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

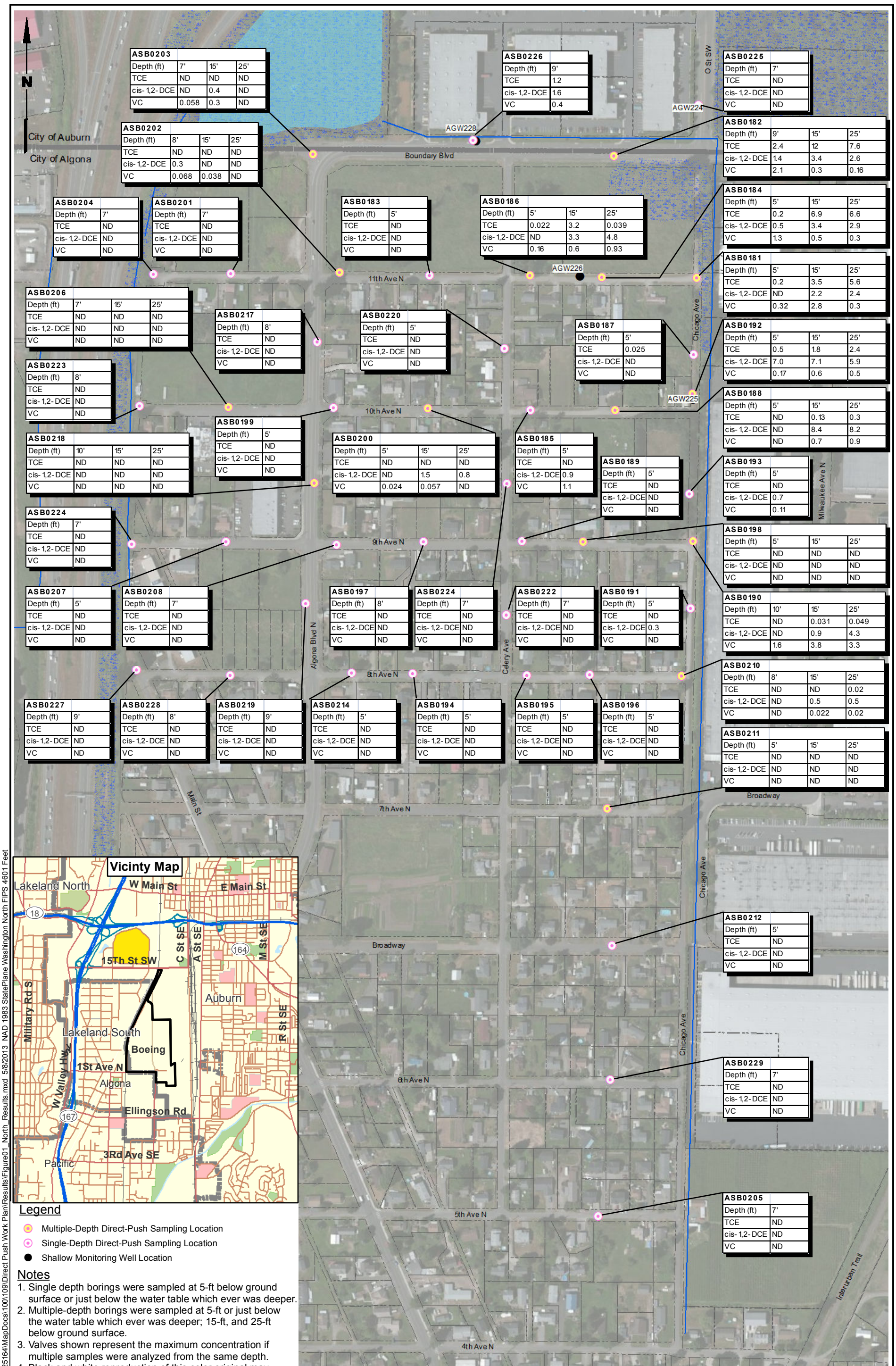
JWW/jrc

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)



ASB0203			
Depth (ft)	7'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	ND	0.4	ND
VC	0.058	0.3	ND

ASB0202			
Depth (ft)	8'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	0.3	ND	ND
VC	0.068	0.038	ND

ASB0204	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0201	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0206			
Depth (ft)	7'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	ND	ND	ND
VC	ND	ND	ND

ASB0223	
Depth (ft)	8'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0218			
Depth (ft)	10'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	ND	ND	ND
VC	ND	ND	ND

ASB0224	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0207	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0208	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0227	
Depth (ft)	9'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0228	
Depth (ft)	8'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0219	
Depth (ft)	9'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0183	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0186			
Depth (ft)	5'	15'	25'
TCE	0.022	3.2	0.039
cis-1,2-DCE	ND	3.3	4.8
VC	0.16	0.6	0.93

ASB0217	
Depth (ft)	8'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0220	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0187	
Depth (ft)	5'
TCE	0.025
cis-1,2-DCE	ND
VC	ND

ASB0199	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0200			
Depth (ft)	5'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	ND	1.5	0.8
VC	0.024	0.057	ND

ASB0185	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	0.9
VC	1.1

ASB0189	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0197	
Depth (ft)	8'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0224	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0222	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0191	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	0.3
VC	ND

ASB0214	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0194	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0195	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0196	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0225	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0182			
Depth (ft)	9'	15'	25'
TCE	2.4	12	7.6
cis-1,2-DCE	1.4	3.4	2.6
VC	2.1	0.3	0.16

ASB0184			
Depth (ft)	5'	15'	25'
TCE	0.2	6.9	6.6
cis-1,2-DCE	0.5	3.4	2.9
VC	1.3	0.5	0.3

ASB0181			
Depth (ft)	5'	15'	25'
TCE	0.2	3.5	5.6
cis-1,2-DCE	ND	2.2	2.4
VC	0.32	2.8	0.3

ASB0192			
Depth (ft)	5'	15'	25'
TCE	0.5	1.8	2.4
cis-1,2-DCE	7.0	7.1	5.9
VC	0.17	0.6	0.5

ASB0188			
Depth (ft)	5'	15'	25'
TCE	ND	0.13	0.3
cis-1,2-DCE	ND	8.4	8.2
VC	ND	0.7	0.9

ASB0193	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	0.7
VC	0.11

ASB0198			
Depth (ft)	5'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	ND	ND	ND
VC	ND	ND	ND

ASB0190			
Depth (ft)	10'	15'	25'
TCE	ND	0.031	0.049
cis-1,2-DCE	ND	0.9	4.3
VC	1.6	3.8	3.3

ASB0210			
Depth (ft)	8'	15'	25'
TCE	ND	ND	0.02
cis-1,2-DCE	ND	0.5	0.5
VC	ND	0.022	0.02

ASB0211			
Depth (ft)	5'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	ND	ND	ND
VC	ND	ND	ND

ASB0212	
Depth (ft)	5'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0229	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

ASB0205	
Depth (ft)	7'
TCE	ND
cis-1,2-DCE	ND
VC	ND

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

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

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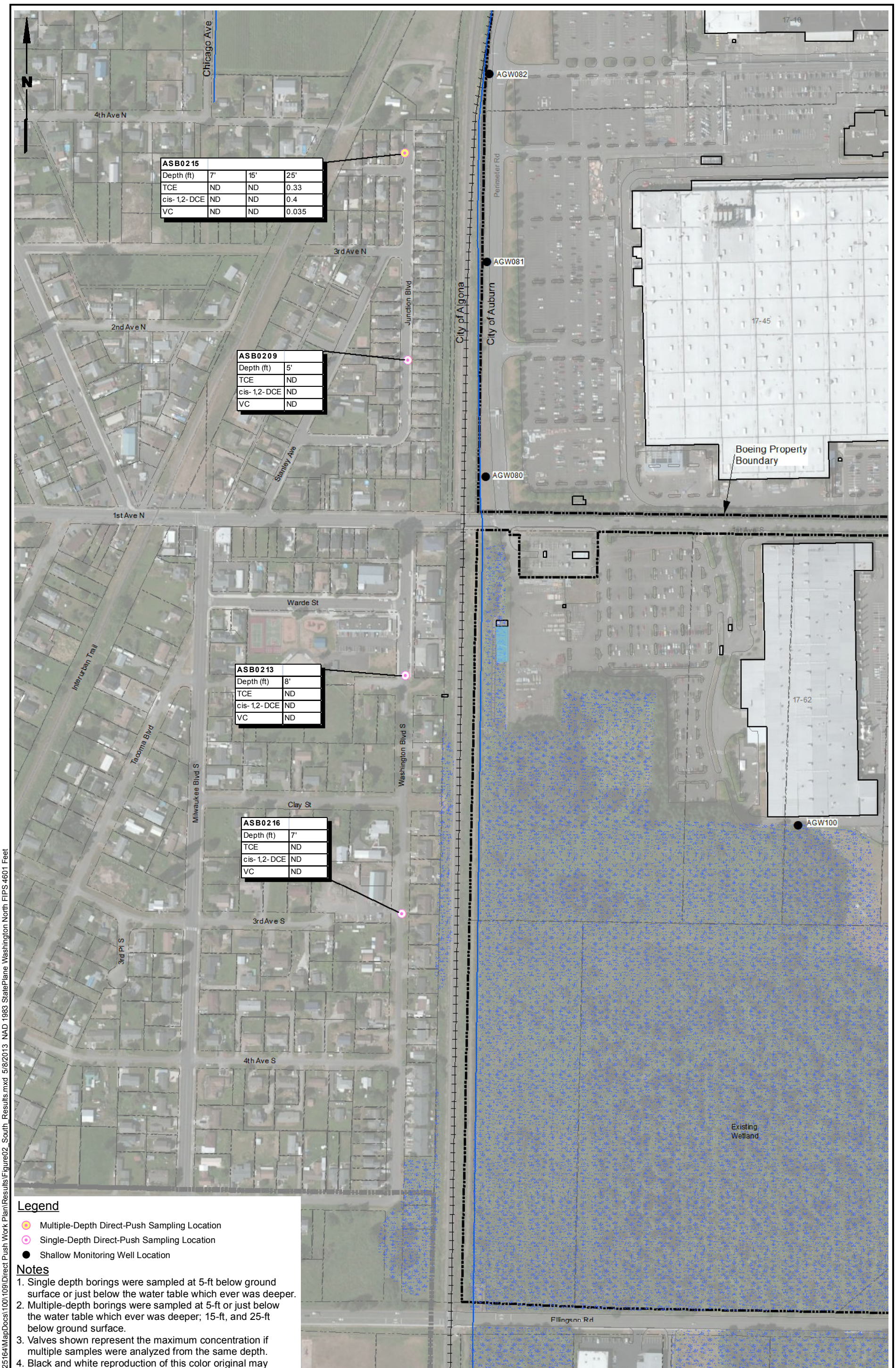
0 300 600
Scale in Feet

Boeing Auburn
Auburn, Washington

Direct-Push Drilling Results
Algona North - April 2013

Figure
1



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.
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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

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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

			Dup of ASB0188-15			
Location:	ASB0188-5b	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.

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Boeing Auburn
Auburn, Washington

Soil Classification System and Key

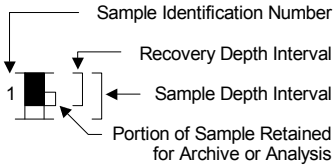
Figure
A-1
(1 of 2)

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

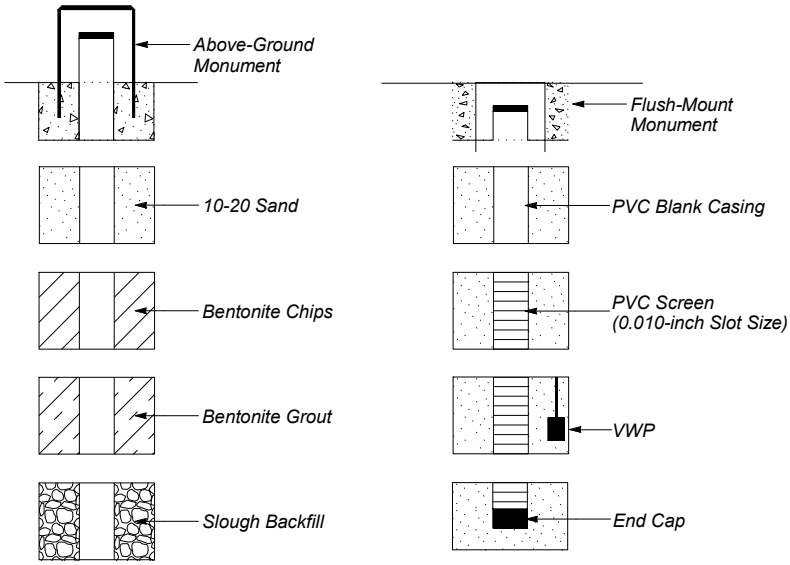
Groundwater

▽ 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						GP	Gray, sandy gravel (loose, moist)	ATD
	S-1	d		0.0		SP	**(FILL)**	
		i4					Dark brown, gravelly, fine to coarse SAND (loose, wet)	
							(ALLUVIUM)	
						GP	Dark brown, sandy GRAVEL with organics (medium dense, wet)	
5	S-2	d		0.0			**Groundwater sample ASB0181-5-20130403**	
							Groundwater sample ASB0181-5b-20130403	
	S-3	i4 d		0.0		ML	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	Dark gray, fine to coarse SAND (dense, wet)	
				0.0		GP	Dark gray, GRAVEL with sand (dense, wet)	
				0.0				
		i4		0.0			**Groundwater sample ASB0181-25-20130403**	
25								
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

ASB0182

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				SP	Brown, sandy GRAVEL (dense, dry) **(FILL)**	
		i4						
	S-2	d				PT	Brownish-black, gravelly, fine to coarse SAND (dense, dry) **(ALLUVIUM)**	
	S-3	d		0.0		SP-SM		
5							- grades gray	ATD
	S-4	d				SM	Dark brown PEAT (soft, wet)	
		i4					Brownish-gray, fine to medium SAND with silt and organics (medium dense, moist)	
	S-5	d		0.0		ML	Brownish-gray, silty fine SAND (medium dense, wet)	
10	S-6	d		0.0			Brownish-gray, sandy SILT (medium stiff, wet)	
	S-7	d				SM	**Groundwater sample ASB0182-9-20130403**	
		i4					**Groundwater sample ASB0182-9b-20130403**	
15							Brownish-gray, very silty, fine SAND (medium dense, wet)	
						SP		
	S-8	d		0.0			Dark gray fine to medium SAND (medium dense, wet)	
		i4					**Groundwater sample ASB0182-15-20130403**	
		d				GP		
	S-9						Dark gray, sandy GRAVEL (medium dense, wet)	
20	S-10	d		0.0		SP	Dark gray, fine to medium SAND (medium dense, wet)	
	S-11	d						
	S-12	i4				GP	Dark gray, sandy GRAVEL (medium dense, wet)	
		d						
25							**Groundwater sample ASB0182-25-20130403**	
30								
35								

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

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 PT	Brown, sandy GRAVEL (medium dense, damp) **(FILL)**	ATD
	S-2	i4 d				SM	Brown PEAT (soft, wet) **(ALLUVIUM)**	
5							Grayish-brown silty, fine SAND with organic laminations (medium dense, wet) **Groundwater sample ASB0183-5-20130405**	
10								
15								
20								
25								
30								
35								

Boring Completed 04/04/13
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-8.

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

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Auburn, Washington

Log of Boring ASB0183

Figure
A-4

ASB0184

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		0.0		GP		ATD
						SM	Brown, sandy GRAVEL (medium dense, moist)	
	S-2	i4 d				SM	**(FILL)**	
							Dark brown, silty, fine to medium SAND (loose, wet)	
							(ALLUVIUM)	
5	S-3	d				SP-SM	Brownish-gray, very silty, fine SAND (medium dense, wet)	
	S-4	d						
	S-5	d				ML		
		i4				SP	Dark gray, fine to medium SAND with silt (medium dense, wet)	
	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 i4				SP	Dark gray, fine to medium SAND (medium dense, wet)	
							Dark gray, sandy GRAVEL (medium dense, wet)	
20	S-13	d					Dark gray, fine to coarse SAND with silt (medium dense, wet)	
							Groundwater sample ASB0184-15-20130405	
	S-14	i4 d				GP	Dark gray, GRAVEL with sand (medium dense, wet)	
	S-15	d		0.0		SP		
25							Dark gray, gravelly, fine to coarse SAND (medium dense, wet)	
							- 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

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	
						GP	Brown, sandy, GRAVEL (medium dense, moist)	ATD
	S-1	d				PT	**(FILL)**	
	S-2	i4 d		0.0		ML	Dark brown, silty, PEAT (soft, wet) **(ALLUVIUM)**	
5							Grayish-brown, sandy SILT (medium stiff, wet)	
							Groundwater sample ASB0185-5-20130405	
10								
15								
20								
25								
30								
35								

Boring Completed 04/05/13
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-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

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	Brown, sandy GRAVEL (medium dense, dry) **(FILL)**	
	S-2	d, i4		0.0		SM	Dark brown, silty, fine to coarse SAND with gravel (medium dense, damp) **(ALLUVIUM)**	ATD
5							- grades with trace organics	
	S-3	d		0.5		SP-SM	Gray, silty, fine SAND with organics (medium dense, wet)	
	S-4	i4, d				SP	Grayish-brown, fine to medium SAND with silt (loose, wet)	
						SP-SM	**Groundwater sample: ASB0186-5-20130408**	
10						SP	- grades with wood pieces	
							Dark gray, fine to medium SAND (medium dense, wet)	
	S-5, S-6, S-7	d, i4, d, d		0.2		ML	Grayish-brown, fine to medium SAND with silt (medium dense, wet)	
	S-8	d		0.0			Dark gray, fine to medium SAND (medium dense, wet)	
15	S-9	d				SP-SM	Brownish-gray, sandy SILT (medium stiff, wet)	
	S-10	d, i4				SM	- Driller reported experiencing heave	
	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, i4		0.0			Dark gray, very silty, fine to medium SAND (medium dense, wet)	
							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**	
30								
35								

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0186

Figure A-7

ASB0187

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

Drilling Method: Hand Auger

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	PID (ppm)	USCS Symbol	Description
0	S-1	d		SM	Dark brown, silty fine to coarse SAND with organics (medium dense, dry) **(TOPSOIL)**
	S-2	d		GP	
	S-3	d		SP	
	S-4	d i4	0.0	SM	Brown, sandy GRAVEL (medium dense, moist) **(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
10					**Groundwater sample: ASB0187-5-20130408**
					Groundwater sample: ASB0187-5b-20130408

Water Level: ATD

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0187

Figure
A-8

ASB0188

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 / SM	Brown, sandy GRAVEL (medium dense, moist) **(FILL)**	ATD
	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-		
	S-6	i4				SM	**Groundwater sample: ASB0188-5-20130409**	
	S-7	d				SM		
	S-8	d, d				SP-		
10						SM	**Groundwater sample: ASB0188-5b-20130409**	
	S-9	d				ML		
						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)	
15							Grayish-brown, silty, fine to medium SAND (medium dense, wet)	
	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								

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.

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

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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	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	Brown, sandy GRAVEL (dense, damp) **(FILL)**	ATD
						PT		
	S-2	i4 d				SM	Dark brown, silty PEAT (soft, wet) **(ALLUVIUM)**	
5							Brown, very silty, fine SAND (medium dense, wet)	
							Groundwater sample: ASB0189-5-20130409	

Boring Completed 04/09/13
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-29.

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0189

Figure
A-10

ASB0190

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		GP	Brown, sandy GRAVEL (medium dense, moist) **(FILL)**	
		i4						
5	S-2	i4				GP-GM	Brown, sandy GRAVEL with silt (medium dense, wet)	ATD
	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 i4		0.0			**Groundwater sample: ASB0190-10b-10230410**	
							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 d				GP	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								

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.

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

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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	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0						AC	Asphalt concrete pavement	
						GP	Brown, sandy GRAVEL (medium dense, damp)	ATD
	S-1	i4 d		0.0		SM	**(FILL)**	
							Brown, very silty, fine SAND (medium dense, wet) **(ALLUVIUM)**	
5							- grades with iron oxide mottling at 2.5 ft	
							Groundwater sample: ASB0191-5-20130410	
10								
15								
20								
25								
30								
35								

Boring Completed 04/10/13
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-34.

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0191

Figure
A-12

ASB0192

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 i4				SM SP-SM	Brown, silty, fine to medium SAND (loose, moist) **(ALLUVIUM)** 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 i4				SM	**Groundwater sample: ASB0192-5b-20130411**	
						SP-SM	Brownish-gray, very silty, fine SAND (medium dense, wet)	
10	S-4	d				SM SP	Brownish-gray, fine SAND with silt (medium dense, wet)	
	S-5	d i4		0.0			Brownish-gray, silty, fine SAND (medium dense, wet) Dark gray, fine to medium SAND (medium dense, wet) **Groundwater sample: ASB0192-15-20130411**	
15								
	S-6	i4 d		0.9		GP	Dark gray, sandy GRAVEL (medium dense, wet)	
20	S-7	d		1.4		SP	Dark gray, fine to coarse SAND (medium dense, wet)	
	S-8	i4 d				GP	Dark gray, sandy GRAVEL (medium dense, wet)	
25							**Groundwater sample: ASB0192-25-20130411**	
30								
35								

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	Drilling Method: Hand Auger Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0	S-1	d				SM	Brown, silty, fine to medium SAND with gravel (medium dense, moist) **(FILL)**	ATD
	S-2	d		1.1		ML		
	S-3	d i4				SM	Grayish-brown mottled SILT (soft, wet) **(ALLUVIUM)**	
	S-4	d				SP-SM	Grayish-brown, very silty, fine SAND (medium dense, wet)	
5	S-5	d				SP	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**	
10								
15								
20								
25								
30								
35								

Boring Completed 04/11/13
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-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

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				GP	Brown, sandy GRAVEL (medium dense, moist)	ATD
	S-2	d		0.0		PT		
		i4				SM	**(FILL)**	
	S-3	d				SP-SM	Brown, silty PEAT with sand (soft, wet) **(ALLUVIUM)**	
5							Brown, silty, fine to medium SAND (medium dense, wet)	
							Brown, fine to medium SAND with silt (medium dense, wet)	
							Groundwater sample: ASB0194-5-20130412	
10								
15								
20								
25								
30								
35								

Boring Completed 04/12/13
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-38.

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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	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0						AC	Asphalt concrete pavement	
	S-1	d				GP	Brown, sandy GRAVEL (medium dense, moist) **(FILL)**	ATD
	S-2	d i4		1.4		SM SP	Brown iron oxide mottled, silty, fine SAND (medium dense, moist) **(ALLUVIUM)**	
5							Brown, fine SAND (medium dense, wet)	
							Groundwater sample: ASB0195-5-20130412	
10								
15								
20								
25								
30								
35								

Boring Completed 04/13/13
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-39.

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Auburn, Washington

Log of Boring ASB0195

Figure
A-16

ASB0196

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		0.7		GP-GM	Brown, sandy GRAVEL with silt (medium dense, wet) **(FILL)**	ATD
	S-2	d				PT		
	S-3	d				SP-SM / SP	Brown, PEAT (very soft, wet) **(ALLUVIUM)**	
5		i4					Dark brown, fine SAND with silt (loose, wet)	
							Dark brown fine SAND (loose, wet) **Groundwater sample: ASB0196-5-20130412** **Groundwater sample: ASB0196-5b-20130412**	
10								
15								
20								
25								
30								
35								

Boring Completed 04/12/13
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-40.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0196

Figure
A-17

ASB0197

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		0.0		SP-SM	Gray, gravelly, fine to coarse SAND with silt (dense, damp) **(FILL)**	
	S-2	i4 d				SM	Grayish-brown, silty, fine SAND (dense, wet) **(ALLUVIUM)**	ATD
5	S-3	d		0.0		SM	- grades abundant organics	
	S-4	d				SM	Gray, silty, fine to coarse SAND (dense, wet)	
	S-5	i4 d				SP-SM / ML	Grayish-brown, very silty, fine SAND (medium dense, wet)	
	S-6	d				SM	Dark gray, fine to medium SAND with silt (medium dense, wet)	
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								

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.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0197

Figure
A-18

ASB0198

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		1.4		PT	Brown, sandy GRAVEL with trace silt (medium dense, damp) **(FILL)**	ATD
	S-2	d				SM		
	S-3	d				ML		
		i4				SM	Dark brown PEAT (soft, wet) **(ALLUVIUM)**	
	S-4	d				SP		
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		
	S-7	d		0.5			Dark brown, very gravelly, fine to coarse SAND (medium dense, wet) **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) **Groundwater sample: ASB0198-15-20130415**	
		i4						
20								
	S-9	d				SP/ ML	Brown, fine to medium SAND interbedded with SILT (medium dense/stiff, wet)	
		i4				GP		
	S-10	d		0.0			Dark gray, sandy GRAVEL (medium dense, wet)	
25						SP	Dark gray, fine to medium SAND (medium dense, wet) **Groundwater sample: ASB0198-25-20130415**	
30								
35								

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.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0198

Figure
A-19

ASB0199

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 S-2	d d		0.0		GP-GM	Brown, sandy GRAVEL with silt (dense, damp)	
						PT	**(FILL)**	
	S-3 S-4	i4 d d				SP-SM	Dark brown, gravelly PEAT (very soft, wet)	ATD
						ML	**(ALLUVIUM)**	
5						SP	Gray iron oxide mottled, fine to medium SAND with silt (medium dense, wet)	
							Brown SILT with organics (soft, wet)	
							Dark gray, fine to medium SAND (medium dense, wet)	
							Groundwater sample: ASB0199-5-20130416	
10								
15								
20								
25								
30								
35								

Boring Completed 04/16/13
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-17.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0199

Figure
A-20

ASB0200

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 i4				ML	Dark gray, fine to medium SAND (medium dense, wet)	
						SP	**Groundwater sample: ASB0200-5-20130416**	
10							Brownish-gray, sandy SILT (medium stiff, wet)	
	S-5	d i4		0.5			Dark gray, fine to medium SAND (medium dense, wet)	
15							**Groundwater sample: ASB0200-15-20130416**	
	S-6	d i4		1.1		GP	Dark gray, sandy GRAVEL (medium dense, wet)	
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**	
30								
35								

Boring Completed 04/16/13
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-18.

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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	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0	S-1	d		0.2		AC	Asphalt concrete pavement	
						GP-GM	Brown, sandy GRAVEL with silt (dense, damp)	
		i4					**(FILL)**	
						ML	Dark brown SILT with abundandt organics (very soft, wet)	ATD
							(ALLUVIUM)	
5	S-2	d		0.2				
		i4					**Groundwater sample: ASB0201-7-20130417**	
10								
15								
20								
25								
30								
35								

Boring Completed 04/17/13
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-6.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0201

Figure
A-22

ASB0202

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	Soil Profile	Water Level
0	S-8	d			GP-	Brown, sandy GRAVEL with silt (medium dense, damp)	
	S-1	d		0.3	GM		
					SM	**(FILL)**	
	S-2	i4			ML	Grayish-brown, silty, fine to medium SAND with gravel and trace organics (medium dense, moist)	ATD
		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-		
		i4			SM	Grayish-brown, fine to medium SAND with trace gravel (medium dense, wet)	
	S-6	d			ML		
	S-7	d			SP-	Gray, very silty, fine SAND (medium dense, wet)	
					SM		
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-	- grades with organics for 4 inches	
					SM	Dark gray, fine to medium SAND with silt (medium dense, wet)	
25						**Groundwater sample: ASB0202-25-20130417**	
30							
35							

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.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0202

Figure
A-23

ASB0203

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		3.0		GP-GM	Brown, sandy GRAVEL with silt (dense, damp) **(FILL)**	
		i4					- grades gray	ATD
						PT	Dark brown PEAT (soft, wet) **(ALLUVIUM)**	
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.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0203

Figure
A-24

ASB0204

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				AC	Asphalt concrete pavement	
						GP-GM	Dark brown, sandy GRAVEL with silt (medium dense, damp) **(FILL)**	
		i4		25.5		PT	Dark brown, silty PEAT (soft, wet) **(ALLUVIUM)**	ATD
5	S-2	d		0.0				
	S-3	d				ML	Brown, sandy SILT with gravel (soft, wet)	
	S-4	d				GP-GM	Brownish-gray, sandy GRAVEL with silt (medium dense, wet)	
	S-5	d				SP	Dark gray, fine to medium SAND (medium dense, wet)	
		i4						
	S-6	d						
10							**Groundwater sample: ASB0204-7-20130418**	

Boring Completed 04/18/13
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-5.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0204

Figure
A-25

ASB0205

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				AC	Asphalt concrete pavement	
	S-2	d				GP-GM	Brown, sandy GRAVEL with silt (dense, moist)	
						ML	**(FILL)**	
	S-3	i4 d		0.0		SP-SM	Brown SILT (medium stiff, moist) **(ALLUVIUM)**	ATD
5	S-4	d		4.4		SP-SM	Brown iron oxide mottled, fine SAND with silt (medium dense, wet) - 4 inches wood - grades gray	
		i4						
	S-5	d				ML	Dark gray, fine to medium SAND with silt (medium dense, wet)	
	S-6	d				SP-SM	**Groundwater sample: ASB0205-7-20130418**	
10						ML SM	Brown, sandy SILT (medium stiff, wet)	
							Dark gray, fine to medium SAND with silt (medium dense, wet)	
							Brown SILT (medium stiff, wet)	
15							Brown, silty, fine SAND (medium dense, wet)	
20								
25								
30								
35								

Boring Completed 04/18/13
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-45.

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

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0205

Figure
A-26

ASB0206

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	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0	S-1	d				GP-GM	Brown, sandy GRAVEL with silt (medium dense, wet) **(FILL)**	
	S-2	d				ML		
	S-3	d				SM	Dark brown SILT with sand and trace gravel (soft, wet) **(ALLUVIUM)**	ATD
	S-4	i4 d		6.3		ML		
5							Gray, very silty, fine SAND with organics (medium dense, wet)	
							Grayish-brown SILT with sand and organics (soft, wet) **Groundwater sample: ASB0207-5-20130419**	
10								
15								
20								
25								
30								
35								

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

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				GP-GM	Brown, sandy GRAVEL with silt (medium dense, damp)	
	S-2	d		0.0		SP-SM	**(FILL)**	ATD
		i4				SM	Brown, fine to medium SAND with silt and gravel (medium dense, damp)	
						SP-SM	**(ALLUVIUM)**	
5	S-3	d					- grades dark gray and without gravel	
	S-4	d		0.0		GP-GM	Brown, very silty, fine to medium SAND with gravel and organics (medium dense, moist)	
	S-5	d				SP-SM	Grayish-brown, fine to coarse SAND with silt and gravel (medium dense, wet)	
	S-6	d				SP	Brown, sandy GRAVEL with silt (medium dense, wet)	
	S-7	d				SP-SM	Brown, fine to medium SAND with silt and gravel (medium dense, wet)	
		i4				ML	Brown, fine SAND (medium dense, wet)	
	S-8	d				SP-SM	Brownish-gray, fine SAND with silt (medium dense, wet)	
	S-9	d					**Groundwater sample: ASB0208-7-20130422**	
10							Brown, sandy SILT (medium stiff, wet)	
							Dark brown, fine to medium SAND with silt (medium dense, wet)	
15								
20								
25								
30								
35								

Boring Completed 04/22/13
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-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
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hand Auger Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
	S-2	d		6.6		GP-GM	Gray, sandy GRAVEL with silt (medium dense, moist)	
	S-3	i4				SP	**(FILL)**	ATD
	S-4	d d				SP-SM	Gray, fine to coarse SAND with gravel (medium dense, moist)	
5						SP-SM	Gray, fine to coarse SAND with gravel and silt (medium dense, wet)	
						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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0209

Figure
A-30

ASB0210

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, moist)	
	S-2	d				ML	**(FILL)**	
	S-3	i4, d		22.7		SM	Dark gray SILT with sand (medium stiff, wet) **(ALLUVIUM)**	ATD
						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, i4				SP	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	S-9	d				SM	**Groundwater sample: ASB0210-8-20130422**	
	S-10	d, i4		1.3		SP	Grayish-brown SILT with sand (soft, wet)	
							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, i4		1.0			Dark gray, fine SAND with organics (medium dense, wet) - grades without organics **Groundwater sample: ASB0210-15-20130422**	
20	S-12	d, i4		0.0				
	S-13	d				GP	Dark gray GRAVEL with sand (medium dense, wet)	
25							**Groundwater sample: ASB0210-25-20130422**	

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

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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	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0	S-1	d				AC	Asphalt concrete pavement	
	S-2	d				GM	Brown, silty, sandy GRAVEL (medium dense, moist) **(FILL)**	
	S-3	d		0.0		ML		ATD
	S-4	d, i4				SM, ML		
	S-5	d				SP-SM	Brown SILT with organics (medium stiff, wet) **(ALLUVIUM)**	
	S-6	d				SM		
5	S-7	d				SP-SM	Gray, silty, fine SAND (medium dense, moist)	
	S-8	d		1.2		SP		
						SM	Brown SILT (medium stiff, wet)	
	S-9	i4, d				SP/ML	Brown, fine SAND with silt (medium dense, wet)	
	S-10	d				SP	Brownish-gray, silty, fine SAND (medium dense, wet)	
10							Brown, fine SAND with silt (medium dense, wet)	
	S-11	d, i4		3.1		SM	Dark gray, fine to coarse SAND (medium dense, wet) **Groundwater sample: ASB0211-5-20130423**	
15	S-12	d				SP-SM	Dark grayish-brown, silty, fine SAND (medium dense, wet) - grades very silty	
	S-13	d						
	S-14	i4, d		0.2		SP	Dark gray, fine to medium SAND and grayish-brown SILT (medium dense/very stiff, wet)	
	S-15	d				SP-SM		
20	S-16	d		0.0		SP	Dark gray, fine SAND (medium dense, wet)	
						GP	Grayish-brown, silty, fine SAND (medium dense, wet)	
	S-17	d, i4					Dark grayish-brown, fine SAND with silt (medium dense, wet) **Groundwater sample: ASB0211-15-20130423**	
25							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)	
30							Dark gray GRAVEL with sand (medium dense, wet) **Groundwater sample: ASB0211-25-20130423**	
35								

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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Boeing Auburn
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	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0						AC	Asphalt concrete pavement	
	S-1	d				GP-GM	Gray, sandy GRAVEL with silt (medium dense, damp)	ATD
	S-2	d		0.0		SM	**(FILL)**	
	S-3	i4				SP-SM	Gray, very silty, fine SAND with gravel (medium dense, wet)	
	S-4	d				ML	**(ALLUVIUM)**	
	S-5	d				SM	Dark gray, fine to medium SAND with silt (medium dense, wet)	
5							Grayish-brown SILT with sand (medium stiff, wet) - grades with PEAT interbeds	
10							Dark gray, silty, fine SAND (medium dense, wet) **Groundwater sample: ASB0212-5-20130423**	
15								
20								
25								
30								
35								

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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Boeing Auburn
Auburn, Washington

Log of Boring ASB0212

Figure
A-33

ASB0213

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		
						SM	**(FILL)**	
						ML	Brown PEAT (soft, wet) **(ALLUVIUM)**	ATD
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.

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

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

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	Drilling Method: Geoprobe™ Ground Elevation (ft): Not Measured Drilled By: Cascade Drilling Inc.	Water Level
0	S-1	d		0.0		AC	Asphalt concrete pavement	
	S-2	d				GP-GM	Brown, very sandy GRAVEL with silt (medium dense, damp) **(FILL)**	ATD
	S-3	d i4				ML	Dark brown SILT (medium stiff, wet) **(ALLUVIUM)**	
5						SP-SM	Grayish-brown, fine SAND with silt (medium dense, wet)	
10								
15								
20								
25								
30								
35								

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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Boeing Auburn
Auburn, Washington

Log of Boring ASB0214

Figure
A-35

ASB0215

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	Soil Profile	Water Level
0	S-1	d			AC	Asphalt concrete pavement	
	S-2	d			GP-GM	Grayish-brown, sandy GRAVEL with silt (medium dense, damp) **(FILL)**	
	S-3	i4, d		3.9	SP-SM	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, i4		0.3	SP	Dark gray, very silty, fine SAND (medium dense, wet) - Driller reports heave while drilling	
						Dark gray, fine to medium SAND (medium dense, wet) **Groundwater sample: ASB0215-15-20130424**	
15	S-9	d					
	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)	
	S-12	i4, d			GP	Dark gray GRAVEL with sand (medium dense, wet)	
25						**Groundwater sample: ASB0215-25-20130424**	
30							
35							

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.

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0215

Figure A-36

ASB0216

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		0.3		GP-GM	Gray, very sandy GRAVEL with silt (dense, damp)	
	S-3	i4 d				PT	**(FILL)**	ATD
						SM	Brown PEAT (soft, wet)	
						PT	**(ALLUVIUM)**	
5	S-4	d		0.1		ML	Brownish-gray, silty, fine SAND with organics (loose, wet)	
							Brown PEAT (soft, wet)	
	S-5	d i4				SM	Dark brown, sandy SILT with abundant organics (soft, wet)	
							Gray, very silty, fine SAND (medium dense, wet)	
10							**Groundwater sample: ASB0216-7-20130424**	

Boring Completed 04/24/13
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-49.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0216

Figure
A-37

ASB0217

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				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 i4				ML		
						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.

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

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Boring ASB0217

Figure
A-38

ASB0218

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		0.2		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)	ATD
	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		
	S-12	i4, d				SM	Brownish-gray, very silty, fine to medium SAND with gravel (medium dense, wet) **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) **Groundwater sample: ASB0218-25-20130425**	
30								
35								

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.

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0218

Figure A-39

ASB0219

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) **(FILL)**	
		i4				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)** - grades gray	
	S-4	i4 d		0.3		SM	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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Auburn, Washington

Log of Boring ASB0219

Figure
A-40

ASB0220

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				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	- grades gray	
		d				ML	Brown PEAT (soft, wet)	
5							**(ALLUVIUM)**	
							Gray, silty, fine SAND (medium dense, wet)	
							Grayish-brown SILT with organics (soft, wet)	
							Groundwater sample: ASB0220-5-20130426	
10								
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

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		
	S-2	d				PT	Brown, sandy GRAVEL (medium dense, damp) **(FILL)**	
	S-3	i4 d		1.5		SM		ATD
							Dark brown PEAT with silt (very soft, wet) **(ALLUVIUM)**	
						SM		
5	S-4	d					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 i4				SP-SM		
							Grayish-brown, silty, fine to medium SAND (medium dense, wet)	
	S-8	d				SM		
							- grades with gravel and organics	
10	S-9	d				SP		
							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)	
20								
25								
30								
35								

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-23.

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Auburn, Washington

Log of Boring ASB0221

Figure
A-42

ASB0222

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		0.5		GP	Brown, sandy GRAVEL (dense, moist) **(FILL)**	
	S-3	d				PT		
	S-4	d				SM	Dark brown PEAT (stiff, moist) **(ALLUVIUM)**	ATD
		i4						
5	S-5	d		0.6		SP-SM	Brown iron oxide mottled, silty, fine SAND (medium dense, wet) - 1.5 inch layer of dark gray, fine to medium SAND at 2.2 ft BGS	
	S-6	d				SP	Brown, fine to medium SAND with silt (medium dense, wet)	
	S-7	i4				SM		
		d				SP		
	S-8	d				ML	Brown, fine to medium SAND (medium dense, wet)	
	S-9	d				SM		
10							**Groundwater sample: ASB0222-7-20130426** - grades dark gray	
							Gray, very silty, fine SAND (medium dense, wet)	
15							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								

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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Auburn, Washington

Log of Boring ASB0222

Figure
A-43

ASB0223

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				AC	Asphalt concrete pavement	
	S-2	d		0.0		GP-GM	Brown, sandy GRAVEL with silt (medium dense, damp) **(FILL)**	
	S-3	d				PT		
	S-4	i4 d				SM		
						ML	Dark brown PEAT (very soft, wet) **(ALLUVIUM)**	ATD
						PT		
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

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-15.

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

ASB0224

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				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) **(ALLUVIUM)**	
						ML		
5	S-3	d				SP-	Dark gray, fine to medium SAND (medium dense, wet)	
	S-4	d		0.0		SM		
	S-5	d				GP-	Dark brown SILT with abundant organics (very soft, wet)	
		i4				GM		
						SM		
	S-6	d				ML / SP	Grayish-brown, fine to medium SAND with silt (medium dense, wet)	
10							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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Auburn, Washington

Log of Boring ASB0224

Figure
A-45

ASB0225

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				GP-GM	Gray, very sandy GRAVEL with silt (dense, damp)	
	S-2	i4		0.0			**(FILL)**	
	S-3	d d				ML PT	Brownish-gray SILT (soft, wet) **(ALLUVIUM)**	ATD
						SP	Dark brown PEAT (soft, wet)	
5	S-4	d						
	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)	
15								
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-4.

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

ASB0226

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		0.1		GP-GM	Brownish-gray, very gravelly, fine to coarse SAND with silt (medium dense, moist)	
		i4					**See log for AGW227 for lithology due to poor recovery**	ATD
5		i4						
10							**Groundwater sample: ASB0226-9-20130429**	
15								
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-2.

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

ASB0227

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				GP-GM	Brown, sandy GRAVEL with silt (dense, damp) **(FILL)**	
	S-2	d i4		0.0		PT	Dark brown PEAT with silt (soft, wet) **(ALLUVIUM)**	
5								ATD
	S-3 S-4	d d		0.0		SP-SM	Dark brown, gravelly, fine to coarse SAND with silt and organics (medium dense, wet)	
	S-5 S-6	d i4				SM ML	Gray, very silty, fine SAND (medium dense, wet)	
	S-7	d d				SM SP	- grades silty	
10						WD	Gray SILT with sand (medium stiff, wet)	
							Gray, silty, fine SAND (medium dense, wet)	
							Dark gray, fine to medium SAND (medium dense, wet) **Groundwater sample: ASB0227-9-20130430**	
15							WOOD	
20								
25								
30								
35								

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-35.

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Log of Boring ASB0227

Figure
A-48

ASB0228

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				AC	Asphalt concrete pavement	
						GP	Grayish-red, sandy GRAVEL (medium dense, damp)	
	S-2	d				GM		
	S-3	d i4		0.0		ML	**(FILL)**	
						SM	Dark grayish-brown, sandy, very silty GRAVEL (loose, wet)	
							(ALLUVIUM)	
5	S-4	d		0.0			Gray SILT (medium stiff, wet)	ATD
	S-5	d				ML		
							Gray iron oxide mottled, very silty, fine to medium SAND with gravel (medium dense, wet)	
	S-6	d i4				SP-SM		
	S-7	d				SP	Gray SILT with sand (soft, wet)	
10							Dark gray, fine to medium SAND with silt (medium dense, wet)	
							Dark gray, fine to medium SAND (medium dense, wet)	
							Groundwater sample: ASB0228-8-20130430	
15								
20								
25								
30								
35								

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.

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0228

Figure
A-49

ASB0229

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				GP-	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	Gray, fine to medium SAND with silt (medium dense, wet)	
	S-9	d				PT		
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)	
20								
25								
30								
35								

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.

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Auburn, Washington

Log of Boring ASB0229

Figure
A-50