



Westinghouse Electric Company
Nuclear Fuel
Columbia Fuel Fabrication Facility
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USA

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Your ref:
Our ref: LTR-RAC-21-09

February 15, 2021

Subject: **January 2021 CA Progress Report**

Ms. Kuhn:

In accordance with Item 19 of Consent Agreement (CA) 19-02-HW, this progress report is being submitted to you, including the following requested information:

- (a) a brief description of the actions which Westinghouse has taken toward achieving compliance with the Consent Agreement during the previous month;
- (b) results of sampling and tests, in tabular summary format received by Westinghouse during the reporting period;
- (c) a brief description of all actions which are scheduled for the next month to achieve compliance with the Consent Agreement, and other information relating to the progress of the work as deemed necessary or requested by the Department; and
- (d) information regarding the percentage of work completed and any delays encountered or anticipated that may affect the approved schedule for implementation of the terms of the Consent Agreement, and a description of efforts made to mitigate delays or avoid anticipated delays.

In response to the above requirements, the following is being reported to the Department since the last progress report submitted on **January 8, 2021**. The following progress report is for work occurring from **January 1- 31, 2021**:

- (a) Actions during the previous month:
Westinghouse began implementation of the Final Remedial Investigation (RI) Work Plan on 6/10/19. To comply with **Item 4** of the CA, the following actions were completed this month.
 - Completed the following activities to support the Southern Storage Area (SSA) Operable Unit (OU) Work Plan:

- Excavated soil and conducted the subsequent confirmatory soil sampling under intermodal container C-21 for tetrachloroethylene on January 16, 2021.
- Completed the following to support the **Phase II RI Work Plan**:
 - Refined the Primary Soil Gas Survey Area by selecting closer sample intervals within the impacted area, conducting utility location, and installing additional soil gas sampling devices.
 - Teleconferenced with SCDHEC on January 14, 2021 to discuss data collected (to date) during the course of the Phase II RI Investigation. During the teleconference, AECOM proposed additional groundwater screening locations, and permanent well locations on behalf of CFFF that were later submitted in a formal well permit request.
 - Submitted a monitoring well permit request (LTR-RAC-21-08) and received approval by the Department for the installation of up to 10 additional permanent wells and 15 additional temporary wells (MW-12672).
 - Conducted underground utility survey of the permanent well locations.
 - Converted the temporary monitoring well at L-43 to a permanent well (W-102).
 - Installed the following new permanent monitoring wells using sonic drilling:
 - W-98 through W-100
 - W-102 through W105
 - W-107 through W-112

Please note that the proposed well W-101 was not installed. The depth to clay, based upon the structure contour map, was estimated to be several feet deeper than what was encountered when boring W-101 was drilled. W-101 confirmed that the bottom of the screen of W-11 was within 5 feet (3.5 feet) of the clay. Resultantly, W-11 will be reclassified as a lower zone well, thereby closing the data gap for Tc-99 distribution and migration within the surficial aquifer. Boring W-101 was abandoned with bentonite grout.
 - Submitted the Sanitary Lagoon Operable Unit Sludge Characterization Work Plan as Addendum III to the RI Work Plan on January 28, 2021 (LTR-RAC-21-12).

(b) Results of sampling and tests:

Sediment Sampling Results

- The tabulated sediment sampling results from Phase II of the RI Work Plan are included as **Attachment A** of this monthly report. In addition, Figure 11, *Sediment Assessment Map* from the Phase II RI Work Plan is also included in **Attachment A** for ease of reference and to supplement the tabular data.

Localized Detection of Petroleum Hydrocarbons in Groundwater at Boring L-22

- In the January 14th teleconference with DHEC, AECOM and CFFF shared that laboratory results indicated impact at groundwater screening boring L-22, at the 8-12 foot interval where petroleum hydrocarbons were detected at low concentrations. An extent of condition evaluation was performed by requesting a Library Search for volatile organic compounds (VOCs) from Pace Analytical from select groundwater screening borings and permanent monitoring wells. Results for 7 nearby wells and borings (L-22, L-23, W-35, W-39, W-43,

W-65, and W-66) along with two “control” locations (W-19B and W-67) were selected and evaluated for the presence of VOCs identified in groundwater from L-22-8-12. There was only one additional detection (2,3-dimethyl-Naphthalene @ 5 ug/L in L-23 at the 31-35’ screening interval). This data suggests the impact is localized to the area where L-22 was installed. As discussed during the teleconference, CFFF has included the pertinent Library Search excerpts as **Attachment B**.

(c) Brief description of all actions which are scheduled for the next month:

In accordance with **Item 4** of the CA, Westinghouse will continue to implement the Work Plan to include the following actions:

- Begin installation of the pressure transducers in February and/or March in the five monitoring wells around the Gator Pond (W-4, W-15, W-16, W-27 and W-92).
- Complete installation and development of permanent monitoring well W-106.
- Redevelop permanent monitoring well W-25.
- Collect groundwater samples from the newly installed wells.
- Collect the additional Primary Soil Gas Survey Area devices.
- Initiate investigative activities for groundwater screening borings L-48 through L-58 that were proposed in the January 14th teleconference:
 - Clear paths to the boring locations
 - Conduct underground utility survey
 - Conduct the groundwater screening
- Continue East Lagoon closure activities.

(d) Percentage of work completed and any delays encountered or anticipated:

- 20 % of Phase II Work Scope Completed. This completion estimate remains the same as the December 2020 report because of the additional work scope incorporated into the schedule after the January 14, 2021 teleconference. Currently there are no anticipated delays.

This monthly report also includes updates to information previously submitted in the July 2020 Final Interim RI Data Summary Report. During ongoing assessment of data to complete the RI, CFFF staff discovered that some results in Appendix Table A3 were mistakenly reported in the adjacent sample id column (e.g. SED-40 results for isotopic uranium analysis were reported as SED-39). **The enclosed updates to the data in the July 2020 Final Interim RI Data Summary Report did not alter any of the conclusions within the report. The plume maps indicate that the plume shapes and area of impact did not change.**

A comprehensive extent of condition was performed on all the data submitted with the Final Interim RI Data Summary Report, resulting in the following updates:

Tables:

- Tables 3, 4, 5, and 6 needed data revisions because of manual formatting that was conducted on the tables after they were extracted from the environmental database, which resulted in data being listed in the wrong columns.

- Appendix Table A2 and Appendix Table A3 needed data revisions, also because of manual formatting errors.

Figures:

- Wells sampled in duplicate did not have both results reported on the applicable figures. For example, on Figure 7, Extent of PCE—Lower Aquifers W-33 should have been reported as “300/330” instead of “300”. Similarly, W-48 should have been reported as “200/200”, not “200”. All affected figures (Figures 6-13), for the wells sampled in duplicate (W-10, W-33, W-48, W-49, and W-54) were updated with both results.
- Extent of PCE—Upper Aquifers (Figure 6):
 - W-11 should be 1.4 instead of 1.1.
 - Well label and result for W-18R (Lower Surficial Aquifer) should be deleted.
- Extent of PCE—Lower Aquifers (Figure 7):
 - W-18R should be 3.5 instead of 3.15.
- Extent of TCE—Upper Aquifers (Figure 8):
 - W-90 label should actually be W-91 with a NS result.
- Extent of TCE—Lower Aquifers (Figure 9):
 - The locations and reported results for wells W-6 and W-18R are interchanged.
- Extent of Fluoride in Groundwater (Figure 11):
 - The revised figure includes a 1.0 mg/L contour around monitoring well W-52, based on a Fluoride detection of 1.39 mg/L.
- Extent of Technetium-99 in Groundwater (Figure 12):
 - Well markers for W-40 and W-85 were present but the numerical ids and results were missing.
 - Many results were reported as “<50 pCi/L”, the reporting limit (RL) for Tc-99 at the time of the sampling. This is inconsistent with the reporting method for other figures in the Data Summary Report. The revised figure displays reported values, even those below the MDC and indicates as such by a “#” symbol. Negative values are displayed as “0” and indicated by a “##” symbol.
- Extent of Uranium in Groundwater (Figure 13):
 - All J values were missing on the map.
 - W-23R was covered up by the inset map.
 - W-45 was reported as 1 in Table 3 but as 1.00 in the actual lab report and on the figure. The proper reporting of the result is 1.00.
 - Aerial transparency was not consistent. It was darker than other maps and therefore corrected.

For ease of correction, the site will provide the following corrected sections of the report in digital and printed formats to update your copies of the report.

Tables (1-8)

Figures (Figures 1-17)

Appendix A, Laboratory Analytical Data Tables (Tables A1-A3)

In addition, copies of the corrected documents are provided in this report as **Attachment C**.

Respectfully,

A handwritten signature in blue ink, appearing to read "Diana P. Joyner". The signature is fluid and cursive, with the first name "Diana" being the most prominent part.

Diana P. Joyner
Principal Environmental Engineer
Westinghouse Electric Company, CFFF
803.497.7062 (m)

cc: N. Parr, Environmental Manager
J. Ferguson, EH&S Manager
J. Grant, AECOM Project Manager
ENOVIA Records

Attachment A: Sediment Sampling Results

Attachment B: Laboratory Search Excerpts, Extent of Condition at Groundwater Boring L-22

Attachment C: Updates to the Final Interim RI Report Tables and Figures

Attachment A

Sediment Sampling Results

Sediment Sampling Analytical Results
Westinghouse Columbia Fuel Fabrication Facility
Hopkins, SC

		Location			SED-16	SED-16	SED-16	SED-19	SED-19	SED-19	SED-19	SED-20	SED-20	SED-20	SED-20	SED-21	SED-21	SED-21	SED-21
		Depth	0 - 6 in	6 - 12 in	12 - 24 in	0 - 6 in	6 - 12 in	12 - 18 in	12 - 18 in	0 - 6 in	6 - 12 in	12 - 24 in	24 - 36 in	0 - 6 in	6 - 12 in	12 - 24 in	24 - 36 in		
		Type	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N		
		Date	11/18/2020	11/18/2020	11/18/2020	12/2/2020	12/2/2020	12/2/2020	12/2/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020		
		Sample	SED-16P2-0-6	SED-16P2-6-12	SED-16P2-12-24	SED-19P2-0-6	SED-19P2-6-12	SED-19P2-12-18	SED-19P2-12-18-DUP	SED-20P2-0-6	SED-20P2-6-12	SED-20P2-12-24	SED-20P2-24-36	SED-21P2-0-6	SED-21P2-6-12	SED-21P2-12-24	SED-21P2-24-36		
Group	Analyte	RUSL	IUSL	Units															
Radiological	Technetium-99	19	89400	pCi/g	0.614 #	2.62	3.71	0.208 #	1.12	0 ##	NA	0.638 #	0.265 #	0.208 #	0.700 #	1.17	0.528 #	0.225 #	0.0586 #
Radiological	Uranium-233/234	13	3310	pCi/g	67.2	63.7	6.03	19.1	27.0	2.05	NA	1.72	2.13	1.43	1.49	13.2	2.19	1.56	1.75
Radiological	Uranium-235/236	8	39	pCi/g	3.31	3.18	0.480	1.02	1.22	0.0675 #	NA	0.0212 #	0.0940 #	0.145	0.0841 #	0.393	0.131 #	0.0344 #	0 ##
Radiological	Uranium-238	14	179	pCi/g	12.1	11.8	1.99	5.15	6.42	1.51	NA	1.67	1.50	1.89	1.40	3.79	1.51	1.07	0.970
Chemical	Ammonia			mg/kg	91.8	39.4	8.90	761	1100	277	NA	113	79.9	70.8	54.7	476	474	282	180
Chemical	Fluoride			mg/kg	15.5	10.3	3.78	59.7	28.5	3.98	NA	6.63	4.93	4.01	8.50	13.2	8.86	4.73	4.45
Chemical	Solids			%	78.1	77.4	82.8	9.54	11.3	24.5	23.8	57.6	65	67.8	68.2	10.8	27	57.5	33.4
VOCs	1,1-Dichloroethene			ug/kg	< 5.3	< 5	< 4.9	< 74	< 60	< 26	< 24	< 8.2	< 7.4	< 7	< 6.4	< 54	< 19	< 8.9	< 15
VOCs	1,2-Dichloroethane			ug/kg	< 5.3	< 5	< 4.9	< 74	< 60	< 26	< 24	< 8.2	< 7.4	< 7	< 6.4	< 54	< 19	< 8.9	< 15
VOCs	cis-1,2-Dichloroethene			ug/kg	< 5.3	< 5	< 4.9	< 74	< 60	< 26	< 24	< 8.2	< 7.4	< 7	< 6.4	< 54	< 19	< 8.9	< 15
VOCs	Tetrachloroethene			ug/kg	< 5.3	< 5	< 4.9	< 74	< 60	< 26	< 24	< 8.2	< 7.4	< 7	< 6.4	< 54	< 19	< 8.9	< 15
VOCs	trans-1,2-Dichloroethene			ug/kg	< 5.3	< 5	< 4.9	< 74	< 60	< 26	< 24	< 8.2	< 7.4	< 7	< 6.4	< 54	< 19	< 8.9	< 15
VOCs	Trichloroethene			ug/kg	< 5.3	< 5	< 4.9	< 74	< 60	< 26	< 24	< 8.2	< 7.4	< 7	< 6.4	< 54	< 19	< 8.9	< 15
VOCs	Vinyl chloride			ug/kg	< 5.3	< 5	< 4.9	< 74	< 60	< 26	< 24	< 8.2	< 7.4	< 7	< 6.4	< 54	< 19	< 8.9	< 15

Sediment Sampling Analytical Results
Westinghouse Columbia Fuel Fabrication Facility
Hopkins, SC

					Location	SED-22	SED-22	SED-22	SED-22	SED-23	SED-23	SED-23	SED-23	SED-24	SED-24	SED-24	SED-38	SED-38	SED-38	SED-38
					Depth	0 - 6 in	6 - 12 in	12 - 24 in	24 - 36 in	0 - 6 in	6 - 12 in	12 - 24 in	24 - 36 in	0 - 6 in	6 - 12 in	12 - 18 in	0 - 6 in	6 - 12 in	12 - 24 in	24 - 36 in
					Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Date	11/9/2020	11/9/2020	11/9/2020	11/9/2020	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020
					Sample	SED-22P2-0-6	SED-22P2-6-12	SED-22P2-12-24	SED-22P2-24-36	SED-23P2-0-6	SED-23P2-6-12	SED-23P2-12-24	SED-23P2-24-36	SED-24P2-0-6	SED-24P2-6-12	SED-24P2-12-18	SED-38P2-0-6	SED-38P2-6-12	SED-38P2-12-24	SED-38P2-24-36
Group	Analyte	RUSL	IUSL	Units																
Radiological	Technetium-99	19	89400	pCi/g	0.304 #	0.0333 #	0 ##	0 ##	144	30.6	1.40	0.785	118	158	33.3	2.13	0.116 #	0.174 #	0.128 #	
Radiological	Uranium-233/234	13	3310	pCi/g	6.21	1.97	1.09	1.81	1.36	1.19	1.06	1.11	3.12	2.63	1.57	60.9	4.19	3.01	1.74	
Radiological	Uranium-235/236	8	39	pCi/g	0.257	0.192 #	0.0350 #	0.225 #	0.0994 #	0.0658 #	0.0187 #	0.0379 #	0.160 #	0.153 #	0.217	3.12	0.276	0.188	0.0835 #	
Radiological	Uranium-238	14	179	pCi/g	2.24	0.971	0.838	1.08	1.36	1.29	1.19	0.736	2.13	1.67	1.47	17.0	2.52	1.71	1.60	
Chemical	Ammonia			mg/kg	531	386	137	75.9	680	288	200	291	1080	1170	322	581	491	596	306	
Chemical	Fluoride			mg/kg	9.90	6.95	1.79	3.02	89.6	55.3	41.6	48.5	152	135	62.7	5.56	5.91	4.27 J	3.55	
Chemical	Solids			%	37.1	41.2	71	72.7	26.3	47.4	76.7	76.5	11.9	10.3	55.2	30.5	29.4	35.4	60.1	
VOCs	1,1-Dichloroethene			ug/kg	< 34	< 15	< 5.6	< 7	< 25	< 9.9	< 5.3	< 5.2	< 58	< 6.5	< 9.9	< 18	< 22	< 41	< 8.6	
VOCs	1,2-Dichloroethane			ug/kg	< 34	< 15	< 5.6	< 7	< 25	< 9.9	< 5.3	< 5.2	< 58	< 6.5	< 9.9	< 18	< 22	< 41	< 8.6	
VOCs	cis-1,2-Dichloroethene			ug/kg	< 34	< 15	< 5.6	< 7	< 25	< 9.9	< 5.3	< 5.2	< 58	< 6.5	< 9.9	< 18	< 22	< 41	< 8.6	
VOCs	Tetrachloroethene			ug/kg	< 34	< 15	< 5.6	< 7	< 25	< 9.9	< 5.3	< 5.2	< 58	< 6.5	< 9.9	< 18	< 22	< 41	< 8.6	
VOCs	trans-1,2-Dichloroethene			ug/kg	< 34	< 15	< 5.6	< 7	< 25	< 9.9	< 5.3	< 5.2	< 58	< 6.5	< 9.9	< 18	< 22	< 41	< 8.6	
VOCs	Trichloroethene			ug/kg	< 34	< 15	< 5.6	< 7	< 25	< 9.9	< 5.3	< 5.2	< 58	< 6.5	< 9.9	< 18	< 22	< 41	< 8.6	
VOCs	Vinyl chloride			ug/kg	< 34	< 15	< 5.6	< 7	< 25	< 9.9	< 5.3	< 5.2	< 58	< 6.5	< 9.9	< 18	< 22	< 41	< 8.6	

Sediment Sampling Analytical Results
Westinghouse Columbia Fuel Fabrication Facility
Hopkins, SC

		Location			SED-38	SED-39	SED-39	SED-39	SED-39	SED-40	SED-40	SED-40	SED-40	SED-41	SED-41	SED-41	SED-41	SED-42	SED-42
		Depth	24 - 36 in	0 - 6 in	6 - 12 in	12 - 24 in	24 - 36 in	0 - 6 in	6 - 12 in	12 - 24 in	24 - 36 in	0 - 6 in	6 - 12 in	12 - 24 in	24 - 36 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
		Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Date	11/10/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/11/2020	11/11/2020
		Sample	SED-38P2-24-36-DUP	SED-39P2-0-6	SED-39P2-6-12	SED-39P2-12-24	SED-39P2-24-36	SED-40P2-0-6	SED-40P2-6-12	SED-40P2-12-24	SED-40P2-24-36	SED-41P2-0-6	SED-41P2-6-12	SED-41P2-12-24	SED-41P2-24-36	SED-42P2-0-6	SED-42P2-6-12		
Group	Analyte	RUSL	IUSL	Units															
Radiological	Technetium-99	19	89400	pCi/g	0.144 #	0.626 #	0.732 #	0.536 #	0.281 #	0.400 #	0.199 #	0.0850 #	0.137 #	1.12	0.0380 #	0.216 #	0.185 #	1.21	0.137 #
Radiological	Uranium-233/234	13	3310	pCi/g	1.66	2.22	2.37	1.58	1.86	4.69	1.34	1.17	1.36	17.0	1.84	2.14	0.806	31.1	4.34
Radiological	Uranium-235/236	8	39	pCi/g	0.0261 #	0.0959	0.0929 #	0.243	0.181	0.362	0.0449 #	0	0.0645 #	0.789	0.0733 #	0	0.0600 #	1.18	0.248 #
Radiological	Uranium-238	14	179	pCi/g	1.25	1.81	1.85	1.63	1.96	2.29	1.43	1.09	1.23	3.38	1.29	1.87	0.925	7.57	1.68
Chemical	Ammonia			mg/kg	393	329	274	72.7	56.9	1110	122	140	37.2	897	367	555	896	2110	1040
Chemical	Fluoride			mg/kg	3.90	2.60	2.41 J	< 1.43	3.75	3.95	0.668 J	2.09	1.42	14.6	5.18	2.10 J	5.77	26.5	7.98
Chemical	Solids			%	54.4	56.1	57.2	67.4	67.8	30.7	66.8	68.5	75.9	8.43	18.1	41.8	30	11.6	13.1
VOCs	1,1-Dichloroethene			ug/kg	< 9.8	< 8.7	< 10	< 7.1	< 6.2	< 19	< 7.3	< 6.6	< 5.5	< 74	< 30	< 12	< 22	< 61	< 49
VOCs	1,2-Dichloroethane			ug/kg	< 9.8	< 8.7	< 10	< 7.1	< 6.2	< 19	< 7.3	< 6.6	< 5.5	< 74	< 30	< 12	< 22	< 61	< 49
VOCs	cis-1,2-Dichloroethene			ug/kg	< 9.8	< 8.7	< 10	< 7.1	< 6.2	< 19	< 7.3	< 6.6	< 5.5	< 74	< 30	< 12	< 22	< 61	< 49
VOCs	Tetrachloroethene			ug/kg	< 9.8	< 8.7	< 10	< 7.1	< 6.2	< 19	< 7.3	< 6.6	< 5.5	< 74	< 30	< 12	< 22	< 61	< 49
VOCs	trans-1,2-Dichloroethene			ug/kg	< 9.8	< 8.7	< 10	< 7.1	< 6.2	< 19	< 7.3	< 6.6	< 5.5	< 74	< 30	< 12	< 22	< 61	< 49
VOCs	Trichloroethene			ug/kg	< 9.8	< 8.7	< 10	< 7.1	< 6.2	< 19	< 7.3	< 6.6	< 5.5	< 74	< 30	< 12	< 22	< 61	< 49
VOCs	Vinyl chloride			ug/kg	< 9.8	< 8.7	< 10	< 7.1	< 6.2	< 19	< 7.3	< 6.6	< 5.5	< 74	< 30	< 12	< 22	< 61	< 49

Sediment Sampling Analytical Results
Westinghouse Columbia Fuel Fabrication Facility
Hopkins, SC

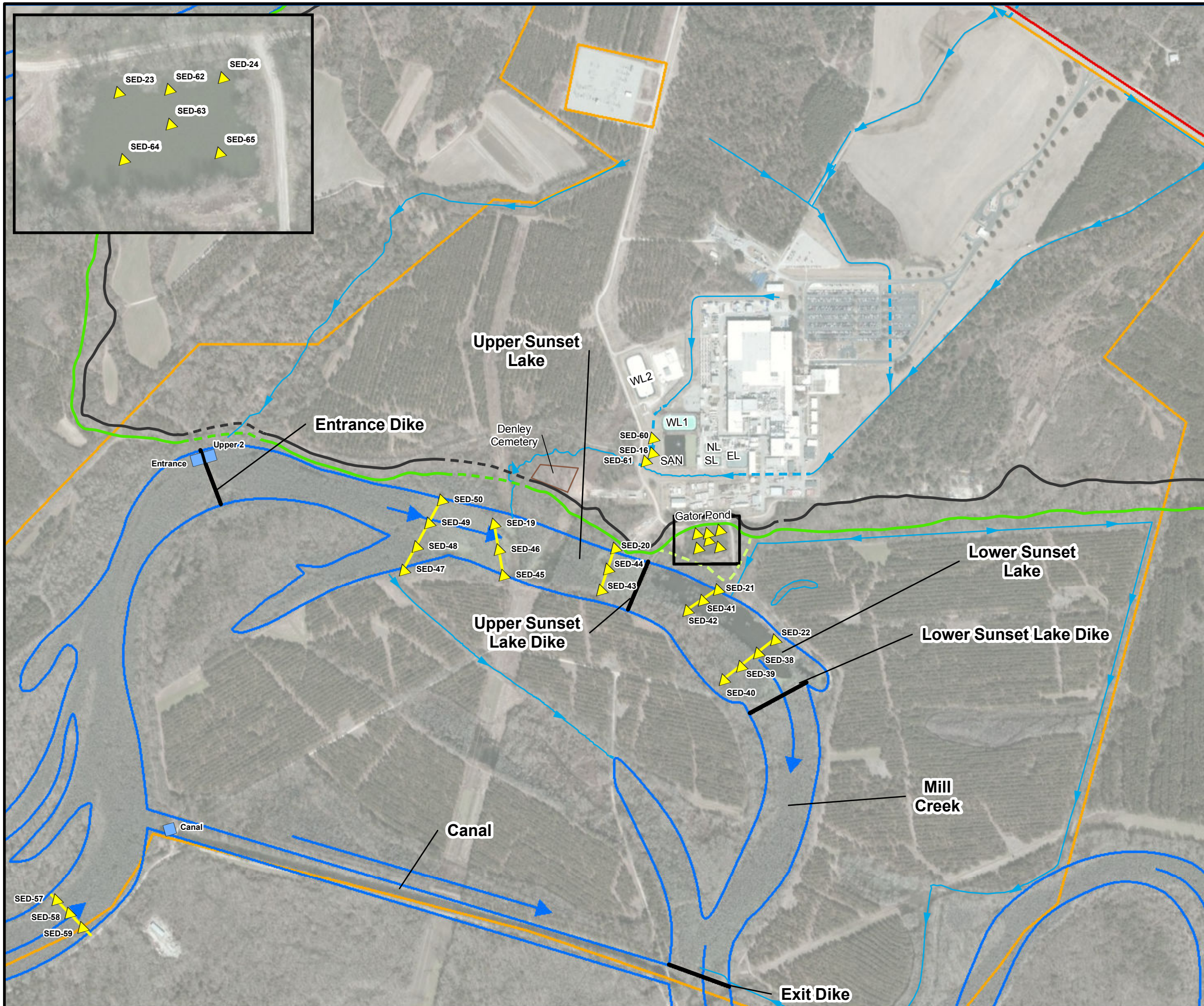
Location					SED-42	SED-42	SED-43	SED-43	SED-44	SED-44	SED-44	SED-45	SED-45	SED-46	SED-46	SED-47	SED-47	SED-48	SED-48	SED-48
Depth					12 - 24 in	24 - 36 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	12 - 18 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	12 - 18 in
Type					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date					11/11/2020	11/11/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/2/2020	12/2/2020	12/2/2020	12/2/2020	12/3/2020	12/3/2020	12/3/2020	12/3/2020	12/3/2020
Sample					SED-42P2-12-24	SED-42P2-24-36	SED-43P2-0-6	SED-43P2-6-12	SED-44P2-0-6	SED-44P2-6-12	SED-44P2-12-18	SED-45P2-0-6	SED-45P2-6-12	SED-46P2-0-6	SED-46P2-6-12	SED-47P2-0-6	SED-47P2-6-12	SED-48P2-0-6	SED-48P2-6-12	SED-48P2-12-18
Group	Analyte	RUSL	IUSL	Units																
Radiological	Technetium-99	19	89400	pCi/g	0.0327 #	0 ##	0.226 #	0.00633 #	9.42	4.33	0 ##	0 ##	0 ##	0 ##	0.110 #	0 ##	0 ##	0 ##	0 ##	0 ##
Radiological	Uranium-233/234	13	3310	pCi/g	3.19	1.57	5.13	16.0	435	34.0	3.34	6.00	2.95	11.6	10.4	3.32	4.86	2.49	2.11	1.63
Radiological	Uranium-235/236	8	39	pCi/g	0.135 #	0.0342 #	0.211 #	0.873	24.3	1.57	0.0293 #	0.325	0.0545 #	0.251 #	0.419	0.0528 #	0.0999 #	0.154 #	0.169	0.205
Radiological	Uranium-238	14	179	pCi/g	1.50	1.58	1.87	4.50	98.7	8.74	2.70	1.92	1.48	2.85	3.55	1.95	2.41	2.24	1.77	1.85
Chemical	Ammonia			mg/kg	593	807	312	499	1070	580	299	1520	240	1980	863	1200	1670	491	112	57.4
Chemical	Fluoride			mg/kg	2.21 J	2.03 J	2.67 J	9.10	32.3	19.3	15.3	103	< 3.96	120	20.6	6.37	16.5	1.86 J	3.09	1.88
Chemical	Solids			%	32	27.8	14.3	11	6.76	13.8	27.7	12.9	20.9	9.45	18.1	21.1	12.1	15.6	59	66.8
VOCs	1,1-Dichloroethene			ug/kg	< 21	< 23	< 41	< 56	< 100	< 47	< 6.2	< 49	< 28	< 74	< 36	< 33	< 54	< 35	< 7.7	< 7.1
VOCs	1,2-Dichloroethane			ug/kg	< 21	< 23	< 41	< 56	< 100	< 47	< 6.2	< 49	< 28	< 74	< 36	< 33	< 54	< 35	< 7.7	< 7.1
VOCs	cis-1,2-Dichloroethene			ug/kg	< 21	< 23	< 41	< 56	< 100	< 47	< 6.2	< 49	< 28	< 74	< 36	< 33	< 54	< 35	< 7.7	< 7.1
VOCs	Tetrachloroethene			ug/kg	< 21	< 23	< 41	< 56	< 100	< 47	< 6.2	< 49	< 28	< 74	< 36	< 33	< 54	< 35	< 7.7	< 7.1
VOCs	trans-1,2-Dichloroethene			ug/kg	< 21	< 23	< 41	< 56	< 100	< 47	< 6.2	< 49	< 28	< 74	< 36	< 33	< 54	< 35	< 7.7	< 7.1
VOCs	Trichloroethene			ug/kg	< 21	< 23	< 41	< 56	< 100	< 47	< 6.2	< 49	< 28	< 74	< 36	< 33	< 54	< 35	< 7.7	< 7.1
VOCs	Vinyl chloride			ug/kg	< 21	< 23	< 41	< 56	< 100	< 47	< 6.2	< 49	< 28	< 74	< 36	< 33	< 54	< 35	< 7.7	< 7.1

Sediment Sampling Analytical Results
Westinghouse Columbia Fuel Fabrication Facility
Hopkins, SC

Location					SED-49	SED-49	SED-50	SED-50	SED-50	SED-57	SED-57	SED-57	SED-58	SED-58	SED-59	SED-59	SED-60	SED-60	SED-61
Depth					0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	12 - 24 in	0 - 6 in	6 - 12 in	12 - 18 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in
Type					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date					12/3/2020	12/3/2020	12/3/2020	12/3/2020	12/3/2020	12/4/2020	12/4/2020	12/4/2020	12/4/2020	12/4/2020	12/3/2020	12/3/2020	11/18/2020	11/18/2020	11/18/2020
Sample					SED-49P2-0-6	SED-49P2-6-12	SED-50P2-0-6	SED-50P2-6-12	SED-50P2-12-24	SED-57P2-0-6	SED-57P2-6-12	SED-57P2-12-18	SED-58P2-0-6	SED-58P2-6-12	SED-59P2-0-6	SED-59P2-6-12	SED-60P2-0-6	SED-60P2-6-12	SED-61P2-0-6
Group	Analyte	RUSL	IUSL	Units															
Radiological	Technetium-99	19	89400	pCi/g	0 ##	0 ##	0 ##	0 ##	0 ##	NA	NA	NA	NA	NA	NA	NA	0.433 #	0.483 #	1.20
Radiological	Uranium-233/234	13	3310	pCi/g	5.10	2.85	6.83	2.33	1.00	2.22	1.63	1.49	1.21	1.38	2.09	1.52	39.7	44.4	4.29
Radiological	Uranium-235/236	8	39	pCi/g	0.142	0.0436 #	0.351	0.152 #	0.139	0.110 #	0.101 #	0 #	0.0516 #	0.0321 #	0.0517 #	0.0494 #	2.19	1.81	0.244 #
Radiological	Uranium-238	14	179	pCi/g	2.25	2.04	2.65	1.83	0.808	1.82	1.74	2.05	1.37	1.15	1.88	1.27	7.42	8.17	0.818
Chemical	Ammonia			mg/kg	378	280	1130	382	257	NA	NA	NA	NA	NA	NA	NA	45.7	57.3	14.1
Chemical	Fluoride			mg/kg	9.14	5.78	7.00	2.92	2.51 J	NA	NA	NA	NA	NA	NA	NA	19.2	14.1	3.47
Chemical	Solids			%	17.9	35.3	15	27.2	26.2	NA	NA	NA	NA	NA	NA	NA	82	83.7	79.9
VOCs	1,1-Dichloroethene			ug/kg	< 40	< 16	< 46	< 21	< 25	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6
VOCs	1,2-Dichloroethane			ug/kg	< 40	< 16	< 46	< 21	< 25	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6
VOCs	cis-1,2-Dichloroethene			ug/kg	< 40	< 16	< 46	< 21	< 25	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6
VOCs	Tetrachloroethene			ug/kg	< 40	< 16	< 46	< 21	< 25	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6
VOCs	trans-1,2-Dichloroethene			ug/kg	< 40	< 16	< 46	< 21	< 25	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6
VOCs	Trichloroethene			ug/kg	< 40	< 16	< 46	< 21	< 25	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6
VOCs	Vinyl chloride			ug/kg	< 40	< 16	< 46	< 21	< 25	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6

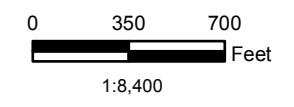
Sediment Sampling Analytical Results
Westinghouse Columbia Fuel Fabrication Facility
Hopkins, SC

		Location			SED-61	SED-61	SED-61	SED-62	SED-62	SED-62	SED-62	SED-63	SED-63	SED-64	SED-64	SED-65	SED-65
		Depth			0 - 6 in	6 - 12 in	12 - 18 in	0 - 6 in	6 - 12 in	6 - 12 in	12 - 24 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
		Type			FD	N	N	N	N	FD	N	N	N	N	N	N	N
		Date			11/18/2020	11/18/2020	11/18/2020	11/17/2020	11/17/2020	11/17/2020	11/17/2020	11/17/2020	11/17/2020	11/17/2020	11/17/2020	11/16/2020	11/16/2020
		Sample			SED-61P2-0-6-DUP	SED-61P2-6-12	SED-61P2-12-18	SED-62P2-0-6	SED-62P2-6-12	SED-62P2-6-12-DUP	SED-62P2-12-24	SED-63P2-0-6	SED-63P2-6-12	SED-64P2-0-6	SED-64P2-6-12	SED-65P2-0-6	SED-65P2-6-12
Group	Analyte	RUSL	IUSL	Units													
Radiological	Technetium-99	19	89400	pCi/g	1.12	7.96	8.28	22.9	2.89	2.98	1.08	25.0	2.63	85.8	5.53	312	8.41
Radiological	Uranium-233/234	13	3310	pCi/g	15.1	9.17	3.86	1.21	1.57	1.60	1.84	0.853	0.760	1.30	1.11	1.01	1.12
Radiological	Uranium-235/236	8	39	pCi/g	0.789	0.267	0.186	0.167 #	0.0659 #	0.0636 #	0 ##	0.148 #	0.0985 #	0.0856 #	0.0301 #	0.113 #	0 ##
Radiological	Uranium-238	14	179	pCi/g	3.50	2.79	1.95	1.73	2.00	1.35	1.12	0.875	0.649	1.18	1.32	0.726	0.791
Chemical	Ammonia			mg/kg	9.39	17.0	30.2	160	218	159	240	218	126	311	283	156	276
Chemical	Fluoride			mg/kg	3.04	5.29	15.2	45.7	43.5	34.4	39.0	37.7	24.9	49.4	33.7	40.6	33.6
Chemical	Solids			%	75.5	88.2	85.8	44.9	76.7	76.1	77.9	71.1	78	68.1	78.9	72.2	78.2
VOCs	1,1-Dichloroethene			ug/kg	< 5.7	< 5	< 4.4	< 8.9	< 5	< 5.1	< 5.2	< 5.6	< 5	< 6.6	< 4.8	< 5.4	< 4.6
VOCs	1,2-Dichloroethane			ug/kg	< 5.7	< 5	< 4.4	< 8.9	< 5	< 5.1	< 5.2	< 5.6	< 5	< 6.6	< 4.8	< 5.4	< 4.6
VOCs	cis-1,2-Dichloroethene			ug/kg	< 5.7	< 5	< 4.4	< 8.9	< 5	< 5.1	< 5.2	< 5.6	< 5	< 6.6	< 4.8	< 5.4	< 4.6
VOCs	Tetrachloroethene			ug/kg	< 5.7	< 5	< 4.4	< 8.9	< 5	< 5.1	< 5.2	< 5.6	< 5	< 6.6	< 4.8	< 5.4	< 4.6
VOCs	trans-1,2-Dichloroethene			ug/kg	< 5.7	< 5	< 4.4	< 8.9	< 5	< 5.1	< 5.2	< 5.6	< 5	< 6.6	< 4.8	< 5.4	< 4.6
VOCs	Trichloroethene			ug/kg	< 5.7	< 5	< 4.4	< 8.9	< 5	< 5.1	< 5.2	< 5.6	< 5	< 6.6	< 4.8	< 5.4	< 4.6
VOCs	Vinyl chloride			ug/kg	< 5.7	< 5	< 4.4	< 8.9	< 5	< 5.1	< 5.2	< 5.6	< 5	< 6.6	< 4.8	< 5.4	< 4.6



Legend

- ▲ Proposed Sediment Sample Location
- Proposed Staff Gauge Location
- Sediment Sample Transect
- Ditch
- - - Culvert
- ➔ Mill Creek Flow Direction
- Dike Location
- ▭ Mill Creek
- ▭ Property Line
- Top of Bluff
- - - Inferred Top of Bluff
- Bottom of Bluff
- - - Inferred Bottom of Bluff
- · - · Secondary Bluff Area
- EL East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2



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



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Sediment Assesment Map

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
 HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: CCS	DATE: August 2020	FIGURE 11
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Attachment B

Laboratory Search Excerpts
Extent of Condition at Groundwater Boring L-22

Library Search

Client: Westinghouse Electric Company	Laboratory ID: VK19098-003
Description: L-22-8-12	Matrix: Aqueous
Date Sampled: 11/19/2020 0951	Project Name: CVOC
Date Received: 11/19/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	11/23/2020 1526	ECB		75445

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
Ethylbenzene		8260D	23			ug/L	1
Benzene, 2-propenyl-		8260D	25			ug/L	1
Benzene, 4-ethyl-1,2-dimethyl-		8260D	35			ug/L	1
Benzene, 1-ethenyl-3-ethyl-		8260D	21			ug/L	1
Benzene, 1,2,4,5-tetramethyl-		8260D	20			ug/L	1
Unknown		8260D	58			ug/L	1
Naphthalene, 1,2,3,4-tetrahydro-		8260D	25			ug/L	1
Naphthalene		8260D	80			ug/L	1
Naphthalene, 2-methyl-		8260D	49			ug/L	1
Naphthalene, 1-methyl-		8260D	37			ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
 ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
 H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VK19098-005
Description: L-22-8-12-DUP	Matrix: Aqueous
Date Sampled: 11/19/2020 0951	Project Name: CVOC
Date Received: 11/19/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	11/23/2020 1550	ECB		75445

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
Ethylbenzene		8260D	24			ug/L	1
Benzene, 2-propenyl-		8260D	26			ug/L	1
Benzene, 1-ethyl-2,3-dimethyl-		8260D	36			ug/L	1
Benzene, 1-ethenyl-3-ethyl-		8260D	22			ug/L	1
Benzene, 1,2,3,5-tetramethyl-		8260D	20			ug/L	1
Benzene, 1,2,4,5-tetramethyl-		8260D	60			ug/L	1
Naphthalene, 1,2,3,4-tetrahydro-		8260D	26			ug/L	1
Naphthalene		8260D	84			ug/L	1
Naphthalene, 2-methyl-		8260D	57			ug/L	1
Naphthalene, 1-methyl-		8260D	45			ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VK19098-002
Description: L-22-26-30	Matrix: Aqueous
Date Sampled: 11/18/2020 1649	Project Name: CVOC
Date Received: 11/19/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VK21049-001
Description: L-23-12-16	Matrix: Aqueous
Date Sampled: 11/20/2020 1001	Project Name: CVOC
Date Received: 11/20/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: **Westinghouse Electric Company**

Laboratory ID: **VK19098-007**

Description: **L-23-20-24**

Matrix: **Aqueous**

Date Sampled: **11/19/2020 1633**

Project Name: **CVOC**

Date Received: **11/19/2020**

Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: **Westinghouse Electric Company**

Laboratory ID: **VK19098-006**

Description: **L-23-31-35**

Matrix: **Aqueous**

Date Sampled: **11/19/2020 1512**

Project Name: **CVOC**

Date Received: **11/19/2020**

Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	11/23/2020 1613	PAP		79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
Naphthalene, 2,3-dimethyl-		8260D	5.0			ug/L	1

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the LOQ

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

H = Out of holding time

W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VJ20054-006
Description: W-19B-2020-Q4	Matrix: Aqueous
Date Sampled: 10/20/2020 1210	Project Name: Westinghouse RI
Date Received: 10/20/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VJ13033-003
Description: W-35-2020-Q4	Matrix: Aqueous
Date Sampled: 10/13/2020 1422	Project Name: Westinghouse RI
Date Received: 10/13/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VJ22061-004
Description: W-39-2020-Q4	Matrix: Aqueous
Date Sampled: 10/22/2020 0906	Project Name: Westinghouse RI
Date Received: 10/22/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VJ22061-005
Description: W-43-2020-Q4	Matrix: Aqueous
Date Sampled: 10/22/2020 1040	Project Name: Westinghouse RI
Date Received: 10/22/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VJ22061-001
Description: W-65-2020-Q4	Matrix: Aqueous
Date Sampled: 10/22/2020 1038	Project Name: Westinghouse RI
Date Received: 10/22/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VJ22061-002
Description: W-66-2020-Q4	Matrix: Aqueous
Date Sampled: 10/22/2020 1211	Project Name: Westinghouse RI
Date Received: 10/22/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Library Search

Client: Westinghouse Electric Company	Laboratory ID: VJ19024-003
Description: W-67-2020-Q4	Matrix: Aqueous
Date Sampled: 10/19/2020 1029	Project Name: Westinghouse RI
Date Received: 10/19/2020	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1				79578

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
None Detected		8260D				ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
H = Out of holding time W = Reported on wet weight basis

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Attachment C

Updates to the Final Interim RI Report Tables and Figures

Tables (1-8)

Figures (Figures 1-17)

Appendix A, Laboratory Analytical Data Tables

Table 1 - Summary of Well Construction Details and Groundwater Elevations
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well	Well Diameter (in)	Date Measured	Total Depth (ft bgs)	Screen Length (ft)	Ground Surface Elevation (ft)	Top of Casing Elevation (ft)	Screen Interval (ft bgs)	Screen Interval Elevation (ft bgs)	Depth to Water (ft)	Groundwater Elevation (ft)
WRW-1	4	10/14/19	32.20	10	136.00	136.95	22.2-32.2	113.8-103.8	9.64	127.31
WRW-2	4	10/14/19	28.43	10	136.98	139.93	19-29.2	118.55-108.55	18.62	121.31
W-3A	2	10/14/19	82.86	10	117.64	120.08	72.5-82.5	44.8-34.8	8.79	111.29
W-4	4	10/14/19	15.01	2	116.50	116.09	10-12	103.5-101.5	10.38	105.71
W-6	2	10/14/19	27.78	5	136.96	136.46	23.5-28.5	114.2-109.2	11.22	125.24
W-7A	2	10/14/19	17.92	5	132.94	135.06	13-18	120-115	12.35	122.71
W-10	2	10/14/19	22.30	5	136.89	136.81	18.5-23.5	119.6-114.6	16.50	120.31
W-11	2	10/14/19	24.90	3	138.45	140.76	25.5-28.5	116.55-113.55	19.02	121.74
W-13R	2	10/14/19	20.52	5	136.38	136.13	15-20	120.9-115.9	12.96	123.17
W-14	2	10/14/19	28.91	5	136.22	137.83	23.5-28.5	112.3-107.3	17.62	120.21
W-15	2	10/14/19	20.66	5	126.67	127.90	13.5-18.5	111-106	12.90	115.00
W-16	2	10/14/19	13.23	3	125.64	124.93	15.5-18.5	115.4-112.4	3.71	121.22
W-17	2	10/14/19	27.92	5	137.57	139.27	23.5-28	114.65-109.65	14.56	124.71
W-18R	2	10/14/19	27.63	5	137.15	136.71	12.5-17.5	114.5-109.5	12.20	124.51
W-19B	4	10/14/19	40.73	10	140.58	142.85	30-40.5	109.85-99.85	25.17	117.68
W-20	2	10/14/19	15.66	5	113.27	116.16	11.5-16.3	102.6-97.6	10.60	105.56
W-22	2	10/14/19	15.10	5	137.08	136.51	13.4-17.8	127-122	11.68	124.83
W-23R	2	10/14/19	20.93	5	137.45	140.47	15.5-20.5	121.5-116.5	19.19	121.28
W-24	2	10/14/19	15.00	5	139.83	141.94	10.1-15.1	129.85-124.85	11.78	130.16
W-25	2	10/14/19	27.25	5	114.98	115.88	22.9-27.7	92.75-87.75	10.95	104.93
W-26	2	10/14/19	30.64	5	140.59	142.21	25.5-30.5	114.95-109.95	26.37	115.84
W-27	2	10/14/19	14.72	5	120.22	121.87	14.1-18.9	110.5-105.5	11.28	110.59
W-28	2	10/14/19	15.30	5	136.98	138.88	9.8-14.7	126.7-121.7	12.60	126.28
W-29	2	10/14/19	13.95	5	136.96	138.61	10-15.1	128-123	12.41	126.20
W-30	2	10/14/19	14.86	5	136.87	138.81	10.2-15.2	127-122	12.65	126.16
W-32	2	10/14/19	21.75	5	138.33	140.61	17-22.5	121.6-116.6	19.59	121.02
W-33	2	10/14/19	22.88	5	138.06	139.33	15.1-20.7	120.2-115.2	15.85	123.48
W-35	2	10/14/19	20.35	5	136.59	139.07	16-21	121.25-116.25	11.78	127.29
W-36	2	10/14/19	19.77	5	134.16	136.29	15-20	119.4-114.4	8.66	127.63
W-37	2	10/14/19	20.46	5	136.58	139.04	15.5-20.5	121.1-116.1	12.05	126.99
W-38	2	10/14/19	20.16	5	136.71	136.51	15-20	121.55-116.55	10.45	126.06
W-39	2	10/14/19	23.17	10	139.08	141.15	12-22	125.9-115.9	16.25	124.90
W-40	2	10/14/19	14.39	10	136.42	139.26	5-15	132.05-122.05	11.95	127.31
W-41R	2	10/14/19	24.33	10	131.02	133.81	14-24	116.7-106.7	15.94	117.87
W-42	2	10/14/19	29.91	10	137.83	140.96	20-30	117.9-107.9	26.32	114.64
W-43	2	10/14/19	21.12	10	138.09	141.33	10.5-20.5	126.95-116.95	15.65	125.68
W-44	2	10/14/19	27.04	10	131.93	134.86	16-26	114.9-104.9	18.42	116.44
W-45	2	10/14/19	15.38	10	137.20	140.02	6-16	131.8-121.8	12.85	127.17
W-46	4	10/14/19	25.84	10	132.39	134.74	15.5-25.5	116.55-106.55	14.02	120.72
W-47	4	10/14/19	45.60	10	140.70	141.90	34.3-44.8	105.1-95.1	26.99	114.91
W-48	4	10/14/19	41.30	10	139.74	142.56	30.7-41.3	108.45-98.45	27.21	115.35
W-49	2	10/14/19	117.77	10	137.82	140.25	105-115	30.05-20.05	31.07	109.18
W-50	2	10/14/19	125.41	10	136.79	139.58	114.5-124.5	21.4-11.4	25.27	114.31
W-51	2	10/14/19	14.66	5	136.67	136.51	10-15	127-122	9.27	127.24
W-52	2	10/14/19	15.55	5	136.71	136.19	10-15	126.15-116.15	9.15	127.04
W-53	2	10/14/19	15.74	5	136.83	136.54	10-15	126.1-121.1	9.42	127.12
W-54	2	10/14/19	15.85	5	136.79	136.52	10-15	125.95-120.95	9.53	126.99
W-55	2	10/14/19	15.24	5	136.90	136.63	10-15	126.65-121.65	9.72	126.91

Table 1 - Summary of Well Construction Details and Groundwater Elevations
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well	Well Diameter (in)	Date Measured	Total Depth (ft bgs)	Screen Length (ft)	Ground Surface Elevation (ft)	Top of Casing Elevation (ft)	Screen Interval (ft bgs)	Screen Interval Elevation (ft bgs)	Depth to Water (ft)	Groundwater Elevation (ft)
W-56	2	10/14/19	15.11	5	136.83	136.68	10-15	126.7-121.7	9.75	126.93
W-57	2	10/14/19	15.11	5	136.90	136.73	10-15	126.8-121.8	9.97	126.76
W-58	2	10/14/19	15.49	5	136.85	136.37	10-15	126.35-121.35	10.63	125.74
W-59	2	10/14/19	14.65	5	136.10	136.42	10-15	126.45-121.45	10.77	125.65
W-60	2	10/14/19	37.86	5	137.25	140.20	32-37	104.4-99.4	22.12	118.08
W-61	2	10/14/19	23.51	10	137.34	140.60	13-23	123.85-113.85	18.96	121.64
W-62	2	10/14/19	24.85	5	125.63	128.38	19-24	105.8-100.8	13.59	114.79
W-63	2	10/14/19	41.91	5	138.78	141.02	37-42	101.85-96.85	27.31	113.71
W-64	2	10/14/19	31.61	10	140.15	142.75	21-31	118.55-108.55	27.25	115.50
W-65	2	10/14/19	31.59	5	138.17	140.95	26.5-31.5	111.6-106.6	14.07	126.88
W-66	2	10/14/19	22.34	10	138.01	140.91	12-22	125.65-115.65	13.72	127.19
W-67	2	10/14/19	31.81	10	132.60	135.26	21-31	110.8-100.8	19.54	115.72
W-68	2	10/14/19	18.14	5	113.40	116.53	13-18	100.25-95.25	7.90	108.63
W-69	2	10/14/19	18.08	10	137.67	140.64	7.75-17.75	129.6-119.6	9.75	130.89
W-70	2	10/14/19	48.92	5	138.02	141.00	44-49	94.10-89.1	14.88	126.12
W-71	2	10/14/19	103.03	10	137.96	140.72	93-103	44.9-34.9	25.98	114.74
W-72	2	10/14/19	15.00	10	136.81	136.29	5-15	131.8-121.8	9.24	127.05
W-73	2	10/14/19	16.09	10	136.85	136.45	5-15	130.75-120.75	9.61	126.84
W-74	2	10/14/19	30.60	5	136.64	139.93	25-30	111.05-106.05	13.46	126.47
W-75	2	10/14/19	15.33	10	136.60	139.85	5-15	131.25-121.25	13.06	126.79
W-76	2	10/14/19	15.12	10	137.04	136.85	5-15	131.9-121.9	9.78	127.07
W-77	2	10/14/19	15.67	10	136.85	136.53	5-15	131.2-121.2	9.98	126.55
W-78	2	10/14/19	15.57	10	136.75	136.31	5-15	131.2-121.2	10.05	126.26
W-79	2	10/14/19	15.66	10	136.49	136.12	5-15	130.85-120.85	9.06	127.06
W-80	2	10/14/19	15.62	10	136.34	135.87	5-15	130.7-120.7	11.08	124.79
W-81	2	10/14/19	15.74	10	136.81	136.43	5-15	131.1-121.1	12.02	124.41
W-82	2	10/14/19	15.69	10	136.57	136.23	5-15	130.1-120.1	12.72	123.51
W-83	2	10/14/19	26.46	10	136.22	135.81	15.5-25.5	119.75-109.75	13.95	121.86
W-84	2	10/14/19	21.05	10	136.66	135.99	10-20	125.6-115.6	8.45	127.54
W-85	2	10/14/19	44.77	5	135.74	138.69	39-44	95.95-90.95	22.01	116.68
W-86	2	10/14/19	35.09	10	135.68	138.77	24-34	110.6-100.6	20.59	118.18
W-87	2	10/14/19	33.17	5	136.66	136.39	27-32	108.5-103.5	8.93	127.46
W-88	2	10/14/19	41.37	5	140.06	143.10	36-41	103.7-98.7	23.42	119.68
W-89	2	10/14/19	25.46	10	140.12	142.82	15-25	124.65-104.65	22.10	120.72
W-90	2	10/14/19	39.90	5	140.23	143.33	35-40	105.35-100.35	27.38	115.95
W-91	2	10/14/19	25.05	10	139.57	142.81	15-25	124.5-114.5	27.56	115.25
W-92	2	10/14/19	33.67	5	120.11	123.33	29-34	91.45-86.45	17.77	105.56
W-93	2	10/14/19	35.38	5	136.87	136.49	30-35	106.5-101.5	10.42	126.07
W-94	2	10/14/19	29.40	5	115.28	118.04	24-29	90.9-85.9	12.14	105.90
W-95	2	10/14/19	33.41	5	113.53	116.40	28-33	85.15-80.15	10.71	105.69
W-96	2	10/14/19	30.03	5	113.65	116.46	25-30	88.6-83.6	11.08	105.38
W-97	2	10/14/19	18.91	5	113.92	116.93	13-18	100-95	7.43	109.50
Gator SG	-	10/14/19	-	-	-	120.31	-	-	0.85	117.16
Upper SG	-	10/14/19	-	-	-	112.41	-	-	0.60	109.01
Lower SG	-	10/14/19	-	-	-	112.39	-	-	0.26	108.65
Creek SG	-	10/14/19	-	-	-	109.05	-	-	0.64	105.69

Notes
in - inch
ft - feet
ft bgs - feet below ground surface
SG - staff gauge

Table 2 - Summary of Floodplain Vertical Groundwater Profiling Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well				L-1	L-1	L-1	L-1	L-1	L-1-DUP	L-8	L-8	L-8	L-8	L-9	L-9	L-9-DUP
Depth				10 - 15 ft	28 - 33 ft	48 - 53 ft	63 - 68 ft	78 - 83 ft	78 - 83 ft	8 - 13 ft	17 - 22 ft	25 - 30 ft	41 - 46 ft	10 - 15 ft	23 - 28 ft	23 - 28 ft
Date				8/14/2019	8/14/2019	8/14/2019	8/15/2019	8/15/2019	8/15/2019	8/20/2019	8/21/2019	8/21/2019	8/21/2019	8/21/2019	8/21/2019	8/21/2019
Group	Analyte	MCL	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Chemical	Fluoride	4	mg/L	NA	NA	NA	NA	NA	NA	0.26	< 0.10	< 0.10	0.14	0.48	< 0.10	< 0.10
	Nitrate as N	10	mg/L	NA	NA	NA	NA	NA	NA	0.081	< 0.020	< 0.020	< 0.020	5.4	< 0.020	< 0.020
VOCs	1,1-Dichloroethene	7	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	cis-1,2-Dichloroethene	70	ug/L	< 1.0	3.8	< 1.0	< 1.0	< 1.0	< 1.0	NA*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Tetrachloroethene	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA*	< 1.0	2.2	< 1.0	6.5	< 1.0	< 1.0
	trans-1,2-Dichloroethene	100	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Trichloroethene	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA*	< 1.0	2.1	< 1.0	3.0	< 1.0	< 1.0
	Vinyl chloride	2	ug/L	< 1.0	2.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Table 2 - Summary of Floodplain Vertical Groundwater Profiling Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well				L-9	L-10	L-10	L-10	L-17	L-17	L-18	L-18	L-19	L-19
Depth				32 - 37 ft	9 - 14 ft	18 - 23 ft	28 - 33 ft	15 - 20 ft	25 - 30 ft	15 - 20 ft	24 - 29 ft	7 - 12 ft	21 - 26 ft
Date				8/21/2019	8/19/2019	8/20/2019	8/20/2019	8/16/2019	8/16/2019	8/19/2019	8/19/2019	8/20/2019	8/20/2019
Group	Analyte	MCL	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Chemical	Fluoride	4	mg/L	< 0.10	< 0.10	< 0.10	< 0.10	NA	NA	NA	NA	7.8	0.16
	Nitrate as N	10	mg/L	< 0.020	1.1	0.18	0.19	NA	NA	NA	NA	0.092	0.10
VOCs	1,1-Dichloroethene	7	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	cis-1,2-Dichloroethene	70	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	6.2	5.4	< 1.0	1.2	1.0	< 1.0
	Tetrachloroethene	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	trans-1,2-Dichloroethene	100	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0
	Trichloroethene	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Vinyl chloride	2	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0

Notes: MCL - Maximum Contaminant Level
mg/L - milligrams per liter
ug/L - micrograms per liter
Bold concentrations indicate detections
Concentrations in shaded cells exceed their MCL
NA - Not Analyzed
NA* - Not Analyzed due to an oversight by Sample Receiving at the lab not logging the VOC sample bottle
in. As a result, the sample was not analyzed for VOCs.

Table 3 - Summary of October 2019 Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	MCL	Well Date Type	W-RW1	W-RW2	W-3A	W-4	W-6	W-7A	W-10	W-10	W-11	W-13R	W-14	W-15	W-16	W-17	W-18R	W-19B	W-20	W-22	W-23R	W-24	W-25	W-26	W-27	W-28	W-29	W-30	W-32	W-33	W-33	W-35	W-36	
				10/3/2019	10/11/2019	10/10/2019	10/11/2019	10/7/2019	10/9/2019	10/9/2019	10/9/2019	10/9/2019	10/9/2019	10/9/2019	10/8/2019	10/8/2019	10/18/2019	10/21/2019	10/21/2019	10/21/2019	10/7/2019	10/21/2019	10/15/2019	10/7/2019	10/18/2019	10/11/2019	10/16/2019	10/14/2019	10/10/2019	10/7/2019	10/7/2019	10/7/2019	10/8/2019	10/17/2019	10/17/2019
		Units	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	
Radiological	Alpha particles	15**	pCi/L	2.51 #	2.00 #	2.36 #	3.36 #	9.09	6.35	3.19	2.19 #	7.82	2.15 #	4.27	0 ##	0.421 #	2.86 #	9.79 #	2.26 #	0.912 #	2.92 #	0 ##	0 ##	10.1	0.697 #	0 ##	3.14 #	2.25 #	7.57	7.17	2.89 #	2.51 #	0.793 #	0.270 #	
Radiological	Beta particles	50**	pCi/L	3.98	11.9	1.15 #	19.4	1370	114	81.3	76.2	2450	53.2	35.6	174	10.6	538	150	0 ##	3.22 #	29.6	1.68 #	2.51 #	7.27	12.5	5.10	8.26	7.67	20.8	175	7.78	5.81	3.54 #	0 ##	
Radiological	Technetium-99	900	pCi/L	1.40 #	23.1 #	7.25 #	41.3 #	2440	210	118	121	3420	63.4	0 ##	253	0 ##	820	214	0 ##	0 ##	57.4	0 ##	13.0 #	0 ##	0 ##	2.42 #	20.1 #	11.6 #	49.7 #	321	0 ##	0 ##	21.7 #	15.0 #	
Radiological	Uranium-234		ug/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	
Radiological	Uranium-235		ug/L	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	0.026 J	0.199	< 0.070	< 0.070	< 0.070	
Radiological	Uranium-238		ug/L	0.0815 J	0.0743 J	< 0.200	0.146 J	0.232	0.698	0.083 J	0.114 J	< 0.200	0.139 J	0.368	< 0.200	< 0.200	0.0855 J	4.06	< 0.200	< 0.200	0.854	< 0.200	< 0.200	0.295	< 0.200	< 0.200	0.429	2.03	8.71	0.224	< 0.200	< 0.200	< 0.200	< 0.200	
Radiological	Total Uranium	30	ug/L	0.0815 J	0.0743 J	< 0.200	0.146 J	0.232	0.698	0.083 J	0.114 J	< 0.200	0.139 J	0.368	< 0.200	< 0.200	0.0855 J	4.10	< 0.200	< 0.200	0.872	< 0.200	< 0.200	0.295	< 0.200	< 0.200	0.429	2.05	8.91	0.224	< 0.200	< 0.200	< 0.200	< 0.200	
Chemical	Fluoride	4	mg/L	0.055	0.099	0.015	4.86	0.126	6.47	3.32	3.25	0.021	8.11	0.079	1.88	9.5	3.32	2.22	6.34	0.019	0.077	5.52	0.017	0.025	0.126	1.42	3.97	5.45	4.8	8.06	3.66	0.152	0.136	0.025	0.007
Chemical	Nitrate as N	10	mg/L	2.1	20	< 0.020	0.023	210	390	37	37	56	18	0.061	35	3.2	16	770	3.8	< 0.020	100	0.71	< 0.020	0.067	3.2	< 0.020	6.3	11	120	170	13	13	3.2	0.11	
Chemical	Ammonia		mg/L	0.0129	0.0581	0.0256	0.404	134	48.5	6.46	6.62	4.09	31.5	4.26	12.6	13.3	5.79	126	0.0146	0.0632	61.8	0.0154	0.0283	1.91	1.75	6.29	0.884	22.4	1.83	47.9	0.0134	0.0189	0.0075	0.0089	
Metals	Antimony	6	ug/L	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	4.52 J	3.64 J	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	
VOCs	1,1-Dichloroethene	7	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
VOCs	2-Butanone		ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
VOCs	Acetone		ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	
VOCs	cis-1,2-Dichloroethene	70	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
VOCs	Tetrachloroethene	5	ug/L	1.4	140	< 1.0	< 1.0	16	1.9	< 1.0	< 1.0	1.4	15	1.1	12	7.8	4.3	3.5	150	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.4	300	330	2.6	< 1.0	
VOCs	trans-1,2-Dichloroethene	100	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
VOCs	Trichloroethene	5	ug/L	< 1.0	8.3	< 1.0	< 1.0	2.5	< 1.0	< 1.0	< 1.0	< 1.0	1.4	< 1.0	2.0	2.2	< 1.0	< 1.0	2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	38	24	< 1.0	< 1.0		
VOCs	Vinyl chloride	2	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Table 3 - Summary of October 2019 Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	MCL	Well Date Type	W-37	W-38	W-39	W-40	W-41R	W-42	W-43	W-44	W-45	W-46	W-47	W-48	W-48	W-49	W-49	W-50	W-51	W-52	W-53	W-54	W-54	W-55	W-56	W-57	W-58	W-59	W-60	W-61	W-62	W-63	W-64	
				10/2/2019	10/4/2019	10/18/2019	10/15/2019	10/14/2019	10/22/2019	10/18/2019	10/14/2019	10/2/2019	10/21/2019	10/17/2019	10/21/2019	10/21/2019	10/24/2019	10/24/2019	10/15/2019	10/3/2019	10/3/2019	10/3/2019	10/3/2019	10/3/2019	10/4/2019	10/4/2019	10/4/2019	10/4/2019	10/4/2019	10/3/2019	10/4/2019	10/5/2019	10/17/2019	10/17/2019	10/22/2019
		Units	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	FD	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	
Radiological	Alpha particles	15**	pCi/L	1.75 #	2.54 #	1.22 #	0.796 #	8.93	0.753 #	0.159 #	3.47 #	4.37	0.656 #	1.60 #	0.460 #	0 ##	0.196 #	1.80 #	3.48 #	0.544 #	0 ##	1.61 #	1.55 #	1.53 #	438	264	0.202 #	4.21	44.4	0.200 #	1.31 #	0 ##	1.22 #	4.11 #	
Radiological	Beta particles	50**	pCi/L	0 ##	2.43 #	8.84	3.44 #	14.3	3.16 #	3.16 #	0.283 #	16.6	40.4	61.6	9.32	7.64	4.34 #	0.719 #	0.0720 #	3.56	1.61 #	1.72 #	1.96 #	0.741 #	77.3	54.5	3.09 #	2.43 #	17.4	1.38 #	0.862 #	4.85	3.32 #	70.3	
Radiological	Technetium-99	900	pCi/L	0 ##	0 ##	0.726 #	0 ##	0 ##	5.77 #	0 ##	0 ##	4.99 #	62.8	94.2	13.1 #	14.9 #	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	13.0 #	0 ##	0 ##	0 ##	0 ##	81.9	
Radiological	Uranium-234		ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	0.034 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Radiological	Uranium-235		ug/L	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	0.0216 J	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	5.79	4.19	<0.070	0.049 J	0.659	<0.070	<0.070	<0.070	<0.070	
Radiological	Uranium-238		ug/L	0.0936 J	0.183 J	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	0.983	<0.200	<0.200	<0.200	<0.200	0.0695 J	0.0865 J	0.101 J	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	177	130	0.207	1.67	21.6	<0.200	<0.200	<0.200	0.123 J	<0.200
Radiological	Total Uranium	30	ug/L	0.0936 J	0.183 J	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	1.00	<0.200	<0.200	<0.200	<0.200	0.0695 J	0.0865 J	0.101 J	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	183	134	0.207	1.72	22.2	<0.200	<0.200	<0.200	0.123 J	<0.200
Chemical	Fluoride	4	mg/L	0.02	0.176	0.024	0.166	0.03	1.99	0.111	0.023	0.633	0.033	4.45	0.33	0.321	0.003	0.053	0.035	0.215	1.39	0.081	0.258	0.26	0.062	0.257	0.057	0.18	4.18	0.034	0.036	0.019	0.259	4.27	
Chemical	Nitrate as N	10	mg/L	3.5	4.3	73	4.3	65	4.7	6.3	2.4	0.093	7.8	42	5.3	4.9	<0.020	<0.020	<0.020	0.11	1.3	0.57	2.8	2.8	3.7	4.2	4.6	9.7	14	0.035	2.5	4.0	0.34	42	
Chemical	Ammonia		mg/L	0.0088	0.0141	0.0218	0.0203	0.0299	0.806	0.0198	0.0186	2.08	0.0129	16.5	0.0446	0.0422	0.0151	0.0097	0.0185	0.256	0.0212	0.0397	0.0037	0.0125	0.0108	0.009	0.0155	18.6	12.3	0.0251	0.0274	0.0162	0.023	16	
Metals	Antimony	6	ug/L	3.87 J	4.6 J	8.79 J	8.02 J	6.21 J	<20.0	3.76 J	<20.0	8.1 J	<20.0	5.33 J	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	7.32 J	<20.0	4.12 J	<20.0	<20.0	7.39 J	4.3 J	7.38 J	4.22 J	<20.0	5.44 J	<20.0	<20.0	8.91 J	
VOCs	1,1-Dichloroethene	7	ug/L	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
VOCs	2-Butanone		ug/L	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
VOCs	Acetone		ug/L	<20	<20	<100	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
VOCs	cis-1,2-Dichloroethene	70	ug/L	<1.0	<1.0	13	<1.0	4.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
VOCs	Tetrachloroethene	5	ug/L	<1.0	1.8	290	<1.0	190	<1.0	<1.0	<1.0	<1.0	2.5	1.6	200	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	42	1.0	1.3	
VOCs	trans-1,2-Dichloroethene	100	ug/L	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
VOCs	Trichloroethene	5	ug/L	<1.0	11	5.2	<1.0	14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.9	4.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
VOCs	Vinyl chloride	2	ug/L	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Table 3 - Summary of October 2019 Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

		Well Date Type	W-65 10/17/2019 N	W-66 10/17/2019 N	W-67 10/18/2019 N	W-68 10/22/2019 N	W-69 10/23/2019 N	W-70 10/23/2019 N	W-71 10/23/2019 N	W-72 10/4/2019 N	W-73 10/4/2019 N	W-74 10/9/2019 N	W-75 10/9/2019 N	W-76 10/5/2019 N	W-77 10/6/2019 N	W-78 10/5/2019 N	W-79 10/7/2019 N	W-80 10/6/2019 N	W-81 10/8/2019 N	W-82 10/8/2019 N	W-83 10/8/2019 N	W-84 10/8/2019 N	W-85 10/23/2019 N	W-86 10/23/2019 N	W-87 10/2/2019 N	W-88 10/22/2019 N	W-89 10/22/2019 N	W-90 10/22/2019 N	W-92 10/10/2019 N	W-93 10/6/2019 N	W-94 10/15/2019 N	W-95 10/15/2019 N	W-96 10/11/2019 N		
Group	Analyte	MCL Units																																	
Radiological	Alpha particles	15** pCi/L	1.22 #	0 #	0.945 #	0.922 #	2.31 #	0.0198 #	0.983 #	1.05 #	0.241 #	0 #	2.10 #	2.77 #	865	0 #	2.99 #	1.30 #	0 #	1.37 #	0.300 #	0 #	1.42 #	0.317 #	1.68 #	2.50 #	0.498 #	0.889 #	1.58 #	3.06	1.14 #	0.695 #	2.51 #		
Radiological	Beta particles	50** pCi/L	7.14	3.33 #	65.3	2.33 #	1.94 #	1.37 #	8.11	2.74 #	1.85 #	1.29 #	3.89 #	6.88	111	4.12 #	5.90	7.29	1.23 #	4.82	2.75 #	3.97 #	1.23 #	7.12	4.92	2.05 #	0 #	23.1	3.78 #	8.18	2.48 #	0.814 #	4.36		
Radiological	Technetium-99	900 pCi/L	0 #	0 #	84.3	0 #	0 #	21.4 #	12.2 #	0 #	0 #	11.5 #	0 #	0 #	101	0 #	3.52 #	2.56 #	0 #	0 #	0.914 #	0 #	19.3 #	8.88 #	0.787 #	6.34 #	27.5 #	6.68 #	0 #	0 #	20.4 #	2.35 #	0 #		
Radiological	Uranium-234		ug/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.089	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050		
Radiological	Uranium-235		ug/L	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	0.0308 J	10.1	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070		
Radiological	Uranium-238		ug/L	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.165 J	0.095 J	0.0831 J	< 0.200	< 0.200	0.915	237	0.0933 J	0.0892 J	0.151 J	0.0728 J	0.151 J	< 0.200	0.0704 J	< 0.200	< 0.200	0.457	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.114 J	< 0.200
Radiological	Total Uranium	30 ug/L	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.165 J	0.095 J	0.0831 J	< 0.200	< 0.200	0.946	247	0.0933 J	0.0892 J	0.151 J	0.0728 J	0.151 J	< 0.200	0.0704 J	< 0.200	< 0.200	0.457	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.114 J	< 0.200	
Chemical	Fluoride	4 mg/L	0.783	0.076	0.01	0.02	0.022	< 0.100	0.084	0.116	0.071	0.019	0.109	1.45	9.21	13.4	2.4	1.57	0.042	0.046	0.079	0.087	0.23	0.511	1.57	0.278	0.012	0.011	0.039	0.099	0.043	0.043	0.077	0.111	
Chemical	Nitrate as N	10 mg/L	0.64	1.5	14	3.0	0.16	1.4	0.021	1.5	2.0	4.9	0.063	9.8	12	3.5	4.0	8.3	3.1	0.99	0.76	< 0.020	0.039	< 0.020	0.055	4.5	2.5	2.3	0.029	5.3	< 0.020	0.024	0.054		
Chemical	Ammonia		mg/L	0.0489	0.0336	1.31	0.0143	0.0341	0.0077	0.0149	0.275	0.0167	0.159	0.391	0.0154	7.11	0.0271	0.0146	0.0927	0.0762	0.0275	0.0099	0.0119	0.03	0.0073	0.0127	0.0127	0.0132	0.0147	3.19	0.0324	0.246	0.145	0.228	
Metals	Antimony	6 ug/L	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	7.15 J	5.12 J	3.54 J	4.18 J	4.12 J	5.99 J	3.53 J	3.58 J	5.15 J	5.32 J	< 20.0	7.19 J	< 20.0	< 20.0	6.48 J	< 20.0	5.21 J	< 20.0	< 20.0	< 20.0	< 20.0	4.77 J	< 20.0	< 20.0	< 20.0	
VOCs	1,1-Dichloroethene	7 ug/L	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
VOCs	2-Butanone		ug/L	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
VOCs	Acetone		ug/L	< 20	< 100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	
VOCs	cis-1,2-Dichloroethene	70 ug/L	13	22	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	1.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.3	4.3	< 1.0	
VOCs	Tetrachloroethene	5 ug/L	220	480	49	110	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	38	4.1	2.1	< 1.0	< 1.0	24	< 1.0	< 1.0	< 1.0		
VOCs	trans-1,2-Dichloroethene	100 ug/L	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
VOCs	Trichloroethene	5 ug/L	84	8.5	8.4	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.5	< 1.0	< 1.0	63	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	11	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
VOCs	Vinyl chloride	2 ug/L	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.9	< 1.0		

Table 3 - Summary of October 2019 Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	MCL	Well Date Type	W-97	WSW-01*	WSW-02*	WSW-03*	WSW-04*
				10/11/2019	10/15/2019	10/22/2019	10/24/2019	10/24/2019
			N	N	N	N	N	N
			Units					
Radiological	Alpha particles	15**	pCi/L	0.168 #	0.599 #	0.876 #	3.63	7.11
Radiological	Beta particles	50**	pCi/L	11.0	0 #	8.80	2.05 #	2.69 #
Radiological	Technetium-99	900	pCi/L	10.3 #	17.4 #	0.279 #	0.857 #	8.56 #
Radiological	Uranium-234		ug/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Radiological	Uranium-235		ug/L	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070
Radiological	Uranium-238		ug/L	< 0.200	0.272	< 0.200	0.776	0.482
Radiological	Total Uranium	30	ug/L	< 0.200	0.272	< 0.200	0.776	0.482
Chemical	Fluoride	4	mg/L	0.375	0.023	0.103	0.013	0.013
Chemical	Nitrate as N	10	mg/L	3.4	0.020	< 0.020	< 0.020	0.067
Chemical	Ammonia		mg/L	4.89	0.0639	0.0273	0.0655	0.0166
Metals	Antimony	6	ug/L	3.97 J	< 20.0	5.89 J	< 20.0	< 20.0
VOCs	1,1-Dichloroethene	7	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	2-Butanone		ug/L	< 10	< 10	< 10	< 10	< 10
VOCs	Acetone		ug/L	< 20	< 20	< 20	< 20	< 20
VOCs	cis-1,2-Dichloroethene	70	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Tetrachloroethene	5	ug/L	4.3	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	trans-1,2-Dichloroethene	100	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Trichloroethene	5	ug/L	1.2	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Vinyl chloride	2	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:
 * - private water supply well groundwater sample
 ** - site-specific action level
 N - normal sample
 FD - field duplicate sample
 MCL - Maximum Contaminant Level
 Bold concentrations indicate detections
 Concentrations in shaded cells exceed their MCL
 # - value is below minimum detectable concentration
 ## - value is reported as a negative number
 pCi/L - picocuries per liter
 ug/L - micrograms per liter
 mg/L - milligrams per liter
 VOCs - volatile organic compounds
 J - Estimated result is less than the practical quantitation limit and greater than the method detection limit

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

Group	Analyte	MCL	Unit	Location	SW-11	SW-12	SW-13	SW-14	SW-16	SW-17	SW-17	SW-18	SW-19	SW-20	SW-21	SW-21	SW-22	SW-22	SW-23
				Sample Type	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
				Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/18/2019	7/18/2019	7/16/2019	7/17/2019	7/16/2019	7/15/2019	7/17/2019	7/15/2019	7/17/2019	7/16/2019
Radiological	Technetium-99	900	pCi/L		0 ##	0 ##	0 ##	3.73 #	0 ##	0 ##	0 ##	1.29 #	0 ##	0 ##	NA	0 ##	NA	0 ##	13.6 #
Radiological	Uranium-234		ug/L		< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	NA	< 0.050	NA	< 0.050
Radiological	Uranium-235		ug/L		< 0.070	< 0.070	< 0.070	< 0.070	0.0682 J	< 0.070	< 0.070	< 0.070	0.0174 J	0.0274 J	< 0.070	NA	< 0.070	NA	< 0.070
Radiological	Uranium-238		ug/L		0.365	< 0.200	0.134 J	0.297	1.71	0.246	0.229	0.304	0.507	1.11	0.16 J	NA	0.199 J	NA	0.0673 J
Radiological	Total Uranium	30	ug/L		0.365	< 0.2	0.134	0.297	1.78	0.246	0.229	0.304	0.524	1.14	0.160	NA	0.199	NA	0.0673
Chemical	Fluoride	4	mg/L		0.146	0.296	0.226	0.234	1.69	0.460	0.471	0.309	0.154	0.494	0.433	NA	0.432	NA	4.94
Chemical	Nitrate as N	10	mg/L		< 0.020	< 0.020	< 0.020	0.63	0.48	3.8	3.8	5.7	< 0.020	< 0.020	< 0.02	NA	< 0.02	NA	7.3
Chemical	Ammonia		mg/L		0.546	0.228	0.249	0.233	4.35	0.290	0.290	0.208	0.376	0.640	0.244	NA	0.187	NA	0.459
Metals	Antimony	6	ug/L		< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
VOCs	1,1-Dichloroethene	7	ug/L		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	2-Butanone		ug/L		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10
VOCs	Acetone		ug/L		< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NA	< 20	NA	< 20
VOCs	cis-1,2-Dichloroethene	70	ug/L		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Tetrachloroethene	5	ug/L		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	16	16	14	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	trans-1,2-Dichloroethene	100	ug/L		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Trichloroethene	5	ug/L		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Vinyl chloride	2	ug/L		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0

Notes:
MCL - Maximum Contaminant Level
Bold concentrations indicate detections
Concentrations in shaded cells exceed their MCL
NA - not analyzed
- value is below minimum detectable concentration
- value is reported as a negative number
pCi/L - picocuries per liter
ug/L - micrograms per liter
mg/L - milligrams per liter
VOCs - volatile organic compounds

Table 5 - Summary of Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	RUSL	IUSL	Units	Location Depth		SED-11	SED-12	SED-13	SED-14	SED-15	SED-16	SED-17	SED-17	SED-18	SED-19	SED-20	SED-21	SED-22	SED-23	SED-24	SED-25*	SED-26*	SED-27**	SED-28**	SED-29	SED-29	SED-29	SED-30	SED-30	SED-31	SED-31	SED-32	SED-32
					Type	Date	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	6 - 12 in N	12 - 16 in N	0 - 6 in N	6 - 12 in N	0 - 6 in N
Radiological	Technetium-99	19	89400	pCi/g	0 #	0 #	0 #	0.0243 #	5.62 #	4.94 #	7.50 #	0 #	0 #	6.28 #	0 #	4.12 #	0 #	50.8	35.8	8.55 #	1.68 #	0 #	5.75 #	0 #	0 #	0 #	0 #	2.43 #	0 #	0.959 #	0 #	5.06 #	0 #	
Radiological	Uranium-233/234	13	3310	pCi/g	1.14	0.925	1.67	1.42	2.58	14.9	0.658	1.07	0.219	32.5	62.5	1.86	117	1.35	1.14	907	222	225	254	6.23	1.81	1.23	5.71	1.41	2.81	2.96	3.71	10.0		
Radiological	Uranium-235/236	8	39	pCi/g	0.00159 #	0.0647 #	0.156 #	0.0250 #	0.181	0.678	0.0235 #	0.104 #	0.0173 #	2.30	3.12	0.104 #	4.98	0.00261 #	0.0608 #	41.1	11.0	11.9	12.4	0.313	0.208	0.175	0.191	0.0337 #	0.0669 #	0.110 #	0.0970 #	0.469		
Radiological	Uranium-238	14	179	pCi/g	0.742	1.17	1.33	0.389	2.05	2.77	0.302	0.354	0.298	8.18	14.9	1.96	28.0	1.69	0.944	149	46.9	37.4	44.6	2.51	1.55	1.16	2.51	1.28	1.75	1.69	2.00	3.28		
Radiological	Uranium-234			ug/kg	< 25.7	< 25.6	< 15.4	< 12.1	< 12.4	< 12.0	< 11.0	< 11.8	< 12.0	4.27 J	12.7 J	< 30.8	22 J	< 14.4	< 15.9	225	129	38.9 J	57.2 J	< 24.3	< 18.4	< 15.1	< 20.4	< 21.1	< 14.5	< 12.4	< 19.9	< 18.4		
Radiological	Uranium-235			ug/kg	11.5 J	16 J	13.8 J	5.32 J	51.2	114	6.57 J	2.9 J	5 J	451	1310	27.8 J	2230	18.3 J	15.9 J	27100	14200	3970	6770	86.4	21.4 J	17.6 J	85.9	21 J	45.6	18.1	72.9	195		
Radiological	Uranium-238			ug/kg	1320	1700	1360	260	5790	3310	401	140	265	16200	49700	2840	80700	2250	1680	646000	487000	90900	161000	6030	2490	2490	5410	2690	3400	2220	4280	8370		
Radiological	Total Uranium Isotopes			ug/kg	1330	1720	1370	265	5840	3420	408	143	270	16700	51000	2870	83000	2270	1700	673000	501000	94900	168000	6120	2510	2510	5500	2710	3450	2240	4350	8570		
Chemical	Fluoride			mg/kg	1.35 J	2.26 J	1.45 J	< 1.21	2.09	8.73	0.908 J	0.814 J	< 1.22	3.51	15.7	2.17 J	4.64	38.1	49.2	53.3	4.61	171	39.3	1.14 J	2.56	2.61	2.26	3.43	3.13	3.07	3.88	4.21		
Chemical	Nitrate as N			mg/kg	0.33	0.24	0.2	< 0.2	< 0.20	2.7	2.1	0.95	< 0.20	1.2	< 0.20	< 0.2	< 0.2	< 0.20	0.20	0.27	1.4	0.30	< 0.20	< 0.50	< 0.50	NA	< 0.50	< 0.50	< 0.50	< 0.50	1.1	< 0.50		
Chemical	Ammonia			mg/kg	723	560	98.5	6.43	49.0	13.5	4.15	3.66	3.48	401	1600	532	978	214	70.5	2270	167	395	1560	455	287	230	394	392	286	118	480	576		
Metals	Antimony			mg/kg	< 5.29	< 4.93	< 3	0.511 J	< 2.42	0.447 J	0.482 J	0.512 J	< 2.53	< 3.75	< 11.7	< 6	< 6.26	< 2.87	< 2.94	5.01 J	1.22 J	4.79 J	6.81 J	< 4.85	< 3.53	< 2.97	< 4.08	< 4.41	< 28.4	< 25.6	< 4.15	< 3.44		
VOCs	1,1-Dichloroethene			ug/kg	< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 4.8	< 4.8	< 4.5	< 5.2	< 6.5	< 6.2	< 6.1	< 7.1	< 4.2	NA	NA	NA	NA	< 5.1	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4		
VOCs	2-Butanone			ug/kg	< 25	180	< 24	< 17	< 15	< 16	< 19	< 19	< 18	45	45	< 25	32	< 28	< 17	NA	NA	NA	NA	< 21	< 18	< 24	26	25	< 16	< 17	38	76		
VOCs	Acetone			ug/kg	32	110	30	28	< 15	< 16	< 19	< 19	< 18	48	110	67	88	91	25	NA	NA	NA	NA	410	420	370	380	530	410	440	450	440		
VOCs	cis-1,2-Dichloroethene			ug/kg	< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 4.8	< 4.8	< 4.5	< 5.2	< 6.5	< 6.2	< 6.1	< 7.1	< 4.2	NA	NA	NA	NA	< 5.1	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4		
VOCs	Tetrachloroethene			ug/kg	< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	5.5	< 4.8	< 4.5	< 5.2	< 6.5	< 6.2	< 6.1	< 7.1	< 4.2	NA	NA	NA	NA	< 5.1	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4		
VOCs	Toluene			ug/kg	< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 4.8	< 4.8	< 4.5	< 5.2	< 6.5	< 6.2	< 6.1	< 7.1	< 4.2	NA	NA	NA	NA	< 5.1	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4		
VOCs	trans-1,2-Dichloroethene			ug/kg	< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 4.8	< 4.8	< 4.5	< 5.2	< 6.5	< 6.2	< 6.1	< 7.1	< 4.2	NA	NA	NA	NA	< 5.1	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4		
VOCs	Trichloroethene			ug/kg	< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 4.8	< 4.8	< 4.5	< 5.2	< 6.5	< 6.2	< 6.1	< 7.1	< 4.2	NA	NA	NA	NA	< 5.1	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4		
VOCs	Vinyl chloride			ug/kg	< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 4.8	< 4.8	< 4.5	< 5.2	< 6.5	< 6.2	< 6.1	< 7.1	< 4.2	NA	NA	NA	NA	< 5.1	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4		

Table 5 - Summary of Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	RUSL	IUSL	Units	Location	SED-33	SED-33	SED-33	SED-34	SED-34	SED-35	SED-35	SED-36	SED-36	SED-37	SED-37	SED-37	SED-38	SED-39	SED-40	SED-41	SED-42	SED-43	SED-44	SED-45	SED-46	SED-47	SED-48	SED-48	SED-49	SED-50	
					Depth	0 - 6 in	6 - 12 in	12 - 16 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in
Type					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date					11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	
Radiological	Technetium-99	19	89400	pCi/g	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	16.5 #	0 ##	0 ##	0.995 #	5.94 #	0 ##	6.23 #	2.83 #	0 ##	0 ##	0 ##	0 ##	0 ##	0.910 #	
Radiological	Uranium-233/234	13	3310	pCi/g	5.06	1.27	1.06	3.13	2.93	2.26	1.59	4.40	1.50	4.88	2.04	2.33	3.26	1.86	1.90	1.72	6.12	47.5	8.86	5.86	4.02	3.18	2.57	2.43	4.59	3.64		
Radiological	Uranium-235/236	8	39	pCi/g	0.394	0.0959 #	0.0461 #	0.131 #	0.0487 #	0.179	0.0433 #	0.210	0.0881	0.254	0.149	0.0456 #	0.204	0.0122 #	0.131	0.0394 #	0.285	2.32	0.377	0.268	0.179	0.232	0.0910 #	0.0144 #	0.215	0.104 #		
Radiological	Uranium-238	14	179	pCi/g	2.52	1.56	1.09	1.81	1.73	1.59	1.66	2.38	1.05	1.78	1.62	1.38	1.68	1.70	1.24	1.41	2.23	12.1	2.62	2.20	2.15	1.46	1.98	1.62	2.11	1.86		
Radiological	Uranium-234			ug/kg	< 16.5	< 14.7	< 14.1	< 17.6	< 16.3	< 14.0	< 13.2	< 14.2	< 13.5	< 15.9	< 14.5	< 15.0	< 34.6	< 15.9	< 17.4	< 26.9	< 52.5	< 55.9	< 32.5	< 34.5	< 30.6	< 41.0	< 25.8	< 29.6	< 37.2	< 31.4		
Radiological	Uranium-235			ug/kg	305	21.8	16.5 J	44.9	36.3	36.8	28.9	70.2	19.1	102	67.4	31.7	31.8 J	26.4	28.4	17.8 J	156	862	238	100	48.9	44 J	40.3	37.4 J	81.9	72.1		
Radiological	Uranium-238			ug/kg	14200	2750	2230	3650	3770	3920	3630	3970	1990	4850	3930	2910	3380	3040	3020	2390	7220	31300	9690	4920	3190	2560	3140	2650	4840	4470		
Radiological	Total Uranium Isotopes			ug/kg	14500	2770	2250	3690	3810	3960	3660	4040	2010	4950	4000	2940	3410	3070	3050	2410	7380	32200	9930	5020	3240	2600	3180	2690	4920	4540		
Chemical	Fluoride			mg/kg	1.57 J	1.56	6.63	2.20	4.26	2.09	4.29	< 1.44	< 1.32	1.35 J	1.60	0.858 J	5.17	1.90	1.65 J	2.68 J	5.15 J	14.9	3.04 J	7.90	3.41	6.02	2.94	3.46	5.44	4.67		
Chemical	Nitrate as N			mg/kg	< 0.50	< 0.50	NA	0.62	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.55	< 0.50	< 0.50	< 0.50	0.66	< 0.5	< 0.50	0.63	0.83	0.50	< 0.50	0.82	0.62	0.59	0.63	0.70	0.58	0.53	
Chemical	Ammonia			mg/kg	248	117	67.3	397	336	158	80.1	153	99.1	451	127	178	576	222	242	466	928	774	389	586	371	1540	806	1080	209	750		
Metals	Antimony			mg/kg	< 35.6	< 30.3	< 2.73	< 3.59	< 32.8	< 29.9	< 28	< 2.89	< 26.9	< 3.27	< 28.3	< 30	< 6.96	< 3.32	< 3.48	< 5.62	< 10.3	< 11.5	< 7.06	< 6.5	< 6.1	< 8.72	< 5.01	< 5.68	< 7.62	< 6.52		
VOCs	1,1-Dichloroethene			ug/kg	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	< 6.3		
VOCs	2-Butanone			ug/kg	< 20	45	NA	28	28	< 18	< 17	< 18	< 20	< 20	< 18	< 18	< 24	< 19	< 21	< 26	< 27	< 29	29	< 26	160	39	23	< 28	190			
VOCs	Acetone			ug/kg	490	400	NA	200	180	390	310	370	350	300	350	360	400	< 19	260	96	59	79	57	130	110	410	220	280	300	370		
VOCs	cis-1,2-Dichloroethene			ug/kg	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	< 6.3		
VOCs	Tetrachloroethene			ug/kg	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	< 6.3		
VOCs	Toluene			ug/kg	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	< 6.3		
VOCs	trans-1,2-Dichloroethene			ug/kg	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	< 6.3		
VOCs	Trichloroethene			ug/kg	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	< 6.3		
VOCs	Vinyl chloride			ug/kg	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	< 6.3		

Table 5 - Summary of Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	RUSL	IUSL	Units	Location	SED-51	SED-51	SED-52	SED-53	SED-53	SED-54	SED-54	SED-55	SED-55	SED-56	SED-56	SED-56
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
					Type	N	N	N	N	N	N	N	N	N	N	N	N
					Date	11/27/2019	11/27/2019	11/27/2019	11/27/2019	11/27/2019	12/2/2019	12/2/2019	12/2/2019	12/2/2019	12/2/2019	12/2/2019	12/2/2019
Radiological	Technetium-99	19	89400	pCi/g	0 ##	4.89 #	0 ##	0 ##	0 ##	0 ##	1.51 #	0 ##	6.19 #	0 ##	2.53 #	0 ##	0 ##
Radiological	Uranium-233/234	13	3310	pCi/g	2.10	1.27	1.77	1.88	2.15	2.06	1.78	1.48	2.05	1.62	2.02	2.82	1.89
Radiological	Uranium-235/236	8	39	pCi/g	0.178 #	0.0695 #	0.308 #	0.0494 #	0.194	0.0708 #	0.119 #	0.120 #	0 ##	0.155	0.214	0.115 #	0.0276 #
Radiological	Uranium-238	14	179	pCi/g	1.42	1.15	1.72	1.45	1.45	2.34	1.36	1.87	1.74	1.62	1.40	2.11	1.72
Radiological	Uranium-234			ug/kg	< 31.2	< 28.9	< 21.8	< 23.3	< 17.3	< 14.1	< 37.1	< 25.3	< 18.3	< 16.0	< 17.2	< 18.8	< 16.4
Radiological	Uranium-235			ug/kg	28.2 J	20.6 J	26.8 J	29.5 J	29.2	24.7	22.6 J	26 J	25.4 J	23.2	23 J	24.5 J	21.7 J
Radiological	Uranium-238			ug/kg	2610	2450	2530	2690	3200	3290	2870	2990	3450	3230	3100	3440	2970
Radiological	Total Uranium Isotopes			ug/kg	2640	2470	2560	2720	3230	3310	2890	3020	3480	3250	3120	3460	2990
Chemical	Fluoride			mg/kg	2.77 J	2.96	1.48 J	1.69 J	0.838 J	0.607 J	1.93 J	1.01 J	< 1.88	< 1.76	< 1.89	< 1.96	0.690 J
Chemical	Nitrate as N			mg/kg	0.72	0.51	< 0.50	0.61	< 0.50	< 0.50	0.63	0.68	< 0.50	< 0.50	0.52	0.74	< 0.50
Chemical	Ammonia			mg/kg	692	401	465	271	387	196	854	536	321	223	449	325	244
Metals	Antimony			mg/kg	< 5.8	< 5.66	< 4.58	< 4.27	< 3.46	< 31.3	< 7.44	< 5.3	< 3.66	< 3.04	< 3.6	< 3.47	< 3.26
VOCs	1,1-Dichloroethene			ug/kg	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5
VOCs	2-Butanone			ug/kg	43	< 27	31	< 26	< 22	< 21	42	< 25	< 19	< 20	< 21	< 19	< 14
VOCs	Acetone			ug/kg	330	180	100	< 26	< 22	170	330	39	< 19	200	220	23	< 14
VOCs	cis-1,2-Dichloroethene			ug/kg	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5
VOCs	Tetrachloroethene			ug/kg	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5
VOCs	Toluene			ug/kg	8.7	< 6.7	10	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5
VOCs	trans-1,2-Dichloroethene			ug/kg	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5
VOCs	Trichloroethene			ug/kg	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5
VOCs	Vinyl chloride			ug/kg	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5

Notes:
N - normal sample
FD - field duplicate sample
RUSL - Residential Use Screening Level (NUREG 1757, Appendix H)
IUSL - Industrial Use Screening Level (NUREG 1757, Appendix H)
Bold concentrations indicate detections
Concentrations in shaded cells exceed their RUSL/IUSL
NA - not analyzed
- value is below minimum detectable concentration
- value is reported as a negative number
pCi/g - picocuries per gram
ug/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
SVOCs - semivolatile organic compounds
VOCs - volatile organic compounds
* - sludge sample collected from the Sanitary Lagoon
** - sludge sample collected from the East Lagoon
J - Estimated result is less than the practical quantitation limit and greater than the method detection limit

Table 6 - Summary of Soil Technetium-99 Analytical Results
 Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Sample ID	Sample Depth (feet bgs)	Collection Date	Result (pCi/g)
Residential Use Screening Level			19
Industrial Use Screening Level			89,400
SS-1	0-1	8/15/19	0.171 #
SS-1	1-3	8/15/19	4.39 #
SS-1	3-5	8/15/19	0.00 ##
SS-1	5-7	8/15/19	0.00 ##
SS-2	0-1	8/14/19	0.00 ##
SS-2	1-3	8/14/19	9.60 #
SS-2	3-5	8/14/19	4.78 #
SS-2	5-7	8/14/19	4.02 #
SS-3	0-1	8/14/19	12.9 #
SS-3	1-3	8/14/19	4.83 #
SS-3	3-5	8/14/19	0.00 ##
SS-3	5-7	8/14/19	3.12 #
SS-3-DUP	5-7	8/14/19	1.35 #
SS-4	0-1	8/14/19	2.35 #
SS-4	1-3	8/14/19	16.1 #
SS-4	3-5	8/14/19	7.72 #
SS-4	5-7	8/14/19	0.00 ##
SS-5	0-1	8/14/19	0.637 #
SS-5	1-3	8/14/19	0.00 ##
SS-5	3-5	8/14/19	4.46 #
SS-5	5-7	8/14/19	0.843 #
SS-6	0-1	8/14/19	7.58 #
SS-6	1-3	8/14/19	0.00 ##
SS-6	3-5	8/14/19	0.00 ##
SS-6	5-7	8/14/19	0.00 ##
SS-7	0-1	8/13/19	8.60 #
SS-7	1-3	8/13/19	0.00 ##
SS-7	3-5	8/13/19	0.00 ##
SS-7	5-7	8/13/19	0.00 ##
SS-8	0-1	8/13/19	0.00 ##
SS-8	1-3	8/13/19	5.52 #
SS-8	3-5	8/13/19	1.09 #
SS-8	5-7	8/13/19	0.00 ##
SS-9	0-1	8/13/19	0.00 ##
SS-9	1-3	8/13/19	0.00 ##
SS-9	3-5	8/13/19	0.572 #
SS-9	5-7	8/13/19	18.1 #
SS-10	0-1	8/13/19	0.00 ##
SS-10	1-3	8/13/19	0.00 ##
SS-10	3-5	8/13/19	0.00 ##
SS-10	5-7	8/13/19	0.00 ##
SS-11	0-1	8/12/19	9.64 #
SS-11	1-3	8/12/19	0.00 ##
SS-11	3-5	8/12/19	14.3 #
SS-11	5-7	8/12/19	17.3 #

Table 6 - Summary of Soil Technetium-99 Analytical Results
 Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Sample ID	Sample Depth (feet bgs)	Collection Date	Result (pCi/g)
Residential Use Screening Level			19
Industrial Use Screening Level			89,400
SS-12	0-1	8/12/19	8.88 #
SS-12	1-3	8/12/19	8.02 #
SS-12	3-5	8/12/19	10.0 #
SS-12	5-7	8/12/19	6.76 #
SS-13	0-1	8/12/19	5.42 #
SS-13	1-3	8/12/19	11.0 #
SS-13	3-5	8/12/19	2.05 #
SS-13	5-7	8/12/19	3.31 #
SS-13-DUP	5-7	8/12/19	21.6 #
SS-14	0-1	8/13/19	4.80 #
SS-14	1-3	8/13/19	1.57 #
SS-14	3-5	8/13/19	4.99 #
SS-14	5-7	8/13/19	0.00 ##
SS-14-DUP	5-7	8/13/19	9.42 #

Notes:

bgs - below ground surface

pCi/g - picocuries per gram

- value is below minimum detectible concentration

- value is reported as a negative number

DUP - field duplicate sample

Concentrations in shaded cells exceed their RUSL

Table 7 - Summary of Hydraulic Characteristic Results
 Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Well Number	Test Type	Hydraulic Conductivity (K)		Average Hydraulic Cond. (K)	
		cm/sec	ft/day	cm/sec	ft/day
W-13R*	F	3.46E-03	9.80	3.51E-03	9.95
	R	3.56E-03	10.09		
W-15*	F	1.96E-03	5.56	1.96E-03	5.55
	R	1.95E-03	5.53		
W-39*	F	1.17E-03	3.33	1.08E-03	3.06
	R	9.80E-04	2.78		
W-48*	F	2.12E-04	0.60	1.97E-04	0.56
	R	1.83E-04	0.52		
W-60*	F	4.71E-02	133.70	4.41E-02	125.20
	R	4.11E-02	116.70		
W-61*	F	1.79E-03	5.09	1.81E-03	5.12
	R	1.82E-03	5.15		
W-94	F	1.65E-03	4.67	1.87E-03	5.31
	R	2.09E-03	5.94		
W-95	F	2.11E-02	59.84	1.51E-02	42.95
	R	9.19E-03	26.05		
W-96	F	1.45E-02	41.19	2.07E-02	58.58
	R	2.68E-02	75.97		
W-97	F	2.75E-02	78.00	2.84E-02	80.45
	R	2.92E-02	82.89		
Average Conductivity - Floodplain Aquifer				1.65E-02	46.82

Notes:

F - Falling Head Test

R - Rising Head Test

cm/sec - centimeters per second

ft/day - feet per day

* - slug tests conducted during a previous phase of work in upper and lower surficial aquifer wells but not previously reported

Table 8 - Summary of Private Water Supply Well Survey Results
 Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Map ID	Address/Designation	Latitude	Longitude	Richland County Tax Map ID #
1	150 Hopkins Park Road	-	-	R21400-01-11
2	7028 Lower Richland Blvd	-	-	R21400-01-27
3	7040 Lower Richland Blvd	-	-	R21400-01-39
4	7048 Lower Richland Blvd	-	-	R21400-01-16
5	7064 Lower Richland Blvd	-	-	R21400-01-30
6	7071 Lower Richland Blvd	-	-	R21400-02-65
7	7072 Lower Richland Blvd	-	-	R21400-01-17
8	7131 Lower Richland Blvd	-	-	R21400-02-61
9	7152 Lower Richland Blvd	-	-	R21400-01-24
10	5943 Bluff Road	-	-	R21400-03-09
11	6001 Bluff Road	-	-	R21400-03-02
12	6041 Bluff Road	-	-	R21400-03-05
13	6045 Bluff Road	-	-	R21400-03-06
14	1012 Coley Road	-	-	R18705-01-05
15	1109 Coley Road	-	-	R18800-02-18B

Table 8 - Summary of Private Water Supply Well Survey Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Map ID	Address/Designation	Latitude	Longitude	Richland County Tax Map ID #
16	1113 Coley Road	-	-	R18700-03-04
17	1122 Coley Road	-	-	R18705-01-08
18	1243 Coley Road	-	-	R18706-02-02
19	1249 Coley Road	-	-	R18706-02-03
20	1249 Coley Road	-	-	R18706-02-04
21	109 Nicie Byrd Way	-	-	R18800-02-19
22	117 Nicie Byrd Way	-	-	R18800-02-50
23	125 Nicie Byrd Way	-	-	R18800-02-49
24	133 Nicie Byrd Way	-	-	R18800-02-48
25	100 Pincushion Road	-	-	R18700-04-09
26	WSW-01	33.8892625	-80.93917313	R15900-01-06
27	IWSW-01	33.88717942	-80.92577294	R15900-01-06
28	IWSW-02	33.88875406	-80.92383756	R15900-01-06
31	WSW-02	33.85836279	-80.9297476	R18500-01-02
29	WSW-03	33.87559353	-80.94351638	R15700-01-01
30	WSW-04	33.84324651	-80.93413056	R15600-01-02



Legend

Locations

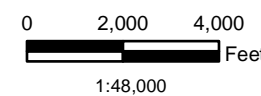
- Property Line
- SCRDD Bluff Road (Superfund Site)
- Topographic Quadrangle Boundary

ID Topographic Quadrangle Name

- 1 Southwest Columbia
- 2 Gaston
- 3 Fort Jackson South
- 4 Saylors Lake
- 5 Congaree
- 6 Gadsden

Dominion Energy Substation

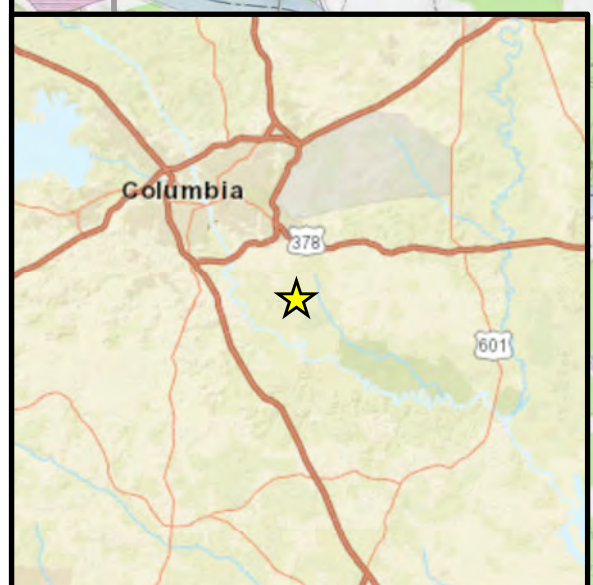
CFFF



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

Datum: North American 1983

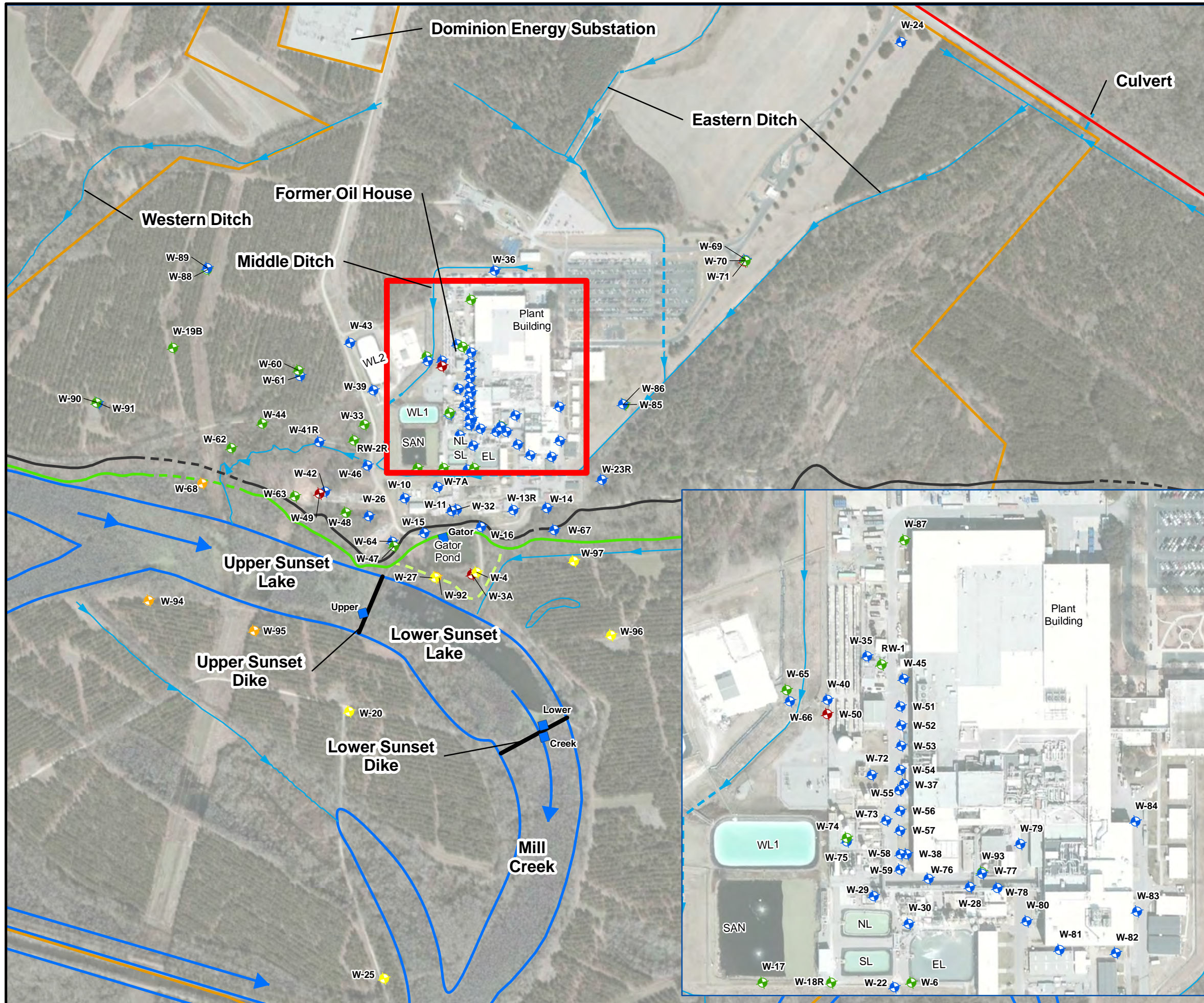
Data Source: Esri/USGS



AECOM	101 Research Drive Columbia, SC 29203 T: (803) 254-4400 F: (803) 771-6676
	Site Location Map

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: CCS	DATE: February 2020	FIGURE 1
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Legend

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

Groundwater Monitoring Wells

- Upper Surficial Aquifer
- Lower Surficial Aquifer
- Black Mingo Aquifer
- Upper Floodplain Well
- Lower Floodplain Well

- Mill Creek
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Dike Location
- Staff Gauge Location
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area

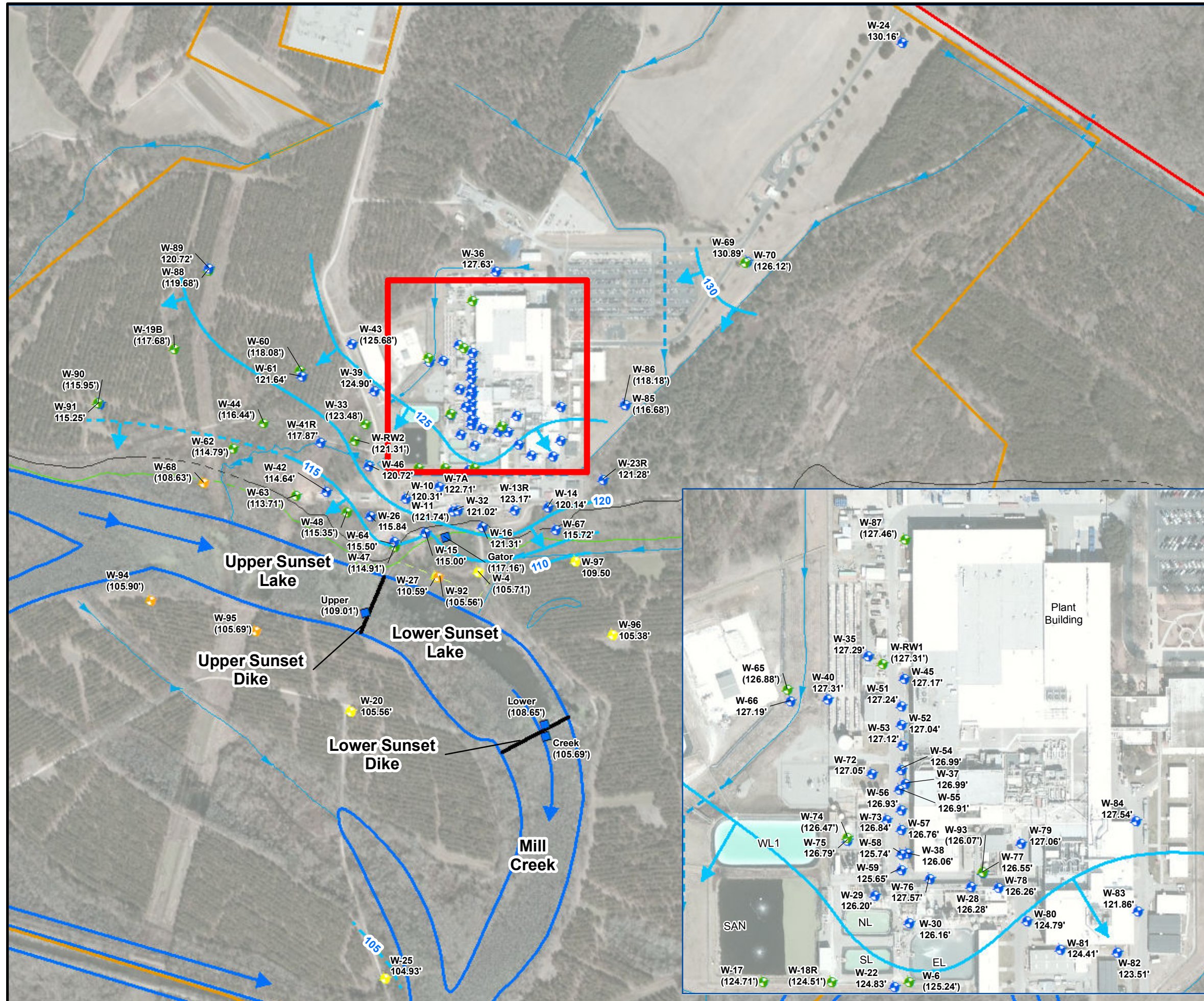
0 300 600 Feet
1:7,200

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

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Site Map
WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: CCS	DATE: June 2020	FIGURE 2
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Legend

Groundwater Monitoring Wells

- Upper Surficial Aquifer
- Lower Surficial Aquifer
- Black Mingo Aquifer
- Upper Floodplain Well
- Lower Floodplain 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 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, dashed where inferred)
Direction of Groundwater

124.90' Groundwater Elevation
(127.46') Elevation for illustrative purposes only

Based upon data from October 14, 2019

0 300 600 Feet
1:7,200

Map Projection: North American Datum (NAD) 1983, South Carolina State Plane, FIPS 3900, Feet

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Potentiometric Map – Upper Surficial/Upper Floodplain Aquifers

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020	FIGURE 3
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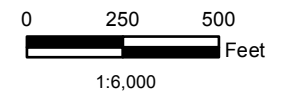


Legend

-  Black Mingo Aquifer Monitoring Well Location
- 114.74' Groundwater Elevation
-  Potentiometric Line (C.I. = 2 feet)
-  Direction of Groundwater Flow
-  Ditch
-  Culvert

- 114.74' Groundwater Elevation
- EL East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Note:
Based upon data collected on October 14, 2019



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

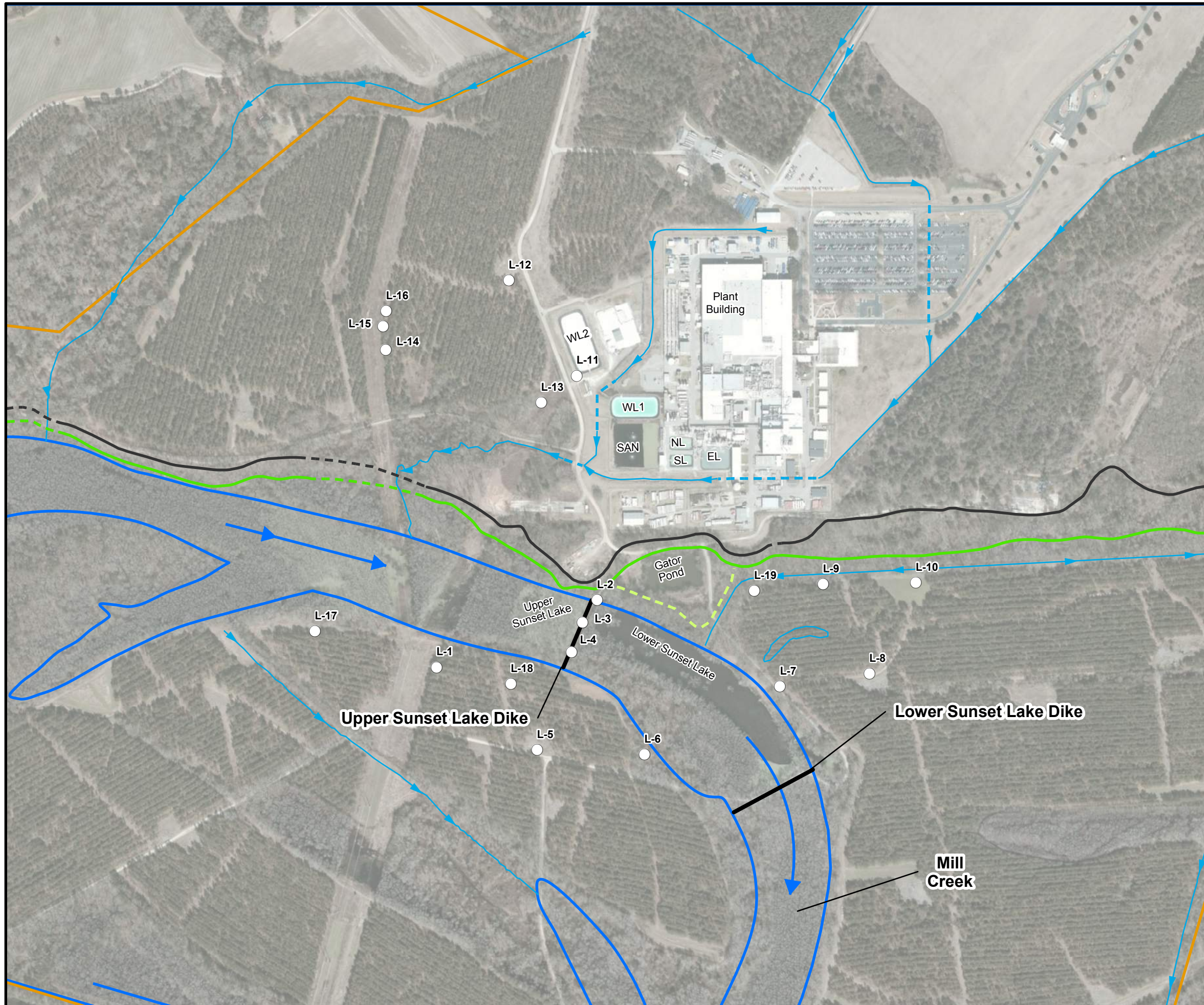


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Potentiometric Map - Black Mingo Aquifer

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: LJG	DATE: June 2020	FIGURE 4
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Legend

- Lithologic Boring Locations
- Ditch
- - - Culvert
- Mill Creek Flow Direction
- Dike Location
- ▭ Mill Creek
- ▭ Property Line
- Top of Bluff
- - - Inferred Top of Bluff
- Bottom of Bluff
- - - Inferred Bottom of Bluff
- - - Secondary Bluff Area
- EL East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2



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

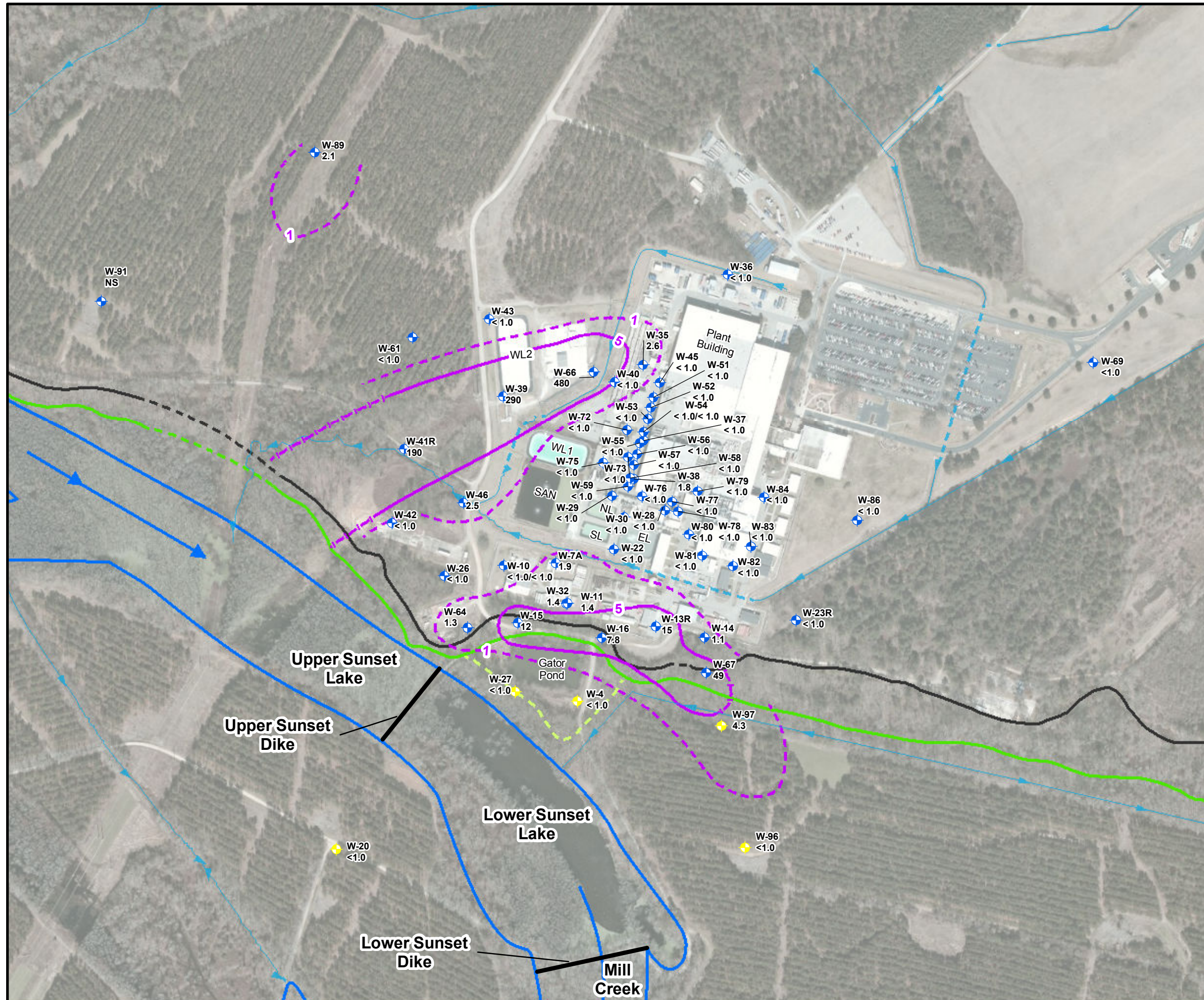


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Lithologic Boring Locations

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

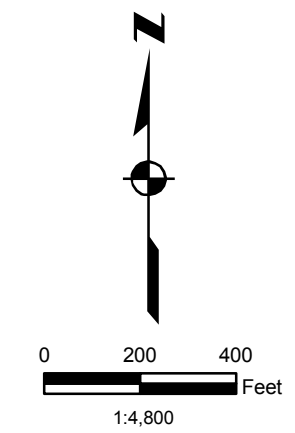
PROJECT NO. 60595649	PREPARED BY: LJG	DATE: June 2020	FIGURE 5
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- Legend**
- ◆ Upper Surficial Aquifer Monitoring Well Location
 - ◆ Upper Floodplain Aquifer Monitoring Well Location
 - Ditch
 - - - Culvert
 - Dike Location
 - ▭ Mill Creek
 - ➔ Mill Creek Flow Direction
 - Top of Bluff
 - - - Inferred Top of Bluff
 - Bottom of Bluff
 - - - Inferred Bottom of Bluff
 - - - Secondary Bluff Area
 - PCE Isoconcentration Contour (µg/L)
 - - - PCE Inferred Isoconcentration Contour (µg/L)
 - - - PCE Isoconcentration Contour at a Concentration Less Than the Maximum Contaminant Level (µg/L)

- 480 PCE Concentration in µg/L
- NS Not Sampled
- EL East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Note:
Based upon data collected in October 2019

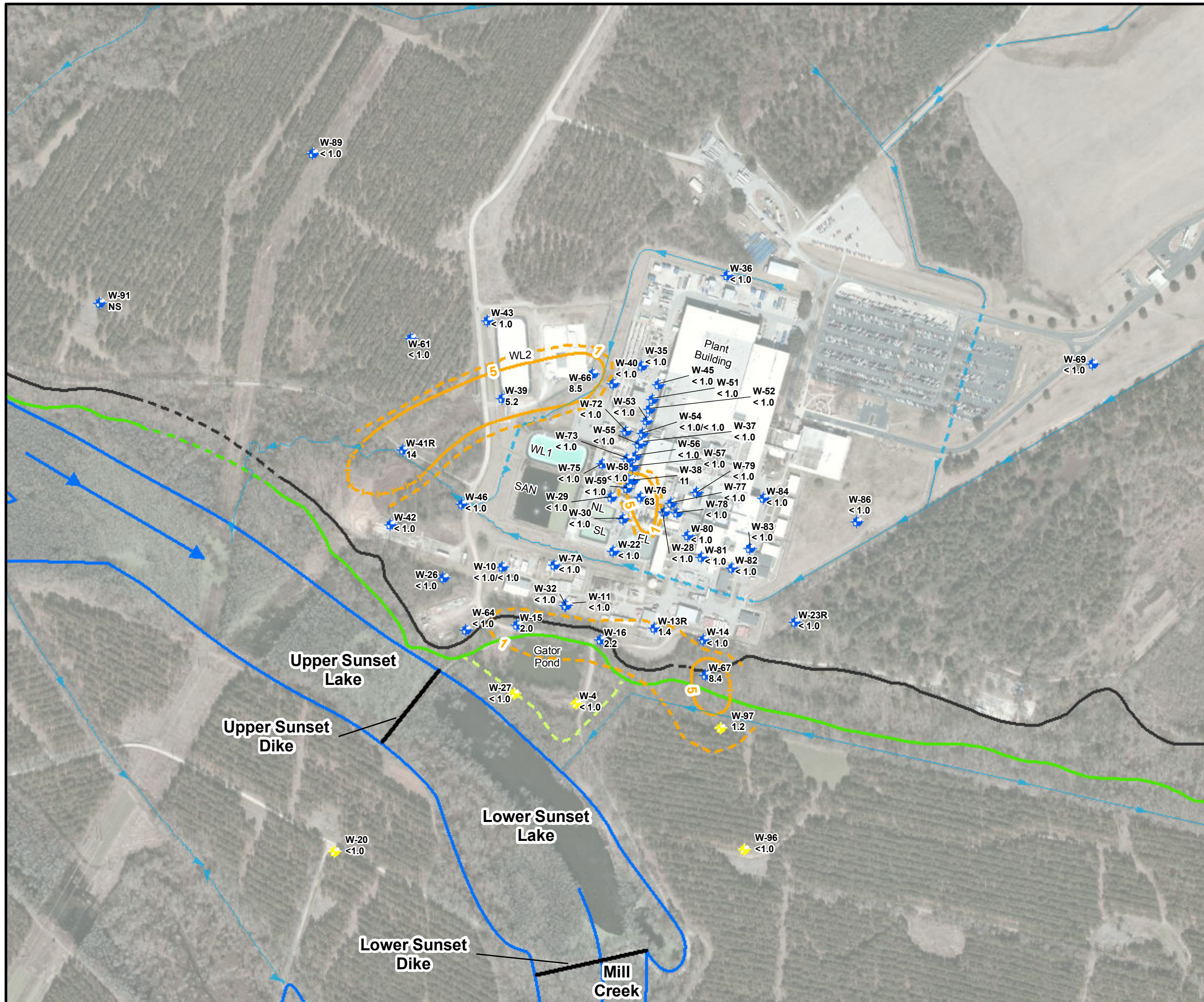


Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet
Datum: North American 1983

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Extent of PCE – Upper Aquifers
WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020 Rev. February 2021	FIGURE 6
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Legend

- Upper Surficial Aquifer Monitoring Well Location
- Upper Floodplain Aquifer Monitoring Well Location
- 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 (ug/L)
- TCE Inferred Isoconcentration Contour (ug/L)
- TCE Isoconcentration Contour at a Concentration Less Than the Maximum Contaminant Level (ug/L)

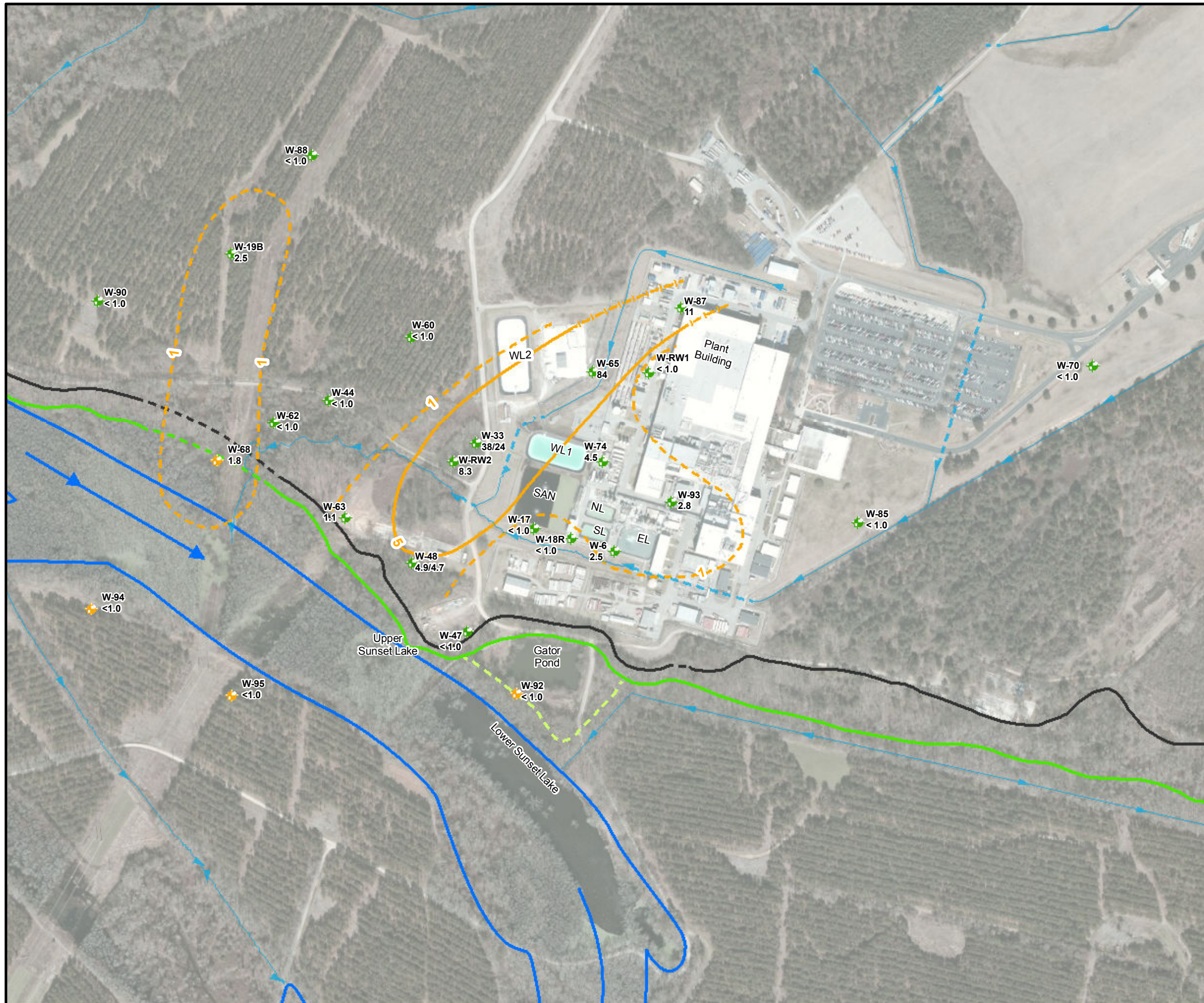
63 TCE Concentration in µg/L
 EL East Lagoon
 NL North Lagoon
 SL South Lagoon
 SAN Sanitary Lagoon
 WL1 West Lagoon 1
 WL2 West Lagoon 2

Note:
 Based upon data collected in October 2019

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 – Upper Aquifers WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY HOPKINS, SOUTH CAROLINA			
PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020 Rev. February 2021	FIGURE 8

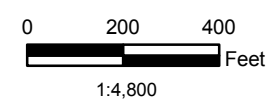


Legend

- Lower Surficial Aquifer Monitoring Well Location
- Lower Floodplain Aquifer Monitoring Well Location
- Ditch
- Culvert
- 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 (ug/L)
- TCE Inferred Isoconcentration Contour (ug/L)
- TCE Inferred Isoconcentration Contour at a Concentration Less Than the Maximum Contaminant Level (ug/L)

- 84 TCE Concentration in µg/L
- EL East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2

Note:
Based upon data collected in October 2019



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

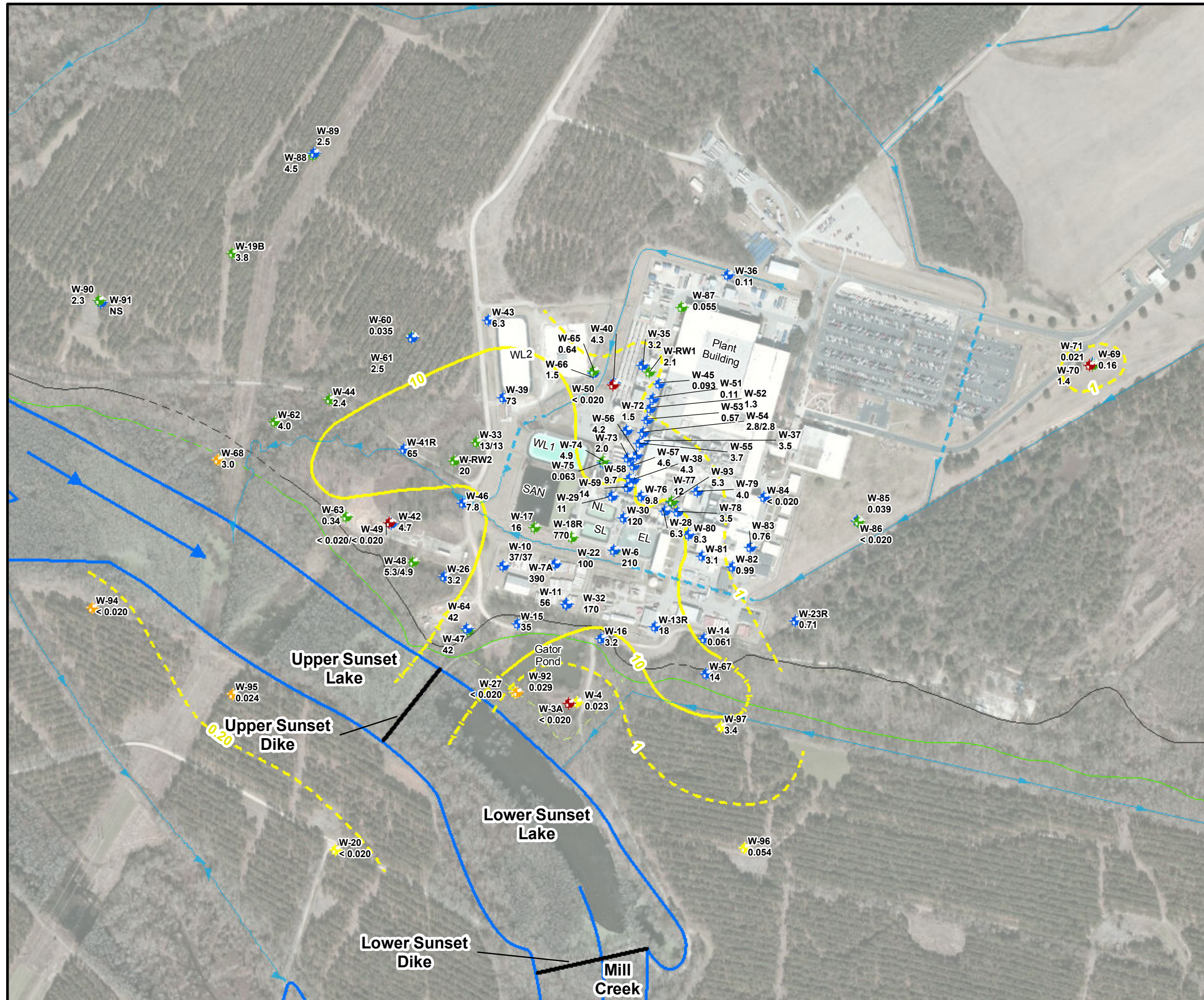


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Extent of TCE – Lower Aquifers

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HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020 Rev. February 2021	FIGURE 9
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Legend

- ◆ Upper Surficial Aquifer Monitoring Well Location
- ◆ Lower Surficial Aquifer Monitoring Well Location
- ◆ Black Mingo Aquifer Monitoring Well Location
- ◆ Upper Floodplain Aquifer Monitoring Well Location
- ◆ Lower Floodplain Aquifer Monitoring Well Location
- 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 (mg/L)
- - - Nitrate Inferred Isoconcentration Contour (mg/L)
- - - Nitrate Isoconcentration Contour at a Concentration Less Than the Maximum Contaminant Level (mg/L)

770 Nitrate Concentration in mg/L
 NS Not Sampled
 EL East Lagoon
 NL North Lagoon
 SL South Lagoon
 SAN Sanitary Lagoon
 WL1 West Lagoon 1
 WL2 West Lagoon 2

Note:
 Based upon data collected in October 2019

N

0 200 400
 Feet
 1:4,800

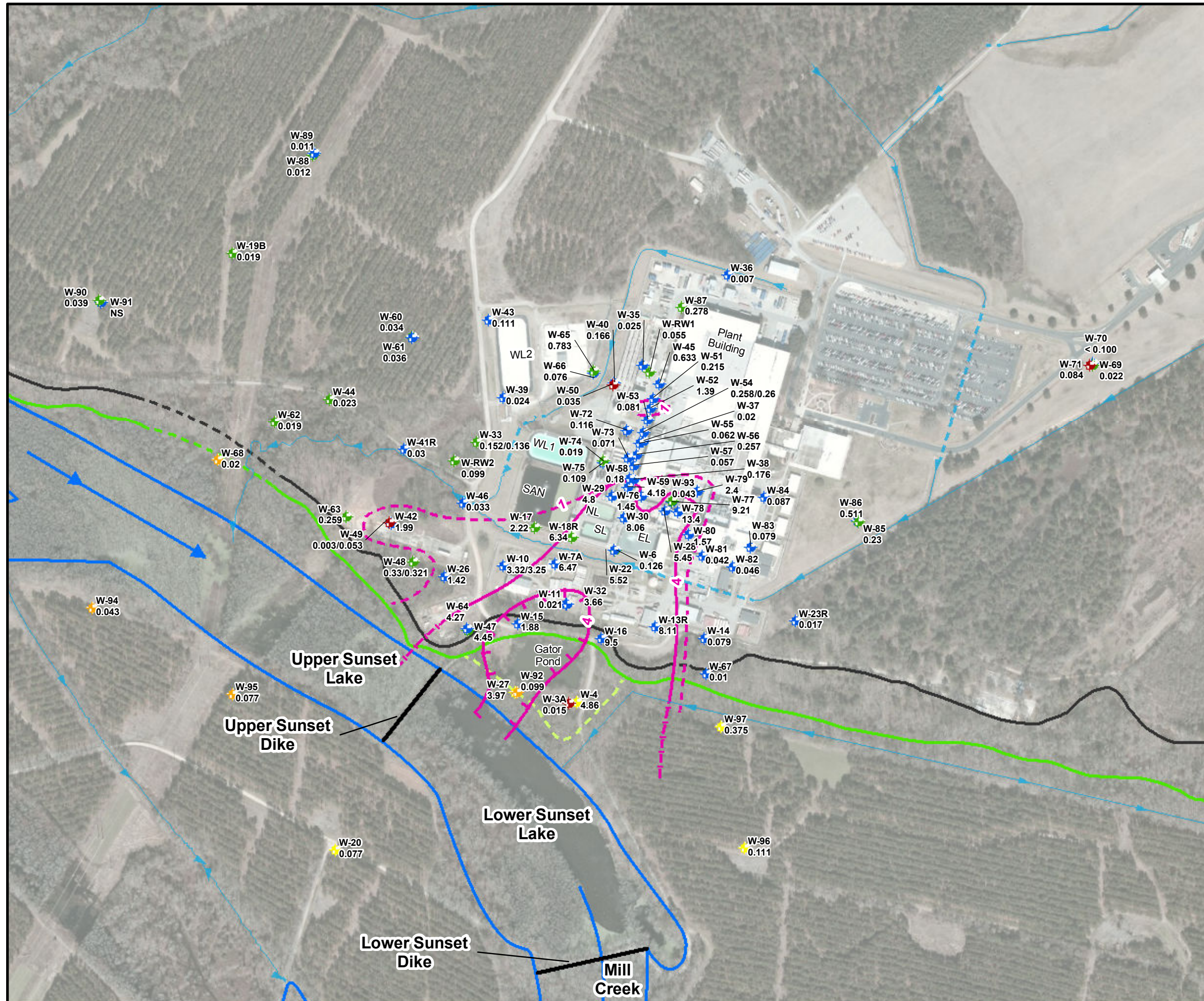
Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet
 Datum: North American 1983

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Extent of Nitrate in Groundwater
 WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
 HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020 Rev. February 2021	FIGURE 10
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Legend

- ◆ Upper Surficial Aquifer Monitoring Well Location
- ◆ Lower Surficial Aquifer Monitoring Well Location
- ◆ Black Mingo Aquifer Monitoring Well Location
- ◆ Upper Floodplain Aquifer Monitoring Well Location
- ◆ Lower Floodplain Aquifer Monitoring Well Location
- 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 (mg/L)
- Fluoride Isoconcentration Contour at a Concentration Less Than the Maximum Contaminant Level (mg/L)
- Fluoride Inferred Isoconcentration Contour (mg/L)
- Fluoride Isoconcentration Contour Depression (mg/L)

13.4 Fluoride Concentration in mg/L

NS Not Sampled

EL East Lagoon

NL North Lagoon

SL South Lagoon

SAN Sanitary Lagoon

WL1 West Lagoon 1

WL2 West Lagoon 2

Note:
Based upon data collected in October 2019

0 200 400
Feet

1:4,800

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

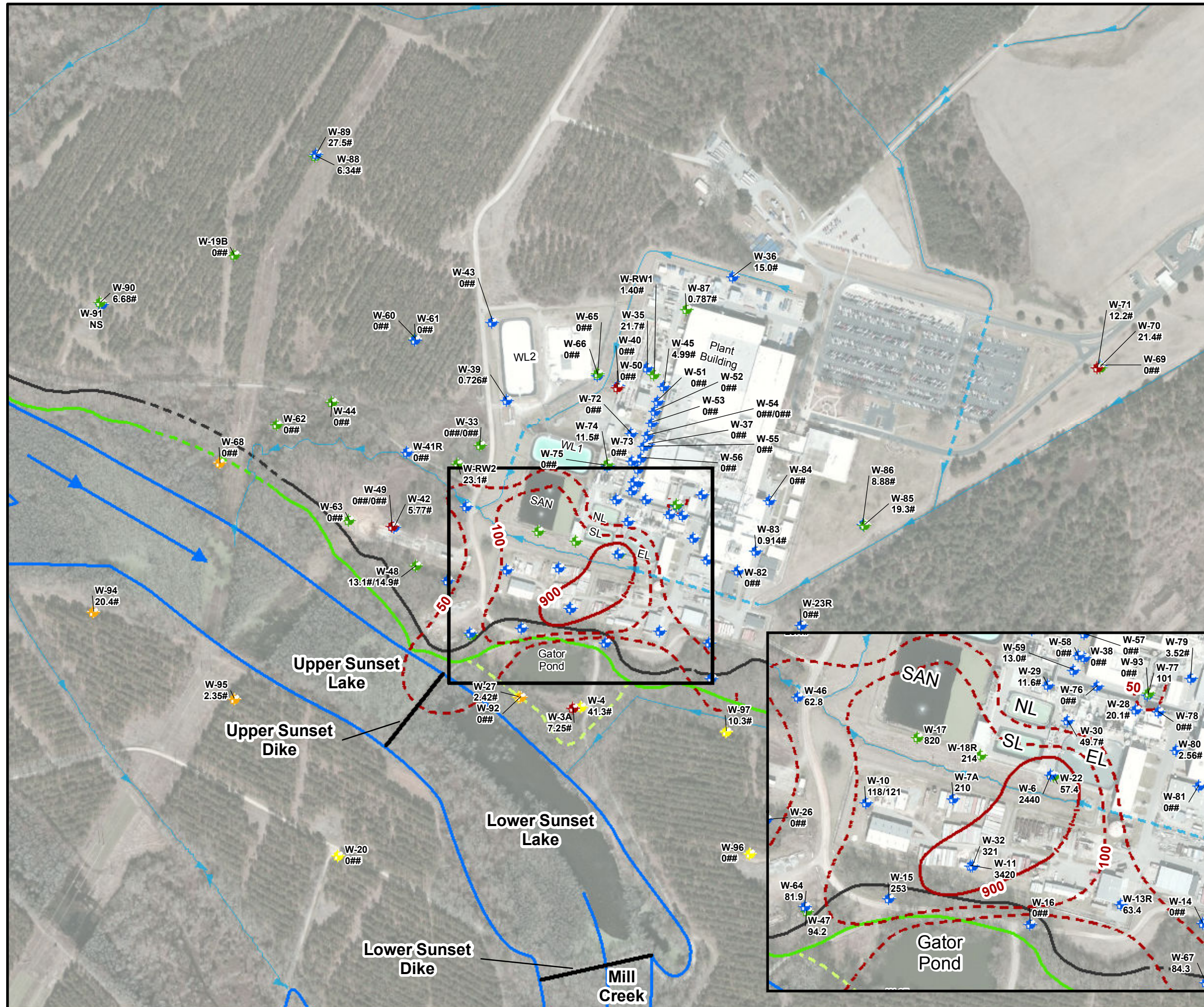
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Extent of Fluoride in Groundwater

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: LJG	DATE: June 2020 Rev. February 2021	FIGURE 11
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Legend

- ◆ Black Mingo Monitoring Well
- ◆ Lower Floodplain Monitoring Well
- ◆ Upper Floodplain Monitoring Well
- ◆ Lower Surficial Monitoring Well Location
- ◆ Upper Surficial Aquifer Monitoring Well Location
- 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 (pCi/L)
- - - Tc-99 Inferred Isoconcentration Contour (pCi/L)
- - - Tc-99 Inferred Isoconcentration Contour at a Concentration Less Than the Maximum Contaminant Level (pCi/L)

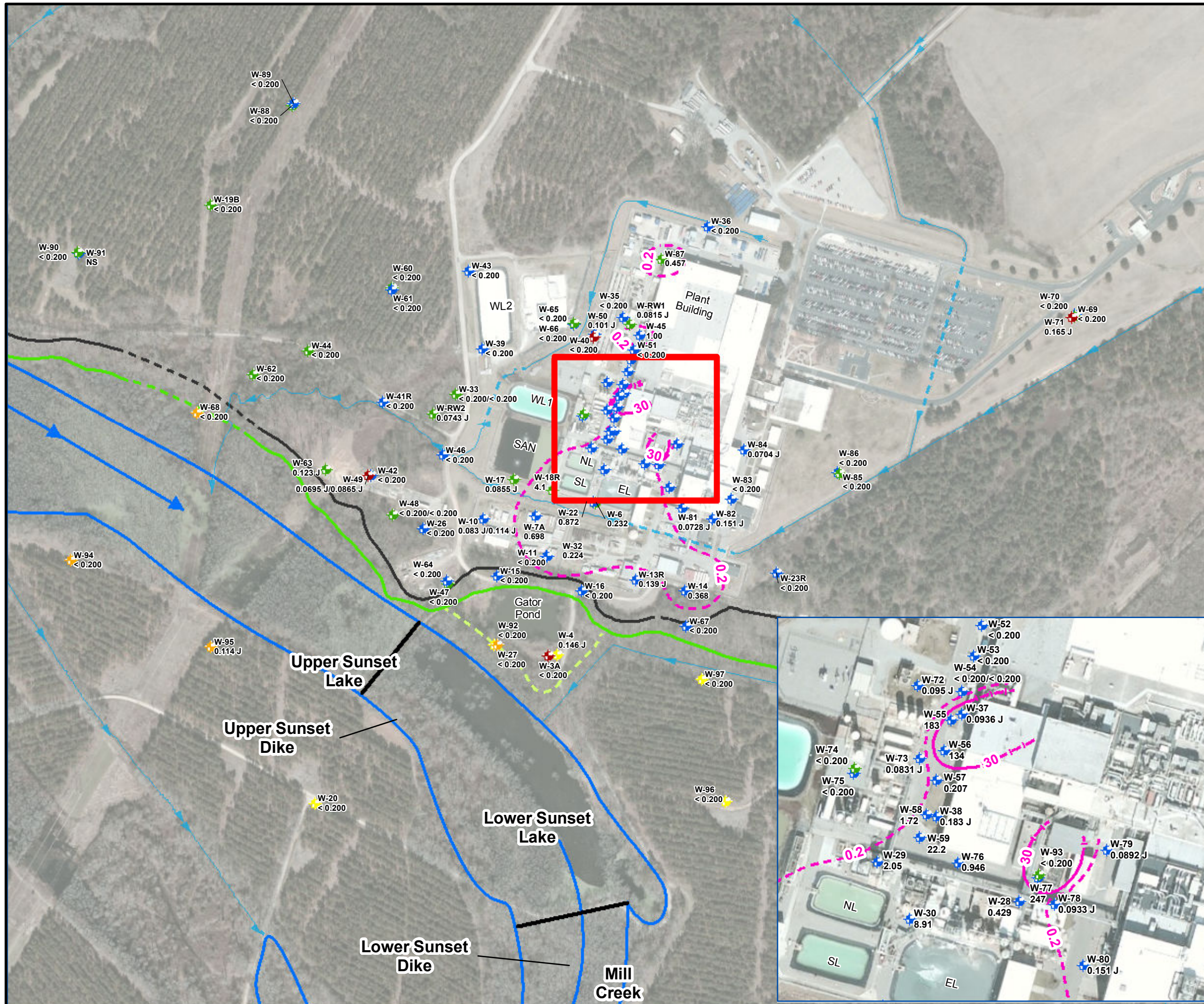
321 Technetium-99 Concentration in pCi/L
 # Value is below minimum detectable concentration
 ## Value is reported as a negative number
 NS Not Sampled
 EL East Lagoon
 NL North Lagoon
 SL South Lagoon
 SAN Sanitary Lagoon
 WL1 West Lagoon 1
 WL2 West Lagoon 2

Note:
 Based upon data collected in October 2019

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			
WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY HOPKINS, SOUTH CAROLINA			
PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020 Rev. February 2021	FIGURE 12



Legend

- ◆ Upper Surficial Aquifer Monitoring Well Location
- ◆ Lower Surficial Aquifer Monitoring Well Location
- ◆ Black Mingo Aquifer Monitoring Well Location
- ◆ Upper Floodplain Aquifer Monitoring Well Location
- ◆ Lower Floodplain Aquifer Monitoring Well Location
- 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 (µg/L)
- - - Uranium Inferred Isoconcentration Contour (µg/L)
- - - Uranium Isoconcentration Contour at a Concentration Less Than the Maximum Contaminant Level (µg/L)

247 Total Uranium in µg/L
 J Estimated result is less than the practical quantitation limit and greater than the method detection limit
 NS Not Sampled
 EL East Lagoon
 NL North Lagoon
 SL South Lagoon
 SAN Sanitary Lagoon
 WL1 West Lagoon 1
 WL2 West Lagoon 2

Note:
 Based upon data collected in October 2019

0 200 400
Feet

1:4,800

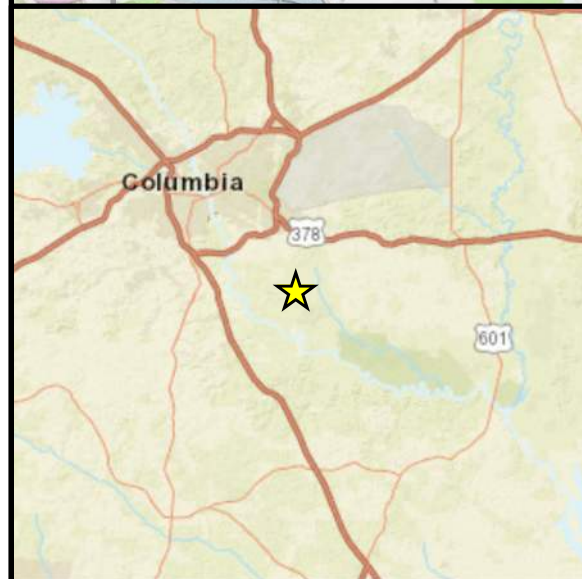
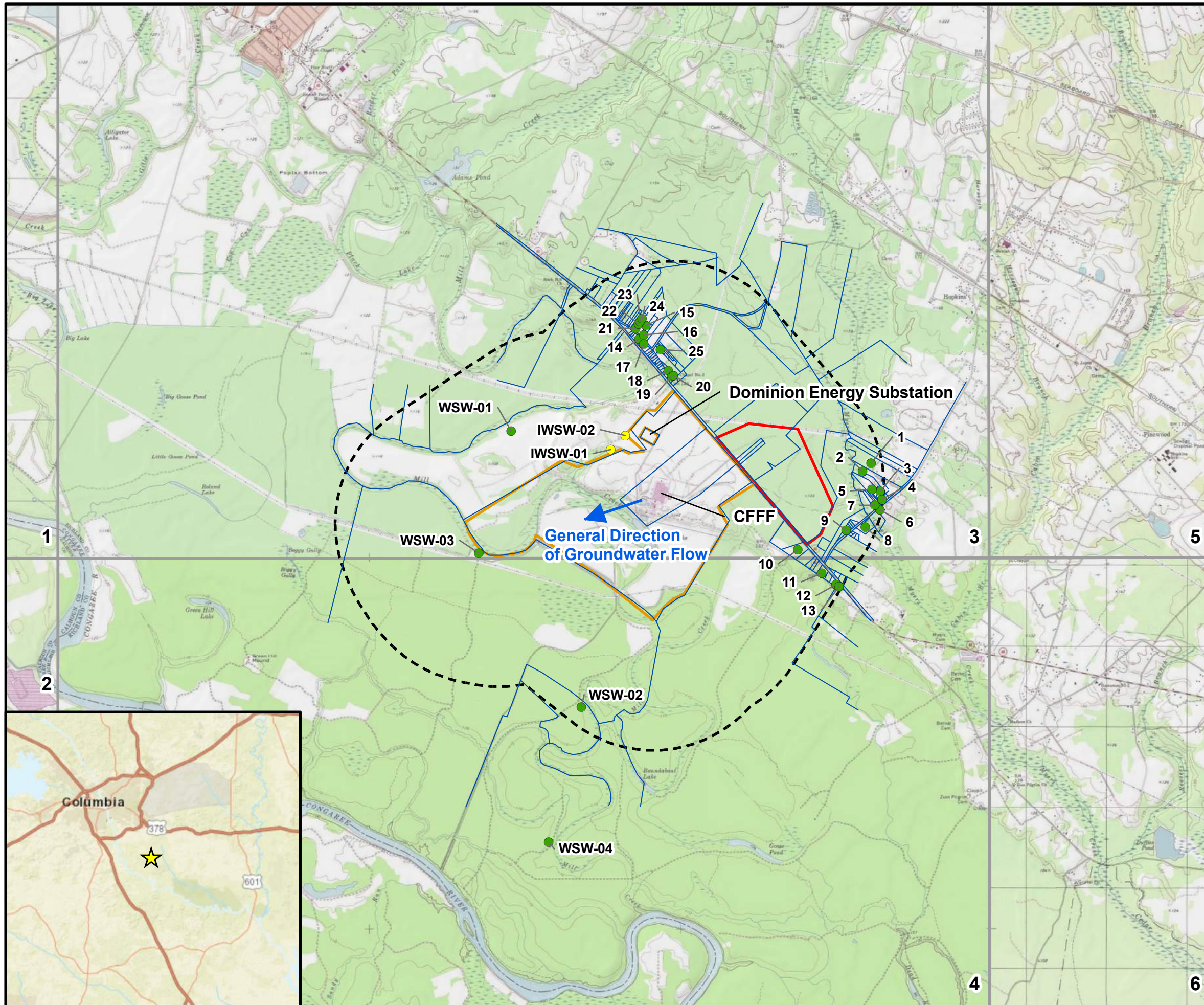
Map Projection: NAD 1983, South Carolina State Plane, FIPS 3900, Feet
 Datum: North American 1983

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Extent of Uranium in Groundwater

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 HOPKINS, SOUTH CAROLINA

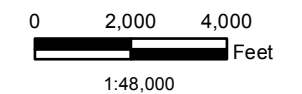
PROJECT NO. 60595649	PREPARED BY: LJG	DATE: June 2020 Rev. February 2021	FIGURE 13
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Legend

- Inactive Private Wells
- Private Wells
- Parcel Lines
- 1 Mile Buffer of Facility Property Boundary
- Property Line
- SCRDI Bluff Road (Superfund Site)
- Topographic Quadrangle Boundary

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



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

Datum: North American 1983

Data Source: Esri/USGS

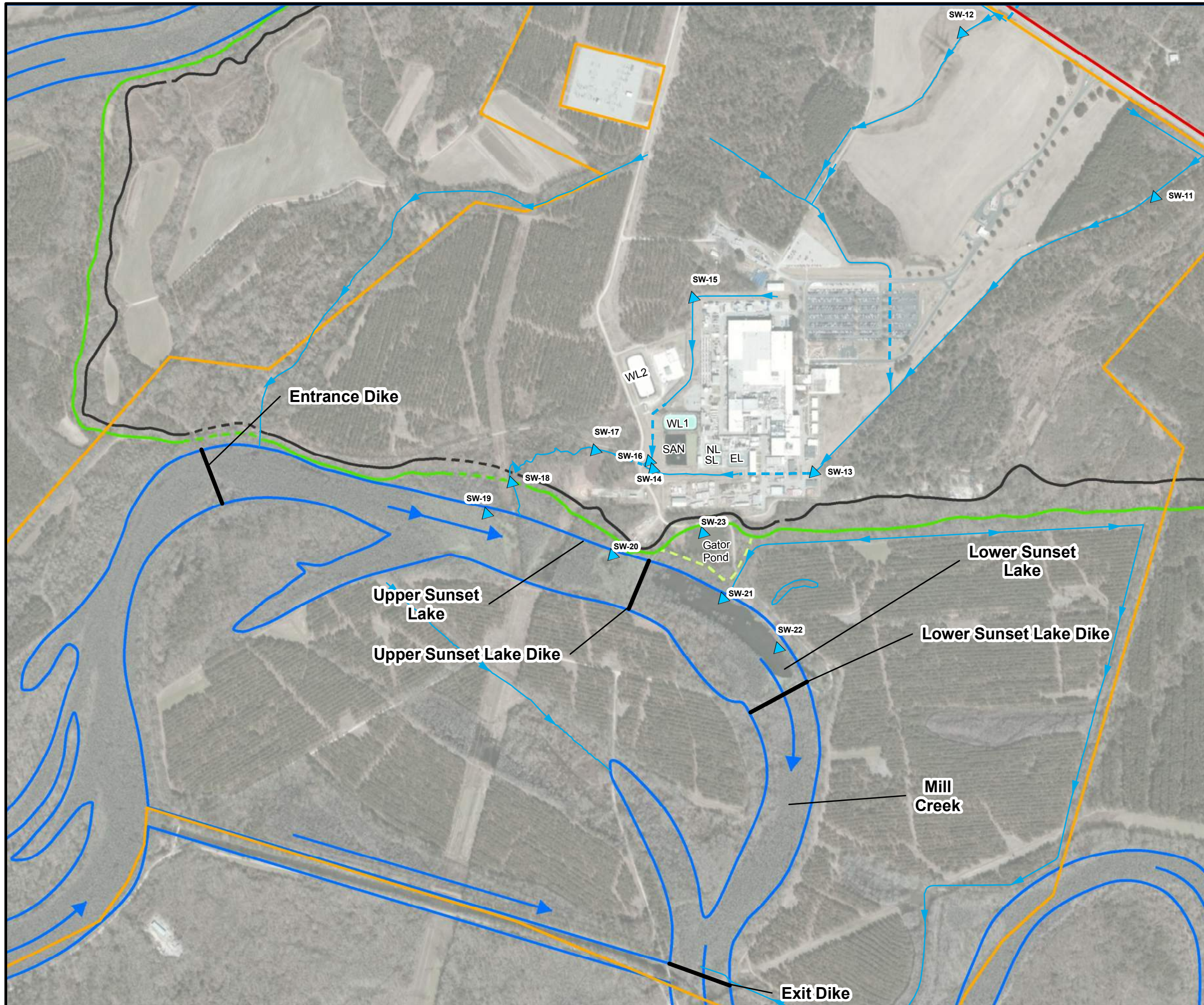


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Private Water Supply Well Locations

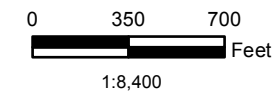
WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020	FIGURE 14
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Legend

- ▲ Surface Water Sample Location
- ▶ Ditch
- - - Culvert
- ▶ Mill Creek Flow Direction
- Dike Location
- Mill Creek
- Property Line
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- EL East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2



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

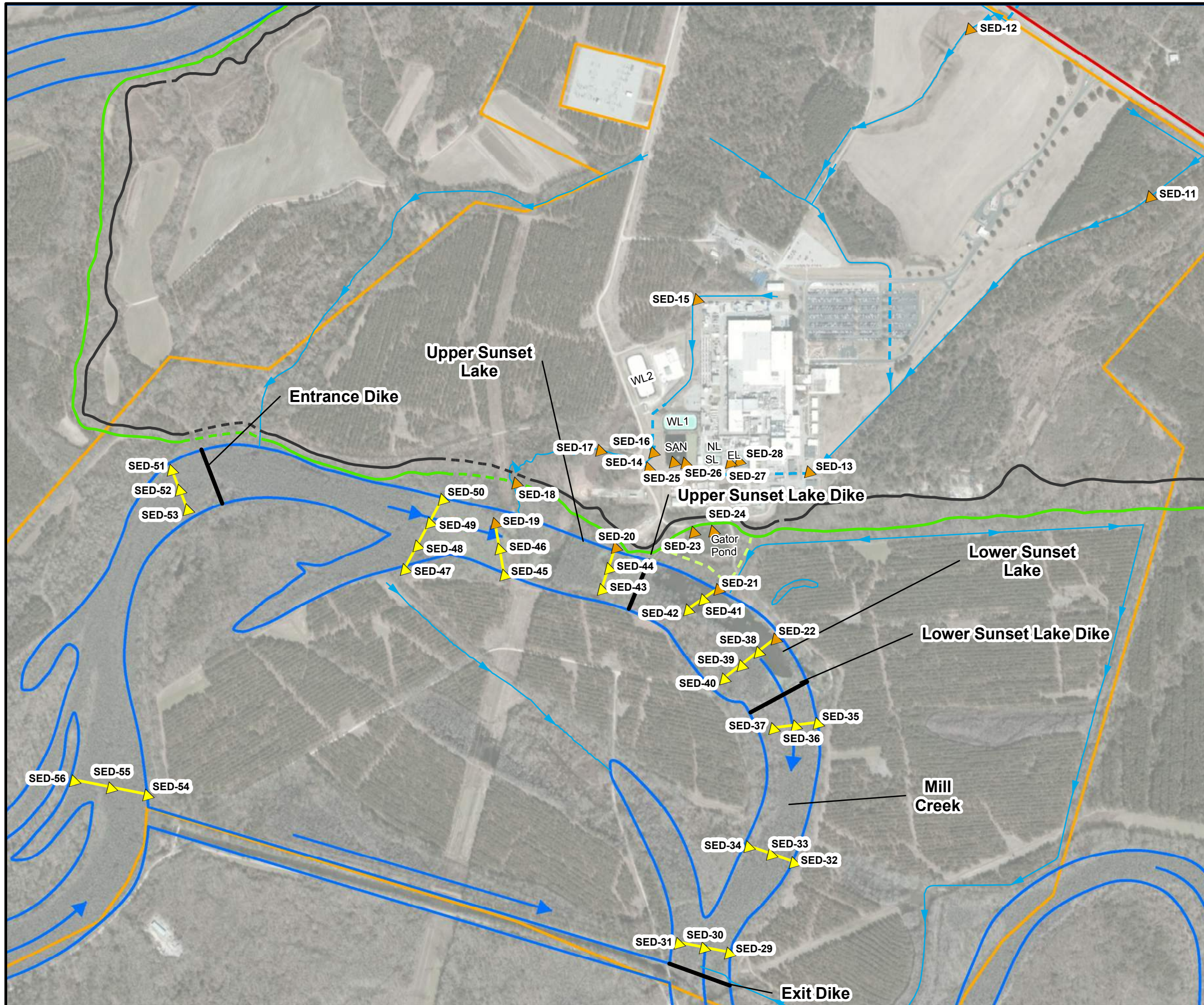


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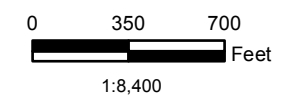
Surface Water Sample Locations

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020	FIGURE 15
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- Legend**
- ▲ Sediment Sample Collected in July 2019
 - ▲ Sediment Sample Collected in November/December 2019
 - Sediment Sampling Transects
 - Ditch
 - - - Culvert
 - Mill Creek Flow Direction
 - Dike Location
 - ▭ Mill Creek
 - ▭ Property Line
 - Top of Bluff
 - - - Inferred Top of Bluff
 - Bottom of Bluff
 - - - Inferred Bottom of Bluff
 - - - Secondary Bluff Area
 - EL East Lagoon
 - NL North Lagoon
 - SL South Lagoon
 - SAN Sanitary Lagoon
 - WL1 West Lagoon 1
 - WL2 West Lagoon 2



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

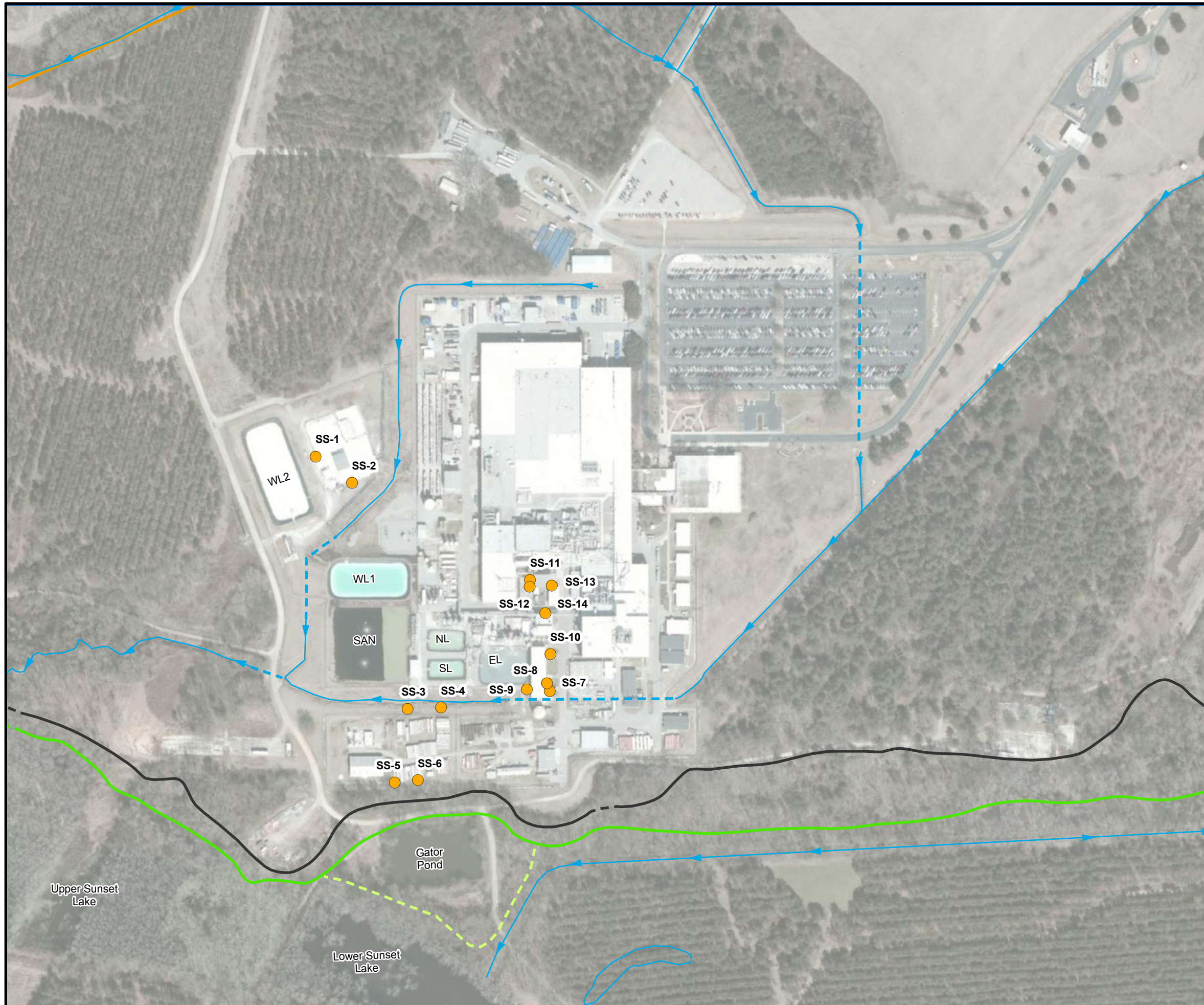


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Sediment Sample Locations

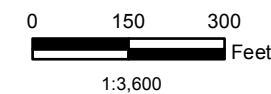
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 HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: RGM	DATE: June 2020	FIGURE 16
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Legend

- Soil Sampling Locations
- Ditch
- - - Culvert
- Property Line
- Top of Bluff
- Inferred Top of Bluff
- Bottom of Bluff
- Inferred Bottom of Bluff
- Secondary Bluff Area
- EL East Lagoon
- NL North Lagoon
- SL South Lagoon
- SAN Sanitary Lagoon
- WL1 West Lagoon 1
- WL2 West Lagoon 2



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



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**Technetium-99 Soil
Sample Locations**

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: RGM	DATE: February 2020	FIGURE 17
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Table A1 - October 2019 Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	MCL	Units	Well Date	W-RW1 10/3/2019 N	W-RW2 10/11/2019 N	W-3A 10/10/2019 N	W-4 10/11/2019 N	W-6 10/7/2019 N	W-7A 10/9/2019 N	W-10 10/9/2019 N	W-10 10/9/2019 FD	W-11 10/8/2019 N	W-13R 10/8/2019 N	W-14 10/18/2019 N	W-15 10/21/2019 N	W-16 10/21/2019 N	W-17 10/21/2019 N	W-18R 10/7/2019 N	W-19B 10/21/2019 N	W-20 10/15/2019 N	W-22 10/7/2019 N	W-23R 10/18/2019 N	W-24 10/11/2019 N	W-25 10/16/2019 N	W-26 10/14/2019 N	W-27 10/10/2019 N	W-28 10/7/2019 N	W-29 10/7/2019 N	W-30 10/7/2019 N	W-32 10/8/2019 N	W-33 10/17/2019 FD	W-33 10/2/2019 N	W-35 10/2/2019 N	W-36 10/2/2019 N	W-37 10/2/2019 N	W-38 10/4/2019 N			
Radiological	Alpha particles	15**	pCi/L		2.51 #	2.00 #	2.36 #	3.36 #	9.09	6.35	2.19 #	7.82	2.15 #	4.27	0 #	0.421 #	2.86 #	9.79 #	2.26 #	0.912 #	2.92 #	0 #	0 #	10.1	0.697 #	0 #	3.14 #	2.25 #	7.57	7.17	2.89 #	2.51 #	0.793 #	0.270 #	1.75 #	2.54 #				
Radiological	Beta particles	50**	pCi/L		3.98	11.9	1.15 #	19.4	1370	114	81.3	76.2	2450	35.6	174	10.6	538	150	0 #	3.22 #	29.6	1.68 #	2.51 #	7.27	12.5	5.10	8.26	7.67	20.8	175	7.78	5.81	3.54 #	0 #	0 #	2.43 #				
Radiological	Tritium		pCi/L			270 #				0 #	32.7 #	165 #		116 #	0 #	12.8 #		210 #		0 #	115 #		67.8 #		38.6 #		116 #	443 #	81.8 #	0 #	137 #									
Radiological	Technetium-99	900	pCi/L		1.40 #	23.1 #	7.25 #	41.3 #	2440	210	118	121	3420	63.4	0 #	253	0 #	820	214	0 #	0 #	57.4	0 #	13.0 #		2.42 #	20.1 #	11.6 #	49.7 #	321	0 #	0 #	21.7 #	15.0 #	0 #	0 #				
Radiological	Uranium-233/234		pCi/L		0.126 #	0.252 #	0.287 #	0.313	0.372	0.409	0.0993 #	0.0991 #	0.205 #	0.246 #	0.0696 #	0.0108 #	0.168 #	0.209 #	1.53	0.197 #	0.0228 #	0.905	0.0833 #	0.136 #		0.195 #	0.0497 #	0.0588 #	0.672	1.20	11.5	0.322	0.102 #	0.0758 #	0.304	0.148 #	0.103 #	0.106 #		
Radiological	Uranium-235/236		pCi/L		0.139 #	0.107 #	0.0414 #	0.124 #	0.0443 #	0.0909 #	0.0935 #	0.219	0.0769 #	0.0418 #	0 #	0.162 #	0.0107 #	0.0726 #	0.266	0.125 #	0.0276 #	0.136 #	0 #	0.0816 #		0.0748 #	0.0344 #	0.198	0 #	0 #	0.914	0 #	0.0445 #	0.0446 #	0.0450 #	0 #	0 #			
Radiological	Uranium-238		pCi/L		0.169 #	0.0958 #	0.145 #	0.392	0.153 #	0.259	0.180 #	0.212	0.133 #	0.221	0.139 #	0.0531 #	0.0718 #	0.0855 #	1.17	0.0559 #	0.0995 #	0.322	0.0221 #	0.0660 #		0.269	0.0381 #	0.171 #	0.119 #	0.972	3.31	0.191	0.0274 #	0.0361 #	0.109	0 #	0.0277 #	0.128		
Radiological	Percent Uranium-235		%		0 #	0 #	0 #	0 #	0 #	0 #	13.8	0 #	0 #	0 #	0 #	0 #	0 #	3.41	0 #	0 #	0 #	0 #	0 #			0 #	0 #	15.2	0 #	0 #	4.12	0 #	0 #	0 #	0 #	0 #	0 #			
Radiological	Uranium-234		ug/L		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Radiological	Uranium-235		ug/L		<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070		<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070			
Radiological	Uranium-238		ug/L		0.0815 J	0.0743 J	<0.200	0.146 J	0.232	0.698	0.083 J	0.114 J	<0.200	0.139 J	0.368	<0.200	<0.200	0.0855 J	4.06	<0.200	<0.200	0.854	<0.200	<0.200		0.295	<0.200	<0.200	0.429	2.03	8.71	0.224	<0.200	<0.200	<0.200	<0.200	<0.200	0.0936 J	0.183 J	
Radiological	Total Uranium Isotopes	30	ug/L		0.0815 J	0.0743 J	<0.200	0.146 J	0.232	0.698	0.083 J	0.114 J	<0.200	0.139 J	0.368	<0.200	<0.200	0.0855 J	4.10	<0.200	<0.200	0.872	<0.200	<0.200		0.295	<0.200	<0.200	0.429	2.05	8.91	0.224	<0.200	<0.200	<0.200	<0.200	0.0936 J	0.183 J		
Chemical	Fluoride	4	mg/L		0.055	0.099	0.015	4.86	0.126	6.47	3.32	3.25	0.021	8.11	0.079	1.88	9.5	2.22	6.34	0.019	0.077	5.52	0.017	0.025		0.126	1.42	3.97	5.45	4.8	8.06	3.66	0.152	0.136	0.025	0.007	0.02	0.176		
Chemical	Nitrate as N	10	mg/L		2.1	20	<0.020	0.023	210	390	37	37	56	18	0.061	35	3.2	16	770	3.8	<0.020	100	0.71	<0.020		0.067	3.2	<0.020	6.3	11	120	170	13	13	3.2	0.11	3.5	4.3		
Chemical	Ammonia as N	4	mg/L		0.0129	0.0581	0.0256	0.404	134	48.5	6.46	6.62	4.09	31.5	4.26	12.6	13.3	5.79	126	0.0146	0.0632	61.8	0.0154	0.0283		1.91	1.75	6.29	0.884	22.4	1.83	47.9	0.0134	0.0189	0.0075	0.0089	0.0088	0.0141		
Metals	Aluminum		ug/L		147 J	120 J	<200	105 J	<200	559	551	<200	831	<200	75 J	827	<200	<200	<200	<200	1610	<200	486		326	<200	981	<200	356	<200	<200	<200	<200	<200	<200	<200	<200	80.9 J		
Metals	Antimony	6	ug/L		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0		4.52 J	3.64 J	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	3.87 J	4.6 J
Metals	Arsenic	10	ug/L		<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	5.32 J	<30.0	<30.0		<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	
Metals	Barium	2000	ug/L		48.2	106	5.92	99.1	496	595	191	186	658	93.3	799	304	135	164	773	84.8	181	46.3	53.8		94	197	220	44.1	158	234	484	181	201	62.5	34.9	51.6	96.7			
Metals	Beryllium	4	ug/L		<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	1.89 J	<5.00	<5.00	1.28 J	<5.00	<5.00	1.76 J	<5.00	<5.00		<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00		
Metals	Cadmium	5	ug/L		<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	3.73 J	1.94 J	<5.00	1.94 J	<5.00	<5.00		<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00		
Metals	Calcium		ug/L		4600	16600	490	12100	71400	99500	25100	24400	27900	20500	66000	23700	12500	16300	222000	4330	9740	55300	1380		4310	12600	16100	10700	10500	18800	90700	40600	12700	14100	16000	1430	9960	7850		
Metals	Chromium	100	ug/L		3.46 J	<10.0	<10.0	<10.0	<10.0	4.46 J	<10.0	<10.0	<10.0	1.04 J	1.94 J	<10.0	<10.0	<10.0	2.27 J	<10.0	1.07 J	1.96 J		<10.0	1.95 J	<10.0	2.06 J	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	4.22 J	4.29 J	
Metals	Cobalt		ug/L		2.5 J	4.14 J	1.21 J	1.19 J	6.41	7.56	2.26 J	2.53 J	2.05 J	7.87	24	4.38 J	3.32 J	6.53	1.16 J	<5.00	3.69 J	7.89	<5.00	<5.00		<5.00	2.93 J	<5.00	7.88	<5.00	1.24 J	<5.00	<5.00	<5.00	4.39 J	<5.00	<5.00	1.84 J		
Metals	Copper	1300	ug/L		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	58.6	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0		<20.0	<20.0	<20.0	<20.0	3.83 J	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	6.02 J		
Metals	Iron		ug/L		134	<100	562	4930	<100	<100	<100	<100	55.1 J	11900	<100	<100	<100	<100	<100	<100	229	65.8 J	<100		626	19700	<100	29000	56.3 J	<100	<100	<100	<100	<100	<100	<100	<100	<100		
Metals	Lead	15	ug/L		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0		4.1 J	4.81 J	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	
Metals	Magnesium		ug/L		1580	3500	251 J	5100	21600	24700	7800	7630	13200	7990	18900	9330	4230	5030	36000	1520	6900	9890	852		5040	5570	13900	995	5250	4230	12000									

Table A1 - October 2019 Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	MCL	Units	Well Date	W-39	W-40	W-41R	W-42	W-43	W-44	W-45	W-46	W-47	W-48	W-48	W-49	W-49	W-50	W-51	W-52	W-53	W-54	W-54	W-55	W-56	W-57	W-58	W-59	W-60	W-61	W-62	W-63	W-64	W-65	W-66	W-67	W-68			
				Type	10/18/2019	10/15/2019	10/14/2019	10/22/2019	10/18/2019	10/14/2019	10/22/2019	10/21/2019	10/17/2019	10/21/2019	10/21/2019	10/24/2019	10/24/2019	10/15/2019	10/3/2019	10/3/2019	10/3/2019	10/3/2019	10/4/2019	10/4/2019	10/4/2019	10/4/2019	10/3/2019	10/4/2019	10/5/2019	10/17/2019	10/17/2019	10/22/2019	10/21/2019	10/17/2019	10/17/2019	10/17/2019	10/18/2019	10/22/2019		
Radiological	Alpha particles	15**	pCi/L	N	1.22 #	0.796 #	8.93	0.753 #	0.159 #	3.47 #	4.37	0.656 #	1.60 #	0.460 #	0 #	0.196 #	1.80 #	3.48 #	0.544 #	0 #	1.61 #	1.55 #	1.53 #	438	264	0.202 #	4.21	44.4	0.200 #	1.31 #	0 #	1.22 #	4.11 #	1.22 #	0 #	0.945 #	0.922 #			
Radiological	Beta particles	50**	pCi/L	N	8.84	3.44 #	14.3	3.16 #	3.16 #	0.283 #	16.6	40.4	61.6	9.32	7.64	4.34 #	0.719 #	0.0720 #	3.56	1.61 #	1.72 #	1.96 #	0.741 #	77.3	54.5	3.09 #	2.43 #	17.4	1.38 #	0.862 #	4.85	3.32 #	70.3	7.14	3.33 #	65.3	2.33 #			
Radiological	Tritium		pCi/L	N	174 #		223 #		4.14 #	0 #		137 #	87.4 #	190 #																										
Radiological	Technetium-99	900	pCi/L	N	0.726 #	0 #	0 #	5.77 #	0 #	0 #	4.99 #	62.8	94.2	13.1 #	14.9 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	13.0 #	0 #	0 #	0 #	0 #	81.9	0 #	0 #	84.3	0 #		
Radiological	Uranium-233/234		pCi/L	N	0 #	0.0131 #	0.0652 #	0 #	0 #	0.0335 #	0.897	0.317 #	0 #	0.0449 #	0.231 #	0.154 #	0.432	0.279 #	0.0146 #	0.121 #	0.0359 #	0.0685 #	0.101 #	0 #	290	192	0 #	2.10	38.0	0.0248 #	0 #	0.0178 #	0.266 #	0.0871 #	0 #	0.0479 #	0 #	0.204 #		
Radiological	Uranium-235/236		pCi/L	N	0.00196 #	0.0454 #	0.0336 #	0.110 #	0.0698 #	0.0360 #	0 #	0 #	0 #	0.106 #	0.0663 #	0.0321 #	0.0321 #	0.0468 #	0.0799 #	0.115	0 #	0 #	0.0554	16.3	9.18	0 #	0.104 #	2.02	0.0418 #	0.0596 #	0.0998 #	0.0677 #	0.0256 #	0 #	0.00220 #	0 #	0.0452 #			
Radiological	Uranium-238		pCi/L	N	0.149 #	0.129 #	0.0757 #	0.0468 #	0.0475 #	0.0107 #	0.477	0.0325 #	0 #	0.0109 #	0.00988 #	0.0380 #	0.0260 #	0.201 #	0 #	0.00124 #	0 #	0.0126 #	0.0560 #	60.5	37.9	0.0165 #	0.331 #	8.26	0.00356 #	0.0254 #	0.142 #	0.264 #	0.0239 #	0.0898 #	0.0800 #	0.0343 #	0.0102 #			
Radiological	Percent Uranium-235		%	N	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #		
Radiological	Uranium-234		ug/L	N	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050		
Radiological	Uranium-235		ug/L	N	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	0.0216 J	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	0.049 J	0.659	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070		
Radiological	Uranium-238		ug/L	N	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.983	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.0695 J	0.0865 J	0.101 J	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	177	130	0.207	1.67	21.6	< 0.200	< 0.200	< 0.200	0.123 J	< 0.200	< 0.200	< 0.200
Radiological	Total Uranium Isotopes	30	ug/L	N	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	1.00	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.0695 J	0.0865 J	0.101 J	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	183	134	0.207	1.72	22.2	< 0.200	< 0.200	< 0.200	0.123 J	< 0.200	< 0.200	< 0.200
Chemical	Fluoride	4	mg/L	N	0.024	0.166	0.03	1.99	0.111	0.223	0.633	0.033	4.45	0.33	0.321	0.003	0.053	0.035	0.215	1.39	0.081	0.258	0.26	0.062	0.257	0.057	0.18	4.18	0.034	0.036	0.019	0.259	4.27	0.783	0.076	0.01	0.02			
Chemical	Nitrate as N	10	mg/L	N	73	4.3	65	4.7	6.3	2.4	0.093	7.8	42	5.3	4.9	< 0.020	< 0.020	< 0.020	0.11	1.3	0.57	2.8	2.8	3.7	4.2	4.6	9.7	14	0.035	2.5	4.0	0.34	42	0.64	1.5	14	3.0			
Chemical	Ammonia as N		mg/L	N	0.0218	0.0203	0.0299	0.086	0.0198	0.0186	2.08	0.0129	16.5	0.0446	0.0422	0.0151	0.0097	0.0185	0.256	0.0212	0.0397	0.0037	0.0125	0.0108	0.009	0.0155	18.6	12.3	0.0251	0.0274	0.0162	0.023	16	0.0489	0.0336	1.31	0.0143			
Metals	Aluminum		ug/L	N	< 200	< 200	< 200	1150	< 200	< 200	90.5 J	< 200	571	70.4 J	87.4 J	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200		
Metals	Antimony	6	ug/L	N	8.79 J	8.02 J	6.21 J	< 20.0	3.76 J	< 20.0	8.1 J	< 20.0	5.33 J	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	7.32 J	< 20.0	4.12 J	< 20.0	< 20.0	7.39 J	4.3 J	7.38 J	4.22 J	< 20.0	5.44 J	< 20.0	< 20.0	8.91 J	< 20.0	< 20.0	< 20.0	< 20.0			
Metals	Arsenic	10	ug/L	N	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0		
Metals	Barium	2000	ug/L	N	324	16.8	655	101	159	151	28.8	144	260	97.1	99.1	10.5	11.6	8.87	57	59.9	78.2	61.2	61.8	41.6	57.1	73.4	167	210	121	216	75.7	70.9	394	93.7	68.5	306	92.9			
Metals	Beryllium	4	ug/L	N	< 5.00	< 5.00	< 5.00	3.32 J	< 5.00	< 5.00	< 5.00	1.26 J	2.32 J	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00		
Metals	Cadmium	5	ug/L	N	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00		
Metals	Calcium		ug/L	N	41500	16700	34600	3980	8770	5460	35100	8640	22300	5690	5870	729	790	733	11600	11100	15600	11900	12100	8400	11300	10600	17500	16400	6900	10400	4420	12600	22900	8060	6730	11500	4530			
Metals	Chromium	100	ug/L	N	< 10.0	< 10.0	1.48 J	< 10.0	1.28 J	3.15 J	< 10.0	< 10.0	1.11 J	9.3 J	14.7	< 10.0	< 10.0	1.41 J	< 10.0	2.36 J	2.48 J	5.03 J	4.16 J	3.38 J	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	1.14 J	< 10.0	< 10.0	< 10.0	< 10.0			
Metals	Cobalt		ug/L	N	1.52 J	< 5.00	< 5.00	3.22 J	< 5.00	< 5.00	2.04 J	1.16 J	7.85	< 5.00	< 5.00	1.25 J	1.19 J	2.36 J	3.06 J	6.28	10.6	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	1.82 J	5.12	< 5.00	< 5.00	14.1	1.19 J	< 5.00	4.77 J	
Metals	Copper	1300	ug/L	N	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	109	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0		
Metals	Iron		ug/L	N	< 100	< 100	< 100	< 100	< 100	75.8 J	34900	< 100	< 100	< 100	< 100	817	1010	443	40100	2400	5620	1190	1230	< 100	< 100	< 100	< 100	< 100	< 100	< 100	3810	150	< 100	3440	< 100	3680	< 100	< 100	30.1 J	
Metals	Lead	15	ug/L	N	< 20.0	5.76 J	< 20.0	< 20.0	< 20.0	5.46 J	< 20.0	< 20.0	< 20.0																											

Table A1 - October 2019 Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	MCL	Units	Well Date	W-69	W-70	W-71	W-72	W-73	W-74	W-75	W-76	W-77	W-78	W-79	W-80	W-81	W-82	W-83	W-84	W-85	W-86	W-87	W-88	W-89	W-90	W-92	W-93	W-94	W-95	W-96	W-97	WSW-01*	WSW-02*	WSW-03*	WSW-04*	
				Type	10/23/2019	10/23/2019	10/23/2019	10/4/2019	10/4/2019	10/9/2019	10/9/2019	10/5/2019	10/6/2019	10/5/2019	10/7/2019	10/6/2019	10/8/2019	10/8/2019	10/8/2019	10/23/2019	10/23/2019	10/23/2019	10/22/2019	10/22/2019	10/22/2019	10/10/2019	10/6/2019	10/15/2019	10/15/2019	10/11/2019	10/11/2019	10/15/2019	10/22/2019	10/24/2019	10/24/2019		
Radiological	Alpha particles	15**	pCi/L		2.31 #	0.0198 #	0.983 #	1.05 #	0.241 #	0 #	2.10 #	2.77 #	865	0 #	2.99 #	1.30 #	0 #	1.37 #	0.300 #	0 #	1.42 #	0.317 #	1.68 #	2.50 #	0.498 #	0.889 #	1.58 #	3.06	1.14 #	0.695 #	2.51 #	0.168 #	0.599 #	0.876 #	3.63	7.11	
Radiological	Beta particles	50**	pCi/L		1.94 #	1.37 #	8.11	2.74 #	1.85 #	1.29 #	3.89 #	6.88	111	4.12 #	5.90	7.29	1.23 #	4.82	2.75 #	3.97 #	1.23 #	7.12	4.92	2.05 #	0 #	23.1	3.78 #	8.18	2.48 #	0.814 #	4.36	11.0	0 #	8.80	2.05 #	2.69 #	
Radiological	Tritium		pCi/L		0 #	21.4 #	12.2 #	0 #	0 #	11.5 #	0 #	0 #	101	0 #	3.52 #	2.56 #	0 #	0 #	0 #	0.914 #	0 #	19.3 #	8.88 #	0.787 #	6.34 #	27.5 #	6.68 #	0 #	0 #	20.4 #	2.35 #	0 #	10.3 #	17.4 #	0.279 #	0.857 #	8.56 #
Radiological	Uranium-233/234		pCi/L		0.366	0.188 #	0.228 #	0.125 #	0 #	0.111 #	0.0135 #	1.60	511	0.0921 #	0.0539 #	0.154 #	0.00840 #	0.0453 #	0.603	0.0661 #	0.0494 #	0.125 #	0.175 #	0.107 #	0.209 #	0.0370 #	0.0426 #	0.115 #	0.0614 #	0.0378 #	0.0695 #	0.106 #	0.315 #	0.0341 #	0.286 #	0.236 #	
Radiological	Uranium-235/236		pCi/L		0.118 #	0 #	0.0113 #	0 #	0.0655 #	0.00238 #	0.0780 #	0 #	26.0	0.0466 #	0 #	0.0254 #	0 #	0.161 #	0.0491 #	0.0621 #	0.130 #	0.00163 #	0.0449 #	0 #	0.0653 #	0 #	0.0644 #	0 #	0.0692 #	0.108 #	0.0403 #	0 #	0.104 #	0.0518 #	0.0774 #		
Radiological	Uranium-238		pCi/L		0.201 #	0.0615 #	0.0743 #	0.0205 #	0.121 #	0.0963 #	0.00143 #	0.354	81.0	0.105 #	0.115 #	0.0695 #	0.112 #	0.140 #	0 #	0 #	0.151 #	0.137 #	0.151 #	0.185 #	0 #	0 #	0.0765 #	0.0900 #	0.0262 #	0.0560 #	0.0719 #	0.0495 #	0.158 #	0.0506 #	0.788	0.342	
Radiological	Percent Uranium-235		%		0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	4.75	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	0 #	
Radiological	Uranium-234		ug/L		< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.089	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	
Radiological	Uranium-235		ug/L		< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	0.0308 J	10.1	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	< 0.070	
Radiological	Uranium-238		ug/L		< 0.200	< 0.200	0.165 J	0.095 J	0.0831 J	< 0.200	< 0.200	0.915	237	0.0933 J	0.0892 J	0.151 J	0.0728 J	0.151 J	< 0.200	0.0704 J	< 0.200	< 0.200	0.457	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.114 J	< 0.200	< 0.200	0.272	< 0.200	0.776	0.482	
Radiological	Total Uranium Isotopes	30	ug/L		< 0.200	< 0.200	0.165 J	0.095 J	0.0831 J	< 0.200	< 0.200	0.946	247	0.0933 J	0.0892 J	0.151 J	0.0728 J	0.151 J	< 0.200	0.0704 J	< 0.200	< 0.200	0.457	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.114 J	< 0.200	< 0.200	0.272	< 0.200	0.776	0.482		
Chemical	Fluoride	4	mg/L		0.022	< 0.100	0.084	0.116	0.071	0.019	0.109	1.45	9.21	13.4	2.4	1.57	0.042	0.046	0.079	0.087	0.23	0.511	0.278	0.012	0.011	0.039	0.099	0.043	0.043	0.077	0.111	0.375	0.023	0.103	0.013	0.013	
Chemical	Nitrate as N	10	mg/L		0.16	1.4	0.021	1.5	2.0	4.9	0.063	9.8	12	3.5	4.0	8.3	3.1	0.99	0.76	< 0.020	0.039	< 0.020	0.055	4.5	2.5	2.3	0.029	5.3	< 0.020	0.024	0.054	3.4	0.203	< 0.020	< 0.020	0.067	
Chemical	Ammonia as N	10	mg/L		0.0341	0.0077	0.0149	0.275	0.0167	0.159	0.391	0.0154	7.11	0.0271	0.0146	0.0927	0.0762	0.0275	0.0099	0.0119	0.03	0.0073	0.0127	0.0127	0.0132	0.0147	3.19	0.0324	0.246	0.145	0.228	4.89	0.0639	0.0273	0.0655	0.0166	
Metals	Aluminum		ug/L		< 200	< 200	< 200	< 200	126 J	< 200	< 200	894	750	1320	878	1210	< 200	107 J	< 200	< 200	419	382	< 200	< 200	< 200	< 200	< 200	< 200	< 200	82.7 J	< 200	< 200	< 200	78.3 J			
Metals	Antimony	6	ug/L		< 20.0	< 20.0	7.15 J	5.12 J	3.54 J	4.18 J	4.12 J	5.99 J	3.53 J	3.58 J	5.15 J	5.32 J	< 20.0	7.19 J	< 20.0	< 20.0	6.48 J	< 20.0	5.21 J	< 20.0	< 20.0	< 20.0	< 20.0	4.77 J	< 20.0	< 20.0	< 20.0	< 20.0	3.97 J	< 20.0	5.89 J	< 20.0	< 20.0
Metals	Arsenic	10	ug/L		< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	7.94 J	5.58 J	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	
Metals	Barium	2000	ug/L		68.9	91.2	22	48.9	79	151	104	129	70.9	54.4	75.4	124	236	162	114	215	236	101	89.8	90.5	94	101	165	91.2	114	120	128	155	3.87 J	27.1	2.78 J	74.0	
Metals	Beryllium	4	ug/L		< 5.00	1.17 J	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	1.49 J	< 5.00	< 5.00	1.41 J	1.59 J	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	
Metals	Cadmium	5	ug/L		< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	
Metals	Calcium		ug/L		2480	3170	4300	11900	9540	6700	12900	4430	9350	7500	11200	17000	6000	1520	4120	5960	9410	2060	5440	5450	4380	3540	6100	5470	5440	6230	8750	7250	380	1990	330	288	
Metals	Chromium	100	ug/L		< 10.0	< 10.0	< 10.0	1.59 J	1.66 J	< 10.0	< 10.0	1.12 J	2.55 J	< 10.0	1.86 J	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	
Metals	Cobalt		ug/L		8.08	9.91	< 5.00	5.27	6.27	3.43 J	29.2	1.41 J	1.27 J	< 5.00	< 5.00	6.06	10.3	17.3	10	19	2.69 J	3.99 J	4.87 J	1.08 J	1.08 J	1.62 J	< 5.00	3.97 J	1.3 J	2.24 J	3.35 J	1.05 J	1.99 J	< 5.00	4.45 J	3.66 J	
Metals	Copper	1300	ug/L		< 20.0	< 20.0	< 20.0	< 20.0	9.06 J	< 20.0	< 20.0	< 20.0	10 J	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	26.3	22.2	33.2	
Metals	Iron		ug/L		4120	38.5 J	5910	299	44.6 J	4590	< 100	223	< 100	< 100	230	18800	3030	226	2710	23900	7810	3160	< 100	< 100	< 100	< 100	21200	< 100	20900	42900	32300	492	< 100	7050	< 100	< 100	
Metals	Lead	15	ug/L		< 20.0	< 20.0	5.18 J	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	7.16 J	< 20.0	< 20.0	< 20.0	< 20.0	4.88 J	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	3.91 J	5.63 J	5.14 J	
Metals	Magnesium		ug/L		794	1410	745	3760	4600	3050	5220	1510	1970	1420	5490	5240	1930	902	2200	2390	3970	1180	1770	1840	1940	1300	4490	3060	2490	3880	4150	3420	184 J	970	157 J	190 J	
Metals	Manganese		ug/L		412	90.4	81.6	992	454	134	740	32.9	5.83 J	12.8	118	385	227	170	1060	242	39.6	386	6.1 J	7.45 J	16.5	687	171</										

Table A2 - Surface Water Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

		Location	SW-11	SW-12	SW-13	SW-14	SW-16	SW-17	SW-17	SW-18	SW-19	SW-20	SW-21	SW-21	SW-22	SW-22	SW-23	
		Sample Type	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	
		Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/18/2019	7/18/2019	7/16/2019	7/17/2019	7/16/2019	7/15/2019	7/17/2019	7/15/2019	7/17/2019	7/16/2019	
Group	Analyte	MCL	Unit															
Radiological	Technetium-99	900	pCi/L	0 #	0 #	0 #	3.73 #	0 #	0 #	0 #	1.29 #	0 #	0 #	NA	0 #	NA	0 #	13.6 #
Radiological	Uranium-233/234		pCi/L	0.296	0.0491 #	0.0159 #	0.575	3.34	0.145 #	0.204 #	0.285 #	0.587	2.35	0.0905 #	NA	0.187 #	NA	0.0557 #
Radiological	Uranium-235/236		pCi/L	0.0959 #	0.00914 #	0 #	0.101 #	0.145	0 #	0 #	0.0501 #	0.0192 #	0.123	0.0804 #	NA	0 #	NA	0 #
Radiological	Uranium-238		pCi/L	0.105 #	0.101 #	0 #	0.0793 #	0.710	0.150 #	0.0925 #	0.159 #	0.168 #	0.626	0.0508 #	NA	0.0611 #	NA	0.103 #
Radiological	Total Uranium	30	ug/L	0.365	< 0.2	0.134	0.297	1.78	0.246	0.229	0.304	0.524	1.14	0.160	NA	0.199	NA	0.0673
Radiological	Uranium-234		ug/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	NA	< 0.050	NA	< 0.050	
Radiological	Uranium-235		ug/L	< 0.070	< 0.070	< 0.070	0.0682 J	< 0.070	< 0.070	< 0.070	0.0174 J	0.0274 J	< 0.070	NA	< 0.070	NA	< 0.070	
Radiological	Uranium-238		ug/L	0.365	< 0.200	0.134 J	0.297	1.71	0.246	0.229	0.304	0.507	1.11	0.16 J	NA	0.199 J	NA	0.0673 J
Chemical	Ammonia		mg/L	0.546	0.228	0.249	0.233	4.35	0.290	0.290	0.208	0.376	0.640	0.244	NA	0.187	NA	0.459
Chemical	Fluoride	4	mg/L	0.146	0.296	0.226	0.234	1.69	0.460	0.471	0.309	0.154	0.494	0.433	NA	0.432	NA	4.94
Chemical	Nitrate as N	10	mg/L	< 0.020	< 0.020	< 0.020	0.63	0.48	3.8	3.8	5.7	< 0.020	< 0.020	< 0.02	NA	< 0.02	NA	7.3
Metals	Aluminum		ug/L	634	118 J	212	91.3 J	155 J	144 J	141 J	721	337	234	116 J	NA	102 J	NA	203
Metals	Antimony	6	ug/L	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
Metals	Arsenic	10	ug/L	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	NA	< 30.0	NA	< 30.0
Metals	Barium	2000	ug/L	113	52.2	101	66	12.3	85.3	81.8	91.8	67.1	66.3	28.3	NA	34.5	NA	84.4
Metals	Beryllium	4	ug/L	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	NA	< 5.00	NA	< 5.00
Metals	Cadmium	5	ug/L	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	NA	< 5.00	NA	< 5.00
Metals	Calcium		ug/L	3380	6540	7900	6570	4690	10000	9770	8150	4010	7450	3480	NA	3760	NA	16400
Metals	Chromium	100	ug/L	1.47 J	< 10.0	1.25 J	< 10.0	2.64 J	< 10.0	< 10.0	1.19 J	< 10.0	< 10.0	< 10.0	NA	< 10.0	NA	< 10.0
Metals	Cobalt		ug/L	3.96 J	1.01 J	2.35 J	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	5.38	2.24 J	< 5.00	NA	< 5.00	NA	< 5.00
Metals	Copper	1300	ug/L	3.37 J	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
Metals	Iron		ug/L	2410	1110	3820	1180	614	715	682	1260	3890	4710	612	NA	844	NA	69.7 J
Metals	Lead	15	ug/L	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
Metals	Magnesium		ug/L	1030	1340	1490	1240	326	2280	2130	2140	1270	1720	1020	NA	1110	NA	4800
Metals	Manganese		ug/L	944	1320	1860	275	26.8	86.5	82.9	41	528	642	107	NA	189	NA	73.3
Metals	Mercury	2	ug/L	0.081 J	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	NA	< 0.200	NA	< 0.200
Metals	Nickel		ug/L	1.82 J	< 5.00	< 5.00	< 5.00	3.5 J	33.4	31.4	14.8	3.17 J	1.7 J	1.86 J	NA	1.83 J	NA	1.68 J
Metals	Potassium		ug/L	1920	1690	1850	1620	816	2710	2640	2280	3010	3780	1310	NA	1420	NA	6320
Metals	Selenium	50	ug/L	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	NA	< 30.0	NA	< 30.0
Metals	Silver		ug/L	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	NA	< 5.00	NA	< 5.00
Metals	Sodium		ug/L	1980	4860	3780	4530	1090	11300	11200	9550	918	4200	3590	NA	3810	NA	48900
Metals	Thallium	2	ug/L	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
Metals	Vanadium		ug/L	4.62 J	< 5.00	1.79 J	< 5.00	< 5.00	< 5.00	< 5.00	1.84 J	2.25 J	1.57 J	< 5.00	NA	< 5.00	NA	1.03 J
Metals	Zinc		ug/L	15.2 J	5.55 J	11.4 J	13 J	44.6	15.6 J	14.7 J	15.3 J	8.82 J	7.65 J	5.61 J	NA	6.12 J	NA	4.54 J
SVOCs	1,1'-Biphenyl		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2,4,5-Trichlorophenol		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2,4,6-Trichlorophenol		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2,4-Dichlorophenol		ug/L	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	2,4-Dimethylphenol		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2,4-Dinitrophenol		ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NA	< 20	NA	< 20
SVOCs	2,4-Dinitrotoluene		ug/L	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	2,6-Dinitrotoluene		ug/L	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	2-Chloronaphthalene		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2-Chlorophenol		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2-Methylnaphthalene		ug/L	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	2-Methylphenol		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2-Nitroaniline		ug/L	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	2-Nitrophenol		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	3,3'-Dichlorobenzidine		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	3-Nitroaniline		ug/L	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	4,6-Dinitro-2-methylphenol		ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NA	< 20	NA	< 20
SVOCs	4-Bromophenyl phenyl ether		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	4-Chloro-3-methylphenol		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	4-Chloroaniline		ug/L	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	4-Chlorophenyl phenyl ether		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	4-Methylphenol		ug/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0

Table A2 - Surface Water Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	MCL	Unit	Location	SW-11	SW-12	SW-13	SW-14	SW-16	SW-17	SW-17	SW-18	SW-19	SW-20	SW-21	SW-21	SW-22	SW-23	
				Sample Type	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
				Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/18/2019	7/18/2019	7/16/2019	7/17/2019	7/16/2019	7/15/2019	7/17/2019	7/15/2019	7/17/2019	7/16/2019
VOCs	1,3-Dichlorobenzene		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,4-Dichlorobenzene	75	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	2-Butanone		ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10
VOCs	2-Hexanone		ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10
VOCs	4-Methyl-2-pentanone		ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10
VOCs	Acetone		ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NA	< 20	NA	< 20
VOCs	Benzene	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Bromodichloromethane		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Bromoform		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Bromomethane		ug/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	NA	< 2	NA	< 2.0
VOCs	Carbon disulfide		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Carbon tetrachloride	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Chlorobenzene	100	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Chloroethane		ug/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	NA	< 2	NA	< 2.0
VOCs	Chloroform		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Chloromethane		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	cis-1,2-Dichloroethene	70	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	cis-1,3-Dichloropropene		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Cyclohexane		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Dibromochloromethane		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Dichlorodifluoromethane		ug/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	NA	< 2	NA	< 2.0
VOCs	Ethylbenzene	700	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Methyl acetate		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Methyl tert-butyl ether		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Methylcyclohexane		ug/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	NA	< 5	NA	< 5.0
VOCs	Methylene chloride	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Styrene	100	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Tetrachloroethene	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	16	16	14	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Toluene	1000	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	trans-1,2-Dichloroethene	100	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	trans-1,3-Dichloropropene		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Trichloroethene	5	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Trichlorofluoromethane		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Vinyl chloride	2	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	Xylenes, Total	10000	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0

Notes:
N - normal sample
FD - field duplicate sample
MCL - Maximum Contaminant Level
Bold concentrations indicate detections
Concentrations in shaded cells exceed their MCL
NA - not analyzed
- value is below minimum detectable concentration
- value is reported as a negative number
pCi/L - picocuries per liter
ug/L - micrograms per liter
mg/L - milligrams per liter
SVOCs - semivolatile organic compounds
VOCs - volatile organic compounds
J - Estimated result is less than the practical quantitation limit and greater than the method detection limit

Table A3 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	Location			SED-11	SED-12	SED-13	SED-14	SED-15	SED-16	SED-17	SED-17	SED-18	SED-19	SED-20	SED-21	SED-22	SED-23	SED-24	SED-25	SED-26	SED-27	SED-28	SED-29
		RUSL	IUSL	Units	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in FD	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N
		Date			7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/16/2019	7/17/2019	7/18/2019	7/18/2019	7/16/2019	7/17/2019	7/16/2019	7/15/2019	7/15/2019	7/16/2019	7/16/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	11/20/2019
Radiological	Technetium-99	19	89400	pCi/g	0 ##	0 ##	0 ##	0.0243 #	5.62 #	4.94 #	7.50 #	0 ##	0 ##	6.28 #	0 ##	4.12 #	0 ##	50.8	35.8	8.55 #	1.68 #	0 ##	5.75 #	0 ##
Radiological	Uranium-233/234	13	3310	pCi/g	1.14	0.925	1.67	1.42	2.58	14.9	0.658	1.07	0.219	32.5	62.5	1.86	117	1.35	1.14	907	222	225	254	6.23
Radiological	Uranium-235/236	8	39	pCi/g	0.00159 #	0.0647 #	0.156 #	0.0250 #	0.181	0.678	0.0235 #	0.104 #	0.0173 #	2.30	3.12	0.104 #	4.98	0.00261 #	0.0608 #	41.1	11.0	11.9	12.4	0.313
Radiological	Uranium-238	14	179	pCi/g	0.742	1.17	1.33	0.389	2.05	2.77	0.302	0.354	0.298	8.18	14.9	1.96	28.0	1.69	0.944	149	46.9	37.4	44.6	2.51
Radiological	Uranium-234			ug/kg	< 25.7	< 25.6	< 15.4	< 12.1	< 12.4	< 12.0	< 11.0	< 11.8	< 12.0	4.27 J	12.7 J	< 30.8	22 J	< 14.4	< 15.9	225	129	38.9 J	57.2 J	< 24.3
Radiological	Uranium-235			ug/kg	11.5 J	16 J	13.8 J	5.32 J	51.2	114	6.57 J	2.9 J	5 J	451	1310	27.8 J	2230	18.3 J	15.9 J	27100	14200	3970	6770	86.4
Radiological	Uranium-238			ug/kg	1320	1700	1360	260	5790	3310	401	140	265	16200	49700	2840	80700	2250	1680	646000	487000	90900	161000	6030
Radiological	Total Uranium Isotopes			ug/kg	1330	1720	1370	265	5840	3420	408	143	270	16700	51000	2870	83000	2270	1700	673000	501000	94900	168000	6120
Chemical	Ammonia			mg/kg	723	560	98.5	6.43	49.0	13.5	4.15	3.66	3.48	401	1600	532	978	214	70.5	2270	167	395	1560	455
Chemical	Nitrate as N			mg/kg	0.33	0.24	0.2	< 0.2	< 0.20	2.7	2.1	0.95	< 0.20	1.2	< 0.20	< 0.2	< 0.2	< 0.20	0.20	0.27	1.4	0.30	< 0.20	< 0.50
Chemical	Nitrate ion			mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2.45
Chemical	Fluoride			mg/kg	1.35 J	2.26 J	1.45 J	< 1.21	2.09	8.73	0.908 J	0.814 J	< 1.22	3.51	15.7	2.17 J	4.64	38.1	49.2	53.3	4.61	171	39.3	1.14 J
Chemical	Solids			%	35.5	35.2	55.7	76.0	79.3	75.6	86.2	90.4	76.0	36.1	13.6	34	26	57.4	52.2	11.5	64.1	23.3	25.1	35.2
Metals	Aluminum			mg/kg	10400	10300	8230	502	3510	682	459	340	401	3600	11000	31200	25800	19800	10500	6570	5540	1860	5790	25900
Metals	Antimony			mg/kg	< 5.29	< 4.93	< 3	0.511 J	< 2.42	0.447 J	0.482 J	0.512 J	< 2.53	< 3.75	< 11.7	< 6	< 6.26	< 2.87	< 2.94	5.01 J	1.22 J	4.79 J	6.81 J	< 4.85
Metals	Arsenic			mg/kg	< 7.94	< 7.39	2.14 J	< 3.61	< 3.63	< 3.69	< 3.46	< 3.35	< 3.8	< 5.63	4.21 J	6.38 J	4.62 J	3.36 J	< 4.4	< 26.7	0.795 J	< 15.4	< 19.7	4.24 J
Metals	Barium			mg/kg	126	118	131	5.16	15.9	5.1	4.92	4.61	4.9	50.2	140	250	209	127	76.8	103	56	723	1220	207
Metals	Beryllium			mg/kg	0.718 J	1.13 J	1.02	< 0.601	0.258 J	< 0.614	< 0.577	< 0.558	< 0.634	0.361 J	1.14 J	2.39	2.02	2.09	0.896	< 4.44	0.253 J	< 2.57	< 3.28	1.83
Metals	Cadmium			mg/kg	< 1.32	< 1.23	< 0.751	< 0.601	0.14 J	< 0.614	< 0.577	< 0.558	< 0.634	< 0.939	< 2.92	< 1.5	0.374 J	0.209 J	< 0.734	2 J	0.61 J	< 2.57	< 3.28	< 1.21
Metals	Calcium			mg/kg	1110	1020	620	142	452	117	48.5	32.9	21.7 J	375	3550	484	872	770	606	10500	3950	253000	284000	809
Metals	Chromium			mg/kg	9.99	8.34	18.4	1.24	6.91	1.77	1.02 J	0.576 J	0.606 J	5.32	13.6	40	35.1	29.3	15.2	35.7	49.6	78.9	75.3	33.8
Metals	Cobalt			mg/kg	4.34	2.97	11.6	0.269 J	1.52	< 0.614	0.175 J	0.326 J	< 0.634	3.92	6.31	18.9	16.6	11.8	5	8.69	2.95	2 J	2.91 J	8.36
Metals	Copper			mg/kg	7.14	5.39	8.83	0.386 J	2.75	1 J	< 2.31	< 2.23	< 2.53	5.33	19.5	29.8	33.1	18.5	7.79	418	116	20.9	36.4	27.9
Metals	Iron			mg/kg	7610	4320	15000	581	4630	1070	257	217	217	3770	10200	25900	32500	29500	10100	12300	2840	4310	29100	17600
Metals	Lead			mg/kg	24	28	13.9	0.865 J	3.74	1.26 J	0.439 J	0.42 J	0.476 J	8.3	25.5	25	37.4	14.4	8.69	45.9	29.3	18.5	91.7	28.2
Metals	Magnesium			mg/kg	481	279	1240	91.5	194	22.3 J	35.7	14.4 J	15 J	238	751	3320	2180	2980	1220	1180	679	17200	16500	2800
Metals	Manganese			mg/kg	230	150	332	15.6	54.8	3.72	18	11.9	12.3	123	246	345	389	268	123	97.2	23	102	149	223
Metals	Mercury			ug/kg	62.3	56.8	15.7 J	< 12.7	5.46 J	< 14.9	< 14.2	< 13.3	< 13.1	34.6	121	75.8	113	40.3	25.8	407	576	287	526	NA
Metals	Nickel			mg/kg	4.13	3.51	7.33	0.341 J	2.21	0.568 J	0.773	0.442 J	0.492 J	8.68	15.5	18.7	43.3	11.5	5.45	86.7	75.1	255	143	15.2
Metals	Potassium			mg/kg	300	263	538	84.4	200	139	87.4	95.4	90.7	205	664	1890	1410	2010	846	798	170	308	3650	1400
Metals	Selenium			mg/kg	2.38 J	< 7.39	< 4.51	< 3.61	< 3.63	< 3.69	< 3.46	< 3.35	< 3.8	< 5.63	< 17.5	1.51 J	3.29 J	< 4.31	0.885 J	4.72 J	0.72 J	2.58 J	3.69 J	< 7.27
Metals	Silver			mg/kg	< 1.32	< 1.23	< 0.751	< 0.601	< 0.606	< 0.614	< 0.577	< 0.558	< 0.634	< 0.939	< 2.92	< 1.5	< 1.56	< 0.718	< 0.734	323	544	10.5	27.6	< 12.1
Metals	Sodium			mg/kg	34.8 J	42 J	32.5 J	18.8 J	41.4	12.9 J	14.1 J	17.1 J	13.5 J	19.9 J	109 J	119	69.7 J	130	94.7	919	90.4	6330	7260	125
Metals	Thallium			mg/kg	< 5.29	< 4.93	< 30	< 2.4	< 2.42	< 2.46	< 2.31	< 2.23	< 2.53	< 3.75	< 11.7	< 60	< 62.6	< 28.7	< 29.4	< 17.8	< 2.6	< 10.3	< 13.1	< 48.5
Metals	Vanadium			mg/kg	25.9	21.6	36.5	1.74	10.5	2.81	1.18	1.43	1.6	13.3	41	100	73.7	70.5	33.5	22.2	7.25	5.71	5.67	85.6
Metals	Zinc			mg/kg	38.2	23	33.8	5.64	50.8	6.09	2.42	1.24 J	1 J	32.4	63.8	73.1	138	46	22.8	9070	229	523	403	69.1
SVOCs	1,1'-Biphenyl			ug/kg	< 66	< 67	< 64	< 64	< 67	< 65	< 67	< 64	< 66	< 67	< 66	< 66	< 66	< 65	< 64	< 64	< 320	< 64	< 65	< 330
SVOCs	2,4,5-Trichlorophenol			ug/kg	< 66	< 67	< 64	< 64	< 67	< 65	< 67	< 64	< 66	< 67	< 66	< 66	< 66	< 65	< 64	< 64	< 320	< 64	< 65	< 330
SVOCs	2,4,6-Trichlorophenol			ug/kg	< 66	< 67	< 64	< 64	< 67	< 65	< 67	< 64	< 66	< 67	< 66	< 66	< 66	< 65	< 64	< 64	< 320	< 64	< 65	< 330
SVOCs	2,4-Dichlorophenol			ug/kg	< 66	< 67	< 64	< 64	< 67	< 65	< 67	< 64	< 66	< 67	< 66	< 66	< 66	< 65	< 64	< 64	< 320	< 64	< 65	< 330
SVOCs	2,4-Dimethylphenol			ug/kg	< 66	< 67	< 64	< 64	< 67	< 65	< 67	< 64	< 66	< 67	< 66	< 66	< 66	< 65	< 64	< 64	< 320	< 64	< 65	< 330
SVOCs	2,4-Dinitrophenol			ug/kg	< 320	< 330	< 320	< 310	< 330	< 320	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 320	< 310	< 320	< 1600	< 320	< 320	< 1600
SVOCs	2,4-Dinitrotoluene			ug/kg	< 130	< 130	< 130	< 120	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 120	< 120	< 630	< 130	< 130	< 640
SVOCs	2,6-Dinitrotoluene			ug/kg	< 130	< 130	< 130	< 120	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 120	< 120	< 630	< 130	< 130	< 640
SVOCs	2-Chloronaphthalene			ug/kg	< 66	< 67																		

Table A3 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	RUSL	IUSL	Units	Location		SED-29	SED-29	SED-30	SED-30	SED-31	SED-31	SED-32	SED-32	SED-33	SED-33	SED-34	SED-34	SED-35	SED-35	SED-36	SED-36
					Depth	Date	6 - 12 in	12 - 16 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
					11/20/2019	11/20/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019
Radiological	Technetium-99	19	89400	pCi/g	0 ##	0 ##	2.43 #	0 ##	0.959 #	0 ##	5.06 #	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##
Radiological	Uranium-233/234	13	3310	pCi/g	1.81	1.23	5.71	1.41	2.81	2.96	3.71	10.0	5.06	1.27	1.06	3.13	2.93	2.26	1.59	4.40	1.50	
Radiological	Uranium-235/236	8	39	pCi/g	0.208	0.175	0.191	0.0337 #	0.0669 #	0.110 #	0.0970 #	0.469	0.394	0.0959 #	0.0461 #	0.131 #	0.0487 #	0.179	0.0433 #	0.210	0.0881	
Radiological	Uranium-238	14	179	pCi/g	1.55	1.16	2.51	1.28	1.75	1.69	2.00	3.28	2.52	1.56	1.09	1.81	1.73	1.59	1.66	2.38	1.05	
Radiological	Uranium-234			ug/kg	< 18.4	< 15.1	< 20.4	< 21.1	< 14.5	< 12.4	< 19.9	< 18.4	< 16.5	< 14.7	< 14.1	< 17.6	< 16.3	< 14.0	< 13.2	< 14.2	< 13.5	
Radiological	Uranium-235			ug/kg	21.4 J	17.6 J	85.9	21 J	45.6	18.1	72.9	195	305	21.8	16.5 J	44.9	36.3	36.8	28.9	70.2	19.1	
Radiological	Uranium-238			ug/kg	2490	2490	5410	2690	3400	2220	4280	8370	14200	2750	2230	3650	3770	3920	3630	3970	1990	
Radiological	Total Uranium Isotopes			ug/kg	2510	2510	5500	2710	3450	2240	4350	8570	14500	2770	2250	3690	3810	3960	3660	4040	2010	
Chemical	Ammonia			mg/kg	287	230	394	392	286	118	480	576	248	117	67.3	397	336	158	80.1	153	99.1	
Chemical	Nitrate as N			mg/kg	< 0.50	NA	< 0.50	< 0.50	< 0.50	< 0.50	1.1	< 0.50	< 0.50	< 0.50	NA	0.62	< 0.50	< 0.50	< 0.50	< 0.50	0.55	
Chemical	Nitrate ion			mg/kg	< 2.07	< 1.48	< 2.09	< 2.30	< 1.44	< 1.30	< 2.02	< 1.88	< 1.74	< 1.54	1.17 J	< 1.93	< 1.72	1.05 J	1.03 J	< 1.44	< 1.32	
Chemical	Fluoride			mg/kg	2.56	2.61	2.26	3.43	3.13	3.07	3.88	4.21	1.57 J	1.56	6.63	2.20	4.26	2.09	4.29	< 1.44	< 1.32	
Chemical	Solids			%	53.0	63.2	50.0	44.7	66.7	74.4	49.0	57.0	56.6	65.6	NA	53.7	60.5	62.2	69.7	64.3	69.6	
Metals	Aluminum			mg/kg	19800	17000	24000	21700	20400	15500	15200	17600	23200	18200	15500	23600	24200	24800	22100	15300	16100	
Metals	Antimony			mg/kg	< 3.53	< 2.97	< 4.08	< 4.41	< 28.4	< 25.6	< 4.15	< 3.44	< 35.6	< 30.3	< 2.73	< 3.59	< 32.8	< 29.9	< 28	< 2.89	< 26.9	
Metals	Arsenic			mg/kg	2.31 J	2.45 J	3.6 J	2.49 J	4.51	2.85 J	2.47 J	3.35 J	5.43	3.27 J	3.14 J	4.41 J	4.44 J	3.07 J	3.65 J	2.9 J	3.85 J	
Metals	Barium			mg/kg	157	147	174	140	213	239	168	203	167	163	135	174	170	203	178	106	123	
Metals	Beryllium			mg/kg	1.86	2.13	1.99	2.32	1.69	1.67	1.35	1.53	1.83	2.07	1.63	1.96	2.7	2.05	2.38	1.08	1.43	
Metals	Cadmium			mg/kg	< 0.884	< 0.743	< 1.02	< 1.1	< 0.709	< 0.641	< 1.04	< 0.86	< 0.89	< 0.756	< 0.682	< 0.898	< 0.82	< 0.747	< 0.701	< 0.723	< 0.673	
Metals	Calcium			mg/kg	441	272	424	448	796	679	1140	742	292	182	150	843	762	490	542	256	158	
Metals	Chromium			mg/kg	28.3	25.3	32.3	28.3	26.4	22.8	22.6	25.9	28.3	25.6	23.4	28.7	32.7	33.5	27.3	19.3	19.7	
Metals	Cobalt			mg/kg	5.92	3.7	8.26	4.64	14.3	16.4	9.95	10	11.4	13.8	6.84	15.9	17.5	17.4	19.1	9.08	11.7	
Metals	Copper			mg/kg	17.6	13.1	24.1	17	20.5	17.3	19.6	22.3	21.9	19.3	12.9	26.3	24.8	23.2	24.3	14.9	17.1	
Metals	Iron			mg/kg	12400	9170	15100	10000	28600	30000	18600	21300	29300	29100	16700	32800	32200	30300	35600	22000	30400	
Metals	Lead			mg/kg	15.2	11.3	41.8	13.4	22.9	14.1	24.1	40	20.1	11.7	11.8	31.3	22.3	12.2	13.6	17.5	20.5	
Metals	Magnesium			mg/kg	2180	971	3240	1400	3080	3110	2440	2570	3060	3590	1370	3110	4000	4450	4410	2320	2840	
Metals	Manganese			mg/kg	128	66.2	207	122	788	1090	410	323	295	281	176	906	1020	461	819	260	322	
Metals	Mercury			ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metals	Nickel			mg/kg	10.8	8.4	13.4	9.48	12.2	10.7	11.2	13.9	12.9	12.1	7.21	13.2	14.2	14.7	13.7	8.87	9.48	
Metals	Potassium			mg/kg	1060	297	1580	509	1760	1610	1090	1090	1460	1700	443	1320	1290	2130	2050	1200	1400	
Metals	Selenium			mg/kg	< 5.3	< 4.46	< 6.12	< 6.61	< 4.26	< 3.84	1.17 J	0.904 J	< 5.34	< 4.54	< 4.09	1.05 J	1.23 J	< 4.48	< 4.2	< 4.34	< 4.04	
Metals	Silver			mg/kg	< 8.84	< 7.43	< 10.2	< 11	< 7.09	< 6.41	< 10.4	< 8.6	< 8.9	< 7.56	< 6.82	< 8.98	< 8.2	< 7.47	< 7.01	< 7.23	< 6.73	
Metals	Sodium			mg/kg	97.1	77.7	95.9	110	52.7	52.6	68.2	89.1	85.7	59.7	48.8	64.9	62.5	59.2	58.9	50.9	57.9	
Metals	Thallium			mg/kg	< 35.3	< 29.7	< 40.8	< 44.1	< 28.4	< 25.6	< 41.5	< 34.4	< 35.6	< 30.3	< 27.3	< 35.9	< 32.8	< 29.9	< 28	< 28.9	< 26.9	
Metals	Vanadium			mg/kg	58.6	40.3	71.9	51.2	73.4	61.9	53.5	64.3	81.1	74.4	56.4	86.1	89.1	74.1	82.1	50.3	60.2	
Metals	Zinc			mg/kg	43.5	29.8	68.8	31.5	56.2	45.9	62.4	60.7	56.8	52.6	27.6	56.5	60.9	53.1	51.3	39	40.7	
SVOCs	1,1'-Biphenyl			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	< 65	< 64	< 66	
SVOCs	2,4,5-Trichlorophenol			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	< 65	< 64	< 66	
SVOCs	2,4,6-Trichlorophenol			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	< 65	< 64	< 66	
SVOCs	2,4-Dichlorophenol			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	< 65	< 64	< 66	
SVOCs	2,4-Dimethylphenol			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	< 65	< 64	< 66	
SVOCs	2,4-Dinitrophenol			ug/kg	< 320	NA	< 1600	< 1600	< 320	< 310	< 1600	< 1600	< 320	< 320	NA	< 1600	< 310	< 320	< 320	< 320	< 320	
SVOCs	2,4-Dinitrotoluene			ug/kg	< 130	NA	< 620	< 620	< 130	< 120	< 640	< 620	< 130	< 130	NA	< 630	< 120	< 130	< 130	< 120	< 130	
SVOCs	2,6-Dinitrotoluene			ug/kg	< 130	NA	< 620	< 620	< 130	< 120	< 640	< 620	< 130	< 130	NA	< 630	< 120	< 130	< 130	< 120	< 130	
SVOCs	2-Chloronaphthalene			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	< 65	< 64	< 66	
SVOCs	2-Chlorophenol			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	< 65	< 64	< 66	
SVOCs	2-Methylnaphthalene			ug/kg	< 13	NA	< 63	< 64	< 13	< 13	< 65	< 63	< 13	< 13	NA	< 65	< 13	< 13	< 13	< 13	< 13	
SVOCs	2-Methylphenol			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	< 65	< 64	< 66	
SVOCs	2-Nitroaniline			ug/kg	< 130	NA	< 620	< 620	< 130	< 120	< 640	< 620	< 130	< 130	NA	< 630	< 120	< 130	< 130	< 120	< 130	
SVOCs	2-Nitrophenol			ug/kg	< 130	NA	< 620	< 620	< 130	< 120	< 640	< 620	< 130	< 130	NA	< 630	< 120	< 130	< 130	< 120	< 130	
SVOCs	3,3'-Dichlorobenzidine			ug/kg	< 65	NA	< 320	< 320	< 66	< 63	< 330	< 320	< 66	< 65	NA	< 330	< 64	< 65	<			

Table A3 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	RUSL	IUSL	Units	Location				Location				Location				Location				
					SED-29 6 - 12 in N 11/20/2019	SED-29 12 - 16 in N 11/20/2019	SED-30 0 - 6 in N 11/21/2019	SED-30 6 - 12 in N 11/21/2019	SED-31 0 - 6 in N 11/21/2019	SED-31 6 - 12 in N 11/21/2019	SED-32 0 - 6 in N 11/21/2019	SED-32 6 - 12 in N 11/21/2019	SED-33 0 - 6 in N 11/21/2019	SED-33 6 - 12 in N 11/21/2019	SED-33 12 - 16 in N 11/21/2019	SED-34 0 - 6 in N 11/21/2019	SED-34 6 - 12 in N 11/21/2019	SED-35 0 - 6 in N 11/22/2019	SED-35 6 - 12 in N 11/22/2019	SED-36 0 - 6 in N 11/22/2019	SED-36 6 - 12 in N 11/22/2019
VOCs	2-Butanone			ug/kg	< 18	< 24	26	25	< 16	< 17	38	76	< 20	45	NA	28	28	< 18	< 17	< 18	< 20
VOCs	2-Hexanone			ug/kg	< 8.9	< 12	< 11	< 12	< 8.0	< 8.3	< 12	< 11	< 10	< 11	NA	< 12	< 10	< 8.9	< 8.5	< 8.8	< 10
VOCs	4-Methyl-2-pentanone			ug/kg	< 8.9	< 12	< 11	< 12	< 8.0	< 8.3	< 12	< 11	< 10	< 11	NA	< 12	< 10	< 8.9	< 8.5	< 8.8	< 10
VOCs	Acetone			ug/kg	420	370	380	530	410	440	450	440	490	400	NA	200	180	390	310	370	350
VOCs	Benzene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Bromodichloromethane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Bromoform			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Bromomethane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Carbon disulfide			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Carbon tetrachloride			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Chlorobenzene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Chloroethane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Chloroform			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Chloromethane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	cis-1,2-Dichloroethene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	cis-1,3-Dichloropropene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Cyclohexane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Dibromochloromethane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Dichlorodifluoromethane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Ethylbenzene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Methyl acetate			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Methyl tert-butyl ether			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Methylcyclohexane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Methylene chloride			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Styrene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Tetrachloroethene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Toluene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	trans-1,2-Dichloroethene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	trans-1,3-Dichloropropene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Trichloroethene			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Trichlorofluoromethane			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Vinyl chloride			ug/kg	< 4.5	< 6.0	< 5.3	< 6.1	< 4.0	< 4.2	< 5.9	< 5.4	< 5.0	< 5.6	NA	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0
VOCs	Xylenes, Total			ug/kg	< 8.9	< 12	< 11	< 12	< 8.0	< 8.3	< 12	< 11	< 10	< 11	NA	< 12	< 10	< 8.9	< 8.5	< 8.8	< 10

Table A3 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	Location			SED-37	SED-37	SED-37	SED-38	SED-39	SED-40	SED-41	SED-42	SED-43	SED-44	SED-45	SED-46	SED-47	SED-48	SED-48	SED-49
		RUSL	IUSL	Units	0 - 6 in N	6 - 12 in N	6 - 12 in FD	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in N	0 - 6 in FD	0 - 6 in N
		Date			11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019
Radiological	Technetium-99	19	89400	pCi/g	0 ##	0 ##	0 ##	16.5 #	0 ##	0 ##	0.995 #	5.94 #	0 ##	6.23 #	2.83 #	0 ##	0 ##	0 ##	0 ##	0 ##
Radiological	Uranium-233/234	13	3310	pCi/g	4.88	2.04	2.33	3.26	1.86	1.90	1.72	6.12	47.5	8.86	5.86	4.02	3.18	2.57	2.43	4.59
Radiological	Uranium-235/236	8	39	pCi/g	0.254	0.149	0.0456 #	0.204	0.0122 #	0.131	0.0394 #	0.285	2.32	0.377	0.268	0.179	0.232	0.0910 #	0.0144 #	0.215
Radiological	Uranium-238	14	179	pCi/g	1.78	1.62	1.38	1.68	1.70	1.24	1.41	2.23	12.1	2.62	2.20	2.15	1.46	1.98	1.62	2.11
Radiological	Uranium-234			ug/kg	< 15.9	< 14.5	< 15.0	< 34.6	< 15.9	< 17.4	< 26.9	< 52.5	< 55.9	< 32.5	< 34.5	< 30.6	< 41.0	< 25.8	< 29.6	< 37.2
Radiological	Uranium-235			ug/kg	102	67.4	31.7	31.8 J	26.4	28.4	17.8 J	156	862	238	100	48.9	44 J	40.3	37.4 J	81.9
Radiological	Uranium-238			ug/kg	4850	3930	2910	3380	3040	3020	2390	7220	31300	9690	4920	3190	2560	3140	2650	4840
Radiological	Total Uranium Isotopes			ug/kg	4950	4000	2940	3410	3070	3050	2410	7380	32200	9930	5020	3240	2600	3180	2690	4920
Chemical	Ammonia			mg/kg	451	127	178	576	222	242	466	928	774	389	586	371	1540	806	1080	209
Chemical	Nitrate as N			mg/kg	< 0.50	< 0.50	< 0.50	0.66	< 0.5	< 0.50	0.63	0.83	0.50	< 0.50	0.82	0.62	0.59	0.63	0.70	0.58
Chemical	Nitrate ion			mg/kg	< 1.57	< 1.50	< 1.57	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical	Fluoride			mg/kg	1.35 J	1.60	0.858 J	5.17	1.90	1.65 J	2.68 J	5.15 J	14.9	3.04 J	7.90	3.41	6.02	2.94	3.46	5.44
Chemical	Solids			%	54.0	66.1	64.5	72.5	57.4	58.9	32.6	18.4	17.5	26.9	34.7	34.5	22.6	47.5	36.3	29.8
Metals	Aluminum			mg/kg	14800	18700	19000	23200	30400	20800	27100	27500	15200	27000	19500	25100	22000	26400	20300	14300
Metals	Antimony			mg/kg	< 3.27	< 28.3	< 30	< 6.96	< 3.32	< 3.48	< 5.62	< 10.3	< 11.5	< 7.06	< 6.5	< 6.1	< 8.72	< 5.01	< 5.68	< 7.62
Metals	Arsenic			mg/kg	3.34 J	3.7 J	3.88 J	4.3 J	4.05 J	3.47 J	4.25 J	6.15 J	3.57 J	4.38 J	2.38 J	3.99 J	4.19 J	3.85 J	3.38 J	2.12 J
Metals	Barium			mg/kg	122	134	142	206	167	137	214	220	105	207	150	103	188	154	146	69.2
Metals	Beryllium			mg/kg	1.06	1.38	1.5	2.39	3	1.47	2.01	1.67 J	0.858 J	2.32	1.32 J	1.29 J	1.32 J	1.35	1.19 J	0.727 J
Metals	Cadmium			mg/kg	< 0.817	< 0.706	< 0.749	< 1.74	< 0.83	< 0.87	< 1.4	< 2.58	< 2.87	< 1.76	< 1.62	< 1.53	< 2.18	< 1.25	< 1.42	< 1.9
Metals	Calcium			mg/kg	394	346	335	914	297	429	754	1520	813	679	1170	620	737	408	435	258
Metals	Chromium			mg/kg	18.5	22.6	23	24.9	35.4	26.5	29.4	31.4	15.6	29.5	23.6	26	27	26.9	23	13.9
Metals	Cobalt			mg/kg	6.86	8.53	8.88	14.3	13	10	26.7	17.8	4.78	10.2	7.42	5.51	7.78	7.53	6.39	3.57
Metals	Copper			mg/kg	14.7	18.2	19.4	22.1	24.6	19.6	25.8	30.9	16.7	21.7	18.9	19.6	22.3	26.4	26.1	11.3
Metals	Iron			mg/kg	20500	25700	26800	18400	19900	16100	24300	25100	8080	17100	11900	12100	13200	12400	9320	6750
Metals	Lead			mg/kg	30.1	20.7	22	13.6	21.1	20.4	21.9	105	16	18.8	40.4	33.8	43.1	37.4	80	11.5
Metals	Magnesium			mg/kg	2010	2560	2640	2260	3330	2700	2610	1910	1200	2080	2030	1620	1980	1670	1250	1040
Metals	Manganese			mg/kg	215	219	230	498	210	250	395	463	131	254	224	104	242	249	286	75.9
Metals	Mercury			ug/kg	NA	NA	NA	72.9 J	56.8 J	55.5 J	72.4 J	119 J	< 273	69.9 J	107 J	< 141	106 J	107 J	118 J	87.2 J
Metals	Nickel			mg/kg	8.54	10	10.2	13.9	16.9	11.3	16.9	16.8	10.2	17.5	11.8	10.6	12.9	11.6	9.87	6.89
Metals	Potassium			mg/kg	1050	1130	1160	1210	1400	1420	1580	1150	684	1230	1010	946	1080	929	708	621
Metals	Selenium			mg/kg	0.899 J	< 4.24	< 4.5	< 10.4	< 4.98	< 5.22	< 8.43	< 15.5	< 17.2	< 10.6	< 9.74	< 9.15	< 13.1	< 7.51	< 8.51	< 11.4
Metals	Silver			mg/kg	< 8.17	< 7.06	< 7.49	< 17.4	< 8.3	< 8.7	< 14	< 25.8	< 2.87	< 17.6	< 16.2	< 15.3	< 2.18	< 12.5	< 1.42	< 1.9
Metals	Sodium			mg/kg	47	51	60.2	83.1 J	59.9	48.5	69 J	88.6 J	83.9 J	80.7 J	126	105	129	93.6	112	78.4 J
Metals	Thallium			mg/kg	< 32.7	< 28.3	< 30	< 69.6	< 33.2	< 34.8	< 56.2	< 103	< 11.5	< 70.6	< 65	< 61	< 87.2	< 50.1	< 56.8	< 7.62
Metals	Vanadium			mg/kg	48.5	67.2	67.9	54.3	71.2	62.7	85.8	95.1	36.5	68.8	49.9	68.1	50.3	65.9	57.7	32.4
Metals	Zinc			mg/kg	37.2	41.1	42	54.5	72.1	49.2	68.9	81	53	56.1	49.1	38.6	49.6	46.4	42.1	27
SVOCs	1,1'-Biphenyl			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	2,4,5-Trichlorophenol			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	2,4,6-Trichlorophenol			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	2,4-Dichlorophenol			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	2,4-Dimethylphenol			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	2,4-Dinitrophenol			ug/kg	< 320	< 320	< 310	< 1600	< 330	< 1600	< 330	< 320	< 310	< 320	< 320	< 320	< 320	< 320	< 1600	< 1600
SVOCs	2,4-Dinitrotoluene			ug/kg	< 130	< 130	< 120	< 640	< 130	< 630	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 130	< 630	< 630
SVOCs	2,6-Dinitrotoluene			ug/kg	< 130	< 130	< 120	< 640	< 130	< 630	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 130	< 630	< 630
SVOCs	2-Chloronaphthalene			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	2-Chlorophenol			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	2-Methylnaphthalene			ug/kg	< 13	< 13	< 13	< 65	< 13	< 64	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	< 64	
SVOCs	2-Methylphenol			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	2-Nitroaniline			ug/kg	< 130	< 130	< 120	< 640	< 130	< 630	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 130	< 630	< 630
SVOCs	2-Nitrophenol			ug/kg	< 130	< 130	< 120	< 640	< 130	< 630	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 130	< 630	< 630
SVOCs	3,3'-Dichlorobenzidine			ug/kg	< 65	< 65	< 64	< 330	< 66	< 320	< 66	< 66	< 63	< 66	< 65	< 64	< 64	< 65	< 330	< 320
SVOCs	3-Nitroaniline			ug/kg	< 130	< 130	< 120	< 640	< 130	< 630	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 130	< 630	< 630
SVOCs	4,6-Dinitro-2-methylphenol			ug/kg	< 320	< 320	< 310	< 1600	< 330	< 1600	< 330	< 320	< 310	< 320	< 320	< 320	< 320	< 320	< 1600	< 1600
SVOCs	4-Bromophenyl phenyl ether			ug/kg	< 65	<														

Table A3 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	RUSL	IUSL	Units	Location	SED-37	SED-37	SED-37	SED-38	SED-39	SED-40	SED-41	SED-42	SED-43	SED-44	SED-45	SED-46	SED-47	SED-48	SED-48	SED-49	
					Depth	0 - 6 in	6 - 12 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in
					Date	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	FD	N	N
						11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/25/2019	11/26/2019	11/26/2019	11/26/2019	11/26/2019	
VOCs	2-Butanone			ug/kg		< 20	< 18	< 18	< 24	< 19	< 21	< 26	< 27	< 29	< 29	29	< 26	160	39	23	< 28	
VOCs	2-Hexanone			ug/kg		< 9.8	< 8.9	< 8.9	< 12	< 9.7	< 11	< 13	< 14	< 14	< 14	< 12	< 13	< 14	< 11	< 10	< 14	
VOCs	4-Methyl-2-pentanone			ug/kg		< 9.8	< 8.9	< 8.9	< 12	< 9.7	< 11	< 13	< 14	< 14	< 14	< 12	< 13	< 14	< 11	< 10	< 14	
VOCs	Acetone			ug/kg		300	350	360	400	< 19	260	96	59	79	57	130	110	410	220	280	300	
VOCs	Benzene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Bromodichloromethane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Bromoform			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Bromomethane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Carbon disulfide			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Carbon tetrachloride			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Chlorobenzene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Chloroethane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Chloroform			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Chloromethane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	cis-1,2-Dichloroethene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	cis-1,3-Dichloropropene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Cyclohexane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Dibromochloromethane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Dichlorodifluoromethane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Ethylbenzene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Methyl acetate			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Methyl tert-butyl ether			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Methylcyclohexane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Methylene chloride			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Styrene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Tetrachloroethene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Toluene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	trans-1,2-Dichloroethene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	trans-1,3-Dichloropropene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Trichloroethene			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Trichlorofluoromethane			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Vinyl chloride			ug/kg		< 4.9	< 4.5	< 4.4	< 6	< 4.9	< 5.3	< 6.5	< 6.8	< 7.2	< 7.2	< 6.1	< 6.5	< 6.9	< 5.3	< 5.2	< 7.1	
VOCs	Xylenes, Total			ug/kg		< 9.8	< 8.9	< 8.9	< 12	< 9.7	< 11	< 13	< 14	< 14	< 14	< 12	< 13	< 14	< 11	< 10	< 14	

Table A3 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	Location			SED-50	SED-51	SED-51	SED-52	SED-52	SED-53	SED-53	SED-54	SED-54	SED-55	SED-55	SED-56	SED-56	SED-56
		RUSL	IUSL	Units	0 - 6 in N 11/26/2019	0 - 6 in N 11/27/2019	6 - 12 in N 11/27/2019	0 - 6 in N 11/27/2019	6 - 12 in N 11/27/2019	0 - 6 in N 11/27/2019	6 - 12 in N 11/27/2019	0 - 6 in N 12/2/2019	6 - 12 in N 12/2/2019	0 - 6 in N 12/2/2019	6 - 12 in N 12/2/2019	0 - 6 in N 12/2/2019	0 - 6 in FD 12/2/2019	6 - 12 in N 12/2/2019
Radiological	Technetium-99	19	89400	pCi/g	0.910 #	0 ##	4.89 #	0 ##	0 ##	0 ##	1.51 #	0 ##	6.19 #	0 ##	2.53 #	0 ##	0 ##	
Radiological	Uranium-233/234	13	3310	pCi/g	3.64	2.10	1.27	1.77	1.88	2.15	2.06	1.78	1.48	2.05	1.62	2.02	2.82	1.89
Radiological	Uranium-235/236	8	39	pCi/g	0.104 #	0.178 #	0.0695 #	0.308 #	0.0494 #	0.194	0.0708 #	0.119 #	0.120 #	0 ##	0.155	0.214	0.115 #	0.0276 #
Radiological	Uranium-238	14	179	pCi/g	1.86	1.42	1.15	1.72	1.45	1.45	2.34	1.36	1.87	1.74	1.62	1.40	2.11	1.72
Radiological	Uranium-234			ug/kg	< 31.4	< 31.2	< 28.9	< 21.8	< 23.3	< 17.3	< 14.1	< 37.1	< 25.3	< 18.3	< 16.0	< 17.2	< 18.8	< 16.4
Radiological	Uranium-235			ug/kg	72.1	28.2 J	20.6 J	26.8 J	29.5 J	29.2	24.7	22.6 J	26 J	25.4 J	23.2	23 J	24.5 J	21.7 J
Radiological	Uranium-238			ug/kg	4470	2610	2450	2530	2690	3200	3290	2870	2990	3450	3230	3100	3440	2970
Radiological	Total Uranium Isotopes			ug/kg	4540	2640	2470	2560	2720	3230	3310	2890	3020	3480	3250	3120	3460	2990
Chemical	Ammonia			mg/kg	750	692	401	465	271	387	196	854	536	321	223	449	325	244
Chemical	Nitrate as N			mg/kg	0.53	0.72	0.51	< 0.50	0.61	< 0.50	< 0.50	0.63	0.68	< 0.50	< 0.50	0.52	0.74	< 0.50
Chemical	Nitrate ion			mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical	Fluoride			mg/kg	4.67	2.77 J	2.96	1.48 J	1.69 J	0.838 J	0.607 J	1.93 J	1.01 J	< 1.88	< 1.76	< 1.89	< 1.96	0.690 J
Chemical	Solids			%	30.7	34.1	31.5	38.5	30.0	54.0	61.4	23.1	33.7	53.5	61.4	49.9	52.4	62.6
Metals	Aluminum			mg/kg	22500	20300	19900	24300	23900	23100	24100	27300	26800	29400	29300	27000	27200	27300
Metals	Antimony			mg/kg	< 6.52	< 5.8	< 5.66	< 4.58	< 4.27	< 3.46	< 31.3	< 7.44	< 5.3	< 3.66	< 3.04	< 3.6	< 3.47	< 3.26
Metals	Arsenic			mg/kg	3.64 J	2.25 J	3.3 J	4.4 J	3.09 J	3.44 J	3.75 J	6.54 J	4.47 J	4.6 J	4.56	4.54 J	4.87 J	5.26
Metals	Barium			mg/kg	178	98	191	144	146	146	151	144	124	153	159	166	170	190
Metals	Beryllium			mg/kg	1.62 J	1.17 J	1.93	1.6	1.93	1.77	2.52	1.61 J	1.64	1.88	3.39	2.21	2.28	4.25
Metals	Cadmium			mg/kg	< 1.63	< 1.45	< 1.41	< 1.15	< 1.07	< 0.865	< 0.782	< 1.86	< 1.32	< 0.914	< 0.759	< 0.899	< 0.867	< 0.815
Metals	Calcium			mg/kg	1120	335	304	452	317	523	337	348	187	191	190	289	297	202
Metals	Chromium			mg/kg	25.7	25.1	26.1	29.7	34.6	30.2	32.5	34.5	33.4	36.4	35.9	33.4	34.1	33
Metals	Cobalt			mg/kg	10.5	5.3	11.5	7.14	10.3	8.5	13.7	6.78	7.1	8.47	15.6	8.86	9.36	13.4
Metals	Copper			mg/kg	25.8	19	20.8	20	19.6	23.5	21.8	25.6	21.1	24.3	26.8	25.4	26.4	28.6
Metals	Iron			mg/kg	15300	9550	16100	17000	18500	15400	25200	18100	15800	19100	21900	17100	18700	21400
Metals	Lead			mg/kg	32.1	24.2	17	23.9	23.4	26.9	16.9	29.8	25.9	33.9	17	31.5	30	18.5
Metals	Magnesium			mg/kg	2440	1940	2810	2700	3020	2760	3810	2390	2700	2920	3650	2740	3040	3960
Metals	Manganese			mg/kg	368	128	261	156	186	258	281	127	114	175	264	173	194	250
Metals	Mercury			ug/kg	108 J	< 148	< 130	57.1 J	58.5 J	82.5 J	48.3 J	104 J	65.2 J	76.6 J	54.2 J	74.6 J	83.7	41 J
Metals	Nickel			mg/kg	13.8	9.14	12	11.9	11.6	11.6	13.2	12.1	12.6	13.5	15.5	13.5	13.9	17.5
Metals	Potassium			mg/kg	1060	1120	1560	1500	850	1350	1150	1310	1410	1370	834	1170	1280	1150
Metals	Selenium			mg/kg	< 9.78	2 J	< 8.48	< 6.87	< 6.4	1.26 J	1.2 J	< 11.2	1.34 J	< 5.48	1.24 J	1.3 J	< 5.2	< 4.89
Metals	Silver			mg/kg	< 16.3	< 1.45	< 14.1	< 11.5	< 10.7	< 8.65	< 7.82	< 18.6	< 13.2	< 9.14	< 7.59	< 8.99	< 8.67	< 8.15
Metals	Sodium			mg/kg	71.5 J	91.1	82.4	71.9	76.6	53.8	52.9	88 J	70.6	84.1	87	63.2	71.3	69.8
Metals	Thallium			mg/kg	< 65.2	< 58	< 56.6	< 45.8	< 42.7	< 3.46	< 31.3	< 74.4	< 53	< 36.6	< 30.4	< 36	< 34.7	< 3.26
Metals	Vanadium			mg/kg	62.1	54.3	64.8	71.2	81	71	87.6	77.1	78.9	93.2	86.2	81.8	86.9	79.8
Metals	Zinc			mg/kg	67.3	34.7	55.7	51.5	54.7	52.7	63.9	54.1	53.4	56.1	70.8	55.6	59.1	83.5
SVOCs	1,1'-Biphenyl			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	2,4,5-Trichlorophenol			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	2,4,6-Trichlorophenol			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	2,4-Dichlorophenol			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	2,4-Dimethylphenol			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	2,4-Dinitrophenol			ug/kg	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600
SVOCs	2,4-Dinitrotoluene			ug/kg	< 640	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620	< 630	< 640	< 640	< 640	< 640
SVOCs	2,6-Dinitrotoluene			ug/kg	< 640	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620	< 630	< 640	< 640	< 640	< 640
SVOCs	2-Chloronaphthalene			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	2-Chlorophenol			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	2-Methylnaphthalene			ug/kg	< 66	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63	< 64	< 65	< 66	< 65	< 66
SVOCs	2-Methylphenol			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	2-Nitroaniline			ug/kg	< 640	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620	< 630	< 640	< 640	< 640	< 640
SVOCs	2-Nitrophenol			ug/kg	< 640	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620	< 630	< 640	< 640	< 640	< 640
SVOCs	3,3'-Dichlorobenzidine			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	3-Nitroaniline			ug/kg	< 640	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620	< 630	< 640	< 640	< 640	< 640
SVOCs	4,6-Dinitro-2-methylphenol			ug/kg	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600
SVOCs	4-Bromophenyl phenyl ether			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	4-Chloro-3-methylphenol			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	4-Chloroaniline			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	4-Chlorophenyl phenyl ether			ug/kg	< 330	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320	< 320	< 330	< 330	< 330	< 330
SVOCs	4-Methylphenol			ug/kg	< 640	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620	< 630	< 640	< 640	< 640	< 640

Table A3 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	RUSL	IUSL	Units	Location		SED-50	SED-51	SED-51	SED-52	SED-52	SED-53	SED-53	SED-54	SED-54	SED-55	SED-55	SED-56	SED-56	SED-56
					Depth	Date	0 - 6 in N	0 - 6 in N	6 - 12 in N	0 - 6 in N	6 - 12 in N	0 - 6 in N	6 - 12 in N	0 - 6 in N	6 - 12 in N	0 - 6 in N	6 - 12 in N	0 - 6 in N	6 - 12 in N	0 - 6 in N
VOCs	2-Butanone			ug/kg	190	43	< 27	31	< 26	< 22	< 21	42	< 25	< 19	< 20	< 21	< 19	< 14		
VOCs	2-Hexanone			ug/kg	< 13	< 13	< 13	< 12	< 13	< 11	< 10	< 13	< 13	< 9.7	< 9.8	< 10	< 9.7	< 7.1		
VOCs	4-Methyl-2-pentanone			ug/kg	< 13	< 13	< 13	< 12	< 13	< 11	< 10	< 13	< 13	< 9.7	< 9.8	< 10	< 9.7	< 7.1		
VOCs	Acetone			ug/kg	370	330	180	100	< 26	< 22	170	330	39	< 19	200	220	23	< 14		
VOCs	Benzene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Bromodichloromethane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Bromoform			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Bromomethane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Carbon disulfide			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Carbon tetrachloride			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Chlorobenzene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Chloroethane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Chloroform			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Chloromethane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	cis-1,2-Dichloroethene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	cis-1,3-Dichloropropene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Cyclohexane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Dibromochloromethane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Dichlorodifluoromethane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Ethylbenzene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Methyl acetate			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	12	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Methyl tert-butyl ether			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Methylcyclohexane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Methylene chloride			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Styrene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Tetrachloroethene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Toluene			ug/kg	< 6.3	8.7	< 6.7	10	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	trans-1,2-Dichloroethene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	trans-1,3-Dichloropropene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Trichloroethene			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Trichlorofluoromethane			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Vinyl chloride			ug/kg	< 6.3	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3	< 4.9	< 4.9	< 5.2	< 4.8	< 3.5		
VOCs	Xylenes, Total			ug/kg	< 13	< 13	< 13	< 12	< 13	< 11	< 10	< 13	< 13	< 9.7	< 9.8	< 10	< 9.7	< 7.1		

Notes:
N - normal sample
FD - field duplicate sample
RUSL - Residential Use Screening Level (NUREG 1757, Appendix H)
IUSL - Industrial Use Screening Level (NUREG 1757, Appendix H)
Bold concentrations indicate detections
Concentrations in shaded cells exceed their RUSL/IUSL
NA - not analyzed
- value is below minimum detectable concentration
- value is reported as a negative number
pCi/g - picocuries per gram
ug/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
SVOCs - semivolatle organic compounds
VOCs - volatile organic compounds
* - sludge sample collected from the Sanitary Lagoon
** - sludge sample collected from the East Lagoon
J - Estimated result is less than the practical quantitation limit and greater than the method detection limit