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JUL 29 2020

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Federal Facility Agreement Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: D-Area Groundwater Operable Unit Letter Report for Calendar Year 2019 Data, SEMS Number 63

In accordance with the terms of the Federal Facility Agreement and the *Monitoring Work Plan for the D-Area Groundwater Operable Unit* (WSRC-RP-2003-4150, Revision 1, June 2004), the U. S. Department of Energy (DOE) is submitting this biennial letter report for your review. Per the monitoring work plan, groundwater reports are submitted in odd number years and groundwater letter reports are submitted in even number years. All reports are due by July 31 of each year. Therefore, the 2019 D-Area Groundwater Operable Unit data and analyses are presented in this letter report.

Please review this letter report and provide your comments or approval within one hundred twenty (120) days of receipt. The effort and time that the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency have given on the subject operable unit are greatly appreciated.

**D-Area Groundwater Operable Unit Letter Report for Calendar Year 2019 Data**

***Introduction***

Groundwater and surface water in D-Area was sampled annually or semi-annually during calendar year 2019 during the second quarter (2Q) or fourth quarter (4Q) following the *Monitoring Work Plan for the D-Area Groundwater Operable Unit* (WSRC-RP-2003-4150, Revision 1, June 2004). Tables 1 and 2 display the constituents and frequency of monitoring. Wells DWP 1 and DWP 6 were dry during 2Q2019 and 4Q2019; therefore, no samples were collected for these wells during 2019. Wells DWP 8 and DWP 9 were dry during 4Q2019 so no samples were collected at these wells during this quarter.

Tritium, volatile organic compounds (VOCs), and metals are present in the D-Area groundwater at levels above the maximum contaminant levels (MCLs). The contamination is located within the Upper Three Runs Aquifer. Tritium contamination is related to spills of reactor moderator in the vicinity of the moderator processing facility and various storage facilities that were present in the area. VOC contamination, primarily trichloroethylene (TCE), in the groundwater is related to spills of solvent and past disposal practices for solvents near the maintenance facilities. Metals contamination in the groundwater is related to low-pH conditions from former power plant coal storage, disposal, and runoff.

***Monitoring Results***

Locations monitored during 2019 are shown in Figure 1. Groundwater samples were collected from 82 monitoring wells. Monitoring results for 2019 revealed that the MCLs (Primary and Secondary Drinking Water Standards) or U.S. Environmental Protection Agency (USEPA) regional screening levels (RSLs) were exceeded for tritium, VOCs, and metals (See Enclosure SRNS-RP-2020-00439: Table 1 and Table 2). Tritium, tetrachloroethylene (PCE), TCE, aluminum, beryllium, cadmium, chromium, ferric iron, ferrous iron, lead, manganese, mercury, selenium, and sulfate exceeded their respective MCLs. Cobalt and nickel exceeded their respective RSLs.

Nine surface water locations (DSWM-1 through DSWM-9) are included as part of the groundwater monitoring sampling regimen and are sampled annually during the 2Q. In 2019, aluminum, beryllium, manganese, and sulfate concentrations exceeded their respective MCLs and cobalt exceeded its respective RSL. The 2019 results also indicate that no surface water samples exceeded their respective MCLs for VOCs or tritium.

Monitoring results are also compared to previously calculated well specific threshold limits for select source, intermediate, and downgradient monitoring wells as presented in the Monitoring Work Plan. These wells are color coded on Figure 1 and the threshold limits for each constituent/well are included in Table 1 and Table 2 (Enclosure SRNS-RP-2020-00439). In the data tables, threshold limit exceedances and the well name are highlighted in orange.

**Tritium Results**

The tritium plume is defined as the groundwater area with tritium activities greater than the MCL (20 pCi/mL) (Figures 2 and 3). Concentrations during 2019 are similar to those measured in 2017 and

2018. Overall tritium concentrations have decreased with time when compared to the 2004 tritium data reported in the first D-Area Groundwater (DAG) Operable Unit (OU) biennial report (WSRC-RP-2005-4059, July 2005). Tritium levels in the source area of the plume range from approximately 42.5 to 238 (estimated) pCi/mL as compared to 118 to 1,030 pCi/mL in 2004. Tritium activities in the intermediate portion of the plume area have also decreased since 2004. Tritium levels in the intermediate area ranged from 1.93 to 18.1 pCi/mL, below the MCL, compared to approximately 27 to 30 pCi/mL in 2004. Although tritium concentrations are lower in some intermediate plume wells as indicated by the data, the plume area has shifted to the south since 2004 causing an increase in tritium concentrations in the intermediate plume as the plume moves through the aquifer. Tritium levels in 2019 in the downgradient portion of the plume ranged from 1.02 to 26.6 (estimated) pCi/mL. Tritium was not detected in any of the Gordon Aquifer wells.

The long-term decreasing trend of tritium concentrations in the groundwater and source area is indicative of radioactive decay (tritium half-life = 12.7 years). Furthermore, a reduction to the tritium source in the vadose zone was completed in 2011 by a Comprehensive Environmental Response, Compensation, and Liability Act removal action for the Moderator Processing Subunit (including the facilities 420-D, 420-2D, 421-2D) of the D-Area OU (detritiation of concrete and soil). Previous soil contamination at 772-D posed a contaminant migration (CM) issue, but due to tritium's half-life the concentrations have since dropped to below CM threshold limits. Therefore, reduced tritium concentrations in groundwater near the source are expected to continue. All tritium concentrations are far below their respective threshold limits.

**VOC Results**

The TCE plume is defined as the groundwater area with TCE concentrations greater than the MCL (5 µg/L) (Figures 4 and 5). During 2019 the maximum concentration in the source area of the plume was measured at 115 µg/L (estimated); the maximum concentration in the middle portion of the plume is 28.6 µg/L; and the maximum TCE concentration in the downgradient portion of the plume is 40.4 µg/L. Concentrations reported for 2019 were similar to 2017 and 2018 data. When compared to the 2004 data, the 2019 data did not indicate any significant changes in the size or shape of the TCE plume; however, most of the concentrations have decreased. In the Gordon Aquifer there was one detection of TCE at a concentration of 2.16 µg/L at well DCB 33D, which is below the MCL of 5.0 µg/L. All other Gordon Aquifer TCE results were non-detect. None of the TCE results exceeded the threshold limits outlined in the *Monitoring Work Plan for the D-Area Groundwater Operable Unit* (WSRC-RP-2003-4150, Revision 1, June 2004). Additionally, no VOC constituents were detected in surface water during 2019.

Decreasing concentrations of TCE are mainly the result of dilution and dispersion rather than degradation. Vinyl chloride is rarely detected in any of the wells used to monitor TCE and was not detected in the 2019 sampling events. Cis-1,2-dichloroethylene (cis-1,2-DCE) was detected in approximately a third of the VOC samples collected, all below the MCL of 70 µg/L. The maximum concentration of cis-1,2-DCE was 16.8 µg/L at well DCB 62. Furthermore, the TCE concentration is decreasing in wells DCB 62 and DCB 55, source and distal edge wells, respectively. The TCE concentration is increasing slightly in well DCB 26AR, which can be considered a down gradient source well and is located near the western edge of the plume. Concentrations in the downgradient wells display slightly decreasing trends.

**pH and Metals Results**

The pH of groundwater ranged from 2.8 to 6.0 (Figures 6 and 7). These values were consistent with previous values with the low pH near the D-Area Coal Pile Runoff Basin (489-D) and Coal Storage Area (484-17D). The low values of pH, which are attributed to the D-Area Coal Pile Runoff Basin (489-D), correlate to the exceedances of metal concentrations that are seen downgradient of the D-Area Coal Pile Runoff Basin (489-D). As an example of the effects of low pH on metal concentration in the DAG OU, Figure 6 shows the correlation of pH with beryllium.

Concentrations of metals were consistent with previous results with the highest concentrations reported being near the D-Area Coal Pile Runoff Basin (489-D). The maximum concentrations of aluminum (159,000 µg/L), beryllium (133 µg/L), cadmium (6.64 µg/L), chromium (131 µg/L), ferric iron (49,000 µg/L), ferrous iron (151,000 µg/L), lead (32.8 µg/L), manganese (13,000 µg/L), mercury (3.63 µg/L), sulfate (1,560 µg/L), and selenium (66.3 µg/L) exceeded their respective MCLs (USEPA Primary and Secondary Drinking Water Standards shown in Tables 1 and 2 of Enclosure SRNS-RP-2020-00439) in at least one well.

The maximum concentrations of cobalt (341 µg/L) and nickel (615 µg/L) exceeded their respective RSLs.

In surface water, the 2019 sampling showed acidic conditions downgradient of the D-Area Coal Pile Runoff Basin (489-D) and Coal Storage Area (484-17D) with pH ranging from 2.8 to 6 (Figure 6). Surface water contaminant concentrations of aluminum (6,860 µg/L), beryllium (17.6 µg/L), manganese (1,690 µg/L) and sulfate (295 µg/L) exceeded their respective MCLs and cobalt (52.4 µg/L) exceeded its respective RSL. The highest concentrations in surface water are seen downgradient of the D-Area Coal Pile Runoff Basin (489-D) and Coal Storage Area (484-17D) due to the acidic groundwater conditions. Contaminant levels in surface water are lower than the maximum results seen in groundwater.

Two source wells (DCB 21B and DCB 21C) exceeded threshold limits for beryllium, chromium, copper, or selenium in 2019.

***Remedial/Removal Actions at D Area***

**Tritium**

The removal action for the tritium contaminated soils and concrete at the Moderator Processing Subunit (including the facilities 420-D, 420-2D, 421-2D) was completed during August 2011. Since the tritium source in the concrete and the vadose zone has been removed, tritium activity levels in the groundwater at the source area have decreased. Reductions are expected in the future due to dispersion and radioactive decay.

**VOCs**

A MicroBlower™ soil vapor extraction system was installed and is operating at the Bubble Tower Subunit (at the former 711-D facility which is highlighted on Figure 4). The purpose of this action is to reduce the potential leaching of VOCs in vadose zone soils into groundwater. This system is operating according to design. Minimal VOC removal has occurred over the last few years which may indicate the source has been remediated. Future soil sampling will confirm if the remedial goals have been met.

**Acidity/Inorganics**

Acidic surface water was removed from the northern 25% of the D-Area Coal Pile Runoff Basin (489-D). Additional contaminated sediment was added to the northern 25% of the D-Area Coal Pile Runoff Basin (489-D) and a soil cover was installed. The surficial coal and coal reject materials from the Coal Storage Area (484-17D) and ash from the 488-2D Ash Basin were removed and placed in the 488-4D Ash Landfill prior to placement of a geosynthetic cover system. The acidic surface water has been removed and coal fines have been excavated from the remaining 75% of the D-Area Coal Pile Runoff Basin (489-D). The coal fines were consolidated in the 488-1D Ash Basin. The southern 75% of the D-Area Coal Pile Runoff Basin (489-D) is currently acting as a retention basin for storm water drainage in D Area. Ash in the western end of the 488-1D Ash Basin was consolidated in the eastern end of the 488-1D Ash Basin. Consolidation of all materials in the eastern end of the 488-1D Ash Basin has been completed with the area being covered by a geosynthetic cover system.

The removal action detailed in the Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis for neutralization of acidic soils at the Coal Storage Area (484-17D) (SRNS-RP-2018-00813, Revision 1, June 2019) is anticipated to improve the acidic and metal plume conditions in the source soils and subsequently the groundwater. This action is underway and is expected to be completed by the end of 2020.

The ongoing D-Area Groundwater OU Treatability Study involves the injection of potable groundwater into the upper water table aquifer upgradient of the low-pH, metals, and sulfate plumes. This will create a hydraulic head and increase groundwater flow velocity to displace low-pH groundwater out of the upper water table aquifer. An increase in the amount of acidic water discharging into the D-Area Effluent Discharge Canal is expected to occur as groundwater elevations rise and low-pH groundwater is displaced. The treatability study also involves the installation of two calcium carbonate reactive structures downgradient of the acidic groundwater discharge point within the D-Area Discharge Canal to allow enough contact time with the surface water for pH adjustment prior to convergence with Beaver Dam Creek, the Savannah River Floodplain, and Savannah River. One of the engineered reactive structures have been constructed, and five of the proposed 20 injection wells have been installed and are currently undergoing injection flow rate testing.

These actions will reduce the acidic conditions and eventually reduce metal contamination in the groundwater. However, continued metals contamination is expected since aquifer materials are coated with hydrogen ions and groundwater at D Area is acidic.

***Changes in the Monitoring Program (Effective 2019)***

Two new surface water stations (DSWM-8 and DSWM-9) were added in 2019.

The *RCRA Facility Investigation/Remedial Investigation (RFI/RI) Letter Work Plan in Support of the D-Area Groundwater Operable Unit (D-Area Upgradient Sources)* (IACD-19-185, dated October 1, 2019) proposed eight new wells in the Upper Three Runs Aquifer and nine new wells in the Gordon Aquifer in order to bound the VOC, tritium, and metals plumes vertically and horizontally. Fourteen of the seventeen proposed wells were installed during the first half of 2020. The three remaining wells will be installed

once the Coal Storage Area (484-17D) removal action is complete and conditions in the wetlands allow access of a small track drill rig. Six previously installed wells (DCB 41A, DCB 41C, DCB 43A, DCB 43C, and DCB 26AR) were also proposed to be sampled to determine if the 484-D Powerhouse is a contaminant source to groundwater. This includes analyses for tritium, Target Compound List/Target Analyte List full suite (no pesticides or dioxins/furans; includes Polychlorinated Biphenyls), and diesel range organics (DRO). Data from the existing wells and new wells will be reported in future groundwater monitoring reports when available.

The sampling for polyfluoroalkyl substances (PFAS) is currently being conducted as discussed with the USEPA and South Carolina Department of Health and Environmental Control (SCDHEC) at the August 2019 informational meeting. Sampling locations and sample data results will be included in the subsequent groundwater monitoring reports as appropriate. Additionally, as requested during the August 2019 scoping meeting, SRS will provide SCDHEC and USEPA the initial PFAS sampling results via email.

**Table 1. Groundwater Samples Analyte List and Sample Frequency**

| Well D | 2Q | 4Q | Well Type | Aquifer | Indicator Well | Applicable Threshold Limit |
|---|---|---|---|---|---|---|
| DBP 1 | W | W | Monitoring | UTRA | | |
| DCB 1A | W | W | Monitoring | UTRA | | |
| DCB 2A | W | W | Monitoring | UTRA | | |
| DCB 3A | Fp,M,Rd,S,V | W | Monitoring | UTRA | | |
| DCB 4A | Fp,M,Rd,S,V | W | Monitoring | UTRA | | |
| DCB 5A | W | W | Monitoring | UTRA | | |
| DCB 6 | Fp,U | W | Monitoring | UTRA | | |
| DCB 7 | Fp,U | W | Monitoring | UTRA | | |
| DCB 8 | Fp,M,S,T,U | W | Monitoring | UTRA | | |
| DCB 8C | Fp,M,S,U,V | W | Monitoring | UTRA | | |
| DCB 9 | W | W | Monitoring | UTRA | | |
| DCB 10 | Fp,M,S,U | W | Monitoring | UTRA | | |
| DCB 17A | | | Piezometer | UTRA | | |
| DCB 17B | | | Piezometer | UTRA | | |
| DCB 17C | | | Piezometer | UTRA | | |
| DCB 18A | | | Piezometer | UTRA | | |
| DCB 18B | | | Piezometer | UTRA | | |
| DCB 18C | | | Piezometer | UTRA | | |
| DCB 19A | | | Piezometer | UTRA | | |
| DCB 19B | | | Piezometer | UTRA | | |
| DCB 19C | | | Piezometer | UTRA | | |
| DCB 20A | | | Piezometer | UTRA | | |
| DCB 20B | | | Piezometer | UTRA | | |
| DCB 20C | | | Piezometer | UTRA | | |
| DCB 20D | | | Piezometer | GA | | |
| DCB 21A | Fe,Fp,M,Rd,S,U | Fp,Fe,M,Rd,S,U | Piezometer | UTRA | Source | M,U |
| DCB 21B | Fe,Fp,M,Rd,S,U,V | Fp,Fe,M,Rd,S,U | Piezometer | UTRA | Source | M,U |
| DCB 21C | Fe,Fp,M,Rd,S,U,V | Fp,Fe,M,Rd,S,U | Piezometer | UTRA | Source | M,U |
| DCB 22A | Fe,Fp,M,Rd,S,U | Fp,Fe,M,Rd,S,U | Piezometer | UTRA | | |
| DCB 22B | Fe,Fp,M,Rd,S,U | Fp,Fe,M,Rd,S,U | Piezometer | UTRA | | |
| DCB 22C | Fe,Fp,M,Rd,S,U | Fp,Fe,M,Rd,S,U | Piezometer | UTRA | | |
| DCB 23A | W | W | Piezometer | UTRA | | |
| DCB 23B | Fp,M,S,U | W | Piezometer | UTRA | | |
| DCB 23C | Fp,M,S,T,U | W | Piezometer | UTRA | | |
| DCB 23D | W | W | Piezometer | GA | | |
| DCB 24A | | | Piezometer | UTRA | | |

**Table 1. Groundwater Samples Analyte List and Sample Frequency (*continued*)**

| Well D | 2Q | 4Q | Well Type | Aquifer | Indicator Well | Applicable Threshold Limit |
|---|---|---|---|---|---|---|
| DCB 24B | | | Piezometer | UTRA | | |
| DCB 24C | | | Piezometer | UTRA | | |
| DCB 26AR | Fp,M, S, T,V | W | Monitoring | UTRA | Source | T |
| DCB 28 | Fp,M,S,T,V | W | Monitoring | UTRA | Intermediate | V,T |
| DCB 32A | W | W | Monitoring | UTRA | | |
| DCB 33B | Fp,V | W | Monitoring | UTRA | | |
| DCB 33C | Fp,V | W | Monitoring | UTRA | | |
| DCB 33D | Fp,Rd,V | W | Monitoring | UTRA | | |
| DCB 34A | Fp,M,Rd,S,U,V | W | Monitoring | UTRA | Source | M,U |
| DCB 34C | Fp,M,Rd,S,U,V | W | Monitoring | UTRA | Source | M,U |
| DCB 35A | Fp,M,S,U,V | W | Monitoring | UTRA | | |
| DCB 35C | Fp,M,S,U,V | W | Monitoring | UTRA | | |
| DCB 36A | Fp,M,Rd,S,V | W | Monitoring | UTRA | Source | M,U |
| DCB 36C | Fp,M,Rd,S,V | W | Monitoring | UTRA | Source | M,U |
| DCB 37A | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB 37C | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB 37D | Fp,T,V | W | Monitoring | GA | | |
| DCB 40A | Fp,T,V | W | Monitoring | UTRA | | |
| DCB 41A | | | Monitoring | UTRA | | |
| DCB 41C | | | Monitoring | UTRA | | |
| DCB 43A | | | Monitoring | UTRA | | |
| DCB 43C | | | Monitoring | UTRA | | |
| DCB 44A | Fp,Rd,T, V | W | Monitoring | UTRA | | |
| DCB 44C | Fp,Rd,T,V | W | Monitoring | UTRA | | |
| DCB 45A | Fp,T,V | W | Monitoring | UTRA | Source | T |
| DCB 45C | Fp,T,V | W | Monitoring | UTRA | Source | T |
| DCB 48A | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB 48D | Fp,M,S,T,V | W | Monitoring | GA | | |
| DCB 49 | W | W | Monitoring | UTRA | | |
| DCB 50 | W | W | Monitoring | UTRA | | |
| DCB 51A | Fp,T,V | W | Monitoring | UTRA | | |
| DCB 51D | Fp,T,V | W | Monitoring | GA | | |
| DCB 52C | E,Fe,Fp,M,Rd,S,T,V | W | Monitoring | UTRA | Downgradient | V,T |
| DCB 53 | Fp,M,Rd,S,T,V | W | Monitoring | UTRA | | |
| DCB 54 | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB 55 | E,Fe,Fp,M,Rd,S,T,V | Fp,M,Rd,S | Monitoring | UTRA | Downgradient | V,T |

**Table 1. Groundwater Samples Analyte List and Sample Frequency (*continued; end*)**

| Well D | 2Q | 4Q | Well Type | Aquifer | Indicator Well | Applicable Threshold Limit |
|---|---|---|---|---|---|---|
| DCB 56 | Fp,M,S,V | W | Monitoring | UTRA | | |
| DCB 59A | W | W | Monitoring | UTRA | | |
| DCB 60 | Fp,M,S,V | W | Monitoring | UTRA | | |
| DCB 64 | | | Monitoring | UTRA | | |
| DCB 65A | Fp,M,S,T | W | Monitoring | UTRA | | |
| DCB 65C | Fp,M,S,T | W | Monitoring | UTRA | | |
| DCB 70A | Fe,Fp,M,Rd,S | Fp,Fe,M,Rd,S | Monitoring | UTRA | | |
| DCB 70B | Fe,Fp,M,Rd,S | Fp,Fe,M,Rd,S | Monitoring | UTRA | | |
| DCB 71A | | | Monitoring | UTRA | | |
| DCB 71B | | | Monitoring | UTRA | | |
| DCB072C | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB077 | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB078 | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB079 | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB080 | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB081* | Fp,M,S,T,V | W | Monitoring | UTRA | | |
| DCB082* | Fp,M,S,V | W | Monitoring | UTRA | | |
| DRW 1 | Fp,T,V | W | Test Well | UTRA | Source | V |
| DWP 1 | Fp,M,Rd,S,T,V | W | Piezometer | UTRA | Downgradient | M,U,V,T |
| DWP 2 | E,Fe,Fp,M,Rd,S,T,V | Fp,M,Rd,S | Piezometer | UTRA | Downgradient | M,U,V,T |
| DWP 3 | W | W | Piezometer | UTRA | Downgradient | V,T |
| DWP003A | Fp,M,Rd,S,T,V | Fp,M,Rd,S | Monitoring | UTRA | | |
| DWP 6 | Fp,M,Rd,S,T,V | W | Piezometer | UTRA | | |
| DWP 7 | E,Fe,Fp,M,Rd,S,T,V | W | Piezometer | UTRA | | |
| DWP 8 | Fp,M,Rd,S,V | Fp,M,Rd,S | Piezometer | UTRA | Downgradient | M,U |
| DWP 9 | Fp,M,Rd,S,T,V | W | Piezometer | UTRA | Downgradient | M,U |
| DWP009A | Fp,M,Rd,S,T,V | W | Monitoring | UTRA | | |

Notes:
UTRA = Upper Three Runs Aquifer
GA = Gordon Aquifer
E = Ethene
Fe = ferric and ferrous iron
Fp = Field Parameters (collected during 2Q and 4Q sampling and included water-level, pH, turbidity, alkalinity)
M = metals (if chromium exceeds 100 µg/L, chromium-6+ will be analyzed during the next sampling event)
Rd = REDOX/DO
S = sulfate
T = tritium
U = uranium
W = water-level measurement only
V = volatile organic compounds (PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride)
* Analytes and parameters listed are the proposed for new monitoring wells

**Table 2. Surface Water Samples Analyte List and Sample Frequency**

| Surface Water Station | Frequency | Analytes | UTM East (m) | UTM North (m) |
|---|---|---|---|---|
| DSWM-1 | 1/yr | Tritium, TCE, TAL Metals | 430638.0 | 3673869.0 |
| DSWM-2 | 1/yr | Tritium, TCE, TAL Metals | 430537.0 | 3673620.7 |
| DSWM-3 | 1/yr | Tritium, TCE, TAL Metals | 430371.0 | 3673534.9 |
| DSWM-4 | 1/yr | Tritium, TCE, TAL Metals | 431036.9 | 3673523.6 |
| DSWM-5 | 1/yr | TCE, TAL Metals | 431643.9 | 3673157.8 |
| DSWM-6 | 1/yr | TCE, TAL Metals | 431458.1 | 3672856.2 |
| DSWM-7 | 1/yr | TCE, TAL Metals | 431218.6 | 3672718.9 |
| DSWM-8 | 1/yr | TCE, TAL Metals | 431098.6 | 3672657.0 |
| DSWM-9 | 1/yr | TCE, TAL Metals | 431001.3 | 3672605.3 |

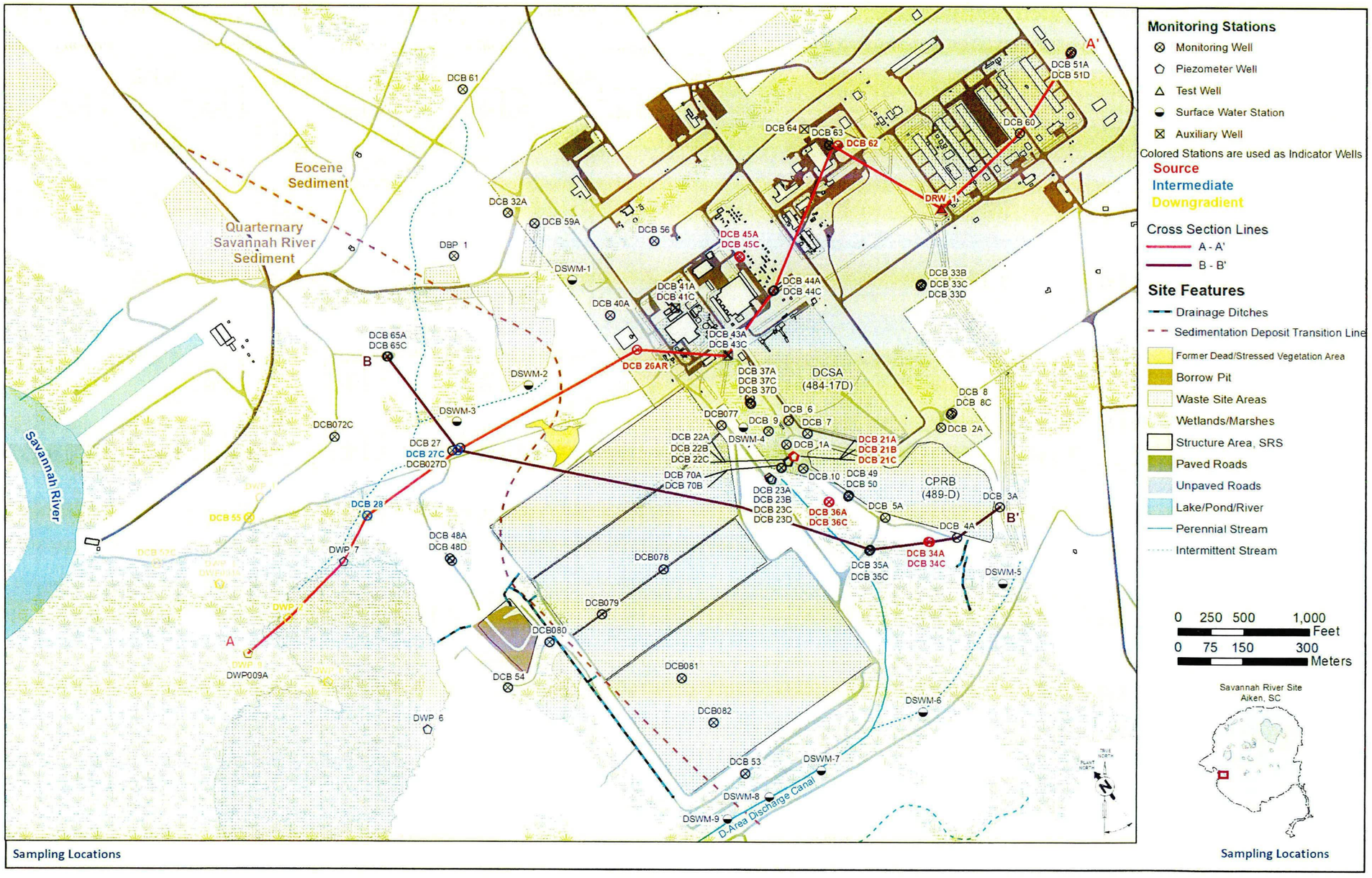


**Figure 1. Sampling Locations for the DAG OU**

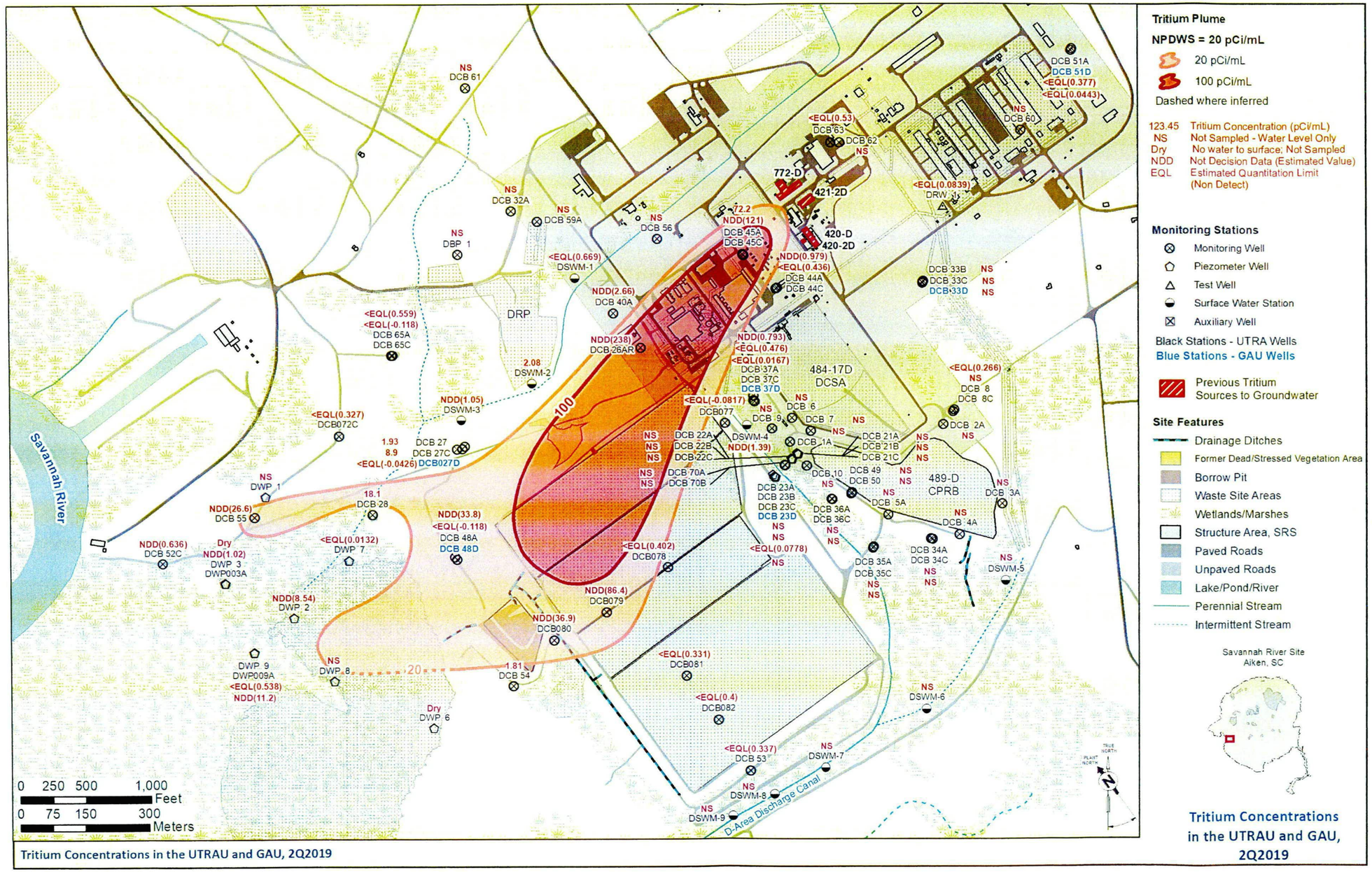


**Figure 2. Tritium Concentrations (pCi/mL) in the Upper Three Runs Aquifer Unit (UTRAU) and Gordon Aquifer Unit (GAU), 2Q2019**

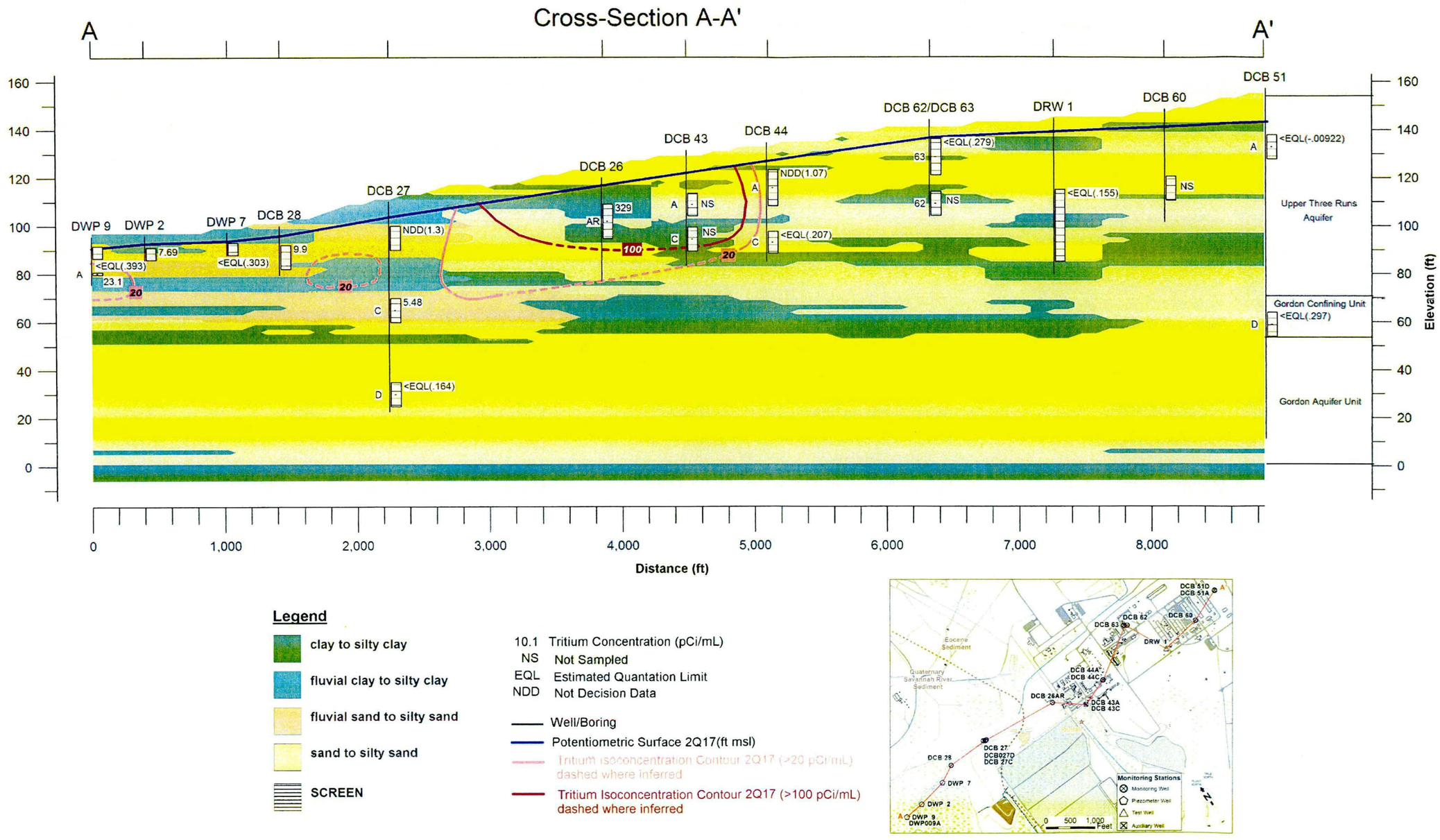


**Figure 3. D-Area Groundwater Cross Section A-A' for Tritium, 2Q2019**

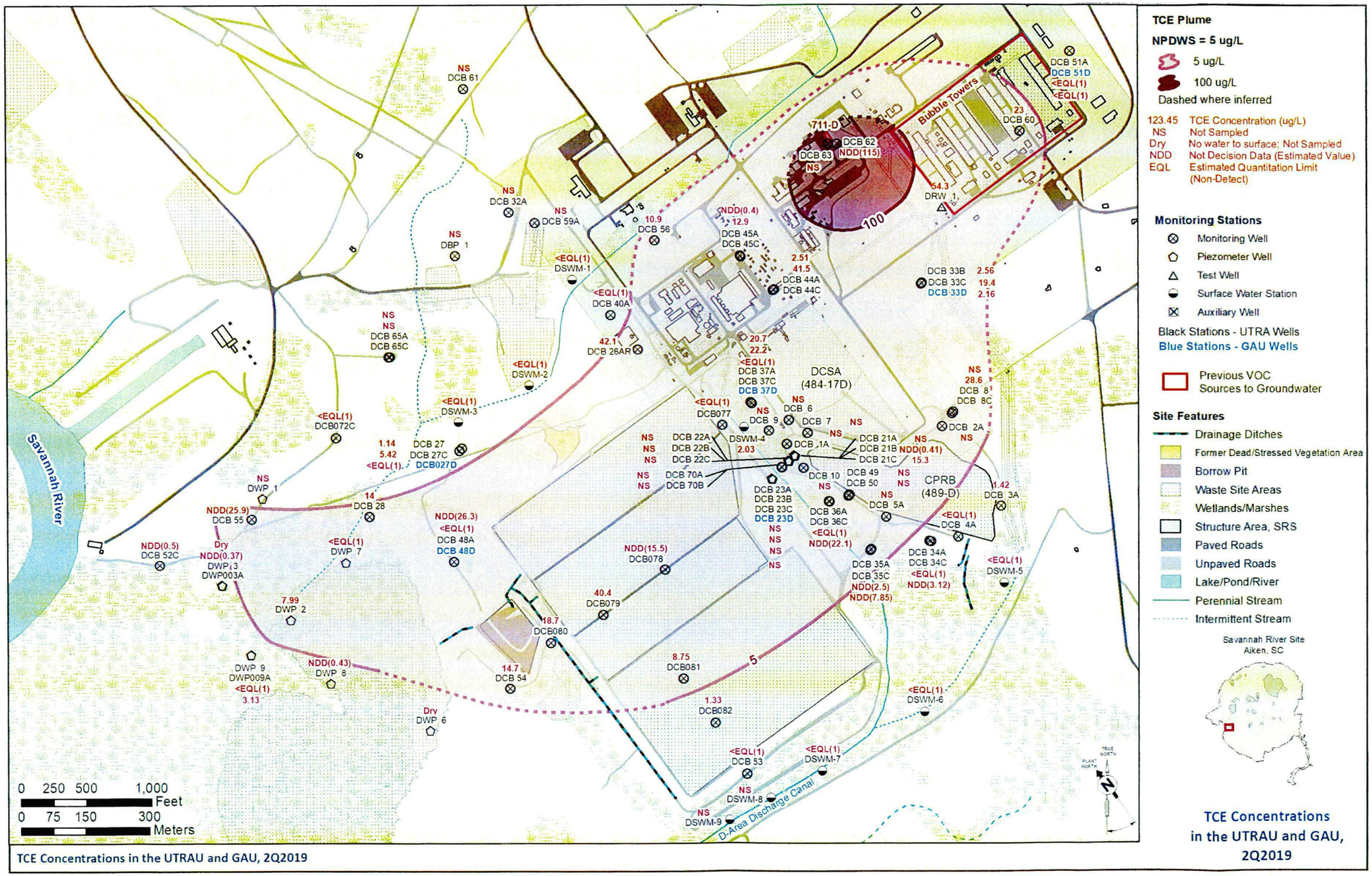


**Figure 4.** **TCE Concentrations (µg/L) in the UTRAU and GAU, 2Q2019**

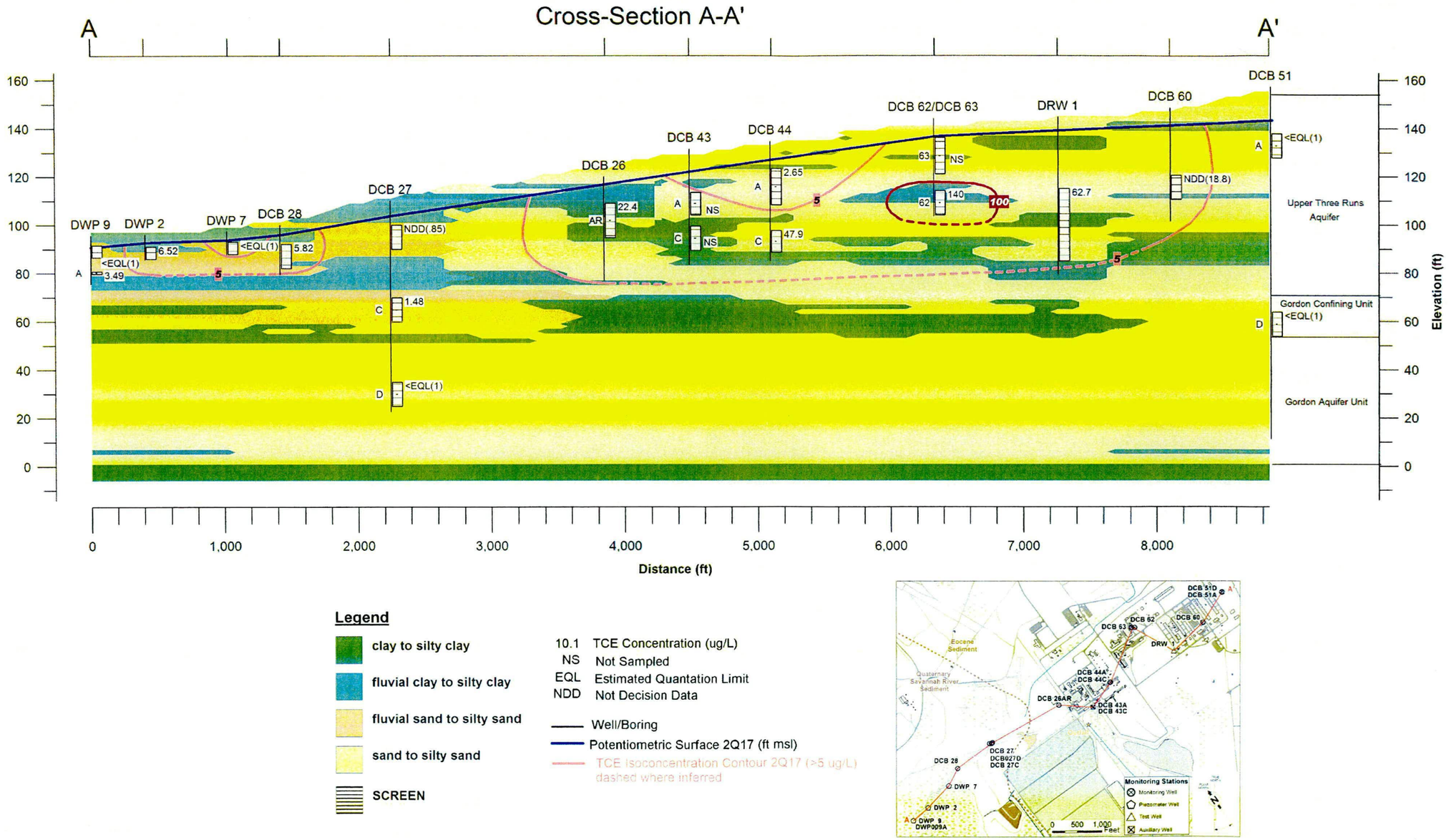


**Figure 5. D-Area Groundwater Cross Section A-A' for TCE, 2Q2019**

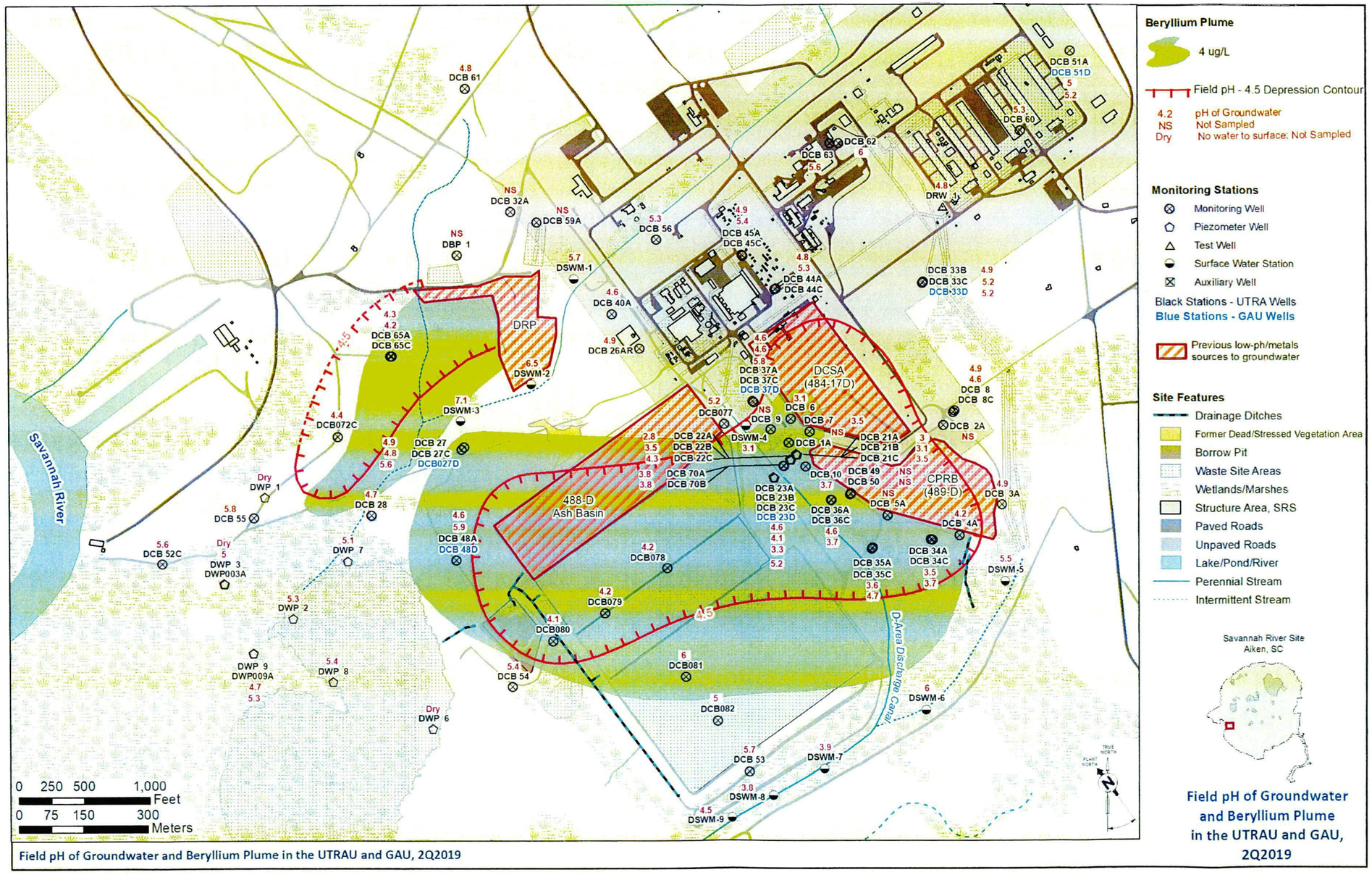


**Figure 6. Field pH of Groundwater and Beryllium Plume in the UTRAU and GAU, 2Q2019**

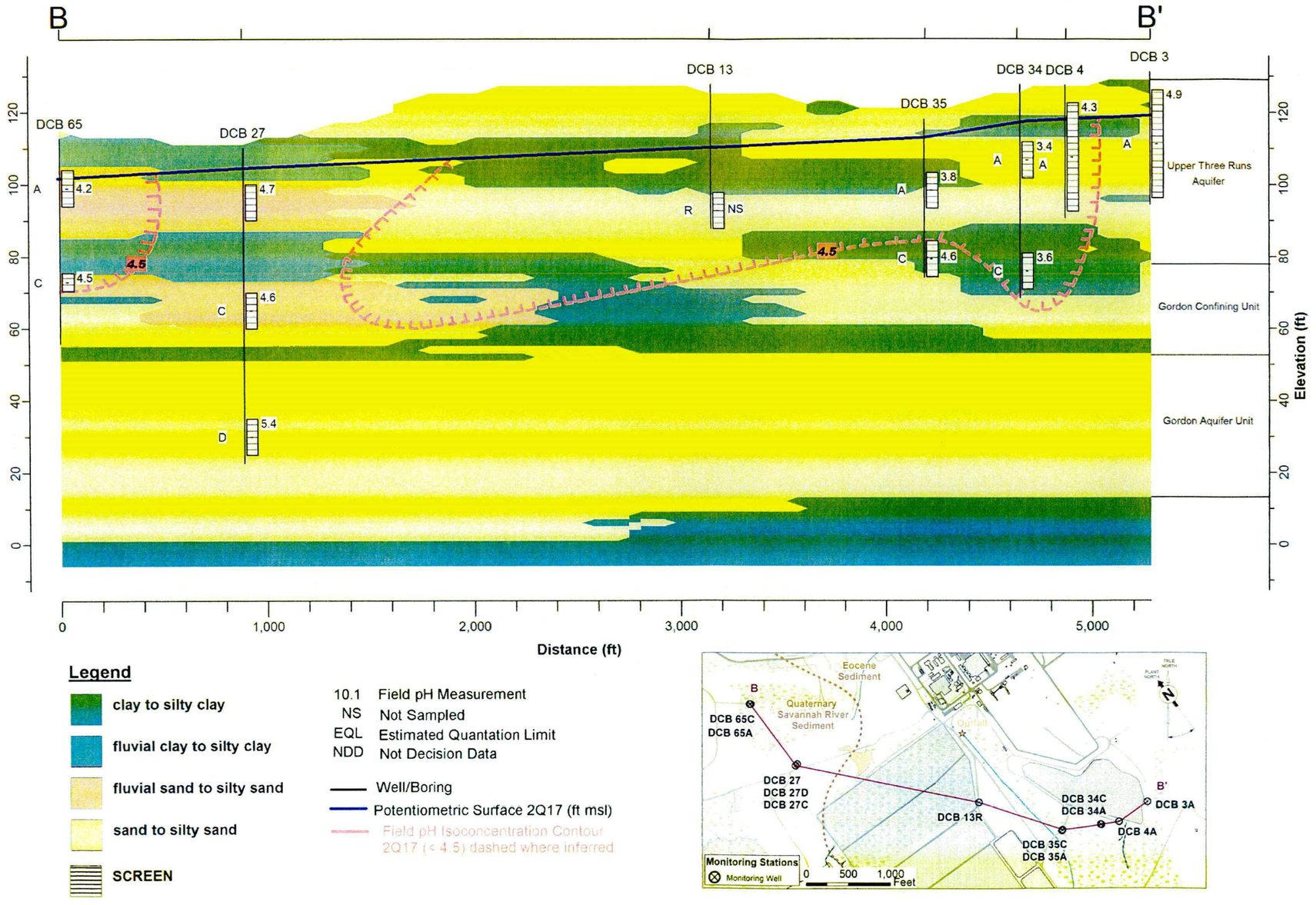


**Figure 7. D-Area Groundwater Cross Section B-B' for pH, 2Q2019**

JUL 29 2020

Ms. Susan Fulmer
Mr. Jon Richards 18

Questions from you or your staff may be directed to me at (803) 952-8365, or the DOE Federal Project Director, Karen Adams, at (803) 952-7871.

Sincerely,

BRIAN HENNESSEY

Digitally signed by BRIAN HENNESSEY
Date: 2020.07.27 14:58:23 -04'00'

Brian T. Hennessey
SRS Remedial Project Manager
Infrastructure and Area Completion Division

IACD-20-173

Enclosures:
1. SRNS-RP-2020-00439, Table 1. DAGW Monitoring Data for 2Q2019
2. SRNS-RP-2020-00439, Table 2. DAGW Monitoring Data for 4Q2019

cc w/o encl:
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