2014 Algona Groundwater Investigation Report Boeing Auburn Facility Auburn, Washington

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Prepared for

The Boeing Company
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LIST OF ABBREVIATIONS AND ACRONYMS

BGS	Below Ground Surface
Boeing	The Boeing Company
cis-1,2-DCE	Cis-1,2-Dichloroethene
City	City of Algona
CMT	Continuous Multi-channel Tubing
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ft	Feet/Foot
LLI	Eurofins Lancaster Laboratories, Inc.
Order	Agreed Order No. DE 01HWTRNR-3345
PSE	Puget Sound Energy
RI	Remedial Investigation
ROW	Right-of-Way
SIM	Selected Ion Monitoring
TCE	Trichloroethene
VOC	Volatile Organic Compound
VC	Vinyl Chloride
WAC	Washington Administrative Code

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1.0 INTRODUCTION

The Boeing Company (Boeing) is currently undergoing corrective action at their Auburn Fabrication Division facility (facility) located at 700 15th Street Southwest in Auburn, Washington. Corrective action requirements are documented in an Agreed Order (Order; No. DE 01HWTRNR-3345) dated August 14, 2002 and the First Amended Agreed Order dated February 21, 2006, both with Washington State Department of Ecology (Ecology). The Order includes a requirement to conduct a remedial investigation (RI) of facility contamination impacts both within the facility (on Boeing property) and at downgradient properties (off Boeing property). This report documents the 2014 off Boeing property groundwater investigations in Algona, Washington; north and west of the facility. The Boeing property[1] location and vicinity map, including Algona, are shown on Figure 1.

1.1 BACKGROUND

Between 2004 and 2008, Boeing completed a series of RI activities on Boeing property that were summarized in the *2nd Revised Ecology Review Draft Remedial Investigation Report* (Landau Associates 2009a). This report was a comprehensive document that addressed all solid waste management units and areas of concern on Boeing property as required under the Order. Ecology's June 19, 2009 comments on the *2nd Revised RI Report* identified an off Boeing property groundwater quality data gap. Between 2009 and 2014, Boeing completed a series of investigation activities as part of the RI to address this off Boeing property data gap. These activities, along with additional on Boeing property investigation activities, are described in a series of RI reports (Landau Associates 2009b, 2010, 2012ab, and 2014a).

Boeing has been implementing RI activities to characterize the nature and extent of two groundwater plumes: the Area 1 plume (Plume 1) and the western plume (Plume 2) that occur beneath the northern portion of the facility and extend off Boeing property to the north and northwest. These groundwater plumes are comprised of the volatile organic compounds (VOCs) trichloroethene (TCE) and its breakdown components: cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). The groundwater plumes are located in the uppermost aquifer which consists of saturated portions of modern alluvium. The uppermost aquifer has been subdivided into three groundwater zones based on depth beneath ground surface (BGS). The shallow zone is between 0 and 30 feet (ft) BGS, the intermediate zone is between 40 and 60 ft BGS, and the deep zone is between 80 and 100 ft BGS. The Osceola Mudflow serves as a regional aquitard between the uppermost aquifer and deeper aquifers.

[1] The facility as defined in the First Amended Agreed Order consists of the Boeing Property and the Prologis property directly north of the Boeing property.

As part of the investigation activities identified in the *Fall 2012 Additional RI Work Plan* (Landau Associates 2012c), groundwater monitoring wells in the shallow and intermediate zones were installed in December 2012 in northern residential Algona. Data from the three shallow zone wells (AGW225, AGW226, and AGW228) and the intermediate zone well (AGW227) indicated that VOC impacts to groundwater in the shallow and intermediate zones extended into the northeastern portion of residential Algona. In response to VOC detections in the shallow zone in northern residential Algona, a groundwater investigation using direct-push drilling and associated shallow borehole groundwater sampling was completed in April 2013 in both northern and southern residential Algona (Landau Associates 2014b).

Results from the direct-push drilling led to two recommendations for additional work: 1) vapor intrusion assessment in northern residential Algona, and 2) additional permanent monitoring wells in Algona. The first recommendation for vapor intrusion assessment was addressed in the *Additional Algona Residential Neighborhood Vapor Intrusion Assessment Work Plan* (Landau Associates 2013a). The Algona residential vapor intrusion investigation has been completed and was presented in the draft *Algona Vapor Intrusion Technical Report* (Landau Associates 2014c).

The second recommendation for additional permanent monitoring wells in Algona led to the 2014 Algona groundwater investigation presented in this report. The investigation was conducted as part of the RI in accordance with the Ecology-approved *Additional Algona Groundwater Investigation Work Plan* (Work Plan; Landau Associates 2014d). Ecology approved the work plan on May 15, 2014 (Ecology 2014a).

1.2 INVESTIGATION SCOPE AND OBJECTIVES

The scope, goals, and objectives of the 2014 Algona groundwater investigation are presented in the Work Plan (Landau Associates 2014d). The 2014 Algona groundwater investigation included installation of 12 new monitoring wells plus the advancement of 14 soil borings and associated groundwater borehole sampling to address these goals and objectives. The specific goals and objectives of the 2014 Algona groundwater investigation are:

- Goal #1: Provide locations for long-term monitoring of VOC concentrations at the water table in northern residential Algona.
  - Objective: Provide long-term monitoring of areas where direct-push data demonstrated TCE and/or VC concentrations above preliminary concern levels.
  - Objective: Provide additional data about VOC concentrations at the water table to guide long-term vapor intrusion monitoring.
- Goal #2: Delineate the westerly extent of the VOC groundwater plume in residential Algona and provide locations for long-term monitoring of the plume boundary in the shallow, intermediate, and deep groundwater zones.

  - Objective: Complete the RI groundwater monitoring well network in the shallow, intermediate, and deep zones in northern residential Algona.
  - Objective: Determine the nature and extent of VOC concentrations in Algona over time and provide a vertical groundwater VOC concentration profile.
- Goal #3: Provide long-term monitoring of VOC concentration in commercial and southern residential Algona and provide sufficient groundwater data to guide additional monitoring well installation in these areas, if needed.
  - Objective: Fill data gaps in commercial and southern residential Algona and collect additional information about horizontal groundwater flow direction and vertical groundwater gradients in these areas.
  - Objective: Provide information about VOC concentrations at the water table to inform future commercial vapor intrusion studies.

Ten wells (AGW240 through AGW249) were installed in northern residential Algona to address Goals #1 and #2. Two additional wells (AGW250 and AGW251) were installed to address Goal #3. Fourteen direct-push borings (ASB0230 through ASB0243) were advanced and associated groundwater quality samples were collected to address Goal #3.

Well installation and groundwater sampling field investigations are presented in Section 2.0. Updates to the geology and hydrogeology conceptual models are presented in Section 3.0. Groundwater quality results for the initial samples from the wells and direct-push boring sampling are presented in Section 4.0.

2.0 FIELD INVESTIGATION ACTIVITIES

The scope of the 2014 Algona groundwater field investigation activities is presented in the Work Plan (Landau Associates 2014d). Field activities included the installation and sampling of nine continuous multichannel tubing (CMT) multi-level wells and three conventional water table wells plus the advancement of 14 direct-push borings and associated borehole groundwater sampling in June and July 2014. Wells were installed at 12 locations on City of Algona (City) right-of-way (ROW). Direct-push borings were advanced at five locations on City ROW and nine locations on Puget Sound Energy (PSE) property (Interurban Trail). A ROW permit was obtained from the City on May 22, 2014. A limited use access agreement was obtained from PSE on July 2, 2014.

2.1 MONITORING WELLS

All conventional monitoring wells were installed in accordance with the Minimum Standards for Construction and Maintenance of Wells [Washington Administrative Code (WAC) 173-160]. The multi-level monitoring wells were installed in accordance with the Minimum Standards for Construction and Maintenance of Wells (WAC 173-160) and the well variance (Ecology 2014b) granted by Ecology that provides exception to specific sections of WAC 173-160. All wells were installed using a rotosonic (sonic) drilling rig operated by Cascade Drilling, Inc. of Woodinville, Washington. Well locations and elevations were surveyed by Duane Hartman & Associates in July 2014. Survey information for the 2014 Algona groundwater investigation wells AGW240 through AGW251 are presented in Table 1. New well locations are presented on Figure 2.

2.1.1 WELL INSTALLATION

Well drilling and installation took place between June 9 and June 27, 2014. Conventional water table wells (AGW244, AGW245, and AGW246) have 5-ft long well screens placed to intersect the water table year-round. Multi-level screens are approximately ½ ft long, except for the water table screen which is approximately 2½ ft long. Three of the multi-level wells (AGW242[2] , AGW250, and AGW251) have all seven channels screened at different intervals in the shallow, intermediate, and deep zones. The other four multi-level wells (AGW240, AGW243, AGW248, and AGW249) have six channels screened at three individual depths with two channels at each depth, allowing for water level data collection from one channel and dedicated sampling tubing to remain in the paired channel. The seventh channel was not utilized; therefore, the seventh channel was grouted before installation. AGW240, AGW248, and

[2] The seventh (deep zone) channel at AGW242 was incorrectly installed and therefore, not operational. Consequently, well AGW242 does not have a channel in the deep zone.

AGW249 have all three screens set in the shallow zone (water table, 10 ft below the water table, and 20 ft below the water table). AGW243 has screens set in the shallow and intermediate zone (water table, 25 ft BGS, and 50 ft BGS). Monitoring well screen and depths are presented in Table 1. Monitoring well logs are presented in Appendix A.

2.1.2 GROUNDWATER SAMPLING

Initial groundwater samples[3] were collected from all new monitoring wells (and all multi-level screens) at least 5 days after well development of each well. Groundwater sampling was conducted using a peristaltic pump and dedicated tubing. Permanent wells were sampled utilizing low-flow procedures. During purging, groundwater was monitored for field parameters (pH, conductivity, dissolved oxygen, temperature, oxidation reduction potential, and turbidity).

All water samples were analyzed for VOCs using U.S. Environmental Protection Agency (EPA) Methods 8260c and 8260c selected ion monitoring (SIM) by Eurofins Lancaster Laboratories, Inc. (LLI) of Lancaster, Pennsylvania. SIM analysis was performed for VC in order to achieve reporting limits below site screening levels, and for tetrachloroethene at Ecology's request. All samples were analyzed on the standard 2-week turnaround time. Following the initial sampling, each well was incorporated into the site groundwater monitoring plan (draft *Phase VI Interim Groundwater Monitoring Program*; Landau Associates 2014e). Groundwater sampling results are discussed in Section 4.0.

2.2 DIRECT-PUSH BORINGS

The direct-push field investigation took place between June 23 and June 26, 2014 on City ROW and between July 7 and July 15, 2014 on PSE property. The 14 direct-push borings (ASB0230 through ASB0243) were advanced using a direct-push probe drill rig operated by Cascade Drilling, Inc.. Groundwater samples were collected from all borings at the water table (approximately 5 ft BGS), 15 ft BGS, and 25 ft BGS. When groundwater was encountered below 10 ft BGS, the next sample was collected at 25 ft BGS. At a number of locations, intermediate zone groundwater samples were also collected at approximately 50 ft BGS. Direct-push borehole sampling depths are presented in Table 2. Direct-push drilling locations were surveyed using a GPS. New direct-push boring locations are presented on Figure 2. Boring logs are presented in Appendix B.

Groundwater samples were collected using a 4-ft-long decontaminated, stainless steel screen covered with a protective sheath which was driven to each respective sample depth. Upon reaching the sample depth, the sheath was retracted to expose the screen to the surrounding formation and groundwater

[3] Initial groundwater samples are defined as samples collected after well installation but before the following scheduled quarterly groundwater sampling event.

was purged and sampled. Purging and sampling were performed using a peristaltic pump and dedicated tubing. Depth to water was measured from the ground surface at each boring prior to purging and sample collection (Table 2). The temporary screens were purged until water was clear or for a maximum of 30 minutes which ever was sooner. During purging, groundwater was monitored for the following field parameters: pH, conductivity, dissolved oxygen, temperature, oxidation reduction potential and turbidity. Upon completion of purging, groundwater samples were collected using low-flow sampling techniques. After sampling was completed, the borehole was decommissioned by backfilling with bentonite clay and a cement surface seal in general accordance with the requirements of WAC 173-160.

All samples were stored in coolers on ice and shipped using proper chain-of-custody procedures to LLI. VOC samples were analyzed by EPA Method 8260c and 8260c SIM. SIM analysis was performed for VC for the lowest achievable reporting limits. All samples were analyzed on the standard 2-week turnaround time.

2.3 GROUNDWATER LEVEL MONITORING

Synoptic groundwater level monitoring is completed approximately twice a year. The most recent synoptic groundwater level monitoring, including all newly installed wells, was completed on July 7 and 8, 2014. Groundwater level data is discussed in Section 3.0.

3.0 GEOLOGY AND HYDROGEOLOGY

Additional geologic and groundwater level data were collected as part of the 2014 Algona drilling program. These data reflect minor refinements to the geologic and hydrogeologic conceptual models. Additional geologic data consists of soil texture information documented on boring logs. Additional groundwater level data is summarized as groundwater elevation contours and vertical hydraulic gradients.

3.1 GEOLOGY

Geologic conditions encountered during the 2014 Algona drilling were generally consistent with the existing conceptual model. Modern alluvium is overlain by 0 to 6 ft of fill and underlain by the Osceola Mudflow. The alluvium generally consists of dark gray, fine to medium sand with varying amounts of silt and occasional gravel and silt layers. Peat was encountered from approximately 1 to 6 ft BGS at 7 of the 12 monitoring well borings and in 2 of the 14 direct-push borings. The Osceola Mudflow aquitard deposit was identified at all three well borings that extended into the deep zone. The Osceola Mudflow is capped by a layer of gray silt and clay that is about 1 to 5 ft thick. This silt layer was encountered from 84.5 to 85 ft at AGW242, at 90 to 93.5 ft at AGW250, and 89 to 93 ft at AGW251. The Osceola Mudflow deposit (gray well-graded, silty sand with sub-angular gravel and clay) was encountered directly below the silt layer at all three of these borings.

3.2 GROUNDWATER ELEVATIONS

Groundwater elevation data was collected in July 2014 from all wells in the groundwater monitoring program (including those installed as part of the 2014 Algona groundwater investigation). Groundwater elevation data was consistent with the previous interpretations of horizontal groundwater gradients. Groundwater flow in the Auburn Valley is generally northward, parallel to the valley sidewalls (Pacific Groundwater Group 1999). However, in the vicinity of the Boeing facility, there is a northwestern component to groundwater flow. The northwestern component of flow is most pronounced in the shallow zone, which is in direct hydraulic connection with surface water features in the western portion of the valley. Groundwater elevation data is presented on Table 3. Groundwater elevation contours are presented on Figure 3 through 5.

3.3 VERTICAL GRADIENTS

Vertical groundwater gradients were calculated from water levels collected in July 2014 from the newly installed multi-level CMT wells. The gradient calculation represents the difference in water level

divided by the difference in elevation between the midpoints of the corresponding screens[4] . Gradients were calculated for two different scenarios: 1) water table screens to deeper shallow zone screens and 2) shallow zone screens to intermediate zone screens. Nine wells were used to determine vertical gradients using scenario 1 and four wells were used to determine vertical gradients using scenario 2.

When comparing the water table screens to deeper shallow zone screens (scenario 1), the vertical gradients were neutral or slightly upward. The maximum upward gradient (-0.053) was at AGW249. This generally upward hydraulic gradient within the shallow zone is consistent with the hydrogeologic conceptual model that groundwater discharges to surface water bodies in the western portion of the valley. The vertical gradients for scenario 1 are provided on Table 4.

When comparing shallow to intermediate zone screens (scenario 2), the vertical gradient was slightly downward in the commercial and southern residential areas of Algona and slightly upward in northern residential Algona. The maximum upward gradient (-0.030) was at AGW243 (in the northwest corner of Algona directly south of the Auburn 400 South Flood Storage Pond) and the maximum downward gradient (0.008) was at AGW250 (in the Junction neighborhood of Algona). The spatial trend in gradients is consistent with the shallow to intermediate vertical gradients calculated from January 2014 water level data (Landau Associates 2014a). Shallow to intermediate vertical gradients are generally downward on or near Boeing property. As groundwater flows northwest, gradients transition from downward to upward. The largest upward gradient observed at well AGW243 near the Auburn 400 South Flood Storage Pond is consistent with the conceptual model that groundwater is discharging to surface water features. The vertical gradients for scenario 2 are provided on Table 5.

[4] By convention, negative gradients are upward; positive gradients are downward. Gradients are dimensionless because they are foot per foot and are shown without units.

4.0 GROUNDWATER QUALITY

Groundwater quality data from new wells and ongoing groundwater monitoring help refine the nature and extent of VOC groundwater contamination downgradient of the Boeing property in Algona. Goals of the 2014 Algona groundwater investigation include: 1) providing long-term VOC monitoring locations at the water table in northern residential Algona; 2) delineating the western extent of VOC plumes in northern residential Algona and providing long-term monitoring locations at the plume boundaries in the shallow, intermediate, and deep zones; and 3) providing long-term VOC monitoring locations in the commercial and southern residential Algona and determining if additional monitoring well installation in these areas is needed. Achievement of these goals is discussed below. Groundwater analytical results for sampling of the newly installed monitoring wells are presented in Table 6[5] ; results for the direct-push boring samples are presented in Table 7.

4.1 EXTENT OF VOLATILE ORGANIC COMPOUNDS AT THE WATER TABLE IN NORTHERN RESIDENTIAL ALGONA

Three conventional water table monitoring wells and seven CMT monitoring wells with channels at the water table were installed to provide long-term monitoring of VOC concentrations at the water table and guide long-term vapor intrusion monitoring in northern residential Algona. The constituents of concern for vapor intrusion are TCE and VC. Water table water quality results for TCE and VC are presented on Figure 6.

Four wells (AGW240, AGW247, AGW248, and AGW249) were installed at locations where TCE or VC concentrations were above the residential vapor intrusion preliminary concern levels in direct-push borehole water table samples collected in April 2013. All four wells are CMT wells with channel 1 screened across the water table. The TCE concentrations at the water table at AGW240-1 and AGW247-1 were both non-detect, which were the same results as the corresponding direct-push borehole samples (ASB0190 and ASB0185) at these locations. VC concentrations decreased at AGW240-1 and AGW247-1 when compared to the corresponding direct-push borehole samples (ASB0190 and ASB0185) at these locations. Both the TCE and VC concentrations at AGW249-1 decreased when compared to the corresponding direct-push borehole sample ASB0182. The TCE concentration at AGW248-1 decreased compared to the corresponding direct-push borehole sample at ASB0181; however, VC concentrations increased compared to the VC concentration at ASB0181.

[5] Of the 12 wells that were installed, initial samples from 7 wells had detections of chloroform. Chloroform may be an indicator of drilling water that is still present in the vicinity of the well and may have diluted the sample result. The protocol for chloroform being present in initial samples is to resample after 1 month. These wells will be resampled during the quarterly groundwater sampling event in September 2014.

Six wells (AGW241, AGW242, AGW243, AGW244, AGW245, and AGW246) were installed outside the area where VOCs were detected at the water table in direct-push boring samples. AGW241, AGW242, and AGW243 are CMT wells with channel 1 screened across the water table. AGW244, AGW245, and AGW246 are conventional water table wells screened across the water table. These six wells represent long-term VOC monitoring locations at the water table to help evaluate the vapor intrusion pathway. The water table sample from AGW241-1 did not have detections of any constituents of concern, similar to sample results from the corresponding adjacent direct-push borehole ASB0210. The water table samples from AGW242-1, AGW243-1, AGW244, and AGW246 did not have detections of TCE, but did have low-level detections of VC. The water table sample at AGW245 had low-level detections of TCE and VC at higher concentrations then sample results from the adjacent direct-push borehole ASB0186.

All 10 water table wells will continue to be monitored to evaluate water table VOC concentration trends. The evaluation of these data for vapor intrusion will be completed in a separate report as described in the draft *Vapor Intrusion Evaluation and Assessment Approach Report* (Landau Associates 2013b).

4.2 EXTENT OF VOLATILE ORGANIC COMPOUNDS IN NORTHERN RESIDENTIAL ALGONA

The second goal of the Algona groundwater investigation was to delineate the western extent of the VOC groundwater plumes and to provide long-term monitoring locations near the plume boundary in the shallow, intermediate, and deep zones in northern residential Algona. A summary of the new well data is presented in Figure 7. The most recent (i.e., June and July 2014) TCE, cis-1,2-DCE, and VC data from the current monitoring well network are presented for the shallow, intermediate, and deep aquifer zones on Figures 8 through 16.

4.2.1 SHALLOW ZONE

Three wells (AGW241, AGW242, and AGW243) were installed to define the western extent of the VOC plumes in the shallow zone in northern residential Algona. Wells AGW241 and AGW242 both have two channels screened in the shallow zone beneath the water table. Well AGW243 has one interval (channel 3) screened in the shallow zone. The VOC plumes in the shallow zone are presented on Figures 8 through 10.

TCE was non-detect at both AGW241 shallow zone channels. The shallow zone samples from AGW241 have low-level detections of cis-1,2-DCE and VC. However, previous direct-push borehole samples to the south and west (ASB0198-25, ASB0206-25, ASB0211-25, and ASB0218-25) are non-

detect for all constituents of concern. The shallow zone samples collected at wells further to the north (AGW242 and AGW243) also do not have detections of any constituents of concern. The combination of shallow well (AGW241, AGW242, and AGW243) and previous borehole sample results provide adequate definition of the northwestern plume boundary in Algona.

The three wells installed to the monitor shallow zone plume boundary (AGW241, AGW242, and AGW243) will provide long-term locations to continue to monitor the shallow zone plume boundary in northern residential Algona.

4.2.2 INTERMEDIATE ZONE

Two wells (AGW242 and AGW243) were installed to define the western extent of the VOC plumes in the intermediate zone in northern residential Algona. AGW242 has three separate intervals (channels 4, 5, and 6) screened in the intermediate zone at 40 ft, 50 ft, and 60 ft BGS, respectively. AGW243 has one interval (channel 5) screened in the intermediate zone at 50 ft BGS. The intermediate zone VOC plumes are presented on Figures 11 through 13.

The intermediate zone samples from both of these wells have no detections of any constituents of concern; therefore, the intermediate zone TCE, cis-1,2-DCE, and VC plumes are bound by AGW242 and AGW243. The western extent of the intermediate zone plume is also bound east of AGW242 and southeast of AGW243 in northern residential Algona by the previously installed intermediate zone well AGW191.

Newly installed wells AGW242 and AGW243 and the previously installed well AGW191 will provide long-term locations to continue to monitor the intermediate zone plume boundary in northern residential Algona.

4.2.3 DEEP ZONE

One well (AGW242) was intended to be installed in the deep zone in northern residential Algona. However, there was a malfunction in the CMT channel that was installed in the deep zone at this location. Even without a deep zone channel at AGW242, the deep zone plumes are bounded on the eastern edge of northern residential Algona by previously installed wells AGW183 and AGW192. In addition, a CMT well (AGW251) with channels in the deep zone was installed in commercial Algona along Milwaukee Avenue. This well also bounds the deep zone plume east of northern residential Algona and is further described in section 4.3.1. The deep zone VOC plumes are presented on Figures 14 through 16.

The western edge of the deep zone plume is well defined by the line of boundary wells east of northern residential Algona. Since the deep zone plume boundary is well defined, a replacement well for

the malfunctioning channel at AGW242 is not essential to monitor the deep zone plumes in northern residential Algona.

4.3 EXTENT OF VOLATILE ORGANIC COMPOUNDS IN COMMERCIAL AND SOUTHERN RESIDENTIAL ALGONA

Two wells were installed to provide long-term monitoring of the VOC plumes in commercial Algona (AGW251) and southern residential Algona (AGW250). In addition to the two wells, fourteen direct-push borings were advanced in the same areas. At each boring, groundwater borehole samples were collected at multiple depths for VOC analysis. The purpose of the borings was to fill data gaps and guide additional monitoring well installation, if needed. Five of the direct-push borings were located along Milwaukee Avenue, in the western area of commercial Algona and nine of the direct-push borings were located along the Interurban Trail, on the eastern edge of commercial Algona. The two direct-push borings furthest to the south on the Interurban Trail (ASB0235 and ASB0241) were completed to provide additional information about southern residential Algona. Groundwater analytical results from the direct-push borings and groundwater monitoring wells in the commercial and southern residential areas of Algona are presented on Figure 17.

4.3.1 COMMERCIAL ALGONA

One of the objectives of the work in the commercial Algona was to provide information about VOC concentrations at the water table to inform future commercial vapor intrusion studies. There were no detections of TCE or VC (constituents of concern for vapor intrusion) at the water table along the Interurban Trail. The samples collected from the water table at the direct-push borings along the northern portion of Milwaukee Avenue (ASB0232, ASB0233, and ASB0234) also did not have any detections of TCE or VC. Low concentrations of TCE and VC were detected at the water table along the southern portion of Milwaukee Avenue at ASB0230 and ASB0231. The water table sample at AGW251 had a low-level detection of VC. The evaluation of this data for vapor intrusion will be completed in a separate report as described in the draft *Vapor Intrusion Evaluation and Assessment Approach Report* (Landau Associates 2013b).

An additional objective of well AGW251 and the direct-push borings ASB0237 through ASB0243 was to fill data gaps and monitor the VOC plume boundaries in commercial Algona. The shallow groundwater plume is bound to the south in commercial Algona by the shallow direct-push borehole samples collected at ASB0237 and ASB0241; both of which did not have detections of TCE, cis-1,2-DCE, or VC. All of the other direct-push borehole samples north of ASB0237 along the Interurban Trail and along Milwaukee Avenue have detections of TCE, cis-1,2-DCE, or VC at 25 ft BGS.

Well AGW251 is a multi-level CMT well located on Milwaukee Avenue between ASB0231 and ASB0232. TCE has not been detected at the shallow zone channel (channel 2) from this well; in contrast to the borehole samples collected at 25 ft BGS to the south (ASB0231) and the north (ASB0232). However, cis-1,2-DCE and VC have been detected at this well. Well AGW251 and the direct-push borehole samples address data gaps in the shallow zone in commercial Algona. However, an additional well in the shallow zone south of well AGW251 may be necessary to monitor the highest VOC concentration detected along Milwaukee Avenue in this area.

The intermediate zone TCE plume is bound to the west in commercial Algona by intermediate zone samples collected from well AGW251 (channels 3, 4, and 5) and direct-push borehole samples from borings ASB0230 and ASB0241. However, the cis-1,2-DCE and VC plumes extend west of the TCE plume and are not bound by these monitoring locations. An additional intermediate zone well may be necessary west of AGW251 in order to monitor the VC plume in this area. The other direct-push borehole samples collected from the intermediate zone in commercial Algona (ASB0233, ASB0234, ASB0242, and ASB0243) fill data gaps and provide data to more precisely delineate the VOC plumes.

The deep zone TCE plume is bound to the west in commercial Algona by the deep zone samples collected at AGW251. The deep zone samples did have low-level detections of cis-1,2-DCE and VC. However, these plumes are bound further to the northwest by the previously installed deep zone wells AGW182 and AGW192 (located just west of the Chicago Avenue ditch). No additional wells are recommended in the deep zone in this area.

4.3.2 SOUTHERN RESIDENTIAL ALGONA

Two direct-push borings were advanced in southern residential Algona (ASB0235 and ASB0236). Both borings were advanced into the intermediate zone with samples collected at the water table, 15 ft, 25 ft, and 50 ft BGS. A permanent monitoring well (AGW250) was also installed in southern residential Algona with channels at the water table, deeper in the shallow zone, and in the intermediate and deep zones.

Samples collected from the water table at AGW250-1 and the two direct-push borehole samples at the water table (ASB0235 and ASB0236) in southern residential Algona did not have detections of any constituents of concern. The samples collected deeper in the shallow zone (26 ft BGS) and in the intermediate zone (41 and 51 ft BGS), had low-level detections of TCE, cis-1,2-DCE, and VC. The sample collected at 25 ft BGS at ASB0236 had low-level detections of TCE, cis-1,2-DCE, and VC consistent with the shallow zone sample collected at AGW250-2. ASB0235 did not have detections of any constituents of concern in the shallow zone.

The samples collected from AGW250 in the intermediate zone (channels 3, 4, and 5) also had low-level detections of TCE, cis-1,2-DCE, and VC. Samples collected from the intermediate zone at ASB0235 and ASB0236 both had low-level detections of VC and the sample at ASB0236 also had a low-level detection of cis-1,2-DCE. The samples collected from the deepest channel in the intermediate zone at AGW250-5 (61 ft BGS) and in the deep zone AGW250-6 (81 ft BGS) and AGW250-7 (91 ft BGS) did not have detections of any constituents of concern.

Samples collected in southern residential Algona had low-level detections of constituents of concern below 25 ft in the shallow zone and in the intermediate zone. These levels will continue to be monitored at the monitoring well AGW250, but constituents of concern are not detected at the water table, so there is a very low potential for these concentrations to provide a risk to human health. Additional wells are not recommended in southern residential Algona, because detected concentrations are very low and well AGW250 provides a representative location to monitor concentrations of constituents of concern in groundwater.

4.4 VERTICAL DISTRIBUTION OF VOLATILE ORGANIC COMPOUNDS IN THE SHALLOW ZONE

An additional objective of the multi-level wells screened at separate intervals in the shallow zone and the samples collected at different shallow zone intervals during the direct-push borings was to provide information about the vertical distribution of VOCs in the shallow zone. Two or three screens at each of the seven CMT wells in northern residential Algona are located in the shallow zone (within about 30 ft BGS). Data from the water table well screen was compared with data from the deeper one or two screens within the shallow zone at each of the seven multi-level wells. During the direct-push probe investigation, groundwater samples were collected from 14 locations at the water table (within about 8 ft BGS). At all 14 locations, groundwater samples were also collected at deeper intervals within the shallow zone, typically at 15 ft BGS and 25 ft BGS. The direct-push investigation provided data to assess the vertical distribution of VOCs within the shallow zone at the 14 locations where shallow groundwater samples were collected at multiple shallow zone depths. These multi-level well and direct-push borehole sample data are presented in Table 8.

The multi-level well and direct-push borehole sample data are presented below:

- TCE concentrations were non-detect at all intervals sampled in the shallow zone at 10 of the 18 locations (56 percent of the samples). At the other eight locations, the TCE concentrations were lower at the water table than at the deeper samples (44 percent of the samples).
- Cis-1,2-DCE concentrations were non-detect at all intervals sampled in the shallow zone at 6 of the 18 locations (33 percent of the samples). At the other 12 locations, the cis-1,2-DCE concentrations were lower at the water table than at the deeper samples (67 percent of the samples).

- VC concentrations were non-detect at all intervals sampled in the shallow zone at 4 of the 18 locations (22 percent of the samples). At 9 of the 18 locations, the VC concentrations were lower at the water table than in the deeper samples (50 percent of the samples). At 5 of the 18 locations, the VC concentrations were higher at the water table than at the deeper samples (28 percent of the samples).

These data are generally consistent with previous comparisons of vertical distribution of VOCs in the shallow zone (Landau Associates 2014a). VOC concentrations tend to be lower at the water table in comparison to deeper portions of the shallow zone. TCE was never detected at a higher concentration near the water table. VC (a breakdown product of TCE) concentrations were more variable, but more frequently had lower concentrations near the water table surface. Variability in breakdown products at the water table may be the result of a tendency for organic material (that facilitates reductive dechlorination of chlorinated ethenes to breakdown products) to occur more frequently in the upper portion of the shallow aquifer.

5.0 SUMMARY

The 2014 Algona groundwater investigation focused on characterizing the nature and extent of groundwater contamination in Algona through installation of additional monitoring wells and collection of borehole groundwater samples from direct-push borings. Data collected as part of the 2014 Algona groundwater investigation have helped refine the understanding of groundwater flow and the nature and extent of contamination. A summary of observations and conclusions include:

- Newly installed water table wells and CMT well water table screens provide adequate spatial coverage in northern residential Algona for long-term monitoring of VOC concentrations at the water table.
- The western extent of the VOC groundwater plumes in northern residential Algona has been delineated based on the following information:
  - The western extent of the shallow zone TCE plume is bound from south to north by wells AGW241, AGW240, AGW247, AGW242, and AGW243. The western extent of the shallow zone cis-1,2-DCE and VC plumes are bound by wells AGW242 and AGW243.
  - The western extent of the intermediate zone VOC plumes are bound by newly installed wells AGW242 and AGW243 and by the previously installed well AGW191.
  - The western extent of the deep zone TCE plume is bound in commercial Algona by well AGW251. The western extent of the deep zone VOC plumes are bound in residential Algona by well AGW192 and just to the north of residential Algona by well AGW183.
- Well AGW250 provides a sufficient location for long-term monitoring of the plume in all zones in the vicinity of southern residential Algona. TCE, cis-1,2-DCE, and VC were detected at low concentrations in the deeper shallow zone and intermediate zone at this location.
- VOC concentrations are generally lower at the water table than at deeper locations in the shallow zone.
- Well AGW251 and direct-push borings advanced in commercial Algona help define the nature and extent of the VOC plumes in this area. However, remaining data gaps in commercial Algona are described below:
  - VOCs were detected in the water table, shallow and intermediate zone samples at ASB0230, the southern most boring on Milwaukee Avenue. A shallow zone well should be added along the southern portion of Milwaukee Ave in the vicinity of ASB0230 to monitor elevated VOC concentrations over time.
  - Intermediate zone samples from AGW251 had detections of VC. An intermediate zone well should be installed west of AGW251 in order to monitor the western extent of VC in this area.

Results from the newly installed wells in Algona and additional monitoring well locations were discussed with Ecology and representatives from the City of Algona on September 16, 2014 (Ecology 2014c). After the meeting, Ecology provided Boeing with a figure showing additional well locations requested by the City of Algona (Ecology 2014d). The wells requested by the City of Algona include a replacement deep zone well at AGW242, a deep zone well south of AGW242 on 7th Avenue, and a deep

zone well on 9th Avenue near Chicago Avenue. Ecology also identified a data gap in commercial Algona between Milwaukee Avenue and the Interurban trail in the shallow, intermediate, and deep zones (Ecology 2014e). Additional well locations in Algona will be addressed in a work plan for additional drilling to be completed in 2015.

6.0 USE OF THIS REPORT

This report has been prepared for the exclusive use of The Boeing Company for specific application to the Auburn Fabrication Division Remedial Investigation. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

This document has been prepared under the supervision and direction of the following environmental key staff.

LANDAU ASSOCIATES, INC.

Sarah E. Fees
Project Hydrogeologist

Eric F. Weber, L.Hg., CWRE
Principal

SEF/EFW/jrc

7.0 REFERENCES

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Ecology. 2014d. Email message from Neal Hines, Washington State Department of Ecology, to James Bet, The Boeing Company. Re: *Map of the 3 locations in Algona*. September 24. (Attachment: Figure showing City of Algona's recommended locations for the three new wells.)

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Data Source: Esri 2012

G:\Projects\025\164\110\114\Algona Drilling Work Plan\F01VicinityMap.mxd 1/31/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet

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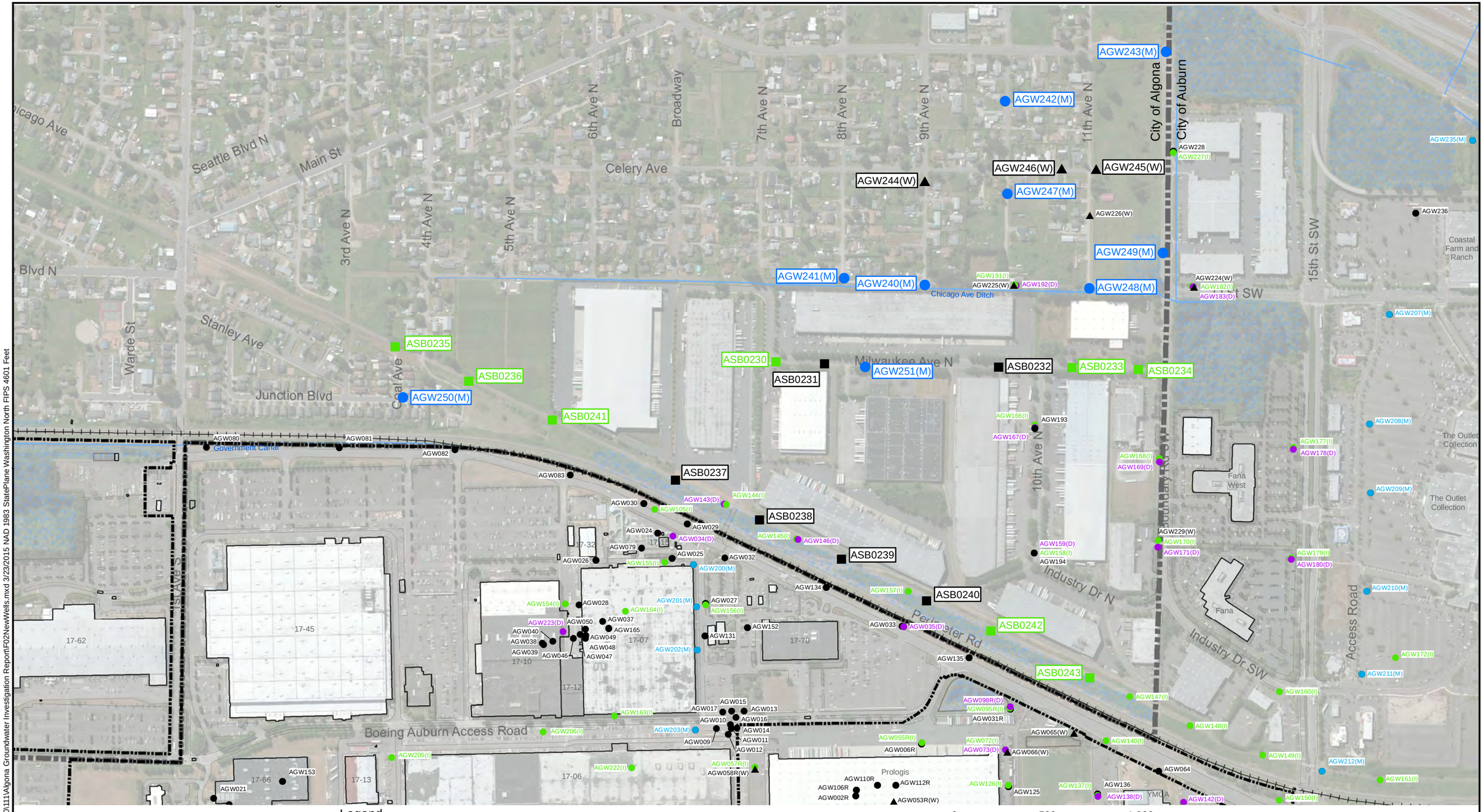
Boeing Auburn Auburn, Washington	**Vicinity Map**	Figure 1

G:\Projects\025\164\110\111\Algona Groundwater Investigation Report\F02NewWells.mxd 3/23/2015 NAD 1983 StatePlane Washington North FIPS 4601 Feet



Notes

1. Multi-level well locations have either seven or three screened intervals.
2. Groundwater monitoring wells are identified by the AGW prefix.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- (M) ● New Multi-Level Well Location
- (W) ▲ New Water Table Well (2.5 to 7.5 ft BGS)
- ■ New Shallow Zone Direct-Push Boring
- ■ New Shallow and Intermediate Zone Direct-Push Boring
- (W) ▲ Existing Offsite Water Table Well
- ● Existing Shallow Monitoring Well (15 to 30 ft BGS)
- (I) ● Existing Intermediate Monitoring Well (40 to 60 ft BGS)
- (D) ● Existing Deep Monitoring Well (80 to 100 ft BGS)
- (M) ● Existing Multi-Level Well
- Wetland Areas
- Water Bodies
- Waterways

0 500 1,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: ESRI World Imagery; Parcel Data Source: King County GIS 2012

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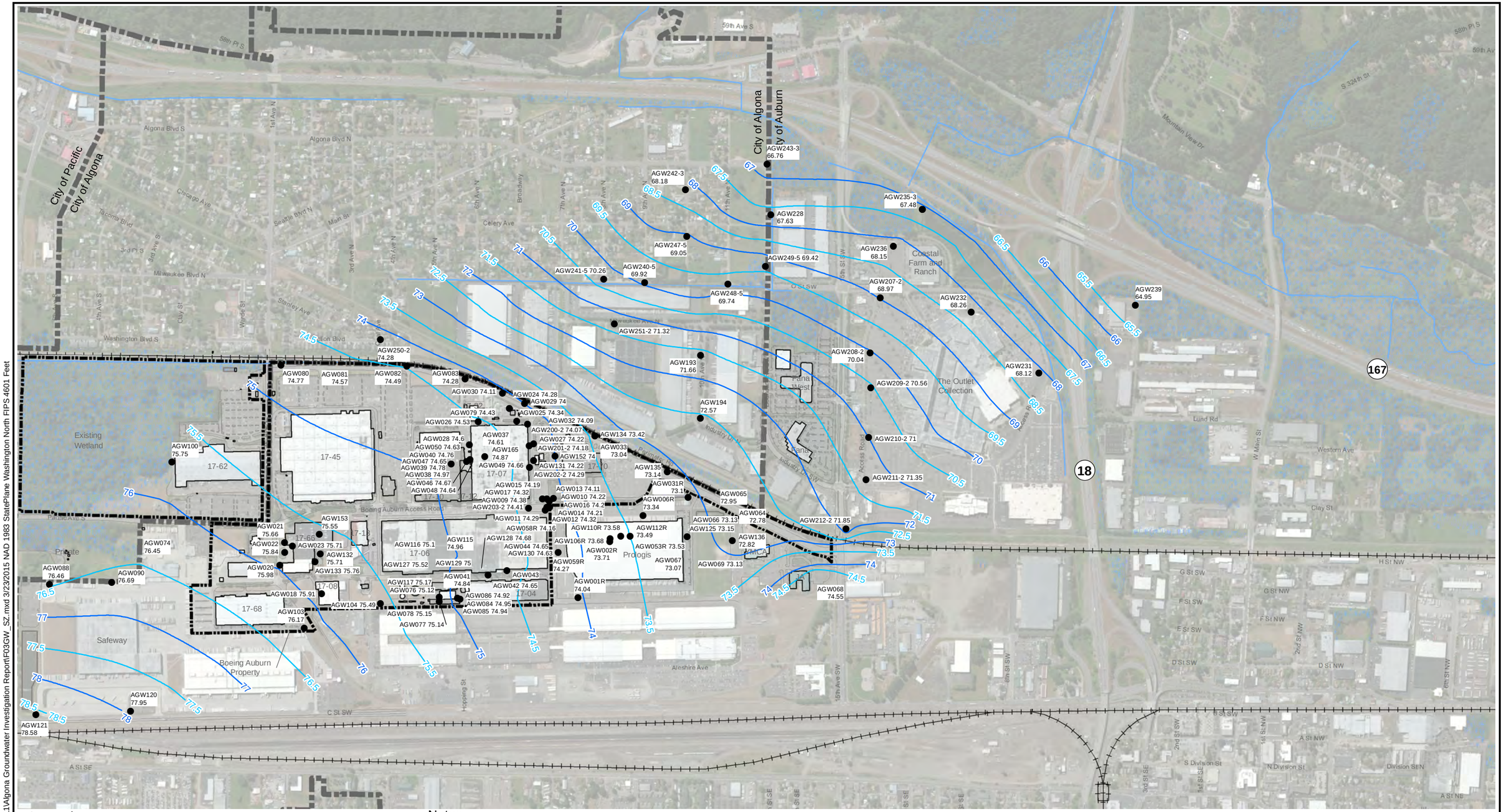
Boeing Auburn Auburn, Washington	**New Well and Direct-Push Locations and Current Monitoring Well Network**	Figure 2



Legend

- AGW021 75.83 — Monitoring Well Designation, Groundwater Elevation (ft, MSL)
- 72 / 72.5 — Groundwater Elevation Contours
- Boeing Property
- Waterway
- Wetland Area
- City Limits

Notes

1. All water level data in ft, MSL. Data collected in July 2014.
2. Wells without a water level were inaccessible.
3. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2). Groundwater elevations listed are for the channel closest to 30 ft below ground surface.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

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Boeing Auburn
Auburn, Washington

Shallow Zone (20-30 ft)
Groundwater Elevation Contours
July 2014

Figure 3

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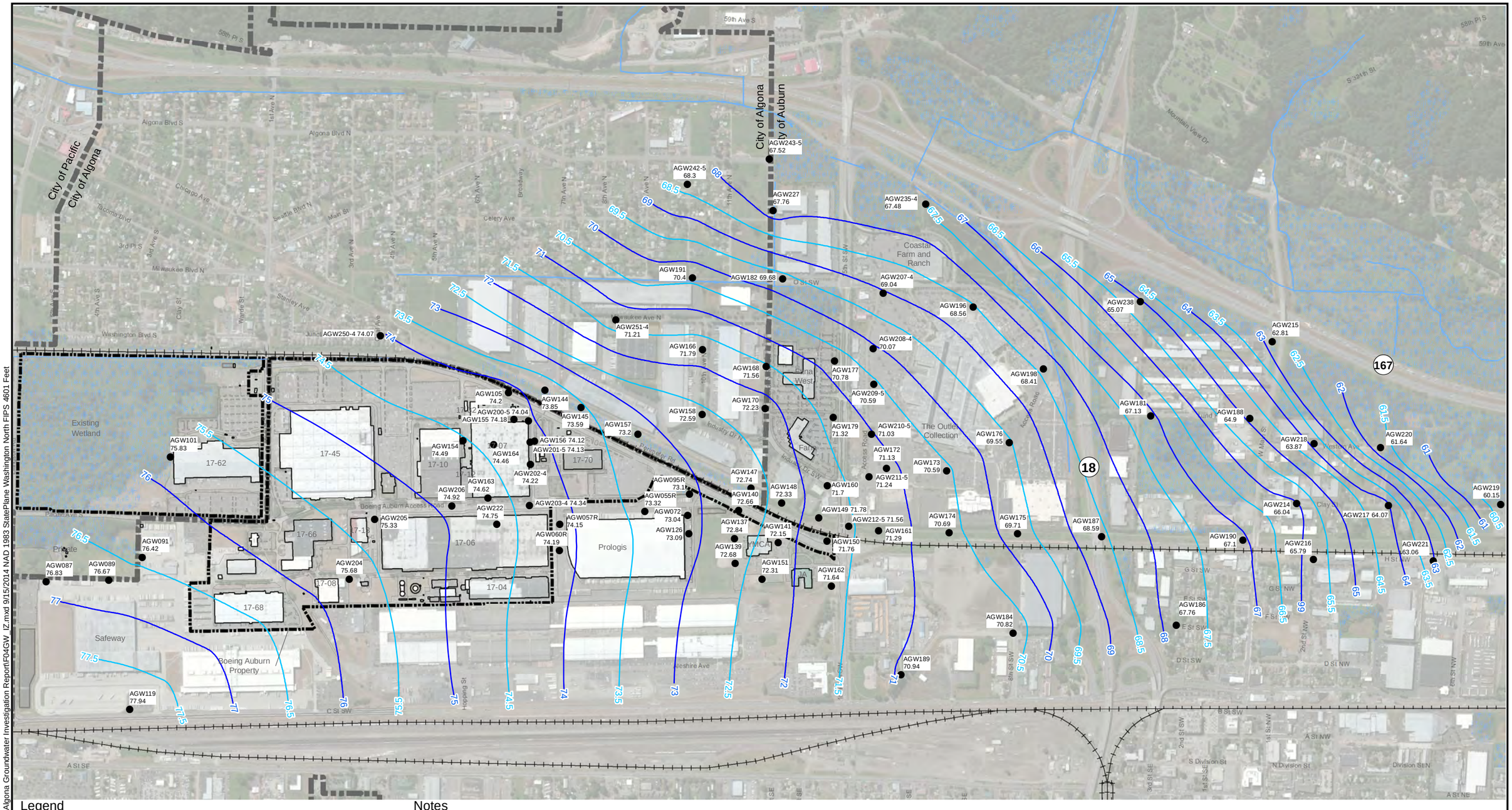

Legend

- AGW136 74.27 — Monitoring Well Designation, Groundwater Elevation (ft, MSL)
- 72 / 72.5 — Groundwater Elevation Contours
- Boeing Property
- Waterway
- Wetland Area
- City Limits

Notes

1. All water level data in ft, MSL. Data collected in July 2014.
2. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

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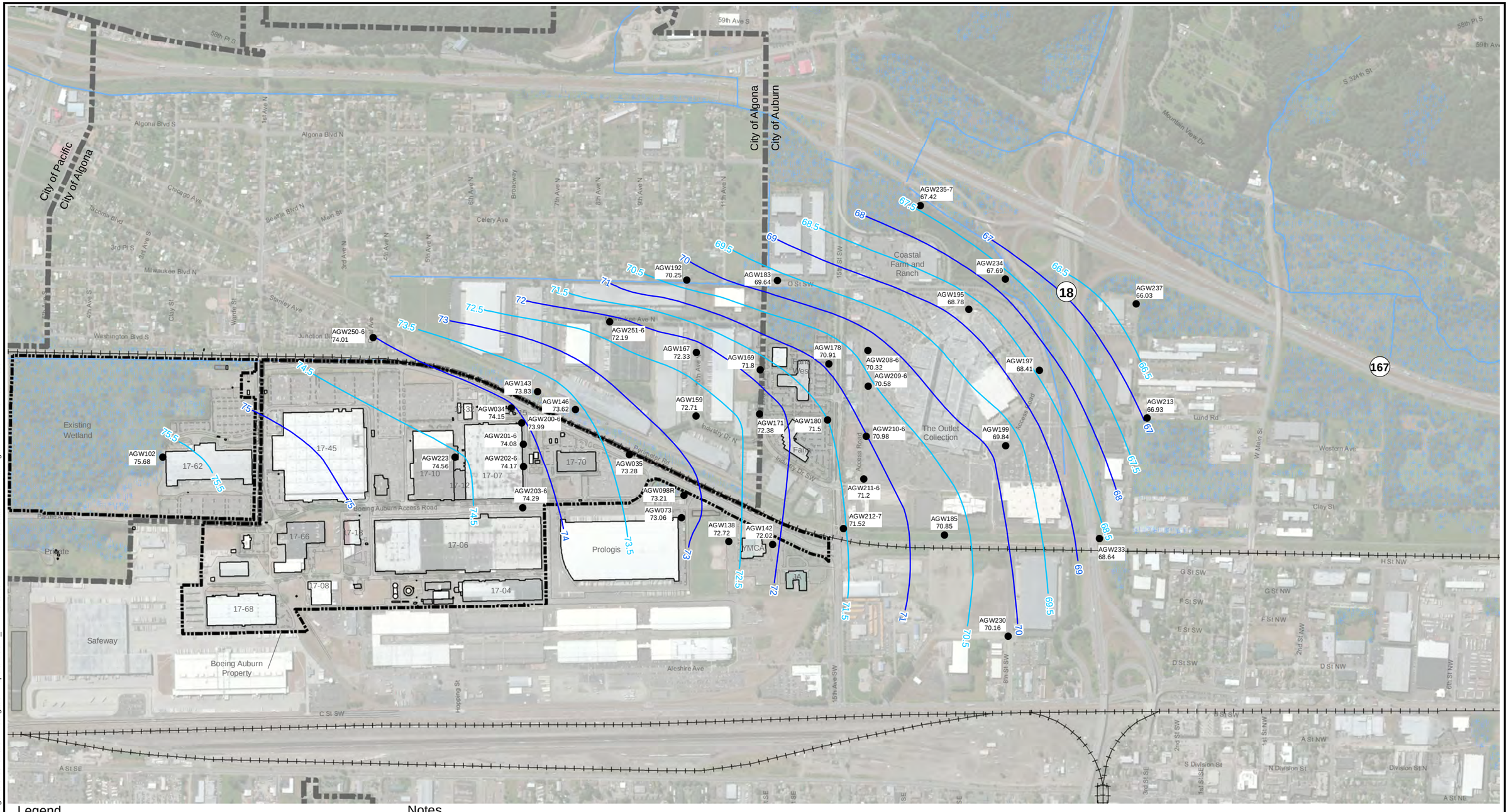
Boeing Auburn Auburn, Washington	**Intermediate Zone (40-60 ft) Groundwater Elevation Contours July 2014**	Figure 4

G:\Projects\025\164\110\111\Algona Groundwater Investigation Report\F05GW_DZ.mxd 9/15/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet



Legend

- AGW223 74.81 — Monitoring Well Designation, Groundwater Elevation (ft, MSL)
- 72 / 72.5 — Groundwater Elevation Contours
- Boeing Property
- Waterway
- Wetland Area
- City Limits

Notes

1. All water level data in ft, MSL. Data collected in July 2014.
2. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

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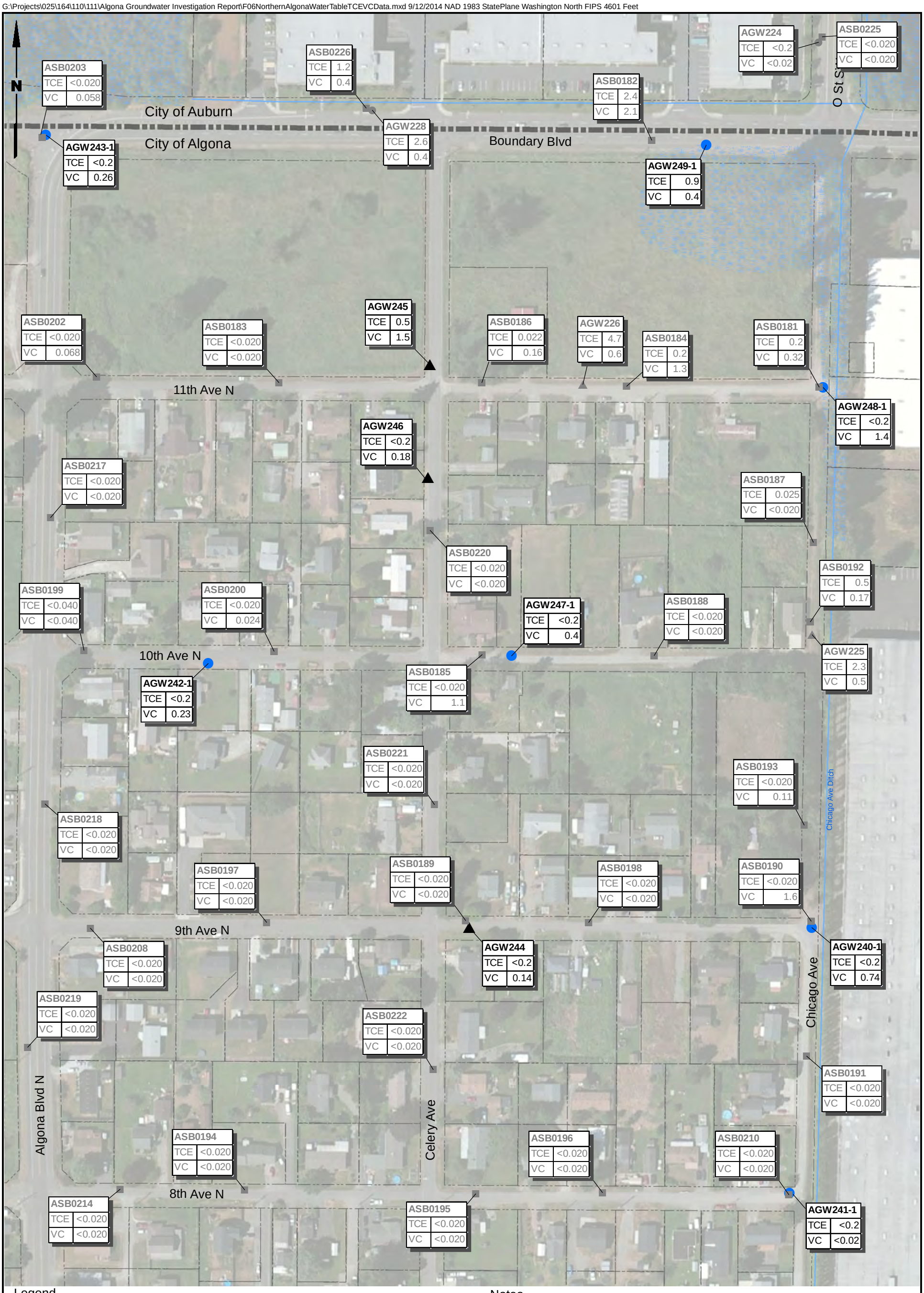
Boeing Auburn
Auburn, Washington

Deep Zone (80-100 ft)
Groundwater Elevation Contours
July 2014

Figure
5

G:\Projects\025\164\110\111\Algona Groundwater Investigation Report\F06NorthernAlgonaWaterTableTCEVCData.mxd 9/12/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet



Legend

- New Multi-Level Well Location
- New Water Table Well
- Existing Water Table Well
- Existing Shallow Monitoring Well
- Borehole Sample at Water Table

Notes

1. Direct-push borehole sample results are from April 2013. Monitoring well results are from June and July 2014.
2. All results shown are in µg/L.
3. Multilevel wells have multiple channels, channel designations are included in the well ID (ex: AGW240-1). Channel 1 is screened at the water table.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013.

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0 150 300

Scale in Feet

Boeing Auburn
Auburn, Washington

Water Table TCE and VC Data: Northern Residential Algona

Figure 6

G:\Projects\025\164\110\111\Algona Groundwater Investigation Report\F07NewWellResults.mxd 9/15/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes

1. Multi-level well locations have either seven or three screened intervals.
2. Groundwater monitoring wells are identified by the AGW prefix.
3. Results reported in µg/L. TCE = Trichloroethene; VC = Vinyl Chloride; cis-1,2-DCE = cis-1,2-Dichloroethene
4. Values shown represent the maximum concentrations of multiple samples were analyzed from the same depth.
5. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- (M)● New Multi-Level Well
- (W)▲ New Water Table Well (2.5-7.5 ft BGS)
- ■ New Shallow Zone Direct-Push Boring
- ■ New Shallow and Intermediate Zone Direct-Push Boring
- (W)▲ Existing Offsite Water Table Well
- ● Existing Shallow Monitoring Well (15 to 30 ft BGS)
- (I)● Existing Intermediate Monitoring Well (40 to 60 ft BGS)
- (D)● Existing Deep Monitoring Well (80 to 100 ft BGS)
- (M)● Existing Multi-Level Well
- Wetland Areas
- Water Bodies
- Waterways

0 300 600

Scale in Feet

N

Base map source: Geometrix 2003; Aerial Photo Source: ESRI World Imagery; Parcel Data Source: King County GIS 2012

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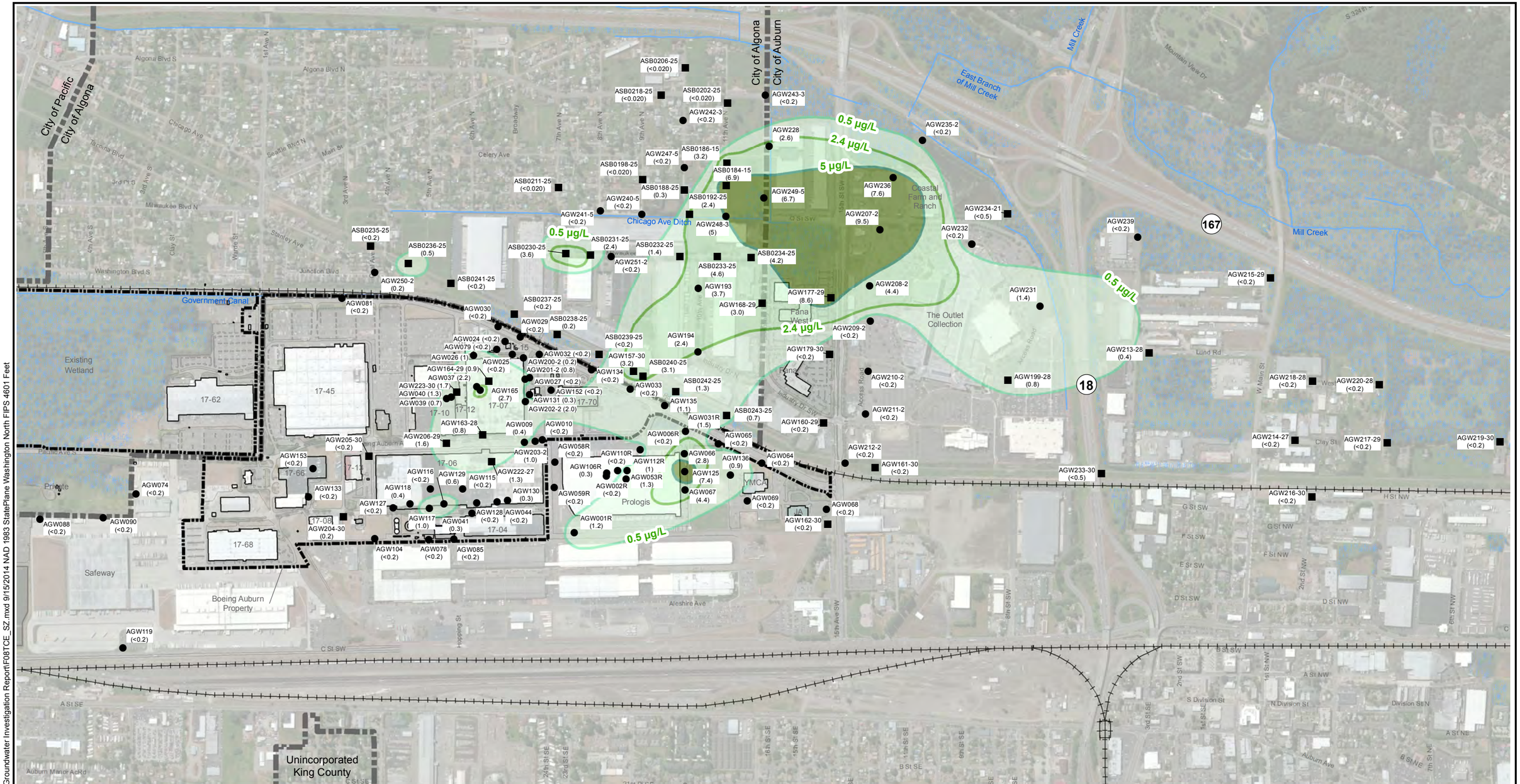
Boeing Auburn
Auburn, Washington

New Groundwater Monitoring Well Results: Northern Residential Algona

Figure 7



Notes

1. All concentrations shown in µg/L.
2. <0.2 = Compound not detected at indicated reporting limit.
3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- TCE Contour = > 5.0 µg/L
- TCE Contour = > 2.4 µg/L
- TCE Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

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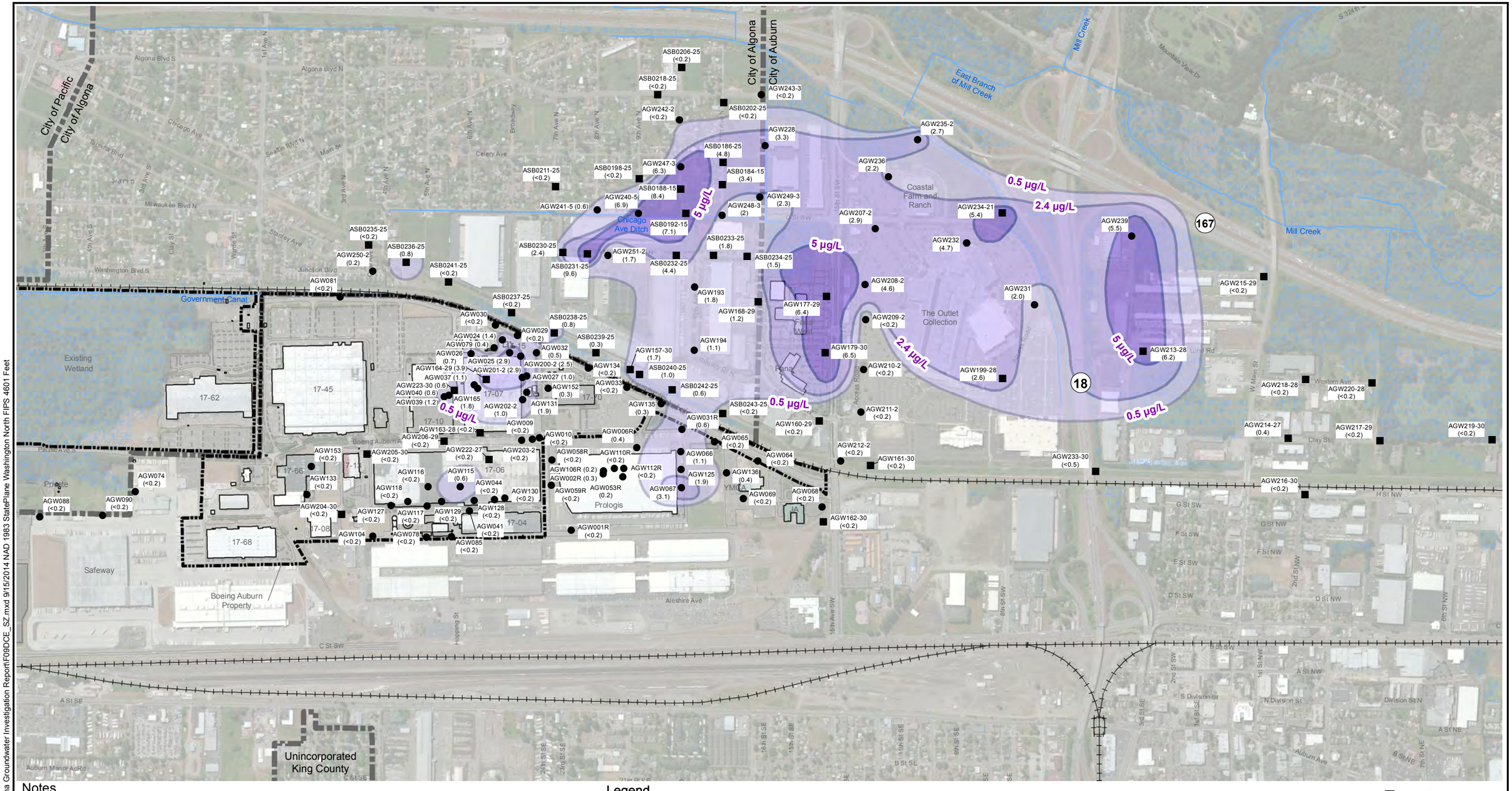
Boeing Auburn Auburn, Washington	**Shallow Zone (15-30 ft) TCE Concentrations Most Recent**	Figure 8

G:\Projects\025\164\110\111\Algona Groundwater Investigation Report\F08TCE_SZ.mxd 9/15/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet



Notes

1. All concentrations shown in µg/L.
2. <0.2 = Compound not detected at indicated reporting limit.
3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- cis-1,2-DCE Contour = > 5.0 µg/L
- cis-1,2-DCE Contour = > 2.4 µg/L
- cis-1,2-DCE Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

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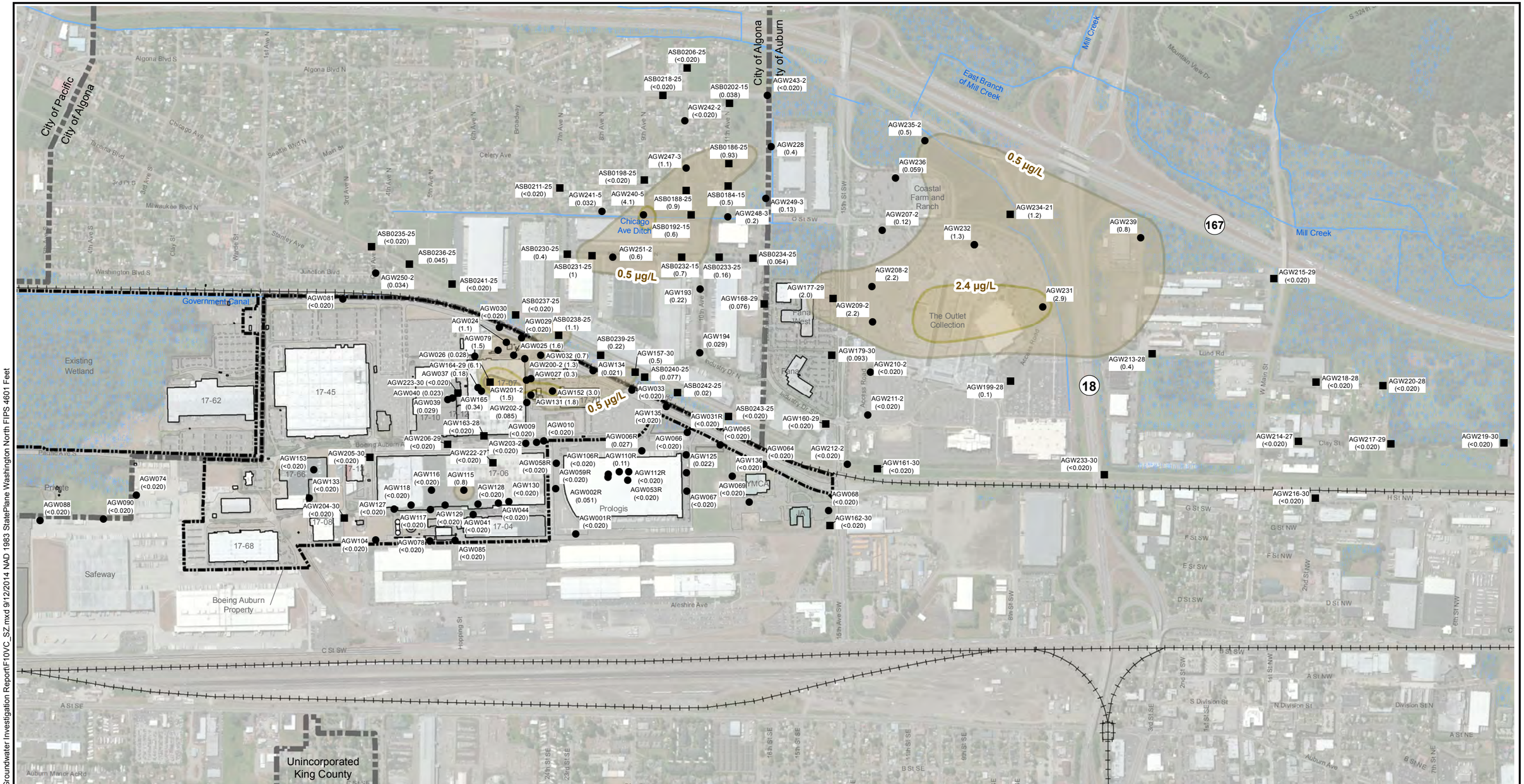
Boeing Auburn Auburn, Washington	**Shallow Zone (15-30 ft) cis-1,2-DCE Concentrations Most Recent**	Figure 9

G:\Projects\025\164\110\111\Algona Groundwater Investigation Report\F09DCE_SZ.mxd 9/15/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet



Notes

1. All concentrations shown in µg/L.
2. <0.2 = Compound not detected at indicated reporting limit.
3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- Vinyl Chloride Contour = > 5.0 µg/L
- Vinyl Chloride Contour = > 2.4 µg/L
- Vinyl Chloride Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

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Boeing Auburn Auburn, Washington	**Shallow Zone (15-30 ft) Vinyl Chloride Concentrations Most Recent**	Figure 10

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G:\Projects\025\164110\111\Algona Groundwater Investigation Report\F11TCE_IZ.mxd 9/12/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes

1. All concentrations shown in µg/L.
2. <0.2 = Compound not detected at indicated reporting limit.
3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- TCE Contour = > 5.0 µg/L
- TCE Contour = > 2.4 µg/L
- TCE Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

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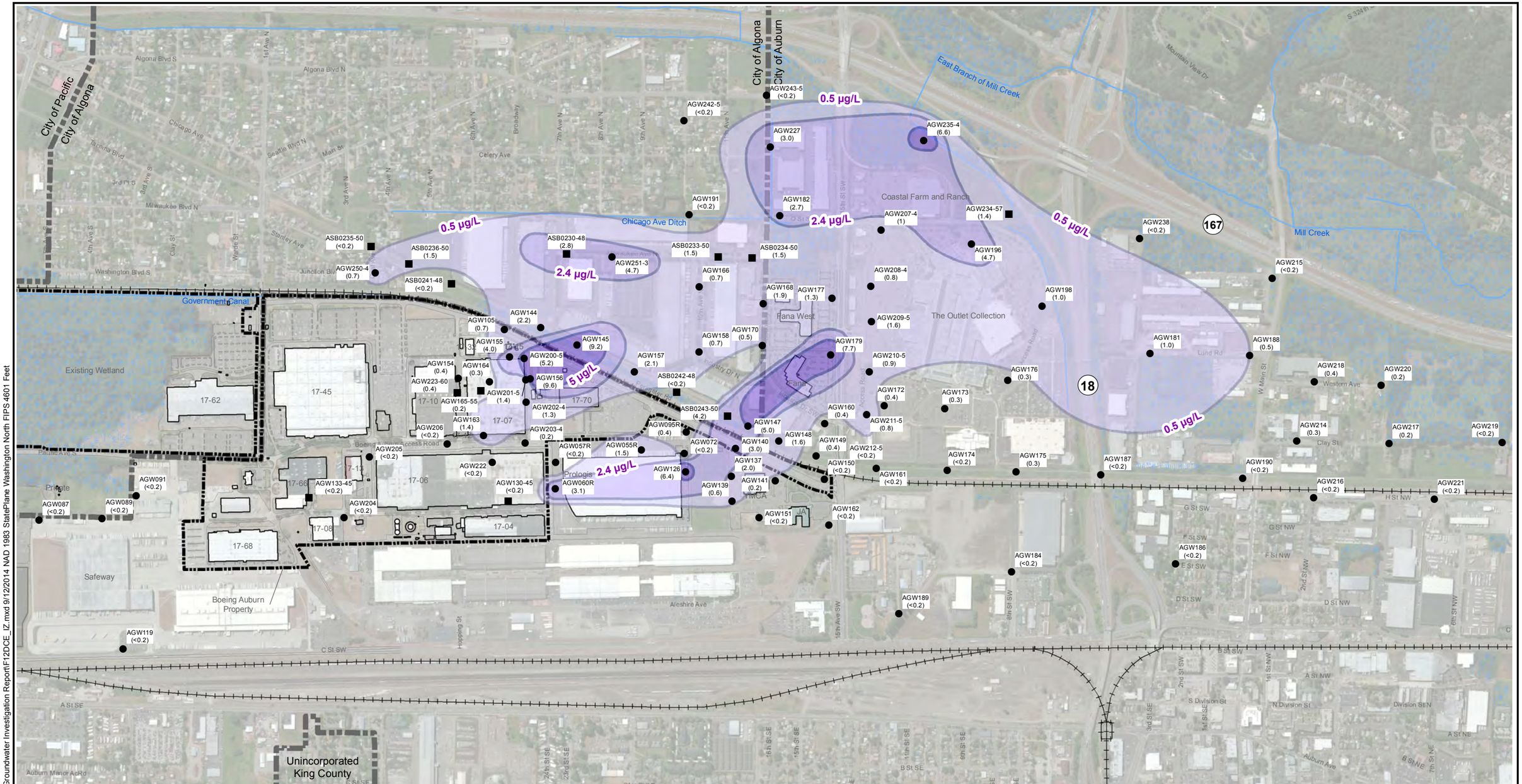
Boeing Auburn Auburn, Washington	**Intermediate Zone (40-60 ft) TCE Concentrations Most Recent**	Figure 11



Notes

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3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- cis-1,2-DCE Contour = > 5.0 µg/L
- cis-1,2-DCE Contour = > 2.4 µg/L
- cis-1,2-DCE Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

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Boeing Auburn Auburn, Washington	**Intermediate Zone (40-60 ft) cis-1,2-DCE Concentrations Most Recent**	Figure 12

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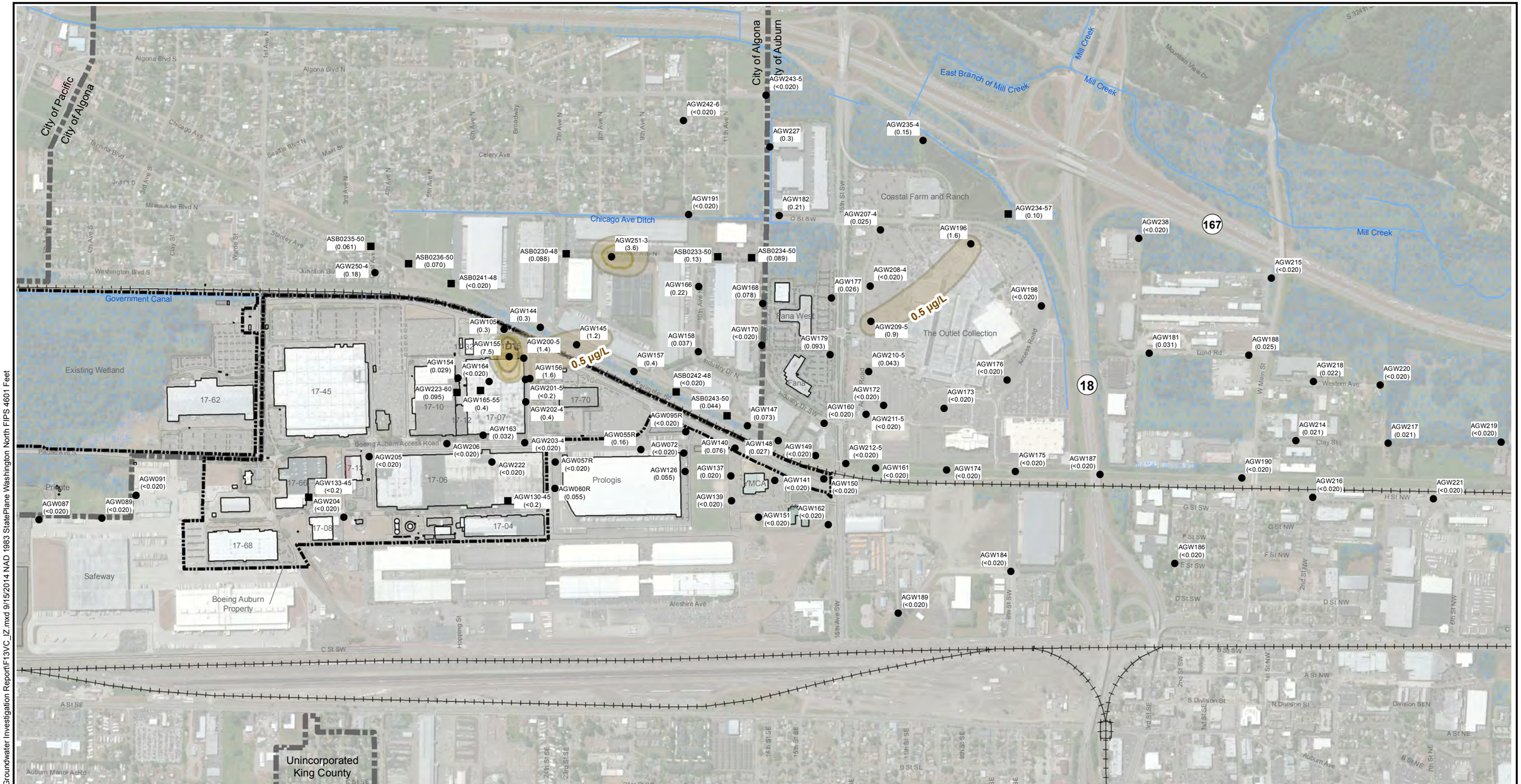


G:\Projects\026\164\110\111\Algona Groundwater Investigation Report\F13VC_IZ.mxd 9/15/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes

1. All concentrations shown in µg/L.
2. <0.2 = Compound not detected at indicated reporting limit.
3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- Vinyl Chloride Contour = > 5.0 µg/L
- Vinyl Chloride Contour = > 2.4 µg/L
- Vinyl Chloride Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Intermediate Zone (40-60 ft)
Vinyl Chloride Concentrations
Most Recent

Figure
13

G:\Projects\025\164\110\111\Algona Groundwater Investigation Report\F14TCE_DZ.mxd 9/15/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes

1. All concentrations shown in µg/L.
2. <0.2 = Compound not detected at indicated reporting limit.
3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- TCE Contour = > 5.0 µg/L
- TCE Contour = > 2.4 µg/L
- TCE Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

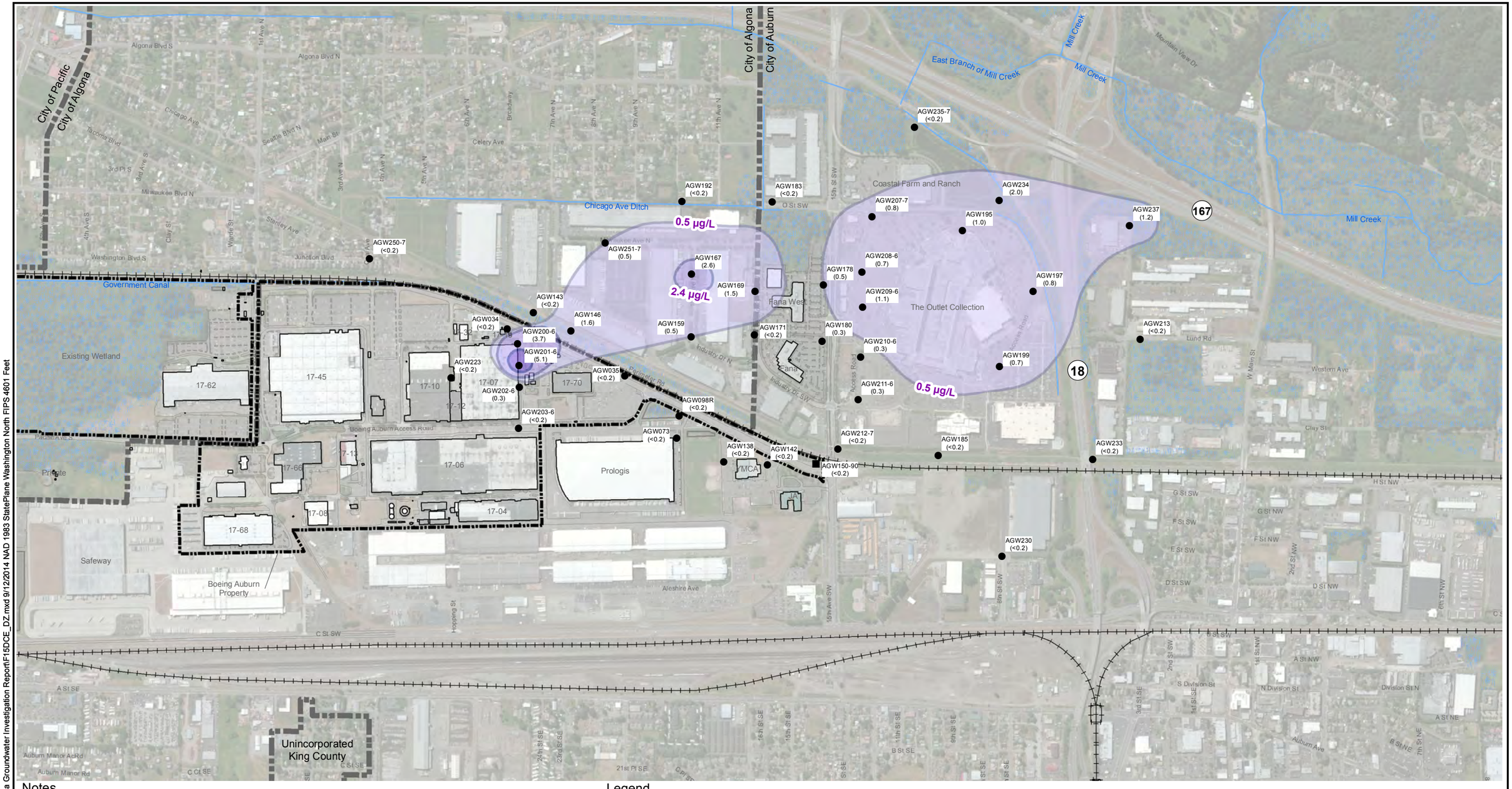
0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

LANDAU ASSOCIATES

Boeing Auburn Auburn, Washington	**Deep Zone (80-100 ft) TCE Concentrations Most Recent**	Figure 14



Notes

1. All concentrations shown in µg/L.
2. <0.2 = Compound not detected at indicated reporting limit.
3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- cis-1,2-DCE Contour = > 5.0 µg/L
- cis-1,2-DCE Contour = > 2.4 µg/L
- cis-1,2-DCE Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

N

0 1,000 2,000

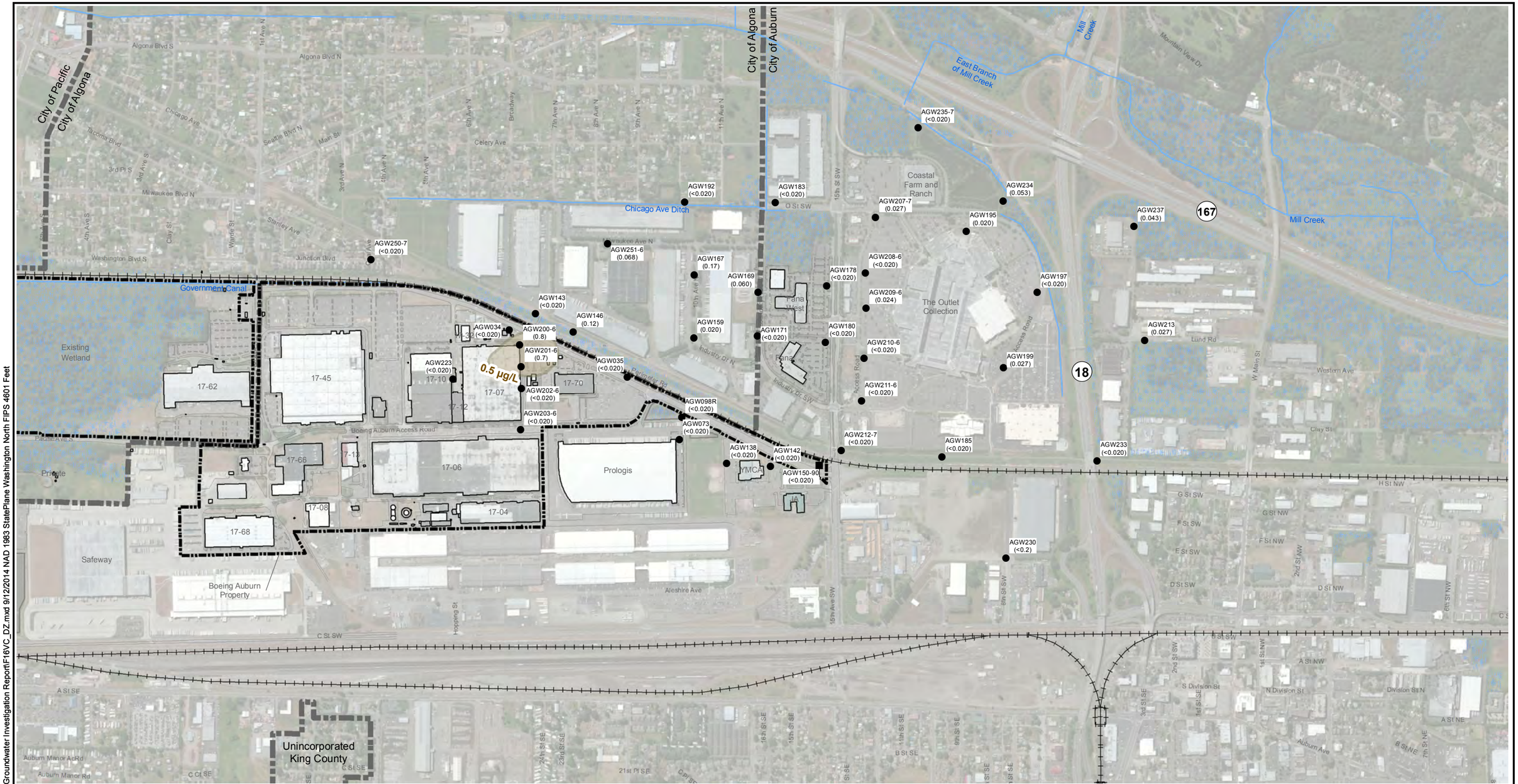
Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

LANDAU ASSOCIATES

Boeing Auburn Auburn, Washington	**Deep Zone (80-100 ft) cis-1,2-DCE Concentrations Most Recent**	Figure 15

G:\Projects\025\164\101\111\Algona Groundwater Investigation Report\F15DCE_DZ.mxd 9/12/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet



Notes

1. All concentrations shown in µg/L.
2. <0.2 = Compound not detected at indicated reporting limit.
3. Monitoring well results are the most recent. Direct-push boring results are from April 2013 and Summer 2014. Borehole grab samples from monitoring wells were collected at time of drilling.
4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- Vinyl Chloride Contour = > 5.0 µg/L
- Vinyl Chloride Contour = > 2.4 µg/L
- Vinyl Chloride Contour = ≥ 0.5 µg/L
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

N

0 1,000 2,000

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Deep Zone (80-100 ft)
Vinyl Chloride Concentrations
Most Recent

Figure
16

G:\Projects\025\164\110\111\Algona Groundwater Investigation Report\F16VC_DZ.mxd 9/12/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet

ASB0235				
Depth (ft)	8'	15'	25'	50'
TCE	ND	ND	ND	ND
cis-1,2-DCE	ND	ND	ND	ND
VC	ND	ND	ND	0.061

ASB0236				
Depth (ft)	9'	15'	25'	50'
TCE	ND	ND	0.5	ND
cis-1,2-DCE	ND	ND	0.8	1.5
VC	ND	ND	0.045	0.07

ASB0241				
Depth (ft)	9'	15'	25'	48'
TCE	ND	ND	ND	ND
cis-1,2-DCE	ND	ND	ND	ND
VC	ND	ND	ND	ND

ASB0237			
Depth (ft)	8'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	ND	ND	ND
VC	ND	ND	ND

AGW250							
Channel-Depth (ft)	1-9'	2-26'	3-41'	4-51'	5-61'	6-81'	7-90'
TCE	ND	0.2	0.4	ND	ND	ND	ND
cis-1,2-DCE	ND	0.2	0.7	0.7	ND	ND	ND
VC	ND	0.034	0.051	0.18	ND	ND	ND

ASB0230				
Depth (ft)	7'	15'	25'	48'
TCE	1.7	3.5	3.6	ND
cis-1,2-DCE	1.1	1.9	2.4	2.8
VC	0.048	0.3	0.4	0.088

ASB0231			
Depth (ft)	6'	15'	25'
TCE	1.8	0.4	2.4
cis-1,2-DCE	2.1	5.3	9.6
VC	0.084	1.0	1.0

ASB0238			
Depth (ft)	8'	15'	25'
TCE	ND	ND	0.2
cis-1,2-DCE	ND	ND	0.8
VC	ND	ND	1.1

ASB0239			
Depth (ft)	9'	15'	25'
TCE	ND	ND	ND
cis-1,2-DCE	ND	ND	0.3
VC	ND	ND	0.22

AGW251							
Channel-Depth (ft)	1-8'	2-25'	3-40'	4-52'	5-63'	6-76'	7-87'
TCE	ND	ND	ND	ND	ND	ND	ND
cis-1,2-DCE	0.5	1.7	4.7	0.5	0.5	0.5	0.5
VC	1.2	0.6	3.3	0.11	0.054	0.068	0.052

ASB0232			
Depth (ft)	7'	15'	25'
TCE	ND	ND	1.4
cis-1,2-DCE	ND	3.9	4.4
VC	ND	0.7	0.5

ASB0240			
Depth (ft)	10'	15'	25'
TCE	ND	ND	3.1
cis-1,2-DCE	ND	ND	1.0
VC	ND	ND	0.077

ASB0242			
Depth (ft)	12'	25'	48'
TCE	ND	1.3	0.8
cis-1,2-DCE	ND	0.6	ND
VC	ND	0.022	ND

ASB0234				
Depth (ft)	8'	15'	25'	50'
TCE	ND	ND	4.2	4.3
cis-1,2-DCE	ND	ND	1.5	1.5
VC	ND	ND	0.064	0.089

ASB0233				
Depth (ft)	9'	15'	25'	50'
TCE	ND	ND	4.6	3.2
cis-1,2-DCE	ND	ND	1.8	1.5
VC	ND	ND	0.16	0.13

ASB0243			
Depth (ft)	14'	25'	50'
TCE	ND	0.7	5.8
cis-1,2-DCE	ND	ND	4.2
VC	ND	ND	0.044

Main St, Celery Ave, 2nd Ave N, 3rd Ave N, 4th Ave N, 5th Ave N, 6th Ave N, Broadway, 7th Ave N, 8th Ave N, 9th Ave N, 10th Ave N, 11th Ave N, Stanley Ave, Junction Blvd, Cross Valley Ave, Chicago Ave, Chicago Ave Ditch, Milwaukee Ave N, O St SW, City of Algona, City of Auburn, Boundary Blvd, Boundary Rd SW, Perimeter Rd, Interurban Trail, Industry Dr N, Industry Dr SW, Fana West, Fana, 17-32, 17-15, 17-45, 17-07, 17-12, 17-70

AGW081, AGW082, AGW083, AGW030, AGW105(I), AGW143(D), AGW144(I), AGW029, AGW024, AGW034(D), AGW079, AGW026, AGW155(I), AGW025, AGW032, AGW200(M), AGW154(I), AGW028, AGW164(I), AGW201(M), AGW027, AGW156(I), AGW223(D), AGW050, AGW037, AGW165, AGW040, AGW049, AGW048, AGW038, AGW039, AGW046, AGW047, AGW202(M), AGW131, AGW152, AGW163(I), AGW017, AGW015, AGW013, AGW016, AGW145(I), AGW146(D), AGW134, AGW157(I), AGW033, AGW035(D), AGW135, AGW241(M), AGW240(M), AGW244(W), AGW246(W), AGW245(W), AGW247(M), AGW226(W), AGW249(M), AGW248(M), AGW191(I), AGW225(W), AGW192(D), AGW182(I), AGW224(W), AGW183(D), AGW166(I), AGW167(D), AGW193, AGW168(I), AGW169(D), AGW229(W), AGW170(I), AGW171(D), AGW159(D), AGW158(I), AGW194, AGW147(I), AGW098R(D), AGW095R(I), AGW031R

Notes

1. Multi-level well locations have either seven or three screened intervals.
2. Groundwater monitoring wells are identified by the AGW prefix.
3. Results reported in µg/L. TCE = Trichloroethene; VC = Vinyl Chloride; cis-1,2-DCE = cis-1,2-Dichloroethene
4. Values shown represent the maximum concentrations of multiple samples were analyzed from the same depth.
5. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- (M) New Multi-Level Well
- (W) New Water Table Well (2.5-7.5 ft BGS)
- New Shallow Zone Direct-Push Boring
- New Shallow and Intermediate Zone Direct-Push Boring
- (W) Existing Offsite Water Table Well
- Existing Shallow Monitoring Well (15 to 30 ft BGS)
- (I) Existing Intermediate Monitoring Well (40 to 60 ft BGS)
- (D) Existing Deep Monitoring Well (80 to 100 ft BGS)
- (M) Existing Multi-Level Well
- Wetland Areas
- Water Bodies
- Waterways

0 350 700

Scale in Feet

N

Base map source: Geometrix 2003; Aerial Photo Source: ESRI World Imagery; Parcel Data Source: King County GIS 2012

G:\Projects\025\L64\110\111\Algona Groundwater Investigation Report\F17DirectPushResultsMiAve.mxd 9/15/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

New Direct-Push Drilling and Groundwater Monitoring Well Results: Commercial and Southern Residential Algona

Figure 17

TABLE 1
DRILLING AND WELL INSTALLATION MATRIX
BOEING AUBURN
ALGONA, WASHINGTON

Well ID	Well Type	Coordinates		Well Rim Elevation	Top of Casing Elevation (ft)	Date of Installation	Groundwater Zone	Well Permanent Screen Depth BGS (bottom) (ft)	Notes
		Northing	Easting						
AGW240	Multi-level	109028.7	1288847.3	72.8		6/10/2014	S		
AGW240-1					72.49		S (WT)	7.5	Same depth as Channel 2
AGW240-2					72.48		S (WT)	7.5	Same depth as Channel 1
AGW240-3					72.48		S	18	Same depth as Channel 4
AGW240-4					72.49		S	18	Same depth as Channel 3
AGW240-5					72.50		S	28.5	Same depth as Channel 6
AGW240-6					72.51		S	28.5	Same depth as Channel 5
AGW241	Multi-level	108594.7	1288810.8	73.5		6/11/2014	S		
AGW241-1					73.28		S (WT)	6.5	Same depth as Channel 2
AGW241-2					73.28		S (WT)	6.5	Same depth as Channel 1
AGW241-3					73.28		S	17	Same depth as Channel 4
AGW241-4					73.28		S	17	Same depth as Channel 3
AGW241-5					73.27		S	27.5	Same depth as Channel 6
AGW241-6					73.28		S	27.5	Same depth as Channel 5
AGW242	Multi-level	109460.7	1287860.9	70.1		6/13/2014	S, I, D		
AGW242-1					69.84		S (WT)	6	
AGW242-2					69.84		S	16.5	
AGW242-3					69.84		S	27	
AGW242-4					69.84		I	40.5	
AGW242-5					69.84		I	50.5	
AGW242-6					69.84		I	60.5	
AGW242-7					69.83		D	82	Error with Installation
AGW243	Multi-level	110324.3	1287595.8	70.7		6/17/2014	S, I, D		
AGW243-1					70.44		S (WT)	6.5	Same depth as Channel 2
AGW243-2					70.43		S (WT)	6.5	Same depth as Channel 1
AGW243-3					70.43		S	25.5	Same depth as Channel 4
AGW243-4					70.42		S	25.5	Same depth as Channel 3
AGW243-5					70.43		I	50.5	Same depth as Channel 6
AGW243-6					70.43		I	50.5	Same depth as Channel 5
AGW244	Water Table	109028.8	1288288.0	72.4	72.04	6/16/2014	S (WT)	7.5	
AGW245	Water Table	109949.2	1288223.2	70.5	70.21	6/17/2014	S (WT)	7.5	
AGW246	Water Table	109764.4	1288220.4	70.9	70.41	6/17/2014	S (WT)	7.5	
AGW247	Multi-level	109472.8	1288356.7	71.8		6/18/2014	S		
AGW247-1					71.55		S (WT)	6	Same depth as Channel 2
AGW247-2					71.54		S (WT)	6	Same depth as Channel 1
AGW247-3					71.54		S	16.5	Same depth as Channel 4
AGW247-4					71.54		S	16.5	Same depth as Channel 3
AGW247-5					71.54		S	27	Same depth as Channel 6
AGW247-6					71.54		S	27	Same depth as Channel 5
AGW248	Multi-level	109911.5	1288865.7	72.0		6/19/2014	S		
AGW248-1					71.83		S (WT)	5.5	Same depth as Channel 2
AGW248-2					71.83		S (WT)	5.5	Same depth as Channel 1
AGW248-3					71.83		S	16	Same depth as Channel 4
AGW248-4					71.82		S	16	Same depth as Channel 3
AGW248-5					71.82		S	26.5	Same depth as Channel 6

TABLE 1
DRILLING AND WELL INSTALLATION MATRIX
BOEING AUBURN
ALGONA, WASHINGTON

Well ID	Well Type	Coordinates		Well Rim Elevation	Top of Casing Elevation (ft)	Date of Installation	Groundwater Zone	Well Permanent Screen Depth BGS (bottom) (ft)	Notes
		Northing	Easting						
AGW248-6					71.82		S	26.5	Same depth as Channel 5
AGW249	Multi-level	110307.8	1288674.8	73.7		6/20/2014	S		
AGW249-1					73.41		S (WT)	8.5	Same depth as Channel 2
AGW249-2					73.41		S (WT)	8.5	Same depth as Channel 1
AGW249-3					73.40		S	19	Same depth as Channel 4
AGW249-4					73.39		S	19	Same depth as Channel 3
AGW249-5					73.39		S	29.5	Same depth as Channel 6
AGW249-6					73.40		S	29.5	Same depth as Channel 5
AGW250	Multi-level	106226.5	1289453.0	78.8		6/24/2014	S, I, D		
AGW250-1					78.45		S (WT)	9	
AGW250-2					78.44		S	26.5	
AGW250-3					78.44		I	41.5	
AGW250-4					78.45		I	51.5	
AGW250-5					78.45		I	61.5	
AGW250-6					78.46		D	81.5	
AGW250-7					78.45		D	89.7	
AGW251	Multi-level	108708.6	1289286.7	76.5		6/27/2014	S, I, D		
AGW251-1					76.09		S (WT)	8.5	
AGW251-2					76.08		S	25.5	
AGW251-3					76.07		I	40.5	
AGW251-4					76.07		I	52.5	
AGW251-5					76.08		I	63	
AGW251-6					76.08		D	76.5	
AGW251-7					76.07		D	86.75	

BGS = Below ground surface
ft = Feet
Conventional = Well with a single screen located in either the shallow, intermediate, or deep zone.
Multilevel = Well with up to seven separate screens, which are located in the shallow, intermediate, and deep zones
S = Shallow Zone
I = Intermediate Zone
D = Deep Zone

Notes:
Coordinate System and Zone: Washington State Plane, North Zone Coordinates
Horizontal Datum: North American Datum of 1983 (91), North Zone, U.S. Feet.
Vertical Datum: National Geodetic Vertical Datum of 1929, U.S. Feet.
To convert elevations shown hereon to North American Vertical Datum of 1988 elevations please add 3.49 feet.

TABLE 2
DIRECT-PUSH BOREHOLE SAMPLING MATRIX
BOEING AUBURN
ALGONA, WASHINGTON

Boring ID	Location Description	Date of Installation	Groundwater Zone	Boring Sample Depth BGS (ft) and Groundwater Zone	Depth to Water At Time of Drilling (ft BGS)
ASB0230	Milwaukee Avenue	6/23/2014	S, I	7 (WT), 15 (S), 25 (S), 48 (I)	4
ASB0231	Milwaukee Avenue	6/24/2014	S	6 (WT), 15 (S), 25 (S)	3.2
ASB0232	Milwaukee Avenue	6/24/2014	S	7 (WT), 15 (S), 25 (S)	4.1
ASB0233	Milwaukee Avenue	6/25/2014	S, I	9 (WT), 15 (S), 25 (S), 50 (I)	6.1
ASB0234	Milwaukee Avenue	6/26/2014	S, I	8 (WT), 15 (S), 25 (S), 50 (I)	4.4
ASB0235	Interurban Trail	7/7/2014	S, I	8 (WT), 15 (S), 25 (S), 50 (I)	6.4
ASB0236	Interurban Trail	7/8/2014	S, I	9 (WT), 15 (S), 25 (S), 50 (I)	6.05
ASB0237	Interurban Trail	7/9/2014	S	8 (WT), 15 (S), 25 (S)	6.1
ASB0238	Interurban Trail	7/9/2014	S	8 (WT), 15 (S), 25 (S)	5.65
ASB0239	Interurban Trail	7/10/2014	S	9 (WT), 15 (S), 25 (S)	6.85
ASB0240	Interurban Trail	7/10/2014	S	10 (WT), 15 (S), 25 (S)	8.05
ASB0241	Interurban Trail	7/11/2014	S, I	9 (WT), 15 (S), 25 (S), 48 (I)	6.9
ASB0242	Interurban Trail	7/14/2014	S, I	12 (WT), 25 (S), 48 (I)	10.1
ASB0243	Interurban Trail	7/15/2014	S, I	14 (WT), 25 (S), 50 (I)	11.8

BGS = Below ground surface
ft = Feet
WT = Water Table
S = Shallow Zone
I = Intermediate Zone

TABLE 3
WATER LEVELS: JULY 2014
BOEING AUBURN
ALGONA, WASHINGTON

Well	Depth to Water (ft)	Date	Aquifer Zone	Groundwater Elevation (ft. MSL)
AGW001R	13.11	7/8/2014	S	74.04
AGW002R	17.24	7/7/2014	S	73.71
AGW006R	13.12	7/8/2014	S	73.34
AGW009	11.99	7/7/2014	S	74.38
AGW010	12.03	7/8/2014	S	74.22
AGW011	11.99	7/7/2014	S	74.29
AGW012	11.93	7/7/2014	S	74.32
AGW013	11.74	7/7/2014	S	74.11
AGW014	11.70	7/7/2014	S	74.21
AGW015	11.52	7/8/2014	S	74.19
AGW016	11.56	7/7/2014	S	74.20
AGW017	11.78	7/7/2014	S	74.32
AGW018	11.75	7/7/2014	S	75.91
AGW020	13.81	7/7/2014	S	75.98
AGW021	14.05	7/7/2014	S	75.66
AGW022	14.10	7/7/2014	S	75.84
AGW023	12.69	7/7/2014	S	75.71
AGW024	10.28	7/7/2014	S	74.28
AGW025	11.55	7/7/2014	S	74.34
AGW026	11.34	7/7/2014	S	74.53
AGW027	13.79	7/7/2014	S	74.22
AGW028	13.58	7/8/2014	S	74.60
AGW029	13.02	7/7/2014	S	74.00
AGW030	12.58	7/7/2014	S	74.11
AGW031R	12.86	7/8/2014	S	73.10
AGW032	14.11	7/7/2014	S	74.09
AGW033	14.15	7/7/2014	S	73.04
AGW034	10.79	7/7/2014	D	74.15
AGW035	14.01	7/8/2014	D	73.28
AGW037	11.92	7/8/2014	S	74.61
AGW038	11.43	7/8/2014	S	74.97
AGW039	11.65	7/8/2014	S	74.78
AGW040	11.69	7/8/2014	S	74.76
AGW041	11.61	7/7/2014	S	74.84
AGW042	11.25	7/7/2014	S	74.65
AGW043	--	--	S	--
AGW044	11.87	7/7/2014	S	74.65
AGW046	11.26	7/8/2014	S	74.67
AGW047	11.54	7/8/2014	S	74.65
AGW048	11.63	7/8/2014	S	74.64
AGW049	11.73	7/8/2014	S	74.66
AGW050	11.57	7/8/2014	S	74.63
AGW053R	17.45	7/7/2014	S	73.53
AGW055R	12.99	7/8/2014	I	73.32
AGW057R	15.49	7/8/2014	I	74.15
AGW058R	15.76	7/8/2014	S	74.16
AGW059R	14.96	7/8/2014	S	74.27
AGW060R	14.92	7/8/2014	I	74.19
AGW064	15.61	7/8/2014	S	72.78
AGW065	13.07	7/8/2014	S	72.95
AGW066	16.45	7/8/2014	S	73.13
AGW067	16.44	7/8/2014	S	73.07
AGW068	12.49	7/8/2014	S	74.55
AGW069	14.40	7/8/2014	S	73.13
AGW072	16.59	7/8/2014	I	73.04
AGW073	16.50	7/8/2014	D	73.06
AGW074	11.18	7/7/2014	S	76.45
AGW076	11.22	7/7/2014	S	75.12
AGW077	11.59	7/7/2014	S	75.14

TABLE 3
WATER LEVELS: JULY 2014
BOEING AUBURN
ALGONA, WASHINGTON

Well	Depth to Water (ft)	Date	Aquifer Zone	Groundwater Elevation (ft. MSL)
AGW078	12.13	7/7/2014	S	75.15
AGW079	10.26	7/7/2014	S	74.43
AGW080	7.44	7/7/2014	S	74.77
AGW081	7.80	7/7/2014	S	74.57
AGW082	9.34	7/7/2014	S	74.49
AGW083	12.16	7/7/2014	S	74.28
AGW084	11.25	7/7/2014	S	74.95
AGW085	11.48	7/7/2014	S	74.94
AGW086	11.82	7/7/2014	S	74.92
AGW087	8.96	7/7/2014	I	76.83
AGW088	9.39	7/7/2014	S	76.46
AGW089	10.13	7/7/2014	I	76.67
AGW090	9.81	7/7/2014	S	76.69
AGW091	10.90	7/7/2014	I	76.42
AGW095R	12.43	7/8/2014	I	73.10
AGW098R	12.60	7/8/2014	D	73.21
AGW100	9.65	7/7/2014	S	75.75
AGW101	9.67	7/7/2014	I	75.83
AGW102	9.79	7/7/2014	D	75.68
AGW103	13.21	7/7/2014	S	76.17
AGW104	13.49	7/7/2014	S	75.49
AGW105	13.13	7/7/2014	I	74.20
AGW106R	17.29	7/7/2014	S	73.68
AGW110R	17.48	7/7/2014	S	73.58
AGW112R	17.47	7/7/2014	S	73.49
AGW115	11.57	7/7/2014	S	74.96
AGW116	11.59	7/7/2014	S	75.10
AGW117	11.32	7/7/2014	S	75.17
AGW118	--	--	S	--
AGW119	16.32	7/7/2014	I	77.94
AGW120	16.29	7/7/2014	S	77.95
AGW121	12.69	7/7/2014	S	78.58
AGW125	15.70	7/8/2014	S	73.15
AGW126	15.79	7/8/2014	I	73.09
AGW127	11.02	7/7/2014	S	75.52
AGW128	11.96	7/7/2014	S	74.68
AGW129	11.66	7/7/2014	S	75.00
AGW130	12.01	7/7/2014	S	74.63
AGW131	11.76	7/7/2014	S	74.22
AGW132	11.25	7/7/2014	S	75.71
AGW133	12.35	7/7/2014	S	75.76
AGW134	10.23	7/7/2014	S	73.42
AGW135	11.40	7/8/2014	S	73.14
AGW136	13.78	7/8/2014	S	72.82
AGW137	13.60	7/8/2014	I	72.84
AGW138	13.92	7/8/2014	D	72.72
AGW139	14.00	7/8/2014	I	72.68
AGW140	13.26	7/8/2014	I	72.66
AGW141	14.22	7/8/2014	I	72.15
AGW142	14.49	7/8/2014	D	72.02
AGW143	5.15	7/8/2014	D	73.83
AGW144	5.20	7/8/2014	I	73.85
AGW145	4.55	7/8/2014	I	73.59
AGW146	5.07	7/8/2014	D	73.62
AGW147	11.75	7/8/2014	I	72.74
AGW148	11.47	7/8/2014	I	72.33
AGW149	12.95	7/8/2014	I	71.78
AGW150	11.78	7/8/2014	I	71.76
AGW151	13.95	7/8/2014	I	72.31
AGW152	10.39	7/7/2014	S	74.00

TABLE 3
WATER LEVELS: JULY 2014
BOEING AUBURN
ALGONA, WASHINGTON

Well	Depth to Water (ft)	Date	Aquifer Zone	Groundwater Elevation (ft. MSL)
AGW153	12.97	7/7/2014	S	75.55
AGW154	11.57	7/8/2014	I	74.49
AGW155	11.94	7/7/2014	I	74.18
AGW156	14.33	7/7/2014	I	74.12
AGW157	8.00	7/8/2014	I	73.20
AGW158	9.56	7/8/2014	I	72.59
AGW159	9.32	7/8/2014	D	72.71
AGW160	12.90	7/8/2014	I	71.70
AGW161	10.39	7/8/2014	I	71.29
AGW162	13.67	7/8/2014	I	71.64
AGW163	11.78	7/7/2014	I	74.62
AGW164	12.06	7/8/2014	I	74.46
AGW165	11.63	7/8/2014	S	74.87
AGW166	5.82	7/8/2014	I	71.79
AGW167	5.78	7/8/2014	D	72.33
AGW168	6.39	7/8/2014	I	71.56
AGW169	6.32	7/8/2014	D	71.80
AGW170	7.98	7/8/2014	I	72.23
AGW171	8.05	7/8/2014	D	72.38
AGW172	13.12	7/8/2014	I	71.13
AGW173	15.09	7/8/2014	I	70.59
AGW174	7.34	7/8/2014	I	70.69
AGW175	5.45	7/8/2014	I	69.71
AGW176	10.93	7/8/2014	I	69.55
AGW177	6.98	7/8/2014	I	70.78
AGW178	6.83	7/8/2014	D	70.91
AGW179	7.90	7/8/2014	I	71.32
AGW180	7.50	7/8/2014	D	71.50
AGW181	3.01	7/8/2014	I	67.13
AGW182	3.48	7/8/2014	I	69.68
AGW183	3.37	7/8/2014	D	69.64
AGW184	6.44	7/8/2014	I	70.82
AGW185	6.54	7/8/2014	D	70.85
AGW186	5.24	7/8/2014	I	67.76
AGW187	3.62	7/8/2014	I	68.59
AGW188	2.00	7/8/2014	I	64.90
AGW189	13.93	7/8/2014	I	70.94
AGW190	2.58	7/8/2014	I	67.10
AGW191	1.90	7/8/2014	I	70.40
AGW192	2.14	7/8/2014	D	70.25
AGW193	6.67	7/8/2014	S	71.66
AGW194	9.72	7/8/2014	S	72.57
AGW195	9.40	7/8/2014	D	68.78
AGW196	9.53	7/8/2014	I	68.56
AGW197	4.84	7/8/2014	D	68.41
AGW198	4.98	7/8/2014	I	68.41
AGW199	10.68	7/8/2014	D	69.84
AGW200-1	12.18	7/8/2014	CMT-S	74.09
AGW200-2	12.20	7/8/2014	CMT-S	74.07
AGW200-3	12.23	7/8/2014	CMT-I	74.03
AGW200-4	12.20	7/8/2014	CMT-I	74.07
AGW200-5	12.23	7/8/2014	CMT-I	74.04
AGW200-6	12.25	7/8/2014	CMT-D	73.99
AGW200-7	12.29	7/8/2014	CMT-D	73.98
AGW201-1	12.18	7/8/2014	CMT-S	74.16
AGW201-2	12.18	7/8/2014	CMT-S	74.18
AGW201-3	12.18	7/8/2014	CMT-I	74.16
AGW201-4	12.19	7/8/2014	CMT-I	74.15
AGW201-5	12.17	7/8/2014	CMT-I	74.13
AGW201-6	12.23	7/8/2014	CMT-D	74.08

TABLE 3
WATER LEVELS: JULY 2014
BOEING AUBURN
ALGONA, WASHINGTON

Well	Depth to Water (ft)	Date	Aquifer Zone	Groundwater Elevation (ft. MSL)
AGW201-7	12.27	7/8/2014	CMT-D	74.07
AGW202-1	12.00	7/8/2014	CMT-S	74.27
AGW202-2	11.97	7/8/2014	CMT-S	74.29
AGW202-3	11.99	7/8/2014	CMT-I	74.28
AGW202-4	12.04	7/8/2014	CMT-I	74.22
AGW202-5	12.07	7/8/2014	CMT-I	74.20
AGW202-6	12.12	7/8/2014	CMT-D	74.17
AGW202-7	12.10	7/8/2014	CMT-D	74.17
AGW203-1	12.13	7/8/2014	CMT-S	74.39
AGW203-2	12.12	7/8/2014	CMT-S	74.41
AGW203-3	12.12	7/8/2014	CMT-I	74.40
AGW203-4	12.15	7/8/2014	CMT-I	74.34
AGW203-5	12.15	7/8/2014	CMT-I	74.37
AGW203-6	12.22	7/8/2014	CMT-D	74.29
AGW204	11.66	7/7/2014	I	75.68
AGW205	10.69	7/7/2014	I	75.33
AGW206	11.30	7/7/2014	I	74.92
AGW207-1	7.06	7/8/2014	CMT-S	69.15
AGW207-2	7.24	7/8/2014	CMT-S	68.97
AGW207-3	7.20	7/8/2014	CMT-I	69.01
AGW207-4	7.17	7/8/2014	CMT-I	69.04
AGW207-5	7.17	7/8/2014	CMT-I	69.04
AGW207-7	7.07	7/8/2014	CMT-D	69.14
AGW208-1	5.37	7/8/2014	CMT-S	70.06
AGW208-2	5.37	7/8/2014	CMT-S	70.04
AGW208-3	5.36	7/8/2014	CMT-I	70.07
AGW208-4	5.35	7/8/2014	CMT-I	70.07
AGW208-5	5.09	7/8/2014	CMT-I	70.34
AGW208-6	5.10	7/8/2014	CMT-D	70.32
AGW208-7	5.11	7/8/2014	CMT-D	70.32
AGW209-1	7.92	7/8/2014	CMT-S	70.56
AGW209-2	7.92	7/8/2014	CMT-S	70.56
AGW209-3	7.89	7/8/2014	CMT-I	70.59
AGW209-4	7.90	7/8/2014	CMT-I	70.58
AGW209-5	7.89	7/8/2014	CMT-I	70.59
AGW209-6	7.90	7/8/2014	CMT-D	70.58
AGW209-7	7.91	7/8/2014	CMT-D	70.57
AGW210-1	9.21	7/8/2014	CMT-S	71.01
AGW210-2	9.21	7/8/2014	CMT-S	71.00
AGW210-3	9.18	7/8/2014	CMT-I	71.04
AGW210-4	9.20	7/8/2014	CMT-I	71.02
AGW210-5	9.19	7/8/2014	CMT-I	71.03
AGW210-6	9.23	7/8/2014	CMT-D	70.98
AGW210-7	9.54	7/8/2014	CMT-D	70.68
AGW211-1	10.80	7/8/2014	CMT-S	71.28
AGW211-2	10.71	7/8/2014	CMT-S	71.35
AGW211-3	10.72	7/8/2014	CMT-I	71.36
AGW211-4	10.81	7/8/2014	CMT-I	71.27
AGW211-5	10.82	7/8/2014	CMT-I	71.24
AGW211-6	10.85	7/8/2014	CMT-D	71.20
AGW211-7	10.85	7/8/2014	CMT-D	71.23
AGW212-1	11.22	7/8/2014	CMT-S	71.72
AGW212-2	11.09	7/8/2014	CMT-S	71.85
AGW212-3	11.40	7/8/2014	CMT-I	71.54
AGW212-5	11.38	7/8/2014	CMT-I	71.56
AGW212-6	11.42	7/8/2014	CMT-D	71.52
AGW212-7	11.42	7/8/2014	CMT-D	71.52
AGW213	3.04	7/8/2014	D	66.93
AGW214*	2.94	7/8/2014	I	66.04
AGW215*	1.93	7/8/2014	I	62.81

TABLE 3
WATER LEVELS: JULY 2014
BOEING AUBURN
ALGONA, WASHINGTON

Well	Depth to Water (ft)	Date	Aquifer Zone	Groundwater Elevation (ft. MSL)
AGW216*	1.81	7/8/2014	I	65.79
AGW217*	2.83	7/8/2014	I	64.07
AGW218*	1.01	7/8/2014	I	63.87
AGW219	0.76	7/8/2014	I	60.15
AGW220*	1.08	7/8/2014	I	61.64
AGW221*	1.47	7/8/2014	I	63.06
AGW222	12.50	7/7/2014	I	74.75
AGW223	12.14	7/9/2014	D	74.56
AGW224	2.77	7/8/2014	WT	69.64
AGW225	2.05	7/8/2014	WT	69.51
AGW226	0.36	7/8/2014	WT	68.96
AGW227	3.30	7/8/2014	I	67.76
AGW228	3.73	7/8/2014	S	67.63
AGW229	8.27	7/8/2014	WT	72.20
AGW230	7.84	7/8/2014	D	70.16
AGW231	5.06	7/8/2014	S	68.12
AGW232	9.70	7/8/2014	S	68.26
AGW233	2.92	7/8/2014	D	68.64
AGW234	2.09	7/8/2014	D	67.69
AGW235-1	3.08	7/8/2014	CMT-S	66.86
AGW235-2	3.23	7/8/2014	CMT-S	66.71
AGW235-3	2.46	7/8/2014	CMT-S	67.48
AGW235-4	2.47	7/8/2014	CMT-I	67.48
AGW235-5	2.47	7/8/2014	CMT-I	67.48
AGW235-6	2.50	7/8/2014	CMT-I	67.45
AGW235-7	2.53	7/8/2014	CMT-D	67.42
AGW236	6.70	7/8/2014	S	68.15
AGW237	4.46	7/8/2014	D	66.03
AGW238	5.19	7/8/2014	I	65.07
AGW239	5.83	7/8/2014	S	64.95
AGW240-1	3.17	7/8/2014	CMT-WT	69.32
AGW240-3	2.58	7/8/2014	CMT-S	69.90
AGW240-5	2.58	7/8/2014	CMT-S	69.92
AGW241-1	3.39	7/8/2014	CMT-WT	69.89
AGW241-3	3.01	7/8/2014	CMT-S	70.27
AGW241-5	3.01	7/8/2014	CMT-S	70.26
AGW242-1	1.66	7/8/2014	CMT-WT	68.18
AGW242-2	1.66	7/8/2014	CMT-S	68.18
AGW242-3	1.66	7/8/2014	CMT-S	68.18
AGW242-4	1.5	7/8/2014	CMT-I	68.34
AGW242-5	1.54	7/8/2014	CMT-I	68.30
AGW242-6	1.49	7/8/2014	CMT-D	68.35
AGW243-1	3.99	7/8/2014	CMT-WT	66.45
AGW243-3	3.67	7/8/2014	CMT-S	66.76
AGW243-5	2.91	7/8/2014	CMT-I	67.52
AGW244	3.03	7/8/2014	WT	69.01
AGW245	2.35	7/8/2014	WT	67.86
AGW246	1.93	7/8/2014	WT	68.48
AGW247-1	2.52	7/8/2014	CMT-WT	69.03
AGW247-3	2.5	7/8/2014	CMT-S	69.04
AGW247-5	2.49	7/8/2014	CMT-S	69.05
AGW248-1	2.58	7/8/2014	CMT-WT	69.25
AGW248-3	2.09	7/8/2014	CMT-S	69.74
AGW248-5	2.08	7/8/2014	CMT-S	69.74
AGW249-1	5.21	7/8/2014	CMT-WT	68.20
AGW249-3	3.96	7/8/2014	CMT-S	69.44
AGW249-5	3.97	7/8/2014	CMT-S	69.42
AGW250-1	4.32	7/8/2014	CMT-WT	74.13
AGW250-2	4.16	7/8/2014	CMT-S	74.28
AGW250-3	4.18	7/8/2014	CMT-I	74.26

TABLE 3
WATER LEVELS: JULY 2014
BOEING AUBURN
ALGONA, WASHINGTON

Well	Depth to Water (ft)	Date	Aquifer Zone	Groundwater Elevation (ft. MSL)
AGW250-4	4.38	7/8/2014	CMT-I	74.07
AGW250-5	4.47	7/8/2014	CMT-I	73.98
AGW250-6	4.45	7/8/2014	CMT-D	74.01
AGW250-7	4.44	7/8/2014	CMT-D	74.01
AGW251-1	4.77	7/8/2014	CMT-WT	71.32
AGW251-2	4.76	7/8/2014	CMT-S	71.32
AGW251-3	4.65	7/8/2014	CMT-I	71.42
AGW251-4	4.86	7/8/2014	CMT-I	71.21
AGW251-5	3.83	7/8/2014	CMT-I	72.25
AGW251-6	3.89	7/8/2014	CMT-D	72.19
AGW251-7	3.87	7/8/2014	CMT-D	72.20

* Well exhibited artesian conditions
-- = Was not able to access well
D = Deep Zone
ft = foot
I = Intermediate Zone
MSL = Mean Sea Level (National Geodetic Vertical Datum of 1929)
S = Shallow Zone
Note:
Groundwater elevations for multi-level wells and wells exhibiting artesian conditions are only accurate to the 1/10th of a ft.

TABLE 4
VERTICAL HYDRAULIC GRADIENT WATER TABLE TO SHALLOW ZONE JULY 2014
BOEING AUBURN
ALGONA, WASHINGTON

Well Cluster	Aquifer Zone	Groundwater Elevation (ft, MSL)	Ground Surface Elevation[1] (ft, MSL)	Center of Screen (BGS)	Center of Screen Elevation (ft, MSL)	Water Level Difference (ft)	Screen Elevation Difference (ft)	Vertical Hydraulic Gradient	
AGW240-1	Water Table (5-7.5)	69.32	72.77	6.25	66.52	-0.60	22.00	-0.0273	Upward
AGW240-5	28-28.5	69.92	72.77	28.25	44.52				
AGW241-1	Water Table (4-6.5)	69.89	73.49	5.25	68.24	-0.37	22.00	-0.0168	Upward
AGW241-5	27-27.5	70.26	73.49	27.25	46.24				
AGW242-1	Water Table (3.5-6)	68.18	70.09	4.75	65.34	0.00	22.00	0.0000	Neutral
AGW242-3	26.5-27	68.18	70.09	26.75	43.34				
AGW243-1	Water Table (4-6.5)	66.45	70.67	5.25	65.42	-0.31	20.00	-0.0155	Upward
AGW243-3	25-25.5	66.76	70.67	25.25	45.42				
AGW247-1	Water Table (5-7.5)	69.03	71.82	6.25	65.57	-0.02	20.50	-0.0010	Upward
AGW247-5	26.5-27	69.05	71.82	26.75	45.07				
AGW248-1	Water Table (5-7.5)	69.25	72.02	6.25	65.77	-0.49	20.00	-0.0245	Upward
AGW248-5	26-26.5	69.74	72.02	26.25	45.77				
AGW249-1	Water Table (5-7.5)	68.20	73.72	6.25	67.47	-1.22	23.00	-0.0530	Upward
AGW249-5	29-29.5	69.42	73.72	29.25	44.47				
AGW250-1	Water Table (6.5-9)	74.13	78.79	7.75	71.04	-0.15	18.50	-0.0081	Upward
AGW250-2	26-26.5	74.28	78.79	26.25	52.54				
AGW251-1	Water Table (6-8.5)	71.32	76.46	7.25	69.21	0.00	18.00	0.0000	Neutral
AGW251-2	25-25.5	71.32	76.46	25.25	51.21				

[1] Well rim elevation

Notes:
Groundwater level elevations collected July 2014.

TABLE 5
VERTICAL HYDRAULIC GRADIENT SHALLOW ZONE TO INTERMEDIATE ZONE JULY 2014
BOEING AUBURN
ALGONA, WASHINGTON

Well Cluster	Aquifer Zone	Groundwater Elevation (ft, MSL)	Ground Surface Elevation[1] (ft, MSL)	Center of Screen (BGS)	Center of Screen Elevation (ft, MSL)	Water Level Difference (ft)	Screen Elevation Difference (ft)	Vertical Hydraulic Gradient	
AGW242-3	26.5-27	68.18	70.09	25.25	44.84	-0.12	25.00	-0.0048	Upward
AGW242-5	50-50.5	68.30	70.09	50.25	19.84				
AGW243-3	25-25.5	66.76	70.67	25.25	45.42	-0.76	25.00	-0.0304	Upward
AGW243-5	50-50.5	67.52	70.67	50.25	20.42				
AGW250-2	26-26.5	74.28	78.79	26.25	52.54	0.21	25.00	0.0084	Downward
AGW250-4	51-51.5	74.07	78.79	51.25	27.54				
AGW251-2	25-25.5	71.32	76.46	25.25	51.21	0.11	27.00	0.0041	Downward
AGW251-4	52-52.5	71.21	76.46	52.25	24.21				

[1] Well rim elevation

Notes:

Groundwater level elevations collected July 2014.

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW240-1-7 Water Table 1488489 7531113 7/11/2014	AGW240-3-18 Shallow 1488489 7531114 7/11/2014	Dup of AGW240-3-18 AGW900 Shallow 1488489 7531115 7/11/2014	AGW240-5-28 Shallow 1488489 7531116 7/11/2014	AGW241-1-6 Water Table 1488489 7531121 7/11/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	**13**
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	**0.3**
Chloromethane	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
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	**0.7**	**0.7**	**6.9**	0.2 U
trans-1,2-Dichloroethene	**0.3**	**0.3**	**0.3**	**0.8**	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	**0.7**
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	0.2 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
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	**0.7**	**3.7**	**3.7**	**4.1**	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	**1.3**
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	**0.8**
VOLATILES (µg/L)					
Method 8260C SIM					
Tetrachloroethene	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	**0.74**	**3.6**	**3.6**	**3.0**	0.020 U

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	Dup of AGW241-1-6				
	AGW901	AGW241-3-17	AGW241-5-27	AGW242-1-6	AGW242-1-6 (a)
	Water Table	Shallow	Shallow	Water Table	Water Table
	1488489	1488489	1488489	1489361	1490965
	7531120	7531122	7531123	7534746	7542013
	7/11/2014	7/11/2014	7/11/2014	7/15/2014	7/15/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	**9.0**	5.0 U	5.0 U	50 U	**12**
Benzene	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Chloroform	**0.3**	0.2 U	0.2 U	2.0 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
cis-1,2-Dichloroethene	0.2 U	**0.5**	**0.6**	2.0 U	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	50 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
Toluene	**0.7**	0.2 U	0.2 U	2.0 U	**0.5**
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	2.0 U	0.2 U
m,p-Xylene	**1.2**	0.5 U	0.5 U	5.0 U	0.5 U
o-Xylene	**0.7**	0.5 U	0.5 U	5.0 U	0.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Tetrachloroethene	0.020 U	0.020 U	0.020 U	0.10 U	
Vinyl Chloride	0.020 U	**0.022**	**0.032**	**0.23**	

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW242-2-16 Shallow 1489361 7534747 7/15/2014	AGW242-3-27 Shallow 1489361 7534748 7/15/2014	AGW242-4-40 Intermediate 1489361 7534749 7/15/2014	AGW242-5-50 Intermediate 1489361 7534750 7/15/2014	AGW242-6-60 Intermediate 1489361 7534751 7/15/2014
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	**0.4**
Chloromethane	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
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	0.2 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
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	0.2 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
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					
Tetrachloroethene	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

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW243-1-6 Water Table 1489361 7534738 7/14/2014	AGW243-1-6 (a) Water Table 1490965 7542010 7/14/2014	AGW243-3-25 Shallow 1489361 7534739 7/14/2014	AGW243-5-50 Intermediate 1489361 7534740 7/14/2014	AGW243-5-50 (a) Intermediate 1490965 7542011 7/14/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	**33**	**27**	**6.2**	50 U	5.0 U
Benzene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Bromodichloromethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Bromoform	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Bromomethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
2-Butanone	25 U	**6.3**	5.0 U	50 U	5.0 U
Carbon Disulfide	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Carbon Tetrachloride	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Chlorobenzene	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Chloroethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Chloroform	**1.6**	**1.7**	**0.8**	2.0 U	**0.4**
Chloromethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Dibromochloromethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1-Dichloroethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,2-Dichloroethane	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
1,1-Dichloroethene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
cis-1,2-Dichloroethene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
trans-1,2-Dichloroethene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
1,2-Dichloropropane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
cis-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
trans-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Ethylbenzene	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
2-Hexanone	25 U	5.0 U	5.0 U	50 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	25 U	5.0 U	5.0 U	50 U	5.0 U
Methylene Chloride	2.5 U	**0.7**	0.5 U	5.0 U	0.5 U
Styrene	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,2,2-Tetrachloroethane	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Tetrachloroethene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Toluene	1.0 U	**0.5**	**0.4**	2.0 U	**0.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,1-Trichloroethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,2-Trichloroethane	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Trichloroethene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Trichlorofluoromethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Vinyl Acetate	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Vinyl Chloride	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
m,p-Xylene	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
o-Xylene	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Tetrachloroethene	0.10 U		0.020 U	0.020 U	
Vinyl Chloride	**0.26**		0.020 U	0.020 U	

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW244 Water Table 1488489 7531124 7/11/2014	AGW244 (a) Water Table 1490965 7542014 7/11/2014	AGW245 Water Table 1489361 7534745 7/14/2014	AGW246 Water Table 1489361 7534744 7/14/2014	AGW246 (a) Water Table 1490965 7542012 7/14/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	25 U	5.0 U	5.0 U	**50**	5.0 U
Benzene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Bromodichloromethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Bromoform	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Bromomethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
2-Butanone	25 U	5.0 U	5.0 U	50 U	5.0 U
Carbon Disulfide	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Carbon Tetrachloride	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Chlorobenzene	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Chloroethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Chloroform	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Chloromethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Dibromochloromethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1-Dichloroethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,2-Dichloroethane	1.0 U	0.2 U	**0.2**	2.0 U	0.2 U
1,1-Dichloroethene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
cis-1,2-Dichloroethene	1.0 U	0.2 U	**0.7**	2.0 U	0.2 U
trans-1,2-Dichloroethene	1.0 U	0.2 U	**0.3**	2.0 U	0.2 U
1,2-Dichloropropane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
cis-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
trans-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Ethylbenzene	**3.1**	**3.7**	0.5 U	5.0 U	0.5 U
2-Hexanone	25 U	5.0 U	5.0 U	50 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	25 U	5.0 U	5.0 U	50 U	5.0 U
Methylene Chloride	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Styrene	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,2,2-Tetrachloroethane	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Tetrachloroethene	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Toluene	1.0 U	**0.6**	0.2 U	2.0 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,1-Trichloroethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
1,1,2-Trichloroethane	1.0 U	0.2 U	0.2 U	2.0 U	0.2 U
Trichloroethene	1.0 U	0.2 U	**0.5**	2.0 U	0.2 U
Trichlorofluoromethane	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Vinyl Acetate	2.5 U	0.5 U	0.5 U	5.0 U	0.5 U
Vinyl Chloride	1.0 U	0.2 U	**1.5**	2.0 U	0.2 U
m,p-Xylene	**17**	**20**	0.5 U	5.0 U	**0.5**
o-Xylene	**8.4**	**10**	0.5 U	5.0 U	0.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Tetrachloroethene	0.10 U		0.020 U	0.10 U	
Vinyl Chloride	**0.14**		**1.4**	**0.18**	

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW247-1-6 Water Table 1489361 7534741 7/14/2014	AGW247-3-16 Shallow 1489361 7534742 7/14/2014	AGW247-5-27 Shallow 1489361 7534743 7/14/2014	AGW248-1-5 Water Table 1488981 7532890 7/14/2014	AGW248-1-5 (a) Water Table 1490965 7542009 7/14/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	5.0 U	**11**	**27**	**13**
Benzene	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	25 U	**7.1**
Carbon Disulfide	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Chloroform	0.2 U	**0.3**	**0.3**	1.0 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,2-Dichloroethane	**0.2**	**0.2**	**0.3**	1.0 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
cis-1,2-Dichloroethene	**4.9**	**6.3**	**5.5**	1.0 U	0.2 U
trans-1,2-Dichloroethene	**0.4**	**0.8**	**0.4**	1.0 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	**0.8**	2.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	25 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Toluene	0.2 U	0.2 U	**0.6**	1.0 U	**0.4**
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Vinyl Chloride	**0.4**	**1.1**	**0.8**	1.0 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	**4.1**	2.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	**2.3**	2.5 U	0.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Tetrachloroethene	0.020 U	0.020 U	0.020 U	**0.97**	
Vinyl Chloride	**0.35**	**0.96**	**0.74**	**1.4**	

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW248-3-16 Shallow 1488981 7532891 7/14/2014	AGW248-5-26 Shallow 1488981 7532892 7/14/2014	AGW249-1-8 Water Table 1488489 7531117 7/11/2014	AGW249-3-19 Shallow 1488489 7531118 7/11/2014	AGW249-5-29 Shallow 1488489 7531119 7/11/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	5.0 U	**10** J	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	**0.5** J	**0.5**	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
cis-1,2-Dichloroethene	**2.0**	**1.9**	**0.8** J	**2.3**	**2.2**
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 UJ	0.2 U	**0.2**
1,2-Dichloropropane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	**3.8** J	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	**2.1** J	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U
Trichloroethene	**5.0**	**4.4**	**0.9** J	**6.4**	**6.7**
Trichlorofluoromethane	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Vinyl Chloride	**0.2**	**0.2**	**0.4** J	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	**22** J	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	**12** J	0.5 U	0.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Tetrachloroethene	**0.12**	**0.11**	0.020 U	**0.12**	**0.12**
Vinyl Chloride	**0.18**	**0.18**	**0.28**	**0.13**	**0.13**

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW250-1-9 Water Table 1488981 7532889 7/14/2014	AGW250-2-26 Shallow 1488981 7532888 7/14/2014	AGW250-3-41 Intermediate 1488981 7532887 7/14/2014	AGW250-4-51 Intermediate 1488981 7532886 7/14/2014	AGW250-5-61 Intermediate 1488981 7532885 7/14/2014
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 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
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	**0.2**	**0.7**	**0.7**	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	**0.2**	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	**0.2**	**0.4**	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					
Tetrachloroethene	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	0.020 U	**0.034**	**0.051**	**0.18**	0.020 U

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW250-6-81	AGW250-7-90	Dup of AGW250-7-90 AGW902	AGW251-1-8	AGW251-2-25
	Deep	Deep	Deep	Water Table	Shallow
	1488981	1488981	1488981	1488488	1488488
	7532884	7532882	7532883	7531108	7531109
	7/14/2014	7/14/2014	7/14/2014	7/11/2014	7/11/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	5.0 U	5.0 U	**11**	50 U
Benzene	0.2 U	0.2 U	0.2 U	**0.2**	2.0 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	50 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
Chloroform	**0.3**	**2.1**	**2.1**	**2.2**	2.0 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
cis-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	**0.5**	2.0 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	50 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	50 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	**1.6**	5.0 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
Toluene	0.2 U	0.2 U	0.2 U	**5.9**	**9.9**
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
Trichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	2.0 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U	**1.2**	2.0 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	5.0 U
VOLATILES (µg/L)					
Method 8260C SIM					
Tetrachloroethene	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	**0.87**	**0.6**

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW251-2-25 (a)	AGW251-3-40	AGW251-3-40 (a)	AGW251-4-52	AGW251-4-52 (a)
	Shallow	Intermediate	Intermediate	Intermediate	Intermediate
	1490624	1488488	1490624	1488488	1490624
	7540397	7531110	7540398	7531111	7540399
	7/11/2014	7/11/2014	7/11/2014	7/11/2014	7/11/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	**10**	25 U	5.0 U	25 U	5.0 U
Benzene	**0.6**	1.0 U	0.2 U	1.0 U	0.2 U
Bromodichloromethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
Bromoform	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
Bromomethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
2-Butanone	5.0 U	25 U	5.0 U	25 U	5.0 U
Carbon Disulfide	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
Carbon Tetrachloride	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
Chlorobenzene	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
Chloroethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
Chloroform	**2.1**	1.0 U	**0.6**	1.0 U	**0.9**
Chloromethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
Dibromochloromethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
1,1-Dichloroethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
1,2-Dichloroethane	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
1,1-Dichloroethene	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
cis-1,2-Dichloroethene	**1.7**	**3.7**	**4.7**	1.0 U	**0.5**
trans-1,2-Dichloroethene	0.2 U	1.0 U	**0.2**	1.0 U	0.2 U
1,2-Dichloropropane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
Ethylbenzene	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
2-Hexanone	5.0 U	25 U	5.0 U	25 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	25 U	5.0 U	25 U	5.0 U
Methylene Chloride	**1.2**	2.5 U	0.5 U	2.5 U	0.5 U
Styrene	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
Tetrachloroethene	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
Toluene	**12**	**2.8**	**3.2**	**1.9**	**2.4**
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
Trichloroethene	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U
Trichlorofluoromethane	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
Vinyl Acetate	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
Vinyl Chloride	**0.6**	**2.6**	**3.6**	1.0 U	0.2 U
m,p-Xylene	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
o-Xylene	0.5 U	2.5 U	0.5 U	2.5 U	0.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Tetrachloroethene		0.020 U		0.020 U	
Vinyl Chloride		**3.3**		**0.11**	

TABLE 6
GROUNDWATER ANAYLYTICAL RESULTS
FOR NEWLY INSTALLED MONITORING WELLS
BOEING AUBURN
ALGONA, WASHINGTON

	AGW251-5-63 Intermediate 1488488 7531106 7/11/2014	AGW251-6-76 Deep 1488488 7531107 7/11/2014	AGW251-7-87 Deep 1488488 7531105 7/11/2014
VOLATILES (µg/L)			
Method SW8260C			
Acetone	**11**	5.0 U	**5.8**
Benzene	**0.4**	0.2 U	**0.4**
Bromodichloromethane	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U
Chloroform	**1.7**	**0.4**	**0.3**
Chloromethane	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	**0.5**	**0.5**	**0.5**
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U
Methylene Chloride	**1.1**	**0.6**	**0.8**
Styrene	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U
Toluene	**6.5**	**0.8**	**0.6**
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U
Vinyl Chloride	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)			
Method 8260C SIM			
Tetrachloroethene	0.020 U	0.020 U	0.020 U
Vinyl Chloride	**0.054**	**0.068**	**0.052**

U = Indicates the compound was undetected at the reported concentration.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
Bold = Detected compound.
(a) = Sample rerun using antifoaming agent to achieve lower reporting limits.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	ASB0230-7 Water Table 1484433 7511109 6/23/2014	ASB0230-15 Shallow 1484433 7511108 6/23/2014	ASB0230-25 Shallow 1484433 7511107 6/23/2014	ASB0230-48 Intermediate 1484433 7511106 6/23/2014	ASB0231-6 Water Table 1484433 7511113 6/24/2014	ASB0231-15 Shallow 1484433 7511111 6/24/2014
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	**1.1**	**1.9**	**2.4**	**2.8**	**2.1**	**5.2**
trans-1,2-Dichloroethene	**0.3**	**0.4**	**0.5**	**0.6**	**0.3**	**0.6**
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	**1.7**	**3.5**	**3.6**	0.2 U	**1.8**	**0.4**
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**	**0.4**	0.2 U	0.2 U	**1.0**
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						
Vinyl Chloride	**0.048**	**0.21**	**0.27**	**0.088**	**0.084**	**0.80**

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	Dup of ASB0231-15 ASB9231-15 Shallow 1484433 7511112 6/24/2014	ASB0231-25 Shallow 1484433 7511110 6/24/2014	ASB0232-7 Water Table 1484433 7511114 6/24/2014	ASB0232-15 Shallow 1484433 7511115 6/24/2014	ASB0232-25 Shallow 1484433 7511116 6/24/2014
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 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
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	**5.3**	**9.6**	0.2 U	**3.9**	**4.4**
trans-1,2-Dichloroethene	**0.6**	**0.8**	0.2 U	**0.3**	**0.4**
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	**0.4**	**2.4**	0.2 U	0.2 U	**1.4**
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	**0.9**	**1.0**	0.2 U	**0.7**	**0.5**
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					
Vinyl Chloride	**0.79**	**0.84**	0.020 U	**0.57**	**0.44**

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	ASB0233-9 Water Table 1485104 7514026 6/25/2014	ASB0233-15 Shallow 1485104 7514027 6/25/2014	ASB0233-25 Shallow 1485104 7514028 6/25/2014	ASB0233-50 Intermediate 1485104 7514029 6/25/2014	ASB0234-8 Water Table 1485104 7514030 6/26/2014	ASB0234-15 Shallow 1485104 7514031 6/26/2014
VOLATILES (µg/L)						
Method SW8260C						
Acetone	25 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Benzene	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Bromodichloromethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Bromoform	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Bromomethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
2-Butanone	25 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Carbon Disulfide	2.5 U	0.5 U	0.5 U	**0.6**	2.5 U	0.5 U
Carbon Tetrachloride	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Chlorobenzene	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Chloroethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Chloroform	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Chloromethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Dibromochloromethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,1-Dichloroethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,2-Dichloroethane	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
1,1-Dichloroethene	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
cis-1,2-Dichloroethene	1.0 U	0.2 U	**1.8**	**1.5**	1.0 U	0.2 U
trans-1,2-Dichloroethene	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
1,2-Dichloropropane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
cis-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
trans-1,3-Dichloropropene	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Ethylbenzene	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
2-Hexanone	25 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	25 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Methylene Chloride	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Styrene	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Tetrachloroethene	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Toluene	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,1,1-Trichloroethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
1,1,2-Trichloroethane	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
Trichloroethene	1.0 U	0.2 U	**4.6**	**3.2**	1.0 U	0.2 U
Trichlorofluoromethane	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Vinyl Acetate	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Vinyl Chloride	1.0 U	0.2 U	0.2 U	0.2 U	1.0 U	0.2 U
m,p-Xylene	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
o-Xylene	2.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
VOLATILES (µg/L)						
Method 8260C SIM						
Vinyl Chloride	0.10 U	0.020 U	**0.16**	**0.13**	0.10 U	0.020 U

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	ASB0234-25 Shallow 1485104 7514032 6/26/2014	ASB0234-50 Intermediate 1485104 7514033 6/26/2014	ASB0235-8 Water Table 1487558 7526696 7/7/2014	ASB0235-15 Shallow 1487558 7526697 7/7/2014	ASB0235-25 Shallow 1487558 7526698 7/7/2014
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 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
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	**1.5**	**1.5**	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	**4.2**	**4.3**	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					
Vinyl Chloride	**0.064**	**0.089**	0.10 U	0.020 U	0.020 U

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	Dup of ASB0235-25 ASB9235-25 Shallow 1487558 7526700 7/7/2014	ASB0235-50 Intermediate 1487558 7526699 7/7/2014	ASB0236-9 Water Table 1487558 7526701 7/8/2014	ASB0236-15 Shallow 1487558 7526702 7/8/2014	ASB0236-25 Shallow 1487558 7526703 7/8/2014
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 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
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	0.2 U	0.2 U	0.2 U	**0.8**
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	**0.3**
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	0.2 U	0.2 U	0.2 U	**0.5**
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					
Vinyl Chloride	0.020 U	**0.061**	0.10 U	0.020 U	**0.045**

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	ASB0236-50 Intermediate 1487558 7526704 7/8/2014	ASB0237-8 Water Table 1488490 7531140 7/9/2014	ASB0237-15 Shallow 1488490 7531139 7/9/2014	ASB0237-25 Shallow 1488490 7531138 7/9/2014	ASB0238-8 Water Table 1488490 7531137 7/9/2014
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 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
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	**1.5**	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	**0.4**	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	0.2 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
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					
Vinyl Chloride	**0.070**	0.020 U	0.020 U	0.020 U	0.020 U

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	ASB0238-15 Shallow 1488490 7531136 7/9/2014	ASB0238-25 Shallow 1488490 7531135 7/9/2014	ASB0239-9 Water Table 1488490 7531132 7/10/2014	ASB0239-15 Shallow 1488490 7531133 7/10/2014	ASB0239-25 Shallow 1488490 7531134 7/10/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	5.0 U	25 U	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	25 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	0.2 U	**0.8**	1.0 U	0.2 U	**0.3**
trans-1,2-Dichloroethene	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	25 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	25 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	1.0 U	0.2 U	0.2 U
Trichloroethene	0.2 U	**0.2**	1.0 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
Vinyl Chloride	0.2 U	**1.1**	1.0 U	0.2 U	**0.2**
m,p-Xylene	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U
VOLATILES (µg/L)					
Method 8260C SIM					
Vinyl Chloride	0.020 U	**1.1**	0.020 U	0.020 U	**0.22**

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	ASB0240-10 Water Table 1488490 7531129 7/10/2014	ASB0240-15 Shallow 1488490 7531131 7/10/2014	ASB0240-25 Shallow 1488490 7531130 7/10/2014	ASB0241-9 Water Table 1488490 7531126 7/11/2014	ASB0241-15 Shallow 1488490 7531125 7/11/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	**5.8**
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 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
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	0.2 U	**1.0**	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	0.2 U	**3.1**	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					
Vinyl Chloride	0.020 U	0.020 U	**0.077**	0.020 U	0.020 U

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	ASB0241-25 Shallow 1488490 7531127 7/11/2014	ASB0241-48 Intermediate 1488490 7531128 7/11/2014	ASB0242-12 Water Table 1489359 7534729 07/14/2014	ASB0242-25 Shallow 1489359 7534730 07/14/2014	Dup of ASB0242-25 ASB9242-25 Shallow 1489359 7534731 07/14/2014
VOLATILES (µg/L)					
Method SW8260C					
Acetone	5.0 U	**7.1**	5.0 U	5.0 U	**6.0**
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 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
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	0.2 U	0.2 U	**0.6**	**0.6**
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**	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	0.2 U	0.2 U	**1.3**	**1.3**
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					
Vinyl Chloride	0.020 U	0.020 U	0.020 U	**0.020**	**0.022**

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FOR DIRECT-PUSH BORING SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

	ASB0242-48 Intermediate 1489359 7534732 07/14/2014	ASB0243-14 Water Table 1489359 7534733 07/15/2014	ASB0243-25 Shallow 1489359 7534734 07/15/2014	ASB0243-50 Intermediate 1489359 7534735 07/15/2014
VOLATILES (µg/L)				
Method SW8260C				
Acetone	**5.1**	5.0 U	5.0 U	5.0 U
Benzene	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
Bromoform	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
2-Butanone	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
Carbon Tetrachloride	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
Chloroethane	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
Chloromethane	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
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	**0.6**
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	**0.3**
cis-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	**4.2**
trans-1,2-Dichloroethene	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
cis-1,3-Dichloropropene	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
Ethylbenzene	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
4-Methyl-2-Pentanone (MIBK)	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
Styrene	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
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	**0.2**	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
1,1,1-Trichloroethane	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
Trichloroethene	**0.8**	0.2 U	**0.7**	**5.8**
Trichlorofluoromethane	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
Vinyl Chloride	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
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)				
Method 8260C SIM				
Vinyl Chloride	0.020 U	0.020 U	0.020 U	**0.044**

U = Indicates the compound was not detected at the reported concentration.
Bold = Detected compound.

TABLE 8
SHALLOW ZONE GROUNDWATER ANALYTICAL RESULTS
MULTI-LEVEL WELL SCREENS AND DIRECT-PUSH BOREHOLE SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

Location	Well Screen	Date	Depth (ft)	TCE (µg/L)	Shallowest Sample Concentration Comparision to Deeper Samples	cis-1,2-DCE (µg/L)	Shallowest Sample Concentration Comparision to Deeper Samples	VC (µg/L)	Shallowest Sample Concentration Comparision to Deeper Samples
AGW240	AGW240-1	7/11/143	7.5	<0.2		<0.2		0.74	
	AGW240-3	7/11/143	18	<0.2	Same	0.7	Lower	3.7	Lower
	AGW240-5	7/11/143	28.5	<0.2		**6.9**		**4.1**	
AGW241	AGW241-1	7/11/143	6.5	<0.2		<0.2		<0.02	
	AGW241-3	7/11/143	17	<0.2	Same	0.5	Lower	0.022	Lower
	AGW241-5	7/11/143	27.5	<0.2		**0.6**		**0.032**	
AGW242	AGW242-1	7/15/2014	6	<0.2		<0.2		**0.23**	
	AGW242-2	7/15/2014	16.5	<0.2	Same	<0.2	Same	<0.02	Higher
	AGW242-3	7/15/2014	27	<0.2		<0.2		<0.02	
AGW243	AGW243-1	7/14/2014	6.5	<0.2	Same	<0.2	Same	**0.26**	Higher
	AGW243-3	7/14/2014	25.5	<0.2		<0.2		<0.02	
AGW247	AGW247-1	7/14/2014	6	<0.2		4.9		0.4	
	AGW247-3	7/14/2014	16.5	<0.2	Same	**6.3**	Lower	**1.1**	Lower
	AGW247-5	7/14/2014	27	<0.2		5.5		0.8	
AGW248	AGW248-1	7/14/2014	5.5	<0.2		<0.2		**1.4**	
	AGW248-3	7/14/2014	16	**5**	Lower	**2**	Lower	0.2	Higher
	AGW248-5	7/14/2014	26.5	4.4		1.9		0.2	
AGW249	AGW249-1	7/11/2014	8.5	0.9		0.8		**0.4**	
	AGW249-3	7/11/2014	19	**6.4**	Lower	**2.3**	Lower	0.13	Higher
	AGW249-5	7/11/2014	29.5	6.7		2.2		0.13	
AGW250	AGW250-1	7/14/2014	9	<0.2	Lower	<0.2	Lower	<0.02	Lower
	AGW250-2	7/14/2014	26.5	**0.2**		**0.2**		**0.034**	
AGW251	AGW251-1	7/11/2014	8.5	<0.2	Same	0.5	Lower	**1.2**	Higher
	AGW251-2	7/11/2014	25.5	<0.2		**1.7**		0.6	
ASB0235	ASB0235-8	7/7/2014	8	<0.2		<0.2		<0.1	
	ASB0235-15	7/7/2014	15	<0.2	Same	<0.2	Same	<0.02	Same
	ASB0235-25	7/7/2014	25	<0.2		<0.2		<0.02	
ASB0236	ASB0236-9	7/8/2014	9	<0.2		<0.2		<0.1	
	ASB0236-15	7/8/2014	15	<0.2	Lower	<0.2	Lower	<0.02	Lower
	ASB0236-25	7/8/2014	25	**0.5**		**0.8**		**0.045**	
ASB0237	ASB0237-8	7/9/2014	8	<0.2		<0.2		<0.02	
	ASB0237-15	7/9/2014	15	<0.2	Same	<0.2	Same	<0.02	Same
	ASB0237-25	7/9/2014	25	<0.2		<0.2		<0.02	
ASB0238	ASB0238-8	7/9/2014	8	<0.2		<0.2		<0.02	
	ASB0238-15	7/9/2014	15	<0.2	Lower	<0.2	Lower	<0.02	Lower

TABLE 8
SHALLOW ZONE GROUNDWATER ANALYTICAL RESULTS
MULTI-LEVEL WELL SCREENS AND DIRECT-PUSH BOREHOLE SAMPLES
BOEING AUBURN
ALGONA, WASHINGTON

Location	Well Screen	Date	Depth (ft)	TCE (µg/L)	Shallowest Sample Concentration Comparision to Deeper Samples	cis-1,2-DCE (µg/L)	Shallowest Sample Concentration Comparision to Deeper Samples	VC (µg/L)	Shallowest Sample Concentration Comparision to Deeper Samples
	ASB0238-25	7/9/2014	25	**0.2**		**0.8**		**1.1**	
ASB0239	ASB0239-9	7/10/2014	9	<1.0		<1.0		<0.02	
	ASB0239-15	7/10/2014	15	<0.2	Same	<0.2	Lower	<0.02	Lower
	ASB0239-25	7/10/2014	25	<0.2		**0.3**		**0.22**	
ASB0240	ASB0240-10	7/10/2014	10	<0.2		<0.2		<0.02	
	ASB0240-15	7/10/2014	15	<0.2	Lower	<0.2	Lower	<0.02	Lower
	ASB0240-25	7/10/2014	25	**3.1**		**1**		**0.077**	
ASB0241	ASB0241-9	7/11/2014	9	<0.2		<0.2		<0.02	
	ASB0241-15	7/11/2014	15	<0.2	Same	<0.2	Same	<0.02	Same
	ASB0241-25	7/11/2014	25	<0.2		<0.2		<0.02	
ASB0242	ASB0242-12	7/14/2014	12	<0.2	Lower	<0.2	Lower	<0.02	Lower
	ASB0242-25	7/14/2014	25	**1.3**		**0.6**		**0.02**	
ASB0243	ASB0243-14	7/15/2014	14	<0.2	Lower	<0.2	Same	<0.02	Same
	ASB0243-25	7/15/2014	25	**0.7**		<0.2		<0.02	
				% Lower	44%	% Lower	67%	% Lower	50%
				% Higher	0%	% Higher	0%	% Higher	28%
				% Same	56%	% Same	33%	% Same	22%
					100%		100%		100%

TCE = Trichloroethene
cis-1,2-DCE = cis-1,2-dichloroethene
VC = vinyl chloride
ft = feet
µg/L = micrograms per liter

Notes:

Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.

Multilevel wells have multiple channels. Channel designations are included in the well screen ID (e.g., AGW240-1)

Boring sample designations include the location name (e.g., ASB0235) followed by the depth (feet, below ground surface) at which the samples was collected (e.g., 8)

Bold = Depth interval with highest concentration..

Deeper Shallow Zone data is shaded gray.

Monitoring Well Logs: AGW240 through AGW251

Soil Classification System

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

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

NOTES:

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

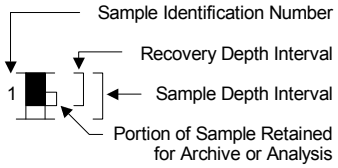
Primary Constituent:	> 50%	"GRAVEL," "SAND," "SILT," "CLAY," etc.
Secondary Constituents:	> 30% and ≤ 50%	"very gravelly," "very sandy," "very silty," etc.
	> 15% and ≤ 30%	"gravelly," "sandy," "silty," etc.
Additional Constituents:	> 5% and ≤ 15%	"with gravel," "with sand," "with silt," etc.
	≤ 5%	"trace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

Drilling and Sampling Key

SAMPLER TYPE

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

SAMPLE NUMBER & INTERVAL



Field and Lab Test Data

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

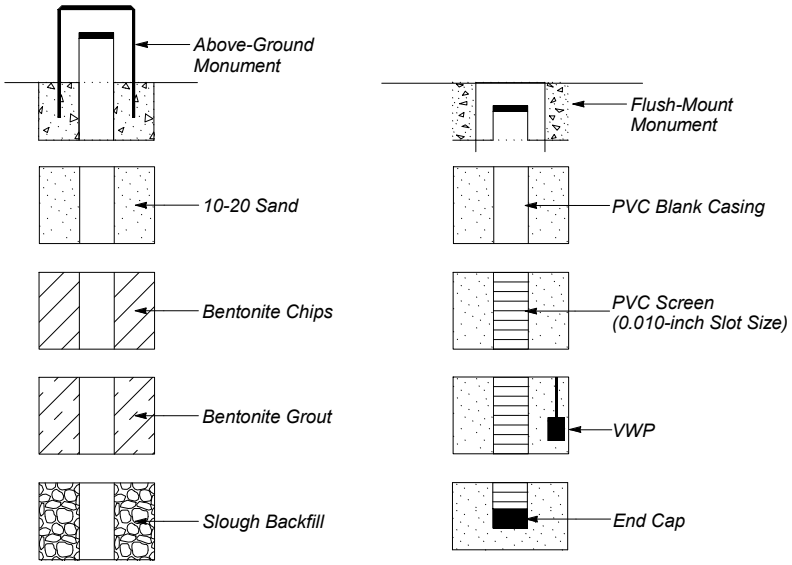
Groundwater

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

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

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

Well Log Graphics



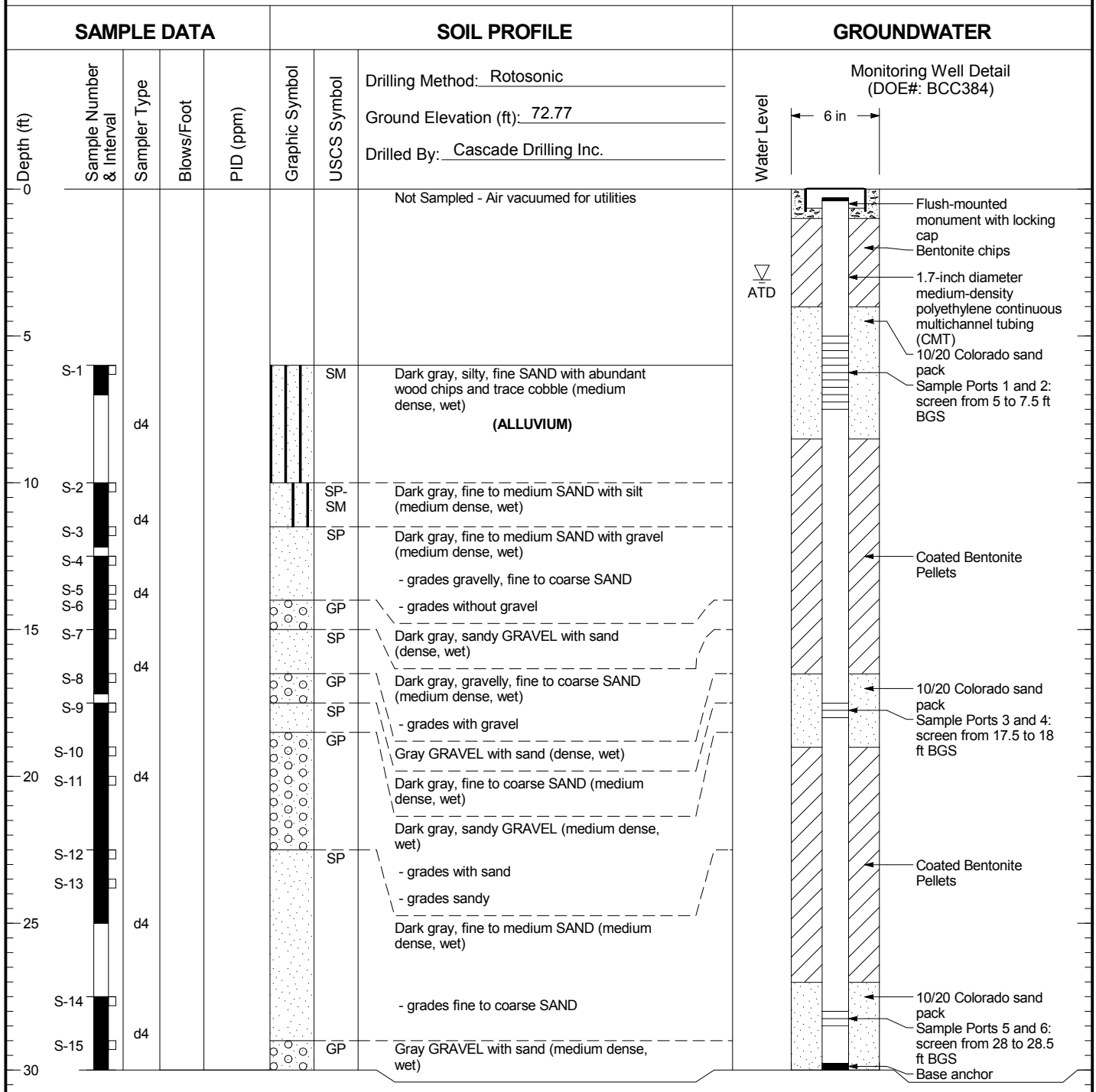
LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Soil Classification System and Key

Figure A-1 (2 of 2)

AGW240



Boring Completed 06/09/14
Total Depth of Boring = 30.0 ft.

Monitoring Well Completed 06/10/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 72.49 ft.
Total Depth of Monitoring Well = 30.0 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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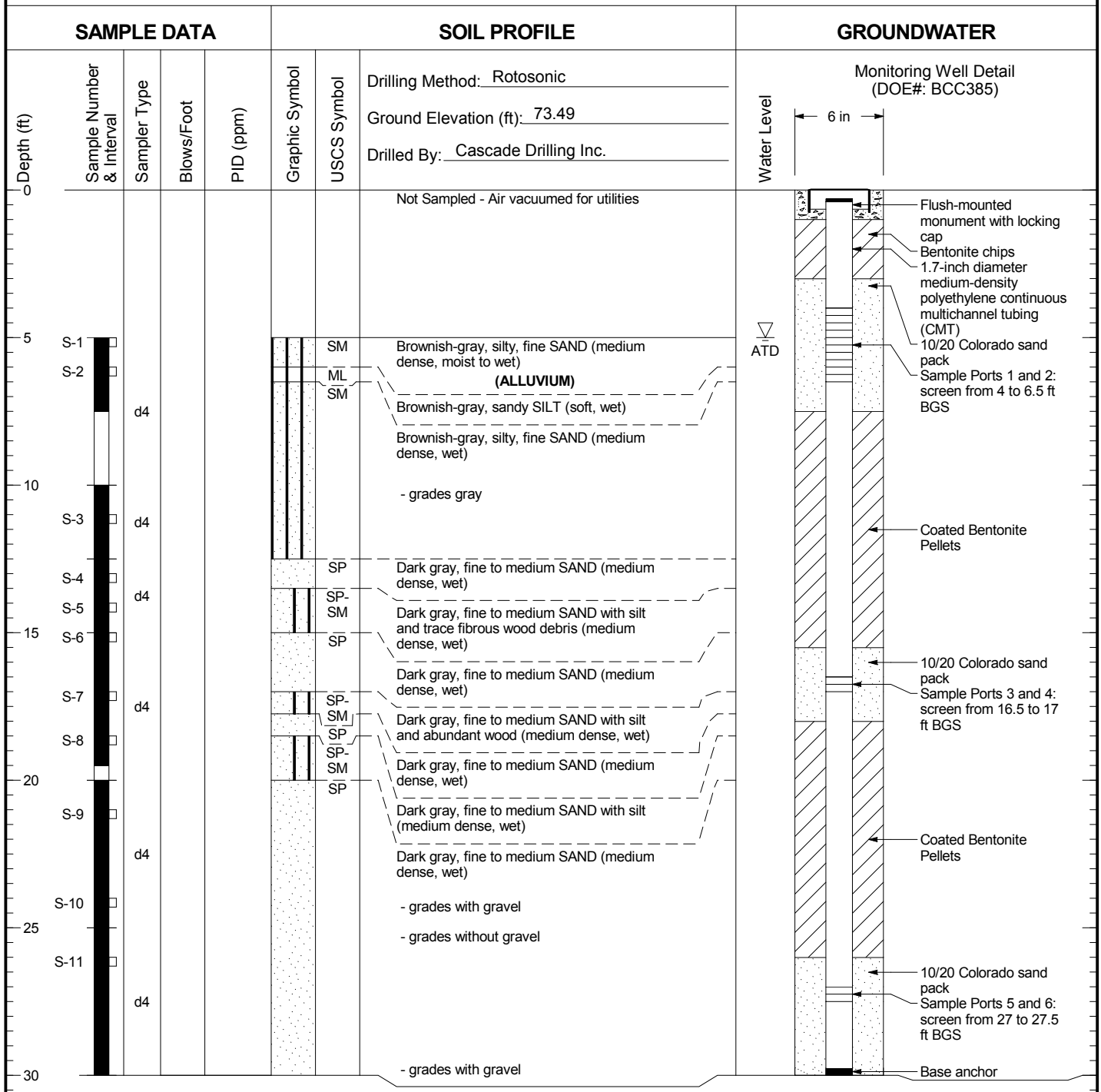
Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW240

Figure
A-2

AGW241



Boring Completed 06/11/14
Total Depth of Boring = 30.0 ft.

Monitoring Well Completed 06/11/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 73.28 ft.
Total Depth of Monitoring Well = 30.0 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW241

Figure
A-3

AGW242

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

Drilling Method: Rotosonic
Ground Elevation (ft): 70.09
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description
0							Not Sampled - Air vacuumed for utilities
5							ATD
	S-1					PT	Brown PEAT with wood (soft, wet) **(ALLUVIUM)**
	S-2	d4				SP	Gray, fine to medium SAND with trace wood (medium dense, wet)
	S-3					SP-SM	Gray, fine to medium SAND with silt (medium dense, wet)
10						SP	Dark gray, fine to medium SAND (loose, wet)
	S-4						
15	S-5	d4				SM	Dark gray, silty, fine to medium SAND (medium dense, wet)
						SP	Dark gray, fine to medium SAND (medium dense, wet)
						SM	Dark gray, silty, fine to medium SAND (medium dense, wet)
						WD	WOOD
20	S-6					SP	Dark gray, fine to medium SAND with abundant wood fragments (medium dense, wet)
	S-7					SP-SM	- grades without wood
							Dark gray, fine to medium SAND with silt and wood (medium dense, wet)
25		d4					- grades without wood
							- grades with trace wood
	S-8					GP	Dark gray GRAVEL with sand (medium dense, wet)
						SP	Dark gray, fine to medium SAND (medium dense, wet)
30	S-9						
35							

Monitoring Well Detail (DOE#: BCC386)

6 in

- Flush-mounted monument with locking cap
- Bentonite chips
- 1.7-inch diameter medium-density polyethylene continuous multichannel tubing (CMT)
- 10/20 Colorado sand pack
- Sample Port 1: screen from 3.5 to 6 ft BGS
- Coated Bentonite Pellets
- 10/20 Colorado sand pack
- Sample Port 2: screen from 16 to 16.5 ft BGS
- Coated Bentonite Pellets
- 10/20 Colorado sand pack
- Sample Port 3: screen from 26.5 to 27 ft BGS
- Coated Bentonite Pellets

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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

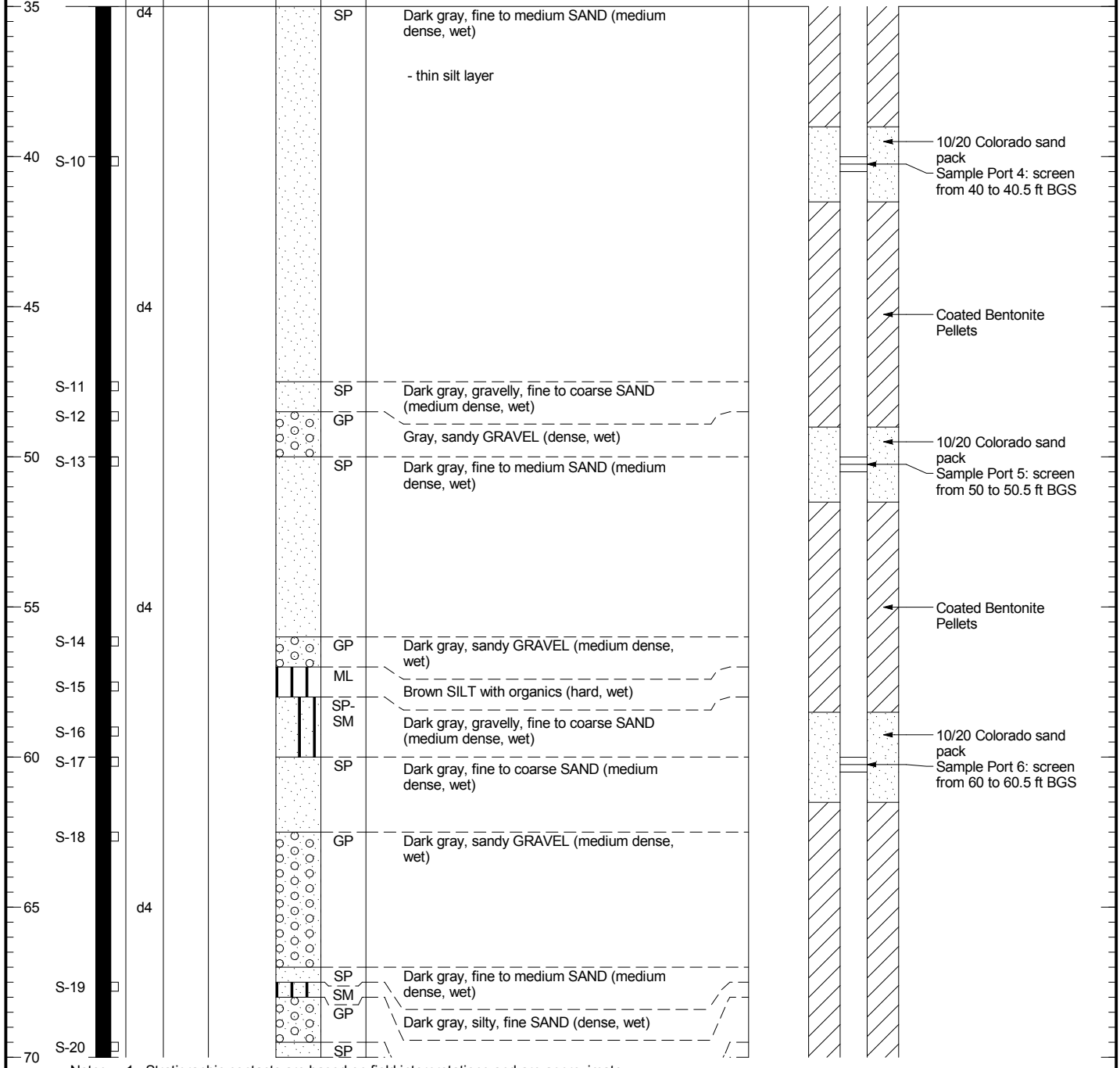
LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW242

Figure
A-4
(1 of 3)

AGW242



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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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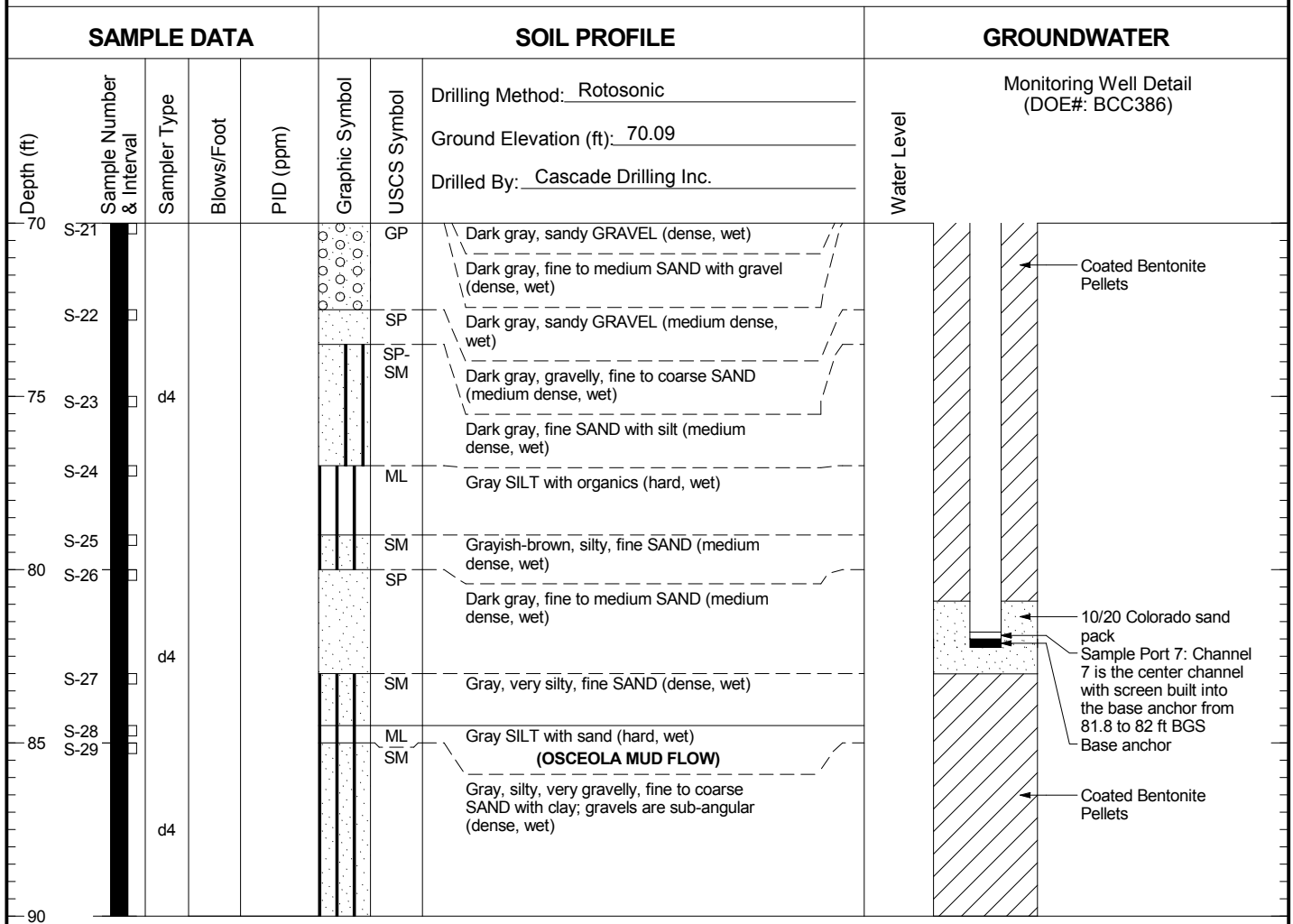
Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW242

Figure
A-4
(2 of 3)

AGW242



Boring Completed 06/12/14
Total Depth of Boring = 90.0 ft.

Monitoring Well Completed 06/13/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 69.84 ft.
Total Depth of Monitoring Well = 82.3 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW242

Figure
A-4
(3 of 3)

AGW243

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

Drilling Method: Rotosonic
Ground Elevation (ft): 70.67
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description
0						AC	Asphalt concrete pavement
		d4				GP	Grayish-brown GRAVEL with sand (medium dense, moist)
	S-1						**(FILL)**
	S-2					PT	- grades gray and very sandy
		d4					Brown PEAT (medium dense, moist)
	S-3					SM	**(ALLUVIUM)**
5	S-4						Gray, silty, fine SAND (medium dense, wet)
							- grades silty, fine to medium SAND
	S-5					ML	
	S-6	d4				SM	Gray, sandy SILT (medium dense, wet)
							Gray, silty, fine SAND with occasional silt pockets (medium dense, wet)
						SM	
10	S-7					SP-SM	Dark gray, silty, fine to medium SAND (medium dense, wet)
		d4					Dark gray, fine to medium SAND with silt (medium dense, wet)
	S-8					SP	
	S-9						Dark gray, fine to coarse SAND with gravel (medium dense, wet)
15	S-10						- grades fine to medium SAND and without gravel
	S-11					SM	Grayish-brown, silty, fine to medium SAND with wood debris (medium dense, wet)
	S-12	d4					
	S-13						- grades very silty
20							- grades gray and silty
	S-14					SP-SM	Dark gray, fine SAND with silt (medium dense, wet)
25							
	S-15	d4				SM	Gray, very silty, fine SAND (medium dense, wet)
30	S-16					SM	Gray, silty, fine SAND (medium dense, wet)
	S-17					SP	
	S-18					OL	Gray, very gravelly, fine to coarse SAND (medium dense, wet)
	S-19						
	S-20					PT	
	S-21					OL	Brown, organic SILT (medium stiff, wet)
35						SM	Dark brown PEAT (soft, wet)

Water Level: ATD

Monitoring Well Detail (DOE#: BCC387)

6 in

- Flush-mounted monument with locking cap
- Bentonite chips
- 1.7-inch diameter medium-density polyethylene continuous multichannel tubing (CMT)
- 10/20 Colorado sand pack
- Sample Ports 1 and 2: screen from 4 to 6.5 ft BGS
- Coated Bentonite Pellets
- 10/20 Colorado sand pack
- Sample Ports 3 and 4: screen from 25 to 25.5 ft BGS

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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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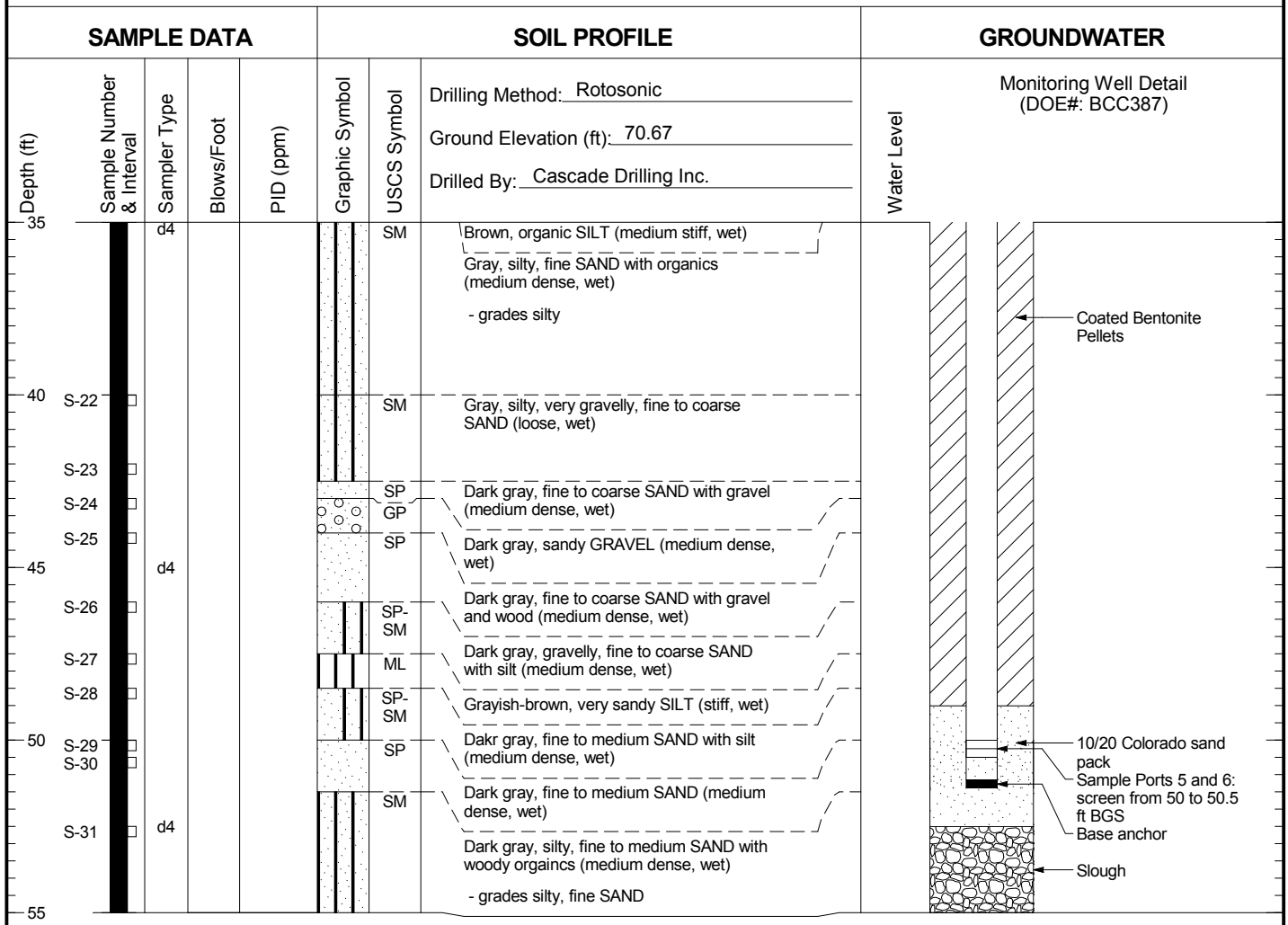
Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW243

Figure
A-5
(1 of 2)

AGW243



Boring Completed 06/16/14
Total Depth of Boring = 55.0 ft.

Monitoring Well Completed 06/17/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 70.44 ft.
Total Depth of Monitoring Well = 51.4 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW243

Figure
A-5
(2 of 2)

AGW244

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

Drilling Method: Rotosonic
Ground Elevation (ft): 72.36
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description
0							Not Sampled - Air vacuumed for utilities
4							No recovery
6		d4					
7.5	S-1					SM	Dark gray, silty, fine SAND (medium dense, wet) **(ALLUVIUM)**
8	S-2	d4				ML	Gray, very sandy SILT (stiff, wet)
10						SP	Dark gray, fine to medium SAND (medium dense, wet)

Water Level: ATD

Monitoring Well Detail (DOE#: BCC388)

6 in

- Flush-mounted monument with locking cap
- Bentonite chips
- 10/20 Colorado sand pack
- 2-inch diameter, Schedule 40, PVC screen (0.020-inch slot size)
- Threaded end cap
- Slough

Boring Completed 06/16/14
Total Depth of Boring = 10.0 ft.

Monitoring Well Completed 06/16/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 72.04 ft.
Total Depth of Monitoring Well = 7.8 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. **DOE Unique Well Number: BCC388**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW244

Figure
A-6

AGW245

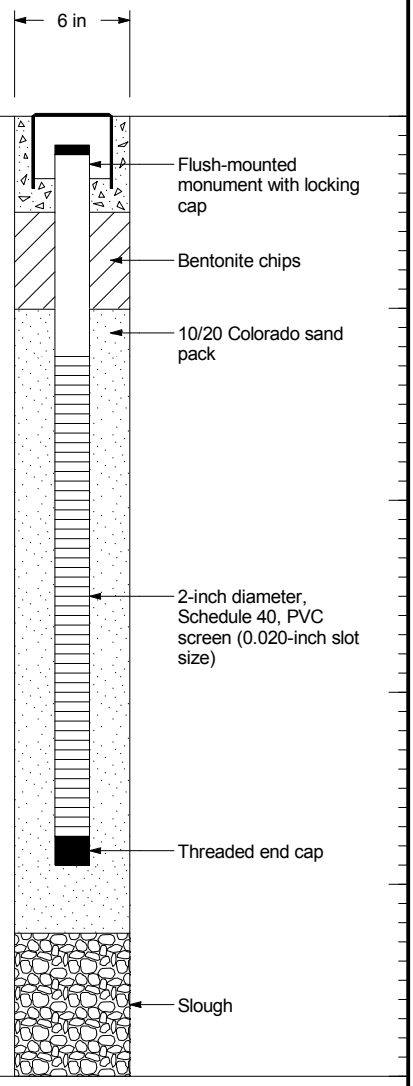
SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Rotosonic
Ground Elevation (ft): 70.46
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description
0							Not Sampled - Air vacuumed for utilities
4						SM	Dark brown, silty, fine to medium SAND with gravel (medium dense, wet) **(ALLUVIUM)**
6	S-1	d4					- grades without gravel
10							
12							
14							

Water Level: ATD

Monitoring Well Detail (DOE#: BCC389)



Boring Completed 06/17/14
Total Depth of Boring = 10.0 ft.

Monitoring Well Completed 06/17/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 70.21 ft.
Total Depth of Monitoring Well = 7.8 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. **DOE Unique Well Number: BCC389**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW245

Figure
A-7

AGW246

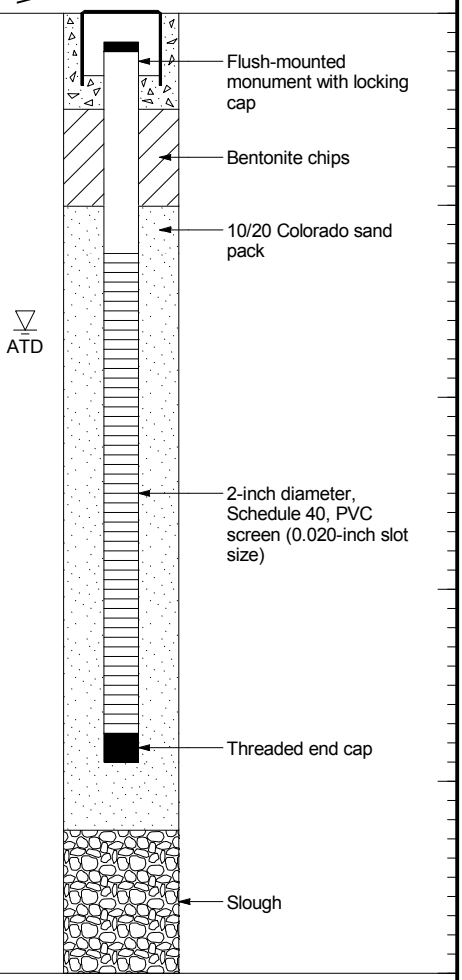
SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Rotosonic
Ground Elevation (ft): 70.90
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description
0							Not Sampled - Air vacuumed for utilities
4							No recovery
6		d4					
8	S-1	d4				SM	Brown, silty, fine SAND with organics (medium dense, wet) **(ALLUVIUM)**
10							
12							
14							

Water Level: ATD

Monitoring Well Detail (DOE#: BCC390)



Boring Completed 06/17/14
Total Depth of Boring = 10.0 ft.

Monitoring Well Completed 06/17/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 70.41 ft.
Total Depth of Monitoring Well = 7.8 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. **DOE Unique Well Number: BCC390**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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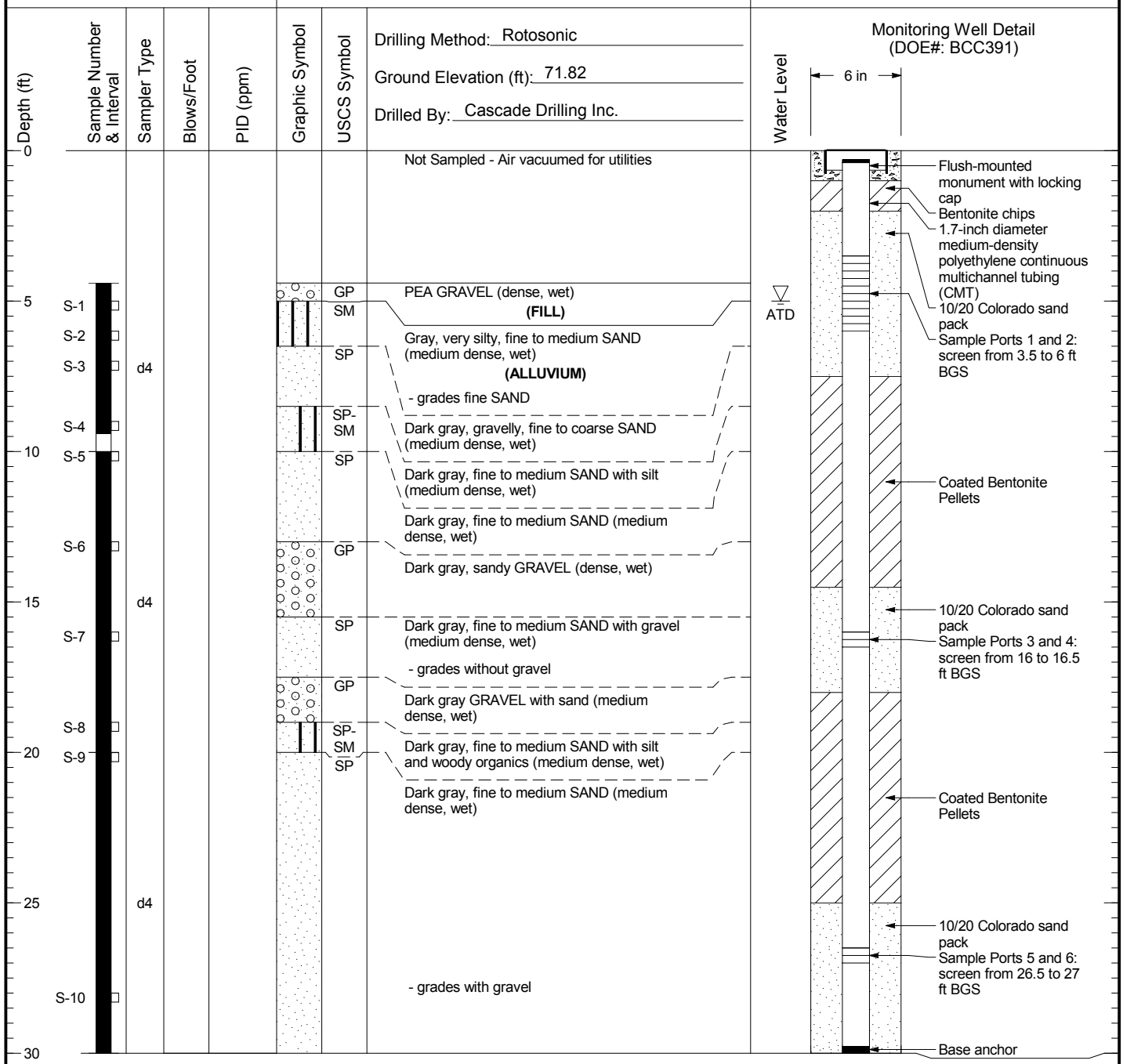
Auburn, Washington

Log of Monitoring Well AGW246

Figure
A-8

AGW247



Boring Completed 06/18/14
Total Depth of Boring = 30.0 ft.

Monitoring Well Completed 06/18/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 71.55 ft.
Total Depth of Monitoring Well = 30.0 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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Auburn, Washington

Log of Monitoring Well AGW247

Figure
A-9

AGW248

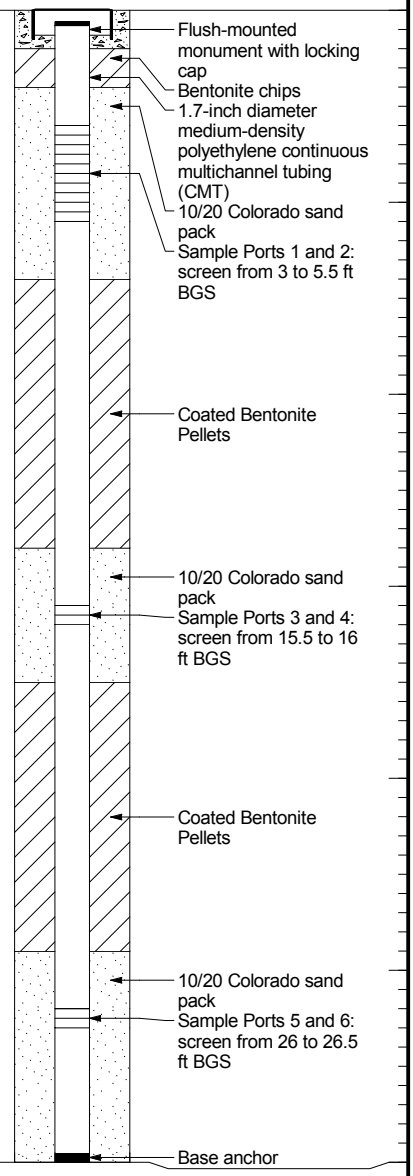
SAMPLE DATA / SOIL PROFILE / GROUNDWATER

Drilling Method: Rotosonic
Ground Elevation (ft): 72.02
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Description
0						GP	Brown, sandy GRAVEL (medium dense, damp) **(FILL)**
	S-1	d4					
5	S-2					PT	Brown PEAT (medium dense, wet) **(ALLUVIUM)**
	S-3	d4				SM	Brown, silty, fine SAND (medium dense, wet)
	S-4						
10	S-5					SP	Dark gray, fine to medium SAND (medium dense, wet) - grades fine to coarse SAND
	S-6						
	S-7					GP	Dark gray, sandy GRAVEL (medium dense, wet)
15		d4				SP	Dark gray, fine to medium SAND (medium dense, wet)
20	S-8					GP	Dark gray GRAVEL with sand (medium dense, wet)
	S-9						
25		d4					
30							
35							

Water Level: ATD

Monitoring Well Detail (DOE#: BCC392)



Boring Completed 06/19/14
Total Depth of Boring = 30.0 ft.

Monitoring Well Completed 06/19/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 71.83 ft.
Total Depth of Monitoring Well = 30.0 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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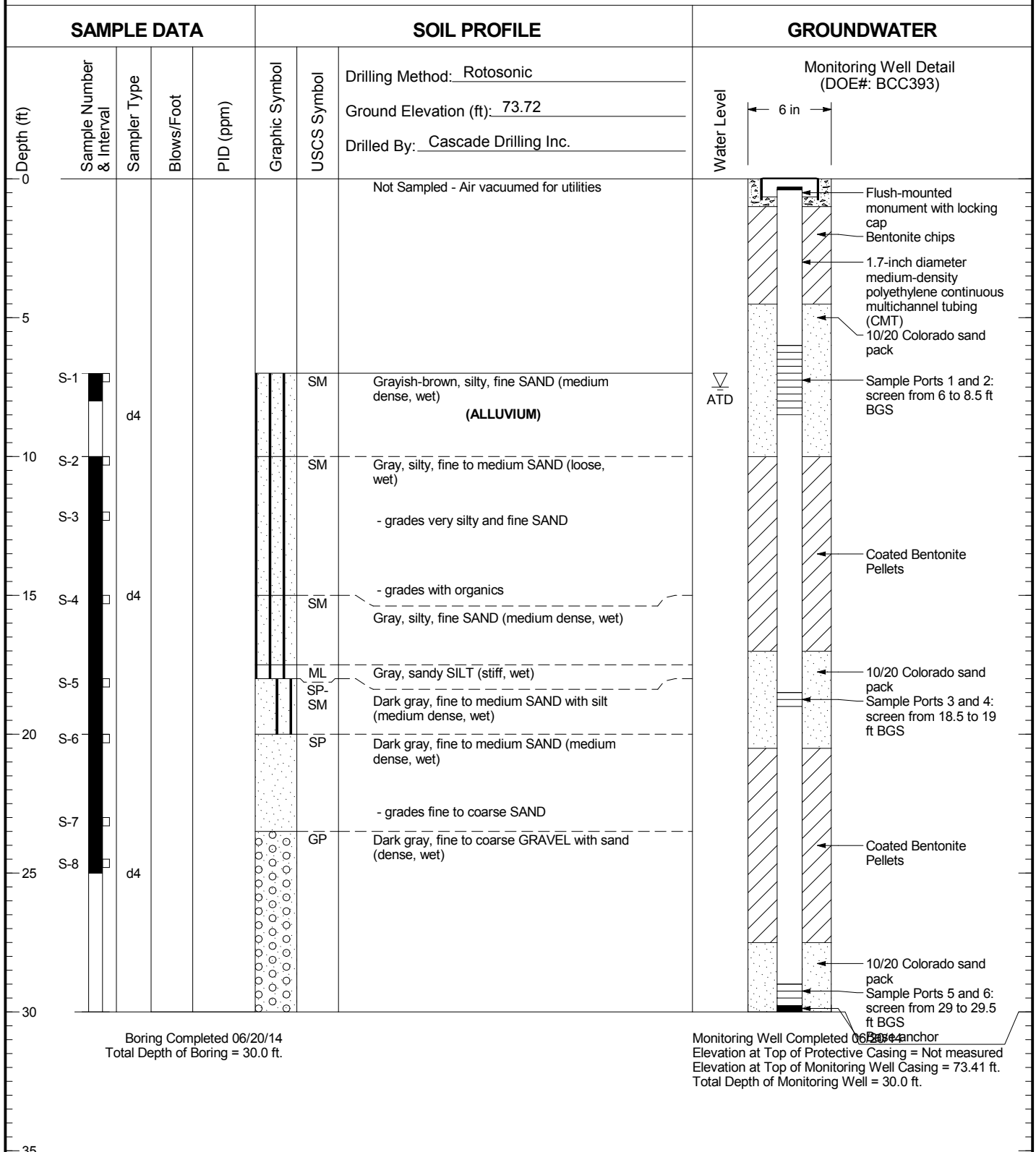
Auburn, Washington

Log of Monitoring Well AGW248

Figure
A-10

AGW249



Boring Completed 06/20/14
Total Depth of Boring = 30.0 ft.

Monitoring Well Completed 06/20/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 73.41 ft.
Total Depth of Monitoring Well = 30.0 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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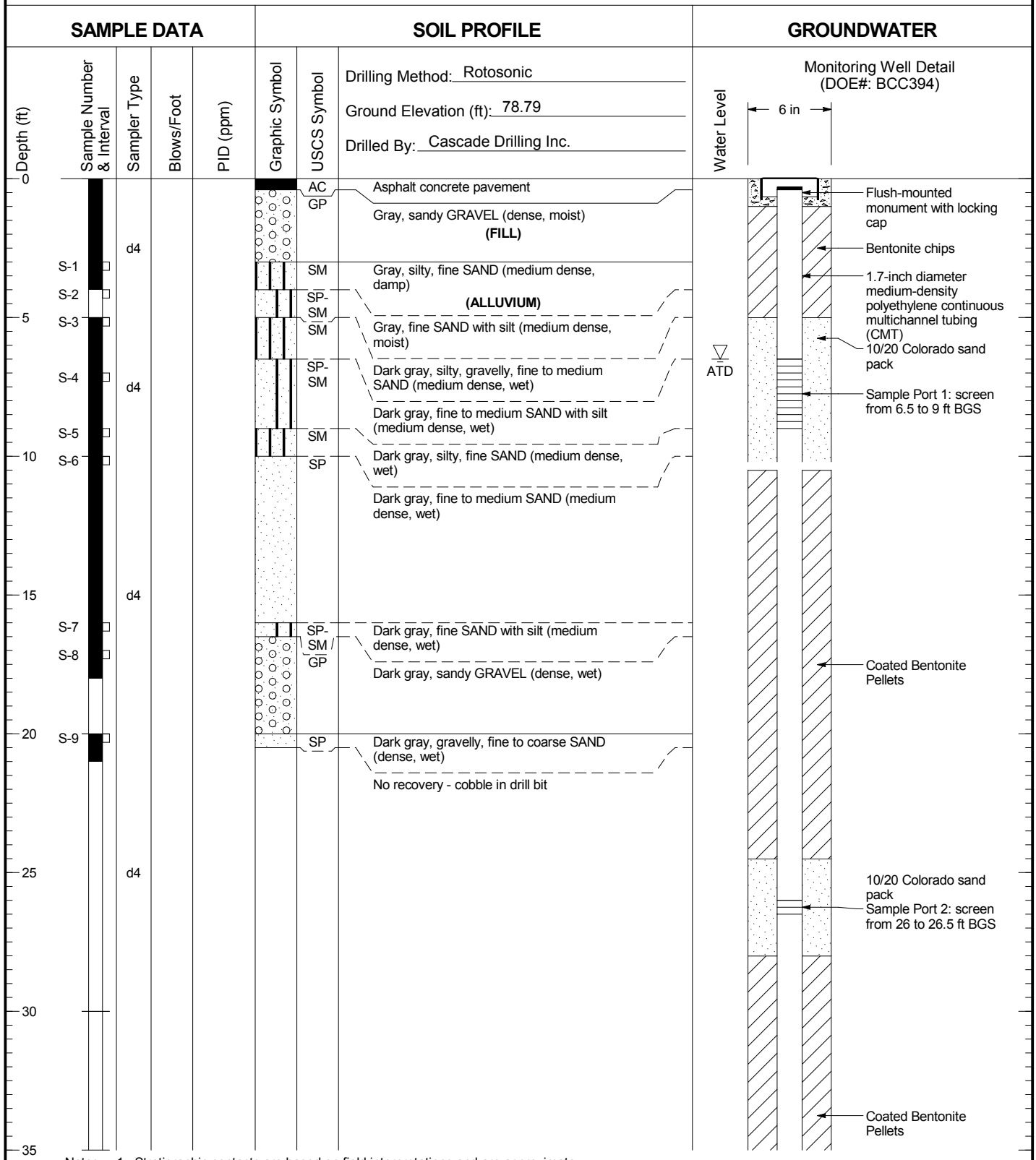
Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW249

Figure
A-11

AGW250



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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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Auburn, Washington

Log of Monitoring Well AGW250

Figure
A-12
(1 of 3)

AGW250

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

Drilling Method: Rotosonic
Ground Elevation (ft): 78.79
Drilled By: Cascade Drilling Inc.

Monitoring Well Detail
(DOE#: BCC394)

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
35		d4					No recovery - cobble in drill bit	
40	S-10					SP	Dark gray, fine to medium SAND (medium dense, wet)	
	S-11							
	S-12					GP	Dark gray, sandy GRAVEL (dense, wet)	
	S-13					OL		
	S-14	d4					Brown, very sandy SILT (stiff, wet)	
	S-15					SM	- grades dark gray and sandy	
45	S-16						Dark gray, silty, fine SAND (medium dense, wet)	
							No recovery	
		d4						
50	S-17					SP-SM	Dark gray, fine to medium SAND with silt (medium dense, wet)	
	S-18						- grades very gravelly	
		d4						
55	S-19					ML	Dark gray SILT with sand (medium stiff, wet)	
	S-20					SP	Dark gray, fine to medium SAND (medium dense, wet)	
	S-21					SM		
	S-22	d4					Dark gray, very silty, fine SAND (medium dense, wet)	
	S-23					GP	- grades silty	
60	S-24					SP	Dark gray GRAVEL with sand (medium dense, wet)	
	S-25					GP	Dark gray, fine to medium SAND (medium dense, wet)	
							Dark gray, sandy GRAVEL (dense, wet)	
							- grades to grayish-brown	
65		d4						
70								

Monitoring Well Detail:
- 10/20 Colorado sand pack
- Sample Port 3: screen from 41 to 41.5 ft BGS
- Coated Bentonite Pellets
- 10/20 Colorado sand pack
- Sample Port 4: screen from 51 to 51.5 ft BGS
- Coated Bentonite Pellets
- 10/20 Colorado sand pack
- Sample Port 5: screen from 61 to 61.5 ft BGS

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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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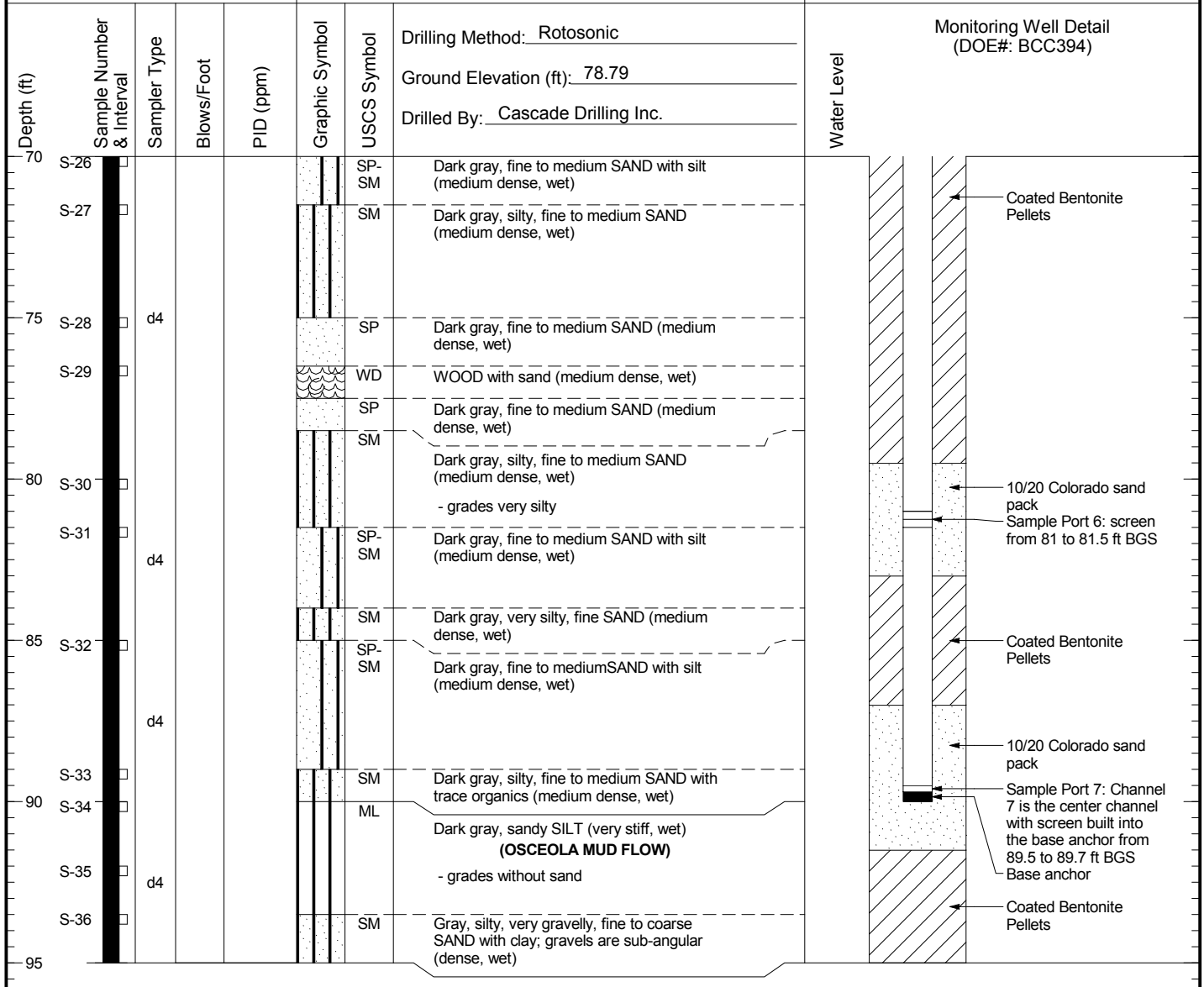
Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW250

Figure
A-12
(2 of 3)

AGW250



Boring Completed 06/23/14
Total Depth of Boring = 95.0 ft.

Monitoring Well Completed 06/24/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 78.45 ft.
Total Depth of Monitoring Well = 90.0 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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Log of Monitoring Well AGW250

Figure
A-12
(3 of 3)

AGW251

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

Drilling Method: Rotosonic
Ground Elevation (ft): 76.46
Drilled By: Cascade Drilling Inc.

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile
0							Not Sampled - Air vacuumed for utilities
5	S-1	d4				SP-SM	Dark gray, fine to medium SAND with silt (medium dense, wet) **(ALLUVIUM)**
10	S-2					SP	Dark gray, fine to medium SAND (medium dense, wet)
	S-3					GP	Dark gray GRAVEL with sand (dense, wet)
15	S-4	d4					- grades very sandy
	S-5						- grades sandy
20	S-6					SP	Dark gray, fine to medium SAND (medium dense, wet)
25		d4					
	S-7						- grades with gravel
	S-8					GP	Dark gray GRAVEL with sand (medium dense, wet)
30	S-9					SP	Dark gray, fine to medium SAND (medium dense, wet)
	S-10					GP	
35							

Water Level: ATD

Monitoring Well Detail (DOE#: BCC395)

6 in

- Flush-mounted monument with locking cap
- Bentonite chips
- 1.7-inch diameter medium-density polyethylene continuous multichannel tubing (CMT)
- 10/20 Colorado sand pack
- Sample Port 1: screen from 6 to 8.5 ft BGS
- Coated Bentonite Pellets
- 10/20 Colorado sand pack
- Sample Port 2: screen from 25 to 25.5 ft BGS
- Coated Bentonite Pellets

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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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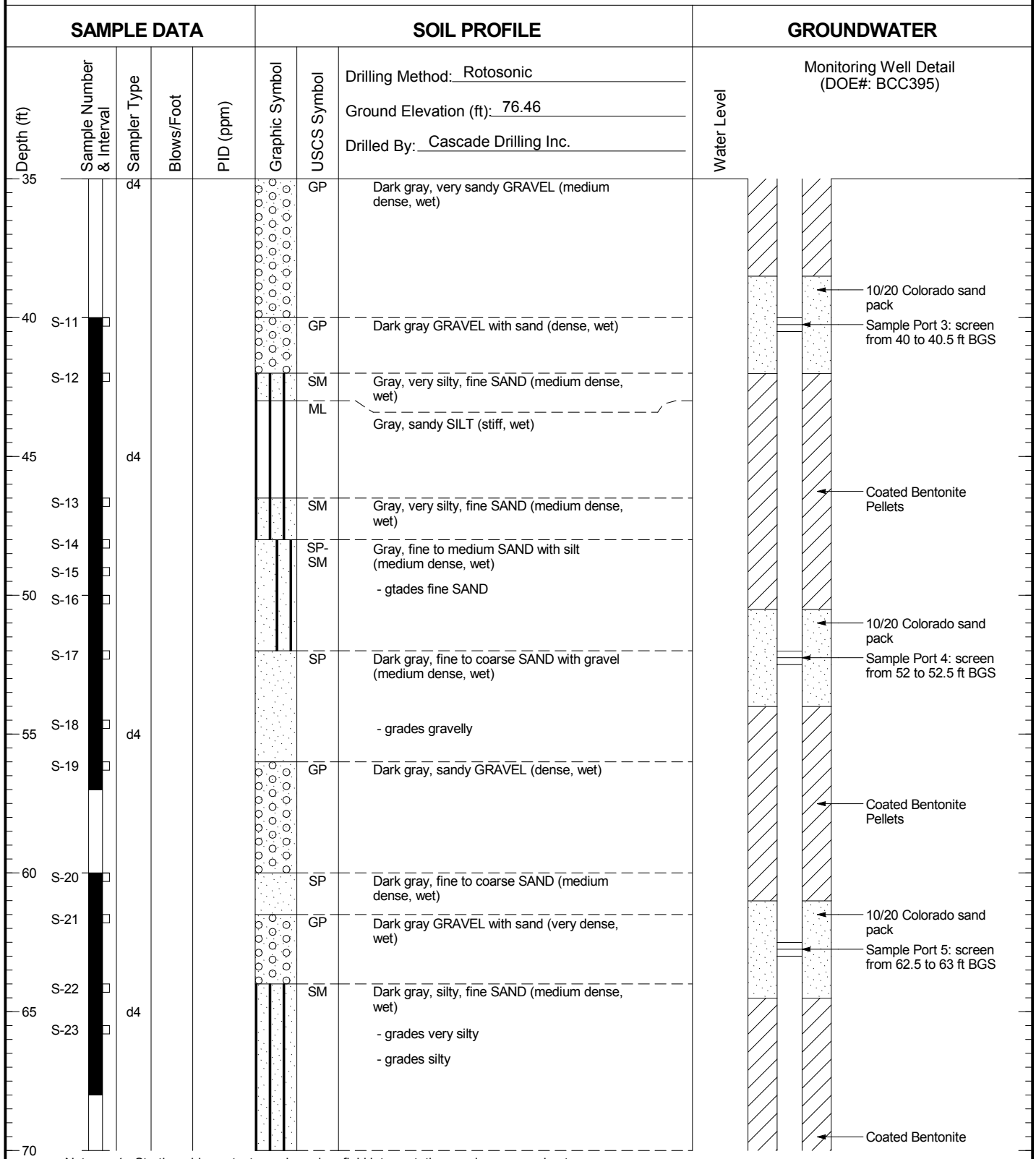
Log of Monitoring Well AGW251

Figure
A-13
(1 of 3)

AGW251



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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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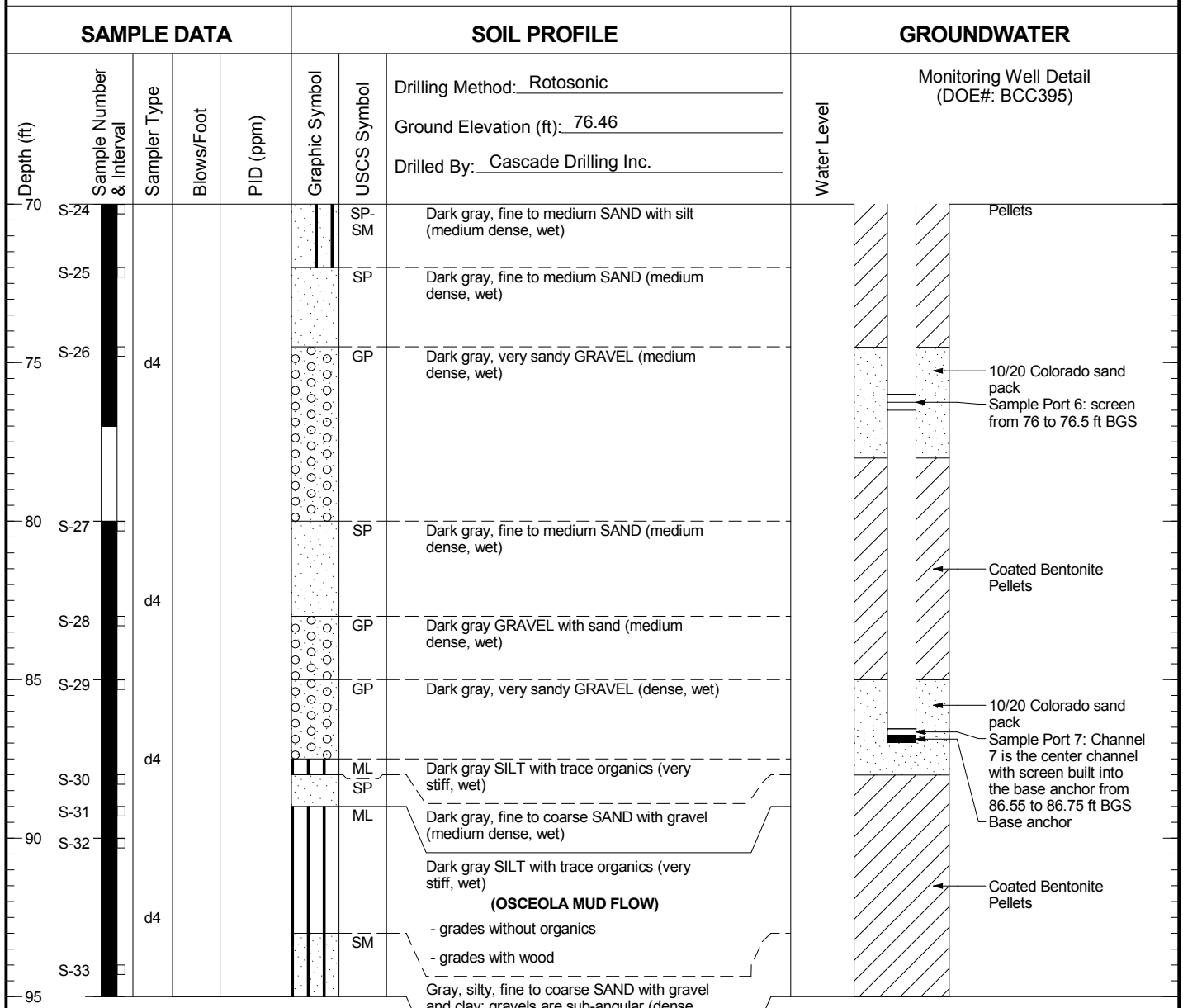
Auburn, Washington

Log of Monitoring Well AGW251

Figure
A-13
(2 of 3)

AGW251



Boring Completed 06/25/14
Total Depth of Boring = 95.0 ft.

Monitoring Well Completed 06/27/14
Elevation at Top of Protective Casing = Not measured
Elevation at Top of Monitoring Well Casing = 76.09 ft.
Total Depth of Monitoring Well = 87.0 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. **Tubing perforations in the channels are wrapped with 100 mesh screen.**

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ WELL LOG

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Boeing Auburn
Auburn, Washington

Log of Monitoring Well AGW251

Figure
A-13
(3 of 3)

APPENDIX B

Direct-Push Boring Logs: ASB0230 through ASB0243

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% - "with trace gravel," "with trace sand," "with trace silt," etc., or not noted.

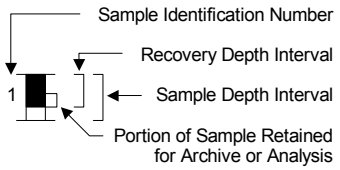
4. Soil density or consistency descriptions are based on judgement using a combination of sampler penetration blow counts, drilling or excavating conditions, field tests, and laboratory tests, as appropriate.

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	2.50-inch O.D., 2.00-inch I.D. WSDOT
h	3.00-inch O.D., 2.375-inch I.D. Mod. California
i	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Vibrocore (Rotosonic/Geoprobe)
5	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
GT	Other Geotechnical Testing
CA	Chemical Analysis

Groundwater

▽ Approximate water level at time of drilling (ATD)

▼ Approximate water level at time other than ATD

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Auburn, Washington

Soil Classification System and Key

Figure B-1

ASB0230

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

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

Depth (ft)	Sampler Type	USCS Symbol	Description	Water Level
0		AC	Asphalt concrete pavement	
		SP	Brown, gravelly, fine to course SAND (medium dense, damp)	
	e4	SM	**(FILL)**	
			Grayish-brown, silty, fine SAND with wood fragments (medium dense, moist)	▽ ATD
5			**(ALLUVIUM)**	
			- grades brown, wet, fine to course SAND with organics	
		SP	- grades grayish-brown, very silty, fine SAND without organics	
	e4			
		ML	Dark gray, fine to medium SAND (medium dense, wet)	
		SM	**Groundwater sample: ASB0230-7-20140623**	
10		SP-SM	Gray, sandy SILT (medium stiff, wet)	
	e4		Gray, silty, fine to medium SAND (medium dense, wet)	
		GP	- grades dark gray, very silty	
			Dark gray, fine to medium SAND with silt (medium dense, wet)	
15		SM	Dark gray, very sandy GRAVEL (medium dense, wet)	
		SP	**Groundwater sample: ASB0230-15-20140623**	
	e4			
			Dark gray, silty, fine to medium SAND (medium dense, wet)	
20		GP		
		SP	Dark gray, fine to medium SAND	
		GP	- grades gravelly	
	e4		Dark gray, very sandy GRAVEL (medium dense, wet)	
			Dark gray, fine to medium SAND (medium dense, wet)	
25				
		SP-SM	Dark gray, very sandy GRAVEL (medium dense, wet)	
	e4	GP	- grades sandy	
			Groundwater sample: ASB0230-25-20140623	
		SP	Dark gray, fine to medium SAND with silt (medium dense, wet)	
30			Dark gray, sandy GRAVEL (medium dense, wet)	
	e4	GP	Dark gray, fine to medium SAND (medium dense, wet)	
		SP	- grades gravelly, fine to course SAND	
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-1

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0230

Figure
B-2
(1 of 2)

ASB0230

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description	Water Level
35						SP	Dark gray GRAVEL (medium dense, wet)	
							Dark gray, gravelly, fine to course SAND (medium dense, wet)	
		e4					- grades very silty, without gravel, fine SAND	
							- grades without silt, fine to medium SAND	
						GP	- grades fine SAND, with silt	
40						SP	Dark gray, very sandy GRAVEL (medium dense, wet)	
							Dark gray, fine to course SAND (medium dense, wet)	
		e4				GP	- grades fine to medium SAND	
							- grades fine to course SAND	
						SP	Dark gray GRAVEL with sand (medium dense, wet)	
45						ML		
						SM	Dark gray, fine to medium SAND (medium dense, wet)	
		e4				SP	Gray, sandy SILT with organics (stiff, wet)	
							Gray, silty, fine SAND (medium dense, wet)	
50							Dark gray, fine to medium SAND (medium dense, wet)	

Boring Completed 06/23/14
Total Depth of Boring = 50.0 ft.

Groundwater sample: ASB0230-48-20140623

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

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0230

Figure
B-2
(2 of 2)

ASB0231

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0						AC	Asphalt concrete pavement	
						SP	Dark gray, gravelly, fine to course SAND (medium dense, moist)	
		e4				GP	**(FILL)**	ATD
						SM	Gray GRAVEL (pea gravel) (loose, moist)	
5							Brown, very silty, fine SAND (medium dense, wet) **(ALLUVIUM)**	
						SP	- grades with organics **Groundwater sample: ASB0231-6-20140624**	
		e4					Gray, fine SAND (medium dense, wet)	
10							- grades dark gray, fine to course SAND	
							- grades fine to medium SAND	
		e4				SM	Dark gray, very silty, fine SAND (medium dense, wet)	
						SP-SM		
						SP	Dark gray, fine to medium SAND with silt (medium dense, wet)	
15							Dark gray, fine to medium SAND (medium dense, wet) **Groundwater sample: ASB0231-15-20140624**	
		e4				GP	Gray GRAVEL (medium dense, wet)	
						SP	Dark gray, fine to medium SAND (medium dense, wet)	
20								
		e4					- grades fine to course SAND	
						GP	Dark gray GRAVEL (medium dense, wet)	
						SP	Dark gray, fine to medium SAND (medium dense, wet)	
25						GP	Dark gray, sandy GRAVEL (medium dense, wet) **Groundwater sample: ASB0231-25-20140624**	
30								
35								

Boring Completed 06/24/14
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-2

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0231

Figure
B-3

ASB0232

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0						AC	Asphalt concrete pavement	
						SP	Brown, fine to course SAND with gravel (medium dense, moist)	
		e4				ML	**(FILL)**	
						SP		
						SM	Brown, sandy SILT with abundant organics (medium stiff, moist)	ATD
						SP	**(ALLUVIUM)**	
5							Brown, fine SAND (medium dense, wet)	
						SM	Brown, very silty, fine SAND (medium dense, wet)	
		e4					Dark gray, fine to medium SAND (medium dense, wet)	
						SP	Dark gray, very silty, fine SAND (medium dense, wet)	
10						SM	**Groundwater sample: ASB0232-7-20140624**	
						SP	Dark gray, fine to medium SAND (medium dense, wet)	
		e4					Dark gray, very silty, fine SAND (medium dense, wet)	
						SP-		
15						SM	Dark gray, fine to medium SAND (medium dense, wet)	
						SP	Dark gray, fine SAND with silt (medium dense, wet)	
		e4					Dark gray, fine to medium SAND (medium dense, wet)	
20							**Groundwater sample: ASB0232-15-20140624**	
							- grades fine to course SAND	
		e4					- grades with gravel	
25							**Groundwater sample: ASB0232-25-20140624**	
30								
35								

Boring Completed 06/24/14
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. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Auburn, Washington

Log of Boring ASB0232

Figure
B-4

ASB0233

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	Grayish-brown, sandy GRAVEL (medium dense, damp) **(FILL)**	
2		e4						
4							- grades moist	
6	S-1	d				PT	Dark brown PEAT with silt (soft to medium stiff, moist)	▽ ATD
	S-2	d				SM	**(ALLUVIUM)**	
						SP	Grayish-brown, silty, fine SAND with organics (medium dense, wet)	
	S-3	d e4				SP-SM	Dark gray, fine to medium SAND (medium dense, wet)	
8	S-4	d				SM	Brown, fine to medium SAND with silt and organics (medium dense, wet)	
	S-5	d				SP-SM	Brown, very silty, fine SAND (medium dense, wet)	
10	S-6	d				SM		
	S-7	d				SP-SM	**Groundwater sample: ASB0233-9-20140625**	
	S-8	d				SP	Dark gray, fine SAND with silt (medium dense, wet)	
12	S-9	d				SM		
	S-10	e4 d					Brown, silty, fine to medium SAND (medium dense, wet)	
							Brown, fine to medium SAND with silt (loose, wet)	
14							Dark gray, fine to course SAND (medium dense, wet)	
	S-11	d					Gray, silty, fine SAND (medium dense, wet)	
						SM	- grades dark gray	
16						SP-SM	**Groundwater sample: ASB0233-15-20140625**	
	S-12	d e4				SM	Dark gray, very silty, fine SAND (medium dense, wet)	
18						SP-SM	Dark gray, fine SAND with silt (medium dense, wet)	
	S-13	d				SP	Dark gray, very silty, fine SAND (medium dense, wet)	
20	S-14	d					Dark grayish-brown, fine SAND with silt (medium dense, wet)	

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

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Auburn, Washington

Log of Boring ASB0233

Figure
B-5
(1 of 3)

ASB0233

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

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

Depth (ft)	Sample	Sampler Type	USCS	Description
22	S-15	d	GP	- grades fine to medium SAND
		e4		Dark gray, fine SAND (medium dense, wet)
				Gray, sandy GRAVEL (medium dense, wet)
24			SP	Dark gray, fine to medium SAND (medium dense, wet)
	S-16	d		**Groundwater sample: ASB0233-25-20140625**
26				
		e4		
28				
30				
32		e4		
				- grades gravelly, fine to course SAND (medium dense, wet)
34				
	S-17	d		
36				
		e4		
38				
40			SP-SM	Dark gray, fine to medium SAND with silt (loose, wet)
42				

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

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Auburn, Washington

Log of Boring ASB0233

Figure
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(2 of 3)

ASB0233

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

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

42 — e4 — Dark gray GRAVEL with sand (medium dense, wet)

44 — Not sampled

46

4

48

50 — ASB0233-50-20140625

Boring Completed 06/25/14
Total Depth of Boring = 50.0 ft.

52

54

56

58

60

62

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

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Auburn, Washington

Log of Boring ASB0233

Figure
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(3 of 3)

ASB0234

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	
						SP	Brown, gravelly, fine to course SAND (medium dense, damp)	
		e4				SM	**(FILL)**	
							Gray, very silty, fine SAND (medium dense, moist)	▽ ATD
5							**(ALLUVIUM)**	
						SP	Brown, fine to course SAND with gravel (medium dense, wet)	
		e4						
						SM	Dark gray, silty fine SAND (medium dense, wet)	
10							**Groundwater sample: ASB0234-8-20140626**	
		e4						
						SP	Dark gray, fine to medium SAND (medium dense, wet)	
15						SM	**Groundwater sample: ASB0234-15-20140626**	
		e4				SP-SM	Dark gray, very silty, fine SAND (medium dense, wet)	
						SP	Dark gray, fine SAND with silt (medium dense, wet)	
20							Dark gray, fine to medium SAND (medium dense, wet)	
		e4				GP	- grades iron oxide stained, fine to course SAND with gravel	
							Iron oxide stained, dark gray GRAVEL with sand (medium dense, wet)	
25						SP	Iron oxide stained, dark gray, fine to course SAND (medium dense, wet)	
							Groundwater sample: ASB0234-25-20140626	
		e4				GP		
						SP	Dark gray GRAVEL with sand (medium dense, wet)	
						WD	Dark gray, fine to medium SAND with gravel (medium dense, wet)	
30						SP		
						WD	WOOD with sand	
						SP-SM	Dark gray, fine to course SAND (medium dense, wet)	
		e4				SP		
						WD	WOOD (dense, wet)	
35							Dark gray, fine SAND with silt (medium	

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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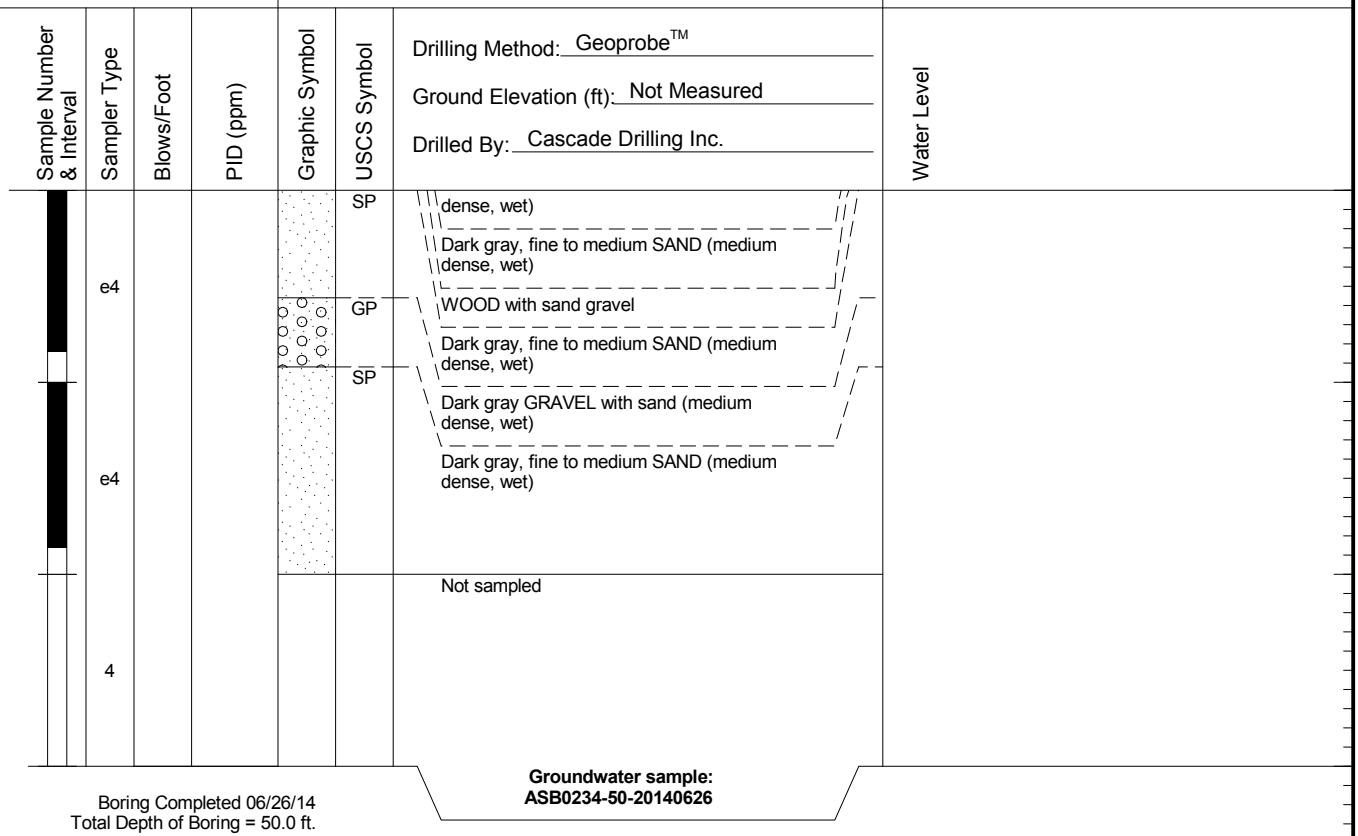
Log of Boring ASB0234

Figure
B-6
(1 of 2)

ASB0234



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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Auburn, Washington

Log of Boring ASB0234

Figure
B-6
(2 of 2)

ASB0235

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	USCS Symbol	Description	Water Level
0			SP	Light brown, fine SAND with organics (grass) (loose, damp) **(FILL)**	
		e4		- grades brown, gravelly, moist	
				- grades iron oxide stained, without gravel	
5			SM	Grayish-brown, silty, fine to medium SAND (medium dense, wet) **(ALLUVIUM)**	▽ ATD
		e4		**Groundwater sample: ASB0235-8-20140707**	
				- grades gray, very silty, fine SAND	
10			SP-SM	Dark gray, fine SAND with silt (medium dense, wet)	
			SP	Dark gray. fine to medium SAND (medium dense, wet)	
		e4			
			SM	Dark gray, silty, fine SAND (medium dense, wet)	
15			SP		
			SP-SM	Dark gray, fine to medium SAND (medium dense, wet)	
			SM		
			SP-SM	Dark gray, fine to medium SAND with silt (medium dense, wet)	
		e4	SM	**Groundwater sample: ASB0235-15-20140707**	
20			WD		
			SM	Dark gray, silty, fine to medium SAND (medium dense, wet)	
			SP	Dark gray, fine to medium SAND with silt (medium dense, wet)	
		e4		Dark gray, very silty, fine to medium SAND (medium dense, wet)	
25				WOOD	
				Gray, very silty, fine SAND (medium dense, wet)	
		e4	SM	Dark gray, fine to course SAND (medium dense, wet)	
				- grades fine to medium SAND	
30			SP-SM / SP	**Groundwater sample: ASB0235-25-20140707**	
		e4		Grayish-brown, very silty, fine SAND (medium dense, wet)	
				Gray, fine SAND with silt (medium dense, wet)	
35					

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

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Log of Boring ASB0235

Figure
B-7
(1 of 2)

ASB0235

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
35		e4				SP	
40		e4					
45		4					
50							

Drilling Method: Geoprobe™

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.

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

- grades fine to course SAND with gravel at 34.2

No recovery

Not sampled

Groundwater sample: ASB0235-50-20140707

Boring Completed 07/07/14
Total Depth of Boring = 50.0 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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Auburn, Washington

Log of Boring ASB0235

Figure
B-7
(2 of 2)

ASB0236

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	Brown, sandy GRAVEL (medium dense, damp)	
						SM		
						SP	Reddish-brown, silty, fine SAND (medium dense, moist) **(FILL)**	
		e4					Gray, fine SAND (medium dense, moist) **(ALLUVIUM)**	
5							- grades brown, fine to course SAND with gravel	▽ ATD
							- grades gray, fine SAND, wet	
		e4				SP-SM	Gray, fine to medium SAND with silt (medium dense, wet)	
						SM		
						ML	Dark gray, silty, fine SAND (medium dense, wet)	
10						SP	Dark gray, sandy SILT (medium stiff, wet)	
							Groundwater sample: ASB0236-9-20140708	
		e4				SM	Dark gray, fine to medium SAND (medium dense, wet)	
						SP-SM		
						SM	Dark gray, silty, fine SAND (medium dense, wet)	
15						SP		
						SM	Dark gray, fine to medium SAND with silt (medium dense, wet)	
		e4				SP	Dark gray, silty, fine to medium SAND (medium dense, wet)	
							Dark gray, fine SAND (medium dense, wet)	
20							**Groundwater sample: ASB0236-15-20140708**	
		e4					Dark gray, silty, fine SAND with wood (medium dense, wet)	
							Dark gray, fine to medium SAND with wood (medium dense, wet)	
25							- grades with gravel, without wood	
							- grades without gravel	
							Groundwater sample: ASB0236-25-20140708	
		e4				GP	Dark gray GRAVEL with sand (medium dense, wet)	
30						GP-GM	Dark gray, sandy GRAVEL with silt pockets (medium dense, wet)	
		e4						
35						GP		

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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Log of Boring ASB0236

Figure
B-8
(1 of 2)

ASB0236

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
35						GP	Dark gray, sandy GRAVEL (medium dense, wet)
		e4				SP-SM / GP	Dark gray, fine to medium SAND with silt (medium dense, wet)
							Dark gray, sandy GRAVEL (medium dense, wet)
40						SP	Dark gray, gravelly fine to course SAND (medium dense, wet)
		e4				GP	Dark gray GRAVEL (dense, wet)
45							Not sampled
		4					
50							

Groundwater sample: ASB0236-50-20140708

Boring Completed 07/08/14
Total Depth of Boring = 50.0 ft.

55
60
65
70

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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Auburn, Washington

Log of Boring ASB0236

Figure
B-8
(2 of 2)

ASB0237

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Description	Water Level
0						SP	Brown, gravelly, fine to course SAND (medium dense, damp)	
						SP	**(FILL)**	
		e4					Iron oxide stained, gray-brown, fine SAND (medium dense, moist) **(ALLUVIUM)**	
5							- grades to wet	ATD
		e4					- grades fine to medium SAND (medium dense, wet)	
						SP-SM	**Groundwater sample: ASB0237-8-20140709**	
10						SM	Gray, fine SAND with silt (medium dense, wet)	
		e4					Gray, silty, fine SAND (medium dense, wet)	
						ML	Gray SILT with sand (medium dense, wet)	
						SP	Dark gray, fine to medium SAND (medium dense, wet)	
15						WD		
						SP	WOOD with sand	
		e4					**Groundwater sample: ASB0237-15-20140709**	
						SM	Dark gray, fine to medium SAND (medium dense, wet)	
20						SP		
						SM	Dark gray, silty, fine SAND (medium dense, wet)	
		e4				SP	Dark gray, fine to medium SAND (medium dense, wet)	
						SM	Dark gray, silty, fine SAND (medium dense, wet)	
25							Dark gray, fine to medium SAND (medium dense, wet)	
							Dark gray, silty, fine SAND (medium dense, wet)	
							Groundwater sample: ASB0237-25-20140709	
30								
35								

Boring Completed 07/09/14
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

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Auburn, Washington

Log of Boring ASB0237

Figure
B-9

ASB0238

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	USCS Symbol	Soil Profile	Water Level
0					SP	Brown, fine to course SAND with gravel (medium dense, damp)	
					SM	**(FILL)**	
		e4				Iron oxide stained, gray-brown, silty, fine SAND (medium dense, moist)	
						(ALLUVIUM)	
					SP	Iron oxide stained, gray fine SAND (medium dense, moist)	
5						- grades wet	▽ ATD
		e4				- grades fine to medium SAND	
						Groundwater sample: ASB0238-8-20140709	
10							
		e4					
					GP	Dark gray, sandy GRAVEL (medium dense, wet)	
15					SP	Dark gray, fine to medium SAND (medium dense, wet)	
						Groundwater sample: ASB0238-15-20140709	
		e4					
					SP	Dark gray, fine to course SAND with gravel (medium dense, wet)	
20							
		e4					
25						**Groundwater sample: ASB0238-25-20140709**	

Boring Completed 07/09/14
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-10

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Log of Boring ASB0238

Figure
B-10

ASB0239

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0						SP	Brown, gravelly, fine to course SAND (medium dense, damp) **(FILL)**	
		e4					- grades moist	
						SM	Brown, silty, fine SAND with organics (medium dense, moist) **(ALLUVIUM)**	
5							- grades without organics	
						SP	Gray, fine SAND (medium dense, moist)	ATD
		e4					- grades dark gray, fine to medium SAND, wet	
							Groundwater sample: ASB0239-9-20140710	
10								
		e4						
						GP	Dark gray GRAVEL with sand (medium dense, wet)	
						SP	Dark gray, fine to course SAND with gravel (medium dense, wet)	
15							**Groundwater sample: ASB0239-15-20140710**	
		e4					- grades fine to medium SAND, without gravel	
20								
		e4				GP	Dark gray GRAVEL with sand (medium dense, wet)	
25							**Groundwater sample: ASB0239-25-20140710**	

Boring Completed 07/10/14
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-11

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0239

Figure
B-11

ASB0240

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	USCS Symbol	Description
0					SP	Brown, fine to course SAND with gravel (medium dense, damp)
						(FILL)
					SM	
		e4			PT	Brown, silty, fine SAND (medium dense, moist)
						(ALLUVIUM)
					SM	Brown PEAT (medium dense, moist)
5					SP	Brown, silty, fine SAND (medium dense, moist)
		e4				Iron oxide stained, dark gray, fine to medium SAND (medium dense, wet)
10						No recovery
						Groundwater sample: ASB0240-10-20140710
		e4				
15					SP	Iron oxide stained, dark gray, fine to course SAND with gravel (medium dense, wet)
						Groundwater sample: ASB0240-15-20140710
		e4				
20						- grades fine to medium SAND
		e4				- grades fine to course SAND with gravel
25						**Groundwater sample: ASB0240-25-20140710**

Water Level: ▽ ATD

Boring Completed 07/10/14
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-12

025164. 10/8/14 N:\PROJECTS\025164 - MASTER FILE.GPJ SOIL BORING LOG

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0240

Figure
B-12

ASB0241

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	USCS Symbol	Description
0	S-1	d	SP-SM	Brown, fine to medium SAND with silt (medium dense, damp)
	S-2	d, e4		**(FILL)**
				- grades grayish-brown, moist (medium dense, moist)
	S-3	d		**(ALLUVIUM)**
				- grades iron oxide stained, brown
5	S-4	d		
	S-5	d	SM	Iron oxide stained, brown, very silty, fine SAND (medium dense, moist)
		d	SP	
	S-6	e4	ML	Dark gray, fine to medium SAND (medium dense, wet)
	S-7	d	SP	
				Brown, sandy SILT (medium dense, wet)
10	S-8	d	SM	Dark gray, fine to medium SAND (medium dense, wet)
				Groundwater sample: ASB0241-9-20140711
	S-9	d, e4	SP	Gray, silty, fine to medium SAND (medium dense, wet)
	S-10	d	GP	Dark gray, fine to medium SAND (medium dense, wet)
15	S-11	d		Dark gray GRAVEL with sand (medium dense, wet)
		e4		- grades sandy
				Groundwater sample: ASB0241-15-20140711
20	S-12	d		
		e4		
25	S-13	d	SP	Dark gray, fine to medium SAND (medium dense, wet)
	S-14	d, e4	GP	**Groundwater sample: ASB0241-25-20140711**
				Dark gray, very sandy GRAVEL (medium dense, wet)
			SP	
30	S-15	d		Dark gray, fine to course SAND with gravel (medium dense, wet)
	S-16	d, e4		- grades without gravel
35			GP	

▽ ATD

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0241

Figure
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(1 of 2)

ASB0241

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
35	S-17	d				GP	Dark gray GRAVEL with sand (medium dense, wet)
						SP	Dark gray, fine to course SAND (medium dense, wet)
	S-18	d e4					- grades fine to medium SAND
40	S-19	d					
	S-20	d e4				GP	Dark gray, sandy GRAVEL (medium dense, wet)
45		e4					

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

Groundwater sample: ASB0241-48-20140711

Boring Completed 07/11/14
Total Depth of Boring = 48.0 ft.

50
55
60
65
70

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0241

Figure
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(2 of 2)

ASB0242

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						SP	Brown, fine to course SAND with gravel (medium dense, damp)	
						SP	**(FILL)**	
		e4					Grayish-brown, fine to medium SAND (medium dense, moist) **(ALLUVIUM)**	
5							- grades dark gray	
						SM	- grades iron oxide stained	
		e4					Iron oxide stained, brown, very silty, fine SAND (medium dense, damp to moist)	
						SP	Dark gray, fine to medium SAND (medium dense, damp to moist)	
10							No recovery	▽ ATD
		e4					**Groundwater sample: ASB0242-12-20140714**	
15						SP	Dark gray, fine to course SAND (medium dense, wet)	
		e4				GP	Dark gray, GRAVEL with sand (medium dense, wet)	
						SP	Dark gray, fine SAND (medium dense, wet)	
20							- grades fine to medium	
		e4					- grades fine to course SAND with gravel	
25							- grades fine to medium SAND without gravel	
							Groundwater sample: ASB0242-25-20140714	
		e4					- grades fine to course SAND	
						GP	Dark gray GRAVEL with sand (medium dense, wet)	
30						SP	Dark gray, fine to medium SAND (very dense, wet)	
		e4				GP	- grades fine to course SAND	
35							Grayish-brown, sandy GRAVEL (very dense, wet)	

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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Boeing Auburn
Auburn, Washington

Log of Boring ASB0242

Figure
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(1 of 2)

ASB0242

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Water Level
35							
						Drilling Method: Geoprobe™	
						Ground Elevation (ft): Not Measured	
						Drilled By: Cascade Drilling Inc.	
						Not sampled	
40		4					
45							
						Groundwater sample: ASB0242-48-20140714	
						Boring Completed 07/14/14 Total Depth of Boring = 48.0 ft.	
50							
55							
60							
65							
70							

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 ASB0242

Figure
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(2 of 2)

ASB0243

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

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

Depth (ft)	Sample Number & Interval	Sampler Type	USCS Symbol	Description
0			SP	Brown, fine to course SAND with gravel (medium dense, damp)
				(FILL)
			SM/SP	- grades dark brown, organicy
		e4		Brown, silty, fine SAND (medium dense, damp)
				(ALLUVIUM)
5			ML	Iron oxide stained, dark gray-brown, fine to medium SAND (medium dense, moist)
				- grades grayish-brown
		e4	SP	Iron oxide stained, gray-brown, very sandy SILT (medium dense, moist)
				- grades with abundant organics
				- grades without organics
10			SM/ML/SP	Iron oxide stained, dark gray, fine SAND (medium dense, moist)
		e4	ML/SP	Iron oxide stained, brown, silty, fine SAND (medium dense, moist)
				Iron oxide stained, brown, very sandy SILT (medium stiff, moist)
15			SM/SP-SM	Iron oxide stained, brown, fine SAND (medium dense, wet)
		e4	SM/SP	Iron oxide stained, gray, very sandy SILT (medium stiff, wet)
			SM/SP	Dark gray, fine to medium SAND (medium dense, wet)
20				**Groundwater sample: ASB0243-14-20140715**
		e4	GP	Grayish-brown, silty, fine to medium SAND with gravel (medium dense, wet)
				Iron oxide stained, gray-brown, fine SAND with silt (medium dense, wet)
25			GP	Dark gray, very silty, fine SAND (medium dense, wet)
		e4		Iron oxide stained, dark gray, fine SAND (medium dense, wet)
			GP	Dark gray, very silty, fine SAND (medium dense, wet)
30			SP	Dark gray, fine to medium SAND (medium dense, wet)
				Dark gray, sandy GRAVEL (medium dense, wet)
		e4	GP	Dark gray GRAVEL with sand (medium dense, wet)
35			SP	**Groundwater sample: ASB0243-25-20140715**

▽ ATD

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

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Boeing Auburn
Auburn, Washington

Log of Boring ASB0243

Figure
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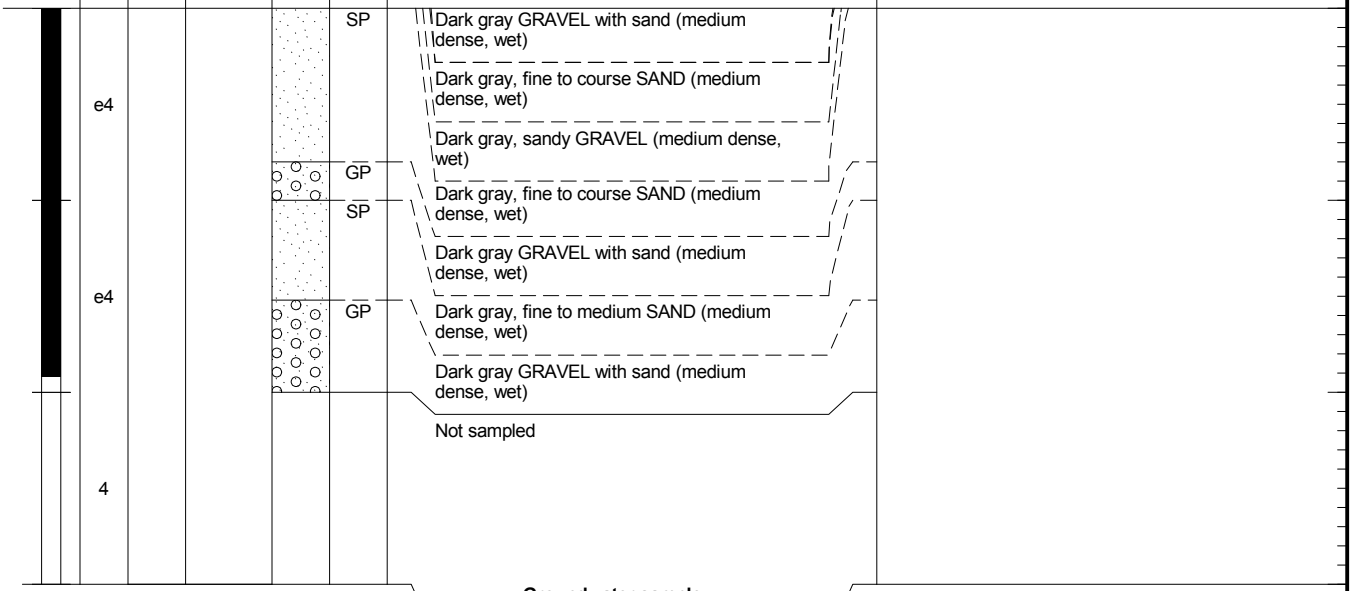
ASB0243

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

Drilling Method: Geoprobe™

Ground Elevation (ft): Not Measured

Drilled By: Cascade Drilling Inc.



Groundwater sample: ASB0243-50-20140715

Boring Completed 07/15/14
Total Depth of Boring = 50.0 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

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Log of Boring ASB0243

Figure
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