LANDAU ASSOCIATES

May 9, 2013

Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, Washington 98008

Attn: Robin Harrover

RE: DIRECT PUSH DRILLING PROGRAM – CITY OF ALGONA
DATA SUBMITTAL

Dear Ms Harrover:

Boeing completed 49 direct-push borings and associated groundwater quality samples in the Algona residential area west of the Boeing Auburn Facility. The field work began on April 3, 2013 and ended on April 30, 2013. Per the approved work plan (Landau Associates 2013), we are submitting a final data table, the validated data packages, and the 49 direct-push boring logs on an expedited basis. Additionally, we are including two figures with the expedited submittal that document boring locations and selected groundwater quality results. A draft technical memorandum summarizing the findings of the investigation will be submitted to Ecology for review by May 28, 2013 in accordance with the schedule outlined in the work plan. If you have any questions about the information contained in this letter, please contact me at (253) 926-2493 or Jim Bet at (206) 679-0433.

LANDAU ASSOCIATES, INC.

Jennifer W. Wynkoop
Associate Environmental Scientist

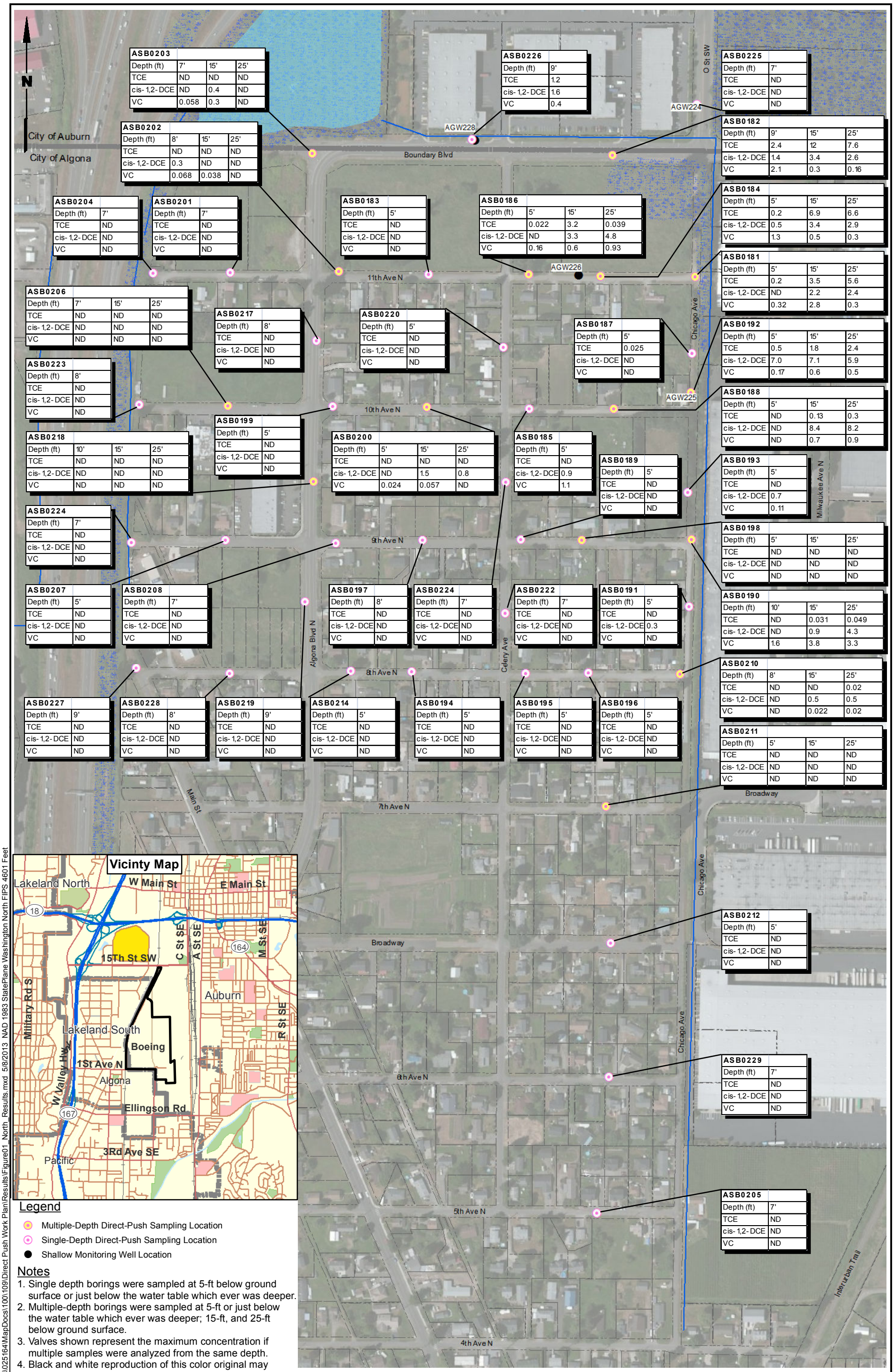
JWW/jrc

REFERENCE

Landau Associates. 2013. Report: *Work Plan, Direct-Push Probe Investigation Winter 2013, Boeing Auburn Facility, Auburn, Washington.* Prepared for: The Boeing Company. March 21.

Attachments: Figure 1: Direct-Push Drilling Results Algona North – April 2013
Figure 2: Direct-Push Drilling Results Algona South – April 2013
Table 1: Direct-Push Sample Results – April 2013
Boring Logs
Laboratory Data Packages (provided on DVD)

cc: Jim Bet, The Boeing Company (electronic copy only)
Jim Swortz, The Boeing Company
Ed Jones, Washington State Department of Ecology (electronic copy only)



Legend

- Multiple-Depth Direct-Push Sampling Location
- Single-Depth Direct-Push Sampling Location
- Shallow Monitoring Well Location

Notes

1. Single depth borings were sampled at 5-ft below ground surface or just below the water table which ever was deeper.
2. Multiple-depth borings were sampled at 5-ft or just below the water table which ever was deeper; 15-ft, and 25-ft below ground surface.
3. Valves shown represent the maximum concentration if multiple samples were analyzed from the same depth.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Base map source: Aerial Photo Source: Bing Maps 2010; Parcel Data Source: King County GIS 2010

0 300 600

Scale in Feet

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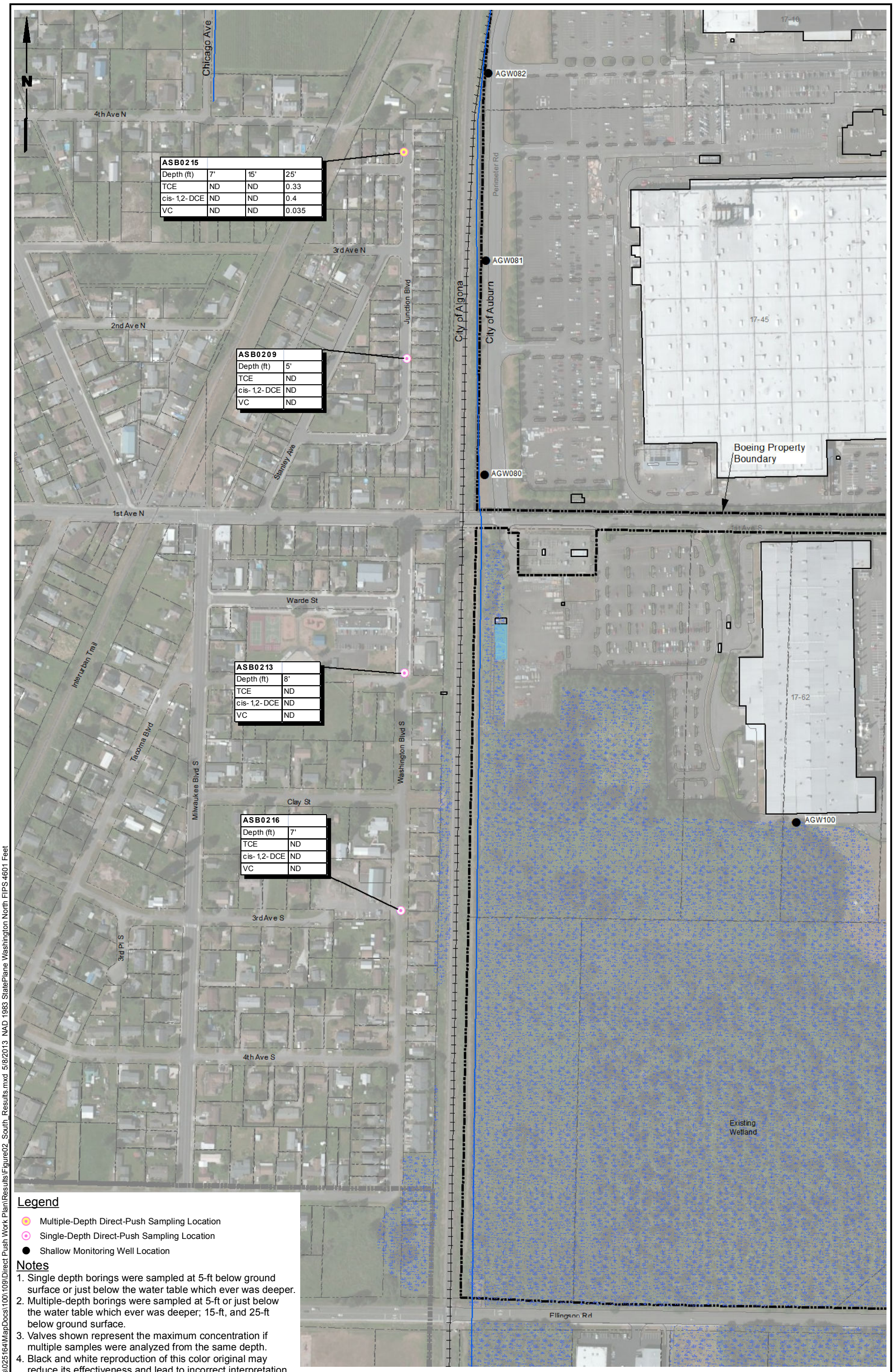
Boeing Auburn
Auburn, Washington

Direct-Push Drilling Results
Algona North - April 2013

Figure 1

Y:\Projects\025164\MapDocs\100\109\Direct Push Work Plan\Results\Figure01_North_Results.mxd 5/8/2013 NAD 1983 StatePlane Washington North FIPS 4601 Feet



Legend

- Multiple-Depth Direct-Push Sampling Location
- Single-Depth Direct-Push Sampling Location
- Shallow Monitoring Well Location

Notes

1. Single depth borings were sampled at 5-ft below ground surface or just below the water table which ever was deeper.
2. Multiple-depth borings were sampled at 5-ft or just below the water table which ever was deeper; 15-ft, and 25-ft below ground surface.
3. Valves shown represent the maximum concentration if multiple samples were analyzed from the same depth.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Base map source: Aerial Photo Source: Bing Maps 2010; Parcel Data Source: King County GIS 2010

0 300 600

Scale in Feet

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Direct-Push Drilling Results
Algona South - April 2013

Figure
2

Y:\Projects\025164\MapDocs\100\109\Direct Push Work Plan\Results\Figure02_South_Results.mxd 5/8/2013 NAD 1983 StatePlane Washington North FIPS 4601 Feet

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0203-7	ASB0203-15	ASB0203-25	ASB0226-9	ASB0182-9	ASB0182-9b
SDG:	1384192	1384192	1384192	1386333	1380643	1380643
Lab ID:	7028205	7028207	7028208	7039100	7011090	7011091
	4/18/2013	4/18/2013	4/18/2013	04/29/2013	4/4/2013	4/4/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	0.2 U	**0.4**	0.2 U	**1.6**	**1.4**	**1.2**
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U	**1.2**	**2.4**	**1.8**
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	0.2 U	**0.3**	0.2 U	**0.4**	**2.1**	**2.1**
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.020 U	0.020 U	0.020 U	**0.92**	**1.3**	**1.4**
Vinyl Chloride	**0.058**	**0.22**	0.020 U	**0.35**	**1.8**	**1.7**
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0182-15	ASB0182-25	ASB0225-7	ASB0204-7	ASB0201-7	ASB0202-8
SDG:	1380643	1380643	1386333	1384192	1383773	1383773
Lab ID:	7011092	7011094	7039099	7028209	7026450	7026451
	4/4/2013	4/4/2013	04/29/2013	4/18/2013	04/17/2013	04/17/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	5.0 UJ	5.0 UJ	**6.2**	**6.5**	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	**3.4**	**2.6**	0.2 U	0.2 U	0.2 U	**0.3**
trans-1,2-Dichloroethene	**0.4**	**0.2**	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	**12**	**7.6**	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	**0.3**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	**9.0**	**6.2**	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	**0.27**	**0.16**	0.020 U	0.020 U	0.020 U	**0.068**
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	Dup of ASB0202-8 ASB9202-8	ASB0202-15	ASB0202-25	ASB0183-5	ASB0186-5
SDG:	1383773	1383773	1383773	1380643/1382956	1381416/1382956
Lab ID:	7026452	7026453	7026454	7011095/7022707	7014884/7022706
	04/17/2013	04/17/2013	04/17/2013	4/4/2013	4/8/2013
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	5.0 U	5.0 U	25 UJ	25 U
Benzene	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Bromoform	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	25 UJ	25 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Chloroform	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
Chloromethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	**0.3**	0.2 U	0.2 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	25 UJ	25 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	25 UJ	25 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Styrene	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
Toluene	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
Trichloroethene	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	1.0 U	1.0 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	2.5 U	2.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Trichloroethene	0.020 U	0.020 U	0.020 U	0.10 U	0.10 U
Vinyl Chloride	**0.070**	**0.038**	0.020 U	0.10 U	**0.12**
VOLATILES (µg/L)					
Method 8260C SIM					
with anti-foaming agent					
Trichloroethene				0.020 U	**0.022**
Vinyl Chloride				0.020 U	**0.16**

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0186-15	ASB0186-25	ASB0184-5	ASB0184-5b	ASB0184-15	ASB0184-25	ASB0181-5
SDG:	1381416	1381416	1380919	1380919	1380919	1380919	1380303
Lab ID:	7014886	7014887	7012530	7012531	7012533	7012534	7009562
	4/8/2013	4/8/2013	4/5/2013	4/5/2013	4/5/2013	4/5/2013	4/3/2013
VOLATILES (µg/L)							
Method SW8260C							
Acetone	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	25 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
2-Butanone	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	25 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
1,2-Dichloroethane	0.2 U	**0.4**	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
cis-1,2-Dichloroethene	**3.3**	**4.8**	**0.5**	**0.5**	**3.4**	**2.9**	1.0 U
trans-1,2-Dichloroethene	**0.4**	**0.5**	0.2 U	0.2 U	**0.4**	**0.3**	1.0 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
2-Hexanone	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	25 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	25 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.0 U
Trichloroethene	**3.2**	0.2 U	**0.2**	**0.2**	**6.9**	**6.6**	1.0 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
Vinyl Chloride	**0.6**	**0.9**	**1.3**	**1.3**	**0.5**	**0.3**	1.0 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U
VOLATILES (µg/L)							
Method 8260C SIM							
Trichloroethene	**2.5**	**0.039**	**0.15**	**0.18**	**5.6**	**5.6**	**0.13**
Vinyl Chloride	**0.53**	**0.93**	**1.1**	**1.3**	**0.42**	**0.27**	**0.22**
VOLATILES (µg/L)							
Method 8260C SIM							
with anti-foaming agent							
Trichloroethene							
Vinyl Chloride							

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0181-5b	ASB0181-15	ASB0181-25	ASB0217-8	ASB0220-5	ASB0187-5
SDG:	1380303	1380303	1380303	1385793	1386002	1381416
Lab ID:	7009563	7009564	7009565	7036402	7037611	7014889
	4/3/2013	4/3/2013	4/3/2013	4/25/2013	4/26/2013	04/08/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	1.0 U	**2.2**	**2.4**	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	1.0 U	**0.3**	**0.2**	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	1.0 U	**3.5**	**5.6**	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	1.0 U	**2.8**	**0.3**	0.2 U	0.2 U	0.2 U
m,p-Xylene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	**0.20**	**2.7**	**4.3**	0.020 U	0.020 U	**0.025**
Vinyl Chloride	**0.32**	**2.4**	**0.22**	0.020 U	0.020 U	0.020 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0187-5r	ASB0187-5b	ASB0223-8	ASB0206-7	ASB0206-15	ASB0206-25
SDG:	1381416	1381416	1386333	1384423	1384423	1384423
Lab ID:	7014888	7014890	7039097	7029519	7029521	7029522
	04/08/2013	04/08/2013	04/29/2013	4/19/2013	4/19/2013	4/19/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	**8.8**	5.0 U	5.0 U	**13**	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	**17**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.020 U	**0.024**	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0199-5	ASB0200-5	ASB0200-15	ASB0200-25	ASB0185-5	ASB0188-5
SDG:	1383441	1383441	1383441	1383441	1380919	1381711/1382956
Lab ID:	7024827	7024829	7024830	7024831	7012535	7016095/7022708
	4/16/2013	4/16/2013	4/16/2013	4/16/2013	4/5/2013	4/9/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	25 U	10 U	5.0 U	5.0 U	5.0 UJ	25 U
Benzene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
Bromodichloromethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Bromoform	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Bromomethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
2-Butanone	25 U	10 U	5.0 U	5.0 U	5.0 UJ	25 U
Carbon Disulfide	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Carbon Tetrachloride	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
Chlorobenzene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Chloroethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Chloroform	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
Chloromethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Dibromochloromethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
1,1-Dichloroethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
1,2-Dichloroethane	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
1,1-Dichloroethene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
cis-1,2-Dichloroethene	1.0 U	0.4 U	**1.5**	**0.8**	**0.9**	1.0 U
trans-1,2-Dichloroethene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
1,2-Dichloropropane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
cis-1,3-Dichloropropene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
trans-1,3-Dichloropropene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
Ethylbenzene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
2-Hexanone	25 U	10 U	5.0 U	5.0 U	5.0 UJ	25 U
4-Methyl-2-Pentanone (MIBK)	25 U	10 U	5.0 U	5.0 U	5.0 UJ	25 U
Methylene Chloride	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Styrene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
1,1,2,2-Tetrachloroethane	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
Tetrachloroethene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
Toluene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
1,1,1-Trichloroethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
1,1,2-Trichloroethane	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
Trichloroethene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	1.0 U
Trichlorofluoromethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Vinyl Acetate	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
Vinyl Chloride	1.0 U	0.4 U	0.2 U	0.2 U	**1.1**	1.0 U
m,p-Xylene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
o-Xylene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	2.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.040 U	0.020 U	0.020 U	0.020 U	0.020 U	0.20 U
Vinyl Chloride	0.040 U	**0.024**	**0.057**	0.020 U	**0.98**	0.20 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						0.020 U
Vinyl Chloride						0.020 U

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0188-5b	ASB0188-15	Dup of ASB0188-15 ASB9188-15	ASB0188-25	ASB0192-5	ASB0192-5b
SDG:	1381711	1381711	1381711	1381711	1382468	1382468
Lab ID:	7016096	7016097	7016098	7016099	7020169	7020168
	4/9/2013	4/9/2013	4/9/2013	4/9/2013	4/11/2013	4/11/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	1.0 U	**0.2**	**0.2**	**0.2**	0.2 U	0.2 U
1,1-Dichloroethene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	1.0 U	**8.4**	**8.0**	**8.2**	**6.4**	**7.0**
trans-1,2-Dichloroethene	1.0 U	**1.1**	**1.0**	**1.1**	**0.4**	**0.4**
1,2-Dichloropropane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	1.0 U	0.2 U	0.2 U	**0.3**	**0.5**	**0.5**
Trichlorofluoromethane	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	1.0 U	**0.7**	**0.7**	**0.9**	0.2 U	0.2 U
m,p-Xylene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.10 U	**0.13**	**0.13**	**0.26**	**0.38**	**0.39**
Vinyl Chloride	0.10 U	**0.66**	**0.61**	**0.82**	**0.16**	**0.17**
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0192-15	ASB0192-25	ASB0218-10	ASB0218-15	ASB0218-25	ASB0221-7
SDG:	1382468	1382468	1385793	1385793	1385793	1386002
Lab ID:	7020171	7020172	7036404	7036405	7036406	7037612
	4/11/2013	4/11/2013	4/25/2013	4/25/2013	4/25/2013	4/26/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	**7.1**	**5.9**	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	**0.7**	**0.6**	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	**1.8**	**2.4**	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	**0.6**	**0.5**	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	**1.5**	**1.9**	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	**0.48**	**0.43**	0.020 U	0.020 U	0.020 U	0.020 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0193-5	Dup of ASB0193-5 ASB9193-5	ASB0224-7	ASB0207-5	ASB0208-7	ASB0197-8
SDG:	1382468	1382468	1386333	1384423	1384767	1383074
Lab ID:	7020173	7020174	7039098	7029523	7031273	7023175
	4/11/2013	4/11/2013	04/29/2013	4/19/2013	4/22/2013	4/15/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
cis-1,2-Dichloroethene	**0.7**	**0.7**	0.2 U	0.2 U	0.2 U	0.4 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
Trichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	**0.11**	**0.11**	0.020 U	0.020 U	0.020 U	0.020 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0189-5	ASB0198-5	ASB0198-15	ASB0198-25	ASB0190-10	ASB0190-10b
SDG:	1381711/1382956	1383074	1383074	1383074	1382121	1382121
Lab ID:	7016100/7022709	7023176	7023177	7023178	7018224	7018225
	4/9/2013	4/15/2013	4/15/2013	4/15/2013	4/10/2013	4/10/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	25 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	25 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	1.0 U	0.4 U	0.2 U	0.2 U	**0.2**	**0.3**
1,2-Dichloropropane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	25 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	25 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	1.0 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	1.0 U	0.4 U	0.2 U	0.2 U	**0.4**	**1.6**
m,p-Xylene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	2.5 U	1.0 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.10 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	0.10 U	0.020 U	0.020 U	0.020 U	**0.36**	**1.3**
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene	0.020 U					
Vinyl Chloride	0.020 U					

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0190-15	ASB0190-25	ASB0219-9	ASB0222-7	ASB0191-5	ASB0227-9
SDG:	1382121	1382121	1385793	1386002	1382121	1386673
Lab ID:	7018226	7018227	7036407	7037613	7018228	7040693
	4/10/2013	4/10/2013	4/25/2013	4/26/2013	4/10/2013	04/30/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	**0.9**	**4.3**	0.2 U	0.2 U	**0.3**	0.2 U
trans-1,2-Dichloroethene	**0.5**	**0.9**	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	**3.8**	**3.3**	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	**0.031**	**0.049**	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	**3.4**	**2.6**	0.020 U	0.020 U	0.020 U	0.020 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0228-8	ASB0214-5	Dup of ASB0214-5 ASB9214-5	ASB0194-5	ASB0195-5	ASB0196-5
SDG:	1386673	1385432	1385432	1382705	1382705	1382705
Lab ID:	7040694	7034083	7034084	7021479	7021481	7021482
	04/30/2013	04/24/2013	04/24/2013	4/12/2013	4/12/2013	4/13/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0196-5b	ASB0210-8	ASB0210-15	ASB0210-25	ASB0211-5	ASB0211-15
SDG:	1382705	1384767	1384767	1384767	1385084	1385084
Lab ID:	7021483	7031276	7031277	7031280	7032620	7032621
	4/12/2013	4/22/2013	4/22/2013	4/22/2013	04/23/2013	04/23/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	0.2 U	0.2 U	**0.5**	**0.5**	0.2 U	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.020 U	0.020 U	0.020 U	**0.020**	0.020 U	0.020 U
Vinyl Chloride	0.020 U	0.020 U	**0.022**	**0.020**	0.020 U	0.020 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0211-25	ASB0212-5	ASB0229-7	ASB0205-7	Dup of ASB0205-7 ASB9205-7	ASB0215-7
SDG:	1385084	1385084	1386673	1384192	1384192	1385432
Lab ID:	7032622	7032623	7040695	7028210	7028211	7034085
	04/23/2013	04/23/2013	04/30/2013	4/18/2013	4/18/2013	04/24/2013
VOLATILES (µg/L)						
Method SW8260C						
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Trichloroethene	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
VOLATILES (µg/L)						
Method 8260C SIM						
with anti-foaming agent						
Trichloroethene						
Vinyl Chloride						

TABLE 1
DIRECT-PUSH SAMPLING RESULTS - APRIL 2013
BOEING AUBURN

Location:	ASB0215-15	ASB0215-25	ASB0209-5	ASB0213-8	ASB0216-7
SDG:	1385432	1385432	1384767	1385084	1385432
Lab ID:	7034086	7034087	7031274	7032624	7034088
	04/24/2013	04/24/2013	4/22/2013	04/23/2013	04/24/2013
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	0.2 U	**0.4**	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	**0.4**	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Trichloroethene	0.020 U	**0.33**	0.020 U	0.020 U	0.020 U
Vinyl Chloride	0.020 U	**0.035**	0.020 U	0.020 U	0.020 U
VOLATILES (µg/L)					
Method 8260C SIM					
with anti-foaming agent					
Trichloroethene					
Vinyl Chloride					

U = Indicates the compound was undetected at the reported concentration.
UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
Bold = Detected compound.

Soil Classification System

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS LETTER SYMBOL[1]	TYPICAL DESCRIPTIONS [2][3]
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		**GW**	Well-graded gravel; gravel/sand mixture(s); little or no fines
				GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		**GM**	Silty gravel; gravel/sand/silt mixture(s)
				GC	Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		**SW**	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		**SM**	Silty sand; sand/silt mixture(s)
				SC	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			**ML**	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
				CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
				OL	Organic silt; organic, silty clay of low plasticity
	SILT AND CLAY (Liquid limit greater than 50)			**MH**	Inorganic silt; micaceous or diatomaceous fine sand
				CH	Inorganic clay of high plasticity; fat clay
				OH	Organic clay of medium to high plasticity; organic silt
	HIGHLY ORGANIC SOIL			**PT**	Peat; humus; swamp soil with high organic content

OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		**AC** or **PC**	Asphalt concrete pavement or Portland cement pavement
ROCK		**RK**	Rock (See Rock Classification)
WOOD		**WD**	Wood, lumber, wood chips
DEBRIS		**DB**	Construction debris, garbage

NOTES:

1. USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
2. Soil descriptions are based on the general approach presented in the *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*, outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the *Standard Test Method for Classification of Soils for Engineering Purposes*, as outlined in ASTM D 2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:

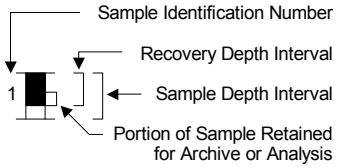
Primary Constituent:	> 50%	"GRAVEL," "SAND," "SILT," "CLAY," etc.
Secondary Constituents:	> 30% and ≤ 50%	"very gravelly," "very sandy," "very silty," etc.
	> 15% and ≤ 30%	"gravelly," "sandy," "silty," etc.
Additional Constituents:	> 5% and ≤ 15%	"with gravel," "with sand," "with silt," etc.
	≤ 5%	"trace gravel," "trace sand," "trace silt," etc., or not noted.

Drilling and Sampling Key

SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon
c	Shelby Tube
d	Grab Sample
e	Single-Tube Core Barrel
f	Double-Tube Core Barrel
g	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Rotosonic
5	Air Rotary (Rock)
6	Wash Rotary (Rock)
7	Other - See text if applicable

SAMPLE NUMBER & INTERVAL



Field and Lab Test Data

Code	Description
PP = 1.0	Pocket Penetrometer, tsf
TV = 0.5	Torvane, tsf
PID = 100	Photoionization Detector VOC screening, ppm
W = 10	Moisture Content, %
D = 120	Dry Density, pcf
-200 = 60	Material smaller than No. 200 sieve, %
GS	Grain Size - See separate figure for data
AL	Atterberg Limits - See separate figure for data
VST	Vane Shear Test
GT	Other Geotechnical Testing
CA	Chemical Analysis

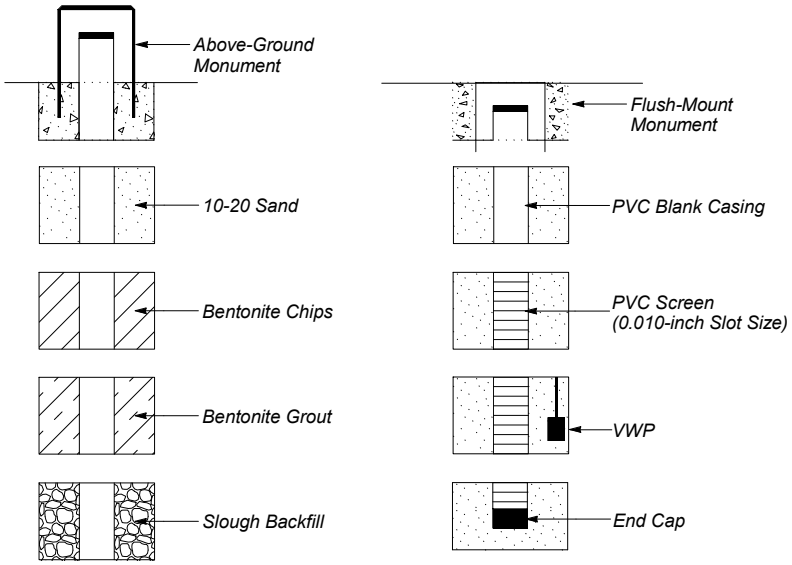
Groundwater

▽ Approximate water elevation at time of drilling (ATD).

▼ Approximate water elevation at other time(s). When multiple water levels are obtained other than ATD, only a representative range is shown. See text for additional information.

Note: Groundwater levels can fluctuate due to precipitation, seasonal conditions, and other factors.

Well Log Graphics



LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Soil Classification System and Key

Figure A-1 (2 of 2)

ASB0181

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0	S-1	d		0.0		GP SP	Gray, sandy gravel (loose, moist) **(FILL)** Dark brown, gravelly, fine to coarse SAND (loose, wet)	ATD
		i4					**(ALLUVIUM)**	
						GP	Dark brown, sandy GRAVEL with organics (medium dense, wet)	
5	S-2	d		0.0			**Groundwater sample ASB0181-5-20130403**	
	S-3	i4 d		0.0		ML	**Groundwater sample ASB0181-5b-20130403**	
							Dark brown, gravelly SILT (medium stiff, wet)	
						SP	Dark gray, fine to medium SAND (loose, wet)	
10	S-4	d		0.0				
		i4						
15							**Groundwater sample ASB0181-15-20150403**	
		i4						
						WD	WOOD with gravel	
	S-5	d		0.0		GP	Dark gray, very sandy GRAVEL (medium dense, wet)	
20						SP		
				0.0		GP	Dark gray, fine to coarse SAND (dense, wet)	
				0.0			Dark gray, GRAVEL with sand (dense, wet)	
		i4		0.0				
25							**Groundwater sample ASB0181-25-20130403**	
30								
35								

Boring Completed 04/03/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-11.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

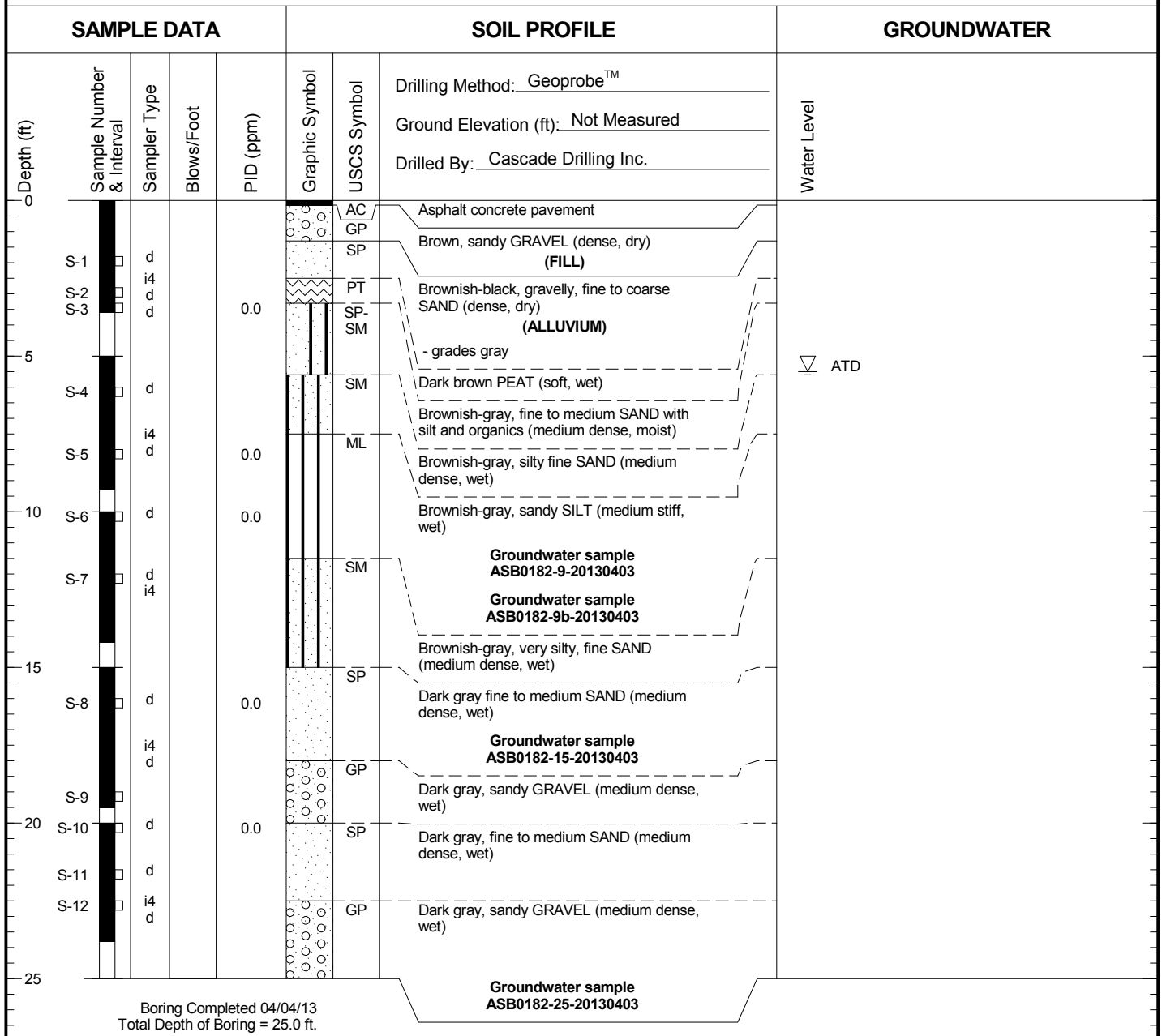
LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0181

Figure
A-2

ASB0182



Boring Completed 04/04/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-3.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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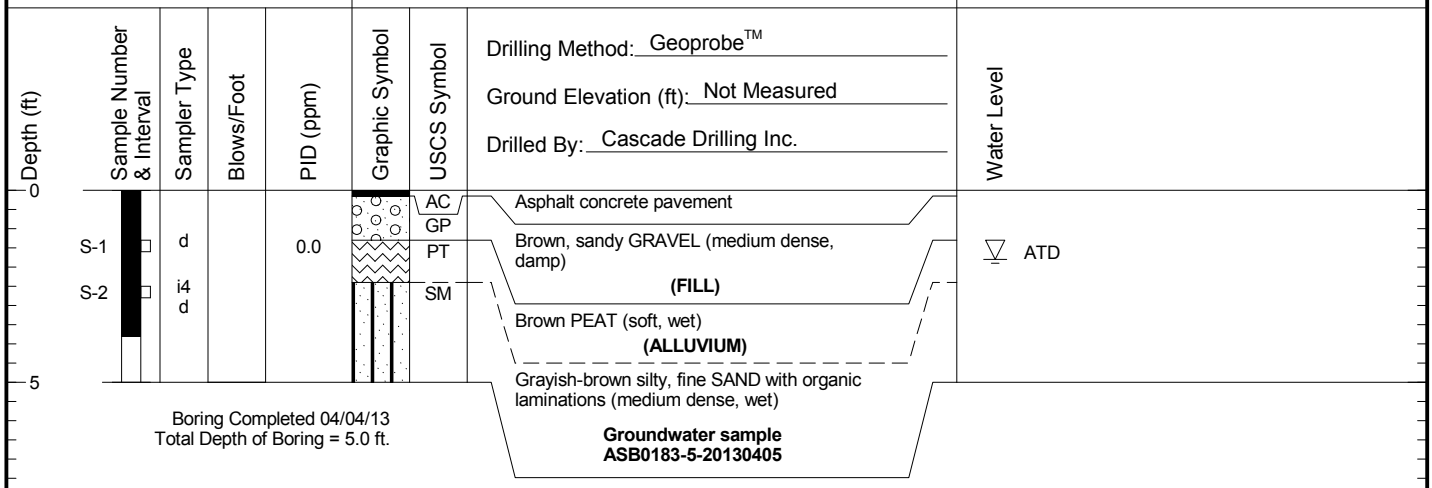
Boeing Auburn
Auburn, Washington

Log of Boring ASB0182

Figure
A-3

ASB0183



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-8.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0183

Figure
A-4

ASB0184

SAMPLE DATA					SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0						AC	Asphalt concrete pavement	
	S-1	d		0.0		GP SM	Brown, sandy GRAVEL (medium dense, moist)	ATD
	S-2	i4 d				SM	**(FILL)** Dark brown, silty, fine to medium SAND (loose, wet)	
5	S-3	d				SP- SM	**(ALLUVIUM)** Brownish-gray, very silty, fine SAND (medium dense, wet)	
	S-4	d				ML		
	S-5	d				SP	Dark gray, fine to medium SAND with silt (medium dense, wet)	
		i4						
	S-6	d		0.0		ML	**Groundwater sample ASB0184-5-20130405**	
10	S-7	d		0.0		SP- SM	**Groundwater sample ASB0184-5b-20130405**	
	S-8	d				SP	Grayish-brown, SILT with sand (medium stiff, wet)	
		i4					Dark gray, fine to medium SAND (medium dense, wet)	
	S-9	d				GP	Grayish-brown, SILT with sand (stiff, wet)	
15	S-10	d		0.0		SP- SM	Dark gray, fine to medium SAND with silt (medium dense, wet)	
	S-11	d				GP		
	S-12	d				SP	Dark gray, fine to medium SAND (medium dense, wet)	
		i4					Dark gray, sandy GRAVEL (medium dense, wet)	
20	S-13	d					Dark gray, fine to coarse SAND with silt (medium dense, wet)	
		i4					**Groundwater sample ASB0184-15-20130405**	
	S-14	d				GP	Dark gray, GRAVEL with sand (medium dense, wet)	
	S-15	d		0.0		SP	Dark gray, gravelly, fine to coarse SAND (medium dense, wet)	
25							- grades fine to medium sand and trace gravel @ 20 ft. (medium dense, wet)	
							Dark gray, GRAVEL with sand (medium dense, wet)	
							Dark gray, gravelly, fine to coarse SAND (medium dense, wet)	
30							**Groundwater sample ASB0184-25-20130405**	
35								

Boring Completed 04/05/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-10.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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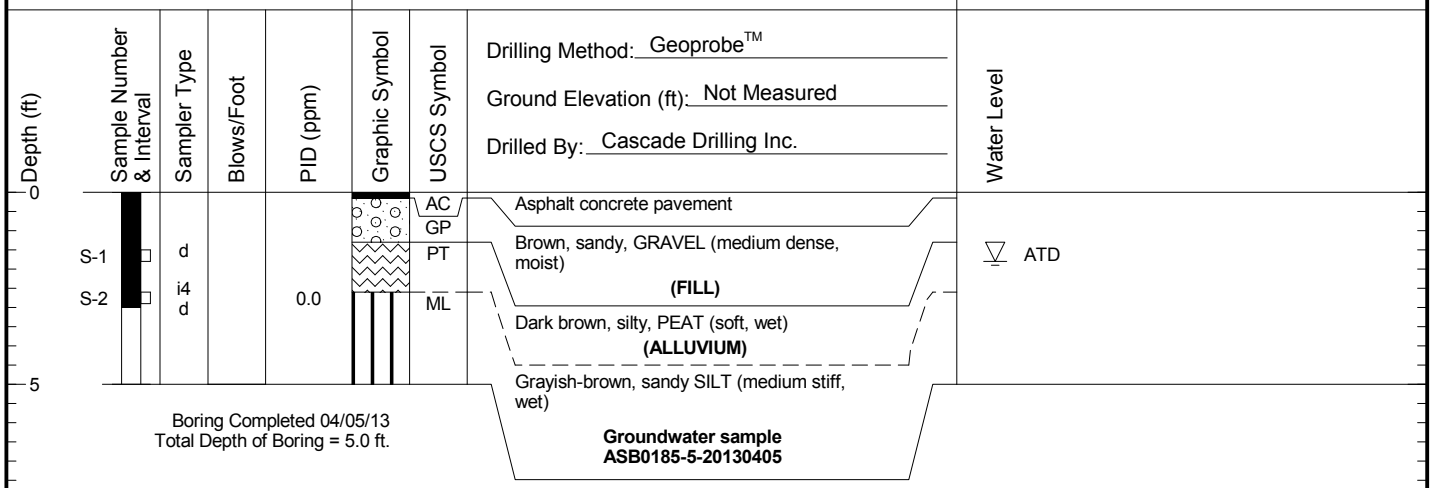
Boeing Auburn
Auburn, Washington

Log of Boring ASB0184

Figure
A-5

ASB0185



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-19.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn Auburn, Washington	Log of Boring ASB0185	Figure A-6

ASB0186

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS	Description
0				AC	Asphalt concrete pavement
	S-1	d		GP	
				SM	Brown, sandy GRAVEL (medium dense, dry) **(FILL)**
	S-2	d	0.0	SM	
		i4			Dark brown, silty, fine to coarse SAND with gravel (medium dense, damp) **(ALLUVIUM)**
5					- grades with trace organics
	S-3	d	0.5	SP-SM	Gray, silty, fine SAND with organics (medium dense, wet)
	S-4	i4		SP	Grayish-brown, fine to medium SAND with silt (loose, wet)
		d		SP-SM	**Groundwater sample: ASB0186-5-20130408**
10				SP	- grades with wood pieces
					Dark gray, fine to medium SAND (medium dense, wet)
	S-5	d	0.2	ML	
	S-6	i4			Grayish-brown, fine to medium SAND with silt (medium dense, wet)
	S-7	d			
		d			
	S-8	d	0.0		Dark gray, fine to medium SAND (medium dense, wet)
15				SP-SM	
	S-9	d			Brownish-gray, sandy SILT (medium stiff, wet)
	S-10	d		SM	- Driller reported experiencing heave
		i4			
	S-11	d		SP-SM	Dark gray, fine to medium SAND with silt (medium dense, wet)
20					**Groundwater sample: ASB0186-15-20130408**
	S-12	d	0.0		Dark gray, very silty, fine to medium SAND (medium dense, wet)
		i4			Dark gray. fine SAND with silt (medium dense, wet)
	S-13	d		GP	Dark gray, sandy GRAVEL (medium dense, wet)
25					**Groundwater sample: ASB0186-25-20130408**

ATD

Boring Completed 04/08/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-9.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0186

Figure
A-7

ASB0187

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Hand Auger
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description	Water Level
0	S-1	d				SM	Dark brown, silty fine to coarse SAND with organics (medium dense, dry)	
	S-2	d				GP	**(TOPSOIL)**	
	S-3	d				SP		
	S-4	d		0.0		SM	Brown, sandy GRAVEL (medium dense, moist)	ATD
		i4					**(FILL)**	
5							Brown, fine to medium SAND (medium dense, moist)	
							(ALLUVIUM)	
							Brown, silty, fine to medium SAND with gravel (medium dense, wet)	
							- grades to trace gravel and with trace organics	
							Groundwater sample: ASB0187-5-20130408	
							Groundwater sample: ASB0187-5b-20130408	
10								
15								
20								
25								
30								
35								

Boring Completed 04/08/13
Total Depth of Boring = 5.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-14.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0187

Figure
A-8

ASB0188

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS	Description
0				AC	Asphalt concrete pavement
	S-1	d		GP/SM	Brown, sandy GRAVEL (medium dense, moist) **(FILL)**
	S-2	i4, d	0.5	SP-SM	Brown, silty, fine to coarse SAND with gravel (medium dense, wet) **(ALLUVIUM)**
5	S-3	d		SP	Brown, fine to medium SAND with silt (medium dense, wet)
	S-4	d	0.7	SM	Brown, fine to medium SAND (medium dense, wet)
	S-5	d		SP-SM	
	S-6	i4		SM	**Groundwater sample: ASB0188-5-20130409**
	S-7	d		SM	
	S-8	d, d		SP-SM	
10	S-9	d		ML	**Groundwater sample: ASB0188-5b-20130409**
				SM/SP	Grayish-brown, very silty, fine to medium SAND (medium dense, wet)
	S-10	d, i4	0.8		Dark gray, fine to medium SAND with silt (medium dense, wet)
					Grayish-brown, silty, fine to medium SAND (medium dense, wet)
15	S-11	d	0.6		Dark gray, fine SAND with silt (medium dense, wet)
		i4			Grayish-brown SILT with organics (medium stiff, wet)
					Grayish-brown, very silty, fine SAND (medium dense, wet)
20	S-12	d		GP	Dark gray, fine to medium SAND (medium dense, wet)
	S-13	d	0.0	ML/SP	**Groundwater sample: ASB0188-15-20130409**
		i4			Dark gray, sandy GRAVEL (medium dense, wet)
25					Grayish-brown, sandy SILT (soft, wet)
					Dark gray, fine to medium SAND (medium dense, wet) **Groundwater sample: ASB0188-25-20130409**
30					
35					

Water Level: ▽ ATD

Boring Completed 04/09/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-20.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0188

Figure
A-9

ASB0189

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0	S-1	d		0.0		AC	
						GP	
						PT	ATD
	S-2	i4 d				SM	
5							

Drilling Method: Geoprobe™

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

Asphalt concrete pavement

Brown, sandy GRAVEL (dense, damp)
(FILL)

Dark brown, silty PEAT (soft, wet)
(ALLUVIUM)

Brown, very silty, fine SAND (medium dense, wet)

Boring Completed 04/09/13
Total Depth of Boring = 5.0 ft.

Groundwater sample: ASB0189-5-20130409

10 15 20 25 30 35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-29.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0189

Figure
A-10

ASB0190

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS Symbol	Description
0	S-1	d	0.0	GP	Brown, sandy GRAVEL (medium dense, moist) **(FILL)**
		i4			
5	S-2	i4		GP-GM	Brown, sandy GRAVEL with silt (medium dense, wet)
	S-3	d	0.0	SM	
	S-4	d		SP	Brown, very silty, fine SAND (medium dense, wet) **(ALLUVIUM)**
					Dark gray, fine to medium SAND (medium dense, wet)
10					**Groundwater sample: ASB0190-10-20130410**
	S-5	d		GP	
	S-6	d	0.0		**Groundwater sample: ASB0190-10b-10230410**
		i4			Dark gray, sandy GRAVEL (medium dense, wet)
15	S-7	d	0.0	SP	Dark gray, fine to medium SAND (medium dense, wet)
					Groundwater sample: ASB0190-15-20130410
	S-8	i4		GP	
		d			Dark gray, sandy GRAVEL (medium dense, wet)
20				SP	Dark gray, fine to medium SAND (medium dense, wet)
		i4			
	S-9	d	0.0	GP	Dark gray GRAVEL with sand (medium dense, wet)
25					**Groundwater sample: ASB0190-25-20130410**
30					
35					

ATD

Boring Completed 04/10/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-31.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0190

Figure
A-11

ASB0191

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0						AC	
						GP	
						SM	
	S-1	i4 d		0.0			ATD
5							

Drilling Method: Geoprobe™

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

Asphalt concrete pavement

Brown, sandy GRAVEL (medium dense, damp)

(FILL)

Brown, very silty, fine SAND (medium dense, wet)

(ALLUVIUM)

- grades with iron oxide mottling at 2.5 ft

Boring Completed 04/10/13
Total Depth of Boring = 5.0 ft.

Groundwater sample: ASB0191-5-20130410

10
15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-34.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0191

Figure
A-12

ASB0192

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS Symbol	Description
0	S-1	d		SM	Brown, silty, fine to medium SAND (loose, moist)
				SP-SM	**(ALLUVIUM)**
		i4			Brownish-gray, fine to medium SAND with silt (loose, moist)
					ATD
5	S-2	d	0.8		- grades brown, medium dense and wet
					Groundwater sample: ASB0192-5-20130411
	S-3	d		SM	
		i4			**Groundwater sample: ASB0192-5b-20130411**
				SP-SM	Brownish-gray, very silty, fine SAND (medium dense, wet)
	S-4	d		SM	
10				SP	Brownish-gray, fine SAND with silt (medium dense, wet)
	S-5	d	0.0		Brownish-gray, silty, fine SAND (medium dense, wet)
		i4			Dark gray, fine to medium SAND (medium dense, wet)
15					**Groundwater sample: ASB0192-15-20130411**
		i4		GP	Dark gray, sandy GRAVEL (medium dense, wet)
	S-6	d	0.9		
20	S-7	d	1.4	SP	Dark gray, fine to coarse SAND (medium dense, wet)
	S-8	i4		GP	Dark gray, sandy GRAVEL (medium dense, wet)
		d			
25					**Groundwater sample: ASB0192-25-20130411**

Boring Completed 04/11/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-21.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0192

Figure
A-13

ASB0193

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0	S-1	d				SM	
	S-2	d		1.1		ML	ATD
	S-3	d				SM	
		i4					
	S-4	d				SP-SM	
5	S-5	d				SP	

Drilling Method: Hand Auger

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

Brown, silty, fine to medium SAND with gravel (medium dense, moist)
(FILL)

Grayish-brown mottled SILT (soft, wet)
(ALLUVIUM)

Grayish-brown, very silty, fine SAND (medium dense, wet)

Dark brown, fine to medium SAND with silt (medium dense, wet)

Dark brown, fine to medium SAND (medium dense, wet)

Groundwater sample: ASB0193-5-20130411

Boring Completed 04/11/13
Total Depth of Boring = 5.0 ft.

10
15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-24.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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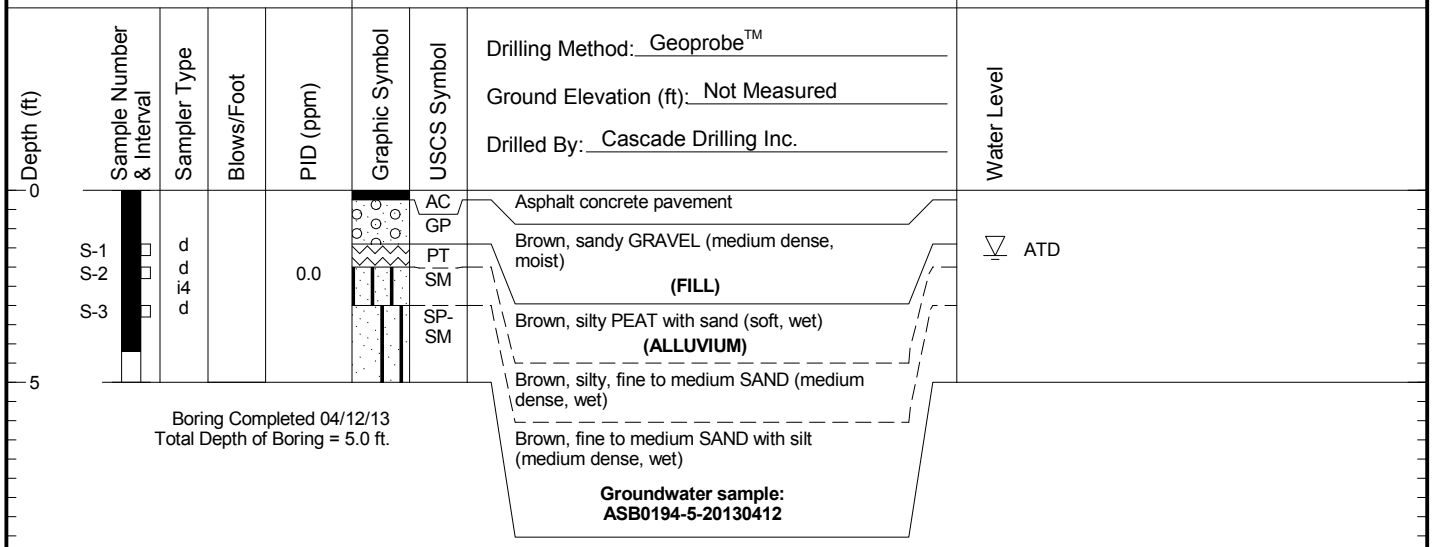
Boeing Auburn
Auburn, Washington

Log of Boring ASB0193

Figure
A-14

ASB0194



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-38.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0194

Figure
A-15

ASB0195

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	USCS Symbol	Description	Water Level
0					AC	Asphalt concrete pavement	
	S-1	d			GP		
	S-2	d		1.4	SM	Brown, sandy GRAVEL (medium dense, moist)	ATD
		i4			SP	**(FILL)**	
						Brown iron oxide mottled, silty, fine SAND (medium dense, moist)	
5						**(ALLUVIUM)**	
						Brown, fine SAND (medium dense, wet)	

Boring Completed 04/13/13
Total Depth of Boring = 5.0 ft.

Groundwater sample: ASB0195-5-20130412

10
15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-39.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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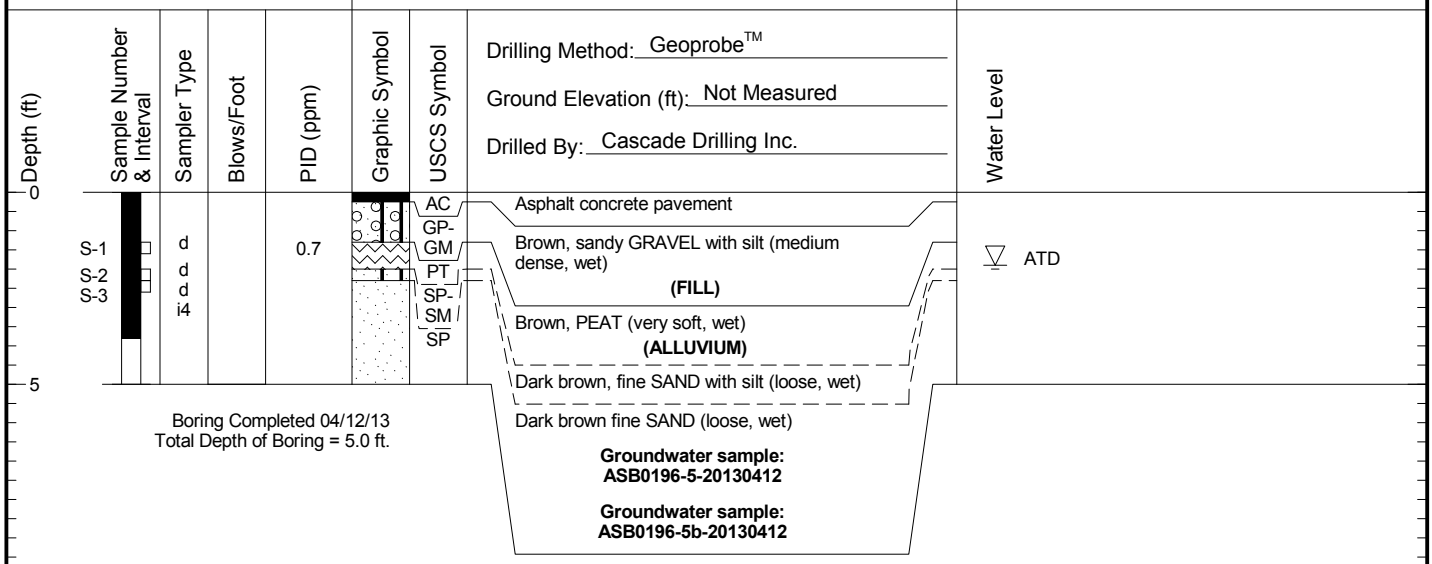
Boeing Auburn
Auburn, Washington

Log of Boring ASB0195

Figure
A-16

ASB0196



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-40.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0196

Figure
A-17

ASB0197

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS	Description
0				AC	Asphalt concrete pavement
	S-1	d	0.0	SP-SM	Gray, gravelly, fine to coarse SAND with silt (dense, damp)
		i4			**(FILL)**
	S-2	d		SM	Grayish-brown, silty, fine SAND (dense, wet)
					(ALLUVIUM)
5	S-3	d	0.0		- grades abundant organics
				SM	Gray, silty, fine to coarse SAND (dense, wet)
	S-4	d		SM	
				SP-SM	Grayish-brown, very silty, fine SAND (medium dense, wet)
		i4		ML	
	S-5	d			Dark gray, fine to medium SAND with silt (medium dense, wet)
	S-6	d		SM	
10					Grayish-brown SILT (soft, wet)
					Groundwater sample: ASB0197-8-20130415
					- grades with sand
					Grayish-brown, very silty, fine SAND (dense, wet)
15					
20					
25					
30					
35					

Water Level: ATD

Boring Completed 04/15/13
Total Depth of Boring = 10.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-28.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0197

Figure
A-18

ASB0198

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS	Description
0				AC	Asphalt concrete pavement
				GP	
	S-1	d	1.4	PT	Brown, sandy GRAVEL with trace silt (medium dense, damp)
	S-2	d		SM	**(FILL)**
	S-3	d		ML	
		i4		SM	Dark brown PEAT (soft, wet)
	S-4	d		SP	**(ALLUVIUM)**
5				SP	Gray, silty, fine SAND (medium dense, wet)
	S-5	d			Dark brown SILT with organics (soft, wet)
				SM	Gray, very silty, fine SAND (medium dense, wet)
	S-6	d	0.8		- grades with organics
		i4			Dark gray, fine to medium SAND (medium dense, wet)
10				SP	Dark brown, very gravelly, fine to coarse SAND (medium dense, wet)
	S-7	d	0.5		**Groundwater sample: ASB0198-5-20130415**
		i4			Brownish-gray, silty to very silty, fine SAND (medium dense, wet)
15	S-8	d	0.9		Dark gray, fine to medium SAND (medium dense, wet)
		i4			**Groundwater sample: ASB0198-15-20130415**
20					
	S-9	d		SP/ ML	Brown, fine to medium SAND interbedded with SILT (medium dense/stiff, wet)
		i4		GP	Dark gray, sandy GRAVEL (medium dense, wet)
	S-10	d	0.0	SP	Dark gray, fine to medium SAND (medium dense, wet)
25					**Groundwater sample: ASB0198-25-20130415**
30					
35					

ATD

Boring Completed 04/15/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-30.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

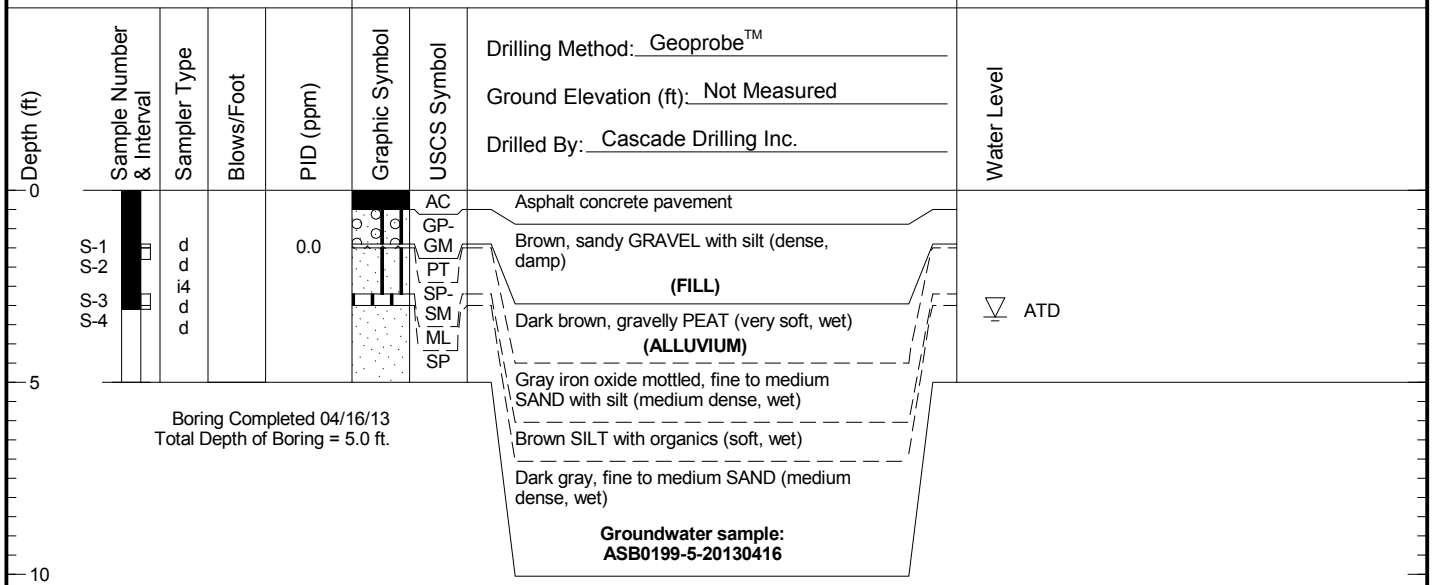
LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0198

Figure
A-19

ASB0199



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-17.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0199

Figure
A-20

ASB0200

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0						AC	Asphalt concrete pavement	
						GP		
	S-1	d				PT	Brown, sandy GRAVEL (dense, damp) **(FILL)**	ATD
		i4						
	S-2	d		0.3		SP	Dark brown, silty PEAT (soft, wet) **(ALLUVIUM)** - 2 inches of brown SILT with organics	
5	S-3	d		0.7		SP	Gray, fine to medium SAND (medium dense, wet)	
	S-4	d					Dark gray, fine to medium SAND (medium dense, wet)	
		i4				ML		
						SP	**Groundwater sample: ASB0200-5-20130416**	
10							Brownish-gray, sandy SILT (medium stiff, wet)	
							Dark gray, fine to medium SAND (medium dense, wet)	
	S-5	d		0.5				
		i4						
15							**Groundwater sample: ASB0200-15-20130416**	
						GP		
	S-6	d		1.1			Dark gray, sandy GRAVEL (medium dense, wet)	
		i4						
20						SP	Dark gray, fine to medium SAND (medium dense, wet)	
		i4				GP	Dark gray, very sandy GRAVEL (medium dense, wet) - piece of wood	
	S-7	d		1.3				
25							**Groundwater sample: ASB0200-25-20130416**	

Boring Completed 04/16/13
Total Depth of Boring = 25.0 ft.

30

35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-18.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0200

Figure
A-21

ASB0201

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0	S-1	d		0.2		AC	
						GP-GM	Asphalt concrete pavement Brown, sandy GRAVEL with silt (dense, damp)
		i4				ML	**(FILL)** Dark brown SILT with abundandt organics (very soft, wet) **(ALLUVIUM)**
5	S-2	d		0.2			ATD
		i4					**Groundwater sample: ASB0201-7-20130417**
10							

Boring Completed 04/17/13
Total Depth of Boring = 10.0 ft.

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-6.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0201

Figure
A-22

ASB0202

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS Symbol	Soil Description
0	S-8	d		GP-GM	Brown, sandy GRAVEL with silt (medium dense, damp)
	S-1	d	0.3	SM	**(FILL)**
	S-2	i4		ML	Grayish-brown, silty, fine to medium SAND with gravel and trace organics (medium dense, moist)
		d		SM	**(ALLUVIUM)**
5	S-3	d		SP	Brown, sandy SILT with organics (soft, wet)
	S-4	d	1.7	SM	Gray, very silty, fine to medium SAND (medium dense, wet)
	S-5	d		SP-SM	
		i4			Grayish-brown, fine to medium SAND with trace gravel (medium dense, wet)
	S-6	d		ML	
	S-7	d		SP-SM	Gray, very silty, fine SAND (medium dense, wet)
10				SP	Gray, fine to medium SAND with silt (medium dense, wet)
	S-9	d	7.0		
		i4			Gray, sandy SILT (medium stiff, wet)
					Groundwater sample: ASB0202-8-20130417
15					Gray, fine to medium SAND with silt (medium dense, wet)
					Dark gray, fine to medium SAND (medium dense, wet)
	S-10	d	4.9	ML	- grades fine sand
		i4		SP-SM	**Groundwater sample: ASB0202-15-20130417**
	S-11	d			
20				ML	Dark gray SILT (medium stiff, wet)
	S-12	d			Dark gray, fine SAND with silt (medium dense, wet)
		i4			Brownish-gray SILT (soft, wet)
	S-13	d	3.5	SP-SM	- grades with organics for 4 inches
25					Dark gray, fine to medium SAND with silt (medium dense, wet)
					Groundwater sample: ASB0202-25-20130417

Water Level: ATD

Boring Completed 04/17/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-7.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0202

Figure
A-23

ASB0203

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d		3.0		AC	Asphalt concrete pavement	
		i4				GP-GM	Brown, sandy GRAVEL with silt (dense, damp) **(FILL)**	
						PT	- grades gray Dark brown PEAT (soft, wet) **(ALLUVIUM)**	ATD
5	S-2	d						
	S-3	d				SM	Brownish-gray, silty, fine to coarse SAND with gravel (medium dense, wet)	
	S-4	d				SP		
	S-5	i4		0.8		ML	Dark gray, fine to medium SAND (medium dense, wet)	
	S-6	d				SM		
	S-7	d				ML	**Groundwater sample: ASB0203-7-20130418**	
10						SP		
	S-8	d		0.2			Brownish-gray SILT (soft, wet)	
		i4					Brownish-gray, silty, fine SAND (medium dense, wet)	
							Brown SILT (medium stiff, wet)	
15							Dark gray, fine to medium SAND (medium dense, wet)	
							Groundwater sample: ASB0203-15-20130418	
		i4						
20								
	S-9	d		62.3				
		i4						
25							**Groundwater sample: ASB0203-25-20130418**	
30								
35								

Boring Completed 04/18/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-1.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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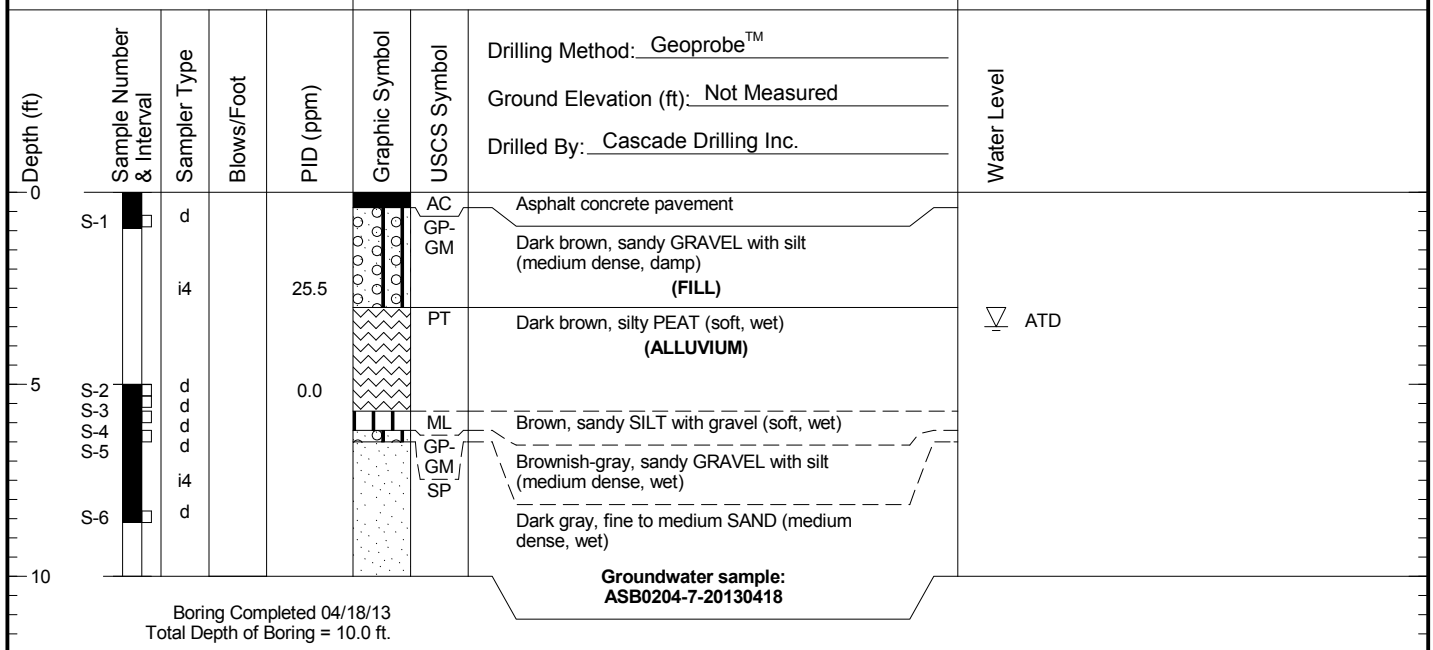
Boeing Auburn
Auburn, Washington

Log of Boring ASB0203

Figure
A-24

ASB0204



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-5.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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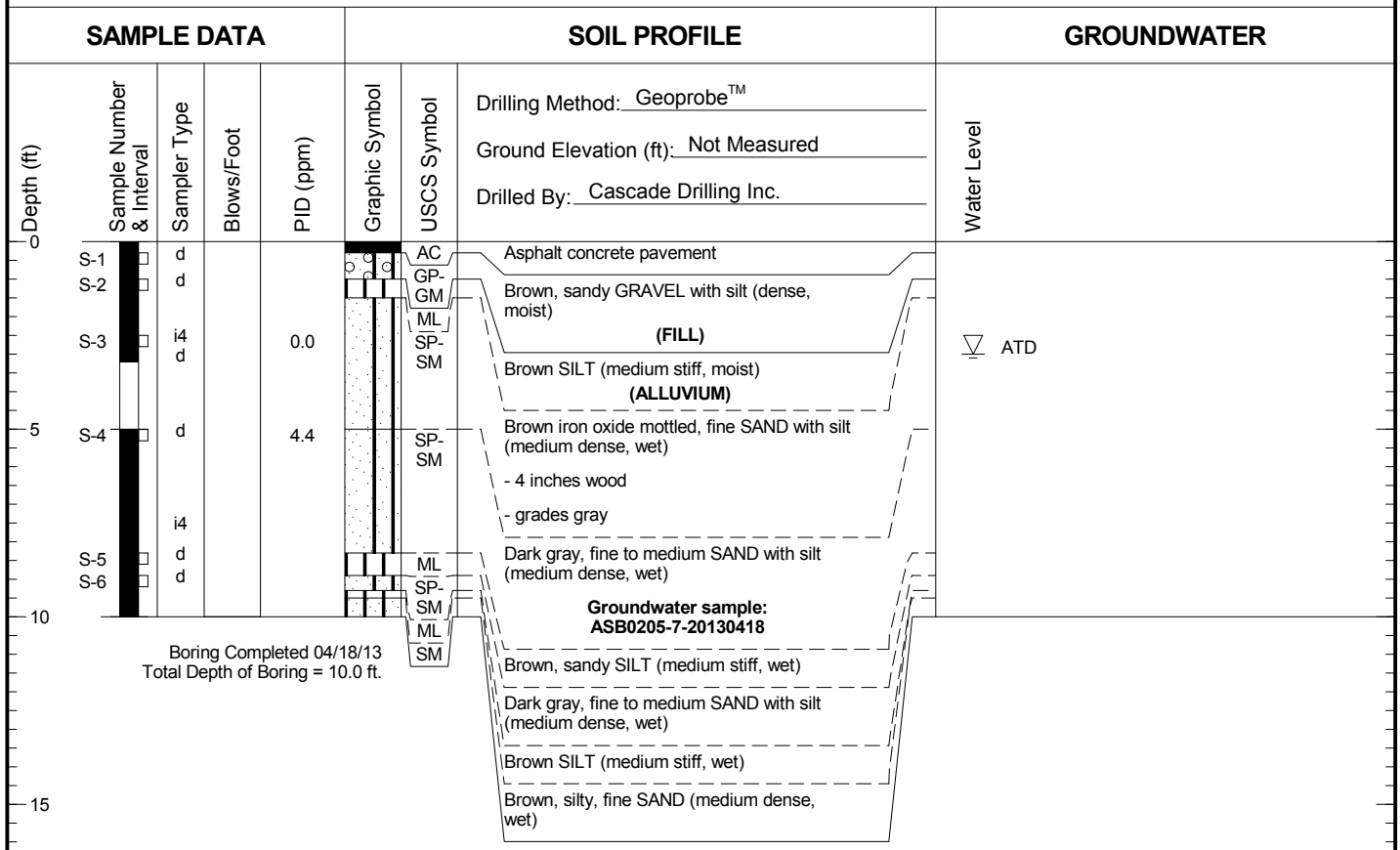
Boeing Auburn
Auburn, Washington

Log of Boring ASB0204

Figure
A-25

ASB0205



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-45.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0205

Figure
A-26

ASB0206

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d		0.0		AC	Asphalt concrete pavement	
						GP	Brown, sandy GRAVEL (dense, moist) **(FILL)**	
		i4				PT	Brown, silty PEAT (very soft, wet) **(ALLUVIUM)**	ATD
5	S-2	d				SM	Brown, silty, fine SAND with organics (medium dense, wet)	
	S-3	d				ML		
	S-4	d		0.0		SP-SM	Brownish-gray SILT (soft, wet)	
	S-5	d					Dark gray, fine to medium SAND with silt (medium dense, wet)	
		i4					**Groundwater sample: ASB0206-7-20130419**	
10	S-6	d		0.0		SP	Dark gray, fine to coarse SAND (medium dense, wet)	
	S-7	d				SM	Dark gray, silty, fine to medium SAND (medium dense, wet)	
	S-8	d				SP		
		i4				SM	Dark gray, fine to medium SAND (medium dense, wet)	
15	S-9	d				ML		
	S-10	d		0.0		SP	Dark gray, silty, fine to medium SAND (medium dense, wet)	
	S-11	d				SM	Grayish-brown SILT (medium stiff, wet)	
		i4				SP	**Groundwater sample: ASB0206-15-20130419**	
20	S-12	d				ML	Dark gray, fine to medium SAND (medium dense, wet)	
	S-13	d		0.0		SM	Dark gray, silty, fine to medium SAND (medium dense, wet)	
		i4				SP	Dark gray, fine to medium SAND (medium dense, wet)	
	S-14	d					Brownish-gray SILT (soft, wet)	
25							Dark gray, silty, fine to coarse SAND (medium dense, wet)	
							Dark gray, fine to coarse SAND with gravel (medium dense, wet)	
							Groundwater sample: ASB0206-25-20130419	
30								
35								

Boring Completed 04/19/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-16.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0206

Figure
A-27

ASB0207

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0	S-1	d				GP-GM	
	S-2	d				ML	
	S-3	d				SM	
	S-4	i4 d		6.3		ML	ATD
5							
10							
15							
20							
25							
30							
35							

Drilling Method: Geoprobe™

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

Brown, sandy GRAVEL with silt (medium dense, wet)

(FILL)

Dark brown SILT with sand and trace gravel (soft, wet)

(ALLUVIUM)

Gray, very silty, fine SAND with organics (medium dense, wet)

Grayish-brown SILT with sand and organics (soft, wet)

Groundwater sample: ASB0207-5-20130419

Boring Completed 04/19/13
Total Depth of Boring = 5.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-26.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

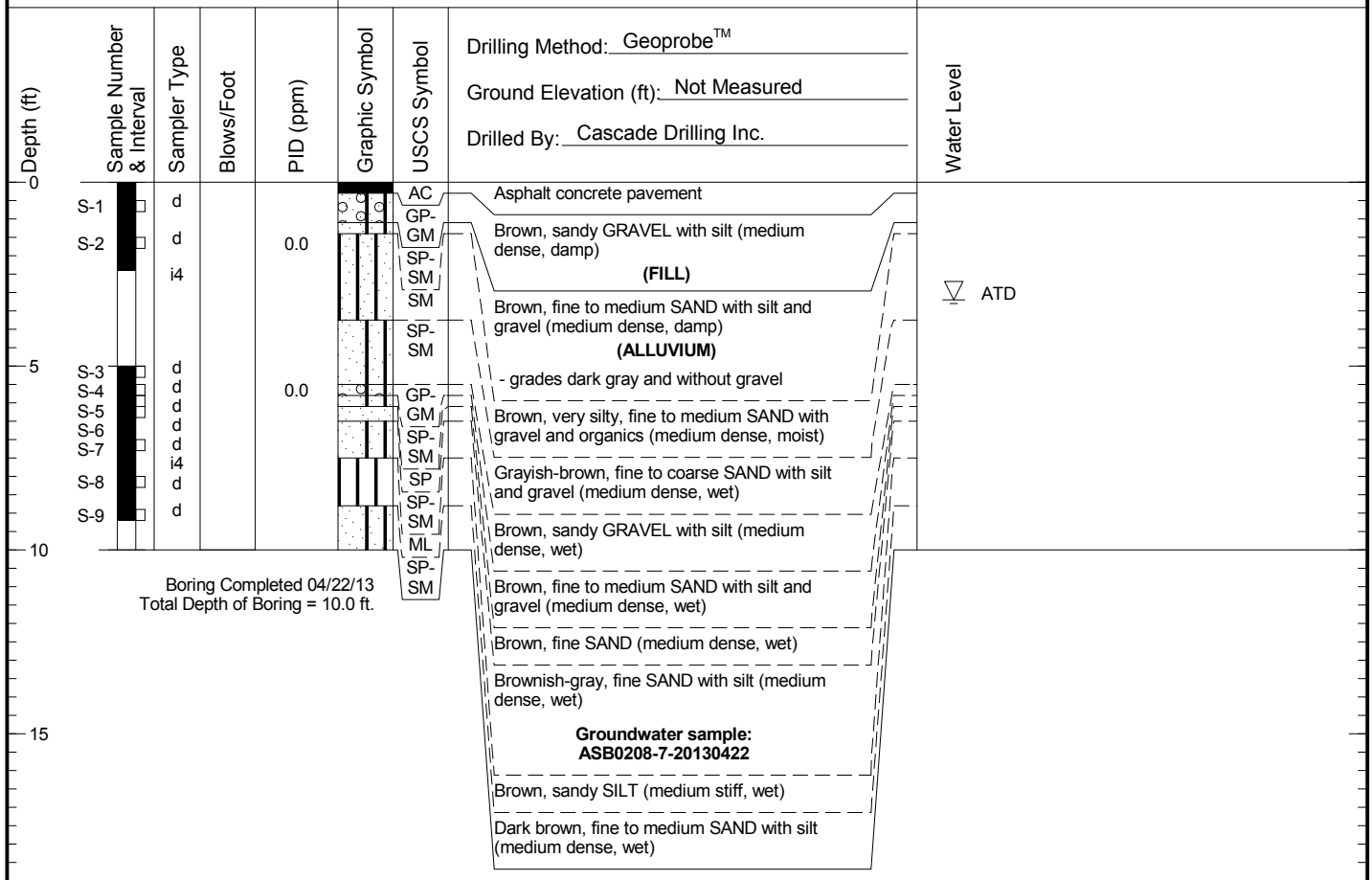
LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0207

Figure
A-28

ASB0208



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-27.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0208

Figure
A-29

ASB0209

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Hand Auger
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
	S-2	d		6.6		GP-GM SP	Gray, sandy GRAVEL with silt (medium dense, moist) **(FILL)**	ATD
	S-3	i4				SP-SM	Gray, fine to coarse SAND with gravel (medium dense, moist)	
	S-4	d				SP-SM	Gray, fine to coarse SAND with gravel and silt (medium dense, wet)	
5		d				SP	Brown, fine to medium SAND with silt and organics (dense, wet) **(ALLUVIUM)**	
							Dark gray, fine to medium SAND (medium dense, wet)	
10							**Groundwater sample: ASB0209-5-20130422**	
15								
20								
25								
30								
35								

Boring Completed 04/22/13
Total Depth of Boring = 5.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-47.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0209

Figure
A-30

ASB0210

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS Symbol	Description
0	S-1	d		AC	Asphalt concrete pavement
				GP-GM	Brown, sandy GRAVEL with silt (dense, moist)
	S-2	d		ML	**(FILL)**
	S-3	i4	22.7	SM	Dark gray SILT with sand (medium stiff, wet)
		d			**(ALLUVIUM)**
				SP	Dark gray, silty, fine SAND (medium dense, wet)
5	S-4	d	6.5		
	S-5	d		SP-SM	Brown, fine to coarse SAND with gravel (medium dense, wet)
	S-6	d		SP	
		i4			Dark gray, fine to medium SAND with silt (medium dense, wet)
	S-7	d		ML	
	S-8	d		SP-SM	Dark gray, fine to medium SAND (medium dense, wet)
10				SM	
	S-9	d			**Groundwater sample: ASB0210-8-20130422**
	S-10	d	1.3	SP	Grayish-brown SILT with sand (soft, wet)
		i4			Dark gray, fine to medium SAND with silt (medium dense, wet)
15					Dark gray, silty, fine to medium SAND (medium dense, wet)
	S-11	d	1.0		Dark gray, fine SAND with organics (medium dense, wet)
		i4			- grades without organics
					Groundwater sample: ASB0210-15-20130422
20	S-12	d	0.0		
		i4			
	S-13	d		GP	Dark gray GRAVEL with sand (medium dense, wet)
25					**Groundwater sample: ASB0210-25-20130422**

Water Level: ATD

Boring Completed 04/22/13
Total Depth of Boring = 25.0 ft.

30

35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-41.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0210

Figure
A-31

ASB0211

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	PID (ppm)	USCS Symbol	Water Level
0	S-1	d		AC	
	S-2	d		GM	
	S-3	d	0.0	ML	ATD
	S-4	d, i4		SM, ML	
	S-5	d		SP-SM	
	S-6	d		SM	
5	S-7	d		SP-SM	
	S-8	d	1.2	SP, SM	
	S-9	i4, d		SP/ML	
	S-10	d		SP	
10					
	S-11	d, i4	3.1	SM	
15	S-12	d		SP-SM	
	S-13	d			
	S-14	i4, d	0.2	SP	
	S-15	d		SP-SM	
20	S-16	d	0.0	SM, SP	
	S-17	d, i4		GP	
25					
30					
35					

Asphalt concrete pavement

Brown, silty, sandy GRAVEL (medium dense, moist)

(FILL)

Brown SILT with organics (medium stiff, wet)

(ALLUVIUM)

Gray, silty, fine SAND (medium dense, moist)

Brown SILT (medium stiff, wet)

Brown, fine SAND with silt (medium dense, wet)

Brownish-gray, silty, fine SAND (medium dense, wet)

Brown, fine SAND with silt (medium dense, wet)

Dark gray, fine to coarse SAND (medium dense, wet)

Groundwater sample: ASB0211-5-20130423

Dark grayish-brown, silty, fine SAND (medium dense, wet)

- grades very silty

Dark gray, fine to medium SAND and grayish-brown SILT (medium dense/very stiff, wet)

Dark gray, fine SAND (medium dense, wet)

Grayish-brown, silty, fine SAND (medium dense, wet)

Dark grayish-brown, fine SAND with silt (medium dense, wet)

Groundwater sample: ASB0211-15-20130423

Dark gray, fine to medium SAND (medium dense, wet)

Dark gray, fine to medium SAND with silt (medium dense, wet)

Dark gray, fine to medium SAND (medium dense, wet)

Dark gray GRAVEL with sand (medium dense, wet)

Groundwater sample: ASB0211-25-20130423

Boring Completed 04/23/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-42.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Auburn, Washington

Log of Boring ASB0211

Figure
A-32

ASB0212

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0	S-1	d				AC	
						GP-GM	ATD
	S-2	d		0.0		SM	
	S-3	i4				SP-SM	
	S-4	d					
	S-5	d				ML/SM	
5							
10							
15							
20							
25							
30							
35							

Drilling Method: Geoprobe™

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

Asphalt concrete pavement

Gray, sandy GRAVEL with silt (medium dense, damp)

(FILL)

Gray, very silty, fine SAND with gravel (medium dense, wet)

(ALLUVIUM)

Dark gray, fine to medium SAND with silt (medium dense, wet)

Grayish-brown SILT with sand (medium stiff, wet)

- grades with PEAT interbeds

Dark gray, silty, fine SAND (medium dense, wet)

Groundwater sample: ASB0212-5-20130423

Boring Completed 04/23/13
Total Depth of Boring = 5.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-43.

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Log of Boring ASB0212

Figure
A-33

ASB0213

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
	S-2	d		0.9		GP-GM	Gray, sandy GRAVEL with silt (dense, damp)	
	S-3	i4 d				PT	**(FILL)**	
						SM	Brown PEAT (soft, wet)	ATD
						ML	**(ALLUVIUM)**	
5	S-4	d		0.4			Brownish-gray, very silty, fine SAND (medium dense, wet)	
							Dark brown and grayish-brown SILT interbedded with PEAT (soft, wet)	
	S-5	i4 d				SP-SM	Dark gray, fine SAND with silt (medium dense, wet)	
	S-6	d				SP	**Groundwater sample: ASB0213-8-20130423**	
10							Dark gray, fine to medium SAND (medium dense, wet)	

Boring Completed 04/23/13
Total Depth of Boring = 10.0 ft.

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-48.

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Log of Boring ASB0213

Figure
A-34

ASB0214

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0	S-1	d				AC	
	S-2	d		0.0		GP-GM	
	S-3	d i4				ML SP-SM	ATD

Drilling Method: Geoprobe™

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

Asphalt concrete pavement

Brown, very sandy GRAVEL with silt (medium dense, damp)
(FILL)

Dark brown SILT (medium stiff, wet)
(ALLUVIUM)

Grayish-brown, fine SAND with silt (medium dense, wet)

Boring Completed 04/24/13
Total Depth of Boring = 5.0 ft.

Groundwater sample: ASB0214-5-20130424

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-37.

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Log of Boring ASB0214

Figure
A-35

ASB0215

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS	Description
0				AC	Asphalt concrete pavement
	S-1	d		GP-GM	Grayish-brown, sandy GRAVEL with silt (medium dense, damp)
	S-2	d		SP-SM	**(FILL)**
	S-3	i4 d	3.9		Grayish-brown, fine to medium SAND with silt (medium dense, damp) **(ALLUVIUM)**
					ATD
5	S-4	d			
	S-5	d i4		ML	Dark gray iron oxide mottled SILT (medium stiff, wet)
				SP	**Groundwater sample: ASB0215-7-20130424**
	S-6	d	2.8		
10	S-7	d		SM	Dark gray, fine to medium SAND (medium dense, wet)
	S-8	d	0.3	SP	Dark gray, very silty, fine SAND (medium dense, wet)
		i4			- Driller reports heave while drilling
					Dark gray, fine to medium SAND (medium dense, wet)
15	S-9	d			**Groundwater sample: ASB0215-15-20130424**
	S-10	d i4	0.1	GP	Dark gray GRAVEL with sand (medium dense, wet)
20	S-11	d	0.1	SP	Dark gray, fine to medium SAND (medium dense, wet)
				GP	Dark gray GRAVEL with sand (medium dense, wet)
	S-12	i4 d			
25					**Groundwater sample: ASB0215-25-20130424**

Boring Completed 04/24/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-46.

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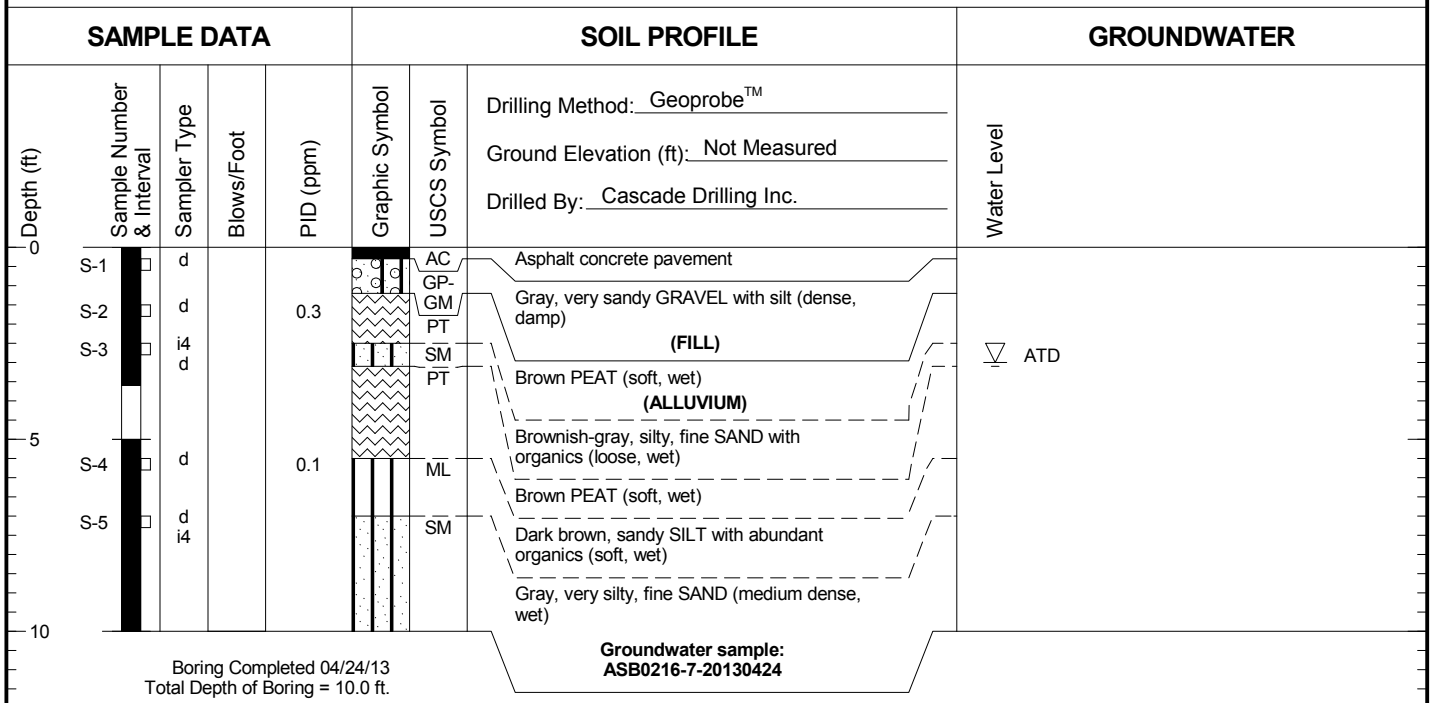
Log of Boring ASB0215

Figure
A-36

ASB0216



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-49.

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Log of Boring ASB0216

Figure
A-37

ASB0217

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
						GP-GM	Brown, sandy GRAVEL with silt (dense, damp)	
	S-2	d		0.5		PT	**(FILL)**	
	S-3	i4 d				SP-SM	Brown, silty PEAT (soft, wet) **(ALLUVIUM)**	ATD
5	S-4	d				SP-SM	Gray, fine to medium SAND with silt (medium dense, wet)	
	S-5	d		0.2		SP	Brown, fine to coarse SAND with gravel and silt (medium dense, wet)	
	S-6	d				ML		
		i4				SM	Dark gray, fine to medium SAND (medium dense, wet)	
						ML SM	Gray SILT (medium stiff, wet)	
10							Gray, very silty, fine SAND (medium dense, wet)	
							Groundwater sample: ASB0217-8-20130425	
							Gray SILT (medium stiff, wet)	
15							Gray, very silty, fine SAND (medium dense, wet)	
20								
25								
30								
35								

Boring Completed 04/25/13
Total Depth of Boring = 10.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-12.

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Auburn, Washington

Log of Boring ASB0217

Figure
A-38

ASB0218

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS	Description
0	S-1	d	0.2	AC	Asphalt concrete pavement
				GP-GM	Brown, sandy GRAVEL with silt (dense, damp)
	S-2	d, i4		PT	**(FILL)**
	S-3	d		ML	Brown PEAT (very soft, wet) **(ALLUVIUM)**
5	S-4	d		PT	Brownish-gray, sandy SILT with organics (medium stiff, wet)
	S-5	d		SP-SM	Dark brown PEAT (soft, wet)
	S-6	d, i4	1.5	ML	Brownish-gray, fine to coarse SAND with silt (medium dense, wet)
	S-7	d			Gray SILT with organics (soft, wet)
	S-8	d		SM	- grades with sand and abundant organics
10	S-9	d		SM	
	S-10	d		ML	Gray, very silty, fine SAND (medium dense, wet)
	S-11	d	0.2	SP-SM	Brownish-gray, very silty, fine to medium SAND with gravel (medium dense, wet)
	S-12	i4, d		SM	**Groundwater sample: ASB0218-10-20130425**
15				SP	Brownish-gray SILT (soft, wet)
	S-13	d, i4	0.0		Brownish-gray, fine SAND with silt (medium dense, wet)
					Brownish-gray, silty, fine SAND (medium dense, wet)
20	S-14	d			Dark gray, fine to medium SAND with trace wood fragments (medium dense, wet)
	S-15	d	0.3	ML	**Groundwater sample: ASB0218-15-20130425**
	S-16	d, i4		SM	Brownish-gray SILT (medium stiff, wet)
				ML	Brownish-gray, silty, fine SAND (medium dense, wet)
	S-17	d		SP-SM	Brownish-gray SILT (medium stiff, wet)
25				SP	Brownish-gray, fine to medium SAND with silt (medium dense, wet)
					Dark gray, fine to medium SAND (medium dense, wet)
30					**Groundwater sample: ASB0218-25-20130425**
35					

Water Level: ATD

Boring Completed 04/25/13
Total Depth of Boring = 25.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-22.

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Log of Boring ASB0218

Figure
A-39

ASB0219

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0						AC	Asphalt concrete pavement	
	S-1	d		0.3		GP-GM	Brown, sandy GRAVEL with silt (medium dense, damp)	
		i4					**(FILL)**	
						SP	Brown, fine to coarse SAND with gravel (dense, moist)	ATD
5	S-2	d						
	S-3	d				ML	Brown, sandy SILT (stiff, wet) **(ALLUVIUM)**	
	S-4	i4 d		0.3		SM	- grades gray Brownish-gray, silty, fine SAND (medium dense, wet)	
10							**Groundwater sample: ASB0219-9-20130425**	

Boring Completed 04/25/13
Total Depth of Boring = 10.0 ft.

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-32.

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Log of Boring ASB0219

Figure
A-40

ASB0220

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
	S-2	d				GP-GM	Brown, sandy GRAVEL with silt (dense, moist)	
	S-3	i4		0.4		PT	**(FILL)**	ATD
	S-4	d				SM		
		d				ML	- grades gray	
5							Brown PEAT (soft, wet) **(ALLUVIUM)**	
							Gray, silty, fine SAND (medium dense, wet)	
							Grayish-brown SILT with organics (soft, wet)	
10							**Groundwater sample: ASB0220-5-20130426**	
15								
20								
25								
30								
35								

Boring Completed 04/26/13
Total Depth of Boring = 5.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-13.

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Auburn, Washington

Log of Boring ASB0220

Figure
A-41

ASB0221

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
						GP		
	S-2	d				PT	Brown, sandy GRAVEL (medium dense, damp)	
		i4					**(FILL)**	
	S-3	d		1.5		SM	Dark brown PEAT with silt (very soft, wet)	ATD
							(ALLUVIUM)	
5	S-4	d				SM	Gray, silty, fine to medium SAND (medium dense, wet)	
	S-5	d		0.5		SM		
	S-6	d				SM	Dark brown, very silty, fine SAND with abundant organics (medium dense, wet)	
	S-7	d				SP-SM		
		i4					Grayish-brown, silty, fine to medium SAND (medium dense, wet)	
	S-8	d				SM		
	S-9	d				SP	- grades with gravel and organics	
10							Grayish-brown, very silty, fine to medium SAND (medium dense, wet)	
							Dark gray, fine to medium SAND with silt (medium dense, wet)	
							Groundwater sample: ASB0221-7-20130426	
15							Grayish-brown, very silty, fine SAND (medium dense, wet)	
							Dark gray, fine to medium SAND (medium dense, wet)	

Boring Completed 04/26/13
Total Depth of Boring = 10.0 ft.

20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-23.

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Log of Boring ASB0221

Figure
A-42

ASB0222

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample	Sampler Type	PID (ppm)	USCS	Description
0	S-1	d		AC	Asphalt concrete pavement
	S-2	d	0.5	GP	
	S-3	d		PT	Brown, sandy GRAVEL (dense, moist) **(FILL)**
	S-4	d		SM	
		i4			Dark brown PEAT (stiff, moist) **(ALLUVIUM)**
5	S-5	d	0.6	SP-SM	Brown iron oxide mottled, silty, fine SAND (medium dense, wet)
	S-6	d			- 1.5 inch layer of dark gray, fine to medium SAND at 2.2 ft BGS
	S-7	i4		SP	Brown, fine to medium SAND with silt (medium dense, wet)
		d		SM	
	S-8	d		SP	Brown, fine to medium SAND (medium dense, wet)
	S-9	d		ML	
10				SM	**Groundwater sample: ASB0222-7-20130426**
					- grades dark gray
15					Gray, very silty, fine SAND (medium dense, wet)
					Dark gray, fine to medium SAND (medium dense, wet)
					Gray SILT with sand (medium stiff, wet)
					Gray, very silty, fine SAND (medium dense, wet)
20					
25					
30					
35					

Water Level: ATD

Boring Completed 04/26/13
Total Depth of Boring = 10.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-33.

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Log of Boring ASB0222

Figure
A-43

ASB0223

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
	S-2	d		0.0		GP-GM	Brown, sandy GRAVEL with silt (medium dense, damp)	
	S-3	d				PT		
	S-4	i4 d				SM	**(FILL)**	
						ML	Dark brown PEAT (very soft, wet)	▽ ATD
						PT	**(ALLUVIUM)**	
5	S-5	d					Gray, very silty, fine SAND (medium dense, wet)	
	S-6	d				ML	Gray SILT (medium stiff, wet)	
	S-7	i4 d		0.0		SP	Dark brown, silty PEAT (soft, wet)	
							Gray SILT (medium stiff, wet)	
10							Dark gray, fine to medium SAND (medium dense, wet)	

Boring Completed 04/29/13
Total Depth of Boring = 10.0 ft.

Groundwater sample: ASB0223-8-20130429

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-15.

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Log of Boring ASB0223

Figure
A-44

ASB0224

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
						GP		
	S-2	d		0.0		ML	Grayish-brown, very sandy GRAVEL (medium dense, damp) **(FILL)**	
		i4						ATD
						SP	Dark brown SILT with abundant organics (medium stiff, wet)	
						ML	**(ALLUVIUM)**	
5	S-3	d				SP-SM	Dark gray, fine to medium SAND (medium dense, wet)	
	S-4	d		0.0				
	S-5	d				GP-GM	Dark brown SILT with abundant organics (very soft, wet)	
		i4				SM		
	S-6	d				ML	Grayish-brown, fine to medium SAND with silt (medium dense, wet)	
10						SP	Grayish-brown, sandy GRAVEL with silt (dense, wet)	
							Dark gray, silty, fine to medium SAND with organics (medium dense, wet)	
							Brown SILT with organics (medium dense, wet)	
15							**Groundwater sample: ASB0224-7-20130429**	
							Dark gray, fine to medium SAND (medium dense, wet)	
20								
25								
30								
35								

Boring Completed 04/29/13
Total Depth of Boring = 10.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-25.

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Log of Boring ASB0224

Figure
A-45

ASB0225

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0						AC	Asphalt concrete pavement	
	S-1	d				GP-GM	Gray, very sandy GRAVEL with silt (dense, damp)	
	S-2	i4		0.0		ML	**(FILL)**	
	S-3	d				PT	Brownish-gray SILT (soft, wet)	ATD
		d					**(ALLUVIUM)**	
						SP		
5	S-4	d					Dark brown PEAT (soft, wet)	
	S-5	d		0.0		SM	Brown and gray mottled, fine to coarse SAND with gravel and organics (medium dense, wet)	
		i4					Brownish-gray, silty, fine SAND (medium dense, wet)	
	S-6	d				SP-SM	**Groundwater sample: ASB0225-7-20130429**	
10							Dark gray, fine SAND with silt (medium dense, wet)	

Boring Completed 04/29/13
Total Depth of Boring = 10.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-4.

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Auburn, Washington

Log of Boring ASB0225

Figure
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ASB0226

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
0	S-1	d		0.1		GP-GM	
		i4					
5		i4					ATD
10							

Drilling Method: Geoprobe™

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

Brownish-gray, very gravelly, fine to coarse SAND with silt (medium dense, moist)

See log for AGW227 for lithology due to poor recovery

Groundwater sample: ASB0226-9-20130429

Boring Completed 04/29/13
Total Depth of Boring = 10.0 ft.

15
20
25
30
35

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-2.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0226

Figure
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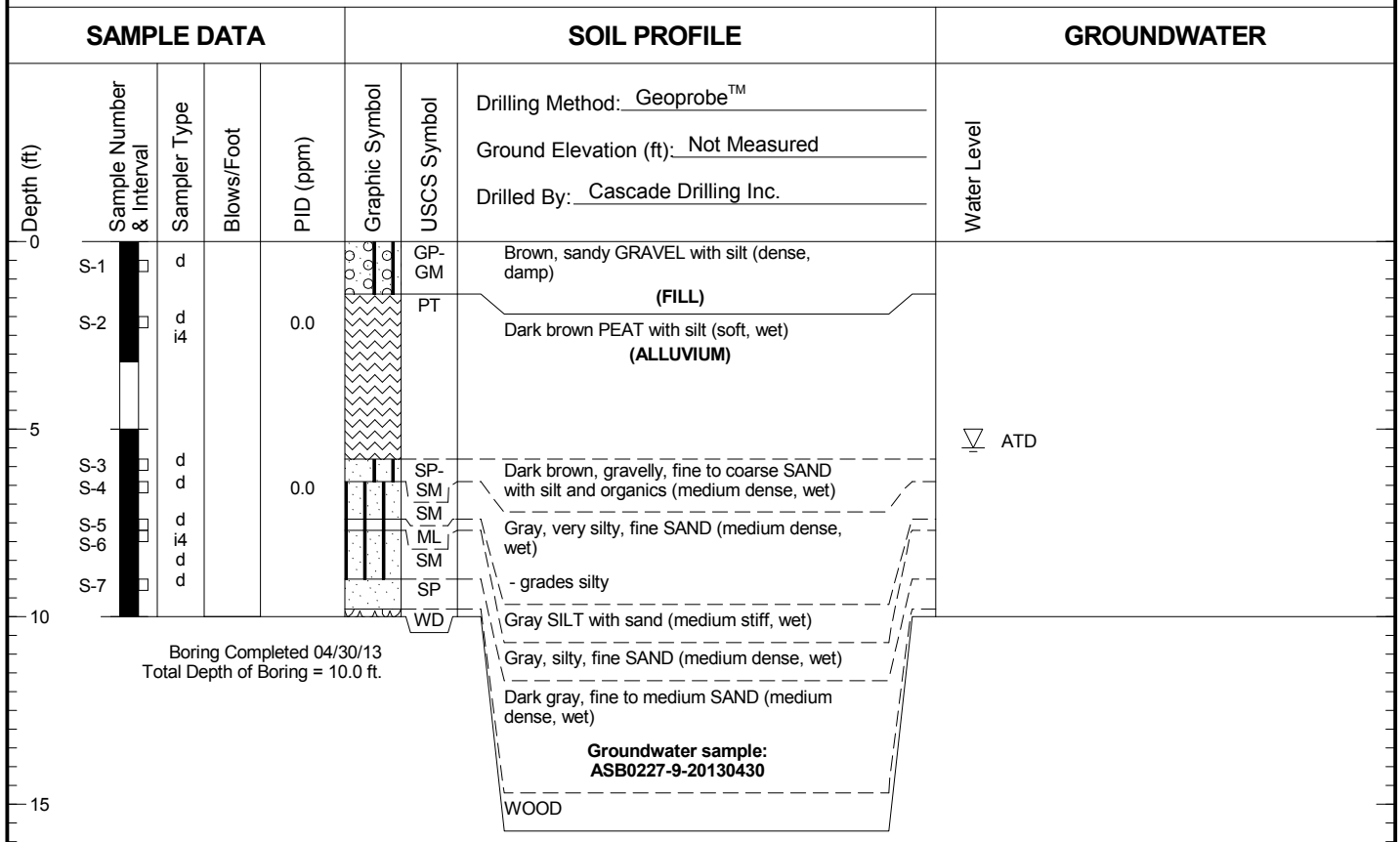
ASB0227



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-35.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0227

Figure
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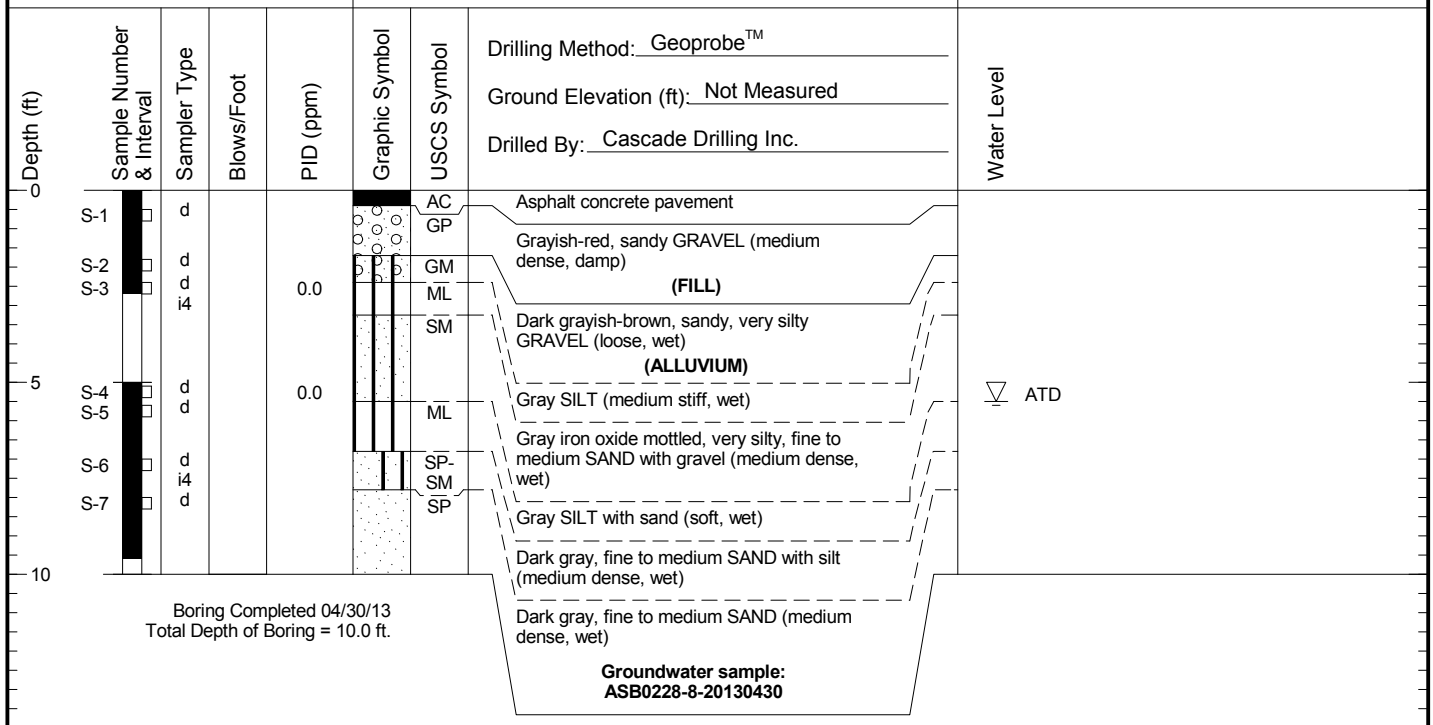
ASB0228



Boring Completed 04/30/13
Total Depth of Boring = 10.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-36.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0228

Figure
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ASB0229

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™
Ground Elevation (ft): Not Measured
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description	Water Level
0	S-1	d				GP-GM	Brown, sandy GRAVEL with silt (medium dense, damp)	
	S-2	d				GM		
	S-3	d		0.0		GM	**(FILL)**	
	S-4	d				ML		
	S-5	d				SM	Brown, silty, sandy GRAVEL (medium dense, damp)	ATD
		i4				SP		
							Gray and brown mottled, sandy SILT with organics (very soft, wet)	
5	S-6	d				SP-SM	**(ALLUVIUM)**	
	S-7	d		0.0		SM	Gray, silty, fine SAND (medium dense, wet)	
		i4					Gray, fine to medium SAND (medium dense, wet)	
	S-8	d				ML		
	S-9	d				PT	Gray, fine to medium SAND with silt (medium dense, wet)	
10						ML	Brown, very silty, fine SAND (medium dense, wet)	
							Groundwater sample: ASB0229-7-20130430	
							Brownish-gray SILT with organics (stiff, wet)	
							Dark brown PEAT (soft, wet)	
15							Grayish-brown SILT with sand and organics (soft, wet)	

Boring Completed 04/30/13
Total Depth of Boring = 10.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Work plan designation P-44.

025164. 5/7/13 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Auburn, Washington

Log of Boring ASB0229

Figure
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