
TO: City of Everett Engineering Department; Attention: Mark Sadler
CC: Ken Weiner, K&L Gates
FROM: GeoEngineers – Dana Carlisle, PE & Sean Trimble, LG
DATE: August 20, 2007
FILE: 0661-065-00
SUBJECT: Summary of Environmental Characterization – Former GTS Drywall Facility

This memorandum summarizes the results of the Phase II Environmental Site Assessment (ESA) conducted at the property located at 2731 36th Street in Everett, Washington. This memorandum includes all known existing sampling on the property.

The property is an approximate 1.38-acre tract, which was formerly developed with the GTS Drywall warehouse and office facility. The GTS Drywall facility has been demolished and the property, which had recently been used as a materials staging area by WSDOT contractors for the Interstate 5 expansion project, is currently vacant. A portion of the former GTS Drywall property has recently been conveyed to Burlington Northern Santa Fe (BNSF) Railway (the approximate property boundary dividing the BNSF and City portions is shown on the attached figures). It is our understanding that the City of Everett may sell the remaining City property for redevelopment by others. The site layout and surrounding properties are shown in Figure 2.

The scope of work was conducted at your request and was based on the information obtained from previous environmental characterization studies conducted on and adjacent to the property, including an April 2001 study completed by HWA Geosciences, Inc. as part of the Everett Tire Fire Landfill remedial studies, and an October 2004 study completed by Shannon & Wilson, Inc. for the Washington State Department of Transportation (WSDOT) for potential acquisition of this property and the adjacent Port property for storm water facilities.

SCOPE OF WORK

The purpose of the 2006/2007 Phase II ESA was to evaluate the nature and extent of petroleum hydrocarbon-related and other constituents previously identified in soil and groundwater at the site resulting from historical on-site activities (possibly associated with the underground storage tank (UST) located at the site) or other unidentified sources. The scope of work was conducted as a multi-phase effort as described below:

- The initial phase consisted of advancing eight (8) soil borings using a direct-push drilling rig.
- A second phase consisted of advancing three (3) additional soil borings using a direct-push drilling rig, at locations selected based on the initial soil results.
- The third phase consisted of completion and sampling of three (3) groundwater monitoring wells, at locations selected based on the soil results.
- The fourth phase consisted of completion and sampling of four (4) additional groundwater monitoring wells, at locations selected based on the previous soil and groundwater results.

The scope was developed to: (1) fill data needs resulting from the previous studies conducted at the site, (2) characterize the contamination, (3) evaluate if future cleanup action is warranted, and (4) provide data for developing a cleanup action plan, if needed.

Sampling Locations

GeoEngineers monitored the completion of six direct-push explorations (SB-1, SB-5, SB-6, SB-7, SB-8, and SB-9) on November 6, 2006, an additional five direct-push explorations (SB-3, SB-4, SB-10, SB-11, and SB-12) and three groundwater monitoring wells (MW-1, MW-2, and MW-3) on January 18, and January 19, 2007, and four groundwater monitoring wells (MW-4 through MW-7) on June 6 and June 7, 2007. The soil borings/monitoring wells were advanced to depths ranging between 16 and 25 feet below ground surface (bgs). The approximate boring locations are shown on Figure 2, along with the previous sampling locations from the HWA and Shannon and Wilson work. Boring logs for soil boring explorations are in Attachment A (Geo-Engineers) and Attachment B (Shannon and Wilson).

Screening Levels

The Model Toxics Control Act (MTCA) Method A cleanup levels for unrestricted land use were used to evaluate the sampling results, or, where available [as for carcinogenic polycyclic aromatic hydrocarbons (cPAHS)], MTCA Method B cleanup levels (Ecology, Cleanup Levels and Risk Calculations [CLARC Version 3.1], November 2001) were used. These levels are typically employed for screening level analysis and are evaluated as a whole and in the context of past, current, and future site uses. A sample result that is higher than these levels does not necessarily trigger cleanup or establish the appropriate cleanup standard.

MTCA Method A levels are “intended to provide conservative levels,” typically employed for voluntary cleanups without active government oversight and routine cleanup actions; MTCA Method B cleanup levels are the universal cleanup levels that typically employ risk-based cleanup levels (WAC 173-340-700 and 900). The MTCA Method A cleanup level tables contain an explicit cautionary note “on misusing this table.” The cautionary note explains that “the values in this table should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedences of the values in this table do not necessarily mean the soil/water must be restored to these levels at a site” (WAC 173-340-900). A determination of appropriate cleanup standards for remedial actions, if needed, will be made in connection with any cleanup actions that may be warranted.

FINDINGS

PETROLEUM HYDROCARBONS

Based on results of samples collected to date, an area impacted with gasoline-range petroleum hydrocarbons (TPH-Gx) and benzene, ethylbenzene, toluene, and xylenes (BETX) at concentrations greater than MTCA Method A screening levels (petroleum contaminated soil or “PCS” in this memorandum) extends from the vicinity of the former GTS Drywall building footprint southeast toward 36th Street.

The extent of the petroleum-impacted soil is an oval-shaped area approximately 250 x 125 feet, mostly on the portion of the former GTS Drywall property currently owned by the City. The PCS extends approximately 50 feet into both the BNSF property to the northwest and the 36th Street right-of-way to the south. The extent of petroleum-impacted groundwater is somewhat larger than this area on the northwest and apparently extends further than the impacted soil area on the southeast; it has not been fully delineated to east-southeast. The data indicate that impacts to soil do not extend across 36th Street or onto the Everett Tire Fire Landfill Site. (See Figures 3 and 5 and discussion of results below.)

Soil Results

The TPH soil results and the estimated extent of the PCS are shown on Figure 3. A former gasoline UST was removed from the property (Ecology UST data sheet, Attachment C). Based on reported soil results, the source area for the gasoline appears to be near test pits TP-4A and TP-4B and soil borings SB-7 and SB-8, on the south-central portion of the property.

The westerly/northerly extent of PCS is bounded by sample locations SB-10, MW-4, P-GTS5, MW-5, and SB-5, all of which were non-detect for TPH including gasoline and benzene. TPH-Gx was not reported above the laboratory sample quantitation limit for soil samples collected from borings MW-3 and SB-6, indicating that gasoline-range TPH in soil does not appear to extend across 36th Street to the south.

The easterly extent of gasoline-range petroleum hydrocarbons in soil appears to be just east of MW-6, which had a TPH-Gx concentration of 70 milligrams per kilogram (mg/kg), exceeding the Method A screening level of 30 mg/kg for TPH-Gx (if benzene is present). The concentration reported for MW-6 is up to two orders of magnitude less than the more westerly sampling locations, which range from around 2,000-7,000 mg/kg for TPH-Gx. Although MW-6 does not appear to be in the source area, this location had the highest groundwater sampling result as noted below.

Groundwater Results

The TPH-Gx concentrations reported in 2007 groundwater samples ranges from 2,600 micrograms per liter ($\mu\text{g/L}$) in monitoring well MW-1 to 13,000 $\mu\text{g/L}$ at P-GTS1 to 37,000 $\mu\text{g/L}$ in monitoring well MW-6 (as compared to the MTCA Method A screening level of 800 $\mu\text{g/L}$). Based on these results, the gasoline-range petroleum hydrocarbon plume is at least 200 feet in length, and is characterized by increasing concentrations downgradient of the assumed source area. TPH-Gx was not reported above the laboratory sample quantitation limit for samples collected from groundwater monitoring well MW-3, indicating that the plume appears to be moving southeast rather than south.

To date, TPH-Gx samples have not been collected in soil or groundwater east of location MW-6 (i.e., no TPH-Gx analysis of samples collected from locations MW-7, SB-1, SB-11, or SB-12); therefore, the easterly extent of the gasoline-impacted groundwater is not known.

METALS

Soil Results

Arsenic, cadmium, and/or lead were identified at concentrations greater than MTCA Method A screening levels at five sampling locations in the southeast portion of the property and along the adjacent street and neighboring property (MW-3, MW-7, SB-1, SB-11, and SB-12). The reported arsenic and cadmium concentrations were slightly elevated (e.g., arsenic concentrations of 22 and 27 mg/kg at 19 and 23.5 feet bgs, respectively, compared with MTCA Method A unrestricted soil screening level of 20 mg/kg).

In the very southeast corner of the property, the reported lead concentrations, ranged from 910 to 2,400 mg/kg, exceed the MTCA Method A unrestricted screening level of 250 mg/kg and exceed the MTCA Method A screening level for industrial sites of 1,000 mg/kg at four of the five locations. The metals impacts at two of these locations (MW-7 and SB-11) are within the MTCA soil direct contact point of compliance interval (from ground surface to 15 feet bgs). None of the other soil or groundwater samples collected from the former GTS Drywall property showed lead concentrations above MTCA Method A unrestricted screening levels, including sampling locations MW-6 and P-GTS2, which are within approximately 75 feet of MW-7

and SB-1. These results suggest that the metals and cPAH impacts in this area do not extend a distance into the property.

Similar lead concentrations in soil were reported at similar depths on the adjacent Port property to the east (a lead concentration of 2,600 mg/kg at 15.5 feet bgs located at station P1, approximately 25 feet northeast of SB-12). This concentration is considerably lower northward on the Port property (a concentration of 470 mg/kg at 7-8 feet bgs located at station P2, approximately 100 feet North of P2 and SB-1). (Shannon and Wilson, 2004). The maximum reported lead concentrations are located at SB-1 in the corner of the GTS Drywall property (2,400 mg/kg at 19 feet bgs) and P2 on the Port property (2,600 mg/kg at 15.5 feet bgs), both deeper than the 15 feet bgs direct point of compliance interval. The groundwater sampling results for this area (MW-6, MW-7, P1 and P2) did not indicate elevated lead concentrations, as noted below.

The chemical analytical results for lead, other metals and cPAHs (as discussed below) indicate that the property is not a source area and that these results are related to or part of an area of contamination located principally off site. The limits of the elevated metals impact in soil have not been defined to the east, northeast or southeast, which are off site.

Groundwater Results

Based on the results for dissolved metals in groundwater, only the arsenic concentration in the sample collected from monitoring well MW-2 exceeded the MTCA Method A screening level. The groundwater impacted by metals has not been defined to the north, east, or south.

It should be noted that during groundwater sampling activities, the measured turbidity of groundwater samples collected from the seven monitoring wells ranged from 19 to 110 nephelometric turbidity units (NTUs). Groundwater samples from monitoring wells MW-1, MW-2, and MW-3 were submitted for analysis of both total and dissolved metals. However, due to the elevated turbidity of the groundwater samples, the total metals results are not considered representative of groundwater at the site. Therefore, the dissolved metals groundwater results were used for evaluation of groundwater quality at the site.

CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS

Soil Results

There appear to be two distinct and apparently unrelated areas where elevated cPAHs have been detected in soil. Results collected for soil samples indicate an area impacted at concentrations exceeding screening levels for benzo(a)pyrene, and the toxicity equivalent value (TEQ) for total cPAHs in the metals area discussed above in the southeast corner of the property. There are low level concentrations of cPAHs at depth at two locations underneath the steep downhill slope in the eastern portion of the property.

The principal area of cPAH impacted soils is located in the southeastern corner of the parcel and adjacent areas on the Port property and in the 36th Street right-of-way (characterized by soil borings SB-1, SB-11, SB-12, and MW-7). These sample results have concentrations of individual cPAHs in soil between the MTCA Method B unrestricted value (0.137 mg/kg) and the MTCA Method A industrial value (2 mg/kg), with the exception of SB-11 where a concentration of 5.19 mg/kg was reported at 8 feet below ground surface (bgs). This area appears to be co-extensive with the metals-impacted area described above.

Of the 11 locations sampled for cPAHs across the property (not including the two stations in the southeast corner just discussed), only two exceed the Method B screening level of 0.137 mg/kg. The first is beneath the eastern slope of the former GTS property in the vicinity of soil borings P-GTS2 and P-GTS3, where reported cPAH TEQ results (0.29 mg/kg at 13 feet bgs and 0.5 mg/kg at 22 feet bgs, respectively) exceed the MTCA Method B screening level for unrestricted land use of 0.137 mg/kg. Shallower samples in the area (e.g., SB-3 at 5 feet bgs, SB-4 at 11 feet bgs, MW-2 at 10 feet bgs) did not exceed Method A or B soil screening levels for cPAHs, suggesting that any elevated concentrations of cPAH are at depth on the eastern slope of the property.

Because of the steep slope, fill is also likely to be placed on the property in this area for any redevelopment or future use, as it has on the adjacent City properties. The presence of these relatively low cPAH levels at considerable depth in these locations is therefore unlikely to present a risk or pathway for direct contact. These reported values do not exceed the MTCA Method A industrial screening level of 2.0 mg/kg for soil, which is based on protection of groundwater at site meeting the criteria for industrial land use. CPAHs were not detected in the groundwater sample collected from monitoring well MW-2, downgradient from these locations, indicating the cPAH impacts in soil are not impacting groundwater in this area.

Groundwater Results

The groundwater samples collected from monitoring wells MW-2, MW-6, and MW-7 did not exhibit cPAH concentrations exceeding the individual MTCA Method A screening level for benzo(a)pyrene or the toxicity equivalent value for total cPAHs (with the exception of naphthalenes from MW-6, which are likely associated with gasoline-range petroleum hydrocarbons). As noted above, the TPH- and cPAH-impacted groundwater has not been fully delineated to the southeast.

DATA NEEDS

To better assess the Phase II ESA objectives for the site, additional soil and groundwater characterization would be beneficial to address the following identified data needs for developing a cleanup action plan:

- To complete delineation of the petroleum-impacted soil and groundwater to the east-southeast; and
- To confirm the metals impacts in soil are limited to a localized and limited area in the southeast corner of the property.

LIMITATIONS

This letter has been prepared for the exclusive use of the City of Everett and their authorized agents. No other party may rely on the product of our services unless we agree in advance and in writing to such reliance. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood. No study can wholly eliminate uncertainty regarding environmental conditions at a site. There is always a potential that areas of contamination exist that were not identified during past studies.

Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to Attachment D titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

TABLE 1
SUMMARY OF SOIL CHEMICAL ANALYTICAL DATA (2001 -- 2004)
Former GTS Drywall Facility
Everett, Washington

Sample Identification ¹	Sample Date	Sample Depth (feet bgs)	BETX ²				Petroleum Hydrocarbons (mg/kg)		
			(mg/kg)				Gasoline-Range ³	Diesel-Range	Oil-Range
			B	E	T	X			
TP-4A	3/6/2001	8-10	<7	100	105	477	6870	176	31.6
TP-4B	3/6/2001	8-10	<2.5	42	10.8	186	4120	106	<25
TP-4C	3/6/2001	8-10	<2.5	23	6.98	99.3	2030	104	39.9
P-GTS1-S4	9/23/2004	15.5	0.59	1.7	0.16	3.07	35	ND	79
P-GTS2-S4	9/23/2004	13	ND	ND	ND	ND	ND	ND	460
P-GTS3-S6	9/23/2004	22	ND	ND	ND	ND	ND	ND	130
P-GTS4-S1	9/23/2004	0.3	ND	ND	ND	ND	ND	ND	140
P-GTS5-S1	9/23/2004	0.3	ND	ND	ND	ND	ND	ND	180
P-GTS5-S2	9/23/2004	7.5	ND	ND	ND	ND	ND	ND	ND
MTCA Method A Screening Level - Unrestricted Land Use			0.03	6	7	9	30/100 ⁵	2,000	2,000

Notes:

¹The approximate exploration locations are shown on Figure 2.

²B = benzene, E = ethylbenzene, T = toluene and X = xylenes. BETX analyzed by EPA 8260.

³Analyzed by Ecology Method NWTPH-Gx

⁴RCRA Metals analyzed by EPA 6000/7000 Series.

⁵The MTCA Method A screening level for gasoline-range hydrocarbons is 30 mg/kg if benzene is present and 100 mg/kg if benzene is not present.

bgs = below ground surface

ppm = parts per million; mg/kg = milligrams per kilogram

Shading = Detected concentration exceeds MTCA Method A or B Screening Level. -- = Not analyzed

MTCA = Model Toxics Control Act

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TABLE 2
SUMMARY OF SOIL FIELD SCREENING AND CHEMICAL ANALYTICAL DATA (2006 -- 2007)
Former GTS Drywall Facility
Everett, Washington

Sample Identification ¹	Sample Date	Sample Depth (feet bgs)	Field Screening Results ²		BETX ³ (mg/kg)				Petroleum Hydrocarbons (mg/kg)	RCRA Metals ⁵ (mg/kg)							
										Sheen	Headspace Vapors (ppm)	B	E	T	X	Gasoline-Range ⁴	Arsenic
MW-1-14	1/19/2007	14	HS	>2,000	1.0	4.6	3.9	9.5	980	--	--	--	--	--	--	--	--
MW-1-16	1/19/2007	16	NS	<1	<0.03	<0.05	<0.05	<0.2	4.0	--	--	--	--	--	--	--	--
MW-2-10	1/18/2007	10	NS	<1	--	--	--	--	--	19	73	<1	32	25	0.04	<5.0	<5.0
MW-3-23.5	1/18/2007	23.5	NS	<1	--	--	--	--	--	22	150	<1	88	8.7	0.1	<5.0	<5.0
MW-4-14	6/6/2007	14	NS	<1	<0.03	<0.05	<0.05	<0.2	<3	--	--	--	--	--	--	--	--
MW-5-14	6/6/2007	14	NS	<1	<0.03	<0.05	<0.05	<0.2	<3	--	--	--	--	--	--	--	--
MW-6-10	6/7/2007	10	NS	4	3.6	7.0	0.2	1.2	70	<5	54	<1	27	<5	0.06	<5	<5
MW-7-5	6/7/2007	5	NS	<1	--	--	--	--	--	<5	510	7.3	27	1100	0.46	<5	<5
MW-7-10	6/7/2007	10	NS	<1	--	--	--	--	--	6.7	470	4.7	41	910	0.39	<5	<5
SB-1-19	11/6/2006	19	NS	<1	--	--	--	--	--	27	630	11	68	2400	1.0	11	150
SB-3-5	1/19/2007	5	NS	<1	--	--	--	--	--	<5	32	<1	27	<5	<0.02	<5.0	<5.0
SB-4-11	1/19/2007	11	NS	<1	--	--	--	--	--	<5	55	<1	35	<5	0.03	<5.0	<5.0
SB-5-15	11/6/2006	15	NS	<1	<0.03	<0.05	<0.05	<0.2	<3	--	--	--	--	--	--	--	--
SB-6-8.5	11/6/2006	8.5	NS	<1	<0.03	<0.05	<0.05	<0.2	<3	--	--	--	--	--	--	--	--
SB-7-14	11/6/2006	14	HS	225	14	57	100	310	3200	<2.4	38	<0.29	29	<2.4	0.03	<2.4	6.1
SB-7-17	11/6/2006	17	NS	1.5	<0.03	0.06	0.11	<0.2	4	<2.4	64	<0.30	42	<2.4	0.02	<2.4	7.6
SB-8-7	11/6/2006	7	MS	206	20	80	44	410	4200	--	--	--	--	--	--	--	--
SB-8-11	11/6/2006	11	NS	1.2	0.07	0.10	0.07	0.5	8	--	--	--	--	--	--	--	--
SB-9-9	11/6/2006	9	NS	<1	<0.03	<0.05	<0.05	<0.2	<3	--	--	--	--	--	--	--	--
SB-10-12	1/19/2007	12	NS	<1	<0.03	<0.05	<0.05	<0.2	<3	--	--	--	--	--	--	--	--
SB-11-8	1/19/2007	8	NS	<1	--	--	--	--	--	13	210	<1	42	1100	0.14	<5.0	<5.0
SB-12-15	1/19/2007	15	NS	<1	--	--	--	--	--	23	500	<1	92	1100	0.23	<5.0	<5.0
MTCA Method A Screening Level - Unrestricted Land Use					0.03	6	7	9	30/100 ⁶	20	5600 ⁷	2	2000	250	2 ⁷	400 ⁷	400 ⁷

Notes:

- ¹The approximate exploration locations are shown on Figure 2.
 - ²Field screening using a photoionization detector (PID) and water sheen test. NS=no sheen; SS=slight sheen; MS=moderate sheen; HS=heavy sheen.
 - ³B = benzene, E = ethylbenzene, T = toluene and X = xylenes. BETX analyzed by EPA 8260.
 - ⁴Analyzed by Ecology Method NWTPH-Gx.
 - ⁵RCRA Metals analyzed by EPA 6000/7000 Series.
 - ⁶The MTCA Method A screening level for gasoline-range hydrocarbons is 30 mg/kg if benzene is present and 100 mg/kg if benzene is not present.
 - ⁷MTCA Method B Screening Levels are referenced because no Method A value exists.
- bgs = below ground surface
ppm = parts per million; mg/kg = milligrams per kilogram
Shading = Detected concentration exceeds MTCA Method A or B Screening Level. -- = Not analyzed
MTCA = Model Toxics Control Act
Chemical analyses performed by CCI Analytical Laboratories, Inc in Everett, Washington.

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TABLE 3
SUMMARY OF SOIL CHEMICAL ANALYTICAL DATA (2004)
POLYCYCLIC AROMATIC HYDROCARBONS
Former GTS Drywall Facility
Everett, Washington

Polycyclic Aromatic Hydrocarbons (PAHs) ¹	Soil Sample Identification ² (mg/kg)						MTCA Method A Screening Level ³
	P-GTS1-S4 (15.5 feet bgs)	P-GTS2-S4 (13 feet bgs)	P-GTS3-S6 (22 feet bgs)	P-GTS4-S1 (0.3 feet bgs)	P-GTS5-S1 (0.3 feet bgs)	P-GTS5-S2 (7.5 feet bgs)	
Non-carcinogenic PAHs							
Naphthalenes	0.052	0.025	0.0469	ND	ND	0.01	5
Acenaphthylene	0.013	0.052	0.038	ND	ND	ND	NE
Acenaphthene	ND	ND	ND	ND	ND	ND	4800 ⁴
Fluorene	ND	0.014	ND	ND	ND	ND	3200 ⁴
Phenanthrene	0.054	0.23	0.27	0.011	ND	0.16	NE
Anthracene	ND	0.032	0.053	ND	ND	ND	24,000 ⁴
Fluoranthene	0.09	0.34	0.57	0.021	ND	0.024	3200 ⁴
Pyrene	0.087	0.36	0.51	0.024	ND	0.021	2400 ⁴
Benzo(ghi)perylene	0.068	0.21	0.25	0.011	ND	0.013	NE
Carcinogenic PAHs							
Benzo(a)anthracene	0.035	0.12	0.32	0.01	ND	0.0091	/
Chrysene	0.064	0.22	0.4	0.018	ND	0.015	
Benzo(b)fluoranthene	0.055	0.26	0.47	0.011	ND	0.012	
Benzo(k)fluoranthene	0.056	0.091	0.15	0.012	ND	0.011	
Benzo(a)pyrene	0.061	0.21	0.35	0.013	ND	0.0087	
Indeno(1,2,3-cd)pyrene	0.051	0.15	0.21	0.0084	ND	0.0092	
Dibenz(a,h)anthracene	0.015	0.042	0.078	ND	ND	ND	
Total cPAHs (TEQ)⁵	0.09	0.29	0.5	0.02	ND	0.013	0.137 ⁵

Notes:

¹ Analyzed by EPA Method 8270 SIM.

² Sample date provided on Table 1. The approximate exploration locations are shown on Figure 2.

³ For unrestricted land use. MTCA Method B screening levels are referenced when Method A screening levels are not available.

⁴ MTCA Method B Screening Level for individual cPAH based on direct contact exposure.

⁵ MTCA Method B Screening level for total carcinogenic PAHs calculated using toxicity equivalent (TEQ) relative to benzo(a)pyrene per WAC 173-340-780(8).

mg/kg=milligrams per kilogram

NE=Not Established NA=Not Analyzed

MTCA = Model Toxics Control Act

Shading = Detected concentration exceeds MTCA Method A or B Screening Level.

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TABLE 4
SUMMARY OF SOIL CHEMICAL ANALYTICAL DATA (2006 -- 2007)
POLYCYCLIC AROMATIC HYDROCARBONS
Former GTS Drywall Facility
Everett, Washington

Polycyclic Aromatic Hydrocarbons (PAHs) ¹	Soil Sample Identification ² (mg/kg)										MTCA Method A Screening Level ³
	MW-2-10	MW-3-23.5	MW-7-5	MW-7-10	SB-1-19	SB-3-5	SB-4-11	SB-5-15	SB-11-8	SB-12-15	
Non-carcinogenic PAHs											
Naphthalenes	<0.08	<0.02	NA	NA	<0.02	<0.02	<0.02	<0.02	0.09	0.09	5
Acenaphthylene	<0.02	<0.02	NA	NA	0.03	<0.02	<0.02	<0.02	0.74	0.03	NE
Acenaphthene	<0.02	<0.02	NA	NA	<0.02	<0.02	<0.02	<0.02	0.02	0.1	4800 ⁴
Fluorene	<0.02	<0.02	NA	NA	<0.02	<0.02	<0.02	<0.02	0.08	0.17	3200 ⁴
Phenanthrene	<0.02	<0.02	NA	NA	0.09	<0.02	<0.02	<0.02	2.4	2.0	NE
Anthracene	<0.02	<0.02	NA	NA	0.02	<0.02	<0.02	<0.02	0.47	0.18	24,000 ⁴
Fluoranthene	<0.02	<0.02	NA	NA	0.33	<0.02	<0.02	<0.02	7.6	2.0	3200 ⁴
Pyrene	<0.02	<0.02	NA	NA	0.38	<0.02	<0.02	<0.02	8.6	1.3	2400 ⁴
Benzo(ghi)perylene	<0.02	<0.02	NA	NA	0.2	<0.02	<0.02	<0.02	3.4	0.27	NE
Carcinogenic PAHs											
Benzo(a)anthracene	<0.02	<0.02	0.19	0.33	0.15	<0.02	<0.02	<0.02	2.7	0.28	\
Chrysene	<0.02	<0.02	0.25	0.48	0.23	<0.02	<0.02	<0.02	4.3	0.4	
Benzo(b)fluoranthene	<0.02	<0.02	0.17	0.41	0.15	<0.02	<0.02	<0.02	2.9	0.26	
Benzo(k)fluoranthene	<0.02	<0.02	0.17	0.27	0.18	<0.02	<0.02	<0.02	2.7	0.23	
Benzo(a)pyrene	<0.02	<0.02	0.23	0.38	0.19	<0.02	<0.02	<0.02	3.7	0.2	
Indeno(1,2,3-cd)pyrene	<0.02	<0.02	0.16	0.34	0.15	<0.02	<0.02	<0.02	2.7	0.19	
Dibenz(a,h)anthracene	<0.02	<0.02	0.05	0.13	0.05	<0.02	<0.02	<0.02	0.87	0.07	
Total cPAHs (TEQ) ⁵	ND	ND	0.32	0.572	0.28	ND	ND	ND	5.19	0.328	0.137 ⁵

Notes:

¹ Analyzed by EPA Method 8270 SIM.

² Sample date provided on Table 1. The approximate exploration locations are shown on Figure 2.

³ For unrestricted land use. MTCA Method B screening levels are referenced when Method A screening levels are not available.

⁴ MTCA Method B Screening Level for individual cPAH based on direct contact exposure.

⁵ MTCA Method B Screening level for total carcinogenic PAHs calculated using toxicity equivalent (TEQ) relative to benzo(a)pyrene per WAC 173-340-780(8).

mg/kg=milligrams per kilogram

NE=Not Established NA=Not Analyzed ND=Not Detected

MTCA = Model Toxics Control Act

Shading = Detected concentration exceeds MTCA Method A or B Screening Level.

Chemical analyses performed by CCI Analytical Laboratories in Everett, Washington.

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TABLE 5
SUMMARY OF GROUNDWATER CHEMICAL ANALYTICAL DATA (2004)
Former GTS Drywall Facility
Everett, Washington

Sample Identification ¹	Sample Date	BETX ² (µg/L)				Petroleum Hydrocarbons (µg/L)	Metals ⁴ (µg/L)			
		B	E	T	X	Gasoline-Range ³	Arsenic	Lead	Nickel	Zinc
P-GTS1-GW	9/23/2004	750	540	63	459.1	13,000	5.3	3.6	42	28
P-GTS2-GW	9/23/2004	ND	ND	ND	ND	ND	ND	3.1	ND	460
P-GTS3-GW	9/23/2004	ND	ND	ND	ND	ND	4.4	ND	27	29
P-GTS4-GW	9/23/2004	ND	ND	ND	ND	ND	4.8	3.4	ND	31
P-GTS5-GW	9/23/2004	ND	ND	ND	ND	ND	4.8	3.2	ND	ND
MTCA Method A Screening Level		5	700	1000	1000	800/1000 ⁵	5	15	320 ⁶	4800 ⁶

Notes:

¹The approximate exploration locations are shown on Figure 2.

²B = benzene, E = ethylbenzene, T = toluene and X = xylenes. BETX analyzed by EPA 8260.

³Analyzed by Ecology Method NWTPH-Gx.

⁴Metals analyzed by EPA 6000/7000 Series.

⁵The MTCA Method A screening level for gasoline-range hydrocarbons is 800 µg/L if benzene is present and 1000 µg/L if benzene is not present.

⁶ MTCA Method B Screening Levels are referenced.

µg/L= micrograms per liter

Shading = Detected concentration exceeds MTCA Method A or B Cleanup Level.

MTCA = Model Toxics Control Act

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TABLE 6
SUMMARY OF GROUNDWATER CHEMICAL ANALYTICAL DATA (2007)
Former GTS Drywall Facility
Everett, Washington

Sample Identification ¹	Sample Date	BETX ² (µg/L)				Petroleum Hydrocarbons (µg/L)	Dissolved RCRA Metals ⁴ (µg/L)							
		B	E	T	X	Gasoline-Range ³	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
MW-1	2/14/2007	29	31	33	83	2600	<5	61	<5	<7	6	<0.2	<40	<30
MW-2	2/14/2007	<1	<1	<1	<3	<50	47	<20	<5	8	3	<0.2	<40	<30
MW-3	2/14/2007	<1	<1	<1	<3	<50	<5	36	<5	12	<3	<0.2	<40	<30
MW-4	6/14/2007	4	2	6	7	78.0	--	--	--	--	--	--	--	--
MW-5	6/14/2007	2	1	4	<3	53.0	--	--	--	--	--	--	--	--
MW-6	6/14/2007	2,400	1,300	3,400	5,500	37,000	5.0	280	<5	<7	5.0	<0.2	<40	<30
MW-7	6/14/2007	--	--	--	--	--	5.0	690	<5	<7	<3	1.9	<40	<30
MTCA Method A Screening Level		5	700	1000	1000	800/1000 ⁵	5	3200 ⁶	5	50	15	2	80 ⁶	80 ⁶

Notes:

¹ Samples were obtained on February 14, 2007. The approximate exploration locations are shown on Figure 2.

² B = benzene, E = ethylbenzene, T = toluene and X = xylenes. BETX analyzed by EPA 8260.

³ Analyzed by Ecology Method NWTPH-Gx.

⁴ RCRA Metals analyzed by EPA 6000/7000 Series. In addition to dissolved metals, groundwater samples collected from monitoring wells MW-1, MW-2, and MW-3 on 2/14/2007 were also analyzed for total metals. Due to the elevated turbidity of the groundwater samples, the total metals results are not appropriate for evaluation of groundwater quality at the site.

⁵ The MTCA Method A screening level for gasoline-range hydrocarbons is 800 µg/L if benzene is present and 1000 µg/L if benzene is not present.

⁶ MTCA Method B Screening Levels are referenced.

µg/L = micrograms per liter -- = Not analyzed

Shading = Detected concentration exceeds MTCA Method A or B Screening Level.

MTCA = Model Toxics Control Act

Chemical analyses performed by CCI Analytical Laboratories, Inc in Everett, Washington.

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TABLE 7
SUMMARY OF GROUNDWATER CHEMICAL ANALYTICAL DATA (2007)
POLYCYCLIC AROMATIC HYDROCARBONS
Former GTS Drywall Facility
Everett, Washington

Polycyclic Aromatic Hydrocarbons (PAHs) ¹	Sample Identification ² (µg/L)				MTCA Method A Screening Level ³
	MW-1	MW-2	MW-6	MW-7	
Non-carcinogenic PAHs					
Naphthalenes	2.8	<0.02	444	0.24	160
Acenaphthylene	0.04	<0.02	<0.04	<0.02	NE
Acenaphthene	0.02	<0.02	0.12	0.05	9600 ⁴
Fluorene	0.07	<0.02	0.08	0.03	640 ⁴
Phenanthrene	0.26	<0.02	0.1	0.05	NE
Anthracene	0.11	<0.02	<0.04	<0.02	4800 ⁴
Fluoranthene	0.18	<0.02	<0.04	0.05	640 ⁴
Pyrene	0.26	<0.02	<0.04	0.06	480 ⁴
Benzo(ghi)perylene	0.06	<0.02	<0.04	0.06	NE
Carcinogenic PAHs					
Benzo(a)anthracene	0.1	<0.02	<0.04	0.03	/
Chrysene	0.07	<0.02	<0.04	0.03	
Benzo(b)fluoranthene	<0.02	<0.02	<0.04	0.03	
Benzo(k)fluoranthene	<0.02	<0.02	<0.04	0.03	
Benzo(a)pyrene	0.02	<0.02	<0.04	0.03	
Indeno(1,2,3-cd)pyrene	0.05	<0.02	<0.04	0.03	
Dibenz(a,h)anthracene	0.05	<0.02	<0.04	<0.02	
Total cPAHs (TEQ) ⁵	0.058	ND	ND	0.046	0.137 ⁵

Notes:

¹ Analyzed by EPA Method 8270 SIM.

² Samples were obtained on February 14, 2007. The approximate exploration locations are shown on Figure 2.

³ MTCA Method B screening levels are referenced when Method A screening levels are not available.

⁴ MTCA Method B Screening Level

⁵ MTCA Method B screening level for total carcinogenic PAHs calculated using toxicity equivalent (TEQ) relative to benzo(a)pyrene per WAC 173-340-780(8).

µg/L= micrograms per liter

NE=Not Established ND=Not Detected

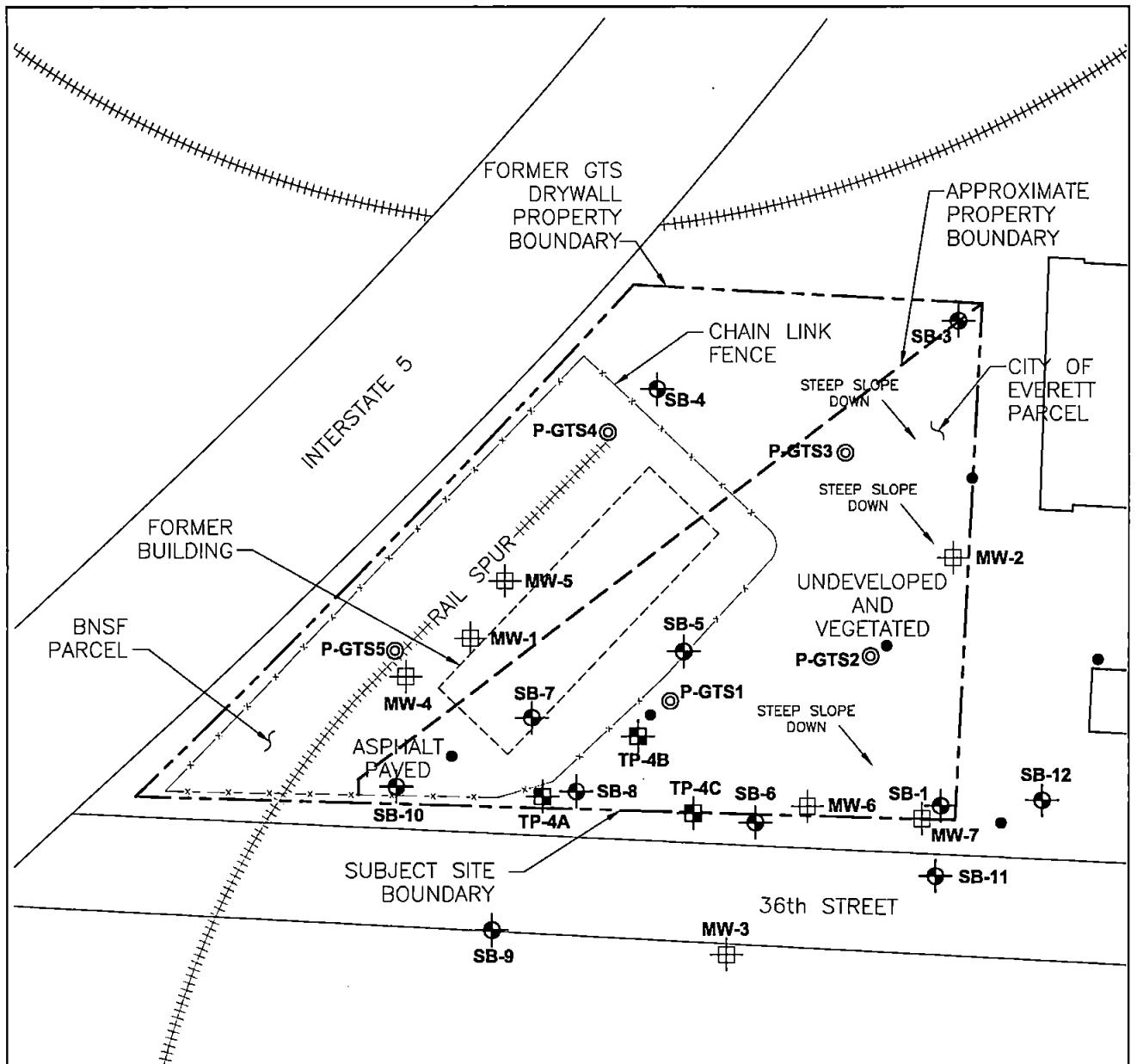
MTCA = Model Toxics Control Act

Shading =Detected concentration exceeds MTCA Method A or B Screening Level

Chemical analyses performed by CCI Analytical Laboratories in Everett, Washington.

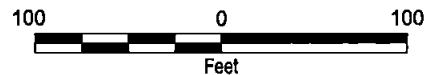
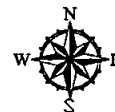
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Legend

- SB-3** Approximate Location of Soil Borings Completed by GeoEngineers
- MW-1** Approximate Location of Groundwater Monitoring Wells Completed by GeoEngineers
- Approximate Location of Borings Completed by Shannon and Wilson
- TP-4A** Test Pit Location
- Existing Piezometer

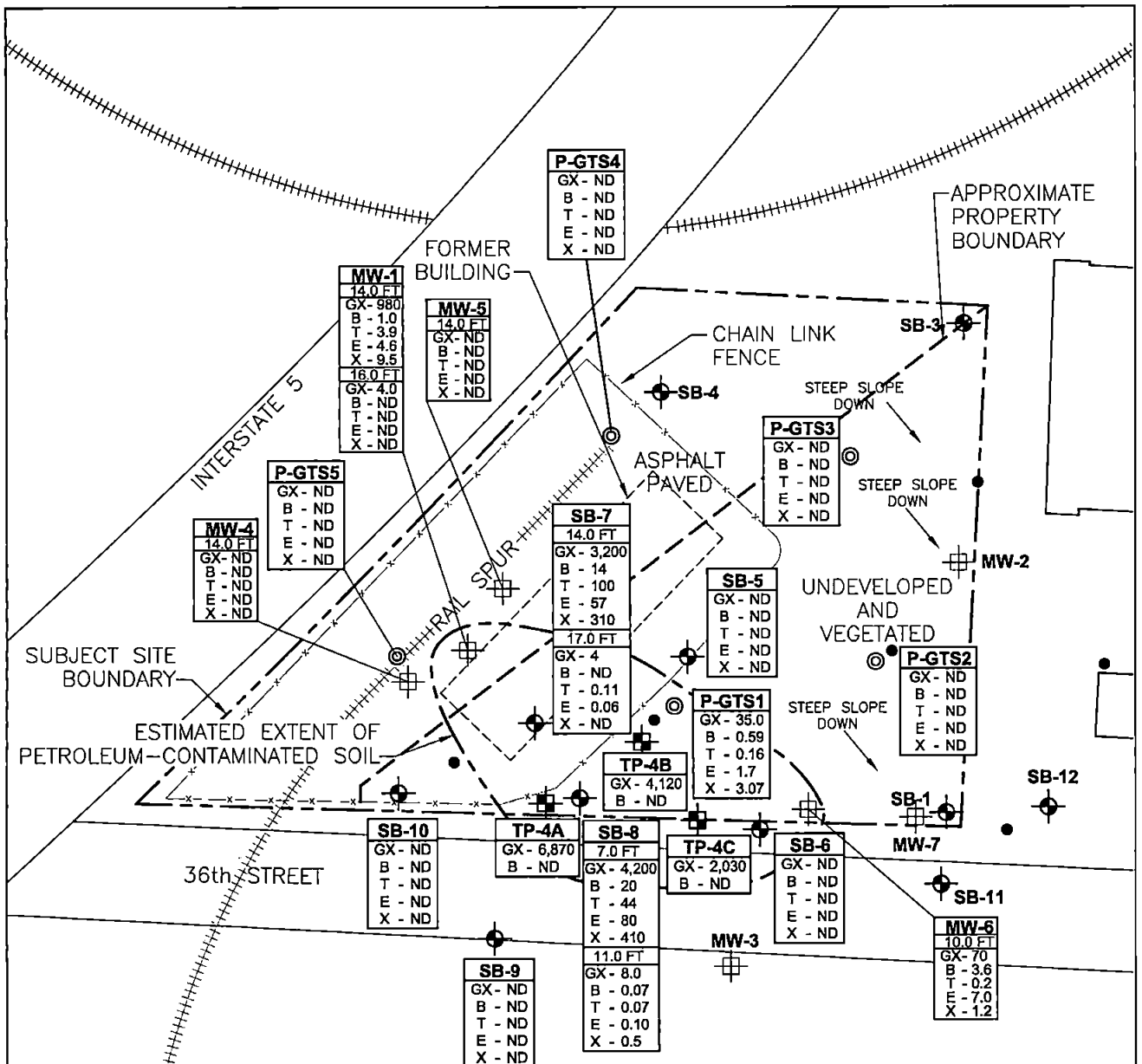


Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Drawing base from Shannon and Wilson, entitled Exploration Plan Water Quality Site #2 West Parcel, Figure 5, dated 10-06-2004, AutoCAD File 21-1-09375-009- Fig 5 (10-04).dwg.

Site Plan	
Former GTS Drywall Site Everett, Washington	
GEOENGINEERS	Figure 2



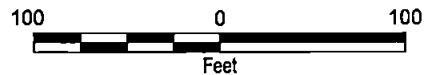
Legend

- SB-3** Approximate Location of Soil Borings Completed by GeoEngineers
- MW-1** Approximate Location of Groundwater Monitoring Wells Completed by GeoEngineers
- Approximate Location of Borings Completed by Shannon and Wilson
- TP-4A** Test Pit Location
- Existing Piezometer
- ND** Not Detected Above Laboratory Sample Quantitation Limit

Notes:

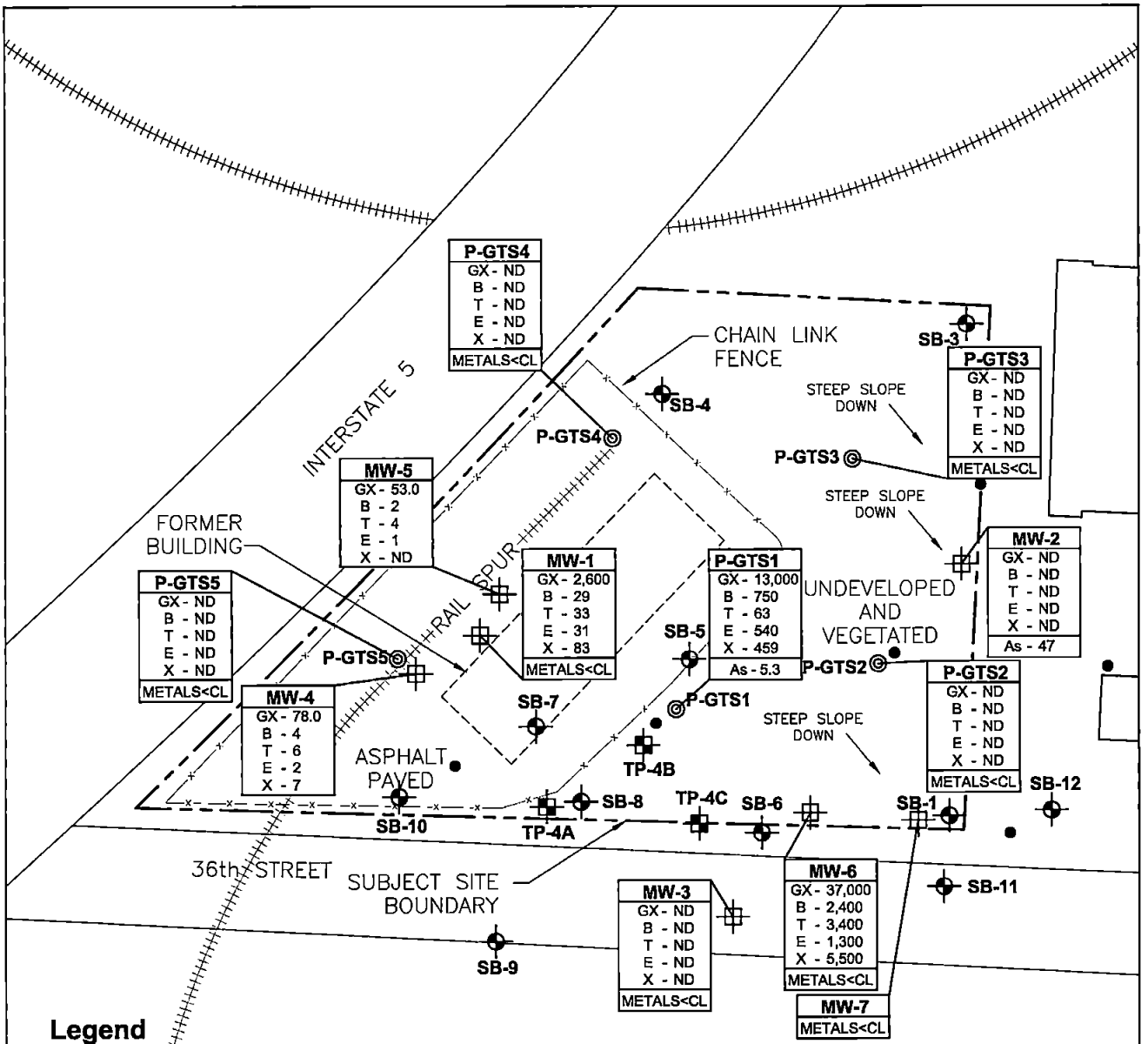
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Drawing base from Shannon and Wilson, entitled Exploration Plan Water Quality Site #2 West Parcel, Figure 5, dated 10-06-2004, AutoCAD File 21-1-09375-009- Fig 5 (10-04).dwg.



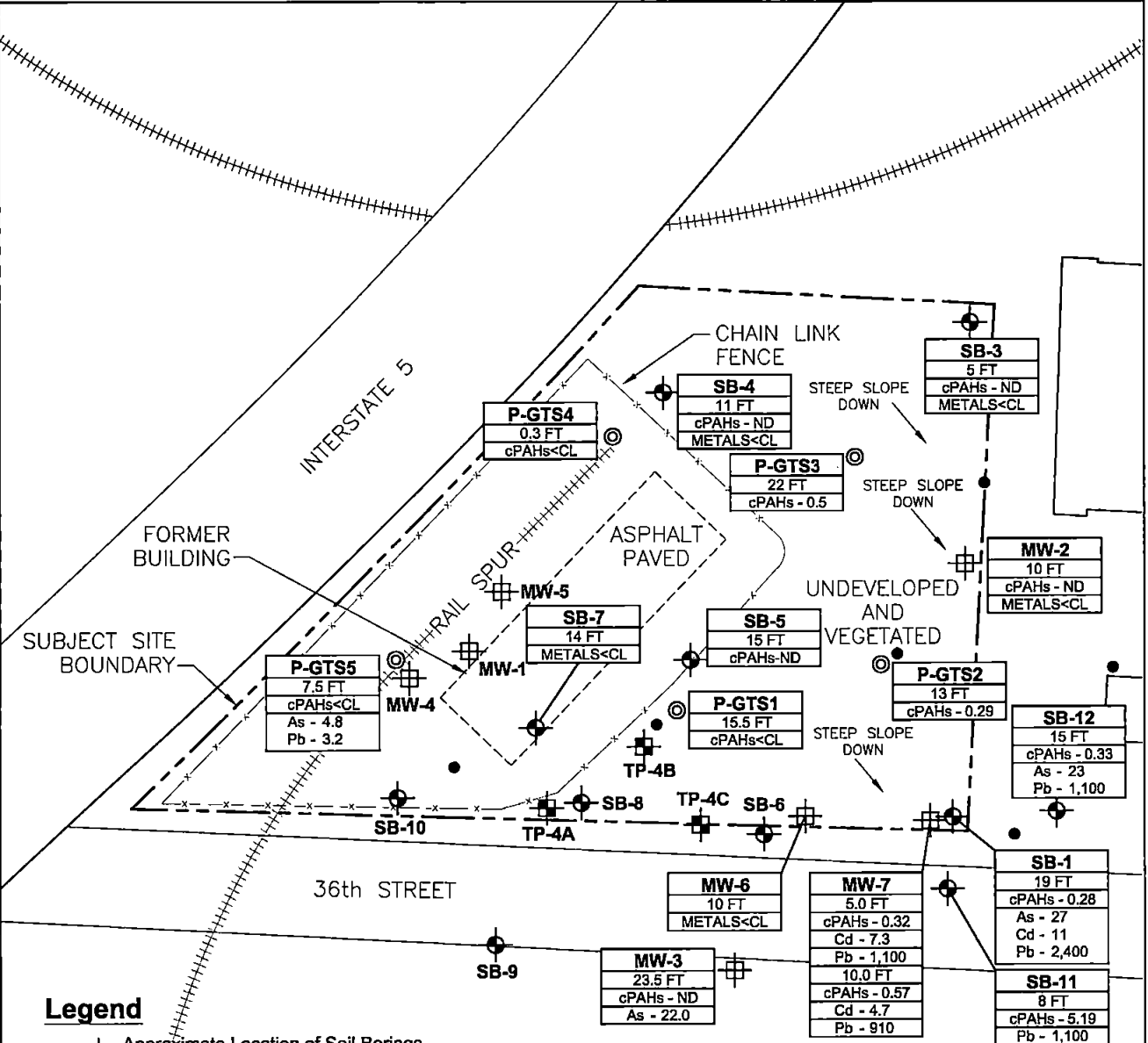
Summary of Petroleum Hydrocarbon Data for Soil (mg/Kg)	
Former GTS Drywall Site Everett, Washington	
GEOENGINEERS	Figure 3

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Summary of Groundwater Analytical Results (µg/L)	
Former GTS Drywall Site Everett, Washington	
GEOENGINEERS	Figure 5

SPT:BMK 08/17/07 Image:YES
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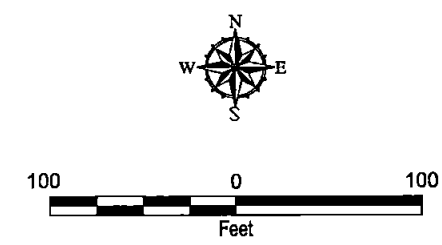
Legend

- SB-3** Approximate Location of Soil Borings Completed by GeoEngineers
- MW-1** Approximate Location of Groundwater Monitoring Wells Completed by GeoEngineers
- Approximate Location of Borings Completed by Shannon and Wilson
- TP-4A** Test Pit Location
- Existing Piezometer
- < CL** Reported Analytical Results do not Exceed Applicable Screening Levels
- > CL** Reported Analytical Results Exceed Applicable Screening Levels
- ND** Not Detected Above Laboratory Sample Quantitation Limit

Notes:

- The locations of all features shown are approximate.
- This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Drawing base from Shannon and Wilson, entitled Exploration Plan Water Quality Site #2 West Parcel, Figure 5, dated 10-06-2004, AutoCAD File 21-1-09375-009- Fig 5 (10-04).dwg.



Summary of cPAH and Metals Data for Soil (mg/Kg)	
Former GTS Drywall Site Everett, Washington	
GEOENGINEERS	Figure 4



ATTACHMENT A
GEOENGINEERS FIELD EXPLORATION LOGS



SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% RETAINED ON NO. 200 SIEVE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS <small>(LITTLE OR NO FINES)</small>		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
		CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SW	WELL-GRADED SANDS, GRAVELLY SANDS
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SP	POORLY-GRADED SANDS, GRAVELLY SAND
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SM	SILTY SANDS, SAND - SILT MIXTURES
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY	
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS	
			CH	INORGANIC CLAYS OF HIGH PLASTICITY	
			OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY	
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

Sampler Symbol Descriptions

- 2.4-inch I.D. split barrel
- Standard Penetration Test (SPT)
- Shelby tube
- Piston
- Direct-Push
- Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS		TYPICAL DESCRIPTIONS
GRAPH	LETTER	
	CC	Cement Concrete
	AC	Asphalt Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

- Measured groundwater level in exploration, well, or piezometer
- Groundwater observed at time of exploration
- Perched water observed at time of exploration
- Measured free product in well or piezometer

Stratigraphic Contact

- Distinct contact between soil strata or geologic units
- Gradual change between soil strata or geologic units
- Approximate location of soil strata change within a geologic soil unit

Laboratory / Field Tests

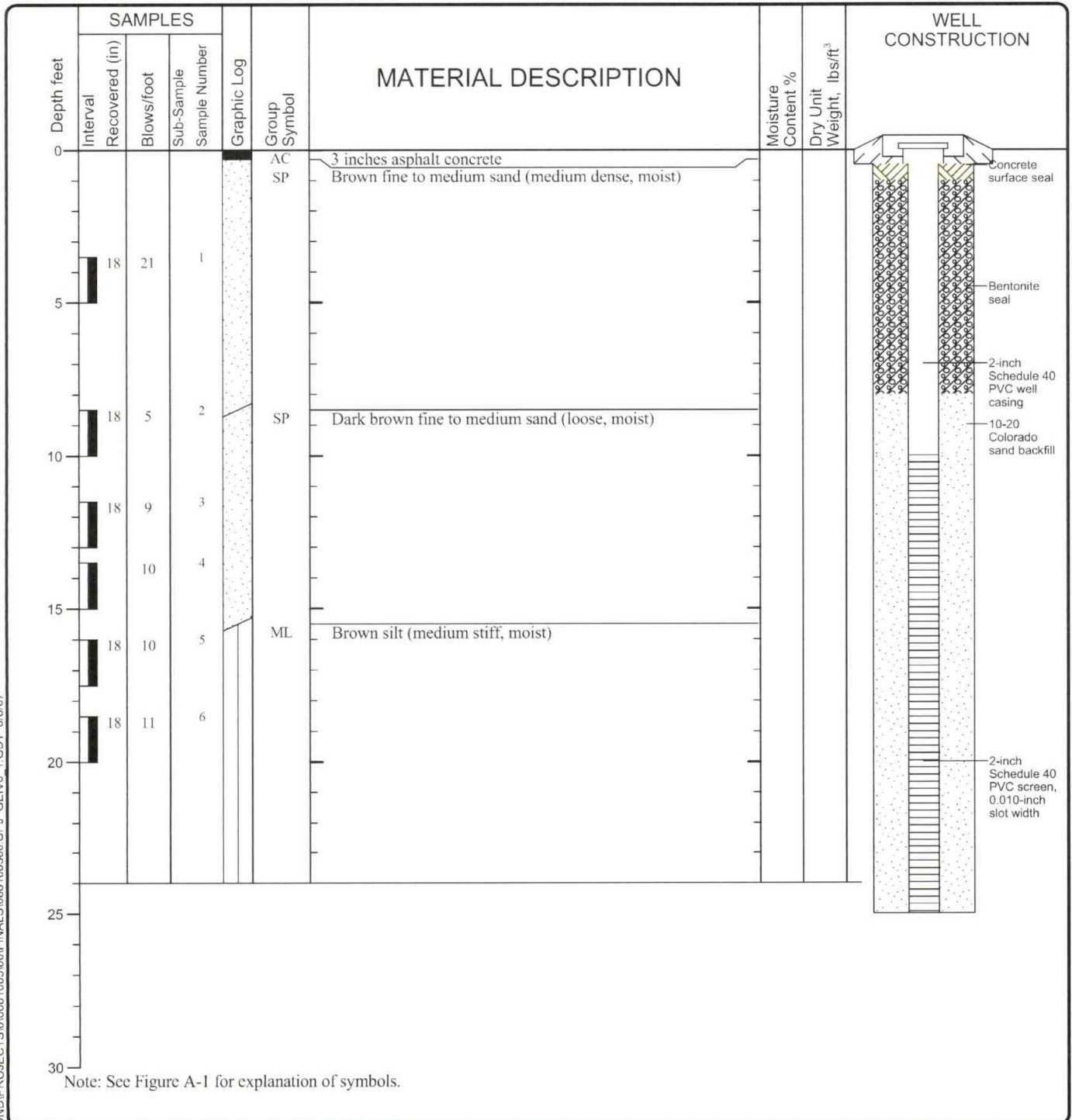
- %F Percent fines
- AL Atterberg limits
- CA Chemical analysis
- CP Laboratory compaction test
- CS Consolidation test
- DS Direct shear
- HA Hydrometer analysis
- MC Moisture content
- MD Moisture content and dry density
- OC Organic content
- PM Permeability or hydraulic conductivity
- PP Pocket penetrometer
- SA Sieve analysis
- TX Triaxial compression
- UC Unconfined compression
- VS Vane shear

Sheen Classification

- NS No Visible Sheen
- SS Slight Sheen
- MS Moderate Sheen
- HS Heavy Sheen
- NT Not Tested

KEY TO EXPLORATION LOGS

Date(s) Drilled	01/19/07	Logged By	HS	Checked By	SPT
Drilling Contractor	Boart Longyear	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger Data	4 1/4" ID	Hammer Data	140 lb hammer/30 in drop Automatic	Drilling Equipment	CME-75
Total Exploration Depth (ft)	24	Ground Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/System		Easting(x): Northing(y):	



V6 GTWELL WA REDMOND\PROJECTS\066106500\FINALS\066106500.GPJ GEIV6 1.GDT 8/8/07

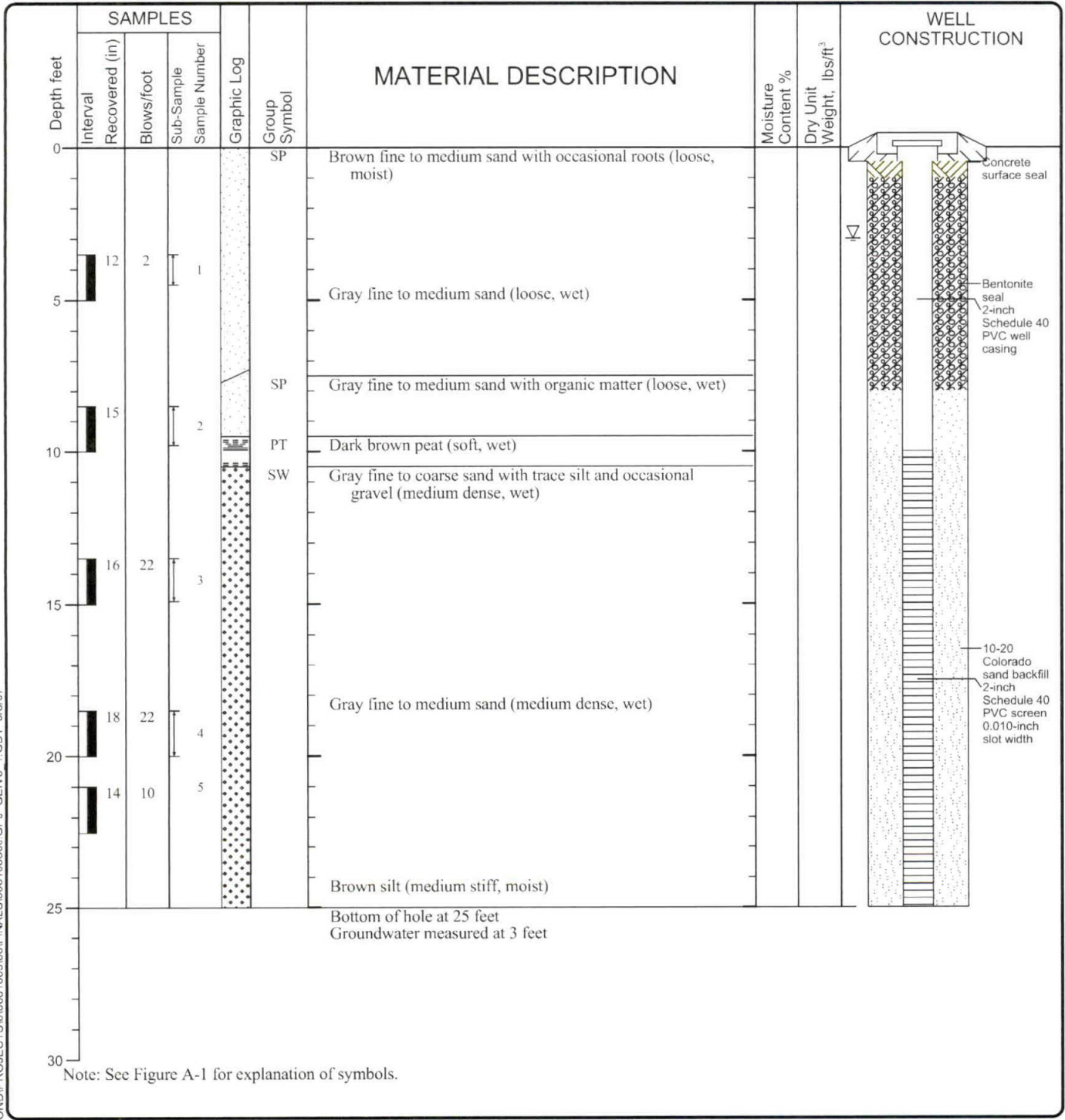
LOG OF MONITORING WELL MW-1



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-2
 Sheet 1 of 1

Date(s) Drilled	01/18/06	Logged By	HS	Checked By	SPT
Drilling Contractor	Boart Longyear	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger Data	4 1/4" ID	Hammer Data	140 lb hammer/30 in drop Automatic	Drilling Equipment	CME-75
Total Exploration Depth (ft)	25	Ground Surface Elevation (ft)		Groundwater Level (ft. bgs)	3
Vertical Datum		Datum/System		Easting(x): Northing(y):	



LOG OF MONITORING WELL MW-2

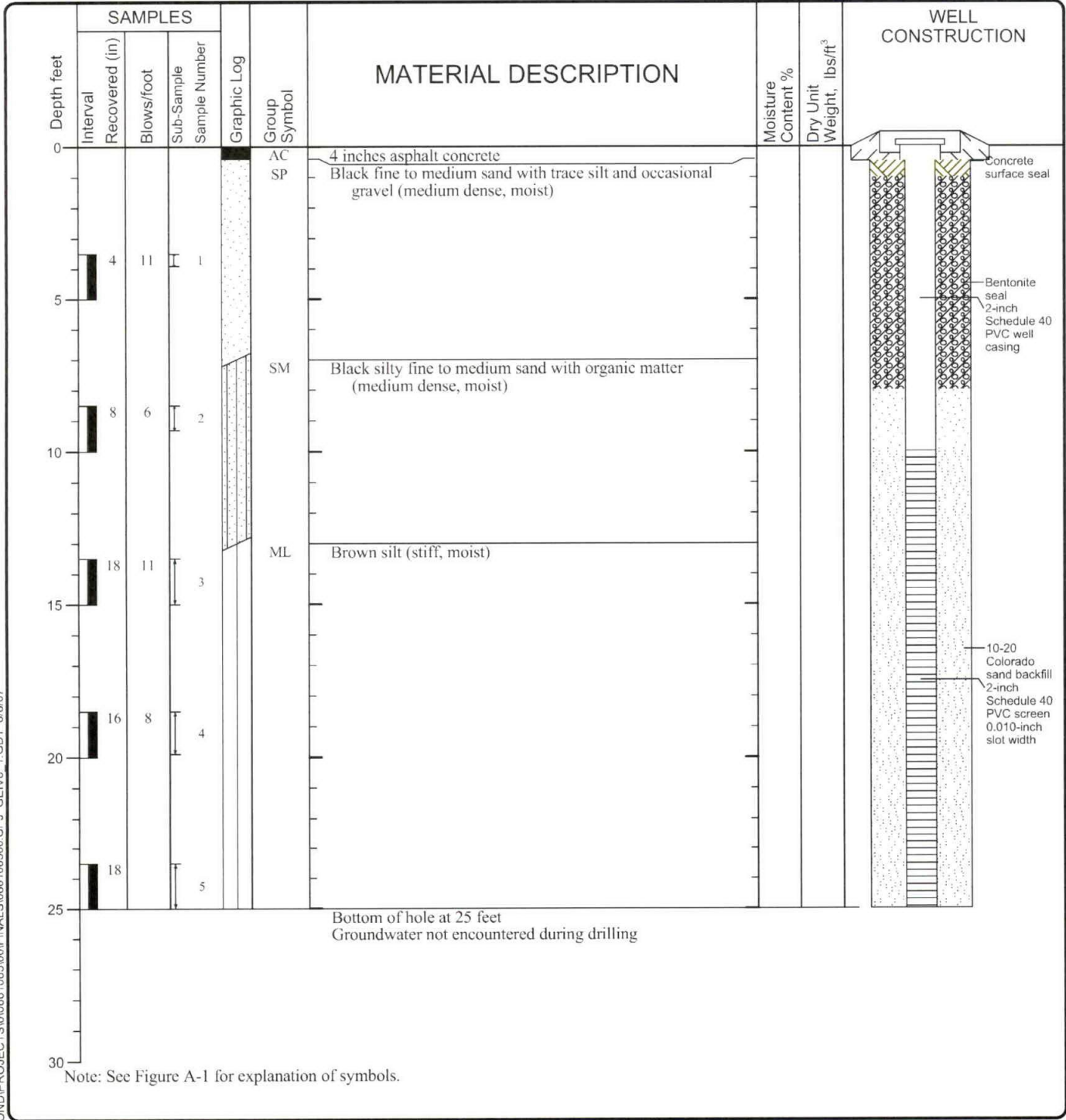


Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

FIGURE A-3
 Sheet 1 of 1

V6_GTWELL_WI\REDMOND\PROJECTS\10661065\00\FINALS\10661065\00.GPJ GEIV6_1.GDT 8/8/07

Date(s) Drilled	01/18/06	Logged By	HS	Checked By	SPT
Drilling Contractor	Boart Longyear	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger Data	4 1/4" ID	Hammer Data	140 lb hammer/30 in drop Automatic	Drilling Equipment	CME-75
Total Exploration Depth (ft)	25	Ground Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/System		Easting(x): Northing(y):	



V6_GTWELL_WA\REDMOND\PROJECTS\066106500\FINAL\066106500.GPJ_GEIV6_1.GDT_8/8/07

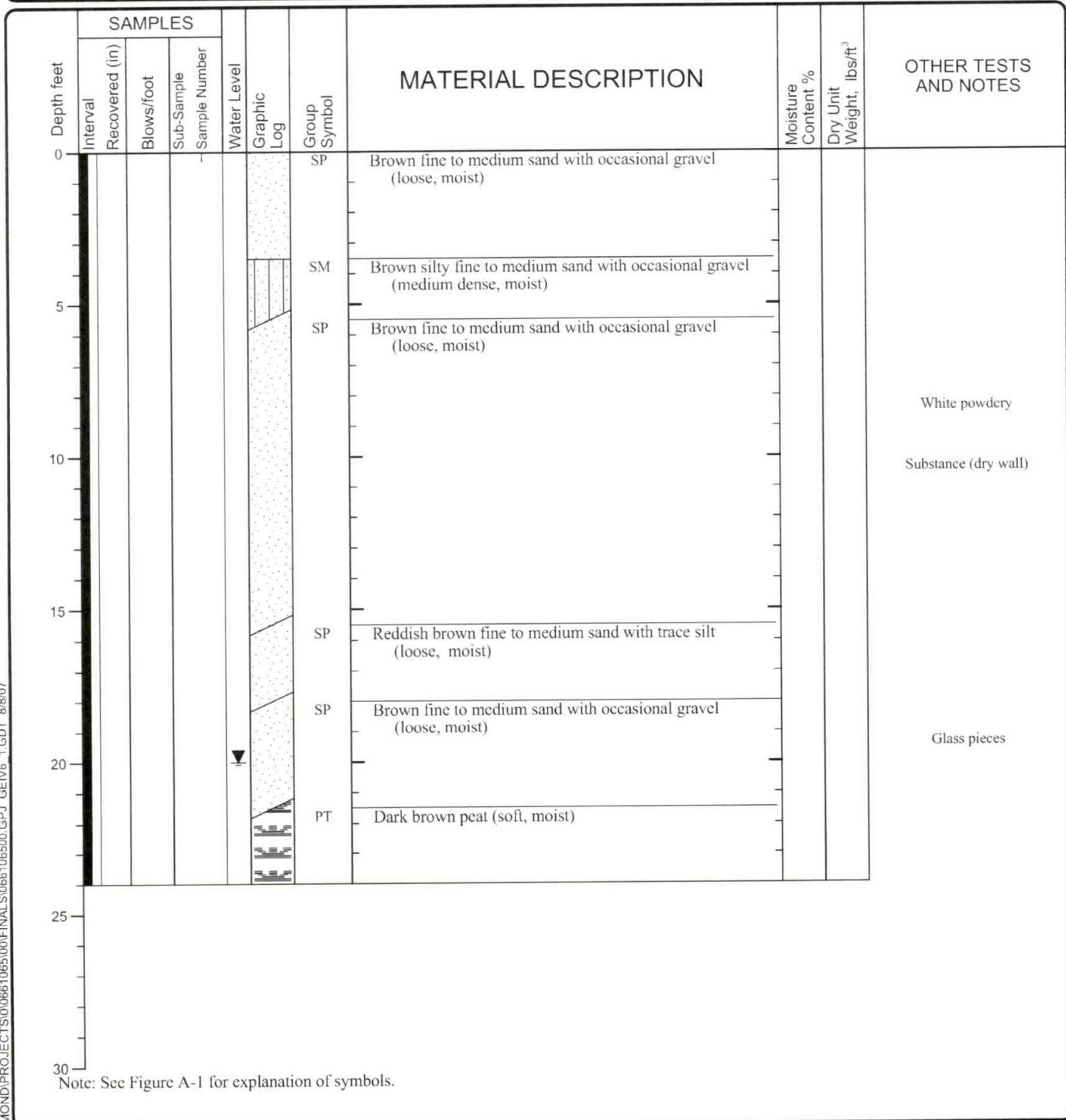
LOG OF MONITORING WELL MW-3




Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

FIGURE A-4
 Sheet 1 of 1

Date(s) Drilled	11/06/06	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	24	Surface Elevation (ft)		Groundwater Level (ft. bgs)	20
Vertical Datum		Datum/System		Easting(x):	Northing(y):



V6 GTBORING W:\REDMOND\PROJECTS\0\066106500\FINAL\066106500.GPJ GEIV6 1.GDT 8/8/07


LOG OF BORING SB-1		
	Project:	Former GTS Drywall
	Project Location:	Everett, Washington
	Project Number:	0661-065-00
		Figure A-5 Sheet 1 of 1

Date(s) Drilled	01/19/07	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	20	Surface Elevation (ft)		Groundwater Level (ft. bgs)	6.5
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

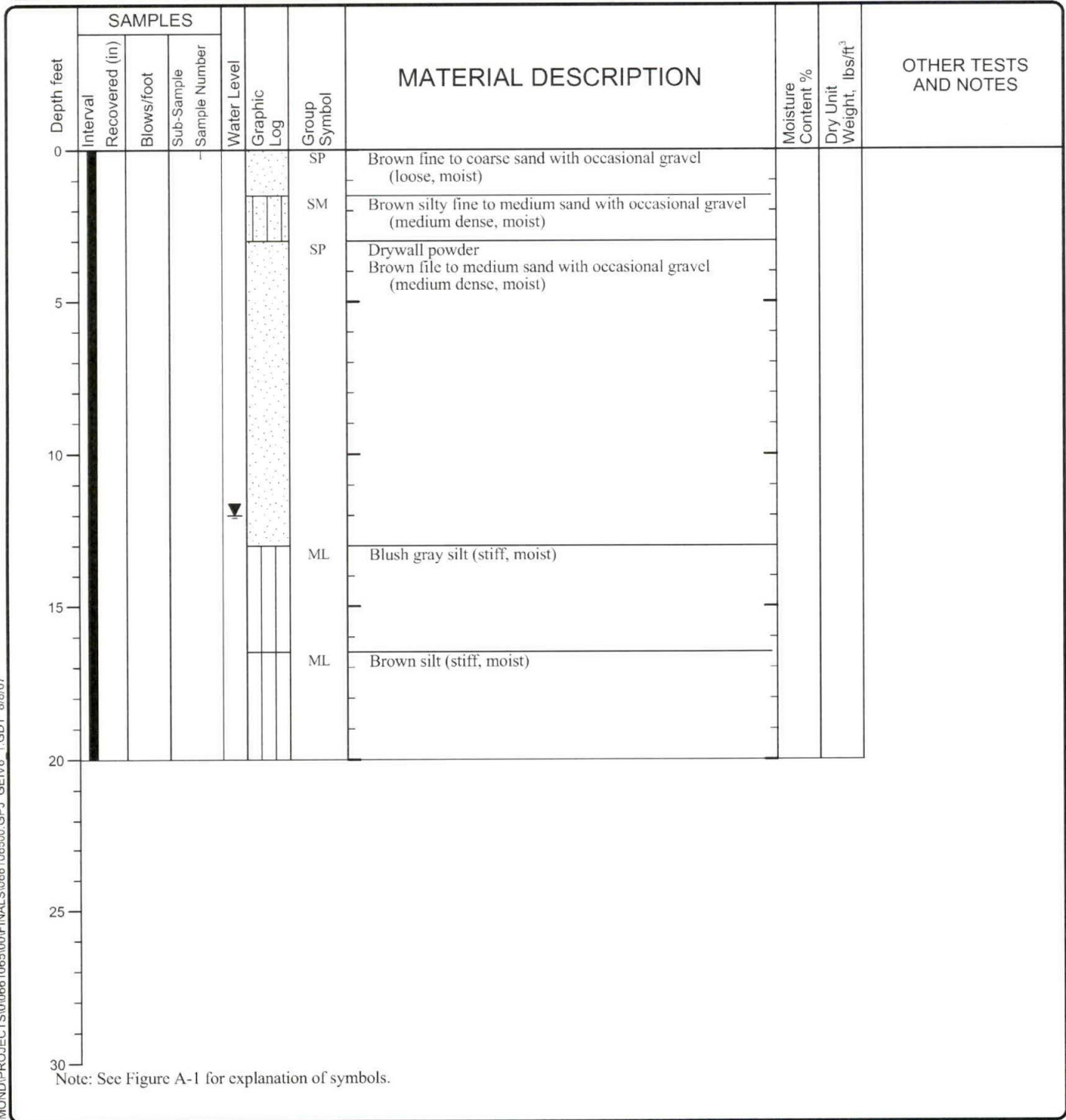
Depth feet	SAMPLES				Water Level Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft ³	OTHER TESTS AND NOTES
	Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number						
0						SP	Dark brown for medium sand with organic material (loose, moist)			
						SP	Brown fine to medium sand with trace silt (medium dense, moist)			
5						SP	Gray fine to medium sand with silt (medium dense, wet)			
						PT	Dark brown peat (soft, wet)			
						SP	Gray fine to medium sand (loose, wet)			
15						ML	Bluish gray silt (stiff, moist)			
						ML	Brown silt (stiff, moist)			
20										
25										
30										

Note: See Figure A-1 for explanation of symbols.


V6 GTBORING W:\REDMOND\PROJECTS\00661065\00\FINALS\066106500.GPJ GEIV6 1.GDT 8/8/07

LOG OF BORING SB-3		
	Project:	Former GTS Drywall
	Project Location:	Everett, Washington
	Project Number:	0661-065-00
		Figure A-6 Sheet 1 of 1

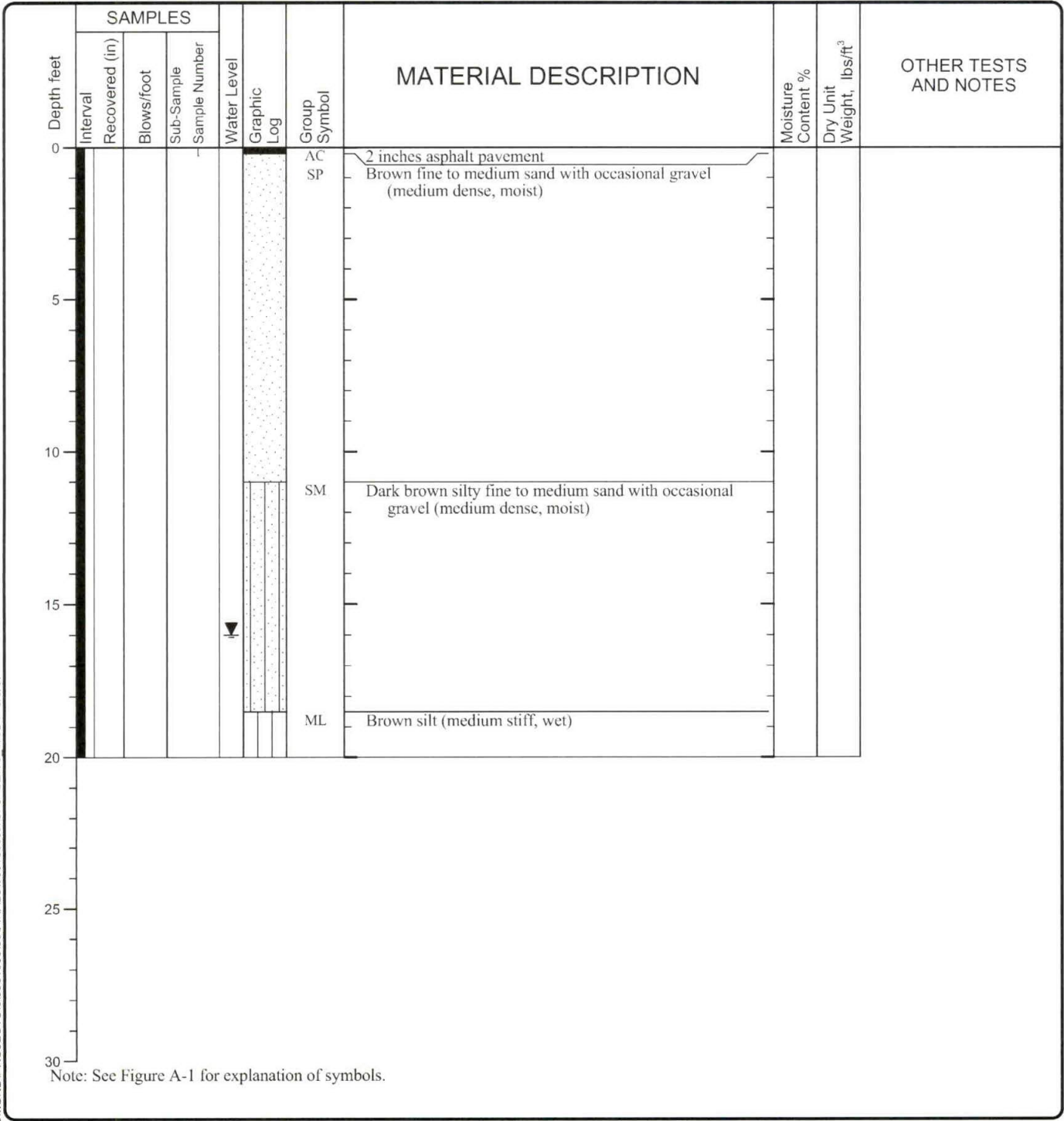
Date(s) Drilled	01/19/07	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	20	Surface Elevation (ft)		Groundwater Level (ft. bgs)	12
Vertical Datum		Datum/System		Easting(x): Northing(y):	



V6 GTBORING W:\REDMOND\PROJECTS\0\0661065\00\FINALS\066106500.GPJ.GEIV6_1.GDT_8/8/07

LOG OF BORING SB-4		
	Project:	Former GTS Drywall
	Project Location:	Everett, Washington
	Project Number:	0661-065-00
		Figure A-7 Sheet 1 of 1

Date(s) Drilled	11/06/06	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	20	Surface Elevation (ft)		Groundwater Level (ft. bgs)	16
Vertical Datum		Datum/System		Easting(x): Northing(y):	



V6_GTBORING W:\REDMOND\PROJECTS\006661065\00\FINALS\066106500.GPJ GEIV6_1.GDT 8/8/07

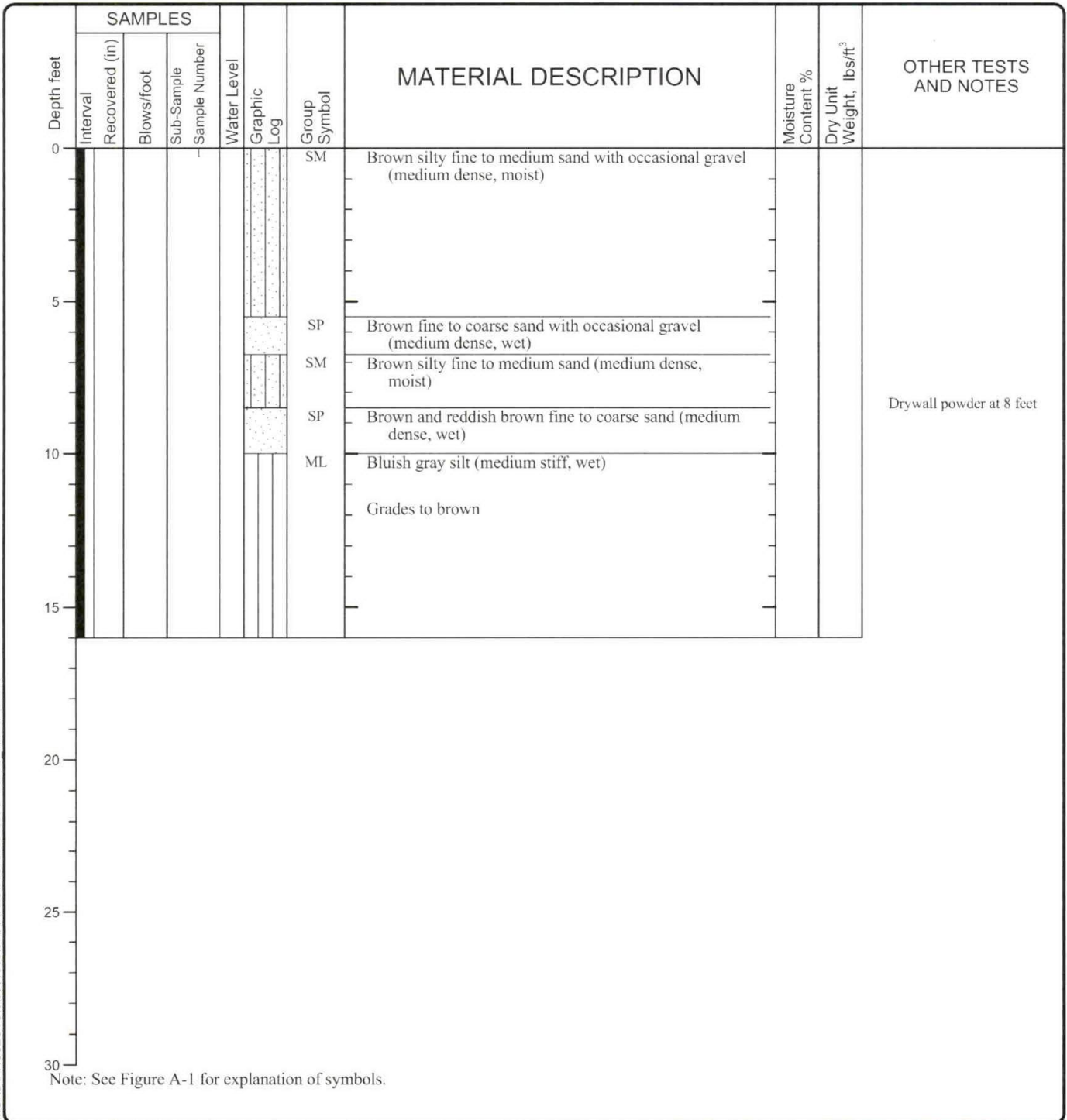
LOG OF BORING SB-5



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-8
 Sheet 1 of 1

Date(s) Drilled	11/06/06	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	16	Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/System		Easting(x): Northing(y):	



V6_GTBORING_W:\REDMOND\PROJECTS\0\0661065\00\FINALS\066106500.GPJ_GEIV6_1.GDT_8/8/07

LOG OF BORING SB-6



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-9
 Sheet 1 of 1

Date(s) Drilled	11/06/06	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	20	Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/System		Easting(x): Northing(y):	

Depth feet	SAMPLES					Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft ³	OTHER TESTS AND NOTES
	Interval	Recovered (in)	Blows/foot	Sub-Sample	Sample Number							
0								CC	Concrete			
								SP	Brown fine to medium sand with trace silt (medium dense, moist)			
5												
10												
								SM	Dark brown silty fine to medium sand with occasional gravel (medium dense, moist)			
15									Grades to gray			
20								ML	Brown silt (medium stiff, moist)			
25												
30												

Note: See Figure A-1 for explanation of symbols.

V6_GTBORING_W:\REDMOND\PROJECTS\00661065\00\FINALS\066106500.GPJ_GEIV6_1.GDT 8/8/07

LOG OF BORING SB-7



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-10
 Sheet 1 of 1

Date(s) Drilled	11/06/06	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	20	Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES					Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft ³	OTHER TESTS AND NOTES
	Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Water Level					
0						SM	Brown silty fine to medium sand with occasional gravel (medium dense, moist)			
						SP	Brown fine to coarse sand with occasional gravel (medium dense, moist)			
5						SM	Brown silty fine to medium sand (medium dense, moist)			
						SP	Brown fine to coarse sand (medium dense, wet)			
10						ML	Brown silt (medium stiff, moist)			
							Grades to gray			
15										
20										
25										
30										

Note: See Figure A-1 for explanation of symbols.

V6_GTBORING W:\REDMOND\PROJECTS\0661065\00\FINALS\066106500.GPJ GEIV6_1.GDT 8/8/07

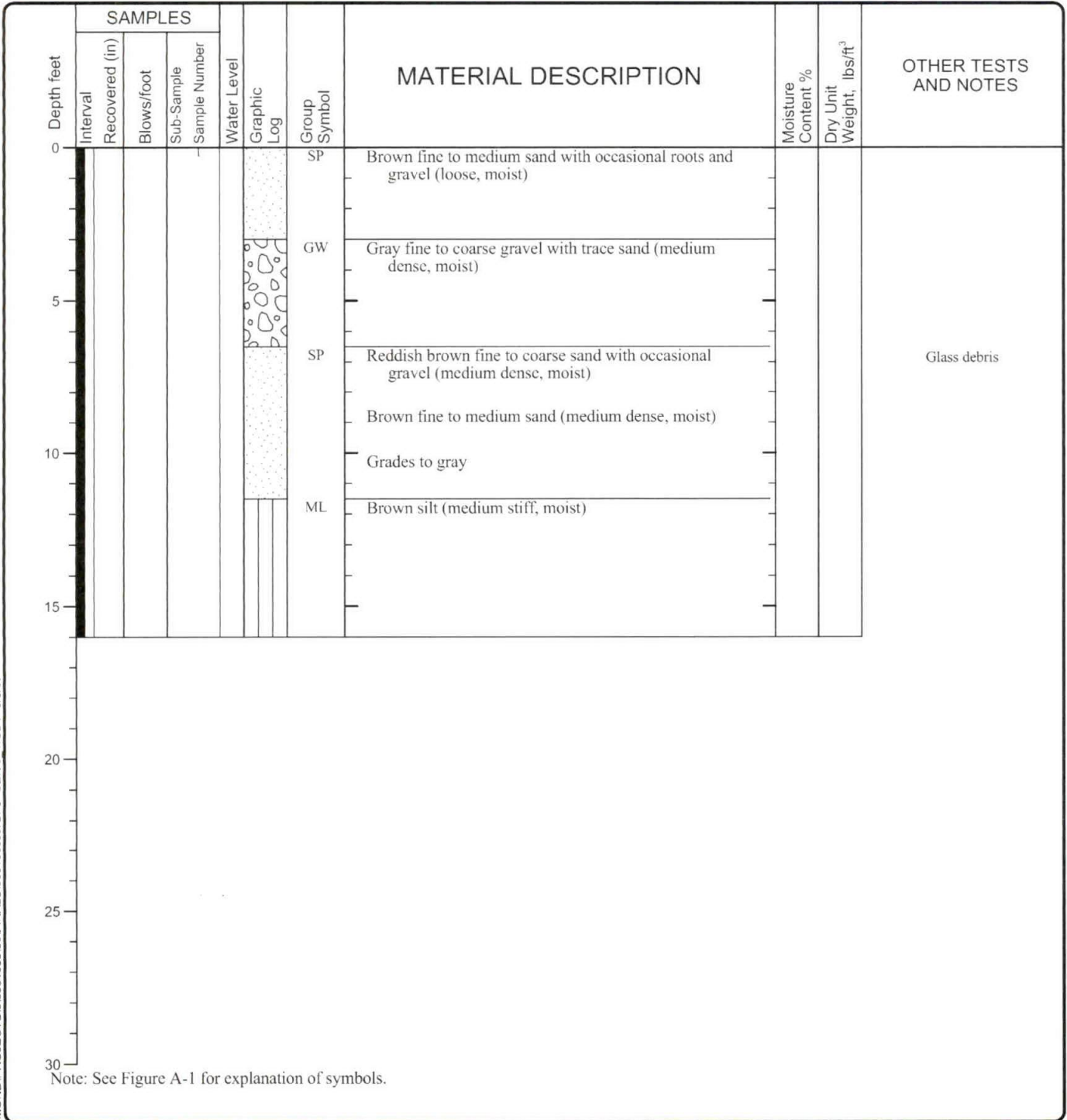
LOG OF BORING SB-8



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-11
 Sheet 1 of 1

Date(s) Drilled	11/06/06	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	16	Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/System		Easting(x):	Northing(y):



V6_GTBORING_W\REDMOND\PROJECTS\0661065\00\FINALS\066106500.GPJ_GEIV6_1.GDT 8/9/07

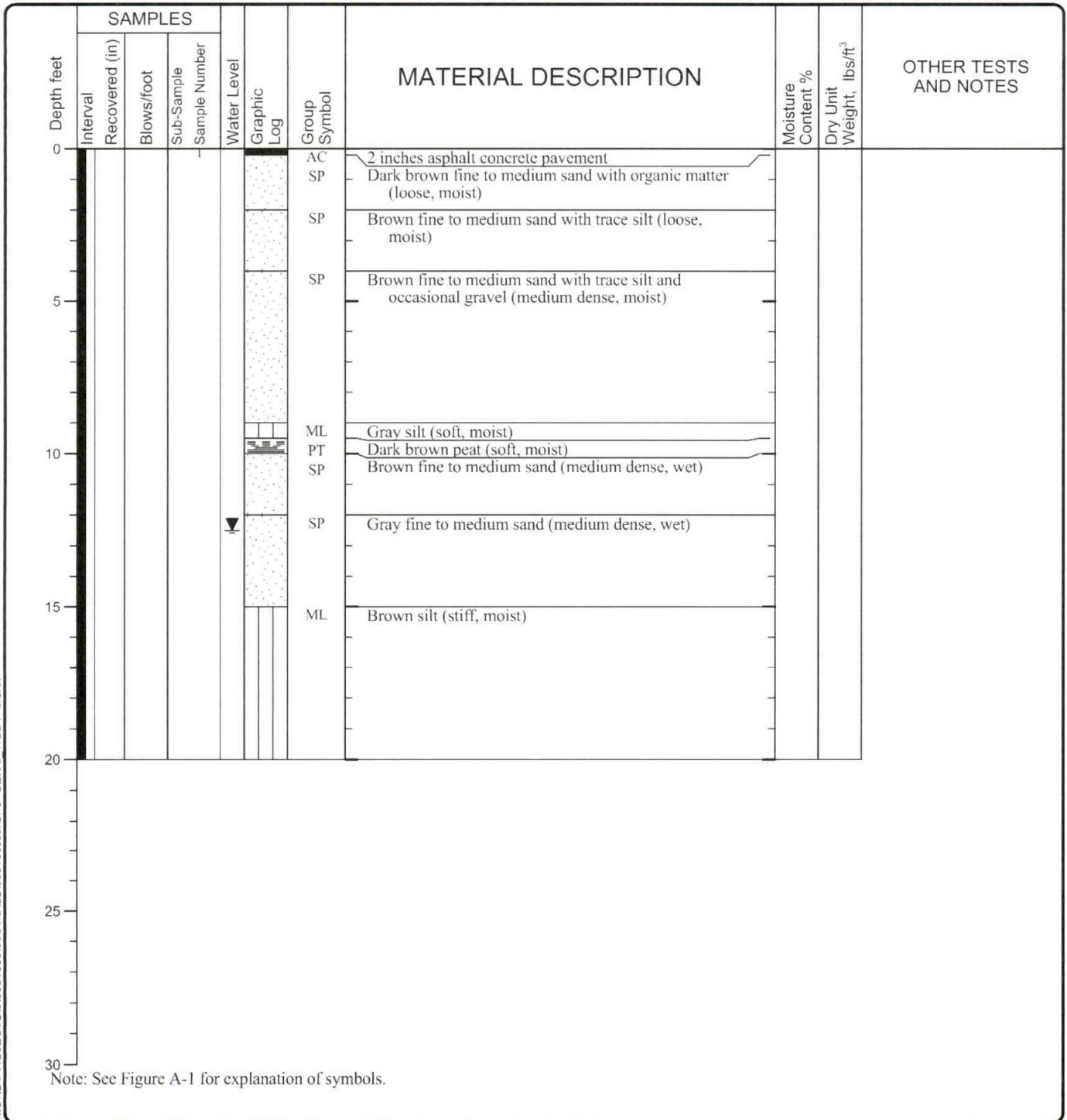
LOG OF BORING SB-9




Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-12
 Sheet 1 of 1

Date(s) Drilled	01/19/07	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	20	Surface Elevation (ft)		Groundwater Level (ft. bgs)	12.5
Vertical Datum		Datum/System		Easting(x): Northing(y):	



V6_GTBORING_WIREDMONDI\PROJECTS\0661065\00\FINALS\066106500.GPJ_GEIV6_1.GDT_8/8/07

LOG OF BORING SB-10		
	Project:	Former GTS Drywall
	Project Location:	Everett, Washington
	Project Number:	0661-065-00
		Figure A-13 Sheet 1 of 1

Date(s) Drilled	01/19/07	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	20	Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/System		Easting(x): Northing(y):	

Depth feet	SAMPLES					Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft ³	OTHER TESTS AND NOTES
	Interval	Recovered (in)	Blows/foot	Sub-Sample	Sample Number							
0								AC	2 inches asphalt concrete			
								SP	Brown fine to medium sand (loose, moist)			
								SM	Gray silty fine to medium sand (medium dense, moist)			
								GW	Gray fine to coarse gravel with trace sand (medium dense, moist)			
								SM	Brown silty fine to medium sand with occasional gravel (medium dense, moist)			
5									Grades to reddish brown			
								SM	Brown silty fine to medium sand (medium dense, moist)			
10								SP	Brown fine to medium sand with occasional gravel (loose, moist)			
15								SP	Brown fine to medium sand (loose, moist)			
20												
25												
30												

Note: See Figure A-1 for explanation of symbols.

V6_GTBORING W:\REDMOND\PROJECTS\0661065\00\FINALS\066106500.GPJ GEIV6 1.GDT 8/8/07

LOG OF BORING SB-11



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-14
 Sheet 1 of 1

Date(s) Drilled	01/19/07	Logged By	HS	Checked By	SPT
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Geoprobe Macrocore sampler with acetate liner
Auger Data		Hammer Data	Pneumatic Hammer	Drilling Equipment	Truck Mounted Drill Rig
Total Depth (ft)	20	Surface Elevation (ft)		Groundwater Level (ft. bgs)	16.5
Vertical Datum		Datum/ System		Easting(x): Northing(y):	

Depth feet	SAMPLES				Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft ³	OTHER TESTS AND NOTES
	Interval	Recovered (in)	Blows/foot	Sub-Sample							
0						AC	2 inches asphalt concrete				
						GW	Gray fine to coarse gravel (medium dense, moist)				
						SP	Brown fine to medium sand (medium dense, moist)				
						SM	Brown silty fine to medium sand with occasional gravel (medium dense, moist)				
5						SP	Brown, reddish brown and black fine to medium sand with occasional gravel, glass debris (medium dense, moist)				
						SM	Brown fine to medium sand with occasional gravel (loose, moist)				
10						SP	Brown fine to medium sand with occasional gravel (loose, moist)				
						SP	Reddish brown fine to medium sand with occasional gravel (loose, moist)				
15						SP	Brown fine to medium sand (loose, moist)				
20											
25											
30											

Note: See Figure A-1 for explanation of symbols.

V6-GTBORING W:\REDMOND\PROJECTS\0661065\001\FINALS\0661065\00.GPJ GEIV6 1.GDT 8/8/07

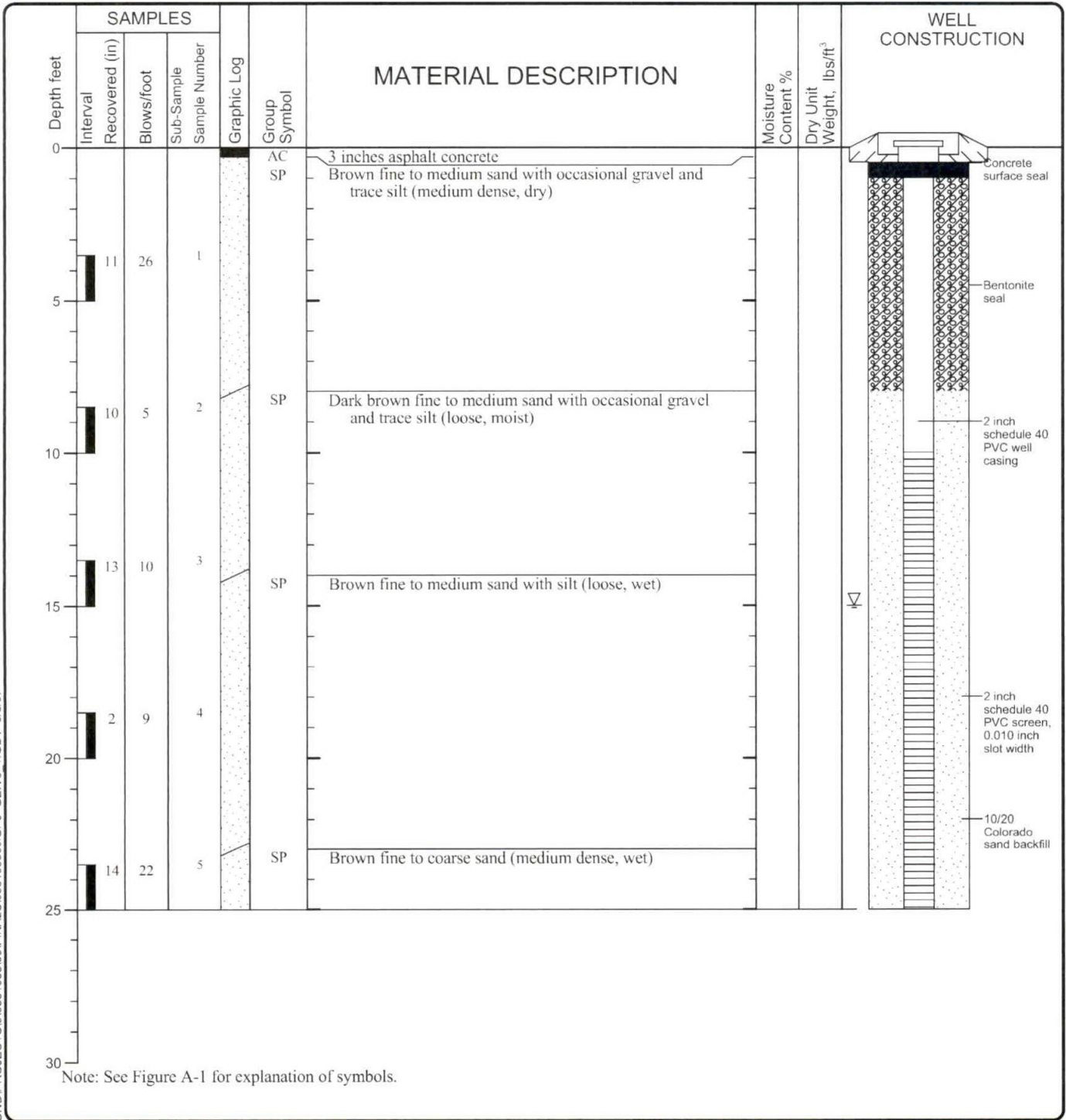
LOG OF BORING SB-12



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-15
 Sheet 1 of 1

Date(s) Drilled	06/06/07	Logged By	HS	Checked By	SPT
Drilling Contractor	Boart Longyear	Drilling Method	Hollow Stem Auger	Sampling Methods	SPT
Auger Data	4 1/4" ID	Hammer Data	140 lb hammer/30 in drop Automatic	Drilling Equipment	CME-75
Total Exploration Depth (ft)	25	Ground Surface Elevation (ft)		Groundwater Level (ft. bgs)	15
Vertical Datum		Datum/ System		Easting(x): Northing(y):	



V6-GTWELL-WA-REDMOND\PROJECTS\0661-065-00\FINALS\0661-065-00-GP1-GEIV6_1.GDT_8/8/07

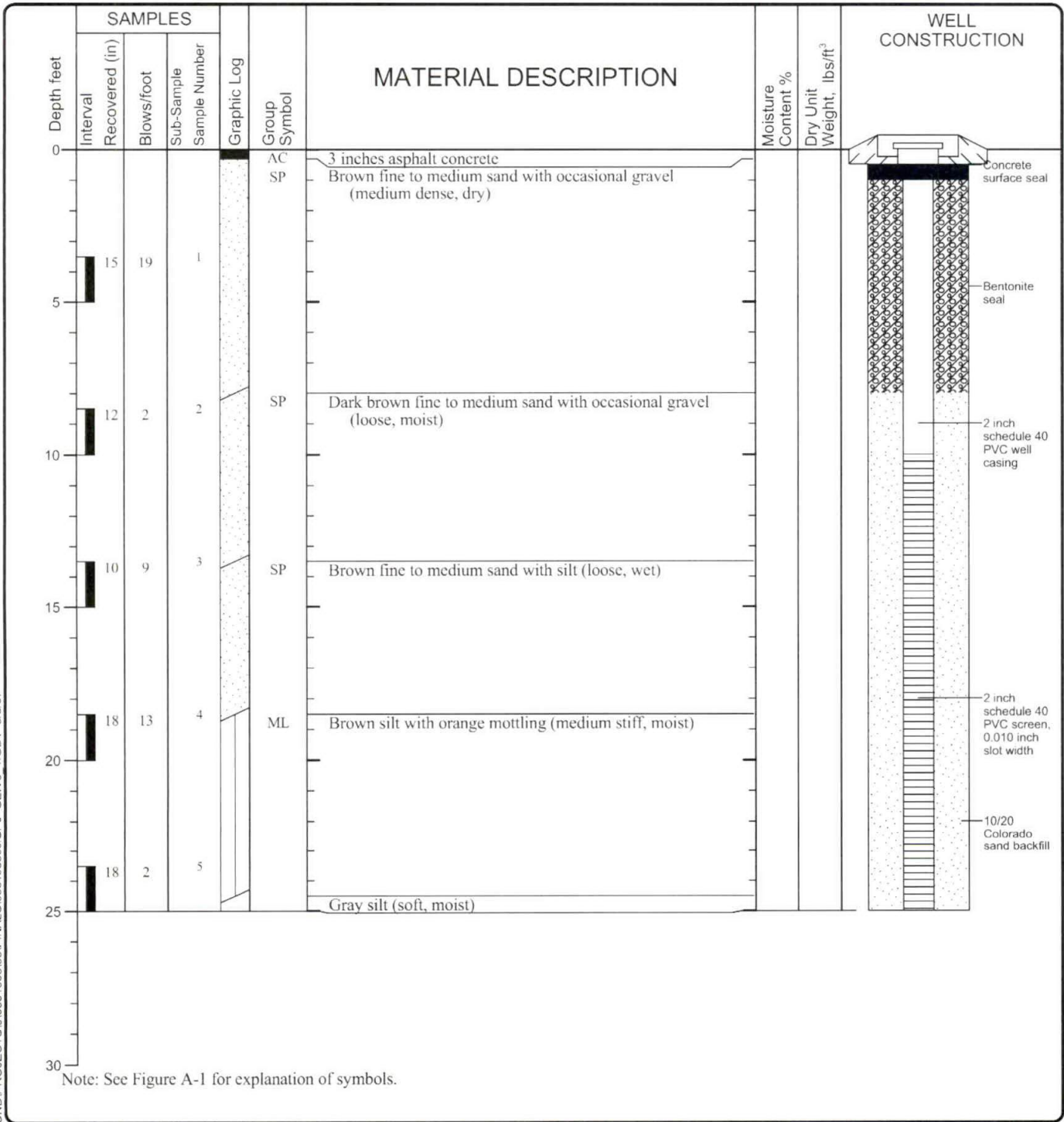
LOG OF MONITORING WELL MW-4



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-16
 Sheet 1 of 1

Date(s) Drilled	06/06/07	Logged By	HS	Checked By	SPT
Drilling Contractor	Boart Longyear	Drilling Method	Hollow Stem Auger	Sampling Methods	SPT
Auger Data	4 1/4" ID	Hammer Data	140 lb hammer/30 in drop Automatic	Drilling Equipment	CME-75
Total Exploration Depth (ft)	25	Ground Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/ System		Easting(x): Northing(y):	



V6 GTWELL W:\REDMOND\PROJECTS\0661-065-00\FINAL\0661-065-00-GP-J-GEIV6 1.GDT 8/6/07

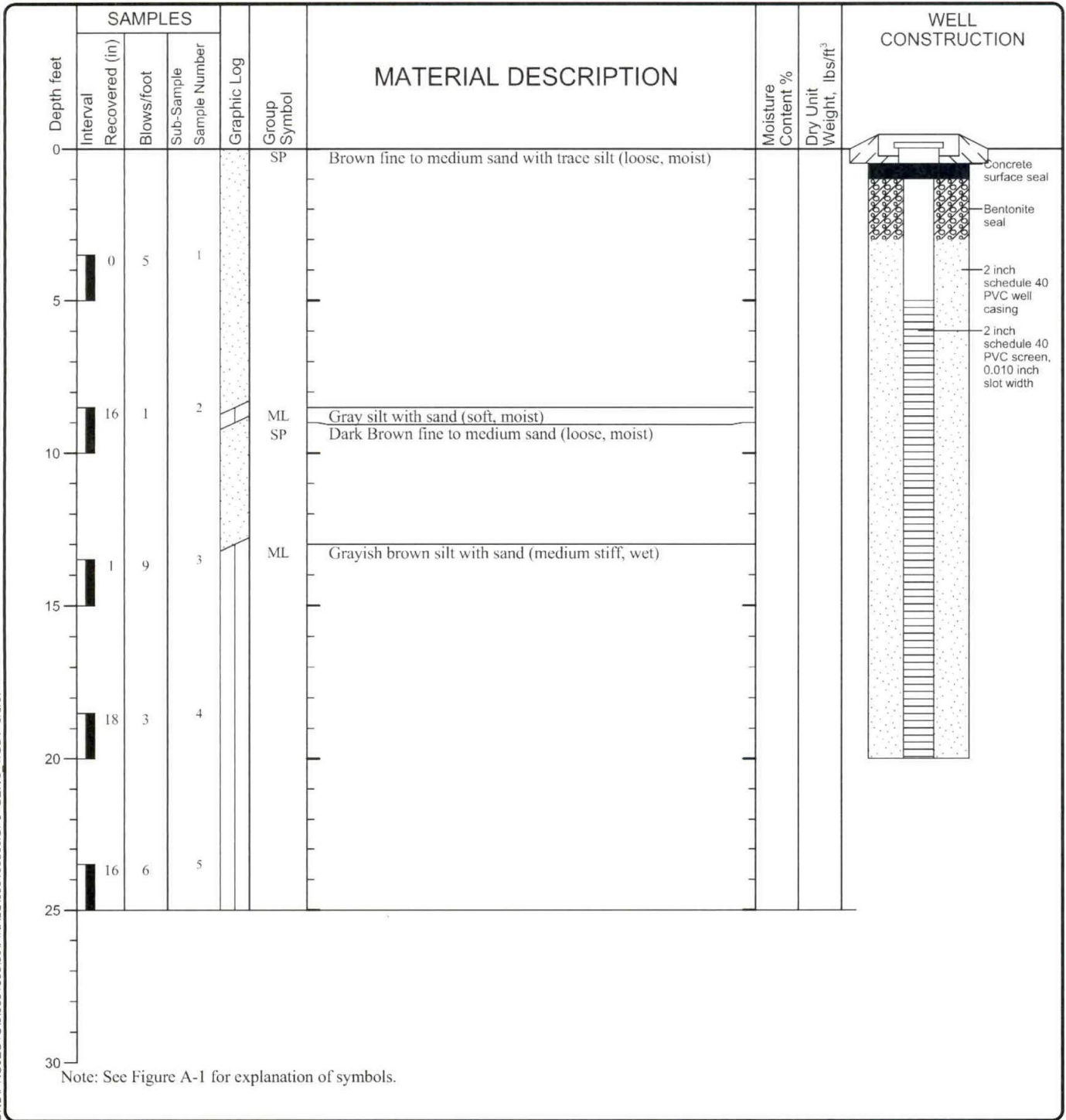
LOG OF MONITORING WELL MW-5



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-17
 Sheet 1 of 1

Date(s) Drilled	06/07/07	Logged By	HS	Checked By	SPT
Drilling Contractor	Boart Longyear	Drilling Method	Hollow Stem Auger	Sampling Methods	SPT
Auger Data	4 1/4" ID	Hammer Data	140 lb hammer/30 in drop Automatic	Drilling Equipment	CME-75
Total Exploration Depth (ft)	25	Ground Surface Elevation (ft)		Groundwater Level (ft. bgs)	Not Encountered
Vertical Datum		Datum/ System		Easting(x): Northing(y):	



V6_GTWELL_W:REDMOND\PROJECTS\0661-065-00\FINALS\0661-065-00.GPJ_GEIV6_1.GDT_8/8/07

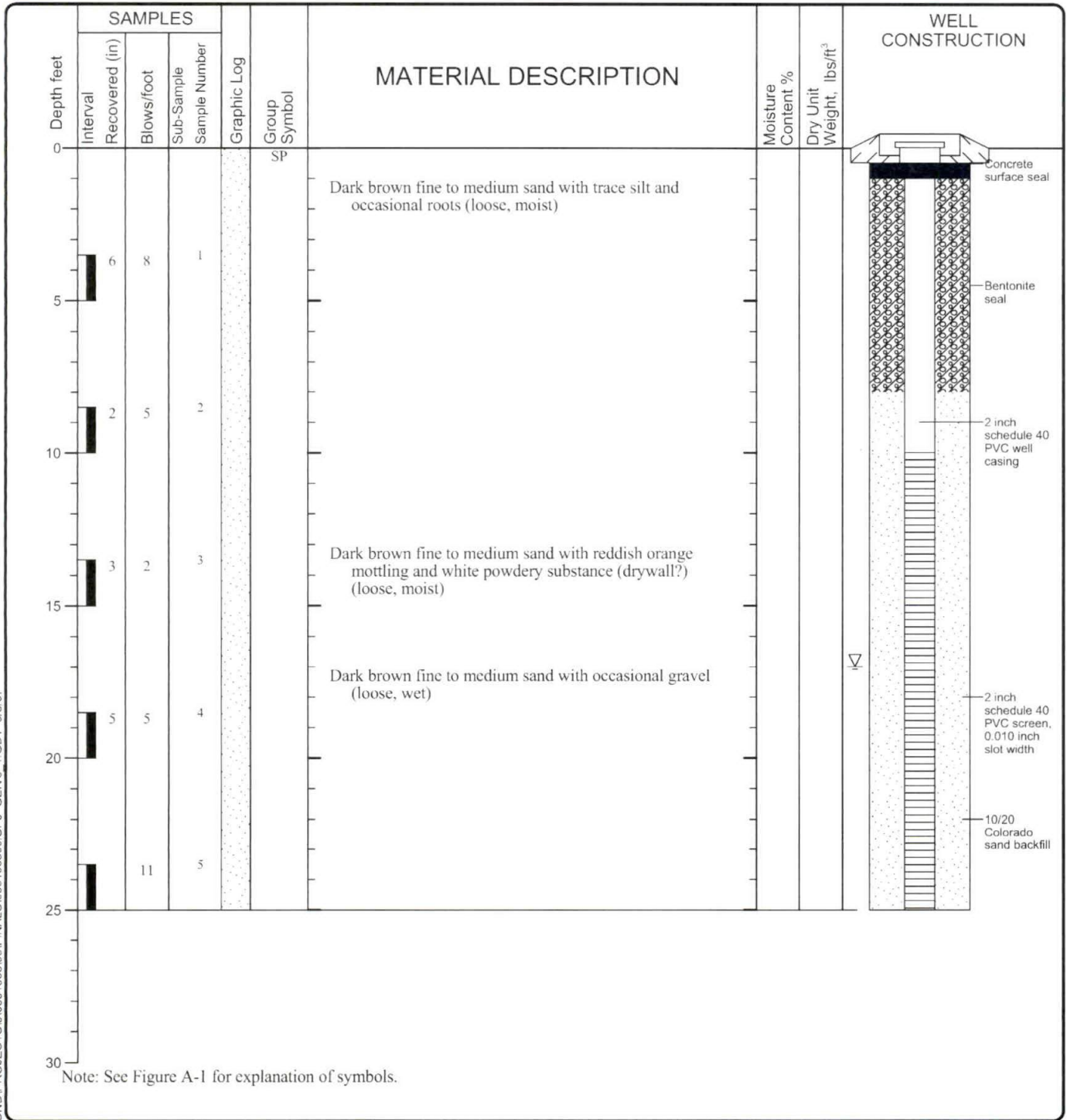
LOG OF MONITORING WELL MW-6



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-18
 Sheet 1 of 1

Date(s) Drilled	06/07/07	Logged By	HS	Checked By	SPT
Drilling Contractor	Boart Longyear	Drilling Method	Hollow Stem Auger	Sampling Methods	SPT
Auger Data	4 1/4" ID	Hammer Data	140 lb hammer/30 in drop Automatic	Drilling Equipment	CME-75
Total Exploration Depth (ft)	25	Ground Surface Elevation (ft)		Groundwater Level (ft. bgs)	17
Vertical Datum		Datum/ System		Easting(x): Northing(y):	



V6-GTWELL-WI:REDMONDI\PROJECTS\066106500\FINALS\066106500.GPJ GEIV6_1.GDT 8/8/07

LOG OF MONITORING WELL MW-7



Project: Former GTS Drywall
 Project Location: Everett, Washington
 Project Number: 0661-065-00

Figure A-19
 Sheet 1 of 1



ATTACHMENT B
SHANNON & WILSON FIELD EXPLORATION LOGS



Shannon & Wilson, Inc. (S&W), uses a soil classification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following page. Soil descriptions are based on visual-manual procedures (ASTM D 2488-93) unless otherwise noted.

S&W CLASSIFICATION OF SOIL CONSTITUENTS

- MAJOR constituents compose more than 50 percent, by weight, of the soil. Major constituents are capitalized (i.e., SAND).
- Minor constituents compose 12 to 50 percent of the soil and precede the major constituents (i.e., silty SAND). Minor constituents preceded by "slightly" compose 5 to 12 percent of the soil (i.e., slightly silty SAND).
- Trace constituents compose 0 to 5 percent of the soil (i.e., slightly silty SAND, trace of gravel).

MOISTURE CONTENT DEFINITIONS

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

ABBREVIATIONS

ATD	At Time of Drilling
Elev.	Elevation
ft	feet
FeO	Iron Oxide
MgO	Magnesium Oxide
HSA	Hollow Stem Auger
ID	Inside Diameter
in	inches
lbs	pounds
Mon.	Monument cover
N	Blows for last two 6-inch increments
NA	Not applicable or not available
NP	Non plastic
OD	Outside diameter
OVA	Organic vapor analyzer
PID	Photo-ionization detector
ppm	parts per million
PVC	Polyvinyl Chloride
SS	Split spoon sampler
SPT	Standard penetration test
USC	Unified soil classification
WLI	Water level Indicator

GRAIN SIZE DEFINITION

DESCRIPTION	SIEVE NUMBER AND/OR SIZE
FINES	< #200 (0.08 mm)
SAND* - Fine - Medium - Coarse	#200 to #40 (0.08 to 0.4 mm) #40 to #10 (0.4 to 2 mm) #10 to #4 (2 to 5 mm)
GRAVEL* - Fine - Coarse	#4 to 3/4 inch (5 to 19 mm) 3/4 to 3 inches (19 to 76 mm)
COBBLES	3 to 12 inches (76 to 305 mm)
BOULDERS	> 12 inches (305 mm)

* Unless otherwise noted, sand and gravel, when present, range from fine to coarse in grain size.

RELATIVE DENSITY / CONSISTENCY

COARSE-GRAINED SOILS		FINE-GRAINED SOILS	
N, SPT, BLOWS/FT.	RELATIVE DENSITY	N, SPT, BLOWS/FT.	RELATIVE CONSISTENCY
0 - 4	Very loose	Under 2	Very soft
4 - 10	Loose	2 - 4	Soft
10 - 30	Medium dense	4 - 8	Medium stiff
30 - 50	Dense	8 - 15	Stiff
Over 50	Very dense	15 - 30	Very stiff
		Over 30	Hard

WELL AND OTHER SYMBOLS

	Bent. Cement Grout		Surface Cement Seal
	Bentonite Grout		Asphalt or Cap
	Bentonite Chips		Slough
	Silica Sand		Bedrock
	PVC Screen		
	Vibrating Wire		

Everett HOV Project
Proposed Water Quality Sites #1 and #2
Everett, Washington

SOIL CLASSIFICATION AND LOG KEY

October 2004

21-1-09375-009

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-1
Sheet 1 of 2

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)
(From ASTM D 2487-98 & 2488-93)

MAJOR DIVISIONS			GROUP/GRAPHIC SYMBOL	TYPICAL DESCRIPTION	
COARSE-GRAINED SOILS (more than 50% retained on No. 200 sieve)	Gravels (more than 50% of coarse fraction retained on No. 4 sieve)	Clean Gravels (less than 5% fines)	GW		Well-graded gravels, gravels, gravel/sand mixtures, little or no fines
		Gravels with Fines (more than 12% fines)	GP		Poorly graded gravels, gravel-sand mixtures, little or no fines
			GM		Silty gravels, gravel-sand-silt mixtures
			GC		Clayey gravels, gravel-sand-clay mixtures
	Sands (50% or more of coarse fraction passes the No. 4 sieve)	Clean Sands (less than 5% fines)	SW		Well-graded sands, gravelly sands, little or no fines
		Sands with Fines (more than 12% fines)	SP		Poorly graded sand, gravelly sands, little or no fines
			SM		Silty sands, sand-silt mixtures
			SC		Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more passes the No. 200 sieve)	Silt and Clays (liquid limit less than 50)	Inorganic	ML		Inorganic silts of low to medium plasticity, rock flour, sandy silts, gravelly silts, or clayey silts with slight plasticity
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		Organic	OL		Organic silts and organic silty clays of low plasticity
	Silt and Clays (liquid limit 50 or more)	Inorganic	MH		Inorganic silts, micaceous or diatomaceous fine sands or silty soils, elastic silt
			CH		Inorganic clays or medium to high plasticity, sandy fat clay, or gravelly fat clay
		Organic	OH		Organic clays of medium to high plasticity, organic silts
HIGHLY-ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor	PT		Peat, humus, swamp soils with high organic content (see ASTM D 4427)	

NOTES

- Dual symbols (symbols separated by a hyphen, i.e., SP-SM, slightly silty fine SAND) are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart.
- Bordertine symbols (symbols separated by a slash, i.e., CL/ML, silty CLAY/clayey SILT; GW/SW, sandy GRAVEL/gravelly SAND) indicate that the soil may fall into one of two possible basic groups.

Everett HOV Project
Proposed Water Quality Sites #1 and #2
Everett, Washington

**SOIL CLASSIFICATION
AND LOG KEY**

October 2004

21-1-09375-009

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Geotechnical and Environmental Consultants

FIG. A-1
Sheet 2 of 2

ENVIRONMENTAL PROBE HOLE LOG

Date Started	9/24/04	Location	E of Bldg. on West Parcel	Ground Elev. (ft)	NA
Date Completed	9/24/04	Drilling Company	ESN NW	Drilling Method	Geoprobe
Total Depth (ft)	18.0	Sampling Method	4' MacroCore Sampler	Borehole Diam. (In)	2.5

Depth (ft)	Environmental Soil Sample			Env. Water Sample			Depth (ft)	Lithologic Description	Soil Log	Ground Water	Depth (ft)
	Sample Number	Interval	PID (ppm)	Time	Sample Number	Interval					
0.2							0.2	Grass at surface.			
0.4							0.4	Dark brown, gravelly, sandy SILT and silty SAND; moist; (Fill) ML/SM. Tan, gravelly, sandy SILT and silty SAND; moist; occasional wood fragments; (Fill) ML/SM.			
5.0			0	0912			5.0	Tan grading to gray, slightly gravelly, sandy, clayey SILT; moist; scattered wood fragments; (Fill) ML. - 2-inch layer of asphalt at 7.5 feet below ground surface			
10.0			0	0918			10.0				
11.0			0	0922			11.0	Brown, slightly gravelly, fine to medium SAND; moist; scattered iron oxide staining; (Fill) SP. - 1-inch layer of white powder (drywall?) at approximately 11.8 feet below ground surface			
15.0	S-4		82	0930	P-GTS1-GW	1400	15.0				
16.0							16.0	Dark brown, silty SAND; moist; petroleum odor; (Fill) SM.			
17.0			36	0936			17.0	Brown, gravelly, silty, well-graded SAND; wet; scattered seams of dark brown, silty sand with a petroleum odor; (Fill) SM.			
18.0							18.0	Gray, slightly fine sandy SILT; moist; scattered, mottled iron oxide staining; ML. - 3-inch, gray, silty fine sand layer at 17 feet below ground surface			
								BOTTOM OF GEOPROBE COMPLETED 9/24/2004			

Typ: EET
 Rev: JEH
 Log: JEH
 ENV PROBE 21-09375.GPJ SHAN_WILGDT 10/6/04

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of the subsurface materials.
3. Groundwater level, if indicated above, is for the date specified or ATD (at the time of drilling) and may vary.
4. Refer to KEY for explanation of "Symbols" and definitions.

LEGEND

- Split Spoon
 Ground Water Level Measured

Everett HOV Project Proposed Water Quality Site #2 Everett, Washington	
LOG OF GEOPROBE P-GTS1	
October 2004	21-1-09375-009
SHANNON & WILSON, INC. Geotechnical and Environmental Consultants	FIG. A-21

ENVIRONMENTAL PROBE HOLE LOG

Date Started	9/23/04	Location	East Side of West Parcel	Ground Elev. (ft)	NA
Date Completed	9/23/04	Drilling Company	ESN NW	Drilling Method	Geoprobe
Total Depth (ft)	27.0	Sampling Method	4' MacroCore Sampler	Borehole Diam. (in)	2.5

Depth (ft)	Environmental Soil Sample				Env. Water Sample				Lithologic Description	Soil Log	Ground Water	Depth (ft)
	Sample Number	Interval	PID (ppm)	Time	Sample Number	Interval	Time	Depth (ft)				
									Ground Surface			
			0	1045				3.5	Brown, gravelly, sandy SILT and silty SAND; moist; scattered iron oxide staining, wood fragments, roots, plastic, glass, drywall pieces, and brick; (Fill) ML.			
5			0	1050				3.5	White, powdery substance (drywall?); moist; scattered wood lenses and orange staining; (Fill).			5
10			0	1053				8.0	Brown and orange, fine gravelly sandy SILT and silty SAND; moist to wet; scattered porcelain, glass, and wood fragments, and brick pieces (landfill debris); (Fill) ML/SM. - 3-inch green sand layer at 10 feet below ground surface - wood chunk in shoe at 12 feet - possible chemical odor at 13 feet - petroleum odor at 14 to 16 feet			10
15	S-4		0	1106								15
20			0	1110								20
21.0								21.0	Black, organic SILT; moist; numerous			21.0
22.0				1118	P-GTS2-GW		1230	22.0	wood fragments; (Fill) OL.		∇	22.0
24.0								24.0	Tan, clayey SILT; moist; occasional burnt wood fragments; ML.			24.0
25				1125				24.0	Tan, slightly gravelly, slightly fine sandy SILT; scattered burnt wood fragments, mottled iron oxide staining; ML.			25
27.0								27.0	BOTTOM OF GEOPROBE COMPLETED 9/23/2004			27.0

 Typ: EET
 Rev: JEH
 Log: JEH
 ENV_PROBE 21-09375.GPJ SHAN_WIL.GDT 10/6/04

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of the subsurface materials.
3. Groundwater level, if indicated above, is for the date specified or ATD (at the time of drilling) and may vary.
4. Refer to KEY for explanation of "Symbols" and definitions.

LEGEND

- Split Spoon
 Ground Water Level Measured

Everett HOV Project
 Proposed Water Quality Site #2
 Everett, Washington

LOG OF GEOPROBE P-GTS2

October 2004 21-1-09375-009

SHANNON & WILSON, INC.
 Geotechnical and Environmental Consultants

FIG. A-22

ENVIRONMENTAL PROBE HOLE LOG

Date Started	9/23/04	Location	NE corner of West Parcel	Ground Elev. (ft)	NA
Date Completed	9/23/04	Drilling Company	ESN NW	Drilling Method	Geoprobe
Total Depth (ft)	23.0	Sampling Method	4' MacroCore Sampler	Borehole Diam. (in)	2.5

Depth (ft)	Environmental Soil Sample				Env. Water Sample			Lithologic Description	Soil Log	Ground Water	Depth (ft)
	Sample Number	Interval	PID (ppm)	Time	Sample Number	Interval	Time				
0.1								TOPSOIL			
0.1 - 3.5			0	1402				Brown grading to tan, gravelly, sandy SILT and silty SAND; dry to moist; occasional roots; (Fill) ML/SM.			
3.5 - 8.0			0	1404				- 2-inch wood chunk at 0.5 foot below ground surface Brown to gray, gravelly, fine sandy SILT; moist; numerous wood chunks, plastic sheeting and white powder, scattered iron oxide staining at 5 to 7 feet; (Fill) ML - 1-foot layer of white powder (drywall) at 7 feet below ground surface			
8.0 - 19.0			0	1411				Tan to brown, gravelly, sandy SILT and silty SAND; moist; scattered roots and wood fragments; (Fill) ML/SM.			
19.0 - 20.0			0	1420				- White powdery substance (drywall?) with orange staining and occasional plastic sheeting pieces at 10 to 11.5 feet.			
20.0 - 22.0			0	1431				- 2-inch asphalt layer at 11.5 feet below ground surface. - 0.5-inch gray-brown sandy silt layer at 11.7 feet.			
22.0 - 23.0	S-6		0	1440	P-GTS3-GW		1630	- 1-foot white powder layer at 15 feet. - 1-foot white powder layer at 18 feet. - 3-inch wood chunk with petroleum order at 19 feet. Dark brown, slightly clayey, sandy SILT; moist; scattered wood fragments; (Fill) ML.		▽	
23.0								Brown grading to dark brown, gravelly, sandy SILT and silty SAND; moist to wet; scattered wood fragments, plastic sheeting pieces, metal and glass fragments; (Fill) ML/SM. Gray, clayey SILT; moist; scattered mottled iron oxide staining (Native?); ML.			
BOTTOM OF GEOPROBE COMPLETED 9/23/2004											

Typ: EET
 Rev: JEH
 Leg: JEH
 ENV PROBE 21-09375.GPJ SHAN WIL.GDT 10/6/04

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of the subsurface materials.
3. Groundwater level, if indicated above, is for the date specified or ATD (at the time of drilling) and may vary.
4. Refer to KEY for explanation of "Symbols" and definitions.

LEGEND

- I Split Spoon
▽ Ground Water Level Measured

Everett HOV Project
 Proposed Water Quality Site #2
 Everett, Washington

LOG OF GEOPROBE P-GTS3

October 2004

21-1-09375-009

SHANNON & WILSON, INC.
 Geotechnical and Environmental Consultants

FIG. A-23

ENVIRONMENTAL PROBE HOLE LOG

Date Started	9/24/04	Location	NW corner of West Parcel	Ground Elev. (ft)	NA
Date Completed	9/24/04	Drilling Company	ESN NW	Drilling Method	Geoprobe
Total Depth (ft)	23.0	Sampling Method	4' MacroCore Sampler	Borehole Diam. (in)	2.5

Depth (ft)	Environmental Soil Sample			Env. Water Sample			Depth (ft)	Lithologic Description	Soil Log	Ground Water	Depth (ft)
	Sample Number	Interval	P/D (ppm)	Time	Sample Number	Interval					
0.3							0.3	ASPHALT at surface.			
5	S-1		0	1149				Brown, gravelly, slightly silty, fine to medium SAND grading to slightly gravelly, fine to medium SAND, trace of silt; (Fill) SM/SP.			
			0	1153				- occasional iron oxide staining at 5.5 to 8 feet below ground surface			
8.0			0	1159			8.0	Dark brown and gray, slightly clayey, slightly fine sandy SILT; moist; scattered roots and burnt wood fragments; (Fill) ML.			
9.5			0	1205			9.5	Gray grading to tan, slightly fine sandy SILT; moist to wet; scattered, mottled, iron oxide staining; (Fill) ML.			
15			0	1215							
17.5			0	1226	P-GTS4-GW	1317		- 5-inch silty sand layer with white powder at 17.5 feet below ground surface			▽
19.5			0	1244				- 5-inch silty sand layer at 19.5 feet			
20.8							21.0	- 8-inch gravel layer at 20.8 feet			
21.0			0	1250				Brown, slightly gravelly, silty, fine to medium SAND; wet; SM.			
22							23.0	- 3-inch silt lens at 22 feet			
								BOTTOM OF GEOPROBE COMPLETED 9/24/2004			

Typ: EET
 Rev: JEH
 Log: JEH
 ENV PROBE 21-09375.GPJ SHAN_WILGDT 10/6/04

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of the subsurface materials.
3. Groundwater level, if indicated above, is for the date specified or ATD (at the time of drilling) and may vary.
4. Refer to KEY for explanation of "Symbols" and definitions.

LEGEND

- Split Spoon
▽ Ground Water Level Measured

Everett HOV Project
 Proposed Water Quality Site #2
 Everett, Washington

LOG OF GEOPROBE P-GTS4

October 2004

21-1-09375-009

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FIG. A-24

ENVIRONMENTAL PROBE HOLE LOG

Date Started	9/24/04	Location	SW corner of West Parcel	Ground Elev. (ft)	NA
Date Completed	9/24/04	Drilling Company	ESN NW	Drilling Method	Geoprobe
Total Depth (ft)	16.0	Sampling Method	4' MacroCore Sampler	Borehole Diam. (in)	2.5

Depth (ft)	Environmental Soil Sample			Env. Water Sample			Depth (ft)	Lithologic Description	Soil Log	Ground Water	Depth (ft)
	Sample Number	Interval	PID (ppm)	Time	Sample Number	Interval					
0.3								Ground Surface			
5	S-1		0	1016				ASPHALT. Brown, slightly gravelly, fine to medium SAND, trace of silt; moist; scattered iron oxide staining; (Fill) SP.	[Soil Log Pattern]		5
7.5								7.5			
8.0	S-2		0	1019				Dark brown, slightly fine gravelly, silty, fine to medium SAND; moist; scattered burnt wood fragments, chemical odor; (Fill) SM.	[Soil Log Pattern]		10
10								8.0		▽	10
15								Brown, slightly fine gravelly, silty, fine to medium SAND; moist to wet; occasional roots, slight petroleum odor at 9 feet; (Fill) SM.	[Soil Log Pattern]		15
15.0					P-GTS5-GW		1114	15.0			15
16.0				0				Brown, slightly fine sandy SILT; moist; scattered, mottled, iron oxide staining and organic fragments; ML.	[Soil Log Pattern]		20
20								16.0			20
								BOTTOM OF GEOPROBE COMPLETED 7/24/2004			25

Typ: EET
 Rev: JEH
 Log: JEH
 ENV. PROBE 21-09375.GPJ SHAN WIL.GDT 10/6/04

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of the subsurface materials.
3. Groundwater level, if indicated above, is for the date specified or ATD (at the time of drilling) and may vary.
4. Refer to KEY for explanation of "Symbols" and definitions.

LEGEND

- Split Spoon
▽ Ground Water Level Measured

Everett HOV Project
 Proposed Water Quality Site #2
 Everett, Washington

LOG OF GEOPROBE P-GTS5

October 2004

21-1-09375-009

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FIG. A-25



ATTACHMENT C
WASHINGTON UST DATA SHEET



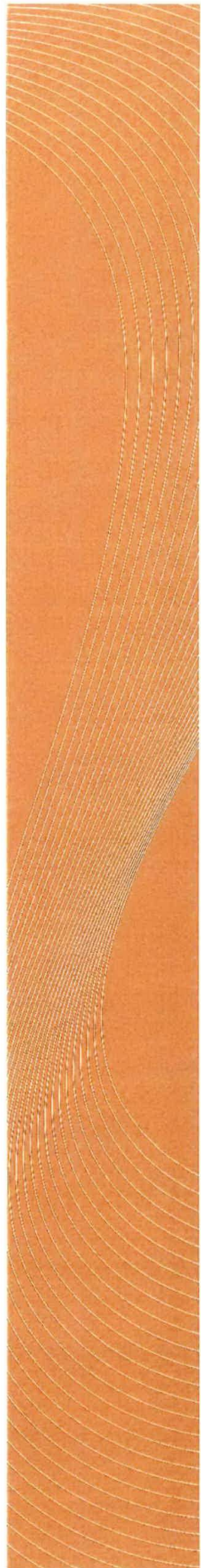
Washington UST Data

Washington Registered Underground Storage Tank Data

Map ID#:	4	Distance (mi):	0.09079			
		Direction:	WSW			
Agency ID:	11222	Name:	GTS DRYWALL			
		Address:	2731 36TH ST			
County:	SNOHOMISH	City, State Zip:	EVERETT, WA 98201			
<u>Tank ID</u>	<u>Tank Status</u>	<u>Composition</u>	<u>Substance</u>	<u>Capacity (gal)</u>	<u>Installation Date</u>	
2	REMOVED	Steel-Unprotected	LEADED GASOLINE	111 to 1,100 Gallons	12/31/1964 0:00	
Map ID#:	6	Distance (mi):	0.13308			
		Direction:	NW			
Agency ID:	2459	Name:	WASHINGTON TRUCKING INC			
		Address:	2810 34TH ST			
County:	SNOHOMISH	City, State Zip:	EVERETT, WA 98201			
<u>Tank ID</u>	<u>Tank Status</u>	<u>Composition</u>	<u>Substance</u>	<u>Capacity (gal)</u>	<u>Installation Date</u>	
2	REMOVED	Not Reported	Not Reported	Not Reported	12/31/1964 0:00	
3	REMOVED	Not Reported	Not Reported	Not Reported	12/31/1964 0:00	
4	REMOVED	Not Reported	Not Reported	Not Reported	12/31/1964 0:00	
1	REMOVED	COATED STEEL	DIESEL	10,000 TO 19,999 GALLONS	8/10/1986 0:00	
Map ID#:	9C	Distance (mi):	0.21424			
		Direction:	W			
Agency ID:	4059	Name:	TIME OIL CO. 178			
		Address:	3532 SMITH AVE			
County:	SNOHOMISH	City, State Zip:	EVERETT, WA 98201			
<u>Tank ID</u>	<u>Tank Status</u>	<u>Composition</u>	<u>Substance</u>	<u>Capacity (gal)</u>	<u>Installation Date</u>	
424	REMOVED	Not Reported	Not Reported	Not Reported	12/31/1964 0:00	
101	REMOVED	Steel-Unprotected	HEATING FUEL	Not Reported	12/31/1964 0:00	
109	REMOVED	Steel-Unprotected	HEATING FUEL	Not Reported	12/31/1964 0:00	
Map ID#:	10	Distance (mi):	0.23118			
		Direction:	NW			
Agency ID:	2145	Name:	NEWLAND CONST. CO INC			
		Address:	3302 HILL AVE			
County:	SNOHOMISH	City, State Zip:	EVERETT, WA 98201			
<u>Tank ID</u>	<u>Tank Status</u>	<u>Composition</u>	<u>Substance</u>	<u>Capacity (gal)</u>	<u>Installation Date</u>	
1	CLOSED IN PLACE	Steel-Unprotected	USED OIL/WASTE OIL	Not Reported	12/31/1964 0:00	
Map ID#:	12	Distance (mi):	0.27191			
		Direction:	WSW			
Agency ID:	81	Name:	O'DAY HEATING COMPANY INC.			
		Address:	3729 SMITH AVE			
County:	SNOHOMISH	City, State Zip:	EVERETT, WA 98201			
<u>Tank ID</u>	<u>Tank Status</u>	<u>Composition</u>	<u>Substance</u>	<u>Capacity (gal)</u>	<u>Installation Date</u>	
3	OPERATIONAL	COATED STEEL	DIESEL	20,000 TO 29,999 GALLONS	1/1/1963 0:00	
2	OPERATIONAL	COATED STEEL	LEADED GASOLINE	5,000 TO 9,999 GALLONS	1/1/1983 0:00	
1	OPERATIONAL	COATED STEEL	UNLEADED GASOLINE	20,000 TO 29,999 GALLONS	1/1/1968 0:00	



ATTACHMENT D
REPORT LIMITATIONS AND GUIDELINES FOR USE



ATTACHMENT D REPORT LIMITATIONS AND GUIDELINES FOR USE¹

This Attachment provides information to help you manage your risks with respect to the use of this report.

ENVIRONMENTAL SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES, PERSONS AND PROJECTS

This report has been prepared for the exclusive use of the City of Everett, their authorized agents and regulatory agencies. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except the City of Everett should rely on this environmental report without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

THIS ENVIRONMENTAL REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

This report has been prepared for the City of Everett. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

RELIANCE CONDITIONS FOR THIRD PARTIES

Our report was prepared for the exclusive use of our Client. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted environmental practices in this area at the time this report was prepared.

ENVIRONMENTAL REGULATIONS ARE ALWAYS EVOLVING

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory

¹ Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

UNCERTAINTY MAY REMAIN EVEN AFTER THIS PHASE II ESA IS COMPLETED

No ESA can wholly eliminate uncertainty regarding the potential for contamination in connection with a property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from widely-spaced sampling locations. It is always possible that contamination exists in areas that were not explored, sampled or analyzed.

SUBSURFACE CONDITIONS CAN CHANGE

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying this report to determine if it is still applicable.

SOIL AND GROUNDWATER END USE

The cleanup levels referenced in this report are site- and situation-specific. The cleanup levels may not be applicable for other sites or for other on-site uses of the affected media (soil and/or groundwater). Note that hazardous substances may be present in some of the site soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. GeoEngineers should be contacted prior to the export of soil or groundwater from the subject site or reuse of the affected media on site to evaluate the potential for associated environmental liabilities. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the subject site to another location or its reuse on site in instances that we were not aware of or could not control.

MOST ENVIRONMENTAL FINDINGS ARE PROFESSIONAL OPINIONS

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

DO NOT REDRAW THE EXPLORATION LOGS

Environmental scientists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in an environmental report should never be redrawn for inclusion in other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

READ THESE PROVISIONS CLOSELY

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory “limitations” provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these “Report Limitations and Guidelines for Use” apply to your project or site.

GEOTECHNICAL, GEOLOGIC AND GEOENVIRONMENTAL REPORTS SHOULD NOT BE INTERCHANGED

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

BIOLOGICAL POLLUTANTS

GeoEngineers’ Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants and no conclusions or inferences should be drawn regarding Biological Pollutants, as they may relate to this project. The term “Biological Pollutants” includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.