AECOM

2021/2022 Annual Groundwater Monitoring Report

Columbia Fuel Fabrication Facility
Hopkins, Richland County, South Carolina

Westinghouse Electric Company, LLC

Project Number: 60641050

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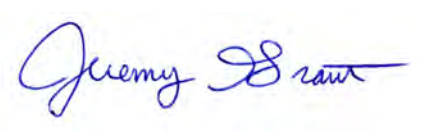

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Acronyms

AECOM	AECOM Technical Services, Inc.
AOC	Area of Concern
CA	Consent Agreement
CFFF	Columbia Fuel Fabrication Facility
cis-1,2 DCE	cis-1,2-dichloroethene
COPC	constituent(s) of potential concern
CVOC	chlorinated volatile organic compound
DHEC	South Carolina Department of Health and Environmental Control
EPA	United States Environmental Protection Agency
µg/L	micrograms per liter
MCL	maximum contaminant level
mg/L	milligram per liter
MK	Mann-Kendall
MSL	mean sea level
NPDES	National Pollution Discharge Elimination System
ORP	oxidation reduction potential
OU	Operational Unit
PCE	tetrachloroethylene
pCi/L	picocuries per liter
RI	remedial investigation
SCRDI	SCRDI Bluff Road
Tc-99	Technetium-99
TCE	trichloroethylene
U	uranium
VC	vinyl chloride
Westinghouse	Westinghouse Electric Company, LLC
WLII	West Lagoon II
WWTP	wastewater treatment plant

1. Introduction

Westinghouse Electric Company, LLC (Westinghouse) Columbia Fuel Fabrication Facility (CFFF) is located at 5801 Bluff Road (site or property) in Hopkins, approximately 15 miles southeast of Columbia, South Carolina (**Figure 1**). The site includes approximately 1,151 acres, with the developed area encompassing approximately 75 acres centrally located on the site, thereby creating substantial buffers from adjoining properties. The property is surrounded by rural forested and agricultural property. CFFF was opened in 1969 and manufactures fuel assemblies and components for the commercial nuclear power industry. Site features are shown on **Figure 2** and monitoring well locations are displayed on **Figure 3**.

On February 26, 2019, the South Carolina Department of Health and Environmental Control (DHEC) and CFFF entered into Consent Agreement 19-02-HW to comprehensively assess potential environmental impacts from current and historical operations, including additional assessment of known impacts. The CA requires further assessment and potential remediation of known constituents of potential concern (COPC) and assessment of additional areas where releases may have occurred.

Remedial investigation (RI) work was conducted from June 2019 through October 2021 to assess the source, nature, and extent of impacts from CFFF operations. This work resulted in the installation of 57 additional surficial aquifer monitoring wells (W-69 through W-126), one replacement monitoring well W-4R, and one piezometer (PZ-1). The source, nature and extent of these impacts were well defined by the RI, remain well within the facility property boundary and are anticipated to remain within the property boundary for the foreseeable future. No additional or ongoing releases were identified during the RI. The draft Remedial Investigation report was submitted to DHEC on August 22, 2022 (AECOM, 2022) for comments.

In addition to the comprehensive RI assessment completed since 2019, Westinghouse would like to highlight the numerous environmental risk reduction and improvement activities it has undertaken over the past several years. For example, Westinghouse has:

- Eliminated a nickel plating operation;
- Eliminated use of tetrachloroethylene (PCE) and replaced it with a non-hazardous material;
- Completed a Technetium-99 (Tc-99) source investigation study (Leidos, 2020) which determined current site operations do not have the potential to introduce quantities of Tc-99 above its maximum contaminant level (MCL) into the environment;
- Re-designed the HF Spiking Stations;
- Installed a sentinel groundwater monitoring well network in the Chemical Area Operational Unit (OU);
- Removed the intermodal storage containers with radiological materials from the Southern Storage Area and remediated soils impacted above residential screening levels beneath the containers;
- Eliminated sources of potential storm water contamination by removing out of service equipment on the manufacturing building roof;
- Removed the East Lagoon from service, excavated and properly disposed of lagoon materials, and restored the former lagoon footprint to a vegetated surface;
- Established a Community Engagement Board comprised of community stakeholders and leaders;
- Completed a cultural resource survey, approved by the South Carolina Historic Preservation Office, which determined there are no significant historic or cultural resources at the site; and
- Completed Sanitary Lagoon sludge characterization activities as preparation for future lagoon closure.

DHEC also conducted an assessment of potential CFFF impacts to fish in the Congaree River. DHEC's *Uranium and Fluoride in Fish from the Congaree River Technical Report No. 007-2020* dated May 2020 concluded:

> "Overall, within the context of the point in time of sample collection, target species and analytical methods, no signal for uranium from the Westinghouse Nuclear Fuels (WNF) facility was discerned. A slight, apparent signal for fluoride was observed from the WNF facility but it was not overall statistically significant from the other locations. The target species, as indicated by the noted limitations, were indicated to be healthy from an ecological viewpoint and safe for human consumption from a public health protection viewpoint."

CFFF also performs routine environmental monitoring of gaseous and liquid effluents, surface water, groundwater, sediment, soil, vegetation and Congaree River fish tissue in addition to the activities being performed under the CA.

The focus of this report is groundwater sampling completed during October 2021 and April 2022 to meet the ongoing groundwater monitoring requirements of the National Pollution Discharge Elimination System (NPDES) Permit SC0001848 and the CA between DHEC and CFFF. Details regarding the groundwater sample collection and QA\QC procedures are contained within the AECOM *Final Remedial Investigation Work Plan* dated June 2019 (AECOM, 2019a).

This report provides an overview of the site (**Section 1**), describes the sampling activities (**Section 2**), and presents the groundwater analytical results (**Section 3**). Analysis of groundwater plume trends and statistics are discussed in **Section 4**. Conclusions and recommendations based on the results are discussed in **Section 5**. Cited references are provided in **Section 6**.

1.1 Site Location and Physical Setting

Figures 1 through 3 illustrate the site features discussed below. The primary plant building is located approximately 2,700 feet southwest of Bluff Road on the northern portion of the property. The wastewater treatment plant (WWTP) is located near the southwest corner of the plant building. Treated wastewater is piped to the Congaree River where it is discharged under NPDES permit SC0001848 from a diffuser located along the bottom of the river at a location approximately 3 miles south of the developed portion of the property.

The SCRDI Bluff Road site (formerly known as South Carolina Recycling and Disposal, Inc.) is located across Bluff Road from the northern property boundary. According to information on the internet (Justia US Law – law.justia.com, 2017), hazardous waste storage began on this property in late-1973 or early-1974, and operations ceased in 1982. This property was placed on the United States Environmental Protection Agency's (EPA) Superfund program's National Priority List in 1983. Releases at SCRDI are not known to have impacted CFFF.

The developed area of the property is approximately 130-140 feet above mean sea level (MSL). Elevations drop to approximately 110 feet above MSL immediately south of the plant/WWTP area, on the Congaree River floodplain and Mill Creek, a tributary of the Congaree River. The change in elevation occurs abruptly along a bluff that defines the southern edge of the developed portion of the property.

The Gator Pond is a manmade pond constructed prior to CFFF's development of the site. It is located approximately 500 feet southwest of the WWTP within a step-down area of the bluff (**Figures 2 and 3**). The pond does not have a constructed spillway and is fed by a combination of groundwater and precipitation. Water discharges from the pond through groundwater seepage or overland flow during periods of high precipitation.

Upper and Lower Sunset Lakes are located west and south of the pond and approximately 900 feet southwest of the WWTP (**Figures 2 and 3**). The Sunset Lakes are located within a natural oxbow of Mill Creek. A manmade dam approximately 1,700 feet south of the WWTP backs up water in Mill Creek, creating Lower Sunset Lake. A second manmade dam cuts across Mill Creek approximately 1,000 feet southwest of the WWTP, creating Upper Sunset Lake. The majority of the Mill Creek flow is diverted away from Sunset Lakes via the man-made canal (**Figure 2**) along the southern property boundary. A silty clay lines the bottom of Mill Creek, including Sunset Lakes, which inhibits the interaction of groundwater and surface water.

The southern portion of the property, including the Gator Pond, Mill Creek, and the Sunset Lakes are located within the floodplain of the Congaree River. Surface drainage at the site flows into several stormwater ditches across the property and surrounding areas. These ditches flow into Upper Sunset Lake.

1.2 Site Operational Background

The main manufacturing activity is the fabrication of low-enriched uranium (U) fuel assemblies and components for the commercial nuclear power industry. The manufacturing process generates multiple wastewater streams which are treated by various physical/chemical/biological processes including WWTP lagoons prior to discharge to the Congaree River under a NPDES permit issued by DHEC.

Releases of COPCs have occurred from the wastewater treatment system and manufacturing operations. CFFF has: assessed known releases, installed an extensive groundwater monitoring network (beginning in the early 1980s) and initiated various remediation efforts in response to the historic events. Additional comprehensive site assessment of groundwater, surface water, sediment and soils has also been completed from 2019 – 2021 under the CA. These assessment activities have concluded that environmental impacts from historical operations are largely confined to the immediate plant area and there are no offsite impacts.

1.3 Facility Operational Units

The facility has been divided into eight OUs illustrated on **Figure 4** in recognition of the different types of site activities and potential sources of impact. The OUs are identified as the Northern Storage Area, Mechanical Area of the plant building, Chemical Area of the plant building, West Lagoons Area, Wastewater Treatment Area, Sanitary Lagoon Area, Southern Storage Area and Western Storage Area. One area of concern (AOC), the "Western Groundwater AOC," was previously identified; however, work conducted during the RI concluded the groundwater impact in this area is part of the main chlorinated volatile organic compound (CVOC) plume. These OUs and the AOC were described in detail in the *Final Remedial Investigation Work Plan* dated June 2019 (AECOM, 2019a).

1.4 Geology and Hydrogeology

The CFFF is located in the Upper Coastal Plain physiographic province of South Carolina and is underlain by three hydrogeologic units: the surficial aquifer, Black Creek Aquifer, and Middendorf Aquifer.

Groundwater in the surficial aquifer occurs under unconfined (water table) conditions and generally flows from areas of higher topography in the vicinity of the plant building towards areas of lower topography in the floodplain of the Congaree River along Mill Creek. Although the river terrace sediment above and below the bluff were deposited during different time periods according to the Geologic Map of the Fort Jackson South Quadrangle (South Carolina Department of Natural Resources, 2011), the deposits are of similar lithology and are hydraulically connected based on data collected during the RI.

Surficial aquifer sediments generally occur to a depth of 30 to 40 feet below land surface, both above and below the bluff, and consist of clay, silt or silty sand at the surface coarsening downward to coarse sand and gravel on top of the Black Creek confining clay. Silt and clay lenses and lower permeability silty or clayey sands occur at varying depths with the coarsening downward sands of the surficial aquifer. One notable surficial aquifer total thickness anomaly was discovered during Phase I of the RI near the location of paired monitoring wells W-95 and W-111 (**Figure 3**) where there is over 80 feet of sediment above the Black Creek confining clay. Further assessment of this anomaly was performed during Phase II of the RI and indicated that the incisement into the Black Creek confining clay is localized to this area.

The elevation of the top of the Black Creek confining clay is undulating but is generally highest west of the plant building in the developed portion of the property and decreases radially in all directions with the lowest elevations being within the floodplain.

Groundwater monitoring wells were installed at differing depths to assess COPC migration within the surficial aquifer. Monitoring wells installed near the top or in the central portion of the surficial aquifer are designated as surficial aquifer - upper zone monitoring wells, whereas wells installed on top of or within 5 feet of the Black Creek confining clay are designated as surficial aquifer lower zone monitoring wells. One exception to the criteria above is monitoring well W-95. This well is designated as a lower zone of the surficial aquifer monitoring well because CVOCs migrating within the lower zone of the surficial aquifer are detected in groundwater from it and the Black Creek Formation is anomalously deep at this location.

There is a dynamic relationship between surface water in the ditches that transect the site above the bluff and groundwater in the upper zone of the surficial aquifer. The ditches continually or intermittently receive discharge of groundwater from the upper zone of the surficial aquifer depending on the elevation of the water table. The northern portions of the ditches are above the elevation of the seasonal high water table and thus the ditches at these locations are often dry. Runoff from precipitation that enters the dry portions of the ditches may infiltrate the water table, temporarily recharging the surficial aquifer. Wetlands along the northern side of Bluff Road are also a source of surface water in the northern portion of the Eastern Ditch during high precipitation months. The southern portions of the ditches where the ditches are deeply incised are below the water table and groundwater discharges to these portions of the ditches throughout the year. Middle portions of the ditches may recharge the shallow aquifer during low water table conditions and may receive groundwater discharge during high water table conditions. Discharge of groundwater to the deeply incised portions of the ditches appears to influence groundwater flow and COPC migration within the upper zone of the surficial aquifer.

The predominant direction of groundwater flow in the surficial aquifer is to the southwest with components of flow to the south, southeast, west, and, to a lesser extent, the north. Based upon data collected during the RI, the lower zone of the surficial aquifer near West Lagoon II (WL II) acts as a hydraulic barrier due to low permeability, the Black Creek confining clay has a north-south trending ridge, and groundwater has a westerly component of flow. These factors combined result in groundwater flow and COPC migration in the surficial aquifer in this area to be both northerly and southerly.

The Gator Pond also influences COPC migration as evidenced by COPC impacts in surficial aquifer groundwater migrating in a more easterly or westerly direction in the vicinity of the Gator Pond. This surface water body has a nearly constant elevation which creates a “groundwater mound” that deflects COPC migration to the east and west. Groundwater only discharges to the northeastern portion of the Gator Pond. Lower Sunset Lake also deflects groundwater but to a lesser extent than the Gator Pond because the low permeability clayey silt lining its bottom limits the amount of surface water seeping into the water table thereby creating a smaller “groundwater mound”.

The surficial aquifer is underlain by a confining unit composed of dry silt/clay and brittle shale of the upper Black Creek Formation. Previous well installations (W-3A, W-49 and W-50) and installation of monitoring well W-71 during Phase I of the RI (2019) indicate that the Black Creek confining clay ranges in thickness from 39 to 83 feet. Beneath the clay confining unit is a sand aquifer within the lower Black Creek Formation known as the Black Creek Aquifer. Groundwater flow in the Black Creek Aquifer is inferred to the southwest based upon groundwater elevations from the four monitoring wells that are screened within this aquifer.

The Middendorf Formation occurs below the Black Creek Formation. Sediments of the Middendorf Formation generally consist of multi-colored clay interbedded with fine to coarse grained sand. Subsurface investigations at CFFF have not extended into the Middendorf aquifer since there is no potential that it has been impacted. The Middendorf aquifer is unconformably underlain by bedrock.

Hydraulic characterization by AECOM Technical Services, Inc. (AECOM) estimated the average linear flow velocity in the surficial aquifer to be 0.41 feet per day or 150 feet per year (AECOM, 2022). Low moisture content and vertical hydraulic conductivities of less than 10^{-7} centimeters per second (S&ME, 1982) within the 39 to 83 foot thickness of the Black Creek confining clay preclude migration of groundwater between the surficial aquifer and the Black Creek Aquifer which in turn precludes potential migration to the Middendorf Aquifer.

2. Groundwater Monitoring

The current monitoring well network consists of 118 wells which are displayed on **Figure 3**. Construction details of the wells are summarized on **Table 1**. Fall 2021 semi-annual sampling activities were completed during October 2021 and Spring 2022 semi-annual sampling activities were completed in April 2022 by AECOM and CFFF personnel. Monitoring activities were conducted in accordance with the requirements of the site's NPDES permit and by the procedures described in the *Final Remedial Investigation Work Plan* (AECOM, 2019a).

The depth to water in the monitoring wells was measured using electronic water level meters on October 4, 2021 and April 1, 2022. The water levels were converted to elevations and used to create potentiometric maps (**Figures 5-10**) of the aquifer zones discussed in **Section 3.1** below.

The monitoring wells were purged by low flow methodology using a peristaltic pump and water levels were monitored during purging. Groundwater quality indicator parameters of pH, specific conductance, dissolved oxygen, oxidation-reduction potential, turbidity, and temperature were monitored during the groundwater purging process and recorded on the Groundwater Sampling Logs, which are included in **Appendix A**. For the last several groundwater sampling campaigns, AECOM and CFFF personnel have been using tablets and In-Situ's Aqua Troll 600s equipped with Bluetooth technology to electronically collect water quality parameters. During this time, hard copy groundwater sample collection records were used as the official record. After minor issues were worked out during the initial deployment of this technology followed by multiple successful campaigns were conducted, CFFF personnel conducted a validation effort of the electronic data versus the hard copy and found that both records were identical. As a result, CFFF discontinued the use of hard copy forms during the April 2022 groundwater sampling campaign. Samples were collected once the parameters had stabilized in accordance with the low-flow sampling procedure in the *Final Remedial Investigation Work Plan* (AECOM, 2019a).

Upon collection, groundwater samples were labeled, preserved on ice, and kept under chain-of-custody protocol until received at the analytical laboratory. The groundwater samples were analyzed by one of the following DHEC certified laboratories: 1) Pace Analytical Services, LLC (formerly known as Shealy Environmental Services, Inc.), 2) GEL Laboratories, LLC, and the 3) Westinghouse Chemical Laboratory as appropriate for the following analyses:

- Volatile organic compounds by EPA Method 8260D;
- Nitrate by EPA Method 353.2;
- Ammonia by EPA Method 350.1;
- Fluoride by EPA Method 9056A;
- Gross Alpha by EPA Method 900.0;
- Gross Beta by EPA Method 900.0;
- Tritium by EPA 906.0 (Modified);
- Isotopic U by DOE EML HASL-300 (U-02-RC Modified);
- Isotopic U by EPA Method 200.8/200.2; and
- Tc-99 via DOE EML HASL-300 (Tc-02-RC Modified).

Laboratory analytical reports and chain-of-custody forms are included in **Appendix B**.

CFFF is transitioning from monitoring groundwater for gross alpha and gross beta to monitoring for isotopic U and Tc-99. Gross alpha and gross beta are typically used as screening parameters because they can represent various radionuclide components. In the past, action levels were established for gross alpha and gross beta whereby additional contingent analyses were initiated for isotopic U and Tc-99 if the action levels were exceeded. Results below the action levels would not have been further speciated, thus calling to question whether the low detection of gross alpha or gross beta was a result of site activities or other circumstances such as natural radionuclide presence. CFFF has continued to monitor for gross alpha and gross beta to comply with its existing NPDES permit and former special nuclear material license. However, the site reviews speciated results for isotopic U and Tc-99 to evaluate radionuclide impact in groundwater from site operations.

3. Results

The following sections summarize the results of the groundwater monitoring performed in October 2021 and April 2022.

3.1 Groundwater Flow

The water level measurements on October 4, 2021 and April 1, 2022 were converted to water level elevations using existing monitoring well top-of-casing elevation data and are summarized in **Table 2**. The water level elevations from monitoring wells screened in the upper zone of the surficial aquifer, in the lower zone of the surficial aquifer, and in the Black Creek Aquifer were used to prepare the potentiometric maps for the surficial aquifer and Black Creek Aquifer for the October 2021 and April 2022 monitoring periods (**Figures 5 through 10**).

3.1.1 Surficial Aquifer

Based on the surficial aquifer potentiometric maps for October 4, 2021 and April 1, 2022, groundwater flow in the unconfined upper zone of the surficial aquifer (**Figures 5 and 6**, respectively) and lower zone of the surficial aquifer (**Figures 7 and 8**, respectively) is generally to the southwest with components of flow to the west and south. These surficial aquifer potentiometric contours and flow directions are similar to previous results.

3.1.2 Black Creek Aquifer

Based on the Black Creek Aquifer potentiometric maps for October 4, 2021 and April 1, 2022 (**Figures 9 and 10**, respectively), groundwater flow in the Black Creek Aquifer is to the southwest. The Black Creek Aquifer potentiometric contours and flow directions are similar to previous results.

3.2 Groundwater Quality

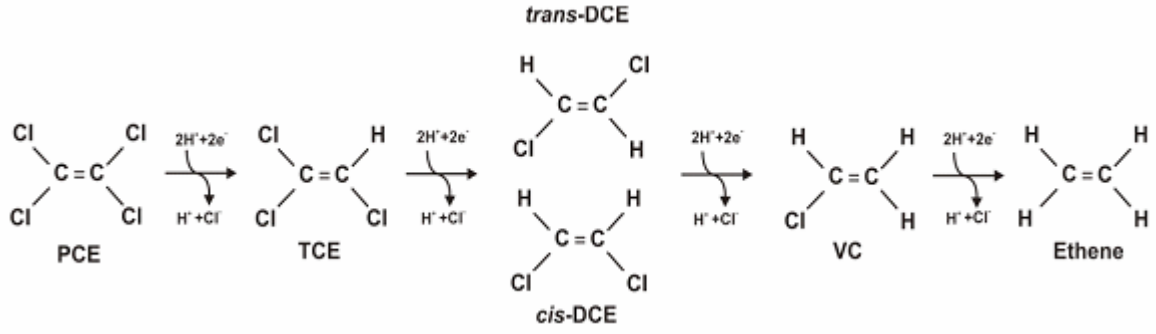
Groundwater sampling indicator parameters measured in the field during the well purging and sampling are presented in Table 3. The groundwater sampling logs are included in **Appendix A**. Laboratory analytical reports are included in **Appendix B** and the analytical results for the monitoring wells are summarized in **Table 4**. Historic analytical results are summarized in **Table C-1** which is in **Appendix C**.

In last year's annual report, plume analytics replaced COPC-specific graphs depicting concentrations over time in select wells. CFFF desires to fully understand trends across the entire groundwater plumes and instructed AECOM to analyze each plume holistically. Plume analytics is a tool to evaluate the entire plume's dynamics versus evaluation at a discrete monitoring location. Plume analytics are discussed in **Section 4** and in **Appendix D**.

Based on the results of the comprehensive RI (AECOM, 2022), COPCs in groundwater are CVOCs, nitrate, fluoride, U, and Tc-99. Currently, there is no evidence that there are ongoing releases of COPCs.

3.2.1 Chlorinated Volatile Organic Compounds

Four CVOCs (PCE, tricholoroethylene [TCE], cis-1,2-dicholoroethene [cis-1,2-DCE], and vinyl chloride [VC]) were detected in the upper and lower zones of the surficial aquifer. Chlorinated ethenes such as PCE can undergo biotic (biological) and abiotic (physical) transformations under both aerobic and anaerobic conditions. Natural, biotic degradation of PCE to produce daughter products at CFFF follows the reductive dechlorination pathway. This pathway is as follows:



(Source: Parsons Corporation, 2004)

CVOCs were not detected in the groundwater samples collected from the Black Creek aquifer monitoring wells.

3.2.1.1 Tetrachloroethylene

PCE was detected in groundwater at concentrations at or above its MCL of 5.0 micrograms per liter (µg/L) in groundwater from 27 of the 114 surficial aquifer monitoring wells in both October 2021 and April 2022 (**Table 4**). There are two PCE plumes at CFFF contained within the property in the surficial aquifer. These CVOC plumes are generally referred to as the main plume and the southern plume. These plumes are depicted on **Figures 11 through 14**. PCE was not detected in groundwater samples from the four Black Creek monitoring wells.

Upper Zone of the Surficial Aquifer

Figures 11 and 12 illustrate the PCE concentrations in the upper zone of the surficial aquifer during the October 2021 and April 2022 sampling periods, respectively. The highest PCE concentrations in upper zone of the surficial aquifer wells were from wells W-39, W-41R, and W-66 in the main PCE plume at concentrations ranging from 160 µg/L to 780 µg/L.

The main PCE plume in the upper zone of the surficial aquifer appears to emanate from an area between West Lagoon II (WLII) and the plant building. Work conducted during Phase II of the RI concluded that there is no longer a vadose zone source for this groundwater impact. PCE is no longer used at CFFF; therefore, additional CVOC impacts to groundwater are not possible. As discussed in **Section 1.4**, groundwater and COPCs migrate both to the north and south in the surficial aquifer in the vicinity of WL II before migrating in the predominant southwesterly flow direction. This results in a horseshoe shaped main PCE plume in the surficial aquifer – upper zone.

The southern PCE plume in the surficial aquifer – upper zone is located from the southern extent of the developed area at the bluff and extends to the southeast below the bluff barely into the floodplain near monitoring well W-97. PCE was not formerly used in the vicinity of these wells. It is believed that the PCE in the southern plume in the surficial aquifer - upper zone near the bluff may be part of the PCE plume in the surficial aquifer – lower zone, rather than the result of a source in the southern area of the plant near the bluff.

Lower Zone of the Surficial Aquifer

Figures 13 and 14 illustrate the PCE concentrations in the lower zone of the surficial aquifer during the October 2021 and April 2022 sampling periods, respectively. The main PCE plume is the only plume present in the lower zone of the surficial aquifer and was observed directly west of the facility in the same area as the main PCE plume observed in the upper zone of the surficial aquifer, however with a greater aerial extent. The highest PCE concentrations in the lower zone of the surficial aquifer was from wells W-33, W-48, W-65, and W-RW2 in the main PCE plume at concentrations ranging from 150 µg/L to 340 µg/L.

The highest PCE concentrations in the main plume in the lower zone of the surficial aquifer appears to emanate from an area between WLII and the plant building and migrates to the north, west, southwest and south resulting in a horseshoe shape similar to the upper zone of the surficial aquifer. Additionally, a third lobe of the main plume in the lower zone of the surficial aquifer containing lower PCE concentrations appears to emanate from the southern end of the plant building. Work conducted during the RI concluded that the Solvent Extraction Area located in the southwestern portion of the plant is the likely source for this PCE impact to groundwater.

3.2.1.2 Trichloroethylene

TCE was detected in groundwater at concentrations at or above its MCL of 5.0 µg/L from 11 and 13 of the 114 surficial aquifer monitoring wells in October 2021 and April 2022 (**Table 4**), respectively. There are three TCE plumes at CFFF in the surficial aquifer. These CVOC plumes are generally referred to as the main plume, the northern plume near the southwest corner of the plant building, and the southern plume. These plumes are depicted on **Figures 15 through 18**. TCE was not detected in groundwater samples from the four Black Creek monitoring wells.

Upper Zone of the Surficial Aquifer

The upper zone of the surficial aquifer main and southern TCE plumes are in the same general locations as the corresponding PCE plumes but with a smaller aerial extent during the October 2021 and April 2022 sampling periods (**Figures 15 and 16**, respectively). TCE exceeded the MCL in groundwater samples from monitoring well W-66 in the main TCE plume during the April 2022 sampling campaign only and in monitoring well W-41R in both October 2021 and April 2022. The northern TCE plume exists as a TCE only plume near the southwestern corner of the plant building where the TCE MCL was exceeded in monitoring wells W-38 (April 2022 only) and W-76. In the southern plume, TCE's MCL was exceeded in groundwater from monitoring well W-67 only. TCE concentrations in these plume areas ranged from 7.4 µg/L to 26 µg/L.

Lower Zone of the Surficial Aquifer

In the lower zone of the surficial aquifer, the main TCE plume was observed directly west of the facility extending in a southwestern direction in the same general location as the main PCE plume (**Figures 17 and 18**, respectively). Groundwater from monitoring wells W-33, W-65, W-87, W-102, and W-RW2 in the main TCE plume contained concentrations of TCE above the MCL. TCE exceeded the MCL in the northern TCE plume in groundwater from monitoring well W-102. The southern plume in the lower zone of the surficial aquifer is represented by TCE MCL exceedances in groundwater from monitoring wells W-103 and W-123. The TCE MCL was exceeded in groundwater at concentrations ranging from 5.2 µg/L to 41 µg/L.

3.2.1.3 Cis-1,2-Dichloroethene

Concentrations of cis-1,2-dichloroethene (cis-1,2 DCE) did not exceed the MCL of 70 µg/L in groundwater within the monitoring well network in October 2021 and April 2022 (**Table 4**). Cis-1,2-DCE was detected at concentrations ranging from 1.0 µg/L to 48 µg/L in groundwater from 20 and 16 of the 114 surficial aquifer monitoring wells during the October 2021 and April 2022 sampling periods, respectively.

3.2.1.4 Vinyl Chloride

Concentrations of VC exceeded its MCL of 2 µg/L in groundwater from monitoring wells W-95 and W-107 concentrations ranging from of 3.6 to 4.2 µg/L during the October 2021 and April 2022 sampling periods (**Figures 19 and 20**, respectively). Both well locations are on the southern side of Upper and Lower Sunset Lakes. The presence of VC in groundwater from these two wells indicates that reductive dechlorination, as described in **Section 3.2.1**, from PCE on the northern side of Sunset Lakes to VC on the southern side is occurring within the floodplain. Concentrations of VC were not detected in groundwater above the bluff.

3.2.2 Semi-Volatile Organic Compounds

Semivolatile organic compounds were not detected in groundwater above MCLs in the monitoring well network (**Table C1** in **Appendix C**).

3.2.3 Nitrate

Nitrate was detected in groundwater at concentrations at or above its MCL of 10 milligrams per liter (mg/L) from 23 of and 27 of the 114 surficial aquifer monitoring wells in October 2021 and April 2022 (**Table 4**), respectively. **Figures 21 and 22** illustrate the nitrate concentrations for the October 2021 and April 2022 sampling periods, respectively. The highest nitrate concentrations were observed in the groundwater collected from surficial aquifer – lower zone monitoring well W-18R near the southwest corner of the South Lagoon at concentrations of 550 mg/L and 340 mg/L during the October 2021 and April 2022 sampling periods, respectively.

The aerial extent of the nitrate plume is primarily in the area of the facility WWTP and extends to areas to the west, southwest, and south. Nitrate was detected in groundwater from one Black Creek Aquifer monitoring well (W-50) below its MCL at a concentration of 0.081 mg/L in April 2022. Nitrate is a naturally occurring compound and the detected concentration in monitoring well W-50 is orders of magnitude below the MCL indicating that this detection is not the result of facility operations.

3.2.4 Fluoride

Fluoride was detected at concentrations at or above its MCL of 4 mg/L in groundwater from 13 of the 114 surficial aquifer monitoring wells in both October 2021 and April 2022 (**Table 4**). Fluoride is a naturally occurring element and many of the detected concentrations in groundwater were orders of magnitude below the MCL indicating that these detections are not likely resulting from facility operations. **Figures 23 and 24** illustrate the fluoride concentrations for the October 2021 and April 2022 sampling events, respectively.

The greatest fluoride concentrations were observed in the groundwater from upper zone of the surficial aquifer well W-77 at concentrations of 14.8 mg/L and 15 mg/L during the October 2021 and the April 2022 sampling period, respectively. The fluoride plume exceeding the MCL in the surficial aquifer is primarily south of the plant building and in the vicinity of the WWTP. This plume extends to the south and southwest towards the Upper and Lower Sunset Lakes.

Fluoride was detected in groundwater from the four Black Creek Aquifer monitoring wells during the October 2021 sampling period below its MCL at concentrations ranging from 0.01 mg/L to 0.086 mg/L (J flagged estimated concentrations) which are orders of magnitude below its MCL. The natural occurrence of fluoride and these detections being orders of magnitude below the MCL indicate that these concentrations are not the result of facility operations.

3.2.5 Uranium

Total U was detected in groundwater at concentrations at or above its MCL of 30 µg/L from 3 of the 114 surficial aquifer monitoring wells in both October 2021 and April 2022 (**Table 4**). The exceedance of the groundwater MCL for U is localized to two areas adjacent to the plant building, one area on the west side of the building near the southwest corner (monitoring wells W-55 and W-56) and another area on the south side of the building (monitoring well W-77). The plume associated with monitoring wells W-55 and W-56 is referred to as the northern plume and the plume associated with monitoring well W-77 is referred to as the southern plume. **Figures 25 and 26** illustrate the total U concentrations detected during the October 2021 and the April 2022 sampling periods, respectively.

The highest total U concentrations of 143 µg/L and 178 µg/L were detected in groundwater from monitoring well W-56 during the October 2021 and April 2022 sampling events, respectively. The next closest downgradient well, monitoring well W-73, is approximately 50 feet away from monitoring well W-56 and contains total U at concentrations slightly above 0.1 µg/L. Similarly, monitoring well W-28 is approximately 50 feet downgradient of monitoring well W-77 and contains U concentrations of 2.08 µg/L and 0.697 µg/L during the October 2021 and April 2022 sampling events, respectively.

U-238 was detected in groundwater from the four Black Creek aquifer monitoring wells at concentrations below its MCL and below the laboratory minimum detectible concentration (J flagged estimated concentrations) ranging from 0.0700 µg/L to 0.184 µg/L. U occurs naturally in groundwater in South Carolina and U-238 was the only U isotope in the Black Creek wells during the October 2021 and April 2022 groundwater sampling campaigns. A study performed in the Aiken, SC and Augusta, GA area reported an average background groundwater U concentration from private water supply wells of 0.35 µg/L (Westinghouse Savannah River Company, 1992). Another study of state-wide groundwater analytical results from private water supply wells using statistical analysis predicted an average background groundwater U concentration of 1.26 µg/L (Wagner, S.E., et al). Private water supply wells are typically installed in the aquifer below the surficial aquifer (e.g. the Black Creek Aquifer at CFFF). The total U detected in groundwater from the Black Creek wells is typical of regional background concentrations and not likely the result of facility operations.

3.2.6 Technetium-99

Tc-99 was detected above its MCL of 900 picocuries per liter (pCi/L) in the groundwater samples collected from two surficial aquifer monitoring wells (W-6 and W-11) in both October 2021 and April 2022. **Figures 27 and 28** illustrate the Tc-99 concentrations detected during the October 2021 and the April 2022 sampling periods, respectively. Tc-99 concentrations detected in groundwater from monitoring wells W-6 and W-11 ranged from 948 pCi/L to 2,500 pCi/L from October 2021 to April 2022. The aerial extent of the Tc-99 exceeding the MCL is within the WWTP area and the Southern Storage Area. The aerial extent of the Tc-99 plume at concentrations below the MCL extends from the WWTP area toward the west, southwest, and southeast. Tc-99 was not detected in groundwater samples from the four Black Creek monitoring wells.

3.2.7 Other Monitoring Requirements

Tritium is not a COPC for the CFFF site. CFFF is a fuel fabrication facility that manufactures nuclear fuel and components which do not contain tritium. Tritium is a byproduct of a nuclear criticality that is produced after the nuclear fuel is irradiated in a nuclear reactor at the CFFF's customer site.

As required by the NPDES permit, CFFF includes analysis for tritium in groundwater samples from 20 monitoring wells. Based on the laboratory results, tritium was not detected above the laboratory minimum detectible concentration during any of the 2015-2022 monitoring periods (**Table 4** and **Appendix C**). The laboratory results further demonstrate that tritium is not present in groundwater at CFFF as the result of fuel manufacturing activities.

4. Plume Analytics

The objective of the plume analytics program is to evaluate the behavior over time of COPCs in groundwater that supports evaluation of plume stability and groundwater monitoring and management strategies. Plume analytics assumes a plume is defined and bounded and requires at least four unique time snapshots of a plume as determined by concentration data from a groundwater monitoring well network. Ideally, plume analytics are performed after the investigation phase is complete and groundwater monitoring is ongoing. Once a monitoring well network is established, the network should be evaluated periodically over time to understand plume behavior and generate statistically defensible conclusions about the stability of the plume.

Evaluation of plume behavior is accomplished by defining three plume characteristics, the plume area, the contaminant dissolved mass in the plume, and the average contaminant concentration in the plume over time. Trends in these plume metrics are evaluated over time using the Mann-Kendall statistic test to estimate plume stability. These results are used to assess if a plume is increasing, decreasing, or stable for a specified range of time. When used for long term monitoring, plume analytics can be used to optimize the well network in conjunction with well analytics (evaluating trends in a single well). The results of plume analytics have been integrated into the CFFF conceptual site model for additional support in monitoring network optimization and remediation effectiveness. Additionally, site procedures RA-434, Environmental Data Management and RA-433, Environmental Remediation are followed to ensure any other necessary actions are implemented. Groundwater and other media with environmental impact from historical site operations will be evaluated as part of the Feasibility Study under the CA.

4.1 Plume Analytics Methodology

An analysis of plume behavior was performed similar to the procedures introduced in the previous annual report (AECOM, 2021). For this report, concentration data from five groundwater sampling campaigns were evaluated as part of the plume behavior analysis (April 2020, October 2020, April 2021, October 2021, and April 2022). As required to evaluate trends in plume metrics, a consistent set of groundwater monitoring wells was used to estimate the plume metrics for each sampling event within the evaluation period (2020 to 2022). Use of a consistent well network allows for comparison of plume metrics and evaluation of trends. If sampling locations are not consistent over the evaluation period, the plume metrics could be skewed and result in a less accurate interpretation of the overall plume behavior trends. Thus, groundwater monitoring wells added to the monitoring network during Phase II of the RI (after 2020) were excluded from this analysis. However, once four consecutive sampling events are completed with the new monitoring wells, the results from the new groundwater monitoring well locations will be included and incorporated into the plume behavioral analysis.

Temporal trends in concentrations of COPCs in each groundwater monitoring well were not evaluated during this analysis since behavior at individual wells may not be representative of overall plume behavior. For the plume analytics, Surfer® was used to estimate isoconcentration contours for each sampling event and COPC. The contours are used to calculate plume metrics that include the area, dissolved mass, and average concentration within the plume defined by a user-assigned threshold concentration. The MCL for each COPC was used as the threshold concentration. Statistically significant (95% confidence) trends in the plume metrics are estimated using the Mann-Kendall (MK) statistic test. The trends in the plume metrics are used to estimate overall plume behavior during the evaluation period. A description of the procedures and methods used to calculate the plume metrics for each COPC and evaluate trends is provided in **Appendix D**.

4.2 Plume Analytics Results

The results of the plume analytics for each COPC are summarized here.

PCE

Two plumes (lower and upper zones of the surficial aquifer as described in Section 3.2.1.1) were evaluated for PCE at its MCL of 5 ug/L. Trends in the plume metrics show that the PCE plumes are primarily stable with a decreasing trend in the dissolved mass in the upper zone. Although the average concentration of PCE is slightly greater in the upper zone, the dissolved mass and plume area are approximately 2.3 and 2.6 times greater, respectively, in the lower zone during the evaluation period (2020 to 2022).

TCE

Two plumes (lower zone and upper zone as described in **Section 3.2.1.2**) were evaluated for TCE at its MCL of 5 ug/L. In the upper zone, the trends in TCE plume metrics have Mann-Kendall statistics values slightly greater than zero indicating a potential trend of increasing values but the confidence is less than 95% so no trend is determined. In the lower zone, dissolved mass and average concentration are decreasing and the plume area is stable indicating the plume is stable and likely decreasing. All three plume metrics are much greater in the lower zone than in the upper zone during the evaluation period.

Nitrate

The nitrate plume was defined by its MCL of 10 mg/L. Even though the area of the nitrate plume did not have a statistically significant trend (no trend), the average concentration decreased and the dissolved mass was stable indicating the plume is stable and likely decreasing.

Fluoride

The fluoride plume was defined by its MCL of 4 mg/L. No trends were observed in the fluoride plume metrics. Note that the average fluoride concentrations within the plume were slightly greater than the MCL (4 mg/L) and ranged from 5.8 to 7.3 mg/L during the evaluation period.

Uranium

Two uranium plumes (northern and southern plumes as described in **Section 3.2.5**) are delineated in groundwater at the MCL of 30 ug/L based on two likely separate and distinct source areas. Even though the total area of the two uranium plumes did not have a statistically significant trend (no trend), the average concentration and the dissolved mass in the plumes were stable indicating the plumes are stable.

Tc-99

The Tc-99 plume was defined by its MCL of 900 pCi/L. All three plume metrics for Tc-99 have a decreasing trend over the evaluation period (2020 to 2022) indicating the Tc-99 plume is decreasing in area, dissolved mass, and average activity.

5. Conclusions and Recommendations

5.1 Conclusions

The following conclusions are based upon review of the groundwater monitoring data collected during October 2021 and April 2022 sampling periods:

- Groundwater flow in the unconfined surficial aquifer is generally to the southwest with components of flow to the west and south. These surficial aquifer potentiometric contours and flow directions are similar to previous results. As documented in the RI Report (AECOM, 2022) and **Section 1.4**, the surface water bodies also influence groundwater flow on a localized basis. Groundwater flow in the Black Creek Aquifer is generally to the southwest. The Black Creek Aquifer potentiometric contours and flow directions are similar to previous results.
- CVOCs detected during October 2021 and April 2022 exceeding MCLs were primarily PCE and, to a lesser extent, TCE. Two additional breakdown products of PCE reductive dechlorination, cis-1,2 DCE and VC, were detected in groundwater at the CFFF site at concentrations below the MCL for cis-1,2 DCE and above the MCL for VC. Trans-1,2-Dichloroethene was not detected in groundwater from the monitoring wells.
- The groundwater analytical results indicate that there are PCE and TCE groundwater plumes in the upper and lower zones of the surficial aquifer west and south of the plant building and in the surficial aquifer - upper zone south of the plant building. The CVOC plumes have been referred to as the main plume, southern plume, and northern plume.
- The main CVOC plume appears to emanate from a source(s) between the plant building and WL2. Elevated PCE concentrations in the main CVOC plume extend from the surficial aquifer – upper zone to the surficial aquifer - lower zone. What was previously referred to as the Western Groundwater AOC is part of the main plume as documented in the RI Report (AECOM, 2022). Concentrations of TCE above its MCL occur primarily in the surficial aquifer – lower zone but are documented in the surficial aquifer – upper zone to a lesser extent.
- Nitrate concentrations during October 2021 and April 2022 exceeding MCLs were in areas west, southwest, and south of the WWTP. The highest nitrate concentrations were observed in the groundwater samples collected from surficial monitoring wells south of the South and Sanitary Lagoons of the WWTP.
- Fluoride concentrations during October 2021 and April 2022 exceeding MCLs were in areas south of the plant building and south and southwest of the WWTP. The highest fluoride concentrations were observed in the groundwater samples collected from monitoring well W-77 located south of the plaint building.
- U concentrations exceeded the MCL during the October 2021 and April 2022 in three surficial monitoring wells located near the southwest side of the facility building (W-55 and W-56) and one monitoring well (W-77) located near the south end of the building. The exceedance of the U MCL in groundwater is localized near the plant building and is delineated by the existing monitoring well network.
- Tc-99 concentrations exceeded the MCL during October 2020 and April 2021 in two surficial aquifer – lower zone monitoring wells (W-6 and W-11) at decreasing concentrations.
- Based upon historical and current groundwater analytical results and assessment work completed during the RI from June 2019 through October 2021, the source, nature and extent of impacts from historical operations have been well defined. No off-site impacts of COPCs are known to have occurred, the groundwater impacts are fully defined within the central portion of the facility and are anticipated to remain within the property boundary.

5.2 Recommendations

Based upon the above conclusions, continued semiannual monitoring in accordance with the NPDES Permit and systematic completion of the CA is recommended. As additional groundwater quality data is collected from the same monitoring well network, the certainty of the statistical plume analytics trend analyses is expected to improve. Therefore, it is recommended that plume analytics be performed on an annual basis to assess the trends in the plume area, concentration, mass and center of mass. The next groundwater sampling periods are Fall 2022 and Spring 2023.

6. References

AECOM, 2019. Final Remedial Investigation Work Plan, Westinghouse Columbia Fuel Fabrication Facility, 5801 Bluff Road, Hopkins, South Carolina, June 2019.

AECOM, 2021. 2020/2021 Annual Groundwater Monitoring Report, Columbia Fuel Fabrication Facility, Hopkins, Richland County, South Carolina, Westinghouse Electric Company, LLC, August 2022.

AECOM, 2022. Remedial Investigation Report, Columbia Fuel Fabrication Facility, 5801 Bluff Road, Hopkins, Richland County, South Carolina, Westinghouse Electric Company, LLC, September 2021.

JUSTIA US Law website (USA/SCDHEC vs SCRDI et al. lawsuit), http://law.justia.com/cases/federal/district-courts/FSupp/653/984/2400694/, reviewed by Mr. Jeremy Grant of AECOM on September 24, 2017.

Leidos, 2020. Columbia Fuel Fabrication Facility, Tc-99 Source Investigation Report, July 2020.

S&ME, 1982. Ground-Water Hydrology of the Westinghouse Electric Corporation Plant, Richland County, South Carolina, March 1, 1982.

Tables

Figures

Appendix A
Groundwater Sample Collections Records

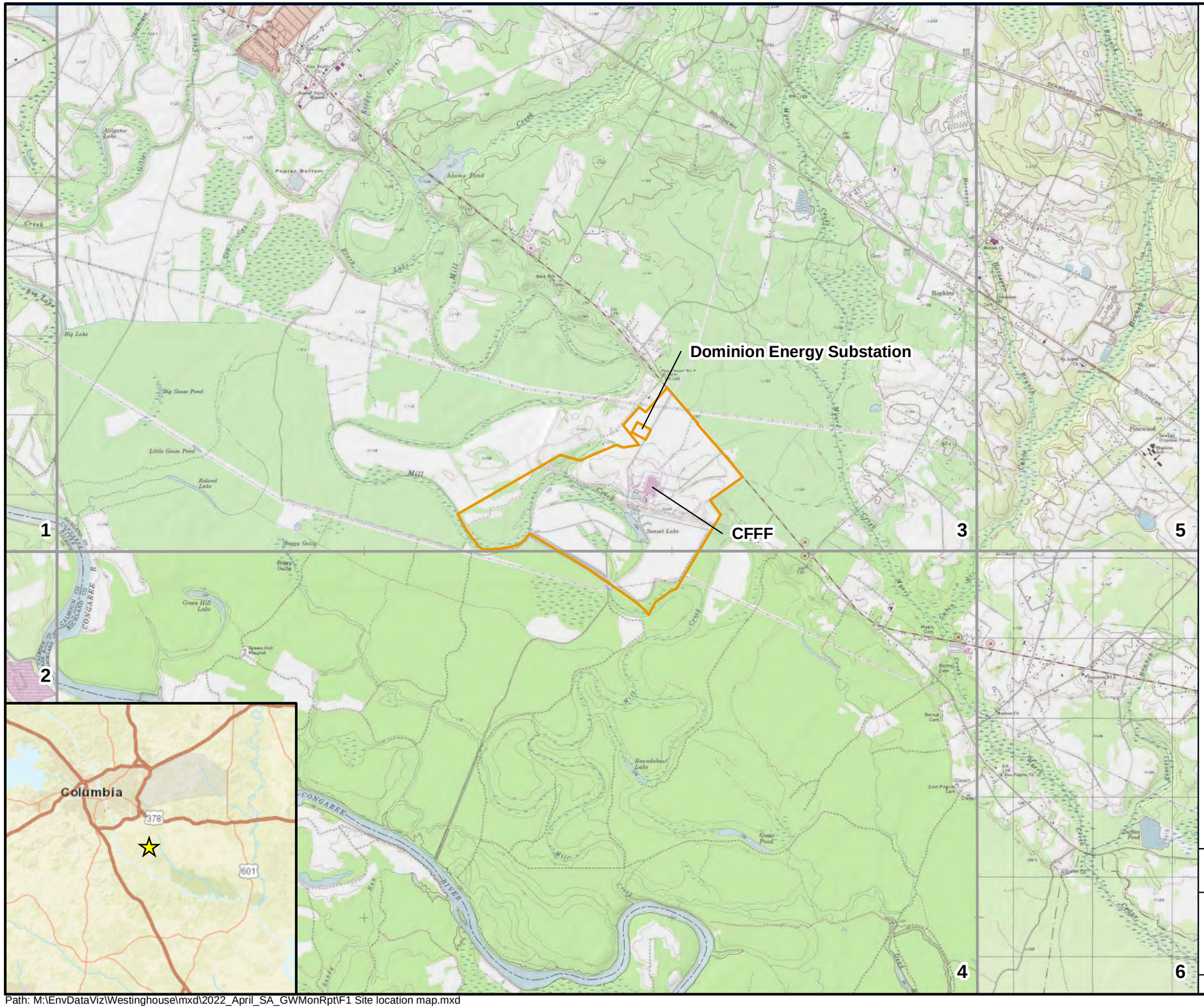
Appendix B
Laboratory Analytical Reports

Appendix C
Historical Groundwater Analytical Results

Appendix D
Plume Analytics Technical Memo

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle – from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of $13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.

Figures



Legend

Locations

- Property Line
- Topographic Quadrangle Boundary

ID	Topographic Quadrangle Name
1	Southwest Columbia
2	Gaston
3	Fort Jackson South
4	Saylors Lake
5	Congaree
6	Gadsden

0 2,000 4,000 Feet

1:48,000

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

Data Source: Esri/USGS

N

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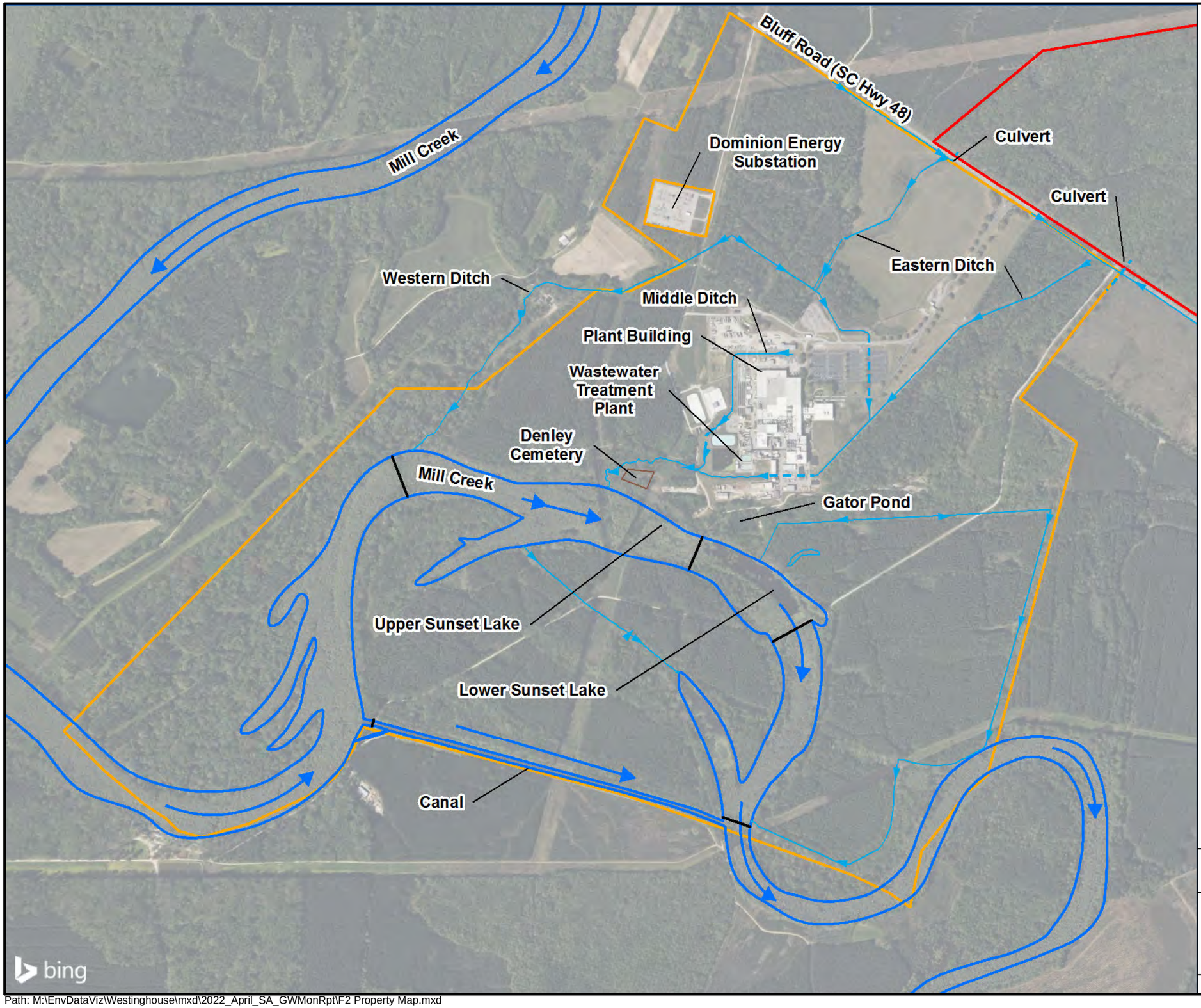
Site Location Map

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 1**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F1 Site location map.mxd



Legend

- Mill Creek Flow Direction
- Ditch
- Culvert
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Mill Creek
- Dike Location

0 500 1,000 Feet

1:12,000

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Property Map

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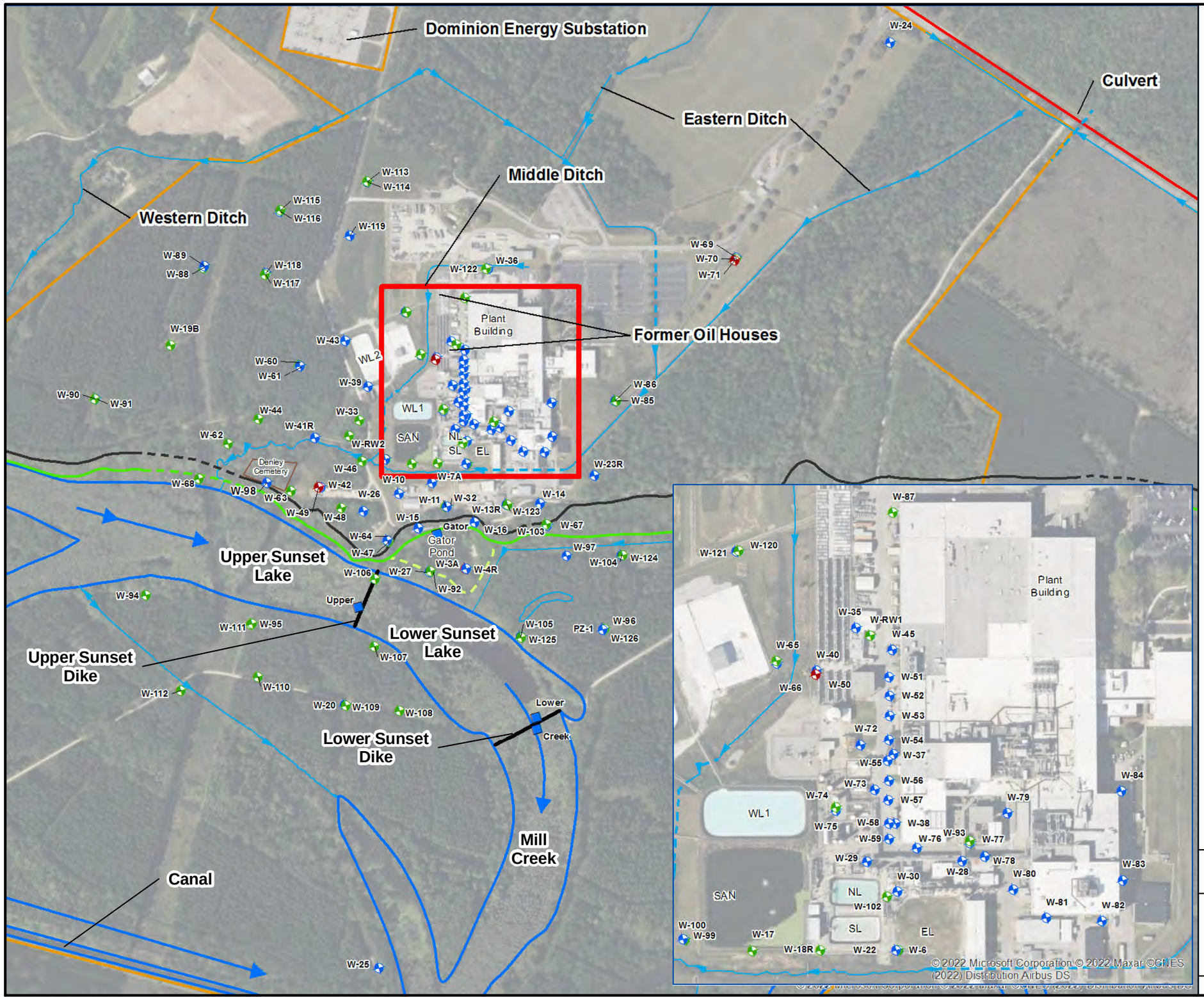

Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Staff Gage Location
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area

EL	Former East Lagoon
NL	North Lagoon
SL	South Lagoon
SAN	Sanitary Lagoon
WL1	West Lagoon I
WL2	West Lagoon II

0 300 600 Feet

1:7,200

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Site Map

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PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 3**

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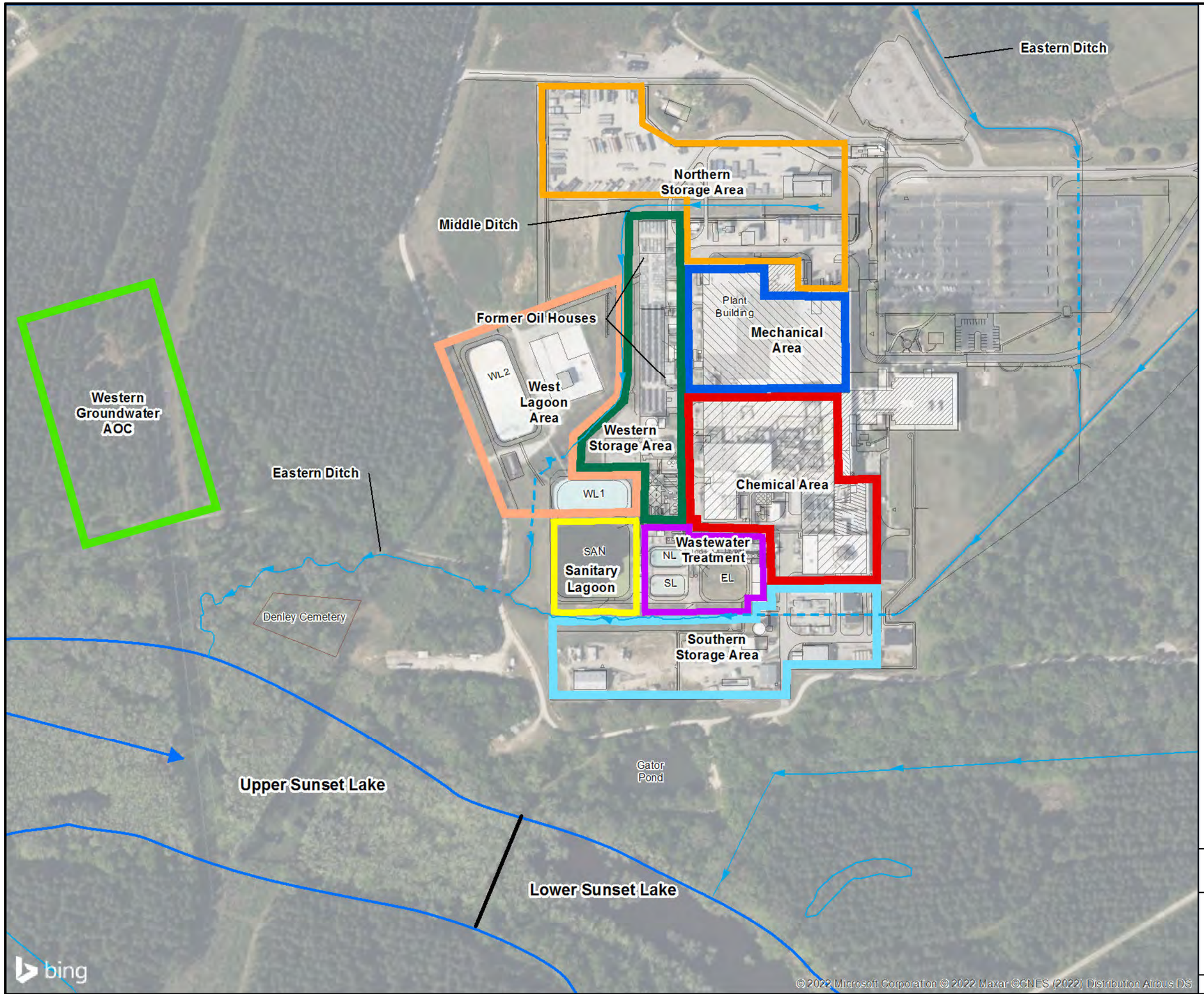

Legend

- Ditch
- Culvert
- Mill Creek Flow Direction
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon I
- WL2 West Lagoon II
- Mill Creek
- Dike Location

Operable Units

- Chemical Area
- Mechanical Area
- Northern Storage Area
- Sanitary Lagoon Area
- Southern Storage Area
- Wastewater Treatment Area
- West Lagoons Area
- Western Storage Area
- Western Groundwater AOC

0 150 300 Feet

1:3,600

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Operational Units Map

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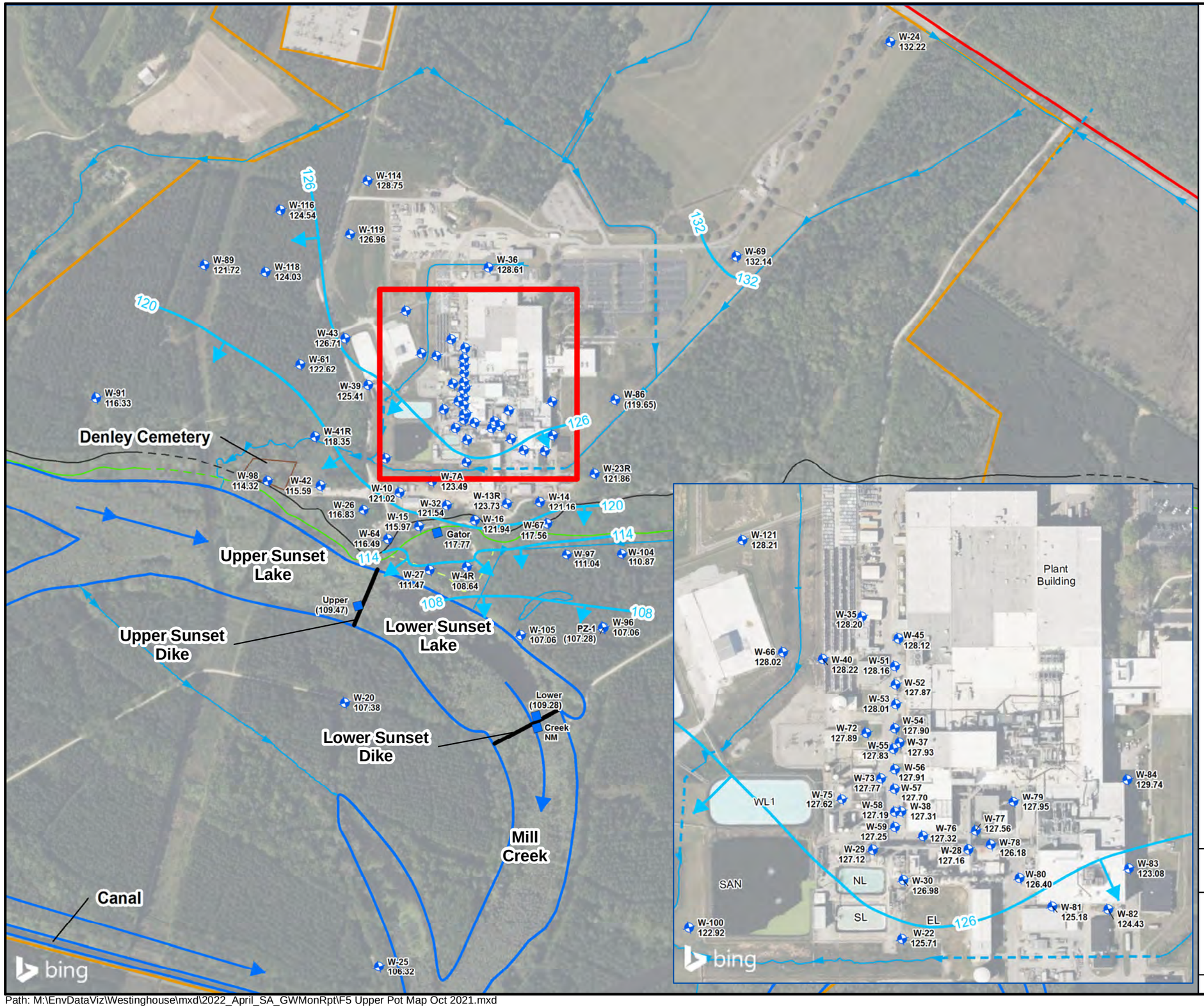

Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Mill Creek
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Culvert
- Ditch
- Mill Creek Flow Direction
- Dike Location
- Staff Gauge Location
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon I
- WL2 West Lagoon II
- Potentiometric Line (C.I. = 6 feet)
- Direction of Groundwater
- 129.74 Groundwater Elevation
- (119.65) Elevation for illustrative purposes only

Based upon data collected on October 4, 2021

0 300 600 Feet

1:7,200

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

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Surficial Aquifer - Upper Zone Potentiometric Map October 2021

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60641050	CCS	August 2022	**FIGURE 5**

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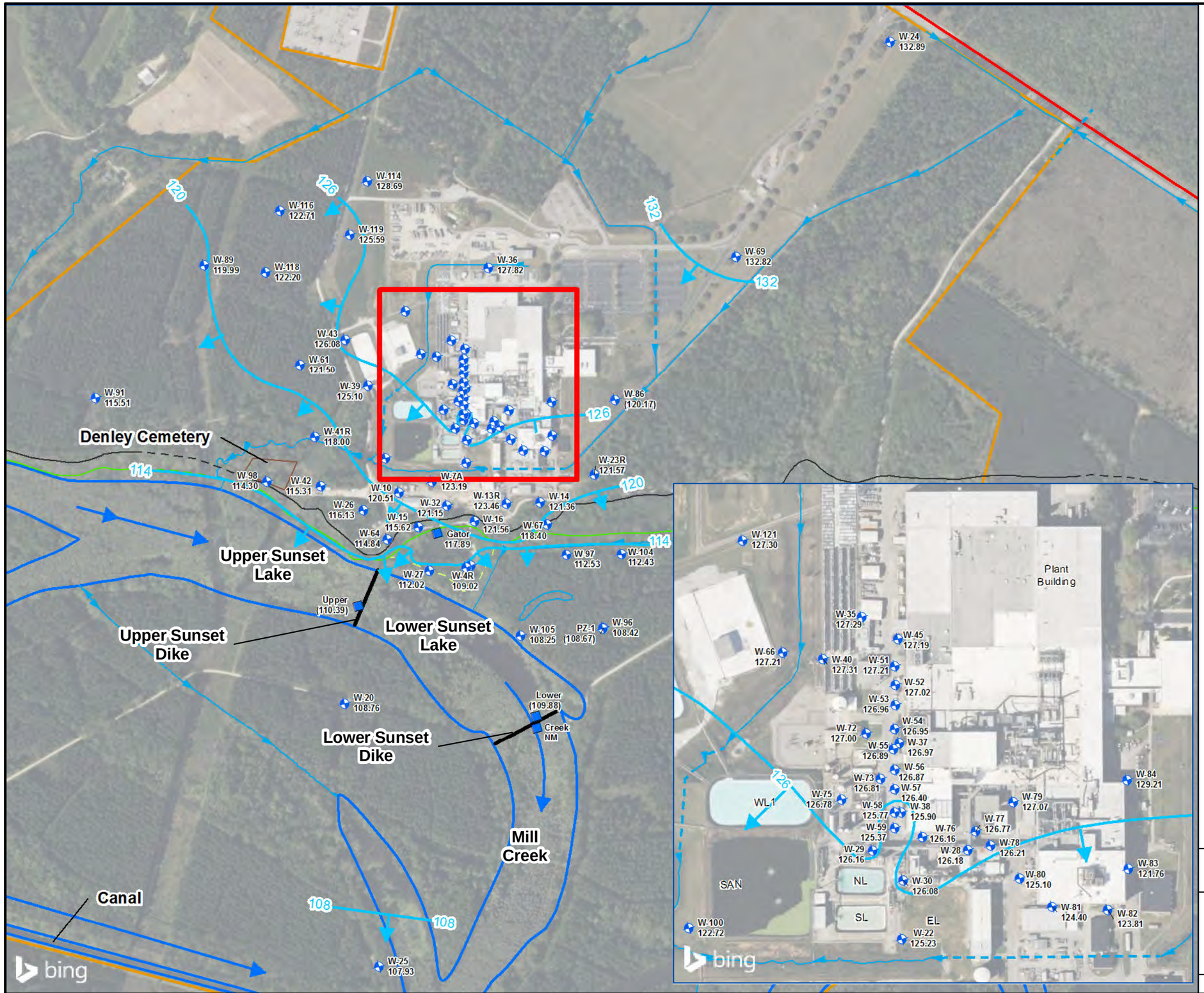

Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Mill Creek
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Culvert
- Ditch
- Mill Creek Flow Direction
- Dike Location
- Staff Gauge Location
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon I
- WL2 West Lagoon II
- Potentiometric Line (C.I. = 6 feet)
- Direction of Groundwater
- 121.57 Groundwater Elevation
- (120.17) Elevation for illustrative purposes only

Based upon data collected on April 1, 2022

0 300 600 Feet

1:7,200

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Surficial Aquifer - Upper Zone Potentiometric Map April 2022

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60641050	CCS	August 2022	**FIGURE 6**

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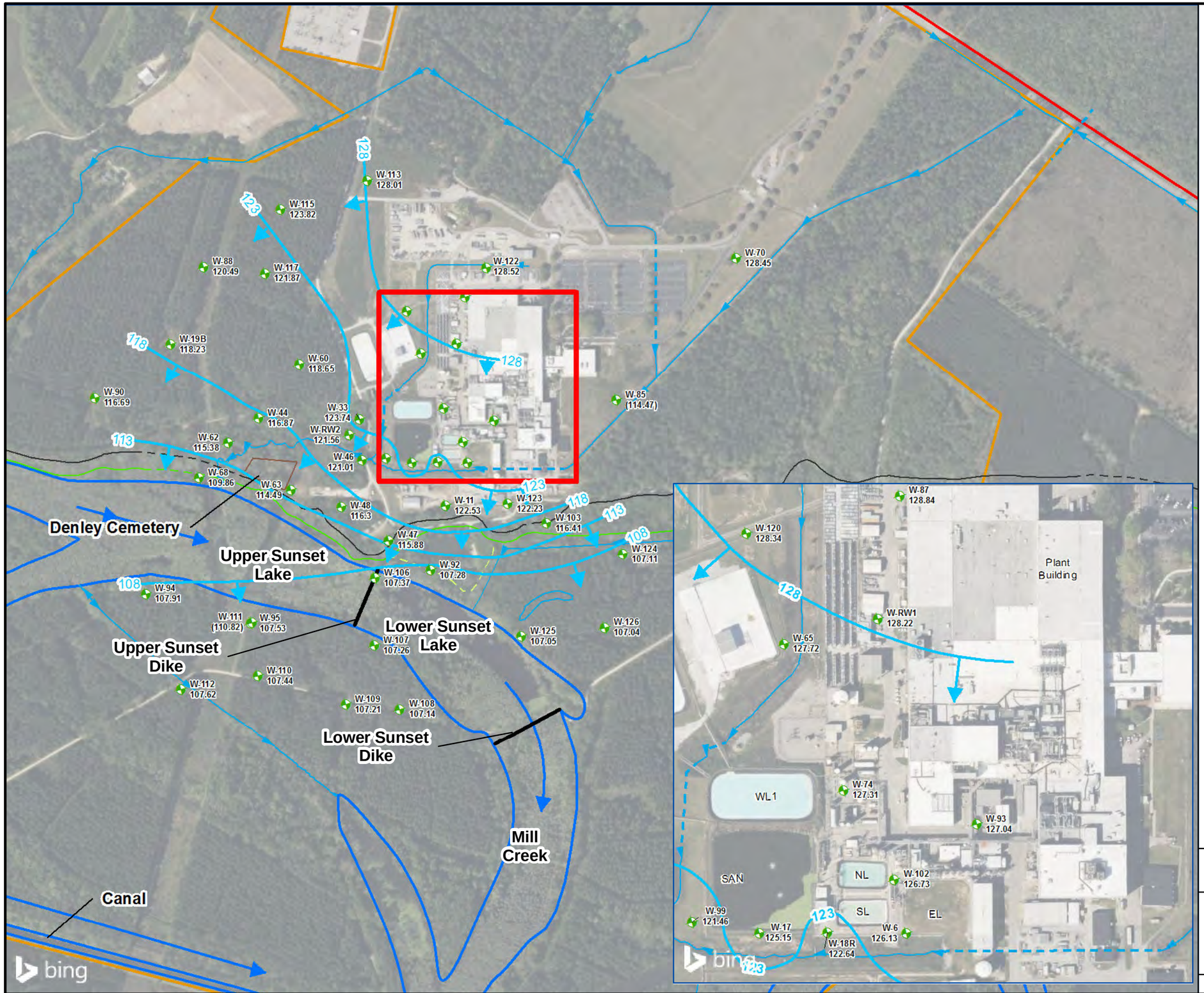

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F7 Lower Pot Map Oct 2021.mxd

Legend

- Surficial Aquifer - Lower Zone Monitoring Well
- Mill Creek
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Culvert
- Ditch
- Mill Creek Flow Direction
- Dike Location
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon I
- WL2 West Lagoon II
- Potentiometric Line (C.I. = 5 feet)
- Direction of Groundwater
- 128.84 Groundwater Elevation
- (114.47) Elevation for illustrative purposes only

Based upon data collected on October 4, 2021

0 300 600 Feet

1:7,200

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Surficial Aquifer - Lower Zone Potentiometric Map October 2021

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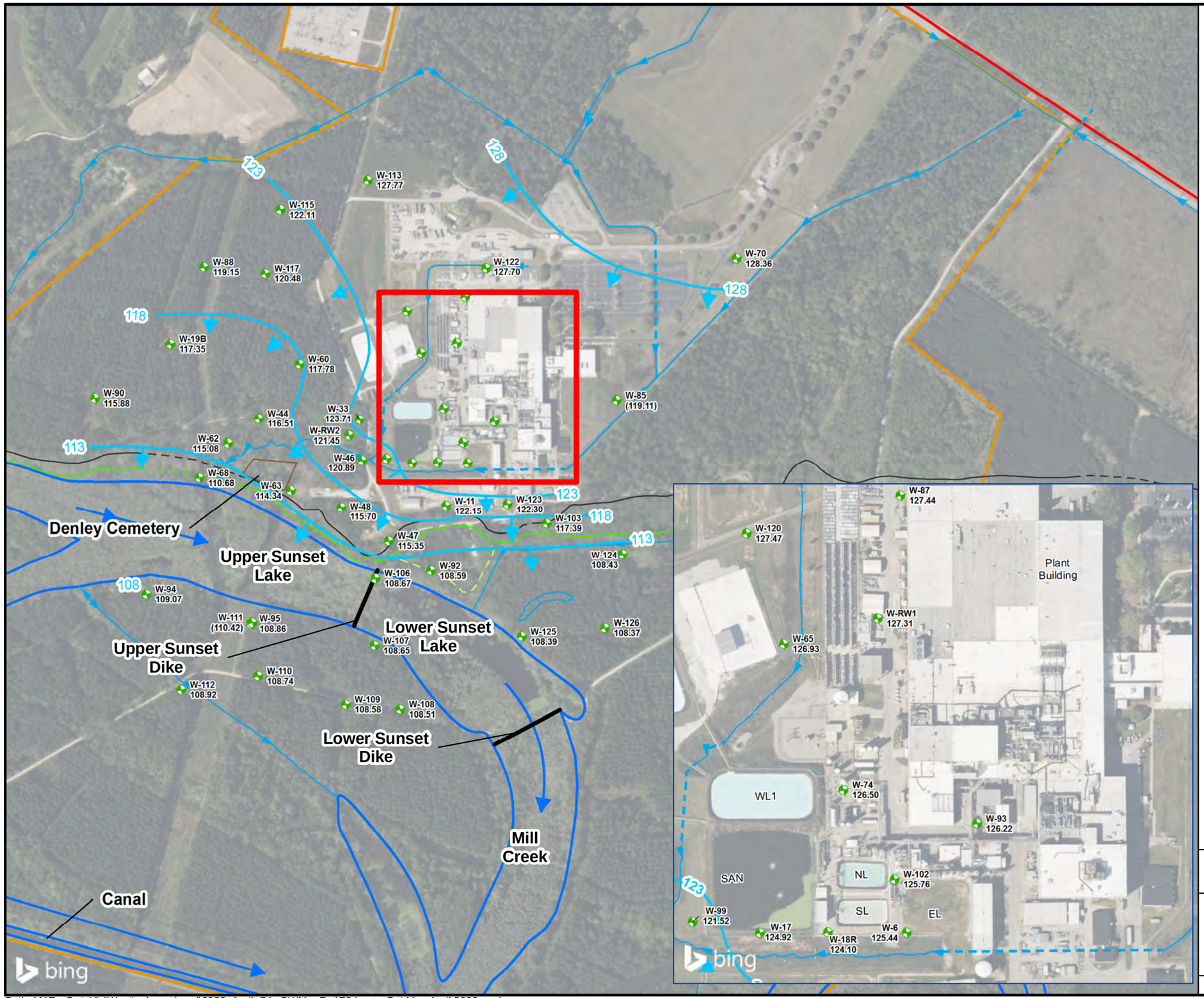
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 7**



Legend

- Surficial Aquifer - Lower Zone Monitoring Well
- Mill Creek
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Culvert
- Ditch
- Mill Creek Flow Direction
- Dike Location
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon I
- WL2 West Lagoon II
- Potentiometric Line (C.I. = 5 feet)
- Direction of Groundwater
- 108.43 Groundwater Elevation
- (119.11) Elevation for illustrative purposes only

Based upon data collected on April 1, 2022

0 300 600 Feet

1:7,200

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Surficial Aquifer - Lower Zone Potentiometric Map April 2022

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PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 8**

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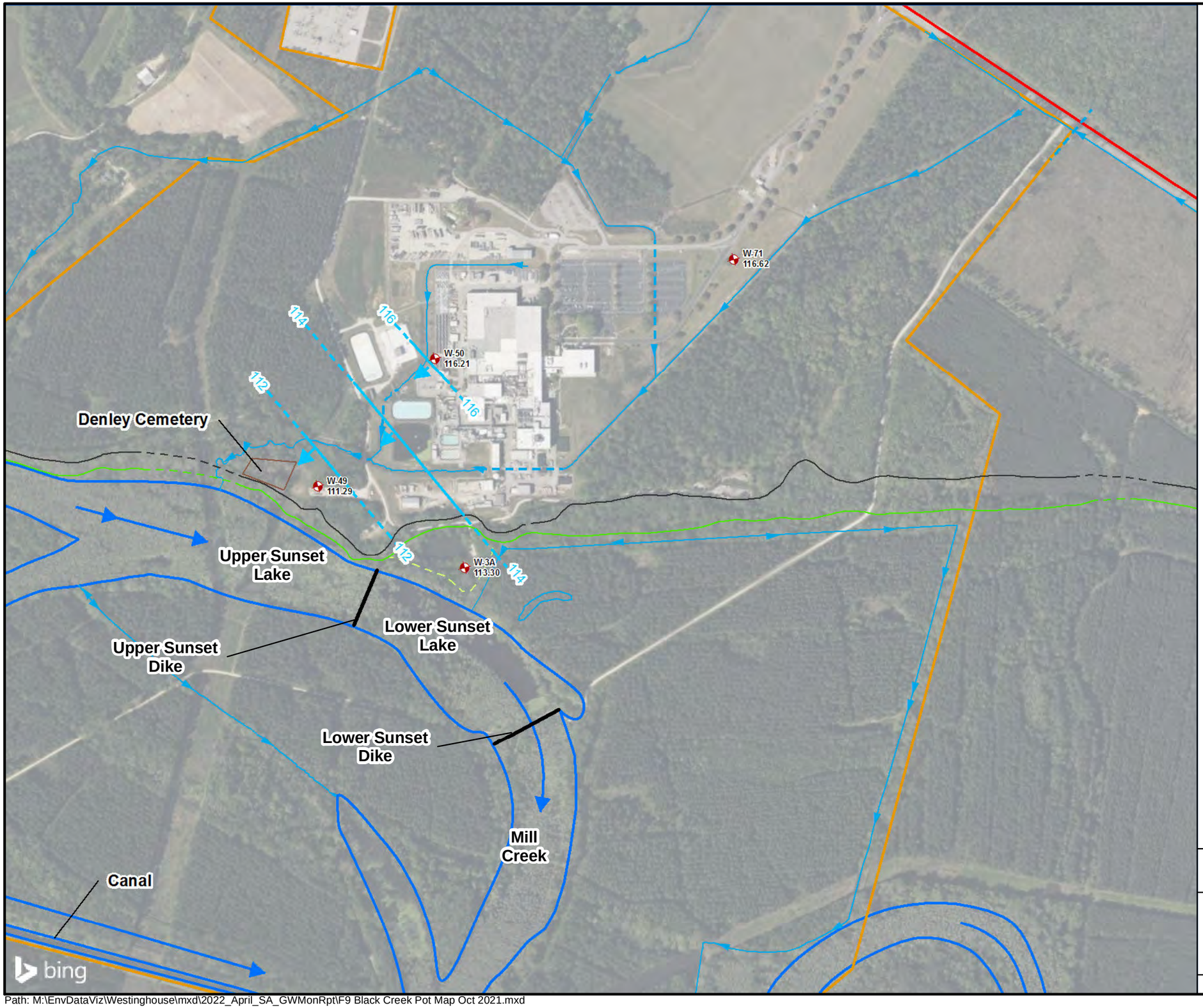

Legend

- Black Creek Aquifer Monitoring Well
- Mill Creek
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Culvert
- Ditch
- Mill Creek Flow Direction
- Dike Location
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon I
- WL2 West Lagoon II
- Potentiometric Line (C.I. = 2 feet, dashed where inferred)
- Direction of Groundwater
- 116.21 Groundwater Elevation

Based upon data collected on October 4, 2021

0 300 600 Feet

1:7,200

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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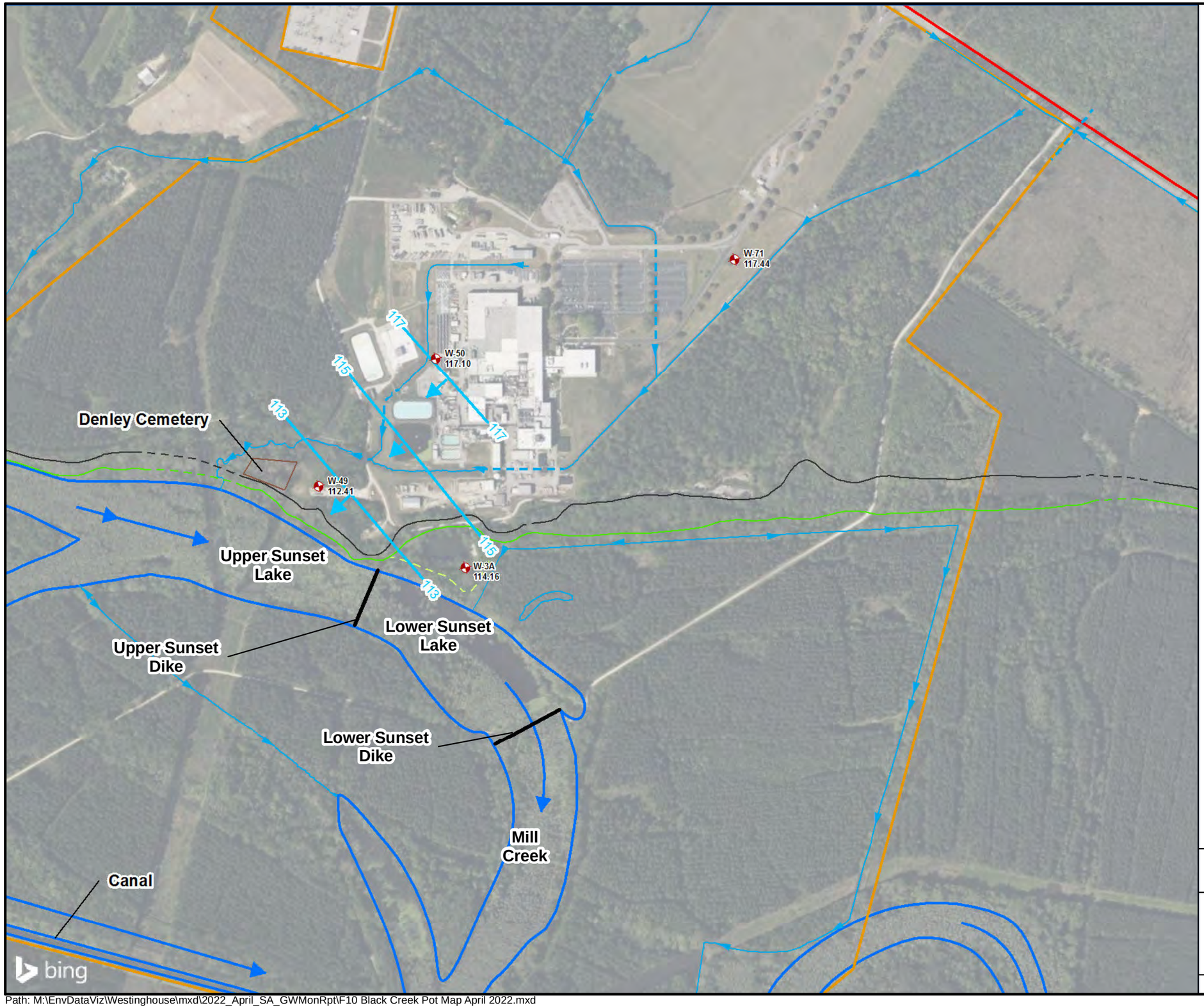
Black Creek Aquifer Potentiometric Map October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 9**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F9 Black Creek Pot Map Oct 2021.mxd



Legend

- Black Creek Aquifer Monitoring Well
- Mill Creek
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Culvert
- Ditch
- Mill Creek Flow Direction
- Dike Location
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon I
- WL2 West Lagoon II
- Potentiometric Line (C.I. = 2 feet, dashed where inferred)
- Direction of Groundwater

117.44 Groundwater Elevation

Based upon data collected on April 1, 2022

0 300 600 Feet

1:7,200

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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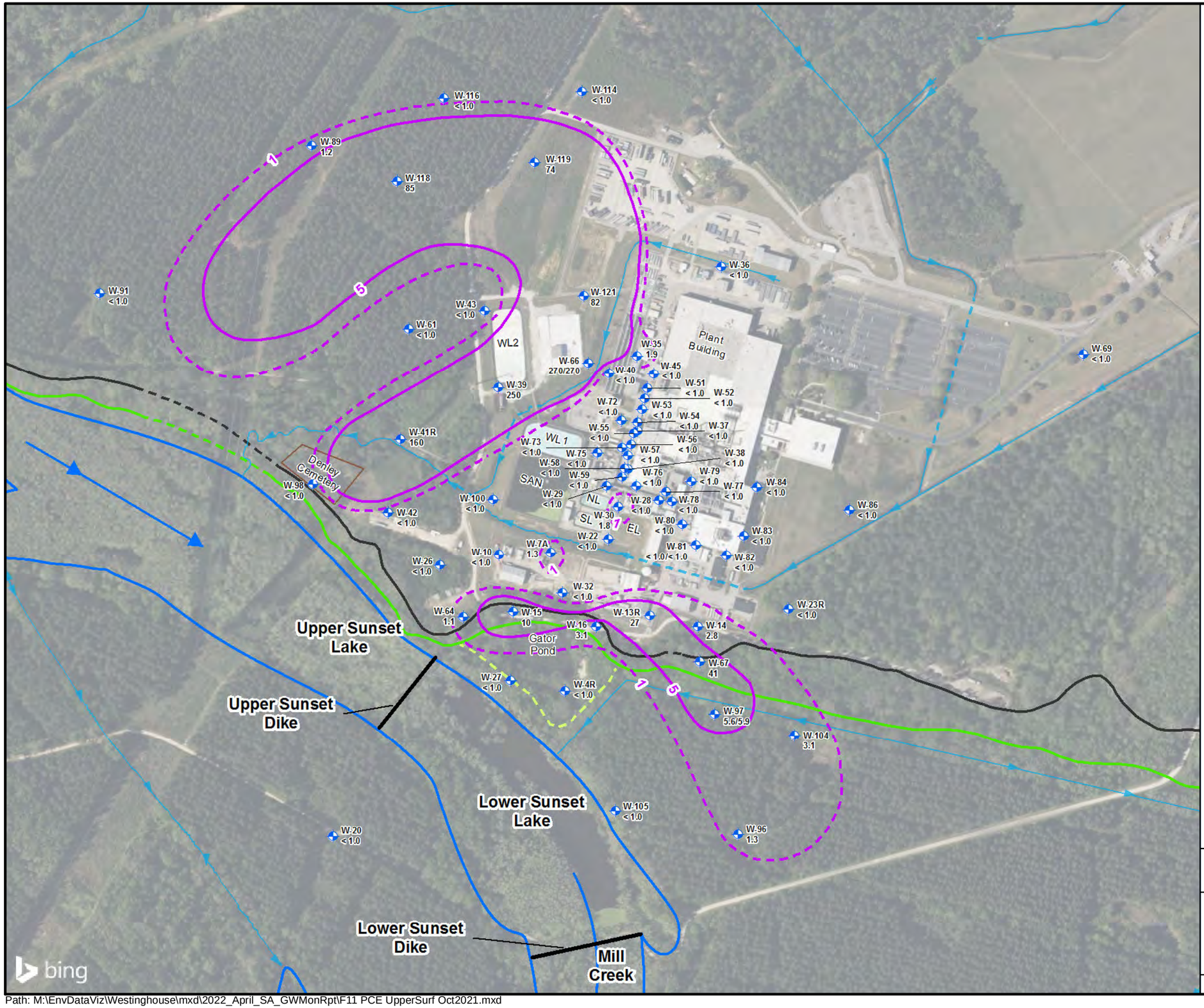
Black Creek Aquifer Potentiometric Map April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 10**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F10 Black Creek Pot Map April 2022.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek
- Mill Creek Flow Direction
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- PCE Isoconcentration Contour (5 µg/L)
- PCE Isoconcentration Contour at or Above the Detection Limit (µg/L)
- 270 PCE Concentration in µg/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

N

0 200 400
Feet
1:4,800

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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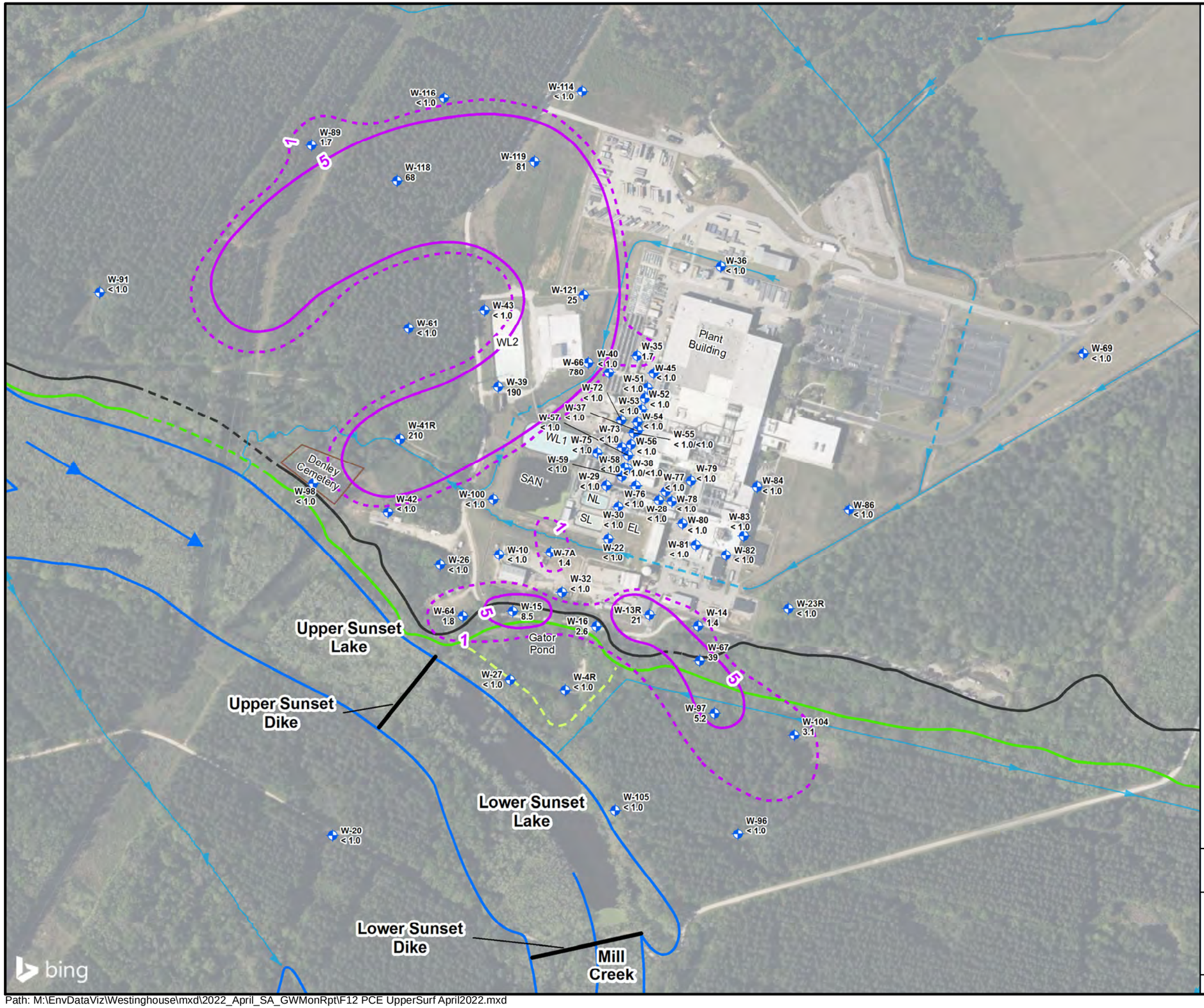
Extent of PCE - Surficial Aquifer - Upper Zone October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 11**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F11 PCE UpperSurf Oct2021.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek
- Mill Creek Flow Direction
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- PCE Isoconcentration Contour (5 µg/L)
- PCE Isoconcentration Contour at or Above the Detection Limit (µg/L)

780	PCE Concentration in µg/L
EL	Former East Lagoon
NL	North Lagoon
SL	South Lagoon
SAN	Sanitary Lagoon
WL1	West Lagoon 1
WL2	West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

N

0 200 400 Feet

1 inch = 400 feet

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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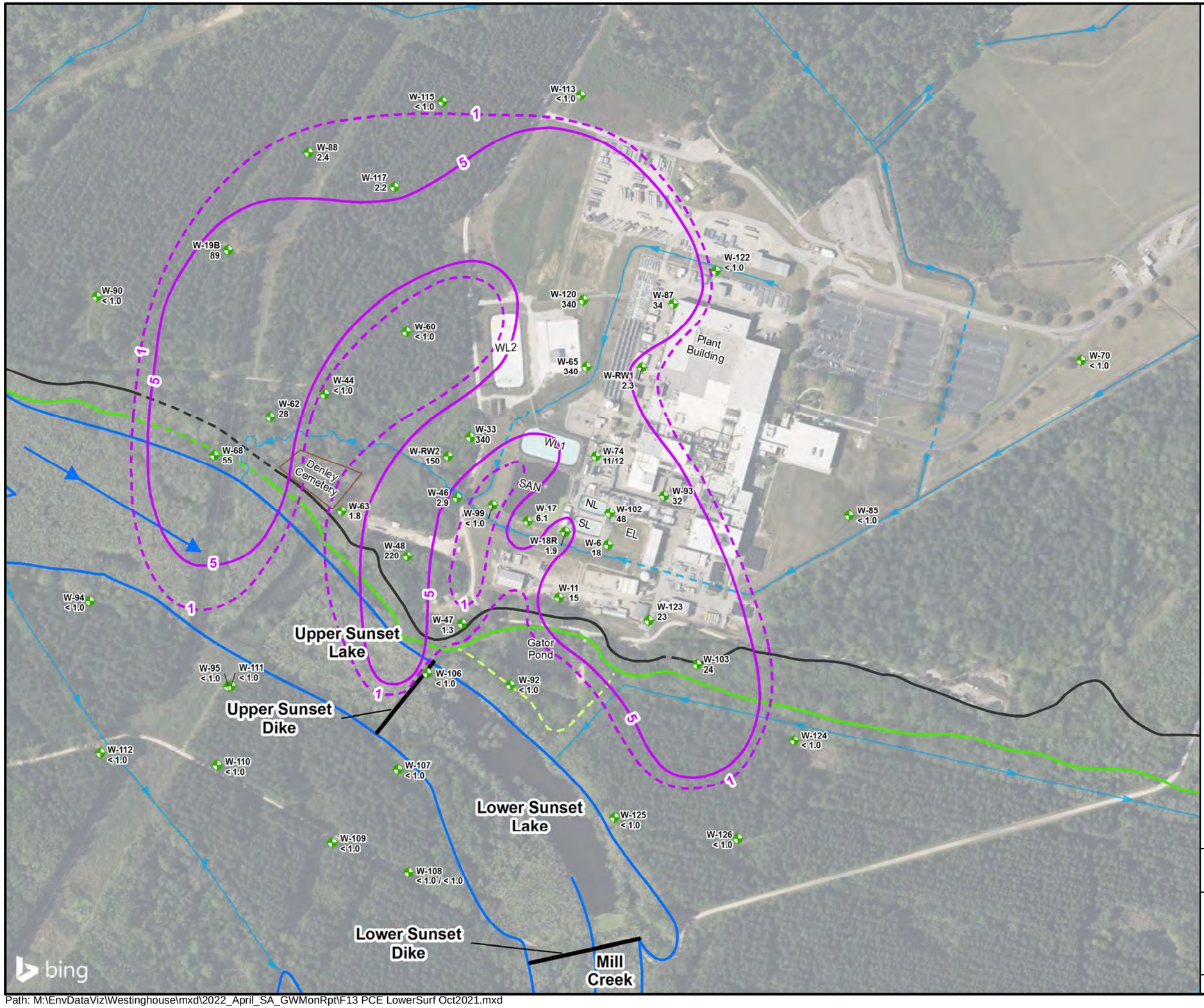
Extent of PCE - Surficial Aquifer - Upper Zone April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	June 2022	FIGURE 12

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F12 PCE UpperSurf April2022.mxd



Legend

- Surficial Aquifer - Lower Zone Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- PCE Isoconcentration Contour (5 µg/L)
- PCE Isoconcentration Contour at or Above the Detection Limit (µg/L)
- 340 PCE Concentration in µg/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

N

0 200 400 Feet

1:4,800

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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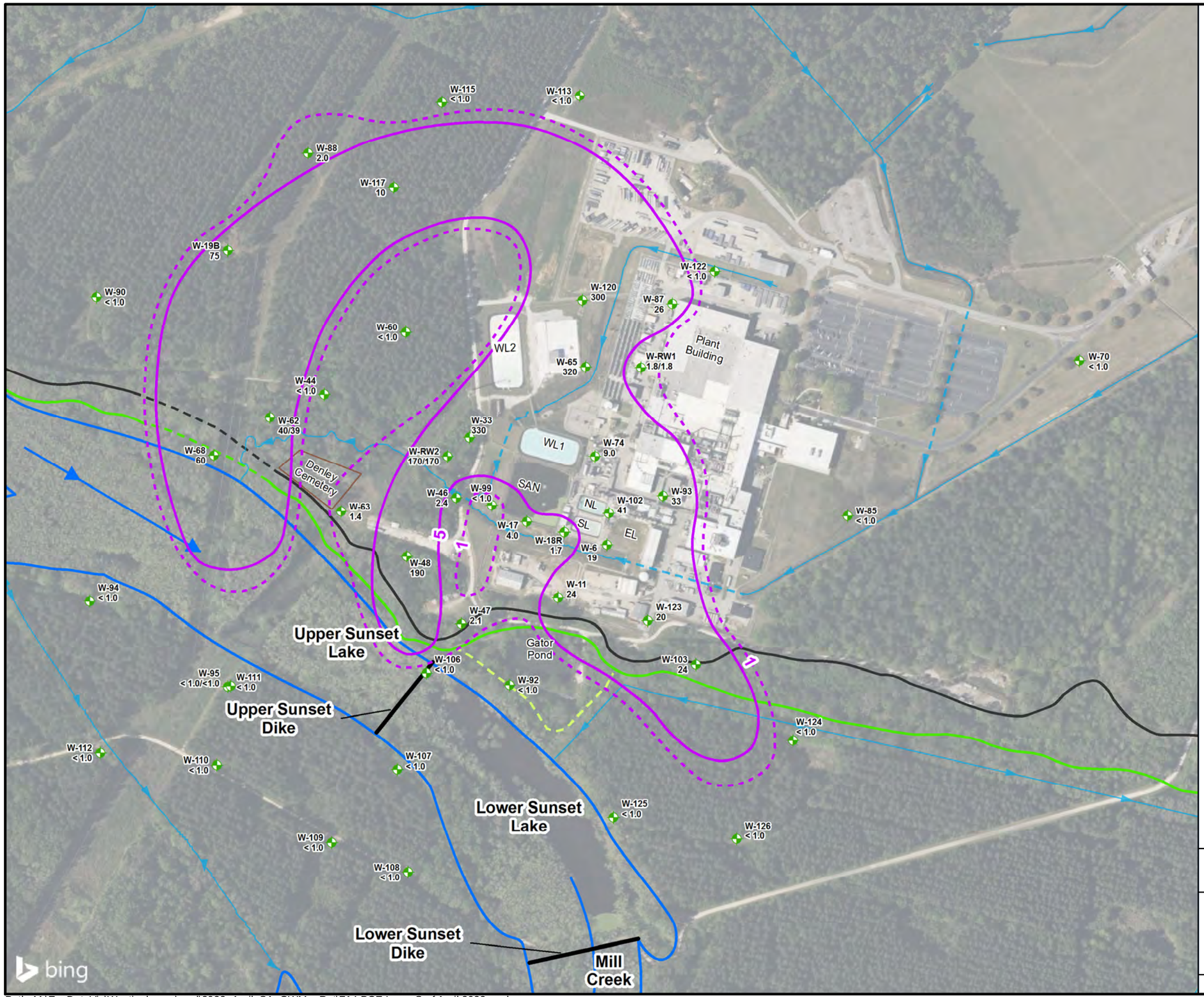
Extent of PCE
Surficial Aquifer - Lower Zone
October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 13**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F13 PCE LowerSurf Oct2021.mxd



Legend

- Surficial Aquifer - Lower Zone Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- PCE Isoconcentration Contour (5 µg/L)
- PCE Isoconcentration Contour at or Above the Detection Limit (µg/L)
- 320 PCE Concentration in µg/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1 inch = 400 feet

N

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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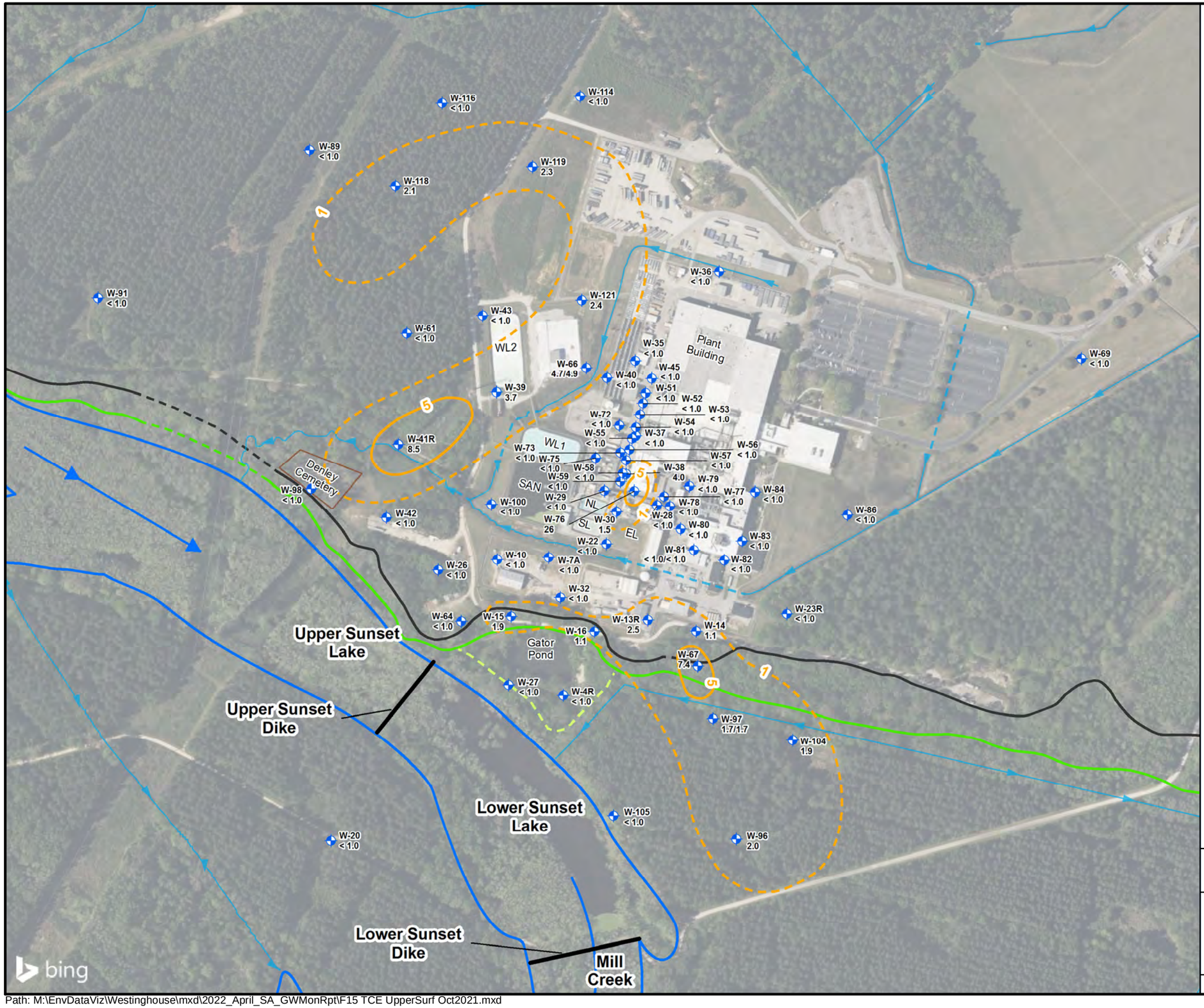
Extent of PCE
Surficial Aquifer - Lower Zone
April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	FIGURE 14

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F14 PCE LowerSurf April 2022.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- TCE Isoconcentration Contour (5 ug/L)
- TCE Isoconcentration Contour at or Above the Detection Limit (µg/L)
- 26 TCE Concentration in ug/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1:4,800

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

N

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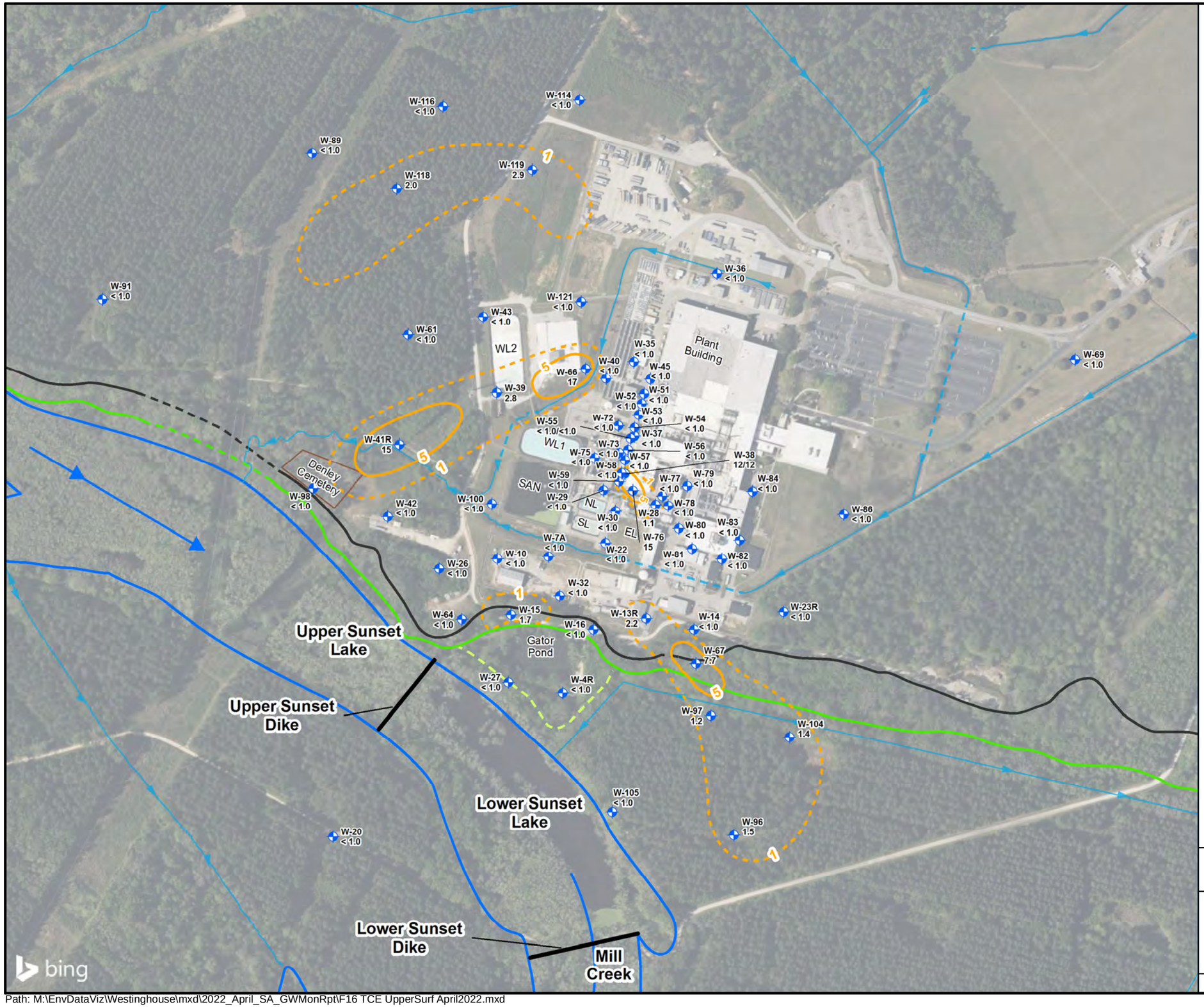
Extent of TCE
Surficial Aquifer - Upper Zone
October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 15**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F15 TCE UpperSurf Oct2021.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- TCE Isoconcentration Contour (5 ug/L)
- TCE Isoconcentration Contour at or Above the Detection Limit (ug/L)
- 17 TCE Concentration in ug/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1 inch = 404 feet

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

N

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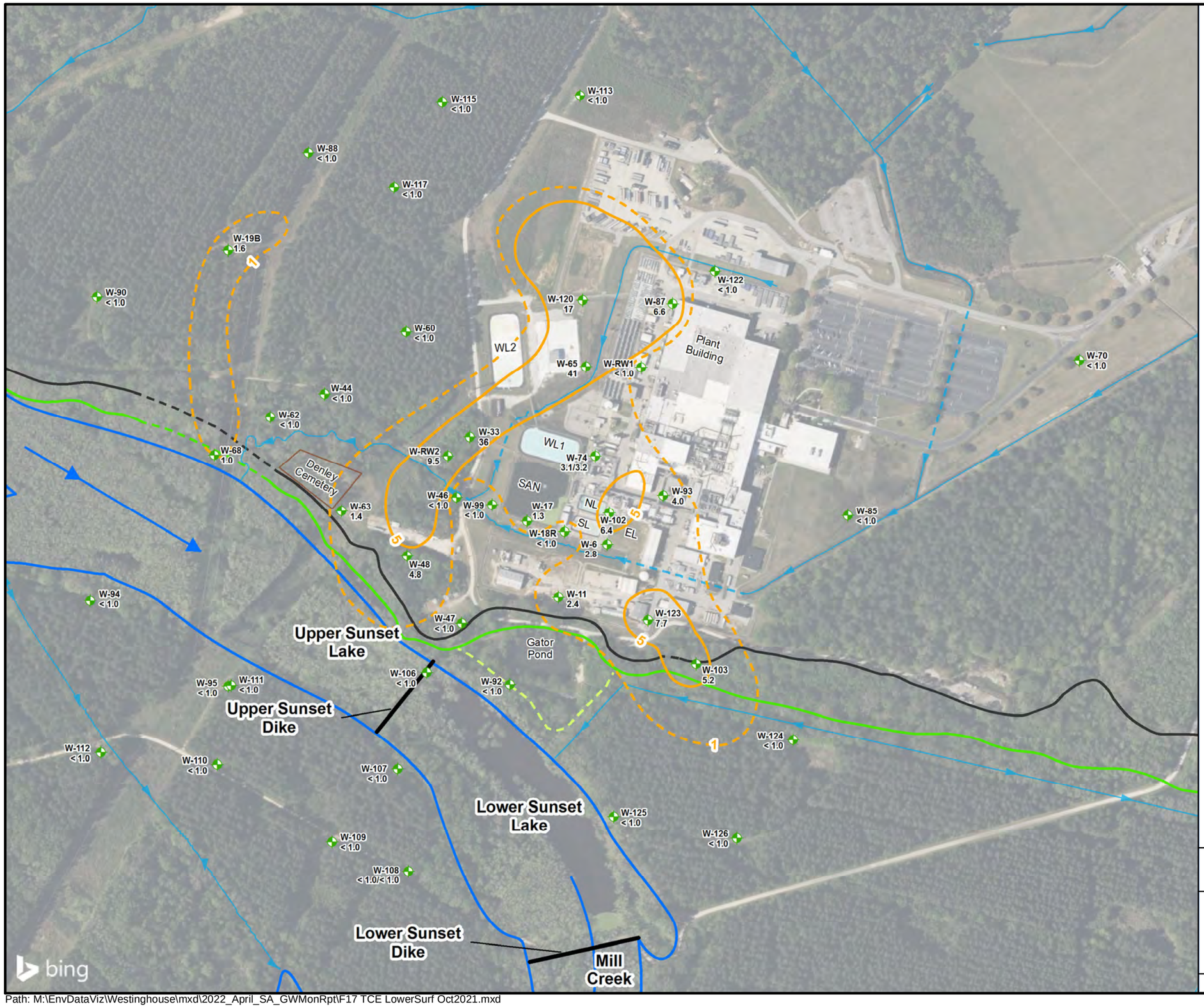
Extent of TCE
Surficial Aquifer - Upper Zone
April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 16**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F16 TCE UpperSurf April2022.mxd



Legend

- Surficial Aquifer - Lower Zone Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- TCE Isoconcentration Contour (5 ug/L)
- TCE Isoconcentration Contour at or Above the Detection Limit (µg/L)

41	TCE Concentration in ug/L
EL	Former East Lagoon
NL	North Lagoon
SL	South Lagoon
SAN	Sanitary Lagoon
WL1	West Lagoon 1
WL2	West Lagoon 2

Notes:
Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

N

0 200 400 Feet

1:4,800

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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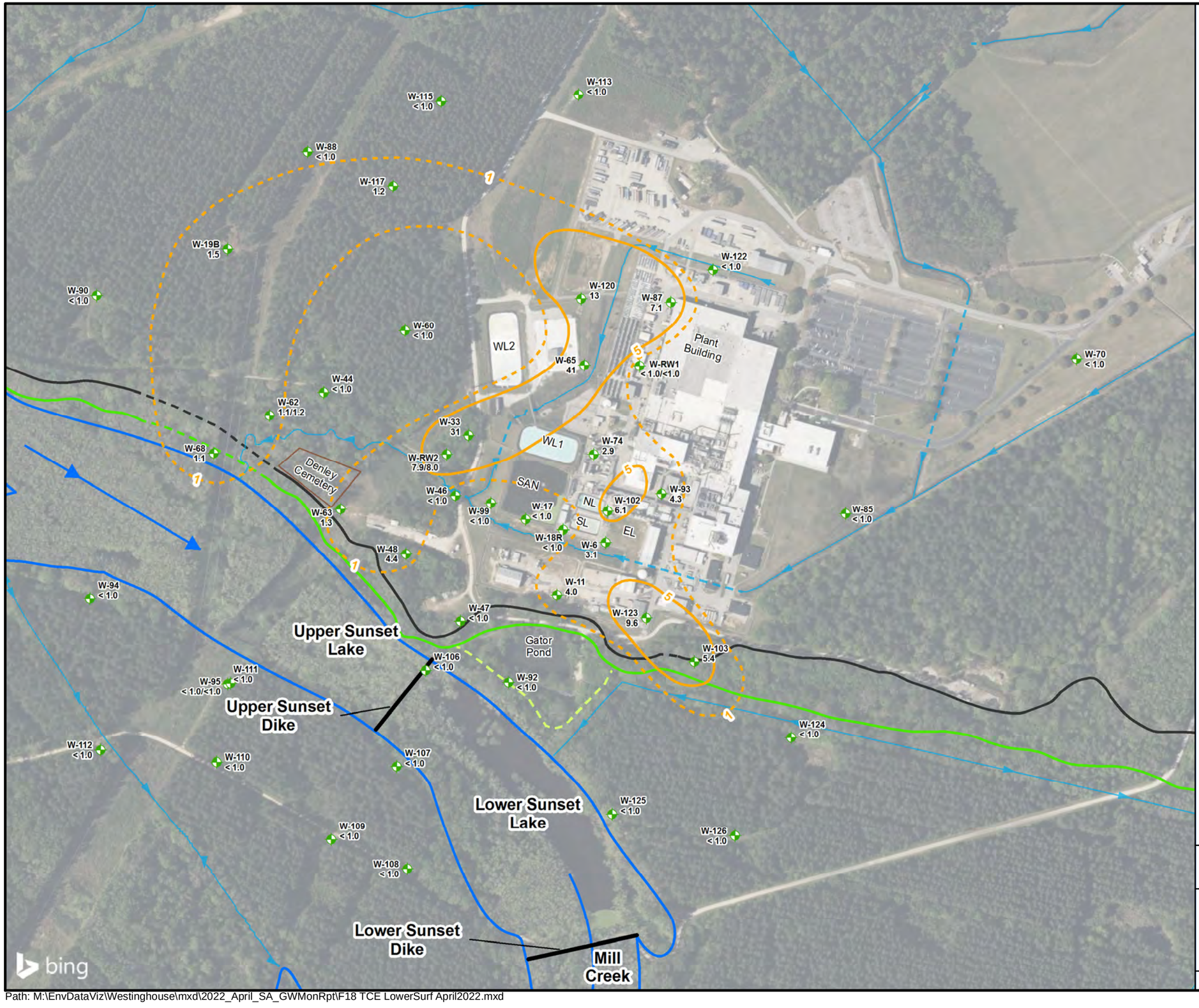
Extent of TCE
Surficial Aquifer - Lower Zone
October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 17**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F17 TCE LowerSurf Oct2021.mxd



Legend

- Surficial Aquifer - Lower Zone Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- TCE Isoconcentration Contour (5 ug/L)
- TCE Isoconcentration Contour at or Above the Detection Limit (ug/L)

41	TCE Concentration in ug/L
EL	Former East Lagoon
NL	North Lagoon
SL	South Lagoon
SAN	Sanitary Lagoon
WL1	West Lagoon 1
WL2	West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1 inch = 400 feet

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

N

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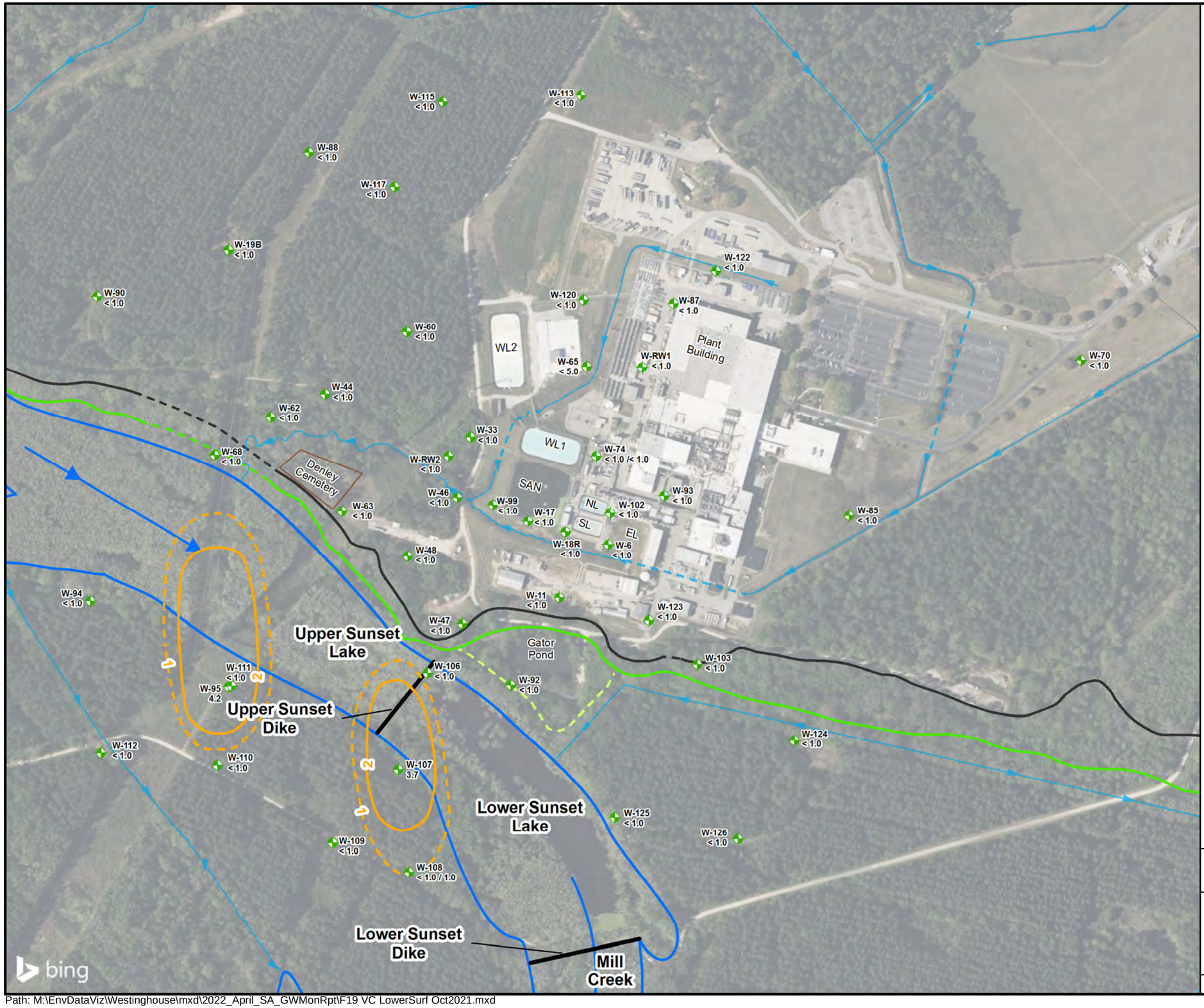
Extent of TCE
Surficial Aquifer - Lower Zone
April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	June 2022	**FIGURE 18**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F18 TCE LowerSurf April2022.mxd



Legend

- Surficial Aquifer - Lower Zone Monitoring Well
- Ditch
- Culvert
- Ditch
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- VC Isoconcentration Contour (2 ug/L)
- VC Isoconcentration Contour at or Above the Detection Limit (µg/L)
- 4.2 VC Concentration in ug/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1:4,800

N

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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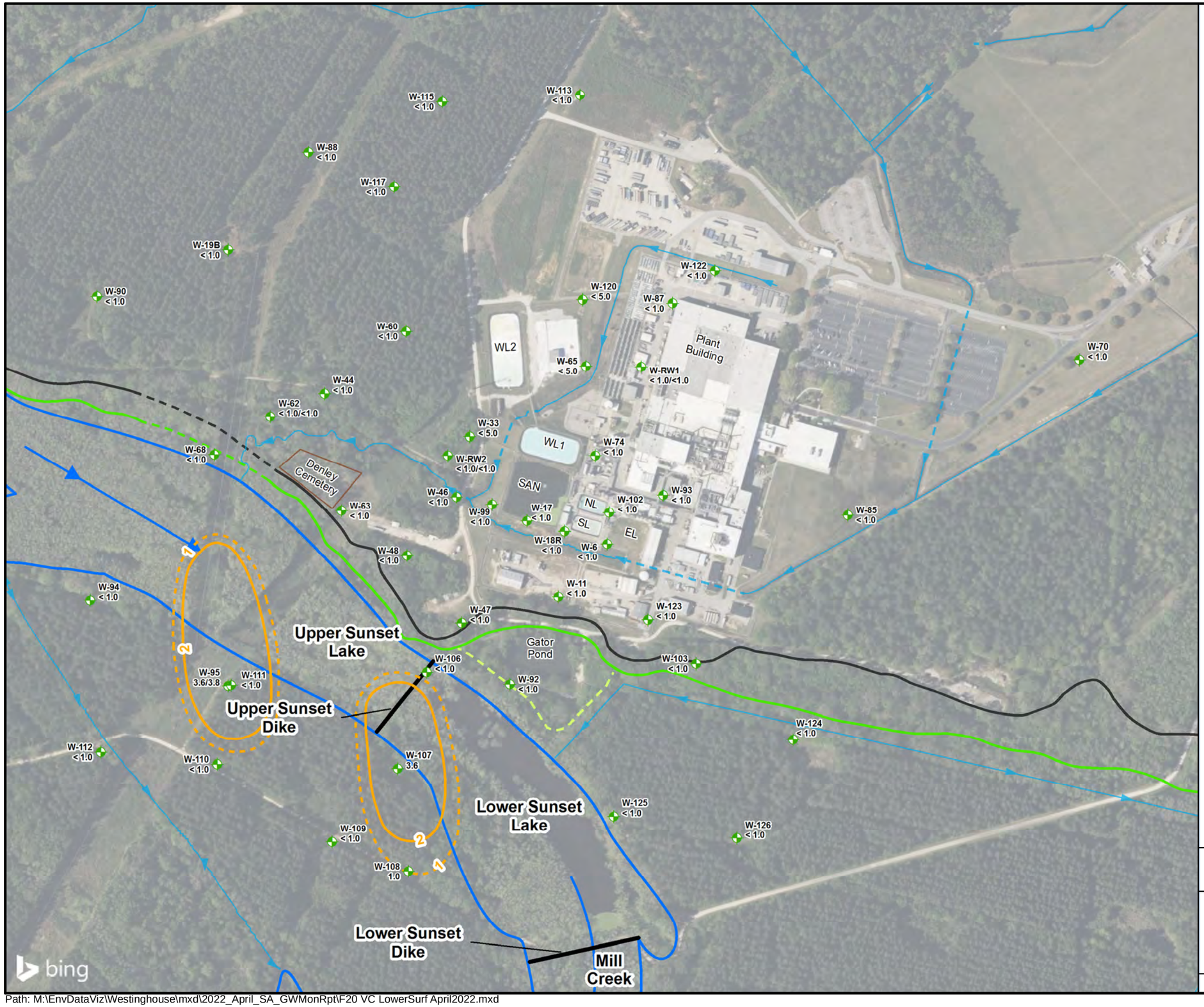
Extent of VC
Surficial Aquifer - Lower Zone
October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 19**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F19 VC LowerSurf Oct2021.mxd



Legend

- Surficial Aquifer - Lower Zone Monitoring Well
- Ditch
- Culvert
- Ditch
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- VC Isoconcentration Contour (2 ug/L)
- VC Isoconcentration Contour at or Above the Detection Limit (ug/L)
- 3.8 VC Concentration in ug/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1 inch = 400 feet

N

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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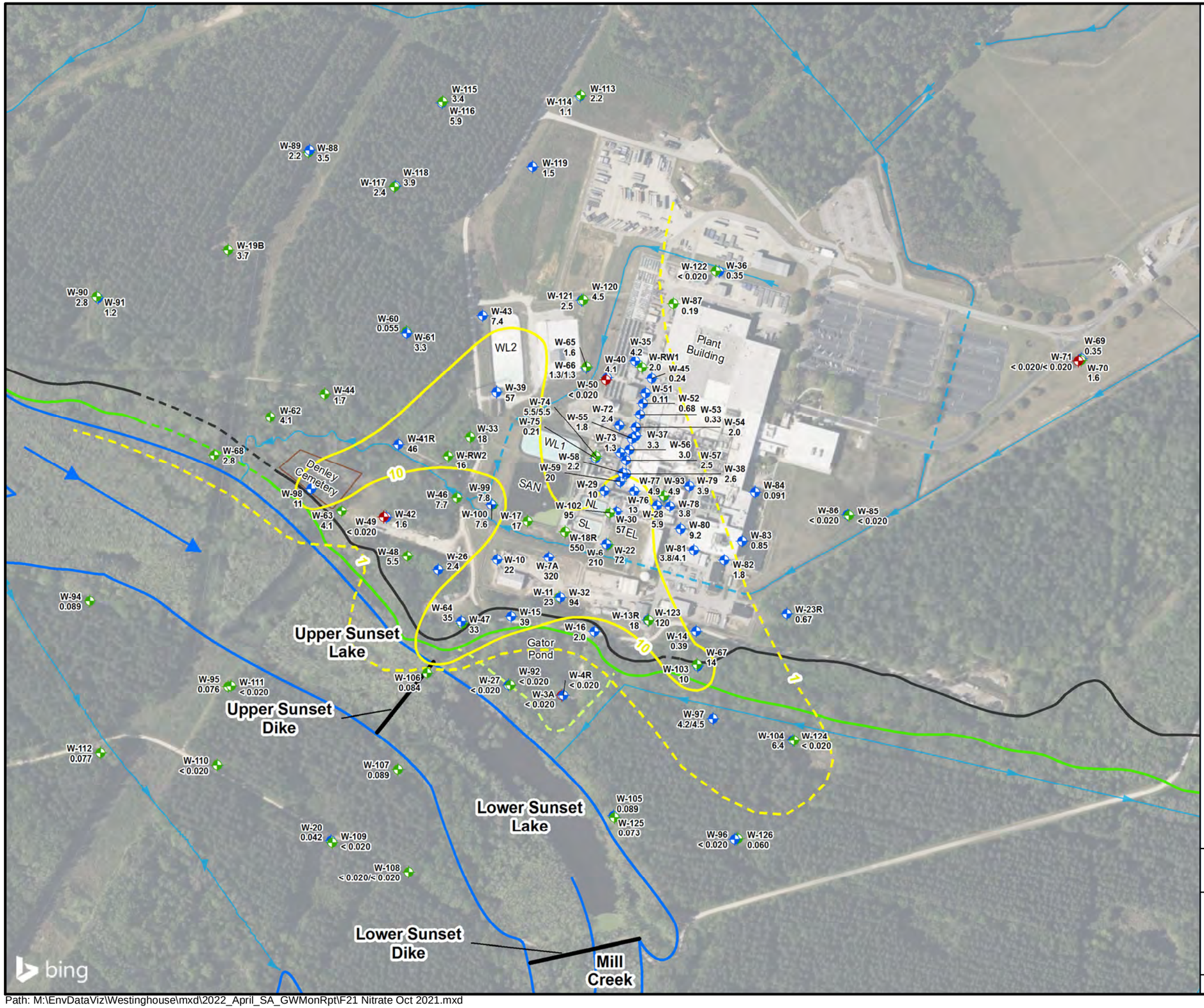
Extent of VC
Surficial Aquifer - Lower Zone
April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 20**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F20 VC LowerSurf April2022.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- Nitrate Isoconcentration Contour (10 mg/L)
- Nitrate Isoconcentration Contour at or Above the Detection Limit (µg/L)

550	Nitrate Concentration in mg/L
EL	Former East Lagoon
NL	North Lagoon
SL	South Lagoon
SAN	Sanitary Lagoon
WL1	West Lagoon 1
WL2	West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

N

0 200 400 Feet

1:4,800

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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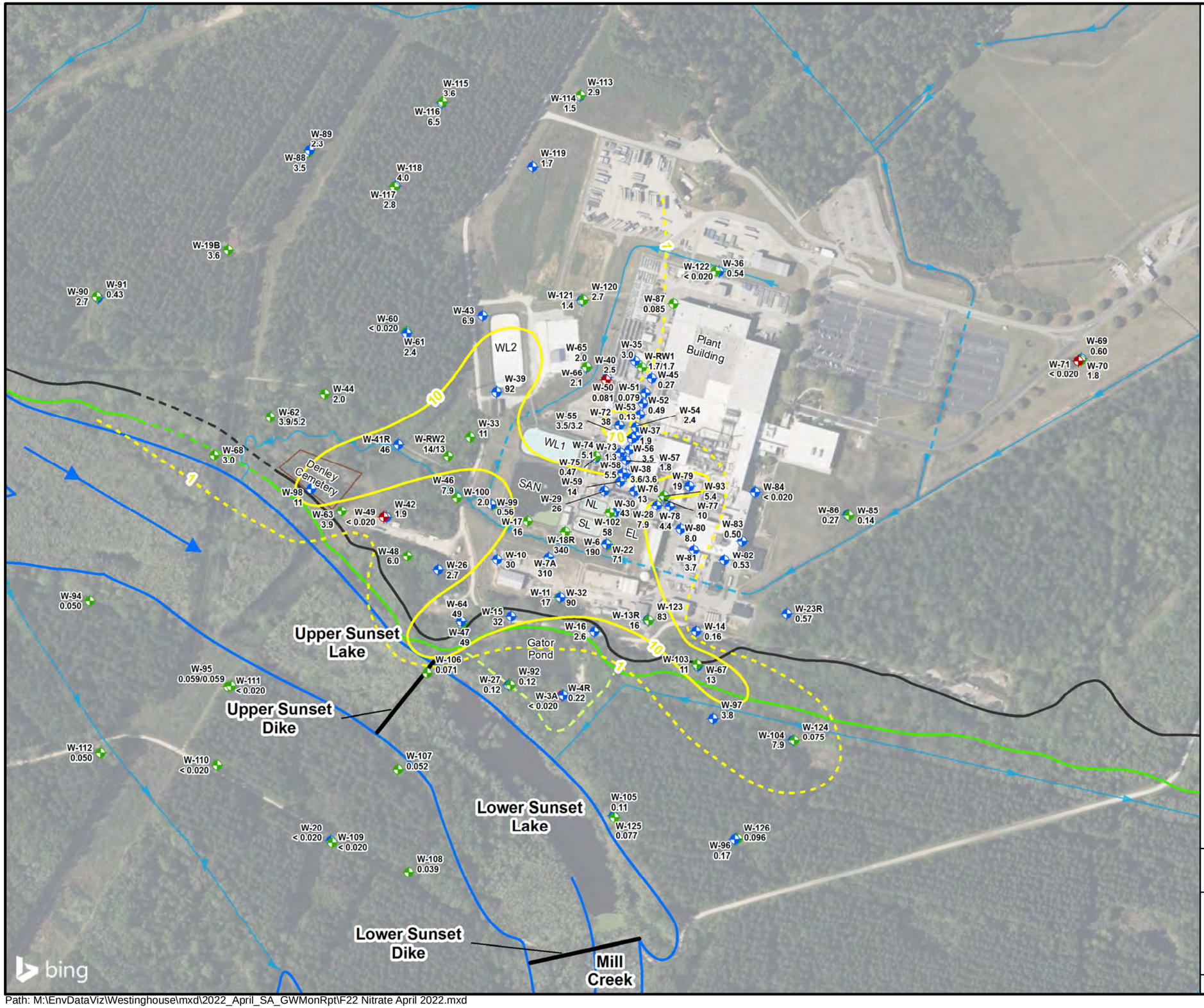
Extent of Nitrate in Groundwater October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 21**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F21 Nitrate Oct 2021.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- Nitrate Isoconcentration Contour (10 mg/L)
- Nitrate Isoconcentration Contour at or Above the Detection Limit (mg/L)
- 340 Nitrate Concentration in mg/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1 inch = 400 feet

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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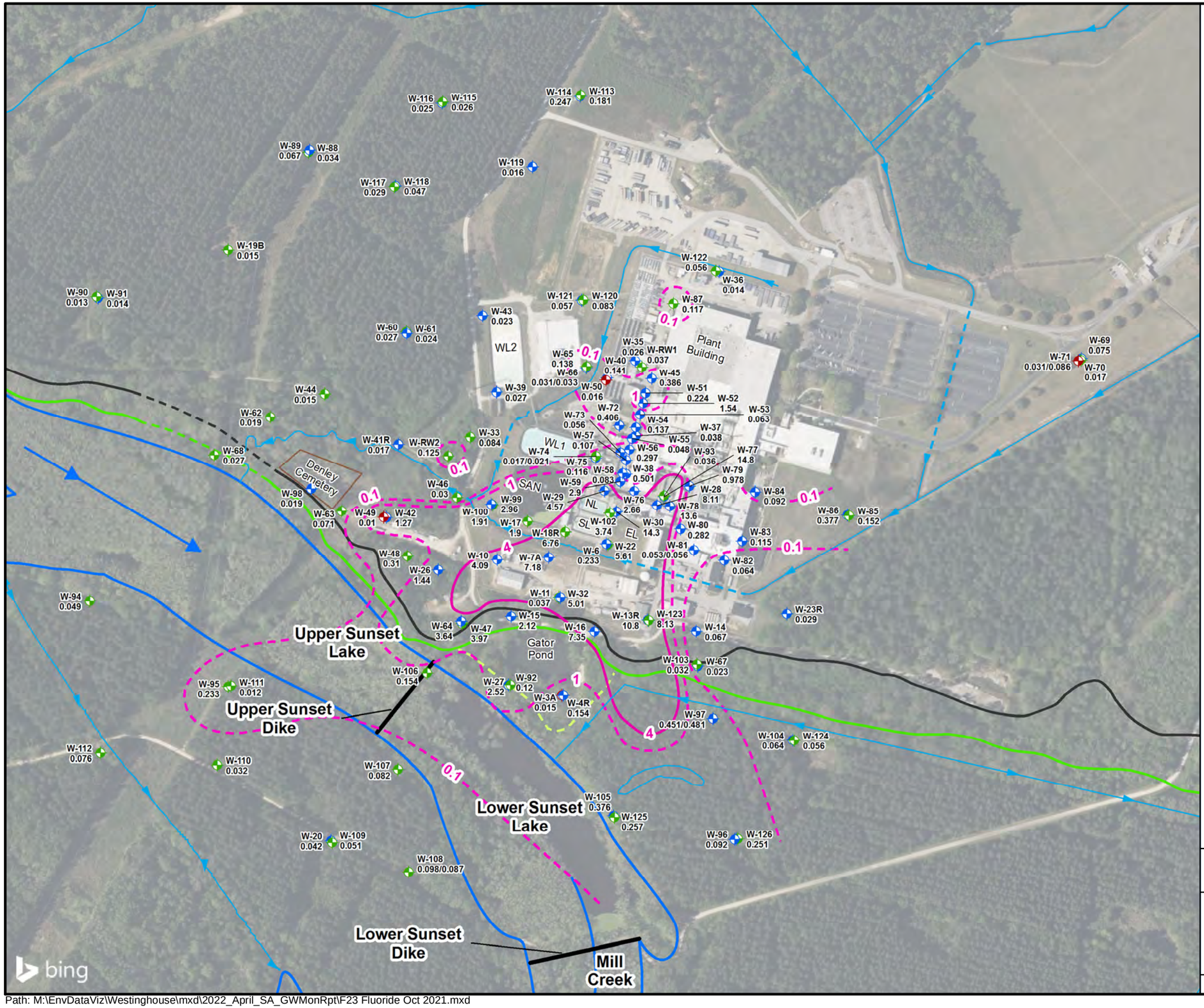
Extent of Nitrate in Groundwater April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	FIGURE 22

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F22 Nitrate April 2022.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- Fluoride Isoconcentration Contour (4 mg/L)
- Fluoride Isoconcentration Contour at or Above the Detection Limit (µg/L)

14.8	Fluoride Concentration in mg/L
EL	Former East Lagoon
NL	North Lagoon
SL	South Lagoon
SAN	Sanitary Lagoon
WL1	West Lagoon 1
WL2	West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

N

0 200 400 Feet

1:4,800

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

NAD: North American Datum 1983

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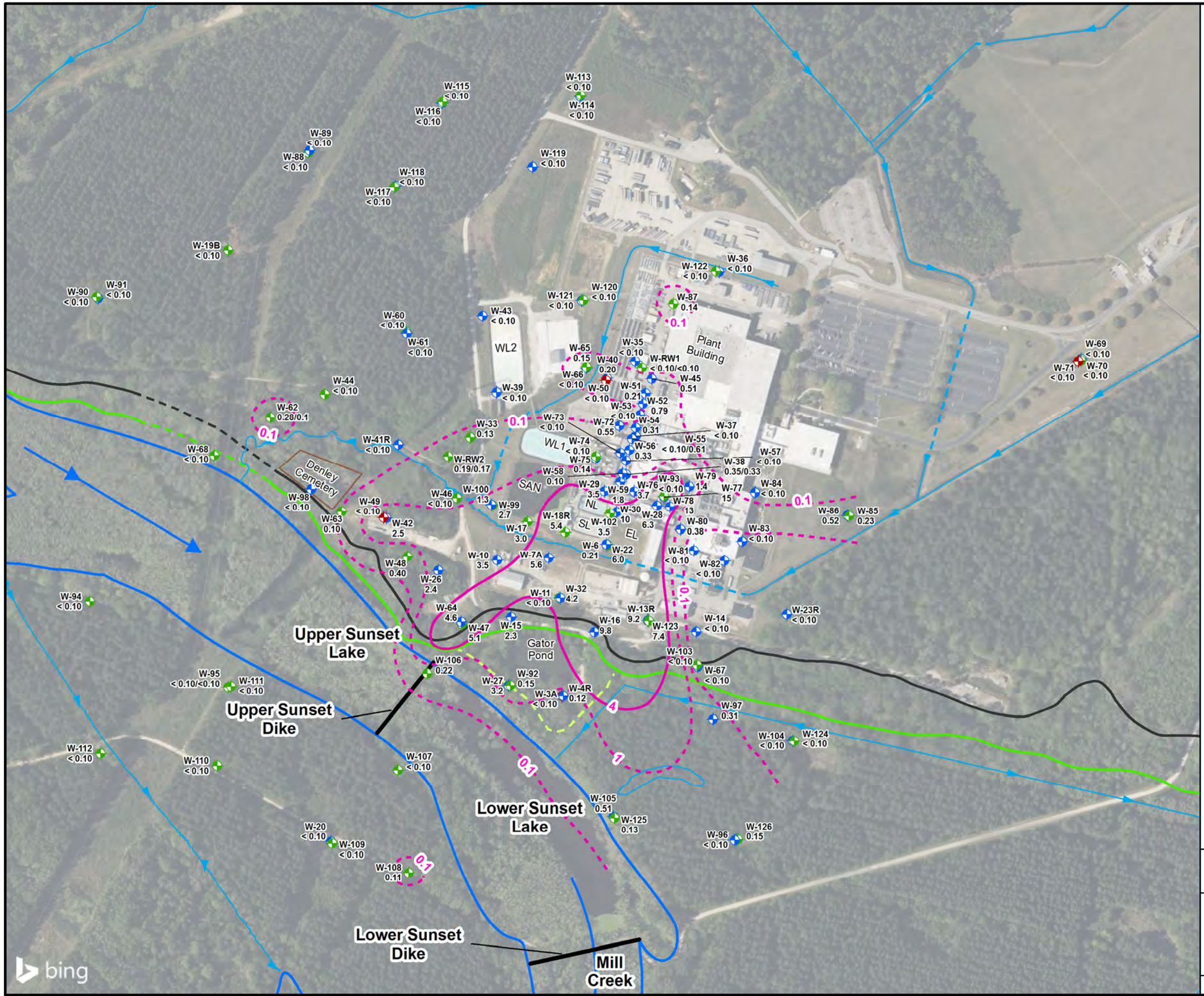
Extent of Fluoride in Groundwater October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 23**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F23 Fluoride Oct 2021.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- Fluoride Isoconcentration Contour (4 mg/L)
- Fluoride Isoconcentration Contour at or Above the Detection Limit (mg/L)
- 15.0 Fluoride Concentration in mg/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1 inch = 400 feet

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

NAD: North American Datum 1983

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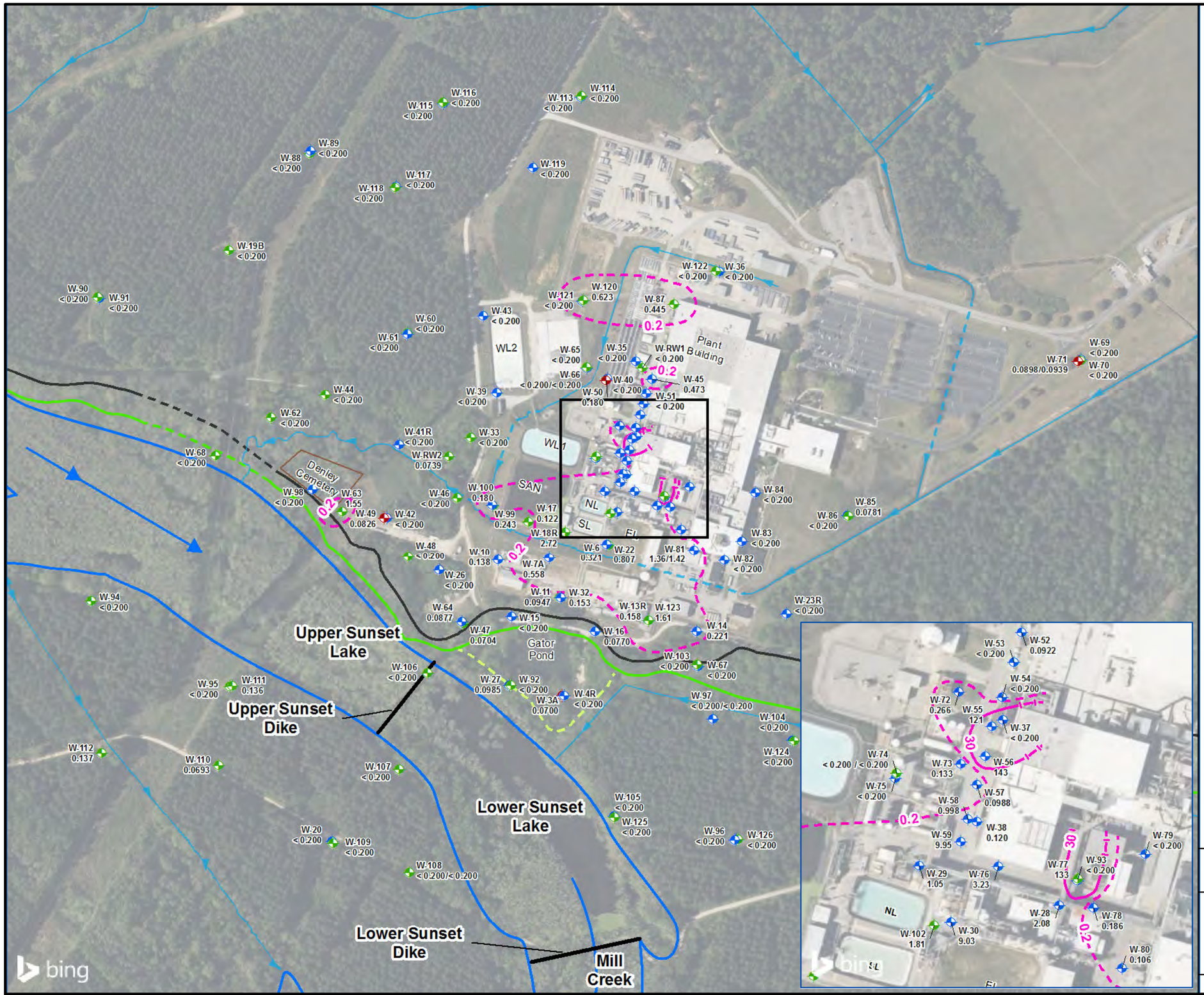
Extent of Fluoride in Groundwater April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	FIGURE 24

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F24 Fluoride April2022.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- Uranium Isoconcentration Contour (30 µg/L)
- Uranium Inferred Isoconcentration Contour (µg/L)
- Uranim Isoconcetration Contour at or Above the Minimum Detectible Concentration (µg/L)
- 143 Total Uranium in µg/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

N

0 200 400 Feet

1:4,800

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Extent of Uranium in Groundwater in October 2021

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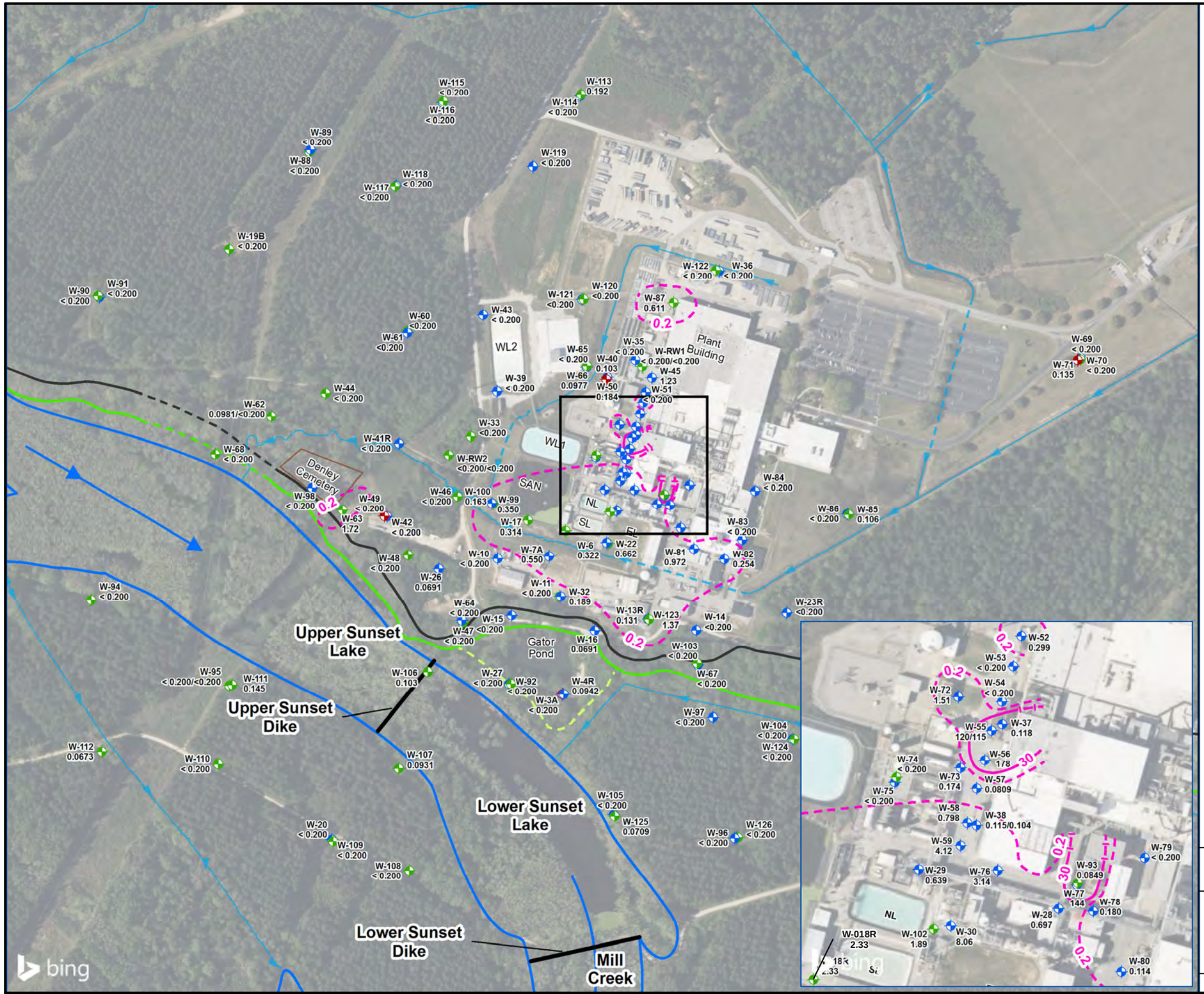
PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 25**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F25 Uranium Oct 2021.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- Uranium Isoconcentration Contour (30 µg/L)
- Uranium Inferred Isoconcentration Contour (µg/L)
- Uranim Isoconcetration Contour at or Above the Minimum Detectible Concentration (µg/L)
- 178 Total Uranium in µg/L
- EL Former East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1 inch = 400 feet

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Extent of Uranium in Groundwater in April 2022

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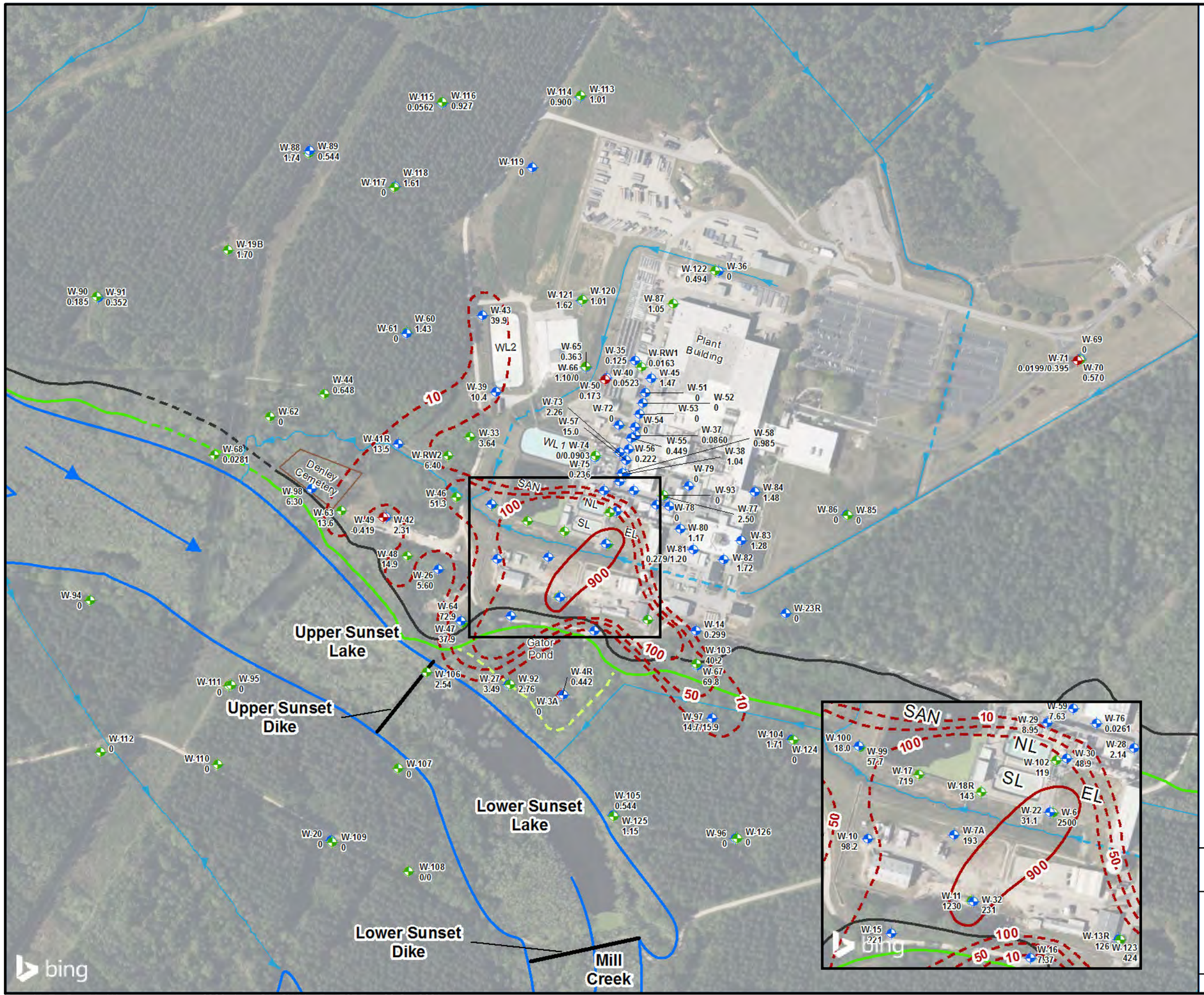
PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	FIGURE 26

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F26 Uranium April2022.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- Tc-99 Isoconcentration Contour (900 pCi/L)
- Tc-99 Isoconcetration Contour at or Above the Minimum Detectible Concentration (pCi/L)

2500	Technetium-99 Concentration in pCi/L
0	Concentration reported as a negative number by the analytical laboratory
EL	Former East Lagoon
NL	North Lagoon
SL	South Lagoon
SAN	Sanitary Lagoon
WL1	West Lagoon 1
WL2	West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

N

0 200 400 Feet

1:4,800

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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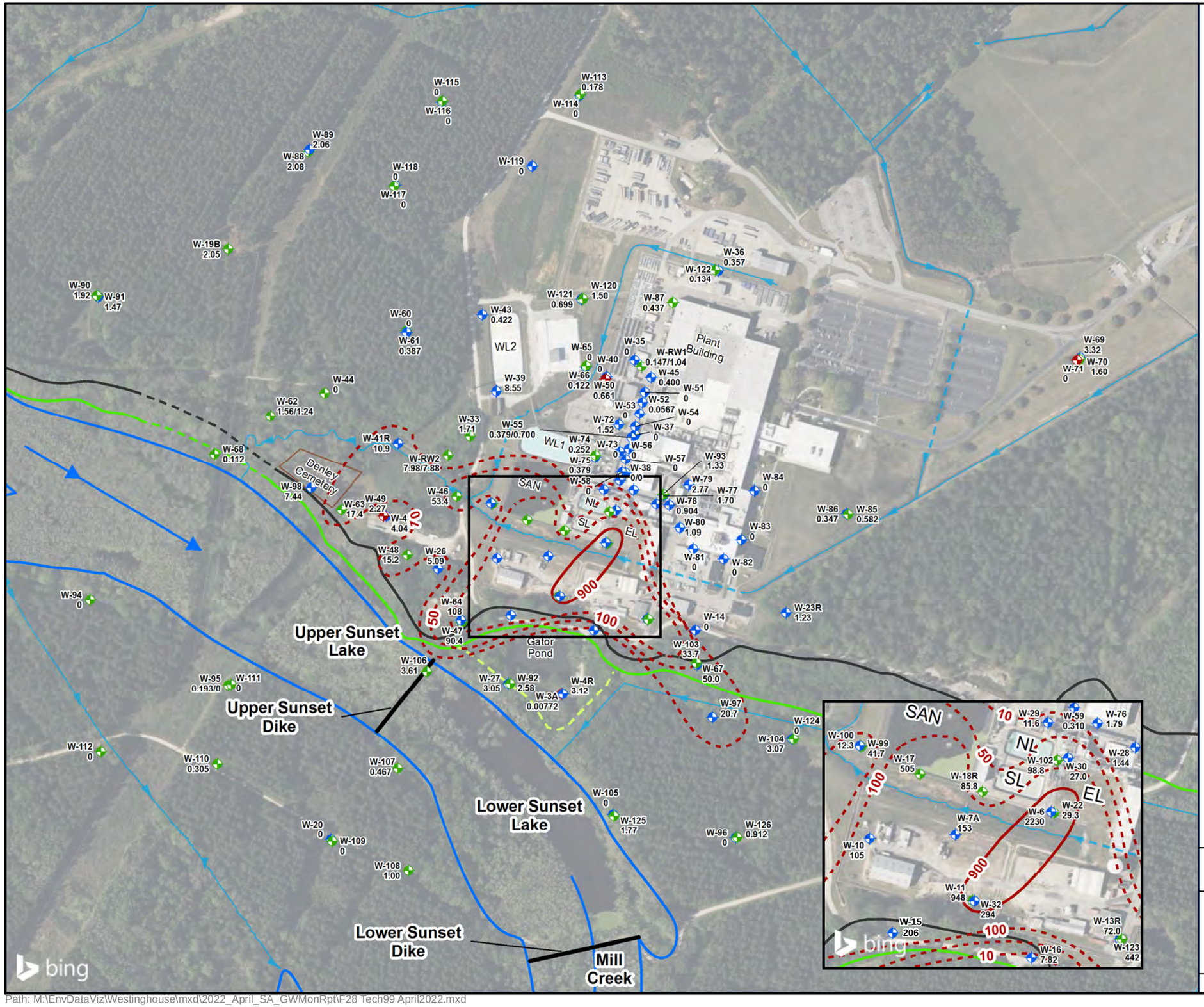
Extent of Technetium-99 in Groundwater October 2021

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	
60641050	CCS	August 2022	**FIGURE 27**

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F27 Tech99 Oct 2021.mxd



Legend

- Surficial Aquifer - Upper Zone Monitoring Well
- Surficial Aquifer - Lower Zone Monitoring Well
- Black Creek Aquifer Monitoring Well
- Ditch
- Culvert
- Dike Location
- Mill Creek Flow Direction
- Mill Creek
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- Tc-99 Isoconcentration Contour (10 pCi/L)
- Tc-99 Isoconcetration Contour at or Above the Minimum Detectible Concentration (pCi/L)
- 2230 — Technetium-99 Concentration in pCi/L
- 0 — Concentration reported as a negative number by the analytical laboratory
- EL — Former East Lagoon
- NL — North Lagoon
- SL — South Lagoon
- SAN — Sanitary Lagoon
- WL1 — West Lagoon 1
- WL2 — West Lagoon 2

Notes:

Although the river terrace sediments above and below the bluff are of different geologic ages (Pleistocene-vs-Holocene), they were deposited under similar conditions, have similar lithologies and are hydrogeologically connected as a single surficial aquifer.

Wells displaying two concentration values had a quality control duplicate sample taken.

0 200 400 Feet

1 inch = 400 feet

Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet

Datum: North American 1983

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Extent of Technetium-99 in Groundwater April 2022

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY:	DATE:	FIGURE 28
60641050	CCS	August 2022	

Path: M:\EnvDataViz\Westinghouse\mxd\2022_April_SA_GWMonRpt\F28 Tech99 April2022.mxd

Tables

Table 1 - Monitoring Well Construction Details
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well Number	Northing	Easting	Date Installed	Ground Surface Elevation (ft msl)	Top of Casing Elevation (ft msl)	Casing Stickup (ft)	Well Diameter (in)	Casing Type	Total Depth (ft bgs)	Screen Length (ft)	Screen Interval (ft bgs)	Classification
W-RW-1	745689.8390	2024255.5150	4/1/1995	136.00	136.95	0.95	4.0	Steel	32.17	10	22-32	Surficial - Lower Zone
W-RW2	745325.1547	2023458.2190	3/10/1995	136.98	139.93	2.95	4.0	Steel	28.40	10	18.5-28.5	Surficial - Lower Zone
W-3A	744340.2273	2023926.2926	6/11/1985	117.64	120.08	2.44	2.0	PVC	82.86	10	73-83	Black Creek
W-4	744343.6686	2023959.5730	1977	116.50	116.09	-0.41	4.0	PVC	14.55	2	4.5-14.5	Surficial - Upper Zone
W-6	744963.2941	2024109.6154	5/15/1980	136.96	136.46	-0.50	2.0	PVC	27.80	5	23-28	Surficial - Lower Zone
W-7A	744907.4275	2023872.2237	2/19/1992	132.94	135.06	2.12	2.0	PVC	17.95	5	13-18	Surficial - Upper Zone
W-10	744897.8502	2023659.8964	5/14/1980	136.89	136.81	-0.08	2.0	PVC	22.31	5	17.5-22.5	Surficial - Upper Zone
W-11	744743.0468	2023914.5566	5/14/1980	138.45	140.76	2.31	2.0	PVC	24.97	3	22-25	Surficial - Upper Zone
W-13R	744648.7070	2024279.2522	10/8/2010	136.38	136.13	-0.25	2.0	PVC	27.47	5	15-20	Surficial - Upper Zone
W-14	744603.1956	2024478.6507	5/4/1988	136.22	137.83	1.61	2.0	PVC	28.91	5	24-29	Surficial - Upper Zone
W-15	744663.4226	2023716.7929	5/15/1980	126.67	127.90	1.23	2.0	PVC	20.71	5	15.5-20.5	Surficial - Upper Zone
W-16	744602.3196	2024060.2560	5/15/1980	125.64	124.93	-0.71	2.0	PVC	14.15	3	11-14	Surficial - Upper Zone
W-17	745055.2186	2023785.3818	5/30/1980	137.57	139.27	1.70	2.0	PVC	27.97	5	23-28	Surficial - Lower Zone
W-18R	745012.6889	2023939.2527	Unknown	137.15	136.71	-0.44	2.0	PVC	27.60	5	22.5-27.5	Surficial - Lower Zone
W-19B	746172.6764	2022552.9543	3/17/1995	140.58	142.85	2.27	4.0	PVC	40.67	10	30.5-40.5	Surficial - Lower Zone
W-20	743739.6310	2022975.3834	7/10/1980	113.27	116.16	2.89	2.0	PVC	15.61	5	10.5-15.5	Surficial - Upper Zone
W-22	744960.9243	2024116.3963	7/12/1980	137.08	136.51	-0.57	2.0	PVC	15.10	5	10-15	Surficial - Upper Zone
W-23R	744674.7363	2024851.2620	7/22/2011	137.45	140.47	3.02	2.0	PVC	20.93	5	16-21	Surficial - Upper Zone
W-24	746742.5552	2027344.7554	7/9/1980	139.83	141.94	2.11	2.0	PVC	14.99	5	10-15	Surficial - Upper Zone
W-25	742114.3330	2022728.9859	7/9/1980	114.98	115.88	0.90	2.0	PVC	27.37	5	22.5-27.5	Surficial - Upper Zone
W-26	744855.2926	2023417.6899	7/11/1980	140.59	142.21	1.62	2.0	PVC	30.65	5	25.5-30.5	Surficial - Upper Zone
W-27	744383.9028	2023708.2286	7/13/1980	120.22	121.87	1.65	2.0	PVC	14.77	5	10-15	Surficial - Upper Zone
W-28	745121.7794	2024317.4127	7/13/1980	136.98	138.88	1.90	2.0	PVC	15.30	5	10-15	Surficial - Upper Zone
W-29	745182.7704	2024101.6410	7/12/1980	136.96	138.61	1.65	2.0	PVC	13.96	5	9-14	Surficial - Upper Zone
W-30	745095.1563	2024150.8369	7/11/1980	136.87	138.81	1.94	2.0	PVC	14.83	5	10-15	Surficial - Upper Zone
W-32	744742.1011	2023919.8088	7/15/1980	138.33	140.34	2.01	2.0	PVC	21.89	5	17-22	Surficial - Upper Zone
W-33	745402.9946	2023548.6640	7/15/1980	138.06	139.33	1.27	2.0	PVC	19.86	5	15-20	Surficial - Lower Zone
W-35	745716.6972	2024227.9328	2/18/1992	136.59	139.07	2.48	2.0	PVC	20.38	5	15.5-20.5	Surficial - Upper Zone
W-36	746084.8252	2024573.1745	2/19/1992	134.16	136.29	2.13	2.0	PVC	19.80	5	15-20	Surficial - Upper Zone
W-37	745407.3901	2024230.7318	2/11/1992	136.58	139.04	2.46	2.0	PVC	20.41	5	15.5-20.5	Surficial - Upper Zone
W-38	745250.3065	2024192.9679	2/18/1992	136.71	136.51	-0.20	2.0	PVC	20.15	5	15-20	Surficial - Upper Zone
W-39	745587.4130	2023656.6724	1/27/1994	139.08	141.15	2.07	2.0	PVC	23.04	10	13-23	Surficial - Upper Zone
W-40	745646.5324	2024112.4795	7/18/1984	136.42	139.26	2.84	2.0	PVC	14.38	10	4.5-14.5	Surficial - Upper Zone
W-41R	745372.8885	2023252.5925	Unknown	131.02	133.81	2.79	2.0	PVC	24.34	10	14.5-24.5	Surficial - Upper Zone
W-42	745072.3463	2023203.3177	1/27/1994	137.83	140.96	3.13	2.0	PVC	29.89	10	20-30	Surficial - Upper Zone
W-43	745904.3053	2023600.1186	1/27/1994	138.09	141.33	3.24	2.0	PVC	21.01	10	11-21	Surficial - Upper Zone
W-44	745579.8931	2022950.1077	2/1/1994	131.93	134.86	2.93	2.0	PVC	27.04	10	17-27	Surficial - Lower Zone
W-45	745644.0322	2024296.0965	7/18/1984	137.20	140.02	2.82	2.0	PVC	15.38	10	5.5-15.5	Surficial - Upper Zone
W-46	745154.5936	2023494.4570	3/27/1995	132.39	134.74	2.35	4.0	PVC	25.85	10	16-26	Surficial - Lower Zone
W-47	744633.7657	2023515.8706	3/31/1995	140.70	141.90	1.20	4.0	PVC	45.60	10	34.5-44.5	Surficial - Lower Zone

Table 1 - Monitoring Well Construction Details
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well Number	Northing	Easting	Date Installed	Ground Surface Elevation (ft msl)	Top of Casing Elevation (ft msl)	Casing Stickup (ft)	Well Diameter (in)	Casing Type	Total Depth (ft bgs)	Screen Length (ft)	Screen Interval (ft bgs)	Classification
W-48	744913.2226	2023290.4438	3/30/1995	139.74	142.56	2.82	4.0	PVC	41.68	10	31.5-41.5	Surficial - Lower Zone
W-49	745073.2286	2023192.6302	3/15/1995	137.82	140.25	2.43	2.0	PVC	117.77	10	108-118	Black Creek
W-50	745637.2219	2024107.3993	3/21/1995	136.79	139.58	2.79	2.0	PVC	125.01	10	115-125	Black Creek
W-51	745583.8582	2024270.8300	9/19/2018	136.67	136.51	-0.16	2.0	PVC	14.71	5	9.5-14.5	Surficial - Upper Zone
W-52	745542.3624	2024260.1657	9/19/2018	136.71	136.19	-0.52	2.0	PVC	15.52	5	10.5-15.5	Surficial - Upper Zone
W-53	745495.9968	2024247.5619	9/19/2018	136.83	136.54	-0.29	2.0	PVC	15.75	5	11-16	Surficial - Upper Zone
W-54	745442.5511	2024229.9796	9/19/2018	136.79	136.52	-0.27	2.0	PVC	15.82	5	11-16	Surficial - Upper Zone
W-55	745397.6509	2024214.0049	9/20/2018	136.90	136.63	-0.27	2.0	PVC	15.24	5	10-15	Surficial - Upper Zone
W-56	745351.3097	2024203.7460	9/20/2018	136.83	136.68	-0.15	2.0	PVC	15.13	5	10-15	Surficial - Upper Zone
W-57	745307.4270	2024190.7853	9/20/2018	136.90	136.73	-0.17	2.0	PVC	15.12	5	10-15	Surficial - Upper Zone
W-58	745254.0864	2024176.3347	9/18/2018	136.85	136.37	-0.48	2.0	PVC	15.47	5	10.5-15.5	Surficial - Upper Zone
W-59	745219.3681	2024165.8802	9/18/2018	136.10	136.42	0.32	2.0	PVC	14.65	5	9.5-14.5	Surficial - Upper Zone
W-60	745835.5835	2023286.8131	10/8/2018	137.25	140.20	2.95	2.0	PVC	37.87	5	33-38	Surficial - Lower Zone
W-61	745829.2570	2023288.2599	10/9/2018	137.34	140.60	3.26	2.0	PVC	23.50	10	13.5-23.5	Surficial - Upper Zone
W-62	745485.4613	2022726.0792	10/9/2018	125.63	128.38	2.75	2.0	PVC	24.85	5	20-25	Surficial - Lower Zone
W-63	745098.1342	2023019.4184	10/10/2018	138.78	141.02	2.24	2.0	PVC	41.90	5	37-42	Surficial - Lower Zone
W-64	744643.8030	2023511.3331	10/10/2018	140.15	142.75	2.60	2.0	PVC	31.60	10	21.5-31.5	Surficial - Upper Zone
W-65	745693.7040	2024027.4543	10/12/2018	138.17	140.95	2.78	2.0	PVC	31.69	5	26.5-31.5	Surficial - Lower Zone
W-66	745687.8186	2024027.1699	10/12/2018	138.01	140.91	2.90	2.0	PVC	22.35	10	12.5-22.5	Surficial - Upper Zone
W-67	744459.5852	2024485.7938	10/15/2018	132.60	135.26	2.66	2.0	PVC	31.81	10	22-32	Surficial - Upper Zone
W-68	745329.2457	2022496.2174	11/1/2018	113.40	116.53	3.13	2.0	PVC	18.14	5	13-18	Surficial - Lower Zone
W-69	745726.9177	2026064.2900	6/11/2019	137.67	140.64	2.97	2.0	PVC	18.08	10	8-18	Surficial - Upper Zone
W-70	745719.2209	2026062.8740	6/20/2019	138.02	141.00	2.98	2.0	PVC	48.92	5	44-49	Surficial - Lower Zone
W-71	745716.6462	2026052.3340	9/19/2019	137.96	140.72	2.77	2.0	PVC	102.83	10	93-103	Black Creek
W-72	745450.2503	2024162.6920	6/30/2019	136.81	136.29	-0.53	2.0	PVC	15.01	10	5-15	Surficial - Upper Zone
W-73	745339.3056	2024166.2500	6/30/2019	136.85	136.45	-0.40	2.0	PVC	16.00	10	6-16	Surficial - Upper Zone
W-74	745325.1257	2024067.1720	9/17/2019	136.64	139.93	3.29	2.0	PVC	30.60	5	25.5-30.5	Surficial - Lower Zone
W-75	745317.2335	2024064.7580	9/17/2019	136.60	139.85	3.25	2.0	PVC	15.33	10	5.5-15.5	Surficial - Upper Zone
W-76	745181.1851	2024223.5230	6/29/2019	137.04	136.85	-0.19	2.0	PVC	15.14	10	5-15	Surficial - Upper Zone
W-77	745158.9297	2024346.1090	9/18/2019	136.85	136.53	-0.32	2.0	PVC	15.62	10	5.5-15.5	Surficial - Upper Zone
W-78	745117.7529	2024371.0300	9/19/2019	136.75	136.31	-0.44	2.0	PVC	15.57	10	5.5-15.5	Surficial - Upper Zone
W-79	745200.3957	2024450.2660	6/29/2019	136.49	136.12	-0.38	2.0	PVC	15.67	10	5.5-15.5	Surficial - Upper Zone
W-80	745024.3899	2024414.6850	6/29/2019	136.34	135.87	-0.47	2.0	PVC	15.75	10	5.5-15.5	Surficial - Upper Zone
W-81	744938.6049	2024469.8490	6/29/2019	136.81	136.43	-0.39	2.0	PVC	15.69	10	5.5-15.5	Surficial - Upper Zone
W-82	744895.9297	2024594.1720	6/29/2019	136.57	136.23	-0.34	2.0	PVC	15.62	10	5.5-15.5	Surficial - Upper Zone
W-83	744975.0629	2024667.4890	6/29/2019	136.22	135.81	-0.41	2.0	PVC	26.43	10	16.5-26.5	Surficial - Upper Zone
W-84	745177.2489	2024721.4980	6/30/2019	136.66	135.99	-0.67	2.0	PVC	20.97	10	11-21	Surficial - Upper Zone
W-85	745079.7122	2025107.6820	6/11/2019	135.74	138.69	2.95	2.0	PVC	44.82	5	40-45	Surficial - Lower Zone
W-86	745082.2852	2025100.8040	6/11/2019	135.68	138.77	3.09	2.0	PVC	35.08	10	25-35	Surficial - Upper Zone
W-87	745952.7641	2024385.8120	6/30/2019	136.66	136.39	-0.27	2.0	PVC	33.15	5	28-33	Surficial - Lower Zone

Table 1 - Monitoring Well Construction Details
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well Number	Northing	Easting	Date Installed	Ground Surface Elevation (ft msl)	Top of Casing Elevation (ft msl)	Casing Stickup (ft)	Well Diameter (in)	Casing Type	Total Depth (ft bgs)	Screen Length (ft)	Screen Interval (ft bgs)	Classification
W-88	746574.7739	2022883.9580	6/17/2019	140.06	143.10	3.04	2.0	PVC	41.38	5	36.5-41.5	Surficial - Lower Zone
W-89	746583.3384	2022888.2490	6/13/2019	140.12	142.82	2.70	2.0	PVC	25.53	10	15.5-25.5	Surficial - Upper Zone
W-90	745981.1215	2022011.5510	6/13/2019	140.23	143.33	3.10	2.0	PVC	39.99	5	35-40	Surficial - Lower Zone
W-91	745976.3596	2022016.7650	6/13/2019	139.57	142.81	3.24	2.0	PVC	25.07	10	15-25	Surficial - Upper Zone
W-92	744382.4699	2023714.9210	6/12/2019	120.11	123.33	3.22	2.0	PVC	33.78	5	29-34	Surficial - Lower Zone
W-93	745162.2579	2024346.8430	9/18/2019	136.87	136.49	-0.38	2.0	PVC	35.36	5	30.5-35.5	Surficial - Lower Zone
W-94	744728.0254	2021983.5560	9/17/2019	115.28	118.04	2.76	2.0	PVC	29.48	5	24.5-29.5	Surficial - Lower Zone
W-95	744375.6603	2022553.4620	9/17/2019	113.53	116.40	2.86	2.0	PVC	33.43	5	28.5-33.5	Surficial - Lower Zone
W-96	743746.7835	2024643.8120	9/17/2019	113.65	116.46	2.81	2.0	PVC	29.96	5	25-30	Surficial - Upper Zone
W-97	744244.0503	2024547.7590	9/17/2019	113.92	116.93	3.01	2.0	PVC	18.94	5	14-19	Surficial - Upper Zone
W-98	745190.4186	2022894.5358	1/29/2021	135.52	138.65	3.13	2.0	PVC	26.72	10	17-27	Surficial - Upper Zone
W-99	745123.5105	2023640.5364	1/27/2021	129.78	133.84	4.06	2.0	PVC	19.77	5	16-21	Surficial - Lower Zone
W-100	745126.2199	2023636.3622	1/28/2021	129.47	133.47	4.00	2.0	PVC	11.07	5	7-12	Surficial - Upper Zone
W-102	745090.1200	2024124.4415	12/9/2020	137.08	136.86	-0.22	2.0	PVC	33.72	5	28.5-33.5	Surficial - Lower Zone
W-103	744466.6874	2024483.1317	1/27/2021	132.56	134.87	2.32	2.0	PVC	39.41	5	34.5-39.5	Surficial - Lower Zone
W-104	744154.7155	2024875.5065	1/25/2021	115.45	118.48	3.03	2.0	PVC	17.37	10	7.5-17.5	Surficial - Upper Zone
W-105	743843.4667	2024138.0034	1/26/2021	114.80	117.57	2.77	2.0	PVC	24.13	10	14-24	Surficial - Upper Zone
W-106	744431.5527	2023371.3176	2/15/2021	115.68	118.69	3.01	2.0	PVC	29.66	5	24.5-29.5	Surficial - Lower Zone
W-107	744034.1147	2023252.1811	1/25/2021	112.27	115.23	2.96	2.0	PVC	34.39	5	29-34	Surficial - Lower Zone
W-108	743611.3486	2023295.2256	1/28/2021	111.93	115.41	3.49	2.0	PVC	32.35	5	27-32	Surficial - Lower Zone
W-109	743731.8238	2022981.0635	1/28/2021	112.81	115.68	2.87	2.0	PVC	32.15	5	27-32	Surficial - Lower Zone
W-110	744051.9526	2022508.2574	1/27/2021	113.21	116.42	3.21	2.0	PVC	33.69	5	29-34	Surficial - Lower Zone
W-111	744378.2719	2022564.9340	1/26/2021	113.68	116.92	3.24	2.0	PVC	81.16	5	76-81	Surficial - Lower Zone
W-112	744101.6181	2022027.5127	1/27/2021	112.93	116.07	3.14	2.0	PVC	33.76	5	29-34	Surficial - Lower Zone
Gator SG	744600.5136	2023820.4020	7/16/2019	NS	120.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Canal SG	743544.9360	2019700.8031	3/26/2021	NS	110.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Entrance SG	745852.1977	2020536.5766	3/26/2021	NS	112.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Upper SG	744292.2317	2023220.4190	7/16/2019	NS	112.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Upper 2 SG	745845.6181	2020600.6309	4/20/2021	NS	112.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lower SG	743333.8536	2024092.0010	7/16/2019	NS	112.39	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Creek SG	743263.2548	2024076.8640	7/16/2019	NS	109.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:
ft = feet
in = inches
ft msl = feet above mean sea level
ft bgs = feet below ground surface
NS - not surveyed
N/A - not applicable
SG - staff gauge
Top of casing and ground surface elevations surveyed by AECOM during November 2018, November 2019, April 2021 and August 2021.
Horizontal coordinates are referenced to the State Plane Coordinate System and the North American Datum of 1983 (NAD 83).
Vertical locations are referenced to the North American Vertical Datum of 1988 (NAVD 88).

Table 2 - Groundwater Levels and Elevations
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well	Date	Screen Interval (ft bgs)	Ground Elevation (ft)	Top of Casing Elevation (ft)	Depth to Water (ft btoc)	Water Elevation (ft)
W-RW1	10/04/21	22-32	136.00	136.95	8.73	128.22
W-RW1	04/01/22	22-32	136.00	136.95	9.64	127.31
W-RW2	10/04/21	18.5-28.5	136.98	139.93	18.37	121.56
W-RW2	04/01/22	18.5-28.5	136.98	139.93	18.48	121.45
W-3A	10/04/21	73-83	117.64	120.08	6.78	113.30
W-3A	04/01/22	73-83	117.64	120.08	5.92	114.16
W-4	04/01/22	NA	116.50	116.09	7.07	109.02
W-4R	10/04/21	4.5-14.5	117.27	119.82	11.18	108.64
W-6	10/04/21	23-28	136.96	136.46	10.33	126.13
W-6	04/01/22	23-28	136.96	136.46	11.02	125.44
W-7A	10/04/21	13-18	132.94	135.06	11.57	123.49
W-7A	04/01/22	13-18	132.94	135.06	11.87	123.19
W-10	10/04/21	17.5-22.5	136.89	136.81	15.79	121.02
W-10	04/01/22	17.5-22.5	136.89	136.81	16.30	120.51
W-11	10/04/21	22-25	138.45	140.76	18.23	122.53
W-11	04/01/22	22-25	138.45	140.76	18.61	122.15
W-13R	10/04/21	15-20	136.38	136.13	12.40	123.73
W-13R	04/01/22	15-20	136.38	136.13	12.67	123.46
W-14	10/04/21	24-29	136.22	137.83	16.67	121.16
W-14	04/01/22	24-29	136.22	137.83	16.47	121.36
W-15	10/04/21	15.5-20.5	126.67	127.90	11.93	115.97
W-15	04/01/22	15.5-20.5	126.67	127.90	12.28	115.62
W-16	10/04/21	11-14	125.64	125.96	4.02	121.94
W-16	04/01/22	11-14	125.64	125.96	4.40	121.56
W-17	10/04/21	23-28	137.57	139.27	14.12	125.15
W-17	04/01/22	23-28	137.57	139.27	14.35	124.92
W-18R	10/04/21	22.5-27.5	137.15	136.71	14.07	122.64
W-18R	04/01/22	22.5-27.5	137.15	136.71	12.61	124.10
W-19B	10/04/21	30.5-40.5	140.58	142.85	24.62	118.23
W-19B	04/01/22	30.5-40.5	140.58	142.85	25.50	117.35
W-20	10/04/21	10.5-15.5	113.27	116.16	8.78	107.38
W-20	04/01/22	10.5-15.5	113.27	116.16	7.40	108.76
W-22	10/04/21	10-15	137.08	136.51	10.80	125.71
W-22	04/01/22	10-15	137.08	136.51	11.28	125.23
W-23R	10/04/21	16-21	137.45	140.47	18.61	121.86
W-23R	04/01/22	16-21	137.45	140.47	18.90	121.57
W-24	10/04/21	10-15	139.83	141.94	9.72	132.22
W-24	04/01/22	10-15	139.83	141.94	9.05	132.89
W-25	10/04/21	22.5-27.5	114.98	115.88	9.56	106.32
W-25	04/01/22	22.5-27.5	114.98	115.88	7.95	107.93
W-26	10/04/21	25.5-30.5	140.59	142.21	25.38	116.83
W-26	04/01/22	25.5-30.5	140.59	142.21	26.08	116.13
W-27	10/04/21	10-15	120.22	121.87	10.40	111.47
W-27	04/01/22	10-15	120.22	121.87	9.85	112.02
W-28	10/04/21	10-15	136.98	138.88	11.72	127.16
W-28	04/01/22	10-15	136.98	138.88	12.70	126.18
W-29	10/04/21	9-14	136.96	138.61	11.49	127.12
W-29	04/01/22	9-14	136.96	138.61	12.45	126.16
W-30	10/04/21	10-15	136.87	138.81	11.83	126.98
W-30	04/01/22	10-15	136.87	138.81	12.73	126.08
W-32	10/04/21	17-22	138.33	140.34	18.80	121.54
W-32	04/01/22	17-22	138.33	140.34	19.19	121.15
W-33	10/04/21	15-20	138.06	139.33	15.59	123.74
W-33	04/01/22	15-20	138.06	139.33	15.62	123.71
W-35	10/04/21	15.5-20.5	136.59	139.07	10.87	128.20
W-35	04/01/22	15.5-20.5	136.59	139.07	11.78	127.29
W-36	10/04/21	15-20	134.16	136.29	7.68	128.61
W-36	04/01/22	15-20	134.16	136.29	8.47	127.82
W-37	10/04/21	15.5-20.5	136.58	139.04	11.11	127.93
W-37	04/01/22	15.5-20.5	136.58	139.04	12.07	126.97
W-38	10/04/21	15-20	136.71	136.51	9.20	127.31
W-38	04/01/22	15-20	136.71	136.51	10.61	125.90
W-39	10/04/21	13-23	139.08	141.15	15.74	125.41
W-39	04/01/22	13-23	139.08	141.15	16.05	125.10
W-40	10/04/21	4.5-14.5	136.42	139.26	11.04	128.22
W-40	04/01/22	4.5-14.5	136.42	139.26	11.95	127.31
W-41R	10/04/21	14.5-24.5	131.02	133.81	15.46	118.35
W-41R	04/01/22	14.5-24.5	131.02	133.81	15.81	118.00
W-42	10/04/21	20-30	137.83	140.96	25.37	115.59
W-42	04/01/22	20-30	137.83	140.96	25.65	115.31

Table 2 - Groundwater Levels and Elevations
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well	Date	Screen Interval (ft bgs)	Ground Elevation (ft)	Top of Casing Elevation (ft)	Depth to Water (ft btoc)	Water Elevation (ft)
W-43	10/04/21	11-21	138.09	141.33	14.62	126.71
W-43	04/01/22	11-21	138.09	141.33	15.25	126.08
W-44	10/04/21	17-27	131.93	134.86	17.99	116.87
W-44	04/01/22	17-27	131.93	134.86	18.35	116.51
W-45	10/04/21	5.5-15.5	137.20	140.02	11.90	128.12
W-45	04/01/22	5.5-15.5	137.20	140.02	12.83	127.19
W-46	10/04/21	16-26	132.39	134.74	13.73	121.01
W-46	04/01/22	16-26	132.39	134.74	13.85	120.89
W-47	10/04/21	34.5-44.5	140.70	141.90	26.02	115.88
W-47	04/01/22	34.5-44.5	140.70	141.90	26.55	115.35
W-48	10/04/21	31.5-41.5	139.74	142.56	26.26	116.30
W-48	04/01/22	31.5-41.5	139.74	142.56	26.86	115.70
W-49	10/04/21	108-118	137.82	140.25	28.96	111.29
W-49	04/01/22	108-118	137.82	140.25	27.84	112.41
W-50	10/04/21	115-125	136.79	139.58	23.37	116.21
W-50	04/01/22	115-125	136.79	139.58	22.48	117.10
W-51	10/04/21	9.5-14.5	136.67	136.51	8.35	128.16
W-51	04/01/22	9.5-14.5	136.67	136.51	9.30	127.21
W-52	10/04/21	10.5-15.5	136.71	136.19	8.32	127.87
W-52	04/01/22	10.5-15.5	136.71	136.19	9.17	127.02
W-53	10/04/21	11-16	136.83	136.54	8.53	128.01
W-53	04/01/22	11-16	136.83	136.54	9.58	126.96
W-54	10/04/21	11-16	136.79	136.52	8.62	127.90
W-54	04/01/22	11-16	136.79	136.52	9.57	126.95
W-55	10/04/21	10-15	136.90	136.63	8.80	127.83
W-55	04/01/22	10-15	136.90	136.63	9.74	126.89
W-56	10/04/21	10-15	136.83	136.68	8.77	127.91
W-56	04/01/22	10-15	136.83	136.68	9.81	126.87
W-57	10/04/21	10-15	136.90	136.73	9.03	127.70
W-57	04/01/22	10-15	136.90	136.73	10.33	126.40
W-58	10/04/21	10.5-15.5	136.85	136.37	9.18	127.19
W-58	04/01/22	10.5-15.5	136.85	136.37	10.60	125.77
W-59	10/04/21	9.5-14.5	136.10	136.42	9.17	127.25
W-59	04/01/22	9.5-14.5	136.10	136.42	11.05	125.37
W-60	10/04/21	33-38	137.25	140.20	21.55	118.65
W-60	04/01/22	33-38	137.25	140.20	22.42	117.78
W-61	10/04/21	13.5-23.5	137.34	140.60	17.98	122.62
W-61	04/01/22	13.5-23.5	137.34	140.60	19.10	121.50
W-62	10/04/21	20-25	125.63	128.38	13.00	115.38
W-62	04/01/22	20-25	125.63	128.38	13.30	115.08
W-63	10/04/21	37-42	138.78	141.02	26.53	114.49
W-63	04/01/22	37-42	138.78	141.02	26.68	114.34
W-64	10/04/21	21.5-31.5	140.15	142.75	26.26	116.49
W-64	04/01/22	21.5-31.5	140.15	142.75	27.91	114.84
W-65	10/04/21	26.5-31.5	138.17	140.95	13.23	127.72
W-65	04/01/22	26.5-31.5	138.17	140.95	14.02	126.93
W-66	10/04/21	12.5-22.5	138.01	140.91	12.89	128.02
W-66	04/01/22	12.5-22.5	138.01	140.91	13.70	127.21
W-67	10/04/21	22-32	132.60	135.26	17.70	117.56
W-67	04/01/22	22-32	132.60	135.26	16.86	118.40
W-68	10/04/21	13-18	113.40	116.53	6.67	109.86
W-68	04/01/22	13-18	113.40	116.53	5.85	110.68
W-69	10/04/21	8-18	137.67	140.64	8.50	132.14
W-69	04/01/22	8-18	137.67	140.64	7.82	132.82
W-70	10/04/21	44-49	138.02	141.00	12.55	128.45
W-70	04/01/22	44-49	138.02	141.00	12.64	128.36
W-71	10/04/21	93-103	137.96	140.72	24.10	116.62
W-71	04/01/22	93-103	137.96	140.72	23.28	117.44
W-72	10/04/21	5-15	136.81	136.29	8.40	127.89
W-72	04/01/22	5-15	136.81	136.29	9.29	127.00
W-73	10/04/21	6-16	136.85	136.45	8.68	127.77
W-73	04/01/22	6-16	136.85	136.45	9.64	126.81
W-74	10/04/21	25.5-30.5	136.64	139.93	12.62	127.31
W-74	04/01/22	25.5-30.5	136.64	139.93	13.43	126.50
W-75	10/04/21	5.5-15.5	136.60	139.85	12.23	127.62
W-75	04/01/22	5.5-15.5	136.60	139.85	13.07	126.78
W-76	10/04/21	5-15	137.04	136.85	9.53	127.32
W-76	04/01/22	5-15	137.04	136.85	10.69	126.16
W-77	10/04/21	5.5-15.5	136.85	136.53	8.97	127.56
W-77	04/01/22	5.5-15.5	136.85	136.53	9.76	126.77

Table 2 - Groundwater Levels and Elevations
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well	Date	Screen Interval (ft bgs)	Ground Elevation (ft)	Top of Casing Elevation (ft)	Depth to Water (ft btoc)	Water Elevation (ft)
W-78	10/04/21	5.5-15.5	136.75	136.31	10.13	126.18
W-78	04/01/22	5.5-15.5	136.75	136.31	10.10	126.21
W-79	10/04/21	5.5-15.5	136.49	136.12	8.17	127.95
W-79	04/01/22	5.5-15.5	136.49	136.12	9.05	127.07
W-80	10/04/21	5.5-15.5	136.34	135.87	9.47	126.40
W-80	04/01/22	5.5-15.5	136.34	135.87	10.77	125.10
W-81	10/04/21	5.5-15.5	136.81	136.43	11.25	125.18
W-81	04/01/22	5.5-15.5	136.81	136.43	12.03	124.40
W-82	10/04/21	5.5-15.5	136.57	136.23	11.80	124.43
W-82	04/01/22	5.5-15.5	136.57	136.23	12.42	123.81
W-83	10/04/21	16.5-26.5	136.22	135.81	12.73	123.08
W-83	04/01/22	16.5-26.5	136.22	135.81	14.05	121.76
W-84	10/04/21	11-21	136.66	135.99	6.25	129.74
W-84	04/01/22	11-21	136.66	135.99	6.78	129.21
W-85	10/04/21	40-45	135.74	138.69	24.22	114.47
W-85	04/01/22	40-45	135.74	138.69	19.58	119.11
W-86	10/04/21	25-35	135.68	138.77	19.12	119.65
W-86	04/01/22	25-35	135.68	138.77	18.60	120.17
W-87	10/04/21	28-33	136.66	136.39	7.55	128.84
W-87	04/01/22	28-33	136.66	136.39	8.95	127.44
W-88	10/04/21	36.5-41.5	140.06	143.10	22.61	120.49
W-88	04/01/22	36.5-41.5	140.06	143.10	23.95	119.15
W-89	10/04/21	15.5-25.5	140.12	142.82	21.10	121.72
W-89	04/01/22	15.5-25.5	140.12	142.82	22.83	119.99
W-90	10/04/21	35-40	140.23	143.33	26.64	116.69
W-90	04/01/22	35-40	140.23	143.33	27.45	115.88
W-91	10/04/21	15-25	139.57	142.81	26.48	116.33
W-91	04/01/22	15-25	139.57	142.81	27.30	115.51
W-92	10/04/21	29-34	120.11	123.33	16.05	107.28
W-92	04/01/22	29-34	120.11	123.33	14.74	108.59
W-93	10/04/21	30.5-35.5	136.87	136.49	9.45	127.04
W-93	04/01/22	30.5-35.5	136.87	136.49	10.27	126.22
W-94	10/04/21	24.5-29.5	115.28	118.04	10.13	107.91
W-94	04/01/22	24.5-29.5	115.28	118.04	8.97	109.07
W-95	10/04/21	28.5-33.5	113.53	116.40	8.87	107.53
W-95	04/01/22	28.5-33.5	113.53	116.40	7.54	108.86
W-96	10/04/21	25-30	113.65	116.46	9.40	107.06
W-96	04/01/22	25-30	113.65	116.46	8.04	108.42
W-97	10/04/21	14-19	113.92	116.93	5.89	111.04
W-97	04/01/22	14-19	113.92	116.93	4.40	112.53
W-98	10/04/21	17-27	135.52	138.65	24.33	114.32
W-98	04/01/22	17-27	135.52	138.65	24.35	114.30
W-99	10/04/21	16-21	129.78	133.84	12.38	121.46
W-99	04/01/22	16-21	129.78	133.84	12.32	121.52
W-100	10/04/21	7-12	129.47	133.47	10.55	122.92
W-100	04/01/22	7-12	129.47	133.47	10.75	122.72
W-102	10/04/21	28.5-33.5	137.08	136.86	10.13	126.73
W-102	04/01/22	28.5-33.5	137.08	136.86	11.10	125.76
W-103	10/04/21	34.5-39.5	132.56	134.87	18.46	116.41
W-103	04/01/22	34.5-39.5	132.56	134.87	17.48	117.39
W-104	10/04/21	7.5-17.5	115.45	118.48	7.61	110.87
W-104	04/01/22	7.5-17.5	115.45	118.48	6.05	112.43
W-105	10/04/21	14-24	114.80	117.57	10.51	107.06
W-105	04/01/22	14-24	114.80	117.57	9.32	108.25
W-106	10/04/21	24.5-29.5	115.68	118.69	11.32	107.37
W-106	04/01/22	24.5-29.5	115.68	118.69	10.02	108.67
W-107	10/04/21	29-34	112.27	115.23	7.97	107.26
W-107	04/01/22	29-34	112.27	115.23	6.58	108.65
W-108	10/04/21	27-32	111.93	115.41	8.27	107.14
W-108	04/01/22	27-32	111.93	115.41	6.90	108.51
W-109	10/04/21	27-32	112.81	115.68	8.47	107.21
W-109	04/01/22	27-32	112.81	115.68	7.10	108.58
W-110	10/04/21	29-34	113.21	116.42	8.98	107.44
W-110	04/01/22	29-34	113.21	116.42	7.68	108.74
W-111	10/04/21	76-81	113.68	116.92	6.10	110.82
W-111	04/01/22	76-81	113.68	116.92	6.50	110.42
W-112	10/04/21	29-34	112.93	116.07	8.45	107.62
W-112	04/01/22	29-34	112.93	116.07	7.15	108.92
W-113	10/04/21	31-36	135.66	138.55	10.54	128.01
W-113	04/01/22	31-36	135.66	138.55	10.78	127.77

Table 2 - Groundwater Levels and Elevations
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well	Date	Screen Interval (ft bgs)	Ground Elevation (ft)	Top of Casing Elevation (ft)	Depth to Water (ft btoc)	Water Elevation (ft)
W-114	10/04/21	10-20	135.54	138.75	10.00	128.75
W-114	04/01/22	10-20	135.54	138.75	10.06	128.69
W-115	10/04/21	40.5-45.5	139.06	141.71	17.89	123.82
W-115	04/01/22	40.5-45.5	139.06	141.71	19.60	122.11
W-116	10/04/21	10-20	138.99	141.91	17.37	124.54
W-116	04/01/22	10-20	138.99	141.91	19.20	122.71
W-117	10/04/21	39-44	140.82	143.76	21.89	121.87
W-117	04/01/22	39-44	140.82	143.76	23.28	120.48
W-118	10/04/21	19.5-29.5	140.78	143.74	19.71	124.03
W-118	04/01/22	19.5-29.5	140.78	143.74	21.54	122.20
W-119	10/04/21	25-30	139.48	142.24	15.28	126.96
W-119	04/01/22	25-30	139.48	142.24	16.65	125.59
W-120	10/04/21	29-34	139.26	142.34	14.00	128.34
W-120	04/01/22	29-34	139.26	142.34	14.87	127.47
W-121	10/04/21	12-22	139.12	142.24	14.03	128.21
W-121	04/01/22	12-22	139.12	142.24	14.94	127.30
W-122	10/04/21	25-30	134.29	136.84	8.32	128.52
W-122	04/01/22	25-30	134.29	136.84	9.14	127.70
W-123	10/04/21	29-34	136.30	136.05	13.82	122.23
W-123	04/01/22	29-34	136.30	136.05	13.75	122.30
W-124	10/04/21	26-31	115.26	117.73	10.62	107.11
W-124	04/01/22	26-31	115.26	117.73	9.30	108.43
W-125	10/04/21	40-45	114.65	117.84	10.79	107.05
W-125	04/01/22	40-45	114.65	117.84	9.45	108.39
W-126	10/04/21	37.5-42.5	113.53	115.89	8.85	107.04
W-126	04/01/22	37.5-42.5	113.53	115.89	7.52	108.37
CANAL SG	10/04/21	NA	NS	110.01	1.73	107.74
CANAL SG	04/01/22	NA	NS	110.01	0.89	106.90
ENTRANCE SG	10/04/21	NA	NS	112.56	0.75	109.31
ENTRANCE SG	04/01/22	NA	NS	112.56	0.68	109.24
GATOR SG	10/04/21	NA	NS	120.31	1.46	117.77
GATOR SG	04/01/22	NA	NS	120.31	1.58	117.89
LOWER SG	10/04/21	NA	NS	112.39	0.89	109.28
LOWER SG	04/01/22	NA	NS	112.39	1.49	109.88
UPPER SG	10/04/21	NA	NS	112.41	1.06	109.47
UPPER SG	04/01/22	NA	NS	112.41	1.98	110.39

Notes:
ft - feet
bgs - below ground surface
btoc - below top of casing
SG - staff gage
NA - not applicable
NS - not surveyed

Table 3 - Summary of Groundwater Field Stability Parameters
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

	Field Parameter	Dissolved Oxygen	Oxidation Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
	Unit	mg/L	mv	SU	us/cm	degrees C	NTU
Location ID	Date						
W-RW1	10/14/21	4.94	20.01	5.57	99	23.88	0.17
W-RW2	10/21/21	0.8	295.1	5.13	199	20.16	0
W-RW2	04/14/22	1.91	453	5.23	200	19.42	0.75
W-3A	10/25/21	0.18	133.07	4.87	24	19.04	0
W-3A	04/21/22	0.11	310.7	4.45	30	18.26	0
W-4R	10/25/21	0.24	78.48	5.69	162	20.58	4.01
W-4R	04/25/22	1.3	462.4	5.51	170	15.81	0.02
W-6	10/08/21	0.3	156.03	6.34	2318	23.11	5.16
W-7A	10/05/21	0.3	-26.64	7.05	3164	23.73	10.79
W-10	10/05/21	0.27	115.75	6.22	528	24.4	0.87
W-10	04/04/22	0.4	242.6	5.69	548	21.23	45.61
W-11	10/05/21	0.33	-11.45	5.75	272	23.09	5.84
W-13R	10/05/21	0.6	123.73	6.33	765	24.43	23.44
W-14	10/18/21	0.28	-76.11	6.23	551	21.59	0.94
W-14	04/14/22	0.15	96.8	6.3	690	19.74	5.93
W-15	10/19/21	0.28	182.22	5.99	556	21.35	0
W-15	04/14/22	0.13	357.8	5.97	650	18.09	0
W-16	10/19/21	0.22	9.6	6.16	380	21.3	3.53
W-16	04/19/22	0.11	243.8	6.06	487	17.5	0
W-17	10/12/21	0.28	-82.63	6.48	438	22.57	4.29
W-17	04/07/22	0.39	220.5	6.3	489	19.62	2.67
W-18R	10/08/21	0.3	104.23	7.43	4704	23.18	0.28
W-18R	04/07/22	0.33	189.3	7.3	4132	20.88	1.14
W-19B	10/20/21	4.38	272.09	5.35	80	19.65	0
W-19B	04/19/22	4.56	521	5.32	86	17.32	0.86
W-20	10/26/21	0.3	-36.9	5.6	136	19.54	0
W-20	04/25/22	0.48	399.5	5.2	153	17.06	0
W-22	10/08/21	0.27	225.01	5.61	1317	24.59	2.39
W-22	04/04/22	0.18	356	5.58	1311	20.44	0.1
W-23R	10/18/21	4.15	284.23	4.92	56	18.63	0
W-23R	04/13/22	3.59	519.6	4.99	60	19.24	0
W-24	10/21/21	0.18	-122.52	5.57	58	23.13	8.67
W-24	04/20/22	0.98	412.5	5.23	50	18.37	4.55
W-25	10/26/21	0.19	-246.16	6.7	150	18.48	10.26
W-25	04/21/22	0.2	-44.5	6.28	132	17.89	15.73
W-26	10/19/21	0.61	60.72	6.08	227	19.1	0
W-26	04/19/22	0.29	369.6	5.83	320	17.79	0
W-27	10/22/21	0.29	-102.87	6.23	358	20.73	0.16
W-27	04/21/22	0.09	48.7	6.23	430	17.49	19.69
W-28	10/06/21	0.84	440.38	6.02	810	25.26	17.54
W-28	04/05/22	2.98	523.5	6.35	723	19.72	0
W-29	10/08/21	0.27	-15.49	7.27	412	24.32	0.04
W-29	04/06/22	0.21	188.8	6.69	457	19.28	124.57
W-30	10/08/21	0.19	4.65	5.89	849	25.35	0.25
W-30	04/07/22	0.54	254.7	6.26	668	20.22	2.08
W-32	10/05/21	0.33	-19.6	7.11	1259	23.64	7.94
W-33	10/14/21	0.81	13.47	5.96	239	21.91	0.13
W-33	04/13/22	1.28	386.6	5.75	166	18.55	0
W-35	10/14/21	4.49	5.41	6.08	151	24.01	1.39
W-35	04/11/22	4.95	482.6	5.81	155	20	0.16
W-36	10/13/21	0.23	196.53	5.16	41	22.6	3.12
W-36	04/11/22	0.5	428.3	5	50	19.87	0.54
W-37	10/11/21	3.66	234.44	5.64	137	23.91	0.73
W-37	04/08/22	4.33	401.8	5.68	141	19.63	7.52
W-38	10/07/21	3.16	63.68	5.45	174	25.21	1.28
W-38	04/07/22	2.89	494.2	5.1	203	21.86	0

Table 3 - Summary of Groundwater Field Stability Parameters
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

	Field Parameter	Dissolved Oxygen	Oxidation Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
	Unit	mg/L	mv	SU	us/cm	degrees C	NTU
Location ID	Date						
W-39	10/18/21	2.32	48.62	5.72	617	24.2	0.16
W-39	04/14/22	2.77	441.1	5.49	758	19.89	1.85
W-40	10/12/21	0.53	-115.25	6.25	92	23.79	6.43
W-40	04/11/22	1.96	340.9	5.99	81	17.71	42.4
W-41R	10/21/21	3.72	107.39	5.63	534	19.46	0
W-41R	04/15/22	4.04	473	5.36	499	18.62	0
W-42	10/20/21	0.63	330.66	4.8	61	18.69	0
W-42	04/18/22	0.88	488.4	4.81	74	17.89	0
W-43	10/18/21	3.27	61.78	5.46	110	23.33	0.87
W-43	04/14/22	3.47	481.4	5.21	107	19.34	0.89
W-44	10/18/21	3.53	68.22	5.5	92	20	0
W-44	04/15/22	4.23	499.5	5.22	94	17.14	0
W-45	10/14/21	0.35	-209.91	6.34	155	24.57	1.07
W-46	10/21/21	0.28	259.21	5.46	196	19.37	1.62
W-46	04/15/22	2.21	467.9	5.56	242	18.78	0
W-47	10/19/21	0.31	200.47	5.9	542	18.27	0
W-47	04/19/22	0.26	364.7	5.83	766	17.44	1.23
W-48	10/19/21	2.38	81.07	5.65	126	19.5	0.92
W-48	04/19/22	2.02	482.3	5.26	150	18.24	0
W-49	10/20/21	0.45	126.16	4.84	31	20.27	3.38
W-49	04/18/22	0.24	323.8	4.65	38	17.92	4.5
W-50	10/12/21	0.44	-108.88	5.15	28	22.88	44.73
W-50	04/11/22	0.48	69.6	4.81	27	23.69	33.53
W-51	10/13/21	0.14	-198.98	6.74	234	26.12	2.21
W-51	04/11/22	0.08	-44.2	6.92	264	20.27	0.26
W-52	10/13/21	0.33	70.65	5.78	156	26.24	1.16
W-52	04/11/22	0.77	198.3	6.25	187	21.19	0.88
W-53	10/12/21	0.21	-93.42	6.12	220	25.63	1.92
W-53	04/08/22	0.12	160.5	6.06	186	19.26	0
W-54	10/12/21	3.03	76.3	5.83	142	24.78	6.38
W-54	04/08/22	3.53	327.9	5.62	140	20.58	1.67
W-55	10/11/21	4.25	216.56	5.71	136	24.7	1.55
W-55	04/08/22	4.21	378	5.75	150	18.42	8.62
W-56	10/11/21	3.19	224.17	5.7	135	25.93	9.36
W-56	04/07/22	3.42	466.7	5.69	170	21.68	1.04
W-57	10/07/21	2.86	219.53	5.58	139	26.78	3.46
W-57	04/07/22	1.69	447.7	5.58	165	21.19	0
W-58	10/11/21	0.19	187.19	5.96	192	26.19	0.68
W-58	04/07/22	0.17	317.2	6.18	292	21.39	0
W-59	10/11/21	0.58	231.09	6.34	409	26.37	3.81
W-59	04/06/22	0.35	329	6.28	380	20.36	0
W-60	10/15/21	0.55	-130.94	6.14	111	19.87	32.49
W-60	04/13/22	0.2	254.4	5.52	123	18.7	18.02
W-61	10/15/21	4.15	85.67	5.55	125	20.97	3.84
W-61	04/13/22	3.69	501.1	5.12	114	18.01	11.85
W-62	10/19/21	3.57	121.02	4.89	87	17.89	0
W-62	04/18/22	3.58	472.5	5.39	88	16.95	2.44
W-63	10/19/21	0.54	60.25	6.65	393	21.97	8.83
W-63	04/15/22	0.88	237.7	6.63	465	20.12	26.05
W-64	10/19/21	0.3	228.03	5.64	509	18.46	0
W-64	04/19/22	0.13	371.2	5.68	774	17.48	0
W-65	10/18/21						
W-65	04/14/22	1.06	380.5	5.89	121	18.66	0.66
W-66	10/18/21	0.65	37.48	5.59	85	22.19	4.38
W-66	04/14/22	0.82	409.2	5.24	89	18.09	1.99
W-67	10/18/21	0.28	217.14	5.46	210	18.94	0

Table 3 - Summary of Groundwater Field Stability Parameters
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

	Field Parameter	Dissolved Oxygen	Oxidation Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
	Unit	mg/L	mv	SU	us/cm	degrees C	NTU
Location ID	Date						
W-67	04/14/22	0.15	394.2	5.57	255	17.99	0
W-68	10/19/21	4.95	102.25	4.98	88	18.23	0
W-68	04/19/22	4.85	508.1	5.3	93	16.25	5.43
W-69	10/21/21	0.26	119.67	5.37	73	23.69	5.26
W-69	04/19/22	1.01	371.7	5.3	71	18.08	48.81
W-70	10/21/21	5.78	321.22	4.86	56	21.3	2.41
W-70	04/19/22	6	527.9	4.96	61	19.39	9.93
W-71	10/21/21	0.3	42.11	5.43	33	21.79	5.47
W-71	04/19/22	0.67	318.6	5.33	35	20.57	27.17
W-72	10/12/21	1.37	195.68	5.89	183	23.77	3.71
W-72	04/08/22	5.37	417	6.36	1164	20.65	0
W-73	10/08/21	2.59	250.9	5.6	132	25.35	3.51
W-73	04/07/22	1.54	450.4	5.58	159	21.4	8.89
W-74	10/12/21	1.48	272.47	5.12	128	22.69	0.15
W-74	04/08/22	2.66	488.6	5.15	155	19.32	0
W-75	10/12/21	0.18	20.77	5.67	140	24.43	0.19
W-75	04/08/22	0.2	244.6	5.64	164	19.5	0
W-76	10/07/21	2.07	74.55	4.98	196	26.82	0.38
W-77	10/06/21	1.45	-115.26	11.52	5786	26.3	0.71
W-78	10/06/21	4.12	216.98	6.02	210	26.13	1.11
W-79	10/06/21	4.43	222.83	5.87	180	27.06	2.78
W-80	10/07/21	3.28	225.84	5.6	427	27.29	7.62
W-81	10/07/21	0.58	4.93	6.54	488	23.27	0.05
W-82	10/07/21	0.93	230.76	4.95	174	23.76	4.05
W-83	10/07/21	1.08	-21.93	6.04	184	23.6	1.62
W-84	10/07/21	0.35	-155.67	6.14	224	25.84	16.5
W-85	10/22/21	0.46	-231.56	6.76	275	21.28	0.09
W-85	04/25/22	0.57	-2.8	7.2	269	21.42	14.27
W-86	10/22/21	0.31	-76.82	5.99	278	19.93	12.95
W-86	04/25/22	1.5	339.2	5.61	281	19.3	18.94
W-87	10/13/21	0.24	-66.32	6.34	108	24.25	56.93
W-87	04/11/22	1.53	411.4	6	119	19.05	113.61
W-88	10/21/21	6.51	91.02	5.63	76	19.32	0.19
W-88	04/15/22	6.77	507.1	5.23	73	19.56	2.22
W-89	10/21/21	6.08	101.09	5.5	65	20.46	0.25
W-89	04/15/22	6.4	510.3	5.16	66	19.9	1.79
W-90	10/20/21	5.92	265.02	5.15	74	19.8	2.47
W-90	04/18/22	5.72	515.9	5.25	78	17.43	1.81
W-91	10/20/21	5.37	269.62	5.14	60	20.59	0.59
W-91	04/18/22	5.58	508.6	5.12	52	17.28	27.01
W-92	10/22/21	0.2	-74.97	5.98	253	19.16	0
W-92	04/21/22	0.09	85.7	6.02	309	17.88	2.37
W-93	10/06/21	1.4	255.85	5.35	122	23.29	1.98
W-94	10/26/21	0.21	-46.79	6	164	17.69	0.11
W-94	04/20/22	0.2	107.9	5.85	190	17.93	9.8
W-95	10/26/21	0.19	-86.9	6.23	233	18.16	2.9
W-95	04/20/22	0.14	63.8	6.18	279	16.14	7.15
W-96	10/25/21	0.21	-209.23	6.36	276	19.21	0.68
W-96	04/21/22	0.22	118	6.11	285	17.31	17.71
W-97	10/25/21	0.35	-93.73	6.31	250	19.67	0
W-97	04/20/22	0.25	321.4	5.82	196	16.42	1.35
W-98	10/19/21	0.58	261.54	5.15	168	20.58	1.25
W-98	04/18/22	1.32	471.3	5.01	207	16.96	0
W-99	10/15/21	0.36	53.99	6.62	561	23.65	1.55
W-99	04/15/22	0.2	211.4	6.59	752	19.12	0
W-100	10/15/21	0.9	-17.5	6.32	511	24.55	1.17

Table 3 - Summary of Groundwater Field Stability Parameters
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Field Parameter Unit		Dissolved Oxygen mg/L	Oxidation Reduction Potential mv	pH SU	Specific Conductivity us/cm	Temperature degrees C	Turbidity NTU
Location ID	Date						
W-100	04/15/22	2.13	369.4	6.12	358	17.85	9.46
W-102	10/08/21	0.26	-8.37	6.97	1278	23.48	4.92
W-102	04/07/22	0.37	218.6	6.55	1287	21.18	5.48
W-103	10/18/21	1.4	260.71	5.34	167	19.11	0
W-103	04/14/22	1.25	451.2	5.29	197	18.51	0
W-104	10/25/21	0.16	-4.87	5.6	216	21.41	0.83
W-104	04/21/22	0.18	229.1	5.43	247	18.28	7.85
W-105	10/25/21	0.2	-116.79	6.41	362	19.25	0.42
W-105	04/21/22	0.13	29.1	6.4	379	17.17	0
W-106	10/18/21	0.16	-83.91	5.99	374	19.39	1.89
W-106	04/14/22	0.1	87.3	5.97	456	17.57	9.71
W-107	10/26/21	0.21	-66.46	6.07	173	18.6	4.55
W-107	04/20/22	0.1	93.8	5.96	194	17.76	22.94
W-108	10/25/21	0.19	-73.77	6.18	178	19.43	2.16
W-108	04/25/22	0.13	89.3	6.06	222	19.18	17.11
W-109	10/26/21	0.27	-196.81	6.36	104	18.42	9.59
W-109	04/25/22	0.2	153.8	5.61	110	18.09	4.04
W-110	10/26/21	0.14	-112.35	5.77	45	18.89	4.62
W-110	04/20/22	0.08	278.2	4.88	32	17.97	4.71
W-111	10/26/21	0.2	126.88	5.03	26	18.37	0
W-111	04/20/22	0.17	284.7	4.7	32	16.73	1.42
W-112	10/26/21	0.23	-104.18	6.29	268	17.92	0.86
W-112	04/20/22	0.09	57.4	6.2	310	16.44	9.03
W-113	10/15/21	0.43	30.33	5.98	158	19.58	1.06
W-113	04/12/22	0.5	312.2	5.95	124	19.88	2.42
W-114	10/15/21	1.26	65.19	5.41	94	21.64	2.73
W-114	04/12/22	1.09	361.4	5.43	100	19.52	10.84
W-115	10/14/21	3.17	242.57	5.35	98	18.84	4.52
W-116	10/14/21	5.12	118.8	5.22	123	19.73	0
W-117	10/14/21	2.98	112.03	5.73	97	19.77	4.96
W-118	10/14/21	2.48	262.4	5.16	94	19.49	0.55
W-119	10/18/21	0.28	174.88	4.91	81	18.04	0
W-119	04/12/22	0.35	427.1	4.94	96	19.81	0
W-120	10/15/21	0.75	-48.47	6.11	161	22.01	2.11
W-120	04/13/22	0.26	350.1	5.63	216	20.25	0
W-121	10/15/21	0.52	-14.11	5.61	119	23.53	0.25
W-121	04/13/22	0.71	711.3	4.93	115	18.96	0
W-122	10/13/21	0.25	-68.64	5.67	49	22.61	6.9
W-122	04/11/22	0.34	288.3	5.42	56	20.01	5.04
W-123	10/05/21	0.3	39.99	7.64	1642	23.43	3.07
W-124	10/25/21	0.41	-173.28	6.07	145	19.72	0.32
W-124	04/21/22	0.11	14.9	5.63	131	18.78	1.39
W-125	10/25/21	0.2	-122.72	6.15	396	19.14	6.42
W-125	04/21/22	0.11	74.7	6.01	422	17.08	7.26
W-126	10/25/21	0.27	-228.74	6.46	336	19.35	12.26
W-126	04/21/22	0.27	40	6.29	311	18.78	2.51

Notes:
C - Celsius
SU - Standard Units
us/cm - microsiemens per centimeter
mg/L - milligrams per liter
mv - millivolts
NTU - nephelometric turbidity unit

Table 4 - Summary of Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

		Group	VOCs					Inorganics			Radionuclides										
		Analyte	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Fluoride	Ammonia	Nitrate	Gross Alpha	Isotopic U233/234	Isotopic U235/236	Isotopic U238 (HASL300)	Isotopic U238 (E901.1)	Isotopic U234	Isotopic U235	Isotopic U238	Total U	Gross Beta	Tc-99	Tritium
		Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L	ug/L	ug/L	ug/L	pCi/L	pCi/L	pCi/L
		MCL	5	5	70	100	2	4		10	15								30	50	900	
		MCL note									*									*		
Well	Date	Type																				
W-RW1	10/14/2021	N	2.3	< 1.0	< 1.0	< 1.0	< 1.0	0.037 J	0.0197 J	2.0	2.13 #	0.246 #	0.135 #	0.0601 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.32 #	0.0163 #	NA
W-RW1	04/12/2022	N	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.7	0.367 #	0.171 #	0.131 #	0.00168 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.03 #	0.147 #	NA
W-RW1	04/12/2022	FD	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.7	1.21 #	0 ##	0 ##	0.0773 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	5.69	1.04 #	NA
W-RW2	10/21/2021	N	150	9.5	< 1.0	< 1.0	< 1.0	0.125	0.0207 J	16	0.577 #	0.134 #	0.0295 #	0.582	9.97 #	< 0.0500	< 0.0700	0.0739 J	0.0739 J	5.46	6.40	39.1 #
W-RW2	04/14/2022	N	170	7.9	1.9	< 1.0	< 1.0	0.19	NA	14	1.91 #	0.00130 #	0.0436 #	0.0562 #	0 #	< 0.0500	< 0.0700	< 0.200	0	2.77 #	7.98	0 ##
W-RW2	04/14/2022	FD	170	8.0	1.9	< 1.0	< 1.0	0.17	NA	13	0.863 #	0.0782 #	0.0203 #	0.0643 #	0 ##	< 0.0500	< 0.0700	< 0.200	0	7.17	7.88	12.8 #
W-3A	10/25/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.015 J	0.0193 J	< 0.020	2.10 #	0 ##	0 ##	0.0616 #	NA	< 0.0500	< 0.0700	0.0700 J	0.0700 J	5.86	0 ##	NA
W-3A	04/21/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	0.0801	0.269 #	0.0705 #	0.123 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.46 #	0.00772 #	NA
W-4R	10/25/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.154	0.0196 J	< 0.020	0.170 #	0 ##	0.0179 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.278 #	0.442 #	NA
W-4R	04/25/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.12	NA	0.22	3.66	0.0547 #	0.0271 #	0.0230 #	NA	< 0.0500	< 0.0700	0.0942 J	0.0942 J	2.13 #	3.12 #	NA
W-6	10/08/2021	N	18	2.8	3.0	< 1.0	< 1.0	0.233	105	210	13.5	0.255	0.152 #	0.167	NA	< 0.0500	< 0.0700	0.321	0.321	1290	2500	NA
W-6	04/04/2022	N	19	3.1	3.0	< 1.0	< 1.0	0.21	NA	190	7.32	0.227 #	0 ##	0.0894 #	NA	< 0.0500	< 0.0700	0.322	0.322	987	2230	NA
W-7A	10/05/2021	N	1.3	< 1.0	< 1.0	< 1.0	< 1.0	7.18	66.5	320	8.14	0.277	0.0105 #	0.101 #	0 ##	< 0.0500	< 0.0700	0.558	0.558	105	193	141 #
W-7A	04/04/2022	N	1.4	< 1.0	< 1.0	< 1.0	< 1.0	5.6	NA	310	3.44 #	0.137 #	0.0177 #	0.146 #	0 ##	< 0.0500	< 0.0700	0.550	0.550	87.5	153	121 #
W-10	10/05/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.09	7.51	22	0.131 #	0.291	0.0763 #	0.0777 #	0 ##	< 0.0500	< 0.0700	0.138 J	0.138 J	60.0	98.2	27.5 #
W-10	04/04/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.5	NA	30	1.37 #	0.143 #	0 ##	0 ##	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	73.1	105	61.6 #
W-11	10/05/2021	N	15	2.4	2.1	< 1.0	< 1.0	0.037 J	2.26	23	0.816 #	0.0982 #	0.0430 #	0.0347 #	NA	< 0.0500	< 0.0700	0.0947 J	0.0947 J	627	1230	NA
W-11	04/04/2022	N	24	4.0	3.1	< 1.0	< 1.0	< 0.10	NA	17	0 ##	0.0858 #	0.0294 #	0.118 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	619	948	NA
W-13R	10/05/2021	N	27	2.5	< 1.0	< 1.0	< 1.0	10.8	38.9	18	0 ##	0.195 #	0.151	0.122	105 #	< 0.0500	< 0.0700	0.158 J	0.158 J	70.7	126	176 #
W-13R	04/04/2022	N	21	2.2	< 1.0	< 1.0	< 1.0	9.2	NA	16	0 ##	0.00291 #	0 #	0.0961 #	0 ##	< 0.0500	< 0.0700	0.131 J	0.131 J	53.5	72.0	0 ##
W-14	10/18/2021	N	2.8	1.1	< 1.0	< 1.0	< 1.0	0.067 J	4.17	0.39	3.06 #	0 ##	0 ##	0.00371 #	NA	< 0.0500	< 0.0700	0.221	0.221	9.79	0.299 #	NA
W-14	04/14/2022	N	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.16	5.33	0.0690 #	0 ##	0 ##	NA	< 0.0500	< 0.0700	0.242	0	9.59	0 ##	NA
W-15	10/19/2021	N	10	1.9	1.1	< 1.0	< 1.0	2.12	0.487	39	1.06 #	0 ##	0.0538 #	0 ##	39.6 #	< 0.0500	< 0.0700	< 0.200	< 0.200	114	221	104 #
W-15	04/14/2022	N	8.5	1.7	1.0	< 1.0	< 1.0	2.3	NA	32	2.50 #	0.302	0.0896 #	0.127	0 ##	< 0.0500	< 0.0700	< 0.200	0	104	206	0 ##
W-16	10/19/2021	N	3.1	1.1	< 1.0	< 1.0	< 1.0	7.35	15	2.0	2.42 #	0 ##	0.0276 #	0.00235 #	0 ##	< 0.0500	< 0.0700	0.0770 J	0.0770 J	16.9	7.37	39.0 #
W-16	04/19/2022	N	2.6	< 1.0	< 1.0	< 1.0	< 1.0	9.8	NA	2.6	2.69 #	0.0821 #	0.0165 #	0.0770	26.9 #	< 0.0500	< 0.0700	0.0691 J	0.0691 J	12.2	7.82	0 ##
W-17	10/12/2021	N	6.1	1.3	1.2	< 1.0	< 1.0	1.9	7.84	17	1.36 #	0.222 #	0.105 #	0.117 #	NA	< 0.0500	< 0.0700	0.122 J	0.122 J	514	719	NA
W-17	04/07/2022	N	4.0	< 1.0	< 1.0	< 1.0	< 1.0	3.0	NA	16	2.16 #	0.480	0.0264 #	0.227 #	NA	< 0.0500	< 0.0700	0.314	0.314	219	505	NA
W-18R	10/08/2021	N	1.9	< 1.0	< 1.0	< 1.0	< 1.0	6.76	77.5	550	20.9	1.37	0 ##	1.15	0 ##	< 0.0500	0.0240 J	2.70	2.72	49.3	143	148 #
W-18R	04/07/2022	N	1.7	< 1.0	< 1.0	< 1.0	< 1.0	5.4	NA	340	6.06 #	0.770	0.116 #	0.872	0 ##	< 0.0500	0.0214 J	2.31	2.33	66.1	85.8	0 ##
W-19B	10/20/2021	N	89	1.6	< 1.0	< 1.0	< 1.0	0.015 J	0.0131 J	3.7	2.63	0.0812 #	0.0699 #	0.0976 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	1.70 #	NA
W-19B	04/19/2022	N	75	1.5	< 1.0	< 1.0	< 1.0	< 0.10	NA	3.6	0.928 #	0 ##	0.00869 #	0.0392 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.83 #	2.05 #	NA
W-20	10/26/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.042 J	0.0427 J	0.042	0.485 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0 ##	NA
W-20	04/25/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	0 ##	0 ##	0 ##	0.00111 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.133 #	0 ##	NA
W-22	10/08/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.61	45.9	72	8.55	0.727	0.220 #	0.302	0 ##	< 0.0500	0.0144 J	0.793	0.807	24.5	31.1	0 ##
W-22	04/04/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.0	NA	71	1.01 #	0.644	0 ##	0.316	51.7 #	< 0.0500	0.0116 J	0.650	0.662	19.3	29.3	0 ##
W-23R	10/18/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.029 J	0.0495 J	0.67	0.635 #	0 ##	0.0323 #	0.0357 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.988 #	0 ##	NA
W-23R	04/13/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.57	1.81	0.838	0.0727 #	0.555	NA	< 0.0500	< 0.0700	0.164 J	0	10.6	1.23 #	NA
W-24	10/21/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.025 J	0.0398 J	< 0.020	2.51 #	0 ##	0 ##	0.0168 #	85.7 #	< 0.0500	< 0.0700	< 0.200	< 0.200	12.2	0 ##	39.3 #
W-24	04/20/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.099	0	0.217 #	0.0253 #	0.136 #	35.7 #	< 0.0500	< 0.0700	< 0.200	< 0.200	2.03 #	0 ##	150 #
W-25	10/26/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.091 J	0.249	0.10	0.419 #	0 ##	0 ##	0.0224 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.964 #	0 ##	NA
W-25	04/21/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.063	0.597	0 ##	0.0707 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.96 #	0 ##	NA
W-26	10/19/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.44	2.19	2.4	0.933 #	0.0743 #	0.0622 #	0.137 #	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	7.26	5.60	105 #
W-26	04/19/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.4	NA	2.7	2.11 #	0.0240 #	0 ##	0.0128 #	254 #	< 0.0500	< 0.0700	0.0691 J	0.0691 J	7.37	5.09	0 ##
W-27	10/22/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.52	5.15	< 0.020	0 ##	0.0360 #	0.0765 #	0.0631 #	NA	< 0.0500	< 0.0700	0.0985 J	0.0985 J	5.28	3.49 #	NA
W-27	04/21/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.2	NA	0.12	0	0 ##	0.0247 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	4.35	3.05	NA
W-28	10/06/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	8.11	0.277	5.9	7.01	1.89	0.0987 #	0.472	NA	< 0.0500	0.0411 J	2.04	2.08	7.16	2.14 #	NA
W-28	04/05/2022	N	< 1.0	1.1	< 1.0	< 1.0	< 1.0	6.3	NA	7.9	2.81 #	0.507	0 ##	0.0644 #	NA	< 0.0500	0.0141 J	0.683	0.697	6.45	1.44 #	NA
W-29	10/08/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.57	11.7	10	3.21 #	0.314 #	0.0950 #	0.329	161 #	< 0.0500	0.0145 J	1.04	1.05	6.80	8.95	27.8 #
W-29	04/06/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.5	NA	26	2.44 #	0.351 #	0 ##	0.159 #	74.0 #	< 0.0500	< 0.0700	0.639	0.639	7.79	11.6	0 ##
W-30	10/08/2021	N	1.8	1.5	< 1.0	< 1.0	< 1.0	14.3	1.38	57	6.37	10.3	0.446	2.54	164 #	< 0.0500	0.209	8.82	9.03	19.9	48.9	126 #
W-30	04/07/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	10	NA	43	12.6	11.0	0.575	2.55	0 ##	< 0.0500	0.186	7.88	8.06	22.3	27.0	0 ##
W-32	10/05/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.01	38.9	94	5.72	0.240 #	0.0384 #	0.0186 #	231 #	< 0.0500	< 0.0700	0.153 J	0.153 J	77.2	231	0 ##
W-32	04/04/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.2	NA	90	0.898 #	0.141 #	0 #	0.159 #	0 ##	< 0.0500	< 0.0700	0.189 J	0.189 J	187	294	84.3 #
W-33	10/14/2021	N	340	36	5.0	< 1.0	< 1.0	0.084 J	0.0153 J	18	5.46	0.0523 #	0 ##	0.0512 #	154 #	< 0.0500	< 0.0700	< 0.200	< 0.200	84.0	3.64 #	75.1 #
W-33	04/13/2022	N	330	31	< 5.0	< 5.0	< 5.0	0.13	NA	11	1.10 #	0.0524 #	0.0245 #	0.0260 #	0 ##	< 0.0500	< 0.0700	< 0.200	0	4.45	1.71 #	0 ##
W-35	10/14/2021	N	1.9	< 1.0	< 1.0	< 1.0	< 1.0	0.026 J	0.0248 J	4.2	0.639 #	0.0107 #	0.0607 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.23 #	0.125 #	NA
W-35	04/11/2022	N	1.7	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	3.0	1.08 #	0.0195 #	0 ##	0.0130 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.744 #	0 ##	NA
W-36	10/13/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.014 J	0.0245 J	0.35	4.51	0 ##	0.132 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	8.06	0 ##	NA
W-36	04/11/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.54	1.55 #	0 ##	0 ##	0.0989 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.492 #	0.357 #	NA
W-37	10/11/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.038 J	0.0162 J	3.3	0.502 #	0 ##	0.0737 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.58 #	0.0860 #	NA
W-37	04/08/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.9	0.977 #	0.372	0.0121 #	0.0547 #	NA	< 0.0500	< 0.0700	0.118 J	0.118 J	4.76 #	0 ##	NA
W-38	10/07/2021	N	< 1.0	4.0	< 1.0	< 1.0	< 1.0	0.501	0.0464 J	2.6	2.12 #	0.295	0.0217 #	0.0851 #	NA	< 0.0500	< 0.0700	0.120 J	0.120 J	4.58	1.04 #	NA
W-38	04/07/2022	N	< 1.0	12	< 1.0	< 1.0	< 1.0	0.35	NA	3.6	0.0861 #	0.0312 #	0 ##	0.130 #	NA	< 0.0500	< 0.0700	0.115 J	0.115 J	2.01 #	0 ##	NA
W-38	04/07/2022	FD	< 1.0	12	< 1.0	< 1.0	< 1.0	0.33	NA	3.6	0 ##	0.154 #	0.0971 #	0.0671 #	NA	< 0.0500	< 0.0700	0.104 J	0.104 J	0.956 #	0 ##	NA
W-39	10/18/2021	N	250	3.7	8.5	< 1.0	< 1.0	0.027 J	0.0327 J	57	0.360 #	0.0183 #	0 ##	0.0841 #	78.1 #	< 0.0500	< 0.0700	< 0.200	< 0.200	10.4	10.4	248 #
W-39	04/14/2022	N	190	2.8	6.0	< 1.0	< 1.0	< 0.10	NA	92	0 ##	0 ##	0.0762 #	0.00863 #	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	8.93	8.55	55.2 #
W-40	10/12/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.141	0.342	4.1	0 ##	0 ##	0.105 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.86 #	0.0523 #	NA
W-40	04/11/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.20	NA	2.5	0.693 #	0.308 #	0 #	0 ##	NA	< 0.0500	< 0.0700	0.103 J	0.103 J	3.06 #	0 ##	NA
W-41R	10/21/2021	N	160	8.5	4.2	< 1.0	< 1.0	0.017 J	0.0484 J	46	0.858 #	0 ##	0.0101 #	0.00350 #	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	10.2	13.5	103 #
W-41R	04/15/2022	N	210	15	5.1	< 1.0	< 1.0	< 0.10	NA	46	0.515 #	0.0793 #	0.0369 #	0.0894	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	7.47	10.9	0 ##
W-42	10/20/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.27	0.156	1.6	0 ##	0.0236 #	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.47 #	2.31 #	NA
W-42	04/18/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.5	NA	1.9	0.363 #	0.0712 #	0.0528 #	0.0131 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	5.39	4.04	NA
W-43	10/18/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.023 J	0.0248 J	7.4	0 ##	0 ##	0 ##	0.0793 #	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	39.9	0 ##

Table 4 - Summary of Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

		Group	VOCs					Inorganics			Radionuclides										
		Analyte	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Fluoride	Ammonia	Nitrate	Gross Alpha	Isotopic U233/234	Isotopic U235/236	Isotopic U238 (HASL300)	Isotopic U238 (E901.1)	Isotopic U234	Isotopic U235	Isotopic U238	Total U	Gross Beta	Tc-99	Tritium
		Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L	ug/L	ug/L	ug/L	pCi/L	pCi/L	pCi/L
		MCL	5	5	70	100	2	4		10	15								30	50	900	
		MCL note									*									*		
Well	Date	Type																				
W-43	04/14/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	6.9	0 ##	0 ##	0.0191 #	0 ##	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	4.64	0.422 #	0 ##
W-44	10/18/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.015 J	0.0175 J	1.7	0.557 #	0 ##	0.0451 #	0.0630 #	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	3.38 #	0.648 #	287 #
W-44	04/15/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	2.0	1.03 #	0 ##	0.0909 #	0 ##	44.3 #	< 0.0500	< 0.0700	< 0.200	< 0.200	0.959 #	0 ##	0 ##
W-45	10/14/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.386	0.904	0.24	2.49 #	0.782	0 ##	0.225	NA	< 0.0500	0.0112 J	0.462	0.473	2.22 #	1.47 #	NA
W-45	04/12/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.51	NA	0.27	2.34	1.01	0.157 #	0.280	NA	< 0.0500	0.0291 J	1.20	1.23	2.13 #	0.400 #	NA
W-46	10/21/2021	N	2.9	< 1.0	< 1.0	< 1.0	< 1.0	0.03 J	0.1	7.7	1.25 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	37.5	51.3	NA
W-46	04/15/2022	N	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	7.9	3.55	0.00949 #	0.0218 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	31.0	53.4	NA
W-47	10/19/2021	N	1.3	< 1.0	< 1.0	< 1.0	< 1.0	3.97	13.9	33	0 ##	0.00116 #	0 ##	0 ##	35.4 #	< 0.0500	< 0.0700	0.0704 J	0.0704 J	51.3	37.9	193 #
W-47	04/19/2022	N	2.1	< 1.0	< 1.0	< 1.0	< 1.0	5.1	NA	49	1.06 #	0 ##	0.0798 #	0.0736 #	207 #	< 0.0500	< 0.0700	< 0.200	< 0.200	45.4	90.4	0 ##
W-48	10/19/2021	N	220	4.8	2.0	< 1.0	< 1.0	0.31	0.0348 J	5.5	0 ##	0 ##	0 ##	0.0103 #	0 ##	< 0.0500	< 0.0700	< 0.200	< 0.200	13.7	14.9	132 #
W-48	04/19/2022	N	190	4.4	1.6	< 1.0	< 1.0	0.40	NA	6.0	0.0436 #	0.0808 #	0.0348 #	0 ##	264 #	< 0.0500	< 0.0700	< 0.200	< 0.200	5.98	15.2	124 #
W-49	10/20/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.01 J	0.0537 J	< 0.020	2.23 #	0 ##	0 ##	0.0110 #	NA	< 0.0500	< 0.0700	0.0826 J	0.0826 J	0 ##	0 ##	NA
W-49	04/18/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	0.565 #	0 ##	0.00184 #	0.0668 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.38 #	2.27 #	NA
W-50	10/12/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.016 J	0.0252 J	< 0.020	0.966 #	0 ##	0.0722 #	0.0400 #	NA	< 0.0500	< 0.0700	0.180 J	0.180 J	4.28	0.173 #	NA
W-50	04/11/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.081	0.820 #	0.166 #	0.00277 #	0.242 #	NA	< 0.0500	< 0.0700	0.184 J	0.184 J	2.21 #	0.661 #	NA
W-51	10/13/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.224	0.166	0.11	1.28 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.90 #	0 ##	NA
W-51	04/11/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.21	NA	0.079	0 ##	0.0408 #	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.46 #	0 ##	NA
W-52	10/13/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.54	0.0301 J	0.68	1.20 #	0.0358 #	0 ##	0 ##	NA	< 0.0500	< 0.0700	0.0922 J	0.0922 J	1.65 #	0 ##	NA
W-52	04/11/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.79	NA	0.49	0.835 #	0.522	0.0139 #	0.0610 #	NA	< 0.0500	< 0.0700	0.299	0.299	5.46	0.0567 #	NA
W-53	10/12/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.063 J	0.0245 J	0.33	2.12 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.55 #	0 ##	NA
W-53	04/08/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.13	0.303 #	0 ##	0 ##	0.126 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	4.93	0 ##	NA
W-54	10/12/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.137	0.0214 J	2.0	0 ##	0.199 #	0.0718 #	0.0172 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.06 #	0 ##	NA
W-54	04/08/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.31	NA	2.4	0.384 #	0.0500 #	0 ##	0.0478 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.98	0 ##	NA
W-55	10/11/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.048 J	0.0148 J	1.8	276	182	9.38	34.0	NA	0.0340 J	3.87	117	121	61.1	0.449 #	NA
W-55	04/08/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	3.5	221	177	9.70	34.1	NA	0.0330 J	3.99	116	120	56.6	0.379 #	NA
W-55	04/08/2022	FD	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.61	NA	3.2	204	215	9.30	40.6	NA	0.0340 J	3.77	111	115	45.7	0.700 #	NA
W-56	10/11/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.297	0.0763 J	3.0	309	231	12.2	49.0	NA	0.0410 J	4.44	139	143	72.3	0.222 #	NA
W-56	04/07/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.33	NA	3.5	390	302	15.0	62.9	NA	0.0520	5.80	173	178	86.5	0 ##	NA
W-57	10/07/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.107	0.0298 J	2.5	0.771 #	0.180 #	0.0640 #	0.0235 #	NA	< 0.0500	< 0.0700	0.0988 J	0.0988 J	1.93 #	15.0	NA
W-57	04/07/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.8	2.17 #	0.0102 #	0 ##	0.0646 #	NA	< 0.0500	< 0.0700	0.0809 J	0.0809 J	0.416 #	0 ##	NA
W-58	10/11/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.083 J	3.51	2.2	4.22	1.40	0.121 #	0.128 #	NA	< 0.0500	0.0319 J	0.966	0.998	2.33 #	0.985 #	NA
W-58	04/07/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.10	NA	5.5	1.76 #	0.910	0.00966 #	0.182	NA	< 0.0500	0.0232 J	0.775	0.798	0.510 #	0 ##	NA
W-59	10/11/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.9	7.1	20	17.7	13.0	0.590	2.67	NA	< 0.0500	0.286	9.66	9.95	10.3	7.63	NA
W-59	04/06/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	NA	14	7.96	6.52	0.406	1.47	NA	< 0.0500	0.125	3.99	4.12	7.40	0.310 #	NA
W-60	10/15/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.027 J	0.0307 J	0.055	0.303 #	0.0239 #	0.0858 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.00 #	1.43 #	NA
W-60	04/13/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	3.03 #	0 ##	0.0343 #	0.0699 #	NA	< 0.0500	< 0.0700	< 0.200	0	1.16 #	0 ##	NA
W-61	10/15/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.024 J	0.0193 J	3.3	2.43 #	0 ##	0 #	0.0180 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	4.11 #	0 ##	NA
W-61	04/13/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	2.4	0.578 #	0.288	0.0828 #	0.220	NA	< 0.0500	< 0.0700	< 0.200	0	5.83	0.387 #	NA
W-62	10/19/2021	N	28	< 1.0	< 1.0	< 1.0	< 1.0	0.019 J	0.0185 J	4.1	1.08 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.941 #	0 ##	NA
W-62	04/18/2022	N	40	1.1	< 1.0	< 1.0	< 1.0	0.28	NA	3.9	0.321 #	0.121 #	0.0140 #	0.142 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	6.08	1.56 #	NA
W-62	04/18/2022	FD	39	1.2	< 1.0	< 1.0	< 1.0	< 0.10	NA	5.2	1.13 #	0.0564 #	0 ##	0.174	NA	< 0.0500	< 0.0700	0.0981 J	0.0981 J	0.144 #	1.24 #	NA
W-63	10/19/2021	N	1.8	1.4	< 1.0	< 1.0	< 1.0	0.071 J	0.0192 J	4.1	2.07 #	0.573	0.0151 #	0.578	NA	< 0.0500	0.0101 J	1.54	1.55	14.2	13.6	NA
W-63	04/15/2022	N	1.4	1.3	< 1.0	< 1.0	< 1.0	0.10	NA	3.9	1.18 #	0.0412 #	0.0347 #	0.0192 #	NA	< 0.0500	0.0121 J	1.71	1.72	9.70	17.4	NA
W-64	10/19/2021	N	1.1	< 1.0	< 1.0	< 1.0	< 1.0	3.64	12.1	35	5.14	0.0842 #	0 ##	0.0914 #	NA	< 0.0500	< 0.0700	0.0877 J	0.0877 J	48.8	72.9	NA
W-64	04/19/2022	N	1.8	< 1.0	< 1.0	< 1.0	< 1.0	4.6	NA	49	2.44 #	0.0370 #	0 ##	0.0344 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	71.3	108	NA
W-65	10/18/2021	N	340	41	13	< 5.0	< 5.0	0.138	0.0192 J	1.6	0 ##	0 ##	0.0175 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.229 #	0.363 #	NA
W-65	04/14/2022	N	320	41	12	< 5.0	< 5.0	0.15	NA	2.0	0.488 #	0.0155 #	0.0382 #	0.0396 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.01 #	0 ##	NA
W-66	10/18/2021	N	270	4.9	8.6	< 1.0	< 1.0	0.031 J	0.0188 J	1.3	0.899 #	0 ##	0.0386 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.95 #	1.10 #	NA
W-66	10/18/2021	FD	270	4.7	8.0	< 1.0	< 1.0	0.033 J	0.0277 J	1.3	0.560 #	0.0119 #	0.0264 #	0.0230 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.22 #	0 ##	NA
W-66	04/14/2022	N	780	17	48	< 5.0	< 5.0	< 0.10	NA	2.1	0.634 #	0 ##	0 ##	0.0242 #	NA	< 0.0500	< 0.0700	0.0977 J	0.0977 J	4.33 #	0.122 #	NA
W-67	10/18/2021	N	41	7.4	1.3	< 1.0	< 1.0	0.023 J	1.74	14	2.06 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	33.4	69.8	NA
W-67	04/14/2022	N	39	7.7	1.2	< 1.0	< 1.0	< 0.10	NA	13	1.60 #	1.01	0.0954 #	0.293	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	37.7	50.0	NA
W-68	10/19/2021	N	55	1.0	< 1.0	< 1.0	< 1.0	0.027 J	0.255	2.8	0.0923 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.61 #	0.0281 #	NA
W-68	04/19/2022	N	60	1.1	< 1.0	< 1.0	< 1.0	< 0.10	NA	3.0	0.799 #	0 ##	0.0574 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.34 #	0.112 #	NA
W-69	10/21/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.075 J	0.0228 J	0.35	0 ##	0 ##	0.0618 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0 ##	NA
W-69	04/19/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.60	3.63	0.0763 #	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.96 #	3.32 #	NA
W-70	10/21/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.017 J	0.0186 J	1.6	1.37 #	0.0582 #	0.0330 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0.570 #	NA
W-70	04/19/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.8	0.361 #	2.01	0.264 #	1.02	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.12 #	1.60 #	NA
W-71	10/21/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.031 J	0.0212 J	< 0.020	0.418 #	0 ##	0.101 #	0.0757 #	NA	< 0.0500	< 0.0700	0.0939 J	0.0939 J	2.35 #	0.0199 #	NA
W-71	10/21/2021	FD	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.086 J	0.0194 J	< 0.020	2.98 #	0##	0.0591 #	0 ##	NA	< 0.0500	< 0.0700	0.0898 J	0.0898 J	2.04 #	0.395 #	NA
W-71	04/19/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	1.97 #	0.0847 #	0.0273 #	0.149 #	NA	< 0.0500	< 0.0700	0.135 J	0.135 J	0 ##	0 ##	NA
W-72	10/12/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.406	0.0262 J	2.4	0 ##	0.276	0.0107 #	0.117 #	NA	< 0.0500	< 0.0700	0.266	0.266	3.80 #	0 ##	NA
W-72	04/08/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55	NA	38	1.39 #	2.17	0.0250 #	0.758	NA	< 0.0500	0.0457 J	1.47	1.51	11.7	1.52 #	NA
W-73	10/08/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.056 J	0.0208 J	1.3	0 ##	0.153 #	0.0189 #	0.0894 #	NA	< 0.0500	< 0.0700	0.133 J	0.133 J	1.84 #	2.26 #	NA
W-73	04/07/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.3	0.499 #	0.209 #	0.0274 #	0.117	NA	< 0.0500	< 0.0700	0.174 J	0.174 J	1.89 #	0 ##	NA
W-74	10/12/2021	N	11	3.2	1.3	< 1.0	< 1.0	0.017 J	0.0214 J	5.5	0.306 #	0 ##	0.0333 #	0.0199 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0.0903 #	NA
W-74	10/12/2021	FD	12	3.1	1.3	< 1.0	< 1.0	0.021 J	0.0386 J	5.5	2.77 #	0.0432 #	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.744 #	0 ##	NA
W-74	04/08/2022	N	9.0	2.9	< 1.0	< 1.0	< 1.0	< 0.10	NA	5.1	0 ##	0.0384 #	0.0378 #	0.101 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.30 #	0.252 #	NA
W-75	10/12/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.116	0.258	0.21	0 ##	0.0458 #	0.0187 #	0.0442 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.17 #	0.236 #	NA
W-75	04/08/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.14	NA	0.47	0.0566 #	0 ##	0 #	0.0495 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.74 #	0.379 #	NA
W-76	10/07/2021	N	< 1.0	26	< 1.0	< 1.0	< 1.0	2.66	0.0283 J	13	8.71	5.03	0.162 #	1.27	NA	< 0.0500	0.104	3.12	3.23	6.19	0.0261 #	NA
W-76	04/05/2022	N	< 1.0	15	< 1.0	< 1.0	< 1.0	3.7	NA	13	6.42	4.81	0.273	0.983	NA	< 0.0500	0.0992	3.04	3.14	5.29	1.79 #	NA
W-77	10/06/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	14.8	3.66	4.9	221	268	17.0	44.4	NA	0.0470 J	5.52	128	133	36.4	2.50 #	NA
W-77	04/05/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	15	NA	10	358	309	15.8	51.6	NA	< 0.0500	5.85	138	144	62.5	1.70 #	NA

Table 4 - Summary of Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

		Group	VOCs					Inorganics			Radionuclides										
		Analyte	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Fluoride	Ammonia	Nitrate	Gross Alpha	Isotopic U233/234	Isotopic U235/236	Isotopic U238 (HASL300)	Isotopic U238 (E901.1)	Isotopic U234	Isotopic U235	Isotopic U238	Total U	Gross Beta	Tc-99	Tritium
		Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L	ug/L	ug/L	ug/L	pCi/L	pCi/L	pCi/L
		MCL	5	5	70	100	2	4		10	15								30	50	900	
		MCL note									*									*		
Well	Date	Type																				
W-78	10/06/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.6	0.0219 J	3.8	0 ##	0.195	0.138	0.0143 #	NA	< 0.0500	< 0.0700	0.186 J	0.186 J	0 ##	0 ##	NA
W-78	04/05/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13	NA	4.4	0 ##	0.0329 #	0.0887 #	0 ##	NA	< 0.0500	< 0.0700	0.180 J	0.180 J	0 ##	0.904 #	NA
W-79	10/06/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.978	0.0166 J	3.9	0.864 #	0.0283 #	0 ##	0.0340 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.28 #	0 ##	NA
W-79	04/05/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.4	NA	19	0.529 #	0.102 #	0.0468 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	4.23	2.77 #	NA
W-80	10/07/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.282	0.0378 J	9.2	0 ##	0.142 #	0 ##	0.0345 #	NA	< 0.0500	< 0.0700	0.106 J	0.106 J	5.69	1.17 #	NA
W-80	04/05/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.38	NA	8.0	2.69 #	0 ##	0.0266 #	0 #	NA	< 0.0500	< 0.0700	0.114 J	0.114 J	9.20	1.09 #	NA
W-81	10/07/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.056 J	0.0352 J	3.8	0.133 #	0.874	0.0533 #	0.477	NA	< 0.0500	0.0159 J	1.41	1.42	5.84	0.279 #	NA
W-81	10/7/2021	FD	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.053 J	0.0268 J	4.1	0 ##	0.910	0.123 #	0.231 #	NA	< 0.0500	0.0166 J	1.35	1.36	5.85	1.20 #	NA
W-81	04/06/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	3.7	4.37	0.650	0 #	0.380	NA	< 0.0500	0.0121 J	0.960	0.972	0.877 #	0 ##	NA
W-82	10/07/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.064 J	0.0221 J	1.8	1.76 #	0 ##	0.0551 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.51 #	1.72 #	NA
W-82	04/06/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.53	0 ##	0.173 #	0.00942 #	0.0846 #	NA	< 0.0500	< 0.0700	0.254	0.254	2.25 #	0 ##	NA
W-83	10/07/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.115	0.0243 J	0.85	1.50 #	0 ##	0.0143 #	0.00330 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.822 #	1.28 #	NA
W-83	04/06/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.50	0.941 #	0.130 #	0.0175 #	0.0957 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.70 #	0 ##	NA
W-84	10/07/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.092 J	0.0236 J	0.091	0 ##	0 ##	0.0486 #	0.0434 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.282 #	1.48 #	NA
W-84	04/06/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	0 ##	0.0595 #	0.0225 #	0.139 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.51 #	0 ##	NA
W-85	10/22/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.152	0.127	< 0.020	2.78 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	0.0781 J	0.0781 J	1.85 #	0 ##	NA
W-85	04/25/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23	NA	0.14	1.26 #	0 ##	0.133 #	0.0794 #	NA	< 0.0500	< 0.0700	0.106 J	0.106 J	3.11 #	0.582 #	NA
W-86	10/22/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.377	0.0166 J	< 0.020	0 ##	0 ##	0 ##	0.147 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.663 #	0 ##	NA
W-86	04/25/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.52	NA	0.27	0.180 #	0.0372 #	0 ##	0.142 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.60 #	0.347 #	NA
W-87	10/13/2021	N	34	6.6	< 1.0	< 1.0	< 1.0	0.117	0.027 J	0.19	2.81	0.0823 #	0.0296 #	0.0689 #	NA	< 0.0500	< 0.0700	0.445	0.445	9.79	1.05 #	NA
W-87	04/11/2022	N	26	7.1	< 1.0	< 1.0	< 1.0	0.14	NA	0.085	0.408 #	0.242 #	0 ##	0.183 #	NA	< 0.0500	< 0.0700	0.611	0.611	4.06 #	0.437 #	NA
W-88	10/21/2021	N	2.4	< 1.0	< 1.0	< 1.0	< 1.0	0.034 J	0.0194 J	3.5	0.593 #	0 ##	0.0772 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.117 #	1.74 #	NA
W-88	04/15/2022	N	2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	3.5	0 ##	0 ##	0 #	0.0969 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.92 #	2.08 #	NA
W-89	10/21/2021	N	1.2	< 1.0	< 1.0	< 1.0	< 1.0	0.067 J	0.019 J	2.2	0.991 #	0.107 #	0 ##	0.0119 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.99 #	0.544 #	NA
W-89	04/15/2022	N	1.7	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	2.3	2.37 #	0.0284 #	0.0583 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	2.06 #	NA
W-90	10/20/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.013 J	0.0165 J	2.8	0.419 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.13 #	0.185 #	NA
W-90	04/18/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	2.7	1.72 #	0.0292 #	0.103 #	0.0732 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	1.92 #	NA
W-91	10/20/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.014 J	0.0174 J	1.2	0 ##	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0.352 #	NA
W-91	04/18/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.43	1.70 #	0 ##	0.139 #	0.136	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.20 #	1.47 #	NA
W-92	10/22/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.12	4.39	< 0.020	3.35	0.0378 #	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.885 #	2.76 #	NA
W-92	04/21/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.15	NA	0.12	0	0 ##	0.0395 #	0.0741 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.18 #	2.58	NA
W-93	10/06/2021	N	32	4.0	< 1.0	< 1.0	< 1.0	0.036 J	0.0174 J	4.9	2.17 #	0.264	0.101 #	0.0520 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.21 #	0 ##	NA
W-93	04/05/2022	N	33	4.3	< 1.0	< 1.0	< 1.0	< 0.10	NA	5.4	0 ##	0 ##	0 ##	0.0125 #	NA	< 0.0500	< 0.0700	0.0849 J	0.0849 J	2.99 #	1.33 #	NA
W-94	10/26/2021	N	< 1.0	< 1.0	5.8	< 1.0	< 1.0	0.049 J	0.275	0.089	3.82 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	5.78	0 ##	NA
W-94	04/20/2022	N	< 1.0	< 1.0	5.8	< 1.0	< 1.0	< 0.10	NA	0.050	1.29 #	0 ##	0.176 #	0.0167 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.49 #	0 ##	NA
W-95	10/26/2021	N	< 1.0	< 1.0	2.4	< 1.0	4.2	0.233	0.203	0.076	2.57 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.99	0 ##	NA
W-95	04/20/2022	N	< 1.0	< 1.0	3.2	< 1.0	3.6	< 0.10	NA	0.059	0.255	0.0521 #	0.126 #	0.146 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	6.47	0.193 #	NA
W-95	4/20/2022	FD	< 1.0	< 1.0	3.2	< 1.0	3.8	< 0.10	NA	0.059	2.06	0.0578 #	0.0333 #	0.111 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0 ##	NA
W-96	10/25/2021	N	1.3	2.0	< 1.0	< 1.0	< 1.0	0.092 J	0.241	< 0.020	0.893 #	0.0564 #	0.0586 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.22 #	0 ##	NA
W-96	04/21/2022	N	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.17	0.774 #	0 ##	0.0271 #	0.0539 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.69 #	0 ##	NA
W-97	10/25/2021	N	5.6	1.7	< 1.0	< 1.0	< 1.0	0.481	7.35	4.5	1.69 #	0 ##	0.0222 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	10.3	14.7	NA
W-97	10/25/2021	FD	5.9	1.7	< 1.0	< 1.0	< 1.0	0.451	6.65	4.2	0.808 #	0.0789 #	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	12.9	15.9	NA
W-97	04/20/2022	N	5.2	1.2	< 1.0	< 1.0	< 1.0	0.31	NA	3.8	4.71	0 ##	0.0357 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	8.35	20.7	NA
W-98	10/19/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.019 J	0.356	11	2.36 #	0 ##	0.0516 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	16.3	6.30	NA
W-98	04/18/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	11	0.818 #	0 ##	0.0234 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	12.7	7.44	NA
W-99	10/15/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.96	3.25	7.8	1.01 #	0.314 #	0.0255 #	0.130 #	NA	< 0.0500	< 0.0700	0.243	0.243	40.6	57.7	NA
W-99	04/15/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.7	NA	0.56	0.867 #	0 ##	0 ##	0.0594 #	NA	< 0.0500	< 0.0700	0.350	0.350	31.5	41.7	NA
W-100	10/15/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.91	8.27	7.6	2.75 #	0.0196 #	0.0619 #	0 ##	NA	< 0.0500	< 0.0700	0.180 J	0.180 J	23.9	18.0	NA
W-100	04/15/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	NA	2.0	1.76 #	0.394 #	0.0482 #	0.152 #	NA	< 0.0500	< 0.0700	0.163 J	0.163 J	6.75	12.3	NA
W-102	10/08/2021	N	48	6.4	5.1	< 1.0	< 1.0	3.74	35.1	95	6.57	1.81	0.136	0.396	NA	< 0.0500	0.0312 J	1.78	1.81	80.6	119	NA
W-102	04/07/2022	N	41	6.1	4.0	< 1.0	< 1.0	3.5	NA	58	5.22	1.68	0.179	0.740	NA	< 0.0500	0.0357 J	1.86	1.89	57.2	98.8	NA
W-103	10/18/2021	N	24	5.2	< 1.0	< 1.0	< 1.0	0.032 J	0.387	10	0 ##	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	7.53	40.2	NA
W-103	04/14/2022	N	24	5.4	< 1.0	< 1.0	< 1.0	< 0.10	NA	11	0 ##	0 ##	0.0473 #	0.0597 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	24.0	33.7	NA
W-104	10/25/2021	N	3.1	1.9	< 1.0	< 1.0	< 1.0	0.064 J	1.45	6.4	0.457 #	0.111 #	0.0696 #	0.0806 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	4.20 #	1.71 #	NA
W-104	04/21/2022	N	3.1	1.4	< 1.0	< 1.0	< 1.0	< 0.10	NA	7.9	1.55 #	0 ##	0.0129 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	5.39	3.07	NA
W-105	10/25/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.376	0.721	0.089	0.634 #	0 ##	0 ##	0.0794 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.20 #	0.544 #	NA
W-105	04/21/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.51	NA	0.11	0.689 #	0 ##	0.161 #	0.107 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.81 #	0 ##	NA
W-106	10/18/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.154	1.58	0.084	1.44 #	0.195 #	0.103 #	0.122 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.500 #	2.54 #	NA
W-106	04/14/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.22	NA	0.071	0.511 #	0.0618 #	0 #	0.0958 #	NA	< 0.0500	< 0.0700	0.103 J	0.103 J	1.45 #	3.61 #	NA
W-107	10/26/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	3.7	0.082 J	0.334	0.089	1.64 #	0 ##	0.125 #	0.0573 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.52 #	0 ##	NA
W-107	04/20/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	3.6	< 0.10	NA	0.052	1.02	0.266 #	0.112 #	0.0731 #	NA	< 0.0500	< 0.0700	0.0931 J	0.0931 J	4.85	0.467 #	NA
W-108	10/25/2021	N	< 1.0	< 1.0	1.5	< 1.0	< 1.0	0.098 J	0.158	< 0.020	1.96 #	0.00115 #	0 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.55 #	0 ##	NA
W-108	10/25/2021	FD	< 1.0	< 1.0	1.6	< 1.0	1.0	0.087 J	0.148	< 0.020	0 ##	0.142 #	0.0368 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.92 #	0 ##	NA
W-108	04/25/2022	N	< 1.0	< 1.0	1.4	< 1.0	1.0	0.11	NA	0.039	1.21 #	0.0897 #	0.0137 #	0.0111 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.55 #	1.00 #	NA
W-109	10/26/2021	N	< 1.0	< 1.0	1.5	< 1.0	< 1.0	0.051 J	0.0756 J	< 0.020	1.47 #	0.125 #	0.0839 #	0.0414 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0 ##	NA
W-109	04/25/2022	N	< 1.0	< 1.0	1.8	< 1.0	< 1.0	< 0.10	NA	< 0.020	0.234 #	0.0622 #	0.0109 #	0.0253 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.802 #	0 ##	NA
W-110	10/26/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.032 J	0.032 J	< 0.020	2.35	0.185 #	0 ##	0.170 #	NA	< 0.0500	< 0.0700	0.0693 J	0.0693 J	0.581 #	0 ##	NA
W-110	04/20/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	1.55	0.0564 #	0.0102 #	0.0390 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0.305 #	NA
W-111	10/26/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.012 J	0.031 J	< 0.020	0.989 #	0.0169 #	0.0932 #	0.0769 #	NA	< 0.0500	< 0.0700	0.136 J	0.136 J	1.15 #	0 ##	NA
W-111	04/20/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	1.71	0.151 #	0 ##	0.245 #	NA	< 0.0500	< 0.0700	0.145 J	0.145 J	2.37 #	0 ##	NA
W-112	10/26/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.076 J	0.809	0.077	0 ##	0 ##	0.0195 #	0.00122 #	NA	< 0.0500	< 0.0700	0.137 J	0.137 J	0 ##	0 ##	NA
W-112	04/20/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.050	0	0 ##	0.0827 #	0.0751 #	NA	< 0.0500	< 0.0700	0.0673 J	0.0673 J	1.75 #	0 ##	NA
W-113	10/15/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.181	0.025 J	2.2	0.642 #	0 ##	0 ##	0.118 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.04 #	1.01 #	NA
W-113	04/12/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	2.9	0 ##	0.132 #	0.0193 #	0.0601 #	NA	< 0.0500	< 0.0700	0.192 J	0.192 J	0.667 #	0.178 #	NA

Table 4 - Summary of Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group			VOCs					Inorganics			Radionuclides										
Analyte			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Fluoride	Ammonia	Nitrate	Gross Alpha	Isotopic U233/234	Isotopic U235/236	Isotopic U238 (HASL300)	Isotopic U238 (E901.1)	Isotopic U234	Isotopic U235	Isotopic U238	Total U	Gross Beta	Tc-99	Tritium
Units			ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	ug/L	ug/L	ug/L	ug/L	pCi/L	pCi/L	pCi/L
MCL			5	5	70	100	2	4		10	15								30	50	900	
MCL note											*									*		
Well	Date	Type																				
W-114	10/15/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.247	0.0237 J	1.1	0.602 #	0.0697 #	0.0380 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.37 #	0.900 #	NA
W-114	04/12/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.5	0 ##	0.146 #	0.0364 #	0.0124 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	4.71 #	0 ##	NA
W-115	10/14/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.026 J	0.0148 J	3.4	0 ##	0.0547 #	0.0935 #	0.0575 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.991 #	0.0562 #	NA
W-115	04/12/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	3.6	0.272 #	0.00434 #	0.0976 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	3.74 #	0 ##	NA
W-116	10/14/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.025 J	0.0159 J	5.9	1.24 #	0 ##	0.108 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	0.927 #	NA
W-116	04/12/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	6.5	0 ##	0 ##	0.0706 #	0.0217 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.60 #	0 ##	NA
W-117	10/14/2021	N	2.2	< 1.0	< 1.0	< 1.0	< 1.0	0.029 J	0.0207 J	2.4	0.596 #	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0.859 #	0 ##	NA
W-117	04/12/2022	N	10	1.2	< 1.0	< 1.0	< 1.0	< 0.10	NA	2.8	0.283 #	0 ##	0.0445 #	0.132 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.88 #	0 ##	NA
W-118	10/14/2021	N	85	2.1	< 1.0	< 1.0	< 1.0	0.047 J	0.0138 J	3.9	1.08 #	0.0332 #	0.0386 #	0.0325 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	0 ##	1.61 #	NA
W-118	04/12/2022	N	68	2.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	4.0	0.171 #	0 ##	0.0382 #	0.0114 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	6.43	0 ##	NA
W-119	10/18/2021	N	74	2.3	< 1.0	< 1.0	< 1.0	0.016 J	0.0635 J	1.5	2.25 #	0 ##	0.0153 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.00 #	0 ##	NA
W-119	04/12/2022	N	81	2.9	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.7	0 ##	0 ##	0.0486 #	0.0394 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	4.55	0 ##	NA
W-120	10/15/2021	N	340	17	1.3	< 1.0	< 1.0	0.083 J	0.0228 J	4.5	1.26 #	0.393	0 ##	0.278 #	NA	< 0.0500	< 0.0700	0.623	0.623	3.56 #	1.01 #	NA
W-120	04/13/2022	N	300	13	< 5.0	< 5.0	< 5.0	< 0.10	NA	2.7	1.56 #	0.277	0.0610 #	0.112 #	NA	< 0.0500	< 0.0700	0.817	0	2.87 #	1.50 #	NA
W-121	10/15/2021	N	82	2.4	< 1.0	< 1.0	< 1.0	0.057 J	0.0484 J	2.5	0 ##	0.0102 #	0.0118 #	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	5.06	1.62 #	NA
W-121	04/13/2022	N	25	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	1.4	0.229 #	0.0156 #	0.0259 #	0.0353 #	NA	< 0.0500	< 0.0700	< 0.200	0	3.62 #	0.699 #	NA
W-122	10/13/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.056 J	0.0248 J	< 0.020	3.49	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.45 #	0.494 #	NA
W-122	04/11/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	< 0.020	1.74 #	0.0290 #	0 #	0.0729 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.46 #	0.134 #	NA
W-123	10/05/2021	N	23	7.7	1.9	< 1.0	< 1.0	8.13	95	120	5.31	0.333	0.0432 #	0.421	NA	< 0.0500	0.0118 J	1.60	1.61	239	424	NA
W-123	04/04/2022	N	20	9.6	1.9	< 1.0	< 1.0	7.4	NA	83	10.0	0.437	0.0321 #	0.481	NA	< 0.0500	< 0.0700	1.37	1.37	291	442	NA
W-124	10/25/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.056 J	0.173	< 0.020	0 ##	0 ##	0.0128 #	0.0297 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	1.59 #	0 ##	NA
W-124	04/21/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.10	NA	0.075	1.82 #	0 ##	0 #	0.127 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	2.36 #	0 ##	NA
W-125	10/25/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.257	5.42	0.073	2.74 #	0.0880 #	0.0279 #	0.0250 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	6.77	1.15 #	NA
W-125	04/21/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.13	NA	0.077	4.08	0.00912 #	0 ##	0.101 #	NA	< 0.0500	< 0.0700	0.0709 J	0.0709 J	7.71	1.77 #	NA
W-126	10/25/2021	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.251	2.9	0.060	4.23	0 ##	0 ##	0 ##	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	4.02	0 ##	NA
W-126	04/21/2022	N	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.15	NA	0.096	2.14 #	0.0205 #	0.0766 #	0.103 #	NA	< 0.0500	< 0.0700	< 0.200	< 0.200	6.34	0.912 #	NA

Notes:
VOCs - volatile organic compounds
ug/L - micrograms per liter
mg/L - milligrams per liter
pCi/L - picocuries per liter
MCL - Maximum Contaminant Level
* - site-specific action level
N - Normal sample
FD - Field duplicate sample
Concentrations in orange shaded cells exceed their MCL
Bold concentrations indicate detections
J - Result below reporting limit
- value is below minimum detectable concentration
- value shown as zero reported by analytical laboratory as a negative number
NA - not analyzed