

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 2004²).

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 2003³ 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 2014⁴). The uses of the wells are taken from the Remedial Investigation Report (SES 2013⁵).

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 Ground	lwater	
	Ground Water	Ground Water Method B	Ground Water Method
Chemical Name	Method	Non	В
	А	cancer	Cancer
	(µg/L)	(µg/L)	(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			

-- = 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



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





Client Autocad/Hydrocon-Autocad/01-169_14-810 Everett 169\2014QTR04\01-169_BM-Q4.dwg 2.17.2

)						
		Total				
Toluene ⁽²⁾	Ethylbenzene ⁽²⁾	Xylenes ⁽²⁾	Antimony ⁽⁴⁾	Arsenic ⁽⁴⁾	Copper ⁽⁴⁾	Lead ⁽⁴⁾
6,400	8,000	16,000	32	0.67	3,200	250
rdoCon Se	oil Sampling 8-2	2-14				
< 0.02	< 0.02	<0.06	-	-	-	-
< 0.02	<0.02	<0.06	-	-	-	-
0.032	<0.02	0.088	-	-	-	-
0.33	0.067	0.54	-	-	-	-
0.25	0.1	0.41	-	-	-	-
0.16	0.18	0.67	-	-	-	-
<0.02	<0.02	<0.06	-	-	-	-
< 0.02	<0.02	<0.06	-	-	-	-
rdoCon Se	oil Sampling 8-2	8-14				
< 0.02	<0.02	<0.06	86.4	144	1,420	6,980
< 0.02	<0.02	<0.06	<1	2.04	15.1	2.37
<0.02	<0.02	<0.06	-	-	-	-
3.5	<0.4	300	-	-	-	-
0.18	<0.1	22	-	-	-	-
< 0.02	<0.02	<0.06	1.73	24.6	30.6	125
< 0.02	<0.02	<0.06	-	-	-	-
<0.02	<0.02	<0.06	<1	1.59	7.05	1.76
< 0.02	<0.02	<0.06	1.32	52.8	20.4	108
< 0.02	<0.02	<0.06	-	-	-	-
< 0.02	<0.02	<0.06	<1	5.9	20.1	13.8
<0.02	<0.02	<0.06	-	-	-	-
rdoCon Se	oil Sampling 12-	2-14				
< 0.02	< 0.02	<0.06	-	-	-	-
< 0.02	< 0.02	<0.06	-	-	-	-
< 0.02	<0.02	<0.06	-	-	-	-
<0.05*	<0.05*	<0.15*	-	-	-	-
< 0.02	<0.02	<0.06	-	-	-	-
< 0.02	<0.02	<0.06	-	-	-	-

LEGEND

DO4/	
↔ B01/ MW01	GROUNDWATER MONITORING WELL (SOUNDEARTH)
- A - RW01	REMEDIATION WELL (SOUNDEARTH)
	CATCH BASIN
\bigcirc	POWER POLE
	PROPERTY BOUNDARY
x	FENCE
	FORMER SITE FEATURE
	FORMER FUEL DELIVERY PIPING
UST	UNDERGROUND STORAGE TANK
~	APPROXIMATE GROUNDWATER FLOW DIRECTION
⊕ HC-7	BORING LOCATION
2-8-14	FIGURE 5
JT H	SOIL ANALYTICAL RESULTS
ED: CH	TOC HOLDINGS CO. FACILITY NO. 01-169
R: CH	851 N. BROADWAY
T NO: 10	EVERETT, WA.



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

		NWTPH-Gx		SW8	021B			EPA2	200.8				SW8260C		
Sample ID	Sample Date	편 Gasoline Range 전 Organics	euezueg Beuzeueg	euene mg/kg	Ethylbenzene	3 Xylene Total 형	a Antimony	mg/kg	Copper mg/kg	pead mg/kg	euezue Beuzue mg/kg	eueno mg/kg	글 정 정	Zylene (m & p)	Xylene (o)
MTCA Method B Clea		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.

¹MTCA 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

																		Percent or
																Maximum	# Events	Events
				Total	Total							Well				Depth of	with	with
				Boring	Well	Well	Well	Screen	Length of	Screened	Measrured	Casing				Water	Water	Water
	Date		Drilling	Depth	Depth	Diameter	Construction	Slot Size	Screen	Interval	Total Depth	Elevation			Percent of	Column in		
			Method	(feet bgs)	(feet bgs)	(inch)	Material	(inch)	(feet)	(feet bgs)	(feet btoc)	(feet ¹)	Depth to Water (feet)	#Dry/#Events		Well (ft)	ft	ft
	0/6/2004	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%
	0/7/2004	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%
· · · · ·	1/15/2010	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%
	1/15/2010	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%
	1/15/2010	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%
	1/15/2010	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%
· · · · ·	1/16/2010	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%
	1/16/2010	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%
	2/6/2010	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%
	2/6/2010	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,	2/6/2010	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 6/1	5/15/2011	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 6/1	5/15/2011	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 3/2	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 3/2	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 3/2	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 3/2	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 3/2	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 3/2	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 3/2	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 3/2	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 3/2	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 6/1	5/14/2011	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 6/1	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 6/1	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 6/1	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:

feet¹ = 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	PROJE	- ECT NAM ECT NUM	VELL/BC E: TOC Hold BER: 01-069 ATION: Ever	lings Co.		//BEF	R H	C-7	
Kelso, WA 98626 Phone: 360-703-6086	REVIE	ED BY: R. WED BY: 1-22-15							
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	DIA	FIRST WATER	BLOW COUNTS	WELL CONSTRUCTION DETAILS
Topsoil SILTY SAND (SM), Brown, 65% fine sand, 35% low plastic fines, no hydrocarbon odor, damp.	0			HC-7-06		0		NA	
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.				HC-7-15		0.1			
Total Borehole Depth @ 15' bgs.	20 								NOTE: Backfill Borehole with hydrated bentonite. EEGEND: FILTER PACK ENTONITE SENTONITE SENTONITE CEMENT GROUT CUTTINGS/BACKFILL
DRILLING CONTRACTOR: ESN DRILLING METHOD: Direct Push BOREHOLE DIAMETER: 2-Inch SAMPLING METHOD: Continuous core START CARD NUMBER:	1	1	GF CC DA	SING EL SOUND S OORDINA TUM:	SURFA	CE ELE K & Y):		I N:	

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)	PEPTH (FT.) SYMBOL SAMBOL SAMPLE ID PID PID PID PID PID BLOW COUNTS							WELL CONSTRUCTION DETAILS	
Asphalt 3" thick SILTY SAND (SM), Dark brown, 60% fine sand, 35% low plastic fines, 5% fine subrounded gravel 1/4" maximum diameter, damp, no hydrocarbon odor. SILT (ML), Dark brown, 60% low plastic fines, 35% sand, 5% subrounded gravel up to 1/4 inch diameter, no hydrocarbon odor, dry. Total Borehole Depth @ 15' bgs.				HC-8-05		0.2 0.5 2.2 6.1 0.1 0.1		NA	
DRILLING CONTRACTOR: ESN DRILLING METHOD: Direct Push BOREHOLE DIAMETER: 2-Inch SAMPLING METHOD: Continuous core START CARD NUMBER:	25— — 30—		GF CC DA	SING EL ROUND S DORDINA TUM: IRVEYIN	SURFA	CE ELI X & Y):		DN:	NOTE: Backfill Borehole with hydrated bentonite. EGEND: FILTER PACK BENTONITE CEMENT GROUT CUTTINGS/BACKFILL

Hydro Con 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							HC-9 HC-9 HC-9 HC-9 HC-9	
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	DIA	FIRST WATER	BLOW COUNTS	WELL CONSTRUCTION DETAILS
3" thick Asphalt 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			HC-9-05 HC-9-08		0.2 0.5 2.2 6.1		NA	
SILT (ML), Dark brown, 60% low plastic fines, 35% sand 5% fine subrounded gravel up to 1/4 inch diameter, no hydrocarbon odor, dry.	15 			HC-9-15		0.1			
	20— — 25— 25— 30— 								NOTE: Backfill Borehole with hydrated bentonite. LEGEND: FILTER PACK BENTONITE SCIENT GROUT CEMENT GROUT CUTTINGS/BACKFILL
DRILLING CONTRACTOR: ESN DRILLING METHOD: Direct Push BOREHOLE DIAMETER: 2-Inch SAMPLING METHOD: Continuous core START CARD NUMBER:			GR CO DA	SING EL OUND S ORDINA TUM: RVEYIN	SURFA	CE ELE X & Y):		DN:	

APPENDIX B

LABORATORY REPORT WITH CHAIN-OF-CUSTODY DOCUMENTATION

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

ENVIRONMENTAL CHEMISTS

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.

<u>Laboratory ID</u>	<u>HydroCon</u>
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.

ENVIRONMENTAL CHEMISTS

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)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	Ethyl <u>Benzene</u>	Total <u>Xylenes</u>	Gasoline <u>Range</u>	Surrogate (<u>% Recovery)</u> (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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	HC-8-08 12/02/14 12/04/14 12/04/14 Soil mg/kg (ppm)	Dry Weight	Client: Project: Lab ID: Data File: Instrument: Operator:	HydroCon TOC_01-169, WORFDB8 F&BI 412046 412046-04 120412A.D GCMS9 SP
Surrogates: 1,2-Dichloroethane- Toluene-d8 4-Bromofluorobenze		% Recovery: 99 96 100	Lower Limit: 90 64 81	Upper Limit: 111 137 119
Compounds:		Concentration mg/kg (ppm)		
Benzene Toluene Ethylbenzene m,p-Xylene o-Xylene		<0.03 <0.05 <0.05 <0.1 <0.05		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	Method Blank Not Applicable 12/04/14 12/04/14 Soil mg/kg (ppm) Dry Weight	Client: Project: Lab ID: Data File: Instrument: Operator:	HydroCon TOC_01-169, WORFDB8 F&BI 412046 04-2385 mb 120409.D GCMS9 SP
Surrogates: 1,2-Dichloroethane- Toluene-d8 4-Bromofluorobenze	94	Lower :: Limit: 90 64 81	Upper Limit: 111 137 119
Compounds:	Concentratio mg/kg (ppm		
Benzene Toluene Ethylbenzene m,p-Xylene o-Xylene	< 0.03 < 0.05 < 0.05 < 0.1 < 0.05		

ENVIRONMENTAL CHEMISTS

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)

		Sample Result	Duplicate Result	RPD
Analyte	Reporting Units	(Wet Wt)	(Wet Wt)	(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

			Percent	
		Spike	Recovery	Acceptance
Analyte	Reporting Units	Level	LCS	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

ENVIRONMENTAL CHEMISTS

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.

 ${\bf b}$ - 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.

 $\ensuremath{\text{ip}}$ - 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.

 ${\rm J}$ - 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.

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APPENDIX C

SITE WELL LOGS

S	211	ndl	Ear	- he	Project: Project Nun Logged by:		TOC 0440 WHR	-002	Co. Facility No. 01-	169	BORING LOG	B01 MW	01
J	JU	St	LOI rate	gies	Date Started Surface Cor Well Locatio	ndition			r of building		Site Address: 851 Eve	rett, Wasl th At	hington
					Well Location Reviewed b Date Compl	y:	PJK/	t from NW corner RKB /2004	of building		→ Time of Dri Water Dep	illing th	 feet bgs feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppr	Sam	ple	USCS Class	Graphic	Litł	nologic [Description		Well Construction Detail
0									No samples coll surface (bgs).	lected to 1	i6 feet below gro	bund	
Drillin Samp Hamn Total Total	g Equ ler Ty ner Ty Borin Well I	./Drillen uipmer ype: ype/We g Dept Depth: ID No.:	nt: ight: h:	ESN/Don Combo Rig 20 20	lbs feet bgs feet bgs	Well Scree Filter Surfa Annu	Auger Di Screener en Slot S Pack Us ice Seal: ilar Seal: ument Ty	d Interval: lize: sed:	2 5 to 20 0.010 Silica Sand Concrete Bentonite Chips Flush Mount	inches feet bgs inches	Notes/Comm Page:		1 of 2

Sc)U	nd St	Cart rateg	ies References	oject: gged by: te Started: rface Conditic ell Location N/ ell Location E/ viewed by: te Completed	0440 WHR 10/6/ ons: Asph S: ^{15' Nort} W: ^{12' Wes} PJK/	-002 1 2004	5	BORING LOG Site Address: 851 N Evero Water Depti Time of Drill Water Depti After Compl	ett, Washin At Ing 16	lway
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	0	Lithologic	Description		Well Construction Detail
- 15	\bigvee		100		B-1-17	FILL		Wet, sandy GRAVEL, gr hydrocarbon odor. Damp to moist, silty fin gravel, weak hydrocarb	e to medium SAND	, trace	
			100 100		B-1-13 B-1-19 B-1-20	SM					
- 20	Ś							Boring terminated at 20 as two-inch-diameter m	feet bgs and comp onitoring well MWC	ileted 11.	
-											
25											
Drillin Samp Hamn Total Totai	ig Eq ler T ner T Borii Well	D./Drille ulpmei ype: ype/We ng Dep Depth: ID No.:	nt: C 	0 0	We Sol Ibs Filt feet bgs Su feet bgs An	II/Auger D II Screene reen Slot S er Pack U rface Seal nular Seal nument T	d Interval Size: sed: : :	2 inches 5 to 20 feet by 0.010 inches Silica Sand Concrete Bentonite Chips Flush Mount	gs		of 2

So)UI	10 Str	art	Pro Log Dat C S Sur We We Ret	iject: iject Number: gged by: face Conditio II Location N/3 II Location E/A viewed by: te Completed:	0440- WHR 10/7/ ns: Asph 5: ^{60 West} V: ^{7' North} PJK/	002 2004 alt tof SW corner of b RKB			Water Depth)2 Jadway	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithol	logic De	scription	We Constru Det	uction
0			100			FILL		hydrocarbon odor. Damp, angular sla	ty fine SA	ND, grayish-green, n		
15			100					Wet from 12 to 12 (bgs), silty CLAY, hydrocarbon odo	gray with	low ground surface h some mottling, no		
Drilli Sam Ham Tota Tota	ng Eq pler T mer T I Bori I Well	L Julpme Julpme Ype: Ype/W ng Dep Depth ID No	eight: - eight: - oth: 3	ESN/Don Combo Rig - - 	lbs Fi feet bgs Ar	ell/Auger I ell Screen creen Slot iter Pack I irface Sea nnular Sea onument 1	ed Interval Size: Jsed: I: I:	2 15 to 30 Concrete Bentonite Chips Flush Mount	inches feet bgs inches	Notes/Comments: NE = not encountered Page:	1 of 2	

Sc)UI	nd Str	art	ies Receiption ies Receiption Rec	oject: oject Number ogged by: tte Started: trface Condition ell Location R/ ell Location E/ eviewed by: tte Completed	: 0440 WHF 10/7/ ons: Asph /S: ^{60'Wes} W: ^{7'North} PJK/	-002 2004 allt t of SW corner of of SW corner of	15		BORING LOG ite Address: 851 N Everei Water Depth Time of Drilli Water Depth After Compile	t, Washin At ng NE	iway gton
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lith	ologic De	escription		Well Construction Detail
15			0	0		GP		Some fine SAND (Augered from 16 gravel at 20 feet bgs)	6 to 30 fee bgs, harde	er drilling to 30 fe	leted	
Drilli Drilli Samı Hamı Total Total	ng Eq oler T mer T Bori Well	D./Drille Julpme Type: Type/We ng Dep Depth: ID No.	nt: Bight: th:	ESN/Don Combo Rig 30 	W Ibs Fi feet bgs St feet bgs A	ell/Auger E ell Screen creen Slot iter Pack L urface Sea nnular Sea onument T	ed Interval Size: Jsed: I: I:	2 15 to 30 Concrete Bentonite Chips Flush Mount	inches feet bgs inches	Notes/Comm NE = not encoun Page:	tered	! of 2

So	U	nd Str	arti	Pro Log Dat C S Sur We We Rev	ject: ject Number gged by: te Started: face Conditi II Location N II Location E viewed by: te Completed	: 0440- CCC 11/15 ions: Conc i/S: 44.6°So i/W: 79.1°W JAC	002 //2010		BORING B2 LOG MV Site Address: 851 North E Everett, Wa Water Depth At Time of Drilling Water Depth After Completion	V03 Broadway
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic [Description	Well Construction Detail
5	X	19 20 21	90	0.0		FILL		Concrete. Soil Cuttings: Silty grave Moist, black clinker SLAG gravel, no hydrocarbon o	3, with silty sand and	
		7 7 8 10 10	100	0.0	B22-12.5	ML.		Moist, stiff, SILT, some o gravel, possible organic oxidation, no hydrocarbo Same as above, very stil hydrocarbon odor.	s, gray with brown on odor (90-5-5).	
Drillin Samp Hami Total Total	ng Eo oler 1 ner 1 Borl Well		nt: H D eight: 3 th: 2 : 2		ler V Ibs F feet bgs S feet bgs A	Vell/Auger D Vell Screens Icreen Slot S liter Pack U Iurface Seal Ionular Seal Ionument T	ed Interval Size: Ised: I:	2 inches 5 to 25 feet bg 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	Notes/Comments	1 of 2

Sc)U	nd Sti	at egi	Pro Lo Da i e S Su We We Re	oject: oject Number: gged by: te Started: rface Conditio II Location N/3 II Location E/A viewed by: te Completed:	0440- CCC 11/15 ns: Conc 3: 44.5°S c N: 79.1°W JAC	-002 5/2010	7.8	BORING LOG Site Address: 851 N Evere Water Depth Time of Drill Water Depth After Comple	ett, Washin At Ing 5.5	lway gton
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic [Description		Well Construction Detail
15	X	8 10 10	100	0.0	B22-15	ML		Same as above, increasin content, no hydrocarbon		21	
-	Х	50/6	100	329	B22-17.5	SM		Damp, very dense, silty, moderate hydrocarbon o	tine SAND, some e dor.	gravel,	
20	Х	50/6	100	0.0	B22-20	SM		Same as above, gray, hy	drocarbon odor.		
	Х	50/6	100	0.0	822-22.5	SM	<u>9893</u>	Same as above, rounded faint hydrocarbon odor.	to subrounded g	ravel,	
25	Х	50/6	80	0.0	B22-25	SM		Same as above, no hydro	ocarbon odor.		
								Boring terminated at 25.t as well MW03 as shown detail.	5 feet bgs and con n well constructio	npleted on	
Drillin Samp Hamr Total Total	ng Ec pler T ner T Bori Well	L Julpmol ype: Ype/We ng Dep Depth: ID No.	nt: H D sight: 34 th: 24 29	L ascade/D. Gost Iollow Stem Aug 9 & M 00 5.5 5	er We Sci Ibs Fill feet bgs Su feet bgs An	II/Auger D II Screens reen Slot S er Pack U rface Seal nular Seal nument T	d Interval Size: sed: : :	2 inches 2 inches 5 to 25 feet bg: 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	Notes/Comm		of 2

C	200	ndl	Cort	Pri Pri	oject: oject Number: gged by:		-002	Co. Facility No. 01-169	BORING LOG	B23 MW04	ļ
2(JU	St	Eart rateg	Da ies Su	te Started: rface Conditio		5/2010 crete		Site Address: 851 I Even	North Broad ett, Washir	
			5	We	ell Location N/	W: 79.1'W	NW corner of bu of NW corner of I		Water Dept Time of Dril	ling ⁵	feet bgs
		r	r		viewed by: te Completed	JAC 11/1	5/2010		Water Dept After Comp	h letion	feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic I	Description		Well Construction Detail
0								Concrete (10 inches).			
	X	5 67	100	0.0		FILL.		Black SLAG, some silty f hydrocarbon odor.	ine sand, no		
10	X	7 8 10	100	0.0		ML		Moist, stiff, SILT, some cl hydrocarbon odor (100-0		ay, no	
-	X	10 15 17	100	0.0	B23-12.5	SM		Damp, hard, fine sandy S trace gravel at base, no h 0).	ILT to silty fine S ydrocarbon odor	AND, (60-40-	
Drillin Samp Hamn Total Total	g Eq ler T ner T Borli Well	o./Drillen uipmen ype: ype/We ng Dept Depth: ID No.:	t: HS D Ight: 30 h: 25	.5	bs Filt feet bgs Ann feet bgs Ann	II/Auger DI II Screene een Slot S er Pack Us face Seal: nular Seal: nument Ty	d Interval: lize: sed:	2 inches 5 to 25 feet bgs 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	Notes/Comm Page:		of 2

S	211	nd	Eart	Project Pr	oject: oject Number: gged by:	0440 CCC	-002	Co. Facility No. 01-169		V04	
J	JU	St	LOI U rateg	les su	te Started: rface Conditio Il Location N/	ns: Cond	5/2010 crete NW corner of bu	ilding	Site Address: 851 North E Everett, Wa	shington	
				Re	ell Location E/	JAC		building	Time of Drilling Water Depth	5 feet bgs	
()	al	nt	Σ	Da	te Completed:	Γ	5/2010		Alter completion	feet bgs Well	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic	Description	Construction Detail	
15	Х	50/6	100	0.0	B23-15	SM		Damp, very dense, silty f gray, no hydrocarbon od	ine SAND, some gravel or (20-70-10).	,	
-	X	50/6	100	0.0	B23-17.5	SM		Same as above.			
20 —	Х	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 ~~	Х	50/6	100	0.0	B23-25	SM		Same as above.			
								Boring terminated at 25.5 as well MW04 as shown i detail.	i feet bgs and complete n well construction	ιd	
<u>30</u> Drillin	g Co	./Drille	r: Ca	ascade/D. Gose	Wei	l/Auger Di	iameter:	2 inches	Notes/Comments:		
	g Eq	uipmer	it: HS	SA & M	Wel		d Interval:		 Description description and consideration description 		
Hamn	er T	ype/We	ight: 30	0	lbs Filte	er Pack Us	sed:	#2/12 Sand			
Total V	Nell	ng Dept Depth:	h: 25 25		feet bgs Ann	face Seal: ular Seal:	:	Cement Bentonite Chips			
State	Well	ID No.:			Mor	nument Ty	/pe:	Flush Mount	Page:	2 of 2	
Sc	211	nd	Eart	Pri Pri	oject: oject Number: gged by:	0440 CCC	-002	Co. Facility No. 01-169	BORING LOG	B24 MW0	
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	Ju	St	rateg	les su	ite Started: irface Conditic ell Location N/	ons: Soil/	5/2010 Gravel of NW corner of t	wilding	Site Address: 851 I Even	ett, Washir h At	ngton
				Re	ell Location E/ viewed by:	JAC	of NW corner of b	uilding	Time of Dril Water Dept	h	õ feet bgs feet bgs
h js)	val	ount	ery		te Completed Sample		5/2010 .e				Well
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	ID	Class	Graphic	Lithologic I	Description		Construction Detail
5	X	6 7 7	100	0.0		SP-SM		Soil and gravel. Soil Cuttings: Moist, silty no hydrocarbon odor. Wet to damp, medium de SAND, wood fragments i hydrocarbon odor (20-55	nse, silty gravelly n lower 4 inches,	/ fine	
10		3 6 10	100	0.0		SM-ML		Damp, medium dense, si SILT, some gravei, browi hydrocarbon odor (40-45	n with gray, no	sandy	
- 15	Х	50/6	100	4.3	B24-13	SM		Damp, very dense, silty f faint hydrocarbon odor (gravel,	
Drillir Drillin Samp Hamn Total Total	· ·				We Sci Ibs Filt feet bgs Sur feet bgs An	II/Auger D II Screene reen Slot S er Pack U rface Seal nular Seal nument T	d Interval: Size: sed: :	2 inches 5 to 25 feet bg: 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	Notes/Comm		of 2

Cr		nd	art	Pro Pro	oject: oject Number: gged by:	0440- CCC	-002	co. Facility No. 01-169	BORING LOG	B24 MW05		
31	JU	Sti	di U	ies su	te Started: rface Conditio	ns: Soil/C	5/2010 Gravel of NW corner of b	uildina		tt, Washing		
				We	II Location N/ II Location E/ viewed by:		f NW corner of bu		Water Depth Time of Drilli Water Depth	ng 5.5	feet bgs	
	[]				te Completed:		5/2010		After Comple		feet bgs	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic [Description		Well Construction Detail	n
15	Х	50/6	100	0.0	B24-15	SM		Damp, very dense, silty fi gray, faint hydrocarbon o	ne SAND, some g dor (20-70-10).	ravel,		
-	X	50/6	100	0.0	B24-17.5	SM		Damp, very dense, silty fi gray, very faint hydrocarl	ne SAND, some g oon odor (20-70-11	ravel,)).		
20 —	Х	50/6	100	0.0	B24-20	SM		Damp, very dense, silty fi gray, no hydrocarbon od		ravel,		
-	X	50/6	100	0.0	B24-22.5	SM		Damp, very dense, silty f no hydrocarbon odor (15	ine SAND, some g	ravel,		
25 -	X	50/6	100	0.0	B24-25	SM		Damp, very dense, silty f very faint hydrocarbon o		iravel,		
-								Boring terminated at 25.5 as well MW05 as shown i detail.	i feet bgs and con n well constructio	npleted m		
1	-	Drille		L Cascade/D. Gos ISA		ell/Auger E	lameter: ed Interval	2 inches : 5 to 25 feet bgs	Notes/Comm	ents:		
Sam	oler T	0.0	D) & M	Sc	reen Slot ter Pack U	Size:	0.010 inches #2/12 Sand				
Total	Bori		th: 2	00 5.5	feet bgs Su	rface Seal	l:	Cement				
	Total Boring Depth: 25.5 Total Well Depth: 25 State Well ID No.:				inular Sea onument T		Bentonite Chips Flush Mount	Page:	2	of 2		

Sc)UI	ndl Str	art ategi	Pro Log Dat e S We We Rev	oject: oject Number: gged by: te Started: fface Condition II Location N/ II Location E/ viewed by: te Completed	0440-0 CCC 11/16 ons: Aspha S: 14.1'Not W: 30.1'Wo JAC	002 /2010	ilding	LOG M Site Address: 851 North	/ashington NE feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic [Description	Well Constructio Detail
	X	3 4 4	100	0.0		Asphalt SM		Asphalt (3 inches). Soil Cuttings: Damp to m gravel, no hydrocarbon o Moist, silty, fine SAND, s Soil cuttings: silty SAND	dor. ome gravel. to sandy SILT, some	
10	X	569	100	0.0	B25-10 B25-12.5	ML		gravel, gray, no hydroca Damp to moist, SILT, wit no hydrocarbon odor (10 Damp, silty SAND, some	h clay, gray with brow 10-0-0). • gravel, gray, very fai	
		×						hydrocarbon odor (20-6	- 10 <i>).</i>	
Drilli Sam Ham Tota Tota	ng E pler mer I Bor I Wel	o./Drille quipme Type: Type/W ing Dep I Depth I ID No	ent: F leight: 3 oth: 2	L Cascade/D. Gos ISA D & M 300 25.5 25	Ibs Fieet bgs A	/ell/Auger D /ell Screens creen Slot I ilter Pack U urface Seal nnular Seal Ionument T	od Interva Size: Ised: I:	2 inches 2 inches 5 to 25 feet bg 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	S NE = not encountered	

C	9 11 11	nd	Cort	Pro Pro	oject: oject Number: gged by:		-002	Co. Facility No. 01-169	BORING LOG	B25 MW06	
30	JU	St.	Eart rateg	Da ies Su	te Started: rface Conditio	ns: Asph			Site Address: 851 I Even	North Broad ett, Washin	
			0	We We	Il Location N/	W: 30.1'W	of NW corner of b of NW corner of I	and a second sec	Water Dept Time of Dril	ling NE	feet bgs
			·····		viewed by: te Completed:	JAC 11/1	6/2010		Water Dept After Comp		feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sampie ID	USCS Class	Graphic	Lithologic I	Description		Well Construction Detail
15	Х	50/6	100	0.0	B25-15	SP		Damp, gravelly fine SAN faint hydrocarbon odor (, very	
-	X	50/6	100	0.0	B25-17.5	SM		Damp, silty, fine SAND, s faint paint thinner odor (some gravel, gray 20-70-10).	, very	
20	Х	50/6	100	0.0	B25-20	SM		Damp, silty, fine SAND, s faint paint thinner odor (, very	
-	X	50/5	30	0.0		NR		Minor recovery.			
25 —	X	50/4	100	0.0	B25-25	SP		Damp, gravelly fine SAN hydrocarbon odor (15-55		, no	
-								Boring terminated at 25. as well MW06 as shown detail.	5 feet bgs and con in well constructi	mpleted on	
Drillin Samp Hami Total Total	30				We Sc Ibs Fill feet bgs Su feet bgs An	II/Auger D II Screens reen Slot S ter Pack U rface Seal nular Seal onument T	ed Interval Size: sed: :	2 inches 5 to 25 feet bg 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	Notes/Comm NE = not encou Page:	ntered	of 2
								NAMES AND ADDRESS OF THE OWNER OF THE OWNER ADDRESS OF THE OWNER AD		and the second second	

So	DU	nd Str	art ateg	ies Rei	oject: oject Numbe gged by: te Started: rface Condit Il Location I Il Location I viewed by: te Complete	r: 0440- CCC 11/16 ions: Aspha V/S: 14.1'No E/W: 48'Wof JAC	002 /2010		LOG N Site Address: 851 Nort	Washington NE feet bgs	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	e USCS Class	Graphic	Lithologic I	Description	Well Constructi Detail	ion
5		6 7 7	100	0.0		SP-SM		Asphalt. Soil cuttings: Damp, silty dark gray, no hydrocarbo Damp to moist, gravelly hydrocarbon odor (25-50	on odor. silty SAND, brown, r		
10		7 9 9	100	0.0		ML		Moist, SILT, gray with bi odor (100-0-0).	own, no hydrocarbo	n	
15		17 50/6	100	0.0	B26-12.5	SM		Damp to moist, silty SAI brown, gray at 13.25 fee odor (20-70-10).	ND, some gravel, tan t bgs, no hydrocarbo		
Drilli Drilli Sam Ham Tota Tota	ng Eo pier 1 mer I Bor I Wel	o./Drille quipme Type: Type/We Ing Dep I Depth I ID No.	nt: F Eight: 3 oth: 2	Cascade/D. Gos HSA D & M 300 25.5	lbs I feet bgs I feet bgs I	Well/Auger D Well Screen Screen Slot S Filter Pack U Surface Seal Annular Seal Monument T	ed Interval Size: Ised: I:	2 inches 2 5 to 25 feet by 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	IS NE = not encounte		

Çı	211	nd	art	Pre Pre	oject: oject Number gged by:	: 0440 CCC	-002	Co. Facility No. 01-169	BORING LOG	B26 MW07	
J	JU	St	rateg	les su	te Started: rface Condition I Location N	ons: Asph	6/2010 nalt of NW corner of t	uilding	Site Address: 851 M Evere	ett, Washin	gton
					ell Location E viewed by:	/ ₩: ^{48'Wol} JAC	f NW corner of bu	ilding	Time of Drill Water Depti	ing NE N	Ĵ
		42		Da	te Completed	l: 11/10	6/2010		After Compl	etion	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 50/6	100	0.0	B26-15 B26-17.5	SM SP-SM		Damp, silty fine SAND, s hydrocarbon odor (25-65 Damp, silty gravelly fine	SAND, gray, no	no	
20	X	50/6	100	0.0	B26-20	SP-SM		hydrocarbon odor (20-55 Damp, silty gravelly fine hydrocarbon odor (20-60	SAND, gray, no		
-	Х	50/6	100	0.0	B26-22.5	SM		Damp, silty SAND, some hydrocarbon odor (20-70	gravel, gray, no 0-10).	8	
25 —	Х	50/6	100	0.0	B26-25	SM		Same as above.			
-								Boring terminated at 25. as well MW07 as shown detail.	5 feet bgs and con in well constructio	npleted on	
<u> </u>	ng Co	./Drille	r: C	ascade/D. Gose	 > W	eli/Auger D	liameter:	2 inches	Notes/Comm	ents:	
Drillir	Drilling Equipment: HSA Sampler Type: D & M				1	ell Screene creen Slot S		5 to 25 feet bg 0.010 inches	The motorioodi	itered	
Ham	lammer Type: Dam lammer Type/Weight: 300 Total Boring Depth: 25.5					iter Pack U Irface Seal		#2/12 Sand Cement			
Total	Well	Depth:	25		feet bgs Ar	nnular Seal	:	Bentonite Chips			of 2
State	Well	ID No.:		8	M	Monument Type: Flush Mount Page:					

Sc)U	ndl	art	Pro Log Date	oject: oject Number gged by: te Started:	: 0440- CCC 11/16	002	Co. Facility No. 01-169	LOG N Site Address: 851 Broa	
		Str	ategi	We	rface Condition II Location N II Location E	/S: 46'S of !	Alt NW corner of buil NW corner of bui		Water Depth At Time of Drilling	
					viewed by: te Completed	JAC I: 11/16	6/10		Water Depth After Completion	on 22.33 feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic D	Description	Well Construction Detail
						Asphalt		Asphalt (2.5 inches). Hand cleared to 3 feet bei (bgs). Damp, silty SAND, with g brown grading to gray, no (Fill).	ravel and cobbles,	
5	X	3 4 5	100	0.0		SP		Wet, loose, gravelly fine t silt, dark gray, no hydroc (Fill).	o medium SAND, si arbon odor (15-65-2	ome o)
	X	557	100	0.0	B27-7.5	SM		Damp to moist, medium o gravel, silt-rich inclusion brown with gray, no hydr	s, and wood fragme	nts,
10-	X	4 5 9	100	0.0	B27-10	ML		Damp, stiff, SILT, trace fi brown oxidation, no hydi	ne sand, gray with ocarbon odor (95-5	-0).
15	X	9 11 17	100	0.0	B27-12.5	ML		Same as above, very stif brown with gray.	f SILT, no sand. dar	k
Drilli Drilli Samı Hamı Total Total	ng Ed pler 1 mer 1 Bori Well	o./Drille quipme fype: fype/We ing Dep I Depth I ID No.	nt: H D eight: 3 th: 3 : 2		lbs Fieet bgs A	/ell/Auger D /ell Screene creen Slot (ilter Pack U urface Seal nnular Seal lonument T	ed Interval Size: Ised: I:	2 inches 5 feet bgs 25 inches 2/12 Sand Cement Bentonite Flush Mount	Notes/Commer	1 of 3

Sc)U	nd St	art ategi	Pro Loy Da E S Su We We Re	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 Reviewed by: JAC Date Completed: 11/16/10 Sample USCS				BORING B27 LOG MW0 Site Address: 851 Broadway Everett, Wash Water Depth At Time of Drilling 6 Water Depth After Completion 2	ngton feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic C	Description	Well Construction Detail
	X	10 14 14 14	100	778	B27-15 B27-17.5	ML		Moist, very stiff, fine sand strong partings, gray with hydrocarbon odor. Damp to moist, very dens silt rich inclusions, mode (40-60-10).	n oxidation, strong e, silty fine SAND, with	
20	Х	50/6	100	67	B27-20	SM		Damp, very dense, silty, f gravel, moderate hydroca	ine SAND, trace to some arbon odor (35-60-5).	
-	X	50/6	100	68	B27-22.5	SM		Same as above, faint hyd	rocarbon odor.	
25	X	50/6	100	22.7	B27-25	SM		Same as above, faint hyd	rocarbon odor.	
30	X	50/6	100	0.0	B27-27.5	SM		Damp, very dense, silty f faint hydrocarbon odor (;	ine SAND, some gravel, 20-70-10).	
Drilli Drilli Samj Ham Total Total	ng Ed pler 1 mer Bori Well	o./Drille quipmo fype: fype/W ng Dep Depth I D No.	nt: H D eight: 3 oth: 3 : 2		lbs Fi feet bgs A	fell/Auger D fell Screens creen Slot (liter Pack U urface Seal nnular Seal lonument T	ed Interval Size: Ised: I:	2 inches 5 feet bgs 25 inches 2/12 Sand Cement Bentonite Flush Mount		2 of 3

S)U	nd Str	art ateg	Pr Lo Da i e S Su Wi Wi Re	oject: oject Number gged by: ite Started: irface Condition ell Location N ell Location E iviewed by: ite Completed	: 0440 CCC 11/16 ons: Asph /S: ^{46'S of} /W: ^{14'W of} JAC	-002 6/10 alt NW corner of built NW corner of built	Thurse Schultz			ngton feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic	Description		Well Construction Detail
30	Х	50/6	100	0.0	B27-30	SM		Same as above, very fair	nt hydrocarbon oc	lor.	
								Boring terminated at 30. MW08 as shown in well o	5' bgs and comple construction deta	ated as il.	
Drillir Samp Hamr Total Total	ng Eq pler T ner T Borii Well	o./Drille uipmer ype: ype/We ng Depth: 1D No.:	ht: H D blight: 3 th: 3 2	ascade/David SA &M Split Spoor 00 0.5 5	bs Fil feet bgs Ar	ell/Auger D ell Screens creen Slot S liter Pack U urface Seal onular Seal onument T	d Interval Size: sed: : :	2 inches 5 feet bg 25 inches 2/12 Sand Cement Bentonite Flush Mount	S		of 3

Sc)U	nd Str	art	Pro Loy Da i e S Su We We Re	oject: oject Number gged by: te Started: rface Conditi Il Location N Il Location E viewed by: te Completed	r: 0440- ATL 12/06 ions: Grass I/S: 14.4°So E/W: 57.4°Eo JAC	002 i/10 f NW corner of b f NW corner of b		Site Address: 851 Br	t, Washington At ng 13.5 feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic I	Description	Well Construction Detail
	X	3 4 4	100	0.0		ML.		Grass. Soil cuttings 0 to 5 feet b (bgs): Damp, silty fine to subrounded gravel, brow Damp, medium stiff, san subrounded to angular g hydrocarbon odor (45-45	medium SAND, wi n, no hydrocarbor dy SILT, some gravel, variegated,	th nodor.
10	X	3 7 11	100	0.0	B28-10	ML.		Damp, stiff, sandy SILT, organic fragments, gray no hydrocarbon odor (5	with tan brown mo	
	X	5 10 15	100	0.0	B28-12.5	ML		Same as above. Moist to wet, medium de	anac ally fine to a	
15		N				SM		SAND, trace gravel, gray odor (20-75-5).		
Drilli Drilli Sam Ham Tota Tota	ng Ed pler 1 mer Bori Wel	o./Drille quipme Type: Type/W ing Dep I Depth I ID No.	nt: C Seight: 3 oth: 2 ; 2	Cascade Driller Equipt. Ty Split Spoon 100 15.5 15	pe V Ibs F feet bgs S feet bgs A	Vell/Auger D Vell Screens Screen Slot S Filter Pack U Surface Seal Annular Seal Monument T	ed Interval Size: ised: I: I:	2 inches 5 to 25 feet bg 0.010 inches 2/12 Sand Concrete Bentonite Fitush Mount	IS	ents:

Sc)U	nd St	Eart rateg	Pro Lo Da i e S We We Re	oject: oject Number: gged by: te Started: rface Conditic II Location N/ viewed by:	0440 ATL 12/08 ons: Gras S: 14.4*S W: 57.4*E JAC	-002 6/10 S of NW corner of b		BORING LOG Site Address: 851 E Evere Water Depth Time of Drill Water Depth After Compl	ett, Washin At ing 13.	
Depth (feet bgs)	Interval	Blow Count	% Recovery	Da PID (ppmv)	te Completed: Sample ID	USCS Class	Graphic Graphic	Lithologic D			Well Construction Detail
	X X	50/6	100	0.0	B28 15 B28-17.5 B28-20	SM SM		Wet, very dense, silty fine subrounded gravel, white hydrocarbon odor (20-70- Damp, very dense, silty fi subrounded gravel, brow (25-70-5). Damp, very dense, silty fi subrounded to wellround hydrocarbon odor (25-70-	and dark gray, fa 10). ne SAND, trace n, no hydrocarbo ine SAND, trace ed gravei, brown,	n odor	
-	X	50/4	100	0.0	B28-22.5	SM		Damp, very dense, silty fi subrounded to wellround hydrocarbon odor (30-65	ed gravel, brown.	, no	
	X	50/4	100	0.0	B28-25	SM		Same as above. Boring terminated at 25.5 as monitoring well MW09 construction detail.	i ft bgs and comp as shown in well	leted	
Drillin Samp Hami Total Total	30 Cascade Drilling Co./Driller: Cascade Drilling Equipment: Driller Equipt. Type Sampler Type: Split Spoon Hammer Type/Weight: 300 Ibs Total Boring Depth: 25.5 feet bgs Total Weil Depth: 25 feet bgs State Well ID No.:)iameter: ed Interval Size: Ised: I: I: ype:	2 inches 5 to 25 feet bgs 0.010 inches 2/12 Sand Concrete Bentonite Flush Mount	Notes/Comm		of 2

Sc	211	ndl	Eart	Dr.	oject: oject Number gged by:	r: 0440 ATL)-002	Co. Facility No. 01-169	BORING LOG	B29 MW10)
90	Ju	St	rateg	les su	ite Started: irface Conditi ell Location N			suidera		ett, Washin	gton
				W	ell Location E viewed by:		of NW corner of I		Water Dept Time of Dril	ling NE	feet bgs
			1		te Completed		6/10	r	Water Dept After Comp		feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic I	Description		Well Construction Detail
0								Asphalt (3 to 4 inches). Structural Fill (1 inch).			
-							<u> </u>	Concrete (4 inches). Hand cleared to 3 feet be	low ground surfa	ce	
_								(bgs).	iow ground sand		
_											
5	\bigvee	1	100	0.0		SM		Damp, very loose, silty fi trace gravel, organics/wo			
-								possible brick fragments (mottled) (45-50-5) (Fill).			
_											
								Moderate sewage odor.			
10	∇	3 3	100	0.0	B29-10	ML		Damp, medium stiff, SILT			
-	X	3						brown oxidation, reots, n (Fill).	o hydrocarbon od	for	
	\square										
-	\bigvee	6 10 10	100	0.0	829-12.5	SM		Damp, medium dense, sil mottled brown oxidation,	ty fine SAND, gra	y with odor	
	\wedge							(40-60-0).			
-	<u>د</u>						l- - l/				
15 Drillin	g Co	./Driller	: C#	ascade/David	We	li/Auger Di	ameter:	2 inches	Notes/Comm	ents:	
	g Eq	uipmen	t: HS		We	ell Screene reen Slot S	d Interval:				
Hamm	er Ty	ype/Wei	ight: 30	0	lbs Fil	ter Pack Us rface Seal:	sed:	2/12 Sand Concrete			
Total \	Veli	Depth:			feet bgs An	nular Seal:		Bentonite			
State	otal Boring Depth: 25.5 otal Weli Depth: 25 ate Weli ID No.:				Mc	Annular Seal: Monument Type:		Flush mount	Page:	1	of 2

So)U	nd Str	art a t e g	ies Re	oject: oject Number gged by: te Started: rface Condition II Location N II Location E/ viewed by:	: 0440 ATL 12/08 ons: Asph /S: 45.2's o W: 116'Wo JAC	-002 B/10 alt of NW corner of b		Site Address: 851 Br Everet Water Depth Time of Drillin Water Depth	t, Washing At ng NE	feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	Da PID (ppmv)	te Completed Sample ID	: 12/00 USCS Class	Graphic Graphic	Lithologic [After Comple	tion	feet bgs Well Construction Detail
15	X	6 7 7	100	0.0	B29-15	SM		Damp to moist, medium of coarse SAND, some subr gravel, gray with mottled hydrocarbon odor (35-55	ounded to wellrou brown oxidation, i	nded no	
-	X	7 20 24	100	0.0	B29-17.5	SP-SM		Damp to moist, very dens coarse SAND, with interb cobbles, brown to orange hydrocarbon odor (30-40	edded fine and co e-brown, no	ne to arse	
20	X	50/6	100	0.0	B29-20	SM		Damp, very dense, silty, subrounded gravel, light hydrocarbon odor (25-65	grayish brown, no)	
	X	50/6	100	0.0	829-22.5	SM		Same as above.			
25 —	X	50/6	100	0.0	B29-25	SM		Same as above.			
-								Boring terminated at 25. as well MW10 as shown detail.	5 feet bgs and com in well constructio	npleted n	
Drilli Samj Ham Total Total	ng E pler mer I Bor I Wel	i o./Drille quipme Type: Type/W ing Dep I Depth	nt: eight: oth: ;	Cascade/David HSA Split Spoon 300 25 5 25	lbs Fieet bgs A	/ell/Auger [/ell Screen creen Slot liter Pack L urface Sea nnular Sea lonument 1	ed Interval Size: Jsed: I: I:	2 inches 5 to 25 feet bg 0.010 inches 2/12 Sand Concrete Bentonite Flush mount	S NE = not encoun	tered	
State	e wei	I ID No	.:		Į IV	enonent i	jhe.		Page:	6	of 2

Cr	7 8 8 1	nd	art	Pro Pro	oject: oject Numbe gged by:	r: 0440- ATL	002	o. Facility No. 01-169	BORING LOG	B30 MW11	
2(JUI	Str	art	les su		12/06 tions: Aspha	alt			ett, Washir	ngton
				We We	II Location I	E/W: 37.3'Eo	NW corner of bu f NW comer of b	na an a	Water Dept Time of Dril	ling INE	feet bgs
					viewed by: te Complete	JAC d: 12/06	6/10		Water Dept After Comp		feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic I	Description		Well Construction Detail
		4 3 2	100	0.0		SM		Asphalt. Moist, loose, silty fine to brownish gray with local hydrocarbon odor (40-60	ized oxidation, no	5	
10		3 2 2	100	0.0	B30-10	ML		Moist to wet, soft, fine so and organics (wood chir mottled with local green no hydrocarbon odor (50	s), dark brownis gray and brown	h gray,	
15	X	2 3 5	100	0.0	B30-12.5	ML		Damp, medium stiff, san trace organics (70-30-0)		y with	
Drilli Drilli Sam Ham Tota Tota	ng Ed pler T mer 1 I Bori I Well	D./Drille juipme ype: ype/W ng Dep Depth ID No.	nt: eight: oth: ;	Cascade/David HSA Split Spoon 300 25.5 25	lbs feet bgs feet bgs	Well/Auger D Well Screene Screen Slot i Filter Pack U Surface Seal Annular Seal Monument T	ed Interva Size: Ised: I:	2 inches 5 to 25 feet bg 0.010 inches 2/12 Sand Concrete Bentonite Flush mount	IS NE = not encou	untered	1 of 2
Siare	a AAGU	ID NO.	•	3.487					raye.	1	

Sc)U	ndl St	art rateg	i e S Re	oject: oject Number: gged by: te Started: rface Condition II Location N II Location E/ viewed by: te Completed	0440 ATL 12/06 0ns: Asph /S: 110'So W: 37.3'E o JAC	-002 B/10 alt t NW corner of bu	ilding	BORING LOG te Address: 851 E Evere Water Depth Time of Drill Water Depth After Compl	ett, Washing At Ing NE	gton feet bgs feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic De	escription		Well Construction Detail
	X	7 7 10 50/6	100	0.0	B30-15 B30-17.5	SM SP		Damp, medium dense, silty brown oxidation along bed hydrocarbon odor (30-70-0) Damp, very dense, gravelly with subrounded to subang and small cobbles, light bro brown, no hydrocarbon odo	ding planes, no). (fine to coarse : gular gravel, so ownish gray to	SAND, me silt	
20	X	50/5	100	0.0	B30-20	SM		Damp, very dense, silty fin subrounded gravel, light ta brown, no hydrocarbon od	in-brown to orai	nge-	
-	X	50/6	100	0.0	B30-22.5	SM		Damp, very dense, silty fin subangular to subrounded brown, no hydrocarbon od	gravel, light tai	٦×	
25	Х	50/6	100	0.0	B30-25	SM		Damp, very dense, silty fin subangular to subrounded .brown, no hydrocarbon od	gravel, light ta	n-	
								Boring terminated at 25.5 f as well MW11 as shown in detail.	it bgs and comp well constructi	oleted on	
Drilli Sam Ham Tota Tota	ng Eo pler mer Bori Wel	o./Drille quipme Type: Type/W Ing Dep I Depth I ID No	ent: eight: oth: :	L Cascade/David HSA Split Spoon 300 25 5 25 	Ibs Fifeet bgs A	/ell/Auger I /ell Screen creen Siot ilter Pack L urface Sea nnular Sea lonument 1	ed Interva Size: Jsed: I: I:	2 inches 2 to 25 feet bgs 0.010 inches 2/12 Sand Concrete Bentonite Flush mount	Notes/Comm NE = not encou Page:	ntered	of 2

So)U	nd Str	ateg	Pro Log Dat i C S We We Ret	ject: ject Number gged by: te Started: rface Conditi II Location N II Location E viewed by: te Completed	: 0440- RAH 06/15 ons: Aspha /S: 33.9'So /W: 48.5'W of DNM	002 /2011 alt f NW corner of b of NW corner of b	uilding	Water Depth	12 y
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID		Graphic	Lithologic D	Description	Well Construction Detail
0								Asphalt.		
5-	X	6 7 10	100	0.0	B36-05	SP		Damp, loose, fine to med trace silt, brown, no hydr	ium SAND, with gravel, ocarbon odor (5-80-15)	
	X	3 4 3	100	0.0	B36-07.5	SP		Wet, loose, medium to fir trace silt, brown, no hydr	ne SAND, with gravel, rocarbon odor (5-80-15)	
10 -		4 4 4	100	0.0	B36·10	SP		Wet, loose, fine to mediu gravel, trace silt, brown, 80-15).	im fine SAND, with no hydrocarbon odor (5-
	$\left \right\rangle$	12 12 14	100	0.3	B36-12.5	SP 	-	Same as above.	fine sand, brown with	
	<u> /`</u>							gray streaks, no hydroca	arbon odor (40-60-0).	
Drill Sam Harr Tota Tota	ing E pler imer I Boi I We	o./Drill quipma Type: Type/W ing De Il Depth Il ID No	ent: /eight: pth: 1:	L Cascade/Frank HSA Split Spoon 140 25.5 15	lbs feet bgs feet bgs	Nell/Auger I Nell Screen Screen Slot Filter Pack I Surface Sea Annular Sea Monument	ed Interva Size: Jsed: II:	2" / 4.25" inches 4: 5 to 15 feet bg 0.010 inches 10/20 Silicon Sand Cencrete Bentonite Flush mount	IS	1 of 2

Sc)UI	nd Str	art ateg	Pro Log Dat i C S We We Re	oject: oject Number: gged by: le Started: rface Conditio II Location R/ II Location E/ viewed by: te Completed:	0440- RAH 06/15 ons: Aspha S: ^{33,9'S of} W: ^{48,5'W of DNM}	002 //2011 alt f NW corner of bi	uilding	BORING B36 LOG MW12 Site Address: 851 Broadway Everett, Washin Water Depth At Time of Drilling 7.5 Water Depth After Completion	gton
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic D	escription	Well Construction Detail
	X	15 16 18 50/6	33	154.7	B36-15 B36-17.5	ML SM		Damp, dense, SiLT, with fi brown banding, strong hy 0). Damp, very dense, silty fi gray, strong hydrocarbon	rdrocarbon odor (40-60- ne SAND, with gravel,	
20 —	X	15 15 30	100	54.4	836-20	SM		Damp, dense, fine to med hydrocarbon odor (25-70-	lium SAND, gray, slight 5).	
	X	40 50/5	100	47.5	B36-22.5	SM		Damp, very dense, silty S gray, slight hydrocarbon	AND, with trace gravel, odor (25-70-5).	
25 -		100/6	60	8.5	B36-25	SM		Damp, very dense, silty S no hydrocarbon odor (25 Boring terminated at 25.5 15, backfilled from 15 to completed as well MW12	-70-5). 5 feet, screened from 5 to 25.5 with bentonite, and	
Drill Sam Ham Tota Tota	ing E pler imer I Bor I Wel	o./Drille quipme Type: Type/W ing Dep I Depth	nt: eight: oth: :	Cascade/Frank HSA Split Spoon 140 25.5 15	lbs Fifeet bgs A	lell/Auger [lell Screen creen Slot lter Pack L urface Sea nnular Sea onument T	ed Interva Size: Jsed: I: I:	2" / 4.25" inches 2 " / 4.25" inches 5 to 15 feet bg: 0.010 inches 10/20 Silicon Sand Concrete Bentonite Flush mount		2 of 2

Se	200	nd	art	Pro Pro	oject: oject Number: gged by:	0440- RAH	002	Co. Facility No. 01-169	BORING LOG	B35 MW13	}
JU	JU	Sti	ategi	les su	te Started: rface Conditic	ons: Asph				tt, Washin	gion
			5	We We	II Location N/	W: 14.9'W	of NW corner of b of NW corner of I		Water Depth Time of Drill	ing 7.5	feet bgs
					viewed by: te Completed	DNM 06/18	5/2011		Water Depth After Comple		feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic [Description		Well Construction Detail
		10 14 14	100	0.0	B35-05	SP		Asphalt.			
	X	546	100	0.0	B35-07.5	SP SP		Damp, dense, fine to mee and trace silt, brown, no 15) (Fill). Wet, loose, medium to fin trace silt, brown, no hydr (Fill).	hydrocarbon odo ne SAND, with gra	r (5-80- ivel,	
10	X	4 5 5	100	0.0	B35-10	ML		Moist, loose, SILT, with s (40-0-0) (Fill).	and, wood waste	, gray	
15		667	20	NR	B35-12.5	ML		Damp, loose SILT, with s brick fragments, gray, no 60-0) (Fill).	and, wood waste hydrocarbon od	and or (40-	
Drilli Drilli Sam Ham Tota Tota	ng Ed pler 1 mer 1 Bori Well	o./Drille quipme fype: fype/We ing Dep i Depth i ID No.	nt: H S eight: 1 th: 1 : 1	Cascade ISA iplit Spoon 40 65 5 5 BHA014	lbs Fil feet bgs Su feet bgs Ar	ell/Auger D ell Screend creen Slot I lter Pack U inface Seal mular Seal conument T	ed Interval Size: Ised: I: I:	2" / 4.25" inches 5 to 15 feet bg: 0.010 inches 10/20 Silicon Sand Concrete Bentonite Flush mount	Notes/Comm		of 2

Sc	211	nd	ar	(minister)	Project: Project Num Logged by:		0440- RAH	002		Co. Facility No. 01-169	BORING	B35 MW13	}
90	JU	St	ate	gles	Date Started Surface Con Well Locatio	ditions:	06/15 Aspha 78.7' S of	alt		building	Water Dept	ett, Washir h At	
					Well Locatio Reviewed by	<i>ı</i> :	14.9' W o DNM	fNW	corner of	building	→ Time of Dril	ling ^{7.5} h	
		t			Date Comple	eted:	06/15			T	After Comp	letion	feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppm	v) Samı ID		SCS lass		Graphic	Lithologic I	Description		Well Construction Detail
15	X	15 17 20	100	0.0	B35-15		ML			Damp, dense, silty fine S streaks, no hydrocarbon	AND, brown with odor (Native).	orange	
-										Boring terminated at 16.5 15 feet, and completed as	i feet, screened fi s weli MW13.	om 5 to	
-													
20													
_													
-													
25													
- 30													
Drillir				Cascade		Well/Au				2" / 4.25" inches	Notes/Comm	ents:	
Samp	ling Co./Driller: Cascade ling Equipment: HSA npler Type: Split Spo nmer Type/Weight: 140		HSA Split Spoon		Well So Screen	Slot S	ze:		0.010 inches	5			
	Iling Equipment: HSA mpler Type: Split Sp mmer Type/Weight: 140 tal Boring Depth: 16.5				lbs feet bgs	Filter P Surface		ed:		10/20 Silicon Sand Concrete			
Total	mpler Type: Split Spc mmer Type/Weight: 140			15	íeet bgs	Annula Monum	r Seal:	oe:		Bentonite Flush mount	Dagar	0	<u>010</u>
1 3000											Page:	1 6	of 2

So	U	nd Str	art ateg	Pro Log Dat i C S We We Ret	oject: oject Number gged by: te Started: rface Conditi II Location N II Location E viewed by: te Completed	: 0440 TJL 3/20/ ons: Asph I/S: ^{14,3' No /W: ^{19' Wes} RJK/}	-002 2006 alt rth of NW corner t of NW corner of		BORING B13 LOG RW0 Site Address: 851 North Br Everett, Was Water Depth At Time of Drilling Water Depth After Completion	01 oadway hington 11.5 feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic	Description	Well Construction Detail
	X	50/6	33	0.0	B-13-02	Asphalt		Asphalt. Damp, very dense, silty s brown, no hydrocarbon Same as above.	SAND, some gravel, odor.	
	X	50/6	33	0.0	B-13-3.5	FILL		Same as above. Same as above, medium subangular to subround	to coarse SAND, with led gravel.	
5	Х	50/6	33	0.0	B-13-5			-22		
-	Х	50/6	33	0.0	B-13-6.5	FILL		Same as above.		
-	Х	50/6	33	0.0	B-13-8	FILL		Same as above.		
10	Х	50/6	33	12	B-13-9.5	FILL	****	Same as above.		
-	X	10 11 16	100	275	B-13-11	FILL		Wet, medium dense SAI odor.	ND, weak hydrocarbon	
-	$\left \begin{array}{c} \\ \\ \\ \\ \\ \end{array} \right $	50/6	33	19.1	B-13-13	FILL		Same as above.		
15	X	50/6	33	121	B-13-15					
Drillin Drillin Samp Hamr Total Total	ng Eo bler T ner T Borli Well	D./Drille julpme ype: ype/We ng Dep Depth: ID No.	nt: + 		jer W S Ibs F feet bgs S feet bgs A	/ell/Auger D /ell Screend creen Slot ilter Pack L furface Sea innular Sea fonument T	ed Interval Size: Jsed: I: I:	4 inches 2 8 to 18 feet by 0.010 inches #2/12 Samd Concrete Bentonite Chips Flush Mount	JS	1 of 2

Sc)U	nd Sti	Eart rateg	Pri Lo Da i e S Wi Wi Re	oject: oject Number: gged by: ite Started: inface Conditic ell Location N/ ell Location E/ iviewed by:	0440 TJL 3/20/ 5: Asph S: 14.3'No W: 19' Wes RJK/	-002 /2006 halt orth of NW corner st of NW corner of /RKB		BORING LOG Site Address: 851 I Even Water Depti Time of Dril Water Depti After Compi	ett, Washin h At ling 11 h	jway
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	te Completed Sample ID	USCS Class	Graphic 6	Lithologic [Description		Well Construction Detail
15	Х	50/6	33			FILL		Wet, very dense, silty SA gravel, dark gray, weak h	ND to sandy SILT ydrocarbon odor	, some	
-	X	13 15 15 20	100	19.0		ML.		Wet, medium dense, san hydrocarbon odor	dy SILT, gray, we	ak	
20	X	20	100	12.5	B-13-19			Boring terminated at 19 f surface (bgs) and comple diameter recovery well R	eted as four-inch-		
- 25											
Drillin Samp Hamn Total Total	30 Drilling Co./Driller: Cascade Drilling Equipment: Hollow Sten Sampler Type: Hammer Type/Weight: Fotal Boring Depth: 19 Fotal Well Depth: 18.5 State Well ID No.:				er We Scr Ibs Filt feet bgs Sur feet bgs Ann	II/Auger D II Screene reen Slot S er Pack U rface Seal nular Seal nument T	d Interval: Bize: sed: :	4 inches 8 to 18 feet bgs 0.010 inches #2/12 Samd Concrete Bentonite Chips Flush Mount	Notes/Comm		of 2

Sc)U	nd Sti	art a t e g	ies We We	oject: oject Number gged by: te Started: rface Conditi- ell Location N ell Location E/ viewed by:	: 0440 TJL 3/20/ ons: Asph /S: 21' Nort /W: 44' Wes	-002 2006	f building	BORING LOG Site Address: 851 N Evore Water Depth Time of Drill	ett, Washing h Al ling 7.5	
					te Completed		/2006		After Compl		feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic D	escription		Well Construction Detail
0						Asphalt FILL		Asphalt. Damp, silty gravelly SAND hydrocarbon odor.), brown, no		
	X	13 15 17	33	0.0		FILL		Damp, dense, graveliy, sil hydrocarbon odor.	ty SAND, brown,	no	
5	$\left \right\rangle$	7 8 18	33	0.0	B-15-05	FILL		Moist, medium dense, silt hydrocarbon odor.	y SAND, tan, no		
-	X	7 8 12	33	0.0	B-15-09	FILL		Wet, medium dense, silty brown, no hydrocarbon o		vel,	
10 —	\bigotimes	50/6	33	0.0	B-15-10	FILL		Same as above, moist, ve hydrocarbon odor.	ry dense, weak		
-	Х	50/6		0.0		ML		Damp, hard, sandy SILT, o odor.	blive, no hydroca	irbon	
_	Х	50/6	33	0.0		ML		Same as above.			
15	Х	50/4	33	0.0		ML		Dry to damp, hard, sandy hydrocarbon odor.	SILT, greenish ta	an, no	
Drillin Drillin Samp Hamn Total Total	ig Eq iler T ner T Borli Well	D./Drille ulpmer ype: ype/We ng Dept Depth: ID No.:	nt: H • •ight: th: 19	9 8.5	er We So Ibs Fil feet bgs Su feet bgs Ar	ell/Auger D ell Screene creen Slot S iter Pack U inface Seal mular Seal conument T	ed Interval Size: sed: : :	4 inches 8 to 18 feet bgs 0.010 inches #2/12 Sand Concrete Bentonite Chips Flush Mount	Notes/Comm Page:		of 2

S	DUI	nd Str	ateg	ies Ker	oject: oject Number: gged by: te Started: rface Conditio II Location N/ viewed by: te Completed:	0440- TJL 3/20// ons: Asph S: ^{21'} Nort [#] W: ^{44'} West PJK/	002 2006 alt tot NW corner of		BORING LOG Site Address: 851 N Evore Water Depth Time of Drilli Water Depth After Comple	it, Washing At ng 7.5	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic	Description		Well Construction Detail
15	Х	50/6	33	210	B-15-16.5	SM		Damp, very dense, silty s hydrocarbon odor.	SAND, tan, modera	te	
-	X	50/6	33	181		SM		Same as above.			
-	Х	50/6	33	181		SM		Same as above.			
20								Boring terminated at 19 surface (bgs) and compl diameter recovery well F	eted as four-inch-		
25 -											
Drilli Sam Ham Tota Tota	ng E pler mer I Bor I Wel	U./Drille quipme fype: Type/W ing Dep I Depth I ID No	ent: /eight: oth: ::	Cascade Hollow Stem Au - - 19 18.5	ger W So Ibs Fi feet bgs Su feet bgs Au	ell/Auger I ell Screen creen Slot Iter Pack L urface Sea nnular Sea onument 1	ed Interval Size: Jsed: I: I:	4 inches 4 inches 1: 8 to 18 feet by 0.010 inches #2/12 Sand Concrete Bentonite Chips Flush Mount	gs		of 2

So)UI	nd Str	ateg	ies We Rev	ject: ject Numbe gged by: te Started: face Condit Il Location M Il Location E viewed by: te Complete	r: 0440 TJL 3/20/ ions: Asph I/S: 2' South I/S: 32' Wes PJK/	-002 2006 alt of NW corner of I t of NW corner of		BORING LOG RWC Site Address: 851 North Bro Everett, Wash Water Depth At Time of Drilling S Water Depth After Completion)3 vadway nington 9.5 feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic	c Description	Well Construction Detail
0	X	10 12 10	100	0.0		FILL		Asphalt Damp, medium dense, tan, no hydrocarbon o	silty SAND, some gravel, dor.	
	X	50/6	33	0.0		FILL		Same as above, very d	lense.	
_	Х	50/6	33	0.0		FILL	****	Same as above.		
5	Х	50/6	33	0.0	B-16-05	FILL	****	Same as above.		
-	Х	50/6	33	0.0		FILL	****	Same as above.		
-	X	50/6	33	0.0		FILL	****	Same as above.		
10	X	50/6	33	0.0	B-16-10	FILL	****	Wet, very dense, silty gravel, tan, no hydroc	SAND, some rounded arbon odor.	
-	X	50/6	33	0.0		FILL	****	Same as above.		
-	X	50/6	33	0.0		FILL	****	Same as above.		
	X	50/6 12	50	0.0		FILL	****	Same as above.		
Drilli Sam Ham Total	ng Eo pler 1 mer 1 Bori	l'ype/W ing Dep	ent: eight: oth:	Cascade Hollow Setm Aug 16	ger i Ibs feet bgs	Well/Auger I Well Screen Screen Slot Filter Pack I Surface Sea	ed Interva Size: Jsed: ii:	4 inch 1: 8 to 15 feet 0.010 inch #2/12 Sand Cement Bentonile Cnip	bgs	<u>1[]</u>
1		Depth			feet bgs Annular Seal: Monument Type			Flush Mount	Page:	1 of 2

Cr	<i>7</i> II II	nd	Eart	Pro Pro	oject: oject Numbei gged by:	r: 0440- TJL	-002	Co. Facility No. 01-169	BORING	B16 RW03	
J	JU	St	r ateg	lies su	te Started: rface Condition	and the second		building		ett, Washin	
				We	ell Location R ell Location E eviewed by:		t of NW corner of	10.000000	Water Dept Time of Dril	ling 9.5	feet bgs
			·····		te Complete		2006		After Comp	letion	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, gree odor.	nish gray, no hydro	ocarbon	
-	/							Boring terminated at 16 surface (bgs) and com diameter recovery well	pleted as four-inch-		
20										x	
	30										
Drillin Drillin Samp Hami	Drilling Co./Driller: Cascade		Hollow Setm Aug 	jer W S Ibs F	/ell/Auger D /ell Screene creen Slot S ilter Pack U urface Seal	ed Interval Size: sed:	4 inche : 8 to 15 feet b 0.010 inche #2/12 Sand Cement	ogs	ients:		
Total			15.5	feet bgs A	nnular Seal Ionument T	:	Bentonite Chip Flush Mount	Page:	2	of 2	
1						and the second			- 490.	1 50	VI 63

Sc	DU	nd Sti	art a t e g	ies	Project: Project Num Logged by: Date Started Surface Con Well Locatio Well Locatio Reviewed by Date Comple	ber: : ditions: n N/S: n E/W: /:	0440-002 LO TJL 3/21/2006 Asphalt 14.5' South of NW corner of building 49.5' West of NW corner of building PJK/RKB 3/21/2006			BORING LOG e Address: 851 N Evere Water Depth Time of Drilli Water Depth After Complete	tt, Washir At ng 7	dway	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppm	Sami	ole US	SCS ass	Graphic	Lithologie	c Des	scription		Well Construction Detail
0		10 10 10 12 19 16 12 18 17 18 20 30 50/6 50/6 50/6 50/6 50/6		0.0	B-19-10		ILL		Asphalt. Damp, medium dense, no hydrocarbon odor. Dense. Moist to wet, very dens Moist. Damp, hard, organic S faint hydrocarbon odo Same as above, moist, odor. Same as above, no hydrocarbon odo	se. ILT, b r. , mode	rownish black, erate hydrocar rbon odor.	very	
Drillin Samp Hami Total Total	15 Cascade Drilling Co./Driller: Cascade Drilling Equipment: Hollow Stem / Sampler Type: - Hammer Type/Weight: - Total Boring Depth: 18 Total Well Depth: 17.5 State Well ID No.: -			Auger Ibs feet bgs feet bgs		reene Slot S ack Ue Seal: Seal:	sed:	4 inche 7 to 17 feet I 0.010 inche #2/12 Sand Concrete Bentonite Chips Flush Mount	ogs	Notes/Commo Notes Page:		of 2	

S		nd	Ear	P	roject: roject Numb ogged by: ate Started:	e r: 0440 TJL		Co. Facility No. 01-169	BORING LOG Site Address: 851	B19 RW04	
		St	rate	gies s w w	urface Condi Vell Location Vell Location eviewed by:	tions: Asph N/S: 14.5' Sc E/W: 49.5' W				ett, Washir h At ling 7	
			· · · · · · · · · · · · · · · · · · ·		ate Complete	ed: 3/21	/2006	·	After Comp		feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv	Sampl ID	e USCS Class	Graphic	Lithologic	Description		Well Construction Detail
15	Х	50/6				ML		Damp to moist, hard, sa faint hydrocarbon odor.		ery	
-	X	50/6		0.0		SM		Damp, very dense, siity hydrocarbon odor.	SAND, green, no		
_	Х	50/6				SM		Same as above.			
_	0-							Boring terminated at 18 surface (bgs) and comp diameter recovery well	leted as four-inch-	1	
20 -											
-											
-											
-											
25											
-											
_											
-											
_											
30 Drillin	ng Co	./Drille	1 r:	Cascade	 \	Nell/Auger D	l liameter:	4 inches	Notes/Comm	ients:	
Drillir	ig Eq	uipmei		Hollow Stem Au	gər 🛛 🕅	Well Screene Screen Slot S	d Interval		IS Notes		
Samp Hamr		ype: 'ype/We	eight:		ibs I	Filter Pack U	sed:	#2/12 Sand			
				18 17.5	0	Surface Seal Annular Seal		Concrete Bentonite Chips			
1	otal Boring Depth: otal Well Depth: state Well ID No.:			States and the states	Monument T		Flush Mount	Page:	2	of 2	

Sc)U	nd Sti	Eart rateg	ies R	roject: roject Numl ogged by: ate Started: urface Cond vell Location rell Location eviewed by ate Comple	ber: 0440 TJL : 3/21/ ditions: Asph n N/S: 35.8*Nc n E/W: 59.5*W : PJK/	-002		BORING LOG Site Address: 851 N Everet Water Depth Time of Drilli Water Depth After Comple	t, Washington At ng 11 feet bgs	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Samp ID	ble USCS Class	Graphic	Lithologic	Description	Well Constructio Detail	
		13 13 15 10 9 6 14 12 10 11 12 22 50/6		0.0		FILL		Asphalt, with gravel sub Damp, very stiff, sandy 5 greenish-gray, no hydro Stiff. Very stiff. Moist. Same as above, hard.	SILT, some gravel,		
	22 50/6 50/6					FILL		Dry, very dense, GRAVE odor.	L, black, no hydrod	carbon	
10					B-19-10	OL		Damp, hard, organic SIL odor	T, black, no hydrod	carbon	
-	50/6					OL OL		Same as above, wet. Same as above.			
15						OL		Same as above, damp.			
Drillin Drillin Samp Hamn Total Total	10 12 1 Drilling Co./Driller: Cascade Drilling Equipment: Hollow Ster Sampler Type: Hammer Type/Weight: Fotal Bering Depth: 18 Total Well Depth: 17.5 State Well ID No.:				iger Ibs feet bgs feet bgs	Well/Auger E Well Screen Screen Slot Filter Pack U Surface Seal Annular Sea Monument 7	ed Interval Size: Ised: I: I:	4 inches 7 to 17 feet bg 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	IS Notes	ents: 1 of 2	

Sc		ndl Str	art ateg	i e S Re Re	oject: oject Number gged by: te Started: rface Condition Il Location N il Location E viewed by: te Completed	: 0440- TJL 3/21/; ons: Asph /S: 35.8'No W: 59.5'We PJK/	002 2006 alt rth of SW corner		Site Address: 851 No	t, Washin At 1g 11	way
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic	Description		Well Construction Detail
- 15	X	50/6 50/4		0.0	B-19-15.5	SM		Damp, very dense, silty s green, no hydrocarbon c	SAND, some grave dor	l,	
	X	50/6		0.0		SM		Same as above.			
								Boring terminated at 18 surface (bgs) and compl diameter recovery well F	eted as four-inch-		
Drilli Samj Hami Total Total	ng Ed bler 1 mer 1 Bori Well	L. o./Drille quipme Type: Type/We ing Dep i Depth I ID No.	nt: eight: ath:	L Cascade Hollow Stem Au 18 17.5	ger W Ibs Fi feet bgs S feet bgs A	lell/Auger D lell Screend creen Slot liter Pack U urface Sea nnular Sea onument T	ed Interval Size: Ised: I: I:	4 inches : 7 to 17 feet by 0.010 inches #2/12 Sand Cement Bentonite Chips Flush Mount	IS Notes		of 2

So	UI	nd Str	art ateg	Pro Loy Da' Be We Re	oject: oject Number: gged by: te Started: rface Conditio II Location N/ iII Location E/ viewed by: te Completed	0440 TJL 3/20/ Dans: Asph S: 17.5' № W: 54.75' W PJK/	-002 2006 valt veh of SW corner		BORING B17 LOG RW0 Site Address: 851 North Bro Everett, Was Water Depth At Time of Drilling Water Depth After Completion	RW06 th Broadway Washington t NE feet bgs on feet bgs	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic I	Description	Well Construction Detail	
-	X			0.0	B-17-2.5	FILL		Asphalt, underlain by dry hydrocarbon odor. Logged from soil cutting Damp, SILT, greenish bro odor. Damp, sandy SILT to silt gray/brown, no hydrocar	s: own, no hydrocarbon y SAND, greenish		
5	X			800 0.0	B-17-5	FILL		Damp, silty SAND, some gray/brown, moderate hy Logged from soil cutting Damp, sandy SILT to silt greenish-gray/brown, mo	vdrocarbon odor. Is: Iy SAND, some gravel,		
-				0.0				odor Dry, GRAVEL, possibly s hydrocarbon odor.			
10				0.0				Damp, SILT, some sand gray/rust-brown, no hyd			
-				0.0				Damp, SILT, some sand, hydrocarbon odor.	greenish gray, no		
15								Boring terminated at 14 surface (bgs) and compl diameter recovery well F	leted as four-inch-		
Drillin Drillin Samp Hamr Total	Drilling Co./Driller: Cascade Drilling Equipment: Air Knife Sampler Type: - Hammer Type/Weight: - Iotal Boring Depth: 14 feet bgs Fotal Well Depth:				lbs Fil feet bgs Su	ell/Auger D ell Screend reen Slot ter Pack U trface Seal mular Seal	ed Interval Size: Ised: I:	4 inches 8 to 13 feet bg 0.010 inches #2/12 Sand Cement Bentonite Chips	S NE = not encountered		
		ID No.:			M	onument T	ype:	Flush Mount	Page:	1 of 1	

Sc	DUI	nd Sti	ateg	Pro Lo Da i e S Su We Re	oject: oject Number gged by: te Started: rface Conditi ell Location N ell Location E viewed by: te Completed	: 0440 TJL 3/20/ ons: Asph /S: 14.5'No /W: 23.5'We RJK/	-002 2006 alt inth of SW corner est of SW corner (RKB	0	BORING B14 LOG 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	Well Construction Detail	
-				0.0		FILL		Asphalt -3 inches. Under siity SAND, black, no hyd Logged from soil cutting Damp, sandy SILT, with g olive gray, no hydrocarbo Damp, SILT, some organ hydrocarbon odor.	drocarbon odor. s: gravel and organics, on odor.		
5	X		100	0.0	B-14-05	ML		Damp to moist, sandy SII hydrocarbon odor. Logged from soil cutting:			
-	X		100	0.0	B-14-7.5	ML		Wet, SAND, tan, no hydro Damp to moist, sandy Sli hydrocarbon odor	ocarbon odor.		
	X		100	0.0	B-14-12	ML		Damp, sandy SILT, dark (hydrocarbon odor.			
15								Boring terminated at 14 f surface (bgs) and comple diameter recovery well R	eted as four-inch-		
Drillin Samp Hamn Total Total	ig Eq ler Ty ner Ty Borir Well	./Drille uipmer /pe: ype/We ig Dept Depth: ID No.:	nt: Ai ight: h: 14 13		bs Fil feet bgs Sc feet bgs Ar	eil/Auger D ell Screene reen Slot S ter Pack U Irface Seal Inular Seal Dnument T	d Interval Size: sed: :	4 inches 8 to 13 feet bgs 0.010 inches #2 2/12 Sand Cement Bentonite Chips Flush Mount	Notes/Comments:	1 of 1	

So)U	nd Str	art	Pro Log Dat C S Sui We We Re	oject: oject Numbe gged by: te Started: rface Condit II Location f vil Location f viewed by: te Complete	r: 0440- RAH 06/14 tions: Aspha N/S: 36.6'So E/W: 14'Wof DNM	002 /2011 alt NW corner of bu NW corner of bu	5/201	BORING LOG Site Address: 851 B Evere Water Depth Time of Drilli Water Depth After Comple	it, Washin At ng NE	gton
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	e USCS Class	Graphic	Lithologic [Description		Well Construction Detail
		1 1 2	100	0.3	B31-05 B31-09 B31-12.5	SM ML SM		Asphalt. Moist, loose, silty SAND, brown, no hydrocarbon of Damp, loose SILT, with s brick fragments, dark bro odor (40-60-0) (Fill).	and, wood waste own, no hydrocarb own, no hydrocarb own dand brick frag rbon odor (40-60-0 n, with native tan g	and ion ments,) (Fill).	
Drillin Samp	ng Eo oler 1		nt: H S	ascade SA plit Spoon	N S	Well/Auger D Well Screene Screen Slot S	d Interval Size:	0.010 inches	S NE = not encoun		
Totai Total	Bori Well	Type/Weing Dep Depth Depth	th: 3	40 1.5 D HA010	feet bgs feet bgs	Filter Pack U Surface Seal Annular Seal Monument T	:	10/20 Silicon Sand Concrete Bentonite Flush mount	Page:	1	of 3

Sc)U	nd Sti	ategi	Pro Log Da e S Su We We Re	oject: oject Numbe gged by: te Started: rface Condit II Location f ell Location f viewed by: te Complete	r: 0440- RAH 06/14 tions: Asph: t/S: 36.5°so E/W: 14'Wof DNM	002 /2011 alt f NW corner of b NW corner of bu		BORING LOG Site Address: 851 B Evere Water Depth Time of Drilli Water Depth After Comple	tt, Washin At ng NE	gton
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic [Description		Well Construction Detail
	X	3 4 6	100	85.9	B31.15	SM		Damp, loose, silty fine SJ light brown with gray str hydrocarbon odor (30-65 grayish brown, moderate 70-5).	eaks, moderate -5). AND, with trace g	ravel,	
25		50/6	33	35.7	B31.25	SM		Damp, very dense, silty f gravel, grayish brown, si (25-70-5).	ight hydrocarbon	odor	
				51.0	B31-27.5	SM		Damp, very dense, silty i gravel, graylsh brown, n 70-5).	ine SAND, with tra	ace or (25-	
Drillin Drillin Samı Hamı Total Total	Drilling Co./Driller: Cascade Drilling Equipment: HSA Sampler Type: Split Spoon Hammer Type/Weight: 140 Ibs Total Boring Depth: 31.5 feet				lbs F feet bgs F feet bgs F	Vell/Auger D Vell Screene Screen Slot S Filter Pack U Surface Seal Annular Seal Monument T	d Interval Size: sed: :	4 inches 5 to 30 feet bg 0.010 inches 10/20 Silicon Sand Concrete Bentonite Flush mount		itered	0 ⁶ ⁰
Joraid	1101	110 110.	. 0						Page:	6	of 3

SoundEar Strate	Logge Date S Date S Surfac Well L Well L Review	ct Number: 0440 ed by: RAH Started: 06/14 ce Conditions: Asph Location N/S: 36.8' S Location E/W: 14' Woll wed by: DNM	-002 4/2011 att of NW corner of build	ding	BORING B31 LOG RW08 Site Address: 851 Broadway Everett, Washin Water Depth At Time of Drilling NE Water Depth After Completion	gton
Depth (feet bgs) Interval Blow Count Recovery	PID (ppmv)	Sample USCS ID Class	Graphic	Lithologic D	escription	Well Construction Detail
30 50/6 33	28.2 B3	31-30 SM		Damp, very dense, silty SA grayish brown, slight hydr	AND, with gravel, rocarbon odor (25-70-5).	
35				Boring terminated at 31.5' to 30 feet and completed a	bgs, screened from 5 as recovery well RW08.	
45						
Drilling Co./Driller: Drilling Equipment: Sampler Type: Hammer Type/Weight: Total Boring Depth: Total Weil Depth:		Weil/Auger I Weil Screen Screen Slot Filter Pack L eet bgs Surface Sea eet bgs Annular Sea	ed Interval: Size: Jsed: i:			
State Well ID No.:	BHA010	Monument T	Гуре:	Flush mount	Page:	l of 3

Sr		nd	art	Pro Pro	oject: oject Number gged by: te Started:		002	o. Facility No. 01-169	BORING LOG Site Address: 851 B	B34 RW09	
90		Sti	rateg	jjeS Su We We Re	rface Conditi ell Location N ell Location E viewed by: te Completed	ions: Aspha I/S: 85.5'S of I/W: 31.3'W of DNM	alt 1 NW corner of b of NW corner of b			tt, Washin At ng NE	-
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic E	Description		Well Construction Detail
-								Asphalt.			
5		3 2 1	100	4.8	B34-05	ML		Damp, loose, SILT, with s gray, slight hydrocarbon	sand and wood wa odor (40-60-0).	ıste,	
		266	100	0.8	B34-07.5	ML		Damp, loose, SILT, with s and brick fragments, no 60-0).	sand, with wood w hydrocarbon odor	vaste • (40-	
10 -		7 7 10	0					No recovery.			
15		5 7 9	20	0.1	B34-12.5	ML		Damp, loose SILT, with s wood in sample limits re hydrocarbon odor (40-60	covery, gray, no	of	
Drilli Drilli Sam Ham Tota Tota	ng E pler mør I Bor I Wel	o./Drillo quipme Type: Type/W ing Dep I Depth I ID No.	eight: eight: oth: :	Cascade/David HSA Split Spoon 140 16.5 15	lbs F feet bgs S feet bgs A	Vell/Auger D Vell Screen Screen Slot I Filter Pack U Surface Seal Annular Seal Monument T	ed Interval Size: sed: : :	4" / 6.25" inches 5 to 15 feet bg 0.010 inches 10/20 Silica Sand Concrete Bentonite Flush mount	s NE = not encour	ntered	of 2

So	DU	nd _{St}	Eart rateg	ies Res	roject: roject Numbe ogged by: ate Started: urface Condi ell Location ell Location eviewed by: ate Complete	er: itions: N/S: E/W:	TOC 1 0440- RAH 06/15 Aspha 85.5' \$ o 31.3' W o DNM 06/15	002 /20 alt I NW I NW	2 11 corner of	of bui		BORING LOG Site Address: 851 E Evere Water Deptt Time of Drill Water Deptt After Compl	ett, Washin h At ling NE h	gton
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sampl	e US	SCS ass		Graphic		Lithologic D	Description		Well Construction Detail
15 -	X	7 9 10	100	0.3	B34-15	K	ЛL				Damp, dense, SILT, with s streaks, no hydrocarbon	sand, brown with odors (40-60-0) (N	gray lative).	
											Boring terminated at 16.5 15 feet, and completed as			
20														
-														
25														
30														
Drillin Drillin Samp Hamn Total	Drilling Co./Driller: Cascade/Day Drilling Equipment: HSA Sampler Type: Split Spoon Hammer Type/Weight: 140 Fotal Boring Depth: 16.5		Split Spoon 40 6.5	lbs feet bgs S	Well/Aug Well Scr Screen S Filter Pa Surface Annular	reened Slot S ack Us Seal:	l In ize:	torva :		4" / 6.25" inches 5 to 15 feet bgs 0.010 inches 10/20 Silica Sand Concrete Bentonite	Notes/Comm NE = not encoun			
	i stal a stillig a spilli		•	· ·	Monume		pe:			Flush mount	Page:	2	of 2	

Sc)U	nd Str	art ategi	Pro Log Dal C S. Sui We We Re	oject: oject Numbe gged by: te Started: rface Condit II Location I II Location I viewed by: te Complete	er: 0440- RAH 06/14 tions: Asphi N/S: ^{64,11} So E/W: ^{46,81} W DNM	002 /2011 alt f NW corner of b	2010.000 . 0	LOG Site Address: 851 Br	t, Washington At 1g 10 feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID		Graphic	Lithologic I	Description	Well Construction Detail
0								Asphalt.		
5	X	6 6 7	100	0.2	B33-05	SP		Damp, loose, fine to mee brown, no hydrocarbon (lium SAND, with gr odor (10-70-20).	ravel,
-	X	532	100	0.4	B33-07.5	SP		Moist, loose, fine to med brown, no hydrocarbon	lum SAND, with gr odor (10-70-20).	avel
10		322	100	2.6	B33-10	SP ML		Wet, loose, fine to media brown, no hydrocarbon Damp, loose, SiLT, with hydrocarbon odor (40-6(odor (10-70-20). wood waste, black	
	X	7 4 5 7	100	2.2	B33-12.5	ML		Damp, loose, SILT. with brown streaks, no hydro	fine sand, gray wit carbon odor (50-5	h 0-0).
15 Drilling Co./Driller: Cascade Drilling Equipment: HSA Sampler Type: Split Spoon Hammer Type/Weight: 140 Ibs Total Boring Depth: 25.5 leet bgs Total Well Depth: 25 ieet bgs State Well ID No.: BHA012						Well/Auger E Well Screens Screen Slot I Filter Pack U Surface Seal Annular Seal Monument T	ed Interval Size: Ised: I:	4" / 6.25" inches 5 to 25 feet bg 0.010 inches 10/20 Sand Concrete Bentonite Flush mount	s	ents:

So	DU	nd _{St}	Eart rateg	Pri Lo Da i e S Su We Re	oject: oject Number: gged by: te Started: rface Conditio ell Location N/ ell Location E/ wiewed by: te Completed	0440 RAH 06/14 Dins: Asph S: 64.1'S W: 46.8'W DNM	-002 4/2011 alt of NW corner of b		BORING LOG Site Address: 851 E Evere Water Depth Time of Drill Water Depth After Compl	ett, Washin At ing 10	
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic [Description		Well Construction Detail
	X	5 8 9 17 50/6	100	8.8	B33-15 B33-17.5	ML		Damp, loose, silty fine SA streaks, no hydrocarbon Damp, very dense, silty S strong hydrocarbon odor	odor (40-60-0). SAND, with gravel		
20	X	50/5	0					No recovery.			
	X	50/6	33	26.6	B33-22 5	SM		Damp, very dense, silty S hydrocarbon odor (30-70	GAND, gray, slight -0).		
25	Х	50/5	33	10.8	B33-25	SM		Damp, very dense, silty S hydrocarbon odor.	SAND, gray, slight		
								Boring terminated at 25.5 25 feet, and completed as	s recovery well R\	№10.	
Drilling Co./Driller:CascadeDrilling Equipment:HSASampler Type:Split SpoonHammer Type/Weight:140Total Boring Depth:25.5				We Sci Ibs Fill feet bgs Su feet bgs An	II/Auger D II Screene reen Slot S ter Pack U rface Seal nular Seal nument Ty	d Interval Size: sed: :	4" / 6.25" inches 5 to 25 feet bgs 0.010 inches 10/20 Sand Concrete Bentonite Flush mount	Page:		of 2	

Sc)U	nd Str	art	Pro Lo Da ies Su	oject: oject Number: gged by: te Started: rface Conditio	0440- RAH 06/14 ons: Asph	002 /2011 alt		BORING B3 LOG RW Site Address: 851 Broadw Everett, Wa	/11 ray
			5	We We Re	Il Location N/ Il Location E/ viewed by: te Completed	W: 19.3'E o DNM	NW corner of bu f NW corner of b 1/2011		Water Depth At Time of Drilling Water Depth After Completion	NE feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic C	Description	Well Construction Detail
								Asphalt.		
5		3 2 1	100	0.0	B32-05	SM		Damp, loose, silty SAND, no hydrocarbon odor (30	with gravel, dark brov 60-10).	yn,
-	X	2 4 6	100	0.0		ML		Damp, loose, SILT, with f and brick fragments, darl local green-gray and brow hydrocarbon odor (40-60-	k brown, mottled with wn areas, no	
10	X	5 7 13		0.7	B32-10	ML		Moist, loose, SILT, with fi and brick fragments, darl hydrocarbon odor (40-60	k brown, moderate	
15		12 16 24		9.5	B32-12.5	ML		Damp, dense, SILT with f light brown with gray stro odor (35-60-5).		
Drilli Drilli Sam Ham Total Total	ng Eo oler 1 mer 1 Bori Weil	o./Drille quipme Type: Type/We ng Dep Depth: I ID No.	nt: H Seight: 1 th: 2	Cascade HSA Split Spoon 140 25.5 25 BHA011	lbs Fil feet bgs St feet bgs Ar	ell/Auger D ell Screene creen Slot S liter Pack U urface Seal unular Seal onument T	d Interval Size: sed: : :	4" / 6.25" inches 5 to 25 feet bgs 0.010 inches 10/20 Silica Sand Concrete Bentonile Flush mount	Notes/Comments NE = not encountered Page:	1 of 2

Sc)UI	nd Str	art	ies We We	oject: oject Number: gged by: te Started: rface Condition II Location R/ II Location E/	0440- RAH 06/14 ons: Aspha S: ^{5,5'S of} W: ^{19,3'E o}	002 /2011 alt NW corner of bui f NW corner of bui		Water Depth Time of Drilli	tt, Washing At ng NE	
					viewed by: te Completed	DNM : 06/14	4/2011		Water Depth After Comple		feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic [Description		Well Construction Detail
	X	50/6	33	31.4	B32-15	ML		Damp, very dense, SILT, light brown with gray stre odor (35-60-5). Damp, very dense, silty S grayish brown, slight hyd 10).	SAND, with gravel, drocarbon odor (2	5-65-	
25 -	Х	50/6	33	2.4	B32-25	SM		Damp, very dense, silty s grayish brown, no hydro	SAND, with graver carbon odor (25-6	, 5-10).	
30								Boring terminated at 25.0 25 feet, and completed a	5 feet, screened fr s recovery well R\	om 5 to V11.	
Drilling Co./Driller:CascadeDrilling Equipment:HSASampler Type:Split SpoonHammer Type/Weight:140Total Boring Depth:25.5feet bgs					lbs Fi feet bgs Su	ell/Auger D ell Screens creen Slot Iter Pack U urface Seal nnular Sea	ed Interval Size: Ised: I:	4" / 6.25" inches 5 to 25 feet bg 0.010 inches 10/20 Silica Sand Concrete Bentonite	s NE = not encour		
Total Well Depth: 25 State Well ID No.: BHA011						onument T		Flush mount	Page:	2	of 2

Sc)U	nd Sti	Ear i rate (h Jies	Project: Project Num Logged by: Date Started Surface Con Well Locatio Well Locatio Reviewed by	iber: 0 1 1: 0 nditions: 2 n N/S: 3 n E/W: 3	0440- TJL 3/21/: Asph 37' North	002 2006 alt of SW corner of st of SW corner of	63/6 - 2010/20	BORING B21 LOG OW01 Site Address: 851 North Broadway Everett, Washington Water Depth At Time of Drilling NE feet bgs		
	5	<u>ب</u>	>	1	Date Comple	eted:	3/21/	2006		After Co	npletion	feet bgs
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppr	nv) Sam ID		ass	Graphic	Lithologic	Description	-	Well Construction Detail
0									Asphalt Damp, silty, graveily S/ odor. (Soil cuttings)	AND, tan, no hydi	rocarbon	
5	X	12 12 14		0.0		FIL	LL		Damp, medium dense, tannish brown, no hydr Damp, sandy SILT, blu odor. (Soli cuttings) Same as above, moist.	rocarbon odor. ish gray, no hydr		
10	X	17 50		0.0		0	L		Same as above, damp. Damp, hard, organic Sl hydrocarbon odor. Same as above (Soil cu	LT, green with bl	ack, no	
									Boring terminated at 13 surface (bgs) and com diameter observation v	pleted as two-inc		
Drillin Drillin Samp Hamn Total Total	ng Eq iler T ner T Bori Well	D./Drille Julpmer Ype: Ype/We ng Dept Depth: ID No.:	nt: Nght: Ih:	Cascade Hollow Stem 12 12	Auger Ibs feet bgs feet bgs	Well/Aug Well Scre Screen S Filter Par Surface S Annular Monume	eene Slot S ck Ut Seal: Seal:	d Interval: lize: sed:	2 inche 6 to 11 feet b 0.010 inche #2/12 Sand Cement Bentonite Chips Flush Mount	NE = not enc s	ountered	
Joiale	AAGII	IP 1401				monume		Por	THOM MOUTH	Page:		of 1

S	DU	nd St	art rateg	Pro Lo Da i e S Su We Re	oject: oject Number: gged by: te Started: rface Condition ell Location N/ ell Location E/ viewed by: te Completed	0440 TJL 3/21, ons: Aspt S: 22.9' N W: 46' Wet PJK)-002 /2006		BORING LOG Site Address: 351 Ever Water Dept Time of Dril Water Dept After Comp	ett, Washir h At ling NE h	dway Igton
Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic	Description		Well Construction Detail
	X	7 6 12	100	0.0 24.3 0.0		FILL		Asphalt. Logged from soil cutting Damp, silty gravelly SAN hydrocarbon odor. Logged from soil cutting Same as above, bluish g Damp, medium dense, si bluish-gray, very faint hy Damp to moist, silty grav no hydrocarbon odor.	ID, black, no ray. ilty gravelly SAND /drocarbon odor.		
Drillin Samp Hami Total Total	ng Eq pler T ner T Borli Well	o./Drille uipmei ype: ype/We ng Dep Depth: ID No.:	nt: H 	2 2	er We Sou Ibs Fill feet bgs Suu feet bgs An	II/Auger D II Screence reen Slot S rer Pack U rface Seal nular Seal nument T	ed Interval: Size: Ised: I:	Boring terminated at 12 surface (bgs) and compl diameter observation we 2 inches 6 to 11 feet bg 0.010 inches #2/12 Sand Concrete Bentonite Chips Flush Mount	eted as two-inch- II OW02.	ents: ntered	of 1