and MW-14) intended to be analyzed for dissolved iron, were also field-filtered to remove suspended solids by using in-line 0.45 micro filters attached to the peristaltic pump tubing.

Laboratory Analysis & Results

Table 2, below lists each monitoring well and the corresponding compounds tested for by the project laboratory.

Table 2: Laboratory Analysis Selected For Each Groundwater Sample

Monitoring Well	Chlorinated VOCs	Diesel & Oil Range Petroleum	Dissolved Iron
MW-1	X		X
MW-5	X		
MW-6	X	X	
MW-8	X	X	X
MW-10	X	X	
MW-11	X		X
MW-12	X		
MW-14	X		X

Laboratory Results

Table 3, below presents the laboratory results for the groundwater samples recovered and submitted to the project laboratory. A copy of the lab report is included in Appendix-A.

Table 3: Laboratory Results in Parts-Per-Billion (ppb)

Monitoring Well Sample	1,2 Dichloroethane (DCA)	Diesel & Oil Range Petroleum	Dissolved Iron
MW-1	***8.9***	Not Analyzed	<250
MW-5	***9.9***	Not Analyzed	Not Analyzed
MW-6	<1	<50	Not Analyzed
MW-8	***7.0***	<50	<250
MW-10	<1	***540***	Not Analyzed
MW-11	<1	Not Analyzed	573
MW-12	<1	Not Analyzed	Not Analyzed
MW-14	<1	Not Analyzed	<250
WDOE Compliance Level	5	500	---

As presented in the above Table 3, the chlorinated VOC 1,2 dichloroethane (DCA) continues to be detected in site groundwater at three (3) of the eight (8) locations sampled and tested as part of this current study. The detected concentrations ranged from 7.0 ppb to 9.9 ppb. For reference the WDOE's target compliance level for DCA in groundwater is 5.0 ppb. Plate 1, Site Plan - DCA In Groundwater, presents a graphic representation of the current inferred extent of DCA in site groundwater.

In comparison to prior sampling events presented in Table 4, below, it appears that concentrations of DCA in the groundwater underlying the subject site continue to decline at specific wells as well as on average across the site.

Table 4: Prior Concentrations (ppb) of DCA in Select Monitoring Wells

Monitoring Well	2006	2009	2010	Current March 2012
MW-1	69	23	18	8.9
MW-5	61	<1	8.1	9.9
MW-6	32	7.0	15	<1
MW-8	well not present	8.4	8.2	7.0
Site Average	**54**	**9.7**	**12.3**	**6.6**

In regard to diesel range petroleum hydrocarbons, past groundwater sampling events by others have only reported periodic detections in groundwater at MW-10. The last detection of diesel at MW-10 was reported by G-Logics during their May 2009 sampling event. At that time, the concentration of diesel in the groundwater was 590 ppb. As presented in Table 3, the groundwater at MW-10 presently contained 540 ppb diesel. To date the detected concentrations of diesel in the groundwater at MW-10 have only marginally exceeded the WDOE's 500 ppb target compliance level. This potentially isolated area of diesel impacted groundwater is graphically depicted on Plate 2, Site Plan-Diesel In Groundwater.

Preliminary Estimate of Hydraulic Conductivity

As part of the current assignment, EAI performed "slug-tests" in a several of the monitoring wells (MW-1, MW-8, and MW-14). In simplified terms a "slug-test" involves a near instantaneous removal of a known volume of groundwater from the monitoring well casing followed by repeated measurements of depth to groundwater over the period of time it takes for the water level recover return to its pre-slug removal level. The acquired data was then analyzed following established hydrogeologic methodologies (Bouwer & Rice) resulting in an approximation of hydraulic conductivity of 1.5 E^{-6} m/s (or 0.43 ft/day), which appears consistent with expectations for silty-sands and glacially derived materials, such as those reported to underlie the subject site.

The derived estimate of hydraulic conductivity was then integrated into a very preliminary groundwater model (MODFLOW) of the subject site. Simulations run on that model predicted sustainable groundwater pumping rates less than 2 gallons per minute, accompanied by minimal lateral radius or radii of influence (i.e. the cone of depression around an extraction well that acts as a contaminant capture zone).

The tentative conclusion from the preliminary modeling effort is that a groundwater "pump and treat" approach could require numerous closely spaced extraction wells, all of which would operate a fairly low pumping rates. Such a system may have to run for a period of years to pump a sufficient amount of groundwater to strip the residual contaminant mass from the water-saturated soil. More simply stated, at present a classic "pump and treat" scenario appears to potentially be inefficient and time-prohibitive for the currently proposed redevelopment of the property.

During recent meetings with the developer, nearby construction sites were discussed, where site dewatering activities essentially "dried-up those sites, with little or no re-accumulation of groundwater following termination of dewatering efforts. This scenario is often visualized as a "bathtub" effect. EAI is aware of similar results on other nearby sites during past redevelopment activities.

Proposed Revision to Remediation Plan

Taking into account the findings of this current study, namely an apparent continued decline in site contaminant mass, and potential inefficiencies which might accompany a more traditional groundwater "pump and treat" system, and site dewatering may follow "drying out" trends observed by other developed on nearby site. the following revisions to the remediation plan are offered for consideration:

- Manage contaminated groundwater at the time of site redevelopment. Presently prepared architect plans for the proposed building will likely require some degree of excavation dewatering to accommodate the proposed underground parking. Contaminant concentrations in the groundwater underlying the site appear to be low enough that only minimal treatment may be necessary to allow the water to be discharged to the local sanitary sewer / municipal system. The simplest treatment may be the use of activated carbon. Since excavation dewatering may already be necessary, the only increased costs due to the environmental impairment would be for the additional activated carbon treatment. Based upon some preliminary calculations of average contaminant concentrations and projections of groundwater volumes to potentially be discharged, only 200 pounds of carbon may be needed to absorb the contaminants out of the discharge water. Average prices for activated carbon presently range between $0.70 to $1.20 per pound. Additional costs would also be incurred to provide for an environmental technician to periodically visit the site to collect representative discharge samples to ensure that the carbon canisters are fully absorbing the contaminants of interest.

For preliminary budgetary purposes such costs for system monitoring (including laboratory costs, field time, and documentation preparation) may be on the order of $10,000 to $15,000. It is also conceivable that the City of Seattle and/or King/Co Metro Sewer may charge a fee and/or have a per-gallon discharge cost, however such costs may already have to be considered for dewatering in general and may not be solely due to environmental contaminant management.

- Long-term subsurface garage / foundation drainage system design. Acknowledging that the proposed underground parking appears to intersect the existing groundwater table, a permanent groundwater management system would likely have to be incorporated into the building design, even if groundwater does not immediately return following excavation dewatering. Typically such system includes a network of collector galleries piped to a central sump pump that, when triggered by high-water float switch, pumps the water into the connected municipal sanitary sewer. If contaminant levels in the captured groundwater remain elevated above levels permissible for sanitary sewer disposal, this system may also require some form of pre-discharge treatment. Again, designing the system to accommodate an activated carbon scrubber or other technology may be a simple and cost-effective solution.

- Provide Groundwater Monitoring Access. Since this revised remediation approach combines remediation efforts with site redevelopment, a means of monitoring groundwater following completion of the active remediation efforts will most likely be required if it remains the Client's desire to eventually apply to the WDOE for a determination of "no further action" (NFA). The WDOE typically requires that groundwater remain in compliance with target levels for at least four (4) consecutive quarters of monitoring. The majority of the existing on-site monitoring wells will most likely have to be decommissioned and removed by a licensed well driller prior to beginning site excavation. Drilling replacement wells through the garage floor may not be advisable if water-head pressures are above the base level of the garage. As an alternative, it may be possible to limit replacement wells to perimeter areas and/or within adjacent right-of-ways, such as within the sidewalk along East Madison Street. Sampling of any accumulated groundwater by the foundation sump system, could also be proposed as part of the cleanup confirmation sampling program. It would be advisable to seek comment from the WDOE regarding this post-remediation monitoring detail.

- Be prepared for Encountering Some Contaminant Impaired Soil. Prior consultants have completed numerous soil borings across the site. To date, of all the soil samples collected and analyzed for chlorinated volatile compounds (cVOCs) none have reportedly been detected above WDOE target compliance levels. The same is not true for petroleum hydrocarbons. Plate 3, Site Plan - Diesel in Soil presents the locations where diesel and/or other petroleum products were reported to be present in recovered and analyzed soil samples. Red denotes concentrations exceeding WDOE target compliance levels, while orange denotes concentrations detected above the laboratory minimum detection limits.

A preliminary analysis of the locations and depths of the encountered petroleum impacted soil suggests three (3) areas of the property, where such soils may be encountered during site development. Each of these areas is further described in Table-5 below, along with a preliminary estimate on volume of impacted soil that might be encountered in those areas. Actual volumes of soil will only be known upon excavation.

Table 5: Areas of Petroleum Impacted Soil Delineated on Plate 3.

Area	Description	Estimated Volume	Tons
Area-1	Depicted by a red dashed line in the central section of the property at approximate depths between 9 and 14 feet below the ground surface. Soils within this area may contain petroleum-impacted soil with concentrations both above and below the target compliance level. Even soils with concentrations below the WDOE compliance level may exhibit odors and/or other property that could restrict their acceptance at some soil facilities.	330 cubic yards	495 tons
Area-2	Orange dashed line in the northwest corner of the property. Shallow soils within the upper few feet may contain concentrations of diesel and heavy oil petroleum. To date concentrations of petroleum in this area have not exceeded WDOE target compliance levels, however, soils from this area may exhibit odors and/or discolorations that may hinder their acceptance at some soil disposal facilities.	34 cubic yards	50 tons
Area-3	Orange dashed line in southeast quadrant of the property. As with the northwest corner shallow soil within the upper few feet in this area may also contain diesel and oil range petroleum. Although concentrations to date have not exceeded WDOE target compliance levels, soils from this area may exhibit odors and/or discolorations that may hinder their acceptance at some soil disposal facilities.	14 cubic yards	21tons

Reviewing Table 5, it is conceivable that approximately 566 tons of soil may require special disposal arrangements. Acknowledging that costs for soil excavation would already be included within the main construction budget, additional fees associated with the impacted soil may primarily be increased disposal fees. An average disposal cost for petroleum-impacted soil is approximately $45 per ton. Therefore 566 tons at $45/ton yields a cost estimate of $25,470. Applying an uncertainty factor of 1.5 would suggest that a budget of approximate $38,205 may be a reasonable preliminary set-aside for the potential alternative disposal of petroleum impacted soil. True costs would only be known upon completion.

Acknowledging that the source of the petroleum-impacted soil is not presently known, it may also be advantageous to have provisions for encountering one or more abandoned heating oil underground tanks, potentially related to former commercial stores that occupied the site prior to the former Taco Time.

Recommended Next Steps

Based upon the above discussions and current site findings, the following recommendations are offered within the understanding that the Client/Developer desires to move forward with the initial permit process for the planned redevelopment of the subject property and continues to seek eventual "closure" from the WDOE following the hopefully successful cleanup action.

- Prepare and submit a revised remediation plan to the Washington State Department of Ecology, as receipt of a positive response from that agency may have a positive effect on upcoming phases of the lengthy permitting process. EAI envisions taking the lead in this particular task.

- Make preliminary inquiries with Seattle / King County Metro Sewer as to what environmental treatment options and operating conditions may be required to discharge site dewatering effluent to the municipal sanitary sewer. This may be a joint task with EAI supporting the developer.

- Due to the large volume of soil to potentially be excavated for off-site transport and disposal, EAI highly recommends that the developer ensure that his selected soil disposal facility is aware of and comfortable with the currently known environmental conditions of the soils to be disposed of at their facility. This is likely a task for the developer to take the lead, with support from EAI when requested.

- Given the presence of diesel and oil range petroleum detected in some subsurface soil samples to date combined with the prior presence of several vintage commercial buildings on the subject property, it may be worthwhile to consider performing a geophysical survey, in an attempt to screen for possible abandoned underground tanks.

- A more elaborate groundwater "pump test" could be considered to verify and refine the preliminary estimate of subsurface hydraulic conductivity and groundwater model parameters. Such further testing would appear to be most desirable if it remained the intent of the Client/Developer to attempt groundwater pump and treat operations in advance of site excavation as had originally been planned. A pump test could also be useful if perimeter pumping wells were envisioned as part of the site's dewatering plan. Otherwise, if dewatering is primarily going to occur through exposure of the water table during excavation, the need for additional testing and groundwater modeling, while always of technical interest to the Consultant/Engineer, may not be necessary to accommodate the proposed revised site remediation plan.

Acknowledging that the source of the petroleum-impacted soil is not presently known, it may also be advantageous to have provisions for encountering one or more abandoned heating oil underground tanks, potentially related to former commercial stores that occupied the site prior to the former Taco Time.

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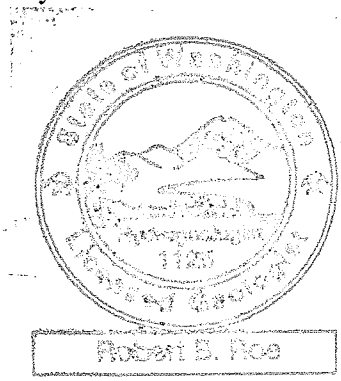
Limitations

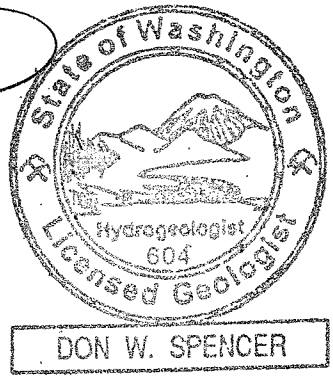
This letter has been prepared for specific application to this project in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. This document is for the exclusive use of Taco Time Northwest, Inc., along with their several representatives. Discussions with respect to subsurface environmental conditions rely solely upon sampling and testing conducted at separated sampling localities by others and environmental conditions may vary between those localities or at other locations, depths, and/or media. No warranty with respect to subsurface soil and groundwater conditions, and/or the existence of underground appurtenances, expressed or implied, is made here. Discussion of additional site assessment tasks and/or remediation methods has been provided for broad conceptual planning purposes only and does not constitute a bid from EAI to perform the work nor does EAI warrant that these preliminary figures are anything more than tentative. Actual costs may only be known following successful completion of the project. If new information is acquired or developed in future site work Environmental Associates, Inc., must be retained to reevaluate the conclusions of this letter report and to provide amendments as required.

We appreciate the opportunity to be of service on this project and trust that the information provided here is fully responsive to your needs. If you have any questions or we may be of additional service, please do not hesitate to contact us.

Respectfully submitted,
ENVIRONMENTAL ASSOCIATES, INC.

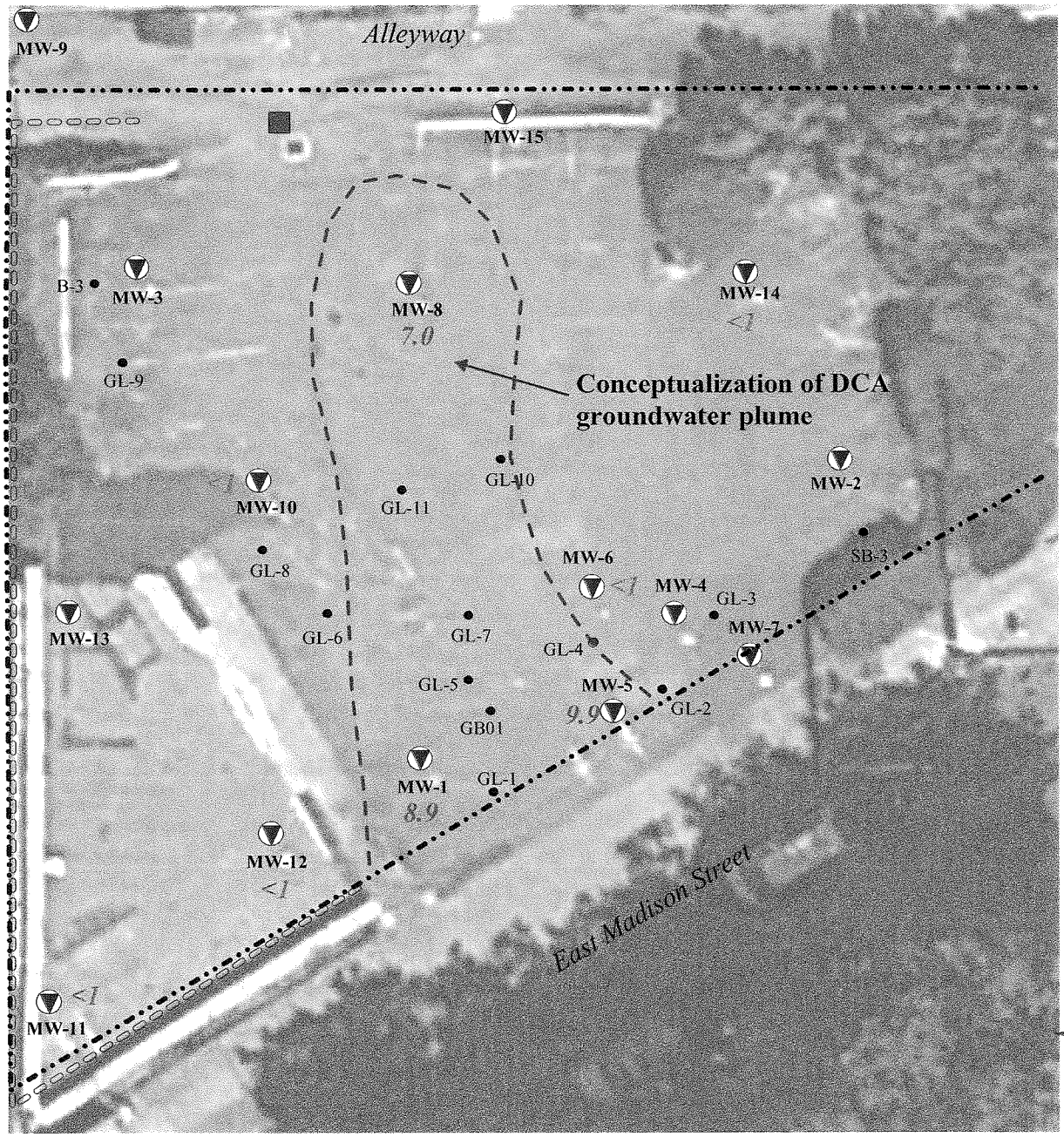


Robert B. Roe, M.Sc., P.G.
Project Manager/Hydrogeologist
License: 1125 (Washington)



Don W. Spencer, M.Sc., P.G., R.E.A.
Principal

License: 604 (Washington)
License: 11464 (Oregon)
License: 876 (California)
License: 5195 (Illinois)
License: 0327 (Mississippi)



- Monitoring wells installed by others.
- Temporary borings made by others.

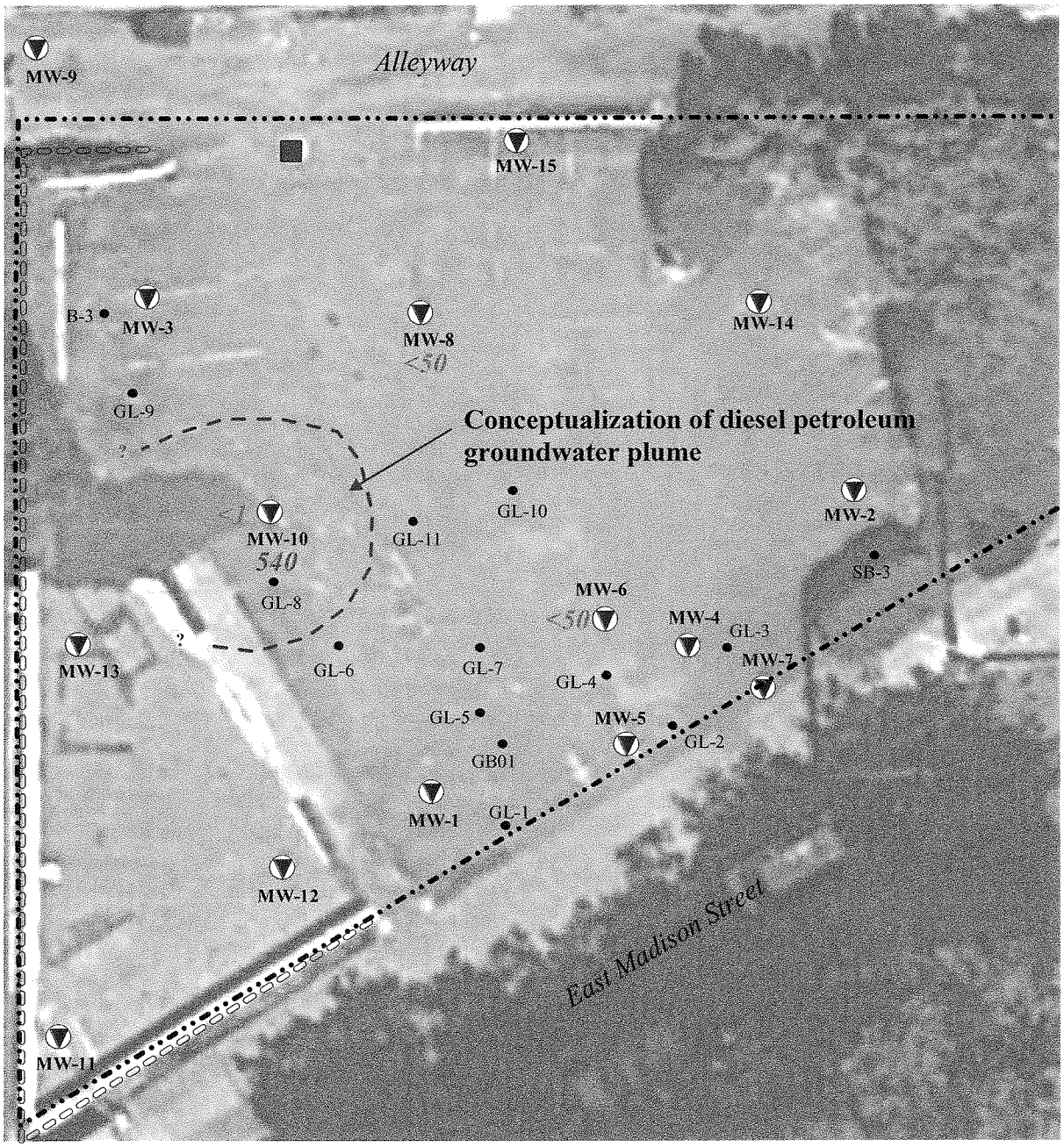
ENVIRONMENTAL ASSOCIATES, INC.

1380 112th Avenue N.E., Ste. 300
Bellevue, Washington 98004

Site Plan - DCA In Groundwater

Former Taco Time
1420 East Madison Street
Seattle, Washington

Job Number:	Date:	Scale:	Plate:
JN-28248-2	March 2012	1"=20'	1



- Monitoring wells installed by others.
- *540* Concentration of diesl dissolved in groundwater. Red denotes concentration above the WDOE 500 parts per billion (ppb) target compliance level. Green denotes, diesel not detected in groundwater above the laboratory's 50 ppb detection limit.
- • Temporary borings made by others.

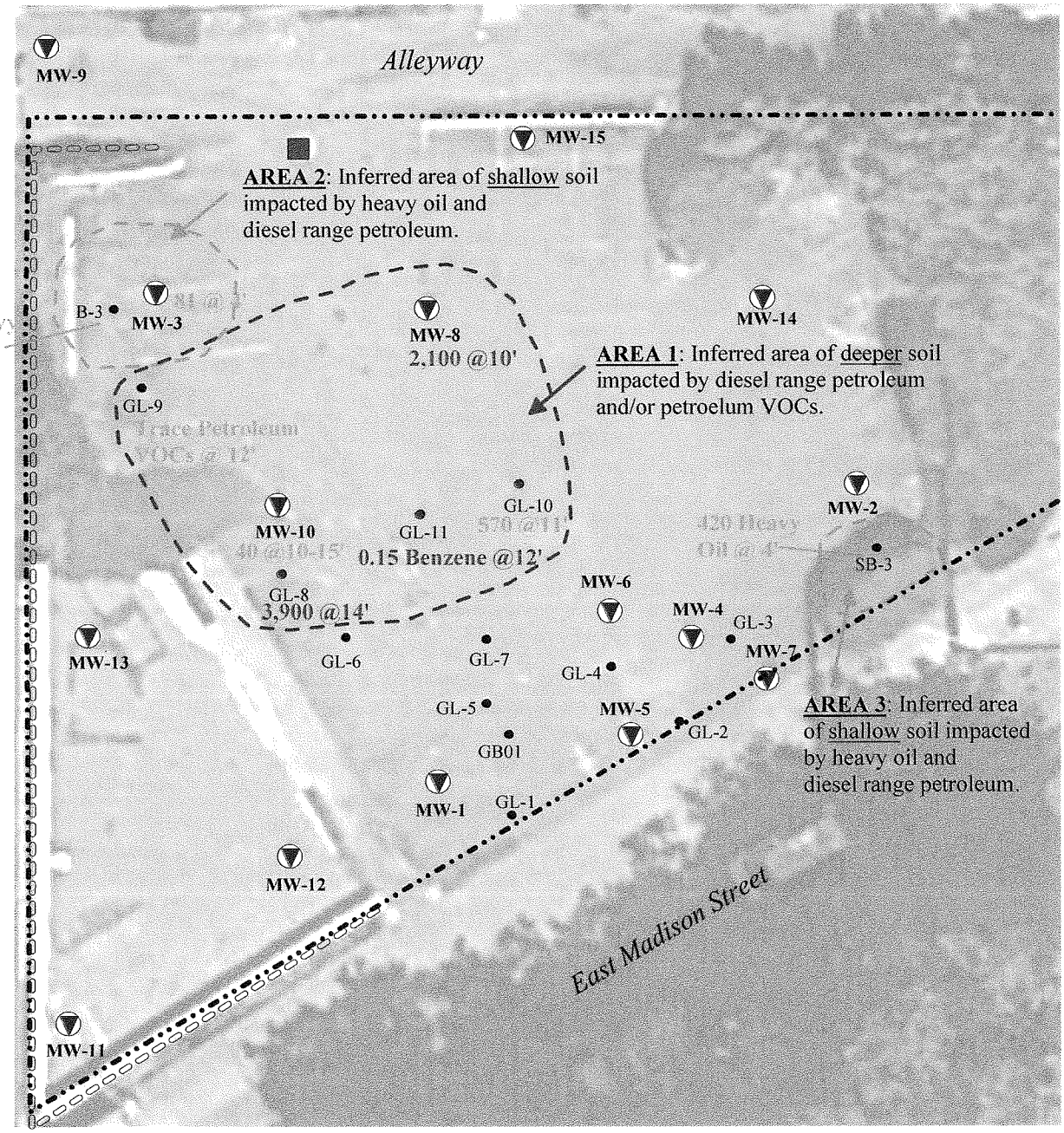
ENVIRONMENTAL ASSOCIATES, INC.

1380 112th Avenue N.E., Ste. 300
Bellevue, Washington 98004

Site Plan - Diesel In Groundwater

Former Taco Time
1420 East Madison Street
Seattle, Washington

Job Number:	*Date:*	*Scale:*	*Plate:*
JN-28248-2	March 2012	1"=20'	2



Monitoring wells installed by others.

3,900 Concentration of diesl in soil unless stated otherwise. Red denotes concentration above the WDOE target compliance levels. Orange denotes, locations petroleum product were detected in soil at concentrations below WDOE compliance levels.

• Temporary borings made by others.

ENVIRONMENTAL ASSOCIATES, INC.

1380 112th Avenue N.E., Ste. 300
Bellevue, Washington 98004

Site Plan - Diesel In Soil

Former Taco Time
1420 East Madison Street
Seattle, Washington

Job Number:	*Date:*	*Scale:*	*Plate:*
JN-28248-2	March 2012	1"=20'	3

APPENDIX-A

Laboratory Report

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
e-mail: fbi@isomedia.com

March 23, 2012

Rob Roe, Project Manager
Environmental Associates, Inc.
1380 112th Ave. NE, 300
Bellevue, WA 98004

Dear Mr. Roe:

Included are the results from the testing of material submitted on March 16, 2012 from the Madison Street Taco Time, PO JN-28248-2, F&BI 203241 project. There are 19 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
EAI0323R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 16, 2012 by Friedman & Bruya, Inc. from the Environmental Associates Madison Street Taco Time, PO JN-28248-2, F&BI 203241 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Environmental Associates
203241-01	MW-1
203241-02	MW-5
203241-03	MW-6
203241-04	MW-8
203241-05	MW-10
203241-06	MW-11
203241-07	MW-12
203241-08	MW-14

All quality control requirements were acceptable.

Date of Report: 03/23/12
Date Received: 03/16/12
Project: Madison Street Taco Time, PO JN-28248-2, F&BI 203241
Date Extracted: 03/19/12
Date Analyzed: 03/19/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
MW-6 203241-03	<50	<250	85
MW-8 203241-04	<50	<250	89
MW-10 203241-05	540	<250	91
Method Blank 02-464 MB	<50	<250	84

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-1	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-01
Date Analyzed:	03/21/12	Data File:	203241-01.042
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	86	60	125

Analyte:	Concentration ug/L (ppb)
Iron Screen	<250

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-8	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-04
Date Analyzed:	03/21/12	Data File:	203241-04.043
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	89	60	125

Analyte:	Concentration ug/L (ppb)
Iron Screen	<250

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-11	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-06
Date Analyzed:	03/21/12	Data File:	203241-06.044
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	68	60	125

Analyte:	Concentration ug/L (ppb)
Iron Screen	573

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-14	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-08
Date Analyzed:	03/21/12	Data File:	203241-08.045
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	80	60	125

Analyte:	Concentration ug/L (ppb)
Iron Screen	<250

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Associates
Date Received:	NA	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	I2-194 mb
Date Analyzed:	03/21/12	Data File:	I2-194 mb.041
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	76	60	125

Analyte:	Concentration ug/L (ppb)
Iron Screen	<250

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-1	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-01
Date Analyzed:	03/19/12	Data File:	031909.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	70	130
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	8.9
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-5	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-02
Date Analyzed:	03/19/12	Data File:	031910.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	70	130
Toluene-d8	98	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	9.9
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-6	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-03
Date Analyzed:	03/19/12	Data File:	031911.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	70	130
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-04
Date Analyzed:	03/19/12	Data File:	031912.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	70	130
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	7.0
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-05
Date Analyzed:	03/19/12	Data File:	031918.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	70	130
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-06
Date Analyzed:	03/19/12	Data File:	031919.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	70	130
Toluene-d8	99	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-07
Date Analyzed:	03/19/12	Data File:	031920.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	70	130
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14	Client:	Environmental Associates
Date Received:	03/16/12	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	203241-08
Date Analyzed:	03/19/12	Data File:	031921.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	70	130
Toluene-d8	99	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Environmental Associates
Date Received:	NA	Project:	Madison Street Taco Time
Date Extracted:	03/19/12	Lab ID:	02-0420 mb
Date Analyzed:	03/19/12	Data File:	031908.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	70	130
Toluene-d8	98	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 03/23/12
Date Received: 03/16/12
Project: Madison Street Taco Time, PO JN-28248-2, F&BI 203241

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	90	94	58-134	4

Date of Report: 03/23/12
Date Received: 03/16/12
Project: Madison Street Taco Time, PO JN-28248-2, F&BI 203241

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 203241-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	90	50-150
Chloroethane	ug/L (ppb)	50	<1	87	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	90	50-150
Methylene chloride	ug/L (ppb)	50	<5	82	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	90	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	93	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	94	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	8.9	93	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	95	50-150
Trichloroethene	ug/L (ppb)	50	<1	90	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	92	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	96	95	70-130	1
Chloroethane	ug/L (ppb)	50	93	90	70-130	3
1,1-Dichloroethene	ug/L (ppb)	50	94	91	70-130	3
Methylene chloride	ug/L (ppb)	50	84	83	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	94	91	70-130	3
1,1-Dichloroethane	ug/L (ppb)	50	97	95	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	99	96	70-130	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	93	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	50	101	99	70-130	2
Trichloroethene	ug/L (ppb)	50	94	92	70-130	2
Tetrachloroethene	ug/L (ppb)	50	95	93	70-130	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

203241

SAMPLE CHAIN OF CUSTODY

ME 03/16/12

V3/E04/AI2

Page # ____ of ____

Send Report To Environmental Associates, Inc

Bill-> Company Taco Time NW

Address c/o Gary Steinvall

City, State, ZIP PO Box 2458, Kirkland WA 98083-2458

Phone #(206) 571-7741 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.: Madison Street Taco Time

PO#: ON-78248-2

REMARKS: Fe samples were field-filtered @ 0.45 um

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- [ ] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled (NP)	Sample Type	# of containers	TPH-Diesel/Ext	TPH-Gasoline	BTEX by 8021B	~~Chlorinated~~ VOCs by 8260	SVOCs by 8270	HFS	Dissolved Fe	Notes
MW-1	01 A-E	3/15/2012	15:34	H_2O	5				X			X	
MW-5	02 A-D	3/15/2012	14:23	"	4				X				
MW-6	03 A-D	3/15/2012	13:01	"	4	X			X				
MW-8	~~05~~ 04 A-E	3/16/2012	11:03	"	5	X			X			X	
MW-10	~~06~~ 05 A-D	3/15/2012	10:13	"	4	X			X				
MW-11	~~07~~ 06 A-E	3/16/2012	9:41	"	5				X			X	
MW-12	~~08~~ 07 A-D	3/15/2012	11:41	"	4				X				
MW-14	~~09~~ 08 A-E	3/16/2012	12:38	"	5				X			X	
					Samples received at				4		°C		Samples received at (NP)

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Robert B. Roe	EAI	3/16/2012	
Received by:	Ron Lewis	Ron Lewis	Postal Express	3/16/12	3:12
Relinquished by:	Ron Lewis	Ron Lewis	Postal Express	3/16/12	5:06
Received by:		Eric Crane	TCB	3/16/12	5:06