January 20, 2015 2014-01-169

Mr. Eugene Freeman
Washington State Department of Ecology
Northwest Region
3190 160th Ave. SE
Bellevue, WA 98008-5452

Subject: Addendum – Exposure Pathway Assessment Report
TOC Facility No. 01-169
851 North Broadway Street, Everett, Washington
Washington State Department of Ecology Site# 54678156

Dear Mr. Freeman,

This letter is an addendum to the Exposure Pathway Assessment Report dated October 22, 2014 prepared by HydroCon LLC on behalf of TOC Holdings Co. The site is located at 851 North Broadway Street, Everett, Washington (Figure 1). The purpose of the letter is to provide the results of additional soil data and to examine the existing site monitoring well network and provide recommendations for future groundwater monitoring.

Introduction

The Exposure Pathway Assessment Report (EPAR, HydroCon 20141) summarizes historical site investigations, remedial actions, and results of 2014 soil investigation activities. Work completed at the site lead to the following observations:

- Regional groundwater beneath the site is at a depth of 85 to 94 feet below ground surface (bgs) based on review of well logs on the Washington State Department of Ecology's (Ecology) Well Log Viewer database.
- Soil analytical results of samples collected from soil borings at the site demonstrate that the petroleum hydrocarbons in soil associated with the site and metals associated with the Everett Smelter are separated from the regional aquifer by a 15-20 foot or greater layer of clean soil.
- Water currently being monitored at the site is perched water primarily contained within the remedial excavation and current UST cavity backfill materials.
- Metals present in soil that exceed applicable cleanup levels are associated with the Everett Smelter and are limited to shallow soil in the immediate vicinity of slag. Ecology has designated ASARCO as a potentially liable party for area-wide cleanup activities related to the slag (Ecology 2004[2]).

[1] *HydroCon, 2014. Exposure Pathway Assessment Report. TOC Facility No. 01-169, 851 North Broadway Street, Everett, Washington. Prepared for TOC Holdings Co. October 22*

[2] *Washington State Department of Ecology (Ecology). 2004. Everett Smelter Site, Fenced and Adjacent*

- VPH (Volatile Petroleum Hydrocarbons) and EPH (Extractable Petroleum Hydrocarbons) testing of site soils indicate that the Method B direct contacted cleanup level for total petroleum hydrocarbons for this site is 2,106 mg/kg.

The EPAR concluded that the soil to groundwater leaching pathway is incomplete at the site due to the depth to the regional aquifer and the lack of petroleum hydrocarbons (and high metal concentrations) at depth. The EPAR also concluded that with the exception of two historic samples, no other existing soil concentrations exceeded the Method B cleanup level for the direct contact soil pathway.

At the conclusion of the EPAR, the data gap that remained for the site was the current condition of soil in that area of the historical soil samples exceeding the Method B cleanup levels.

The remainder of this report presents and evaluates additional soil data collected in the area of historical Method B exceedances. The report also provides a review and discussion of the monitoring well network.

December 2014 Soil Investigation

On December 2, 2014, HydroCon completed three additional borings at the site (Figure 2). Two of the borings, HC-7 and HC-8 were located in the area of historical soil samples EX-23-6 and EX-24-5. These are two excavation sidewall samples collected during the UST excavation in 2003[3] and had gasoline range petroleum hydrocarbon (GRPH) concentrations that exceeded the Method B cleanup levels developed for the site by the EPAR. Boring HC-9 was drilled near historical sample EX-2-15. Soil sample EX20-15 was collected as a bottom sample from the northeastern portion of the UST excavation. This sample was collected at the lower limit of the direct contact pathway at 15 feet bgs and contained concentrations above the calculated Method B cleanup levels for the site. Review of the excavation report suggests that this sample was over excavated and sample EX21-17 was collected below sample EX20-15 at a depth of 17 feet bgs. Sample EX21-17 did not contain concentrations of petroleum hydrocarbons above the MTCA Method A cleanup level. While the UST report figures suggest that the soil in the vicinity of EX20-15 was excavated to a depth of 17 feet bgs, the report does not specifically discuss over excavation and resampling in this area.

The borings were completed with direct-push drilling methods. Samples were collected and screened continuously using field screening methods that included the use of a photo ionization detector, and evidence of visual or olfactory anomalies. No evidence of petroleum hydrocarbons was observed in HC-7 and HC-9 and single sample was collected at 15 feet bgs. HC-8 had field evidence of hydrocarbons and samples were collected at 5, 8, and 15 feet bgs. Documentation of subsurface lithology, field screening results, sampling information, etc. is included in the temporary boring logs (Attachment A).

Analytical results are summarized in Table 1 and include all 2014 soil sampling results for the site. Samples from HC-7, HC-8 and HC-9 were analyzed for GRPH using Method NWTPH-Gx and BTEX using EPA Method SW8021B and SW8260C. The concentration of BTEX in one sample (HC-8-08) was analyzed using both analytical methods to confirm if it was present in the sample or a false positive.

Soil analytical results indicated that GRPH and BTEX was not detected in any of the samples above the laboratory's method reporting limit except one sample collected from boring HC-8. GRPH (29 mg/kg) and

[3] *GeoEngineers, Inc. (GEI). 2004. UST Removal Site Assessment, Time Oil Property 01-169, 851 North Broadway Street, Everett, Washington 98201. March 22.*

benzene (0.47 mk/kg by SW8021B and less than 0.3 mg/kg by SW8260C). A copy of the laboratory report and chain-of-custody documentation is included in Attachment B.

These results demonstrate that remedial actions at the site since 2003 have been effective at reducing GRPH and BTEX concentrations at these locations to levels below cleanup levels.

Well Network

This section provides a detailed review of the site monitoring, recovery, and observation well network. This discussion begins with a brief review of the site hydrogeology. The site monitoring wells are then placed into one of two groups, those recommended for abandonment primarily due to a lack water available to conduct sampling, and the remaining wells recommended for use as compliance monitoring wells.

Hydrogeology

Water is present in site wells and is impacted by former site operations. Groundwater levels measured in the Site's 26 wells historically have ranged from 6.27 feet (Observation Well OW01) to 24.34 feet (Monitoring Well MW08) below the top of the monitoring well casings (Table 1, SES 2013). Thirteen of the Site wells have been dry throughout the course of monitoring (MW02, MW06, and MW10) or the majority of the time (MW03, MW04, MW05, MW07, MW08, MW11, RW04, RW05, RW08, and RW11). These wells are generally located outside of the former UST system remedial excavation footprint (Figure 2).

The geologic contrast that generally exists below the Site places relatively coarse fill material over finer native deposits. The low permeability of the native material appears to result in vertical retardation of the groundwater flow at the anthropogenic and native soil interface. Groundwater present above the fill-native interface is interpreted to be perched water.

Water level measurements indicate that groundwater at the site generally occurs within the UST remedial excavation cavity. Groundwater elevation contours (presented in the Quarterly Groundwater Monitoring Reports) consistently indicate that the groundwater flow direction is radial due to mounding of groundwater within the permeable fill soil of the UST remedial excavation cavity. Outside of the UST remedial excavation area, groundwater levels (when present) have historically fluctuated drastically and are interpreted to be strongly controlled by the operation of the dual-phase extraction (DPE) remediation system.

The Exposure Pathway Assessment Report (HydroCon 2014) examined local domestic wells which demonstrate that the regional groundwater table is at a depth of approximately 90 feet below site grade. Groundwater present above the fill-native interface is interpreted to be perched water.

Wells Recommended for Abandonment

A total of 26 wells used for observation, groundwater monitoring, and site remediation are located at the site (Figure 2). A copy of the logs for each well is included in Attachment C.

Well construction details for existing monitoring wells at the site are summarized on Table 2. The summary includes installation dates, total boring and well depth, screened intervals and other construction details. It also includes the range of depth to water, the number of dry events and total sampling events, the

maximum recorded depth of the water column and the number of sampling events where the water column is greater than 2 feet.

Site monitoring wells are evaluated for possible abandonment using two factors. First, wells that have always been dry or dry for a large percentage of sampling events (e.g., 50 percent or more) are candidates for abandonment.

Second, the height of the water column from the base of the well is examined. As shown in the boring logs, the wells are constructed of 2-inch or 4-inch diameter PVC well casing. The wells are screened from the bottom of the well above the end cap to various heights. Not shown in the logs are the details of the end cap and screened casing. Typical end caps are 3-inches in length and are screwed on to the bottom of the screen casing. There is typically 3 to 4 inches of unscreened casing (thread box) where the end cap is attached. As a result, the bottom 0.5 feet (or more) of the well is not screened and effectively acts as a sump. Water that accumulates in this sump section can become stagnant. Stagnant water is subject to physiochemical changes and may contain foreign material, which can be introduced from the surface or during well construction, resulting in non-representative sample data. In cases where water is only seen in the sump section of the well (if ever) likely indicates that the source is from condensation, moisture drawn in from the SVE system, an imperfect surface seal, or another non-representative source. For this reason, HydroCon's groundwater sampling protocol calls for not collecting samples in wells with less than 2 feet of water column. Wells with maximum water column depths of less than two feet or wells that are frequently dry are candidates for abandonment.

A final consideration is the time of year that water is present in the wells. Wells with water present in winter months only may be reflecting surface water infiltration of the backfill materials.

Based on these factors, TOC is requesting approval to abandon the following wells:

1. Monitoring wells MW02, MW03, MW04, MW05, MW06, MW07, MW08, MW10, and MW11
2. Observation wells OW01 and OW02
3. Recover wells RW02, RW04, RW05, RW08, and RW11

The specific characteristics of the above wells are summarized below. The number of times the wells were sampled and the ranges for water level depths are taken from the Third Quarter 2014 Groundwater Monitoring Report tables (HydroCon 2014[4]). The uses of the wells are taken from the Remedial Investigation Report (SES 2013[5]).

[4] *HydroCon Environmental, 2014. Groundwater Monitoring Report, Second Quarter, 2014, TOC Facility No. 01-169. Prepared for TOC Holding Co. November 15.*

[5] *SoundEarth Strategies [SES], 2013. Remedial Investigation Report, TOC Facility No. 01-169. Prepared for TOC Holding Co. March 20.*

Monitoring Wells

MW02 - This well is located southwest of the UST excavation area and was installed in 2004 as a monitoring well. The measured total depth of the well is 29.50 feet (Table 2). Depth to water has been measured 34 times since 2004 and the well has always been dry.

MW03 - This well is located west of the UST excavation area and was installed in 2010 as a monitoring well. The measured total depth of the well is 24.91 feet (Table 2). Depth to water has been measured 16 times since 2010 and the well has been dry with the exception of two events. The measured depth to water during these two events was 24.70 feet which is 0.2 feet from the bottom of the well (within the sump section).

MW04 - This well is located north of the UST excavation area and was installed in 2010 as a monitoring well. The measured total depth of the well is 24.95 feet (Table 2). Depth to water has been measured 16 times since 2010 and the well has been dry with the exception of one event. Depth to water for this event was 24.77 feet which is 0.2 feet from the bottom of the well (within the sump section).

MW05 - This well is located east of the UST excavation area and was installed in 2010 as a monitoring well. The measured total depth of the well is 25.09 feet (Table 2). Depth to water has been measured 16 times since 2010 and the well has been dry with the exception of three events. Depth to water for these events ranged from 24.93 to 25.07 feet resulting in a maximum water column in the well of approximately 0.2 feet or less (within the sump section).

MW06 - This well is located northeast of the UST excavation area and was installed in 2010 as a monitoring well. The measured total depth of the well is 25.09 feet (Table 2). Depth to water has been measured 16 times since 2010 and the well has always been dry.

MW07 - This well is located northeast of the UST excavation area and was installed in 2010 as a monitoring well. The measured total depth of the well is 24.96 feet (Table 2). Depth to water has been measured 16 times since 2010 and the well has been dry with the exception of three events. Depth to water for these events ranged from 24.87 to 24.88 feet resulting in a maximum water column in the well of approximately 0.1 feet (within the sump section).

MW08 - This well is located at the eastern margin of the UST excavation area and was installed in 2010 as a recovery well. The measured total depth of the well is 24.15 feet (Table 2). Depth to water has been measured 16 times since 2010 and the well has been dry for seven of the events. Depth to water for these events ranged from 21.30 to 24.34 feet. With the exception of one water level measurement, the water column in the well was less than 1 foot (within the sump section). The exception was 5/27/14 where the water column was 2.85 feet. One of the water level measurements (12/21/10) appears to be anomalous as the depth to water is deeper than the recorded depth of the well.

MW10 - This well is located across North Broadway, northeast of the UST excavation area and was installed in 2010 as a monitoring well. The measured total depth of the well is 24.80 feet (Table 2). Depth to water has been measured 15 times since 2010 and the well has always been dry.

MW11 - This well is located south of the UST excavation area near the South edge of the site and was installed in 2010 as a monitoring well. The measured total depth of the well is 25.07 feet (Table 1). Depth to water has been measured 15 times since 2010 and the well has been dry with the exception of two events. The depth to water during these two events was 24.79 and 24.78 feet respectively, resulting in a maximum water column in the well of approximately 0.3 feet (within the sump section).

Observation Wells

OW01 - This well is located within the UST excavation area and was installed in 2006 as an observation well and incorporated into the 2006 dual phase extraction system. The measured total depth of the well is 10.91 feet (Table 1). Depth to water has been measured 34 times since 2006 and the well has never been dry. Depth to water has ranged from 7.00 to 10.56 feet resulting in a maximum water column in the well of approximately 4.00 feet, however only 35 percent of these events had water columns of greater than 2 feet.

OW02 - This well is located within the UST excavation area and was installed in 2006 as an observation well and incorporated into the 2006 dual phase extraction system. The measured total depth of the well is 11.00 feet (Table 1). Depth to water has been measured 34 times since 2006 and the well has been dry during 20 events (59 percent of the time). Depth to water has ranged from 6.27 to 10.89 feet resulting in a maximum water column in the well of approximately 4.64 feet. Of the 14 events with water, 9 events had water columns of greater than 2 feet.

Recovery Wells

RW02 - This well is located within the UST excavation area near the north corner and was installed in 2006 as a remediation well and incorporated into the 2006 dual phase extraction system. The measured total depth of the well is 17.49 feet (Table 1). Depth to water has been measured 34 times since 2006 and the well has been dry during 20 events (59 percent of the time). Depth to water has ranged from 11.75 to 16.36 feet resulting in a maximum water column in the well of approximately 5.74 feet. Of the 14 events with water, 8 events had water columns of greater than 2 feet.

RW04 - This well is located within the UST excavation area near the north margin and was installed in 2006 as a recovery well and then incorporated into the in 2012. The measured total depth of the well is 17.26 feet (Table 1). Depth to water has been measured 34 times since 2006 and the well has been dry with the exception of eight events. Depth to water for these events ranged from 15.51 to 17.19 feet. Only two of these events had water columns in excess of 2 feet, up to 4.5 feet and occurred in the months of March and November.

RW05 - This well is located within the UST excavation area near the north margin and was installed in 2006 as a recovery well. The measured total depth of the well is 16.52 feet (Table 1). Depth to water has been measured 34 times since 2006 and the well has been dry with the exception of two events. The depth to water during these events was 15.19 to 16.54 feet, respectively. One of the water levels appears to be anomalous as the depth to water is deeper than the recorded depth of the well. The other water level had a 1.3 feet water column and occurred in May.

RW08 - This well is located near the southeast margin of the UST excavation area and was installed in 2011 as a recovery well and then incorporated into the dual phase extraction system in 2012. The measured total depth of the well is 29.17 feet (Table 1). Depth to water has been measured 13 times since 2011 and the well has been dry with the exception of four events. Depth to water for these events ranged from 23.10 to 27.93 feet resulting in water columns of 1.2 to 6.1 feet. Water columns greater than 2 feet occurred in the months of March and May.

RW11 - This well is located on the east margin of the UST excavation area and was installed in 2011 as a recovery well and then incorporated into the dual phase extraction system in 2012. The measured total depth of the well is 23.82 feet (Table 1). Depth to water has been measured 13 times since 2011 and the well was dry for 4 events. Depth to water for these events ranged from 18.25 to 23.69 feet resulting in water columns of 0.13 to 5.57 feet. Of the nine events with water, water columns greater than 2 feet occurred only 44 percent of the time in February, May, November, and March.

The above wells fall into the following categories:

- Wells that have always been dry – MW02, MW06, and MW10.
- Wells that are dry more for more than 50 percent of the sampling events – MW03, MW04, MW05, MW07, MW11, OW01, RW02, RW04, RW05, and RW08.
- Wells that have water columns no greater than 2 feet – MW02, MW04, MW05, MW07, MW11, and RW05. Well OW02 had water columns greater than 2 feet 35 percent of the time.
- Remediation wells located within or on the margin of the UST excavation area with occasional water columns greater than 2 feet that occur in winter months – MW08, RW04, RW05, RW08, and RW11.

In summary, the above wells are either dry, have occasional water columns that do not extend or extend significantly into the well screen, or have occasional water columns in excess of 2 feet that occur in remediation wells in winter months. In addition to the presence of surface water contained in the UST excavation backfill materials in winter months, remediation wells create a negative pressure in the wells and can draw up the water column of water trapped in the backfill materials. As such, and due to the depth of the regional aquifer, the occasional presence of water in these wells does not reflect groundwater conditions at the Site.

Remaining Site Monitoring Wells

Monitoring wells that have consistently had water columns are all located within the UST excavation backfill materials and include MW01, MW09, MW12, MW13, RW01, RW03, RW06, RW07, RW09, and RW10. As is the case for the above remediation wells with occasional water columns, the water being sampled by the remaining wells does not represent water in an aquifer but perched storm and surface water.

The Exposure Pathway Assessment Report (HydroCon 2014) developed Method B cleanup levels for soil. To be consistent with that approach, groundwater cleanup levels are also Method B values. The Method B

values for site constituents listed in WAC 173-340-900 Table 830-1 (Required Testing for Petroleum Releases) are taken from CLARC (May 2014) and are provided below.

Method B Cleanup Levels for Groundwater

Chemical Name	**Ground Water** Method A (µg/L)	**Ground Water** Method B Non cancer (µg/L)	**Ground Water** Method B Cancer (µg/L)
TPH, diesel range organics	500	--	--
TPH, heavy oils	500	--	--
TPH: gasoline range organics, benzene present*	800	--	--
TPH: gasoline range organics, no detectable benzene*	1000	--	--
Benzene	5	32	0.795
Ethylbenzene	700	800	--
Toluene	1000	640	--
Xylenes	1000	1600	--
Naphthalene	160	160	--
Methyl tert-butyl ether	20	--	24.3
Ethylene dibromide (EDB)	0.01	72	0.022
Dichloroethane;1,2- (EDC)	5	48	0.481
Lead	15		
Arsenic, inorganic	5	4.8	0.058
Trimethylbenzene;1,2,4-	--	--	--
Trimethylbenzene;1,3,5-	--	80	--

-- = Not provided in CLARC

CLARC does not provide Method B values for TPH, so the Method A values are adopted. In the case where a carcinogenic value is provided, the carcinogenic value is adopted. Finally, the carcinogenic values are often lower than method detection limits. In those cases, the method detection limit is adopted as the cleanup level.

A review of constituent concentrations of the remaining Site monitoring wells (Table 1 of the Third Quarter 2014 Groundwater Monitoring Report) can be summarized as follows:

MW01 - This well has been monitored for 35 quarters since November 2004. Other than a detection of GRPH in 2004, there have been no detections of chemicals of concern (COCs) at the site.

MW09 - This well has been monitored for 16 quarters since December 2010. There have been no detections of COCs.

MW12 - This well has been monitored for 13 quarters since August 2011. Other than detections of GRPH and benzene in 2011, there have been no detections of COCs.

MW13 - This well has been monitored for 13 quarters since August 2011. The first 6 quarters had occasional detections of DRPH and/or benzene. There have been no detections of COCs for the past 7 quarters (March 2013).

RW01 - This well has been monitored for 34 quarters since May 2006. There were detections of DRPH and/or ORPH in 2009 and 2012. There have been no detections of BTEX (the only monitored constituents) for the past 7 quarters.

RW03 - This well has been monitored for 34 quarters since May 2006. There were detections of DRPH and/or ORPH in 2009 and 2012 and benzene in 2006, all below cleanup levels.

RW06 - This well has been monitored for 34 quarters since May 2006. There were detections of DRPH in 2009 and 2010 and GRPH in 2006 below cleanup levels. There have been no detections of other COCs.

RW07 - This well has been monitored for 34 quarters since May 2006. There have been occasional detections of DRPH and ORPH (qualified as not resembling the fuel standard used for quantitation) above the cleanup level. DRPH and ORPH have not been monitored in the well since March 2013. Other than detections of GRPH, BTEX and MTBE in 2006, there have been no other detections of COCs.

RW09 - This well has been monitored for 13 quarters since August 2011. There were occasional detections of GRPH, DRPH, ORPH, and benzene through November 2012. There have been no detections of BTEX (the only monitored constituents) for the last 4 quarters.

RW10 - This well has been monitored for 13 quarters since August 2011. There was detection of DRPH and of xylenes in 2012. The well has not been consistently sampled since November 2012.

Request for Opinion

HydroCon requests that Ecology provide an opinion on the following issues:

1. The Leaching to Groundwater Pathway is incomplete at the site.
2. All TPH COC's in soil are below their respective Method B Cleanup Level at the site at depths of 0 to 15' bgs.
3. The presence of elevated concentrations of lead and arsenic in soil are localized to areas immediately next to fill soil that was from the former Asarco Smelter site in Everett, Washington. This fill soil was placed at the site at a time that predates the construction and operation of the retail fuel sales facility. Therefore, the presence of lead and arsenic contaminated soil is a pre-existing condition and not the responsibility of TOC Holdings Co.
4. HydroCon recommends abandoning monitoring wells MW02, MW03, MW04, MW05, MW06, MW07, MW08, MW10, and MW11; observation wells OW01 and OW02; and recovery wells RW02, RW04, RW05, RW08, and RW11 for the reasons discussed in this report.

Please let me know if you require additional information or have questions.

Sincerely,

Craig Hultgren, LHG
Senior Geologist/Project Manager

State of Washington
Hydrogeologist
1809
Licensed Geologist
CRAIG HULTGREN

cc: Mr. Mark Chandler, Vice President of Environmental Services, TOC Holdings Co.

Attachments

Figures

Figure 1 – Site Location Map
Figure 2 – Monitoring Well and Soil Boring Locations

Table

Table 1 – Soil Analytical Results
Table 2 – Well Construction Summary

Attachment

Attachment A – Temporary Boring Logs
Attachment B – Laboratory Report and Chain-of-Custody Documentation
Attachment C – Site Well Logs

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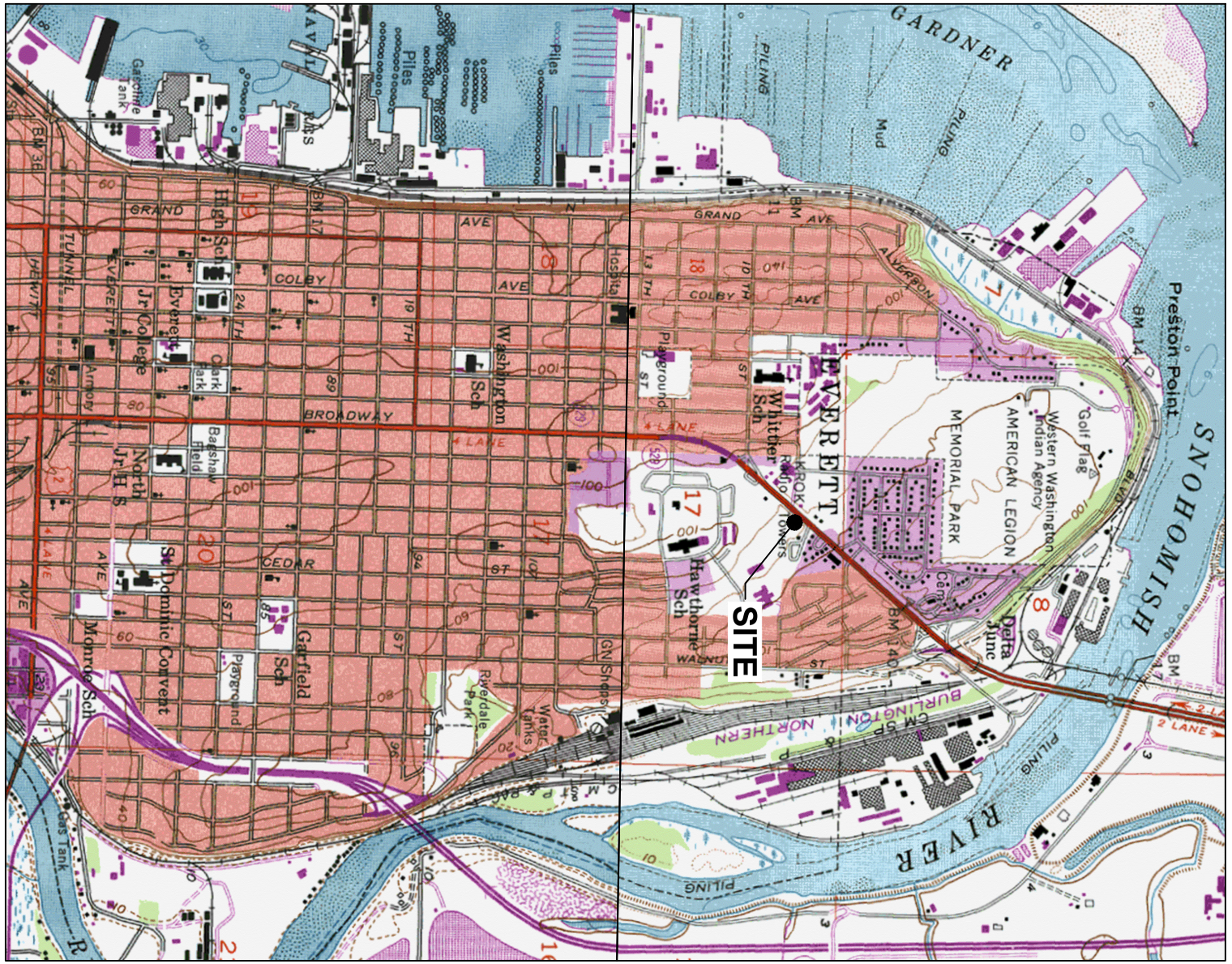
NOTE(S):
USGS, MARYSVILLE QUADRANGLE
WASHINGTON-SNOHOMISH CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



N W E S

0 2000 4000

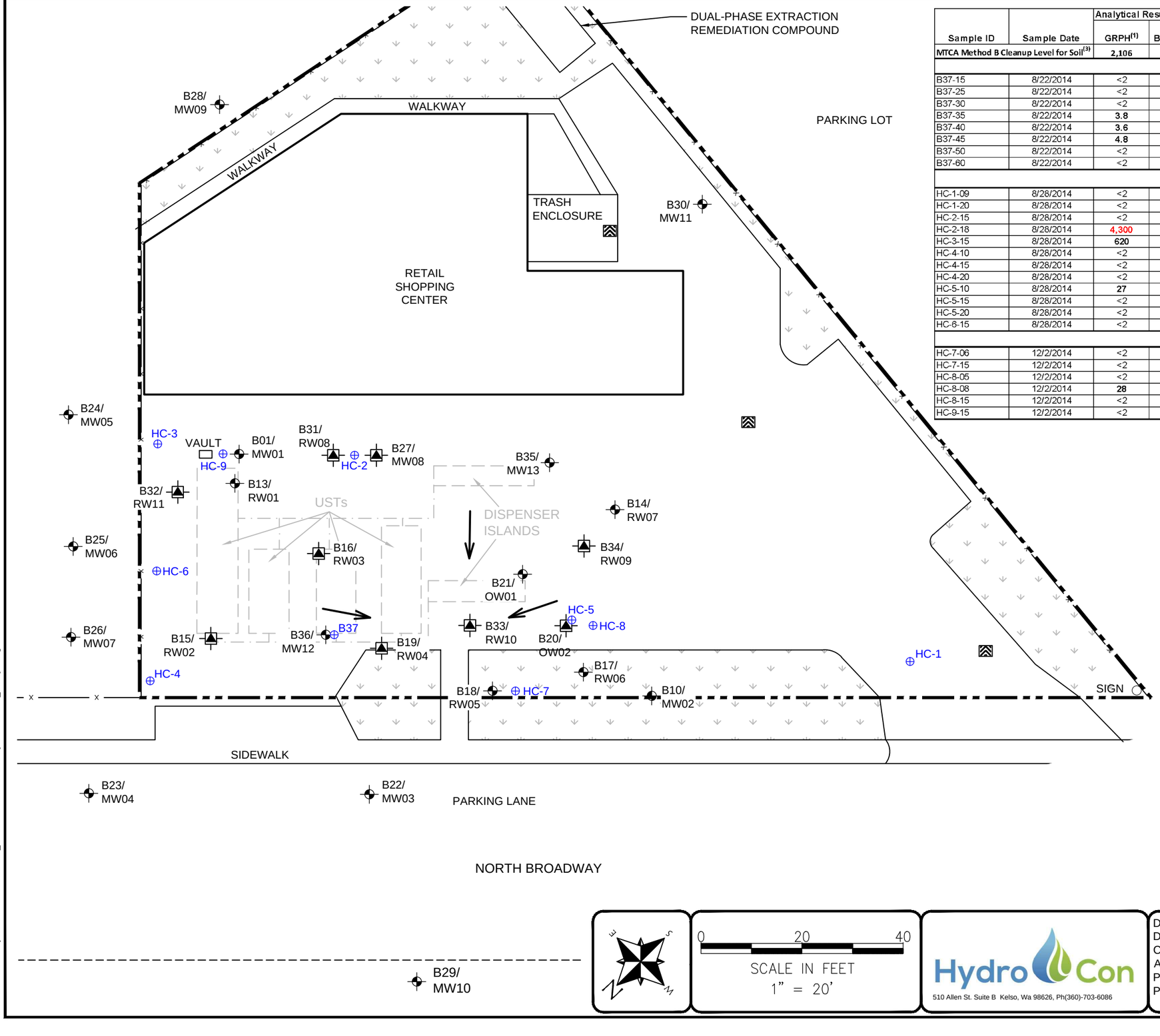
SCALE IN FEET
1" = 2000'

Hydro Con
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 10-20-14
DWN: JJT
CHK: NV
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 14-810

FIGURE 1
SITE LOCATION MAP

TOC HOLDINGS CO. FACILITY NO. 01-169
851 N. BROADWAY
EVERETT, WA.



Sample ID	Sample Date	Analytical Results (mg/kg) GRPH[1]	Benzene[2]	Toluene[2]	Ethylbenzene[2]	Total Xylenes[2]	Antimony[4]	Arsenic[4]	Copper[4]	Lead[4]
MTCA Method B Cleanup Level for Soil[3]		2,106	18	6,400	8,000	16,000	32	0.67	3,200	250
HyrdoCon Soil Sampling 8-22-14										
B37-15	8/22/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
B37-25	8/22/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
B37-30	8/22/2014	<2	<0.02	0.032	<0.02	0.088	-	-	-	-
B37-35	8/22/2014	3.8	0.11	0.33	0.067	0.54	-	-	-	-
B37-40	8/22/2014	3.6	0.27	0.25	0.1	0.41	-	-	-	-
B37-45	8/22/2014	4.8	0.23	0.16	0.18	0.67	-	-	-	-
B37-50	8/22/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
B37-60	8/22/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HyrdoCon Soil Sampling 8-28-14										
HC-1-09	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	86.4	144	1,420	6,980
HC-1-20	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	<1	2.04	15.1	2.37
HC-2-15	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HC-2-18	8/28/2014	4,300	<0.4	3.5	<0.4	300	-	-	-	-
HC-3-15	8/28/2014	620	<0.1	0.18	<0.1	22	-	-	-	-
HC-4-10	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	1.73	24.6	30.6	125
HC-4-15	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HC-4-20	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	<1	1.59	7.05	1.76
HC-5-10	8/28/2014	27	<0.02	<0.02	<0.02	<0.06	1.32	52.8	20.4	108
HC-5-15	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HC-5-20	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	<1	5.9	20.1	13.8
HC-6-15	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HyrdoCon Soil Sampling 12-2-14										
HC-7-06	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HC-7-15	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HC-8-05	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HC-8-08	12/2/2014	28	<0.03*	<0.05*	<0.05*	<0.15*	-	-	-	-
HC-8-15	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-
HC-9-15	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-

LEGEND

- B01/ MW01 — GROUNDWATER MONITORING WELL (SOUNDEARTH)
- RW01 — REMEDIATION WELL (SOUNDEARTH)
- CATCH BASIN
- POWER POLE
- PROPERTY BOUNDARY
- FENCE
- FORMER SITE FEATURE
- FORMER FUEL DELIVERY PIPING
- UST — UNDERGROUND STORAGE TANK
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- HC-7 — BORING LOCATION

0 20 40
SCALE IN FEET
1" = 20'

HydroCon
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 12-8-14
DWN: JJT
CHK: RH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 14-810

FIGURE 5
SOIL ANALYTICAL RESULTS

TOC HOLDINGS CO. FACILITY NO. 01-169
851 N. BROADWAY
EVERETT, WA.

D:\Client Autocad\Hydrocon-Autocad\01-169_14-810 Everett 169\2014QTR04\01-169_BM-Q4.dwg 2.17.2014

Table 1
Soil Analytical Results
TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

		NWTPH-Gx	SW8021B				EPA200.8				SW8260C				
Sample ID	Sample Date	Gasoline Range Organics	Benzene	Toluene	Ethylbenzene	Xylene Total	Antimony	Arsenic	Copper	Lead	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MTCA Method B Cleanup Level for Soil[1]		**2,106**	**18**	**6,400**	**8,000**	**16,000**	**32**	**0.67**	**3,200**	**250**	**2,106**	**18**	**6,400**	**8,000**	**16,000**
B37-15	8/22/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
B37-25	8/22/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
B37-30	8/22/2014	<2	<0.02	**0.032**	<0.02	**0.088**	-	-	-	-	-	-	-	-	-
B37-35	8/22/2014	**3.8**	**0.11**	**0.33**	**0.067**	**0.54**	-	-	-	-	-	-	-	-	-
B37-40	8/22/2014	**3.6**	**0.27**	**0.25**	**0.1**	**0.41**	-	-	-	-	-	-	-	-	-
B37-45	8/22/2014	**4.8**	**0.23**	**0.16**	**0.18**	**0.67**	-	-	-	-	-	-	-	-	-
B37-50	8/22/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
B37-60	8/22/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-1-09	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	**86.4**	**144**	**1420**	**6980**	-	-	-	-	-
HC-1-20	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	<1	**2.04**	**15.1**	**2.37**	-	-	-	-	-
HC-2-15	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-2-18	8/28/2014	**4300**	< 0.4	**3.5**	**0.4**	**300**	-	-	-	-	-	-	-	-	-
HC-3-15	8/28/2014	**620**	< 0.1	**0.18**	**0.1**	**22**	-	-	-	-	-	-	-	-	-
HC-4-10	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	**1.73**	**24.6**	**30.6**	**125**	-	-	-	-	-
HC-4-15	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-4-20	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	<1	**1.59**	**7.05**	**1.76**	-	-	-	-	-
HC-5-10	8/28/2014	**27**	<0.02	<0.02	<0.02	<0.06	**1.32**	**52.8**	**20.4**	**108**	-	-	-	-	-
HC-5-15	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-5-20	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	<1	**5.9**	**20.1**	**13.8**	-	-	-	-	-
HC-6-15	8/28/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-7-06	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-7-15	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-8-05	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-8-08	12/2/2014	**28**	**0.047**	<0.02	<0.02	<0.06	-	-	-	-	<0.03	<0.05	<0.05	<0.1	<0.05
HC-8-15	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-
HC-9-15	12/2/2014	<2	<0.02	<0.02	<0.02	<0.06	-	-	-	-	-	-	-	-	-

NOTES:

Red denotes concentration exceeds MTCA Method B cleanup level.

Bold denotes concentration exceeds the Method Reporting Level (MRL) or Method Detection Level (MDL)

Samples analyzed by Friedman & Bruya, Inc., of Seattle, Washington.

[1]MTCA Method B Cleanup Levels, See Appendix C for Method B calculations using Ecology's MTCATPH11.1 Excel spreadsheet for TPH. The CLARC CULs for Method B were used for other chemicals.

-- = not analyzed

< = not detected at a concentration exceeding the laboratory MRL or MDL

mg/kg = milligrams per kilogram

Table 2
Well Construction Details
TOC Holdings Co. Facility No. 01-169
851 N. Broadway
Everett, Washington

Well ID	Date Installed	Installed By	Drilling Method	Total Boring Depth (feet bgs)	Total Well Depth (feet bgs)	Well Diameter (inch)	Well Construction Material	Screen Slot Size (inch)	Length of Screen (feet)	Screened Interval (feet bgs)	Measrured Total Depth (feet btoc)	Well Casing Elevation (feet[1])	Depth to Water (feet)	#Dry/#Events	Percent of Dry Events	Maximum Depth of Water Column in Well (ft)	# Events with Water Column >2 ft	Percent of Events with Water Column >2 ft
MW01	10/6/2004	ESN	HSA	20.0	20.0	2	PVC	0.010	15	5-20	19.24	100.00	17.15-19.30	2/35	6%	12.09	26	79%
MW02	10/7/2004	ESN	HSA	30.0	30.0	2	PVC	0.010	15	15-30	29.50	98.30	DRY	34/34	100%	N/A	0	0%
MW03	11/15/2010	Cascade	HSA	25.5	25.0	2	PVC	0.010	20	5-25	24.91	98.94	24.70	14/16	88%	0.20	0	0%
MW04	11/15/2010	Cascade	HSA	25.5	25.0	2	PVC	0.010	20	5-25	24.95	100.46	24.77	15/16	94%	0.20	0	0%
MW05	11/15/2010	Cascade	HSA	25.5	25.0	2	PVC	0.010	20	5-25	25.09	100.41	24.93-25.07	13/16	81%	0.20	0	0%
MW06	11/15/2010	Cascade	HSA	25.5	25.0	2	PVC	0.010	20	5-25	24.01	101.94	DRY	16/16	100%	N/A	0	0%
MW07	11/16/2010	Cascade	HSA	25.5	25.0	2	PVC	0.010	20	5-25	24.96	101.17	24.86-24.88	3/16	81%	0.10	0	0%
MW08	11/16/2010	Cascade	HSA	30.5	25.0	2	PVC	0.010	20	5-25	24.15	99.97	21.30-24.34	7/16	44%	2.85	1	11%
MW09	12/6/2010	Cascade	HSA	25.5	25.0	2	PVC	0.010	20	5-25	23.10	99.69	9.85-18.55	6/16	38%	13.25	10	100%
MW10	12/6/2010	Cascade	HSA	25.5	25.0	2	PVC	0.010	20	5-25	24.80	99.18	DRY	15/15	100%	N/A	0	0%
MW11	12/6/2010	Cascade	HSA	25.5	25.0	2	PVC	0.010	20	5-25	25.07	99.62	24.78-24.79	13/15	87%	0.30	0	0%
MW12	6/15/2011	Cascade	HSA	25.5	15.0	2	PVC	0.010	10	5-15	15.12	99.86	9.50-14.92	3/13	23%	5.62	7	70%
MW13	6/15/2011	Cascade	HSA	16.5	15.0	2	PVC	0.010	10	5-15	14.78	99.58	9.53-12.80	0/13	0%	5.25	13	100%
OW01	3/21/2006	Cascade	HSA	12.0	12.0	2	PVC	0.010	5	6-11	10.91	99.96	6.27-10.89	20/34	59%	4.64	9	64%
OW02	3/21/2006	Cascade	HSA	12.0	12.0	2	PVC	0.010	5	6-11	11.00	97.83	7.00-10.56	0/34	0%	4.00	12	35%
RW01	3/20/2006	Cascade	HSA	20.0	18.5	4	PVC	0.010	10	8-18	17.47	99.47	6.63-17.28	3/34	10%	11.11	27	87%
RW02	3/20/2006	Cascade	HSA	19.0	18.5	4	PVC	0.010	10	8-18	17.49	99.88	11.75-16.36	20/34	59%	5.74	8	57%
RW03	3/20/2006	Cascade	HSA	16.0	15.5	4	PVC	0.010	7	8-15	15.00	99.66	6.58-12.15	2/34	6%	8.42	29	91%
RW04	3/21/2006	Cascade	HSA	18.0	17.5	4	PVC	0.010	10	7-17	17.26	99.27	15.51-17.19	26/34	76%	4.50	2	25%
RW05	3/21/2006	Cascade	HSA	18.0	17.5	4	PVC	0.010	10	7-17	16.52	99.29	15.19 & 16.54	32/34	94%	1.30	0	0%
RW06	3/20/2006	Cascade	HSA	14.0	13.5	4	PVC	0.010	5	8-13	12.28	98.24	9.61-10.89	5/34	15%	2.67	24	83%
RW07	3/20/2006	Cascade	HSA	14.0	13.5	4	PVC	0.010	5	8-13	13.02	98.40	8.40-11.92	0/34	0%	4.62	25	74%
RW08	6/14/2011	Cascade	HSA	31.5	30.0	4	PVC	0.010	25	5-30	29.17	99.49	23.10-27.93	9/13	69%	6.07	3	75%
RW09	6/15/2011	Cascade	HSA	16.5	15.0	4	PVC	0.010	10	5-15	13.82	98.09	9.89-11.58	0/13	0%	3.93	13	100%
RW10	6/14/2011	Cascade	HSA	25.5	25.0	4	PVC	0.010	20	5-25	24.53	99.02	8.94-23.87	3/13	9%	15.59	7	57%
RW11	6/14/2011	Cascade	HSA	25.5	25.0	4	PVC	0.010	20	5-25	23.82	99.28	21.88-23.69	4/13	31%	5.57	4	44%

NOTES:

feet[1] = Monitoring wells were surveyed using an arbitrary benchmark of 100.00 feet; therefore, elevation is relative to benchmark.

bgs = below ground surface

HSA = hollow-stem auger

PVC = polyvinyl chloride

ESN = Environmental Services Network, Northwest

APPENDIX A

TEMPORARY BORING LOGS

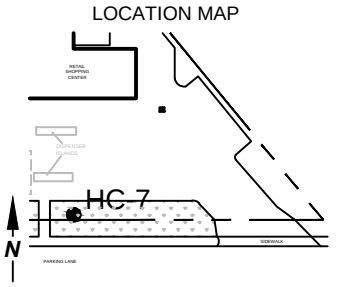
Hydro Con

510 Allen Street
Kelso, WA 98626
Phone: 360-703-6086

WELL/BORING NUMBER: HC-7

PROJECT NAME: TOC Holdings Co.
PROJECT NUMBER: 01-069
PROJECT LOCATION: Everett, Wa.
LOGGED BY: RAH
REVIEWED BY: CH
DATE: 1-22-15

LOCATION MAP



DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	DEPTH (FT.)	SYMBOL	Well Details	LAB SAMPLE ID	RECOVERY	PID	FIRST WATER	BLOW COUNTS	WELL CONSTRUCTION DETAILS
Topsoil	0							NA	
SILTY SAND (SM), Brown, 65% fine sand, 35% low plastic fines, no hydrocarbon odor, damp.	5			HC-7-06		0 0 0.1			
SLAG - Black, subangular gravel, maximum diameter of 3/8", damp. (Fill)	10					0.1			
SILT (ML), Dark brown, 60% low plastic silt, 40% fine sand, no hydrocarbon odor, dry.	15			HC-7-15		0.1 0.1			
Total Borehole Depth @ 15' bgs.	20								
	25								
	30								

NOTE:
Backfill Borehole with hydrated bentonite.

LEGEND:

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS/BACKFILL

DRILLING CONTRACTOR: ESN
DRILLING METHOD: Direct Push
BOREHOLE DIAMETER: 2-Inch
SAMPLING METHOD: Continuous core
START CARD NUMBER:

CASING ELEVATION:
GROUND SURFACE ELEVATION:
COORDINATES (X & Y):
DATUM:
SURVEYING CONTRACTOR:

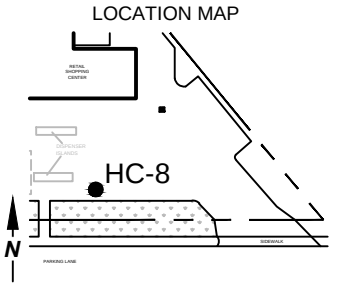
Hydro Con

510 Allen Street
Kelso, WA 98626
Phone: 360-703-6086

WELL/BORING NUMBER: HC-8

PROJECT NAME: TOC Holdings Co.
PROJECT NUMBER: 01-069
PROJECT LOCATION: Everett, Wa.
LOGGED BY: RAH
REVIEWED BY: CH
DATE: 1-22-15

LOCATION MAP



DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	DEPTH (FT.)	SYMBOL	Well Details	LAB SAMPLE ID	RECOVERY	PID	FIRST WATER	BLOW COUNTS	WELL CONSTRUCTION DETAILS
Asphalt 3" thick	0							NA	
SILTY SAND (SM), Dark brown, 60% fine sand, 35% low plastic fines, 5% fine subrounded gravel 1/4" maximum diameter, damp, no hydrocarbon odor.						0.2			
	5			HC-8-05		0.5			
						2.2			
				HC-8-08		6.1			
	10					0.1			
SILT (ML), Dark brown, 60% low plastic fines, 35% sand, 5% subrounded gravel up to 1/4 inch diameter, no hydrocarbon odor, dry.						0.1			
	15			HC-8-15		0.1			
Total Borehole Depth @ 15' bgs.									
	20								
	25								
	30								

NOTE:
Backfill Borehole with hydrated bentonite.

LEGEND:

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS/BACKFILL

DRILLING CONTRACTOR: ESN
DRILLING METHOD: Direct Push
BOREHOLE DIAMETER: 2-Inch
SAMPLING METHOD: Continuous core
START CARD NUMBER:

CASING ELEVATION:
GROUND SURFACE ELEVATION:
COORDINATES (X & Y):
DATUM:
SURVEYING CONTRACTOR:

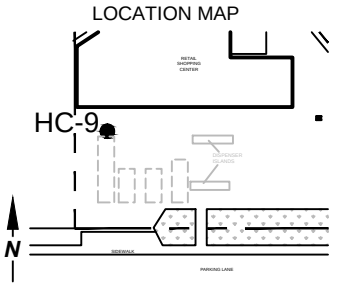
HydroCon

510 Allen Street
Kelso, WA 98626
Phone: 360-703-6086

WELL/BORING NUMBER: HC-9

PROJECT NAME: TOC Holdings Co.
PROJECT NUMBER: 01-069
PROJECT LOCATION: Everett, Wa.
LOGGED BY: RAH
REVIEWED BY: CH
DATE: 1-22-15

LOCATION MAP



DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	DEPTH (FT.)	SYMBOL	Well Details	LAB SAMPLE ID	RECOVERY	PID	FIRST WATER	BLOW COUNTS	WELL CONSTRUCTION DETAILS
3" thick Asphalt	0							NA	
SAND (SP), Brown, 90% fine to medium sand, 5% fine subrounded gravel up to 1/4 inch diameter, 5% low plastic fines, damp, no hydrocarbon odor, (Fill)						0.2			
	5			HC-9-05		0.5			
						2.2			
				HC-9-08		6.1			
	10					0.1			
SILT (ML), Dark brown, 60% low plastic fines, 35% sand 5% fine subrounded gravel up to 1/4 inch diameter, no hydrocarbon odor, dry.						0.1			
	15			HC-9-15		0.1			
Total Borehole Depth @ 15' bgs.									
	20								
	25								
	30								

NOTE:
Backfill Borehole with hydrated bentonite.

LEGEND:

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS/BACKFILL

DRILLING CONTRACTOR: ESN
DRILLING METHOD: Direct Push
BOREHOLE DIAMETER: 2-Inch
SAMPLING METHOD: Continuous core
START CARD NUMBER:

CASING ELEVATION:
GROUND SURFACE ELEVATION:
COORDINATES (X & Y):
DATUM:
SURVEYING CONTRACTOR:

APPENDIX B

LABORATORY REPORT WITH CHAIN-OF-CUSTODY DOCUMENTATION

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

December 5, 2014

Craig Hultgren, Project Manager
HydroCon
510 Allen St, Suite B
Kelso, WA 98626

Dear Mr. Hultgren:

Included are the additional results from the testing of material submitted on December 2, 2014 from the TOC_01-169, WORFDB8 F&BI 412046 project. There are 6 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Rob Honsberger, Allison Greiner
HDC1205R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 2, 2014 by Friedman & Bruya, Inc. from the HydroCon TOC_01-169, WORFDB8 F&BI 412046 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	HydroCon
412046 -01	HC-7-06
412046 -02	HC-7-15
412046 -03	HC-8-05
412046 -04	HC-8-08
412046 -05	HC-8-15
412046 -06	HC-9-05
412046 -07	HC-9-10
412046 -08	HC-9-15

All quality control requirements were acceptable.

Date of Report: 12/05/14
Date Received: 12/02/14
Project: TOC_01-169, WORFDB8 F&BI 412046
Date Extracted: 12/03/14
Date Analyzed: 12/03/14

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
HC-7-06 412046-01	<0.02	<0.02	<0.02	<0.06	<2	85
HC-7-15 412046-02	<0.02	<0.02	<0.02	<0.06	<2	84
HC-8-05 412046-03	<0.02	<0.02	<0.02	<0.06	<2	85
HC-8-08 412046-04	0.047	<0.02	<0.02	<0.06	28	85
HC-8-15 412046-05	<0.02	<0.02	<0.02	<0.06	<2	84
HC-9-15 412046-08	<0.02	<0.02	<0.02	<0.06	<2	84
Method Blank 04-2397 MB	<0.02	<0.02	<0.02	<0.06	<2	85

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	HC-8-08	Client:	HydroCon
Date Received:	12/02/14	Project:	TOC_01-169, WORFDB8 F&BI 412046
Date Extracted:	12/04/14	Lab ID:	412046-04
Date Analyzed:	12/04/14	Data File:	120412A.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	90	111
Toluene-d8	96	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	HydroCon
Date Received:	Not Applicable	Project:	TOC_01-169, WORFDB8 F&BI 412046
Date Extracted:	12/04/14	Lab ID:	04-2385 mb
Date Analyzed:	12/04/14	Data File:	120409.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	90	111
Toluene-d8	94	64	137
4-Bromofluorobenzene	97	81	119

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

Date of Report: 12/05/14
Date Received: 12/02/14
Project: TOC_01-169, WORFDB8 F&BI 412046

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 412052-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	82	69-120
Toluene	mg/kg (ppm)	0.5	85	70-117
Ethylbenzene	mg/kg (ppm)	0.5	86	65-123
Xylenes	mg/kg (ppm)	1.5	86	66-120
Gasoline	mg/kg (ppm)	20	100	71-131

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.

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 the analyte were outside of acceptance criteria. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

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

j - The analyte concentration is reported below the lowest calibration standard. 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 laboratory control sample(s) percent recovery and/or RPD were 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 analyte 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 with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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.

412046

SAMPLE CHAIN OF CUSTODY

ME 12/2/14 VS2/ CE2

Page # 1 of 1

Send Report To Craig Hultgren
Company Hydrocon
Address 510 Allen St Ste B
City, State, ZIP Kelso WA 98626
Phone # 360 703-6079 Fax # 360 703-6086

SAMPLERS (signature)
PROJECT NAME/NO. TSL 01-169
PO#
REMARKS

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH ~~12/9/14~~ 12/5/14 per CH
Rush charges authorized by RH 12/2/14. MS

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	BTEX by 8260C						Notes
HC-7-06	01 A-E	12-2-14	0940	Soil	5		X	X										O-per RH
HC-7-15	02		0950		5		X	X										12/4/14 MS
HC-8-05	03		1005		5		X	X										
HC-8-08	04		1010		5		X	X				O						
HC-8-15	05		1015		5		X	X										
HC-9-05	06		1030		5													Hold
HC-9-10	07		1035		5													Hold
HC-9-15	08		1045		5		X	X										
																		Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Robert A. Hayden	Hydrocon	12-2-14	1224
Received by:		FIS	12/2/14	1229
Relinquished by:				
Received by:				

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

FORMSVCOC\COC.DOC

APPENDIX C

SITE WELL LOGS

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	WHR
Date Started:	10/6/2004
Surface Conditions:	Asphalt
Well Location N/S:	15' North from NW corner of building
Well Location E/W:	12' West from NW corner of building
Reviewed by:	PJK/RKB
Date Completed:	10/6/2004

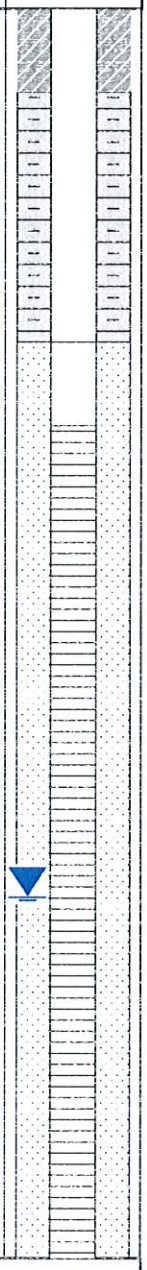
BORING LOG | B01 MW01

Site Address: 851 North Broadway
Everett, Washington

Water Depth At Time of Drilling 16 feet bgs

Water Depth After Completion 10.5 feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**No samples collected to 16 feet below ground surface (bgs).**	
5									
10									
15									



Drilling Co./Driller:	ESN/Don		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	Combo Rig		**Well Screened Interval:**	5 to 20	feet bgs	
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	Silica Sand		
Total Boring Depth:	20	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	20	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	WHR
Date Started:	10/6/2004
Surface Conditions:	Asphalt
Well Location N/S:	15' North from NW corner of building
Well Location E/W:	12' West from NW corner of building
Reviewed by:	PJK/RKB
Date Completed:	10/6/2004

BORING LOG | **B01** MW01

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 16 feet bgs

Water Depth After Completion: 10.5 feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15						FILL		**Wet, sandy GRAVEL, gray, moderate hydrocarbon odor.**	
			100		B-1-17	SM		**Damp to moist, silty fine to medium SAND, trace gravel, weak hydrocarbon odor.**	
			100		B-1-18				
			100		B-1-19				
					B-1-20				
20								**Boring terminated at 20 feet bgs and completed as two-inch-diameter monitoring well MW01.**	
25									
30									

Drilling Co./Driller:	ESN/Don		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	Combo Rig		**Well Screened Interval:**	5 to 20	feet bgs	
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	Silica Sand		
Total Boring Depth:	20	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	20	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	WHR
Date Started:	10/7/2004
Surface Conditions:	Asphalt
Well Location N/S:	60' West of SW corner of building
Well Location E/W:	7' North of SW corner of building
Reviewed by:	PJK/RKB
Date Completed:	10/7/2004

BORING LOG | B10 MW02

Site Address: 851 North Broadway
Everett, Washington

Water Depth At Time of Drilling NE feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Asphalt with gravel subbase.**	
			100			FILL		**Damp to moist, silty fine SAND, grayish-green, no hydrocarbon odor.**	
5			100						
								Damp, angular slag, black, no hydrocarbon odor.	
10			100						
						CL-ML		**Wet from 12 to 12.2 feet below ground surface (bgs), silty CLAY, gray with some mottling, no hydrocarbon odor.**	
			100						
15									

Drilling Co./Driller:	ESN/Don		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	Combo Rig		**Well Screened Interval:**	15 to 30	feet bgs	NE = not encountered
Sampler Type:	--		**Screen Slot Size:**	--	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	--		
Total Boring Depth:	30	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	--	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	WHR
Date Started:	10/7/2004
Surface Conditions:	Asphalt
Well Location N/S:	60' West of SW corner of building
Well Location E/W:	7' North of SW corner of building
Reviewed by:	PJK/RKB
Date Completed:	10/7/2004

BORING LOG | **B10** MW02

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15								**Some fine SAND.**	
						GP		**(Augered from 16 to 30 feet bgs, driller reports gravel at 20 feet bgs, harder drilling to 30 feet bgs)**	
20				0					
			0						
25									
30								**Boring terminated at 30 feet bgs and completed as two-inch-diameter monitoring well MW02.**	

Drilling Co./Driller:	ESN/Don		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	Combo Rig		**Well Screened Interval:**	15 to 30	feet bgs	NE = not encountered
Sampler Type:	--		**Screen Slot Size:**	--	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	--		
Total Boring Depth:	30	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	--	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/15/2010
Surface Conditions:	Concrete
Well Location N/S:	44.6' S of NW corner of building
Well Location E/W:	79.1' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/15/2010

BORING LOG | B22 MW03

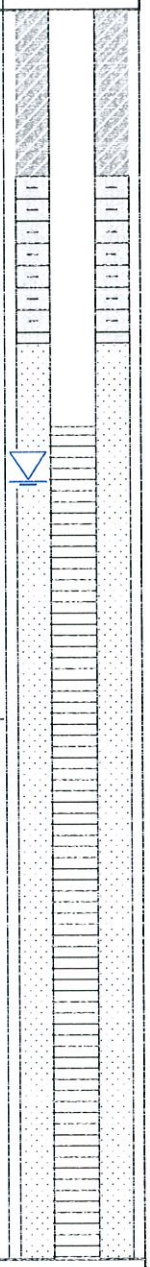
Site Address: 851 North Broadway
Everett, Washington

Water Depth At Time of Drilling 5.5 feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Concrete.** **Soil Cuttings: Silty gravelly SAND.**
5		19 20 21	90	0.0		FILL		**Moist, black clinker SLAG, with silty sand and gravel, no hydrocarbon odor (Fill).**
10		7 7 8	100	0.0		ML		**Moist, stiff, SILT, some clay, trace sand and gravel, possible organics, gray with brown oxidation, no hydrocarbon odor (90-5-5).**
		8 10 10	100	0.0	B22-12.5	ML		**Same as above, very stiff, no clay, no hydrocarbon odor.**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	5 to 25	feet bgs
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand	
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips	
State Well ID No.:	--		**Monument Type:**	Flush Mount	

Notes/Comments:

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/15/2010
Surface Conditions:	Concrete
Well Location N/S:	44.6' S of NW corner of building
Well Location E/W:	79.1' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/15/2010

BORING LOG | B22 MW03

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling 5.5 feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		8 10 10	100	0.0	B22-15	ML		**Same as above, increasing sand and gravel content, no hydrocarbon odor.**	
		50/6	100	329	B22-17.5	SM		**Damp, very dense, silty, fine SAND, some gravel, moderate hydrocarbon odor.**	
20		50/6	100	0.0	B22-20	SM		**Same as above, gray, hydrocarbon odor.**	
		50/6	100	0.0	B22-22.5	SM		**Same as above, rounded to subrounded gravel, faint hydrocarbon odor.**	
25		50/6	80	0.0	B22-25	SM		**Same as above, no hydrocarbon odor.**	
								Boring terminated at 25.5 feet bgs and completed as well MW03 as shown in well construction detail.	
30									

Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	5 to 25	feet bgs	
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/15/2010
Surface Conditions:	Concrete
Well Location N/S:	11' N of NW corner of building
Well Location E/W:	79.1' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/15/2010

BORING LOG | B23 MW04

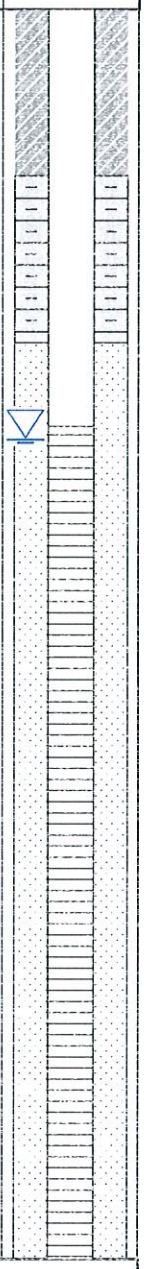
Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling 5 feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Concrete (10 inches).**
5		5 6 7	100	0.0		FILL		**Black SLAG, some silty fine sand, no hydrocarbon odor.**
10		7 8 10	100	0.0		ML		**Moist, stiff, SILT, some clay, brown with gray, no hydrocarbon odor (100-0-0).**
		10 15 17	100	0.0	B23-12.5	SM		**Damp, hard, fine sandy SILT to silty fine SAND, trace gravel at base, no hydrocarbon odor (60-40-0).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/15/2010
Surface Conditions:	Concrete
Well Location N/S:	11' N of NW corner of building
Well Location E/W:	79.1' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/15/2010

BORING LOG | B23 MW04

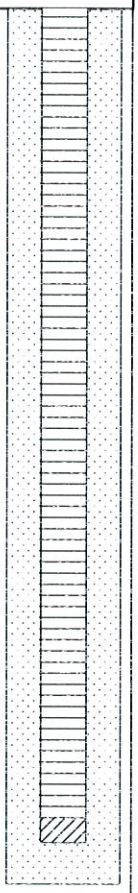
Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
15	X	50/6	100	0.0	B23-15	SM		**Damp, very dense, silty fine SAND, some gravel, gray, no hydrocarbon odor (20-70-10).**
	X	50/6	100	0.0	B23-17.5	SM		**Same as above.**
20	X	50/6	100	0.0	B23-20	SM		**Same as above.**
	X	50/6	100	0.0	B23-22.5	SM		**Same as above.**
25	X	50/6	100	0.0	B23-25	SM		**Same as above.**
								Boring terminated at 25.5 feet bgs and completed as well MW04 as shown in well construction detail.
30								

Well Construction Detail



Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand	
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips	
State Well ID No.:	--		**Monument Type:**	Flush Mount	

Notes/Comments:

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/15/2010
Surface Conditions:	Soil/Gravel
Well Location N/S:	14.7' N of NW corner of building
Well Location E/W:	3.6' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/15/2010

BORING LOG | **B24** MW05

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 5.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Soil and gravel.** **Soil Cuttings: Moist, silty gravelly SAND, brown, no hydrocarbon odor.**	
5		6 7 7	100	0.0		SP-SM		**Wet to damp, medium dense, silty gravelly fine SAND, wood fragments in lower 4 inches, no hydrocarbon odor (20-55-25) (Fill).**	
10		3 6 10	100	0.0		SM-ML		**Damp, medium dense, silty SAND to stiff, sandy SILT, some gravel, brown with gray, no hydrocarbon odor (40-45-15).**	
		50/6	100	4.3	B24-13	SM		**Damp, very dense, silty fine SAND, some gravel, faint hydrocarbon odor (20-70-10).**	
15									

Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand	
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips	
State Well ID No.:	--		**Monument Type:**	Flush Mount	

Notes/Comments:

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/15/2010
Surface Conditions:	Soil/Gravel
Well Location N/S:	14.7' N of NW corner of building
Well Location E/W:	3.6' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/15/2010

BORING LOG | B24 MW05

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 5.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	X	50/6	100	0.0	B24-15	SM		**Damp, very dense, silty fine SAND, some gravel, gray, faint hydrocarbon odor (20-70-10).**	
	X	50/6	100	0.0	B24-17.5	SM		**Damp, very dense, silty fine SAND, some gravel, gray, very faint hydrocarbon odor (20-70-10).**	
20	X	50/6	100	0.0	B24-20	SM		**Damp, very dense, silty fine SAND, some gravel, gray, no hydrocarbon odor (20-70-10).**	
	X	50/6	100	0.0	B24-22.5	SM		**Damp, very dense, silty fine SAND, some gravel, no hydrocarbon odor (15-75-10).**	
25	X	50/6	100	0.0	B24-25	SM		**Damp, very dense, silty fine SAND, some gravel, very faint hydrocarbon odor (20-70-10).**	
								Boring terminated at 25.5 feet bgs and completed as well MW05 as shown in well construction detail.	
30									

Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/16/2010
Surface Conditions:	Asphalt
Well Location N/S:	14.1' N of NW corner of building
Well Location E/W:	30.1' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/16/2010

BORING LOG | **B25** MW06

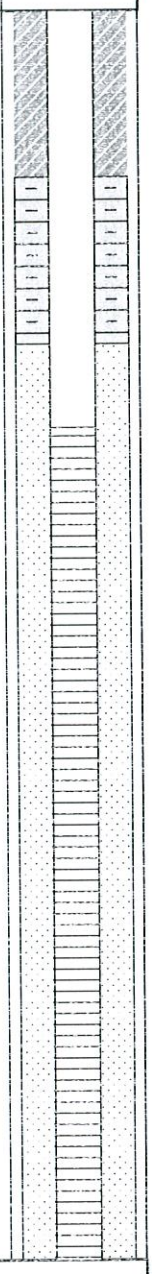
Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0						Asphalt		**Asphalt (3 inches).** **Soil Cuttings: Damp to moist, sandy SILT, with gravel, no hydrocarbon odor.**
5		3 4 4	100	0.0		SM		**Moist, silty, fine SAND, some gravel.** **Soil cuttings: silty SAND to sandy SILT, some gravel, gray, no hydrocarbon odor.**
10		5 6 9	100	0.0	B25 10	ML		**Damp to moist, SILT, with clay, gray with brown, no hydrocarbon odor (100-0-0).**
		50/6	100	0.0	B25-12.5	SM		**Damp, silty SAND, some gravel, gray, very faint hydrocarbon odor (20-65-15).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand	
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips	
State Well ID No.:	--		**Monument Type:**	Flush Mount	

Notes/Comments:
NE = not encountered

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/16/2010
Surface Conditions:	Asphalt
Well Location N/S:	14.1' N of NW corner of building
Well Location E/W:	30.1' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/16/2010

BORING LOG | B25 MW06

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	X	50/6	100	0.0	B25-15	SP		**Damp, gravelly fine SAND, some silt, gray, very faint hydrocarbon odor (15-60-25).**	
	X	50/6	100	0.0	B25-17.5	SM		**Damp, silty, fine SAND, some gravel, gray, very faint paint thinner odor (20-70-10).**	
20	X	50/6	100	0.0	B25-20	SM		**Damp, silty, fine SAND, some gravel, gray, very faint paint thinner odor (20-65-15).**	
	X	50/5	30	0.0		NR		**Minor recovery.**	
25	X	50/4	100	0.0	B25-25	SP		**Damp, gravelly fine SAND, some silt, gray, no hydrocarbon odor (15-55-30).**	
								Boring terminated at 25.5 feet bgs and completed as well MW06 as shown in well construction detail.	
30									

Drilling Co./Driller:	Cascade/D. Gose		Well/Auger Diameter:	2	inches	Notes/Comments:
Drilling Equipment:	HSA		Well Screened Interval:	5 to 25	feet bgs	NE = not encountered
Sampler Type:	D & M		Screen Slot Size:	0.010	inches	
Hammer Type/Weight:	300	lbs	Filter Pack Used:	#2/12 Sand		
Total Boring Depth:	25.5	feet bgs	Surface Seal:	Cement		
Total Well Depth:	25	feet bgs	Annular Seal:	Bentonite Chips		
State Well ID No.:	--		Monument Type:	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/16/2010
Surface Conditions:	Asphalt
Well Location N/S:	14.1' N of NW corner of building
Well Location E/W:	48' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/16/2010

BORING LOG | B26 MW07

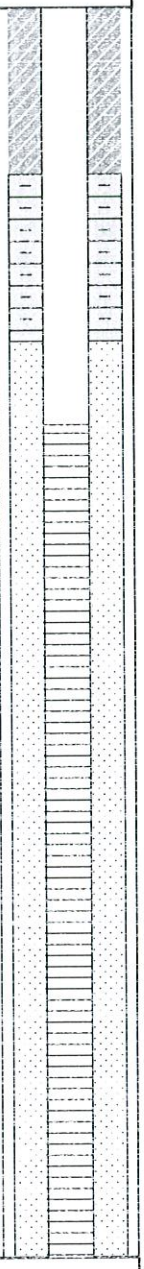
Site Address: 851 North Broadway
Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Asphalt.** **Soil cuttings: Damp, silty SAND, some gravel, dark gray, no hydrocarbon odor.**
5		6 7 7	100	0.0		SP-SM		**Damp to moist, gravelly silty SAND, brown, no hydrocarbon odor (25-50-25).**
10		7 9 9	100	0.0		ML		**Moist, SILT, gray with brown, no hydrocarbon odor (100-0-0).**
		17 50/6	100	0.0	B26-12.5	SM		**Damp to moist, silty SAND, some gravel, tan-brown, gray at 13.25 feet bgs, no hydrocarbon odor (20-70-10).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand	
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips	
State Well ID No.:	--		**Monument Type:**	Flush Mount	

Notes/Comments:
NE = not encountered

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/16/2010
Surface Conditions:	Asphalt
Well Location N/S:	14.1' N of NW corner of building
Well Location E/W:	48' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/16/2010

BORING LOG | **B26** MW07

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling NE feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	X	50/6	100	0.0	B26-15	SM		**Damp, silty fine SAND, some gravel, gray, no hydrocarbon odor (25-65-10).**	
	X	50/6	100	0.0	B26-17.5	SP-SM		**Damp, silty gravelly fine SAND, gray, no hydrocarbon odor (20-55-25).**	
20	X	50/6	100	0.0	B26-20	SP-SM		**Damp, silty gravelly fine SAND, gray, no hydrocarbon odor (20-60-20).**	
	X	50/6	100	0.0	B26-22.5	SM		**Damp, silty SAND, some gravel, gray, no hydrocarbon odor (20-70-10).**	
25	X	50/6	100	0.0	B26-25	SM		**Same as above.**	
								Boring terminated at 25.5 feet bgs and completed as well MW07 as shown in well construction detail.	
30									

Drilling Co./Driller:	Cascade/D. Gose		**Well/Auger Diameter:**	2	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs
Sampler Type:	D & M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	#2/12 Sand	
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite Chips	
State Well ID No.:	--		**Monument Type:**	Flush Mount	

Notes/Comments:
NE = not encountered

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/16/10
Surface Conditions:	Asphalt
Well Location N/S:	46' S of NW corner of building
Well Location E/W:	14' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/16/10

BORING LOG | B27 MW08

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling 6 feet bgs

Water Depth After Completion 22.33 feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0						Asphalt		**Asphalt (2.5 inches).**	
								Hand cleared to 3 feet below ground surface (bgs). Damp, silty SAND, with gravel and cobbles, brown grading to gray, no hydrocarbon odor (Fill).	
5		3 4 5	100	0.0		SP		**Wet, loose, gravelly fine to medium SAND, some silt, dark gray, no hydrocarbon odor (15-65-20) (Fill).**	
		5 5 7	100	0.0	B27-7.5	SM		**Damp to moist, medium dense, silty SAND, with gravel, silt-rich inclusions, and wood fragments, brown with gray, no hydrocarbon odor (Fill).**	
10		4 5 9	100	0.0	B27-10	ML		**Damp, stiff, SILT, trace fine sand, gray with brown oxidation, no hydrocarbon odor (95-5-0).**	
		9 11 17	100	0.0	B27-12.5	ML		**Same as above, very stiff SILT, no sand, dark brown with gray.**	
15									

Drilling Co./Driller:	Cascade/David		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5	feet bgs	
Sampler Type:	D&M Split Spoon		**Screen Slot Size:**	25	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	2/12 Sand		
Total Boring Depth:	30.5	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/16/10
Surface Conditions:	Asphalt
Well Location N/S:	46' S of NW corner of building
Well Location E/W:	14' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/16/10

BORING LOG | B27 MW08

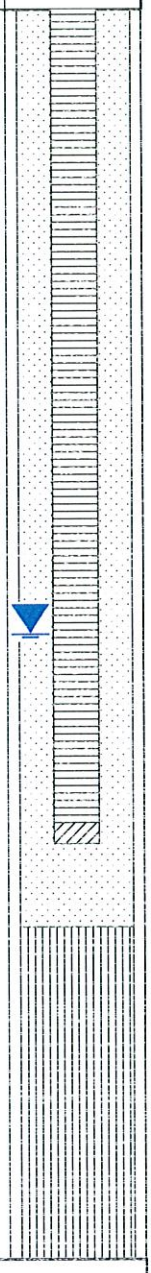
Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling 6 feet bgs

Water Depth After Completion 22.33 feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
15		10 14 14	100	778	B27-15	ML		**Moist, very stiff, fine sandy SILT to SILT, with strong partings, gray with oxidation, strong hydrocarbon odor.**
		13 50/6	100	168	B27-17.5	SM		**Damp to moist, very dense, silty fine SAND, with silt rich inclusions, moderate hydrocarbon odor (40-60-10).**
20		50/6	100	67	B27-20	SM		**Damp, very dense, silty, fine SAND, trace to some gravel, moderate hydrocarbon odor (35-60-5).**
		50/6	100	68	B27-22.5	SM		**Same as above, faint hydrocarbon odor.**
25		50/6	100	22.7	B27-25	SM		**Same as above, faint hydrocarbon odor.**
		50/6	100	0.0	B27-27.5	SM		**Damp, very dense, silty fine SAND, some gravel, faint hydrocarbon odor (20-70-10).**
30								

Well Construction Detail



Drilling Co./Driller:	Cascade/David		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5	feet bgs	
Sampler Type:	D&M Split Spoon		**Screen Slot Size:**	25	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	2/12 Sand		
Total Boring Depth:	30.5	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	CCC
Date Started:	11/16/10
Surface Conditions:	Asphalt
Well Location N/S:	46' S of NW corner of building
Well Location E/W:	14' W of NW corner of building
Reviewed by:	JAC
Date Completed:	11/16/10

BORING LOG | **B27** MW08

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: 6 feet bgs

Water Depth After Completion: 22.33 feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30	X	50/6	100	0.0	B27-30	SM		**Same as above, very faint hydrocarbon odor.**	
								Boring terminated at 30.5' bgs and completed as MW08 as shown in well construction detail.	
35									
40									
45									

Drilling Co./Driller:	Cascade/David		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5	feet bgs	
Sampler Type:	D&M Split Spoon		**Screen Slot Size:**	25	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	2/12 Sand		
Total Boring Depth:	30.5	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	ATL
Date Started:	12/06/10
Surface Conditions:	Grass
Well Location N/S:	14.4' S of NW corner of building
Well Location E/W:	57.4' E of NW corner of building
Reviewed by:	JAC
Date Completed:	12/06/10

BORING LOG | B28 MW09

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: 13.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Grass.** **Soil cuttings 0 to 5 feet below ground surface (bgs): Damp, silty fine to medium SAND, with subrounded gravel, brown, no hydrocarbon odor.**	
5		3 4 4	100	0.0		ML		**Damp, medium stiff, sandy SILT, some subrounded to angular gravel, variegated, no hydrocarbon odor (45-45-10).**	
10		3 7 11	100	0.0	B28-10	ML		**Damp, stiff, sandy SILT, with fine sand, trace organic fragments, gray with tan brown mottling, no hydrocarbon odor (50-50-10).**	
		5 10 15	100	0.0	B28-12.5	ML		**Same as above.**	
15						SM		**Moist to wet, medium dense, silty fine to medium SAND, trace gravel, gray, possible hydrocarbon odor (20-75-5).**	

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	Driller Equipt. Type		**Well Screened Interval:**	5 to 25	feet bgs	
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	2/12 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	ATL
Date Started:	12/06/10
Surface Conditions:	Grass
Well Location N/S:	14.4' S of NW corner of building
Well Location E/W:	57.4' E of NW corner of building
Reviewed by:	JAC
Date Completed:	12/06/10

BORING LOG | B28 MW09

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: 13.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	X	50/6	100	0.0	B28 15	SM		**Wet, very dense, silty fine to coarse SAND, some subrounded gravel, white and dark gray, faint hydrocarbon odor (20-70-10).**	
	X	50/6	100	0.0	B28-17.5	SM		**Damp, very dense, silty fine SAND, trace subrounded gravel, brown, no hydrocarbon odor (25-70-5).**	
20	X	50/6	100	0.0	B28-20	SM		**Damp, very dense, silty fine SAND, trace subrounded to wellrounded gravel, brown, no hydrocarbon odor (25-70-5).**	
	X	50/4	100	0.0	B28-22.5	SM		**Damp, very dense, silty fine SAND, trace subrounded to wellrounded gravel, brown, no hydrocarbon odor (30-65-5).**	
25	X	50/4	100	0.0	B28-25	SM		**Same as above.**	
								Boring terminated at 25.5 ft bgs and completed as monitoring well MW09 as shown in well construction detail.	
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	Driller Equipt. Type		**Well Screened Interval:**	5 to 25	feet bgs	
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	2/12 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	ATL
Date Started:	12/06/10
Surface Conditions:	Asphalt
Well Location N/S:	45.2' S of NW corner of building
Well Location E/W:	116' W of NW corner of building
Reviewed by:	JAC
Date Completed:	12/06/10

BORING LOG | B29 MW10

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Asphalt (3 to 4 inches). Structural Fill (1 inch). Concrete (4 inches).**	
								Hand cleared to 3 feet below ground surface (bgs).	
5		1 1 2	100	0.0		SM		**Damp, very loose, silty fine to coarse SAND, trace gravel, organics/wood fragments, and possible brick fragments, dark brown to gray (mottled) (45-50-5) (Fill).**	
								Moderate sewage odor.	
10		3 3 3	100	0.0	B29-10	ML		**Damp, medium stiff, SILT, gray with mottled brown oxidation, roots, no hydrocarbon odor (Fill).**	
		6 10 10	100	0.0	B29-12.5	SM		**Damp, medium dense, silty fine SAND, gray with mottled brown oxidation, no hydrocarbon odor (40-60-0).**	
15									

						Notes/Comments:
Drilling Co./Driller:	Cascade/David		Well/Auger Diameter:	2	inches	NE = not encountered
Drilling Equipment:	HSA		Well Screened Interval:	5 to 25	feet bgs	
Sampler Type:	Split Spoon		Screen Slot Size:	0.010	inches	
Hammer Type/Weight:	300	lbs	Filter Pack Used:	2/12 Sand		
Total Boring Depth:	25.5	feet bgs	Surface Seal:	Concrete		
Total Well Depth:	25	feet bgs	Annular Seal:	Bentonite		
State Well ID No.:	--		Monument Type:	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	ATL
Date Started:	12/06/10
Surface Conditions:	Asphalt
Well Location N/S:	45.2' S of NW corner of building
Well Location E/W:	116' W of NW corner of building
Reviewed by:	JAC
Date Completed:	12/06/10

BORING LOG | B29 MW10

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		6 7 7	100	0.0	B29-15	SM		**Damp to moist, medium dense, silty fine to coarse SAND, some subrounded to wellrounded gravel, gray with mottled brown oxidation, no hydrocarbon odor (35-55-10).**	
		7 20 24	100	0.0	B29-17.5	SP-SM		**Damp to moist, very dense, silty gravelly fine to coarse SAND, with interbedded fine and coarse cobbles, brown to orange-brown, no hydrocarbon odor (30-40-30).**	
20		50/6	100	0.0	B29-20	SM		**Damp, very dense, silty, fine SAND, some subrounded gravel, light grayish brown, no hydrocarbon odor (25-65-10).**	
		50/6	100	0.0	B29-22.5	SM		**Same as above.**	
25		50/6	100	0.0	B29-25	SM		**Same as above.**	
								Boring terminated at 25.5 feet bgs and completed as well MW10 as shown in well construction detail.	
30									

Drilling Co./Driller:	Cascade/David		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	NE = not encountered
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	2/12 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	ATL
Date Started:	12/06/10
Surface Conditions:	Asphalt
Well Location N/S:	110' S of NW corner of building
Well Location E/W:	37.3' E of NW corner of building
Reviewed by:	JAC
Date Completed:	12/06/10

BORING LOG | B30 MW11

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Asphalt.**	
5		4 3 2	100	0.0		SM		**Moist, loose, silty fine to medium SAND, brownish gray with localized oxidation, no hydrocarbon odor (40-60-0) (Fill).**	
10		3 2 2	100	0.0	B30-10	ML		**Moist to wet, soft, fine sandy SILT, some gravel and organics (wood chips), dark brownish gray, mottled with local green-gray and brown areas, no hydrocarbon odor (50-40-10) (Fill).**	
		2 3 5	100	0.0	B30-12.5	ML		**Damp, medium stiff, sandy SILT, dark gray with trace organics (70-30-0) (Fill).**	
15									

Drilling Co./Driller:	Cascade/David		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	NE = not encountered
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	2/12 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	ATL
Date Started:	12/06/10
Surface Conditions:	Asphalt
Well Location N/S:	110' S of NW corner of building
Well Location E/W:	37.3' E of NW corner of building
Reviewed by:	JAC
Date Completed:	12/06/10

BORING LOG | B30 MW11

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		7 7 10	100	0.0	B30-15	SM		Damp, medium dense, silty fine SAND, gray with brown oxidation along bedding planes, no hydrocarbon odor (30-70-0).	
		50/6	100	0.0	B30-17.5	SP		Damp, very dense, gravelly fine to coarse SAND, with subrounded to subangular gravel, some silt and small cobbles, light brownish gray to orange-brown, no hydrocarbon odor (15-50-35).	
20		50/5	100	0.0	B30-20	SM		Damp, very dense, silty fine SAND, some subrounded gravel, light tan-brown to orange-brown, no hydrocarbon odor (25-65-10).	
		50/6	100	0.0	B30-22.5	SM		Damp, very dense, silty fine SAND, some subangular to subrounded gravel, light tan-brown, no hydrocarbon odor (25-60-15).	
25		50/6	100	0.0	B30-25	SM		Damp, very dense, silty fine SAND, some subangular to subrounded gravel, light tan-brown, no hydrocarbon odor (25-65-10).	
								Boring terminated at 25.5 ft bgs and completed as well MW11 as shown in well construction detail.	
30									

Drilling Co./Driller:	Cascade/David		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	NE = not encountered
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	300	lbs	**Filter Pack Used:**	2/12 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/15/2011
Surface Conditions:	Asphalt
Well Location N/S:	33.9' S of NW corner of building
Well Location E/W:	48.5' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/15/2011

BORING LOG | B36 MW12

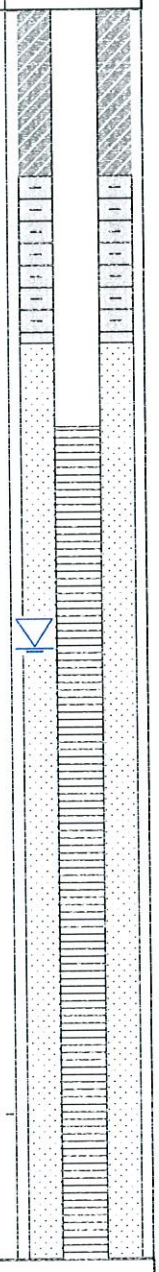
Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling 7.5 feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Asphalt.**
5		6 7 10	100	0.0	B36-05	SP		**Damp, loose, fine to medium SAND, with gravel, trace silt, brown, no hydrocarbon odor (5-80-15).**
		3 4 3	100	0.0	B36-07.5	SP		**Wet, loose, medium to fine SAND, with gravel, trace silt, brown, no hydrocarbon odor (5-80-15).**
10		4 4 4	100	0.0	B36-10	SP		**Wet, loose, fine to medium fine SAND, with gravel, trace silt, brown, no hydrocarbon odor (5-80-15).**
		12 12 14	100	0.3	B36-12.5	SP		**Same as above.**
						ML		**Damp, dense, SILT, with fine sand, brown with gray streaks, no hydrocarbon odor (40-60-0).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade/Frank		**Well/Auger Diameter:**	2" / 4.25"	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 15	feet bgs
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silicon Sand	
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete	
Total Well Depth:	15	feet bgs	**Annular Seal:**	Bentonite	
State Well ID No.:	--		**Monument Type:**	Flush mount	

Notes/Comments:

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/15/2011
Surface Conditions:	Asphalt
Well Location N/S:	33.9' S of NW corner of building
Well Location E/W:	48.5' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/15/2011

BORING LOG | B36 MW12

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling 7.5 feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		15 16 18	100	154.7	B36-15	ML		**Damp, dense, SILT, with fine sand, gray with brown banding, strong hydrocarbon odor (40-60-0).**	
		50/6	33	120.8	B36-17.5	SM		**Damp, very dense, silty fine SAND, with gravel, gray, strong hydrocarbon odor (30-50-20).**	
20		15 15 30	100	54.4	B36-20	SM		**Damp, dense, fine to medium SAND, gray, slight hydrocarbon odor (25-70-5).**	
		40 50/5	100	47.5	B36-22.5	SM		**Damp, very dense, silty SAND, with trace gravel, gray, slight hydrocarbon odor (25-70-5).**	
25		100/6	60	8.5	B36-25	SM		**Damp, very dense, silty SAND, trace gravel, gray, no hydrocarbon odor (25-70-5).**	
								Boring terminated at 25.5 feet, screened from 5 to 15, backfilled from 15 to 25.5 with bentonite, and completed as well MW12.	
30									

Drilling Co./Driller:	Cascade/Frank		**Well/Auger Diameter:**	2" / 4.25"	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 15	feet bgs	
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silicon Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	15	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/15/2011
Surface Conditions:	Asphalt
Well Location N/S:	78.7' S of NW corner of building
Well Location E/W:	14.9' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/15/2011

BORING LOG | B35 MW13

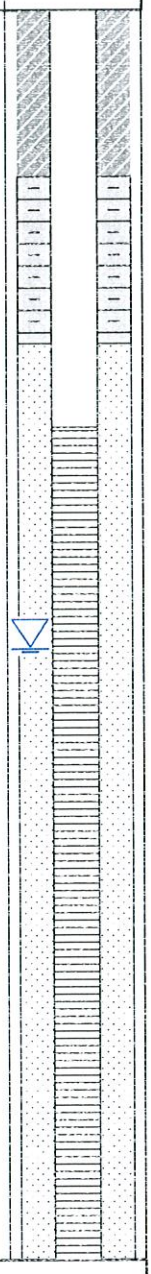
Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: 7.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								
5		10 14 14	100	0.0	B35-05	SP		Asphalt.
		5 4 6	100	0.0	B35-07.5	SP		Damp, dense, fine to medium SAND, with gravel and trace silt, brown, no hydrocarbon odor (5-80-15) (Fill).
						SP		Wet, loose, medium to fine SAND, with gravel, trace silt, brown, no hydrocarbon odor (5-80-15) (Fill).
10		4 5 5	100	0.0	B35-10	ML		Moist, loose, SILT, with sand, wood waste, gray (40-0-0) (Fill).
		6 6 7	20	NR	B35-12.5	ML		Damp, loose SILT, with sand, wood waste and brick fragments, gray, no hydrocarbon odor (40-60-0) (Fill).
15								

Well Construction Detail



Drilling Co./Driller:	Cascade	
Drilling Equipment:	HSA	
Sampler Type:	Split Spoon	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	16.5	feet bgs
Total Well Depth:	15	feet bgs
State Well ID No.:	BHA014	

Well/Auger Diameter:	2" / 4.25"	inches
Well Screened Interval:	5 to 15	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	10/20 Silicon Sand	
Surface Seal:	Concrete	
Annular Seal:	Bentonite	
Monument Type:	Flush mount	

Notes/Comments:

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/15/2011
Surface Conditions:	Asphalt
Well Location N/S:	78.7' S of NW corner of building
Well Location E/W:	14.9' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/15/2011

BORING LOG | **B35** MW13

Site Address: 851 Broadway, Everett, Washington

Water Depth At Time of Drilling: 7.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		15 17 20	100	0.0	B35-15	ML		**Damp, dense, silty fine SAND, brown with orange streaks, no hydrocarbon odor (Native).**	
								Boring terminated at 16.5 feet, screened from 5 to 15 feet, and completed as well MW13.	
20									
25									
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	2" / 4.25"	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 15	feet bgs	
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silicon Sand		
Total Boring Depth:	16.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	15	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	BHA014		**Monument Type:**	Flush mount		Page: 2 of 2

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/20/2006
Surface Conditions:	Asphalt
Well Location N/S:	14.3' North of NW corner of building
Well Location E/W:	19' West of NW corner of building
Reviewed by:	RJK/RKB
Date Completed:	3/20/2006

BORING LOG | B13 RW01

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 11.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0						Asphalt		**Asphalt.**	
						FILL		**Damp, very dense, silty SAND, some gravel, brown, no hydrocarbon odor.**	
		50/6	33	0.0	B-13-02				
						FILL		**Same as above.**	
		50/6	33	0.0	B-13-3.5	FILL		**Same as above, medium to coarse SAND, with subangular to subrounded gravel.**	
5		50/6	33	0.0	B-13-5				
		50/6	33	0.0	B-13-6.5	FILL		**Same as above.**	
		50/6	33	0.0	B-13-8	FILL		**Same as above.**	
		50/6	33	12	B-13-9.5	FILL		**Same as above.**	
10		10 11 16	100	275	B-13-11	FILL		**Wet, medium dense SAND, weak hydrocarbon odor.**	
		50/6	33	19.1	B-13-13	FILL		**Same as above.**	
		50/6	33	121					
15					B-13-15				

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	8 to 18	feet bgs	
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	19	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	18.5	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/20/2006
Surface Conditions:	Asphalt
Well Location N/S:	14.3' North of NW corner of building
Well Location E/W:	19' West of NW corner of building
Reviewed by:	RJK/RKB
Date Completed:	3/20/2006

BORING LOG | B13 RW01

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 11.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		50/6	33			FILL		**Wet, very dense, silty SAND to sandy SILT, some gravel, dark gray, weak hydrocarbon odor.**	
		13 15 15 20	100	19.0 12.5	B-13-19	ML		**Wet, medium dense, sandy SILT, gray, weak hydrocarbon odor**	
20								**Boring terminated at 19 feet below ground surface (bgs) and completed as four-inch-diameter recovery well RW01.**	
25									
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	8 to 18	feet bgs	
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	19	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	18.5	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/20/2006
Surface Conditions:	Asphalt
Well Location N/S:	21' North of NW corner of building
Well Location E/W:	44' West of NW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/20/2006

BORING LOG | B15 RW02

Site Address: 851 North Broadway
Everett, Washington

Water Depth At Time of Drilling: 7.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0						Asphalt		Asphalt.	
						FILL		Damp, silty gravelly SAND, brown, no hydrocarbon odor.	
		13 15 17	33	0.0		FILL		Damp, dense, gravelly, silty SAND, brown, no hydrocarbon odor.	
5		7 8 18	33	0.0	B-15-05	FILL		Moist, medium dense, silty SAND, tan, no hydrocarbon odor.	
		7 8 12	33	0.0	B-15-09	FILL		Wet, medium dense, silty SAND, some gravel, brown, no hydrocarbon odor.	
10		50/6	33	0.0	B-15-10	FILL		Same as above, moist, very dense, weak hydrocarbon odor.	
		50/6		0.0		ML		Damp, hard, sandy SILT, olive, no hydrocarbon odor.	
		50/6	33	0.0		ML		Same as above.	
		50/4	33	0.0		ML		Dry to damp, hard, sandy SILT, greenish tan, no hydrocarbon odor.	
15									

Drilling Co./Driller:	Cascade		Well/Auger Diameter:	4	inches	Notes/Comments:
Drilling Equipment:	Hollow Stem Auger		Well Screened Interval:	8 to 18	feet bgs	
Sampler Type:	-		Screen Slot Size:	0.010	inches	
Hammer Type/Weight:	--	lbs	Filter Pack Used:	#2/12 Sand		
Total Boring Depth:	19	feet bgs	Surface Seal:	Concrete		
Total Well Depth:	18.5	feet bgs	Annular Seal:	Bentonite Chips		
State Well ID No.:	--		Monument Type:	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/20/2006
Surface Conditions:	Asphalt
Well Location N/S:	21' North of NW corner of building
Well Location E/W:	44' West of NW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/20/2006

BORING LOG | **B15** / RW02

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling 7.5 feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	X	50/6	33	210	B-15-16.5	SM		**Damp, very dense, silty SAND, tan, moderate hydrocarbon odor.**	
	X	50/6	33	181		SM		**Same as above.**	
	X	50/6	33	181		SM		**Same as above.**	
20								**Boring terminated at 19 feet below ground surface (bgs) and completed as four-inch-diameter recovery well RW02.**	
25									
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	8 to 18	feet bgs	
Sampler Type:	-		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	19	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	18.5	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/20/2006
Surface Conditions:	Asphalt
Well Location N/S:	2' South of NW corner of building
Well Location E/W:	32' West of NW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/20/2006

BORING LOG | B16 RW03

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling 9.5 feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0		10 12 10	100	0.0		FILL		Asphalt Damp, medium dense, silty SAND, some gravel, tan, no hydrocarbon odor.	
		50/6	33	0.0		FILL		Same as above, very dense.	
		50/6	33	0.0		FILL		Same as above.	
5		50/6	33	0.0	B-16-05	FILL		Same as above.	
		50/6	33	0.0		FILL		Same as above.	
		50/6	33	0.0		FILL		Same as above.	
		50/6	33	0.0	B-16-10	FILL		Wet, very dense, silty SAND, some rounded gravel, tan, no hydrocarbon odor.	
10		50/6	33	0.0		FILL		Same as above.	
		50/6	33	0.0		FILL		Same as above.	
		50/6 12	50	0.0		FILL		Same as above.	
15									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Setm Auger		**Well Screened Interval:**	8 to 15	feet bgs	
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	16	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	15.5	feet bgs	**Annular Seal:**	Bentonite Chip		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/20/2006
Surface Conditions:	Asphalt
Well Location N/S:	2' South of NW corner of building
Well Location E/W:	32' West of NW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/20/2006

BORING LOG | B16 RW03

Site Address: 851 North Broadway Everett, Washington

Water Depth At Time of Drilling 9.5 feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	X	12 50/6	50	0.0		ML		**Damp, hard, SILT, greenish gray, no hydrocarbon odor.**	
								Boring terminated at 16 feet below ground surface (bgs) and completed as four-inch-diameter recovery well RW03.	
20									
25									
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Setm Auger		**Well Screened Interval:**	8 to 15	feet bgs	
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	16	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	15.5	feet bgs	**Annular Seal:**	Bentonite Chip		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/21/2006
Surface Conditions:	Asphalt
Well Location N/S:	14.5' South of NW corner of building
Well Location E/W:	49.5' West of NW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/21/2006

BORING LOG | B19 RW04

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 7 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Asphalt.**	
		10 10 10				FILL		**Damp, medium dense, silty gravelly SAND, tan, no hydrocarbon odor.**	
		12 19 16		0.0				**Dense.**	
5		12 18 17							
		18 20 30		0.0				**Moist to wet, very dense.**	
		50/6						**Moist.**	
		50/6				OL		**Damp, hard, organic SILT, brownish black, very faint hydrocarbon odor.**	
10		50/6 50/6		830	B-19-10	OL		**Same as above, moist, moderate hydrocarbon odor.**	
		50/6				OL		**Same as above, no hydrocarbon odor.**	
		50/6				OL		**Same as above, very faint hydrocarbon odor.**	
15									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	7 to 17	feet bgs	Notes
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	18	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	17.5	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/21/2006
Surface Conditions:	Asphalt
Well Location N/S:	14.5' South of NW corner of building
Well Location E/W:	49.5' West of NW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/21/2006

BORING LOG B19 RW04

Site Address: 851 North Broadway
Everett, Washington

Water Depth At Time of Drilling: 7 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	X	50/6				ML		Damp to moist, hard, sandy SILT, green, very faint hydrocarbon odor.	
	X	50/6		0.0		SM		Damp, very dense, silty SAND, green, no hydrocarbon odor.	
	X	50/6				SM		Same as above.	
								Boring terminated at 18 feet below ground surface (bgs) and completed as four-inch-diameter recovery well RW04.	
20									
25									
30									

Drilling Co./Driller:	Cascade		Well/Auger Diameter:	4	inches
Drilling Equipment:	Hollow Stem Auger		Well Screened Interval:	7 to 17	feet bgs
Sampler Type:	--		Screen Slot Size:	0.010	inches
Hammer Type/Weight:	--	lbs	Filter Pack Used:	#2/12 Sand	
Total Boring Depth:	18	feet bgs	Surface Seal:	Concrete	
Total Well Depth:	17.5	feet bgs	Annular Seal:	Bentonite Chips	
State Well ID No.:	--		Monument Type:	Flush Mount	

Notes/Comments:
Notes

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/21/2006
Surface Conditions:	Asphalt
Well Location N/S:	35.8' North of SW corner of building
Well Location E/W:	59.5' West of SW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/21/2006

BORING LOG | B18 RW05

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 11 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0									
		13 13 15		0.0		FILL		**Asphalt, with gravel subbase. Damp, very stiff, sandy SILT, some gravel, greenish-gray, no hydrocarbon odor.**	
		10 9 6						**Stiff.**	
		14 12 10						**Very stiff.**	
5		10 11 12						**Moist.**	
		22 50/6		0.0		FILL		**Same as above, hard.**	
		50/6				FILL		**Dry, very dense, GRAVEL, black, no hydrocarbon odor.**	
10		50/6		830	B-19-10	OL		**Damp, hard, organic SILT, black, no hydrocarbon odor**	
		50/6				OL		**Same as above, wet.**	
		50/6				OL		**Same as above.**	
15		50/6				OL		**Same as above, damp.**	

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	7 to 17	feet bgs	Notes
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	18	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	17.5	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/21/2006
Surface Conditions:	Asphalt
Well Location N/S:	35.8' North of SW corner of building
Well Location E/W:	59.5' West of SW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/21/2006

BORING LOG | B18 RW05

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: 11 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		50/6				SM		**Damp, very dense, silty SAND, some gravel, green, no hydrocarbon odor**	
		50/4		0.0	B-19-15.5				
		50/6		0.0		SM		**Same as above.**	
								Boring terminated at 18 feet below ground surface (bgs) and completed as four-inch-diameter recovery well RW05.	
20									
25									
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	7 to 17	feet bgs	Notes
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	18	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	17.5	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/20/2006
Surface Conditions:	Asphalt
Well Location N/S:	17.5' North of SW corner of building
Well Location E/W:	54.75' West of SW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/21/2006

BORING LOG | B17 RW06

Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0						FILL		**Asphalt, underlain by dry, silty SAND, tan, no hydrocarbon odor.**	
								Logged from soil cuttings: Damp, SILT, greenish brown, no hydrocarbon odor.	
				0.0	B-17-2.5	FILL		**Damp, sandy SILT to silty SAND, greenish gray/brown, no hydrocarbon odor.**	
5				800	B-17-5	FILL		**Damp, silty SAND, some gravel, greenish-gray/brown, moderate hydrocarbon odor.**	
				0.0				**Logged from soil cuttings: Damp, sandy SILT to silty SAND, some gravel, greenish-gray/brown, moderate hydrocarbon odor.**	
				0.0				**Dry, GRAVEL, possibly slag, black, no hydrocarbon odor.**	
				0.0					
10				0.0				**Damp, SILT, some sand and gravel, greenish-gray/rust-brown, no hydrocarbon odor.**	
								Damp, SILT, some sand, greenish gray, no hydrocarbon odor.	
				0.0					
15								**Boring terminated at 14 feet below ground surface (bgs) and completed as four-inch-diameter recovery well RW06.**	

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Air Knife		**Well Screened Interval:**	8 to 13	feet bgs	NE = not encountered
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	14	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	13.5	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/20/2006
Surface Conditions:	Asphalt
Well Location N/S:	14.5' North of SW corner of building
Well Location E/W:	23.5' West of SW corner of building
Reviewed by:	RJK/RKB
Date Completed:	3/20/206

BORING LOG | B14 RW07

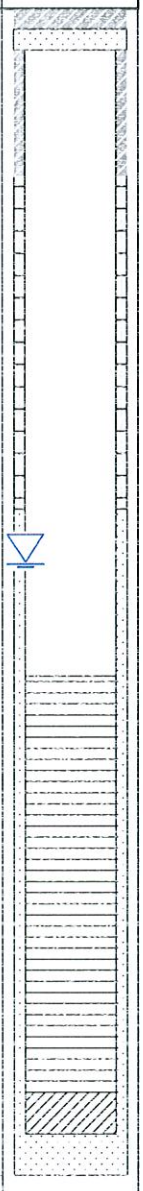
Site Address: 851 North Broadway
Everett, Washington

Water Depth At Time of Drilling: 6.5 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0				0.0		FILL		**Asphalt -3 inches. Underlain by damp, gravelly, silty SAND, black, no hydrocarbon odor.**
				0.0				**Logged from soil cuttings: Damp, sandy SILT, with gravel and organics, olive gray, no hydrocarbon odor.**
								Damp, SILT, some organics, olive gray, no hydrocarbon odor.
5	X		100	0.0	B-14-05	ML		**Damp to moist, sandy SILT, dark gray, no hydrocarbon odor.**
								Logged from soil cuttings: Wet, SAND, tan, no hydrocarbon odor.
	X		100	0.0	B-14-7.5	ML		**Damp to moist, sandy SILT, dark gray, no hydrocarbon odor**
10								
	X		100	0.0	B-14-12	ML		**Damp, sandy SILT, dark gray with green, no hydrocarbon odor.**
								Boring terminated at 14 feet below ground surface (bgs) and completed as four-inch-diameter recovery well RW07.
15								

Well Construction Detail



Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	Air Knife		**Well Screened Interval:**	8 to 13	feet bgs	
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2 2/12 Sand		
Total Boring Depth:	14	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	13.5	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/14/2011
Surface Conditions:	Asphalt
Well Location N/S:	36.5' S of NW corner of building
Well Location E/W:	14' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/14/2011

BORING LOG | B31 RW08

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling NE feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Asphalt.**	
5		1 1 2	100	0.3	B31-05	SM		**Moist, loose, silty SAND, with trace gravel, dark brown, no hydrocarbon odor (30-65-5) (Fill).**	
10		5 6 5	100	0.2	B31-09	ML		**Damp, loose SILT, with sand, wood waste and brick fragments, dark brown, no hydrocarbon odor (40-60-0) (Fill).**	
15		6 12 17	100	0.2	B31-12.5	ML		**Moist, loose SILT, with sand and brick fragments, dark brown, no hydrocarbon odor (40-60-0) (Fill).**	
						SM		**Damp, dense silty SAND, with native tan gravel, light brown to gray (40-55-5).**	

						Notes/Comments:
Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	NE = not encountered
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 30	feet bgs	
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silicon Sand		
Total Boring Depth:	31.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	30	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	BHA010		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/14/2011
Surface Conditions:	Asphalt
Well Location N/S:	36.6' S of NW corner of building
Well Location E/W:	14' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/14/2011

BORING LOG | B31 RW08

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		3 4 6	100	37	B31.15	SM		**Damp, loose, silty fine SAND, with trace gravel, light brown with gray streaks, moderate hydrocarbon odor (30-65-5).**	
20		17 22 34	100	85.9	B31.20	SM		**Damp, dense, silty fine SAND, with trace gravel, grayish brown, moderate hydrocarbon odor (25-70-5).**	
25		50/6	33	35.7	B31.25	SM		**Damp, very dense, silty fine SAND, with trace gravel, grayish brown, slight hydrocarbon odor (25-70-5).**	
		50/5	33	91.8	B31-27.5	SM		**Damp, very dense, silty fine SAND, with trace gravel, grayish brown, no hydrocarbon odor (25-70-5).**	
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 30	feet bgs
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silicon Sand	
Total Boring Depth:	31.5	feet bgs	**Surface Seal:**	Concrete	
Total Well Depth:	30	feet bgs	**Annular Seal:**	Bentonite	
State Well ID No.:	BHA010		**Monument Type:**	Flush mount	

Notes/Comments:
NE = not encountered

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/14/2011
Surface Conditions:	Asphalt
Well Location N/S:	36.6' S of NW corner of building
Well Location E/W:	14' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/14/2011

BORING LOG | B31 RW08

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling NE feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30		50/6	33	28.2	B31-30	SM		**Damp, very dense, silty SAND, with gravel, grayish brown, slight hydrocarbon odor (25-70-5).**	
								Boring terminated at 31.5' bgs, screened from 5 to 30 feet and completed as recovery well RW08.	
35									
40									
45									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 30	feet bgs	NE = not encountered
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silicon Sand		
Total Boring Depth:	31.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	30	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	BHA010		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/15/2011
Surface Conditions:	Asphalt
Well Location N/S:	85.5' S of NW corner of building
Well Location E/W:	31.3' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/15/2011

BORING LOG | B34 RW09

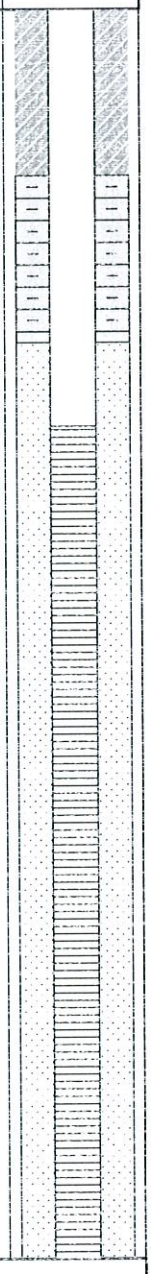
Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling NE feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Asphalt.**
5		3 2 1	100	4.8	B34-05	ML		**Damp, loose, SILT, with sand and wood waste, gray, slight hydrocarbon odor (40-60-0).**
		2 6 6	100	0.8	B34-07.5	ML		**Damp, loose, SILT, with sand, with wood waste and brick fragments, no hydrocarbon odor (40-60-0).**
10		7 7 10	0					**No recovery.**
		5 7 9	20	0.1	B34-12.5	ML		**Damp, loose SILT, with sand, large pieces of wood in sample limits recovery, gray, no hydrocarbon odor (40-60-0).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade/David	
Drilling Equipment:	HSA	
Sampler Type:	Split Spoon	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	16.5	feet bgs
Total Well Depth:	15	feet bgs
State Well ID No.:	--	

Well/Auger Diameter:	4" / 6.25"	inches
Well Screened Interval:	5 to 15	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	10/20 Silica Sand	
Surface Seal:	Concrete	
Annular Seal:	Bentonite	
Monument Type:	Flush mount	

Notes/Comments:
NE = not encountered

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/15/2011
Surface Conditions:	Asphalt
Well Location N/S:	85.5' S of NW corner of building
Well Location E/W:	31.3' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/15/2011

BORING LOG | B34 RW09

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling NE feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		7 9 10	100	0.3	B34-15	ML		**Damp, dense, SILT, with sand, brown with gray streaks, no hydrocarbon odors (40-60-0) (Native).**	
								Boring terminated at 16.5 feet, screened from 5 to 15 feet, and completed as recovery well RW09.	
20									
25									
30									

Drilling Co./Driller:	Cascade/David		**Well/Auger Diameter:**	4" / 6.25"	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 15	feet bgs	NE = not encountered
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silica Sand		
Total Boring Depth:	16.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	15	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	--		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/14/2011
Surface Conditions:	Asphalt
Well Location N/S:	64.1' S of NW corner of building
Well Location E/W:	46.8' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/14/2011

BORING LOG | B33 RW10

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: 10 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Asphalt.**	
5		6 6 7	100	0.2	B33-05	SP		**Damp, loose, fine to medium SAND, with gravel, brown, no hydrocarbon odor (10-70-20).**	
		5 3 2	100	0.4	B33-07.5	SP		**Moist, loose, fine to medium SAND, with gravel brown, no hydrocarbon odor (10-70-20).**	
10		3 2 2	100	2.6	B33-10	SP		**Wet, loose, fine to medium SAND, with gravel, brown, no hydrocarbon odor (10-70-20).**	
						ML		**Damp, loose, SILT, with wood waste, black, no hydrocarbon odor (40-60-0).**	
		4 5 7	100	2.2	B33-12.5	ML		**Damp, loose, SILT, with fine sand, gray with brown streaks, no hydrocarbon odor (50-50-0).**	
15									

						Notes/Comments:
Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4" / 6.25"	inches	
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	BHA012		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TCC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/14/2011
Surface Conditions:	Asphalt
Well Location N/S:	64.1' S of NW corner of building
Well Location E/W:	46.8' W of NW corner of building
Reviewed by:	DNM
Date Completed:	06/14/2011

BORING LOG | **B33** RW10

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: 10 feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		5 8 9	100	8.8	B33-15	ML		**Damp, loose, silty fine SAND, gray with brown streaks, no hydrocarbon odor (40-60-0).**	
		17 50/6	100	296	B33-17.5	SM		**Damp, very dense, silty SAND, with gravel, gray, strong hydrocarbon odor (30-50-20).**	
20		50/5	0	--				**No recovery.**	
		50/6	33	26.6	B33-22.5	SM		**Damp, very dense, silty SAND, gray, slight hydrocarbon odor (30-70-0).**	
25		50/5	33	10.8	B33-25	SM		**Damp, very dense, silty SAND, gray, slight hydrocarbon odor.**	
								Boring terminated at 25.5 feet, screened from 5 to 25 feet, and completed as recovery well RW10.	
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4" / 6.25"	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	BHA012		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/14/2011
Surface Conditions:	Asphalt
Well Location N/S:	5.5' S of NW corner of building
Well Location E/W:	19.3' E of NW corner of building
Reviewed by:	DNM
Date Completed:	06/14/2011

BORING LOG | **B32** RW11

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Asphalt.**	
5		3 2 1	100	0.0	B32-05	SM		**Damp, loose, silty SAND, with gravel, dark brown, no hydrocarbon odor (30-60-10).**	
		2 4 6	100	0.0		ML		**Damp, loose, SILT, with fine sand, wood waste and brick fragments, dark brown, mottled with local green-gray and brown areas, no hydrocarbon odor (40-60-0).**	
10		5 7 13		0.7	B32-10	ML		**Moist, loose, SILT, with fine sand, wood waste and brick fragments, dark brown, moderate hydrocarbon odor (40-60-0).**	
		12 16 24		9.5	B32-12.5	ML		**Damp, dense, SILT with fine sand, trace gravel, light brown with gray streaks, no hydrocarbon odor (35-60-5).**	
15									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4" / 6.25"	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	NE = not encountered
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silica Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	BHA011		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	RAH
Date Started:	06/14/2011
Surface Conditions:	Asphalt
Well Location N/S:	5.5' S of NW corner of building
Well Location E/W:	19.3' E of NW corner of building
Reviewed by:	DNM
Date Completed:	06/14/2011

BORING LOG | B32 RW11

Site Address: 851 Broadway
Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		50/5	33	57.8	B32-15	ML		**Damp, very dense, SILT, with sand, trace gravel, light brown with gray streaks, slight hydrocarbon odor (35-60-5).**	
20		50/6	33	31.4	B32-20	SM		**Damp, very dense, silty SAND, with gravel, grayish brown, slight hydrocarbon odor (25-65-10).**	
25		50/6	33	2.4	B32-25	SM		**Damp, very dense, silty SAND, with gravel, grayish brown, no hydrocarbon odor (25-65-10).**	
								Boring terminated at 25.5 feet, screened from 5 to 25 feet, and completed as recovery well RW11.	
30									

Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	4" / 6.25"	inches	**Notes/Comments:**
Drilling Equipment:	HSA		**Well Screened Interval:**	5 to 25	feet bgs	NE = not encountered
Sampler Type:	Split Spoon		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	10/20 Silica Sand		
Total Boring Depth:	25.5	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	25	feet bgs	**Annular Seal:**	Bentonite		
State Well ID No.:	BHA011		**Monument Type:**	Flush mount		

SoundEarth Strategies

Project:	TCC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/21/2006
Surface Conditions:	Asphalt
Well Location N/S:	37' North of S/W corner of building
Well Location E/W:	36.5' West of S/W corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/21/2006

BORING LOG | B21 OW01

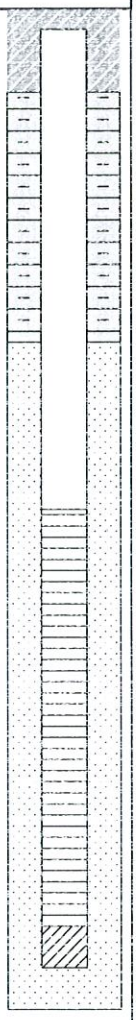
Site Address: 851 North Broadway, Everett, Washington

Water Depth At Time of Drilling: NE feet bgs

Water Depth After Completion: -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Asphalt**
								Damp, silty, gravelly SAND, tan, no hydrocarbon odor. (Soil cuttings)
5		12		0.0		FILL		**Damp, medium dense, silty, gravelly, SAND, tannish brown, no hydrocarbon odor.**
		12		0.0				
		14						
								Damp, sandy SILT, bluish gray, no hydrocarbon odor. (Soil cuttings)
								Same as above, moist. (Soil cuttings)
								Same as above, damp. (Soil cuttings)
10		17		0.0		OL		**Damp, hard, organic SILT, green with black, no hydrocarbon odor.**
		50						**Same as above (Soil cuttings)**
								Boring terminated at 12 feet below ground surface (bgs) and completed as two-inch-diameter observation well OW01.
15								

Well Construction Detail



						Notes/Comments:
Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	2	inches	NE = not encountered
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	6 to 11	feet bgs	
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	12	feet bgs	**Surface Seal:**	Cement		
Total Well Depth:	12	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		

SoundEarth Strategies

Project:	TOC Holdings Co. Facility No. 01-169
Project Number:	0440-002
Logged by:	TJL
Date Started:	3/21/2006
Surface Conditions:	Asphalt
Well Location N/S:	22.9' North of SW corner of building
Well Location E/W:	46' West of SW corner of building
Reviewed by:	PJK/RKB
Date Completed:	3/21/2006

BORING LOG | B20 OW02

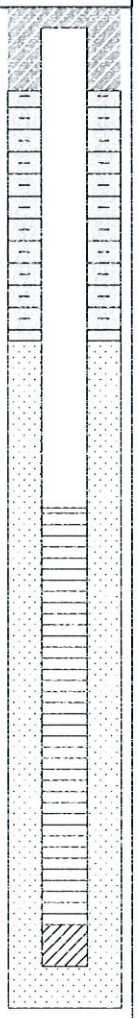
Site Address: 851 North Broadway
Everett, Washington

Water Depth At Time of Drilling NE feet bgs

Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0				0.0				**Asphalt.**
								Logged from soil cuttings: Damp, silty gravelly SAND, black, no hydrocarbon odor.
								Logged from soil cuttings: Same as above, bluish gray.
5		7 6 12	100	24.3		FILL		**Damp, medium dense, silty gravelly SAND, bluish-gray, very faint hydrocarbon odor.**
10				0.0		FILL		**Damp to moist, silty gravelly SAND, bluish gray, no hydrocarbon odor.**
								Boring terminated at 12 feet below ground surface (bgs) and completed as two-inch-diameter observation well OW02.
15								

Well Construction Detail



Drilling Co./Driller:	Cascade		**Well/Auger Diameter:**	2	inches	**Notes/Comments:**
Drilling Equipment:	Hollow Stem Auger		**Well Screened Interval:**	6 to 11	feet bgs	NE = not encountered
Sampler Type:	--		**Screen Slot Size:**	0.010	inches	
Hammer Type/Weight:	--	lbs	**Filter Pack Used:**	#2/12 Sand		
Total Boring Depth:	12	feet bgs	**Surface Seal:**	Concrete		
Total Well Depth:	12	feet bgs	**Annular Seal:**	Bentonite Chips		
State Well ID No.:	--		**Monument Type:**	Flush Mount		