Appendix I
Well Development Records

AECOM

Well/Piez. ID: PZ-1

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF Hopkins SC

Project No: 60595649 Date: 7-27-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☒ Diameter 2" Material PVC

Measuring Point Description * TOC / + GS

Depth to Top of Screen (ft.) + 7.0

Depth to Bottom of Screen (ft.) + 17.0

Total Well Depth (ft.) * 19.49

Depth to Static Water Level (ft.) * 8.39

Geology at Screen Interval (if known)

Time of Water Level Measurement 1230

Calculate Purge Volume (gal.) 1.81

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1239	1.0	21.51	7.40	249.95	1828	1.15	Brown	No	-106.94
1245	10.0	19.32	6.79	250.13	36.45	0.51	Clear	"	-51.58
1251	30.0	19.34	6.53	249.1	15.8	0.33	"	"	-96.25
1300	30.0	19.34	6.46	250.96	9.18	0.21	"	"	-101.08

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 1.05 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☐	☐	☒

If no or N/A explain below:

Signature J. Leaphart Date: 7-27-21

AECOM

Well/Piez. ID: W-4R

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF HOPKINS SC

Project No: 60595649 Date: 7-26-21 Developer: JAMES LEAPHART

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC / + GS

Depth to Top of Screen (ft.) + 5.0

Depth to Bottom of Screen (ft.) + 15.0

Total Well Depth (ft.) * 17.10

Depth to Static Water Level (ft.) * 9.80

Geology at Screen Interval (if known)

Time of Water Level Measurement 1240

Calculate Purge Volume (gal.) 1.19

Disposal Method SITE TOTE

Wellhead PID/FID N/A

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
IPSITU	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1308	1.0	22.91	7.35	348.74	863	2.36	BROWN	NO	118.01
1317	2.0	20.84	6.79	274.36	1598	3.98	"	"	143.25
1337	6.0	20.66	6.34	214.42	3860	5.44	"	"	190.05
1432	12.0	20.64	6.21	160.64	2502	5.93	"	"	226.52
1458	15.0	19.75	6.06	156.42	839	5.49	"	"	242.68
1525	18.0	20.04	5.99	157.18	1131	5.56	"	"	258.53
1544	23.0	19.75	5.99	155.98	465	5.69	"	"	255.86
1642	30.0	19.94	6.01	144.18	360	5.21	"	"	261.29

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 5.95 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature [signature] Date: 7-26-21

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-14-19 Date Completed (yr/mo/day) 8-14-19

Field Personnel James Leathart

Site Name Westinghouse

Job # 60595649

Well ID # W-69

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 80° °F

Total Well Depth (TWD) = 20.75 1/100 ft

Depth to Ground Water (DGW) = 8.87 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 11.88 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 1.94 gallons

5 Casing Volumes = 9.7 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 16 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-14-19/0825	1.9	4.0	21.5	5.42	68.2	108.2	Lt. Brown	OVER RANGE	Dry @ 4 Gal
0904	1.9	8.0	21.2	5.77	~~54.9~~	98.1	"	960	RECOVERED @ 1.5
0949	1.9	12.0	21.4	5.72	65.5	96.3	"	375	Cal. After 5 min.
1020	1.9	16.0	21.3	5.68	81.3	92.3	"	361	

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-14-19 Date Completed (yr/mo/day) 8-14-19

Field Personnel James Leaphart

Site Name Westinghouse

Job # 60595649

Well ID # W-70

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 89° °F

Total Well Depth (TWD) = 51.92 1/100 ft

Depth to Ground Water (DGW) = 13.09 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 38.83 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 6.33 gallons

5 Casing Volumes = 31.65 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 50 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-14-19/1038	~~1.7~~ 2.5	5.0	20.2	5.47	100.3	104.2	Lt Brown	over range	Surge
1040	2.5	10.0	20.2	5.07	118.9	90.8	"	"	Surge
1043	1.7	15.0	20.2	4.92	129.5	91.7	"	75.8	No Surge
1045	2.5	20.0	20.2	4.90	134.2	90.2	Clear	63.6	"
1047	2.5	25.0	20.2	4.91	135.4	86.5	"	20.7	"
1050	1.7	30.0	20.2	4.98	143.1	85.2	Lt. Brown	65.4	Surge
1052	2.5	35.0	20.2	4.77	154	85.7	Cloudy	90.1	No Surge
1055	1.7	40.0	20.2	4.78	154.8	82.9	Clear	42.6	"
1057	2.5	45.0	20.2	4.76	157	80.6	"	15.5	"
1100	1.7	50.0	20.2	4.77	158.8	81.7	"	11.1	"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 10-3-19 Date Completed (yr/mo/day) 10-3-19

Field Personnel James LEPLART

Site Name WESTINGHOUSE

Job # 60595649

Well ID # W-71

____ Upgradient ____ Downgradient

Weather Conditions CLOUDY 71°

Air Temperature 71° °F

Total Well Depth (TWD) = 104.00 1/100 ft

Depth to Ground Water (DGW) = 25.54 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 78.46 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 12.79 gallons

5 Casing Volumes = 64 gallons

Method of Well Development GRUNDFOS

Total Volume of Water Removed 95 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
10-3-19/0912		13	20.5	6.46	25.4	257.2	>1100 / GRAY		SURGE
0922		24	20.4	6.12	-65	189.6	444.9 "		NO SURGE
0933		39	20.6	6.02	-71.9	162.7	>1100 "		SURGE
1007		55	20.9	6.26	-73.6	141.3	277.5 "		NO SURGE
1014		70	21.0	(1) 5.90	-59.1	130.6	128.5 CLOUDY		"
1024		85	20.5	5.94	-49.6	128.5	120.6 "		"
1033		95	20.6	5.98	-47.8	127.4	115.5 "		"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-19-19 Date Completed (yr/mo/day) 8-19-19

Field Personnel JAMES LEIGHTY

Site Name WESTINGHOUSE

Job # 605956499

Well ID # W-72

____ Upgradient ____ Downgradient

Weather Conditions P. CLOUDY

Air Temperature 82 °F

Total Well Depth (TWD) = 14.48 1/100 ft

Depth to Ground Water (DGW) = 8.46 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 6.02 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.98 gallons

5 Casing Volumes = 4.90 gallons

Method of Well Development WHALE PUMP

Total Volume of Water Removed 30.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-19-19 1053	2.0	4.0	23.5	6.13	71.2	175.9	LT BROWN	OVER RANGE	SURGE
1101	2.0	8.0	23.4	6.09	71.1	221.6	"	"	"
1108	2.0	12.0	23.4	6.12	48.4	204.1	"	299	NO SURGE
1115	2.0	16.0	23.6	6.15	44.3	194.7	"	230	"
1121	2.0	20.0	23.4	6.07	43.0	185.9	CLOUDY	146	"
1125	2.0	25.0	23.5	6.15	40.9	181.6	"	119	"
1131	2.5	30.0	23.5	6.16	40.8	179.6		115	"

DRY @ 3.5 GAL

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-19-19 Date Completed (yr/mo/day) 8-19-19

Field Personnel James Leaphart

Site Name Westinghouse

Job # 60595649

Well ID # W-73

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 89 °F

Total Well Depth (TWD) = 15.70 1/100 ft

Depth to Ground Water (DGW) = 8.76 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 6.94 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 1.13 gallons

5 Casing Volumes = 5.66 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 12.5 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh ORP	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-19-19/1228	2.0	5.0	26.3	6.10	14.4	213.2	Lt. Brown	OVER RANGE	SURGE
1235	2.0	7.5	26.1	6.05	16.0	196.1	"	"	"
1255	2.5	10.0	25.9	6.21	11.8	187.6	"	"	NO SURGE
1309	2.0	12.5	26.3	6.12	28.4	163.7	"	"	"
1327	2.0	15.0	26.1	6.17	25.7	169.2	"	339	"
1348	2.5	17.5	26.6	6.23	48.0	173.1	"	362	"

DRY @ 2.25 GAL.

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9-23-19 Date Completed (yr/mo/day) 9-23-19

Field Personnel JAMES LEPHART

Site Name WESTINGHOUSE

Job # 60595649

Well ID # W-74

____ Upgradient ____ Downgradient

Weather Conditions CLEAR

Air Temperature 82 °F

Total Well Depth (TWD) = 33.87 1/100 ft

Depth to Ground Water (DGW) = 13.03 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 20.84 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 3.39 gallons

5 Casing Volumes = 16.98 gallons

Method of Well Development WHALE PUMP

Total Volume of Water Removed 55 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1105	2.0	5.0	22.6	5.79	126.4	130.1	>1100 TAN		SURGE
	2.0	10.0	22.5	5.23	187.5	120.7	>1100 "		"
	2.0	15.0	22.0	5.15	202.4	117.1	>1100 "		"
	2.0	20.0	22.0	5.20	210.8	115.9	981.6 "		"
	2.0	25.0	21.9	5.13	218.3	114.5	270.4		NO SURGE
	2.0	30.0	22.2	5.07	238.6	114.0	216.5		"
	2.0	35.0	21.9	5.12	241.3	114.4	191.4		"
	2.0	40.0	21.9	5.05	244.8	113.7	186.6		"
	2.0	45.0	21.9	5.01	248.2	113.2	118.9		"
	2.0	50.0	21.9	5.00	250.2	113.5	118.1		"
	2.0	55.0	21.9	5.01	251.2	113.8	110.6		"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9-23-19 Date Completed (yr/mo/day) 9-23-19

Field Personnel Jama Leapheart

Site Name Westinghouse

Job # 60595649

Well ID # W-75

____ Upgradient ____ Downgradient

Weather Conditions Clear

Air Temperature 79° °F

Total Well Depth (TWD) = 18.60 1/100 ft

Depth to Ground Water (DGW) = 12.65 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 5.95 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.97 gallons

5 Casing Volumes = 4.85 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 50 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
9-23-19 / 1016	2.0	5.0	25.4	5.95	107.4	144.8	>1100 TAN		Surge
1018	2.0	10.0	25.2	5.82	102.8	144.3	>1100 "		"
1021	2.0	15.0	25.3	5.82	100.2	145.0	>1100 "		"
1024	2.0	20.0	25.2	5.84	100.7	144.3	860.9		"
1026	2.0	25.0	25.1	5.85	100.0	144.9	220.9		No Surge
1028	2.0	30.0	25.3	5.86	102.6	143.9	118.6		"
1031	2.0	35.0	25.5	5.88	104.5	143.5	98.66		"
1033	2.0	40.0	25.2	5.82	103.2	140.2	77.24		"
1035	2.0	45.0	25.2	5.84	100.6	141.6	35.16		"
1038	2.0	50.0	25.2	5.84	98.8	143.3	22.51		"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-19-19 Date Completed (yr/mo/day) 8-19-19

Field Personnel James Leaphart

Site Name Westinghouse

Job # 60585649

Well ID # W-76

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 92° °F

Total Well Depth (TWD) = 14.92 1/100 ft

Depth to Ground Water (DGW) = 9.73 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 5.19 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.85 gallons

5 Casing Volumes = 4.23 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 20.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-19-19/1425	2.0	5.0	27.4	5.55	97.1	216.4	Gray	Over Range	Surge
1445	2.0	10.0	27.9	5.52	99.5	201.7	LT Gray	"	"
1505	2.0	15.0	28.4	5.43	103.6	203.4	Cloudy	590	No Surge
1520	2.0	20.0	28.2	5.48	98.6	206.9	"	569	"

Day 2 1.75 Gal

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9-20-19 Date Completed (yr/mo/day) 9-20-19

Field Personnel JAMES LEPHART

Site Name WESTINGHOUSE

Job # 60595649

Well ID # W-77

____ Upgradient ____ Downgradient

Weather Conditions CLEAR

Air Temperature 77° °F

Total Well Depth (TWD) = 15.30 1/100 ft

Depth to Ground Water (DGW) = 9.37 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 5.93 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.97 gallons

5 Casing Volumes = 4.83 gallons

Method of Well Development WHALE PUMP

Total Volume of Water Removed 45 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
9-20-19/1139	2.0	~~2.5~~ 5.0	26.2	6.68	167.2	1047	>1100 TAN		SURGE
1149	2.0	10	26.3	7.02	150.4	1242	>1100 "		"
1155	2.0	15	20.1	7.01	144.1	1215	>1100 "		"
1202	2.0	20	25.9	6.98	158.4	1225	555 CLOUDY		NO SURGE
1210	2.0	25	25.7	6.89	151.8	1234	339.8 "		"
1217	2.0	30	25.8	6.79	146.3	1231	248.3 "		"
1225	2.0	35	25.8	6.80	148.0	1224	232.7 "		"
1233	2.0	40	25.5	6.74	145.3	1232	202.5 "		"
1241	2.0	45	25.5	6.69	137.9	1230	215.7 "		"

DRY @ 5.5 GALLS

COMMENTS/OBSERVATIONS: MODERATE RECOVERY

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9-20-19 Date Completed (yr/mo/day) 9-20-19

Field Personnel JAMES LEAHART

Site Name WESTINGHOUSE

Job # 60595649

Well ID # MW-78

____ Upgradient ____ Downgradient

Weather Conditions CLEAR

Air Temperature 82 °F

Total Well Depth (TWD) = 15.10 1/100 ft

Depth to Ground Water (DGW) = 9.50 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 5.60 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.91 gallons

5 Casing Volumes = 4.56 gallons

Method of Well Development WHALE PUMP

Total Volume of Water Removed 55 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
9-20-19/1304	2.0 ~~1304~~	5.0	25.5	6.17	133.8	258.1	>1100/TAN		SURGE
1306	2.0	10.0	25.4	6.01	156.6	255	>1100 "		"
1308	2.0	15.0	25.4	5.93	165.1	257.4	894.8 "		"
1318	2.0	20.0	25.5	5.87	179.7	254.9	648.5 "		NO SURGE
1320	2.0	25.0	25.4	5.93	179.7	261.2	856.7		SURGE
1323	2.0	30.0	25.2	5.91	183.3	264.4	372.8		NO SURGE
1331	2.0	35.0	25.5	5.96	184.7	263.0	412.0		"
1333	2.0	40.0	25.4	5.98	185.5	266.9	232.1		"
1336	2.0	45.0	25.3	5.91	187.0	276.4	211.3		"
1346	2.0	50.0	25.3	5.95	194.6	268.4	214.2		"
1349	2.0	55.0	24.4	6.01	197.1	270.5	182.6		"

APX 19 GALS

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-19-19 Date Completed (yr/mo/day) 8-19-19

Field Personnel James Lapham

Site Name Westinghouse

Job # 60595649

Well ID # W-79

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 93- °F

Total Well Depth (TWD) = 15.32 1/100 ft

Depth to Ground Water (DGW) = 8.14 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 7.18 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 1.17 gallons

5 Casing Volumes = 5.85 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 20 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-19-19/1546	2.0	5.0	27.1	5.89	77.9	199.8	LT BROWN	OVER RANGE	SURGE
1553	2.0	10.0	26.6	5.79	101.9	196.7	"	"	SURGE
1600	2.0	15.0	26.4	5.69	115.4	194.4	CLOUDY	66.7	NO SURGE
1615	2.0	20.0	26.2	5.48	128	191.7	"	56.4	"

DRY C 2.5 GAL

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-20-19 Date Completed (yr/mo/day) 8-20-19

Field Personnel JAMES LEAPHART

Site Name WESTINGHOUSE

Job # 605956649

Well ID # W-80

____ Upgradient ____ Downgradient

Weather Conditions P.CLOUDY

Air Temperature 77 °F

Total Well Depth (TWD) = 15.33 1/100 ft

Depth to Ground Water (DGW) = 9.88 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 5.45 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.89 gallons

5 Casing Volumes = 4.44 gallons

Method of Well Development WHALE PUMP

Total Volume of Water Removed 8.5 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-20-19/0906	2.0	2.5	27.1	5.79	51.0	261.1	LT. BROWN	OVER RANGE	SURGE
0927	2.0	5.0	26.5	5.12	73.4	285.6	CLOUDY	138	NO SURGE
0941	2.0	7.0	26.4	5.33	75.5	291.2	"	83.6	"
1015	2.0	8.0	26.5	5.25	100	317.7	"	86.5	"
1025	2.0	8.5	26.3	5.28	89.4	325.6	"	84.4	"

DRY @ 1.5 GAL.

COMMENTS/OBSERVATIONS: SLOW TO RECOVER

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-20-19 Date Completed (yr/mo/day) 8-20-19

Field Personnel [illegible]

Site Name WESTINGHOUSE

Job # 60595649

Well ID # W-81

____ Upgradient ____ Downgradient

Weather Conditions P. CLOUDY

Air Temperature 78° °F

Total Well Depth (TWD) = 15.34 1/100 ft

Depth to Ground Water (DGW) = 11.25 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 4.09 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.67 gallons

5 Casing Volumes = (5 x 0.67) 3.33 gallons

Method of Well Development WHALE PUMP

Total Volume of Water Removed 3.5 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh ORP	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-20-19 / 0932	1.8	1.5	23.8	5.70	29.3	230.8	LT GRAY	658	SURGE
0944	1.8	2.0	23.9	5.72	38.6	232.6	CLOUDY	319	"
1003	1.8	2.5	24.1	5.77	46.6	235.5	"	190	NO SURGE
1021	1.8	3.0	23.8	5.76	51.5	230.9	"	105	"
1040	1.8	3.5	23.8	5.79	50.3	230.1	"	99.1	"

DRY @ 1.0 GAL

COMMENTS/OBSERVATIONS: SLOW TO RECOVER

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9-23-19 Date Completed (yr/mo/day) 9-23-19

Field Personnel James LEAHART

Site Name WESTINGHOUSE

Job # 60595649

Well ID # W-82

____ Upgradient ____ Downgradient

Weather Conditions CLEAR

Air Temperature 88 °F

Total Well Depth (TWD) = 15.30 1/100 ft

Depth to Ground Water (DGW) = 12.20 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 3.10 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.51 gallons

5 Casing Volumes = 2.53 gallons

Method of Well Development WATER PUMP

Total Volume of Water Removed 2.50 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
9-23-19/1232	2.0	0.75	26.4	5.31	162.3	117.4	>1100 TAN		SURGE
1248	2.0	1.00	26.3	5.04	182.7	108.7	>1100 TAN		NO SURGE
1319	2.0	1.50	26.5	5.29	154.7	118.2	537.6		"
1330	2.0	1.75	26.4	4.92	185.0	119.7	451.1		"
1340	2.0	2.00	26.3	5.11	176.3	122.1	386.9		"
1350	2.0	2.25	26.0	5.10	170.4	125.5	315.7		"
1401	2.0	2.50	26.4	5.10	168.0	124.5	294.0		"

DIZ C 0.5 GALLONS

COMMENTS/OBSERVATIONS: VERY SLOW TO RECOVER

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-20-19 Date Completed (yr/mo/day) 8-20-19

Field Personnel [illegible]

Site Name WESTINGHOUSE

Job # 60595649

Well ID # W-83

____ Upgradient ____ Downgradient

Weather Conditions M. CLOUDY

Air Temperature 86 °F

Total Well Depth (TWD) = 26.00 1/100 ft

Depth to Ground Water (DGW) = 12.55 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 13.45 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 2.19 gallons

5 Casing Volumes = 11.0 gallons

Method of Well Development WHALE PUMP

Total Volume of Water Removed 20 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-20-19 / 1333	2.0	5.0	23.3	6.15	100.1	161.8	LT BROWN	OVER RANGE	SURGE
1403	2.0	10.0	22.4	6.09	68.7	108.4	"	"	"
1449	2.0	15.0	22.4	6.14	73.7	94.5	"	536	NO SURGE
1525	2.0	20.0	22.8	5.92	95.2	91.9	"	525	"

DRY @ 5.0 GAL.

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-20-19 Date Completed (yr/mo/day) 8-20-19

Field Personnel James Leopkart

Site Name Westinghouse

Job # 60595649

Well ID # W-84

____ Upgradient ____ Downgradient

Weather Conditions M. Cloudy

Air Temperature 83 °F

Total Well Depth (TWD) = 20.32 1/100 ft

Depth to Ground Water (DGW) = 7.82 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 12.5 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 2.04 gallons

5 Casing Volumes = JL ~~2.04~~ 10.19 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 15 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-20-19/1102	2.0	5.0	24.4	6.10	52.1	213	LT BROWN	OVER RANGE	SURGE
1134	2.0	10.0	25.8	6.38	28.1	157.7	"	780	"
1214	2.0	12.0	25.5	6.05	45.2	153.3	CLOUDY	246	NO SURGE
1223	2.0	13.0	25.7	5.79	73.9	149.1	"	124	"
1232	2.0	14.0	25.9	5.73	70.7	155.1	"	95	"
1242	2.0	15.0	25.2	5.80	63.4	152.2	"	92.8	"

DRY @ 6.5 GAL.

COMMENTS/OBSERVATIONS: VERY SLOW TO RECOVER

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-14-19 Date Completed (yr/mo/day) 8-14-19

Field Personnel James Kephart

Site Name Westinghouse

Job # 60595649

Well ID # W-85

___ Upgradient ___ Downgradient

Weather Conditions P. Cloudy

Air Temperature 94° °F

Total Well Depth (TWD) = 47.80 1/100 ft

Depth to Ground Water (DGW) = 20.74 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 27.06 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 4.41 gallons

5 Casing Volumes = 22.05 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 30 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-14-19/1235	~~5~~ 1.9	5.0	19.4	5.96	22.8	242.7	LT. Gray	OVER RANGE	DRY @ 6.5 GAL
1245	~~10.0~~ 1.9	10.0	19.5	6.08	15.2	233.9	"	"	
1253	1.9	15.5	19.2	6.16	16.4	208.1	Cloudy	25.9	
1303	1.9	20.5	19.3	6.30	20.8	234.9	"	91.0	
1316	1.9	25.0	19.2	6.28	30.6	228.1	Cloudy	37.7	
1328	1.9	30.5	19.2	6.31	36.5	230.5	"	15.6	

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-14-19 Date Completed (yr/mo/day) 8-14-19

Field Personnel James Kephart

Site Name Westinghouse

Job # 60595649

Well ID # W-86

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 97 °F

Total Well Depth (TWD) = 38.09 1/100 ft

Depth to Ground Water (DGW) = 19.28 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 18.81 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 3.1 gallons

5 Casing Volumes = 15.3 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 30 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-14-19/1347	2.5	5.0	19.2	6.17	39.2	352.2	Lt Brown	over range	SURGE
1352	1.7	10.0	19.1	5.86	41.3	371.1	"	"	No SURGE
1414	1.7	15.0	19.1	5.88	37.6	354.2	"	"	SURGE
1429	1.7	20.0	19.1	5.97	35.4	336.2	"	541	No SURGE
1439	1.7	25.0	19.1	5.88	35.6	330.5	"	396	"
1449	1.7	30.0	19.1	5.85	34.2	334.4	"	380	"

DRY @ 5 GAL

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-19-19 Date Completed (yr/mo/day) 8-19-19

Field Personnel JAMES LEADBETTER

Site Name WESTINGHOUSE

Job # 60595649

Well ID # W-87

____ Upgradient ____ Downgradient

Weather Conditions CLOUDY

Air Temperature 78° °F

Total Well Depth (TWD) = 32.84 1/100 ft

Depth to Ground Water (DGW) = 6.65 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 26.19 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 4.27 gallons

5 Casing Volumes = 21.34 gallons

Method of Well Development WHALE PUMP

Total Volume of Water Removed 50 gallons

Date/Time	Discharge Rate (GL) (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-19-19 0917	~~4.0~~	5.0	25.3	6.56	-9.7	137	LT BROWN	OVER RANGE	SURGE
0923		10.0	21.6	6.30	18.1	115.9	"	"	"
0929		15.0	21.6	5.65	44	84.4	"	"	"
0937		20.0	21.6	6.04	40.4	144.2	"	"	NO SURGE
0945		25.0	21.6	6.15	42.6	122.6	"	"	"
0953		30.0	21.6	6.23	47.7	114.2	"	"	"
0959		35.0	21.6	5.69	76.1	108.4	"	594	"
1006		40.0	21.6	5.35	79.5	72.5	"	593	"
1011		45.0	21.5	5.26	81.4	64.1	"	615	"
1014		50.0	21.6	5.56	83.6	62.5	"	582	"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-13-19 Date Completed (yr/mo/day) 8-13-19

Field Personnel Joana Leaphart

Site Name Westinghouse

Job # 60595649

Well ID # W-88

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 95° °F

Total Well Depth (TWD) = 28.22 1/100 ft

Depth to Ground Water (DGW) = 21.44 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 6.78 1/100 ft

1 Casing Volume (OCV) = LWC x 0.163 = 1.11 gallons

5 Casing Volumes = 5.55 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 20.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8/13-19/1338	1.8	5.0	17.9	4.24	~~25.8~~ 173	75.8	Brown	over Range	Surge
1341	1.8	10.0	18.0	4.35	173.1	81.9	Lt Brown	600	"
1344	1.8	15.0	18.0	4.58	167.3	82.5	Cloudy	156	"
1347	1.8	20.00	18.0	4.65	161.5	81.8	Clear	6.12	No Surge

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-13-19 Date Completed (yr/mo/day) 8-13-19

Field Personnel James Leadbetter

Site Name Westinghouse

Job # 60595649

Well ID # W-89

____ Upgradient ____ Downgradient

Weather Conditions P.Cloudy

Air Temperature 95° °F

Total Well Depth (TWD) = 44.46 1/100 ft

Depth to Ground Water (DGW) = 22.82 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 21.64 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 3.53 gallons

5 Casing Volumes = 17.64 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 25.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-13-19/1252	1.7	5.0	18.3	4.50		94.1	23.3/Clear		SURGE
1255	1.7	10.0	18.3	4.64	134.6	99.8	90.1/Cloudy		"
1259	1.25	15.0	18.3	4.96	127.6	99.1	10.1/Clear		NO SURGE
1302	1.7	20.0	18.3	5.00	127.6	99.4	56.2/Cloudy		SURGE
1305	1.7	25.0	18.3	5.04	128.4	104.1	8.15/Clear		NO SURGE

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-13-19 Date Completed (yr/mo/day) 8-13-19

Field Personnel James Leadbetter

Site Name Westinghouse

Job # 60595649

Well ID # iw-90

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 90- °F

Total Well Depth (TWD) = 28.30 1/100 ft

Depth to Ground Water (DGW) = 26.85 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 1.45 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 0.24 gallons

5 Casing Volumes = 1.18 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-13-19/1525									

COMMENTS/OBSERVATIONS: Not able to develop with pump due to low volume.

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-13-19 Date Completed (yr/mo/day) 8-13-19

Field Personnel James Leaphart

Site Name Westinghouse

Job # 60595649

Well ID # U-91

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 96° °F

Total Well Depth (TWD) = 43.08 1/100 ft

Depth to Ground Water (DGW) = 26.91 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 16.17 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 2.64 gallons

5 Casing Volumes = 13.2 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 50 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-13-19/1441 (JL)	~~5.0~~ 1.7	5.0	18.1	4.58	177.7	95.3	Lt. Brown	OVER RANGE	SURGE
1444	~~10.0~~ 1.7	10.0	18.3	4.70	166.0	94.5	"	"	"
1447	1.7	15.0	18.2	4.95	155.7	74.2	"	"	"
1450	1.7	20.0	18.2	5.18	147.1	81.8	"	"	NO SURGE
1453	1.7	25.0	18.2	5.25	144.5	80.8	"	"	"
1456	1.7	30.0	18.1	4.67	179.6	80.2	"	543	~~543~~ 1
1500	1.25	35.0	18.2	4.76	173.5	86.1	"	490	"
1505	1.0	40.0	18.3	4.91	164.7	89.3	"	506	"
1508	1.7	45.0	18.3	4.91	165.9	85.2	"	486	"
1512	1.25	50.0	18.3	5.11	156.4	83.7	"	528	"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 8-14-19 Date Completed (yr/mo/day) 8-14-19

Field Personnel James Leaphart

Site Name Westinghouse

Job # 60595649

Well ID # W-92

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 93° °F

Total Well Depth (TWD) = 36.90 1/100 ft

Depth to Ground Water (DGW) = 16.80 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 20.10 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 3.28 gallons

5 Casing Volumes = 16.4 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 30 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
8-14-19 / 1551	1.9	5.0	18.1	5.52	54.6	219.3	Lt Brown	531	Surge
1553	2.5	10.0	18.1	5.52	47.0	212.4	"	270	"
1555	2.5	15.0	18.1	5.54	42.1	222.1	Cloudy	141	"
1557	2.5	20.0	18.1	5.56	38.5	226.7	"	114	No Surge
1559	2.5	25.0	18.1	5.59	34.6	228.8	Cloudy	54.9	"
1601	2.5	30.0	18.1	5.62	31.8	222.4	"	45.2	"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9-20-19 Date Completed (yr/mo/day) 9-20-19

Field Personnel James Leaphart

Site Name Westinghouse

Job # 60595649

Well ID # W-93

____ Upgradient ____ Downgradient

Weather Conditions Clear

Air Temperature 72° °F

Total Well Depth (TWD) = 35.00 1/100 ft

Depth to Ground Water (DGW) = 10.29 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 24.71 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 4.03 gallons

5 Casing Volumes = 20.14 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 60.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1043	2.0	5.0	23.1	5.87	173.9	131.4	>1100 Brown		Surge
1046	2.0	10.0	22.1	5.44	197.6	118.2	>1100 "		"
1050	2.0	15.0	22.0	5.42	197.3	118.6	1096 "		"
1052	2.0	20.0	21.9	5.35	197.9	117.0	482.3 Lt Brown		No Surge
1054	2.0	25.0	21.8	5.29	198.8	116.2	223.7		"
1057	2.0	30.0	22.0	5.37	221.6	116.4	528.7		Surge
1107	2.0	35.0	22.0	5.31	213.9	115.5	180.8		No Surge
1110	2.0	40.0	21.9	5.34	212.5	115.1	80.82		"
1112	2.0	45.0	21.9	5.36	211.4	114.9	44.78		"
1114	2.0	50.0	21.9	5.33	210.2	114.9	35.14		"
1118	2.0	60.0	21.9	5.34	207.9	114.8	26.14		"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9.19.19 Date Completed (yr/mo/day) 9.19.19

Field Personnel James Leaphart

Site Name Westinghouse

Job # 60595649

Well ID # W-94

____ Upgradient ____ Downgradient

Weather Conditions P. Cloudy

Air Temperature 76° °F

Total Well Depth (TWD) = 32.17 1/100 ft

Depth to Ground Water (DGW) = 11.63 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 20.54 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 3.35 gallons

5 Casing Volumes = 16.74 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 44 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1255	2.0	3.5	18.6	6.08	17.6	130.5	>1100 / Gray		Surge
1257	2.0	7.0	18.8	5.24	54.0	138.3	>1100 "		"
1300	2.0	10.5	18.2	5.25	27.7	138.4	857.9 "		"
1308	2.0	17.5	18.0	5.32	28.6	139.5	554.5 "		No Surge
1314	2.0	21.0	18.1	5.57	29.7	139.6	907 "		Dump Purge Water
1347	2.0	26.0	18.7	5.86	26.8	142.0	814.8 "		Surge
1351	2.0	32.0	17.8	5.42	27.7	141.7	590.4 "		No Surge
1355	2.0	36.0	17.7	5.35	16.1	141.8	246.4 "		" "
1358	2.0	40.0	17.6	5.38	12.2	141.4	156.6 Clear		" "
1401	2.0	44.0	17.6	5.42	6.2	141.4	104.7		" "

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9-18-19 Date Completed (yr/mo/day) 9-19-19

Field Personnel James Leonhart

Site Name Westinghouse

Job # 60585649

Well ID # W-95

____ Upgradient ____ Downgradient

Weather Conditions P.Cloudy

Air Temperature 78° °F

Total Well Depth (TWD) = 36.28 1/100 ft

Depth to Ground Water (DGW) = 10.21 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 26.07 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 4.25 gallons

5 Casing Volumes = 21.25 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 54 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
9.19.19/1453	1.8	4.5	18.6	6.01	-26.-	241.1	>1100/Lt. Gray		SURGE
1456	1.7	9.5	18.1	5.75	-61.9	229.2	>1100/Brown		"
1501	1.0	14.0	18.1	5.77	-67.8	237.5	>1100 "		"
1506	1.0	19.0	18.0	5.78	-91.7	237.1	343.7 Cloudy		NO SURGE
1511	1.0	24.-	18.2	6.01	-137.6	226.1	1063 Brown		SURGE
1523	0.5	29.-	18.2	5.99	-149.2	230.9	706 "		"
1545	2.0	34.0	18.0	6.11	-84.9	235.0	382 Cloudy		NO SURGE
1548	2.0	39.0	17.9	5.85	-113	229.8	173.6 Clear		"
1551	2.0	44.-	17.9	5.83	-109.2	225.9	93.1 "		"
1553	2.0	49.0	17.9	5.83	-106.9	224.1	58.9 "		"
1555	2.0	54.0	17.9	5.81	-103.9	222.0	42.6 "		"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9-20-19 Date Completed (yr/mo/day) 9-20-19

Field Personnel James Leaphart

Site Name Westinghouse

Job # 60595649

Well ID # W-96

____ Upgradient ____ Downgradient

Weather Conditions Clear

Air Temperature 56° °F

Total Well Depth (TWD) = 32.85 1/100 ft

Depth to Ground Water (DGW) = 10.60 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 22.25 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 3.63 gallons

5 Casing Volumes = 18.13 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 50 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
0833	2.0	5.0	17.8	6.60	40.1	173.9	>1100 / LT GRAY		SURGE
0835	2.0	10.0	18.1	6.14	-44.2	163.9	414 "		NO SURGE
0837	2.0	15.0	18.1	6.16	-59	167.6	278 CLOUDY		" "
0840	2.0	20.0	18.1	6.14	-59.6	168.5	>1100 GRAY		SURGE
0842	2.0	25.0	18.1	6.11	-60.1	169.2	>1100 "		"
0844	2.0	30.0	18.1	6.10	-77.1	172.6	1078 "		"
0904	2.0	35.0	18.1	5.83	25.4	176.1	229 CLOUDY		NO SURGE
0906	2.0	40.0	18.1	6.03	-15.1	180.2	93.5 CLEAR		"
0908	2.0	45.0	18.2	6.06	-19.0	182.0	45.14 "		"
0910	2.0	50.0	18.2	6.06	-20.6	184.5	41.0 "		"

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 9.19.19 Date Completed (yr/mo/day) 9.19.19

Field Personnel James Leatherbee

Site Name Westinghouse

Job # 60595649

Well ID # W-97

___ Upgradient ___ Downgradient

Weather Conditions P. cloudy

Air Temperature 80° °F

Total Well Depth (TWD) = 21.93 1/100 ft

Depth to Ground Water (DGW) = 6.95 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 14.98 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 2.44 gallons

5 Casing Volumes = 12.21 gallons

Method of Well Development Whale Pump

Total Volume of Water Removed 50 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1629	2.0	5.0	19.0	5.89	66.3	209	>1100 / Brown		Surge
1632	2.0	10.0	18.7	5.68	48.2	199.0	>1100 "		Surge
1634	2.0	15.0	18.6	5.46	62.4	195.2	560 "		No Surge
1636	2.0	20.0	18.5	5.46	71.6	189.8	150.1 Cloudy		"
1638	2.0	25.0	18.4	5.46	71.4	189.6	86.22 Clear		"
1641	2.0	30.0	18.5	5.43	71.1	189.2	850 Brown		Surge
1643	2.0	35.0	18.5	5.45	70.8	189.3	556 "		No Surge
1645	2.0	40.0	18.5	5.44	71.2	189.0	445 Clear		" "
1648	2.0	45.0	18.6	5.43	71.2	188.8	50.4 "		" "
1650	2.0	50.0	18.6	5.43	71.3	188.9	42.8 "		" "

COMMENTS/OBSERVATIONS:

AECOM

Well/Piez. ID: W-98

Well/Piezometer Development Record

Client: CFFF Site Location: HOPKINS, SC

Project No: 60595649 Date: 2-5-21 Developer: JAMES LEIGHTY

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 17

Depth to Bottom of Screen (ft.) 27

Total Well Depth (ft.) 29.85

Depth to Static Water Level (ft.) 23.89

Geology at Screen Interval (if known)

Time of Water Level Measurement

Calculate Purge Volume (gal.) 0.97

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-5-21

DEVELOPMENT METHOD SURGE/RINSE **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	PRO	19A103315
HACH	2100Q	180900C069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
0951	INITIAL	17.9	6.75	189	OVER RANGE	0.17	BROWN	NO	-24.2
1004	5	18.6	6.16	172	217	4.77	CLOUDY	"	-36.7
1013	10	18.5	5.93	165	98.3	4.29	"	"	0.3
1020	13	18.7	5.84	162	62.4	4.10	CLEAR	"	6.3
1028	15	18.7	5.78	160	62.8	3.96	"	"	12.1

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 5 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-5-21

AECOM

Well/Piez. ID: W-99

Well/Piezometer Development Record

Client: CFFF Site Location: Hopkins, SC

Project No: 60595649 Date: 2-8-21 Developer: James Leighton

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 16 BGS

Depth to Bottom of Screen (ft.) 21 BGS

Total Well Depth (ft.) 23.83

Depth to Static Water Level (ft.) 11.50

Geology at Screen Interval (if known)

Time of Water Level Measurement

Calculate Purge Volume (gal.) 2.0

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-8-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	YSI	PRO	19A103315
	HACH	2100 Q	180900069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1032	INITIAL	19.1	7.13	780	OVER RANGE	0.19	BROWN	NO	-69.6
1056	10	19.9	6.92	515	" "	2.38	"	"	-48.2
1105	15	19.8	6.97	471	" "	1.94	"	"	-36.7
1142	20	19.9	6.92	458	282	2.13	"	"	-43.9
1210	25	19.9	6.95	442	171	2.00	CLOUDY	"	-21.6
1235	30	20.0	6.96	438	119	1.60	"	"	-19.4
1400	40	19.4	6.91	456	110	1.76	"	"	

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 10 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-8-21

AECOM

Well/Piez. ID: W-100

Well/Piezometer Development Record

Client: CFFF Site Location: Hopkins, SC

Project No: 60595649 Date: 2-8-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 7 BGS

Depth to Bottom of Screen (ft.) 12 BGS

Total Well Depth (ft.) 15.07

Depth to Static Water Level (ft.) 10.37

Geology at Screen Interval (if known)

Time of Water Level Measurement 0930

Calculate Purge Volume (gal.) 0.77

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-8-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	YSI	Pro	19A103315
	HACH	2100Q	18090C069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1007	INITIAL	16.9	6.97	203	OVER RANGE	1.48	BROWN	NO	52.3
1025	1.5	17.6	6.95	261	" "	5.29	"	"	-46.7
1148	4.0	17.6	6.74	363	" "	5.35	"	"	-17.2
1226	6.0	17.8	6.88	389	663	5.71	TAN	"	15.1
1358	8.0	17.7	6.63	325	115	6.13	CLOUDY	"	18.6

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 3.8 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

DRY @ 1.0 GAL

Signature J. Leaphart Date: 2-8-21

AECOM

Well/Piez. ID: G-102

Well/Piezometer Development Record

Client: CFFF Site Location: Hopkins, SC

Project No: 60595649 Date: 2-8-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.)

Depth to Bottom of Screen (ft.)

Total Well Depth (ft.) 33.38

Depth to Static Water Level (ft.) 10.82

Geology at Screen Interval (if known)

Time of Water Level Measurement 1507

Calculate Purge Volume (gal.)

Disposal Method On Site Tank

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-8-21

DEVELOPMENT METHOD Surge / Purge **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	YSI	PRO	19A103315
	Hach	2100 Q	180900C06926

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other ORP
1512	Initial	21.8	7.34	2480	OVER RANGE	2.41	Brown	NO	107.1
1516	10	22.1	6.72	590	" "	0.50	"	"	106.2
1521	20	22.3	6.58	582	154	0.18	Cloudy	"	111.9
1526	30	22.3	6.53	553	75.5	0.11	Clear	"	114.5
1531	40	22.4	6.49	499	39.6	0.13	"	"	116.5
1535	50	22.3	6.47	479	19.7	0.14	"	"	118.1
1540	60	22.4	6.47	466	11.1	0.10	"	"	119.2

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) _____gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-8-21

AECOM

Well/Piez. ID: W-103

Well/Piezometer Development Record

Client: CCFF Site Location: Hopkins, SC

Project No: 60595649 Date: 2-5-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☑ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 34

Depth to Bottom of Screen (ft.) 39

Total Well Depth (ft.) 41.73

Depth to Static Water Level (ft.) 16.51

Geology at Screen Interval (if known)

Time of Water Level Measurement 0840

Calculate Purge Volume (gal.) 4.1

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-5-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	YSI	PRO	19A103315
	HACH	2100 Q	180900C09267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
0844	INITIAL	17.8	6.22	162	OVER RANGE	2.08	BROWN	NO	127.9
0849	10	18.6	5.71	155	51.5	1.61	CLEAR	"	149.6
0852	20	18.6	5.73	154	26.3	1.52	"	"	154.2
0858	30	18.6	5.74	150	3.06	1.57	"	"	157.5

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 21 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-5-21

AECOM

Well/Piez. ID: W-104

Well/Piezometer Development Record

Client: CFFF Site Location: Hopkins, SC

Project No: ~~60644052~~ 60595649 Date: 2-3-21 (JL) 2-6-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.)

Depth to Bottom of Screen (ft.)

Total Well Depth (ft.) 20.30

Depth to Static Water Level (ft.) 4.93

Geology at Screen Interval (if known)

Time of Water Level Measurement 0925

Calculate Purge Volume (gal.) 2.5

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-3-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	PRO	
HACH	2100 Q	

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
0930	INITIAL	16.4	6.43	269	OVER RANGE	0.48	LT. BROWN	NO	11.7
0935	10	17.2	5.86	195	706	0.41	"	"	-7.0
0939	20	17.3	5.80	187	541	0.49	"	"	-9.5
0943	30	17.3	5.63	175	94.4	0.32	CLOUDY	"	36.8
0947	40	17.3	5.63	177	29.9	0.28	CLEAR	"	32.0
0951	50	17.4	5.69	180	164.0	0.24	CLOUDY	"	23.6
0955	60	17.4	5.71	181	24.8	0.20	CLEAR	"	17.5

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 12.5 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature J Leaphart Date: 2-3-21

AECOM

Well/Piez. ID: W-105

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: HOPKINS, SC

Project No: 60595649 Date: 2-2-21 Developer: JAMES LEATHERWOOD

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 14

Depth to Bottom of Screen (ft.) 24

Total Well Depth (ft.) 25.80

Depth to Static Water Level (ft.) 7.55

Geology at Screen Interval (if known)

Time of Water Level Measurement

Calculate Purge Volume (gal.) 2.97

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-2-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	451	PRO	19A103315
	HACH	2100Q	18090C069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1039	INITIAL	17.8	6.89	266	OVER RANGE	0.18	GRAY	NO	-107.6
1045	10	18.4	6.73	262	" "	0.14	LT. TAN	NO	-112.5
1049	20	18.4	6.64	273	" "	0.19	"	NO	-104.2
1053	30	18.3	6.64	271	710	0.30	"	NO	-97.6
1057	40	18.5	6.64	270	450	0.18	"	NO	-107.2
1101	50	18.5	6.63	270	327	0.13	"	NO	-108.6
1105	60	18.5	6.63	272	321	0.15	"	NO	-110.3
1145	70	18.2	6.66	271	205	0.27	CLOUDY	NO	-93.2
1150	80	18.5	6.62	272	143	0.19	"	NO	-100.9
1154	90	18.5	6.64	272	136	0.15	"	NO	-103.9
1159	100	18.4	6.64	271	140	0.14	"	NO	-106.5

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 15 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-2-21

AECOM

Well/Piez. ID: W-106

Well/Piezometer Development Record

Client: CFFF Site Location: Hopkins, SC

Project No: 60595649 Date: 2-17-21 Developer: James Leatherbury

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 25

Depth to Bottom of Screen (ft.) 30

Total Well Depth (ft.) 32.60

Depth to Static Water Level (ft.) 6.80

Geology at Screen Interval (if known)

Time of Water Level Measurement 0838

Calculate Purge Volume (gal.) 4.21

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-17-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	451	PRO	19A103315
	HACH	2100Q	18090C069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1032	INITIAL	16.2	6.12	255	OVER RANGE	1.14	GRAY	NO	-11.6
1037	10	17.4	6.18	282	" "	0.47	"	"	-19.0
1040	20	17.4	6.09	294	" "	0.31	"	"	-26.2
1043	30	17.3	6.08	304	" "	0.43	"	"	-22.5
1046	40	17.2	6.15	305	696	0.52	"	"	-18.6
1117	50	17.4	6.12	313	153	0.33	CLOUDY	"	-12.5
1120	60	17.4	6.09	316	107	0.23	CLEAR	"	-21.9
1124	70	17.4	6.08	318	30.0	0.20	"	"	-30.3
1129	80	17.4	6.09	318	19.5	0.22	"	"	-34.0

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 21 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-17-21

AECOM

Well/Piez. ID: W. 107

Well/Piezometer Development Record

Client: CFFF 60595549 Site Location: Hopkins, SC

Project No: ~~60641050~~ 60595549 Date: 2-4-21 2-6-21 Developer: James Leghart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 29

Depth to Bottom of Screen (ft.) 34

Total Well Depth (ft.) 37.18

Depth to Static Water Level (ft.) 5.59

Geology at Screen Interval (if known)

Time of Water Level Measurement 1050

Calculate Purge Volume (gal.) 5.17

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-4-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	451	PZO	19A103315
	HACH	2100Q	18090C069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1254	INITIAL	17.3	6.50	426	OVER RANGE	0.43	BROWN	NO	23.9
1258	10	17.7	6.50	302	" "	0.08	"	"	-37.3
1302	20	17.7	6.43	251	746	0.22	LT BROWN	"	-53.1
1308	30	17.7	6.39	229	106	0.11	CLOUDY	"	-62.5
1315	40	17.7	6.35	214	47.5	0.11	CLEAR	"	-63.4
1320	50	17.7	6.34	207	101	0.11	CLOUDY	"	-68.6
1325	60	17.7	6.34	203	126	0.11	"	"	-70.3
1415	70	17.3	6.41	209	86.9	0.35	"	"	-55.6
1420	80	17.6	6.36	205	54.5	0.18	CLEAR	"	-68.1
1426	90	17.7	6.36	203	26.1	0.16	"	"	-71.4

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 26 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature J. Leghart Date: 2-4-21

AECOM

Well/Piez. ID: W-108

Well/Piezometer Development Record

Client: CFFF Site Location: Hopkins, SC

Project No: ~~60644050~~ 60595649 (JL 2-6-21) Date: 2-3-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 27

Depth to Bottom of Screen (ft.) 32

Total Well Depth (ft.) 35.84

Depth to Static Water Level (ft.) 5.83

Geology at Screen Interval (if known)

Time of Water Level Measurement 1104

Calculate Purge Volume (gal.) 4.89

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-3-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	YSI	PRO	19A103315
	HACH	2100Q	18090C069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1110	INITIAL	17.1	6.96	197	OVER RANGE	0.02	BROWN	NO	-307.2
1115	10	17.7	6.42	160	541	0.17	"	"	-364.1
1119	20	17.7	6.40	155	183	0.26	CLOUDY	"	-360.1
1123	30	17.7	6.33	153	109	0.18	"	"	-308.2
1127	40	17.7	6.32	153	85.3	0.18	"	"	-313.2
1131	50	17.7	6.33	152	100	0.16	"	"	-318.1
1136	60	17.8	6.33	152	53.0	0.15	CLEAR	"	-313.2
1159	70	17.8	6.34	150	130	0.15	"	"	-315.6
1204	80	17.9	6.35	152	48.6	0.14	"	"	-310.1

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 25 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature J Leaphart Date: 2-3-21

AECOM

Well/Piez. ID: W. ~~108~~ 109

Well/Piezometer Development Record

Client: Westinghouse Site Location: Hopkins, SC

Project No: 60595649 Date: 2-2-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 28

Depth to Bottom of Screen (ft.) 33

Total Well Depth (ft.) 34.93

Depth to Static Water Level (ft.) 6.05

Geology at Screen Interval (if known)

Time of Water Level Measurement

Calculate Purge Volume (gal.) 4.71

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-2-21

DEVELOPMENT METHOD Surge/Purge **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	PRO	19A103315
HACH	2100Q	180900069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1256	INITIAL	17.5	7.20	334	OVER RANGE	0.38	BROWN	NO	-107.1
1301	10	18.4	6.43	169	" "	0.15	"	NO	-162.5
1305	20	18.4	6.34	155	" "	0.23	"	NO	-182.9
1309	30	18.4	6.32	148	896	0.30	"	NO	-204.4
1314	40	18.4	6.30	141	785	0.12	"	NO	-327.9
1318	50	18.4	6.28	140	288	0.12	CLOUDY	NO	-398.6
1322	60	18.3	6.27	136	213	0.12	"	NO	-402.6
1409	70	18.4	6.26	139	119	0.16	"	NO	-287.6
1415	80	18.4	6.23	133	76.3	0.18	"	NO	-380.9
1420	90	18.4	6.19	130	65.4	0.15	"	NO	-385.2
1425	100	18.4	6.19	128	56.8	0.13	"	NO	-392.6

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 23.5 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____ %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature J Leaphart Date: 2-2-21

AECOM

Well/Piez. ID: MW-110

Well/Piezometer Development Record

Client: CCR1 Site Location: Hopkins, SC

Project No: ~~60644050~~ 60595649 Date: 2-4-21 Developer: James Leaphart

JD 2-6-21

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 29

Depth to Bottom of Screen (ft.) 34

Total Well Depth (ft.) 36.70

Depth to Static Water Level (ft.) 6.61

Geology at Screen Interval (if known)

Time of Water Level Measurement 1055

Calculate Purge Volume (gal.) 4.90

Disposal Method On Site Tote

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2.4.21

DEVELOPMENT METHOD Surge/Purge **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	YSI	ARO	19A103315
	HACH	2100Q	18090C069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1058	INIT. PU	17.0	6.90	870	OVER RANGE	0.11	BROWN	NO	-106.4
1103	10	17.7	6.70	267	" "	0.12	LT BROWN	"	-391.5
1107	20	17.7	6.55	192	315	0.10	CLOUDY	"	-419.7
1111	30	17.7	6.45	167	119	0.14	"	"	-411.6
1115	40	17.8	6.43	163	100	0.16	"	"	-409.1
1119	50	17.8	6.37	153	49.1	0.10	CLEAR	"	-424.9
1123	60	17.8	6.34	145	48.8	0.14	"	"	-407.6

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 24.5 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-4-21

AECOM

Well/Piez. ID: W-111

Well/Piezometer Development Record

Client: CFFF Site Location: HOPKINS, SC

Project No: ~~60641050~~ 60595649 Date: 2-3-21 Developer: James Leapharte

JL 2-6-21

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description: TOC

Depth to Top of Screen (ft.): 76

Depth to Bottom of Screen (ft.): 81

Total Well Depth (ft.): 84.40

Depth to Static Water Level (ft.): 3.75

Geology at Screen Interval (if known):

Time of Water Level Measurement: 1244

Calculate Purge Volume (gal.): 13.14

Disposal Method: ON SITE TOTE

Wellhead PID/FID: NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development: 2-3-21

DEVELOPMENT METHOD: SURGE/PURGE **PURGE METHOD**:

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	PRO	19A103315
HACH	2100Q	18090C069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1250	INITIAL	16.7	7.15	240	OVER RANGE	0.18	GRAY	NO	-371.6
1255	10	17.7	6.68	117	" "	0.11	"	NO	-491.2
1301	20	17.8	6.34	94	" "	0.10	"	NO	-467.0
1306	30	17.7	6.23	79	240	0.16	"	NO	-406.6
1310	40	17.8	6.09	69	60.2	0.15	CLOUDY	NO	-419.1
1315	50	17.7	6.02	62	37.4	0.12	CLEAR	NO	-404.7
1320	60	17.7	5.98	60	24.0	0.11	"	NO	-391.9
1358	70	17.7	5.96	58	56.5	0.10	"	NO	-386.1
1404	80	17.8	5.94	58	50.1	0.10	"	NO	-380.1
1410	90	17.8	5.96	56	21.6	0.11	"	NO	-376.5

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 66 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature: [signature] Date: 2-3-21

AECOM

Well/Piez. ID: W-112

Well/Piezometer Development Record

Client: CPP 60595649 Site Location: HOPKINS, SC

Project No: ~~60644050~~ JC 2-6-21 Date: 2-4-21 Developer: JAMES LEADBETTER

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) 29

Depth to Bottom of Screen (ft.) 34

Total Well Depth (ft.) 36.85

Depth to Static Water Level (ft.) 6.14

Geology at Screen Interval (if known)

Time of Water Level Measurement 0919

Calculate Purge Volume (gal.) 5.00

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development 2-4-21

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	PRO	19A103315
HACH	2100 Q	18090C06926

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
0924	INITIAL	16.8	7.02	239	OVER RANGE	0.33	GRAY	NO	-129.8
0928	10	17.8	6.57	257	" "	0.31	"	"	-315.3
0932	20	17.8	6.52	253	509	0.38	LT BROWN	"	-336.1
0935	30	17.8	6.49	249	376	0.24	CLOUDY	"	-333.1
0940	40	17.8	6.47	247	90.7	0.20	"	"	-313.5
0944	50	17.8	6.46	246	66.7	0.20	CLEAR	"	-316.7
0949	60	17.8	6.45	245	50.4	0.18	"	"	-310.8

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 25 gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-4-21

AECOM

Well/Piez. ID: W-113

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF HOPKINS, SC

Project No: 60595649.14 Date: 8-2-21 Developer: JAMES LEATHART

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description *TOC / +GS

Depth to Top of Screen (ft.) + 31.0

Depth to Bottom of Screen (ft.) + 36.0

Total Well Depth (ft.) *39.05

Depth to Static Water Level (ft.) *9.85

Geology at Screen Interval (if known)

Time of Water Level Measurement 1320

Calculate Purge Volume (gal.)

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WATER PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1328	2.0	18.89	6.87	296.56	5919	1.77	BROWN	NO	80.39
1335	20.0	18.71	6.45	135.65	3429	3.95	"	"	45.25
1400	30.0	18.60	6.14	120.29	4803	5.90	"	"	81.67
1425	40.0	18.57	6.04	104.62	2934	5.76	LT "	"	91.19
1444	50.0	18.65	5.93	87.52	2389	5.31	" "	"	102.86
1505	60.0	18.67	5.87	86.69	2125	5.41	" "	"	104.31
1600	75.0	19.89	5.88	113.12	1116	4.43	" "	"	111.16
1620	90.0	19.17	5.96	118.93	740	4.36	" "	"	103.28

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) _____ gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature _____ Date: 8-2-21

AECOM

Well/Piez. ID: W-114

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF HOPKINS, SC

Project No: 60595649.14 Date: 7-30-21 Developer: JAMES LEAPHART

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC/TGS

Depth to Top of Screen (ft.) +

Depth to Bottom of Screen (ft.) +

Total Well Depth (ft.) * 23.55

Depth to Static Water Level (ft.) * 9.20

Geology at Screen Interval (if known)

Time of Water Level Measurement 0850

Calculate Purge Volume (gal.)

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	868958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0920	3.0	18.84	6.04	138.08	2306	0.68	GRAY		-63
0930	11.0	18.81	5.94	112.20	5612	5.98	"		100.12
0940	20.0	19.13	5.77	86.47	4101	6.04	"		125.24
0959	30.0	19.01	5.58	84.90	3667	6.26	"		130.37
1030	40.0	18.70	5.86	95.31	4421	5.08	"		138.07
1147	60.0	19.30	5.66	74.79	886	5.22	"		170.04
1218	75.0	18.97	5.44	73.78	1242	5.59	"		176.25
1245	90.0	18.96	5.63	72.74	855	5.52	"		170.32
1255	110.0	19.04	5.60	69.12	1015	5.42	"		168.12
1315	120.0	18.90	5.55	66.15	916	5.36	"		159.26

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) _____ gallons
Maximum Turbidity Allowed 50 NTUs
Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature _____ Date: 7-30-21

AECOM

Well/Piez. ID: W-115

Well/Piezometer Development Record

Client: Westinghouse Site Location: CFFF Hopkins, SC

Project No: 60595649.14 Date: 7-28-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description *TOC / +GS Geology at Screen Interval (if known) _____

Depth to Top of Screen (ft.) _____

Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement _____

Total Well Depth (ft.) 48.04 Calculate Purge Volume (gal.) 4.88

Depth to Static Water Level (ft.) 18.08 Disposal Method Site Tote

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development _____

DEVELOPMENT METHOD Whale Pump **PURGE METHOD** _____

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	Troll 600	808958

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1344	2.0	20.48	7.26	385.16	5599	2.09	Brown	No	-133.69
1356	14.0	19.24	6.59	220.37	3364	0.97	orange	"	-126.5
1402	20.0	18.87	6.39	172.21	276	1.55	cloudy	"	-96.84
1411	30.0	18.85	6.10	154.09	81.15	1.89	"	"	-127.45
1416	40.0	18.84	6.03	149.16	22.2	1.98	clear	"	-86.33

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 24 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☐	☐	☒

If no or N/A explain below:

Signature J Leaphart Date: 7-28-21

AECOM

Well/Piez. ID: W-116

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF HOPKINS, SC

Project No: 60595649.14 Date: 7-28-21 Developer: JAMES LEAPHART

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description *TOC/+GS

Depth to Top of Screen (ft.) +

Depth to Bottom of Screen (ft.) +

Total Well Depth (ft.) * 23.30

Depth to Static Water Level (ft.) * 17.50

Geology at Screen Interval (if known)

Time of Water Level Measurement

Calculate Purge Volume (gal.) 0.94

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1310	1.0	21.80	7.61	641.79	3276	4.01	BROWN	NO	-100.9
1420	5.0	18.52	6.61	372.15	2015	5.12	"	"	-32.15
1442	7.0	18.89	6.35	262.57	931	5.97	"	"	48.16
1455	8.0	18.90	6.18	234.75	411	5.97	LT. BROWN	"	59.05
1508	9.0	18.52	6.23	233.56	278	5.60	"	"	52.39
1511	10.0	18.56	6.08	210.47	249	6.01	"	"	15.86
1581	12.0	18.62	5.94	185.63	252	6.19	"	"	72.06
7-29 1210	14.0	18.79	6.33	207.35	156	5.46	CLOUDY	"	37.40
1224	16.0	18.84	6.27	174.87	80	6.62	"	"	69.66
1229	17.0	18.73	5.97	152.49	53	7.43	CLEAR	"	109.76

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 4.7 gallons
Maximum Turbidity Allowed 50 NTUs
Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature [signature] Date: 7-28-21

AECOM

Well/Piez. ID: W-117

Well/Piezometer Development Record

Client: Westinghouse Site Location: CFFF Hopkins SC

Project No: 605956 49.14 Date: 7-29-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC / GS

Depth to Top of Screen (ft.) + _____

Depth to Bottom of Screen (ft.) + _____

Total Well Depth (ft.) * 46.73

Depth to Static Water Level (ft.) * 14.81

Geology at Screen Interval (if known) _____

Time of Water Level Measurement 1255

Calculate Purge Volume (gal.) 5.19

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development _____

DEVELOPMENT METHOD Whale Pump **PURGE METHOD** _____

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	B08958

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1417	3.0	20.19	8.46	177.10	5017	3.82	BROWN	NO	-176.98
1421	10.0	18.98	6.56	112.11	599	2.61	"	"	-74.03
1428	20.0	18.86	6.26	98.19	160.28	3.29	CLOUDY	"	11.98
1434	30.0	18.80	6.09	91.04	125.67	4.47	"	"	77.92
1441	40.0	18.74	6.06	87.35	55.61	4.02	CLEAR	"	96.92
1450	50.0	18.68	6.01	83.94	31.32	4.11	"	"	114.90
1457	60.0	18.63	5.99	82.53	34.96	4.15	"	"	123.62

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 26 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below: _____

Signature _____ Date: 7-29-21

AECOM

Well/Piez. ID: W-118

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF HOPKINS SC

Project No: 60595649.14 Date: 7-29-21 Developer: JAMES LEAPHART

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC/+GS

Depth to Top of Screen (ft.) +

Depth to Bottom of Screen (ft.) +

Total Well Depth (ft.) * 32.42

Depth to Static Water Level (ft.) * 19.70

Geology at Screen Interval (if known)

Time of Water Level Measurement 1255

Calculate Purge Volume (gal.) 2.07

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1301	1.0	19.83	9.47	253.24	6029	6.17	BROWN	NO	17.53
1310	20.0	19.11	6.45	174.21	1291	1.83	ORANGE	"	-171.93
1320	30.0	19.06	6.36	165.0	364	2.13	CLOUDY	"	-168.15
1329	40.0	19.00	6.26	152.97	79.46	1.32	"	"	-150.24
1337	50.0	18.93	6.26	147.10	34.56	1.27	CLEAR	"	-142.85
1344	60.0	19.09	6.17	145.53	25.56	2.38	"	"	-85.39

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 10.4 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature [signature] Date: 7-29-21

AECOM

Well/Piez. ID: MW-119

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF Hopkins SC

Project No: 60595649 Date: 7-28-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC | + GS

Depth to Top of Screen (ft.) + 25.0

Depth to Bottom of Screen (ft.) + 30.0

Total Well Depth (ft.) * 33.00

Depth to Static Water Level (ft.) * 15.35

Geology at Screen Interval (if known)

Time of Water Level Measurement 0922

Calculate Purge Volume (gal.)

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WATER PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0929	1.0	19.71	4.65	219.68	5396	1.06	Brown	NO	-193.56
0934	10.0	19.02	6.47	161.64	5657	0.36	"	"	-186.29
0944	30.0	18.68	6.29	128.06	1280	0.15	"	"	-229.68
0954	40.0	18.72	5.93	120.03	911	0.23	"	"	-215.16
1000	50.0	18.72	5.87	114.08	493	0.20	"	"	-217.17
1005	60.0	18.71	5.82	110.70	317	0.21	"	"	-215.00
1047	70.0	18.62	5.90	114.28	116	0.19	Murky	"	-249.65
1057	90.0	18.70	5.65	105.03	112	0.21	"	"	-191.92
1105	110.0	18.72	5.68	102.97	91.82	0.14	Cloudy	"	-222.82
1113	120.0	18.71	5.62	101.08	67.90	0.14	"	"	-209.08
1115					53.00				

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) _____ gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature J Leaphart Date: 7-28-21

AECOM

Well/Piez. ID: W-120

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF HOPKINS, SC

Project No: 60595649.14 Date: 8-2-21 Developer: JAMES LEATHERS

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC / TGS

Depth to Top of Screen (ft.) + 29.0

Depth to Bottom of Screen (ft.) + 34.0

Total Well Depth (ft.) * 36.88

Depth to Static Water Level (ft.) * 13.71

Geology at Screen Interval (if known)

Time of Water Level Measurement 1055

Calculate Purge Volume (gal.) 3.78

Disposal Method SITE TOC

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WATER PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
ISCO	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1058	2.0	22.08	6.87	279.96	3595	3.25	BROWN	NO	55.27
1107	15.0	20.52	5.87	335.39	449	0.74	CLOUDY	"	72.32
1119	30.0	20.46	5.53	174.49	52.09	1.55	CLEAR	"	121.39
1131	45.0	20.55	5.58	144.46	82.71	0.77	"	"	141.39
1142	60.0	20.53	5.51	133.15	26.44	0.77	"	"	144.18
1214	75.0	20.48	5.59	126.11	61.21	0.94	"	"	143.98
1222	90.0	20.40	5.52	119.26	26.46	1.33	"	"	152.72
1232	105.0	20.46	5.43	115.53	27.94	0.80	"	"	168.05
1249	120.0	20.41	5.42	112.99	26.17	0.82	"	"	158.66

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 19 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature [signature] Date: 8-2-21

AECOM

Well/Piez. ID: U-121

Well/Piezometer Development Record

Client: Westinghouse Site Location: CFFF Hopkins, SC

Project No: 60595649.14 Date: 8-2-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description *TOC / +GS

Depth to Top of Screen (ft.) + 12.0

Depth to Bottom of Screen (ft.) + 22.0

Total Well Depth (ft.) * 25.23

Depth to Static Water Level (ft.) * 13.73

Geology at Screen Interval (if known)

Time of Water Level Measurement 0830

Calculate Purge Volume (gal.) 1.87

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD Whale Pump **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	Troll 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0836	2.0	21.66	9.03	379.05	5777	1.29	ORANGE	NO	-58.41
0848	10.0	20.74	7.15	289.54	5623	4.91	"	"	0.81
0903	15.0	20.74	6.22	217.04	857	4.13	LT. ORANGE	"	27.69
0910	20.0	20.54	6.08	182.01	982	4.24	"	"	53.28
0926	30.0	20.54	5.99	153.71	391	4.01	CLOUDY	"	73.47
0941	35.0	20.68	5.70	152.14	170	3.80	"	"	87.85
0950	40.0	20.77	5.66	142.60	109	3.92	"	"	111.41
1005	50.0	20.68	5.65	131.25	90.6	4.13	"	"	110.88
1020	60.0	20.64	5.65	116.00	63.45	3.71	CLEAR	"	127.81
1026	65.0	20.75	5.47	121.45	24.86	3.61	"	"	136.41

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 9.4 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature Date: 8-2-21

AECOM

Well/Piez. ID: W-122

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF

Project No: 60595649.14 Date: 7-22-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC/GS+ Geology at Screen Interval (if known)

Depth to Top of Screen (ft.) + 25

Depth to Bottom of Screen (ft.) + 30 Time of Water Level Measurement 0839

Total Well Depth (ft.) * 33.09 Calculate Purge Volume (gal.) 410

Depth to Static Water Level (ft.) * 7.92 Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	PRO	19J104745
HACH	2100Q	

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
0900	1.0	21.1	6.99	167.9	>	0.20	Brown	No	-282.3
0911	15.0	20.5	6.01	107.7	>	2.69	"	"	-124.0
0922	30.0	20.4	5.86	75.3	154	4.03	MILKY	"	-36.3
(1) 0935	~~60.0~~ 35	20.5	6.24	90.0	902	1.58	Brown	"	-230.5
(2) 0944	~~70.0~~ 40	20.5	6.07	67.8	159	4.56	MILKY	"	-32.1
1004	45	20.3	6.11	80.5	82.0	1.10	CLOUDY	"	-215.7
1010	55	20.4	6.00	62.3	75.6	1.77	"	"	-96.2
1038	65	20.5	6.29	78.4	55.3	1.06	"	"	-177.4
1047	75	20.5	6.12	59.2	41.6	4.09	CLEAR	"	-15.6
1055	82	20.6	6.13	58.7	43.2	3.83	"	"	-19.4
1102	90	20.5	6.12	57.7	31.0	3.46	"	"	-21.2

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) ____gallons
Maximum Turbidity Allowed 50 NTUs
Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A explain below:

Signature [signature] Date: 7.22.21

AECOM

Well/Piez. ID: GW-123

Well/Piezometer Development Record

Client: CFFF Site Location: ~~EECF~~ WESTINGHOUSE

Project No: Date: 7-21-21 Developer: JAMES LEADHART

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC Geology at Screen Interval (if known)

Depth to Top of Screen (ft.)

Depth to Bottom of Screen (ft.) Time of Water Level Measurement 1020

Total Well Depth (ft.) 33.98 Calculate Purge Volume (gal.) 4.01

Depth to Static Water Level (ft.) 9.35 Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE PUMP **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	YSI	PRO	
	HACH	2100 Q	

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1055	1.0	25.3	10.98	380.1	>	2.37	BROWN	NO	-238.5
1124	~~10.0~~ 7.0	23.0	7.25	802	>	0.22	"	"	-252.0
1145	11.0	22.6	6.82	976	>	0.26	"	"	-315.2
1205	15.0	22.5	6.80	1082	442	0.56	LT. BROWN	"	-239.6
1222	20.0	22.4	6.80	1149	357	0.64	" "	"	-221.1
1302	26.0	22.5	7.01	1223	206	0.49	MILKY	"	-245.3
1324	30.0	22.6	7.02	1250	207	0.52	"	"	-213.0
1340	33.0	22.4	7.58	1274	134	0.66	CLOUDY	"	-176.4
1353	37.0	22.0	7.57	1285	79.1	0.69	"	"	-191.7
1434	60.0	22.3	7.15	1315	73.2	0.54	"	"	-165.7
1615	66.0	22.4	6.82	1337	45.3	0.68	CLEAR	"	-111.2
1630	75.0	22.5	6.95	1357	27.7	0.52	"	"	-114.1

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 20 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature Date: 7-21-21

AECOM

Well/Piez. ID: W-124

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF HOPKINS SC

Project No: 60595649 Date: 7-27-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC / * GS

Depth to Top of Screen (ft.) + 26.0

Depth to Bottom of Screen (ft.) + 31.0

Total Well Depth (ft.) * 33.38

Depth to Static Water Level (ft.) * 10.00

Geology at Screen Interval (if known)

Time of Water Level Measurement 1315

Calculate Purge Volume (gal.) 3.81

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE Pump **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1324	1.0	18.82	6.88	184.22	3233	0.40	GRAY	NO	-115.92
1334	20.0	18.19	6.77	148.37	2242	0.12	"	"	-131.03
1402	30.0	18.40	6.54	150.21	6549	0.27	"	"	-69.16
1408	40.0	18.09	6.37	141.17	2011	0.17	"	"	-72.46
1416	60.0	18.17	6.39	129.17	725	0.18	"	"	-75.30
1423	80.0	18.15	6.17	119.50	298	0.22	"	"	-55.12
1457	100.0	18.16	6.25	123.53	207	0.18	"	"	-32.08
1506	120.0	18.10	6.08	115.62	135	0.12	CLOUDY	"	-24.29
1517	140.0	18.12	5.98	114.36	78.4	0.16	CLEAR	"	-21.87
1525	150.0	18.15	5.93	113.76	70.2	0.27	"	"	-18.55

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 19 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature J Leaphart Date: 7-27-21

AECOM

Well/Piez. ID: W-125

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: CFFF

Project No: 60595649 Date: 7-22-21 Developer: JAMES LEAPHART

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC / + GS

Depth to Top of Screen (ft.) +

Depth to Bottom of Screen (ft.) +

Total Well Depth (ft.) * 47.45

Depth to Static Water Level (ft.) * 9.72

Geology at Screen Interval (if known)

Time of Water Level Measurement

Calculate Purge Volume (gal.) 6.15

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	PRO	
HACH	2100 Q	

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1300	2.0	20.4	6.52	182.3	>	0.43	GRAY	NO	-351.6
1305	15.0	19.5	6.37	280.6	>	0.09	"	"	-468.4
1310	30.0	19.3	6.34	302.5	>	0.11	~~BROWN~~	"	-403.8
1316	40.0	19.2	6.30	308.2	>	0.10	"	"	-390.8
1323	60.0	19.1	6.27	311.8	>	0.10	"	"	-365.9
1357	70.0	19.2	6.20	315.2	>	0.11	"	"	-316.1
1405	90.0	19.1	6.23	316.9	484	0.07	LT. GRAY	"	-345.1
1411	100	19.0	6.08	320.3	105	0.12	MILKY	"	-305.0
1416	110	19.0	6.09	321.7	70.3	0.10	CLOUDY	"	-309.5
1421	120	19.2	6.12	323.3	30.0	0.07	CLEAR	"	-317.9

(1L)

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) ____ gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature [signature] Date: 7-22-21

AECOM

Well/Piez. ID: W-126

Well/Piezometer Development Record

Client: Westinghouse Site Location: CFFF Hopkins

Project No: 60595649 Date: 7-27-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description * TOC/+GS

Depth to Top of Screen (ft.) + 38.5

Depth to Bottom of Screen (ft.) + 43.5

Total Well Depth (ft.) * 44.84

Depth to Static Water Level (ft.) * 8.37

Geology at Screen Interval (if known)

Time of Water Level Measurement 0945

Calculate Purge Volume (gal.) 5.94 ~~0945~~ JL

Disposal Method SITE TOTE

Wellhead PID/FID NA

Original Well Development ☒ Redevelopment ☐ Date of Original Development

DEVELOPMENT METHOD WHALE PUMP **PURGE METHOD**

Field Testing Equipment Used:

Make	Model	Serial Number
INSITU	TROLL 600	808958

Field Testing Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0950	1.0	19.70	7.38	238.71	3422	0.57	Brown	ND	-253.52
1008	10.0	18.85	6.67	298.05	6057	0.46	"	"	-125.04
1016	20.0	18.56	6.63	302.29	4114	0.31	"	"	-138.58
1027	30.0	18.57	6.50	298.84	704	0.47	LT Brown	"	-90.69
1036	40.0	18.52	6.54	300.93	936	0.21	"	"	-99.48
1043	50.0	18.64	6.43	290.64	1054	1.56	"	"	-80.37
1116	60.0	18.77	6.49	285.93	6450	0.19	"	"	-71.07
1133	90.0	18.80	6.50	279.48	303	0.17	MILKY	"	-60.96
1143	110.0	18.50	6.39	280.89	75.2	0.16	CLEAR	"	-71.75
1152	120.0	18.47	6.40	280.66	56.3	0.14	"	"	-72.33

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 29.7 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

Signature James Leaphart Date: 7-27-21

Well Redevelopment Records

AECOM

Monitoring Well Development Log

Page ____ of ____

Date Started (yr/mo/day) 4/12/19 Date Completed (yr/mo/day) 4/12/19

Field Personnel E.Harrington AECOM

Site Name Westinghouse

Job # 60595649.3

Well ID # 710-01

____ Upgradient ____ Downgradient

Weather Conditions Cloudy 70s

Air Temperature 70s °F

Total Well Depth (TWD) = 31.82 1/100 ft

Depth to Ground Water (DGW) = 8.03 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 23.79 1/100 ft

1 Casing Volume (OCV) = LWC x .656 = ~~3.8~~ 15.6 gallons

5 Casing Volumes = JRH ~~19.3~~ 78.03 gallons

Method of Well Development Surge heavily / purge

Total Volume of Water Removed 130 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	~~ORP~~ Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks	DO
4/12/19 0826		0	20.89	5.78	169.0	244	>1100	Heavy sediment		
0834	Surge		21.07	4.97	167.7	102	>1100	Some less sediment some color		
0839	Surge		21.01	4.77	201.1	JRH ~~0.092~~	727.8	milky / orange		
0844	Surge		21.03	4.57	216.1	~~0~~ 71	>1100	Some		
0849	Surge	20	21.03	4.55	228.1	91	>1100	Some	DW: 8.02	
0854	Surge		21.12	4.58	245.1	90	>1100	Some	DW: 8.04	3.45
0859	Surge	JRH	21.06	4.57	250.2	91	>1100	Some	DW: 7.93	3.37
0904	Surge	~~35~~ 40	21.13	4.46	249.2	091	>1100	Some	DW: 8.68	3.46
0909		50	21.00	4.40	254.3	89	179.5	clear	DW: 8.71	3.39
0914		70	21.03	4.30	261.3	87	~~109.7~~	clear	DW: 8.71	
0919		100	21.21	4.62	247.6	90	28.09	clear	DW: 8.71	3.12

COMMENTS/OBSERVATIONS:

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 4/12/19 Date Completed (yr/mo/day) 4/12/19

Field Personnel E. Harris

Site Name Westinghouse

Job # 60595649.3

Well ID # RW-01

____ Upgradient ____ Downgradient

Weather Conditions Cloudy

Air Temperature 70s °F

Total Well Depth (TWD) = ____ 1/100 ft

Depth to Ground Water (DGW) = ____ 1/100 ft

Length of Water Column (LWC) = TWD - DGW = ____ 1/100 ft

1 Casing Volume (OCV) = LWC x ____ = ____ gallons

5 Casing Volumes = ____ gallons

Method of Well Development ____

Total Volume of Water Removed ____ gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	~~Eh~~ ORP	Specific Conductivity (µmhos/cm)	Turbidity/Color	~~Sand Content~~ (%)	Remarks
1924		120	21.31	4.57	248.9	89	16.50	pw: 8.71	clear DO 3.21
1939		130	21.40	4.71	241.3	89	32.40	Some	clear

COMMENTS/OBSERVATIONS: ____

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 12/19/18 Date Completed (yr/mo/day) 12/19/18

Field Personnel C. Suddeth

Site Name Westinghouse

Job #

Well ID # W-6

____ Upgradient ____ Downgradient

Weather Conditions

Air Temperature °F

Total Well Depth (TWD) = 24.3 1/100 ft

Depth to Ground Water (DGW) = 9.25 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 15.05 1/100 ft

1 Casing Volume (OCV) = LWC x 0.163 = 2.45 gallons

5 Casing Volumes = 12.3 gallons

Method of Well Development Surging and Pumping

Total Volume of Water Removed gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (mmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1107		2.5	21.5	8.10		0.187	29.39		
1134		45 gal in tote	20.5	6.24		0.94	269.6		TD = 24.6 very cloudy
1134-1223	No development								→
1225	Pumped well at bottom to remove sediment								TD = 24.8
1249	"								TD = 24.95
1311	"								TD = 27.5
1325	"								TD = 27.3
1337	"								TD = 27.35
1356		60 gal in tote 30 from well	21.6	6.44		1.44	>1100		TD = 27.35
1406			20.7	6.44		1.71	244.5		TD = 27.35
1415			21.4	6.39		1.57	501.2		
1526			21.3	6.25		1.67	152.3		

COMMENTS/OBSERVATIONS: Used pump serial # 004132

AECOM

Monitoring Well Development Log

Date Started (yr/mo/day) 12/19/18 Date Completed (yr/mo/day) _____

Field Personnel C. Sudduth

Site Name Westinghouse

Job # _____

Well ID # W-22

_____ Upgradient _____ Downgradient

Weather Conditions _____

Air Temperature _____ °F

Total Well Depth (TWD) = 14.44 1/100 ft

Depth to Ground Water (DGW) = 9.24' 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 5.2 1/100 ft

1 Casing Volume (OCV) = LWC x 0.163 = 0.85 gallons

5 Casing Volumes = 4.25 gallons

Method of Well Development Surging and Pumping

Total Volume of Water Removed _____ gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity mmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1444			18.9	5.64		0.373	319.5		
1458			18.8	5.49		0.472	206.2		
1515			18.2	5.51		0.510	176.6		
1529			16.9	6.06		0.60	109.3		
1544			16.4	5.68		0.573	47.8		

COMMENTS/OBSERVATIONS: Pump Serial No. 004133

AECOM

Well/Piez. ID: W-25

Well/Piezometer Development Record

Client: CEFF Site Location: Hopkins, SC

Project No: 60595649 Date: 2-5-21 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.)

Depth to Bottom of Screen (ft.)

Total Well Depth (ft.) 28.30

Depth to Static Water Level (ft.) 7.18

Original Well Development ☒ (JL 2-5-21) Redevelopment ☒

Geology at Screen Interval (if known)

Time of Water Level Measurement 1135

Calculate Purge Volume (gal.)

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Date of Original Development ~~2-5-21~~ (JL 2-5-21)

DEVELOPMENT METHOD SURGE/PURGE **PURGE METHOD**

Field Testing Equipment Used:

	Make	Model	Serial Number
	YSI	PRO	19A103315
	HACH	2100 Q	180800069267

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1139	INITIAL	18.0	6.45	186	OVER RANGE	0.07	GRAY	SULFUR	-8.5
1145	10	18.3	6.32	129	259	0.08	CLOUDY	"	-32.7
1151	20	18.4	6.34	131	108	0.13	"	"	-40.2
1211	30	18.4	6.24	118	118	0.14	"	"	-37.5
1225	40	18.4	6.24	117	53.9	0.17	CLEAR	"	-41.9
1235	50	18.4	6.24	117	35.8	0.15	"	"	-44.1
1245	60	18.4	6.24	116	34.1	0.15	"	"	-44.6

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (3 well volumes) _____gallons

Maximum Turbidity Allowed _____ NTUs

Stabilization of parameters _____%

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A explain below:

Signature _____ Date: 2-5-21

AECOM

Well/Piez. ID: W-27

Well/Piezometer Development Record

Client: WESTINGHOUSE Site Location: HOPKINS, SC

Project No: 60695649 Date: 6-25-20 Developer: JAMES LEAP/HART

WELL/PIEZOMETER DATA

Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description TOC

Depth to Top of Screen (ft.) *

Depth to Bottom of Screen (ft.)

Total Well Depth (ft.) * 16.65 / 18.90 **

Depth to Static Water Level (ft.) 10.24

Geology at Screen Interval (if known)

Time of Water Level Measurement 1115

Calculate Purge Volume (gal.)

Disposal Method ON SITE TOTE

Wellhead PID/FID NA

Original Well Development ☐ Redevelopment ☒ Date of Original Development

DEVELOPMENT METHOD SURGE + PURGE **PURGE METHOD** WHALE PUMP

Field Testing Equipment Used:

Make	Model	Serial Number
451	PROSS	19D101330

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	Other
1125	INITIAL	19.90	6.18	282	1006	1.99	RUST	-45.1	
1146	3.75	19.20	6.14	298	608	4.56	"	-51.1	

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) _____ gallons

Maximum Turbidity Allowed 10 NTUs

Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A explain below:

0.75 GALLONS PER MIN, DRY

Signature [signature] Date: 6-25-20

Appendix J
Deviations from the Work Plans

Deviations From Work Plans

Deviations from the *Final Remedial Investigation Work Plan* (AECOM, 2019a) and *Phase II Remedial Investigation Work Plan* (AECOM, 2020) included the following:

- After the submittal of the June 2019 *Final Remedial Investigation Work Plan* (AECOM, 2019a), DHEC requested that an additional staff gage be installed within Mill Creek. This staff gage was installed within Mill Creek downstream of the Lower Sunset Lake Dike spillway as requested.
- Field parameters (e.g., dissolved oxygen, turbidity) were not collected during surface water sampling. This oversight did not affect the analytical results of these samples.
- Groundwater screening in the floodplain was not part of the *Final Remedial Investigation Work Plan* (AECOM, 2019a). This additional groundwater assessment was proposed in the *Additional Floodplain Assessment Plan* (AECOM, 2019b) submitted to DHEC on August 2, 2019, and approved by DHEC on August 7, 2019.
- Several underground electric lines were located close to the proposed locations of the monitoring well pair W-77 and W-93 and did not allow safe clearance for drilling activities. Therefore, these wells were installed approximately 50 feet southeast of their proposed locations.
- Concrete approximately 1 foot below the asphalt surface of the road paralleling the southern portion of the Chemical Area OU and the facility's power bank running down the middle of the northern lane of this road resulted in monitoring well W-78 being moved across the road. Therefore, monitoring well W-78 was installed approximately 25 feet south of its proposed location.
- Monitoring wells W-83 and W-86 were installed deeper into the surficial aquifer due to an anomalously thick clay layer at the surface. The top 26 and 23 feet, respectively, of the subsurface in the area of these two wells consisted of clay or silty clay compared to approximately 8 feet of silt or clay in other areas of the developed portion of the site. This clay deposit may represent a former oxbow lake or former stream channel that slowly filled with silt and clay overbank deposits.
- The *Phase II Remedial Investigation Work Plan* (AECOM, 2020) proposed collection of soil samples from two locations (SS-15 and SS-16) in the vicinity of the East and Sanitary Lagoons. Prior to implementation of the Phase II effort, CFFF implemented closure of the East Lagoon. Due to the closure activities, it was unsafe for AECOM personnel to access these areas.
- The *Phase II Remedial Investigation Work Plan* (AECOM, 2020) proposed the installation of a deeper well, W-101, adjacent to well W-11 to create a well cluster to further delineate vertical Tc-99 concentrations. When the boring for well W-101 was drilled, the depth of the Black Creek confining clay was shallower than anticipated and was within 5 feet of the screened interval of existing well W-11, a surficial aquifer lower zone well. AECOM personnel spoke to DHEC personnel, and the parties agreed not to install a well in the W-101 boring location because it would not provide any new data.
- During installation of the lower zone surficial aquifer monitoring well W-99, it was noted the thickness of the surficial aquifer was not sufficient to allow a 10-foot screen for upper zone surficial aquifer well W-100 per the *Final Remedial Investigation Work Plan* (AECOM, 2019a) without overlapping the screened intervals. AECOM personnel spoke to DHEC personnel and the parties agreed to install both wells with 5-foot screens.
- Upper zone of the surficial aquifer monitoring wells W-96, W-97, and W-119 were also installed with 5-foot screens, instead of 10-foot screens, to screen the same portion of the surficial aquifer where groundwater screening samples indicated impacts to groundwater.
- Due to ponding water in a surficial depression in the western portion of the site, groundwater screening locations L-53, L-56 and L-57 had to be moved from their proposed locations. Borings L-53 and L-56 were moved approximately 100 feet west and boring L-57 was moved approximately 150 feet west of their originally proposed locations.

References

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

AECOM, 2019b. Columbia Fuel Fabrication Facility, Additional Floodplain Assessment, Richland County, S.C., Consent Agreement CA-19-02-HW, File # 51377, August 2, 2019.

AECOM, 2020. Phase II Remedial Investigation Work Plan, Westinghouse Columbia Fuel Fabrication Facility, 5801 Bluff Road, Hopkins, South Carolina, September 2020.

Appendix K
Site Topographic Map



AECOM

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

Site Topography Map

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY
HOPKINS, SOUTH CAROLINA

PROJECT NO.	PREPARED BY	DATE	
60633543	CCS	July 2020	FIGURE A1

Path: M:\EnvData\Viz\Westinghouse\mxd\202112_ContourSiteMap.mxd

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Appendix L
Surface Water Body Descriptions

Surface Water Body Descriptions

Surface water bodies on and within the facility property include the Gator Pond, Mill Creek which contains Upper and Lower Sunset Lakes, and stormwater ditches (**Figure 2**).

The Gator Pond is a man-made surface water body constructed within a shelf of the bluff. This water is approximately 8 feet deep at its greatest depth and is fed by both groundwater and precipitation. Based upon data collected from a pressure transducer and associated staff gage, the elevation of the pond water is consistently within a few inches of approximately 118 feet above mean sea level (AMSL).

Mill Creek is a tributary of the Congaree River. The Congaree River is located approximately 3 miles south southwest of the southern property boundary. Within the property, Mill Creek is horseshoe shaped with north-south trending arms on the west and east sides and an east-west trending section in the middle. Flow directions of Mill Creek within the property boundary are highly dynamic due to multiple variables discussed below.

There are five fully impounding to semi-impounding dikes within Mill Creek on the property. These are from west to east: Canal Dike, Entrance Dike, Upper Sunset Lake Dike (also known as the Causeway), Lower Sunset Lake Dike (also known as the Spillway) and Exit Dike. The concrete Canal Dike sits at the western end of the man-made canal that diverts most of the flow of Mill Creek along the southern property boundary. Flow into the canal is via a man-made channel connecting Mill Creek to the canal.

Surface water in Mill Creek that does not flow into the canal continues to migrate along its natural channel until it encounters the earthen Entrance Dike. A 3-feet diameter galvanized aluminum pipe allows flow through the dike. Beyond the Entrance Dike is Upper Sunset Lake, a forested lowland swamp. At the eastern end of Upper Sunset Lake is the earthen Upper Sunset Lake Dike. An open, steel reinforced, approximately 4 foot wide channel through the Upper Sunset Lake Dike allows water to flow from Upper Sunset Lake into Lower Sunset Lake.

Portions of Lower Sunset Lake are open water while other portions are forested swamp. At the eastern end of Lower Sunset Lake is the earthen Lower Sunset Lake Dike that impounds water within this surface water body. Water exits Lower Sunset Lake over a concrete spillway, flowing into the natural swamp of Mill Creek until it encounters the Exit Dike.

The Exit Dike is similar to the Entrance Dike with a pipe allowing water to flow through the dike. Due to the Exit Dike's pipe being continually submerged, the type of pipe and its diameter are unknown, but it is likely the same as the Entrance Dike. Water flowing through the Exit Dike discharges at the intersection of the man-made canal and the natural flow channel of Mill Creek.

Mill Creek meanders several more miles before discharging to the Congaree River. When the Congaree River floods, it pushes water up Mill Creek causing a reversal in Mill Creek's predominant flow direction depending on the elevation of the flood waters. If the flood waters are high enough, the Lower Sunset Lake spillway is overtopped and flood waters flow east to west within Sunset Lakes. The Canal Dike spillway is approximately 1 foot higher than the Lower Sunset Lake spillway (approximately 110 feet AMSL versus 109 feet AMSL), so flow through Sunset Lakes is the preferential flow path until flood waters fill the canal enough to overtop the Canal Dike spillway. The force of water flowing through the channel at the western end of the canal acts as an impeding force of flood waters filling the canal and the Canal Dike further impedes movement of flood water from the canal into Mill Creek in this area.

To understand the flow dynamics within Mill Creek within the property, five pressure transducers (Canal, Entrance, Upper 2, Upper and Lower) and associated staff gages were deployed within Mill Creek. The pressure transducers take water level readings once per hour which are converted to a surface water elevation based upon the referenced elevation of the staff gage. One additional staff gage was installed in Mill Creek below the Lower Sunset Lake to manually obtain surface water elevations within this portion of Mill Creek.

There are two primary and one secondary stormwater ditches on the property. The primary ditches are referred to as the Western Ditch and the Eastern Ditch, and the secondary ditch is referred to as the Middle Ditch. Associated with

the Eastern Ditches are five sluice valves (A-valve through E-valve). According to CFFF's Stormwater Pollution Prevention Plan (Westinghouse, 2021):

A complete network of storm drains and culverts cover the plant site. These storm drains empty into another network of swales, drainage ditches, and culverts that discharge into upper Sunset Lake and eventually Congaree River, approximately four miles from the site. The storm drains were constructed in four lines, designated by the letters "A," "B," "D," and "E." Each catch basin along the line is clearly marked with the line letter. A gate valve at the end of each line can be closed to contain any spills that enter that line. Each gate valve is clearly marked with the line letter. Lines "A" and "B" empty into the ditch that runs along the south side of the site. Lines "D" and "E" empty into the ditch that runs southwest from the north side of the site. The two ditches meet at the dirt road that runs along the western site boundary. On the west side of the road is the main control valve, labeled "C," which is the site's only storm water outfall.

Remote valves can be controlled from either the URRS or Conversion Control Rooms.

Valve Normal Operating Position Manual or Remote
A 50 % Open Manual
B 50 % Open Manual
C 100 % Open Remote
D 100 % Open Remote
E 100 % Open Remote

Following verification that there are no leaks/spills leading to storm drains, normally closed valves may be opened in the event of a heavy rainstorm to allow for a higher rate of flow. The valves will be returned to normal state following the conclusion of the storm event.

The Middle Ditch is a tributary of the Eastern Ditch and is typically dry except during periods of high water and precipitation. The southern portion of the Middle Ditch is more incised and receives groundwater discharge more frequently than the northern portion of the ditch. Flow near the Middle Ditch's intersection with the Eastern Ditch is common.

The Western Ditch's northern extent originates in a forested area north of the facility. This portion of the Western Ditch is man-made and is typically dry. This ditch parallels the property boundary and exits the site onto the adjacent property to the west where it connects to a natural flow channel. This channel comes back onto the site and then discharges into the western end of Upper Sunset Lake near the Entrance Dike. The southern, more incised portion of this ditch receives groundwater.

The Eastern Ditch is the primary stormwater ditch on the property. Most of this ditch is man-made and begins as two branches, the western branch and the eastern branch, along Bluff Road at the northeastern property boundary. There are ditches parallel to the southern side of Bluff Road and culverts under Bluff Road that connect to both branches of the Eastern Ditch. The culverts connect to wetlands along the northern side of Bluff Road and water is conveyed through these culverts much of the year.

The portion of the Eastern Ditch near the convergence of the Western Ditch and Eastern Ditch is dry year round except for during precipitation events. This portion of the ditch receives stormwater from both the primary and secondary parking lot, is subterranean beneath the facility's primary parking lot and shortly thereafter merges with the portion of the ditch emanating along Bluff Road. The Eastern Ditch then flows along the eastern edge of the developed portion of the property, turns west, and is piped underneath and flows parallel to the Southern Storage Area and Sanitary Lagoon.

The Middle Ditch receives stormwater from the Northern Storage Area and the western portion of the facility. This ditch merges with the Eastern Ditch southwest of the Sanitary Lagoon. The southern portion of this ditch receives groundwater discharge during periods when the water table is high.

West of the convergence with the Middle Ditch, the Eastern Ditch is deeply incised and receives groundwater discharge year round. Like the Western Ditch, the Eastern Ditch discharges to Upper Sunset Lake; however, its

discharge point is in the central portion of Upper Sunset Lake. Discharge from these ditches serves as the primary base flow of Upper Sunset Lake during dry periods with the Eastern Ditch being the primary contributor.

The property, including portions of the floodplain, was used primarily for agriculture prior to the industrial development. Dewatering ditches were excavated within the floodplain by the previous owner(s). The primary dewatering ditch in the floodplain extends from the central portion of Lower Sunset Lake to Mill Creek near the Exit Dike. Portions of this ditch parallel the bluff, other portions parallel the property boundary, and the southern portion is within a former channel of Mill Creek. The other dewatering ditch is located south of Upper Sunset Lake and extends to a former channel of Mill Creek that remains connected to the current channel.

References

Westinghouse, 2021. Storm Water Pollution Prevention Plan for Westinghouse Electric Company LLC, 5801 Bluff Road, Hopkins, South Carolina 29061, December 31, 2021.

Appendix M
CFFF Soils

CFFF Soils

Based upon information within the United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey of Richland County (USDA, September 1978), there are six surficial soil types in areas above the bluff and two surficial soil types in the floodplain. Surficial soil types above the bluff consist of loam, fine sandy loam, sandy loam, loamy sand, very fine sandy loam, and the Orangeburg-Urban Land Complex. Surficial soil types below the bluff consist of loam and silty clay loam. These soil types are described in detail below.

Above the Bluff

The area above the bluff covers approximately 480 acres and includes the developed portion of the site. Loams above the bluff were classified as Cantey (Ca) and Smithboro (Sm) loams. The Cantey loam is a poorly drained, nearly level soil on flat areas and in slight depressions on terraces of the Congaree and Wateree Rivers. Similarly, the Smithboro loam is a somewhat poorly drained, nearly level soil in the valleys of the Congaree and Wateree Rivers. Permeability and runoff from these soils are slow causing water to stand on the surface during rainy periods. These soil classes account for approximately 16% of the area above the bluff.

The Coxville (Cx) fine sandy loam is a poorly drained, nearly level soil in concave elliptical depressions on broad ridges of the Coastal Plain. Permeability of this soil is moderately slow and surface water may accumulate during rainy periods in these soils. This soil class accounts for approximately 11% of the area above the bluff including portions of the developed area.

Sandy loams above the bluff were classified as Faceville (FaA) and Goldsboro (GoA) sandy loams. The Faceville sandy loam is a well-drained, nearly level soil located on broad ridgetop of the Coastal Plain. The Goldsboro sandy loam is a well-drained, nearly level soil on interstream divides of marine terraces in the Coastal Plain. Permeability of these sandy loams are moderate and runoff from these soils is slow. The Faceville and Goldsboro sandy loam soil classes account for approximately 2% and 4% of the area above the bluff, respectively with the Goldsboro sandy loam underlying part of the developed area.

Loamy sands above the bluff were classified as Orangeburg (ObA) and Vaucluse (VaC) loamy sands. The Orangeburg loamy sand is a well-drained, nearly level soil located on ridgetops and interstream divides in the Coastal Plain. The Vaucluse loamy sand is a well-drained, sloping soil located on irregular, abrupt side slopes in the Coastal Plain uplands. Permeability of these loamy sands is moderate, and runoff are slow. The Orangeburg and Vaucluse loamy sand soil classes account for approximately 11% and 1 % of the area above the bluff, respectively. Surface soils in the Denley Cemetery area are Vaucluse loamy sand.

The Persanti (Ps) very fine sandy loam is moderately well drained, nearly level soil on terraces in the valleys of the Congaree and Wateree Rivers. Permeability of this soil type is low, and runoff of this soil are slow causing water to pond on the surface during rainy periods. This soil class accounts for approximately 44% of the area above the bluff and very little of the operational area is underlain by this soil class.

The Orangeburg-Urban Land Complex (OgB) is a well-drained, nearly level soil located on broad ridgetops and interstream divides in the Coastal Plain. Permeability of this soil is moderate, and runoff is slow. The Orangeburg-Urban Land Complex accounts for approximately 11% of the area above the bluff and underlies most of the developed area of the site.

Below the Bluff

The area below the bluff covers approximately 670 acres, is a portion of the floodplain of the Congaree River, and contains Mill Creek (including Upper and Lower Sunset Lakes) and the Gator Pond (1% of the area below the bluff is water).

Loams below the bluff were classified as Congaree (Co), Chewcala (Ce) and Toccoa (To) loams. The Congaree loam is well drained to moderately well drained, nearly level soil mostly on the floodplains of the Congaree and Wateree Rivers. The Chewcala loam is a somewhat poorly drained, nearly level soil, mostly on the floodplains of the Congaree and Wateree Rivers. The Toccoa loam is well-drained, nearly level soil, mostly on the floodplains of the Broad,

Congaree, Saluda, and Wateree Rivers in both the Coastal Plain and the Piedmont. Permeability of these loams is moderate (with the exception of the Toccoa loam where permeability is moderately rapid), runoffs are slow, and they are commonly flooded for brief periods of time. These soil classes account for approximately 69% of the area below the bluff.

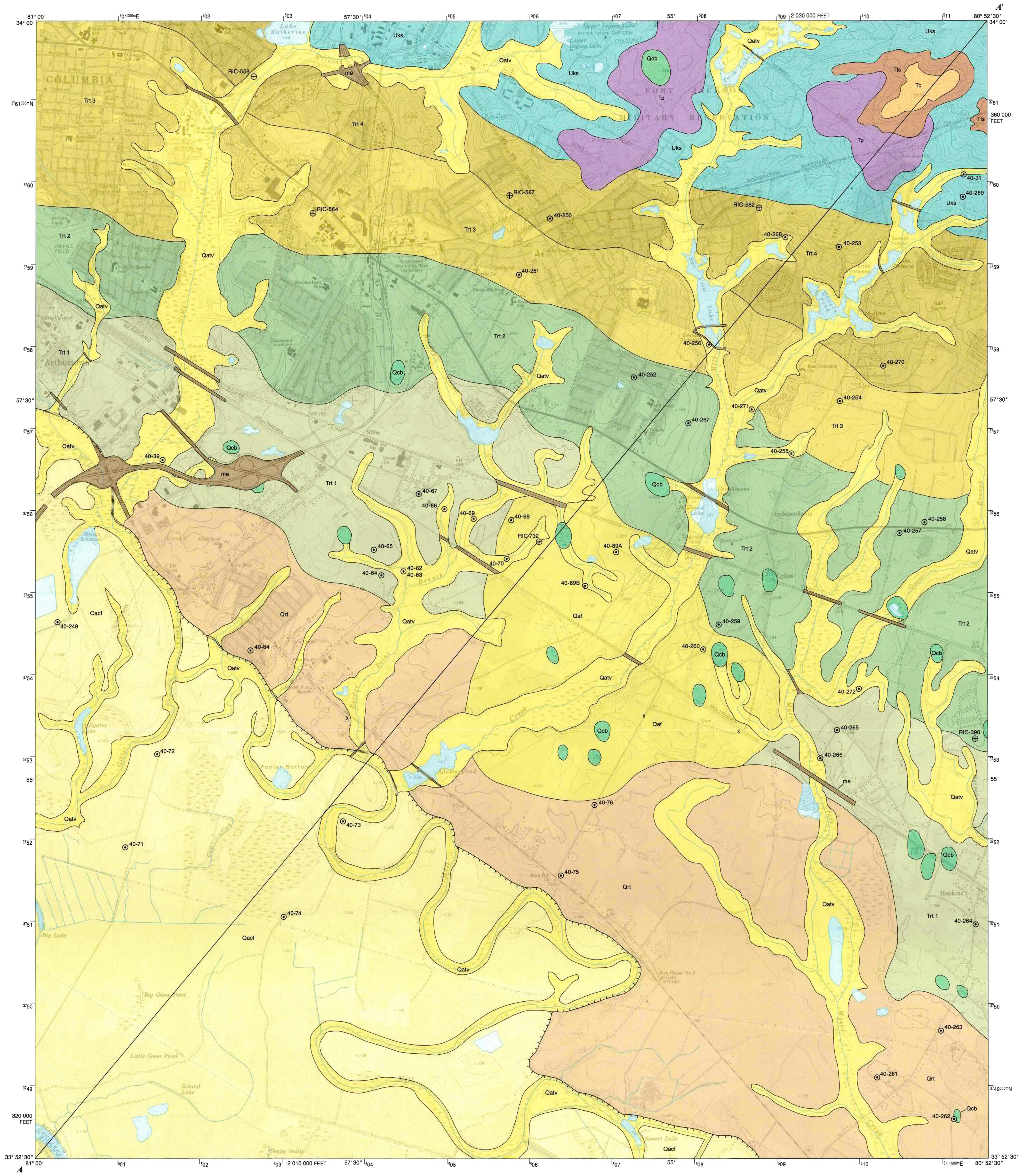
Silty clay loam below the bluff consists of Chastain (Cd) and Tawcaw (Tc) silty clay loams. The Chastain silty clay loam is poorly drained, nearly level soil primarily in the floodplains of the Congaree and Wateree Rivers. Permeability of this loam is moderate and areas where it is located are flooded for long periods each year. The Chastain silty clay is contained within the confines of Mill Creek and accounts for 24% of the area below the bluff. The Tawcaw silty clay loam is somewhat poorly drained, nearly level soil primarily on the broad floodplains of the Congaree and Wateree Rivers. Permeability and runoff in this silty clay loam is low, and this soil class accounts for approximately 6% of the area below the bluff.

References

Additional details such as historical soil survey reports for Richland County can be found on the USDA website. The USDA no longer publishes these reports and new data is added to the website. The last soil survey report for Richland County was published in 1978. Soil types for the Columbia Fuel Fabrication Facility remain unchanged from those published in the 1978 report. Below is a link to the USDA website where additional information can be obtained.

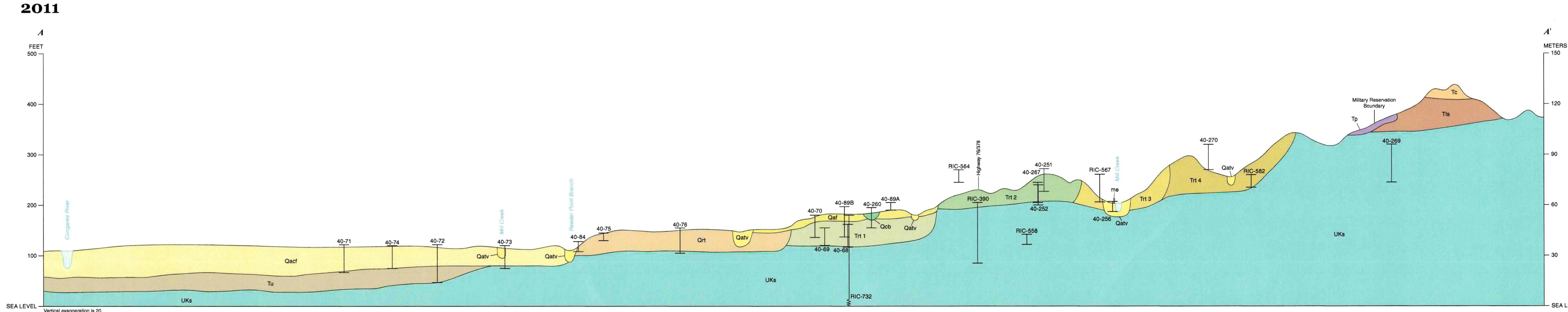
https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Appendix N
Fort Jackson South Geologic Quadrangle Map

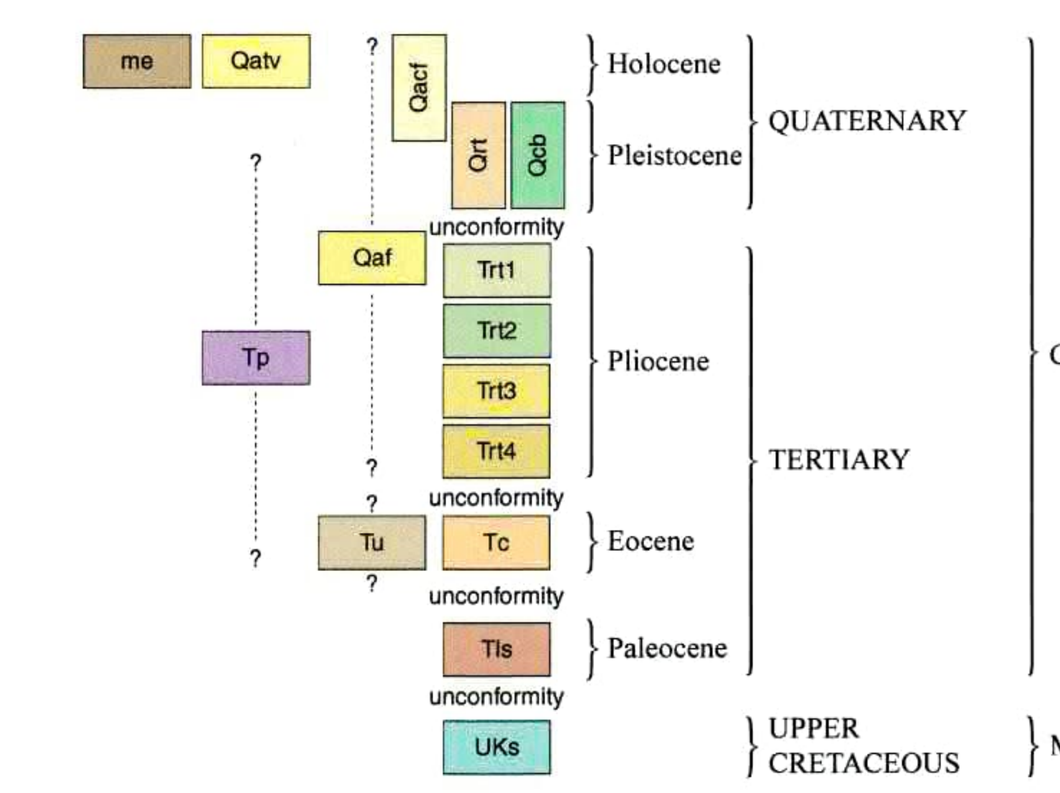


GEOLOGIC MAP OF THE FORT JACKSON SOUTH QUADRANGLE, CALHOUN AND RICHLAND COUNTIES, SOUTH CAROLINA

Kimberly M. Meitzen
2011



CORRELATION OF MAP UNITS



GEOLOGIC MAPPING

Fort Jackson South 7.5-minute quadrangle lies within the Upper Coastal Plain of South Carolina and is located near the geographic center of the State. The quadrangle includes a diverse land cover including urban, rural, agriculture, forestry, and conservation areas (Figure 1). In addition, it contains a portion of the city of Columbia and Fort Jackson Military Reservation, a United States Army basic training facility. Topographic relief within the quadrangle ranges from 30 meters along the Lower Congaree River in the southwest corner to 138 meters in the upper northeast corner (Figure 2). The geologic units in this quadrangle range from the most recent Holocene (Quaternary) alluvial deposits to Lower Paleocene (Tertiary) marine deposits. The geologic cross section illustrates the topographic relief and the stratigraphic range of units. Gills Creek, Reeder Point Branch, Mill Creek, and Myers Creek are the major tributaries flowing into the Congaree River, and each contains numerous small ponds. The Congaree River Valley extends from below the Fall Line to the headwaters of Lake Marion on the Santee River. The longitudinal profile of the valley is about 50 km with a valley slope of 0.04 percent and an average valley width of 6 km. The valley trends to the southeast and is bound on the south by Cretaceous to Eocene marine deposits and on the north by Tertiary and Quaternary Congaree River terrace deposits. Congaree River valley fluvial deposits range in thickness from 18 meters in the upper valley (Meitzen, 2010) to 6 meters in the lower valley (Shelley, 2007).

The Fort Jackson South map area is mostly covered by a series of Tertiary and Quaternary Congaree River terraces that step down in age toward the modern channel and flood plain. The terrace surfaces are altered by anthropogenic activities and various weathering, erosion, and depositional processes attributed to Carolina Bay formation, tributary dissection, and alluvial-fan accretion. A large alluvial fan deposited by Mill Creek flanks the scarp between two Tertiary terrace units. The size, extent, and morphology of this alluvial fan suggest that it was formed during multiple episodes and could have been connected to climatic changes or tectonic activity. Upper Coastal Plain sedimentary marine units are present in the northeast quadrant of the map and were deposited as bedded layers gently dipping to the southeast. The Congaree River terraces and marine deposits are underlain by undifferentiated fluvial and marine Cretaceous sediments that lie unconformably on the crystalline basement rocks.

The map area includes 26 km of a 36-km abandoned channel segment that represents a former course of the Congaree River. The abandoned channel segment persists as a major hydrologic feature in the flood plain and is occupied by tributaries draining from the eastern bluffs. Gills Creek captures the upper reach of the abandoned channel and flows along an abandoned meander to its confluence with the Congaree River in the adjacent Southwest Columbia 7.5-minute quadrangle. Reeder Point Branch and Mill Creek merge at the same confluence with the abandoned channel and flow along its lower limb where it eventually reconnects withthe Congaree River. The modern and abandoned channels are comparable in width and depth; however, the sinuosity of the abandoned channel segment is 2.5, which is nearly twice that of the modern channel which measures 1.5 over the same valley distance. The age and cause of the channel avulsion are not known, but correlations from nearby landforms suggest the avulsion occurred sometime between the Late Pleistocene and mid-Holocene. The channel avulsion includes numerous abandoned meanders, suggesting that the river occupied this course for a long enough period of time to adjust its planform geometry, which may have been anywhere in a hundred to a thousand year time frame. It is possible that reoccupation and abandonement has occurred more than once and may occur in the future. Tectonics, valley lithology, and relief are hypothesized to have caused the channel avulsion and may explain the differences in channel sinuosity between the modern and abandoned channels. The channel avulsion occurs immediately upstream of where the Aeromagnetic Augusta Fault (AAF) (Figure 3) crosses the Congaree River Valley, and the lower end of the abandoned channel segment links to the present location of the Congaree River downstream of the lower limit of the Augusta faults aeromagnetic signature. The aeromagnetic fault is discussed in greater detail below; however, it is hypothesized that Quaternary reactivation of this structure is the most probable cause for the avulsion event.

The map was developed in a Geographic Information System (GIS), using geologic field-based data and supplementary digital overlays. Subsurface geologic data were obtained from SCGS drill-hole logs and water-well logs (obtained from the SCDNR Hydrology Section). Field observations of geologic contacts along roadcuts, tributary valleys, and borrow and quarry pits yielded valuable mapping data. Secondary data sources include georeferenced 1-meter resolution 2009 aerial photos (NAIP, 2009) (Figure 1), Soil Survey Geographic (SSURGO) data, and National Wetlands Inventory (NWI) data.

FAULT RELATIONS

An overlay of the structural features map (Maybin and Clendenin, 1998) indicates several structures present in the southern portion of Fort Jackson South Quadrangle (Figure 3). In particular, the Augusta aeromagnetic fault (AAF), a large and complex structural feature that occurs on the southern margin of the Regional Eastern Piedmont fault system (Hatcher and others, 1977) that extends across the southern portion of the quadrangle and the Congaree River Valley, where it crosses the valley in an eastward direction and then curves southeasterly along the northeast side of the valley where it crosses the Wateree River Valley (Maybin and Clendenin, 1998). Two splay faults extend away from the AAF in Fort Jackson South Quadrangle. The northern structure strikes northeast diagonally across the map area, and the second strikes east-northeast at a low angle to AAF. It is interesting to note that the northeast fault position coincides with the onset of high sinuosity values in the abandoned channel segment.

To the west, in the Steedman Quadrangle, the AAF has a down-to-the-south movement thickening the upper Cretaceous sediments above crystalline basement (Doar and Howard, 2010) and indicating late Cretaceous or younger movement on the fault. To the east, in Poinsett State Park Quadrangle, Meitzen and others (2009) mapped stratigraphic offsets suggesting normal fault motion of Pliocene or younger age.

Correlating these established fault associations with geomorphic features in Fort Jackson South quadrangle, it is hypothesized that fault-related events were a significant trigger initiating the Congaree River channel avulsions and the Mill Creek alluvial fan deposition. There exists a good potential for studying paleoseismic events in this quadrangle, and this area should be a priority for future hazard studies.

DESCRIPTION OF MAP UNITS

Bodies of water (2009) – Water bodies include lakes, major streams, and riverine features. Water boundaries are delineated from 2009 digital ortho-quarter quadrangles (DOQQs) photos.

me **Moved earth** – Moved earth consists of earthen material moved out of place by humans and includes locations where materials are used to build up a site for development and locations where materials are removed by mining activities. Moved earth occurs in association with transportation features (e.g., roads, bridges, and overpasses), quarries (e.g., sand, clay, gravel, and granite) and commercial and municipal infrastructure (e.g., airports and water/sewer treatment facilities). An abundance of moved earth is present within the Fort Jackson quadrangle because of the dense urban development; however, it is mapped only for areas of major surficial impact.

Qatv **Alluvial tributary valley (Quaternary)** – Tributary stream valleys drain Tertiary Upper Coastal Plain marine deposits, Tertiary-Quaternary fluvial terraces, and Quaternary-modern flood-plain deposits. Many of the tributary valleys are affected by urban infrastructure and contain numerous ponds and other impounded water bodies. The tributary deposits range from coarser sediments including cobbles, gravel, and coarse sand, to finer-grained sand, silt, and clay. The coarse- to fine-grained variability is typical for sediments weathered from the Congaree River terraces. In the tributary valleys of Gills Creek, Mill Creek, and Myers Creek, deposits form narrow bottomland flood plains that contain seasonally flooded wetland habitats. The tributaries in this area drain onto the Congaree River flood plain and flow through abandoned channel segments before joining the main-stem river.

Qaf **Alluvial fan (Quaternary)** – Large alluvial fan deposited by Mill Creek on the Trt 1 and Qrt (map units) terrace surfaces. The alluvial fan deposit is an orange to brown poorly sorted loamy mix of silty, fine to very coarse quartz sand with scattered granules and a few heavy mineral grains. The alluvial fan is thickest near the Trt1 and Qrt contact and thins downstream. The alluvial fan is morphologically diverse and likely formed during more than one depositional episode.

Qacf **Congaree River flood plain (Quaternary)** – The Quaternary alluvium of the Congaree River flood plain averages about 35 feet thick. As sea level receded, valley accretion formed an extensive flood plain consisting of multiple sequences of channel-fill and overbank deposits that accreted vertically and laterally as the river migrated across the valley. The base of the Congaree River flood plain contains poorly sorted, angular to rounded, cobbles, gravel, and coarse-grained quartz sand deposited by a high-energy fluvial channel. Coarse to very coarse feldspar, calcite, epidote, garnet, biotite, mica, and dark heavy mineral grains are abundant. Wood and charcoal fragments occur throughout the poorly sorted mix of alluvial materials. The channel-bed deposits fine upward to clayey, silty, and fine- to coarse-grained fluvial sand with abundant mica flakes. In some drill cores the fining upward sequence is interrupted by channel fill sequences that are characterized by a range of textures. Some of the channel fill sequences contain cobbles and gravel and very coarse sand. In contrast, other channel-fill sequences contain very fine, clayey, dark, and dense organic peat deposits with moderately preserved chunks of woody debris, leaves, and seeds. Surface geomorphology of the Congaree River flood plain illustrates an array of fluvial features including abandoned meanders, oxbow lakes, meander scroll ridge and swale complexes, natural levee deposits, and yazoo tributary patterns.

Qrt **River terrace deposits (Quaternary)** – This is the youngest of the terrace complexex and still contains vestiges of preserved channel morphology and other fluvial landform scars. It sits just above the designated flood zone but is still vulnerable to flood hazards. The terrace sediments consist of a poorly sorted silty, fine to very coarse sand with subrounded granules and gravel.

Qcb **Carolina bays (upper Pleistocene to Holocene)** – Carolina bays consist of light-gray to black, clayey quartz sand and organic-rich peat deposits in their interiors and coarser quartz sand and granules in the eolian rims of bays. Carolina bays were formed most likely by the action of prevailing southwesterly winds that scoured blowout-like deflations on the topographic surface of the regional landscape. Carolina bays occur on the Atlantic Coastal Plain from New Jersey to Florida but are most abundant between Georgia and North Carolina (Sollar and Mills, 1991). Although the shape and orientation of Carolina bays can vary, the majority are ellipsoidal, with the long axis oriented northwest-southeast and an elevated rim of the bay along the northwest margin. The eolian-dominated process that formed Carolina bays probably occurred under various moisture regimes, whereby the Carolina bays seasonally and annually ranged between ponded and dry conditions dependent on fluctuating ground-water levels (Kaczorowski, 1976, 1977). The wetter conditions facilitated peat formation, and the drier periods are evidenced by charcoal fragments from episodic fires. Deposition of the elevated sand rim is likely to have resulted from the combination of two processes, waves lapping against the northwest margin and eolian dune formation. The Carolina bays in the Fort Jackson South Quadrangle have been masked by agriculture and urban development, but their form is still recognizable by their topographic depression, orientation, and soil-moisture conditions. Maximum ages are estimates from regional correlations, but carbonaceous sediment in a bay in Sumter County is older than the range of reliable radiocarbon dates (older than approximately 25,000 to 30,000 years; after Brooks and others, 2001). In the Fort Jackson South Quadrangle the Carolina bays were formed on the Pliocene to Pleistocene Congaree River terraces.

Tp **Pinehurst Formation (Tertiary to Quaternary)** – The Pinehurst Formation is a widely distributed eolian sand that varies in thickness and composition throughout the Upper Coastal Plain. Within Fort Jackson South Quadrangle, the Pinehurst Formation consists of loose quartz silt and sand. The sand ranges from very fine to coarse-grained, rounded to angular, and exhibits variable sorting; however, the majority of the deposit is medium-to coarse-grained, subangular, and moderately sorted. Therefore, the mapped area for the Pinehurst Formation is a conservative coverage of its extent. The Pinehurst sand has been mined extensively in this area, and in most places it occurs only as a thin draping over hilltops and hill slopes. Most of the eolian Pinehurst sand deposits are less than 2 feet thick, lack lateral continuity, and were not mapped at 1:24,000 scale. The age of the unit is undetermined; however, correlations with other units indicate that its regional deposition spans the late-Miocene (Nystrom et al., 1991).

Trt 1, Trt 2, Trt 3, Trt 4 **River terrace deposits (Tertiary)** – Tertiary river terrace deposits are fluvial sediments deposited by the Congaree River. The terrace units include channel and flood-plain deposits abandoned by valley incision. Terrace sediment complexes of the South Carolina Coastal Plain were broadly discussed by Cooke (1936) and later revised by Colquhoun (1965). Regional terrace correlations were most recently examined by Shelley (2007 a, b). Age ranges spanning the Eocene to the Pleistocene have been suggested for the terraces of the upper Congaree River valley (Colquhoun, 1965). On the basis of valley location and topographic position, the Tertiary terraces are subdivided into four units: Trt 1, Trt 2, Trt 3, and Trt 4. Terrace thicknesses range from 20 to 50 feet. Although the terrace sediments are highly variable they typically consist of fining upward sequences of moderately to poorly sorted, medium- to very coarse-grained, angular to subrounded quartz sand. The youngest terrace, Trt 1, is delineated by a basal lag of cobbles and gravel that mark former channel courses of the Congaree River. The bases of Trt 2, Trt 3, and Trt 4 contain a rounded pebble-cobble layer and they overly Upper Cretaceous sediments. The local relief of this contact is significant, and their surfaces are minimally constrained by a few drill-hole locations. Numerous tributaries drain the Tertiary terraces, and the surficial topography is complicated by alluvial, colluvial, eolian, ground-water processes, and extensive anthropogenic modifications.

Tc **Congaree Formation (Eocene)** – The Congaree Formation consists of reddish-brown to tan, loose, poorly sorted, fine- to coarse-grained quartz sand with clay coating the coarser grains. Some white kaolin laminations and kaolin balls are also abundant throughout the deposit. The kaolin is mostly found in discontinuous very thin clay beds and laminae. Fine- to medium-grained dark heavy minerals are relatively abundant through much of the formation. In the Fort Jackson South Quadrangle, it occurs in a relatively small local deposit on a high-elevation hilltop in the northeastern portion of the quadrangle.

Tls **Lang Syne Formation (Paleocene)** – The Lang Syne Formation consists of thin and laterally continuous beds of yellowish tan to brown, fine to medium coarse-grained micaceous quartz sand. Multiple fining-upward sequences are common throughout the Lang Syne and are typically in sequences 10 to 20 feet thick. A prominent layer of well-rounded pebbles 0.5 to 3 inches in diameter occurs near this basal contact. The Lang Syne unit was not drilled in the Fort Jackson map area; however, its presence was inferred from the geology of the adjacent Congaree quadrangle (Shelley, 2007).

Tu **Tertiary undifferentiated** – Sediments similar to those of the Huber Formation underlie the Quaternary Congaree River alluvial flood-plain deposits. These subsurface valley deposits consist of bedded, medium-to coarse-grained sand with minor amounts of dark, heavy minerals and subrounded granules. Variation in the bedded sand ranges from loose, moist sand to clayey, compact sand. Where present, the clay typically forms a moist matrix embedded with coarse- to very coarse-grained sand. Multiple fining upward sequences are common. These sediments are tentatively classified as an undifferentiated Tertiary deposit because they lie between the upper Quaternary alluvium of the Congaree River flood-plain deposits and the underlying Cretaceous unit. This unit is only visible in the cross-section A-A'. This unit is thickest in the upper valley and thins towards the lower valley.

UKs **Upper Cretaceous sediment** – Poorly sorted, angular to rounded, cohesive matrix of clayey, silty, micaceous, fine- to very coarse-grained, smoky and white quartz sand. Rounded to angular gravel and pebble layers occur frequently, and thin beds of off-white to gray kaolin are also common. Cretaceous sediments are mottled white, tan, yellow, orange, and purplish-pink. Texturally it consists of alternating fine- and coarse-grained cross-bedded compact layers with multiple fining-upward sequences. The Upper Cretaceous unit has variable thickness, and its basal and upper surfaces are irregular and undulating.

EXPLANATION OF MAP SYMBOLS

Contact – Identity and existence certain, location approximate.

Gradational contact – Identity and existence certain, location approximate.

Fluvial scarp – Identity and existence certain, location approximate. Hachures point off the scarp in the direction of the younger unit.

40-71 South Carolina Department of Natural Resources Geological Survey (SCGS) drill hole locations with log identification numbers. All logs are on file at the SCGS.

RIC-390 South Carolina Department of Natural Resources Hydrology Section (SCDNR) well log locations with log identification numbers. All logs are on file at the SCDNR.

x Exposure

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Figure 1. True-color aerial image (NAIP 2009) of the Fort Jackson South quadrangle shows the land-cover contrast between the Congaree River flood plain and the densely populated urban environment.

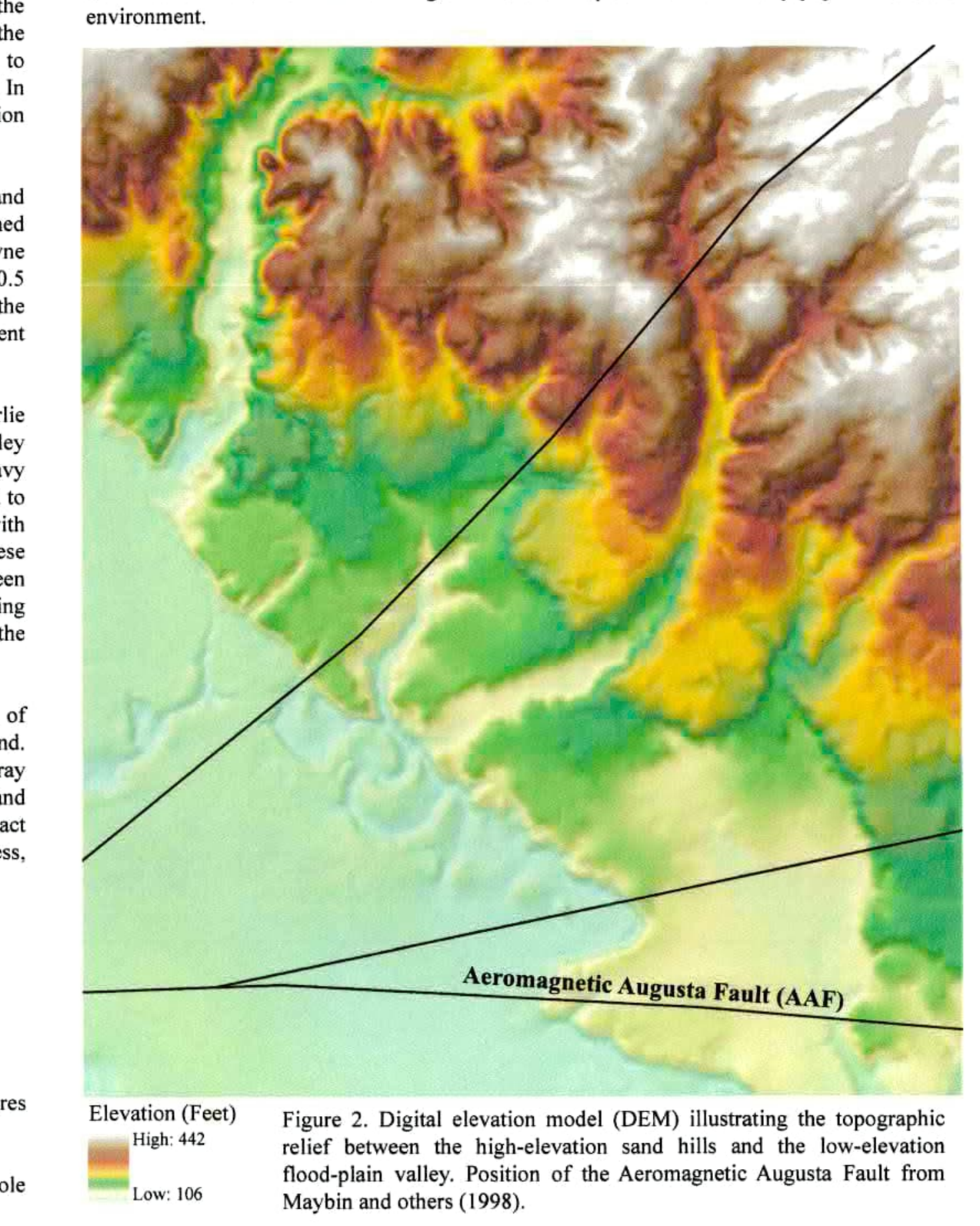


Figure 2. Digital elevation model (DEM) illustrating the topographic relief between the high-elevation sand hills and the low-elevation flood-plain valley. Position of the Aeromagnetic Augusta Fault from Maybin and others (1998).

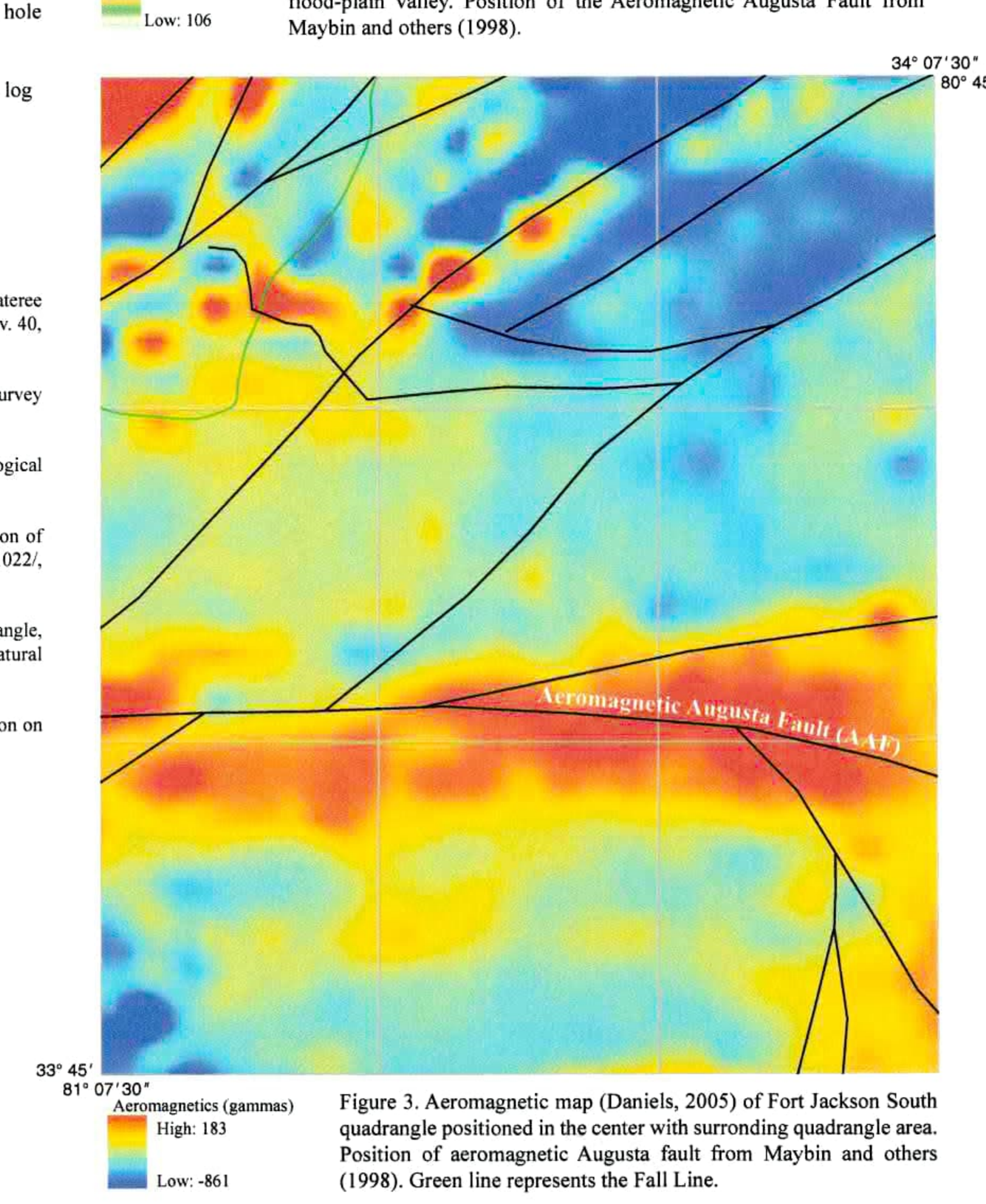
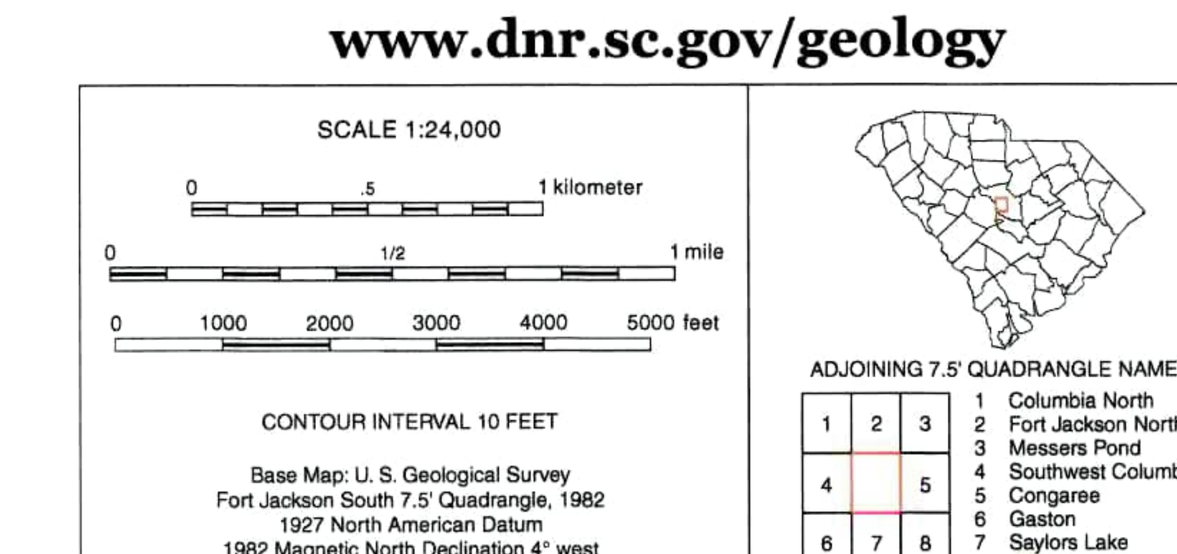


Figure 3. Aeromagnetic map (Daniels, 2005) of Fort Jackson South quadrangle positioned in the center with surrounding quadrangle area. Position of aeromagnetic Augusta fault from Maybin and others (1998). Green line represents the Fall Line.

www.dnr.sc.gov/geology



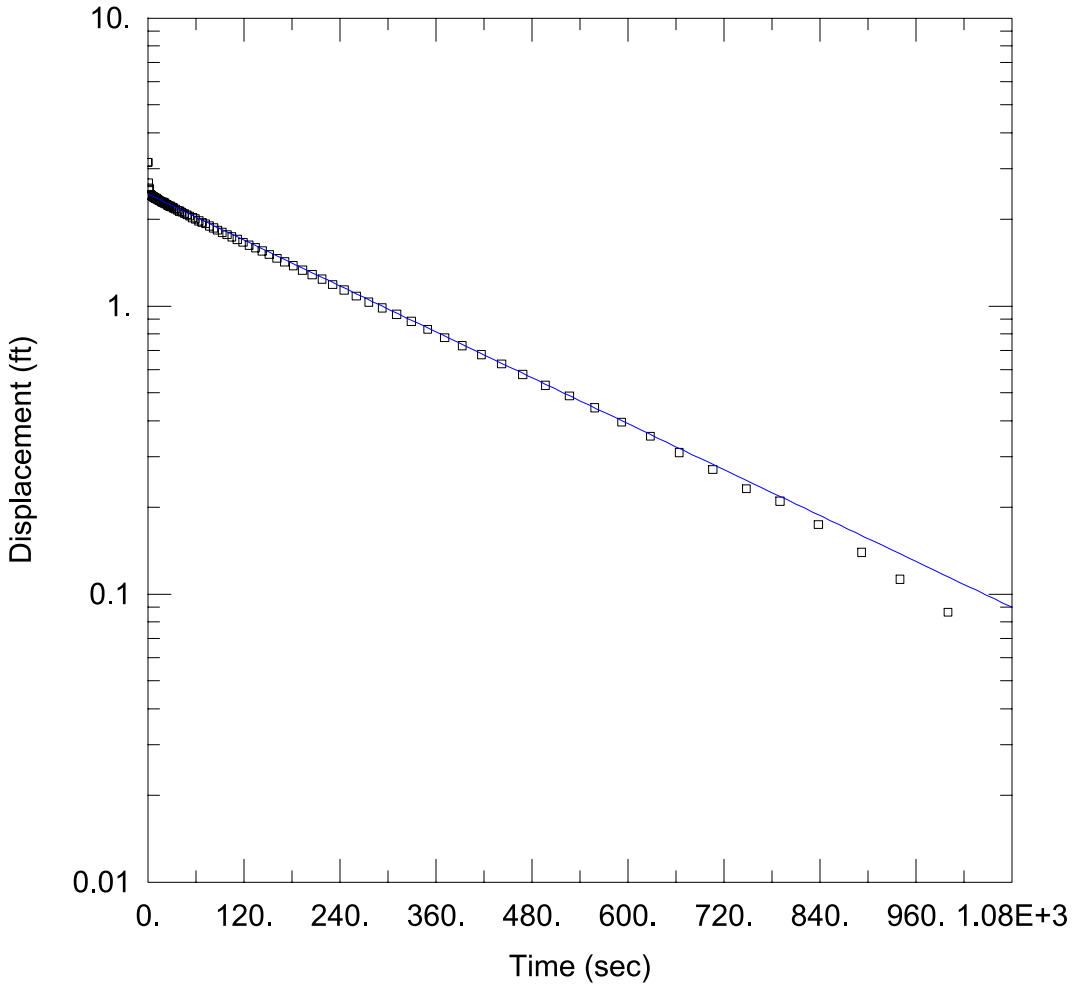
CONTOUR INTERVAL 10 FEET

Base Map: U. S. Geological Survey
Fort Jackson South 7.5' Quadrangle, 1982
1927 North American Datum
1982 Magnetic North Declination 4° west

1 Columbia North
2 Fort Jackson North
3 Messers Pond
4 Southwest Columbia
5 Congaree
6 Gaston
7 Saylors Lake
8 Gadsden

Geology mapped 2009-2011
Digital cartography by Jennifer L. Krauser, 2011
For publications contact:
South Carolina Geological Survey
5 Geology Road, Columbia, SC 29212
(803) 896-7714

Appendix O
Hydraulic Characterization Results



W-6 FALLING HEAD

Data Set: L:\...\W-6_Falling.aqt
Date: 11/04/21 Time: 08:24:45

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-6

AQUIFER DATA

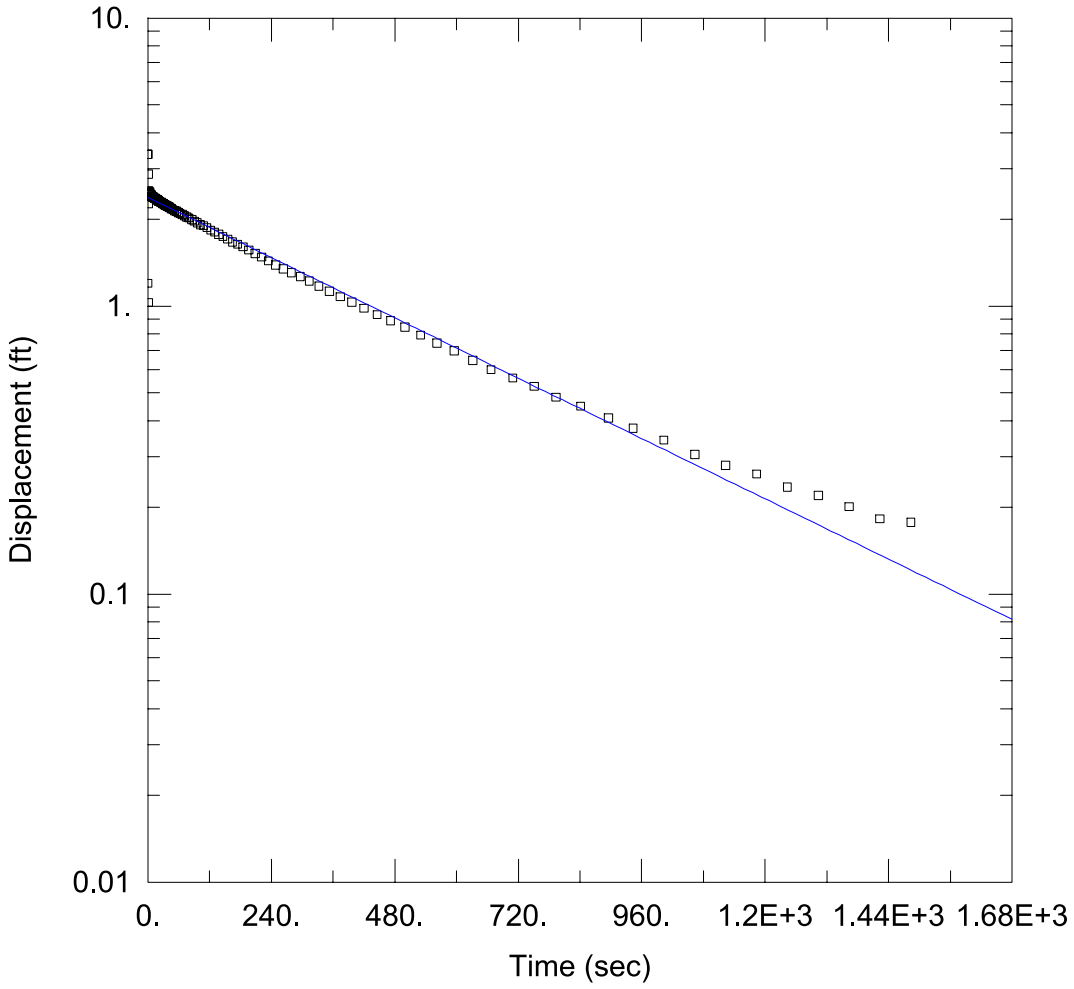
Saturated Thickness: 23.82 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-6)

Initial Displacement: 3.156 ft
Total Well Penetration Depth: 18.16 ft
Casing Radius: 0.083 ft
Static Water Column Height: 18.16 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.6102 ft/day
y0 = 2.443 ft



W-6 RISING HEAD

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Date: 11/04/21 Time: 08:44:35

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-6

AQUIFER DATA

Saturated Thickness: 23.82 ft Anisotropy Ratio (Kz/Kr): 1.

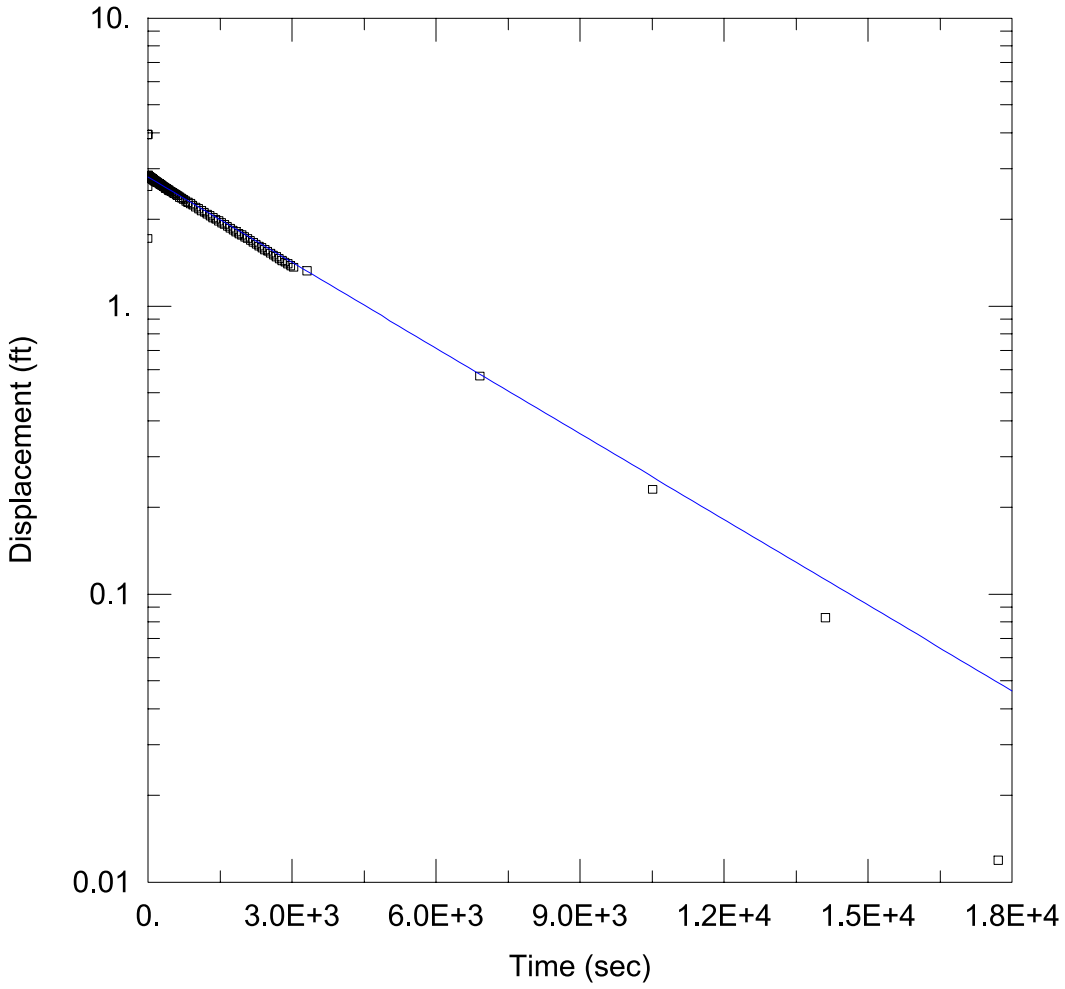
WELL DATA (W-6)

Initial Displacement: 3.365 ft
Total Well Penetration Depth: 18.16 ft
Casing Radius: 0.083 ft
Static Water Column Height: 18.16 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.4007 ft/day y0 = 2.381 ft



W-11 FALLING HEAD

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Date: 11/04/21 Time: 08:36:43

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-11

AQUIFER DATA

Saturated Thickness: 20.61 ft Anisotropy Ratio (Kz/Kr): 1.

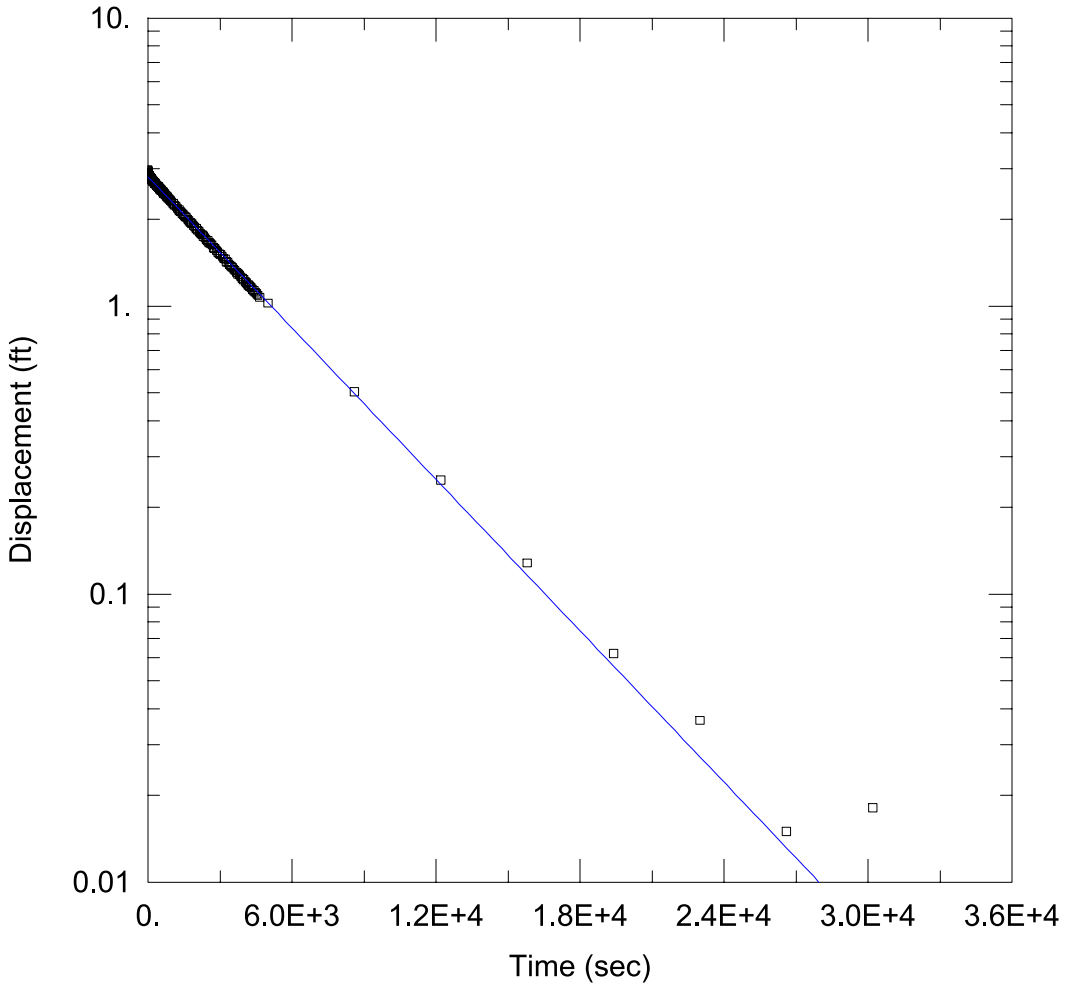
WELL DATA (W-11)

Initial Displacement: 3.937 ft
Total Well Penetration Depth: 10.08 ft
Casing Radius: 0.083 ft
Static Water Column Height: 10.08 ft
Screen Length: 3. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.06298 ft/day y0 = 2.809 ft



W-11 RISING HEAD

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Date: 11/04/21 Time: 08:56:19

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-11

AQUIFER DATA

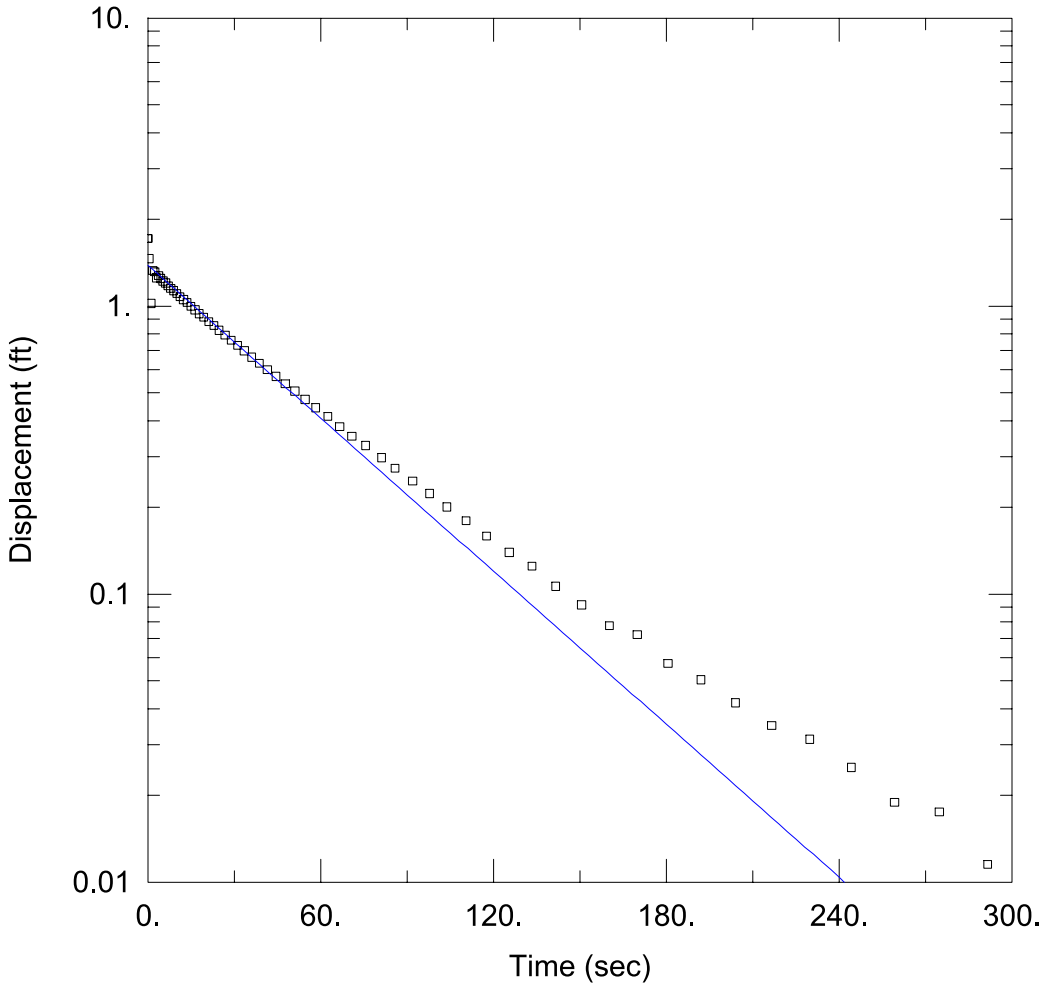
Saturated Thickness: 20.61 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-11)

Initial Displacement: 2.959 ft
Total Well Penetration Depth: 10.08 ft
Casing Radius: 0.083 ft
Static Water Column Height: 10.08 ft
Screen Length: 3. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.05564 ft/day
y0 = 2.809 ft



W-19B FALLING HEAD

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Date: 11/04/21 Time: 09:01:51

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-19B

AQUIFER DATA

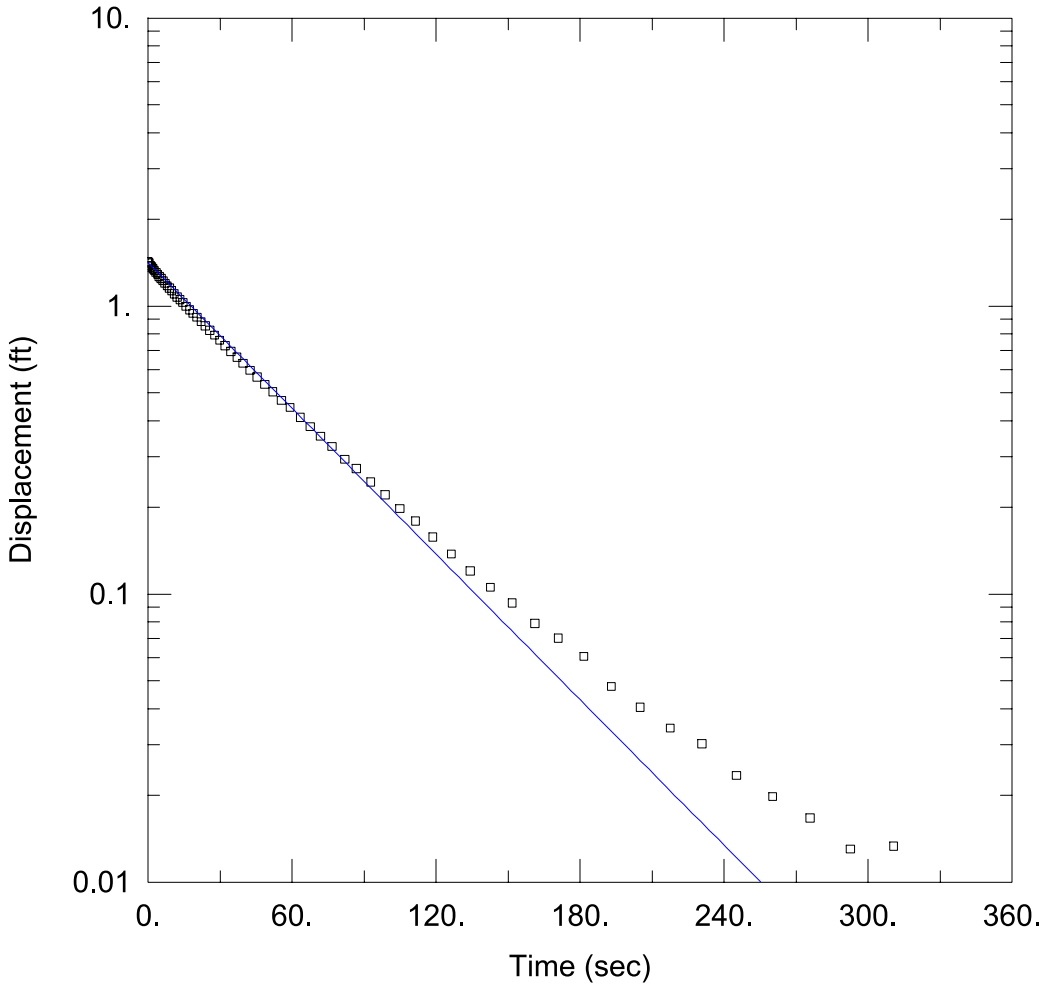
Saturated Thickness: 18.19 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-19B)

Initial Displacement: 1.717 ft
Total Well Penetration Depth: 18.36 ft
Casing Radius: 0.167 ft
Static Water Column Height: 18.36 ft
Screen Length: 10. ft
Well Radius: 0.167 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 8.65 ft/day
y0 = 1.382 ft



W-19B RISING HEAD

Data Set: L:\...\W-19B_Rising.aqt
Date: 11/04/21 Time: 09:05:04

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-19B

AQUIFER DATA

Saturated Thickness: 18.19 ft Anisotropy Ratio (Kz/Kr): 1.

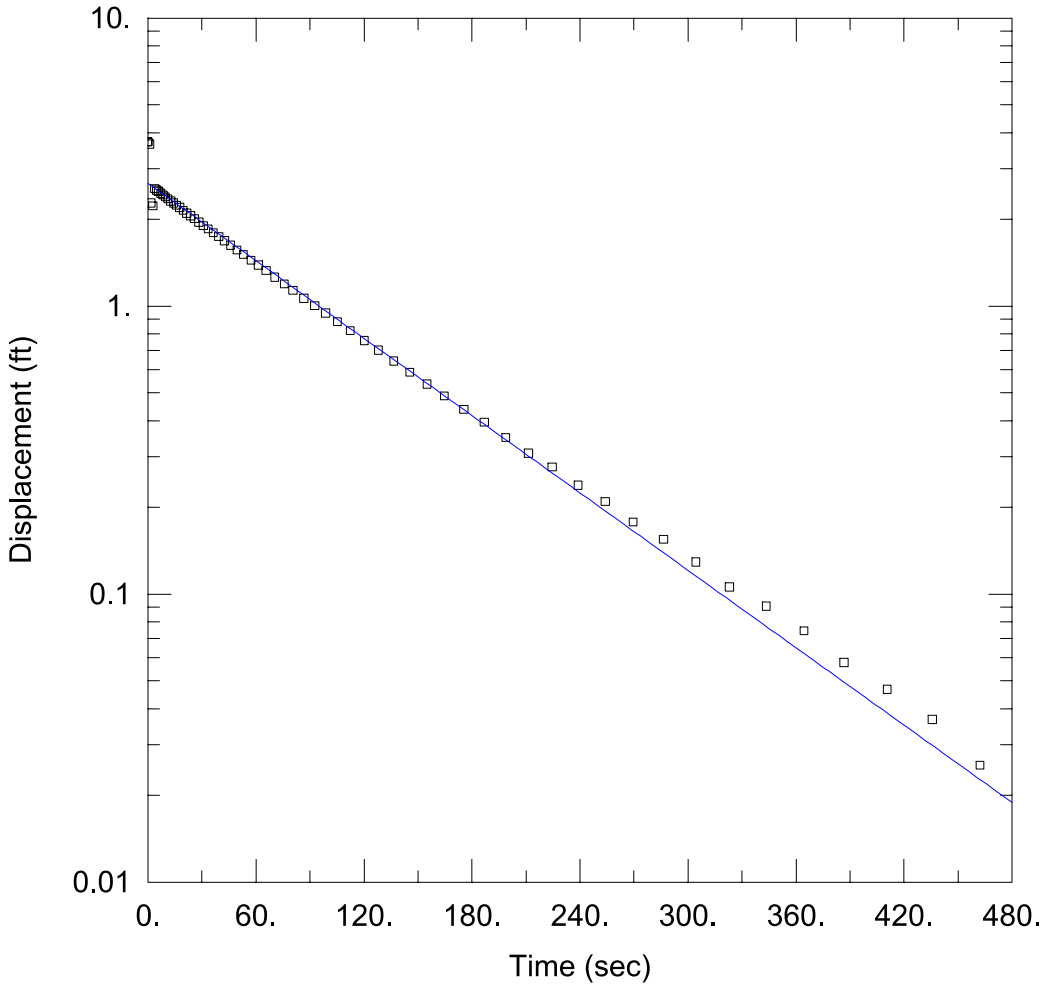
WELL DATA (W-19B)

Initial Displacement: 1.424 ft
Total Well Penetration Depth: 18.36 ft
Casing Radius: 0.167 ft
Static Water Column Height: 18.36 ft
Screen Length: 10. ft
Well Radius: 0.167 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 8.228 ft/day y0 = 1.409 ft



W-65 FALLING HEAD

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Date: 11/04/21 Time: 09:06:26

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-65

AQUIFER DATA

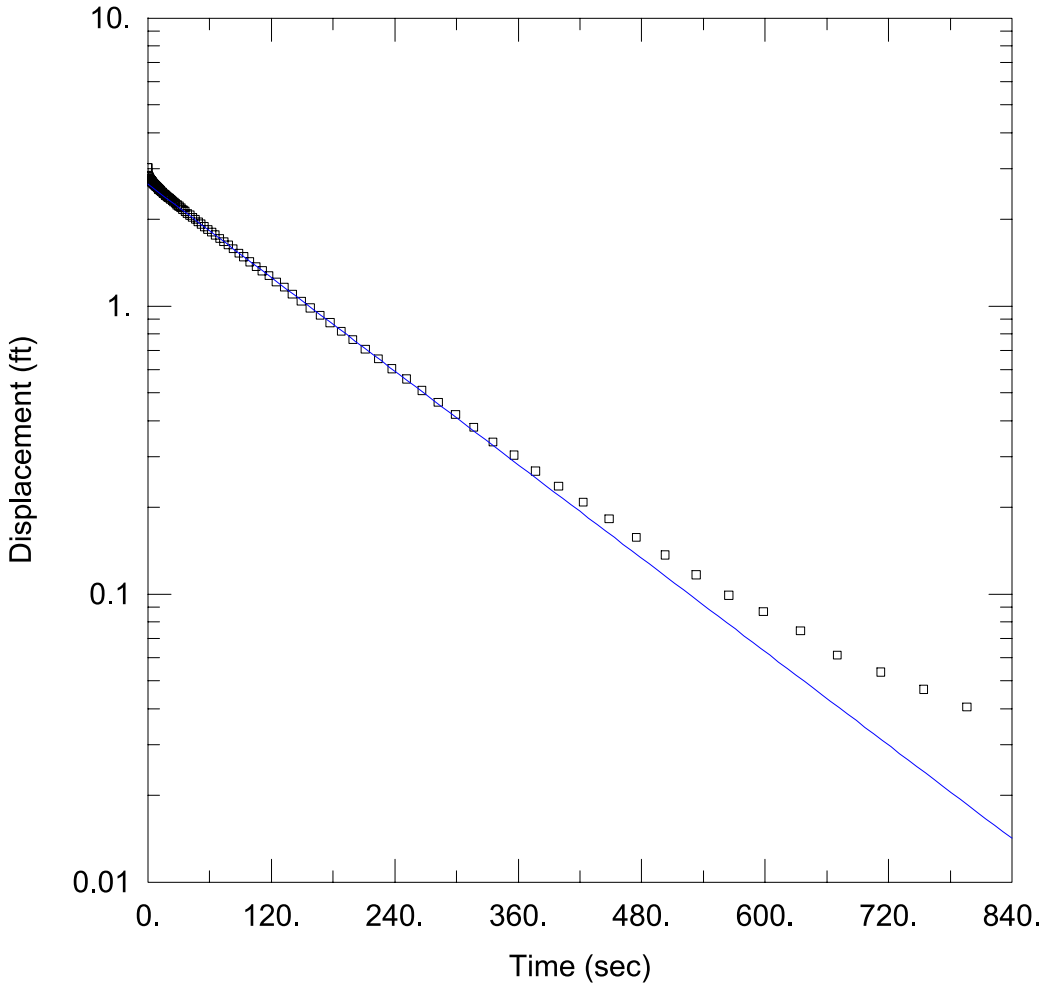
Saturated Thickness: 22.2 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-65)

Initial Displacement: 3.716 ft
Total Well Penetration Depth: 22.39 ft
Casing Radius: 0.083 ft
Static Water Column Height: 22.39 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.492 ft/day
y0 = 2.66 ft



W-65 RISING HEAD

Data Set: L:\...\W-65_Rising.aqt
Date: 11/04/21 Time: 09:08:24

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-65

AQUIFER DATA

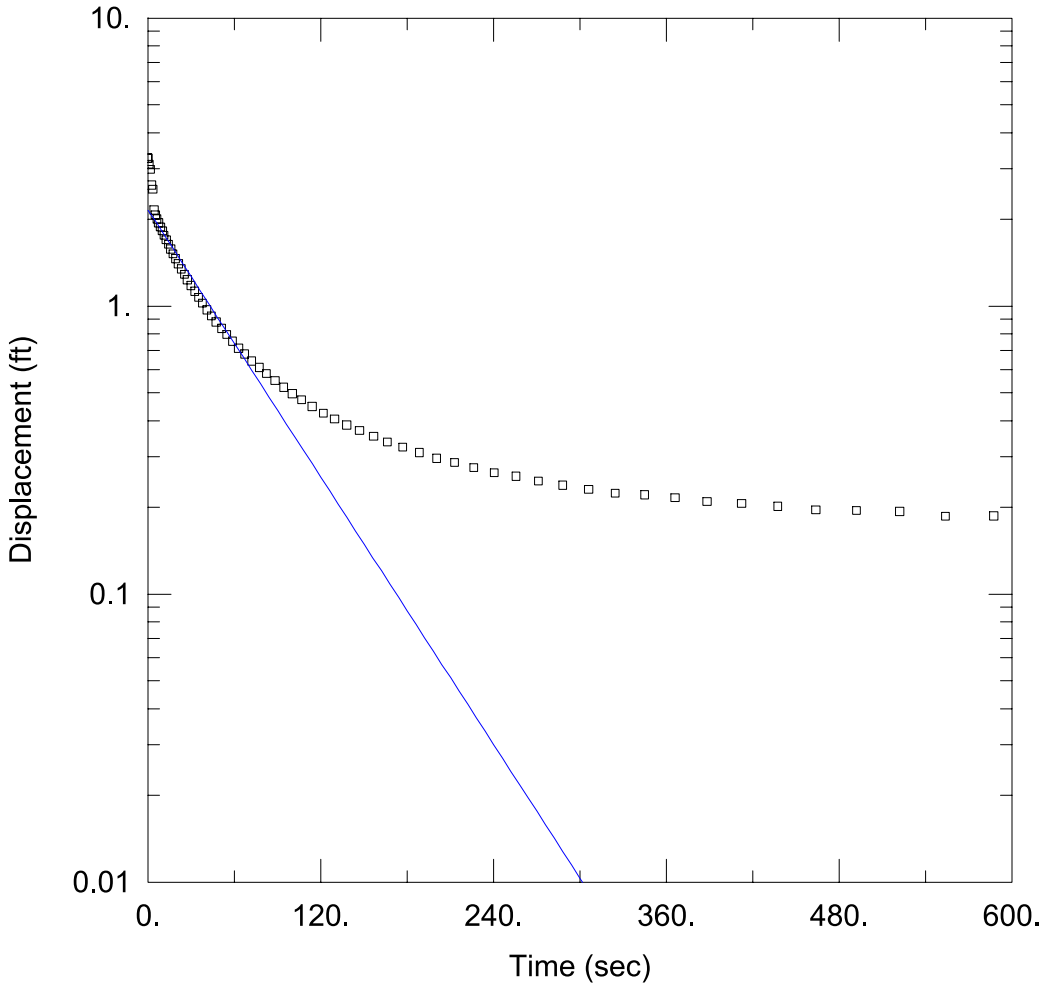
Saturated Thickness: 22.2 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-65)

Initial Displacement: 3.014 ft
Total Well Penetration Depth: 22.39 ft
Casing Radius: 0.083 ft
Static Water Column Height: 22.39 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.505 ft/day
y0 = 2.646 ft



W-67 FALLING HEAD

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Date: 11/04/21 Time: 09:11:28

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-67

AQUIFER DATA

Saturated Thickness: 25.24 ft Anisotropy Ratio (Kz/Kr): 1.

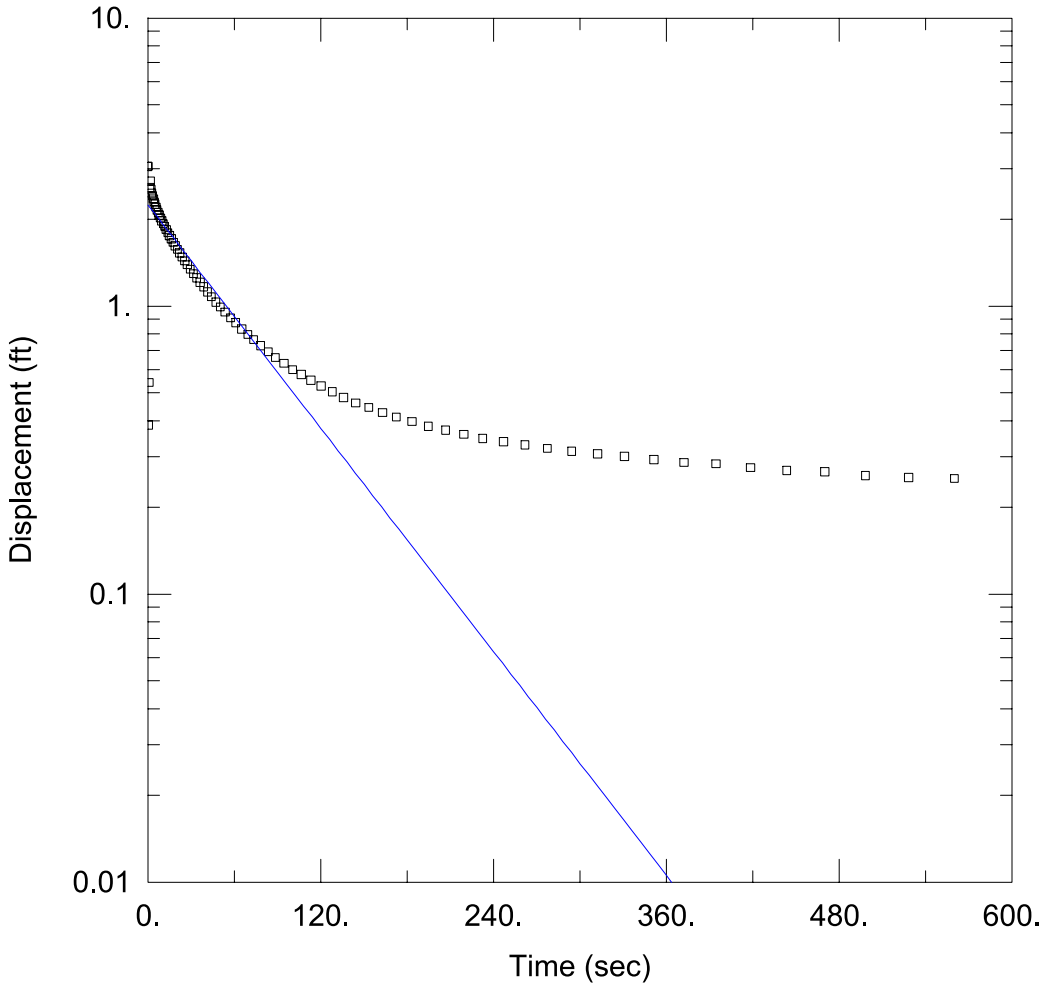
WELL DATA (W-67)

Initial Displacement: 3.253 ft
Total Well Penetration Depth: 18.05 ft
Casing Radius: 0.083 ft
Static Water Column Height: 18.05 ft
Screen Length: 10. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.929 ft/day y0 = 2.153 ft



W-67 RISING HEAD

Data Set: L:\...\W-67_Rising.aqt
Date: 11/04/21 Time: 09:13:32

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-67

AQUIFER DATA

Saturated Thickness: 25.24 ft Anisotropy Ratio (Kz/Kr): 1.

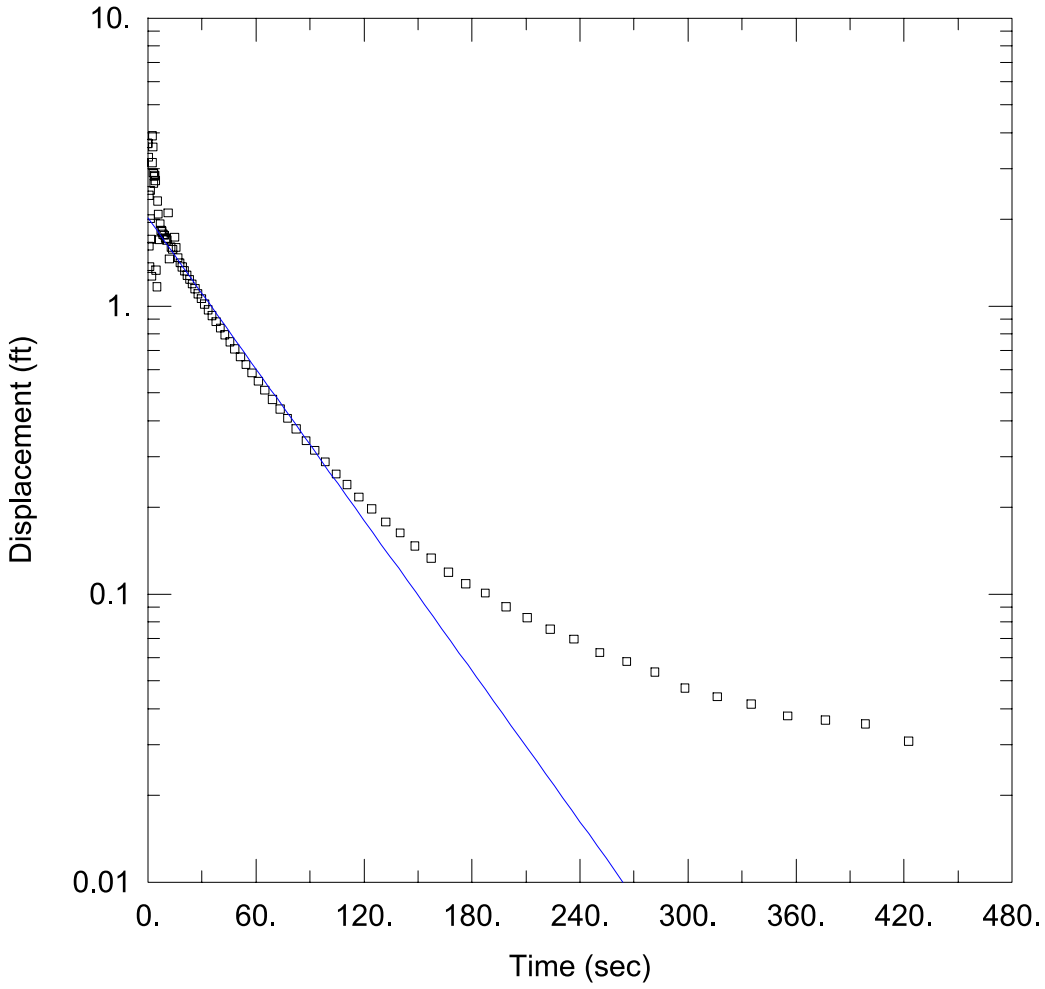
WELL DATA (W-67)

Initial Displacement: 3.051 ft
Total Well Penetration Depth: 18.05 ft
Casing Radius: 0.083 ft
Static Water Column Height: 18.05 ft
Screen Length: 10. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.612 ft/day y0 = 2.24 ft



W-68 FALLING HEAD

Data Set: L:\...\W-68_Falling.aqt
Date: 11/04/21 Time: 09:24:58

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-68

AQUIFER DATA

Saturated Thickness: 15.82 ft Anisotropy Ratio (Kz/Kr): 1.

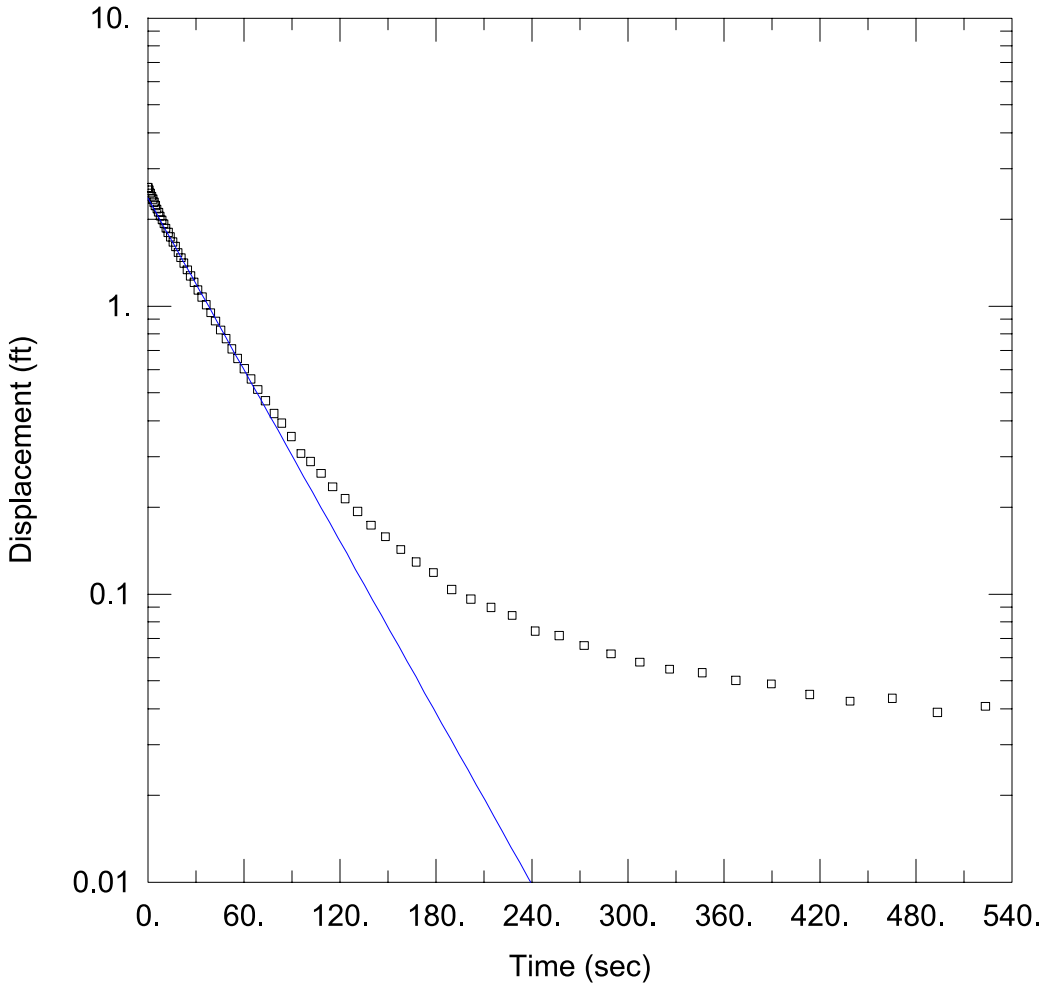
WELL DATA (W-68)

Initial Displacement: 3.668 ft
Total Well Penetration Depth: 16.46 ft
Casing Radius: 0.083 ft
Static Water Column Height: 16.46 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 4.644 ft/day y0 = 2.016 ft



W-68 RISING HEAD

Data Set: L:\...\W-68_Rising.aqt
Date: 11/04/21 Time: 09:27:20

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-68

AQUIFER DATA

Saturated Thickness: 15.82 ft Anisotropy Ratio (Kz/Kr): 1.

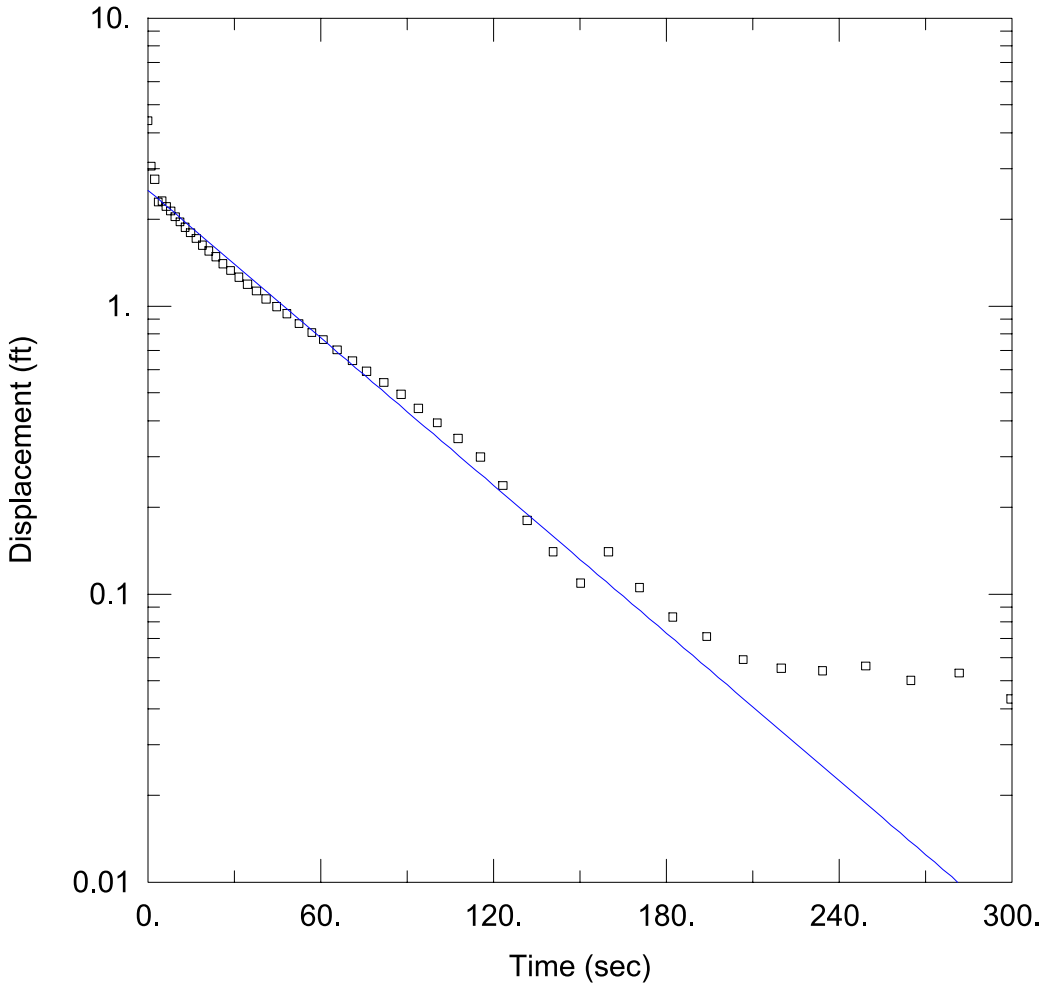
WELL DATA (W-68)

Initial Displacement: 2.576 ft
Total Well Penetration Depth: 16.46 ft
Casing Radius: 0.083 ft
Static Water Column Height: 16.46 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 5.279 ft/day y0 = 2.361 ft



W-94 FALLING HEAD

Data Set: O:\...\W-94_cks_Falling.aqt
Date: 02/14/20 Time: 10:52:19

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-94

AQUIFER DATA

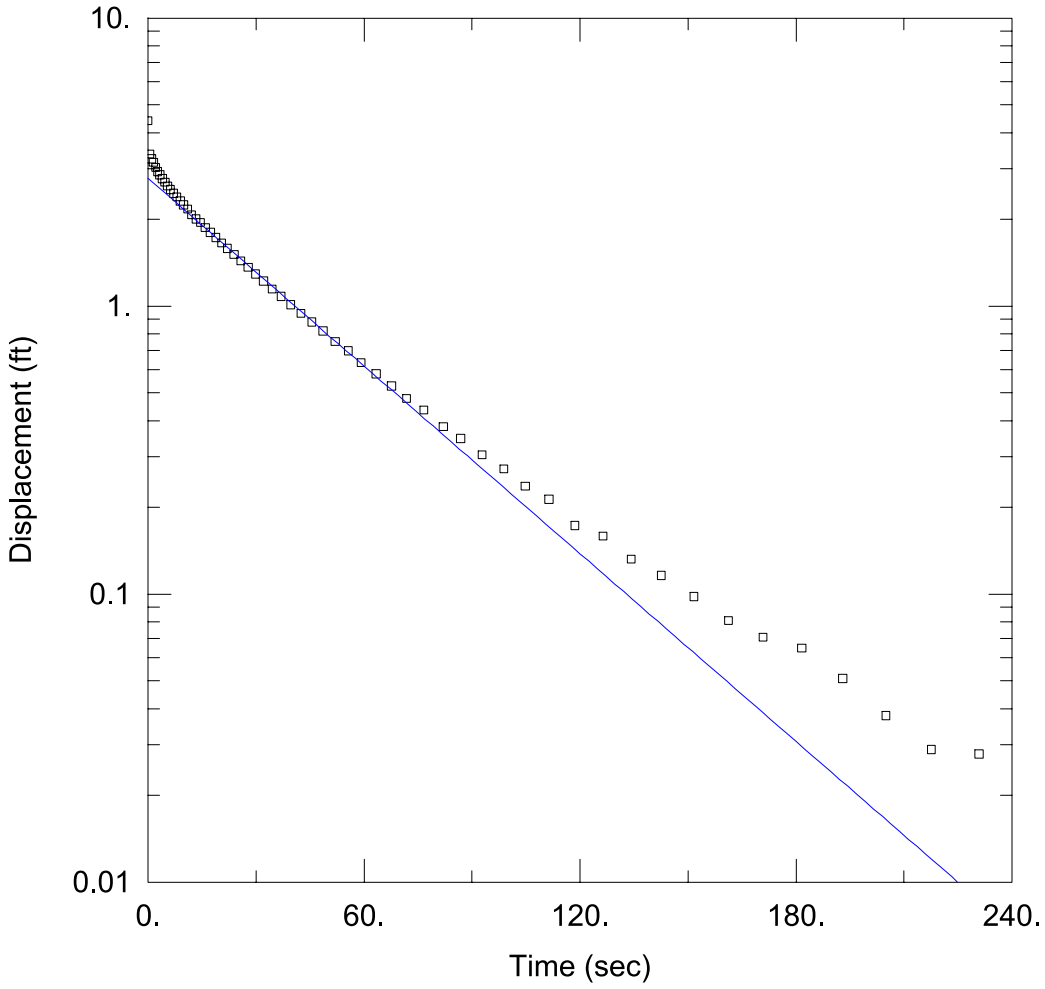
Saturated Thickness: 19.62 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-94)

Initial Displacement: 4.4 ft
Total Well Penetration Depth: 19.77 ft
Casing Radius: 0.083 ft
Static Water Column Height: 20.02 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.667 ft/day
y0 = 2.516 ft



W-94 RISING HEAD

Data Set: O:\...\W-94_cks_Rising.aqt
Date: 02/14/20 Time: 10:52:37

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-94

AQUIFER DATA

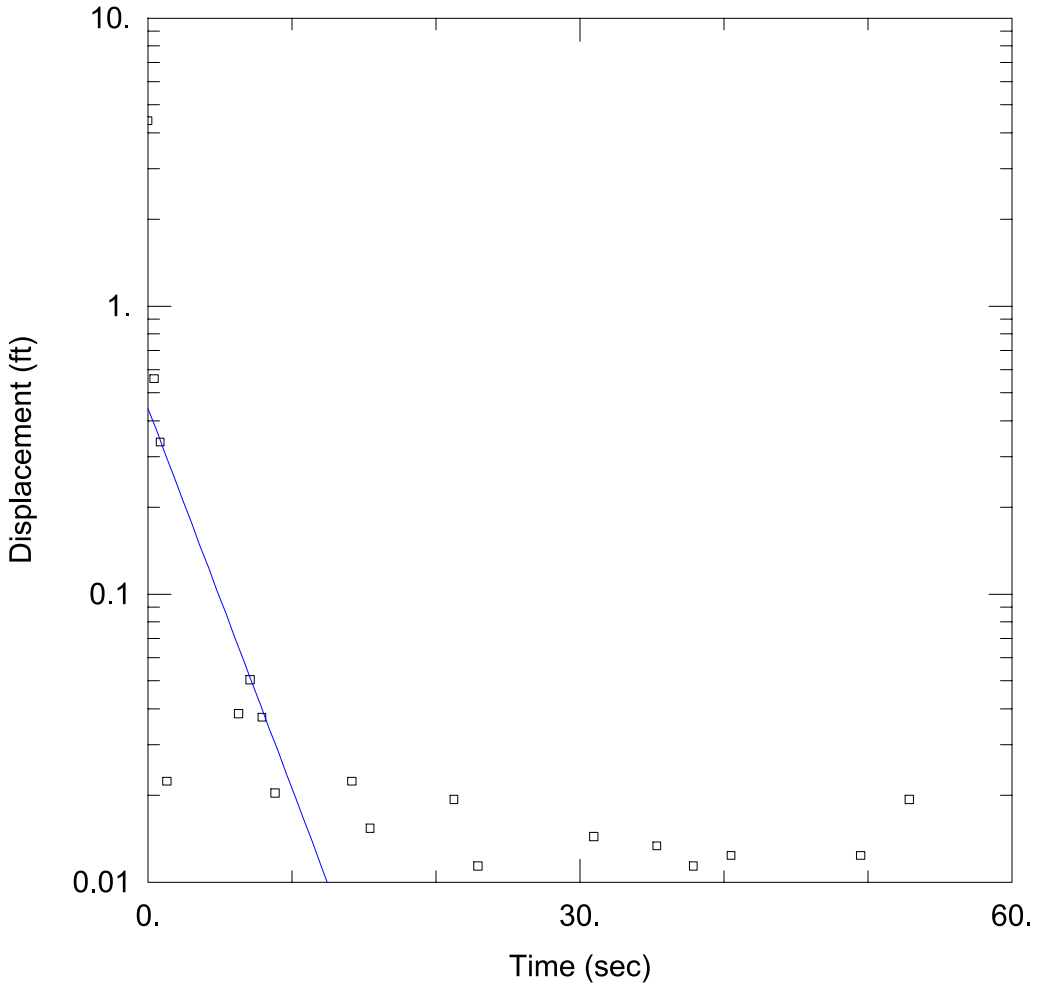
Saturated Thickness: 19.62 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-94)

Initial Displacement: 4.4 ft
Total Well Penetration Depth: 19.77 ft
Casing Radius: 0.083 ft
Static Water Column Height: 20.02 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 5.937 ft/day
y0 = 2.773 ft



W-95 FALLING HEAD

Data Set: O:\...\W-95_cks_Falling.aqt
Date: 02/14/20 Time: 10:53:03

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-95

AQUIFER DATA

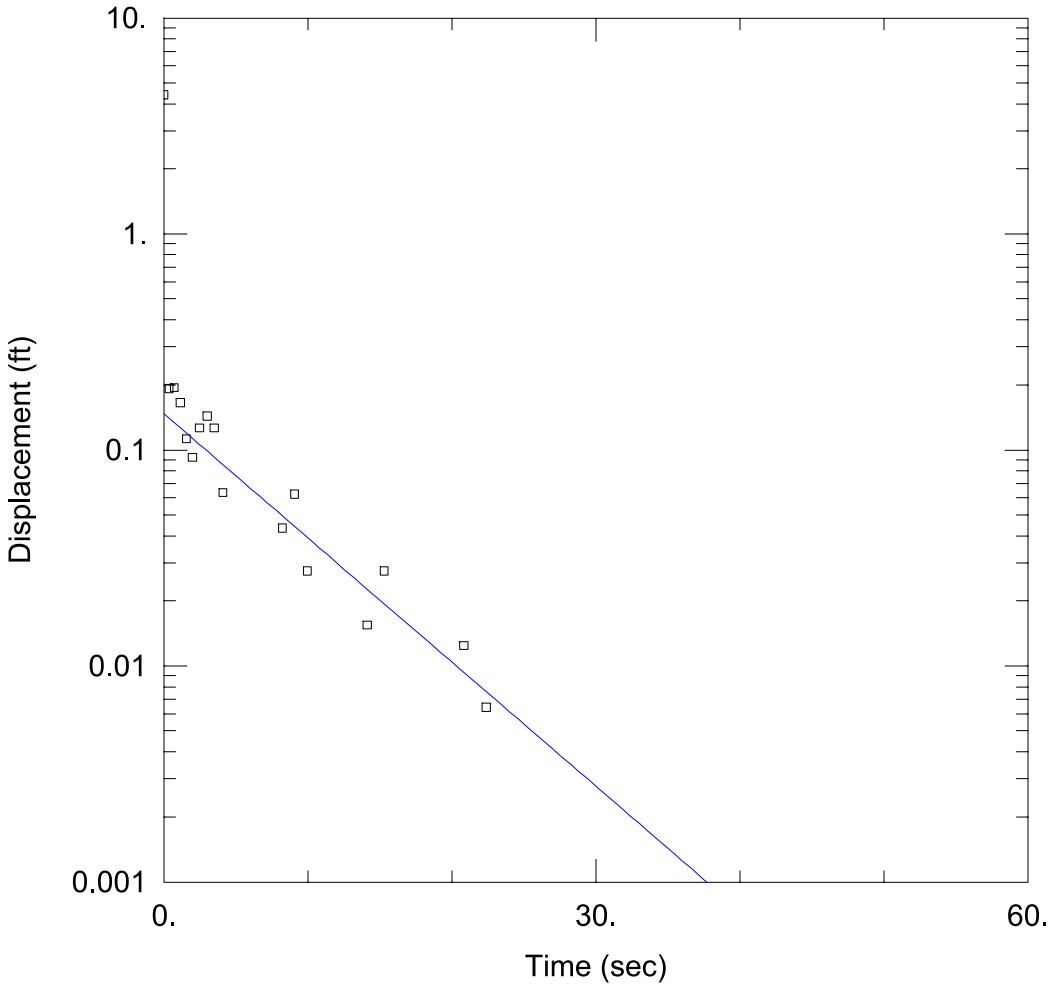
Saturated Thickness: 75.15 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-95)

Initial Displacement: 4.4 ft
Total Well Penetration Depth: 25.24 ft
Casing Radius: 0.083 ft
Static Water Column Height: 25.49 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 59.84 ft/day
y0 = 0.4406 ft



W-95 RISING HEAD

Data Set: O:\...\W-95_cks_Rising.aqt
Date: 02/14/20 Time: 10:53:23

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-95

AQUIFER DATA

Saturated Thickness: 75.15 ft Anisotropy Ratio (Kz/Kr): 1.

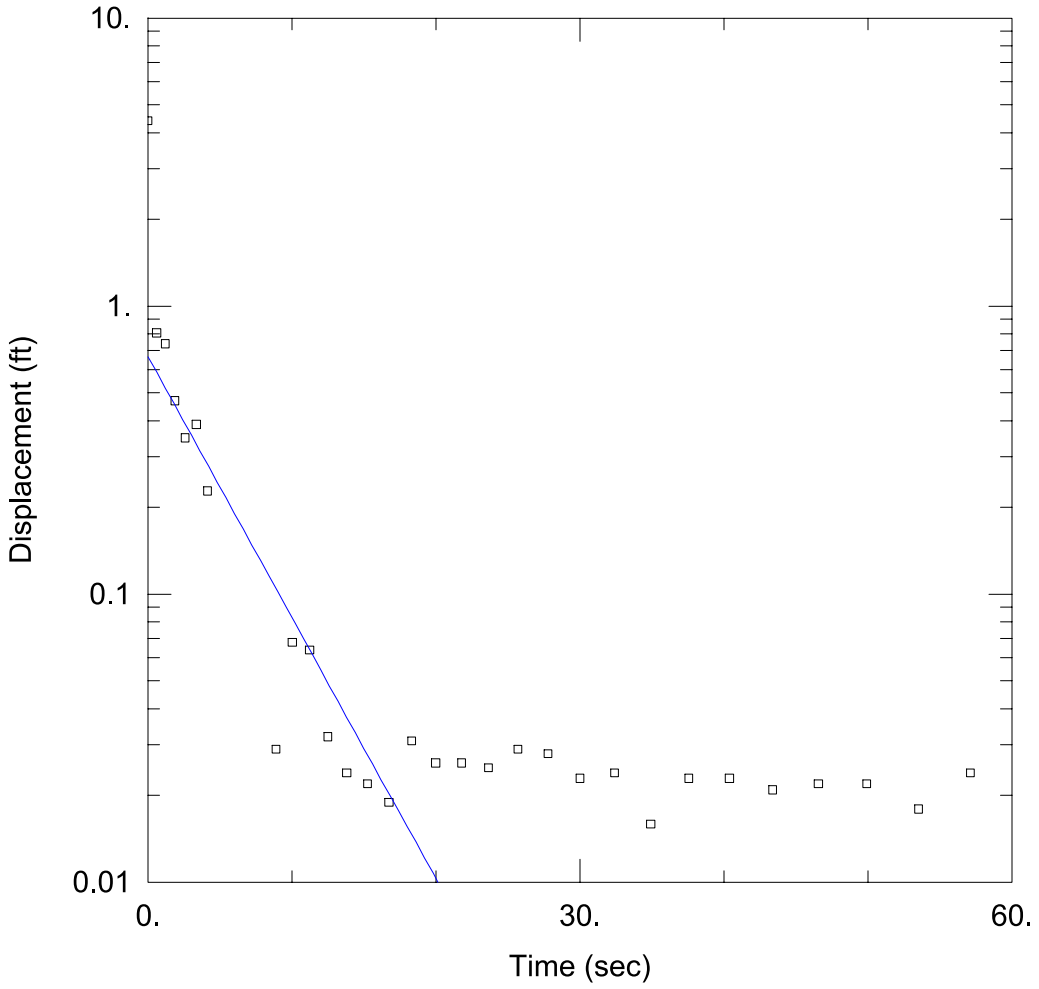
WELL DATA (W-95)

Initial Displacement: 4.4 ft
Total Well Penetration Depth: 25.24 ft
Casing Radius: 0.083 ft
Static Water Column Height: 25.49 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 26.05 ft/day y0 = 0.1468 ft



W-96 FALLING HEAD

Data Set: O:\...\W-96_cks_Falling.aqt
Date: 02/14/20 Time: 10:53:44

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-96

AQUIFER DATA

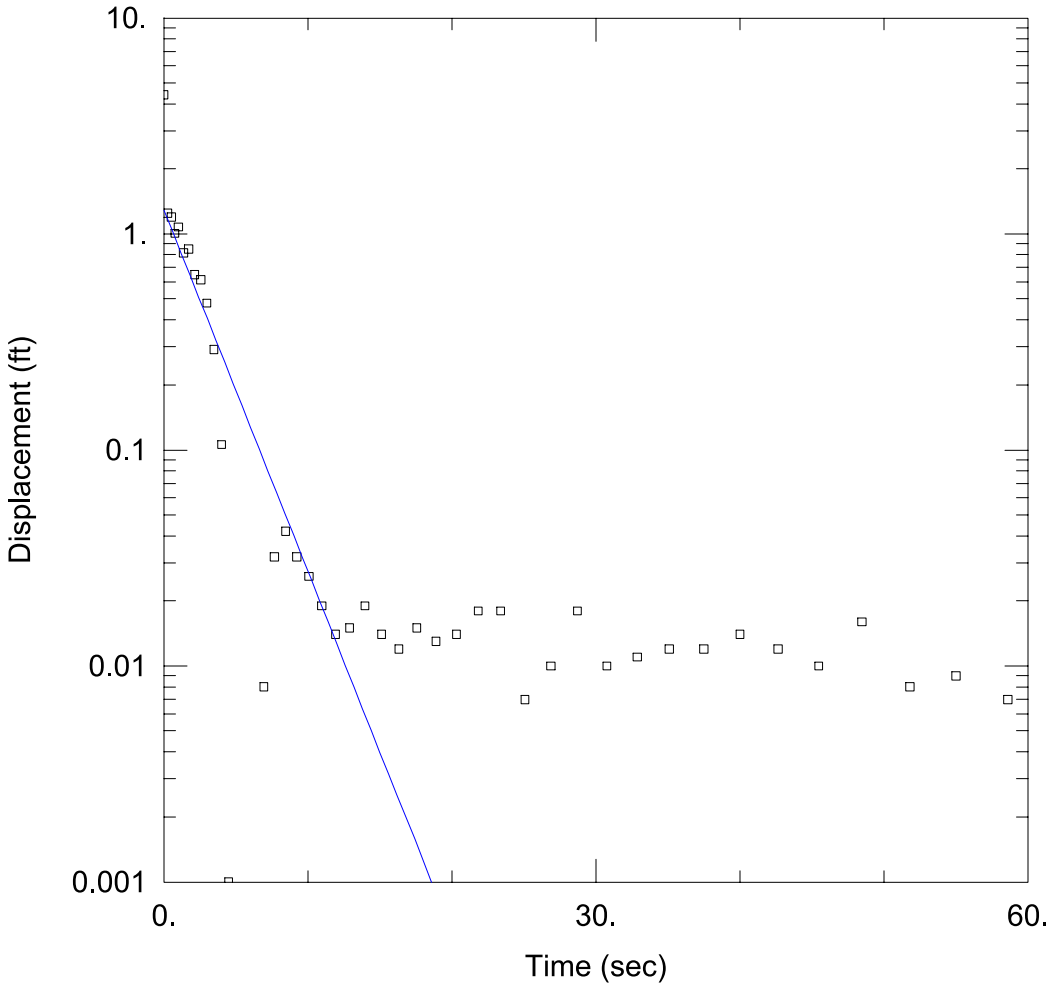
Saturated Thickness: 37.73 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-96)

Initial Displacement: 4.4 ft
Total Well Penetration Depth: 21.45 ft
Casing Radius: 0.083 ft
Static Water Column Height: 21.7 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 41.19 ft/day
y0 = 0.666 ft



W-96 RISING HEAD

Data Set: O:\...\W-96_cks_Rising.aqt
Date: 02/14/20 Time: 10:54:02

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-96

AQUIFER DATA

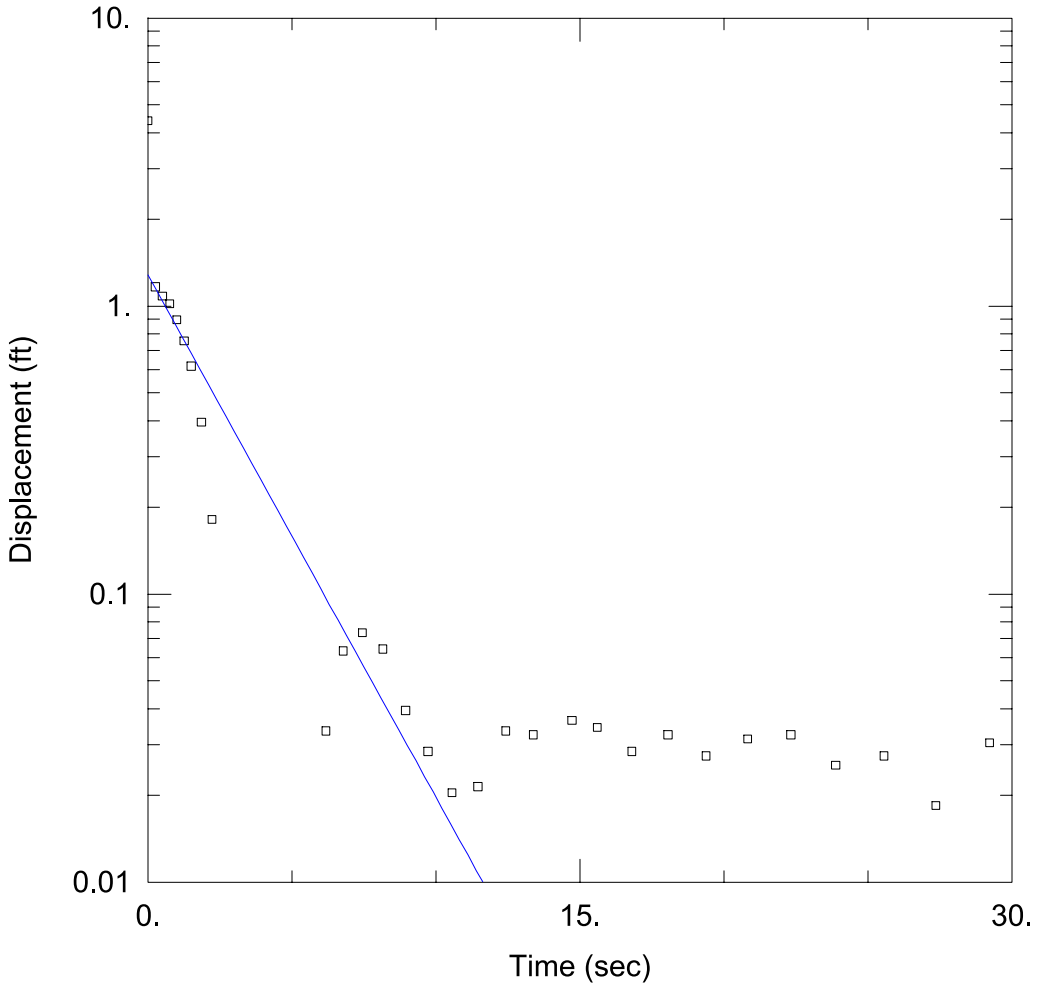
Saturated Thickness: 37.73 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-96)

Initial Displacement: 4.4 ft
Total Well Penetration Depth: 21.45 ft
Casing Radius: 0.083 ft
Static Water Column Height: 21.7 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 75.97 ft/day
y0 = 1.283 ft



W-97 FALLING HEAD

Data Set: O:\...\W-97_cks_Falling.aqt
Date: 02/14/20 Time: 10:51:45

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-97

AQUIFER DATA

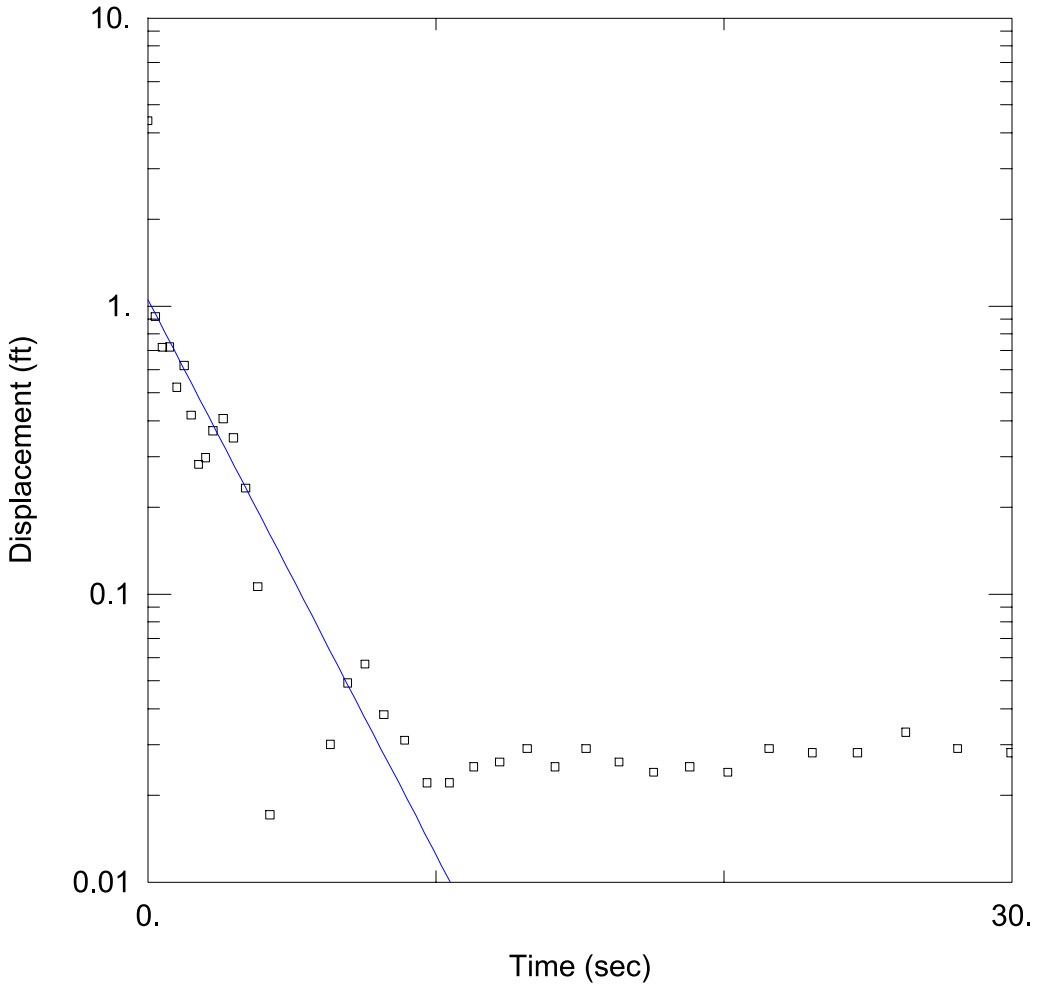
Saturated Thickness: 33.08 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-97)

Initial Displacement: 4.4 ft
Total Well Penetration Depth: 14.21 ft
Casing Radius: 0.083 ft
Static Water Column Height: 14.46 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 78. ft/day
y0 = 1.279 ft



W-97 RISING HEAD

Data Set: O:\...\W-97_cks_Rising.aqt
Date: 02/14/20 Time: 10:50:56

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-97

AQUIFER DATA

Saturated Thickness: 33.08 ft Anisotropy Ratio (Kz/Kr): 1.

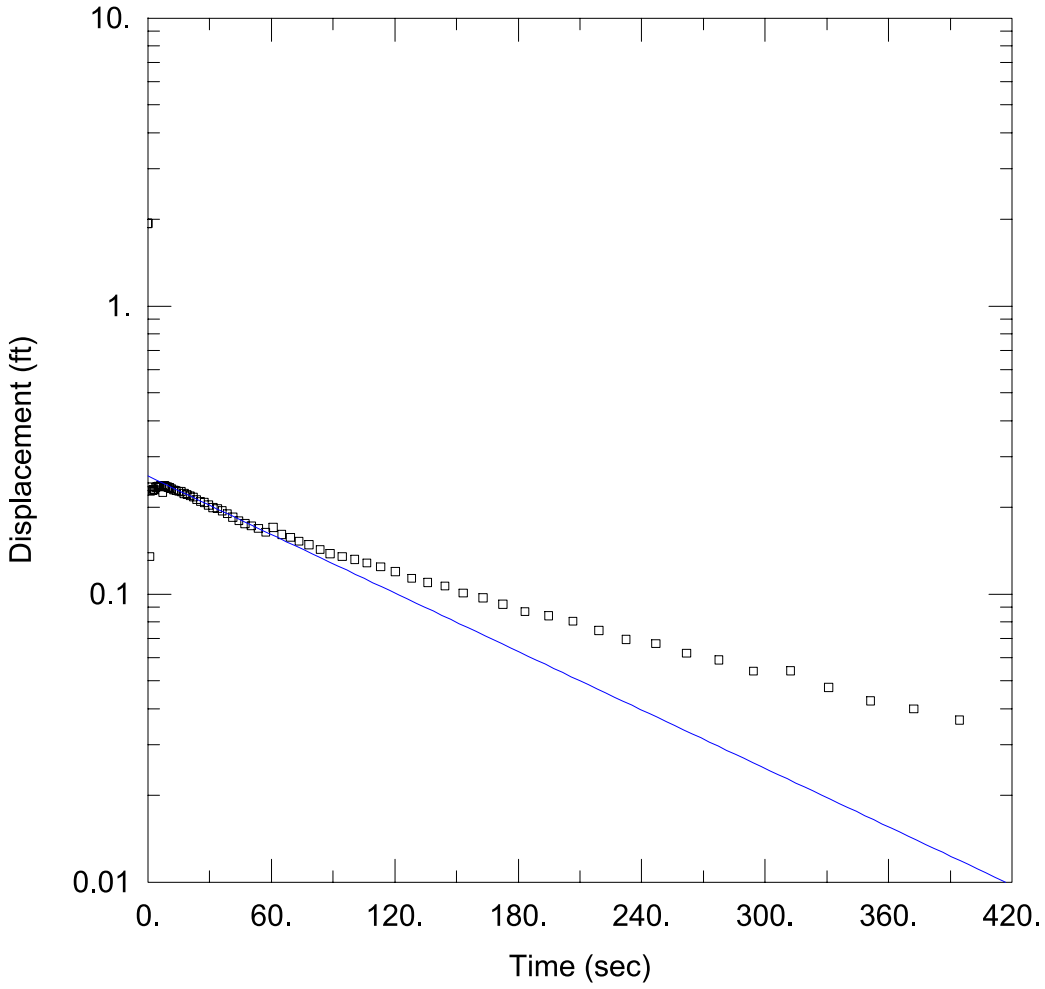
WELL DATA (W-97)

Initial Displacement: 4.4 ft
Total Well Penetration Depth: 14.21 ft
Casing Radius: 0.083 ft
Static Water Column Height: 14.46 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 82.89 ft/day y0 = 1.05 ft



W-98 FALLING HEAD

Data Set: L:\...\W-98_Falling.aqt
Date: 11/04/21 Time: 09:29:54

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-98

AQUIFER DATA

Saturated Thickness: 23.59 ft Anisotropy Ratio (Kz/Kr): 1.

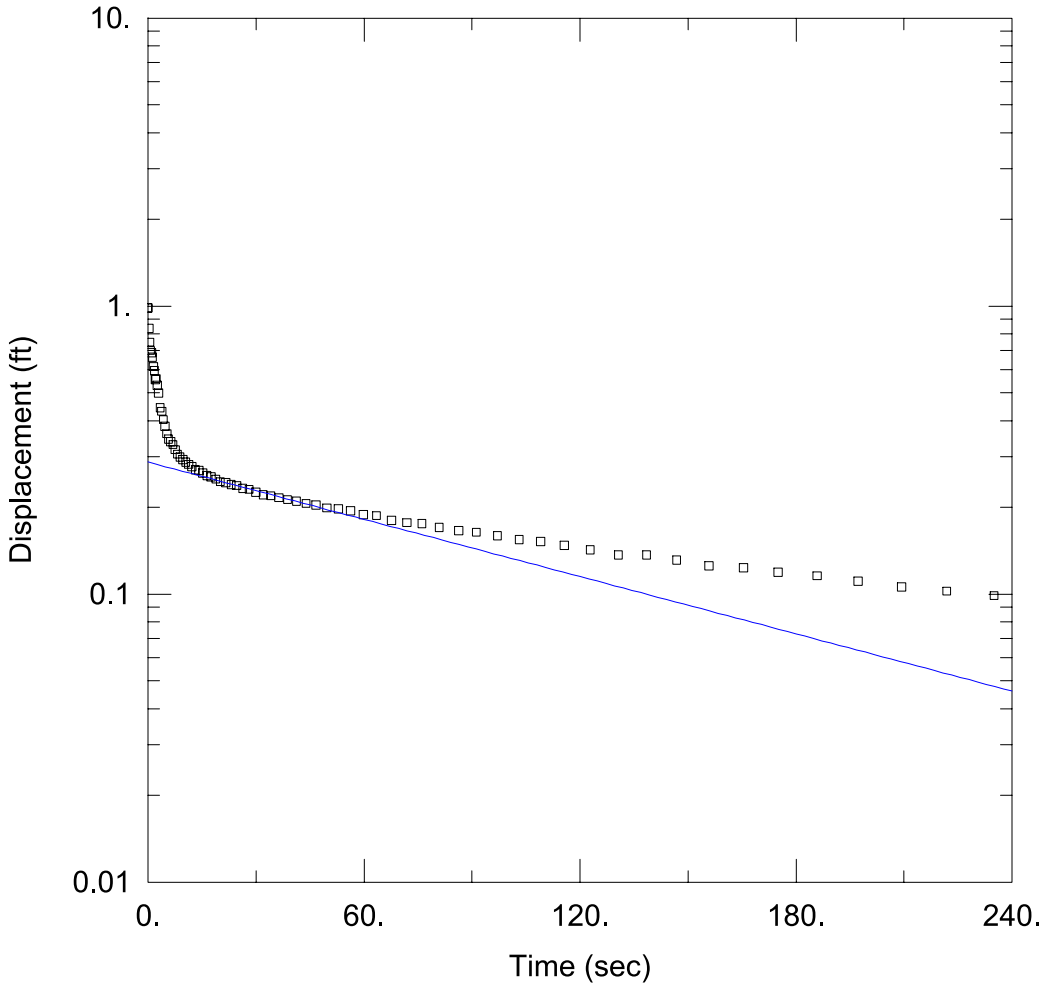
WELL DATA (W-98)

Initial Displacement: 1.932 ft
Total Well Penetration Depth: 6.31 ft
Casing Radius: 0.083 ft
Static Water Column Height: 6.31 ft
Screen Length: 6.31 ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.057 ft/day y0 = 0.2564 ft



W-98 RISING HEAD

Data Set: L:\...\W-98_Rising.aqt
Date: 12/14/21 Time: 16:52:07

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-98

AQUIFER DATA

Saturated Thickness: 23.59 ft Anisotropy Ratio (Kz/Kr): 1.

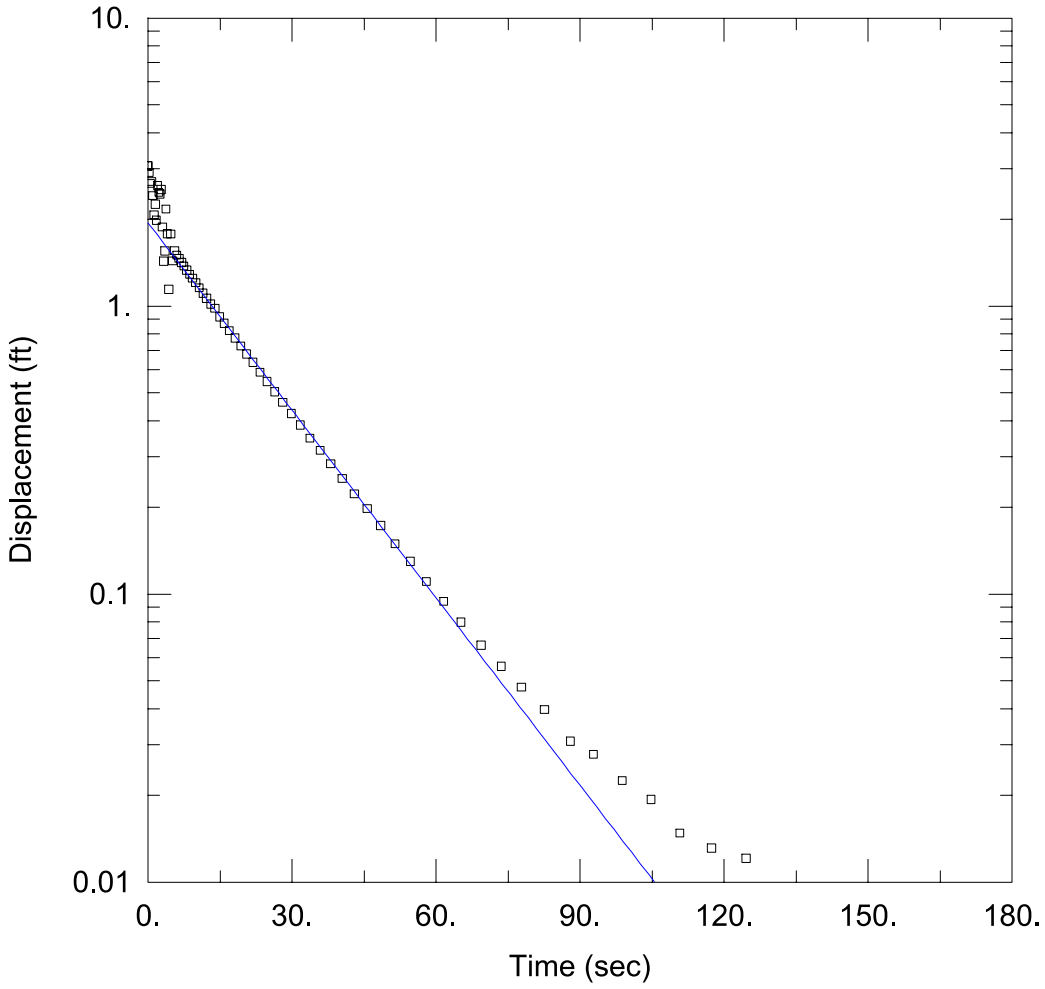
WELL DATA (W-98)

Initial Displacement: 0.984 ft
Total Well Penetration Depth: 6.31 ft
Casing Radius: 0.083 ft
Static Water Column Height: 6.31 ft
Screen Length: 6.31 ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.037 ft/day y0 = 0.2872 ft



W-103 FALLING HEAD

Data Set: L:\...\W-103_Falling.aqt
Date: 11/04/21 Time: 09:35:06

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-103

AQUIFER DATA

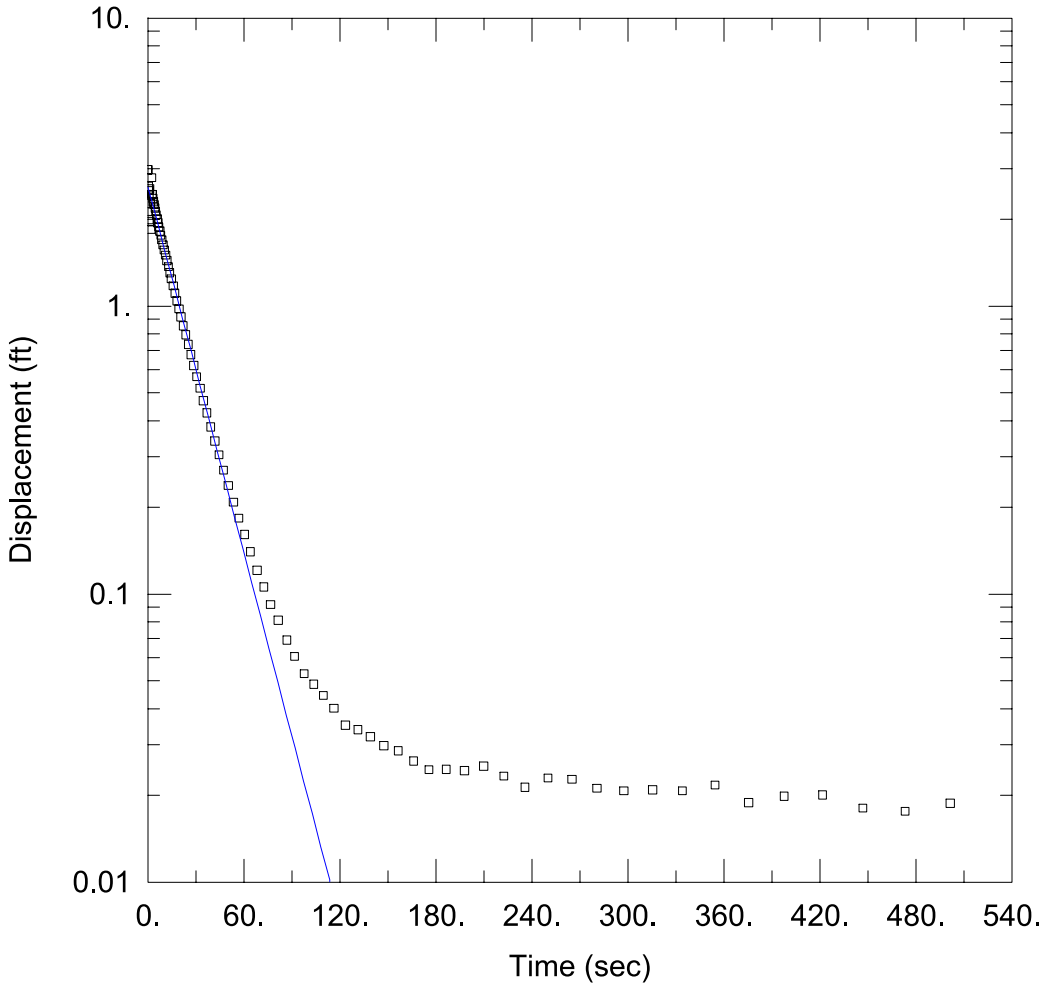
Saturated Thickness: 24.2 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-103)

Initial Displacement: 3.066 ft
Total Well Penetration Depth: 24.62 ft
Casing Radius: 0.083 ft
Static Water Column Height: 24.62 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 12.23 ft/day
y0 = 1.938 ft



W-103 RISING HEAD

Data Set: L:\...\W-103_Rising.aqt
Date: 11/04/21 Time: 09:40:37

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-103

AQUIFER DATA

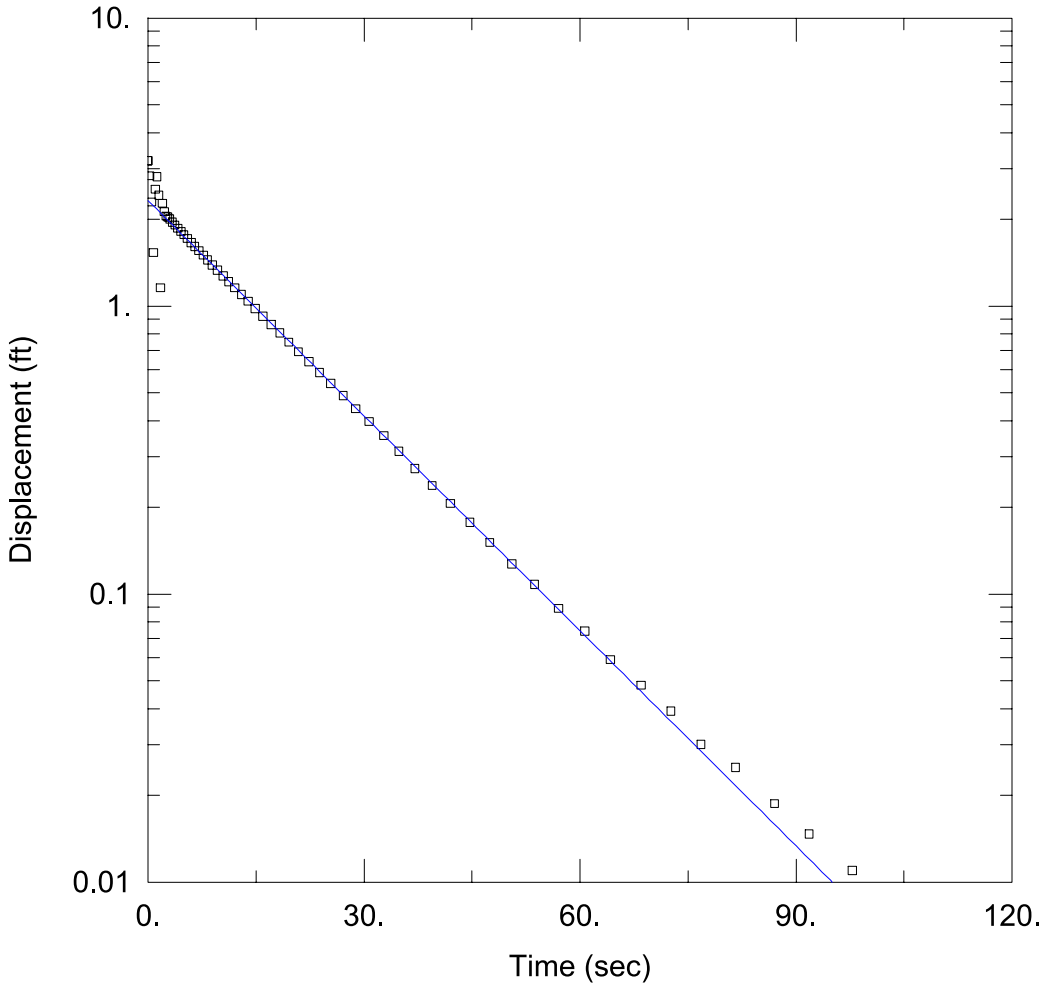
Saturated Thickness: 24.2 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-103)

Initial Displacement: 2.977 ft
Total Well Penetration Depth: 24.62 ft
Casing Radius: 0.083 ft
Static Water Column Height: 24.62 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 11.97 ft/day
y0 = 2.584 ft



W-117 FALLING HEAD

Data Set: L:\...\W-117_Falling.aqt
Date: 11/04/21 Time: 14:35:14

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-117

AQUIFER DATA

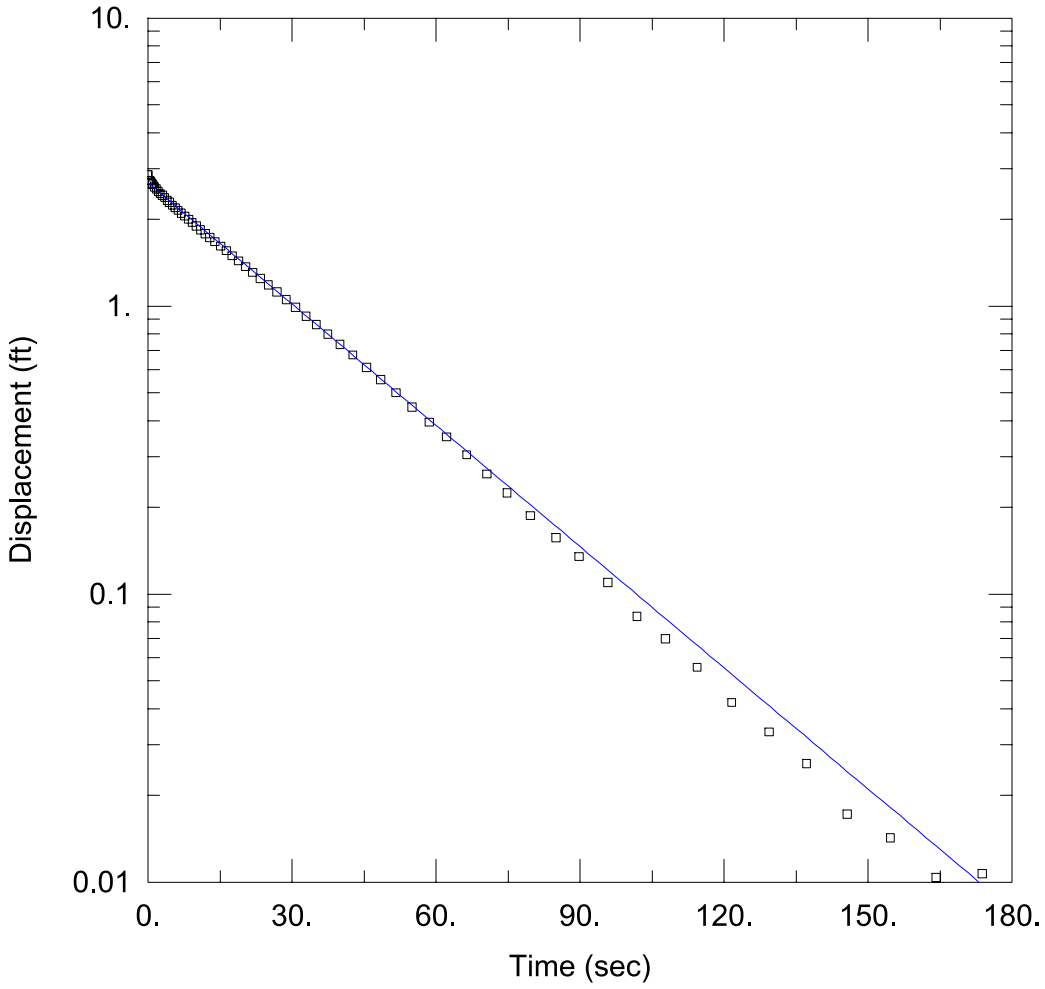
Saturated Thickness: 25.26 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-117)

Initial Displacement: 3.198 ft
Total Well Penetration Depth: 25.05 ft
Casing Radius: 0.083 ft
Static Water Column Height: 25.05 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 13.27 ft/day
y0 = 2.321 ft



W-117 RISING HEAD

Data Set: L:\...\W-117_Rising.aqt
Date: 11/04/21 Time: 14:37:11

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-117

AQUIFER DATA

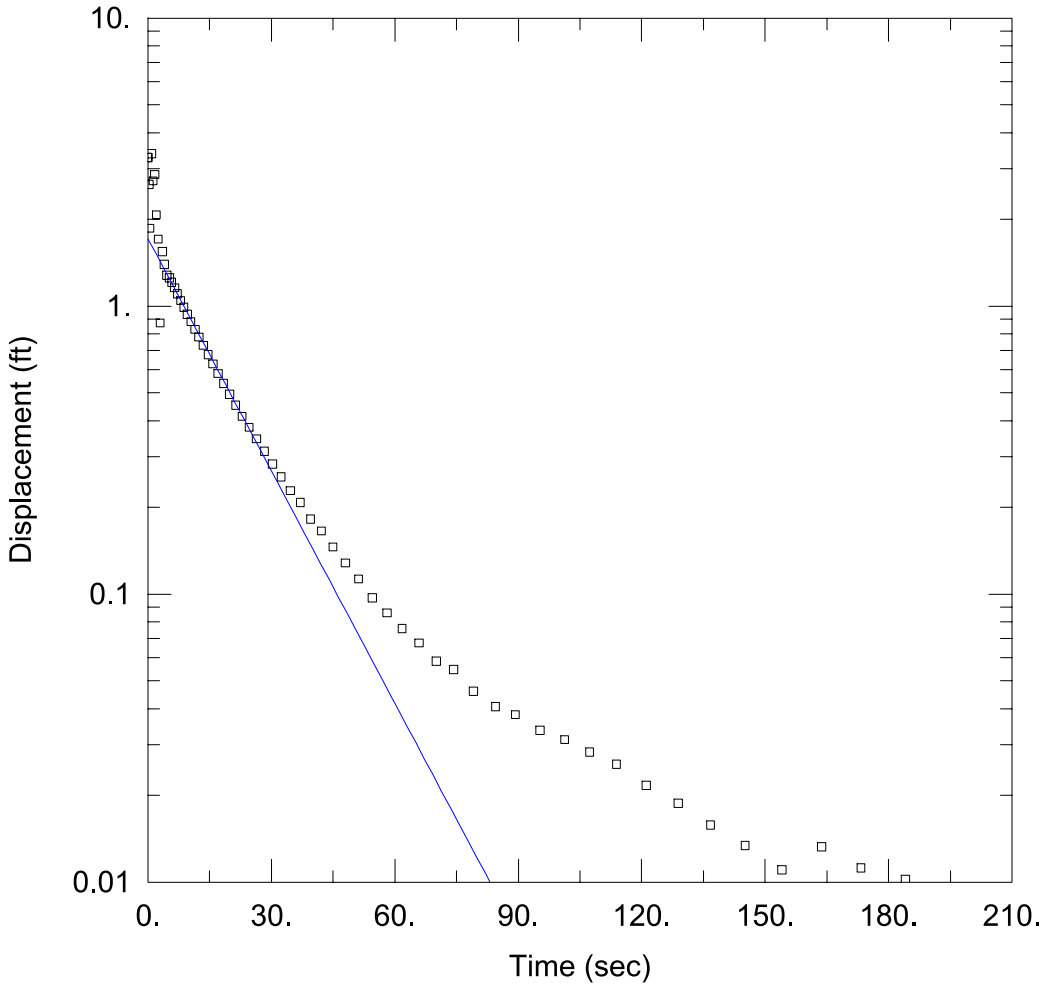
Saturated Thickness: 25.26 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-117)

Initial Displacement: 2.851 ft
Total Well Penetration Depth: 25.05 ft
Casing Radius: 0.083 ft
Static Water Column Height: 25.05 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 7.474 ft/day
y0 = 2.672 ft



W-118 FALLING HEAD

Data Set: L:\...\W-118_Falling.aqt
Date: 11/04/21 Time: 14:39:36

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-118

AQUIFER DATA

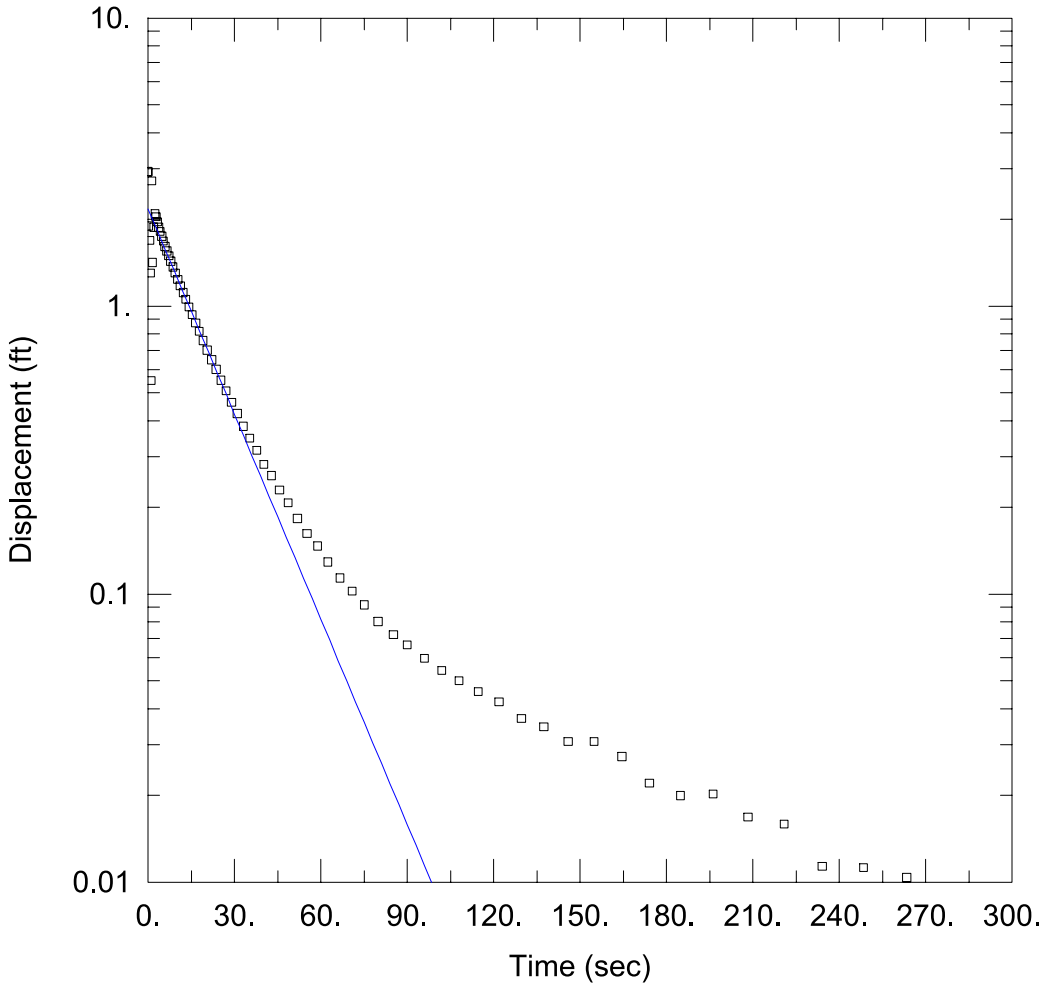
Saturated Thickness: 27.12 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-118)

Initial Displacement: 3.277 ft
Total Well Penetration Depth: 12.61 ft
Casing Radius: 0.083 ft
Static Water Column Height: 12.61 ft
Screen Length: 10. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.266 ft/day
y0 = 1.708 ft



W-118 RISING HEAD

Data Set: L:\...\W-118_Rising.aqt
Date: 11/04/21 Time: 14:41:38

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-118

AQUIFER DATA

Saturated Thickness: 27.12 ft Anisotropy Ratio (Kz/Kr): 1.

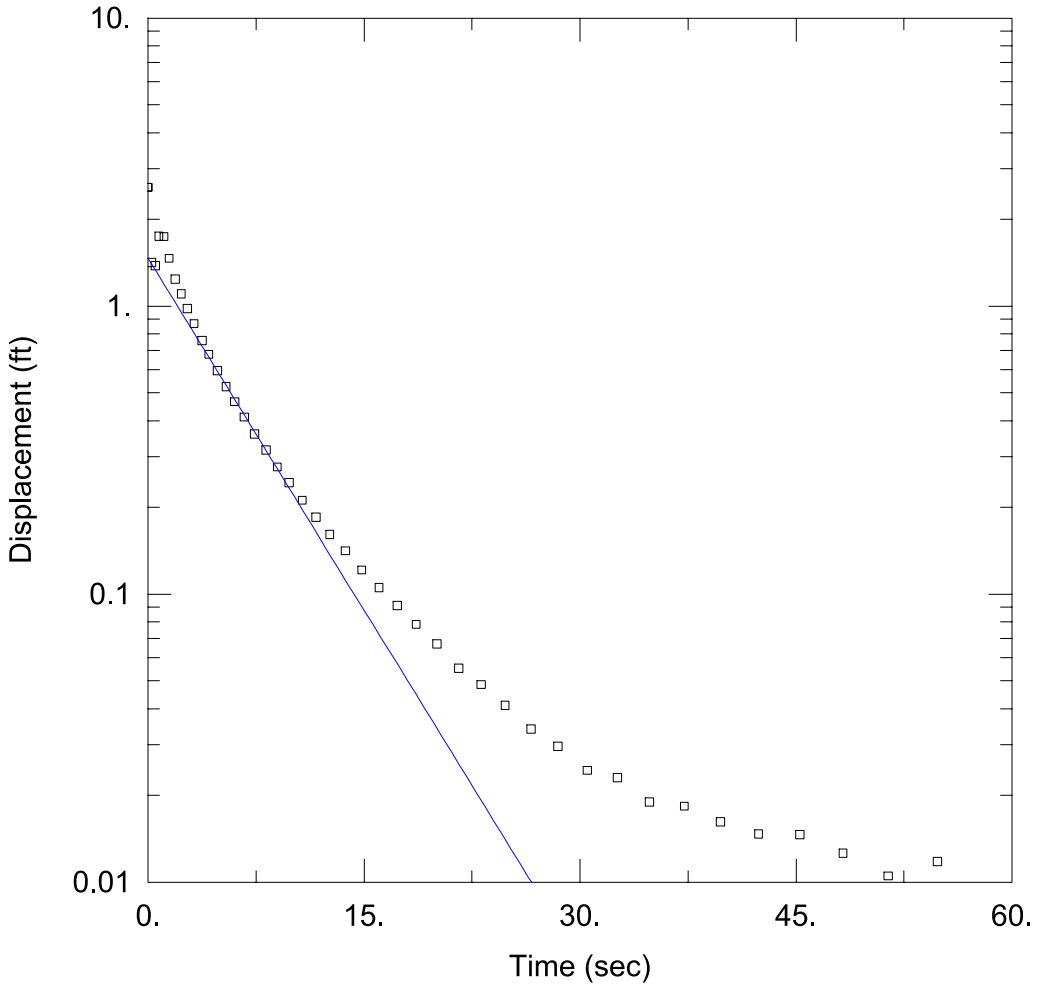
WELL DATA (W-118)

Initial Displacement: 2.926 ft
Total Well Penetration Depth: 12.61 ft
Casing Radius: 0.083 ft
Static Water Column Height: 12.61 ft
Screen Length: 10. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 5.537 ft/day y0 = 2.173 ft



W-119 FALLING HEAD

Data Set: L:\...\W-119_Falling.aqt
Date: 11/04/21 Time: 14:44:37

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-119

AQUIFER DATA

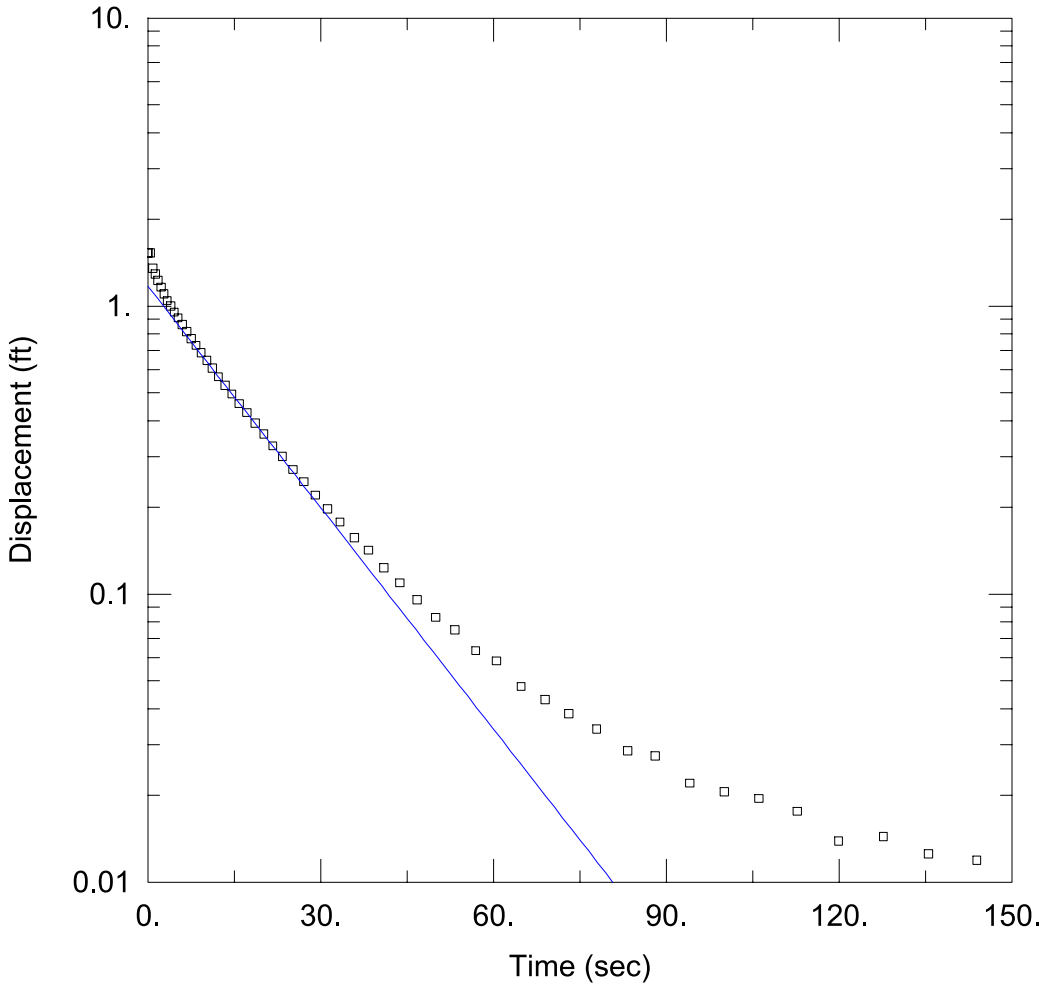
Saturated Thickness: 29.02 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-119)

Initial Displacement: 2.578 ft
Total Well Penetration Depth: 17.76 ft
Casing Radius: 0.083 ft
Static Water Column Height: 17.76 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 36.52 ft/day
y0 = 1.46 ft



W-119 RISING HEAD

Data Set: L:\...\W-119_Rising.aqt
Date: 11/04/21 Time: 14:46:29

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-119

AQUIFER DATA

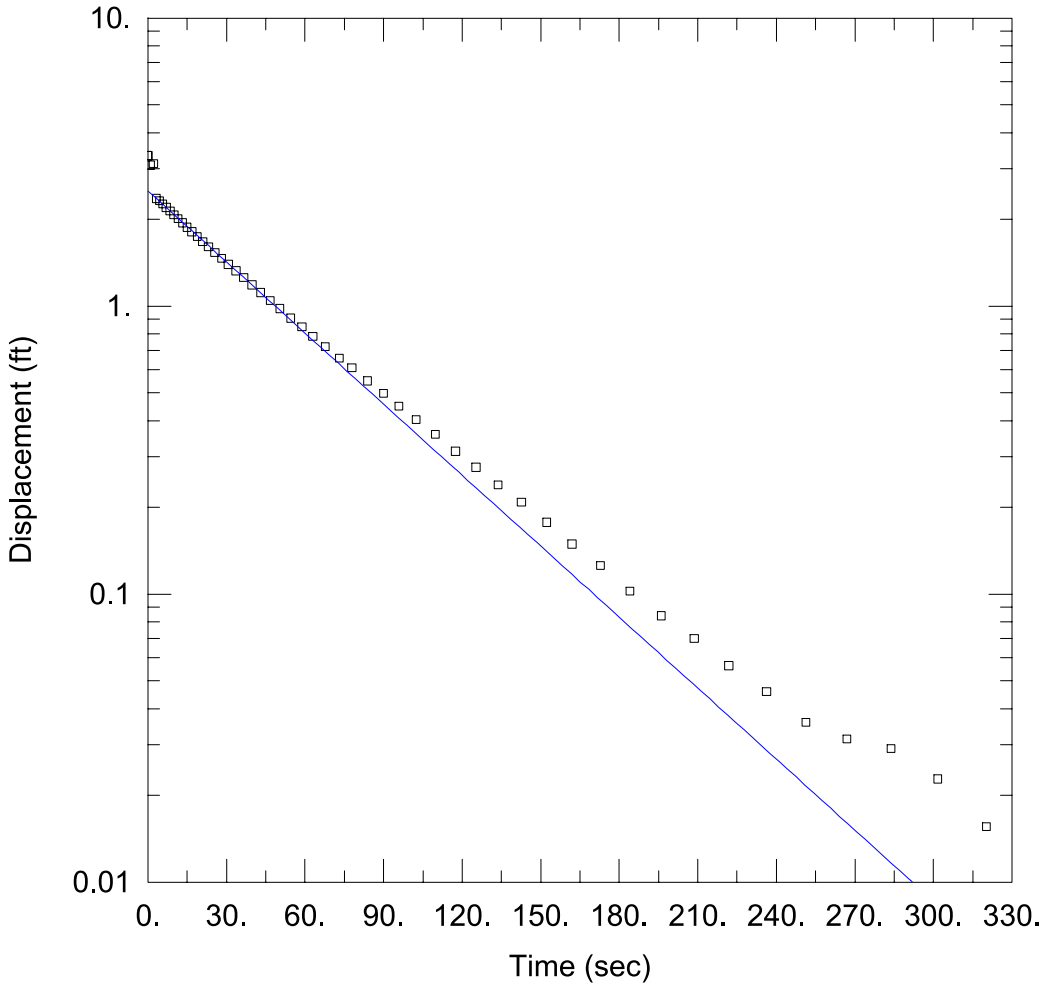
Saturated Thickness: 29.02 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-119)

Initial Displacement: 1.529 ft
Total Well Penetration Depth: 17.76 ft
Casing Radius: 0.083 ft
Static Water Column Height: 17.76 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 11.51 ft/day
y0 = 1.168 ft



W-120 FALLING HEAD

Data Set: L:\...\W-120_Falling.aqt
Date: 11/04/21 Time: 14:53:48

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-120

AQUIFER DATA

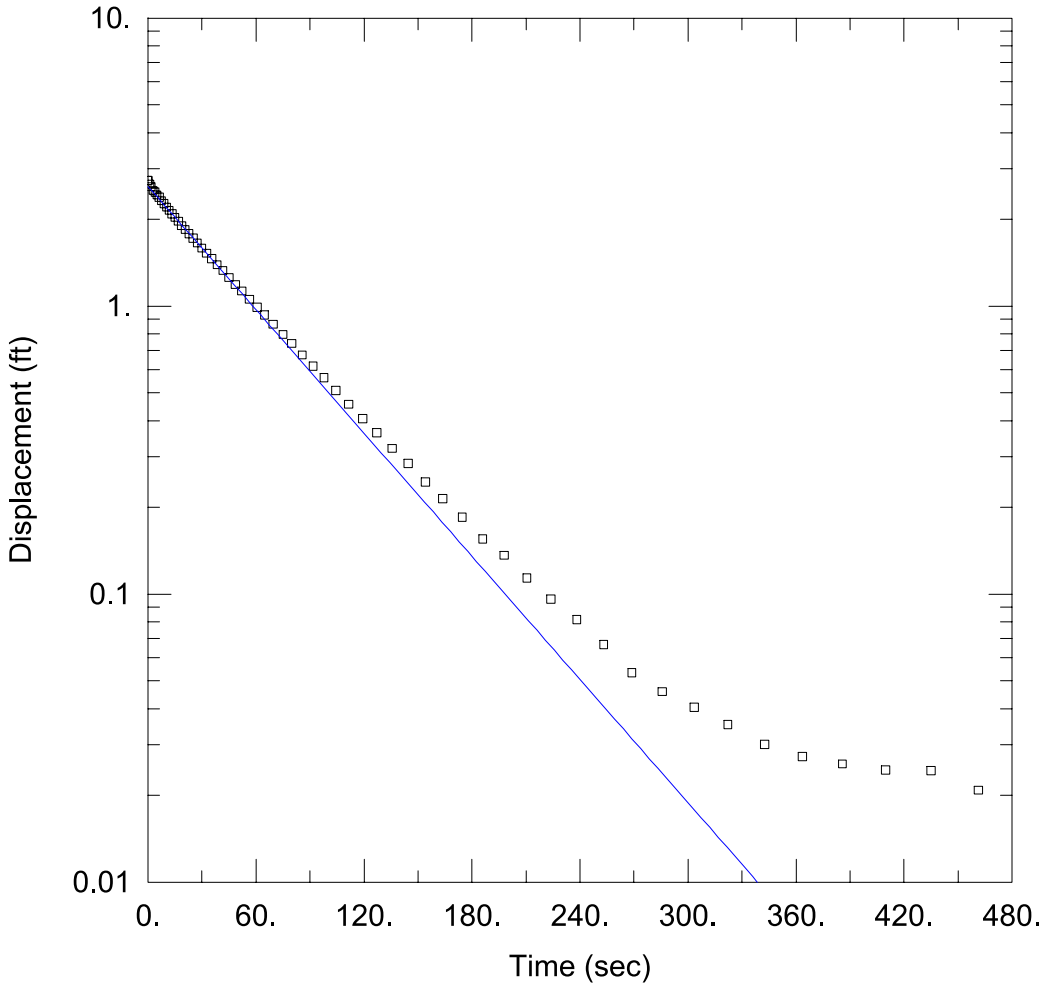
Saturated Thickness: 24.26 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-120)

Initial Displacement: 3.327 ft
Total Well Penetration Depth: 24.06 ft
Casing Radius: 0.083 ft
Static Water Column Height: 24.06 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.366 ft/day
y0 = 2.504 ft



W-120 RISING HEAD

Data Set: L:\...\W-120_Rising.aqt
Date: 11/04/21 Time: 15:02:10

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-120

AQUIFER DATA

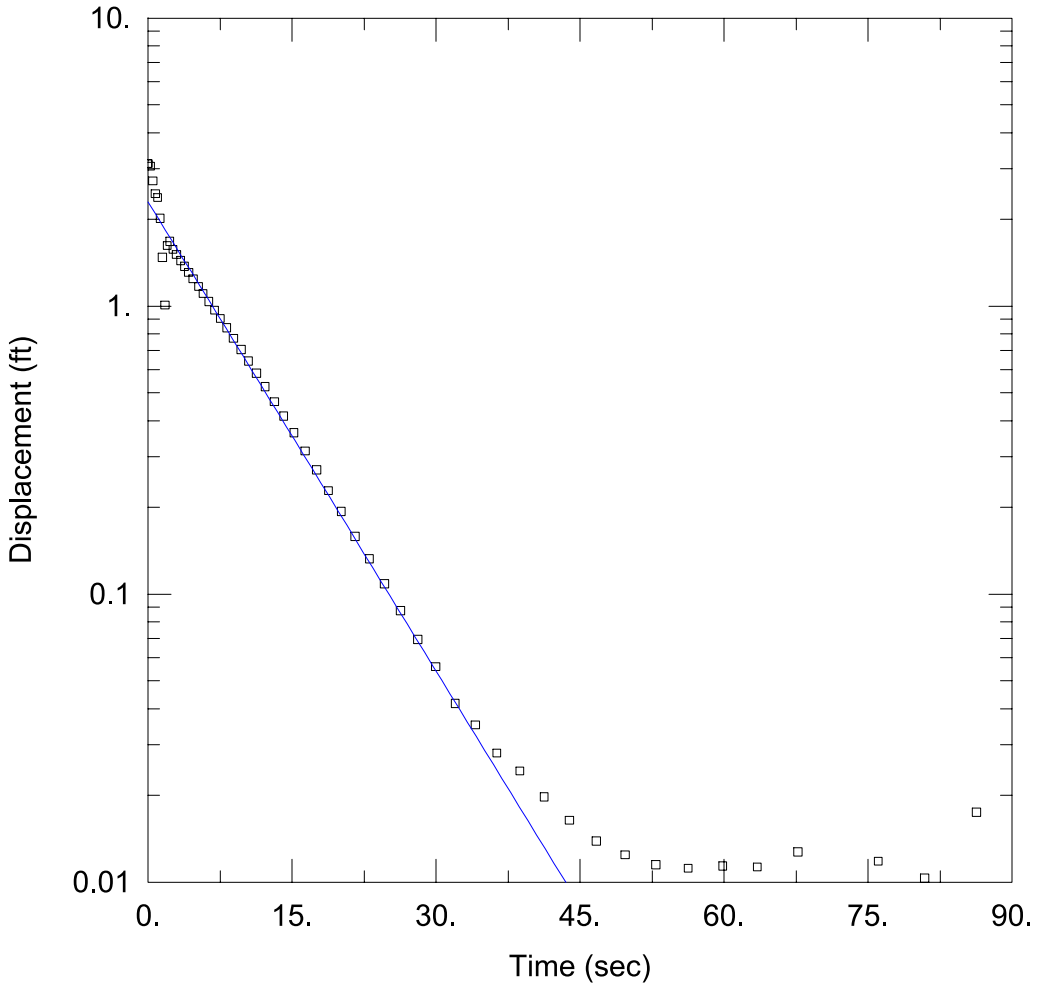
Saturated Thickness: 24.26 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-120)

Initial Displacement: 2.725 ft
Total Well Penetration Depth: 24.06 ft
Casing Radius: 0.083 ft
Static Water Column Height: 24.06 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.787 ft/day
y0 = 2.594 ft



W-126 FALLING HEAD

Data Set: L:\...\W-126_Falling.aqt
Date: 11/04/21 Time: 15:27:19

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-126

AQUIFER DATA

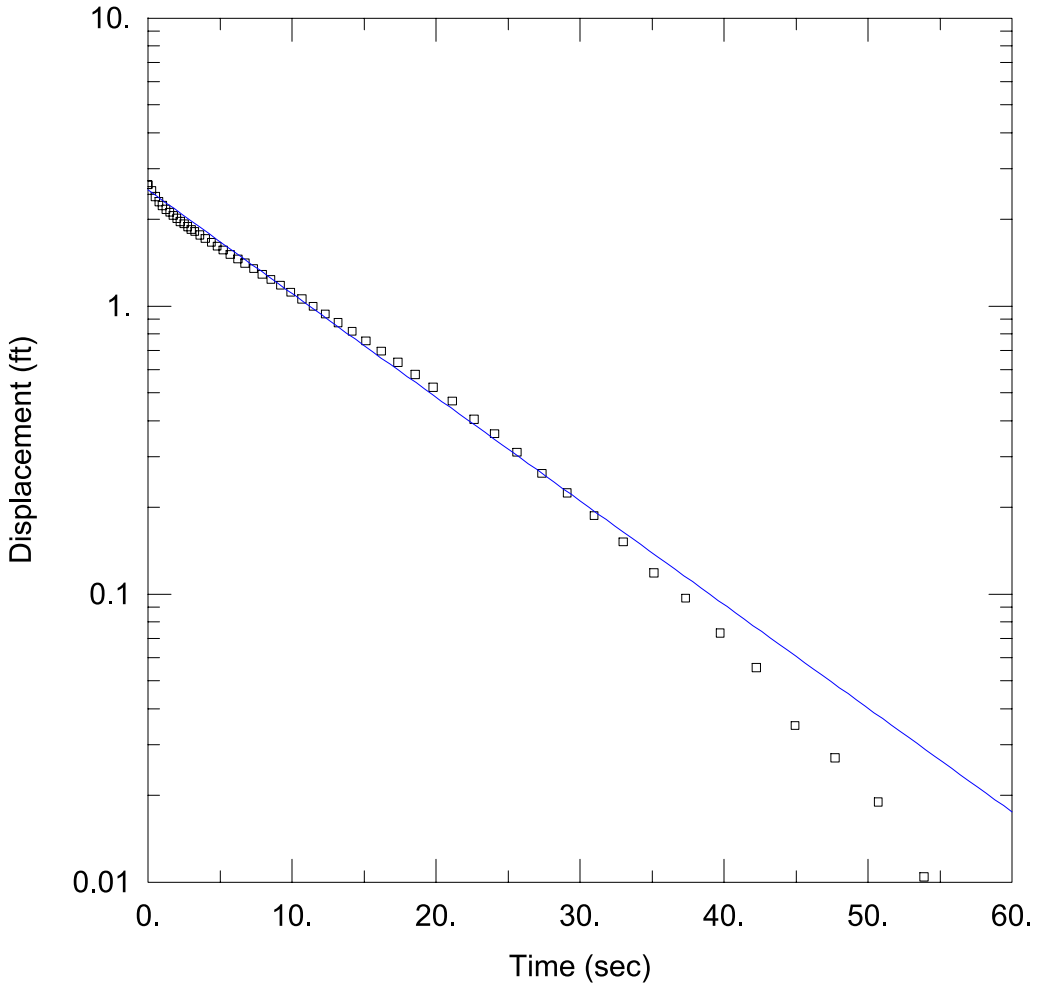
Saturated Thickness: 40.24 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-126)

Initial Displacement: 3.12 ft
Total Well Penetration Depth: 39.22 ft
Casing Radius: 0.083 ft
Static Water Column Height: 39.22 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 28.91 ft/day
y0 = 2.302 ft



W-126 RISING HEAD

Data Set: L:\...\W-126_Rising.aqt
Date: 11/04/21 Time: 15:29:04

PROJECT INFORMATION

Company: AECOM
Client: Westinghouse
Location: Hopkins, SC
Test Well: W-126

AQUIFER DATA

Saturated Thickness: 40.24 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (W-126)

Initial Displacement: 2.634 ft
Total Well Penetration Depth: 39.22 ft
Casing Radius: 0.083 ft
Static Water Column Height: 39.22 ft
Screen Length: 5. ft
Well Radius: 0.083 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 19.18 ft/day y0 = 2.53 ft

Appendix P
Site Hydrogeology

Site Hydrogeology

Groundwater in the surficial aquifer occurs under unconfined (water table) conditions and generally flows from areas of higher topography in the vicinity of the plant building towards areas of lower topography in the floodplain of the Congaree River along Mill Creek. Although the sediment above and below the bluff were deposited during different time periods according to the Geologic Map of the Fort Jackson South Quadrangle (DNR, 2011), the sediments were both deposited by the Congaree River and are hydrogeologically connected based on data collected during the RI. Despite a change in elevation of approximately 30 feet in land surface from the area above the bluff to the floodplain below the bluff, the surficial aquifer is a single, unconfined aquifer with similar thicknesses above and below the bluff.

Groundwater monitoring wells were installed at differing depths to assess constituent of potential concern (COPC) migration within the surficial aquifer. Monitoring wells installed near the top and in the middle of the surficial aquifer are designated as surficial aquifer upper zone monitoring wells, whereas wells installed on top of or within 5 feet of the Black Creek confining clay are designated as surficial aquifer lower zone monitoring wells.

One exception to the criteria above is monitoring well W-95 located near the southern extent of Upper Sunset Lake. This well is designated as a surficial aquifer lower zone monitoring well because chlorinated volatile organic compounds (CVOCs) migrating within the lower zone of the surficial aquifer on the northern side of Upper Sunset Lake are detected in groundwater in monitoring well W-95, which is installed on top of a low permeability silt, while monitoring well W-111, installed on top of the Black Creek confining unit at this location, is not impacted by CVOCs. The low permeability silt on which monitoring well W-95 is installed acts as a local confining unit that inhibits CVOC migration deeper into the incised portion of the surficial aquifer where W-111 is screened. The surficial aquifer is anomalously thick at this location.

Discharge of groundwater to the deeply incised portions of the ditches appears to influence groundwater flow and COPC migration within the upper zone of the surficial aquifer. The Gator Pond appears to influence COPC migration as evidenced by COPC impacts in surficial aquifer groundwater migrating in a more easterly or westerly direction in the vicinity of the Gator Pond. Lower Sunset Lake may also deflect groundwater migration in areas with low hydraulic gradients. Groundwater flow in the Black Creek Aquifer is inferred to the southwest based upon groundwater elevations from the four monitoring wells that are screened within this aquifer.

Hydraulic Characteristics

Prior to the RI, slug tests were conducted in ten monitoring wells (W-13R, W-15, W-26, W-33, W-35, W-39, W-41R, W-48, W-60 and W-61) and pump tests were conducted in two monitoring wells (W-RW1 and W-RW2) during previous scopes of work. Hydraulic conductivity tests (slug tests) were performed in 17 monitoring wells (W-6, W-11, W-19B, W-65, W-67, W-68, W-94 through W-98, W-103, W-117 through W-120, and W-126) during the RI **(Appendix O)**. Historical and RI hydraulic characterization results are as displayed in **Table 6.** These tests were conducted to provide estimates of the hydraulic conductivity in the portion of the surficial aquifer immediately surrounding the screened interval of each tested well. Slug tests during the RI and in monitoring wells W-13R, W-15, W-39, W-48, W-60 and W-61 were conducted by two methods: falling head test (slug in) and rising head test (slug out). The remaining slug tests from older scopes of work were falling head tests only. The hydraulic conductivity values determined by historical and recent slug tests ranged from 0.06 to 125.20 feet per day (ft/day). Based on these values the average hydraulic conductivity calculated for the site is 16.44 ft/day.

Because wells are screened at different depths (upper zone and lower zone of the surficial aquifer) and in different areas of the site (above the bluff, near the bluff, and below the bluff), average hydraulic conductivities were also calculated based on these factors to assist in evaluating horizontal groundwater flow velocities throughout the property. Monitoring wells were not able to be installed on the steep slopes of the bluff, so evaluation of hydraulic conductivities near the bluff were used to estimate the conductivity of bluff sediments. Based upon the depth and location criteria for the monitoring wells in which slug tests or pump tests were conducted, the following average hydraulic conductivities were calculated:

Average Hydraulic Conductivities (Calculated):

- Above the bluff, upper zone of the surficial aquifer = 7.57 ft/day
- Above the bluff, lower zone of the surficial aquifer = 14.77 ft/day
- Near the bluff, upper zone of the surficial aquifer = 3.94 ft/day
- Near the bluff, lower zone of the surficial aquifer = 5.87 ft/day
- Below the bluff, upper zone of the surficial aquifer = 69.51 ft/day
- Below the bluff, lower zone of the surficial aquifer = 17.87 ft/day

The monitoring wells screened in the upper zone of the surficial aquifer near the bluff that were used to generate the values listed above include W-13R, W-15, W-26, W-67 and W-98. The wells screened in the lower zone of the surficial aquifer near the bluff used to generate the above calculations include W-48, W-68 and W-103.

Hydraulic Gradient

Hydraulic gradient is the change in total head (water elevation) over distance in a given direction (Fetter, 1994). Gradients exists horizontally and vertically within an aquifer. Water table elevations roughly mirror topography with steeper gradients in areas with steeper changes in elevation (e.g., the bluff at the site). Generally, the site gently slopes from the north to the south except for the bluff and the erosional features caused by the stormwater ditches, particularly within the stormwater ditch's natural flow channels.

As discussed above, groundwater in the surficial aquifer flows predominantly to the southwest with components of flow to the west and south. The groundwater elevations and flow maps were used to calculate average horizontal gradients across the site. To obtain accurate distances between well locations, the ArcMap tool within Esri's ArcGIS program was used to measure distances between each well used to calculate a horizontal hydraulic gradient. Based on the groundwater elevations from the October 2021 synoptic water level gauging event, the average horizontal hydraulic gradients for each location/zone are as follows:

Average Horizontal Hydraulic Gradients (October 2021):

- Above the bluff, upper zone of the surficial aquifer = 0.00637 feet per foot (ft/ft)
- Above the bluff, lower zone of the surficial aquifer = 0.00472 ft/ft
- Bluff, upper zone of the surficial aquifer = 0.0329 ft/ft
- Bluff, lower zone of the surficial aquifer = 0.0276 ft/ ft
- Below the bluff, upper zone of the surficial aquifer = 0.000488 ft/ ft
- Below the bluff, lower zone of the surficial aquifer = 0.000297 ft/ ft

Vertical Hydraulic Gradients (October 2019-October 2021):

Vertical gradients are a measure of pressure head over a change in depth and provide an indication of whether COPCs have the potential to migrate vertically from shallower groundwater zones to deeper zones or vice versa. Vertical hydraulic gradients were also calculated for semi-annual synoptic water level gauging events from October 2019 through October 2021 for paired upper and lower zones of surficial aquifer well pairs across the site and for upper zone of the surficial aquifer to the Black Creek Aquifer (**Table 7**).

The following formula was used to calculate vertical hydraulic gradients at each well pair:

$$\frac{(\mathrm{GWUW}-\mathrm{GWLW})}{(\mathrm{UW}-\mathrm{LW})} = \text{Vertical Gradient (ft/ft)}$$

Where:

GW UW = groundwater elevation of upper zone of the surficial aquifer well (ft)

GW LW = groundwater elevation of lower zone of the surficial aquifer well (ft)
SW = elevation of top of the mid-point of the upper zone of the surficial aquifer well screen (ft)
DW = elevation of the top of the mid-point of lower zone of the surficial aquifer well screen (ft)

The potential for flow between the surficial aquifer and the Black Creek Aquifer was assessed to be generally downward at vertical hydraulic gradients ranging between 0.018 and 0.190 ft/ft. These values are similar to previously calculated downward gradients of 0.04 and 0.1 ft/ft (Rust, 1995 and AECOM, 2015). There was an upward gradient calculated for the W-4R/W-3A well pair which is also due to the steep topography in this area. However, low moisture content and vertical hydraulic conductivities of less than 10^{-7} centimeters per second (S&ME, 1982) throughout the 39 to 83 foot thickness of the Black Creek confining clay preclude migration of groundwater between the surficial aquifer and the Black Creek Aquifer which in turn precludes potential migration to the deeper Middendorf Aquifer.

Groundwater Flow Velocity

The hydrogeologic data (hydraulic conductivity and gradient) collected at the site were used to calculate groundwater flow rates for each location/zone using Darcy's Law as follows:

$$V = \frac{i \times K}{n}$$

Where:

V = Average Groundwater Flow Velocity

i = Groundwater Gradient

K = Hydraulic Conductivity

n = Effective Porosity

Based upon the hydraulic conductivities above, the hydraulic gradients above, and an estimated effective porosity of 0.30, the average groundwater flow velocity calculated for each location/zone is as follows:

Average Groundwater Flow Velocity (Calculated):

- Above the bluff, upper zone of the surficial aquifer = 0.161 ft/day or 58.71 ft/year
- Above the bluff, lower zone of the surficial aquifer = 0.232 ft/day or 84.85 ft/year
- Bluff, upper zone of the surficial aquifer = 0.431 ft/day or 157.58 ft/year
- Bluff, lower zone of the surficial aquifer = 0.541 ft/day or 197.55 ft/year
- Below the bluff, upper zone of the surficial aquifer = 0.113 ft/day or 41.32 ft/year
- Below the bluff, lower zone of the surficial aquifer = 0.018 ft/day or 6.46 ft/year

References

AECOM, 2015. Remedial Investigation Report, Westinghouse Electric Company, Columbia Fuel Fabrication Facility, Richland County, South Carolina, September 25, 2015.

DNR Geologic Survey, 2011. Geologic Map of the Fort Jackson South Geologic Quadrangle, Calhoun and Richland Counties, South Carolina, GQM-52, Kimberly M. Meitzen 2011.

Fetter, C. W., 1994. Applied Hydrogeology, Third Edition. University of Wisconsin – Oskosh, Macmillan College Publishing Company.

Rust, 1995. Conceptual Design Report, Westinghouse Commercial Fuel Division, Columbia, South Carolina, September 8, 1995.

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

Appendix Q
Soil Analytical Results (on DVD)

Appendix R
Grain Size Analytical Results (on DVD)

Appendix S
Groundwater Analytical Results (on DVD)

Appendix T
RI Analytical Results Tables

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	W-RW1	W-RW2	W-3A	W-4R	W-6	W-7A	W-10	W-11	W-13R	W-14	W-15	W-16	W-17	W-18R	W-19B
				Date	10/14/2021	10/21/2021	10/25/21	10/25/21	10/8/21	10/5/21	10/5/21	10/5/21	10/5/21	10/18/21	10/19/21	10/19/21	10/12/21	10/8/21	10/20/21
				Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Group	Analyte	MCL	note	Units															
Radiological	Alpha particles	15	*	pCi/L	2.13 #	0.577 #	2.10 #	0.170 #	13.5	8.14	0.131 #	0.816 #	0 ##	3.06 #	1.06 #	2.42 #	1.36 #	20.9	2.63
Radiological	Beta particles	50	*	pCi/L	2.32 #	5.46	5.86	0.278 #	1290	105	60.0	627	70.7	9.79	114	16.9	514	49.3	0 ##
Radiological	Technetium-99	900		pCi/L	0.0163 #	6.40	0 ##	0.442 #	2500	193	98.2	1230	126	0.299 #	221	7.37	719	143	1.70 #
Radiological	Uranium-233/234			pCi/L	0.246 #	0.134 #	0 ##	0 ##	0.255	0.277	0.291	0.0982 #	0.195 #	0 ##	0 ##	0 ##	0.222 #	1.37	0.0812 #
Radiological	Uranium-235/236			pCi/L	0.135 #	0.0295 #	0 ##	0.0179 #	0.152 #	0.0105 #	0.0763 #	0.0430 #	0.151	0 ##	0.0538 #	0.0276 #	0.105 #	0 ##	0.0699 #
Radiological	Uranium-238			pCi/L	0.0601 #	0.582	0.0616 #	0 ##	0.167	0.101 #	0.0777 #	0.0347 #	0.122	0.00371 #	0 ##	0.00235 #	0.117 #	1.15	0.0976 #
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	0.0240 J	< 0.0700
Radiological	Uranium-238			ug/L	< 0.200	0.0739 J	0.0700 J	< 0.200	0.321	0.558	0.138 J	0.0947 J	0.158 J	0.221	< 0.200	0.0770 J	0.122 J	2.70	< 0.200
Radiological	Total Uranium Isotopes	30		ug/L	< 0.200	0.0739 J	0.0700 J	< 0.200	0.321	0.558	0.138 J	0.0947 J	0.158 J	0.221	< 0.200	0.0770 J	0.122 J	2.72	< 0.200
Chemical	Fluoride	4		mg/L	0.037 J	0.125	0.015 J	0.154	0.233	7.18	4.09	0.037 J	10.8	0.067 J	2.12	7.35	1.9	6.76	0.015 J
Chemical	Nitrate as N	10		mg/L	2.0	16	< 0.020	< 0.020	210	320	22	23	18	0.39	39	2.0	17	550	3.7
Chemical	Ammonia as N			mg/L	0.0197 J	0.0207 J	0.0193 J	0.0196 J	105	66.5	7.51	2.26	38.9	4.17	0.487	15	7.84	77.5	0.0131 J
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		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
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		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
VOCs	1,2-Dichlorobenzene	600		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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			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
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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
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
VOCs	cis-1,2-Dichloroethene	70		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	3.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	1.1	< 1.0	1.2	< 1.0	< 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
VOCs	1,2-Dichloropropane	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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 5.0	< 5.0	< 5.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			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
VOCs	Tetrachloroethene	5		ug/L	2.3	150	< 1.0	< 1.0	18	1.3	< 1.0	15	27	2.8	10	3.1	6.1	1.9	89
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			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
VOCs	1,2,4-Trichlorobenzene	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		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
VOCs	1,1,2-Trichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Trichloroethene	5		ug/L	< 1.0	9.5	< 1.0	< 1.0	2.8	< 1.0	< 1.0	2.4	2.5	1.1	1.9	1.1	1.3	< 1.0	1.6
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	< 1.0	< 1.0	< 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
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	< 1.0	< 1.0	< 1.0	< 1.0

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	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-35	W-36	W-37
				Date	10/26/21	10/8/21	10/18/21	10/21/21	10/26/21	10/19/21	10/22/21	10/6/21	10/8/21	10/8/21	10/5/21	10/14/21	10/14/21	10/13/21	10/11/21
				Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Group	Analyte	MCL	note	Units															
Radiological	Alpha particles	15	*	pCi/L	0.485 #	8.55	0.635 #	2.51 #	0.419 #	0.933 #	0 ##	7.01	3.21 #	6.37	5.72	5.46	0.639 #	4.51	0.502 #
Radiological	Beta particles	50	*	pCi/L	0 ##	24.5	0.988 #	12.2	0.964 #	7.26	5.28	7.16	6.80	19.9	77.2	84.0	3.23 #	8.06	1.58 #
Radiological	Technetium-99	900		pCi/L	0 ##	31.1	0 ##	0 ##	0 ##	5.60	3.49 #	2.14 #	8.95	48.9	231	3.64 #	0.125 #	0 ##	0.0860 #
Radiological	Uranium-233/234			pCi/L	0 ##	0.727	0 ##	0 ##	0 ##	0.0743 #	0.0360 #	1.89	0.314 #	10.3	0.240 #	0.0523 #	0.0107 #	0 ##	0 ##
Radiological	Uranium-235/236			pCi/L	0 ##	0.220 #	0.0323 #	0 ##	0 ##	0.0622 #	0.0765 #	0.0987 #	0.0950 #	0.446	0.0384 #	0 ##	0.0607 #	0.132 #	0.0737 #
Radiological	Uranium-238			pCi/L	0 ##	0.302	0.0357 #	0.0168 #	0.0224 #	0.137 #	0.0631 #	0.472	0.329	2.54	0.0186 #	0.0512 #	0 ##	0 ##	0 ##
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	0.0144 J	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	0.0411 J	0.0145 J	0.209	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700
Radiological	Uranium-238			ug/L	< 0.200	0.793	< 0.200	< 0.200	< 0.200	< 0.200	0.0985 J	2.04	1.04	8.82	0.153 J	< 0.200	< 0.200	< 0.200	< 0.200
Radiological	Total Uranium Isotopes	30		ug/L	< 0.200	0.807	< 0.200	< 0.200	< 0.200	< 0.200	0.0985 J	2.08	1.05	9.03	0.153 J	< 0.200	< 0.200	< 0.200	< 0.200
Chemical	Fluoride	4		mg/L	0.042 J	5.61	0.029 J	0.025 J	0.091 J	1.44	2.52	8.11	4.57	14.3	5.01	0.084 J	0.026 J	0.014 J	0.038 J
Chemical	Nitrate as N	10		mg/L	0.042	72	0.67	< 0.020	0.10	2.4	< 0.020	5.9	10	57	94	18	4.2	0.35	3.3
Chemical	Ammonia as N			mg/L	0.0427 J	45.9	0.0495 J	0.0398 J	0.249	2.19	5.15	0.277	11.7	1.38	38.9	0.0153 J	0.0248 J	0.0245 J	0.0162 J
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		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
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		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
VOCs	1,2-Dichlorobenzene	600		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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			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
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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
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
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	5.0	< 1.0	< 1.0	< 1.0
VOCs	trans-1,2-Dichloroethene	100		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dichloropropane	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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 5.0	< 5.0	< 5.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			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
VOCs	Tetrachloroethene	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	< 1.0	340	1.9	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			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
VOCs	1,2,4-Trichlorobenzene	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		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
VOCs	1,1,2-Trichloroethane	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	< 1.0	< 1.0	< 1.0	< 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	1.5	< 1.0	36	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 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
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	< 1.0	< 1.0	< 1.0	< 1.0

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	W-38	W-39	W-40	W-41R	W-42	W-43	W-44	W-45	W-46	W-47	W-48	W-49	W-50	W-51	W-52
				Date	10/7/21	10/18/21	10/12/21	10/21/21	10/20/21	10/18/21	10/18/21	10/14/21	10/21/21	10/19/21	10/19/21	10/20/21	10/12/21	10/13/21	10/13/21
				Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Group	Analyte	MCL	note	Units															
Radiological	Alpha particles	15	*	pCi/L	2.12 #	0.360 #	0 ##	0.858 #	0 ##	0 ##	0.557 #	2.49 #	1.25 #	0 ##	0 ##	2.23 #	0.966 #	1.28 #	1.20 #
Radiological	Beta particles	50	*	pCi/L	4.58	10.4	1.86 #	10.2	3.47 #	0 ##	3.38 #	2.22 #	37.5	51.3	13.7	0 ##	4.28	3.90 #	1.65 #
Radiological	Technetium-99	900		pCi/L	1.04 #	10.4	0.0523 #	13.5	2.31 #	39.9	0.648 #	1.47 #	51.3	37.9	14.9	0 ##	0.173 #	0 ##	0 ##
Radiological	Uranium-233/234			pCi/L	0.295	0.0183 #	0 ##	0 ##	0.0236 #	0 ##	0 ##	0.782	0 ##	0.00116 #	0 ##	0 ##	0 ##	0 ##	0.0358 #
Radiological	Uranium-235/236			pCi/L	0.0217 #	0 ##	0.105 #	0.0101 #	0 ##	0 ##	0.0451 #	0 ##	0 ##	0 ##	0 ##	0 ##	0.0722 #	0 ##	0 ##
Radiological	Uranium-238			pCi/L	0.0851 #	0.0841 #	0 ##	0.00350 #	0 ##	0.0793 #	0.0630 #	0.225	0 ##	0 ##	0.0103 #	0.0110 #	0.0400 #	0 ##	0 ##
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	0.0112 J	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700
Radiological	Uranium-238			ug/L	0.120 J	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.462	< 0.200	0.0704 J	< 0.200	0.0826 J	0.180 J	< 0.200	0.0922 J
Radiological	Total Uranium Isotopes	30		ug/L	0.120 J	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.473	< 0.200	0.0704 J	< 0.200	0.0826 J	0.180 J	< 0.200	0.0922 J
Chemical	Fluoride	4		mg/L	0.501	0.027 J	0.141	0.017 J	1.27	0.023 J	0.015 J	0.386	0.03 J	3.97	0.31	0.01 J	0.016 J	0.224	1.54
Chemical	Nitrate as N	10		mg/L	2.6	57	4.1	46	1.6	7.4	1.7	0.24	7.7	33	5.5	< 0.020	< 0.020	0.11	0.68
Chemical	Ammonia as N			mg/L	0.0464 J	0.0327 J	0.342	0.0484 J	0.156	0.0248 J	0.0175 J	0.904	0.1	13.9	0.0348 J	0.0537 J	0.0252 J	0.166	0.0301 J
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		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
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		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
VOCs	1,2-Dichlorobenzene	600		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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			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
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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
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
VOCs	cis-1,2-Dichloroethene	70		ug/L	< 1.0	8.5	< 1.0	4.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dichloropropane	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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Ethylbenzene	700		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 5.0	< 5.0	< 5.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			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
VOCs	Tetrachloroethene	5		ug/L	< 1.0	250	< 1.0	160	< 1.0	< 1.0	< 1.0	< 1.0	2.9	1.3	16	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			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
VOCs	1,2,4-Trichlorobenzene	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		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
VOCs	1,1,2-Trichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Trichloroethene	5		ug/L	4.0	3.7	< 1.0	8.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.8	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 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
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	< 1.0	< 1.0	< 1.0	< 1.0

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	W-53	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-66
				Date	10/12/21	10/12/21	10/11/21	10/11/21	10/7/21	10/11/21	10/11/21	10/15/21	10/15/21	10/19/21	10/19/21	10/19/21	10/18/21	10/18/21	10/18/21
				Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD
Group	Analyte	MCL	note	Units															
Radiological	Alpha particles	15	*	pCi/L	2.12 #	0 ##	276	309	0.771 #	4.22	17.7	0.303 #	2.43 #	1.08 #	2.07 #	5.14	0 ##	0.899 #	0.560 #
Radiological	Beta particles	50	*	pCi/L	1.55 #	2.06 #	61.1	72.3	1.93 #	2.33 #	10.3	2.00 #	4.11 #	0.941 #	14.2	48.8	0.229 #	2.95 #	2.22 #
Radiological	Technetium-99	900		pCi/L	0 ##	0 ##	0.449 #	0.222 #	15.0	0.985 #	7.63	1.43 #	0 ##	0 ##	13.6	72.9	0.363 #	1.10 #	0 ##
Radiological	Uranium-233/234			pCi/L	0 ##	0.199 #	182	231	0.180 #	1.40	13.0	0.0239 #	0 ##	0 ##	0.573	0.0842 #	0 ##	0 ##	0.0119 #
Radiological	Uranium-235/236			pCi/L	0 ##	0.0718 #	9.38	12.2	0.0640 #	0.121 #	0.590	0.0858 #	0 #	0 ##	0.0151 #	0 ##	0.0175 #	0.0386 #	0.0264 #
Radiological	Uranium-238			pCi/L	0 ##	0.0172 #	34.0	49.0	0.0235 #	0.128 #	2.67	0 ##	0.0180 #	0 ##	0.578	0.0914 #	0 ##	0 ##	0.0230 #
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	0.0340 J	0.0410 J	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	< 0.0700	3.87	4.44	< 0.0700	0.0319 J	0.286	< 0.0700	< 0.0700	< 0.0700	0.0101 J	< 0.0700	< 0.0700	< 0.0700	< 0.0700
Radiological	Uranium-238			ug/L	< 0.200	< 0.200	117	139	0.0988 J	0.966	9.66	< 0.200	< 0.200	< 0.200	1.54	0.0877 J	< 0.200	< 0.200	< 0.200
Radiological	Total Uranium Isotopes	30		ug/L	< 0.200	< 0.200	121	143	0.0988 J	0.998	9.95	< 0.200	< 0.200	< 0.200	1.55	0.0877 J	< 0.200	< 0.200	< 0.200
Chemical	Fluoride	4		mg/L	0.063 J	0.137	0.048 J	0.297	0.107	0.083 J	2.9	0.027 J	0.024 J	0.019 J	0.071 J	3.64	0.138	0.031 J	0.033 J
Chemical	Nitrate as N	10		mg/L	0.33	2.0	1.8	3.0	2.5	2.2	20	0.055	3.3	4.1	4.1	35	1.6	1.3	1.3
Chemical	Ammonia as N			mg/L	0.0245 J	0.0214 J	0.0148 J	0.0763 J	0.0298 J	3.51	7.1	0.0307 J	0.0193 J	0.0185 J	0.0192 J	12.1	0.0192 J	0.0188 J	0.0277 J
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 100	< 20	< 20
VOCs	Benzene	5		ug/L	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 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	< 2.0	< 10	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10
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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 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	< 2.0	< 10	< 2.0	< 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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		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	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		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	< 5.0	< 1.0	< 1.0
VOCs	1,2-Dichlorobenzene	600		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	< 5.0	< 1.0	< 1.0
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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			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	< 5.0	< 1.0	< 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	< 2.0	< 10	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	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	< 1.0	< 5.0	< 1.0	< 1.0
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	< 5.0	< 1.0	< 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	< 1.0	13	8.6	8.0
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	< 5.0	< 1.0	< 1.0
VOCs	1,2-Dichloropropane	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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 1.0
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	< 1.0	< 5.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			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	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10
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	< 5.0	< 25	< 5.0	< 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	< 1.0	33	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			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	< 5.0	< 1.0	< 1.0
VOCs	Tetrachloroethene	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	28	1.8	1.1	340	270	270
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	< 1.0	< 5.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			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	< 5.0	< 1.0	< 1.0
VOCs	1,2,4-Trichlorobenzene	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	< 1.0	< 5.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		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	< 5.0	< 1.0	< 1.0
VOCs	1,1,2-Trichloroethane	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	< 1.0	< 5.0	< 1.0	< 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	1.4	< 1.0	41	4.9	4.7
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	< 1.0	< 5.0	< 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	< 5.0	< 1.0	< 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	< 1.0	< 5.0	< 1.0	< 1.0

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	W-67	W-68	W-69	W-70	W-71	W-71	W-72	W-73	W-74	W-74	W-75	W-76	W-77	W-78	W-79
				Date	10/18/21	10/19/21	10/21/21	10/21/21	10/21/21	10/21/21	10/12/21	10/8/21	10/12/21	10/12/21	10/12/21	10/7/21	10/6/21	10/6/21	10/6/21
				Type	N	N	N	N	N	FD	N	N	N	FD	N	N	N	N	N
Group	Analyte	MCL	note	Units															
Radiological	Alpha particles	15	*	pCi/L	2.06 #	0.0923 #	0 ##	1.37 #	0.418 #	2.98 #	0 ##	0 ##	0.306 #	2.77 #	0 ##	8.71	221	0 ##	0.864 #
Radiological	Beta particles	50	*	pCi/L	33.4	2.61 #	0 ##	0 ##	2.35 #	2.04 #	3.80 #	1.84 #	0 ##	0.744 #	1.17 #	6.19	36.4	0 ##	2.28 #
Radiological	Technetium-99	900		pCi/L	69.8	0.0281 #	0 ##	0.570 #	0.0199 #	0.395 #	0 ##	2.26 #	0.0903 #	0 ##	0.236 #	0.0261 #	2.50 #	0 ##	0 ##
Radiological	Uranium-233/234			pCi/L	0 ##	0 ##	0 ##	0.0582 #	0 ##	0 ##	0.276	0.153 #	0 ##	0.0432 #	0.0458 #	5.03	268	0.195	0.0283 #
Radiological	Uranium-235/236			pCi/L	0 ##	0 ##	0.0618 #	0.0330 #	0.101 #	0.0591 #	0.0107 #	0.0189 #	0.0333 #	0 ##	0.0187 #	0.162 #	17.0	0.138	0 ##
Radiological	Uranium-238			pCi/L	0 ##	0 ##	0 ##	0 ##	0.0757 #	0 ##	0.117 #	0.0894 #	0.0199 #	0 ##	0.0442 #	1.27	44.4	0.0143 #	0.0340 #
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0470 J	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	0.104	5.52	< 0.0700	< 0.0700
Radiological	Uranium-238			ug/L	< 0.200	< 0.200	< 0.200	< 0.200	0.0939 J	0.0898 J	0.266	0.133 J	< 0.200	< 0.200	< 0.200	3.12	128	0.186 J	< 0.200
Radiological	Total Uranium Isotopes	30		ug/L	< 0.200	< 0.200	< 0.200	< 0.200	0.0939 J	0.0898 J	0.266	0.133 J	< 0.200	< 0.200	< 0.200	3.23	133	0.186 J	< 0.200
Chemical	Fluoride	4		mg/L	0.023 J	0.027 J	0.075 J	0.017 J	0.031 J	0.086 J	0.406	0.056 J	0.017 J	0.021 J	0.116	2.66	14.8	13.6	0.978
Chemical	Nitrate as N	10		mg/L	14	2.8	0.35	1.6	< 0.020	< 0.020	2.4	1.3	5.5	5.5	0.21	13	4.9	3.8	3.9
Chemical	Ammonia as N			mg/L	1.74	0.255	0.0228 J	0.0186 J	0.0212 J	0.0194 J	0.0262 J	0.0208 J	0.0214 J	0.0386 J	0.258	0.0283 J	3.66	0.0219 J	0.0166 J
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 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	< 1.0	4.1	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		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
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		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
VOCs	1,2-Dichlorobenzene	600		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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			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
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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
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
VOCs	cis-1,2-Dichloroethene	70		ug/L	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	1.3	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dichloropropane	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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 5.0	< 5.0	< 5.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			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
VOCs	Tetrachloroethene	5		ug/L	41	55	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	11	12	< 1.0	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			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
VOCs	1,2,4-Trichlorobenzene	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		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
VOCs	1,1,2-Trichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Trichloroethene	5		ug/L	7.4	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.2	3.1	< 1.0	26	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 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
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	< 1.0	< 1.0	< 1.0	< 1.0

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	W-80	W-81	W-81	W-82	W-83	W-84	W-85	W-86	W-87	W-88	W-89	W-90	W-91	W-92
				Date	10/7/21	10/7/21	10/7/21	10/7/21	10/7/21	10/7/21	10/22/21	10/22/21	10/13/21	10/21/21	10/21/21	10/20/21	10/20/21	10/22/21
				Type	N	N	FD	N	N	N	N	N	N	N	N	N	N	N
Group	Analyte	MCL	note	Units														
Radiological	Alpha particles	15	*	pCi/L	0 ##	0.133 #	0 ##	1.76 #	1.50 #	0 ##	2.78 #	0 ##	2.81	0.593 #	0.991 #	0.419 #	0 ##	3.35
Radiological	Beta particles	50	*	pCi/L	5.69	5.84	5.85	1.51 #	0.822 #	0.282 #	1.85 #	0.663 #	9.79	0.117 #	2.99 #	2.13 #	0 ##	0.885 #
Radiological	Technetium-99	900		pCi/L	1.17 #	0.279 #	1.20 #	1.72 #	1.28 #	1.48 #	0 ##	0 ##	1.05 #	1.74 #	0.544 #	0.185 #	0.352 #	2.76 #
Radiological	Uranium-233/234			pCi/L	0.142 #	0.874	0.910	0 ##	0 ##	0 ##	0 ##	0 ##	0.0823 #	0 ##	0.107 #	0 ##	0 ##	0.0378 #
Radiological	Uranium-235/236			pCi/L	0 ##	0.0533 #	0.123 #	0.0551 #	0.0143 #	0.0486 #	0 ##	0 ##	0.0296 #	0.0772 #	0 ##	0 ##	0 ##	0 ##
Radiological	Uranium-238			pCi/L	0.0345 #	0.477	0.231 #	0 ##	0.00330 #	0.0434 #	0 ##	0.147 #	0.0689 #	0 ##	0.0119 #	0 ##	0 ##	0 ##
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	0.0159 J	0.0166 J	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700
Radiological	Uranium-238			ug/L	0.106 J	1.41	1.35	< 0.200	< 0.200	< 0.200	0.0781 J	< 0.200	0.445	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Radiological	Total Uranium Isotopes	30		ug/L	0.106 J	1.42	1.36	< 0.200	< 0.200	< 0.200	0.0781 J	< 0.200	0.445	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Chemical	Fluoride	4		mg/L	0.282	0.056 J	0.053 J	0.064 J	0.115	0.092 J	0.152	0.377	0.117	0.034 J	0.067 J	0.013 J	0.014 J	0.12
Chemical	Nitrate as N	10		mg/L	9.2	3.8	4.1	1.8	0.85	0.091	< 0.020	< 0.020	0.19	3.5	2.2	2.8	1.2	< 0.020
Chemical	Ammonia as N			mg/L	0.0378 J	0.0352 J	0.0268 J	0.0221 J	0.0243 J	0.0236 J	0.127	0.0166 J	0.027 J	0.0194 J	0.019 J	0.0165 J	0.0174 J	4.39
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 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	< 1.0	< 1.0	< 1.0
VOCs	Bromodichloromethane			ug/L	1.4	< 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	Bromoform			ug/L	58	6.2	6.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0
VOCs	Chloroform			ug/L	4.6	2.7	2.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		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
VOCs	Dibromochloromethane			ug/L	4.1	1.5	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		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
VOCs	1,2-Dichlorobenzene	600		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
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	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			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
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	< 2.0	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	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	< 1.0	< 1.0	< 1.0
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
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	< 1.0	< 1.0	< 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
VOCs	1,2-Dichloropropane	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	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0
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	< 1.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			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
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	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 5.0	< 5.0	< 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	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			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
VOCs	Tetrachloroethene	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	34	2.4	1.2	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			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
VOCs	1,2,4-Trichlorobenzene	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	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		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
VOCs	1,1,2-Trichloroethane	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	< 1.0	< 1.0	< 1.0
VOCs	Trichloroethene	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.6	< 1.0	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 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
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	< 1.0	< 1.0	< 1.0

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	W-93	W-94	W-95	W-96	W-97	W-97	W-98	W-99	W-100	W-102	W-103	W-104	W-105	W-106	W-107
				Date	10/6/21	10/26/21	10/26/21	10/25/21	10/25/21	10/25/21	10/19/21	10/15/21	10/15/21	10/8/21	10/18/21	10/25/21	10/25/21	10/18/21	10/26/21
				Type	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
Group	Analyte	MCL	note	Units															
Radiological	Alpha particles	15	*	pCi/L	2.17 #	3.82 #	2.57 #	0.893 #	1.69 #	0.808 #	2.36 #	1.01 #	2.75 #	6.57	0 ##	0.457 #	0.634 #	1.44 #	1.64 #
Radiological	Beta particles	50	*	pCi/L	3.21 #	5.78	3.99	2.22 #	10.3	12.9	16.3	40.6	23.9	80.6	7.53	4.20 #	2.20 #	0.500 #	3.52 #
Radiological	Technetium-99	900		pCi/L	0 ##	0 ##	0 ##	0 ##	14.7	15.9	6.30	57.7	18.0	119	40.2	1.71 #	0.544 #	2.54 #	0 ##
Radiological	Uranium-233/234			pCi/L	0.264	0 ##	0 ##	0.0564 #	0 ##	0.0789 #	0 ##	0.314 #	0.0196 #	1.81	0 ##	0.111 #	0 ##	0.195 #	0 ##
Radiological	Uranium-235/236			pCi/L	0.101 #	0 ##	0 ##	0.0586 #	0.0222 #	0 ##	0.0516 #	0.0255 #	0.0619 #	0.136	0 ##	0.0696 #	0 ##	0.103 #	0.125 #
Radiological	Uranium-238			pCi/L	0.0520 #	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0.130 #	0 ##	0.396	0 ##	0.0806 #	0.0794 #	0.122 #	0.0573 #
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	0.0312 J	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700
Radiological	Uranium-238			ug/L	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.243	0.180 J	1.78	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Radiological	Total Uranium Isotopes	30		ug/L	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.243	0.180 J	1.81	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Chemical	Fluoride	4		mg/L	0.036 J	0.049 J	0.233	0.092 J	0.481	0.451	0.019 J	2.96	1.91	3.74	0.032 J	0.064 J	0.376	0.154	0.082 J
Chemical	Nitrate as N	10		mg/L	4.9	0.089	0.076	< 0.020	4.5	4.2	11	7.8	7.6	95	10	6.4	0.089	0.084	0.089
Chemical	Ammonia as N			mg/L	0.0174 J	0.275	0.203	0.241	7.35	6.65	0.356	3.25	8.27	35.1	0.387	1.45	0.721	1.58	0.334
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		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
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		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
VOCs	1,2-Dichlorobenzene	600		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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			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
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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
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
VOCs	cis-1,2-Dichloroethene	70		ug/L	< 1.0	5.8	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.1	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dichloropropane	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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 5.0	< 5.0	< 5.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			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
VOCs	Tetrachloroethene	5		ug/L	32	< 1.0	< 1.0	1.3	5.6	5.9	< 1.0	< 1.0	< 1.0	48	24	3.1	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			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
VOCs	1,2,4-Trichlorobenzene	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		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
VOCs	1,1,2-Trichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Trichloroethene	5		ug/L	4.0	< 1.0	< 1.0	2.0	1.7	1.7	< 1.0	< 1.0	< 1.0	6.4	5.2	1.9	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Vinyl chloride	2		ug/L	< 1.0	< 1.0	4.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.7
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	< 1.0	< 1.0	< 1.0	< 1.0

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	W-108	W-108	W-109	W-110	W-111	W-112	W-113	W-114	W-115	W-116	W-117	W-118	W-119	W-120	W-121
				Date	10/25/21	10/25/21	10/26/21	10/26/21	10/26/21	10/26/21	10/15/21	10/15/21	10/14/21	10/14/21	10/14/21	10/14/21	10/18/21	10/15/21	10/15/21
				Type	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N
Group	Analyte	MCL	note	Units															
Radiological	Alpha particles	15	*	pCi/L	1.96 #	0 ##	1.47 #	2.35	0.989 #	0 ##	0.642 #	0.602 #	0 ##	1.24 #	0.596 #	1.08 #	2.25 #	1.26 #	0 ##
Radiological	Beta particles	50	*	pCi/L	2.55 #	1.92 #	0 ##	0.581 #	1.15 #	0 ##	1.04 #	2.37 #	0.991 #	0 ##	0.859 #	0 ##	2.00 #	3.56 #	5.06
Radiological	Technetium-99	900		pCi/L	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	1.01 #	0.900 #	0.0562 #	0.927 #	0 ##	1.61 #	0 ##	1.01 #	1.62 #
Radiological	Uranium-233/234			pCi/L	0.00115 #	0.142 #	0.125 #	0.185 #	0.0169 #	0 ##	0 ##	0.0697 #	0.0547 #	0 ##	0 ##	0.0332 #	0 ##	0.393	0.0102 #
Radiological	Uranium-235/236			pCi/L	0 #	0.0368 #	0.0839 #	0 ##	0.0932 #	0.0195 #	0 ##	0.0380 #	0.0935 #	0.108 #	0 ##	0.0386 #	0.0153 #	0 ##	0.0118 #
Radiological	Uranium-238			pCi/L	0 ##	0 ##	0.0414 #	0.170 #	0.0769 #	0.00122 #	0.118 #	0 ##	0.0575 #	0 ##	0 ##	0.0325 #	0 ##	0.278 #	0 ##
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700	< 0.0700
Radiological	Uranium-238			ug/L	< 0.200	< 0.200	< 0.200	0.0693 J	0.136 J	0.137 J	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.623	< 0.200
Radiological	Total Uranium Isotopes	30		ug/L	< 0.200	< 0.200	< 0.200	0.0693 J	0.136 J	0.137 J	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.623	< 0.200
Chemical	Fluoride	4		mg/L	0.098 J	0.087 J	0.051 J	0.032 J	0.012 J	0.076 J	0.181	0.247	0.026 J	0.025 J	0.029 J	0.047 J	0.016 J	0.083 J	0.057 J
Chemical	Nitrate as N	10		mg/L	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.077	2.2	1.1	3.4	5.9	2.4	3.9	1.5	4.5	2.5
Chemical	Ammonia as N			mg/L	0.158	0.148	0.0756 J	0.032 J	0.031 J	0.809	0.025 J	0.0237 J	0.0148 J	0.0159 J	0.0207 J	0.0138 J	0.0635 J	0.0228 J	0.0484 J
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 2.0	< 2.0	< 2.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		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
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		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
VOCs	1,2-Dichlorobenzene	600		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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			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
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	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	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	< 1.0	< 1.0	< 1.0	< 1.0
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
VOCs	cis-1,2-Dichloroethene	70		ug/L	1.5	1.6	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 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
VOCs	1,2-Dichloropropane	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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			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
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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
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	< 5.0	< 5.0	< 5.0	< 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	< 1.0	< 1.0	< 1.0	< 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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			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
VOCs	Tetrachloroethene	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.2	85	74	340	82
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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			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
VOCs	1,2,4-Trichlorobenzene	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	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		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
VOCs	1,1,2-Trichloroethane	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	< 1.0	< 1.0	< 1.0	< 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	2.1	2.3	17	2.4
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	< 1.0	< 1.0	< 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
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	< 1.0	< 1.0	< 1.0	< 1.0

Table T1 - Groundwater Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Well	W-122	W-123	W-124	W-125	W-126
				Date	10/13/21	10/5/21	10/25/21	10/25/21	10/25/21
				Type	N	N	N	N	N
Group	Analyte	MCL	note	Units					
Radiological	Alpha particles	15	*	pCi/L	3.49	5.31	0 ##	2.74 #	4.23
Radiological	Beta particles	50	*	pCi/L	1.45 #	239	1.59 #	6.77	4.02
Radiological	Technetium-99	900		pCi/L	0.494 #	424	0 ##	1.15 #	0 ##
Radiological	Uranium-233/234			pCi/L	0 ##	0.333	0 ##	0.0880 #	0 ##
Radiological	Uranium-235/236			pCi/L	0 ##	0.0432 #	0.0128 #	0.0279 #	0 ##
Radiological	Uranium-238			pCi/L	0 ##	0.421	0.0297 #	0.0250 #	0 ##
Radiological	Uranium-234			ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Radiological	Uranium-235			ug/L	< 0.0700	0.0118 J	< 0.0700	< 0.0700	< 0.0700
Radiological	Uranium-238			ug/L	< 0.200	1.60	< 0.200	< 0.200	< 0.200
Radiological	Total Uranium Isotopes	30		ug/L	< 0.200	1.61	< 0.200	< 0.200	< 0.200
Chemical	Fluoride	4		mg/L	0.056 J	8.13	0.056 J	0.257	0.251
Chemical	Nitrate as N	10		mg/L	< 0.020	120	< 0.020	0.073	0.060
Chemical	Ammonia as N			mg/L	0.0248 J	95	0.173	5.42	2.9
VOCs	Acetone			ug/L	< 20	< 20	< 20	< 20	< 20
VOCs	Benzene	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Bromodichloromethane			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Bromoform			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Bromomethane			ug/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	2-Butanone			ug/L	< 10	< 10	< 10	< 10	< 10
VOCs	Carbon disulfide			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Carbon tetrachloride	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Chlorobenzene	100		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Chloroethane			ug/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	Chloroform			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Chloromethane			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Cyclohexane			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropropane	0.2		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Dibromochloromethane			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	0.05		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dichlorobenzene	600		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,3-Dichlorobenzene			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,4-Dichlorobenzene	75		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Dichlorodifluoromethane			ug/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	1,2-Dichloroethane	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethene	7		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	cis-1,2-Dichloroethene	70		ug/L	< 1.0	1.9	< 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	1,2-Dichloropropane	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	cis-1,3-Dichloropropene			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	trans-1,3-Dichloropropene			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Ethylbenzene	700		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	2-Hexanone			ug/L	< 10	< 10	< 10	< 10	< 10
VOCs	(1-Methylethyl)-Benzene			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Methyl acetate			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Methyl tert-butyl ether			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	4-Methyl-2-pentanone			ug/L	< 10	< 10	< 10	< 10	< 10
VOCs	Methylcyclohexane			ug/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
VOCs	Methylene chloride	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Styrene	100		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethane			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Tetrachloroethene	5		ug/L	< 1.0	23	< 1.0	< 1.0	< 1.0
VOCs	Toluene	1000		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2,4-Trichlorobenzene	70		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	200		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichloroethane	5		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Trichloroethene	5		ug/L	< 1.0	7.7	< 1.0	< 1.0	< 1.0
VOCs	Trichlorofluoromethane			ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Vinyl chloride	2		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Xylenes, Total	10000		ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:
MCL - Maximum Contaminant Level
* - site-specific action level
Concentrations in orange shaded cells exceed their MCL
pCi/L - picocuries per liter
ug/L - micrograms per liter
mg/L - milligrams per liter
N - Normal sample
FD - Field duplicate sample
Bold concentrations indicate detections
J - Result below reporting limit
- value is below minimum detectable concentration
- value shown as zero reported by analytical laboratory as a negative number
VOCs - volatile organic compounds

Table T2 - Field Groundwater Stabilization Parameters
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

	Field Parameter	Dissolved Oxygen	Oxidation Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
	Unit	mg/L	mv	SU	us/cm	degrees C	NTU
Location ID	Date						
W-RW1	10/14/2021	4.94	20.01	5.57	99	23.88	0.17
W-RW2	10/21/2021	0.8	295.1	5.13	199	20.16	0
W-3A	10/25/2021	0.18	133.07	4.87	24	19.04	0
W-4R	10/25/2021	0.24	78.48	5.69	162	20.58	4.01
W-6	10/8/2021	0.3	156.03	6.34	2318	23.11	5.16
W-7A	10/5/2021	0.3	-26.64	7.05	3164	23.73	10.79
W-10	10/5/2021	0.27	115.75	6.22	528	24.4	0.87
W-11	10/5/2021	0.33	-11.45	5.75	272	23.09	5.84
W-13R	10/5/2021	0.6	123.73	6.33	765	24.43	23.44
W-14	10/18/2021	0.28	-76.11	6.23	551	21.59	0.94
W-15	10/19/2021	0.28	182.22	5.99	556	21.35	0
W-16	10/19/2021	0.22	9.6	6.16	380	21.3	3.53
W-17	10/12/2021	0.28	-82.63	6.48	438	22.57	4.29
W-18R	10/8/2021	0.3	104.23	7.43	4704	23.18	0.28
W-19B	10/20/2021	4.38	272.09	5.35	80	19.65	0
W-20	10/26/2021	0.3	-36.9	5.6	136	19.54	0
W-22	10/8/2021	0.27	225.01	5.61	1317	24.59	2.39
W-23R	10/18/2021	4.15	284.23	4.92	56	18.63	0
W-24	10/21/2021	0.18	-122.52	5.57	58	23.13	8.67
W-25	10/26/2021	0.19	-246.16	6.7	150	18.48	10.26
W-26	10/19/2021	0.61	60.72	6.08	227	19.1	0
W-27	10/22/2021	0.29	-102.87	6.23	358	20.73	0.16
W-28	10/6/2021	0.84	440.38	6.02	810	25.26	17.54
W-29	10/8/2021	0.27	-15.49	7.27	412	24.32	0.04
W-30	10/8/2021	0.19	4.65	5.89	849	25.35	0.25
W-32	10/5/2021	0.33	-19.6	7.11	1259	23.64	7.94
W-33	10/14/2021	0.81	13.47	5.96	239	21.91	0.13
W-35	10/14/2021	4.49	5.41	6.08	151	24.01	1.39
W-36	10/13/2021	0.23	196.53	5.16	41	22.6	3.12
W-37	10/11/2021	3.66	234.44	5.64	137	23.91	0.73
W-38	10/7/2021	3.16	63.68	5.45	174	25.21	1.28
W-39	10/18/2021	2.32	48.62	5.72	617	24.2	0.16
W-40	10/12/2021	0.53	-115.25	6.25	92	23.79	6.43
W-41R	10/21/2021	3.72	107.39	5.63	534	19.46	0
W-42	10/20/2021	0.63	330.66	4.8	61	18.69	0
W-43	10/18/2021	3.27	61.78	5.46	110	23.33	0.87
W-44	10/18/2021	3.53	68.22	5.5	92	20	0
W-45	10/14/2021	0.35	-209.91	6.34	155	24.57	1.07
W-46	10/21/2021	0.28	259.21	5.46	196	19.37	1.62
W-47	10/19/2021	0.31	200.47	5.9	542	18.27	0
W-48	10/19/2021	2.38	81.07	5.65	126	19.5	0.92
W-49	10/20/2021	0.45	126.16	4.84	31	20.27	3.38
W-50	10/12/2021	0.44	-108.88	5.15	28	22.88	44.73
W-51	10/13/2021	0.14	-198.98	6.74	234	26.12	2.21
W-52	10/13/2021	0.33	70.65	5.78	156	26.24	1.16
W-53	10/12/2021	0.21	-93.42	6.12	220	25.63	1.92
W-54	10/12/2021	3.03	76.3	5.83	142	24.78	6.38
W-55	10/11/2021	4.25	216.56	5.71	136	24.7	1.55
W-56	10/11/2021	3.19	224.17	5.7	135	25.93	9.36
W-57	10/7/2021	2.86	219.53	5.58	139	26.78	3.46
W-58	10/11/2021	0.19	187.19	5.96	192	26.19	0.68
W-59	10/11/2021	0.58	231.09	6.34	409	26.37	3.81
W-60	10/15/2021	0.55	-130.94	6.14	111	19.87	32.49
W-61	10/15/2021	4.15	85.67	5.55	125	20.97	3.84
W-62	10/19/2021	3.57	121.02	4.89	87	17.89	0
W-63	10/19/2021	0.54	60.25	6.65	393	21.97	8.83
W-64	10/19/2021	0.3	228.03	5.64	509	18.46	0
W-65	10/18/2021	0.45	-12.94	6.15	119.99	20.4	0
W-66	10/18/2021	0.65	37.48	5.59	85	22.19	4.38
W-67	10/18/2021	0.28	217.14	5.46	210	18.94	0
W-68	10/19/2021	4.95	102.25	4.98	88	18.23	0
W-69	10/21/2021	0.26	119.67	5.37	73	23.69	5.26
W-70	10/21/2021	5.78	321.22	4.86	56	21.3	2.41
W-71	10/21/2021	0.3	42.11	5.43	33	21.79	5.47
W-72	10/12/2021	1.37	195.68	5.89	183	23.77	3.71
W-73	10/8/2021	2.59	250.9	5.6	132	25.35	3.51
W-74	10/12/2021	1.48	272.47	5.12	128	22.69	0.15
W-75	10/12/2021	0.18	20.77	5.67	140	24.43	0.19
W-76	10/7/2021	2.07	74.55	4.98	196	26.82	0.38
W-77	10/6/2021	1.45	-115.26	11.52	5786	26.3	0.71
W-78	10/6/2021	4.12	216.98	6.02	210	26.13	1.11
W-79	10/6/2021	4.43	222.83	5.87	180	27.06	2.78
W-80	10/7/2021	3.28	225.84	5.6	427	27.29	7.62
W-81	10/7/2021	0.58	4.93	6.54	488	23.27	0.05
W-82	10/7/2021	0.93	230.76	4.95	174	23.76	4.05
W-83	10/7/2021	1.08	-21.93	6.04	184	23.6	1.62
W-84	10/7/2021	0.35	-155.67	6.14	224	25.84	16.5
W-85	10/22/2021	0.46	-231.56	6.76	275	21.28	0.09
W-86	10/22/2021	0.31	-76.82	5.99	278	19.93	12.95
W-87	10/13/2021	0.24	-66.32	6.34	108	24.25	56.93
W-88	10/21/2021	6.51	91.02	5.63	76	19.32	0.19
W-89	10/21/2021	6.08	101.09	5.5	65	20.46	0.25
W-90	10/20/2021	5.92	265.02	5.15	74	19.8	2.47
W-91	10/20/2021	5.37	269.62	5.14	60	20.59	0.59
W-92	10/22/2021	0.2	-74.97	5.98	253	19.16	0
W-93	10/6/2021	1.4	255.85	5.35	122	23.29	1.98
W-94	10/26/2021	0.21	-46.79	6	164	17.69	0.11
W-95	10/26/2021	0.19	-86.9	6.23	233	18.16	2.9
W-96	10/25/2021	0.21	-209.23	6.36	276	19.21	0.68
W-97	10/25/2021	0.35	-93.73	6.31	250	19.67	0
W-98	10/19/2021	0.58	261.54	5.15	168	20.58	1.25
W-99	10/15/2021	0.36	53.99	6.62	561	23.65	1.55
W-100	10/15/2021	0.9	-17.5	6.32	511	24.55	1.17
W-102	10/8/2021	0.26	-8.37	6.97	1278	23.48	4.92
W-103	10/18/2021	1.4	260.71	5.34	167	19.11	0
W-104	10/25/2021	0.16	-4.87	5.6	216	21.41	0.83
W-105	10/25/2021	0.2	-116.79	6.41	362	19.25	0.42
W-106	10/18/2021	0.16	-83.91	5.99	374	19.39	1.89
W-107	10/26/2021	0.21	-66.46	6.07	173	18.6	4.55
W-108	10/25/2021	0.19	-73.77	6.18	178	19.43	2.16
W-109	10/26/2021	0.27	-196.81	6.36	104	18.42	9.59
W-110	10/26/2021	0.14	-112.35	5.77	45	18.89	4.62
W-111	10/26/2021	0.2	126.88	5.03	26	18.37	0

Table T2 - Field Groundwater Stabilization Parameters
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

	Field Parameter	Dissolved Oxygen	Oxidation Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
	Unit	mg/L	mv	SU	us/cm	degrees C	NTU
Location ID	Date						
W-112	10/26/2021	0.23	-104.18	6.29	268	17.92	0.86
W-113	10/15/2021	0.43	30.33	5.98	158	19.58	1.06
W-114	10/15/2021	1.26	65.19	5.41	94	21.64	2.73
W-115	10/14/2021	3.17	242.57	5.35	98	18.84	4.52
W-116	10/14/2021	5.12	118.8	5.22	123	19.73	0
W-117	10/14/2021	2.98	112.03	5.73	97	19.77	4.96
W-118	10/14/2021	2.48	262.4	5.16	94	19.49	0.55
W-119	10/18/2021	0.28	174.88	4.91	81	18.04	0
W-120	10/15/2021	0.75	-48.47	6.11	161	22.01	2.11
W-121	10/15/2021	0.52	-14.11	5.61	119	23.53	0.25
W-122	10/13/2021	0.25	-68.64	5.67	49	22.61	6.9
W-123	10/5/2021	0.3	39.99	7.64	1642	23.43	3.07
W-124	10/25/2021	0.41	-173.28	6.07	145	19.72	0.32
W-125	10/25/2021	0.2	-122.72	6.15	396	19.14	6.42
W-126	10/25/2021	0.27	-228.74	6.46	336	19.35	12.26

Notes:
mg/L - milligrams per liter
mv - millivolts
SU - standard units
us/cm - microsiemens per centimeter
C - Centirgade
NTU - Nephelometric Turbidity Unit

Table T3 - 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
			Type	N	N	N	N	N	N	FD	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
Group	Analyte	Unit	MCL								
Chemical	Ammonia	mg/L		0.546	0.228	0.249	0.233	4.35	0.290	0.290	0.208
Chemical	Fluoride	mg/L	4	0.146	0.296	0.226	0.234	1.69	0.460	0.471	0.309
Chemical	Nitrate as N	mg/L	10	< 0.020	< 0.020	< 0.020	0.63	0.48	3.8	3.8	5.7
Metals	Aluminum	ug/L		634	118 J	212	91.3 J	155 J	144 J	141 J	721
Metals	Antimony	ug/L	6	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Metals	Arsenic	ug/L	10	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0
Metals	Barium	ug/L	2000	113	52.2	101	66	12.3	85.3	81.8	91.8
Metals	Beryllium	ug/L	4	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
Metals	Cadmium	ug/L	5	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
Metals	Calcium	ug/L		3380	6540	7900	6570	4690	10000	9770	8150
Metals	Chromium	ug/L	100	1.47 J	< 10.0	1.25 J	< 10.0	2.64 J	< 10.0	< 10.0	1.19 J
Metals	Cobalt	ug/L		3.96 J	1.01 J	2.35 J	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
Metals	Copper	ug/L	1300	3.37 J	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Metals	Iron	ug/L		2410	1110	3820	1180	614	715	682	1260
Metals	Lead	ug/L	15	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Metals	Magnesium	ug/L		1030	1340	1490	1240	326	2280	2130	2140
Metals	Manganese	ug/L		944	1320	1860	275	26.8	86.5	82.9	41
Metals	Mercury	ug/L	2	0.081 J	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Metals	Nickel	ug/L		1.82 J	< 5.00	< 5.00	< 5.00	3.5 J	33.4	31.4	14.8
Metals	Potassium	ug/L		1920	1690	1850	1620	816	2710	2640	2280
Metals	Selenium	ug/L	50	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0	< 30.0
Metals	Silver	ug/L		< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
Metals	Sodium	ug/L		1980	4860	3780	4530	1090	11300	11200	9550
Metals	Thallium	ug/L	2	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 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
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
Radiological	Technetium-99	pCi/L	900	0 ##	0 ##	0 ##	3.73 #	0 ##	0 ##	0 ##	1.29 #
Radiological	Uranium-233/234	pCi/L		0.296	0.0491 #	0.0159 #	0.575	3.34	0.145 #	0.204 #	0.285 #
Radiological	Uranium-235/236	pCi/L		0.0959 #	0.00914 #	0 #	0.101 #	0.145	0 ##	0 #	0.0501 #
Radiological	Uranium-238	pCi/L		0.105 #	0.101 #	0 ##	0.0793 #	0.710	0.150 #	0.0925 #	0.159 #
Radiological	Uranium-234	ug/L		< 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	0.0682 J	< 0.070	< 0.070	< 0.070
Radiological	Uranium-238	ug/L		0.365	< 0.200	0.134 J	0.297	1.71	0.246	0.229	0.304
Radiological	Total Uranium	ug/L	30	0.365	< 0.2	0.134	0.297	1.78	0.246	0.229	0.304
SVOCs	1,1'-Biphenyl	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 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
SVOCs	2,4,6-Trichlorophenol	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	2,4-Dichlorophenol	ug/L		< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	2,4-Dimethylphenol	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	2,4-Dinitrophenol	ug/L		< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SVOCs	2,4-Dinitrotoluene	ug/L		< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	2,6-Dinitrotoluene	ug/L		< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	2-Chloronaphthalene	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	2-Chlorophenol	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	2-Methylnaphthalene	ug/L		< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	2-Methylphenol	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	2-Nitroaniline	ug/L		< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	2-Nitrophenol	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	3,3'-Dichlorobenzidine	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	3-Nitroaniline	ug/L		< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	4,6-Dinitro-2-methylphe	ug/L		< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SVOCs	4-Bromophenyl phenyl e	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	4-Chloro-3-methylpheno	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	4-Chloroaniline	ug/L		< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	4-Chlorophenyl phenyl e	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	4-Methylphenol	ug/L		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0

Table T3 - Surface Water Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Location Type	SW-11 N	SW-12 N	SW-13 N	SW-14 N	SW-16 N	SW-17 N	SW-17 FD	SW-18 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
SVOCs	4-Nitroaniline	ug/L			< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	4-Nitrophenol	ug/L			< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SVOCs	Acenaphthene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Acenaphthylene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Acetophenone	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Anthracene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Atrazine	ug/L	3		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Benz(a)anthracene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Benzaldehyde	ug/L			< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	Benzo(a)pyrene	ug/L	0.2		< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Benzo(b)fluoranthene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Benzo(g,h,i)perylene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Benzo(k)fluoranthene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Bis(2-chloroethoxy)meth	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Bis(2-chloroethyl)ether	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Bis(2-chloroisopropyl)eth	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Bis(2-ethylhexyl)phthala	ug/L	6		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Butyl benzyl phthalate	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Caprolactam	ug/L			< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
SVOCs	Carbazole	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Chrysene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Dibenz(a,h)anthracene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Dibenzofuran	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Diethyl phthalate	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Dimethyl phthalate	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Di-n-butyl phthalate	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Di-n-octyl phthalate	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Fluoranthene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Fluorene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Hexachlorobenzene	ug/L	1		< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Hexachlorobutadiene	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Hexachlorocyclopentadie	ug/L	50		< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SVOCs	Hexachloroethane	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Indeno(1,2,3-cd)pyrene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Isophorone	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Naphthalene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Nitrobenzene	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	N-Nitrosodi-n-propylami	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	N-Nitrosodiphenylamine	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Pentachlorophenol	ug/L	1		< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
SVOCs	Phenanthrene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
SVOCs	Phenol	ug/L			< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
SVOCs	Pyrene	ug/L			< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
VOCs	(1-Methylethyl)-Benzene	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,1-Trichloroethane	ug/L	200		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2,2-Tetrachloroethan	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-triflu	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1,2-Trichloroethane	ug/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethane	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,1-Dichloroethene	ug/L	7		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2,4-Trichlorobenzene	ug/L	70		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromo-3-chloropro	ug/L	0.2		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dibromoethane	ug/L	0.05		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dichlorobenzene	ug/L	600		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dichloroethane	ug/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,2-Dichloropropane	ug/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	1,3-Dichlorobenzene	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Table T3 - 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
				Type	N	N	N	N	N	N	FD	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
VOCs	1,4-Dichlorobenzene	ug/L	75		< 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
VOCs	2-Hexanone	ug/L			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	4-Methyl-2-pentanone	ug/L			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCs	Acetone	ug/L			< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
VOCs	Benzene	ug/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Bromodichloromethane	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Bromoform	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Bromomethane	ug/L			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	Carbon disulfide	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Carbon tetrachloride	ug/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Chlorobenzene	ug/L	100		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Chloroethane	ug/L			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	Chloroform	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Chloromethane	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	cis-1,2-Dichloroethene	ug/L	70		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 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
VOCs	Cyclohexane	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Dibromochloromethane	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Dichlorodifluoromethane	ug/L			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
VOCs	Ethylbenzene	ug/L	700		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Methyl acetate	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 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
VOCs	Methylcyclohexane	ug/L			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
VOCs	Methylene chloride	ug/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Styrene	ug/L	100		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Tetrachloroethene	ug/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	16	16	14
VOCs	Toluene	ug/L	1000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	trans-1,2-Dichloroethene	ug/L	100		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	trans-1,3-Dichloropropen	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Trichloroethene	ug/L	5		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	1.0	< 1.0
VOCs	Trichlorofluoromethane	ug/L			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Vinyl chloride	ug/L	2		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOCs	Xylenes, Total	ug/L	10000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Table T3 - Surface Water Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

			Location	SW-19	SW-20	SW-21	SW-21	SW-22	SW-22	SW-23
			Type	N	N	N	N	N	N	N
			Date	7/17/2019	7/16/2019	7/15/2019	7/17/2019	7/15/2019	7/17/2019	7/16/2019
Group	Analyte	Unit	MCL							
Chemical	Ammonia	mg/L		0.376	0.640	0.244	NA	0.187	NA	0.459
Chemical	Fluoride	mg/L	4	0.154	0.494	0.433	NA	0.432	NA	4.94
Chemical	Nitrate as N	mg/L	10	< 0.020	< 0.020	< 0.02	NA	< 0.02	NA	7.3
Metals	Aluminum	ug/L		337	234	116 J	NA	102 J	NA	203
Metals	Antimony	ug/L	6	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
Metals	Arsenic	ug/L	10	< 30.0	< 30.0	< 30.0	NA	< 30.0	NA	< 30.0
Metals	Barium	ug/L	2000	67.1	66.3	28.3	NA	34.5	NA	84.4
Metals	Beryllium	ug/L	4	< 5.00	< 5.00	< 5.00	NA	< 5.00	NA	< 5.00
Metals	Cadmium	ug/L	5	< 5.00	< 5.00	< 5.00	NA	< 5.00	NA	< 5.00
Metals	Calcium	ug/L		4010	7450	3480	NA	3760	NA	16400
Metals	Chromium	ug/L	100	< 10.0	< 10.0	< 10.0	NA	< 10.0	NA	< 10.0
Metals	Cobalt	ug/L		5.38	2.24 J	< 5.00	NA	< 5.00	NA	< 5.00
Metals	Copper	ug/L	1300	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
Metals	Iron	ug/L		3890	4710	612	NA	844	NA	69.7 J
Metals	Lead	ug/L	15	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
Metals	Magnesium	ug/L		1270	1720	1020	NA	1110	NA	4800
Metals	Manganese	ug/L		528	642	107	NA	189	NA	73.3
Metals	Mercury	ug/L	2	< 0.200	< 0.200	< 0.200	NA	< 0.200	NA	< 0.200
Metals	Nickel	ug/L		3.17 J	1.7 J	1.86 J	NA	1.83 J	NA	1.68 J
Metals	Potassium	ug/L		3010	3780	1310	NA	1420	NA	6320
Metals	Selenium	ug/L	50	< 30.0	< 30.0	< 30.0	NA	< 30.0	NA	< 30.0
Metals	Silver	ug/L		< 5.00	< 5.00	< 5.00	NA	< 5.00	NA	< 5.00
Metals	Sodium	ug/L		918	4200	3590	NA	3810	NA	48900
Metals	Thallium	ug/L	2	< 20.0	< 20.0	< 20.0	NA	< 20.0	NA	< 20.0
Metals	Vanadium	ug/L		2.25 J	1.57 J	< 5.00	NA	< 5.00	NA	1.03 J
Metals	Zinc	ug/L		8.82 J	7.65 J	5.61 J	NA	6.12 J	NA	4.54 J
Radiological	Technetium-99	pCi/L	900	0 ##	0 ##	NA	0 ##	NA	0 ##	13.6 #
Radiological	Uranium-233/234	pCi/L		0.587	2.35	0.0905 #	NA	0.187 #	NA	0.0557 #
Radiological	Uranium-235/236	pCi/L		0.0192 #	0.123	0.0804 #	NA	0 #	NA	0 ##
Radiological	Uranium-238	pCi/L		0.168 #	0.626	0.0508 #	NA	0.0611 #	NA	0.103 #
Radiological	Uranium-234	ug/L		< 0.050	< 0.050	< 0.050	NA	< 0.050	NA	< 0.050
Radiological	Uranium-235	ug/L		0.0174 J	0.0274 J	< 0.070	NA	< 0.070	NA	< 0.070
Radiological	Uranium-238	ug/L		0.507	1.11	0.16 J	NA	0.199 J	NA	0.0673 J
Radiological	Total Uranium	ug/L	30	0.524	1.14	0.160	NA	0.199	NA	0.0673
SVOCs	1,1'-Biphenyl	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2,4,5-Trichlorophenol	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2,4,6-Trichlorophenol	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2,4-Dichlorophenol	ug/L		< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	2,4-Dimethylphenol	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2,4-Dinitrophenol	ug/L		< 20	< 20	< 20	NA	< 20	NA	< 20
SVOCs	2,4-Dinitrotoluene	ug/L		< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	2,6-Dinitrotoluene	ug/L		< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	2-Chloronaphthalene	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2-Chlorophenol	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2-Methylnaphthalene	ug/L		< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	2-Methylphenol	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	2-Nitroaniline	ug/L		< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	2-Nitrophenol	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	3,3'-Dichlorobenzidine	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	3-Nitroaniline	ug/L		< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	4,6-Dinitro-2-methylphe	ug/L		< 20	< 20	< 20	NA	< 20	NA	< 20
SVOCs	4-Bromophenyl phenyl e	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	4-Chloro-3-methylpheno	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	4-Chloroaniline	ug/L		< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	4-Chlorophenyl phenyl e	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	4-Methylphenol	ug/L		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0

Table T3 - Surface Water Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Location Type	SW-19 N	SW-20 N	SW-21 N	SW-21 N	SW-22 N	SW-22 N	SW-23 N
				Date	7/17/2019	7/16/2019	7/15/2019	7/17/2019	7/15/2019	7/17/2019	7/16/2019
SVOCs	4-Nitroaniline	ug/L			< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	4-Nitrophenol	ug/L			< 20	< 20	< 20	NA	< 20	NA	< 20
SVOCs	Acenaphthene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Acenaphthylene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Acetophenone	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Anthracene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Atrazine	ug/L	3		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Benz(a)anthracene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Benzaldehyde	ug/L			< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	Benzo(a)pyrene	ug/L	0.2		< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Benzo(b)fluoranthene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Benzo(g,h,i)perylene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Benzo(k)fluoranthene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Bis(2-chloroethoxy)meth	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Bis(2-chloroethyl)ether	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Bis(2-chloroisopropyl)eth	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Bis(2-ethylhexyl)phthala	ug/L	6		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Butyl benzyl phthalate	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Caprolactam	ug/L			< 8.0	< 8.0	< 8	NA	< 8	NA	< 8.0
SVOCs	Carbazole	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Chrysene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Dibenz(a,h)anthracene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Dibenzofuran	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Diethyl phthalate	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Dimethyl phthalate	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Di-n-butyl phthalate	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Di-n-octyl phthalate	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Fluoranthene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Fluorene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Hexachlorobenzene	ug/L	1		< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Hexachlorobutadiene	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Hexachlorocyclopentadie	ug/L	50		< 20	< 20	< 20	NA	< 20	NA	< 20
SVOCs	Hexachloroethane	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Indeno(1,2,3-cd)pyrene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Isophorone	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Naphthalene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Nitrobenzene	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	N-Nitrosodi-n-propylami	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	N-Nitrosodiphenylamine	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Pentachlorophenol	ug/L	1		< 20	< 20	< 20	NA	< 20	NA	< 20
SVOCs	Phenanthrene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
SVOCs	Phenol	ug/L			< 4.0	< 4.0	< 4	NA	< 4	NA	< 4.0
SVOCs	Pyrene	ug/L			< 0.80	< 0.80	< 0.8	NA	< 0.8	NA	< 0.80
VOCs	(1-Methylethyl)-Benzene	ug/L			< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,1,1-Trichloroethane	ug/L	200		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,1,2,2-Tetrachloroethan	ug/L			< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,1,2-Trichlor-1,2,2-triflu	ug/L			< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,1,2-Trichloroethane	ug/L	5		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,1-Dichloroethane	ug/L			< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,1-Dichloroethene	ug/L	7		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,2,4-Trichlorobenzene	ug/L	70		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,2-Dibromo-3-chloropro	ug/L	0.2		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,2-Dibromoethane	ug/L	0.05		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,2-Dichlorobenzene	ug/L	600		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,2-Dichloroethane	ug/L	5		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,2-Dichloropropane	ug/L	5		< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0
VOCs	1,3-Dichlorobenzene	ug/L			< 1.0	< 1.0	< 1	NA	< 1	NA	< 1.0

Table T3 - Surface Water Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

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

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

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-11	SED-12	SED-13	SED-14	SED-15	SED-16	SED-16	SED-16	SED-16	SED-17	SED-17	SED-18	SED-19	SED-19	SED-19	SED-19	SED-19	SED-20	SED-20	SED-20	SED-20	SED-20	SED-21	SED-21	SED-21	SED-21
					Depth	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 18 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	12 - 24 in	24 - 36 in
					Type	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
					Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/16/2019	7/17/2019	11/18/2020	11/18/2020	11/18/2020	7/18/2019	7/18/2019	7/16/2019	7/17/2019	12/2/2020	12/2/2020	12/2/2020	12/2/2020	7/16/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020	7/15/2019	11/10/2020	11/10/2020	11/10/2020
Group	Analyte	Unit	RUSL	IUSL																										
Chemical	Ammonia	mg/kg				723	560	98.5	6.43	49.0	13.5	91.8	8.90	39.4	4.15	3.66	3.48	401	761	277		1100	1600	113	70.8	54.7	79.9	532	476	282	180
Chemical	Nitrate as N	mg/kg				0.33	0.24	0.2	< 0.2	< 0.20	2.7	1	< 0.24	0.38	2.1	0.95	< 0.20	1.2	4.2	2.1	1.8	3.7	< 0.20	0.56	0.45	0.34	0.41	< 0.2	3.7	1.1	< 0.6
Chemical	Fluoride	mg/kg				1.35 J	2.26 J	1.45 J	< 1.21	2.09	8.73	15.5	3.78	10.3	0.908 J	0.814 J	< 1.22	3.51	59.7	3.98		28.5	15.7	6.63	4.01	8.50	4.93	2.17 J	13.2	4.73	4.45
Metals	Aluminum	mg/kg				10400	10300	8230	502	3510	682	NA	NA	NA	459	340	401	3600	NA	NA	NA	NA	11000	NA	NA	NA	NA	31200	NA	NA	NA
Metals	Antimony	mg/kg				< 5.29	< 4.93	< 3	0.511 J	< 2.42	0.447 J	NA	NA	NA	0.482 J	0.512 J	< 2.53	< 3.75	NA	NA	NA	NA	< 11.7	NA	NA	NA	NA	< 6	NA	NA	NA
Metals	Arsenic	mg/kg				< 7.94	< 7.39	2.14 J	< 3.61	< 3.63	< 3.69	NA	NA	NA	< 3.46	< 3.35	< 3.8	< 5.63	NA	NA	NA	NA	4.21 J	NA	NA	NA	NA	6.38 J	NA	NA	NA
Metals	Barium	mg/kg				126	118	131	5.16	15.9	5.1	NA	NA	NA	4.92	4.61	4.9	50.2	NA	NA	NA	NA	140	NA	NA	NA	NA	250	NA	NA	NA
Metals	Beryllium	mg/kg				0.718 J	1.13 J	1.02	< 0.601	0.258 J	< 0.614	NA	NA	NA	< 0.577	< 0.558	< 0.634	0.361 J	NA	NA	NA	NA	1.14 J	NA	NA	NA	NA	2.39	NA	NA	NA
Metals	Cadmium	mg/kg				< 1.32	< 1.23	< 0.751	< 0.601	0.14 J	< 0.614	NA	NA	NA	< 0.577	< 0.558	< 0.634	< 0.939	NA	NA	NA	NA	< 2.92	NA	NA	NA	NA	< 1.5	NA	NA	NA
Metals	Calcium	mg/kg				1110	1020	620	142	452	117	NA	NA	NA	48.5	32.9	21.7 J	375	NA	NA	NA	NA	3550	NA	NA	NA	NA	484	NA	NA	NA
Metals	Chromium	mg/kg				9.99	8.34	18.4	1.24	6.91	1.77	NA	NA	NA	1.02 J	0.576 J	0.606 J	5.32	NA	NA	NA	NA	13.6	NA	NA	NA	NA	40	NA	NA	NA
Metals	Cobalt	mg/kg				4.34	2.97	11.6	0.269 J	1.52	< 0.614	NA	NA	NA	0.175 J	0.326 J	< 0.634	3.92	NA	NA	NA	NA	6.31	NA	NA	NA	NA	18.9	NA	NA	NA
Metals	Copper	mg/kg				7.14	5.39	8.83	0.386 J	2.75	1 J	NA	NA	NA	< 2.31	< 2.23	< 2.53	5.33	NA	NA	NA	NA	19.5	NA	NA	NA	NA	29.8	NA	NA	NA
Metals	Iron	mg/kg				7610	4320	15000	581	4630	1070	NA	NA	NA	257	217	217	3770	NA	NA	NA	NA	10200	NA	NA	NA	NA	25900	NA	NA	NA
Metals	Lead	mg/kg				24	28	13.9	0.865 J	3.74	1.26 J	NA	NA	NA	0.439 J	0.42 J	0.476 J	8.3	NA	NA	NA	NA	25.5	NA	NA	NA	NA	25	NA	NA	NA
Metals	Magnesium	mg/kg				481	279	1240	91.5	194	22.3 J	NA	NA	NA	35.7	14.4 J	15 J	238	NA	NA	NA	NA	751	NA	NA	NA	NA	3320	NA	NA	NA
Metals	Manganese	mg/kg				230	150	332	15.6	54.8	3.72	NA	NA	NA	18	11.9	12.3	123	NA	NA	NA	NA	246	NA	NA	NA	NA	345	NA	NA	NA
Metals	Mercury	ug/kg				62.3	56.8	15.7 J	< 12.7	5.46 J	< 14.9	NA	NA	NA	< 14.2	< 13.3	< 13.1	34.6	NA	NA	NA	NA	121	NA	NA	NA	NA	75.8	NA	NA	NA
Metals	Nickel	mg/kg				4.13	3.51	7.33	0.341 J	2.21	0.568 J	NA	NA	NA	0.773	0.442 J	0.492 J	8.68	NA	NA	NA	NA	15.5	NA	NA	NA	NA	18.7	NA	NA	NA
Metals	Potassium	mg/kg				300	263	538	84.4	200	139	NA	NA	NA	87.4	95.4	90.7	205	NA	NA	NA	NA	664	NA	NA	NA	NA	1890	NA	NA	NA
Metals	Selenium	mg/kg				2.38 J	< 7.39	< 4.51	< 3.61	< 3.63	< 3.69	NA	NA	NA	< 3.46	< 3.35	< 3.8	< 5.63	NA	NA	NA	NA	< 17.5	NA	NA	NA	NA	1.51 J	NA	NA	NA
Metals	Silver	mg/kg				< 1.32	< 1.23	< 0.751	< 0.601	< 0.606	< 0.614	NA	NA	NA	< 0.577	< 0.558	< 0.634	< 0.939	NA	NA	NA	NA	< 2.92	NA	NA	NA	NA	< 1.5	NA	NA	NA
Metals	Sodium	mg/kg				34.8 J	42 J	32.5 J	18.8 J	41.4	12.9 J	NA	NA	NA	14.1 J	17.1 J	13.5 J	19.9 J	NA	NA	NA	NA	109 J	NA	NA	NA	NA	119	NA	NA	NA
Metals	Thallium	mg/kg				< 5.29	< 4.93	< 30	< 2.4	< 2.42	< 2.46	NA	NA	NA	< 2.31	< 2.23	< 2.53	< 3.75	NA	NA	NA	NA	< 11.7	NA	NA	NA	NA	< 60	NA	NA	NA
Metals	Vanadium	mg/kg				25.9	21.6	36.5	1.74	10.5	2.81	NA	NA	NA	1.18	1.43	1.6	13.3	NA	NA	NA	NA	41	NA	NA	NA	NA	100	NA	NA	NA
Metals	Zinc	mg/kg				38.2	23	33.8	5.64	50.8	6.09	NA	NA	NA	2.42	1.24 J	1 J	32.4	NA	NA	NA	NA	63.8	NA	NA	NA	NA	73.1	NA	NA	NA
Radiological	Technetium-99	pCi/g	19	89400		0 ##	0 ##	0 ##	0.0243 #	5.62 #	4.94 #	0.614 #	3.71	2.62	7.50 #	0 ##	0 ##	6.28 #	0.208 #	0 ##	NA	1.12	0 ##	0.638 #	0.208 #	0.700 #	0.265 #	4.12 #	1.17	0.225 #	0.0586 #
Radiological	Uranium-233/234	pCi/g	13	3310		1.14	0.925	1.67	1.42	2.58	14.9	67.2	6.03	63.7	0.658	1.07	0.219	32.5	19.1	2.05	NA	27.0	62.5	1.72	1.43	1.49	2.13	1.86	13.2	1.56	1.75
Radiological	Uranium-235/236	pCi/g	8	39		0.00159 #	0.0647 #	0.156 #	0.0250 #	0.181	0.678	3.31	0.480	3.18	0.0235 #	0.104 #	0.0173 #	2.30	1.02	0.0675 #	NA	1.22	3.12	0.0212 #	0.145	0.0841 #	0.0940 #	0.104 #	0.393	0.0344 #	0 ##
Radiological	Uranium-238	pCi/g	14	179		0.742	1.17	1.33	0.389	2.05	2.77	12.1	1.99	11.8	0.302	0.354	0.298	8.18	5.15	1.51	NA	6.42	14.9	1.67	1.89	1.40	1.50	1.96	3.79	1.07	0.970
Radiological	Uranium-234	ug/kg				< 25.7	< 25.6	< 15.4	< 12.1	< 12.4	< 12.0	NA	NA	NA	< 11.0	< 11.8	< 12.0	4.27 J	NA	NA	NA	NA	12.7 J	NA	NA	NA	NA	< 30.8	NA	NA	NA
Radiological	Uranium-235	ug/kg				11.5 J	16 J	13.8 J	5.32 J	51.2	114	NA	NA	NA	6.57 J	2.9 J	5 J	451	NA	NA	NA	NA	1310	NA	NA	NA	NA	27.8 J	NA	NA	NA
Radiological	Uranium-238	ug/kg				1320	1700	1360	260	5790	3310	NA	NA	NA	401	140	265	16200	NA	NA	NA	NA	49700	NA	NA	NA	NA	2840	NA	NA	NA
Radiological	Total Uranium Isotopes	ug/kg				1330	1720	1370	265	5840	3420	NA	NA	NA	408	143	270	16700	NA	NA	NA	NA	51000	NA	NA	NA	NA	2870	NA	NA	NA
SVOCs	1,1'-Biphenyl	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	2,4,5-Trichlorophenol	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	2,4,6-Trichlorophenol	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	2,4-Dichlorophenol	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	2,4-Dimethylphenol	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	2,4-Dinitrophenol	ug/kg				< 320	< 330	< 320	< 310	< 330	< 320	NA	NA	NA	< 330	< 320	< 320	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 330	NA	NA	NA
SVOCs	2,4-Dinitrotoluene	ug/kg				< 130	< 130	< 130	< 120	< 130	< 130	NA	NA	NA	< 130	< 130	< 130	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA
SVOCs	2,6-Dinitrotoluene	ug/kg				< 130	< 130	< 130	< 120	< 130	< 130	NA	NA	NA	< 130	< 130	< 130	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA
SVOCs	2-Chloronaphthalene	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	2-Chlorophenol	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	2-Methylnaphthalene	ug/kg				< 13	< 13	< 13	< 13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	2-Methylphenol	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	2-Nitroaniline	ug/kg				< 130	< 130	< 130	< 120	< 130	< 130	NA	NA	NA	< 130	< 130	< 130	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA
SVOCs	2-Nitrophenol	ug/kg				< 130	< 130	< 130	< 120	< 130	< 130	NA	NA	NA	< 130	< 130	< 130	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA
SVOCs	3,3'-Dichlorobenzidine	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	3-Nitroaniline	ug/kg				< 130	< 130	< 130	< 120	< 130	< 130	NA	NA	NA	< 130	< 130	< 130	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				< 320	< 330	< 320	< 310	< 330	< 320	NA	NA	NA	< 330	< 320	< 320	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 330	NA	NA	NA
SVOCs	4-Bromophenyl phenyl ether	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	4-Chloro-3-methylphenol	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	4-Chloroaniline	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	4-Methylphenol	ug/kg				< 130	< 130	< 130	< 120	< 130	< 130	NA	NA	NA	< 130	< 130	< 130	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA
SVOCs	4-Nitroaniline	ug/kg				< 130	< 130	< 130	< 120	< 130	< 130	NA	NA	NA	< 130	< 130	< 130	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA
SVOCs	4-Nitrophenol	ug/kg				< 320	< 330	< 320	< 310	< 330	< 320	NA	NA	NA	< 330	< 320	< 320	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 330	NA	NA	NA
SVOCs	Acenaphthene	ug/kg				< 13	< 13	< 13	< 13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Acenaphthylene	ug/kg				< 13	< 13	< 13	< 13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Acetophenone	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Anthracene	ug/kg				< 13	< 13	14	< 13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Atrazine	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Benz(a)anthracene	ug/kg				< 13	< 13	170	13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Benzaldehyde	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Benzo(a)pyrene	ug/kg				< 13	< 13	290	20	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Benzo(b)fluoranthene	ug/kg				< 13	< 13	630	37	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Benzo(g,h,i)perylene	ug/kg				< 13	< 13	190	18	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Benzo(k)fluoranthene	ug/kg				< 13	< 13	200	16	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-11	SED-12	SED-13	SED-14	SED-15	SED-16	SED-16	SED-16	SED-16	SED-17	SED-17	SED-18	SED-19	SED-19	SED-19	SED-19	SED-19	SED-20	SED-20	SED-20	SED-20	SED-20	SED-21	SED-21	SED-21	SED-21
					Depth	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 18 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in
					Type	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N
					Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/16/2019	7/17/2019	11/18/2020	11/18/2020	11/18/2020	7/18/2019	7/18/2019	7/16/2019	7/17/2019	12/2/2020	12/2/2020	12/2/2020	12/2/2020	7/16/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020	7/15/2019	11/10/2020	11/10/2020	11/10/2020
Group	Analyte	Unit	RUSL	IUSL																										
SVOCs	Bis(2-chloroethoxy)methane	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Bis(2-chloroethyl)ether	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Bis(2-chloroisopropyl)ether	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Bis(2-ethylhexyl)phthalate	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Butyl benzyl phthalate	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Caprolactam	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Carbazole	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Chrysene	ug/kg				< 13	< 13	310	21	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Dibenz(a,h)anthracene	ug/kg				< 13	< 13	< 13	< 13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Dibenzofuran	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Diethyl phthalate	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Dimethyl phthalate	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Di-n-butyl phthalate	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Di-n-octyl phthalate	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Fluoranthene	ug/kg				< 13	< 13	570	36	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Fluorene	ug/kg				< 13	< 13	< 13	< 13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Hexachlorobenzene	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Hexachlorobutadiene	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Hexachlorocyclopentadiene	ug/kg				< 320	< 330	< 320	< 310	< 330	< 320	NA	NA	NA	< 330	< 320	< 320	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 330	NA	NA	NA
SVOCs	Hexachloroethane	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg				< 13	< 13	170	15	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Isophorone	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Naphthalene	ug/kg				< 13	< 13	< 13	< 13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Nitrobenzene	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	N-Nitrosodi-n-propylamine	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	N-Nitrosodiphenylamine	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Pentachlorophenol	ug/kg				< 320	< 330	< 320	< 310	< 330	< 320	NA	NA	NA	< 330	< 320	< 320	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 330	NA	NA	NA
SVOCs	Phenanthrene	ug/kg				< 13	< 13	130	< 13	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
SVOCs	Phenol	ug/kg				< 66	< 67	< 64	< 64	< 67	< 65	NA	NA	NA	< 67	< 64	< 66	< 67	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA
SVOCs	Pyrene	ug/kg				< 13	< 13	450	28	< 13	< 13	NA	NA	NA	< 13	< 13	< 13	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA
VOCs	(1-Methylethyl)-Benzene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,1,1-Trichloroethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,1,2,2-Tetrachloroethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,1,2-Trichloroethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,1-Dichloroethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,1-Dichloroethene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 5.3	< 4.9	< 5	< 4.8	< 4.8	< 4.5	< 5.2	< 74	< 26	< 24	< 60	< 6.5	< 8.2	< 7	< 6.4	< 7.4	< 6.2	< 54	< 8.9	< 15
VOCs	1,2,4-Trichlorobenzene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,2-Dibromo-3-chloropropane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,2-Dibromoethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,2-Dichlorobenzene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,2-Dichloroethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 5.3	< 4.9	< 5	< 4.8	< 4.8	< 4.5	< 5.2	< 74	< 26	< 24	< 60	< 6.5	< 8.2	< 7	< 6.4	< 7.4	< 6.2	< 54	< 8.9	< 15
VOCs	1,2-Dichloropropane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,3-Dichlorobenzene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	1,4-Dichlorobenzene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	2-Butanone	ug/kg				< 25	180	< 24	< 17	< 15	< 16	NA	NA	NA	< 19	< 19	< 18	45	NA	NA	NA	NA	45	NA	NA	NA	NA	< 25	NA	NA	NA
VOCs	2-Hexanone	ug/kg				< 13	< 11	< 12	< 8.7	< 7.6	< 8.2	NA	NA	NA	< 9.6	< 9.5	< 8.9	< 10	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 12	NA	NA	NA
VOCs	4-Methyl-2-pentanone	ug/kg				< 13	< 11	< 12	< 8.7	< 7.6	< 8.2	NA	NA	NA	< 9.6	< 9.5	< 8.9	< 10	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 12	NA	NA	NA
VOCs	Acetone	ug/kg				32	110	30	28	< 15	< 16	NA	NA	NA	< 19	< 19	< 18	48	NA	NA	NA	NA	110	NA	NA	NA	NA	67	NA	NA	NA
VOCs	Benzene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Bromodichloromethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Bromoform	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Bromomethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Carbon disulfide	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Carbon tetrachloride	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Chlorobenzene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Chloroethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Chloroform	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Chloromethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	cis-1,2-Dichloroethene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 5.3	< 4.9	< 5	< 4.8	< 4.8	< 4.5	< 5.2	< 74	< 26	< 24	< 60	< 6.5	< 8.2	< 7	< 6.4	< 7.4	< 6.2	< 54	< 8.9	< 15
VOCs	cis-1,3-Dichloropropene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Cyclohexane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Dibromochloromethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Dichlorodifluoromethane	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Ethylbenzene	ug/kg				< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-11	SED-12	SED-13	SED-14	SED-15	SED-16	SED-16	SED-16	SED-16	SED-17	SED-17	SED-18	SED-19	SED-19	SED-19	SED-19	SED-19	SED-20	SED-20	SED-20	SED-20	SED-20	SED-21	SED-21	SED-21	SED-21
					Depth	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 18 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in
					Type	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N
					Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/16/2019	7/17/2019	11/18/2020	11/18/2020	11/18/2020	7/18/2019	7/18/2019	7/16/2019	7/17/2019	12/2/2020	12/2/2020	12/2/2020	12/2/2020	7/16/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020	7/15/2019	11/10/2020	11/10/2020	11/10/2020
Group	Analyte	Unit	RUSL	IUSL																										
VOCs	Methyl acetate	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Methyl tert-butyl ether	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Methylcyclohexane	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Methylene chloride	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Styrene	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Tetrachloroethene	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 5.3	< 4.9	< 5	5.5	< 4.8	< 4.5	< 5.2	< 74	< 26	< 24	< 60	< 6.5	< 8.2	< 7	< 6.4	< 7.4	< 6.2	< 54	< 8.9	< 15
VOCs	Toluene	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	trans-1,2-Dichloroethene	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 5.3	< 4.9	< 5	< 4.8	< 4.8	< 4.5	< 5.2	< 74	< 26	< 24	< 60	< 6.5	< 8.2	< 7	< 6.4	< 7.4	< 6.2	< 54	< 8.9	< 15
VOCs	trans-1,3-Dichloropropene	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Trichloroethene	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 5.3	< 4.9	< 5	< 4.8	< 4.8	< 4.5	< 5.2	< 74	< 26	< 24	< 60	< 6.5	< 8.2	< 7	< 6.4	< 7.4	< 6.2	< 54	< 8.9	< 15
VOCs	Trichlorofluoromethane	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	NA	NA	NA	< 4.8	< 4.8	< 4.5	< 5.2	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.2	NA	NA	NA
VOCs	Vinyl chloride	ug/kg			< 6.3	< 5.6	< 6.1	< 4.4	< 3.8	< 4.1	< 5.3	< 4.9	< 5	< 4.8	< 4.8	< 4.5	< 5.2	< 74	< 26	< 24	< 60	< 6.5	< 8.2	< 7	< 6.4	< 7.4	< 6.2	< 54	< 8.9	< 15
VOCs	Xylenes, Total	ug/kg			< 13	< 11	< 12	< 8.7	< 7.6	< 8.2	NA	NA	NA	< 9.6	< 9.5	< 8.9	< 10	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 12	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-21	SED-22	SED-22	SED-22	SED-22	SED-22	SED-23	SED-23	SED-23	SED-23	SED-23	SED-24	SED-24	SED-24	SED-24	SED-25*	SED-26*	SED-27**	SED-28**	SED-29	SED-29	SED-29	SED-30	SED-30	SED-31	SED-31
					Depth	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 16 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	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Date	11/10/2020	7/15/2019	11/9/2020	11/9/2020	11/9/2020	11/9/2020	7/16/2019	11/16/2020	11/16/2020	11/16/2020	11/16/2020	7/16/2019	11/16/2020	11/16/2020	11/16/2020	7/18/2019	7/18/2019	7/18/2019	7/18/2019	11/20/2019	11/20/2019	11/20/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019
Group	Analyte	Unit	RUSL	IUSL																											
Chemical	Ammonia	mg/kg			474	978	531	137	75.9	386	214	680	200	291	288	70.5	1080	322	1170	2270	167	395	1560	455	230	287	394	392	286	118
Chemical	Nitrate as N	mg/kg			1.1	< 0.2	0.6	< 0.28	< 0.27	< 0.48	< 0.20	1.6	< 0.26	< 0.26	< 0.42	0.20	4.8	< 0.36	6.3	0.27	1.4	0.30	< 0.20	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chemical	Fluoride	mg/kg			8.86	4.64	9.90	1.79	3.02	6.95	38.1	89.6	41.6	48.5	55.3	49.2	152	62.7	135	53.3	4.61	171	39.3	1.14 J	2.61	2.56	2.26	3.43	3.13	3.07
Metals	Aluminum	mg/kg			NA	25800	NA	NA	NA	NA	19800	NA	NA	NA	NA	10500	NA	NA	NA	6570	5540	1860	5790	25900	17000	19800	24000	21700	20400	15500
Metals	Antimony	mg/kg			NA	< 6.26	NA	NA	NA	NA	< 2.87	NA	NA	NA	NA	< 2.94	NA	NA	NA	5.01 J	1.22 J	4.79 J	6.81 J	< 4.85	< 2.97	< 3.53	< 4.08	< 4.41	< 28.4	< 25.6
Metals	Arsenic	mg/kg			NA	4.62 J	NA	NA	NA	NA	3.36 J	NA	NA	NA	NA	< 4.4	NA	NA	NA	< 26.7	0.795 J	< 15.4	< 19.7	4.24 J	2.45 J	2.31 J	3.6 J	2.49 J	4.51	2.85 J
Metals	Barium	mg/kg			NA	209	NA	NA	NA	NA	127	NA	NA	NA	NA	76.8	NA	NA	NA	103	56	723	1220	207	147	157	174	140	213	239
Metals	Beryllium	mg/kg			NA	2.02	NA	NA	NA	NA	2.09	NA	NA	NA	NA	0.896	NA	NA	NA	< 4.44	0.253 J	< 2.57	< 3.28	1.83	2.13	1.86	1.99	2.32	1.69	1.67
Metals	Cadmium	mg/kg			NA	0.374 J	NA	NA	NA	NA	0.209 J	NA	NA	NA	NA	< 0.734	NA	NA	NA	2 J	0.61 J	< 2.57	< 3.28	< 1.21	< 0.743	< 0.884	< 1.02	< 1.1	< 0.709	< 0.641
Metals	Calcium	mg/kg			NA	872	NA	NA	NA	NA	770	NA	NA	NA	NA	606	NA	NA	NA	10500	3950	253000	284000	809	272	441	424	448	796	679
Metals	Chromium	mg/kg			NA	35.1	NA	NA	NA	NA	29.3	NA	NA	NA	NA	15.2	NA	NA	NA	35.7	49.6	78.9	75.3	33.8	25.3	28.3	32.3	28.3	26.4	22.8
Metals	Cobalt	mg/kg			NA	16.6	NA	NA	NA	NA	11.8	NA	NA	NA	NA	5	NA	NA	NA	8.69	2.95	2 J	2.91 J	8.36	3.7	5.92	8.26	4.64	14.3	16.4
Metals	Copper	mg/kg			NA	33.1	NA	NA	NA	NA	18.5	NA	NA	NA	NA	7.79	NA	NA	NA	418	116	20.9	36.4	27.9	13.1	17.6	24.1	17	20.5	17.3
Metals	Iron	mg/kg			NA	32500	NA	NA	NA	NA	29500	NA	NA	NA	NA	10100	NA	NA	NA	12300	2840	4310	29100	17600	9170	12400	15100	10000	28600	30000
Metals	Lead	mg/kg			NA	37.4	NA	NA	NA	NA	14.4	NA	NA	NA	NA	8.69	NA	NA	NA	45.9	29.3	18.5	91.7	28.2	11.3	15.2	41.8	13.4	22.9	14.1
Metals	Magnesium	mg/kg			NA	2180	NA	NA	NA	NA	2980	NA	NA	NA	NA	1220	NA	NA	NA	1180	679	17200	16500	2800	971	2180	3240	1400	3080	3110
Metals	Manganese	mg/kg			NA	389	NA	NA	NA	NA	268	NA	NA	NA	NA	123	NA	NA	NA	97.2	23	102	149	223	66.2	128	207	122	788	1090
Metals	Mercury	ug/kg			NA	113	NA	NA	NA	NA	40.3	NA	NA	NA	NA	25.8	NA	NA	NA	407	576	287	526	NA	NA	NA	NA	NA	NA	NA
Metals	Nickel	mg/kg			NA	43.3	NA	NA	NA	NA	11.5	NA	NA	NA	NA	5.45	NA	NA	NA	86.7	75.1	255	143	15.2	8.4	10.8	13.4	9.48	12.2	10.7
Metals	Potassium	mg/kg			NA	1410	NA	NA	NA	NA	2010	NA	NA	NA	NA	846	NA	NA	NA	798	170	308	3650	1400	297	1060	1580	509	1760	1610
Metals	Selenium	mg/kg			NA	3.29 J	NA	NA	NA	NA	< 4.31	NA	NA	NA	NA	0.885 J	NA	NA	NA	4.72 J	0.72 J	2.58 J	3.69 J	< 7.27	< 4.46	< 5.3	< 6.12	< 6.61	< 4.26	< 3.84
Metals	Silver	mg/kg			NA	< 1.56	NA	NA	NA	NA	< 0.718	NA	NA	NA	NA	< 0.734	NA	NA	NA	323	544	10.5	27.6	< 12.1	< 7.43	< 8.84	< 10.2	< 11	< 7.09	< 6.41
Metals	Sodium	mg/kg			NA	69.7 J	NA	NA	NA	NA	130	NA	NA	NA	NA	94.7	NA	NA	NA	919	90.4	6330	7260	125	77.7	97.1	95.9	110	52.7	52.6
Metals	Thallium	mg/kg			NA	< 62.6	NA	NA	NA	NA	< 28.7	NA	NA	NA	NA	< 29.4	NA	NA	NA	< 17.8	< 2.6	< 10.3	< 13.1	< 48.5	< 29.7	< 35.3	< 40.8	< 44.1	< 28.4	< 25.6
Metals	Vanadium	mg/kg			NA	73.7	NA	NA	NA	NA	70.5	NA	NA	NA	NA	33.5	NA	NA	NA	22.2	7.25	5.71	5.67	85.6	40.3	58.6	71.9	51.2	73.4	61.9
Metals	Zinc	mg/kg			NA	138	NA	NA	NA	NA	46	NA	NA	NA	NA	22.8	NA	NA	NA	9070	229	523	403	69.1	29.8	43.5	68.8	31.5	56.2	45.9
Radiological	Technetium-99	pCi/g	19	89400	0.528 #	0 ##	0.304 #	0 ##	0 ##	0.0333 #	50.8	144	1.40	0.785	30.6	35.8	118	33.3	158	8.55 #	1.68 #	0 ##	5.75 #	0 ##	0 ##	0 ##	2.43 #	0 ##	0.959 #	0 ##
Radiological	Uranium-233/234	pCi/g	13	3310	2.19	117	6.21	1.09	1.81	1.97	1.35	1.36	1.06	1.11	1.19	1.14	3.12	1.57	2.63	907	222	225	254	6.23	1.23	1.81	5.71	1.41	2.81	2.96
Radiological	Uranium-235/236	pCi/g	8	39	0.131 #	4.98	0.257	0.0350 #	0.225 #	0.192 #	0.00261 #	0.0994 #	0.0187 #	0.0379 #	0.0658 #	0.0608 #	0.160 #	0.217	0.153 #	41.1	11.0	11.9	12.4	0.313	0.175	0.208	0.191	0.0337 #	0.0669 #	0.110 #
Radiological	Uranium-238	pCi/g	14	179	1.51	28.0	2.24	0.838	1.08	0.971	1.69	1.36	1.19	0.736	1.29	0.944	2.13	1.47	1.67	149	46.9	37.4	44.6	2.51	1.16	1.55	2.51	1.28	1.75	1.69
Radiological	Uranium-234	ug/kg			NA	22 J	NA	NA	NA	NA	< 14.4	NA	NA	NA	NA	< 15.9	NA	NA	NA	225	129	38.9 J	57.2 J	< 24.3	< 15.1	< 18.4	< 20.4	< 21.1	< 14.5	< 12.4
Radiological	Uranium-235	ug/kg			NA	2230	NA	NA	NA	NA	18.3 J	NA	NA	NA	NA	15.9 J	NA	NA	NA	27100	14200	3970	6770	86.4	17.6 J	21.4 J	85.9	21 J	45.6	18.1
Radiological	Uranium-238	ug/kg			NA	80700	NA	NA	NA	NA	2250	NA	NA	NA	NA	1680	NA	NA	NA	646000	487000	90900	161000	6030	2490	2490	5410	2690	3400	2220
Radiological	Total Uranium Isotopes	ug/kg			NA	83000	NA	NA	NA	NA	2270	NA	NA	NA	NA	1700	NA	NA	NA	673000	501000	94900	168000	6120	2510	2510	5500	2710	3450	2240
SVOCs	1,1'-Biphenyl	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	2,4,5-Trichlorophenol	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	2,4,6-Trichlorophenol	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	2,4-Dichlorophenol	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	2,4-Dimethylphenol	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	2,4-Dinitrophenol	ug/kg			NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	NA	< 320	< 1600	< 320	< 320	< 1600	NA	< 320	< 1600	< 1600	< 320	< 310
SVOCs	2,4-Dinitrotoluene	ug/kg			NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	NA	< 120	< 630	< 130	< 130	< 640	NA	< 130	< 620	< 620	< 130	< 120
SVOCs	2,6-Dinitrotoluene	ug/kg			NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	NA	< 120	< 630	< 130	< 130	< 640	NA	< 130	< 620	< 620	< 130	< 120
SVOCs	2-Chloronaphthalene	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	2-Chlorophenol	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	2-Methylnaphthalene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	< 13	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	2-Methylphenol	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	2-Nitroaniline	ug/kg			NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	NA	< 120	< 630	< 130	< 130	< 640	NA	< 130	< 620	< 620	< 130	< 120
SVOCs	2-Nitrophenol	ug/kg			NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	NA	< 120	< 630	< 130	< 130	< 640	NA	< 130	< 620	< 620	< 130	< 120
SVOCs	3,3'-Dichlorobenzidine	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	3-Nitroaniline	ug/kg			NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	NA	< 120	< 630	< 130	< 130	< 640	NA	< 130	< 620	< 620	< 130	< 120
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg			NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	NA	< 320	< 1600	< 320	< 320	< 1600	NA	< 320	< 1600	< 1600	< 320	< 310
SVOCs	4-Bromophenyl phenyl ether	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	4-Chloro-3-methylphenol	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	4-Chloroaniline	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	4-Chlorophenyl phenyl ether	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	4-Methylphenol	ug/kg			NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	NA	< 120	< 630	< 130	< 130	< 640	NA	< 130	< 620	< 620	< 130	< 120
SVOCs	4-Nitroaniline	ug/kg			NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	NA	< 120	< 630	< 130	< 130	< 640	NA	< 130	< 620	< 620	< 130	< 120
SVOCs	4-Nitrophenol	ug/kg			NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	NA	< 320	< 1600	< 320	< 320	< 1600	NA	< 320	< 1600	< 1600	< 320	< 310
SVOCs	Acenaphthene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	< 13	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Acenaphthylene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	< 13	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Acetophenone	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Anthracene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	110	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Atrazine	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Benz(a)anthracene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	3400	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Benzaldehyde	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Benzo(a)pyrene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	79	< 13	3000	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Benzo(b)fluoranthene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	150	< 13	4600	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Benzo(g,h,i)perylene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	1800	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Benzo(k)fluoranthene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	1900	< 65	NA	< 13	< 63	< 64	< 13	< 13

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-21	SED-22	SED-22	SED-22	SED-22	SED-22	SED-23	SED-23	SED-23	SED-23	SED-23	SED-24	SED-24	SED-24	SED-24	SED-25*	SED-26*	SED-27**	SED-28**	SED-29	SED-29	SED-29	SED-30	SED-30	SED-31	SED-31
					Depth	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 16 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	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Date	11/10/2020	7/15/2019	11/9/2020	11/9/2020	11/9/2020	11/9/2020	7/16/2019	11/16/2020	11/16/2020	11/16/2020	11/16/2020	7/16/2019	11/16/2020	11/16/2020	11/16/2020	7/18/2019	7/18/2019	7/18/2019	7/18/2019	11/20/2019	11/20/2019	11/20/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019
Group	Analyte	Unit	RUSL	IUSL																											
SVOCs	Bis(2-chloroethoxy)methane	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Bis(2-chloroethyl)ether	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Bis(2-chloroisopropyl)ether	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Bis(2-ethylhexyl)phthalate	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	91	270	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Butyl benzyl phthalate	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Caprolactam	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Carbazole	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Chrysene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	3200	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Dibenz(a,h)anthracene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	< 13	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Dibenzofuran	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Diethyl phthalate	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Dimethyl phthalate	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Di-n-butyl phthalate	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Di-n-octyl phthalate	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Fluoranthene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	81	< 13	7100	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Fluorene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	< 13	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Hexachlorobenzene	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Hexachlorobutadiene	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Hexachlorocyclopentadiene	ug/kg			NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	NA	< 320	< 1600	< 320	< 320	< 1600	NA	< 320	< 1600	< 1600	< 320	< 310
SVOCs	Hexachloroethane	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	1600	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Isophorone	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Naphthalene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	< 13	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Nitrobenzene	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	N-Nitrosodi-n-propylamine	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	N-Nitrosodiphenylamine	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Pentachlorophenol	ug/kg			NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	NA	< 320	< 1600	< 320	< 320	< 1600	NA	< 320	< 1600	< 1600	< 320	< 310
SVOCs	Phenanthrene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	< 64	< 13	440	< 65	NA	< 13	< 63	< 64	< 13	< 13
SVOCs	Phenol	ug/kg			NA	< 66	NA	NA	NA	NA	< 65	NA	NA	NA	NA	< 64	NA	NA	NA	< 64	< 320	< 64	< 65	< 330	NA	< 65	< 320	< 320	< 66	< 63
SVOCs	Pyrene	ug/kg			NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	< 13	82	< 13	5600	< 65	NA	< 13	< 63	< 64	< 13	< 13
VOCs	(1-Methylethyl)-Benzene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,1,1-Trichloroethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,1,2,2-Tetrachloroethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,1,2-Trichloroethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,1-Dichloroethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,1-Dichloroethene	ug/kg			< 19	< 6.1	< 34	< 5.6	< 7	< 15	< 7.1	< 25	< 5.3	< 5.2	< 9.9	< 4.2	< 58	< 9.9	< 6.5	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,2,4-Trichlorobenzene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,2-Dibromo-3-chloropropane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,2-Dibromoethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,2-Dichlorobenzene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,2-Dichloroethane	ug/kg			< 19	< 6.1	< 34	< 5.6	< 7	< 15	< 7.1	< 25	< 5.3	< 5.2	< 9.9	< 4.2	< 58	< 9.9	< 6.5	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,2-Dichloropropane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,3-Dichlorobenzene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	1,4-Dichlorobenzene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	2-Butanone	ug/kg			NA	32	NA	NA	NA	NA	< 28	NA	NA	NA	NA	< 17	NA	NA	NA	NA	NA	NA	NA	< 21	< 24	< 18	26	25	< 16	< 17
VOCs	2-Hexanone	ug/kg			NA	< 12	NA	NA	NA	NA	< 14	NA	NA	NA	NA	< 8.3	NA	NA	NA	NA	NA	NA	NA	< 10	< 12	< 8.9	< 11	< 12	< 8.0	< 8.3
VOCs	4-Methyl-2-pentanone	ug/kg			NA	< 12	NA	NA	NA	NA	< 14	NA	NA	NA	NA	< 8.3	NA	NA	NA	NA	NA	NA	NA	< 10	< 12	< 8.9	< 11	< 12	< 8.0	< 8.3
VOCs	Acetone	ug/kg			NA	88	NA	NA	NA	NA	91	NA	NA	NA	NA	25	NA	NA	NA	NA	NA	NA	NA	410	370	420	380	530	410	440
VOCs	Benzene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Bromodichloromethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Bromoform	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Bromomethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Carbon disulfide	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Carbon tetrachloride	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Chlorobenzene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Chloroethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Chloroform	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Chloromethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	cis-1,2-Dichloroethene	ug/kg			< 19	< 6.1	< 34	< 5.6	< 7	< 15	< 7.1	< 25	< 5.3	< 5.2	< 9.9	< 4.2	< 58	< 9.9	< 6.5	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	cis-1,3-Dichloropropene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Cyclohexane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Dibromochloromethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Dichlorodifluoromethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Ethylbenzene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-21	SED-22	SED-22	SED-22	SED-22	SED-22	SED-23	SED-23	SED-23	SED-23	SED-23	SED-24	SED-24	SED-24	SED-24	SED-25*	SED-26*	SED-27**	SED-28**	SED-29	SED-29	SED-29	SED-30	SED-30	SED-31	SED-31
					Depth	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 16 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	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Date	11/10/2020	7/15/2019	11/9/2020	11/9/2020	11/9/2020	11/9/2020	7/16/2019	11/16/2020	11/16/2020	11/16/2020	11/16/2020	7/16/2019	11/16/2020	11/16/2020	11/16/2020	7/18/2019	7/18/2019	7/18/2019	7/18/2019	11/20/2019	11/20/2019	11/20/2019	11/21/2019	11/21/2019	11/21/2019	11/21/2019
Group	Analyte	Unit	RUSL	IUSL																											
VOCs	Methyl acetate	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Methyl tert-butyl ether	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Methylcyclohexane	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Methylene chloride	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Styrene	ug/kg			NA	< 6.1	NA	NA	NA	NA	< 7.1	NA	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Tetrachloroethene	ug/kg			< 19	< 6.1	< 34	< 5.6	< 7	< 15	< 7.1	< 25	< 5.3	< 5.2	< 9.9	< 4.2	< 58	< 9.9	< 6.5	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Toluene	ug/kg			NA	< 6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	trans-1,2-Dichloroethene	ug/kg			< 19	< 6.1	< 34	< 5.6	< 7	< 15	< 7.1	< 25	< 5.3	< 5.2	< 9.9	< 4.2	< 58	< 9.9	< 6.5	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	trans-1,3-Dichloropropene	ug/kg			NA	< 6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Trichloroethene	ug/kg			< 19	< 6.1	< 34	< 5.6	< 7	< 15	< 7.1	< 25	< 5.3	< 5.2	< 9.9	< 4.2	< 58	< 9.9	< 6.5	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Trichlorofluoromethane	ug/kg			NA	< 6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Vinyl chloride	ug/kg			< 19	< 6.1	< 34	< 5.6	< 7	< 15	< 7.1	< 25	< 5.3	< 5.2	< 9.9	< 4.2	< 58	< 9.9	< 6.5	NA	NA	NA	NA	< 5.1	< 6.0	< 4.5	< 5.3	< 6.1	< 4.0	< 4.2
VOCs	Xylenes, Total	ug/kg			NA	< 12	NA	NA	NA	NA	< 14	NA	NA	NA	NA	< 8.3	NA	NA	NA	NA	NA	NA	NA	< 10	< 12	< 8.9	< 11	< 12	< 8.0	< 8.3

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-32	SED-32	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-38	SED-38	SED-38	SED-38	SED-38	SED-39	SED-39	SED-39	SED-39	SED-39
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	12 - 16 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	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in
					Type	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	N	N	N	N	N
					Date	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	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/22/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020
Group	Analyte	Unit	RUSL	IUSL																										
Chemical	Ammonia	mg/kg			480	576	248	67.3	117	397	336	158	80.1	153	99.1	451	127	178	576	581	596	306	393	491	222	329	72.7	56.9	274
Chemical	Nitrate as N	mg/kg			1.1	< 0.50	< 0.50	NA	< 0.50	0.62	< 0.50	< 0.50	< 0.50	< 0.50	0.55	< 0.50	< 0.50	< 0.50	0.66	0.95	< 0.57	< 0.33	< 0.37	< 0.68	< 0.5	< 0.36	0.44	< 0.3	< 0.35
Chemical	Fluoride	mg/kg			3.88	4.21	1.57 J	6.63	1.56	2.20	4.26	2.09	4.29	< 1.44	< 1.32	1.35 J	1.60	0.858 J	5.17	5.56	4.27 J	3.55	3.90	5.91	1.90	2.60	< 1.43	3.75	2.41 J
Metals	Aluminum	mg/kg			15200	17600	23200	15500	18200	23600	24200	24800	22100	15300	16100	14800	18700	19000	23200	NA	NA	NA	NA	NA	30400	NA	NA	NA	NA
Metals	Antimony	mg/kg			< 4.15	< 3.44	< 35.6	< 2.73	< 30.3	< 3.59	< 32.8	< 29.9	< 28	< 2.89	< 26.9	< 3.27	< 28.3	< 30	< 6.96	NA	NA	NA	NA	NA	< 3.32	NA	NA	NA	NA
Metals	Arsenic	mg/kg			2.47 J	3.35 J	5.43	3.14 J	3.27 J	4.41 J	4.44 J	3.07 J	3.65 J	2.9 J	3.85 J	3.34 J	3.7 J	3.88 J	4.3 J	NA	NA	NA	NA	NA	4.05 J	NA	NA	NA	NA
Metals	Barium	mg/kg			168	203	167	135	163	174	170	203	178	106	123	122	134	142	206	NA	NA	NA	NA	NA	167	NA	NA	NA	NA
Metals	Beryllium	mg/kg			1.35	1.53	1.83	1.63	2.07	1.96	2.7	2.05	2.38	1.08	1.43	1.06	1.38	1.5	2.39	NA	NA	NA	NA	NA	3	NA	NA	NA	NA
Metals	Cadmium	mg/kg			< 1.04	< 0.86	< 0.89	< 0.682	< 0.756	< 0.898	< 0.82	< 0.747	< 0.701	< 0.723	< 0.673	< 0.817	< 0.706	< 0.749	< 1.74	NA	NA	NA	NA	NA	< 0.83	NA	NA	NA	NA
Metals	Calcium	mg/kg			1140	742	292	150	182	843	762	490	542	256	158	394	346	335	914	NA	NA	NA	NA	NA	297	NA	NA	NA	NA
Metals	Chromium	mg/kg			22.6	25.9	28.3	23.4	25.6	28.7	32.7	33.5	27.3	19.3	19.7	18.5	22.6	23	24.9	NA	NA	NA	NA	NA	35.4	NA	NA	NA	NA
Metals	Cobalt	mg/kg			9.95	10	11.4	6.84	13.8	15.9	17.5	17.4	19.1	9.08	11.7	6.86	8.53	8.88	14.3	NA	NA	NA	NA	NA	13	NA	NA	NA	NA
Metals	Copper	mg/kg			19.6	22.3	21.9	12.9	19.3	26.3	24.8	23.2	24.3	14.9	17.1	14.7	18.2	19.4	22.1	NA	NA	NA	NA	NA	24.6	NA	NA	NA	NA
Metals	Iron	mg/kg			18600	21300	29300	16700	29100	32800	32200	30300	35600	22000	30400	20500	25700	26800	18400	NA	NA	NA	NA	NA	19900	NA	NA	NA	NA
Metals	Lead	mg/kg			24.1	40	20.1	11.8	11.7	31.3	22.3	12.2	13.6	17.5	20.5	30.1	20.7	22	13.6	NA	NA	NA	NA	NA	21.1	NA	NA	NA	NA
Metals	Magnesium	mg/kg			2440	2570	3060	1370	3590	3110	4000	4450	4410	2320	2840	2010	2560	2640	2260	NA	NA	NA	NA	NA	3330	NA	NA	NA	NA
Metals	Manganese	mg/kg			410	323	295	176	281	906	1020	461	819	260	322	215	219	230	498	NA	NA	NA	NA	NA	210	NA	NA	NA	NA
Metals	Mercury	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56.8 J	NA	NA	NA	NA
Metals	Nickel	mg/kg			11.2	13.9	12.9	7.21	12.1	13.2	14.2	14.7	13.7	8.87	9.48	8.54	10	10.2	13.9	NA	NA	NA	NA	NA	16.9	NA	NA	NA	NA
Metals	Potassium	mg/kg			1090	1090	1460	443	1700	1320	1290	2130	2050	1200	1400	1050	1130	1160	1210	NA	NA	NA	NA	NA	1400	NA	NA	NA	NA
Metals	Selenium	mg/kg			1.17 J	0.904 J	< 5.34	< 4.09	< 4.54	1.05 J	1.23 J	< 4.48	< 4.2	< 4.34	< 4.04	0.899 J	< 4.24	< 4.5	< 10.4	NA	NA	NA	NA	NA	< 4.98	NA	NA	NA	NA
Metals	Silver	mg/kg			< 10.4	< 8.6	< 8.9	< 6.82	< 7.56	< 8.98	< 8.2	< 7.47	< 7.01	< 7.23	< 6.73	< 8.17	< 7.06	< 7.49	< 17.4	NA	NA	NA	NA	NA	< 8.3	NA	NA	NA	NA
Metals	Sodium	mg/kg			68.2	89.1	85.7	48.8	59.7	64.9	62.5	59.2	58.9	50.9	57.9	47	51	60.2	83.1 J	NA	NA	NA	NA	NA	59.9	NA	NA	NA	NA
Metals	Thallium	mg/kg			< 41.5	< 34.4	< 35.6	< 27.3	< 30.3	< 35.9	< 32.8	< 29.9	< 28	< 28.9	< 26.9	< 32.7	< 28.3	< 30	< 69.6	NA	NA	NA	NA	NA	< 33.2	NA	NA	NA	NA
Metals	Vanadium	mg/kg			53.5	64.3	81.1	56.4	74.4	86.1	89.1	74.1	82.1	50.3	60.2	48.5	67.2	67.9	54.3	NA	NA	NA	NA	NA	71.2	NA	NA	NA	NA
Metals	Zinc	mg/kg			62.4	60.7	56.8	27.6	52.6	56.5	60.9	53.1	51.3	39	40.7	37.2	41.1	42	54.5	NA	NA	NA	NA	NA	72.1	NA	NA	NA	NA
Radiological	Technetium-99	pCi/g	19	89400	5.06 #	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	16.5 #	2.13	0.174 #	0.128 #	0.144 #	0.116 #	0 ##	0.626 #	0.536 #	0.281 #	0.732 #
Radiological	Uranium-233/234	pCi/g	13	3310	3.71	10.0	5.06	1.06	1.27	3.13	2.93	2.26	1.59	4.40	1.50	4.88	2.04	2.33	3.26	60.9	3.01	1.74	1.66	4.19	1.86	2.22	1.58	1.86	2.37
Radiological	Uranium-235/236	pCi/g	8	39	0.0970 #	0.469	0.394	0.0461 #	0.0959 #	0.131 #	0.0487 #	0.179	0.0433 #	0.210	0.0881	0.254	0.149	0.0456 #	0.204	3.12	0.188	0.0835 #	0.0261 #	0.276	0.0122 #	0.0959	0.243	0.181	0.0929 #
Radiological	Uranium-238	pCi/g	14	179	2.00	3.28	2.52	1.09	1.56	1.81	1.73	1.59	1.66	2.38	1.05	1.78	1.62	1.38	1.68	17.0	1.71	1.60	1.25	2.52	1.70	1.81	1.63	1.96	1.85
Radiological	Uranium-234	ug/kg			< 19.9	< 18.4	< 16.5	< 14.1	< 14.7	< 17.6	< 16.3	< 14.0	< 13.2	< 14.2	< 13.5	< 15.9	< 14.5	< 15.0	< 34.6	NA	NA	NA	NA	NA	< 15.9	NA	NA	NA	NA
Radiological	Uranium-235	ug/kg			72.9	195	305	16.5 J	21.8	44.9	36.3	36.8	28.9	70.2	19.1	102	67.4	31.7	31.8 J	NA	NA	NA	NA	NA	26.4	NA	NA	NA	NA
Radiological	Uranium-238	ug/kg			4280	8370	14200	2230	2750	3650	3770	3920	3630	3970	1990	4850	3930	2910	3380	NA	NA	NA	NA	NA	3040	NA	NA	NA	NA
Radiological	Total Uranium Isotopes	ug/kg			4350	8570	14500	2250	2770	3690	3810	3960	3660	4040	2010	4950	4000	2940	3410	NA	NA	NA	NA	NA	3070	NA	NA	NA	NA
SVOCs	1,1'-Biphenyl	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	2,4,5-Trichlorophenol	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	2,4,6-Trichlorophenol	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	2,4-Dichlorophenol	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	2,4-Dimethylphenol	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	2,4-Dinitrophenol	ug/kg			< 1600	< 1600	< 320	NA	< 320	< 1600	< 310	< 320	< 320	< 320	< 320	< 320	< 320	< 310	< 1600	NA	NA	NA	NA	NA	< 330	NA	NA	NA	NA
SVOCs	2,4-Dinitrotoluene	ug/kg			< 640	< 620	< 130	NA	< 130	< 630	< 120	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 640	NA	NA	NA	NA	NA	< 130	NA	NA	NA	NA
SVOCs	2,6-Dinitrotoluene	ug/kg			< 640	< 620	< 130	NA	< 130	< 630	< 120	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 640	NA	NA	NA	NA	NA	< 130	NA	NA	NA	NA
SVOCs	2-Chloronaphthalene	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	2-Chlorophenol	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	2-Methylnaphthalene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	2-Methylphenol	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	2-Nitroaniline	ug/kg			< 640	< 620	< 130	NA	< 130	< 630	< 120	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 640	NA	NA	NA	NA	NA	< 130	NA	NA	NA	NA
SVOCs	2-Nitrophenol	ug/kg			< 640	< 620	< 130	NA	< 130	< 630	< 120	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 640	NA	NA	NA	NA	NA	< 130	NA	NA	NA	NA
SVOCs	3,3'-Dichlorobenzidine	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	3-Nitroaniline	ug/kg			< 640	< 620	< 130	NA	< 130	< 630	< 120	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 640	NA	NA	NA	NA	NA	< 130	NA	NA	NA	NA
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg			< 1600	< 1600	< 320	NA	< 320	< 1600	< 310	< 320	< 320	< 320	< 320	< 320	< 320	< 310	< 1600	NA	NA	NA	NA	NA	< 330	NA	NA	NA	NA
SVOCs	4-Bromophenyl phenyl ether	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	4-Chloro-3-methylphenol	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	4-Chloroaniline	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	4-Chlorophenyl phenyl ether	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	4-Methylphenol	ug/kg			< 640	< 620	< 130	NA	< 130	< 630	< 120	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 640	NA	NA	NA	NA	NA	< 130	NA	NA	NA	NA
SVOCs	4-Nitroaniline	ug/kg			< 640	< 620	< 130	NA	< 130	< 630	< 120	< 130	< 130	< 120	< 130	< 130	< 130	< 120	< 640	NA	NA	NA	NA	NA	< 130	NA	NA	NA	NA
SVOCs	4-Nitrophenol	ug/kg			< 1600	< 1600	< 320	NA	< 320	< 1600	< 310	< 320	< 320	< 320	< 320	< 320	< 320	< 310	< 1600	NA	NA	NA	NA	NA	< 330	NA	NA	NA	NA
SVOCs	Acenaphthene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Acenaphthylene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Acetophenone	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Anthracene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Atrazine	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Benz(a)anthracene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Benzaldehyde	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Benzo(a)pyrene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Benzo(b)fluoranthene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Benzo(g,h,i)perylene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Benzo(k)fluoranthene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-32	SED-32	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-38	SED-38	SED-38	SED-38	SED-38	SED-39	SED-39	SED-39	SED-39	SED-39
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	12 - 16 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	12 - 24 in	24 - 36 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in
					Type	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	FD	N	N	N	N	N	N
					Date	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	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/22/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/19/2020
Group	Analyte	Unit	RUSL	IUSL																										
SVOCs	Bis(2-chloroethoxy)methane	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Bis(2-chloroethyl)ether	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Bis(2-chloroisopropyl)ether	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Bis(2-ethylhexyl)phthalate	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Butyl benzyl phthalate	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Caprolactam	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Carbazole	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Chrysene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Dibenz(a,h)anthracene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Dibenzofuran	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Diethyl phthalate	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Dimethyl phthalate	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Di-n-butyl phthalate	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Di-n-octyl phthalate	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Fluoranthene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Fluorene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Hexachlorobenzene	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Hexachlorobutadiene	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Hexachlorocyclopentadiene	ug/kg			< 1600	< 1600	< 320	NA	< 320	< 1600	< 310	< 320	< 320	< 320	< 320	< 320	< 320	< 310	< 1600	NA	NA	NA	NA	NA	< 330	NA	NA	NA	NA
SVOCs	Hexachloroethane	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Isophorone	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Naphthalene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Nitrobenzene	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	N-Nitrosodi-n-propylamine	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	N-Nitrosodiphenylamine	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Pentachlorophenol	ug/kg			< 1600	< 1600	< 320	NA	< 320	< 1600	< 310	< 320	< 320	< 320	< 320	< 320	< 320	< 310	< 1600	NA	NA	NA	NA	NA	< 330	NA	NA	NA	NA
SVOCs	Phenanthrene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
SVOCs	Phenol	ug/kg			< 330	< 320	< 66	NA	< 65	< 330	< 64	< 65	< 65	< 64	< 66	< 65	< 65	< 64	< 330	NA	NA	NA	NA	NA	< 66	NA	NA	NA	NA
SVOCs	Pyrene	ug/kg			< 65	< 63	< 13	NA	< 13	< 65	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 65	NA	NA	NA	NA	NA	< 13	NA	NA	NA	NA
VOCs	(1-Methylethyl)-Benzene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,1,1-Trichloroethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,1,2,2-Tetrachloroethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,1,2-Trichloroethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,1-Dichloroethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,1-Dichloroethene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 18	< 41	< 8.6	< 9.8	< 22	< 4.9	< 8.7	< 7.1	< 6.2	< 10
VOCs	1,2,4-Trichlorobenzene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,2-Dibromo-3-chloropropane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,2-Dibromoethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,2-Dichlorobenzene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,2-Dichloroethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 18	< 41	< 8.6	< 9.8	< 22	< 4.9	< 8.7	< 7.1	< 6.2	< 10
VOCs	1,2-Dichloropropane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,3-Dichlorobenzene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	1,4-Dichlorobenzene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	2-Butanone	ug/kg			38	76	< 20	NA	45	28	28	< 18	< 17	< 18	< 20	< 20	< 18	< 18	< 24	NA	NA	NA	NA	NA	< 19	NA	NA	NA	NA
VOCs	2-Hexanone	ug/kg			< 12	< 11	< 10	NA	< 11	< 12	< 10	< 8.9	< 8.5	< 8.8	< 10	< 9.8	< 8.9	< 8.9	< 12	NA	NA	NA	NA	NA	< 9.7	NA	NA	NA	NA
VOCs	4-Methyl-2-pentanone	ug/kg			< 12	< 11	< 10	NA	< 11	< 12	< 10	< 8.9	< 8.5	< 8.8	< 10	< 9.8	< 8.9	< 8.9	< 12	NA	NA	NA	NA	NA	< 9.7	NA	NA	NA	NA
VOCs	Acetone	ug/kg			450	440	490	NA	400	200	180	390	310	370	350	300	350	360	400	NA	NA	NA	NA	NA	< 19	NA	NA	NA	NA
VOCs	Benzene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Bromodichloromethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Bromoform	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Bromomethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Carbon disulfide	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Carbon tetrachloride	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Chlorobenzene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Chloroethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Chloroform	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Chloromethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	cis-1,2-Dichloroethene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 18	< 41	< 8.6	< 9.8	< 22	< 4.9	< 8.7	< 7.1	< 6.2	< 10
VOCs	cis-1,3-Dichloropropene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Cyclohexane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Dibromochloromethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Dichlorodifluoromethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Ethylbenzene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-32	SED-32	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-38	SED-38	SED-38	SED-38	SED-38	SED-39	SED-39	SED-39	SED-39	SED-39
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	12 - 16 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	12 - 24 in	24 - 36 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in
					Type	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	FD	N	N	N	N	N	N	N
					Date	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	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/22/2019	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/22/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020
Group	Analyte	Unit	RUSL	IUSL																										
VOCs	Methyl acetate	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Methyl tert-butyl ether	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Methylcyclohexane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Methylene chloride	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Styrene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Tetrachloroethene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 18	< 41	< 8.6	< 9.8	< 22	< 4.9	< 8.7	< 7.1	< 6.2	< 10
VOCs	Toluene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	trans-1,2-Dichloroethene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 18	< 41	< 8.6	< 9.8	< 22	< 4.9	< 8.7	< 7.1	< 6.2	< 10
VOCs	trans-1,3-Dichloropropene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Trichloroethene	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 18	< 41	< 8.6	< 9.8	< 22	< 4.9	< 8.7	< 7.1	< 6.2	< 10
VOCs	Trichlorofluoromethane	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	NA	NA	NA	NA	NA	< 4.9	NA	NA	NA	NA
VOCs	Vinyl chloride	ug/kg			< 5.9	< 5.4	< 5.0	NA	< 5.6	< 5.9	< 5.2	< 4.4	< 4.3	< 4.4	< 5.0	< 4.9	< 4.5	< 4.4	< 6	< 18	< 41	< 8.6	< 9.8	< 22	< 4.9	< 8.7	< 7.1	< 6.2	< 10
VOCs	Xylenes, Total	ug/kg			< 12	< 11	< 10	NA	< 11	< 12	< 10	< 8.9	< 8.5	< 8.8	< 10	< 9.8	< 8.9	< 8.9	< 12	NA	NA	NA	NA	NA	< 9.7	NA	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-40	SED-40	SED-40	SED-40	SED-40	SED-41	SED-41	SED-41	SED-41	SED-41	SED-42	SED-42	SED-42	SED-42	SED-42	SED-43	SED-43	SED-43	SED-44	SED-44	SED-44	SED-44	SED-45	SED-45	SED-45
					Depth	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 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
					Date	11/22/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/25/2019	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/25/2019	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/25/2019	12/1/2020	12/1/2020	11/25/2019	12/1/2020	12/1/2020	12/1/2020	11/25/2019	12/2/2020	12/2/2020
Group	Analyte	Unit	RUSL	IUSL																										
Chemical	Ammonia	mg/kg			242	1110	140	37.2	122	466	897	555	896	367	928	2110	593	807	1040	774	312	499	389	1070	299	580	586	1520	240	
Chemical	Nitrate as N	mg/kg			< 0.50	0.71	< 0.29	< 0.26	0.3	0.63	3.4	0.55	1	1.6	0.83	3	< 0.63	< 0.72	3.3	0.50	1.9	4.9	< 0.50	4.6	< 0.72	2.1	0.82	2.7	1.4	
Chemical	Fluoride	mg/kg			1.65 J	3.95	2.09	1.42	0.668 J	2.68 J	14.6	2.10 J	5.77	5.18	5.15 J	26.5	2.21 J	2.03 J	7.98	14.9	2.67 J	9.10	3.04 J	32.3	15.3	19.3	7.90	103	< 3.96	
Metals	Aluminum	mg/kg			20800	NA	NA	NA	NA	27100	NA	NA	NA	NA	27500	NA	NA	NA	NA	15200	NA	NA	27000	NA	NA	NA	19500	NA	NA	
Metals	Antimony	mg/kg			< 3.48	NA	NA	NA	NA	< 5.62	NA	NA	NA	NA	< 10.3	NA	NA	NA	NA	< 11.5	NA	NA	< 7.06	NA	NA	NA	< 6.5	NA	NA	
Metals	Arsenic	mg/kg			3.47 J	NA	NA	NA	NA	4.25 J	NA	NA	NA	NA	6.15 J	NA	NA	NA	NA	3.57 J	NA	NA	4.38 J	NA	NA	NA	2.38 J	NA	NA	
Metals	Barium	mg/kg			137	NA	NA	NA	NA	214	NA	NA	NA	NA	220	NA	NA	NA	NA	105	NA	NA	207	NA	NA	NA	150	NA	NA	
Metals	Beryllium	mg/kg			1.47	NA	NA	NA	NA	2.01	NA	NA	NA	NA	1.67 J	NA	NA	NA	NA	0.858 J	NA	NA	2.32	NA	NA	NA	1.32 J	NA	NA	
Metals	Cadmium	mg/kg			< 0.87	NA	NA	NA	NA	< 1.4	NA	NA	NA	NA	< 2.58	NA	NA	NA	NA	< 2.87	NA	NA	< 1.76	NA	NA	NA	< 1.62	NA	NA	
Metals	Calcium	mg/kg			429	NA	NA	NA	NA	754	NA	NA	NA	NA	1520	NA	NA	NA	NA	813	NA	NA	679	NA	NA	NA	1170	NA	NA	
Metals	Chromium	mg/kg			26.5	NA	NA	NA	NA	29.4	NA	NA	NA	NA	31.4	NA	NA	NA	NA	15.6	NA	NA	29.5	NA	NA	NA	23.6	NA	NA	
Metals	Cobalt	mg/kg			10	NA	NA	NA	NA	26.7	NA	NA	NA	NA	17.8	NA	NA	NA	NA	4.78	NA	NA	10.2	NA	NA	NA	7.42	NA	NA	
Metals	Copper	mg/kg			19.6	NA	NA	NA	NA	25.8	NA	NA	NA	NA	30.9	NA	NA	NA	NA	16.7	NA	NA	21.7	NA	NA	NA	18.9	NA	NA	
Metals	Iron	mg/kg			16100	NA	NA	NA	NA	24300	NA	NA	NA	NA	25100	NA	NA	NA	NA	8080	NA	NA	17100	NA	NA	NA	11900	NA	NA	
Metals	Lead	mg/kg			20.4	NA	NA	NA	NA	21.9	NA	NA	NA	NA	105	NA	NA	NA	NA	16	NA	NA	18.8	NA	NA	NA	40.4	NA	NA	
Metals	Magnesium	mg/kg			2700	NA	NA	NA	NA	2610	NA	NA	NA	NA	1910	NA	NA	NA	NA	1200	NA	NA	2080	NA	NA	NA	2030	NA	NA	
Metals	Manganese	mg/kg			250	NA	NA	NA	NA	395	NA	NA	NA	NA	463	NA	NA	NA	NA	131	NA	NA	254	NA	NA	NA	224	NA	NA	
Metals	Mercury	ug/kg			55.5 J	NA	NA	NA	NA	72.4 J	NA	NA	NA	NA	119 J	NA	NA	NA	NA	< 273	NA	NA	69.9 J	NA	NA	NA	107 J	NA	NA	
Metals	Nickel	mg/kg			11.3	NA	NA	NA	NA	16.9	NA	NA	NA	NA	16.8	NA	NA	NA	NA	10.2	NA	NA	17.5	NA	NA	NA	11.8	NA	NA	
Metals	Potassium	mg/kg			1420	NA	NA	NA	NA	1580	NA	NA	NA	NA	1150	NA	NA	NA	NA	684	NA	NA	1230	NA	NA	NA	1010	NA	NA	
Metals	Selenium	mg/kg			< 5.22	NA	NA	NA	NA	< 8.43	NA	NA	NA	NA	< 15.5	NA	NA	NA	NA	< 17.2	NA	NA	< 10.6	NA	NA	NA	< 9.74	NA	NA	
Metals	Silver	mg/kg			< 8.7	NA	NA	NA	NA	< 14	NA	NA	NA	NA	< 25.8	NA	NA	NA	NA	< 2.87	NA	NA	< 17.6	NA	NA	NA	< 16.2	NA	NA	
Metals	Sodium	mg/kg			48.5	NA	NA	NA	NA	69 J	NA	NA	NA	NA	88.6 J	NA	NA	NA	NA	83.9 J	NA	NA	80.7 J	NA	NA	NA	126	NA	NA	
Metals	Thallium	mg/kg			< 34.8	NA	NA	NA	NA	< 56.2	NA	NA	NA	NA	< 103	NA	NA	NA	NA	< 11.5	NA	NA	< 70.6	NA	NA	NA	< 65	NA	NA	
Metals	Vanadium	mg/kg			62.7	NA	NA	NA	NA	85.8	NA	NA	NA	NA	95.1	NA	NA	NA	NA	36.5	NA	NA	68.8	NA	NA	NA	49.9	NA	NA	
Metals	Zinc	mg/kg			49.2	NA	NA	NA	NA	68.9	NA	NA	NA	NA	81	NA	NA	NA	NA	53	NA	NA	56.1	NA	NA	NA	49.1	NA	NA	
Radiological	Technetium-99	pCi/g	19	89400	0 ##	0.400 #	0.0850 #	0.137 #	0.199 #	0.995 #	1.12	0.216 #	0.185 #	0.0380 #	5.94 #	1.21	0.0327 #	0 ##	0.137 #	0 ##	0.226 #	0.00633 #	6.23 #	9.42	0 ##	4.33	2.83 #	0 ##	0 ##	
Radiological	Uranium-233/234	pCi/g	13	3310	1.90	4.69	1.17	1.36	1.34	1.72	17.0	2.14	0.806	1.84	6.12	31.1	3.19	1.57	4.34	47.5	5.13	16.0	8.86	435	3.34	34.0	5.86	6.00	2.95	
Radiological	Uranium-235/236	pCi/g	8	39	0.131	0.362	0 ##	0.0645 #	0.0449 #	0.0394 #	0.789	0 ##	0.0600 #	0.0733 #	0.285	1.18	0.135 #	0.0342 #	0.248 #	2.32	0.211 #	0.873	0.377	24.3	0.0293 #	1.57	0.268	0.325	0.0545 #	
Radiological	Uranium-238	pCi/g	14	179	1.24	2.29	1.09	1.23	1.43	1.41	3.38	1.87	0.925	1.29	2.23	7.57	1.50	1.58	1.68	12.1	1.87	4.50	2.62	98.7	2.70	8.74	2.20	1.92	1.48	
Radiological	Uranium-234	ug/kg			< 17.4	NA	NA	NA	NA	< 26.9	NA	NA	NA	NA	< 52.5	NA	NA	NA	NA	< 55.9	NA	NA	< 32.5	NA	NA	NA	< 34.5	NA	NA	
Radiological	Uranium-235	ug/kg			28.4	NA	NA	NA	NA	17.8 J	NA	NA	NA	NA	156	NA	NA	NA	NA	862	NA	NA	238	NA	NA	NA	100	NA	NA	
Radiological	Uranium-238	ug/kg			3020	NA	NA	NA	NA	2390	NA	NA	NA	NA	7220	NA	NA	NA	NA	31300	NA	NA	9690	NA	NA	NA	4920	NA	NA	
Radiological	Total Uranium Isotopes	ug/kg			3050	NA	NA	NA	NA	2410	NA	NA	NA	NA	7380	NA	NA	NA	NA	32200	NA	NA	9930	NA	NA	NA	5020	NA	NA	
SVOCs	1,1'-Biphenyl	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	2,4,5-Trichlorophenol	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	2,4,6-Trichlorophenol	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	2,4-Dichlorophenol	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	2,4-Dimethylphenol	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	2,4-Dinitrophenol	ug/kg			< 1600	NA	NA	NA	NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	< 320	NA	NA	NA	< 320	NA	NA	
SVOCs	2,4-Dinitrotoluene	ug/kg			< 630	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	< 130	NA	NA	NA	< 130	NA	NA	
SVOCs	2,6-Dinitrotoluene	ug/kg			< 630	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	< 130	NA	NA	NA	< 130	NA	NA	
SVOCs	2-Chloronaphthalene	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	2-Chlorophenol	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	2-Methylnaphthalene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	
SVOCs	2-Methylphenol	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	2-Nitroaniline	ug/kg			< 630	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	< 130	NA	NA	NA	< 130	NA	NA	
SVOCs	2-Nitrophenol	ug/kg			< 630	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	< 130	NA	NA	NA	< 130	NA	NA	
SVOCs	3,3'-Dichlorobenzidine	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	3-Nitroaniline	ug/kg			< 630	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	< 130	NA	NA	NA	< 130	NA	NA	
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg			< 1600	NA	NA	NA	NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	< 320	NA	NA	NA	< 320	NA	NA	
SVOCs	4-Bromophenyl phenyl ether	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	4-Chloro-3-methylphenol	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	4-Chloroaniline	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	4-Chlorophenyl phenyl ether	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	4-Methylphenol	ug/kg			< 630	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	< 130	NA	NA	NA	< 130	NA	NA	
SVOCs	4-Nitroaniline	ug/kg			< 630	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 130	NA	NA	NA	NA	< 120	NA	NA	< 130	NA	NA	NA	< 130	NA	NA	
SVOCs	4-Nitrophenol	ug/kg			< 1600	NA	NA	NA	NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	< 320	NA	NA	NA	< 320	NA	NA	
SVOCs	Acenaphthene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	
SVOCs	Acenaphthylene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	
SVOCs	Acetophenone	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	Anthracene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	
SVOCs	Atrazine	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA	
SVOCs	Benz(a)anthracene	ug/kg			< 64	NA	NA	NA	NA	19	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	
SVOCs	Benzaldehyde	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	76	NA	NA	
SVOCs	Benzo(a)pyrene	ug/kg			< 64	NA	NA	NA	NA	21	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	
SVOCs	Benzo(b)fluoranthene	ug/kg			< 64	NA	NA	NA	NA	28	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	
SVOCs	Benzo(g,h,i)perylene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	
SVOCs	Benzo(k)fluoranthene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA	

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-40	SED-40	SED-40	SED-40	SED-40	SED-41	SED-41	SED-41	SED-41	SED-41	SED-42	SED-42	SED-42	SED-42	SED-42	SED-43	SED-43	SED-43	SED-44	SED-44	SED-44	SED-44	SED-45	SED-45	SED-45
					Depth	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 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
					Date	11/22/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/25/2019	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/25/2019	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/25/2019	12/1/2020	12/1/2020	11/25/2019	12/1/2020	12/1/2020	12/1/2020	11/25/2019	12/2/2020	12/2/2020
Group	Analyte	Unit	RUSL	IUSL																										
SVOCs	Bis(2-chloroethoxy)methane	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Bis(2-chloroethyl)ether	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Bis(2-chloroisopropyl)ether	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Bis(2-ethylhexyl)phthalate	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Butyl benzyl phthalate	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Caprolactam	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Carbazole	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Chrysene	ug/kg			< 64	NA	NA	NA	NA	17	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA
SVOCs	Dibenz(a,h)anthracene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA
SVOCs	Dibenzofuran	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Diethyl phthalate	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Dimethyl phthalate	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Di-n-butyl phthalate	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Di-n-octyl phthalate	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Fluoranthene	ug/kg			< 64	NA	NA	NA	NA	28	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA
SVOCs	Fluorene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA
SVOCs	Hexachlorobenzene	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Hexachlorobutadiene	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Hexachlorocyclopentadiene	ug/kg			< 1600	NA	NA	NA	NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	< 320	NA	NA	NA	< 320	NA	NA
SVOCs	Hexachloroethane	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA
SVOCs	Isophorone	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Naphthalene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA
SVOCs	Nitrobenzene	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	N-Nitrosodi-n-propylamine	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	N-Nitrosodiphenylamine	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Pentachlorophenol	ug/kg			< 1600	NA	NA	NA	NA	< 330	NA	NA	NA	NA	< 320	NA	NA	NA	NA	< 310	NA	NA	< 320	NA	NA	NA	< 320	NA	NA
SVOCs	Phenanthrene	ug/kg			< 64	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA
SVOCs	Phenol	ug/kg			< 320	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 66	NA	NA	NA	NA	< 63	NA	NA	< 66	NA	NA	NA	< 65	NA	NA
SVOCs	Pyrene	ug/kg			< 64	NA	NA	NA	NA	27	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 13	NA	NA	< 13	NA	NA	NA	< 13	NA	NA
VOCs	(1-Methylethyl)-Benzene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,1,1-Trichloroethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,1,2,2-Tetrachloroethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,1,2-Trichloroethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,1-Dichloroethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,1-Dichloroethene	ug/kg			< 5.3	< 19	< 6.6	< 5.5	< 7.3	< 6.5	< 74	< 12	< 22	< 30	< 6.8	< 61	< 21	< 23	< 49	< 7.2	< 41	< 56	< 7.2	< 100	< 6.2	< 47	< 6.1	< 49	< 28
VOCs	1,2,4-Trichlorobenzene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,2-Dibromo-3-chloropropane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,2-Dibromoethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,2-Dichlorobenzene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,2-Dichloroethane	ug/kg			< 5.3	< 19	< 6.6	< 5.5	< 7.3	< 6.5	< 74	< 12	< 22	< 30	< 6.8	< 61	< 21	< 23	< 49	< 7.2	< 41	< 56	< 7.2	< 100	< 6.2	< 47	< 6.1	< 49	< 28
VOCs	1,2-Dichloropropane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,3-Dichlorobenzene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	1,4-Dichlorobenzene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	2-Butanone	ug/kg			< 21	NA	NA	NA	NA	< 26	NA	NA	NA	NA	< 27	NA	NA	NA	NA	< 29	NA	NA	< 29	NA	NA	NA	29	NA	NA
VOCs	2-Hexanone	ug/kg			< 11	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 14	NA	NA	NA	NA	< 14	NA	NA	< 14	NA	NA	NA	< 12	NA	NA
VOCs	4-Methyl-2-pentanone	ug/kg			< 11	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 14	NA	NA	NA	NA	< 14	NA	NA	< 14	NA	NA	NA	< 12	NA	NA
VOCs	Acetone	ug/kg			260	NA	NA	NA	NA	96	NA	NA	NA	NA	59	NA	NA	NA	NA	79	NA	NA	57	NA	NA	NA	130	NA	NA
VOCs	Benzene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Bromodichloromethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Bromoform	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Bromomethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Carbon disulfide	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Carbon tetrachloride	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Chlorobenzene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Chloroethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Chloroform	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Chloromethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	cis-1,2-Dichloroethene	ug/kg			< 5.3	< 19	< 6.6	< 5.5	< 7.3	< 6.5	< 74	< 12	< 22	< 30	< 6.8	< 61	< 21	< 23	< 49	< 7.2	< 41	< 56	< 7.2	< 100	< 6.2	< 47	< 6.1	< 49	< 28
VOCs	cis-1,3-Dichloropropene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Cyclohexane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Dibromochloromethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Dichlorodifluoromethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Ethylbenzene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-40	SED-40	SED-40	SED-40	SED-40	SED-41	SED-41	SED-41	SED-41	SED-41	SED-42	SED-42	SED-42	SED-42	SED-42	SED-43	SED-43	SED-43	SED-44	SED-44	SED-44	SED-44	SED-45	SED-45	SED-45
					Depth	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	24 - 36 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 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
					Date	11/22/2019	11/19/2020	11/19/2020	11/19/2020	11/19/2020	11/25/2019	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/25/2019	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/25/2019	12/1/2020	12/1/2020	11/25/2019	12/1/2020	12/1/2020	12/1/2020	11/25/2019	12/2/2020	12/2/2020
Group	Analyte	Unit	RUSL	IUSL																										
VOCs	Methyl acetate	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Methyl tert-butyl ether	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Methylcyclohexane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Methylene chloride	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Styrene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Tetrachloroethene	ug/kg			< 5.3	< 19	< 6.6	< 5.5	< 7.3	< 6.5	< 74	< 12	< 22	< 30	< 6.8	< 61	< 21	< 23	< 49	< 7.2	< 41	< 56	< 7.2	< 100	< 6.2	< 47	< 6.1	< 49	< 28
VOCs	Toluene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	trans-1,2-Dichloroethene	ug/kg			< 5.3	< 19	< 6.6	< 5.5	< 7.3	< 6.5	< 74	< 12	< 22	< 30	< 6.8	< 61	< 21	< 23	< 49	< 7.2	< 41	< 56	< 7.2	< 100	< 6.2	< 47	< 6.1	< 49	< 28
VOCs	trans-1,3-Dichloropropene	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Trichloroethene	ug/kg			< 5.3	< 19	< 6.6	< 5.5	< 7.3	< 6.5	< 74	< 12	< 22	< 30	< 6.8	< 61	< 21	< 23	< 49	< 7.2	< 41	< 56	< 7.2	< 100	< 6.2	< 47	< 6.1	< 49	< 28
VOCs	Trichlorofluoromethane	ug/kg			< 5.3	NA	NA	NA	NA	< 6.5	NA	NA	NA	NA	< 6.8	NA	NA	NA	NA	< 7.2	NA	NA	< 7.2	NA	NA	NA	< 6.1	NA	NA
VOCs	Vinyl chloride	ug/kg			< 5.3	< 19	< 6.6	< 5.5	< 7.3	< 6.5	< 74	< 12	< 22	< 30	< 6.8	< 61	< 21	< 23	< 49	< 7.2	< 41	< 56	< 7.2	< 100	< 6.2	< 47	< 6.1	< 49	< 28
VOCs	Xylenes, Total	ug/kg			< 11	NA	NA	NA	NA	< 13	NA	NA	NA	NA	< 14	NA	NA	NA	NA	< 14	NA	NA	< 14	NA	NA	NA	< 12	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Location	SED-46	SED-46	SED-46	SED-47	SED-47	SED-47	SED-48	SED-48	SED-48	SED-48	SED-48	SED-49	SED-49	SED-49	SED-50	SED-50	SED-50	SED-50	SED-51	SED-51	SED-52	SED-52	SED-53	SED-53	SED-54	SED-54
				Depth	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 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	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Date	11/25/2019	12/2/2020	12/2/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	12/3/2020	12/3/2020	11/27/2019	11/27/2019	11/27/2019	11/27/2019	11/27/2019	11/27/2019	12/2/2019	12/2/2019
Group	Analyte	Unit	RUSL	IUSL																										
Chemical	Ammonia	mg/kg			371	1980	863	1540	1200	1670	806	491	1080	57.4	112	209	378	280	750	1130	257	382	692	401	465	271	387	196	854	536
Chemical	Nitrate as N	mg/kg			0.62	5	1.8	0.59	< 4.7	< 8.2	0.63	< 6.4	0.70	< 1.5	< 1.7	0.58	< 5.6	< 2.8	0.53	< 6.7	< 3.8	6.1	0.72	0.51	< 0.50	0.61	< 0.50	< 0.50	0.63	0.68
Chemical	Fluoride	mg/kg			3.41	120	20.6	6.02	6.37	16.5	2.94	1.86 J	3.46	1.88	3.09	5.44	9.14	5.78	4.67	7.00	2.51 J	2.92	2.77 J	2.96	1.48 J	1.69 J	0.838 J	0.607 J	1.93 J	1.01 J
Metals	Aluminum	mg/kg			25100	NA	NA	22000	NA	NA	26400	NA	20300	NA	NA	14300	NA	NA	22500	NA	NA	NA	20300	19900	24300	23900	23100	24100	27300	26800
Metals	Antimony	mg/kg			< 6.1	NA	NA	< 8.72	NA	NA	< 5.01	NA	< 5.68	NA	NA	< 7.62	NA	NA	< 6.52	NA	NA	NA	< 5.8	< 5.66	< 4.58	< 4.27	< 3.46	< 31.3	< 7.44	< 5.3
Metals	Arsenic	mg/kg			3.99 J	NA	NA	4.19 J	NA	NA	3.85 J	NA	3.38 J	NA	NA	2.12 J	NA	NA	3.64 J	NA	NA	NA	2.25 J	3.3 J	4.4 J	3.09 J	3.44 J	3.75 J	6.54 J	4.47 J
Metals	Barium	mg/kg			103	NA	NA	188	NA	NA	154	NA	146	NA	NA	69.2	NA	NA	178	NA	NA	NA	98	191	144	146	146	151	144	124
Metals	Beryllium	mg/kg			1.29 J	NA	NA	1.32 J	NA	NA	1.35	NA	1.19 J	NA	NA	0.727 J	NA	NA	1.62 J	NA	NA	NA	1.17 J	1.93	1.6	1.93	1.77	2.52	1.61 J	1.64
Metals	Cadmium	mg/kg			< 1.53	NA	NA	< 2.18	NA	NA	< 1.25	NA	< 1.42	NA	NA	< 1.9	NA	NA	< 1.63	NA	NA	NA	< 1.45	< 1.41	< 1.15	< 1.07	< 0.865	< 0.782	< 1.86	< 1.32
Metals	Calcium	mg/kg			620	NA	NA	737	NA	NA	408	NA	435	NA	NA	258	NA	NA	1120	NA	NA	NA	335	304	452	317	523	337	348	187
Metals	Chromium	mg/kg			26	NA	NA	27	NA	NA	26.9	NA	23	NA	NA	13.9	NA	NA	25.7	NA	NA	NA	25.1	26.1	29.7	34.6	30.2	32.5	34.5	33.4
Metals	Cobalt	mg/kg			5.51	NA	NA	7.78	NA	NA	7.53	NA	6.39	NA	NA	3.57	NA	NA	10.5	NA	NA	NA	5.3	11.5	7.14	10.3	8.5	13.7	6.78	7.1
Metals	Copper	mg/kg			19.6	NA	NA	22.3	NA	NA	26.4	NA	26.1	NA	NA	11.3	NA	NA	25.8	NA	NA	NA	19	20.8	20	19.6	23.5	21.8	25.6	21.1
Metals	Iron	mg/kg			12100	NA	NA	13200	NA	NA	12400	NA	9320	NA	NA	6750	NA	NA	15300	NA	NA	NA	9550	16100	17000	18500	15400	25200	18100	15800
Metals	Lead	mg/kg			33.8	NA	NA	43.1	NA	NA	37.4	NA	80	NA	NA	11.5	NA	NA	32.1	NA	NA	NA	24.2	17	23.9	23.4	26.9	16.9	29.8	25.9
Metals	Magnesium	mg/kg			1620	NA	NA	1980	NA	NA	1670	NA	1250	NA	NA	1040	NA	NA	2440	NA	NA	NA	1940	2810	2700	3020	2760	3810	2390	2700
Metals	Manganese	mg/kg			104	NA	NA	242	NA	NA	249	NA	286	NA	NA	75.9	NA	NA	368	NA	NA	NA	128	261	156	186	258	281	127	114
Metals	Mercury	ug/kg			< 141	NA	NA	106 J	NA	NA	107 J	NA	118 J	NA	NA	87.2 J	NA	NA	108 J	NA	NA	NA	< 148	< 130	57.1 J	58.5 J	82.5 J	48.3 J	104 J	65.2 J
Metals	Nickel	mg/kg			10.6	NA	NA	12.9	NA	NA	11.6	NA	9.87	NA	NA	6.89	NA	NA	13.8	NA	NA	NA	9.14	12	11.9	11.6	11.6	13.2	12.1	12.6
Metals	Potassium	mg/kg			946	NA	NA	1080	NA	NA	929	NA	708	NA	NA	621	NA	NA	1060	NA	NA	NA	1120	1560	1500	850	1350	1150	1310	1410
Metals	Selenium	mg/kg			< 9.15	NA	NA	< 13.1	NA	NA	< 7.51	NA	< 8.51	NA	NA	< 11.4	NA	NA	< 9.78	NA	NA	NA	2 J	< 8.48	< 6.87	< 6.4	1.26 J	1.2 J	< 11.2	1.34 J
Metals	Silver	mg/kg			< 15.3	NA	NA	< 2.18	NA	NA	< 12.5	NA	< 1.42	NA	NA	< 1.9	NA	NA	< 16.3	NA	NA	NA	< 1.45	< 14.1	< 11.5	< 10.7	< 8.65	< 7.82	< 18.6	< 13.2
Metals	Sodium	mg/kg			105	NA	NA	129	NA	NA	93.6	NA	112	NA	NA	78.4 J	NA	NA	71.5 J	NA	NA	NA	91.1	82.4	71.9	76.6	53.8	52.9	88 J	70.6
Metals	Thallium	mg/kg			< 61	NA	NA	< 87.2	NA	NA	< 50.1	NA	< 56.8	NA	NA	< 7.62	NA	NA	< 65.2	NA	NA	NA	< 58	< 56.6	< 45.8	< 42.7	< 3.46	< 31.3	< 74.4	< 53
Metals	Vanadium	mg/kg			68.1	NA	NA	50.3	NA	NA	65.9	NA	57.7	NA	NA	32.4	NA	NA	62.1	NA	NA	NA	54.3	64.8	71.2	81	71	87.6	77.1	78.9
Metals	Zinc	mg/kg			38.6	NA	NA	49.6	NA	NA	46.4	NA	42.1	NA	NA	27	NA	NA	67.3	NA	NA	NA	34.7	55.7	51.5	54.7	52.7	63.9	54.1	53.4
Radiological	Technetium-99	pCi/g	19	89400	0 ##	0 ##	0.110 #	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0 ##	0.910 #	0 ##	0 ##	0 ##	0 ##	4.89 #	0 ##	0 ##	0 ##	0 ##	1.51 #	0 ##
Radiological	Uranium-233/234	pCi/g	13	3310	4.02	11.6	10.4	3.18	3.32	4.86	2.57	2.49	2.43	1.63	2.11	4.59	5.10	2.85	3.64	6.83	1.00	2.33	2.10	1.27	1.77	1.88	2.15	2.06	1.78	1.48
Radiological	Uranium-235/236	pCi/g	8	39	0.179	0.251 #	0.419	0.232	0.0528 #	0.0999 #	0.0910 #	0.154 #	0.0144 #	0.205	0.169	0.215	0.142	0.0436 #	0.104 #	0.351	0.139	0.152 #	0.178 #	0.0695 #	0.308 #	0.0494 #	0.194	0.0708 #	0.119 #	0.120 #
Radiological	Uranium-238	pCi/g	14	179	2.15	2.85	3.55	1.46	1.95	2.41	1.98	2.24	1.62	1.85	1.77	2.11	2.25	2.04	1.86	2.65	0.808	1.83	1.42	1.15	1.72	1.45	1.45	2.34	1.36	1.87
Radiological	Uranium-234	ug/kg			< 30.6	NA	NA	< 41.0	NA	NA	< 25.8	NA	< 29.6	NA	NA	< 37.2	NA	NA	< 31.4	NA	NA	NA	< 31.2	< 28.9	< 21.8	< 23.3	< 17.3	< 14.1	< 37.1	< 25.3
Radiological	Uranium-235	ug/kg			48.9	NA	NA	44 J	NA	NA	40.3	NA	37.4 J	NA	NA	81.9	NA	NA	72.1	NA	NA	NA	28.2 J	20.6 J	26.8 J	29.5 J	29.2	24.7	22.6 J	26 J
Radiological	Uranium-238	ug/kg			3190	NA	NA	2560	NA	NA	3140	NA	2650	NA	NA	4840	NA	NA	4470	NA	NA	NA	2610	2450	2530	2690	3200	3290	2870	2990
Radiological	Total Uranium Isotopes	ug/kg			3240	NA	NA	2600	NA	NA	3180	NA	2690	NA	NA	4920	NA	NA	4540	NA	NA	NA	2640	2470	2560	2720	3230	3310	2890	3020
SVOCs	1,1'-Biphenyl	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	2,4,5-Trichlorophenol	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	2,4,6-Trichlorophenol	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	2,4-Dichlorophenol	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	2,4-Dimethylphenol	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	2,4-Dinitrophenol	ug/kg			< 320	NA	NA	< 320	NA	NA	< 320	NA	< 1600	NA	NA	< 1600	NA	NA	< 1600	NA	NA	NA	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600
SVOCs	2,4-Dinitrotoluene	ug/kg			< 130	NA	NA	< 120	NA	NA	< 130	NA	< 630	NA	NA	< 630	NA	NA	< 640	NA	NA	NA	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620
SVOCs	2,6-Dinitrotoluene	ug/kg			< 130	NA	NA	< 120	NA	NA	< 130	NA	< 630	NA	NA	< 630	NA	NA	< 640	NA	NA	NA	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620
SVOCs	2-Chloronaphthalene	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	2-Chlorophenol	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	2-Methylnaphthalene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	2-Methylphenol	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	2-Nitroaniline	ug/kg			< 130	NA	NA	< 120	NA	NA	< 130	NA	< 630	NA	NA	< 630	NA	NA	< 640	NA	NA	NA	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620
SVOCs	2-Nitrophenol	ug/kg			< 130	NA	NA	< 120	NA	NA	< 130	NA	< 630	NA	NA	< 630	NA	NA	< 640	NA	NA	NA	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620
SVOCs	3,3'-Dichlorobenzidine	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	3-Nitroaniline	ug/kg			< 130	NA	NA	< 120	NA	NA	< 130	NA	< 630	NA	NA	< 630	NA	NA	< 640	NA	NA	NA	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg			< 320	NA	NA	< 320	NA	NA	< 320	NA	< 1600	NA	NA	< 1600	NA	NA	< 1600	NA	NA	NA	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600
SVOCs	4-Bromophenyl phenyl ether	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	4-Chloro-3-methylphenol	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	4-Chloroaniline	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	4-Chlorophenyl phenyl ether	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	4-Methylphenol	ug/kg			< 130	NA	NA	< 120	NA	NA	< 130	NA	< 630	NA	NA	< 630	NA	NA	< 640	NA	NA	NA	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620
SVOCs	4-Nitroaniline	ug/kg			< 130	NA	NA	< 120	NA	NA	< 130	NA	< 630	NA	NA	< 630	NA	NA	< 640	NA	NA	NA	< 620	< 630	< 640	< 620	< 640	< 630	< 630	< 620
SVOCs	4-Nitrophenol	ug/kg			< 320	NA	NA	< 320	NA	NA	< 320	NA	< 1600	NA	NA	< 1600	NA	NA	< 1600	NA	NA	NA	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600
SVOCs	Acenaphthene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Acenaphthylene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Acetophenone	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Anthracene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Atrazine	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Benz(a)anthracene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Benzaldehyde	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Benzo(a)pyrene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Benzo(b)fluoranthene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Benzo(g,h,i)perylene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Benzo(k)fluoranthene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-46	SED-46	SED-46	SED-47	SED-47	SED-47	SED-48	SED-48	SED-48	SED-48	SED-48	SED-49	SED-49	SED-49	SED-50	SED-50	SED-50	SED-50	SED-51	SED-51	SED-52	SED-52	SED-53	SED-53	SED-54	SED-54
					Depth	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 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	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Date	11/25/2019	12/2/2020	12/2/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	12/3/2020	12/3/2020	11/27/2019	11/27/2019	11/27/2019	11/27/2019	11/27/2019	11/27/2019	12/2/2019	12/2/2019
Group	Analyte	Unit	RUSL	IUSL																											
SVOCs	Bis(2-chloroethoxy)methane	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Bis(2-chloroethyl)ether	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Bis(2-chloroisopropyl)ether	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Bis(2-ethylhexyl)phthalate	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Butyl benzyl phthalate	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Caprolactam	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Carbazole	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Chrysene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Dibenz(a,h)anthracene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Dibenzofuran	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Diethyl phthalate	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Dimethyl phthalate	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Di-n-butyl phthalate	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Di-n-octyl phthalate	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Fluoranthene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Fluorene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Hexachlorobenzene	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Hexachlorobutadiene	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Hexachlorocyclopentadiene	ug/kg			< 320	NA	NA	< 320	NA	NA	< 320	NA	< 1600	NA	NA	< 1600	NA	NA	< 1600	NA	NA	NA	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600
SVOCs	Hexachloroethane	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Isophorone	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Naphthalene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Nitrobenzene	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	N-Nitrosodi-n-propylamine	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	N-Nitrosodiphenylamine	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Pentachlorophenol	ug/kg			< 320	NA	NA	< 320	NA	NA	< 320	NA	< 1600	NA	NA	< 1600	NA	NA	< 1600	NA	NA	NA	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600	< 1600
SVOCs	Phenanthrene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
SVOCs	Phenol	ug/kg			< 64	NA	NA	< 64	NA	NA	< 65	NA	< 330	NA	NA	< 320	NA	NA	< 330	NA	NA	NA	< 320	< 320	< 330	< 320	< 330	< 330	< 330	< 320
SVOCs	Pyrene	ug/kg			< 13	NA	NA	< 13	NA	NA	< 13	NA	< 65	NA	NA	< 64	NA	NA	< 66	NA	NA	NA	< 63	< 64	< 66	< 64	< 65	< 65	< 65	< 63
VOCs	(1-Methylethyl)-Benzene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,1,1-Trichloroethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,1,2,2-Tetrachloroethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,1,2-Trichloroethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,1-Dichloroethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,1-Dichloroethene	ug/kg			< 6.5	< 74	< 36	< 6.9	< 33	< 54	< 5.3	< 35	< 5.2	< 7.1	< 7.7	< 7.1	< 40	< 16	< 6.3	< 46	< 25	< 21	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,2,4-Trichlorobenzene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,2-Dibromo-3-chloropropane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,2-Dibromoethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,2-Dichlorobenzene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,2-Dichloroethane	ug/kg			< 6.5	< 74	< 36	< 6.9	< 33	< 54	< 5.3	< 35	< 5.2	< 7.1	< 7.7	< 7.1	< 40	< 16	< 6.3	< 46	< 25	< 21	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,2-Dichloropropane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,3-Dichlorobenzene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	1,4-Dichlorobenzene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	2-Butanone	ug/kg			< 26	NA	NA	160	NA	NA	39	NA	23	NA	NA	< 28	NA	NA	190	NA	NA	NA	43	< 27	31	< 26	< 22	< 21	42	< 25
VOCs	2-Hexanone	ug/kg			< 13	NA	NA	< 14	NA	NA	< 11	NA	< 10	NA	NA	< 14	NA	NA	< 13	NA	NA	NA	< 13	< 13	< 12	< 13	< 11	< 10	< 13	< 13
VOCs	4-Methyl-2-pentanone	ug/kg			< 13	NA	NA	< 14	NA	NA	< 11	NA	< 10	NA	NA	< 14	NA	NA	< 13	NA	NA	NA	< 13	< 13	< 12	< 13	< 11	< 10	< 13	< 13
VOCs	Acetone	ug/kg			110	NA	NA	410	NA	NA	220	NA	280	NA	NA	300	NA	NA	370	NA	NA	NA	330	180	100	< 26	< 22	170	330	39
VOCs	Benzene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Bromodichloromethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Bromoform	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Bromomethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Carbon disulfide	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Carbon tetrachloride	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Chlorobenzene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Chloroethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Chloroform	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Chloromethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	cis-1,2-Dichloroethene	ug/kg			< 6.5	< 74	< 36	< 6.9	< 33	< 54	< 5.3	< 35	< 5.2	< 7.1	< 7.7	< 7.1	< 40	< 16	< 6.3	< 46	< 25	< 21	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	cis-1,3-Dichloropropene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Cyclohexane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Dibromochloromethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Dichlorodifluoromethane	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Ethylbenzene	ug/kg			< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-46	SED-46	SED-46	SED-47	SED-47	SED-47	SED-48	SED-48	SED-48	SED-48	SED-48	SED-49	SED-49	SED-49	SED-50	SED-50	SED-50	SED-50	SED-51	SED-51	SED-52	SED-52	SED-53	SED-53	SED-54	SED-54
					Depth	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	0 - 6 in	12 - 18 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 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	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Date	11/25/2019	12/2/2020	12/2/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	12/3/2020	11/26/2019	12/3/2020	12/3/2020	12/3/2020	11/27/2019	11/27/2019	11/27/2019	11/27/2019	11/27/2019	11/27/2019	12/2/2019	12/2/2019
Group	Analyte	Unit	RUSL	IUSL																											
VOCs	Methyl acetate	ug/kg				< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	12	< 6.3
VOCs	Methyl tert-butyl ether	ug/kg				< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Methylcyclohexane	ug/kg				< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Methylene chloride	ug/kg				< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Styrene	ug/kg				< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Tetrachloroethene	ug/kg				< 6.5	< 74	< 36	< 6.9	< 33	< 54	< 5.3	< 35	< 5.2	< 7.1	< 7.7	< 7.1	< 40	< 16	< 6.3	< 46	< 25	< 21	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Toluene	ug/kg				< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	8.7	< 6.7	10	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	trans-1,2-Dichloroethene	ug/kg				< 6.5	< 74	< 36	< 6.9	< 33	< 54	< 5.3	< 35	< 5.2	< 7.1	< 7.7	< 7.1	< 40	< 16	< 6.3	< 46	< 25	< 21	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	trans-1,3-Dichloropropene	ug/kg				< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Trichloroethene	ug/kg				< 6.5	< 74	< 36	< 6.9	< 33	< 54	< 5.3	< 35	< 5.2	< 7.1	< 7.7	< 7.1	< 40	< 16	< 6.3	< 46	< 25	< 21	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Trichlorofluoromethane	ug/kg				< 6.5	NA	NA	< 6.9	NA	NA	< 5.3	NA	< 5.2	NA	NA	< 7.1	NA	NA	< 6.3	NA	NA	NA	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Vinyl chloride	ug/kg				< 6.5	< 74	< 36	< 6.9	< 33	< 54	< 5.3	< 35	< 5.2	< 7.1	< 7.7	< 7.1	< 40	< 16	< 6.3	< 46	< 25	< 21	< 6.6	< 6.7	< 6.2	< 6.4	< 5.4	< 5.2	< 6.6	< 6.3
VOCs	Xylenes, Total	ug/kg				< 13	NA	NA	< 14	NA	NA	< 11	NA	< 10	NA	NA	< 14	NA	NA	< 13	NA	NA	NA	< 13	< 13	< 12	< 13	< 11	< 10	< 13	< 13

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-55	SED-55	SED-56	SED-56	SED-56	SED-57	SED-57	SED-57	SED-58	SED-58	SED-59	SED-59	SED-60	SED-60	SED-61	SED-61	SED-61	SED-61	SED-62	SED-62	SED-62	SED-62	SED-63	SED-63	SED-64	SED-64
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	12 - 18 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	12 - 18 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
					Type	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
					Date	12/2/2019	12/2/2019	12/2/2019	12/2/2019	12/2/2019	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	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	11/17/2020	11/17/2020
Group	Analyte	Unit	RUSL	IUSL																											
Chemical	Ammonia	mg/kg				321	223	449	325	244	NA	NA	NA	NA	NA	NA	NA	45.7	57.3	14.1	9.39	30.2	17.0	160	240	218	159	218	126	311	283
Chemical	Nitrate as N	mg/kg				< 0.50	< 0.50	0.52	0.74	< 0.50	NA	NA	NA	NA	NA	NA	NA	0.27	0.29	0.93	0.85	0.38	0.5	0.51	< 0.26	< 0.26	< 0.26	< 0.28	< 0.26	0.29	< 0.25
Chemical	Fluoride	mg/kg				< 1.88	< 1.76	< 1.89	< 1.96	0.690 J	NA	NA	NA	NA	NA	NA	NA	19.2	14.1	3.47	3.04	15.2	5.29	45.7	39.0	43.5	34.4	37.7	24.9	49.4	33.7
Metals	Aluminum	mg/kg				29400	29300	27000	27200	27300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Antimony	mg/kg				< 3.66	< 3.04	< 3.6	< 3.47	< 3.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Arsenic	mg/kg				4.6 J	4.56	4.54 J	4.87 J	5.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Barium	mg/kg				153	159	166	170	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Beryllium	mg/kg				1.88	3.39	2.21	2.28	4.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Cadmium	mg/kg				< 0.914	< 0.759	< 0.899	< 0.867	< 0.815	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Calcium	mg/kg				191	190	289	297	202	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Chromium	mg/kg				36.4	35.9	33.4	34.1	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Cobalt	mg/kg				8.47	15.6	8.86	9.36	13.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Copper	mg/kg				24.3	26.8	25.4	26.4	28.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Iron	mg/kg				19100	21900	17100	18700	21400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Lead	mg/kg				33.9	17	31.5	30	18.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Magnesium	mg/kg				2920	3650	2740	3040	3960	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Manganese	mg/kg				175	264	173	194	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Mercury	ug/kg				76.6 J	54.2 J	74.6 J	83.7	41 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Nickel	mg/kg				13.5	15.5	13.5	13.9	17.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Potassium	mg/kg				1370	834	1170	1280	1150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Selenium	mg/kg				< 5.48	1.24 J	1.3 J	< 5.2	< 4.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Silver	mg/kg				< 9.14	< 7.59	< 8.99	< 8.67	< 8.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Sodium	mg/kg				84.1	87	63.2	71.3	69.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Thallium	mg/kg				< 36.6	< 30.4	< 36	< 34.7	< 3.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Vanadium	mg/kg				93.2	86.2	81.8	86.9	79.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Zinc	mg/kg				56.1	70.8	55.6	59.1	83.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radiological	Technetium-99	pCi/g	19	89400		6.19 #	0 ##	2.53 #	0 ##	0 ##	NA	NA	NA	NA	NA	NA	NA	0.433 #	0.483 #	1.20	1.12	8.28	7.96	22.9	1.08	2.89	2.98	25.0	2.63	85.8	5.53
Radiological	Uranium-233/234	pCi/g	13	3310		2.05	1.62	2.02	2.82	1.89	2.22	1.49	1.63	1.21	1.38	2.09	1.52	39.7	44.4	4.29	15.1	3.86	9.17	1.21	1.84	1.57	1.60	0.853	0.760	1.30	1.11
Radiological	Uranium-235/236	pCi/g	8	39		0 ##	0.155	0.214	0.115 #	0.0276 #	0.110 #	0 #	0.101 #	0.0516 #	0.0321 #	0.0517 #	0.0494 #	2.19	1.81	0.244 #	0.789	0.186	0.267	0.167 #	0 ##	0.0659 #	0.0636 #	0.148 #	0.0985 #	0.0856 #	0.0301 #
Radiological	Uranium-238	pCi/g	14	179		1.74	1.62	1.40	2.11	1.72	1.82	2.05	1.74	1.37	1.15	1.88	1.27	7.42	8.17	0.818	3.50	1.95	2.79	1.73	1.12	2.00	1.35	0.875	0.649	1.18	1.32
Radiological	Uranium-234	ug/kg				< 18.3	< 16.0	< 17.2	< 18.8	< 16.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radiological	Uranium-235	ug/kg				25.4 J	23.2	23 J	24.5 J	21.7 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radiological	Uranium-238	ug/kg				3450	3230	3100	3440	2970	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radiological	Total Uranium Isotopes	ug/kg				3480	3250	3120	3460	2990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	1,1'-Biphenyl	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4,5-Trichlorophenol	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4,6-Trichlorophenol	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4-Dichlorophenol	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4-Dimethylphenol	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4-Dinitrophenol	ug/kg				< 1600	< 1600	< 1600	< 1600	< 1600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4-Dinitrotoluene	ug/kg				< 630	< 640	< 640	< 640	< 640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,6-Dinitrotoluene	ug/kg				< 630	< 640	< 640	< 640	< 640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Chloronaphthalene	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Chlorophenol	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Methylnaphthalene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Methylphenol	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Nitroaniline	ug/kg				< 630	< 640	< 640	< 640	< 640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Nitrophenol	ug/kg				< 630	< 640	< 640	< 640	< 640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	3,3'-Dichlorobenzidine	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	3-Nitroaniline	ug/kg				< 630	< 640	< 640	< 640	< 640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				< 1600	< 1600	< 1600	< 1600	< 1600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Bromophenyl phenyl ether	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Chloro-3-methylphenol	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Chloroaniline	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Methylphenol	ug/kg				< 630	< 640	< 640	< 640	< 640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Nitroaniline	ug/kg				< 630	< 640	< 640	< 640	< 640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Nitrophenol	ug/kg				< 1600	< 1600	< 1600	< 1600	< 1600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Acenaphthene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Acenaphthylene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Acetophenone	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Anthracene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Atrazine	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benz(a)anthracene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzaldehyde	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzo(a)pyrene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzo(b)fluoranthene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzo(g,h,i)perylene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzo(k)fluoranthene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-55	SED-55	SED-56	SED-56	SED-56	SED-57	SED-57	SED-57	SED-58	SED-58	SED-59	SED-59	SED-60	SED-60	SED-61	SED-61	SED-61	SED-61	SED-62	SED-62	SED-62	SED-62	SED-63	SED-63	SED-64	SED-64
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	12 - 18 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	12 - 18 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
					Type	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	FD	N	N	N	N
					Date	12/2/2019	12/2/2019	12/2/2019	12/2/2019	12/2/2019	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	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
Group	Analyte	Unit	RUSL	IUSL																											
SVOCs	Bis(2-chloroethoxy)methane	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Bis(2-chloroethyl)ether	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Bis(2-chloroisopropyl)ether	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Bis(2-ethylhexyl)phthalate	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Butyl benzyl phthalate	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Caprolactam	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Carbazole	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Chrysene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Dibenz(a,h)anthracene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Dibenzofuran	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Diethyl phthalate	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Dimethyl phthalate	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Di-n-butyl phthalate	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Di-n-octyl phthalate	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Fluoranthene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Fluorene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Hexachlorobenzene	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Hexachlorobutadiene	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Hexachlorocyclopentadiene	ug/kg				< 1600	< 1600	< 1600	< 1600	< 1600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Hexachloroethane	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Isophorone	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Naphthalene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Nitrobenzene	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	N-Nitrosodi-n-propylamine	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	N-Nitrosodiphenylamine	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Pentachlorophenol	ug/kg				< 1600	< 1600	< 1600	< 1600	< 1600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Phenanthrene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Phenol	ug/kg				< 320	< 330	< 330	< 330	< 330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Pyrene	ug/kg				< 64	< 65	< 66	< 65	< 66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	(1-Methylethyl)-Benzene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1,1-Trichloroethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1,2,2-Tetrachloroethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1,2-Trichloroethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1-Dichloroethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1-Dichloroethene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6	< 5.7	< 4.4	< 5	< 8.9	< 5.2	< 5	< 5.1	< 5.6	< 5	< 6.6	< 4.8
VOCs	1,2,4-Trichlorobenzene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dibromo-3-chloropropane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dibromoethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dichlorobenzene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dichloroethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6	< 5.7	< 4.4	< 5	< 8.9	< 5.2	< 5	< 5.1	< 5.6	< 5	< 6.6	< 4.8
VOCs	1,2-Dichloropropane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,3-Dichlorobenzene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,4-Dichlorobenzene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	2-Butanone	ug/kg				< 19	< 20	< 21	< 19	< 14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	2-Hexanone	ug/kg				< 9.7	< 9.8	< 10	< 9.7	< 7.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	4-Methyl-2-pentanone	ug/kg				< 9.7	< 9.8	< 10	< 9.7	< 7.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Acetone	ug/kg				< 19	200	220	23	< 14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Benzene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Bromodichloromethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Bromoform	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Bromomethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Carbon disulfide	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Carbon tetrachloride	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Chlorobenzene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Chloroethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Chloroform	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Chloromethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	cis-1,2-Dichloroethene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6	< 5.7	< 4.4	< 5	< 8.9	< 5.2	< 5	< 5.1	< 5.6	< 5	< 6.6	< 4.8
VOCs	cis-1,3-Dichloropropene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Cyclohexane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Dibromochloromethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Dichlorodifluoromethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Ethylbenzene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-55	SED-55	SED-56	SED-56	SED-56	SED-57	SED-57	SED-57	SED-58	SED-58	SED-59	SED-59	SED-60	SED-60	SED-61	SED-61	SED-61	SED-61	SED-62	SED-62	SED-62	SED-62	SED-63	SED-63	SED-64	SED-64
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	0 - 6 in	6 - 12 in	0 - 6 in	12 - 18 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	12 - 18 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	6 - 12 in	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
					Type	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	FD	N	N	N	N
					Date	12/2/2019	12/2/2019	12/2/2019	12/2/2019	12/2/2019	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	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	11/17/2020
Group	Analyte	Unit	RUSL	IUSL																											
VOCs	Methyl acetate	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Methyl tert-butyl ether	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Methylcyclohexane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Methylene chloride	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Styrene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Tetrachloroethene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6	< 5.7	< 4.4	< 5	< 8.9	< 5.2	< 5	< 5.1	< 5.6	< 5	< 6.6	< 4.8
VOCs	Toluene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	trans-1,2-Dichloroethene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6	< 5.7	< 4.4	< 5	< 8.9	< 5.2	< 5	< 5.1	< 5.6	< 5	< 6.6	< 4.8
VOCs	trans-1,3-Dichloropropene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Trichloroethene	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6	< 5.7	< 4.4	< 5	< 8.9	< 5.2	< 5	< 5.1	< 5.6	< 5	< 6.6	< 4.8
VOCs	Trichlorofluoromethane	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Vinyl chloride	ug/kg				< 4.9	< 4.9	< 5.2	< 4.8	< 3.5	NA	NA	NA	NA	NA	NA	NA	< 4.9	< 5.1	< 5.6	< 5.7	< 4.4	< 5	< 8.9	< 5.2	< 5	< 5.1	< 5.6	< 5	< 6.6	< 4.8
VOCs	Xylenes, Total	ug/kg				< 9.7	< 9.8	< 10	< 9.7	< 7.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-65	SED-65	SED-66	SED-66	SED-66	SED-67	SED-67	SED-67	SED-68	SED-68	SED-68	SED-68	SED-B1	SED-B1	SED-B2	SED-B2	SED-B3	SED-B3	SED-B4	SED-B4	SED-B5	SED-B5	SED-B6	SED-B6	SED-B7	SED-B7	SED-B8	SED-B8
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	12 - 24 in	12 - 24 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	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	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Date	11/16/2020	11/16/2020	3/9/2021	3/9/2021	3/9/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/10/2021	3/10/2021	3/10/2021	3/10/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/10/2021	3/10/2021	3/10/2021	3/10/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021
Group	Analyte	Unit	RUSL	IUSL																													
Chemical	Ammonia	mg/kg			156	276	785	745	563	623	518	611	84.7	80.9	72.2	89.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical	Nitrate as N	mg/kg			0.47	< 0.26	< 2.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical	Fluoride	mg/kg			40.6	33.6	20.9	4.21	10.4	30.4	9.43	10.5	4.43	4.53	4.66	4.46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Aluminum	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Antimony	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Arsenic	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Barium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Beryllium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Cadmium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Calcium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Chromium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Cobalt	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Copper	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Iron	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Lead	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Magnesium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Manganese	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Mercury	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Nickel	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Potassium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Selenium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Silver	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Sodium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Thallium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Vanadium	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals	Zinc	mg/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radiological	Technetium-99	pCi/g	19	89400	312	8.41	2.16	0.184 #	0.770	1.83	0.461 #	0.639 #	0.0815 #	0.0594 #	0.156 #	0 ##	23.7	0.295 #	19.1	0.720 #	4.37	5.34	1.05	0.383 #	0.565 #	1.40	1.13	1.36	3.71	0.472 #	0.937	1.40
Radiological	Uranium-233/234	pCi/g	13	3310	1.01	1.12	14.5	1.52	4.75	14.8	2.57	2.78	1.02	1.23	1.30	1.26	401	3.15	267	5.45	47.2	90.6	33.6	10.4	30.0	4.43	30.4	7.98	24.7	5.49	43.7	37.6
Radiological	Uranium-235/236	pCi/g	8	39	0.113 #	0 ##	0.637	0.156	0.265	0.743	0.155	0.118 #	0.0106 #	0.0471 #	0.0530 #	0.0732 #	26.9	0.315	15.8	0.405	2.56	4.75	2.25	0.384	1.36	0.178 #	1.82	0.447	1.13	0.275	1.92	1.92
Radiological	Uranium-238	pCi/g	14	179	0.726	0.791	4.19	1.19	2.46	4.41	1.60	1.39	1.45	0.615	0.955	1.08	95.7	2.01	60.3	2.30	13.1	22.1	7.78	3.49	7.25	2.29	6.94	2.89	6.32	3.16	11.0	8.65
Radiological	Uranium-234	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radiological	Uranium-235	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radiological	Uranium-238	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radiological	Total Uranium Isotopes	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	1,1'-Biphenyl	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4,5-Trichlorophenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4,6-Trichlorophenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4-Dichlorophenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4-Dimethylphenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4-Dinitrophenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,4-Dinitrotoluene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2,6-Dinitrotoluene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Chloronaphthalene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Chlorophenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Methylnaphthalene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Methylphenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Nitroaniline	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	2-Nitrophenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	3,3'-Dichlorobenzidine	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	3-Nitroaniline	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Bromophenyl phenyl ether	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Chloro-3-methylphenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Chloroaniline	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Chlorophenyl phenyl ether	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Methylphenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Nitroaniline	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	4-Nitrophenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Acenaphthene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Acenaphthylene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Acetophenone	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Anthracene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Atrazine	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benz(a)anthracene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzaldehyde	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzo(a)pyrene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzo(b)fluoranthene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzo(g,h,i)perylene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Benzo(k)fluoranthene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-65	SED-65	SED-66	SED-66	SED-66	SED-67	SED-67	SED-67	SED-68	SED-68	SED-68	SED-68	SED-B1	SED-B1	SED-B2	SED-B2	SED-B3	SED-B3	SED-B4	SED-B4	SED-B5	SED-B5	SED-B6	SED-B6	SED-B7	SED-B7	SED-B8	SED-B8
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	12 - 24 in	12 - 24 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	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
					Type	N	N	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
					Date	11/16/2020	11/16/2020	3/9/2021	3/9/2021	3/9/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/10/2021	3/10/2021	3/10/2021	3/10/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/10/2021	3/10/2021	3/10/2021	3/10/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021
Group	Analyte	Unit	RUSL	IUSL																												
SVOCs	Bis(2-chloroethoxy)methane	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Bis(2-chloroethyl)ether	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Bis(2-chloroisopropyl)ether	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Bis(2-ethylhexyl)phthalate	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Butyl benzyl phthalate	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Caprolactam	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Carbazole	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Chrysene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Dibenz(a,h)anthracene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Dibenzofuran	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Diethyl phthalate	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Dimethyl phthalate	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Di-n-butyl phthalate	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Di-n-octyl phthalate	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Fluoranthene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Fluorene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Hexachlorobenzene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Hexachlorobutadiene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Hexachlorocyclopentadiene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Hexachloroethane	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Isophorone	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Naphthalene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Nitrobenzene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	N-Nitrosodi-n-propylamine	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	N-Nitrosodiphenylamine	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Pentachlorophenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Phenanthrene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Phenol	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs	Pyrene	ug/kg			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	(1-Methylethyl)-Benzene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1,1-Trichloroethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1,2,2-Tetrachloroethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1,2-Trichloroethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1-Dichloroethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,1-Dichloroethene	ug/kg			< 5.4	< 4.6	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2,4-Trichlorobenzene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dibromo-3-chloropropane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dibromoethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dichlorobenzene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dichloroethane	ug/kg			< 5.4	< 4.6	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,2-Dichloropropane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,3-Dichlorobenzene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	1,4-Dichlorobenzene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	2-Butanone	ug/kg			NA	NA	73	46	26	< 28	< 25	< 23	< 18	< 16	< 17	< 17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	2-Hexanone	ug/kg			NA	NA	< 12	< 11	< 11	< 14	< 12	< 11	< 9.1	< 8.2	< 8.4	< 8.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	4-Methyl-2-pentanone	ug/kg			NA	NA	< 12	< 11	< 11	< 14	< 12	< 11	< 9.1	< 8.2	< 8.4	< 8.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Acetone	ug/kg			NA	NA	220	160	120	72	66	48	87	82	57	58	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Benzene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Bromodichloromethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Bromoform	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Bromomethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Carbon disulfide	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Carbon tetrachloride	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Chlorobenzene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Chloroethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Chloroform	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Chloromethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	cis-1,2-Dichloroethene	ug/kg			< 5.4	< 4.6	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	cis-1,3-Dichloropropene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Cyclohexane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Dibromochloromethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Dichlorodifluoromethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Ethylbenzene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table T4 - Sediment Analytical Results
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

					Location	SED-65	SED-65	SED-66	SED-66	SED-66	SED-67	SED-67	SED-67	SED-68	SED-68	SED-68	SED-68	SED-B1	SED-B1	SED-B2	SED-B2	SED-B3	SED-B3	SED-B4	SED-B4	SED-B5	SED-B5	SED-B6	SED-B6	SED-B7	SED-B7	SED-B8	SED-B8
					Depth	0 - 6 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	12 - 24 in	6 - 12 in	0 - 6 in	12 - 24 in	12 - 24 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	0 - 6 in	6 - 12 in	0 - 6 in	6 - 12 in
					Type	N	N	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
					Date	11/16/2020	11/16/2020	3/9/2021	3/9/2021	3/9/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/10/2021	3/10/2021	3/10/2021	3/10/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/10/2021	3/10/2021	3/10/2021	3/10/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021
Group	Analyte	Unit	RUSL	IUSL																												
VOCs	Methyl acetate	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Methyl tert-butyl ether	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Methylcyclohexane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Methylene chloride	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Styrene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Tetrachloroethene	ug/kg			< 5.4	< 4.6	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Toluene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	trans-1,2-Dichloroethene	ug/kg			< 5.4	< 4.6	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	trans-1,3-Dichloropropene	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Trichloroethene	ug/kg			< 5.4	< 4.6	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Trichlorofluoromethane	ug/kg			NA	NA	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Vinyl chloride	ug/kg			< 5.4	< 4.6	< 5.9	< 5.5	< 5.3	< 7.1	< 6.2	< 5.7	< 4.6	< 4.1	< 4.2	< 4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs	Xylenes, Total	ug/kg			NA	NA	< 12	< 11	< 11	< 14	< 12	< 11	< 9.1	< 8.2	< 8.4	< 8.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
RUSL - Residential Use Screening Level (NUREG 1757, Appendix H)
IUSL - Industrial Use Screening Level (NUREG 1757, Appendix H)
Concentrations in orange shaded cells exceed their RUSL
Concentrations in blue shaded cells exceed their IUSL
pCi/g - picocuires per gram
ug/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
N - normal sample
FD - field duplicate sample
Bold concentrations indicate detections
J - result below reporting limit
- value is below minimum detectable concentration
- value shown as zero reported by analytical laboratory as a negative number
SVOCs - semivolatile organic compounds
VOCs - volatile organic compounds
NA - not analyzed
* - sludge sample collected from the Sanitary Lagoon
** - sludge sample collected from the East Lagoon

Appendix U
Surface Water and Sediment Analytical Results (on DVD)

Appendix V
2022 Leidos Phase II Sediment TBD

Technical Basis Document

Remedial Investigation Phase II Soil and Sediment Sampling and Sediment Transect Evaluation for the Westinghouse Columbia Fuel Fabrication Facility (WCFFF) – Revision 1

Prepared for:

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May 27, 2022

Revision Log

Revision Number:	Date:	Description:
0	7/28/21	Initial issuance of the report.
1	5/27/22	Dose and risk assessment was updated to include additional sample data collected from the site drainage Middle Ditch after the RI Phase II sampling was originally completed. While the conclusions of the report did not change, new data was available, and evaluated. This report was updated to reflect that evaluation, and its results. Remedial Investigation fieldwork was completed in October 2021, resultantly this revision of the TBD removed all references to this being an “interim” evaluation.

Remedial Investigation Process

The Westinghouse Columbia Fuel Fabrication Facility (WCFFF) has performed a site Remedial Investigation (RI) in accordance with a Consent Agreement with the South Carolina Department of Health and Environmental Control (SCDHEC). Westinghouse and SCDHEC entered into this Consent Agreement in February 2019.

The purpose of the RI is to complete a comprehensive evaluation of groundwater, surface water, sediment, and soils at the site to determine the source, nature and extent of impacts from historic activities. Following completion of the RI, the Consent Agreement requires WCFFF to perform a Feasibility Study (FS) to evaluate remedial alternatives. After SCDHEC approval of the FS, the Department will issue a Record of Decision (ROD) specifying the selected remedy or set of remedies for the site. WCFFF will then implement these remedies per a SCDHEC approved Remedial Design/Remedial Action Plan and issue a final report documenting remediation of the site and successful completion of the Consent Agreement.

This Technical Basis Document (TBD) provides the evaluation of the sediment and soil data collected under the RI. This assessment will be included as part of the Final Remedial Investigation report. Remedial alternatives will be evaluated in the FS.

Three significant sampling campaigns have been conducted across the site. Sampling in Phase I of the RI was completed to gain a better understanding of the site conditions; additional sampling was completed in Phase II of the RI to fully characterize sediment impacts; subsequently, an addendum was completed to perform bounding sampling based on the results of the Phase II investigation in the Mill Creek Corridor. These sampling events, in addition to the ongoing routine environmental sampling program, have been evaluated, and a bounding assessment has been performed by evaluating the dose and risk associated with the areas where elevated concentrations have been identified. The results of these comprehensive sampling campaigns have defined the limited horizontal and vertical extent of sediment and soil impact. There are no current or future concerns for contaminants to potentially move offsite, and the documented impacts pose no potentially significant threat to plant workers, the general public, or the environment.

RI Phase I Assessment

During Phase I of the RI, sediment samples were collected from various areas of the site including the Mill Creek Corridor. Prominent features of the Westinghouse Columbia Site, including the Middle Ditch and the Mill Creek Corridor are identified in **Figure 1**. The locations of the RI Phase I sediment transects are shown in **Figure 2**.

Figure 1 – Mill Creek Corridor

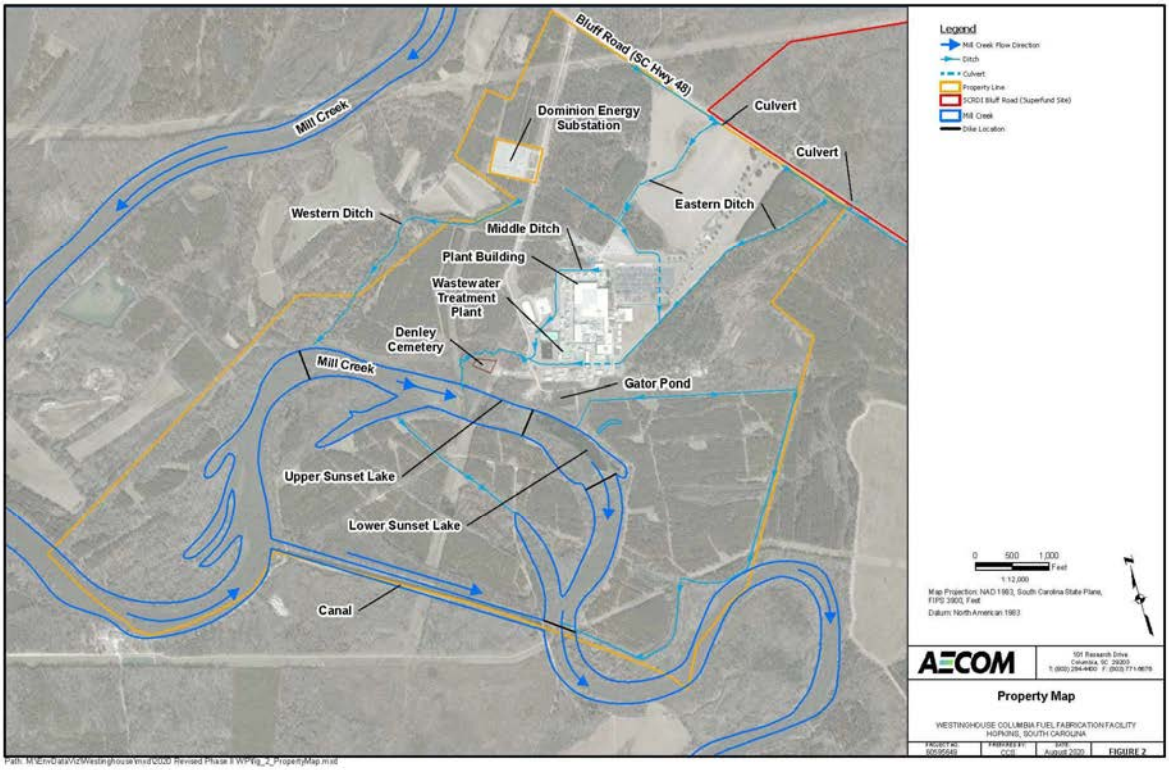
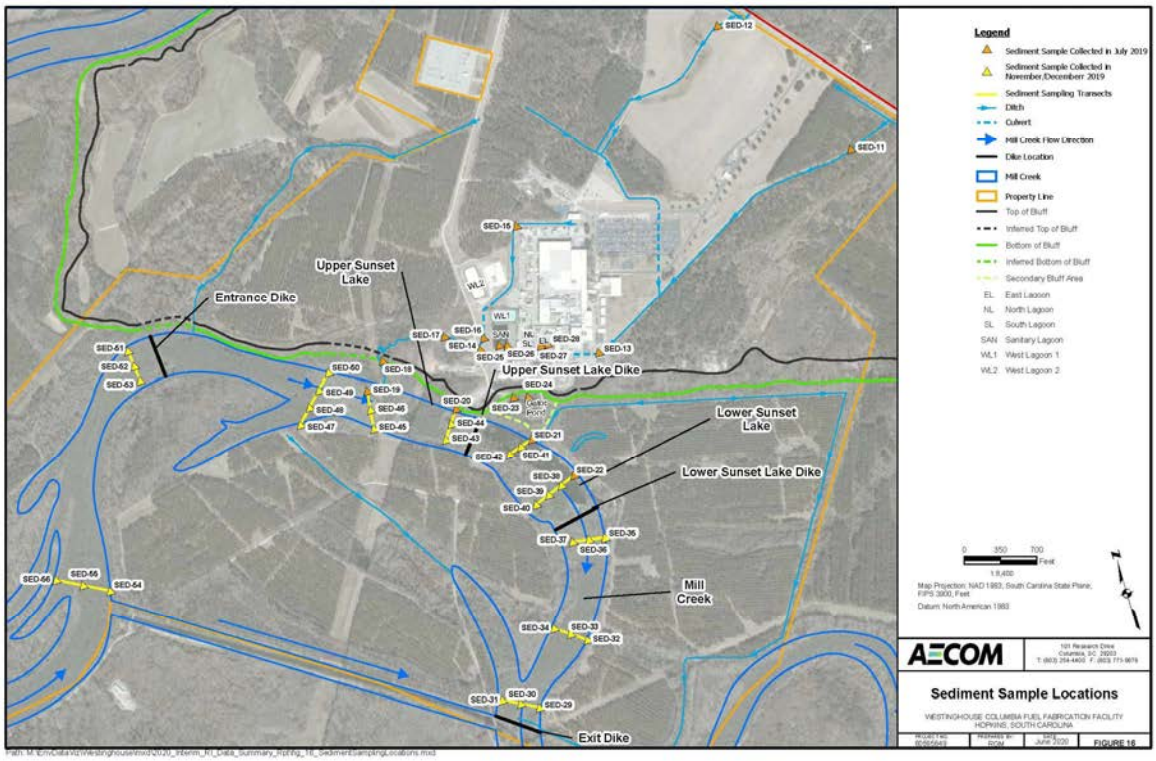


Figure 2 – RI Phase I Sediment Transects



Mill Creek is a naturally meandering creek that was dammed to create Upper and Lower Sunset Lake, prior to the establishment of the Westinghouse Columbia site. A diversion canal was also created that redirected a majority of the water flow, limiting the volume of water in Upper and Lower Sunset Lake, and creating nearly stagnant conditions. This low flow of water through the Upper and Lower Sunset Lake, combined with the thick growth of trees and brush has created swamp like conditions in Upper Sunset Lake.

Some of the Phase I sediment sample locations in Upper Sunset Lake and in Lower Sunset Lake were identified to contain Uranium (U) concentrations above the residential use screening level for soils (NUREG 1757, Vol. 2, Rev. 1, Appendix H), but below industrial use screening level. These samples were collected from locations on the WCFFF property. Assessment of this data was completed in the *Final Interim Remedial Investigation Data Summary Report*, approved by SCDHEC on July 30, 2020, and concluded that the identification of U concentrations in the sediment does not pose any undue risk to public health and safety, nor does it indicate potential off-site impact. However, additional sampling and investigation to further understand the extent of the potential impact into the Mill Creek Corridor was planned as described in the *Phase II RI Work Plan*, approved by SCDHEC on October 14, 2020 and in an addendum approved on November 5, 2020.

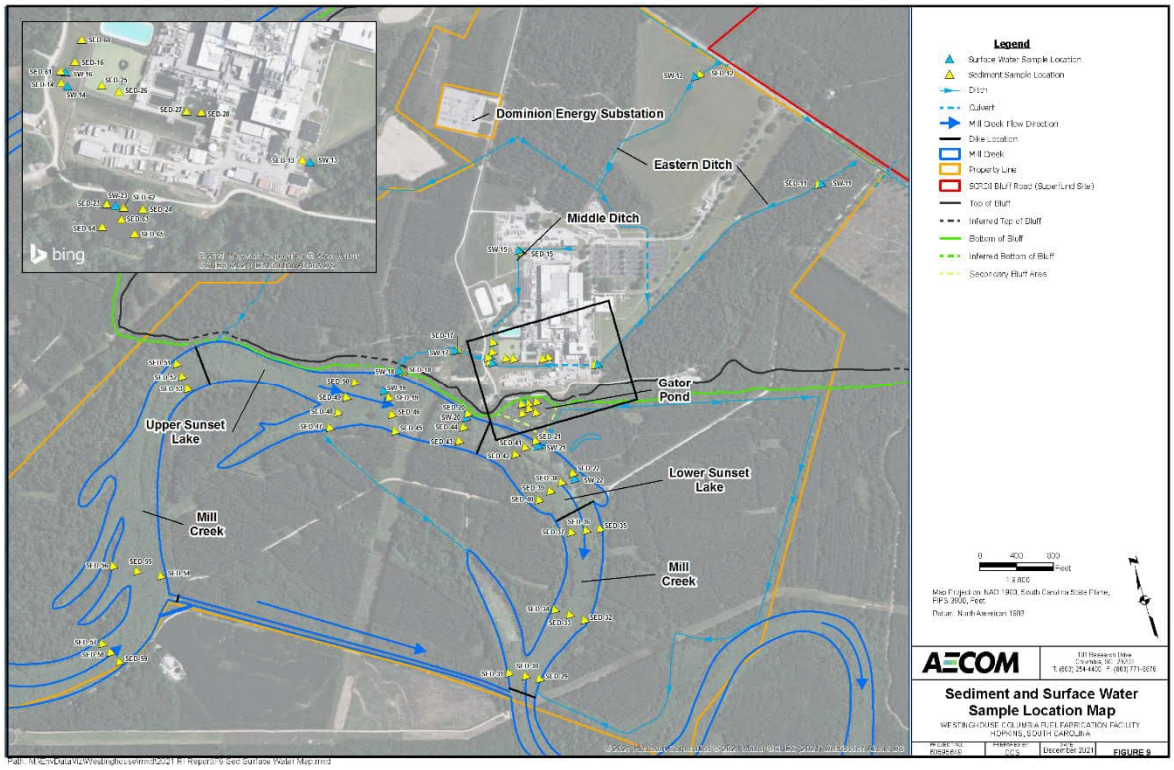
RI Phase II Assessment

During Phase II of the RI, sampling was performed to further assess the vertical and horizontal extent of impact on sediment quality in several areas of the site; the Mill Creek Corridor surface water body, the Gator Pond, and the site stormwater ditches including the area known as the Middle Ditch. Westinghouse collected sediment samples from 17 of the original sediment sample locations in the Mill Creek Corridor (SED-19 through SED-22 and SED-38 through SED-50), while also sampling at greater depths than were performed in Phase I. The Phase II sediment sampling began on November 9, 2020 and was completed December 4, 2020. The soil and sediment sampling results for the Middle Ditch are discussed in the Site Drainage "Middle Ditch" Section (beginning on page 10 of this document), and the Gator Pond sediment sampling results for the Gator Pond are discussed in the Gator Pond Section (beginning on page 13 of this report).

Based on the Phase II results, additional sampling was proposed by WCFFF and approved by SCDHEC on February 22, 2021. This follow up sediment sampling campaign was conducted in March of 2021 and is discussed in the Mill Creek Corridor Bounding Section (beginning on page 16 of this document).

The locations of the RI Phase II sediment transects performed in November and December of 2020 are shown in **Figure 3**.

Figure 3 – RI Phase II Sediment Transects



RI Phase II sediment samples were collected from the previous Phase I locations at deeper intervals, and at new locations to bound previously identified areas of elevated residual radioactivity.

Upstream Areas (Sediment Background)

Sediment samples were collected at multiple locations to assess background sediment quality. These sediment samples were collected at locations that are upstream of the surface water flow from the site, where only naturally occurring radioactivity is expected to be present in the sediment. Locations SED-11 and SED-12 were each collected from a storm water ditch and are representative of the naturally occurring sediment within the storm water ditches as it enters the WCFFF site boundary.

Locations SED-51, SED-52, and SED-53 were collected just upstream of the site Entrance Dike, locations SED-54, SED-55, and SED-56 were collected well upstream within the flow path of Mill Creek, and SED-57, SED-58, and SED-59 were collected upstream of the diversion canal. The three sediment transects (sediment locations 51-59) are representative of the naturally occurring background sediment within Mill Creek, of which Upper and Lower Sunset Lakes are a part.

Upper and Lower Sunset Lakes

Three sediment transects in Upper Sunset Lake, and two sediment transects in Lower Sunset Lake were sampled during Phase I of the RI. These transects were placed to identify potential environmental impacts from historic plant operations. During Phase II, vertical sediment profiling was performed at 17 of the Phase I sediment locations.

Downstream Areas

Three of the sediment sampling transects (Figure 2) are downstream of the Lower Sunset Lake dike. This portion of Mill Creek is heavily forested, lowland swamp with minimal flow. The majority of the flow in Mill Creek through the WCFFF property is by way of the diversion canal (Figures 1 and 3) along the southern property boundary.

RI Phase II Evaluation

All Phase II sediment samples were sent to an off-site laboratory for analysis of U, Technetium-99 (Tc-99), Ammonia, Fluoride, Nitrate, and Volatile Organic Compounds (VOCs). Reported chemical constituent results were below the EPA Regional Screening Levels for residential use, and therefore further comparisons to industrial screening levels of evaluation were not necessary.

The RI Phase II sediment radiological results were evaluated in accordance with WCFFF site procedure RA-433, "Environmental Remediation." The radiological screening levels provided in Table 3 in procedure RA-433 (Rev 2) are based on single contaminant concentrations for each isotope. When multiple radionuclides are present, a "sum of fractions" (SOF) approach is used to assess compliance with the concentration limit. The SOF for each unique sample is calculated using the following equation:

$$SOF = \frac{Conc_{U-234}}{SSL_{,U-234}} + \frac{Conc_{U-235}}{SSL_{,U-235}} + \frac{Conc_{U-238}}{SSL_{,U-238}} + \frac{Conc_{Tc-99}}{SSL_{,Tc-99}}$$

The values in **Table 1** represent soil concentrations of individual radionuclides, using conservative exposure parameters, that would be deemed in compliance with the dose limits for an individual as specified in 10 CFR 20.1402 (i.e., equivalent to 25 mrem/year under Residential Use).

Table 1: Residential and Industrial Use Screening Levels

Contaminant	Residential Use Screening Level	Industrial Use Screening Level	Basis of Screening Level
Uranium - 234	13 pCi/g (0.002 mg/Kg)	3,310 pCi/g (0.5 mg/kg)	NUREG 1757, Vol. 1-2 , Appendix H[1]
Uranium – 235	8 pCi/g (3.704 mg/Kg)	39 pCi/g (18 mg/kg)	NUREG 1757, Vol. 1-2 , Appendix H[1]
Uranium – 238	14 pCi/g (41.667 mg/Kg)	179 pCi/g (533 mg/kg)	NUREG 1757, Vol. 1-2 , Appendix H[1]
Total Uranium	12.69 pCi/g (5.320 mg/Kg)	2,933 pCi/g (1,230 mg/kg)	Calculated based on NUREG 1757, Vol. 2, Rev. 1-2, Appendix H[2]
Technetium - 99	19 pCi/g (1.110 E -03 mg/Kg)	89,400 pCi/g (5.2 mg/Kg)	NUREG 1757 Vol. 1-2 , Appendix H[1]

The Residential Use Screening Levels (RUSLs) were determined using highly conservative assumptions to develop an exposure scenario where it is assumed that a person would construct a house on the property, live on the property, drink the groundwater, and eat produce farmed on the property as well as fish caught on the property.

At the time of facility decommissioning, site specific Exposure Pathway Modeling will be used to develop Derived Concentration Guidance Levels (DCGLs) for the WCFFF following NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). This guidance, commonly referred to as MARSSIM is a detailed instruction for planning, implementing, and evaluating environmental and facility radiological surveys conducted to demonstrate compliance with a dose- and risk-based regulation. The DCGL is a radionuclide specific concentration in pCi/g that is equal to the release criteria dose of 25 mRem/yr. While the Residential Screening Levels for soils are based on the most conservative assumptions, site specific DCGLs will generally be higher in most cases. For example, the recently decommissioned Westinghouse Hematite Site had the following site-specific DCGLs (**Table 2**) for unrestricted release using a Residential Farmer Scenario.

Table 2: Westinghouse Hematite Site-Specific DCGLs

Contaminant	DCGL for Unrestricted Free Release to the Public	Basis of Screening Level
Uranium - 234	195.4 pCi/g	Hematite Decommissioning Plan (NRC License No SNM-33)
Uranium – 235	51.6 pCi/g	Hematite Decommissioning Plan (NRC License No SNM-33)
Uranium – 238	168.8 pCi/g	Hematite Decommissioning Plan (NRC License No SNM-33)
Total Uranium	170.2 pCi/g	Hematite Decommissioning Plan (NRC License No SNM-33)
Technetium - 99	25.1 pCi/g	Hematite Decommissioning Plan (NRC License No SNM-33)

Because site-specific DCGLs will generally be higher, the RUSLs are provided in RA-433 for reference, and where practical, WCFFF will strive to achieve these values. However, it is most appropriate to compare samples collected from within the WCFFF property boundary to the Industrial Use Screening Levels (IUSLs) also listed in RA-433, because they are representative of the current and future use of the property, until such time as the WCFFF undergoes full site decommissioning.

The IUSLs are also based on conservative assumptions, but these assumptions better represent the current and future use of the WCFFF, as it is assumed that the industrial worker will not live on the property, nor engage in the consumption of any food or water produced on the facility property.

Sediment Sample Results

The Phase II radiological results are the focus of this TBD, as the sediment sample analytical results from Phase I of the RI have been previously reported and discussed in the *Final Interim Remedial Investigation Data Summary Report*, approved by DHEC on July 30, 2020 (also known as the *RI Phase I Report*).

The Phase II data has been submitted to SCDHEC through routine monthly reports required by the Consent Agreement. This evaluation will be incorporated into the Final Remedial Investigation report.

The sediment data can be categorized by the area of the site from which it was collected. This includes a new background sediment transect collected upstream of the diversion canal; additional bounding sampling collected in a site drainage "Middle Ditch"; additional sediment characterization performed in the Gator Pond; and additional characterization performed in the Mill Creek Corridor of Upper and Lower Sunset Lake.

Upstream Areas (Sediment Background)

In Phase I of the RI, two background sediment transects were collected upstream of the site entrance dike. While these background sediment results appear to reflect the levels of naturally occurring radioactive materials that will be identified in all sediments, an additional background sediment transect (SED-57, SED-58, and SED-59) was collected further upstream of the site diversion canal. The result of this additional background sediment transect are presented in **Table 3**, along with the original Phase I Transect results for reference.

Table 3: Background Sediment Sampling Results

Sample ID	Gross Analyte Activity (pCi/g)				SOF	SOF
	U-234	U-235	U-238	Tc-99	Residential	Industrial
SED-51-0-6 (Phase I)	2.10	0.18	1.42	*0.00*	0.3	0.0
SED-51-6-12 (Phase I)	1.27	0.07	1.15	*4.89*	0.4	0.0
SED-52-0-6 (Phase I)	1.77	0.31	1.72	*0.00*	0.3	0.0
SED-52-6-12 (Phase I)	1.88	0.05	1.45	*0.00*	0.3	0.0
SED-53-0-6 (Phase I)	2.15	0.19	1.45	*0.00*	0.3	0.0
SED-53-6-12 (Phase I)	2.06	0.07	2.34	*0.00*	0.3	0.0
SED-54-0-6 (Phase I)	1.78	0.12	1.36	*1.51*	0.3	0.0
SED-54-6-12 (Phase I)	1.48	0.12	1.87	*0.00*	0.3	0.0
SED-55-0-6 (Phase I)	2.05	0.00	1.74	*6.19*	0.6	0.0
SED-55-6-12 (Phase I)	1.62	0.16	1.62	*0.00*	0.3	0.0
SED-56-0-6 (Phase I)	2.02	0.21	1.40	*2.53*	0.4	0.0
SED-56-6-12 (Phase I)	1.89	0.03	1.72	*0.00*	0.3	0.0
SED-57P2-0-6 (Phase II)	2.22	0.11	1.82	NA	0.3	0.0
SED-57P2-6-12 (Phase II)	1.63	0.10	1.74	NA	0.3	0.0
SED-57P2-12-18 (Phase II)	1.49	0.00	2.05	NA	0.3	0.0
SED-58P2-0-6 (Phase II)	1.21	0.05	1.37	NA	0.2	0.0
SED-58P2-6-12 (Phase II)	1.38	0.03	1.15	NA	0.2	0.0
SED-59P2-0-6 (Phase II)	2.09	0.05	1.88	NA	0.3	0.0
SED-59P2-6-12 (Phase II)	1.52	0.05	1.27	NA	0.2	0.0

As can be seen from the data in Table 3 above, the results of the new background sediment transect are consistent with the results of the two background sediment transects collected during Phase I of the RI. All Phase I Tc-99 reported results in Table 3 above were less than the instruments Minimum Detectable Activity (MDA), meaning that the results could not reliably be distinguished from the laboratory instrument's background value. Therefore, no additional Tc-99 sampling was performed in Phase II.

Site Drainage "Middle Ditch"

In Phase I of the RI, location SED-16 in an on-site drainage ditch was identified to be elevated, but similar results were not identified further upstream or downstream of this location. To determine the size and extent of the elevated concentrations at location SED-16, additional bounding sampling was performed during Phase II. Location SED-60 was collected approximately 50 ft upstream and SED-61 was collected approximately 50 ft downstream of the original SED-16 location. In 2021, an additional routine soil sample location was added to the environmental monitoring program. The sample location, LOC-5, was found to be elevated, and is approximately 500 ft upstream of SED-16. LOC-5 was sampled twice since the RI Phase II sampling was conducted. LOC-5 is considered a surface soil sample location, as opposed to a sediment sample

location, because the area it is collected from is not covered by water for a majority of the year; however it is appropriate to include this sample location given that it was collected from the same on-site drainage middle ditch, and is in close proximity to the adjacent sediment sample locations. The locations of the routine soil and vegetation samples, along with the LOC-5 sample location, are shown in **Figure 4**.

Figure 4 – LOC-5 Sample Location



The results of this additional sediment and soil sampling are presented in **Table 4**.

Table 4: Middle Ditch Sediment Sampling Results

Sample ID	Gross Analyte Activity (pCi/g)				SOF	SOF	%
	U-234	U-235	U-238	Tc-99	Residential	Industrial	Moist.
SED-16P2-0-6	67.2	3.31	12.1	0.614	**6.5**	0.2	25.8
SED-16P2-6-12	63.7	3.18	11.8	2.62	**6.3**	0.2	23.3
SED-16P2-12-24	6.03	0.48	1.99	3.71	0.9	0.0	18.4
SED-60P2-0-6	39.7	2.19	7.42	0.433	**3.9**	0.1	18.4
SED-60P2-6-12	44.4	1.81	8.17	0.483	**4.3**	0.1	18.4
SED-61P2-0-6	4.29	0.244	0.818	1.2	0.5	0.0	16.2
SED-61P2-6-12	9.17	0.267	2.79	7.96	**1.4**	0.0	13.6
SED-61P2-12-18	3.86	0.186	1.95	8.28	0.9	0.0	11
LOC5-SOIL-20210526	113.0	5.16	21.5	0.00	**10.9**	0.3	20.4
LOC5-SOIL-20210929	40.40	2.59	9.15	0.00	**4.1**	0.1	15.5
Average	39.18	1.94	7.77	2.53	**3.9**	0.1	NA

As can be seen from the data in Table 4 above, the results of the bounding sampling show that the elevated concentrations identified in location SED-16 are confined to the top 12 inches of soil and sediment. The confinement to the top 12 inches is consistent with a surface release and is believed to be the source of surficial contamination in this area (1971 West Lagoon Rupture). While the top 12 inches in SED-60, and SED-61 remain elevated, concentrations are diminishing relative to SED-16. The surface soil results at LOC-5 also show elevated residual contamination, which given the location of the sample point between the current West I and West II Lagoons, further supports the conclusion that the 1971 West Lagoon rupture is the likely source of contamination. When compared to the RI Phase I sampling, this shows that the area of impact at location SED-16 is limited. RI Phase I sample locations SED-15 up stream, and SED-17 down stream did not exceed the RUSL provided in Table 1. Using these as bounding locations, the area of elevated surface sediment and soil concentrations is conservatively estimated to be approximately 1,250 ft long by 100 ft wide. These dimensions result in an area of approximately 125,000 ft^2 (11,600 m^2).

Furthermore, this location remains in an industrial use area of the site which is not typically occupied; the area is only accessed intermittently throughout the year for brush clearing, and sampling activities. These concentrations do not represent any undue risk to the health and safety of the workforce or the public, and do not indicate potential off-site impact. Given the distance from the site boundary, there is little concern for migration, or offsite impact. However, a dose and risk assessment was still performed for this area of elevated surface sediment and soil, as described in the Dose and Risk section of this report.

This area will continue to be monitored, and potential remediation options will be evaluated during the Feasibility Study (FS) and approved by SCDHEC in the Record of Decision (ROD) as required by the Consent Agreement. Until remediation is performed, funding to clean-up the impact was incorporated in the Decommissioning Funding Plan (DFP) required by Nuclear Regulatory

Commission (NRC) regulations and the site's NRC license. The most recent triennial DFP update was submitted May of 2022, and the projected decommissioning costs for this area were incorporated.

Gator Pond

In Phase I of the RI, surficial sediment samples identified the presence of Tc-99 in Gator Pond. To assess the vertical and horizontal extent of potential impact in Phase II of the RI, the original two locations, along with four new locations were sampled. The results of this additional sediment sampling are presented in **Table 5**.

Table 5: Gator Pond Sediment Sampling Results

Sample ID	Gross Analyte Activity (pCi/g)				SOF	SOF	%
	U-234	U-235	U-238	Tc-99	Residential	Industrial	Moist.
SED-23P2-0-6	1.36	0.0994	1.36	144	**7.8**	0.0	66.5
SED-23P2-6-12	1.19	0.0658	1.29	30.6	**1.8**	0.0	46.9
SED-23P2-12-24	1.06	0.0187	1.19	1.4	0.2	0.0	24.5
SED-23P2-24-36	1.11	0.0379	0.736	0.785	0.2	0.0	23.5
SED-24P2-0-6	3.12	0.16	2.13	118	**6.6**	0.0	80.4
SED-24P2-6-12	2.63	0.153	1.67	158	**8.7**	0.0	92
SED-24P2-12-18	1.57	0.217	1.47	33.3	**2.0**	0.0	75.9
SED-62P2-0-6	1.21	0.167	1.73	22.9	**1.4**	0.0	33.2
SED-62P2-6-12	1.57	0.0659	2	2.89	0.4	0.0	22.9
SED-62P2-12-24	1.84	0	1.12	1.08	0.3	0.0	23.6
SED-63P2-0-6	0.853	0.148	0.875	25	**1.5**	0.0	22.8
SED-63P2-6-12	0.76	0.0985	0.649	2.63	0.3	0.0	27.5
SED-64P2-0-6	1.3	0.0856	1.18	85.8	**4.7**	0.0	22.1
SED-64P2-6-12	1.11	0.0301	1.32	5.53	0.5	0.0	32.2
SED-65P2-0-6	1.01	0.113	0.726	312	**16.6**	0.0	22.4
SED-65P2-6-12	1.12	0	0.791	8.41	0.6	0.0	31.9

As can be seen from the data in Table 5 above, the results of the Gator Pond sediment sampling show elevated concentrations of Tc-99 across the Gator Pond in the top 6 inches of sediment. To a lesser extent, residual amounts of Tc-99 were identified at greater depths extending down to approximately 18 inches below the ground surface. Gator Pond is the only area of the site where Tc-99 is present in sediments above residential levels. The Gator Pond is a "flow through pond" with groundwater discharging to the pond in the northeastern portion of the pond and surface water recharging groundwater in the east, west, northwestern, and bottom of the pond. Sediment impact in the Gator Pond is the result of groundwater impacted with Tc-99 discharging to the Gator Pond and the Tc-99 subsequently settling in the bottom of the Gator Pond sediments.

Gator Pond represents an industrial use area of the site and is not a source of drinking water; therefore, these concentrations do not represent any undue risk to the health and safety of the workforce or the public, and do not indicate a potential for off-site impact. This area will continue to be monitored, and potential remediation options will be evaluated during the FS and approved by SCDHEC in the ROD as required by the Consent Agreement. Until remediation is performed, funding to clean-up the impact was incorporated in the Decommissioning Funding Plan (DFP) required by NRC regulations and the site's NRC license. The most recent triennial DFP update was submitted May of 2022.

Mill Creek Corridor

During Phase I of the RI, 17 sediment sample locations within Upper and Lower Sunset Lake were identified to contain elevated concentrations of U in sediments. To further assess the vertical and horizontal extent of the potential impact, additional sampling was performed at these locations in Phase II, extending to greater depths. The results of this additional sediment sampling are presented in **Table 6**.

Table 6: Mill Creek Sediment Sampling Results

Sample ID	Gross Analyte Activity (pCi/g)				SOF	SOF	%
	U-234	U-235	U-238	Tc-99	Residential	Industrial	Moist.
SED-19P2-0-6	19.1	1.02	5.15	0.208	**2.0**	0.1	87.8
SED-19P2-6-12	27	1.22	6.42	1.12	**2.7**	0.1	87.6
SED-19P2-12-18	2.05	0.0675	1.51	0	0.3	0.0	68.6
SED-20P2-0-6	1.72	0.0212	1.67	0.638	0.3	0.0	39.1
SED-20P2-6-12	2.13	0.094	1.5	0.265	0.3	0.0	36.2
SED-20P2-12-24	1.43	0.145	1.89	0.208	0.3	0.0	32.4
SED-20P2-24-36	1.49	0.0841	1.4	0.7	0.3	0.0	32.5
SED-21P2-0-6	13.2	0.393	3.79	1.17	**1.4**	0.0	77.5
SED-21P2-6-12	2.19	0.131	1.51	0.528	0.3	0.0	72.7
SED-21P2-12-24	1.56	0.0344	1.07	0.225	0.2	0.0	45.8
SED-21P2-24-36	1.75	0	0.97	0.0586	0.2	0.0	52.5
SED-22P2-0-6	6.21	0.257	2.24	0.304	0.7	0.0	61.1
SED-22P2-6-12	1.97	0.192	0.971	0.0333	0.2	0.0	53
SED-22P2-12-24	1.09	0.035	0.838	0	0.1	0.0	36.5
SED-22P2-24-36	1.81	0.225	1.08	0	0.2	0.0	25.8
SED-38P2-0-6	60.9	3.12	17	2.13	**6.4**	0.2	74.5
SED-38P2-6-12	4.19	0.276	2.52	0.116	0.5	0.0	67.2
SED-38P2-12-24	3.01	0.188	1.71	0.174	0.4	0.0	76
SED-38P2-24-36	1.74	0.0835	1.6	0.128	0.3	0.0	44.3
SED-39P2-0-6	2.22	0.0959	1.81	0.626	0.3	0.0	45.1
SED-39P2-6-12	2.37	0.0929	1.85	0.732	0.4	0.0	43.7

Table 6: Mill Creek Sediment Sampling Results (continued)

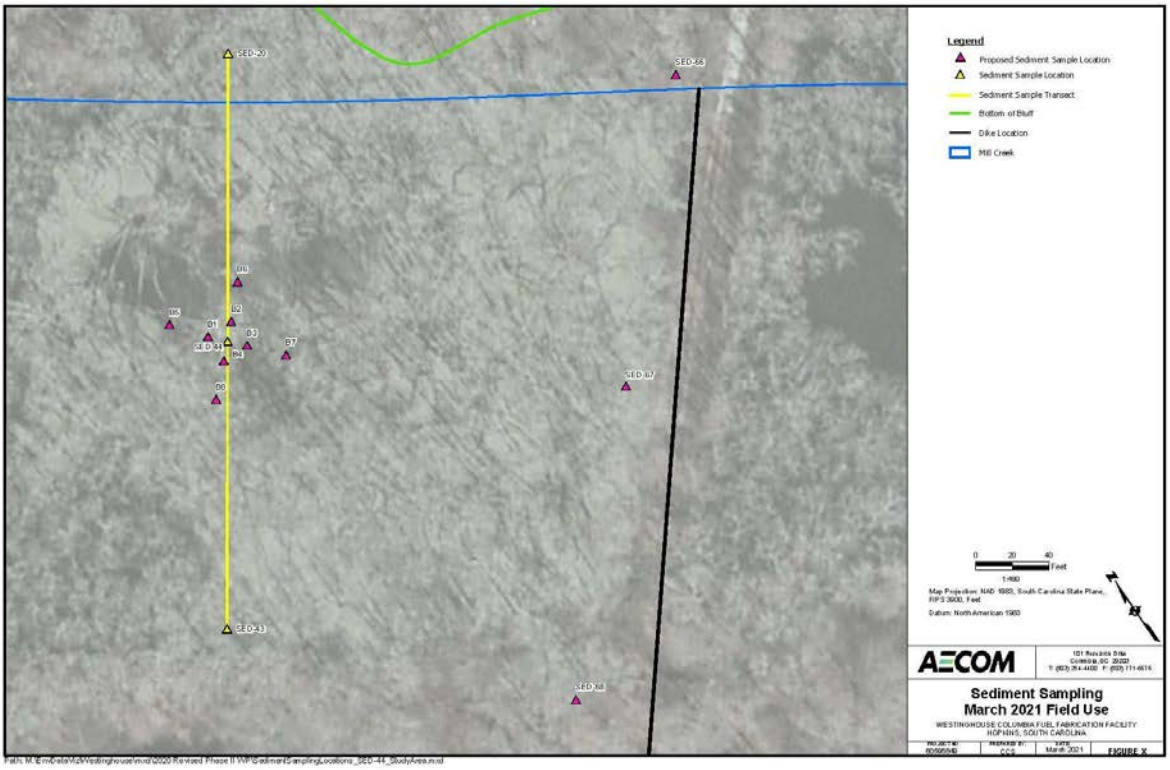
Sample ID	Gross Analyte Activity (pCi/g)				SOF	SOF	%
	U-234	U-235	U-238	Tc-99	Residential	Industrial	Moist.
SED-39P2-12-24	1.58	0.243	1.63	0.536	0.3	0.0	43.3
SED-39P2-24-36	1.86	0.181	1.96	0.281	0.3	0.0	33.1
SED-40P2-0-6	4.69	0.362	2.29	0.4	0.6	0.0	32.2
SED-40P2-6-12	1.34	0.0449	1.43	0.199	0.2	0.0	72.3
SED-40P2-12-24	1.17	0	1.09	0.085	0.2	0.0	34.8
SED-40P2-24-36	1.36	0.0645	1.23	0.137	0.2	0.0	32
SED-41P2-0-6	17	0.789	3.38	1.12	**1.7**	0.0	24.7
SED-41P2-6-12	1.84	0.0733	1.29	0.038	0.2	0.0	85.8
SED-41P2-12-24	2.14	0	1.87	0.216	0.3	0.0	67.6
SED-41P2-24-36	0.806	0.06	0.925	0.185	0.1	0.0	78.7
SED-42P2-0-6	31.1	1.18	7.57	1.21	**3.1**	0.1	92
SED-42P2-6-12	4.34	0.248	1.68	0.137	0.5	0.0	84.3
SED-42P2-12-24	3.19	0.135	1.5	0.0327	0.4	0.0	70.5
SED-42P2-24-36	1.57	0.0342	1.58	0	0.2	0.0	71.3
SED-43P2-0-6	5.13	0.211	1.87	0.226	0.6	0.0	71.4
SED-43P2-6-12	16	0.873	4.5	0.00633	**1.7**	0.1	80.3
SED-44P2-0-6	435	24.3	98.7	9.42	**44.0**	**1.3**	88.9
SED-44P2-6-12	34	1.57	8.74	4.33	**3.7**	0.1	84.9
SED-44P2-12-18	3.34	0.0293	2.7	0	0.5	0.0	73.3
SED-45P2-0-6	6	0.325	1.92	0	0.6	0.0	87.3
SED-45P2-6-12	2.95	0.0545	1.48	0	0.3	0.0	75.7
SED-46P2-0-6	11.6	0.251	2.85	0	**1.1**	0.0	89.4
SED-46P2-6-12	10.4	0.419	3.55	0.11	**1.1**	0.0	83.8
SED-47P2-0-6	3.32	0.0528	1.95	0	0.4	0.0	76
SED-47P2-6-12	4.86	0.0999	2.41	0	0.6	0.0	89.4
SED-48P2-0-6	2.49	0.154	2.24	0	0.4	0.0	70.3
SED-48P2-6-12	2.11	0.169	1.77	0	0.3	0.0	36.8
SED-48P2-12-18	1.63	0.205	1.85	0	0.3	0.0	33.8
SED-49P2-0-6	5.1	0.142	2.25	0	0.6	0.0	77.7
SED-49P2-6-12	2.85	0.0436	2.04	0	0.4	0.0	70.4
SED-50P2-0-6	6.83	0.351	2.65	0	0.8	0.0	83.9
SED-50P2-6-12	2.33	0.152	1.83	0	0.3	0.0	66
SED-50P2-12-24	1	0.139	0.808	0	0.2	0.0	59.4

The majority of the Phase II RI sediment results are consistent with the results collected from Phase I, showing only residual levels of U contamination in the surficial layer of sediment of Mill Creek. However, there is one significant sediment result that stands out. Location SED-44 (0-6") was significantly more elevated than any of the surrounding sediment locations collected during either the Phase I or Phase II sampling. This prompted an additional sampling campaign to further bound the extent of potential impact in this area.

Mill Creek Corridor Bounding Sampling

During the RI Phase II bounding efforts, a sampling plan was developed and submitted to SCDHEC for review and approval. This plan established two bounding "boxes" placed around the location of SED-44. One box (with 4 corner points) was approximately 10 m^2 in area, and the other was approximately 100 m^2 in area. An additional sediment transect was also placed between the location of SED-44 and the Upper Sunset Lake dike which is the impounding barrier downstream. Samples SED-66, SED-67, and SED-68 were collected from this transect to determine if additional depositional areas could be identified further downstream of SED-44. The approximate locations of these bounding samples are shown in **Figure 5**.

Figure 5 – SED-44 Bounding Sample Locations



The original SED-44 results are presented alongside the bounding sample results in **Table 7**. Locations SED-B1, SED-B2, SED-B3, and SED-B4 represent the corner points of the 10 m^2

bounding area, and SED-B5, SED-B6, SED-B7, and SED-B8 represent the corner points of the 100 m^2 bounding area. SED-66, SED-67, and SED-68 make up the new sediment transect that was placed approximately 25 ft upstream of the Upper Sunset Lake dike.

Table 7: SED-44 Bounding Sediment Sampling Results

Sample ID	Gross Analyte Activity (pCi/g)				SOF	SOF	%
	U-234	U-235	U-238	Tc-99	Residential	Industrial	Moist.
SED-44P2-0-6	435.0	24.3	98.7	9.4	**44.0**	**1.3**	88.9
SED-44P2-6-12	34.0	1.6	8.7	4.3	**3.7**	0.1	84.9
SED-44P2-12-18	3.3	0.0	2.7	0.0	0.5	0.0	73.3
SED-B1-0-6	401.0	26.9	95.7	23.7	**42.3**	**1.3**	83.6
SED-B1-6-12	3.2	0.3	2.0	0.3	0.4	0.0	72.3
SED-B2-0-6	267.0	15.8	60.3	19.1	**27.8**	0.8	89.1
SED-B2-6-12	5.5	0.4	2.3	0.7	0.7	0.0	77.1
SED-B3-0-6	47.2	2.6	13.1	4.4	**5.1**	0.2	82.9
SED-B3-6-12	90.6	4.8	22.1	5.3	**9.4**	0.3	85.3
SED-B4-0-6	33.6	2.3	7.8	1.1	**3.5**	0.1	94.2
SED-B4-6-12	10.4	0.4	3.5	0.4	**1.1**	0.0	73.5
SED-B5-0-6	30.0	1.4	7.3	0.6	**3.0**	0.1	94.6
SED-B5-6-12	4.4	0.2	2.3	1.4	0.6	0.0	72.9
SED-B6-0-6	30.4	1.8	6.9	1.1	**3.1**	0.1	92.2
SED-B6-6-12	8.0	0.4	2.9	1.4	0.9	0.0	73
SED-B7-0-6	24.7	1.1	6.3	3.7	**2.7**	0.1	78
SED-B7-6-12	5.5	0.3	3.2	0.5	0.7	0.0	77.6
SED-B8-0-6	5.5	0.3	3.2	0.9	0.7	0.0	98
SED-B8-6-12	37.6	1.9	8.7	1.4	**3.8**	0.1	90.5
SED-66-0-6	14.5	0.6	4.2	2.2	**1.6**	0.0	63.3
SED-66-6-12	4.8	0.3	2.5	0.8	0.6	0.0	49
SED-66-12-24	1.5	0.2	1.2	0.2	0.2	0.0	51.7
SED-67-0-6	14.8	0.7	4.4	1.8	**1.6**	0.0	86.5
SED-67-6-12	2.8	0.1	1.4	0.6	0.4	0.0	70.4
SED-67-12-24	2.6	0.1	1.4	0.5	0.3	0.0	71.8
SED-68-0-6	1.0	0.0	1.5	0.1	0.2	0.0	28
SED-68-6-12	1.3	0.1	1.1	0.0	0.2	0.0	26.3
SED-68-12-24	0.1	1.2	0.0	0.6	0.2	0.0	26.8

As can be seen from the results above, locations SED-B1 and SED-B2 still have elevated U concentrations in the surficial layer indicating that the area of the interest around SED-44 may be slightly greater than $10m^2$. However, the results from all the surrounding sample areas are consistent with the levels seen throughout Upper and Lower Sunset Lake and indicate that while

the area may be slightly greater than 10 m^2, it is less than 100 m^2 and appears to be isolated to this small area in Upper Sunset Lake. The elevated concentrations also appear to be limited to the surficial layer, and do not extend deeper into the sediment. Lastly it can be noted above that the sample media itself was very high in percent moisture because these samples were mostly collected from areas under standing water. However, the analytical laboratory results are reported dried.

When evaluating radiological samples, the water (moisture content) in the sample is an efficient shield to radioactivity, reducing the amount of radioactivity transmitted into the environment. The water also adds weight to the overall sample mass. If the water content of a sediment sample is removed through heating and drying the sample, then the sample results are not necessarily reflective of the actual sediment that exists in the environment, which is covered by and saturated with water. Therefore, it is appropriate to interpret the results moving forward in two ways, Dry (as reported by the laboratory), and Wet (accounting for moisture in the sample). It is also appropriate to focus on the surficial sediment layer, since the underlying sediment concentrations are much lower, and the surficial layer provides a bounding case.

Next an area average calculation was performed on the 10 m^2 and 100 m^2 bounding areas. Utilizing the laboratory reported results (dry), a straight average was performed on the 10m^2 bounding area, giving equal weighting to each sample. The 10 m^2 area average results are presented in **Table 8**. A weighted average was applied to the 100 m^2 area, assigning a 10% area weight to the 10 m^2 average, and even weighting to the remaining 4 corner points. The 100m^2 area average results are presented in **Table 9**.

The 10 m^2 area average calculation was repeated utilizing moisture corrected activity (wet), which better represents the "as found" condition of the sediment, since it exists in extremely wet conditions nearly all year round. These results are reported in **Table 10**. The moisture corrected results were also used to calculate a weighted average for the 100 m^2 bounding area. These results are reported in **Table 11**.

Table 8: SED-44 10 m^2 Bounding Area Average (Dry)

10 m^2 Bounding area, 0-6 inch layer, dried sample activity

Sample ID	Gross Analyte Activity (pCi/g)				Calculated Enrichment (%)	SOF Resid.	SOF Indust.	% of area	Gross Analyte Activity (pCi/g)				SOF Resid.	SOF Indust.
	U-234	U-235	U-238	Tc-99					U-234	U-235	U-238	Tc-99		
SED-44P2-0-6	435.0	24.3	98.7	9.4	3.7	**44.0**	**1.3**	20%	87.0	4.9	19.7	1.9	**8.8**	0.3
SED-B1-0-6	401.0	26.9	95.7	23.7	4.2	**42.3**	**1.3**	20%	80.2	5.4	19.1	4.7	**8.5**	0.3
SED-B2-0-6	267.0	15.8	60.3	19.1	4.0	**27.8**	0.8	20%	53.4	3.2	12.1	3.8	**5.6**	0.2
SED-B3-0-6	47.2	2.6	13.1	4.4	3.0	**5.1**	0.2	20%	9.4	0.5	2.6	0.9	**1.0**	0.0
SED-B4-0-6	33.6	2.3	7.8	1.1	4.4	**3.5**	0.1	20%	6.7	0.5	1.6	0.2	0.7	0.0
Area Average									*236.8*	*14.4*	*55.1*	*11.5*	*24.6*	*0.7*

Table 9: SED-44 100 m^2 Bounding Area Average (Dry)

100 m^2 Bounding area, 0-6 inch layer, dried sample activity

Sample ID	Gross Analyte Activity (pCi/g)				Calculated Enrichment (%)	SOF Resid.	SOF Indust.	% of area	Gross Analyte Activity (pCi/g)				SOF Resid.	SOF Indust.
	U-234	U-235	U-238	Tc-99					U-234	U-235	U-238	Tc-99		
10M2-0-6-WA	236.8	14.4	55.1	11.5	N/A	**24.6**	0.7	10%	23.7	1.4	5.5	1.2	**2.5**	0.1
SED-B5-0-6	30.0	1.4	7.3	0.6	2.9	**3.0**	0.1	23%	6.8	0.3	1.6	0.1	0.7	0.0
SED-B6-0-6	30.4	1.8	6.9	1.1	4.0	**3.1**	0.1	23%	6.8	0.4	1.6	0.3	0.7	0.0
SED-B7-0-6	24.7	1.1	6.3	3.7	2.8	**2.7**	0.1	23%	5.6	0.3	1.4	0.8	0.6	0.0
SED-B8-0-6	5.5	0.3	3.2	0.9	1.4	0.7	0.0	23%	1.2	0.1	0.7	0.2	0.2	0.0
Weighted Average									*44.1*	*2.5*	*10.8*	*2.6*	*4.6*	*0.1*

Table 10: SED-44 10 m^2 Bounding Area Average (Wet)

10 m^2 Bounding area, 0-6 inch layer, wet sample activity (moisture corrected)

Sample ID	Gross Analyte Activity (pCi/g)				Calculated Enrichment (%)	SOF Resid.	SOF Indust.	% of area	Gross Analyte Activity (pCi/g)				SOF Resid.	SOF Indust.
	U-234	U-235	U-238	Tc-99					U-234	U-235	U-238	Tc-99		
SED-44P2-0-6	48.3	2.7	11.0	9.4	3.7	**5.3**	0.1	20%	9.7	0.5	2.2	1.9	**1.1**	0.0
SED-B1-0-6	65.8	4.4	15.7	23.7	4.2	**8.0**	0.2	20%	13.2	0.9	3.1	4.7	**1.6**	0.0
SED-B2-0-6	29.1	1.7	6.6	19.1	4.0	**3.9**	0.1	20%	5.8	0.3	1.3	3.8	0.8	0.0
SED-B3-0-6	8.1	0.4	2.2	4.4	3.0	**1.1**	0.0	20%	1.6	0.1	0.4	0.9	0.2	0.0
SED-B4-0-6	1.9	0.1	0.5	1.1	4.4	0.3	0.0	20%	0.4	0.0	0.1	0.2	0.1	0.0
Area Average									*30.6*	*1.9*	*7.2*	*11.5*	*3.7*	*0.1*

Table 11: SED-44 100 m^2 Bounding Area Average (Wet)

100 m^2 Bounding area, 0-6 inch layer, wet sample activity (moisture corrected)

Sample ID	Gross Analyte Activity (pCi/g)				Calculated Enrichment (%)	SOF Resid.	SOF Indust.	% of area	Gross Analyte Activity (pCi/g)				SOF Resid.	SOF Indust.
	U-234	U-235	U-238	Tc-99					U-234	U-235	U-238	Tc-99		
10M2-0-6-WA	30.6	1.9	7.2	11.5	N/A	**3.7**	0.1	10%	3.1	0.2	0.7	1.2	0.4	0.0
SED-B5-0-6	1.6	0.1	0.4	0.6	2.9	0.2	0.0	23%	0.4	0.0	0.1	0.1	0.0	0.0
SED-B6-0-6	2.4	0.1	0.5	1.1	4.0	0.3	0.0	23%	0.5	0.0	0.1	0.2	0.1	0.0
SED-B7-0-6	5.4	0.2	1.4	3.7	2.8	0.7	0.0	23%	1.2	0.1	0.3	0.8	0.2	0.0
SED-B8-0-6	0.1	0.0	0.1	0.9	1.4	0.1	0.0	23%	0.0	0.0	0.0	0.2	0.0	0.0
Weighted Average									*5.2*	*0.3*	*1.3*	*2.6*	*0.7*	*0.0*

Dose and Risk Assessment

A dose and risk assessment was performed based on the sample results from SED-44 and LOC-5 to evaluate any potential risks to the work force and public health and safety. The average concentrations reported in Table 4 and Tables 8 through 11 above were used to develop a dose and risk assessment of the elevated areas of Sunset Lake (SED-44) and the Middle Ditch (LOC-5). RESRAD-ONSITE Version 7.2 was used to calculate potential dose and risk to the evaluated receptor (residential farmer or industrial worker, as appropriate). RESRAD-ONSITE (formerly RESRAD) is a computer model developed by the Argonne National Laboratory (ANL) for the U.S. Department of Energy (DOE). RESRAD-ONSITE calculates site-specific risk and dose to various future hypothetical on-site receptors at sites with residual radioactive materials.

The use of the RESRAD family of codes for modeling risk and dose has become an acceptable regulatory standard. RESRAD-ONSITE Version 7.2 incorporates recently (2014) updated dose conversion and morbidity slope factors calculated by Oak Ridge National Laboratory (ORNL). These updated factors are presented in the ORNL document entitled Calculation of Slope Factors and Dose Coefficients (ORNL 2014) and are included in the DCFPAK 3.02 library of the RESRAD-ONSITE Version 7.2 model. The derivations of these factors are based on updated decay chain and nuclide energy data presented in International Commission on Radiological Protection Publication (ICRP)-107, Nuclear Decay Data for Dosimetric Calculations (ICRP 2008).

Middle Ditch

Using the default Residential Farmer scenario, and the Industrial Worker scenario in RESRAD-ONSITE, 4 separate dose and risk models were created using both maximum soil concentrations (LOC-5 – "worst case scenario") and average soil concentrations results (better representative of site conditions):

- Middle Ditch (Residential – Max Soil Concentrations)
- Middle Ditch (Residential - Average Soil Concentrations)
- Middle Ditch (Industrial - Max Soil Concentrations)
- Middle Ditch (Industrial - Average Soil Concentrations)

Each Dose and Risk assessment was evaluated for a period of 100 years. The Industrial - Average soil concentrations are considered most reflective of the current site conditions. The Residential conditions and the maximum soil concentrations are only reported as a "worst case scenario". These conditions would assume that a resident farmer would be allowed to establish a homestead in the area, without any remediation or control placed on the property (not a realistic future use scenario). Average and maximum soils concentrations were taken from Table 4. RESRAD-ONSITE parameters that differ from the default Residential Farmer or Industrial Worker settings are shown in **Table 12** below.

Table 12: RESRAD-ONSITE Dose and Risk Parameters

Area	Parameter	Max Soil Concentrations	Average Soil Concentrations
Middle Ditch	U-234 (pCi/g)	113.0	39.18
	U-235 (pCi/g)	5.16	1.94
	U-238 (pCi/g)	21.50	7.77
	Tc-99 (pCi/g)	0.00	2.53
	Area (m^2)	11,600	11,600
	Thickness (m)	0.3	0.3
	Length parallel to aquifer (m)	107.7	107.7

Using the parameters listed in Table 12, four separate dose evaluations, and four separate risk reports were generated. These eight individual dose and risk reports combined represent over 200 pages of information and are available for review upon request. For the purposes of this discussion, the maximum dose and risk reported over the 100 year period for each scenario is summarized in **Table 13** below.

Table 13: Middle Ditch Dose & Risk Summary

	Max Soil Concentrations		Average Soil Concentrations	
Evaluated Receptor	Max. Dose (mRem/yr)	Max. Risk	Max. Dose (mRem/yr)	Max. Risk
Resident Farmer	16.45	1.8E-4	5.77	6.4E-5
Industrial Worker	1.57	2.2E-5	0.57	8.2E-6

The Middle Ditch is on WCFFF property and is not publicly accessible. It is within a controlled Industrial area that is fenced, monitored, and patrolled by site security. Site personnel also monitor the area and perform environmental sampling. However, should a member of the public intentionally or inadvertently access the area, even under the potential worst-case scenario (max soil concentration), there is no risk of excessive exposure, as the calculated maximum exposure is below the threshold of 25 mRem/yr for unrestricted release.

The Industrial Worker Scenario using average soil concentrations is a more realistic dose and risk model. The Industrial Worker Scenario shows that the anticipated dose to the CFFF work force is de minimums, and that the risk is well within acceptable ranges. Therefore, no immediate action is required based on this assessment, and evaluation of remedial alternatives will be performed in the FS. Until remediation is performed, funding to clean-up the impact was incorporated in the Decommissioning Funding Plan (DFP) required by NRC regulations and the site's NRC license. The most recent triennial DFP update was submitted May of 2022, and the projected decommissioning costs for this area were incorporated.

Mill Creek

Using the default Residential Farmer scenario in RESRAD-ONSITE, 8 separate dose and risk models were created using both dry (laboratory reported) and wet (moisture corrected) results:

- SED-44 Area of Interest (dry)
- SED-44 Area of Interest (wet)
- SED-44 10m^2 average (dry)
- SED-44 10m^2 average (wet)
- SED-44 100m^2 average (dry)
- SED-44 100m^2 average (wet)
- Mill Creek (dry)
- Mill Creek (wet)

Each Dose and Risk assessment was evaluated for a period of 100 years. The wet conditions are considered most reflective of the current site conditions. Mill Creek, and subsequently Upper and Lower Sunset Lake remain saturated throughout the year. Therefore, the modeled scenario for wet conditions uses the moisture corrected sample activity, which assumes that the sediment is saturated, and has at least 12 inches (0.3 m) of water cover. The actual measured depth of water at the time of sampling in this area measured between 13.5 and 44 inches.

The Dry conditions are only reported as a "worst case scenario" in the extremely unlikely event that Mill Creek would run dry, or the area would experience an extreme and unforeseen drought. Therefore, the modeled scenario for dry conditions uses the laboratory dried sample activity and assumes no water cover. RESRAD-ONSITE parameters that differ from the default Residential Farmer settings are shown in **Table 14**.

Table 14: RESRAD-ONSITE Dose and Risk Parameters

Area	Parameter	Wet Conditions	Dry Conditions
SED-44 Area of Interest	U-234 (pCi/g)	48.3	435
	U-235 (pCi/g)	2.7	24.3
	U-238 (pCi/g)	11	55.1
	Tc-99 (pCi/g)	9.4	9.4
	Area (m^2)	10	10
	Thickness (m)	0.15	0.15
	Length parallel to aquifer (m)	1	1
	Cover thickness (m)	0.3	0
	Cover Density (g/cc)	1	N/A
SED-44 10 m^2 Ave	U-234 (pCi/g)	30.6	236.8
	U-235 (pCi/g)	1.9	14.4
	U-238 (pCi/g)	7.2	55.1
	Tc-99 (pCi/g)	11.5	11.5
	Area (m2)	10	10
	Thickness (m)	0.15	0.15
	Length parallel to aquifer (m)	1	1
	Cover thickness (m)	0.3	0
	Cover Density (g/cc)	1	N/A
SED-44 100 m^2 Ave	U-234 (pCi/g)	5.2	44.1
	U-235 (pCi/g)	0.3	2.5
	U-238 (pCi/g)	1.3	10.8
	Tc-99 (pCi/g)	2.6	2.6
	Area (m2)	100	100
	Thickness (m)	0.15	0.15
	Length parallel to aquifer (m)	10	10
	Cover thickness (m)	0.3	0
	Cover Density (g/cc)	1	N/A
Mill Creek	U-234 (pCi/g)	4.5	37.2
	U-235 (pCi/g)	0.2	1.9
	U-238 (pCi/g)	1.1	9.4
	Tc-99 (pCi/g)	1	1
	Area (m2)	14500	14500
	Thickness (m)	0.15	0.15
	Length parallel to aquifer (m)	381	381
	Cover thickness (m)	0.3	0
	Cover Density (g/cc)	1	N/A

Using the parameters listed in Table 14, eight separate dose evaluations, and eight separate risk reports were generated. These sixteen individual dose and risk reports combined represent over 400 pages of information and are available for review upon request. The maximum dose and risk reported over the 100 year period for each scenario is summarized in **Table 15**.

Table 15: Mill Creek Dose & Risk Summary

Area	Wet Conditions		Dry Conditions	
	Max. Dose (mRem/yr)	**Max. Risk**	**Max. Dose (mRem/yr)**	**Max. Risk**
SED-44 Area of Interest	1.843	1.44E-05	17.13	1.88E-04
SED-44 10 m^2 Ave	1.18	9.24E-06	10.5	1.23E-04
SED-44 100 m^2 Ave	0.39	3.69E-06	2.567	3.47E-05
Mill Creek	0.421	4.56E-06	3.111	4.59E-05

The SED-44 Area of Interest is on WCFFF property and is not publicly accessible. It is within a controlled area that is monitored and patrolled by site security. Site personnel also monitor the area and perform environmental sampling. However, should a member of the public intentionally or inadvertently access the area, even under the potential worst case scenario, there is no risk of excessive exposure, as the calculated maximum exposure is below the threshold of 25 mRem/yr for unrestricted release.

Rather than making assumptions about the quantity of radioactive material present in the area, the dose and risk assessment summarized in Table 15 shows that, even under the potential worst case scenario, projected doses to a member of the public would not exceed regulatory criteria or require any type of posting or access restriction. No immediate action is required based on this assessment, and evaluation of remedial alternatives will be performed in the FS. Until remediation is performed, funding to clean-up the impact was incorporated in the Decommissioning Funding Plan (DFP) required by NRC regulations and the site's NRC license. The most recent triennial DFP update was submitted May of 2022.

Conclusions

Evaluation of the elevated soil and sediment results identified on WCFFF property could lead to three possible conclusions. First, the results could indicate an immediate need to take remedial action based on the determined level of risk. Second, the results could indicate that further evaluation is warranted in the FS that will be performed as part of the Consent Agreement, and third, the results could indicate that no action is necessary.

Based on this evaluation of the Phase II RI sediment sampling results, the follow up bounding sampling results, and the dose modeling/associated risk estimates, no immediate action is

necessary. The results of these comprehensive sampling campaigns have defined the limited horizontal and vertical extent of soil and sediment impact. There are no current or future concerns for contaminants to potentially move offsite, and the documented impacts pose no potentially significant threat to plant workers, the general public or the environment. Continued environmental monitoring per the site's NRC license and WCFFF's procedure RA-434, Environmental Data Management, will be performed, and further evaluation in the areas of the Middle Ditch, Gator Pond and the Mill Creek Corridor will be included in the Final RI report and in the FS required by the Consent Agreement. In the interim, projected future decommissioning costs for these areas were incorporated into the triennial DFP update, which was submitted in May 2022, to ensure that the costs associated with future remedial efforts are appropriately captured.

References

NRC 2006. *Consolidated Decommissioning Guidance: Decommissioning Process for Materials Licensees*, NUREG-1757, Vol. 1, Rev. 2.

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ORNL 2014. Oak Ridge National Laboratory. Oak Ridge, Tennessee. *Calculation of Slope Factors and Dose Coefficients*. ORNL/TM-2013/00. September 2014.

RA-433, Rev 2 - WCFFF Environmental Remediation Procedure, dated April 28, 2022.

RA-434, Rev 1 - WCFFF Environmental Data Management Procedure, dated November 11, 2021.

Appendix W
2020 Leidos Sediment Sampling and Sediment Transect TBD

Technical Basis Document

Sediment Sampling and Sediment Transect Results for the
Westinghouse Columbia Fuel Fabrication Facility (WCFFF), Revision 1

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July 13, 2020

Background

In July of 2019, the Westinghouse Columbia Fuel Fabrication Facility (WCFFF) collected 18 surficial (top six inches) sediment samples from areas of the site, including the on-site ditches, Sanitary Lagoon, East Lagoon, and Mill Creek. It was expected that samples from the Sanitary Lagoon, and East Lagoon would contain uranium (U), as these are active work areas within the WCFFF, and are known to be impacted. Additionally, one location within a storm water ditch, two locations in Upper Sunset Lake and one location in Lower Sunset Lake were identified to contain U concentrations above the residential use screening level (NUREG 1757, Vol. 2, Rev. 1, Appendix H), but below industrial use screening levels. These samples were collected from locations on the WCFFF property; therefore, the identification of U concentrations in the sediment does not pose any undue risk to public health and safety.

A follow up sediment sampling campaign was conducted in November of 2019. Westinghouse collected sediment samples from Mill Creek along ten transects with an additional 28 sediment sampling locations, to obtain additional sediment quality data. Generally, there were three sample locations per transect; two within a few feet of the edges of the Mill Creek floodplain and one in the presumed middle of the flow channel. In cases where Mill Creek is significantly wider due to impoundment, four sediment sample locations were collected along the transect. Sediment samples above the Entrance Dike (SED 51 through SED-56) and below the Lower Sunset Lake Dike (SED-29 through SED-37) were collected to a total depth of 12 inches. In a few locations, the sample core was up to 16 inches in length.

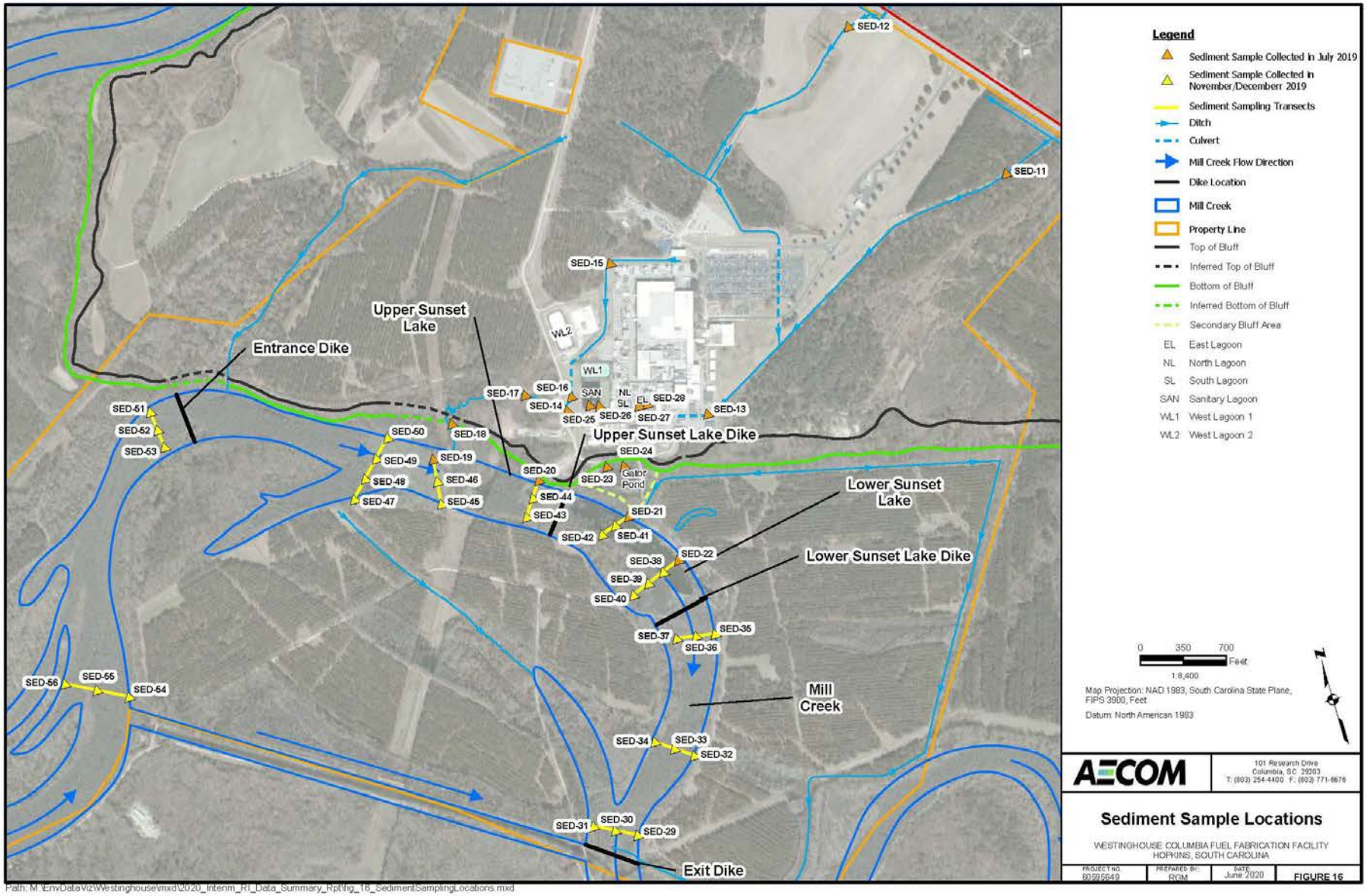
The sediment transect sampling locations are shown on Figure 16 from the Final Remedial Investigation (RI) Data Summary Report (LTR-RAC-20-62), and are presented in Figure 1 of this report.

Upstream Areas

Sediment samples were collected at eight locations to assess background sediment quality. These sediment samples were collected at locations that are upstream of the surface water flow from the site, where only naturally occurring radioactivity is expected to be present in the sediment. Locations SED-11 and SED-12 were each collected from a storm water ditch and are representative of the naturally occurring sediment within the storm water ditches as it enters the WCFFF site boundary.

Locations SED-51, SED-52, and SED-53 were collected just upstream of the site Entrance Dike, and locations SED-54, SED-55, and SED-56 were collected well upstream within the flow path of Mill Creek. These six sediment sampling locations are representative of the naturally occurring background sediment within Mill Creek, which Upper and Lower Sunset Lakes are part of.

FIGURE 1 – Sediment Transect Sampling Locations



Site Features of Interest

Sediment samples were collected from eight locations across the site in storm water ditches. These locations were selected as they best represent the initial areas where contaminants from the site could potentially migrate. Sediment sample locations SED-13 through SED-18 are representative of the flow path of storm water across the site as it travels towards Mill Creek. Sediment samples SED-23 and SED-24 were collected from a surface water body known as the Gator Pond.

Sludge from the Sanitary Lagoon (SED-25 and SED-26), and the East Lagoon (SED-27 and SED-28) were also sampled; however these areas are known to be impacted and represent active wastewater treatment areas of the site.

Upper and Lower Sunset Lakes

Water depths in Upper and Lower Sunset Lakes are more profound than the non-impounded sections of Mill Creek. In the case of Lower Sunset Lake, a boat was the primary method used to reach each sampling location. In cases where water is shallow (i.e. SED-34, Figure 1) and not accessible by boat, hip waders were used to access the sediment sampling location. Previously collected sediment samples (SED-19 through SED-22) from this area of the site were surficial collections only.

Downstream Areas

Three of the sediment sampling transects (Figure 1) are downstream of the Lower Sunset Lake dike. This portion of Mill Creek is heavily forested, lowland swamp with minimal flow. The majority of the flow in Mill Creek through the Westinghouse property is by way of the diversion canal along the southern property boundary.

The Exit Dike (Figure 1) is located just north of the diversion canal and contains a drainage pipe that connects the water flowing from the section of Mill Creek that flows through Upper and Lower Sunset Lakes to the water flowing down the man-made diversion canal. Although not fully impounding, the depth of the surface water in Mill Creek appears to increase downstream closer to the Exit Dike.

Sampling Results

Sediment samples were sent to an off-site laboratory for analysis of U, Tc-99, Fluoride, and Nitrate. Reported Fluoride and Nitrate results were below the EPA Regional Screening Levels for residential use, therefore comparisons to industrial screening levels was not necessary.

The radiological screening levels in Table 1 are based on single contaminant concentrations for each isotope. When multiple radionuclides are present a "sum of fractions" (SOF) approach should be used to assess compliance with the concentration limit. The SOF for each unique sample is calculated using the following equation:

$$SOF = \frac{Conc_{U-234}}{SSL_{,U-234}} + \frac{Conc_{U-235}}{SSL_{,U-235}} + \frac{Conc_{U-238}}{SSL_{,U-238}} + \frac{Conc_{Tc-99}}{SSL_{,Tc-99}}$$

The values in Table 1 represent soil concentrations of individual radionuclides, using generally accepted exposure parameters, that would be deemed in compliance with the dose limits specified in 10 CFR 20.1402 (e.g. equivalent to 25 mrem/year under Residential Use).

Table 1: Residential and Industrial Use Screening Levels

Contaminant	Residential Screening Level	Industrial Screening Level	Basis of Screening Level
Uranium - 234	13 pCi/g (0.002 mg/Kg)	3,310 pCi/g (0.5 mg/kg)	NUREG 1757, Vol. 1-2 , Appendix H[1]
Uranium – 235	8 pCi/g (3.704 mg/Kg)	39 pCi/g (18 mg/kg)	NUREG 1757, Vol. 1-2 , Appendix H[1]
Uranium – 238	14 pCi/g (41.667 mg/Kg)	179 pCi/g (533 mg/kg)	NUREG 1757, Vol. 1-2 , Appendix H[1]
Total Uranium	12.69 pCi/g (5.320 mg/Kg)	2,933 pCi/g (1,230 mg/kg)	Calculated based on NUREG 1757, Vol. 2, Rev. 1-2, Appendix H[2]
Technetium - 99	19 pCi/g (1.110 E -03 mg/Kg)	89,400 pCi/g (5.2 mg/Kg)	NUREG 1757 Vol. 1-2 , Appendix H[1]

The Residential Use Screening Levels (RUSLs) were determined using highly conservative assumptions to develop an exposure scenario where it is assumed that a person would construct a house on the property, live on the property, drink the groundwater, and eat produce farmed on the property. For this reason, the RUSLs are provided for reference, but samples collected from within the CFFF property boundary will ultimately be compared to the Industrial Use Screening Level (IUSL), which is representative of the current and future use of the property.

The IUSLs are also based on conservative assumptions, but these assumptions better represent the current and future use of the WCFFF, as it is assumed that the industrial worker will not live on the property, or engage in the consumption of any food or water produced on the facility property. The sediment sample analytical results from the July 2019 sampling event are provided for reference in Table 2, along with the calculated SOF for both Residential and Industrial use scenarios.

Table 2: June 2019 Sediment Sampling Results

Sample ID	Analyte (pCi/g)				SOF	SOF
	U-234	U-235	U-238	Tc-99	Resid.	Ind.
SED-11	1.14	0.00	0.74	0.00[2]	0.14	0.00
SED-12	0.93	0.06[1]	1.17	0.00[2]	0.16	0.01
SED-13	1.67	0.16[1]	1.33	0.00[2]	0.24	0.01
SED-14	1.42	0.03[1]	0.39	0.02	0.14	0.00
SED-15	2.58	0.18	2.05	5.62	0.66	0.02
SED-16	14.90	0.68	2.77	4.94	**1.69**	0.04
SED-17	0.66	0.02	0.30	7.50	0.47	0.00
SED-18	0.22	0.02[1]	0.30	0.00[2]	0.04	0.00
SED-19	32.50	2.30	8.18	6.28	**3.70**	0.11
SED-20	62.50	3.12	14.90	0.00[2]	**6.26**	0.18
SED-21	1.86	0.10[1]	1.96	4.12	0.51	0.01
SED-22	117.00	4.98	28.00	0.00[2]	**11.62**	0.32
SED-23	1.35	0.00[1]	1.69	50.80	**2.90**	0.01
SED-24	1.14	0.06[1]	0.94	35.80	**2.05**	0.01
SED-25	907.00	41.10	149.00	8.55	**86.00**	**2.16**
SED-26	222.00	11.00	46.90	1.68	**21.89**	0.61
SED-27	225.00	11.90	37.40	0.00[2]	**21.47**	0.58
SED-28	254.00	12.40	44.60	5.75	**24.58**	0.64

[1] Value is estimated, result below detection limit

[2] Negative values below lab bkg, set to zero

The sediment samples that were collected are below the applicable IUSLs, with the exception of SED-25, which was collected from the Sanitary Lagoon, an area of the site that is known to be impacted. The Sanitary Lagoon is an earthen lagoon within a controlled and fenced area of the facility, and further investigation is planned under the DHEC Consent Agreement and associated Remedial Investigation Work. Public access to this area of the site is restricted. In addition, the sample location itself represents an inaccessible area as it is located in the Sanitary Lagoon sludge that is covered by several feet of treated sanitary wastewater awaiting chlorine disinfection. This sample does not represent undue risk to the workforce at this time, but routine dose monitoring should be performed for personnel who work in this area.

Samples SED-23 and SED-24 (both collected from the Gator Pond) were identified to be above the RUSL due to Tc-99. Sediment sample locations SED-26 (also collected from the Sanitary

Lagoon), SED-27 and SED-28 (both collected from the East Lagoon) were also identified to contain concentrations of U above the RUSL, as expected.

Sediment sampling location SED-16 was identified to be above the RUSL, however this area is below the applicable IUSL, and appears to be isolated, as U concentration in downstream sediment samples SED-17, and SED-18 were below RUSL.

Three samples from Mill Creek were found to be above the RUSL; SED-19 and SED-20 were collected in Upper Sunset Lake upstream of the Upper Sunset Lake Dike, and sediment sample SED-22 was collected from Lower Sunset Lake upstream of the Lower Sunset Lake Dike. It is important to note that these samples represent sediment that is contained on the WCFFF property and the RUSL is used for reference only. The sample results are below the IUSL, which is a more appropriate comparison as these samples are representative of an industrial use area. However, out of prudence to public and environmental health and safety, additional investigations were performed within Mill Creek, both up and down stream. The sediment sample analytical results from the November 2019 sampling event are provided in Table 3.

Table 3: November 2019 Sediment Transect Sampling Results

Sample ID	Analyte (pCi/g)				SOF	SOF
	U-234	U-235	U-238	Tc-99	Resid.	Ind.
SED-29-0-6	6.23	0.31	2.51	0.00[2]	0.70	0.02
SED-29-06-12	1.81	0.21	1.55	0.00[2]	0.28	0.01
SED-29-12-16	1.23	0.18	1.16	0.00[2]	0.20	0.01
SED-30-0-6	5.71	0.19	2.51	2.43[1]	0.77	0.02
SED-30-6-12	1.41	0.03[1]	1.28	0.00[2]	0.20	0.01
SED-31-0-6	2.81	0.07[1]	1.75	0.96[1]	0.40	0.01
SED-31-6-12	2.96	0.11[1]	1.69	0.00[2]	0.36	0.01
SED-32-0-6	3.71	0.10[1]	2.00	5.06[1]	0.71	0.01
SED-32-6-12	10.00	0.47	3.28	0.00[2]	***1.06***	0.03
SED-33-0-6	5.06	0.39	2.52	0.00[2]	0.62	0.03
SED-33-6-12	1.27	0.10[1]	1.56	0.00[2]	0.22	0.01
SED-33-12-16	1.06	0.05[1]	1.09	0.00[2]	0.17	0.01
SED-34-0-6	3.13	0.13[1]	1.81	0.00[2]	0.39	0.01
SED-34-6-12	2.93	0.05[1]	1.73	0.00[2]	0.36	0.01
SED-35-0-6	2.26	0.18	1.59	0.00[2]	0.31	0.01
SED-35-6-12	1.59	0.04[1]	1.66	0.00[2]	0.25	0.01
SED-36-0-6	4.40	0.21	2.38	0.00[2]	0.53	0.02
SED-36-6-12	1.50	0.09	1.05	0.00[2]	0.20	0.01
SED-37-0-6	4.88	0.25	1.78	0.00[2]	0.53	0.02
SED-37-6-12	2.04	0.15	1.62	0.00[2]	0.29	0.01
SED-38 0	3.26	0.20	1.68	16.50[1]	***1.26***	0.02
SED-39 0"-6"	1.86	0.01[1]	1.70	0.00[2]	0.27	0.01
SED-40 0"-6"	1.90	0.13	1.24	0.00[2]	0.25	0.01
SED-41 0"-6"	1.72	0.04[1]	1.41	1.00[1]	0.29	0.01
SED-42 0"-6"	6.12	0.29	2.23	5.94[1]	0.98	0.02
SED-43 0"-6"	47.50	2.32	12.10	0.00[2]	***4.81***	0.14
SED-44 0"-6"	8.86	0.38	2.62	6.23[1]	***1.24***	0.03
SED-45 0"-6"	5.86	0.27	2.20	2.83[1]	0.79	0.02
SED-46 0"-6"	4.02	0.18	2.15	0.00[2]	0.49	0.02
SED-47 0"-6"	3.18	0.23	1.46	0.00[2]	0.38	0.02
SED-48 0"-6"	2.57	0.09[1]	1.98	0.00[2]	0.35	0.01
SED-48-DUP 0"-6"	2.43	0.01[1]	1.62	0.00[2]	0.30	0.01
SED-49 0"-6"	4.59	0.22	2.11	0.00[2]	0.53	0.02
SED-50 0"-6"	3.64	0.10[1]	1.86	0.91[1]	0.47	0.01

[1] Value is estimated, result below minimum detectable concentration

[2] Negative values below laboratory analytical background are set to zero

Sediment samples SED-38, SED-43, and SED-44 (Figure 1) from the November 2019 sediment sampling event also contained U concentrations above the RUSL. As can be seen in Figure 1, SED-19 is located near the flow path of storm water runoff from the facility. SED-20, SED-43,

and SED-44 are just upstream of the Upper Sunset Lake Dike, and SED-22 and SED-38 are just upstream of the Lower Sunset Lake Dike. These results seem to indicate that the dikes are serving as effective impounding barriers. The samples containing uranium (U) noted above were located near the northern edges of Upper and Lower Sunset Lakes closest to the facility. Samples collected farther from the edge of the lakes contained lower or non-detectable U concentrations. This observation coupled with the lack of U within the upper surficial groundwater immediately up-gradient of Upper Sunset Lake and Lower Sunset Lake indicates that the U was transported to the lakes via overland flow. Concentrations above the residential-use screening level (RUSL) were not detected in samples collected up-gradient of the entrance dike nor down-gradient of the Lower Sunset Lake Dike, indicating that the extent of the elevated U is confined between these structures. The dikes restrict the flow of surface water causing a pooling effect, which would encourage any suspended solids to settle out upstream of the dikes.

As there are no current activities that would be a likely source of the detected U, transport of impacted soil and sediments from historical events are the likely source of radiological impacts. The only known historical event that may have resulted in U being transported to the on-site Upper and Lower Sunset Lake sediments is the West Lagoon 1 release which occurred in October 1971 and was documented in the 1977 NRC Environmental Impact Appraisal (EIA). The 1977 NRC EIA also concluded that the causeway/dike structures restricted the potential impact of the West Lagoon 1 release.

Sample location SED-32 was sampled at both the surface (top 6 inches) and subsurface interval (6-12 inches below the surface). The surface interval contained radiological concentrations below the RUSL, but the subsurface interval contained radiological concentrations above the RUSL. While this location is still on the WCFFF property and is representative of an industrial use area, it is important to note that subtraction of naturally occurring, background radiation has not been performed. If background radioactivity is subtracted from the sample, it falls below the RUSL.

In order to establish the level of naturally occurring, background radioactivity in the sediment of Mill Creek, sediment samples from two transects were collected upstream of the WCFFF from areas that have not been influenced by activities at the facility. Sediment sample locations SED-51 through SED-56 were selected as areas representative of background conditions within Mill Creek. These locations are protected from potential back flow by the Entrance Dike and are representative of the naturally occurring levels of U found in the surrounding soil of the area. The results of these background sediment sample locations are provided in Table 4.

Table 4: Background Sediment Sampling Results

Sample ID	Analyte (pCi/g)			SOF	SOF
	U-234	U-235	U-238	Resid.	Ind.
SED-51 0"-6"	2.1	ND	1.42	0.26	0.01
SED-51 6"-12"	1.27	ND	1.15	0.18	0.01
SED-52 0"-6"	1.77	ND	1.72	0.26	0.01
SED-52 6"-12"	1.88	ND	1.45	0.25	0.01
SED-53 0"-6"	2.15	0.194	1.45	0.29	0.01
SED-53 6"-12"	2.06	ND	2.34	0.33	0.01
SED-54 0"-6"	1.78	ND	1.36	0.23	0.01
SED-54 6"-12"	1.48	ND	1.87	0.25	0.01
SED-55 0"-6"	2.05	ND	1.74	0.28	0.01
SED-55 6"-12"	1.62	0.155	1.62	0.26	0.01
SED-56 0"-6"	2.02	0.214	1.4	0.28	0.01
SED-56 6"-12"	1.89	ND	1.72	0.27	0.01
SED-56-DUP 0"-6"	2.82	ND	2.11	0.37	0.01
Ave Surface	1.98	0.07	1.52	0.27	
Ave Sub-Surface	1.70	0.03	1.69	0.25	
Total Average	1.84	0.05	1.60	0.26	

As can be seen from Table 4 above, the naturally occurring background levels of U in the sediment represent approximately ¼ of the RUSL. Tc-99 is not a naturally occurring nuclide; therefore it is not expected to be found in background samples. Tc-99 concentrations within the sediment sample analytical results from these locations were below the Minimum Detectable Concentration (MDC). Since U background represents a significant portion of the RUSL, background subtraction is warranted. For the sediment samples with analytical results above the RUSL, the average U background value was subtracted to produce a net sample result. The net sample result, and corresponding SOF values are presented in Table 5.

Table 5: RSL Exceedances With Adjustments to Account for Natural Background Concentrations of U

Sample ID	Analyte (pCi/g)				SOF	SOF
	U-234	U-235	U-238	Tc-99	Resid.	Ind.
SED-19	30.66	2.25	6.58	6.28[1]	***3.44***	0.10
SED-20	60.66	3.07	13.30	0.00[2]	***6.00***	0.17
SED-22	115.16	4.93	26.40	0.00[2]	***11.36***	0.31
SED-32-6-12	8.16	0.42	1.68	0.00[2]	0.80	0.02
SED-38 0	1.42	0.16	0.08	16.50[1]	***1.00***	0.01
SED-43 0"-6"	45.66	2.27	10.50	0.00[2]	***4.55***	0.13
SED-44 0"-6"	7.02	0.33	1.02	6.23[1]	0.98	0.02

[1] Value is estimated, result below minimum detectable concentration

[2] Negative values below laboratory analytical background are set to zero

As can be seen from Table 5 above, sediment sample locations SED-32 and SED-44 net sample results are found to be below the RUSL when adjusted for background U concentrations in the sediment.

Sediment sample locations SED-19, SED-20, SED-22, SED-38, and SED-43 while above RUSL, do not exceed the IUSL. The IUSL is an appropriate screening level for areas of the WCFFF that are representative of industrial use.

It is also important to note that all sediment samples collected downstream of the Lower Sunset Lake Dike are below the RUSL when adjusted for background. Sediment sample locations SED-29 through SED-31 represent the area just upstream of the Exit Dike and the WCFFF boundary. It would be expected that if impacted sediment were to migrate out of Lower Sunset Lake that the area upstream of the Exit Dike would be a likely settling point. The average Residential SOF of these three samples is 0.42 and the background adjusted net Residential SOF is 0.15, indicating that there is no concern for the potential migration of impacted sediment from the WCFFF.

Conclusions

In total, 63 unique sediment samples were collected from 46 locations across the WCFFF and within Mill Creek crossing the Southern portion of the WCFFF. Several upstream areas were sampled to establish the naturally occurring background U concentrations that would be expected in every sample. Sediment samples were collected from multiple transects in Upper and Lower Sunset Lake where migration of contamination may occur in the sediment. Sediment samples were also collected from several sections of Mill Creek downstream of the Lower Sunset Lake Dike where no migration of impacted sediment was expected to be observed.

A review of the sediment analytical results concludes that naturally occurring U is expected to be present in the sediment samples and that the background levels are significant enough to warrant background subtraction. Areas of U impact above the RUSL were observed in Upper and Lower Sunset Lake, but the detected levels of sediment impact do not pose a risk to public health and safety, the environment, or to the workers at the WCFFF. The sediment impacts above RUSL

were located just upstream of the dikes in both Upper and Lower Sunset Lakes. This supports the conclusion that the dikes are functioning as effective impounding barriers. Fast moving water can carry solids downstream in a suspended form. Restricting the flow of surface water causes pooling, which encourages suspended solids to settle out of the water. Therefore, it is expected that the sediment analytical results upstream of the Lower Sunset Lake Dike represents the furthest downstream extent of sediment impact from the WCFFF.

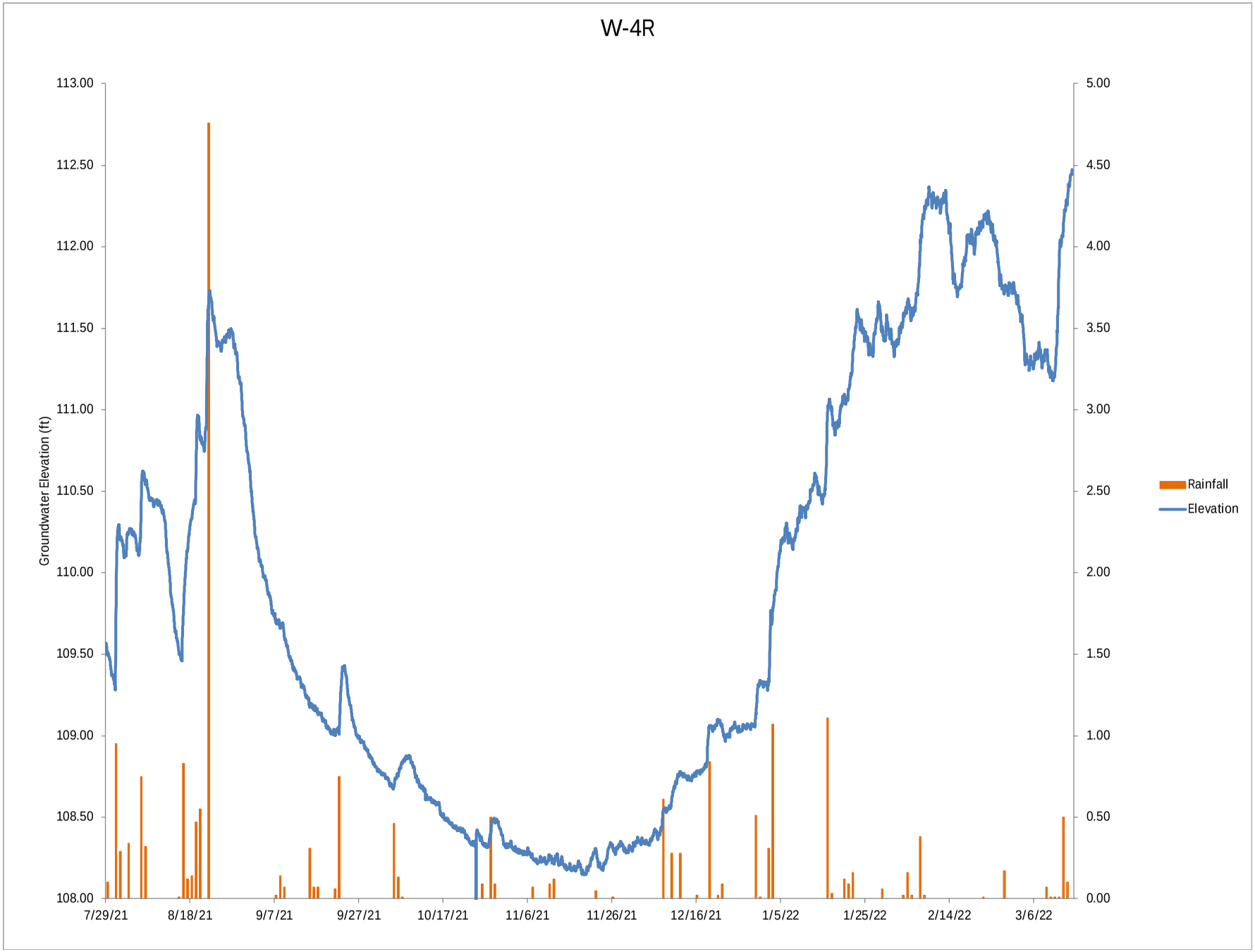
Most importantly, no contamination above the RUSL was identified downstream of the Lower Sunset Lake Dike. Sediment samples collected upstream of the Exit Dike, and subsequently the WCFFF property boundary, indicate that there is no concern for the potential migration of impacted sediment from the facility. Should elevated sample results be identified in the future, or isolated incidents such as environmental releases raise the potential for the migration of contamination, additional monitoring and potentially remedial action may be necessary. However, the only action that is required at this time is the continued environmental monitoring of Mill Creek as part of the WCFFF periodic environmental monitoring program, and the continued implementation of the DHEC Consent Agreement and associated Remedial Investigation Work.

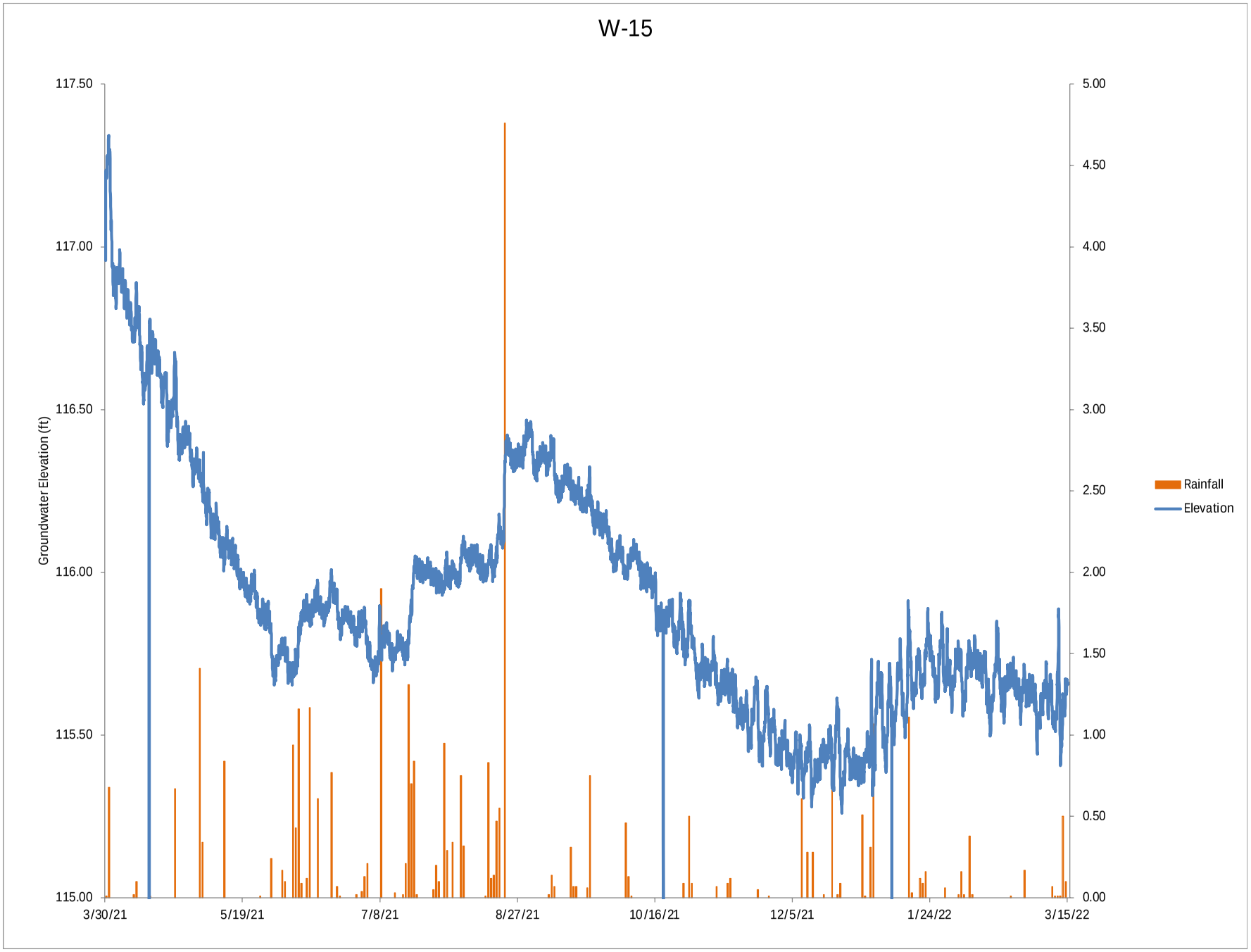
References

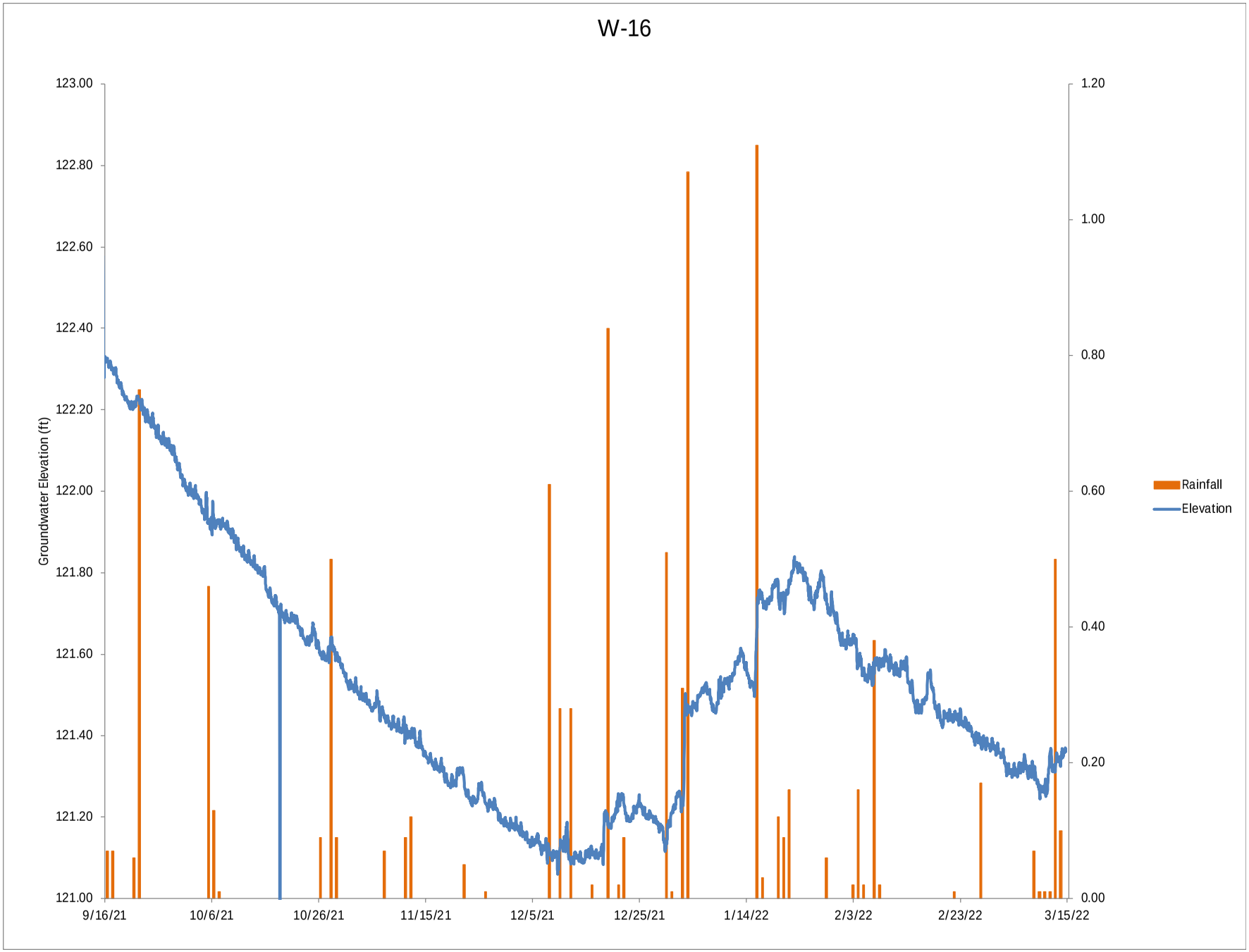
NRC 2006. *Consolidated Decommissioning Guidance: Decommissioning Process for Materials Licensees*, NUREG-1757, Vol. 1, Rev. 2.

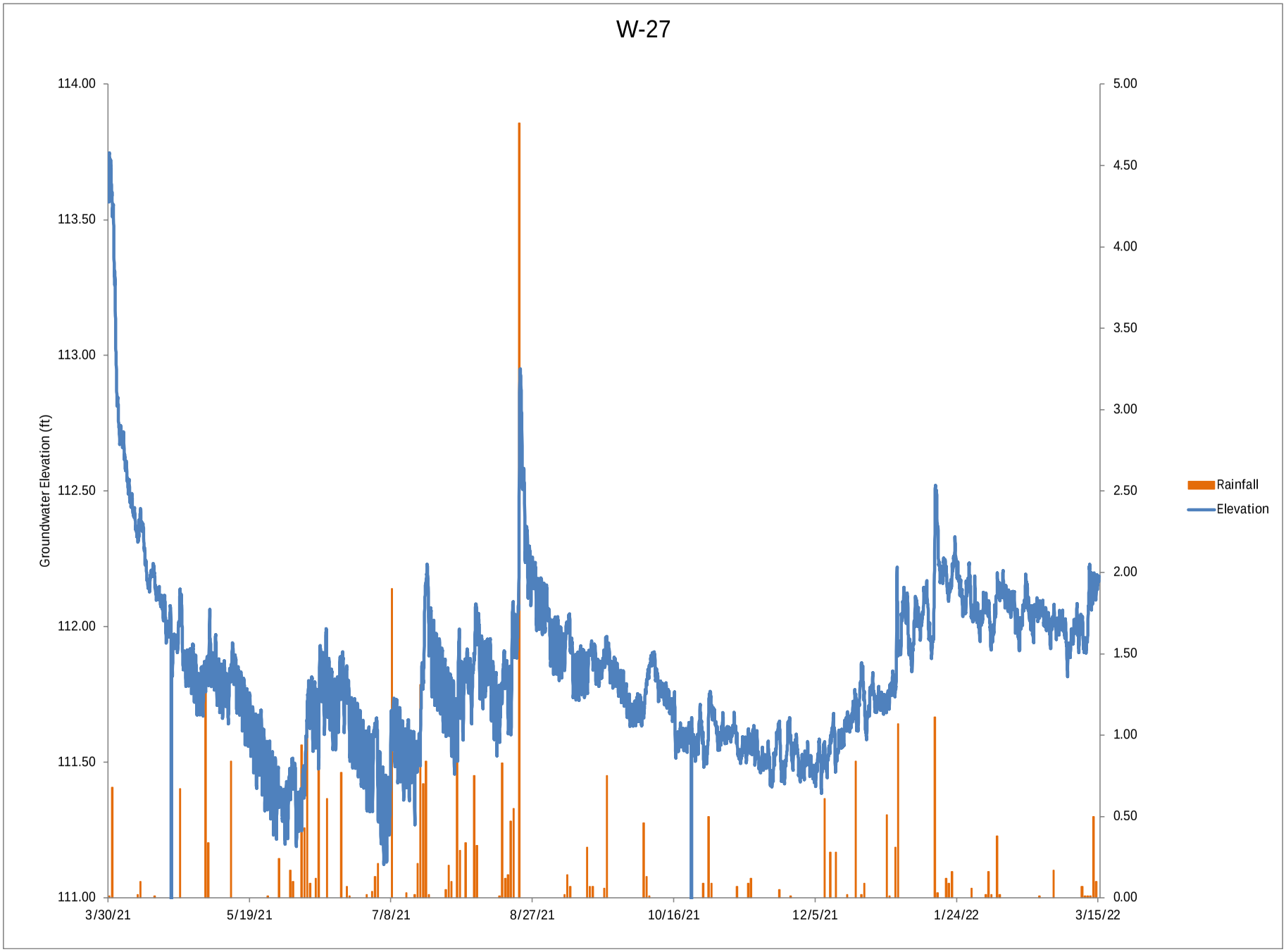
NRC 2006. *Consolidated Decommissioning Guidance: Characterization, Survey, and Determination of Radiological Criteria*, NUREG-1757, Vol. 2, Rev. 1.

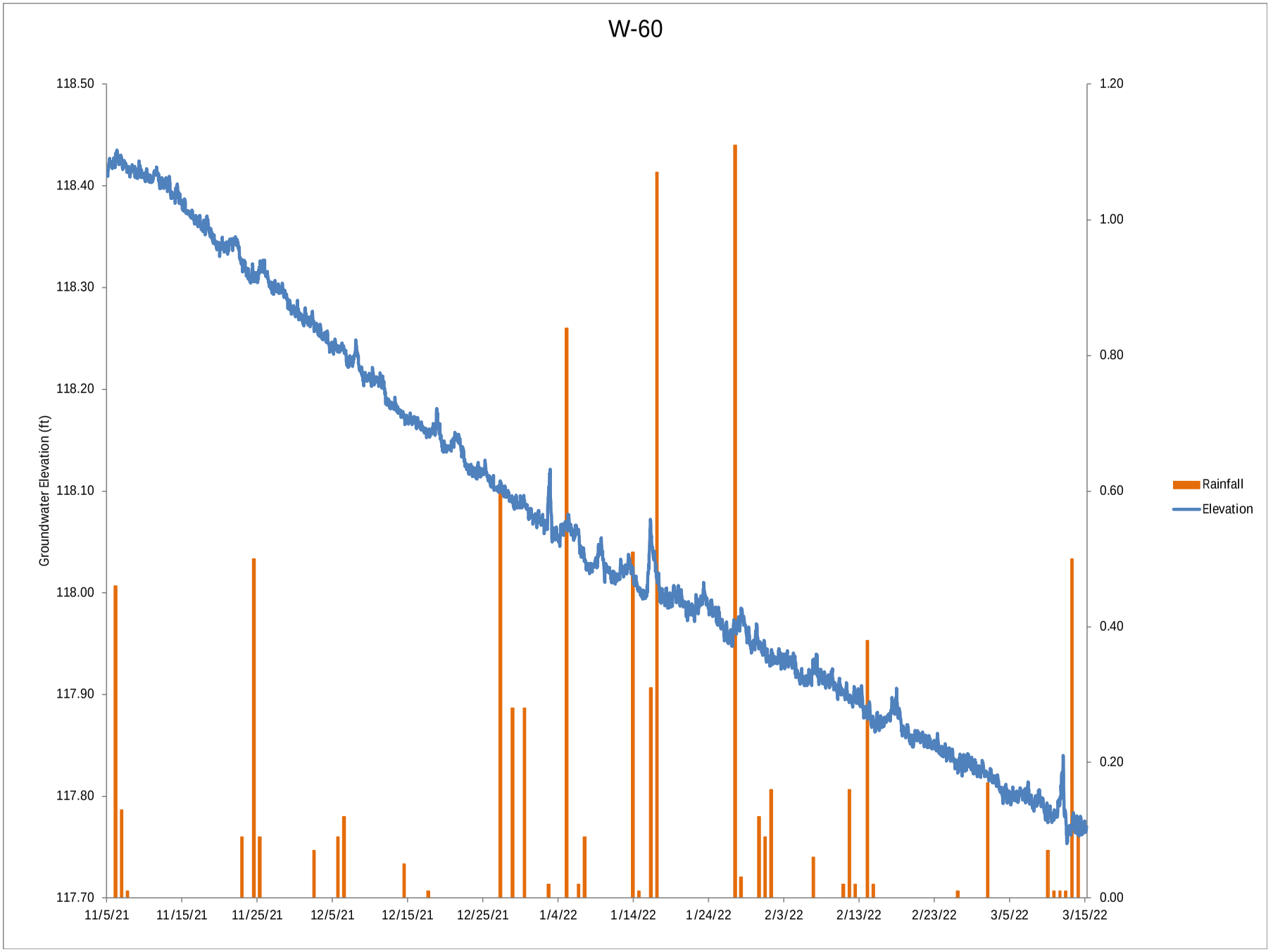
Appendix X
Pressure Transducer Hydrographs

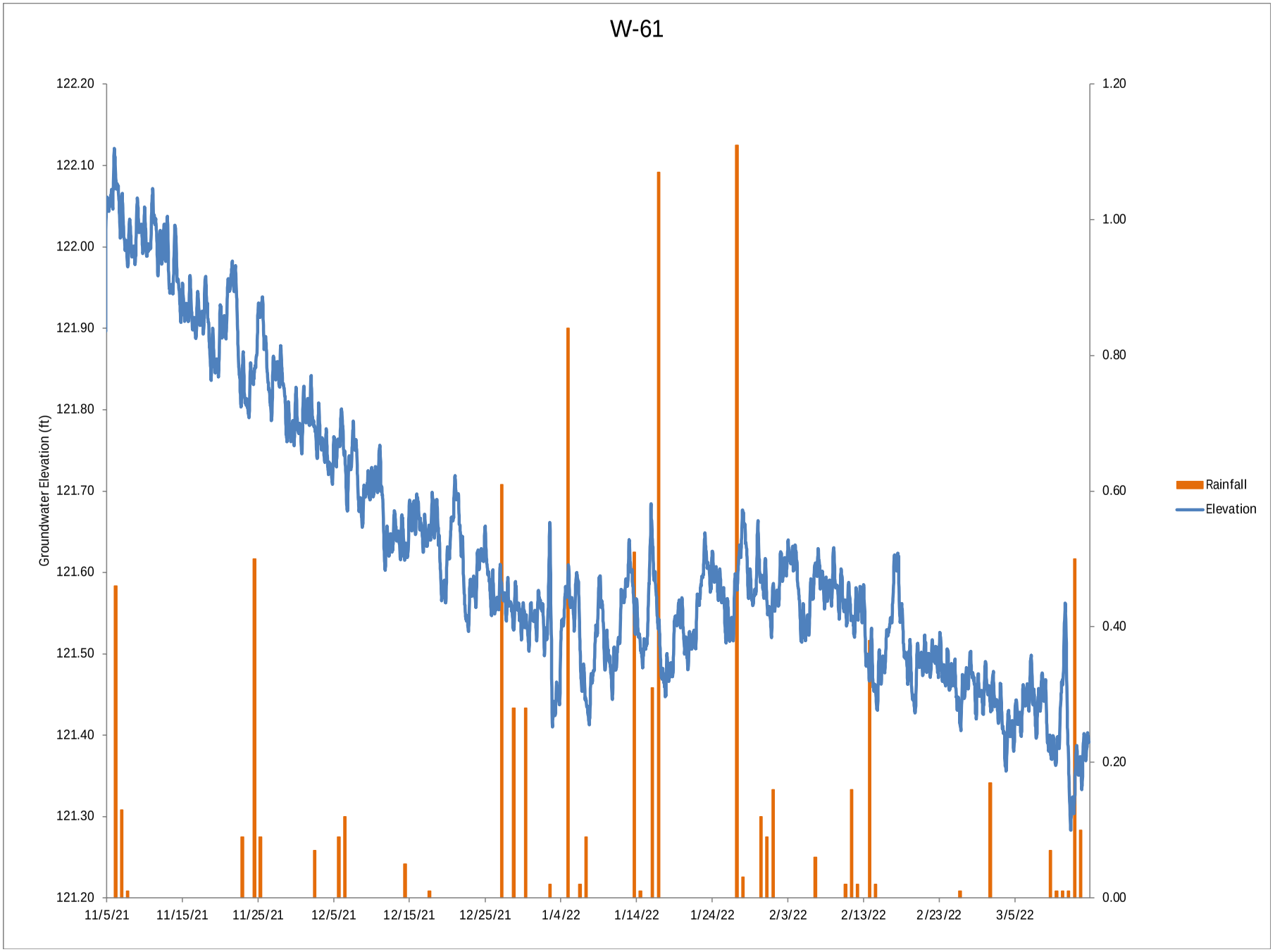

W-4R
Groundwater Elevation (ft)
113.00
112.50
112.00
111.50
111.00
110.50
110.00
109.50
109.00
108.50
108.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
7/29/21
8/18/21
9/7/21
9/27/21
10/17/21
11/6/21
11/26/21
12/16/21
1/5/22
1/25/22
2/14/22
3/6/22
Rainfall
Elevation

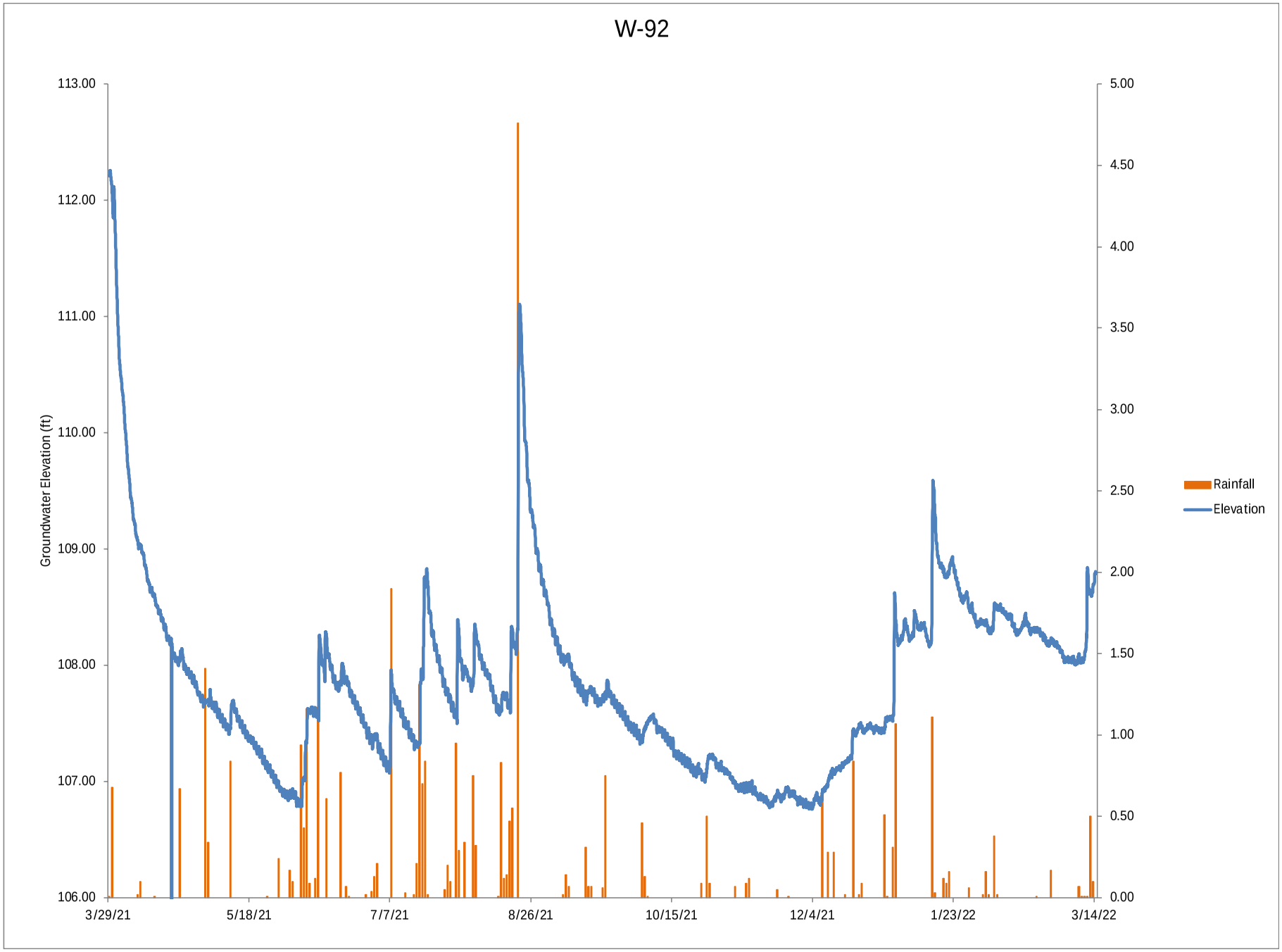

W-15
Groundwater Elevation (ft)
117.50
117.00
116.50
116.00
115.50
115.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/30/21
5/19/21
7/8/21
8/27/21
10/16/21
12/5/21
1/24/22
3/15/22
Rainfall
Elevation

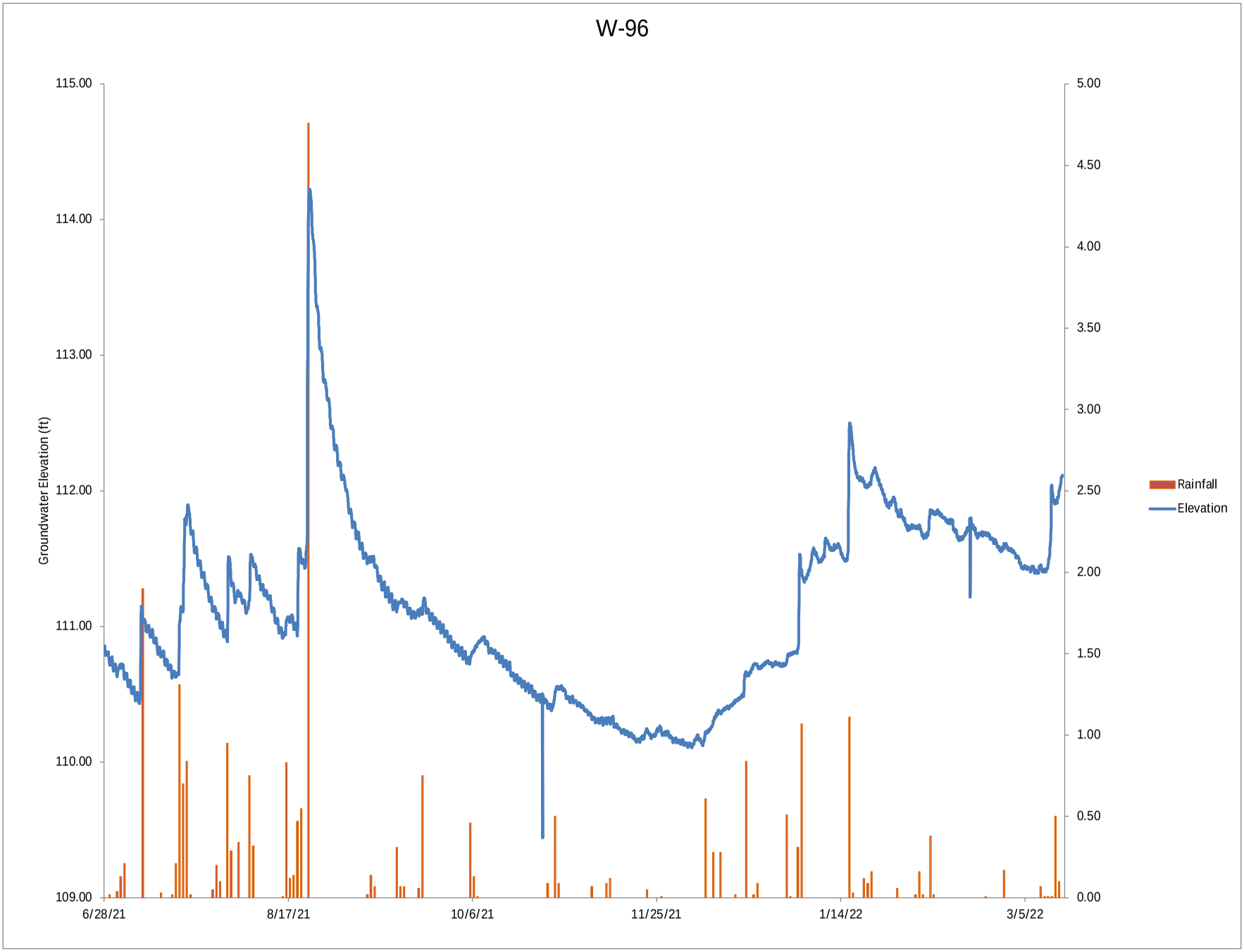

W-16
123.00
122.80
122.60
122.40
122.20
122.00
121.80
121.60
121.40
121.20
121.00
Groundwater Elevation (ft)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
9/16/21
10/6/21
10/26/21
11/15/21
12/5/21
12/25/21
1/14/22
2/3/22
2/23/22
3/15/22
Rainfall
Elevation

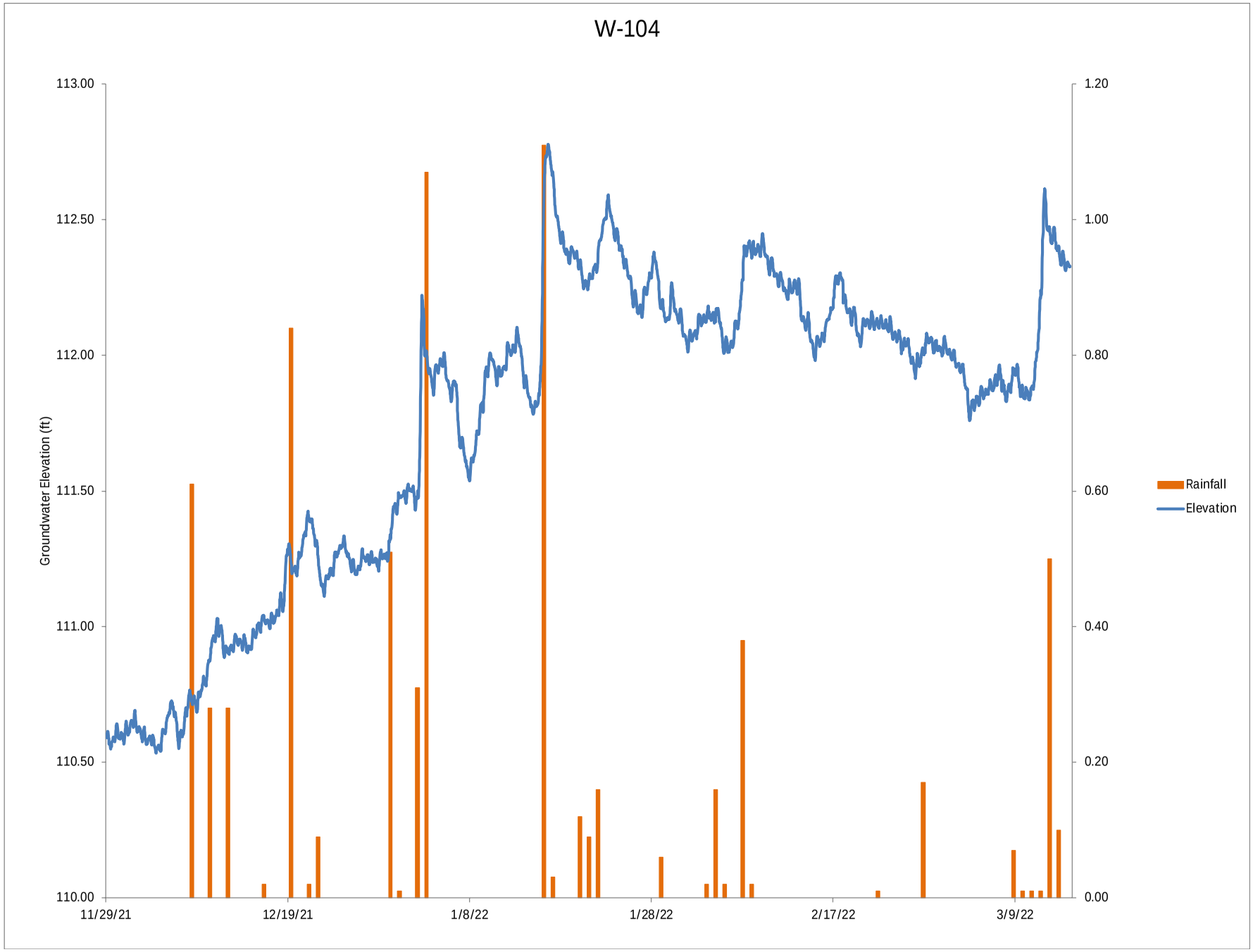

W-27
Groundwater Elevation (ft)
114.00
113.50
113.00
112.50
112.00
111.50
111.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/30/21
5/19/21
7/8/21
8/27/21
10/16/21
12/5/21
1/24/22
3/15/22
Rainfall
Elevation

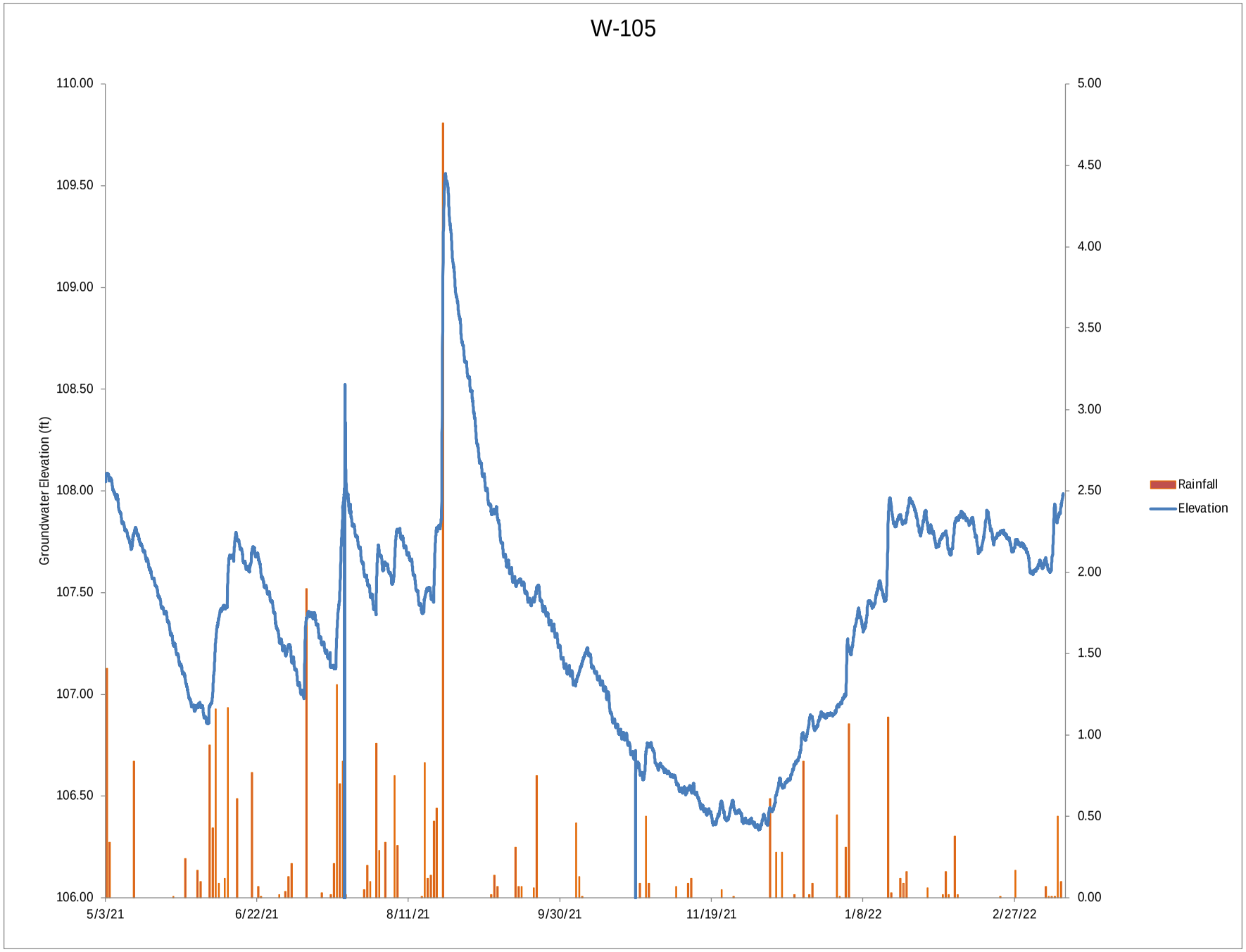

W-60
Groundwater Elevation (ft)
118.50
118.40
118.30
118.20
118.10
118.00
117.90
117.80
117.70
1.20
1.00
0.80
0.60
0.40
0.20
0.00
11/5/21
11/15/21
11/25/21
12/5/21
12/15/21
12/25/21
1/4/22
1/14/22
1/24/22
2/3/22
2/13/22
2/23/22
3/5/22
3/15/22
Rainfall
Elevation

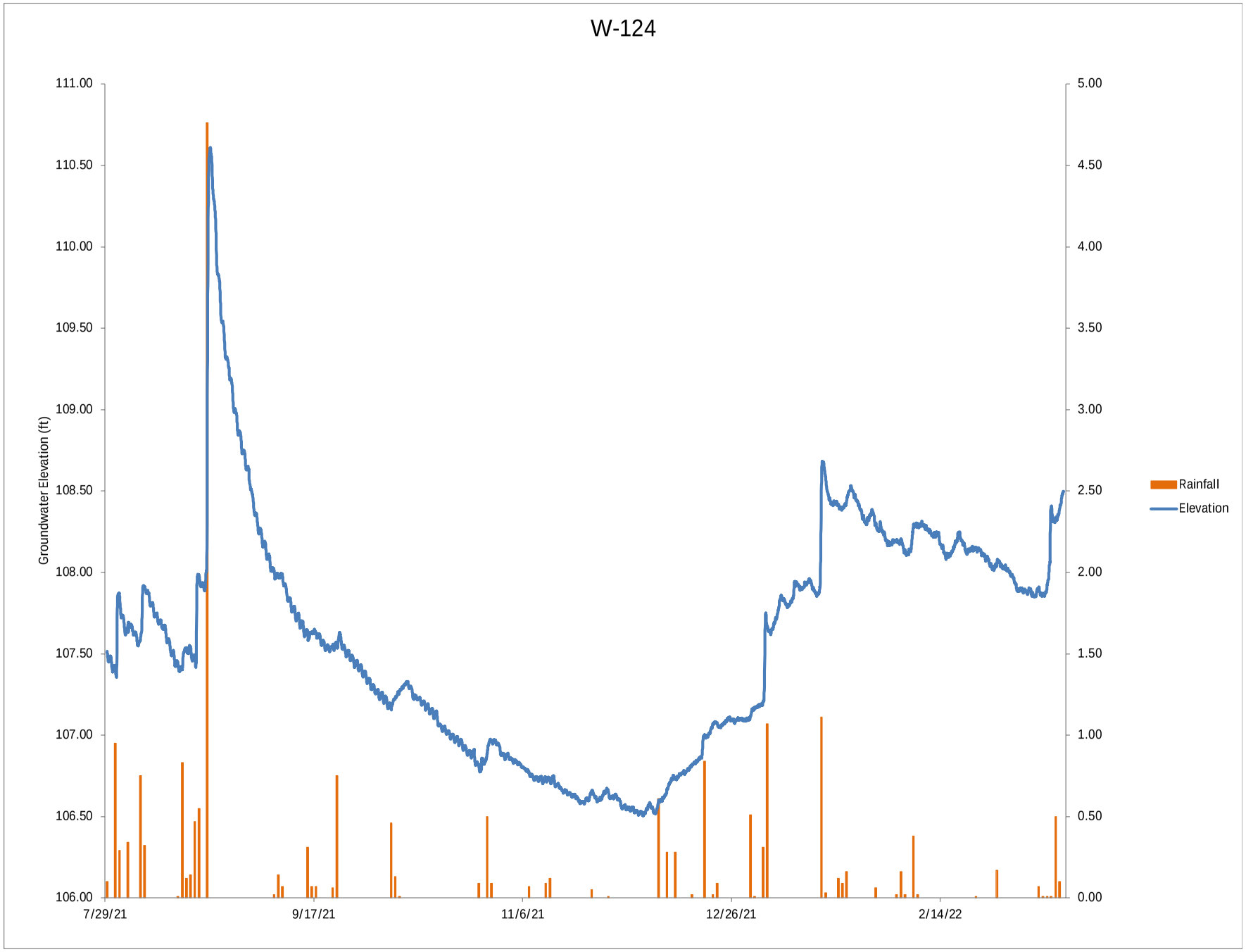

W-61
Groundwater Elevation (ft)
122.20
122.10
122.00
121.90
121.80
121.70
121.60
121.50
121.40
121.30
121.20
1.20
1.00
0.80
0.60
0.40
0.20
0.00
11/5/21
11/15/21
11/25/21
12/5/21
12/15/21
12/25/21
1/4/22
1/14/22
1/24/22
2/3/22
2/13/22
2/23/22
3/5/22
Rainfall
Elevation

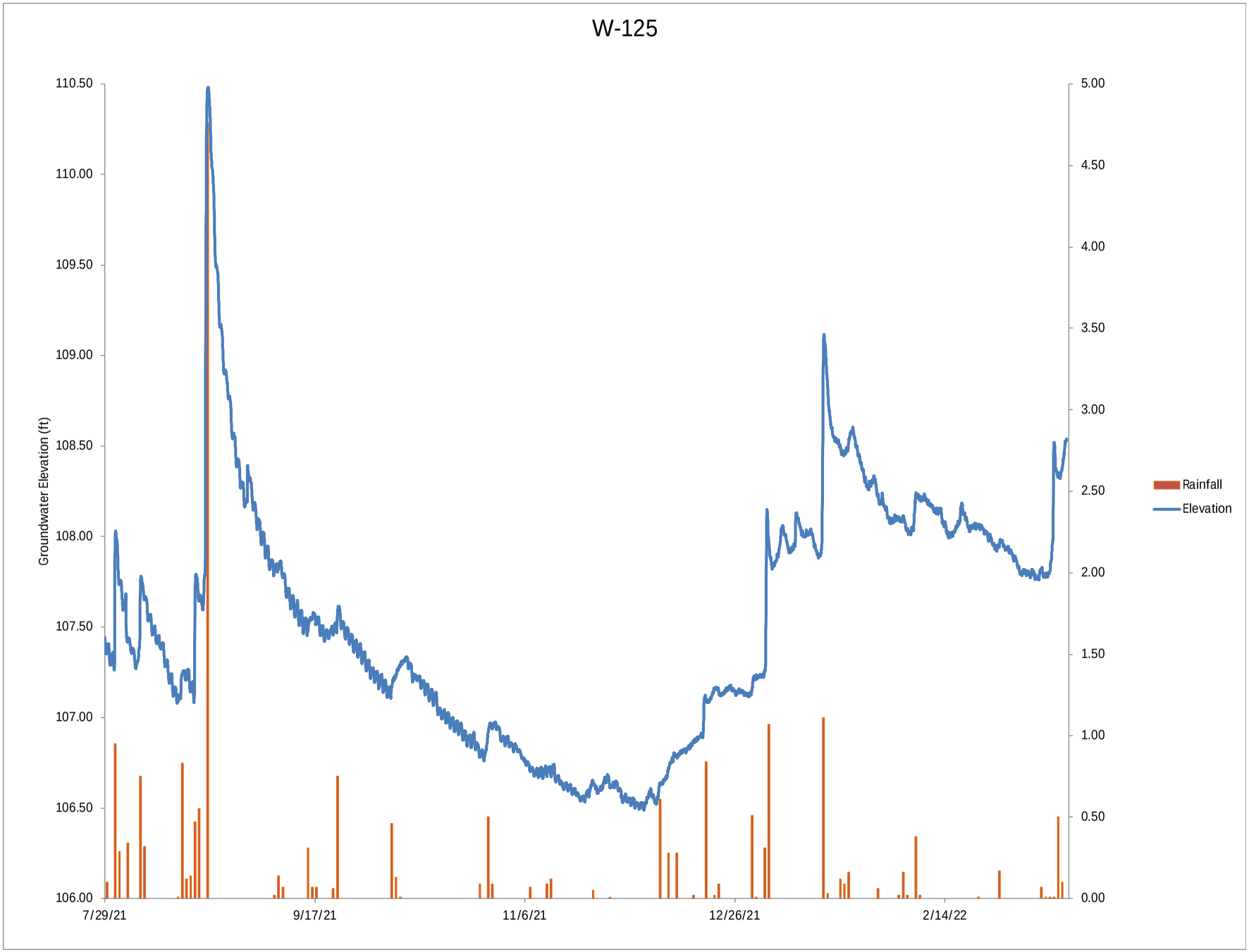

W-92
Groundwater Elevation (ft)
113.00
112.00
111.00
110.00
109.00
108.00
107.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/29/21
5/18/21
7/7/21
8/26/21
10/15/21
12/4/21
1/23/22
3/14/22
Rainfall
Elevation

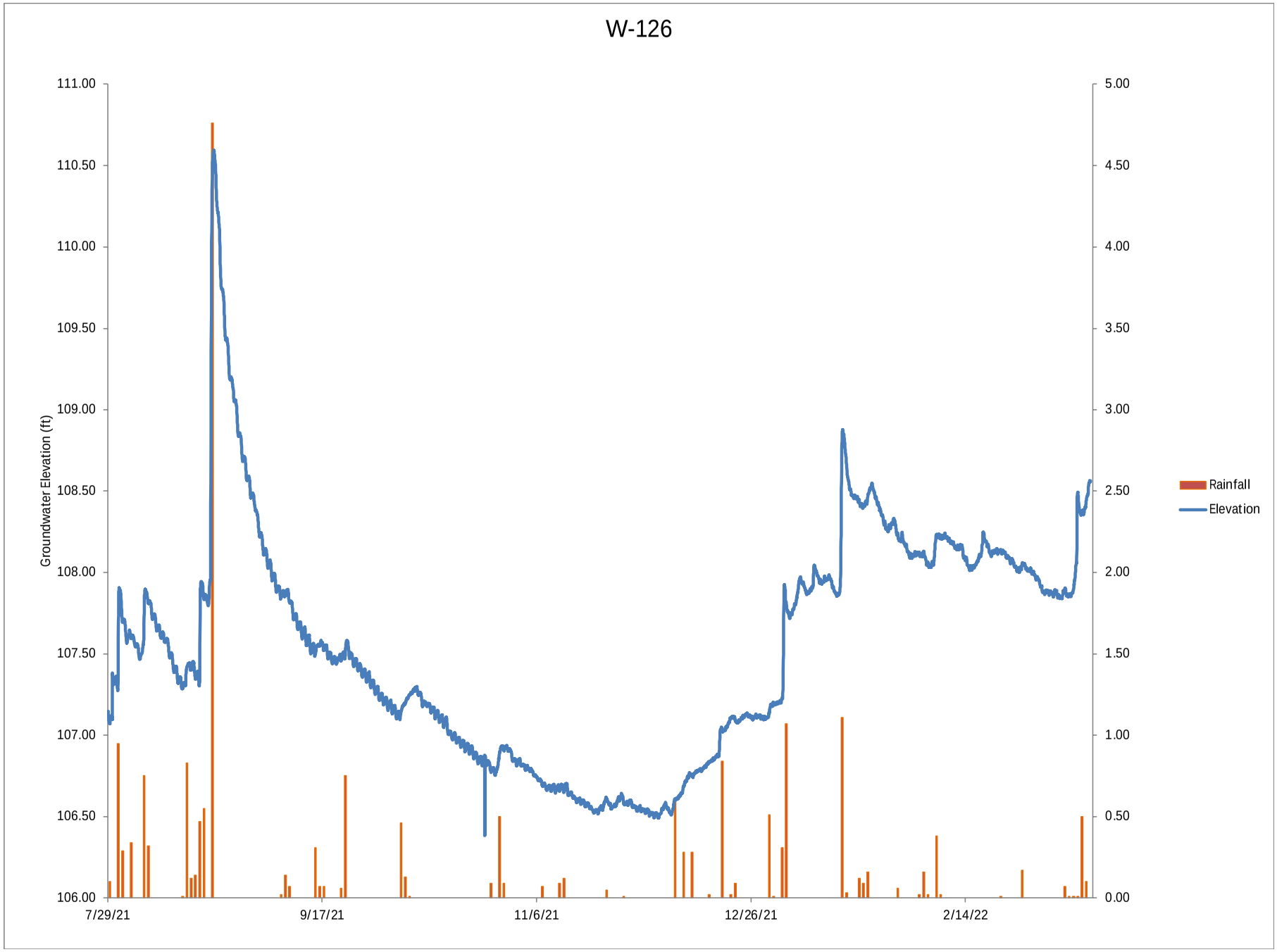

W-96
Groundwater Elevation (ft)
115.00
114.00
113.00
112.00
111.00
110.00
109.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
6/28/21
8/17/21
10/6/21
11/25/21
1/14/22
3/5/22
Rainfall
Elevation

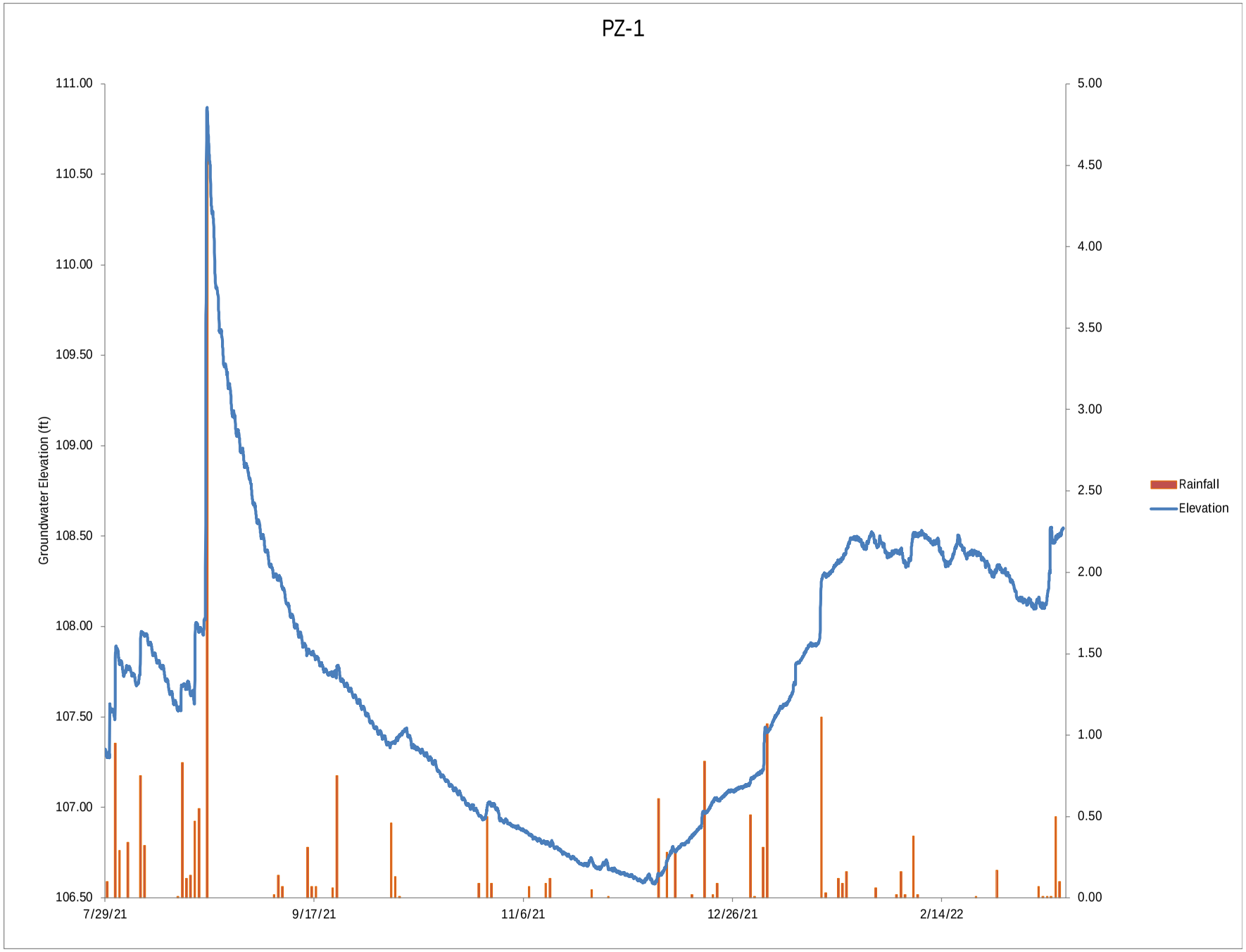

W-104
Groundwater Elevation (ft)
113.00
112.50
112.00
111.50
111.00
110.50
110.00
1.20
1.00
0.80
0.60
0.40
0.20
0.00
11/29/21
12/19/21
1/8/22
1/28/22
2/17/22
3/9/22
Rainfall
Elevation

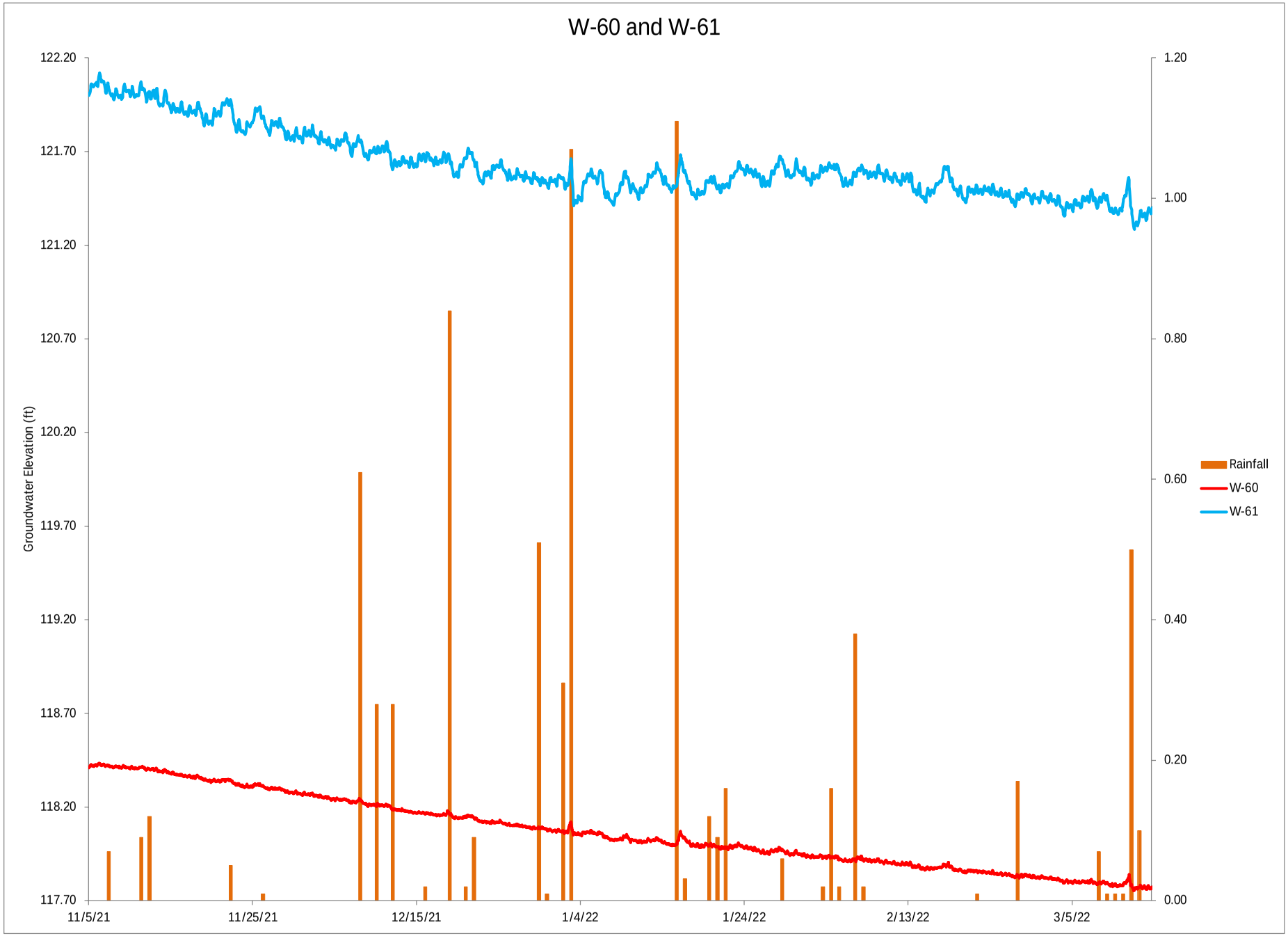

W-105
Groundwater Elevation (ft)
110.00
109.50
109.00
108.50
108.00
107.50
107.00
106.50
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
5/3/21
6/22/21
8/11/21
9/30/21
11/19/21
1/8/22
2/27/22
Rainfall
Elevation

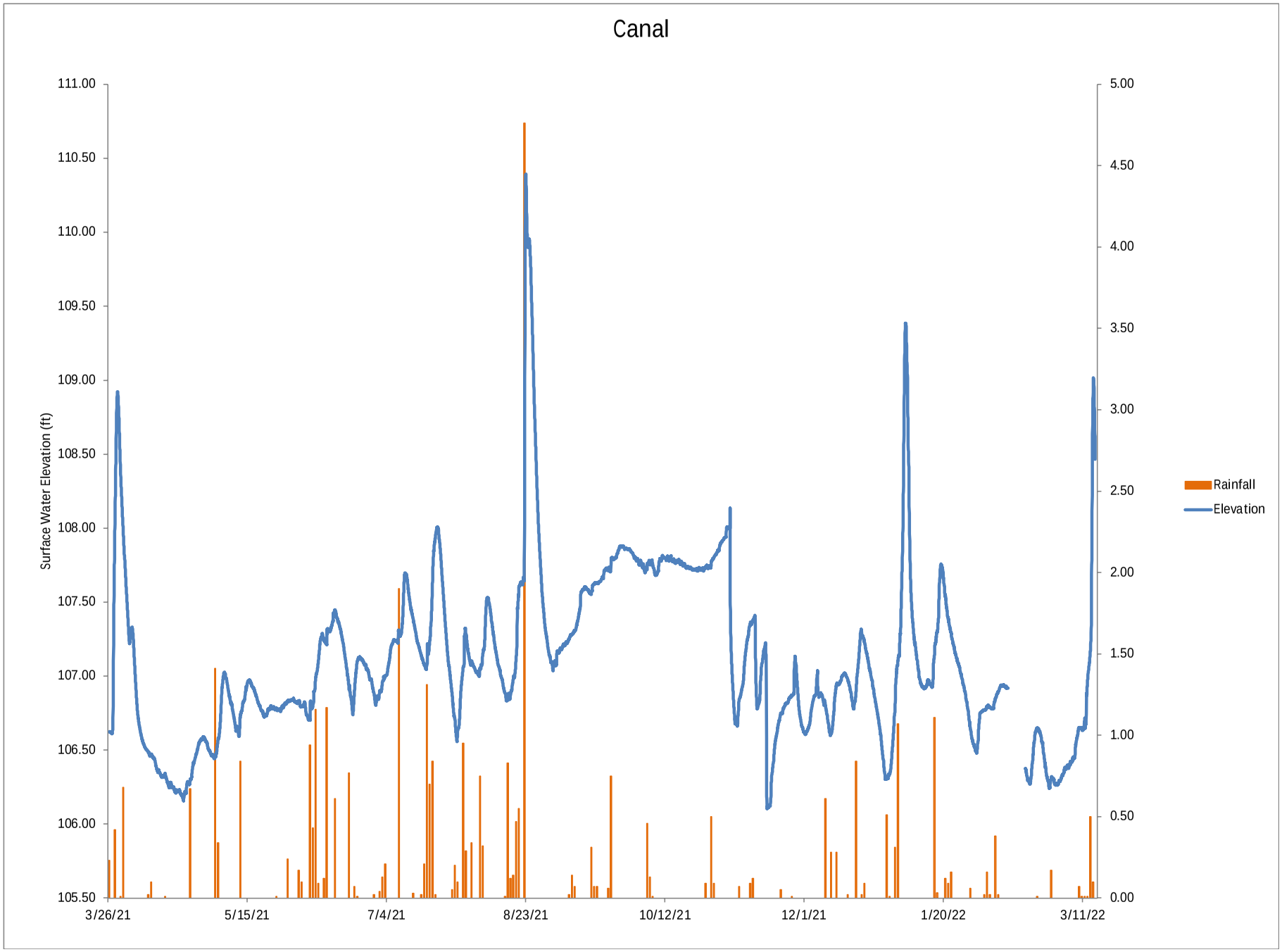

W-124
Groundwater Elevation (ft)
111.00
110.50
110.00
109.50
109.00
108.50
108.00
107.50
107.00
106.50
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
7/29/21
9/17/21
11/6/21
12/26/21
2/14/22
Rainfall
Elevation

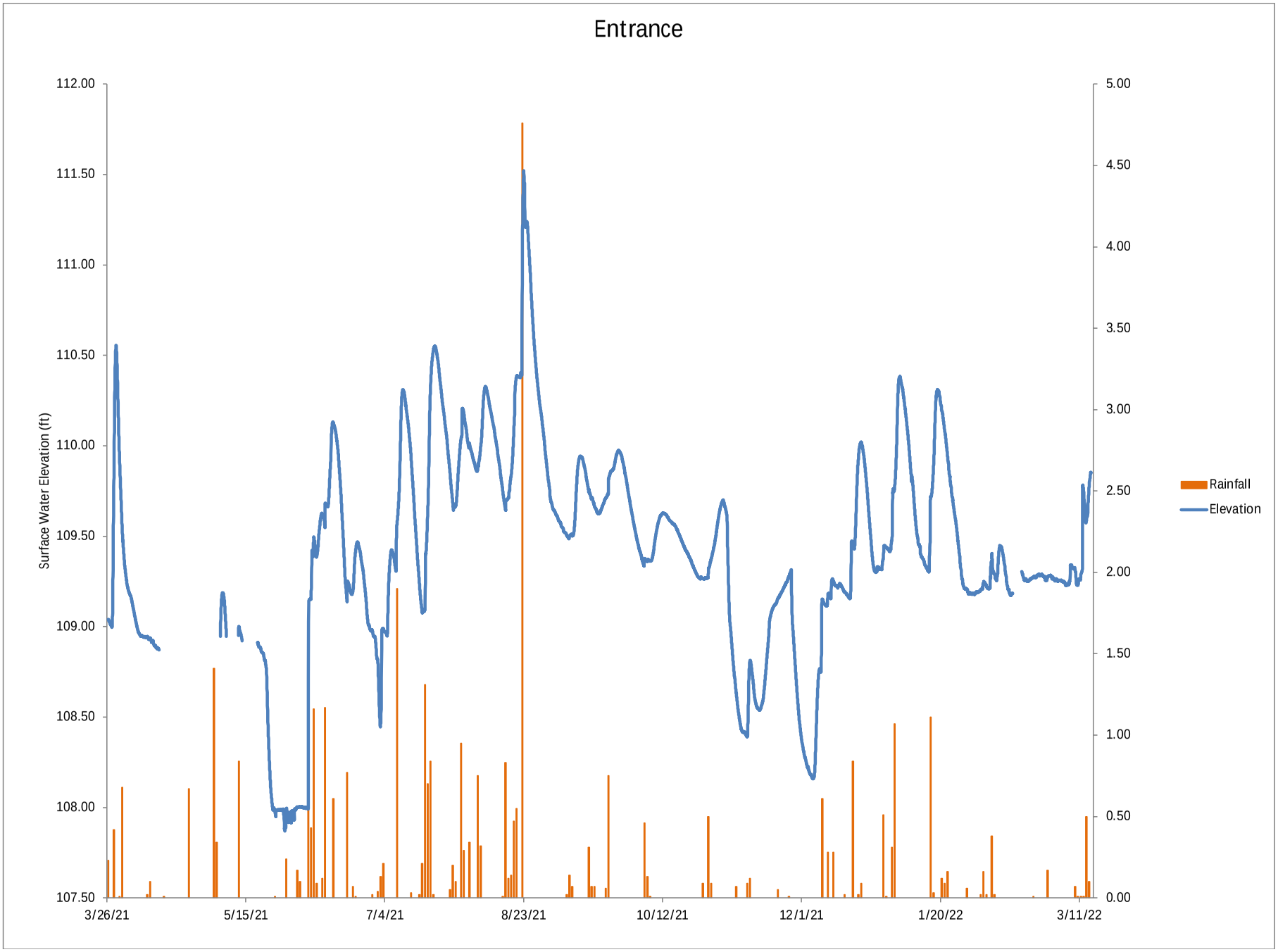

W-125
Groundwater Elevation (ft)
110.50
110.00
109.50
109.00
108.50
108.00
107.50
107.00
106.50
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
7/29/21
9/17/21
11/6/21
12/26/21
2/14/22
Rainfall
Elevation

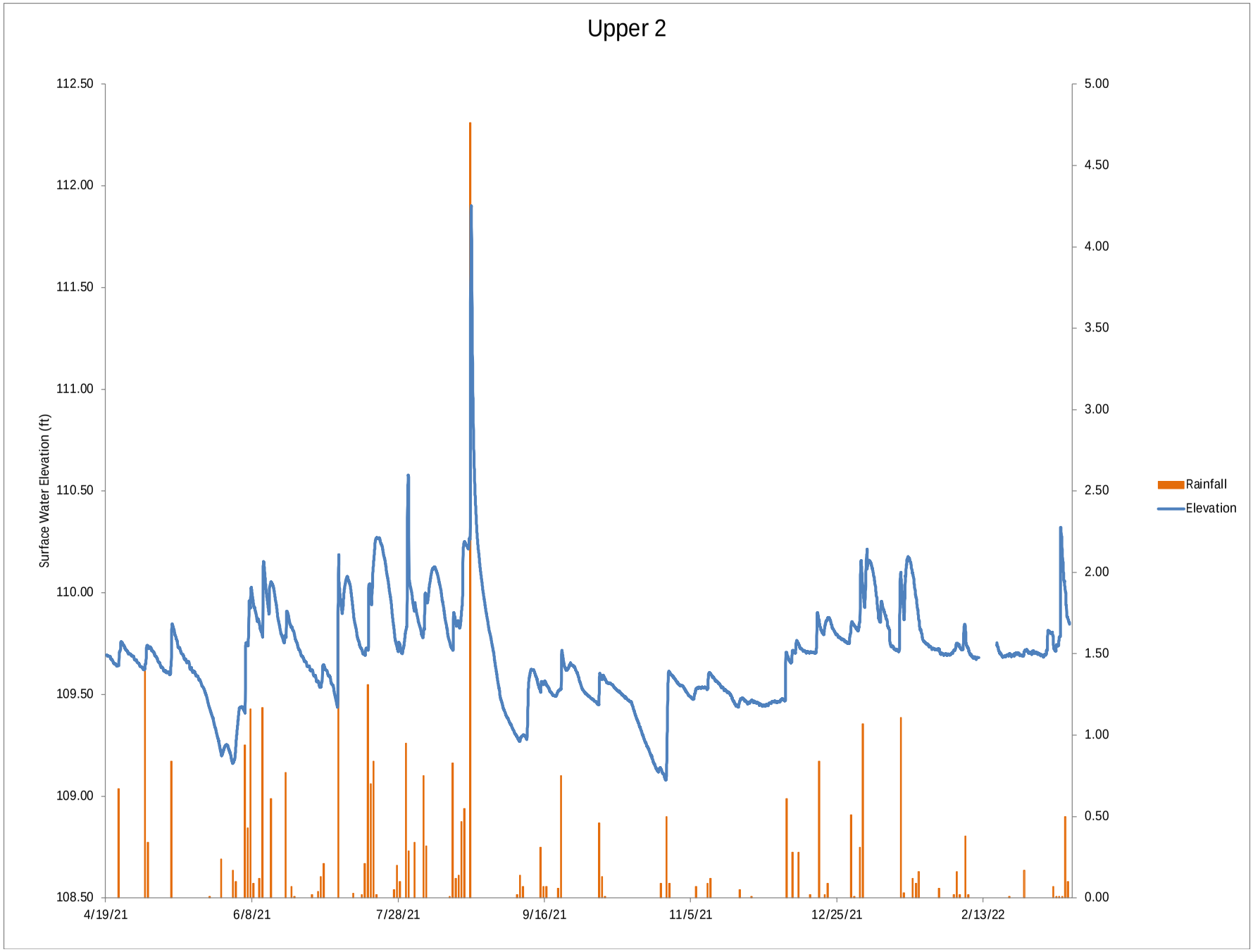

W-126
Groundwater Elevation (ft)
111.00
110.50
110.00
109.50
109.00
108.50
108.00
107.50
107.00
106.50
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
7/29/21
9/17/21
11/6/21
12/26/21
2/14/22
Rainfall
Elevation

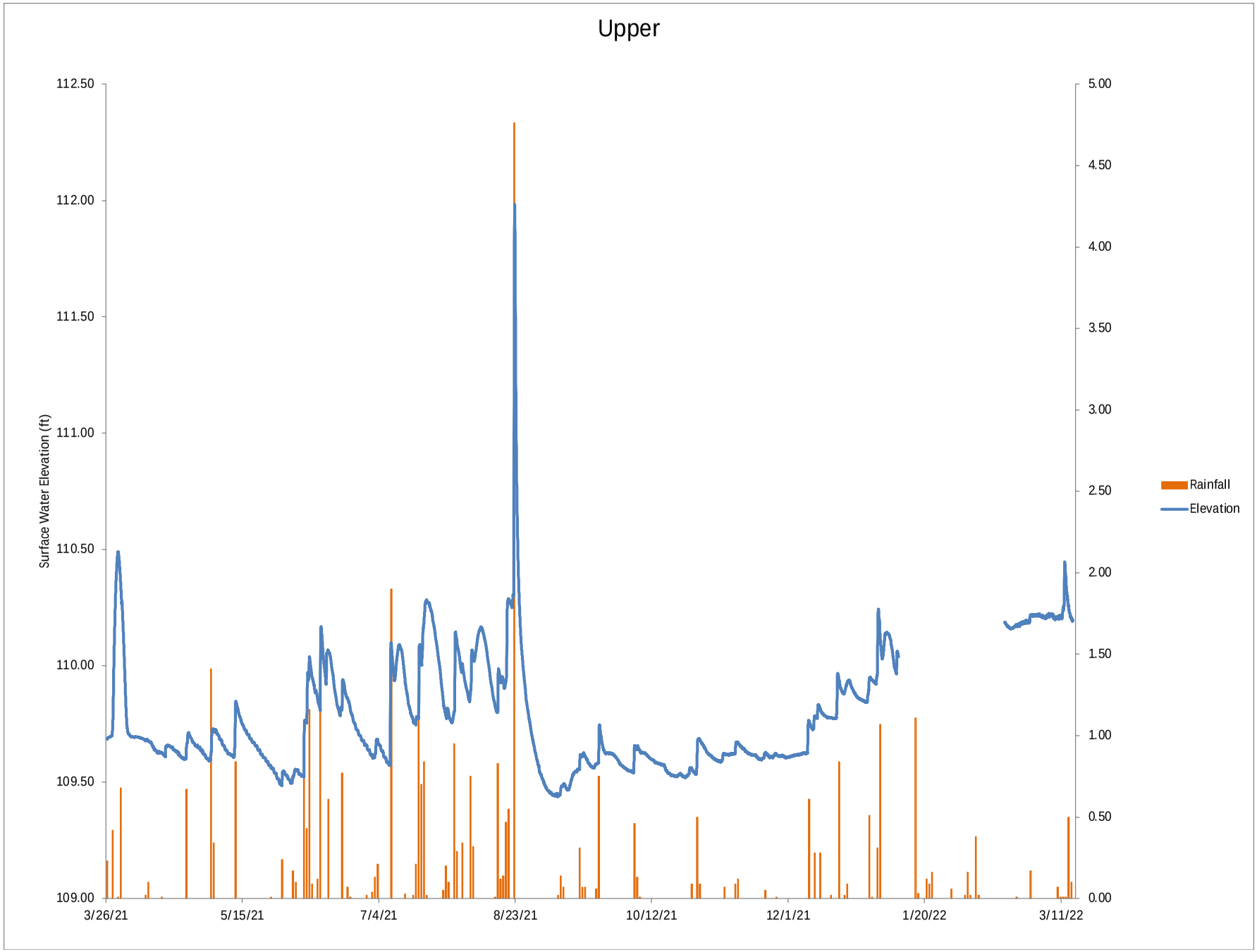

PZ-1
Groundwater Elevation (ft)
111.00
110.50
110.00
109.50
109.00
108.50
108.00
107.50
107.00
106.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
7/29/21
9/17/21
11/6/21
12/26/21
2/14/22
Rainfall
Elevation

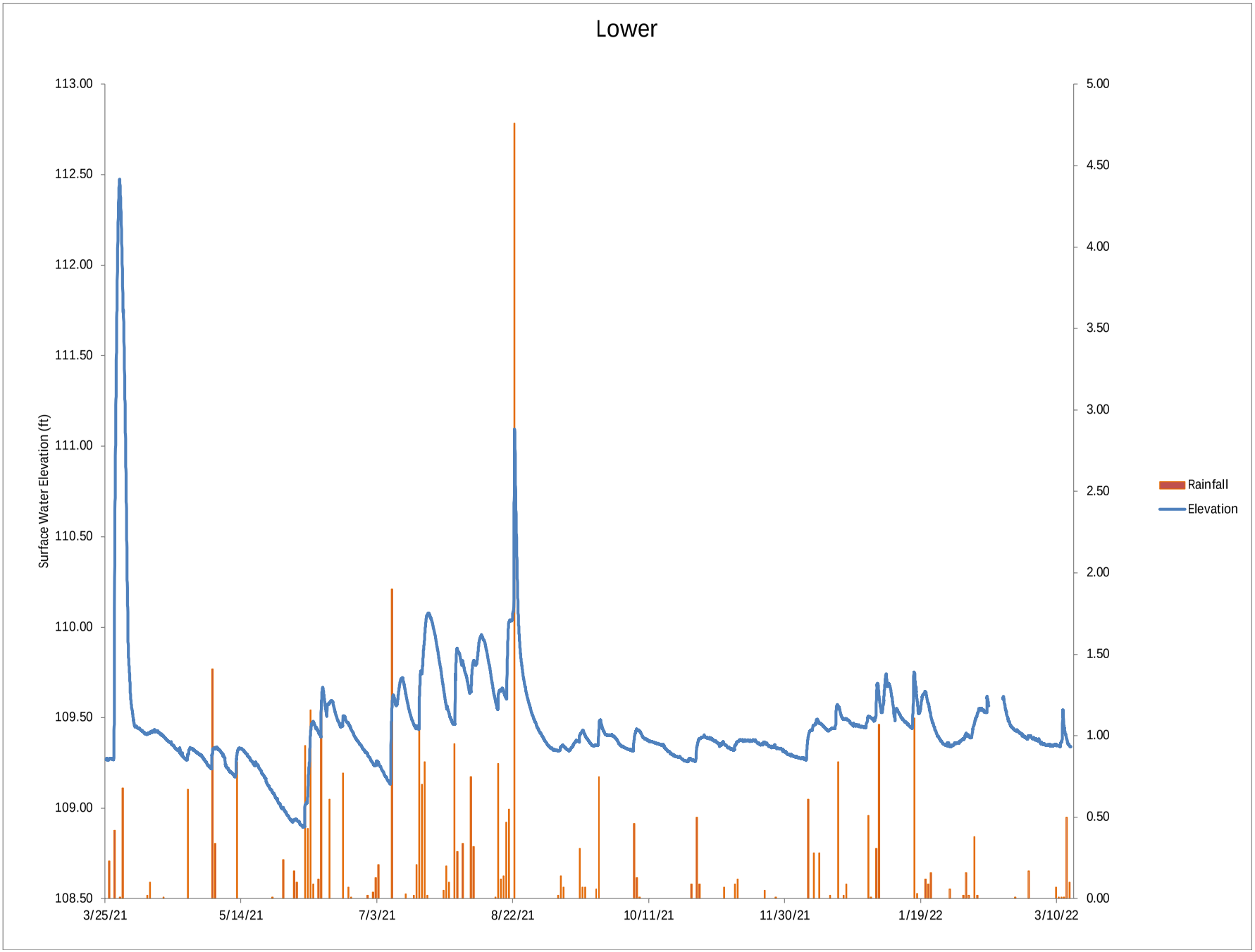

W-60 and W-61
Groundwater Elevation (ft)
122.20
121.70
121.20
120.70
120.20
119.70
119.20
118.70
118.20
117.70
1.20
1.00
0.80
0.60
0.40
0.20
0.00
11/5/21
11/25/21
12/15/21
1/4/22
1/24/22
2/13/22
3/5/22
Rainfall
W-60
W-61


Canal
Surface Water Elevation (ft)
111.00
110.50
110.00
109.50
109.00
108.50
108.00
107.50
107.00
106.50
106.00
105.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/26/21
5/15/21
7/4/21
8/23/21
10/12/21
12/1/21
1/20/22
3/11/22
Rainfall
Elevation

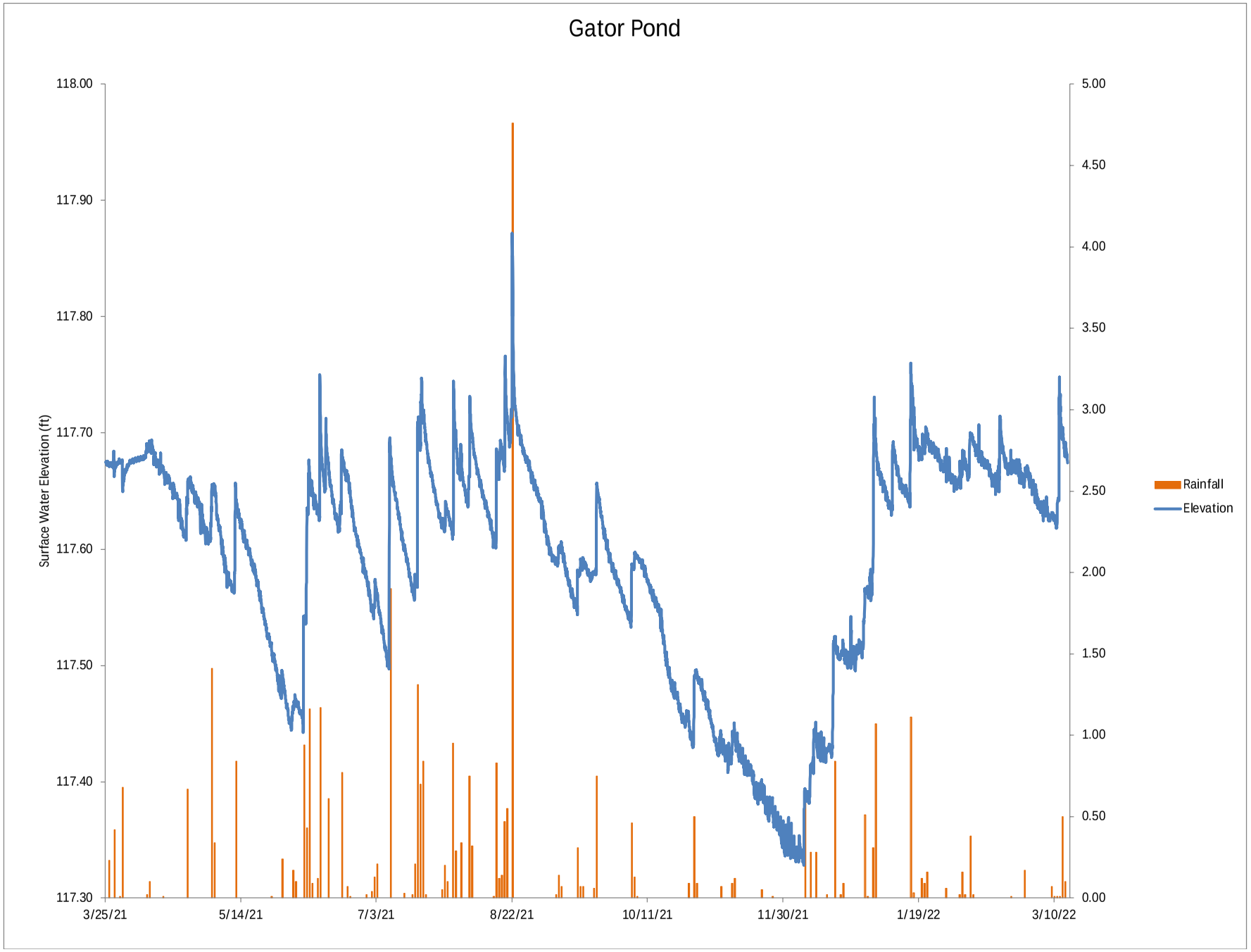

Entrance
Surface Water Elevation (ft)
112.00
111.50
111.00
110.50
110.00
109.50
109.00
108.50
108.00
107.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/26/21
5/15/21
7/4/21
8/23/21
10/12/21
12/1/21
1/20/22
3/11/22
Rainfall
Elevation

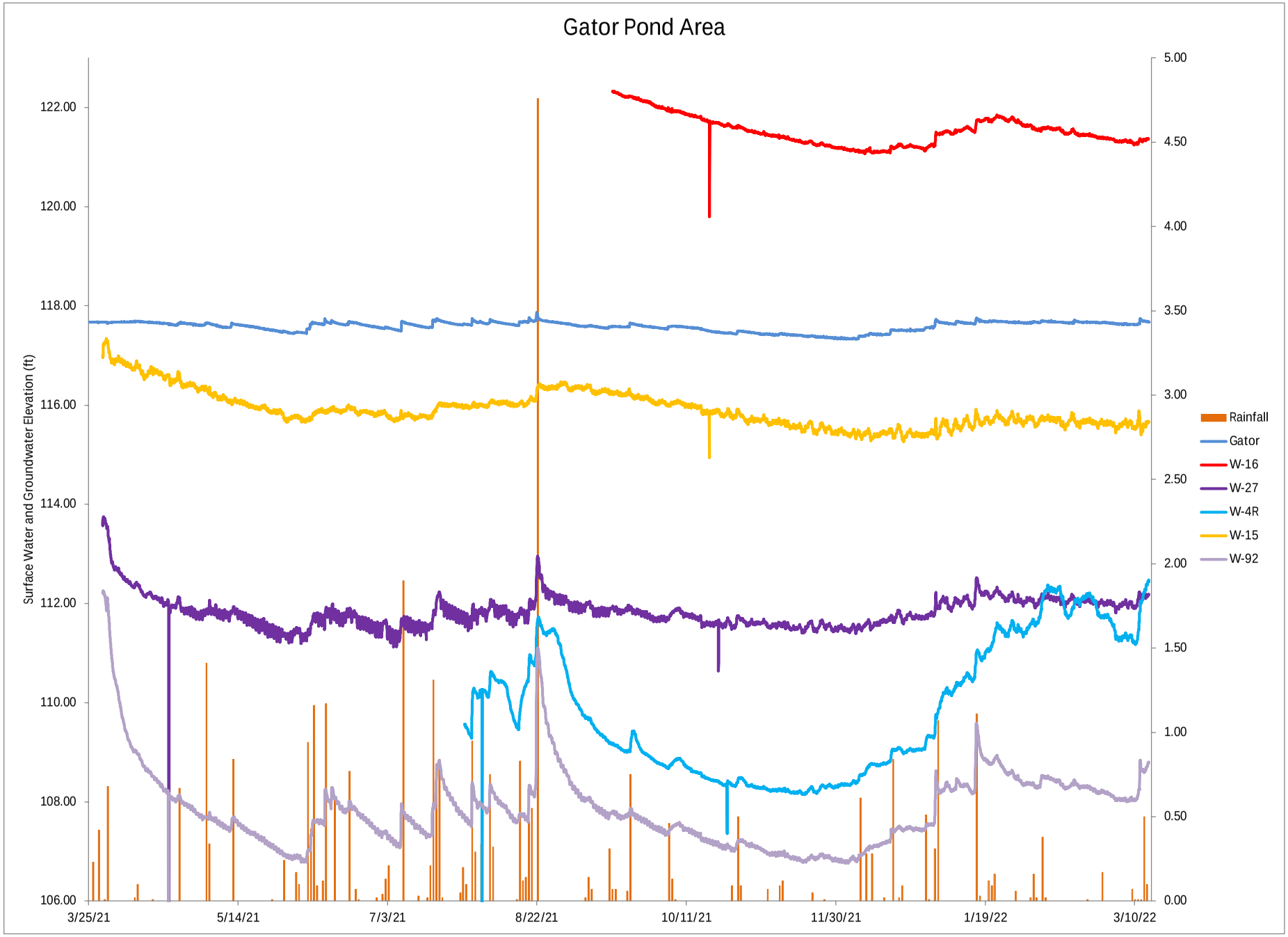

Upper 2
Surface Water Elevation (ft)
112.50
112.00
111.50
111.00
110.50
110.00
109.50
109.00
108.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
4/19/21
6/8/21
7/28/21
9/16/21
11/5/21
12/25/21
2/13/22
Rainfall
Elevation

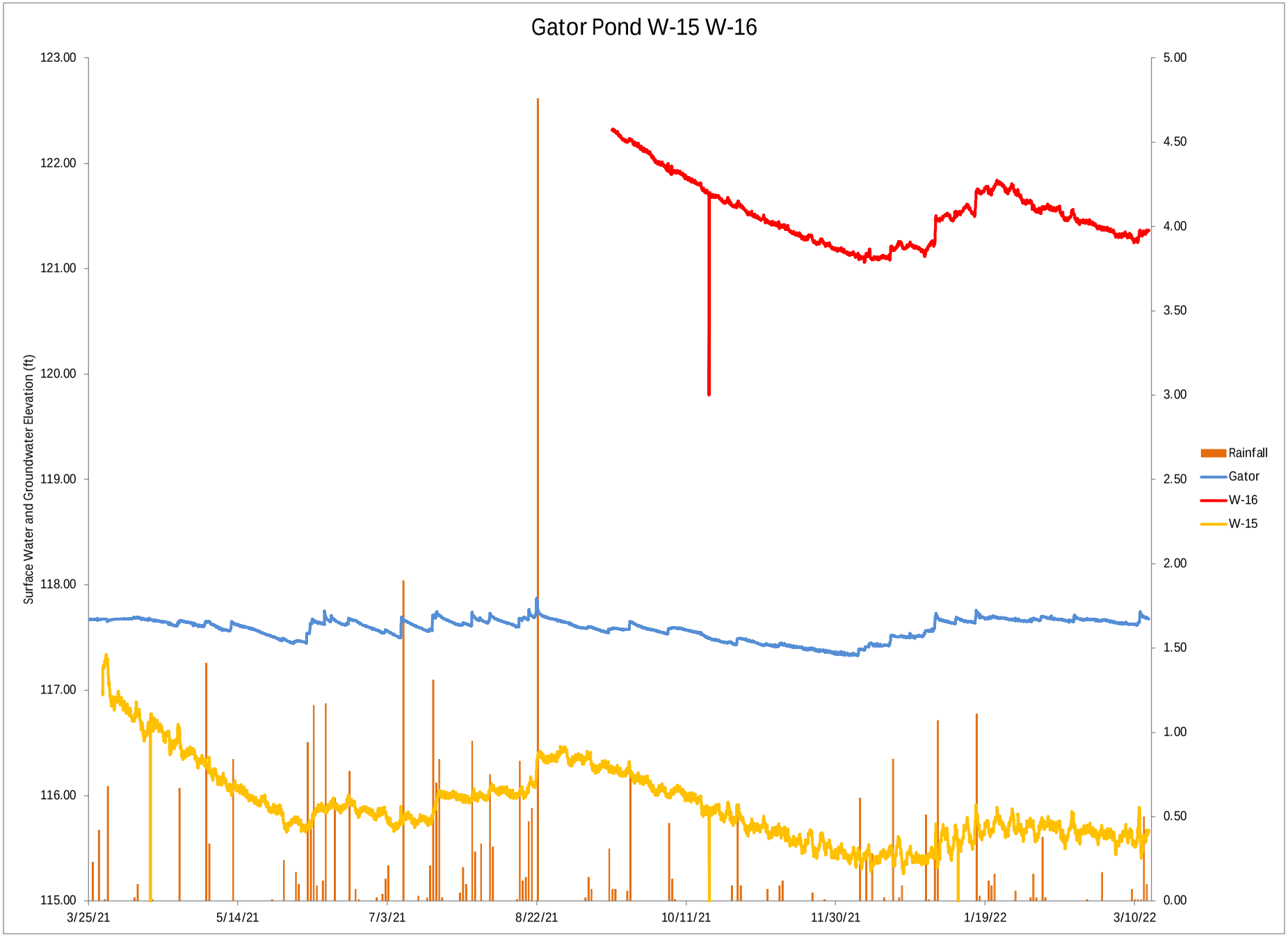

Upper
Surface Water Elevation (ft)
112.50
112.00
111.50
111.00
110.50
110.00
109.50
109.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/26/21
5/15/21
7/4/21
8/23/21
10/12/21
12/1/21
1/20/22
3/11/22
Rainfall
Elevation

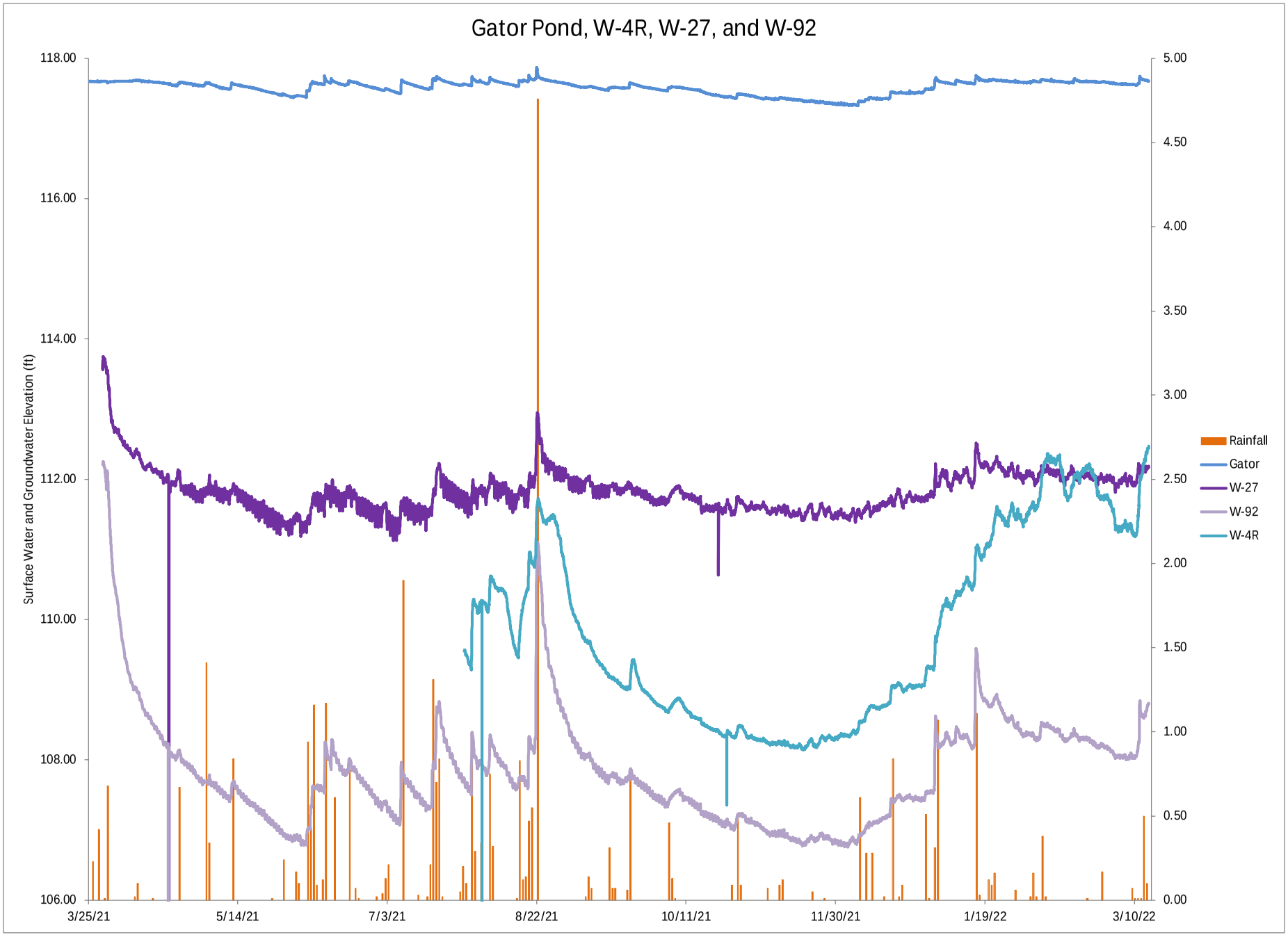

Lower
Surface Water Elevation (ft)
113.00
112.50
112.00
111.50
111.00
110.50
110.00
109.50
109.00
108.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Elevation

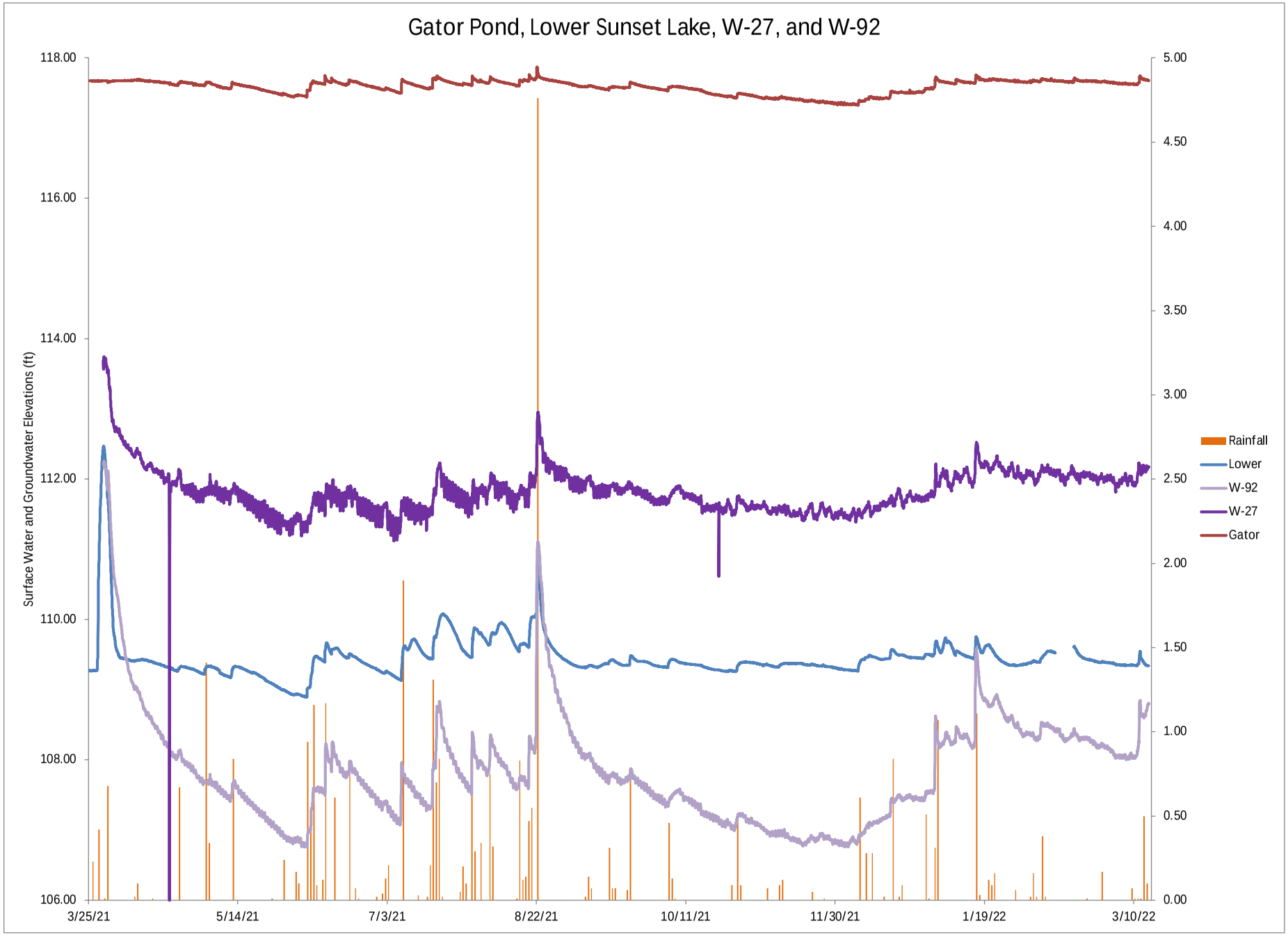

Mill Creek Surface Water
Surface Water Elevation (ft)
113.00
112.00
111.00
110.00
109.00
108.00
107.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/2021 12:00
5/14/2021 12:00
7/3/2021 12:00
8/22/2021 12:00
10/11/2021 12:00
11/30/2021 12:00
1/19/2022 12:00
3/10/2022 12:00
Rainfall
Canal
Lower
Upper
Upper 2
Entrance
Creek

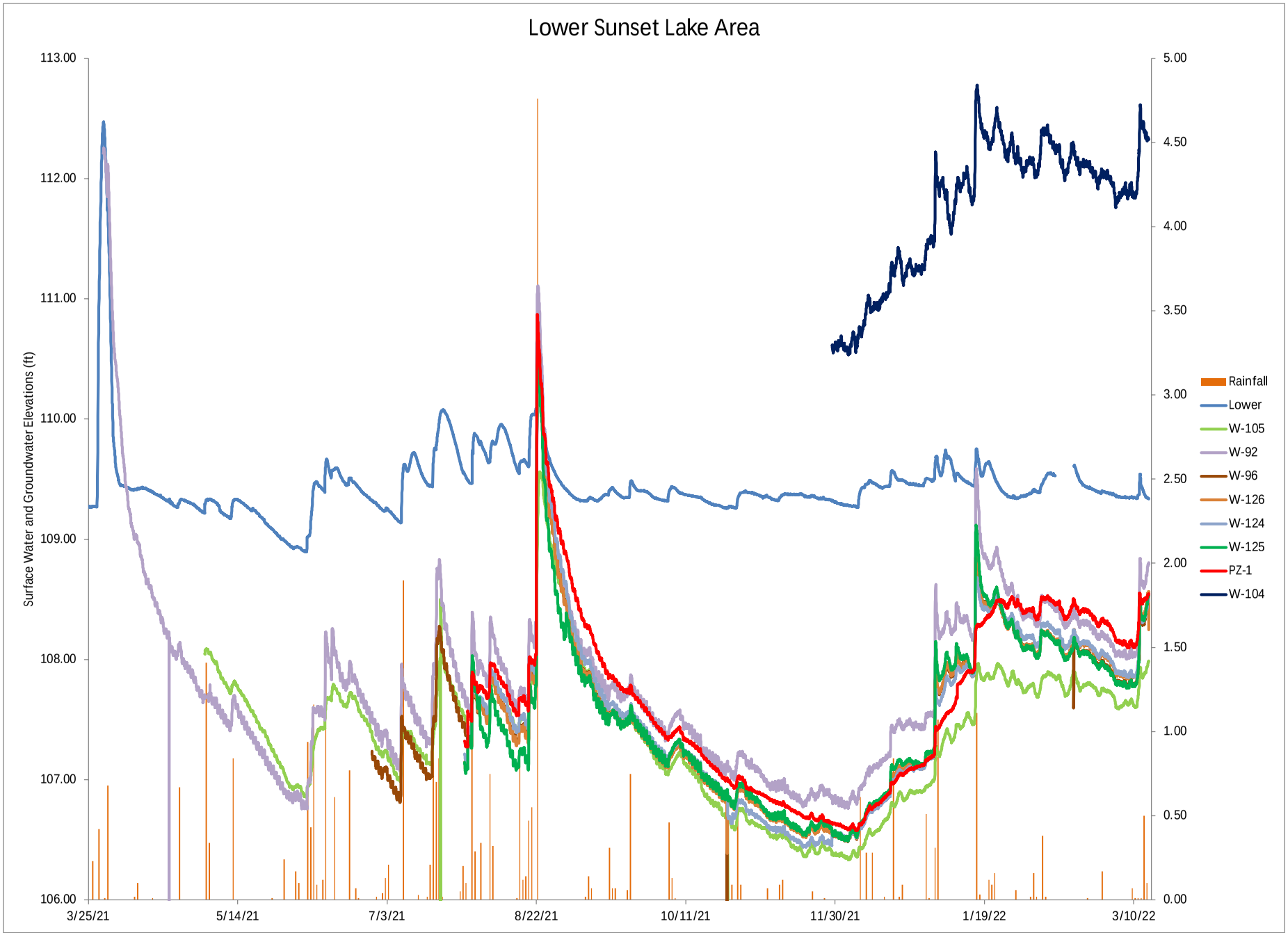

Gator Pond
Surface Water Elevation (ft)
118.00
117.90
117.80
117.70
117.60
117.50
117.40
117.30
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Elevation

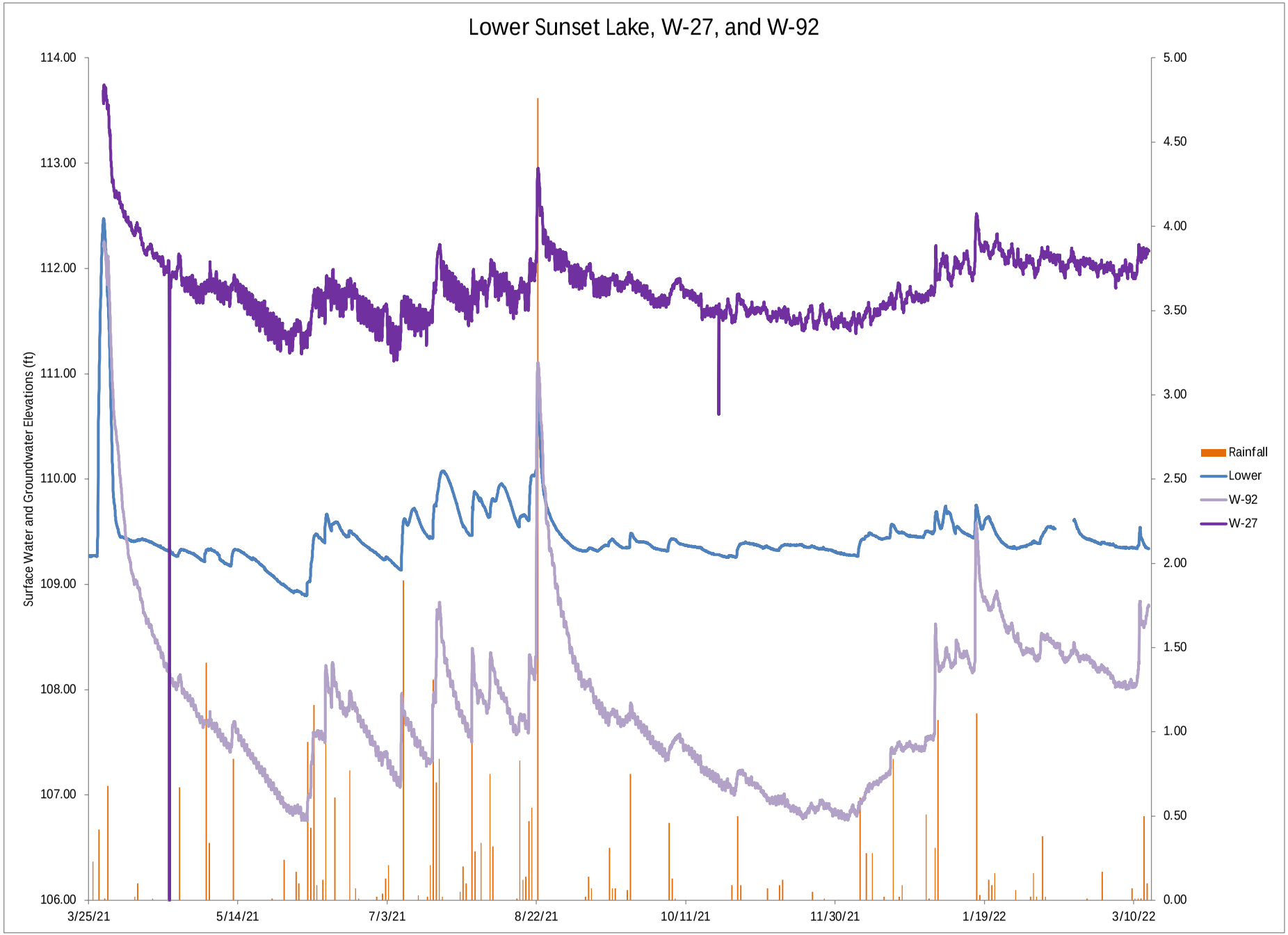

Gator Pond Area
Surface Water and Groundwater Elevation (ft)
122.00
120.00
118.00
116.00
114.00
112.00
110.00
108.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Gator
W-16
W-27
W-4R
W-15
W-92

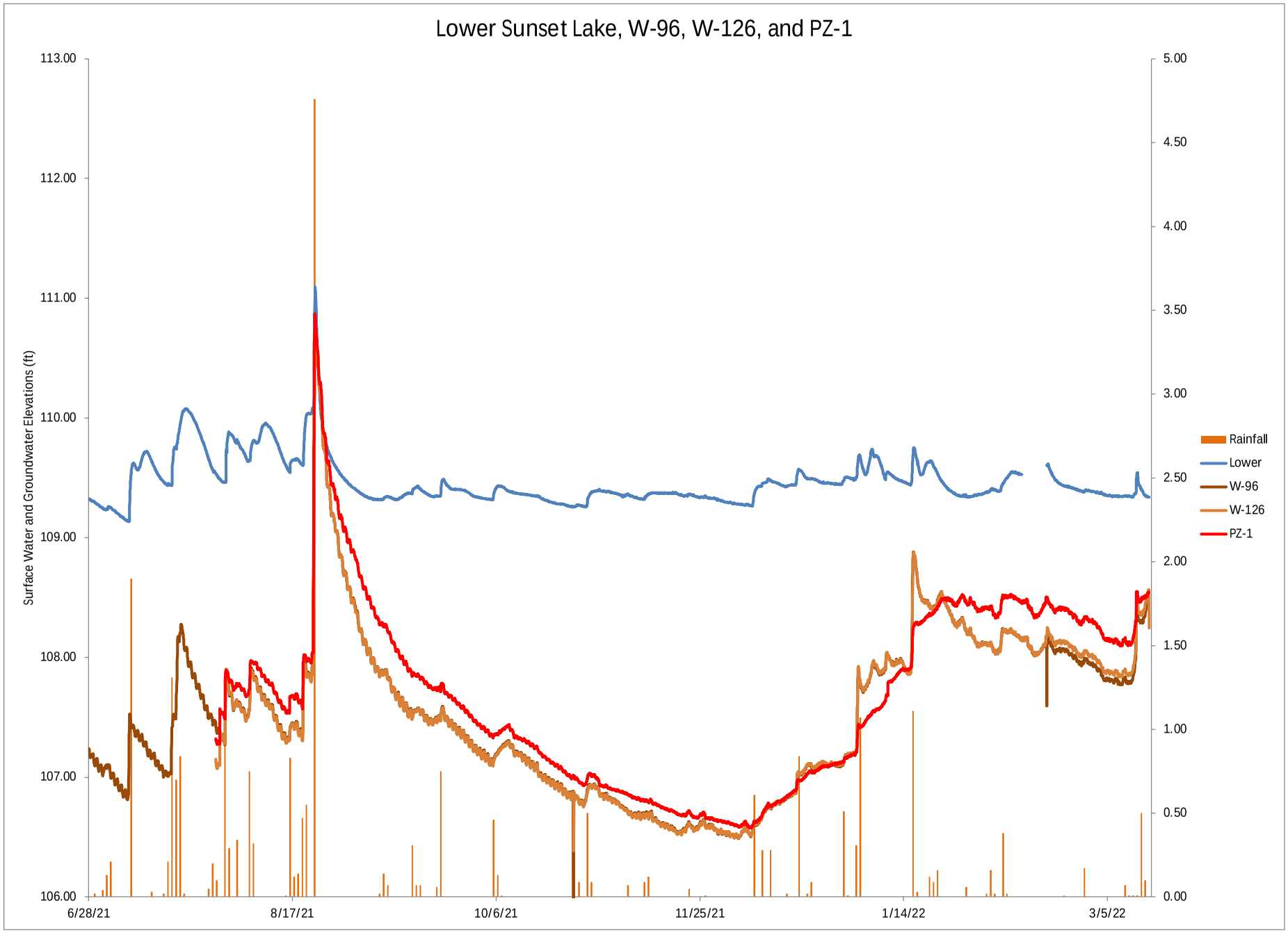

Gator Pond W-15 W-16
Surface Water and Groundwater Elevation (ft)
123.00
122.00
121.00
120.00
119.00
118.00
117.00
116.00
115.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Gator
W-16
W-15

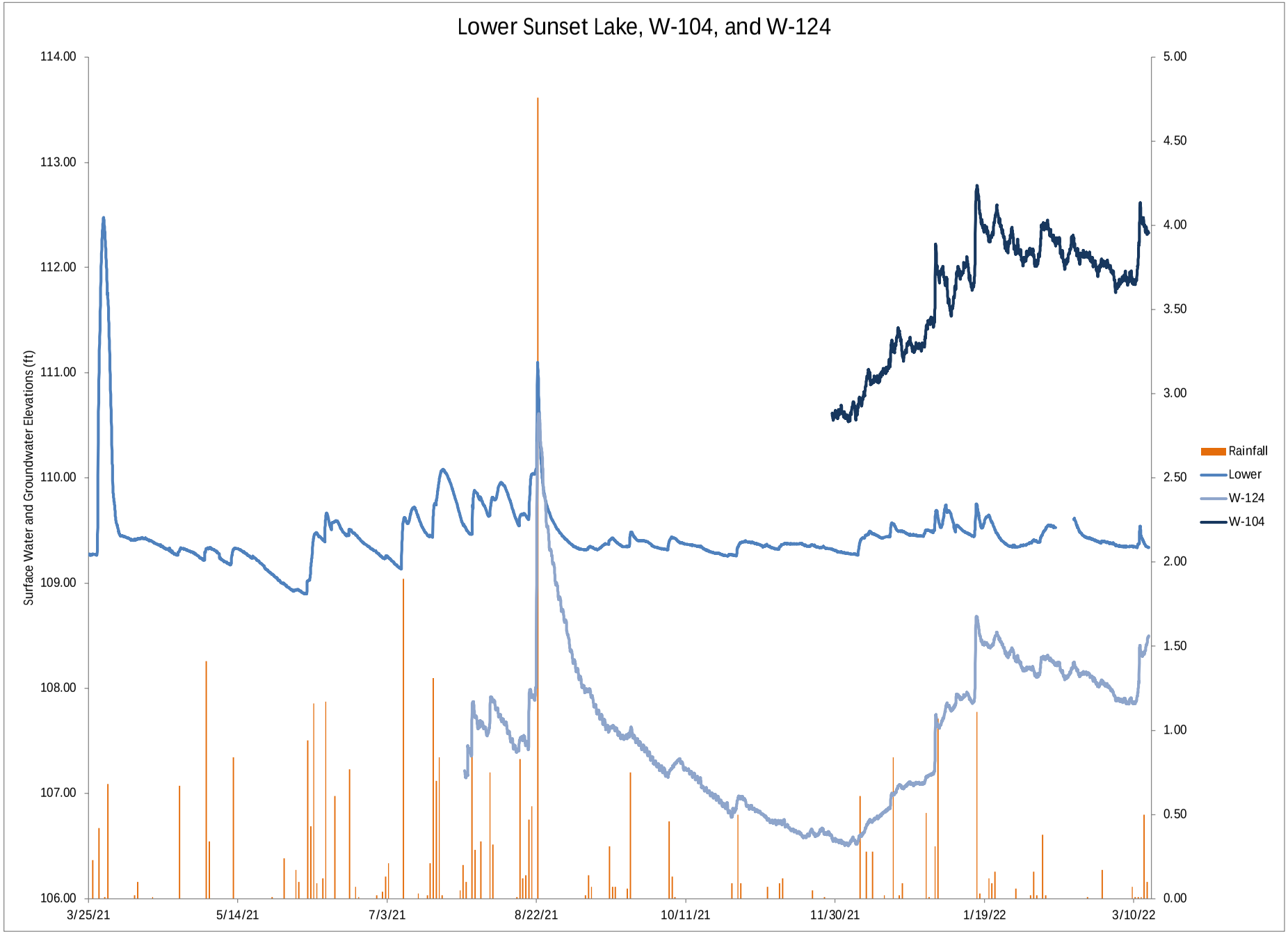

Gator Pond, W-4R, W-27, and W-92
Surface Water and Groundwater Elevation (ft)
118.00
116.00
114.00
112.00
110.00
108.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Gator
W-27
W-92
W-4R

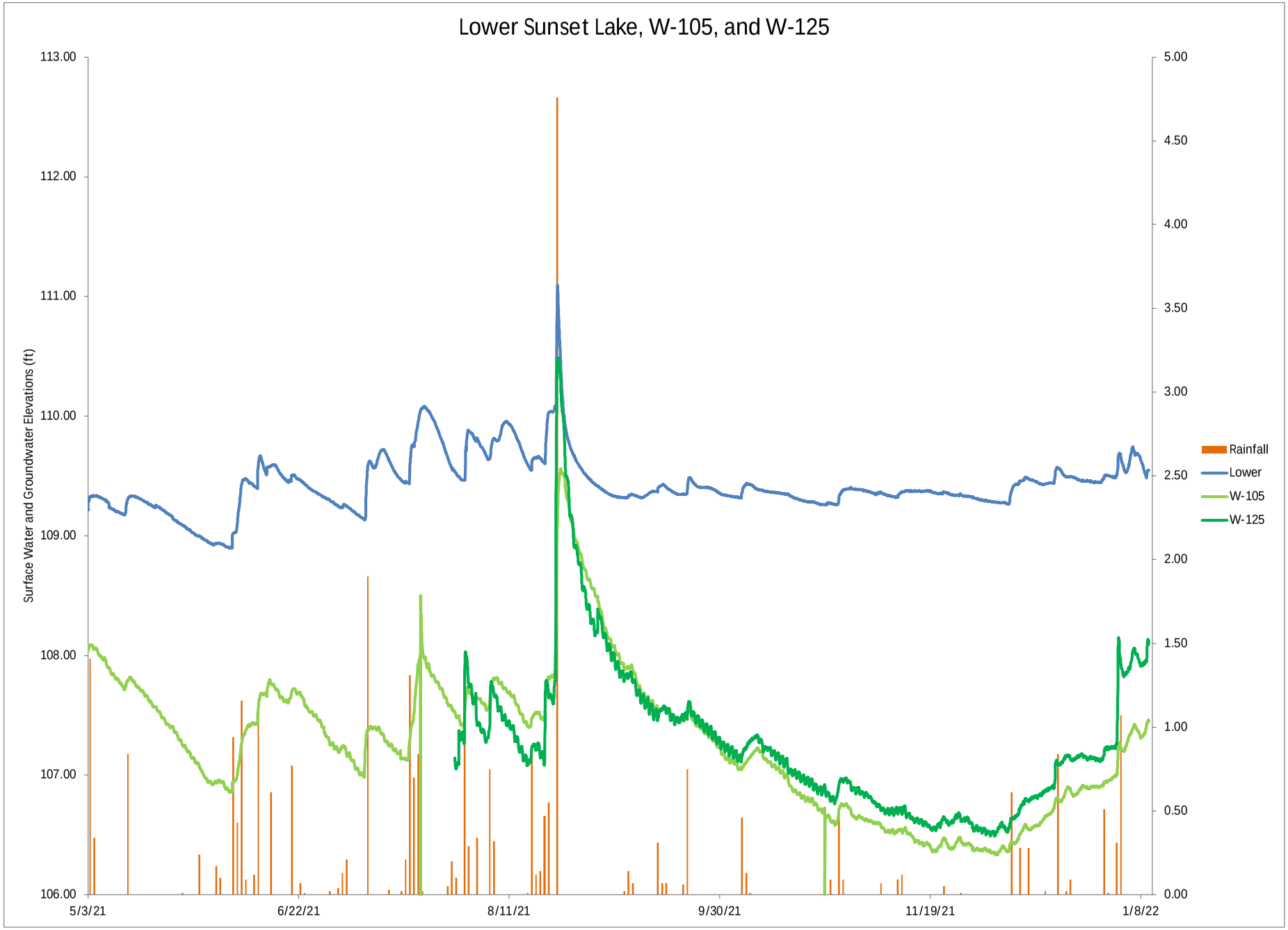

Gator Pond, Lower Sunset Lake, W-27, and W-92
Surface Water and Groundwater Elevations (ft)
118.00
116.00
114.00
112.00
110.00
108.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Lower
W-92
W-27
Gator


Lower Sunset Lake Area
Surface Water and Groundwater Elevations (ft)
113.00
112.00
111.00
110.00
109.00
108.00
107.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Lower
W-105
W-92
W-96
W-126
W-124
W-125
PZ-1
W-104


Lower Sunset Lake, W-27, and W-92
Surface Water and Groundwater Elevations (ft)
114.00
113.00
112.00
111.00
110.00
109.00
108.00
107.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Lower
W-92
W-27


Lower Sunset Lake, W-96, W-126, and PZ-1
Surface Water and Groundwater Elevations (ft)
113.00
112.00
111.00
110.00
109.00
108.00
107.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
6/28/21
8/17/21
10/6/21
11/25/21
1/14/22
3/5/22
Rainfall
Lower
W-96
W-126
PZ-1


Lower Sunset Lake, W-104, and W-124
Surface Water and Groundwater Elevations (ft)
114.00
113.00
112.00
111.00
110.00
109.00
108.00
107.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3/25/21
5/14/21
7/3/21
8/22/21
10/11/21
11/30/21
1/19/22
3/10/22
Rainfall
Lower
W-124
W-104

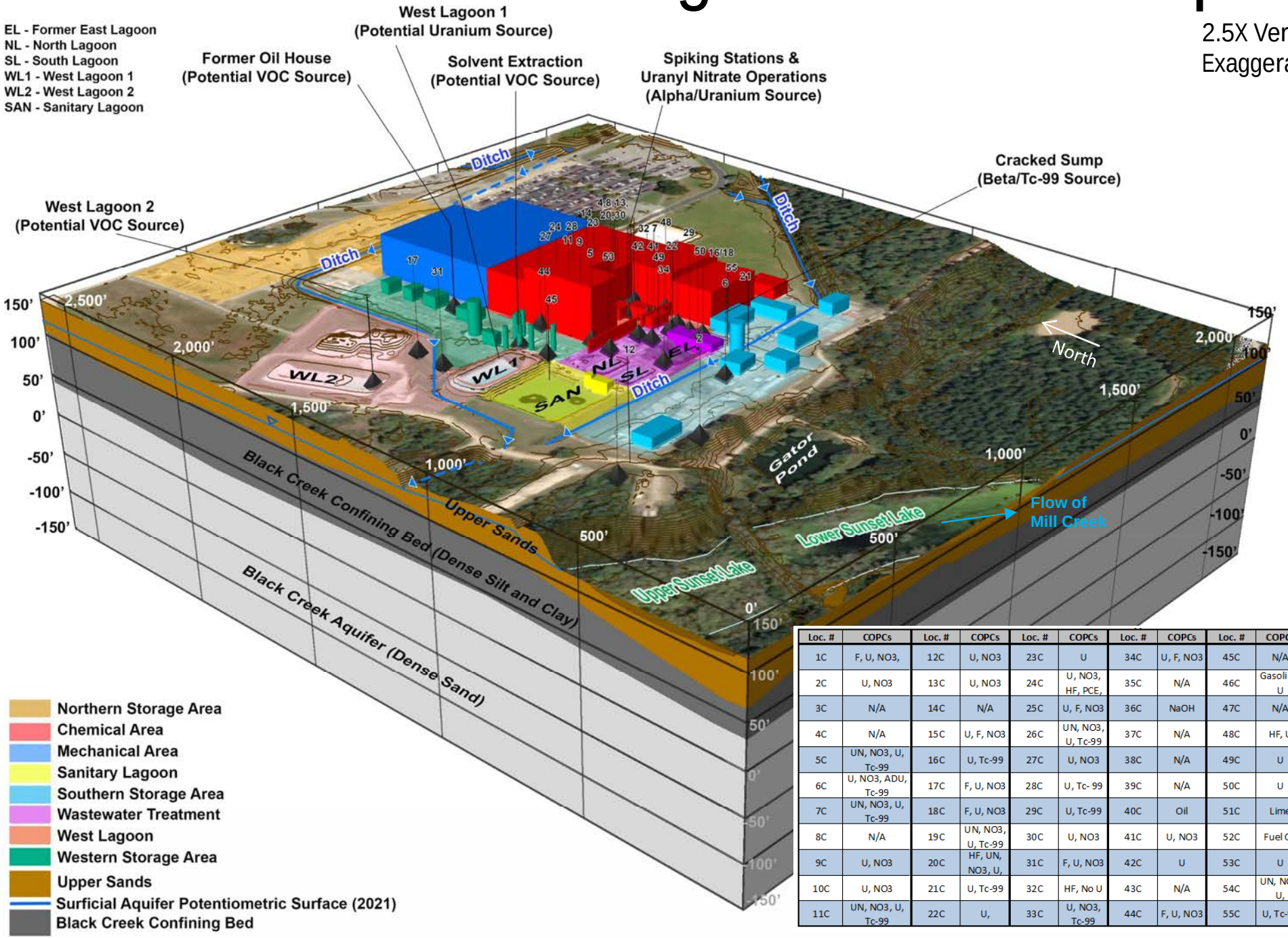

Lower Sunset Lake, W-105, and W-125
Surface Water and Groundwater Elevations (ft)
113.00
112.00
111.00
110.00
109.00
108.00
107.00
106.00
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
5/3/21
6/22/21
8/11/21
9/30/21
11/19/21
1/8/22
Rainfall
Lower
W-105
W-125

Appendix Y
Conceptual Site Model

Conceptual Site Model
Rev. 4

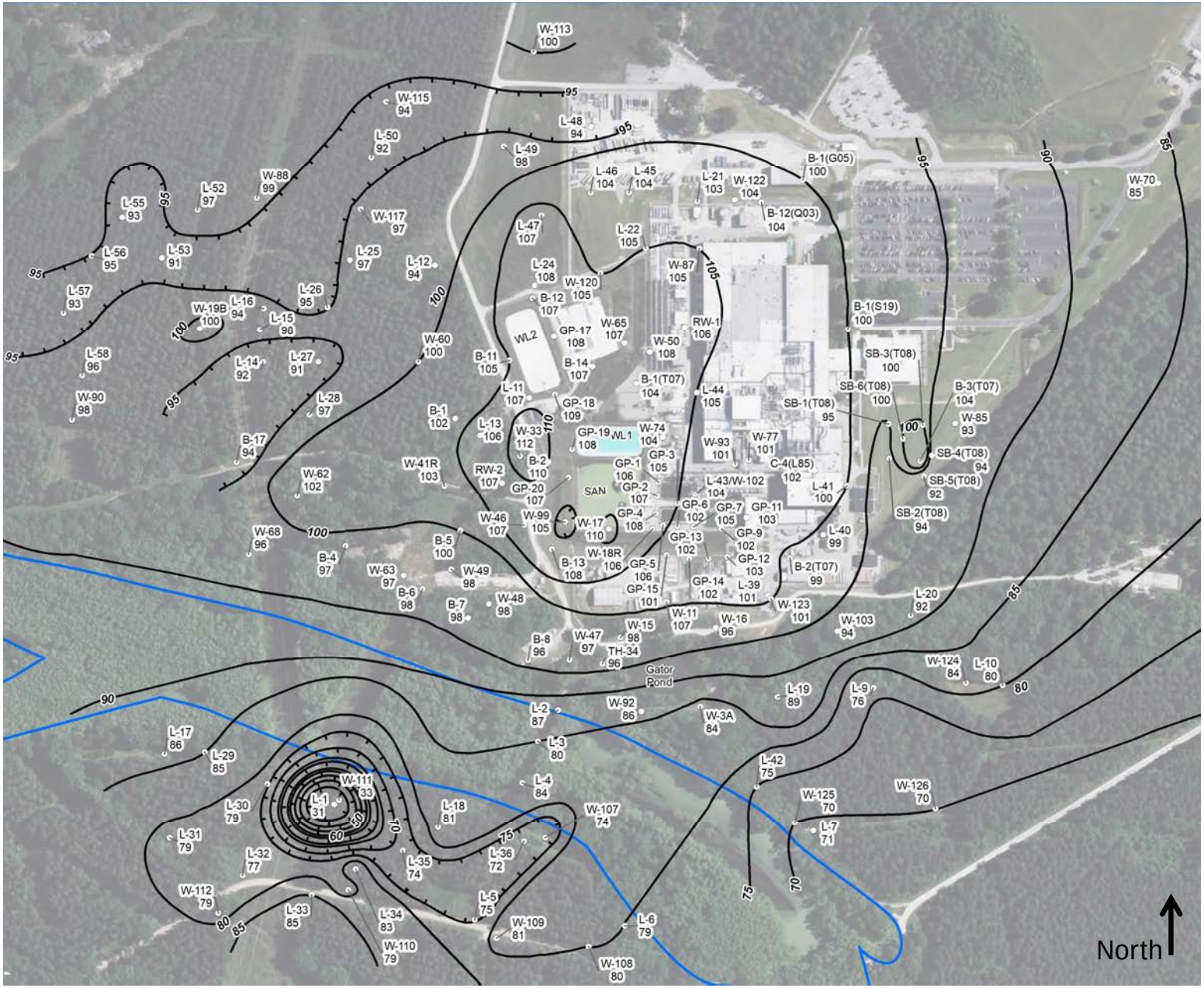
Westinghouse Columbia

Site CSM Block Diagram – Known Spills

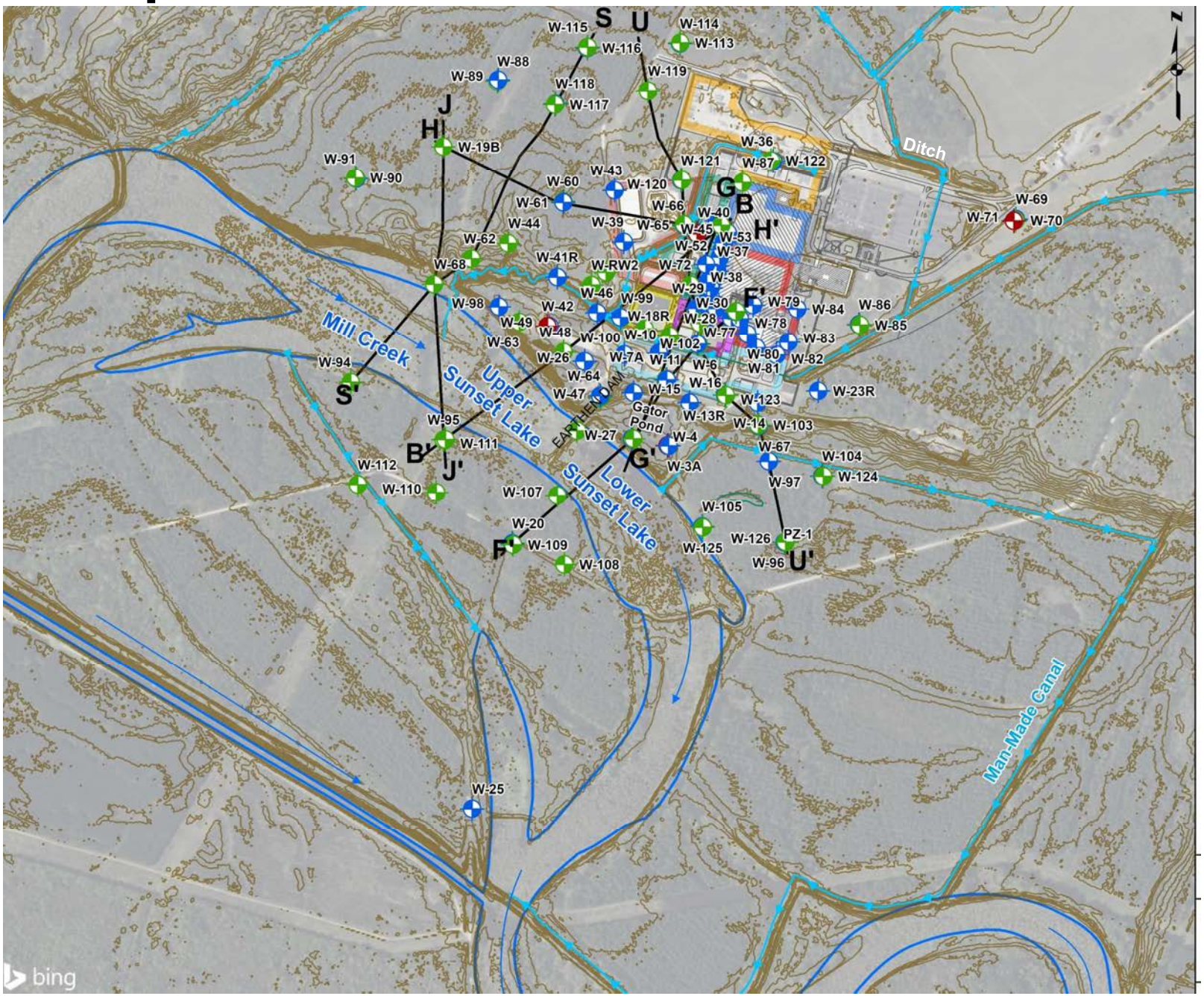


Loc. #	COPCs	Loc. #	COPCs	Loc. #	COPCs	Loc. #	COPCs	Loc. #	COPCs	Loc. #	COPCs
1C	F, U, NO3,	12C	U, NO3	23C	U	34C	U, F, NO3	45C	N/A	56C	U, F, NO3
2C	U, NO3	13C	U, NO3	24C	U, NO3, HF, PCE,	35C	N/A	46C	Gasoline, U	57C	U
3C	N/A	14C	N/A	25C	U, F, NO3	36C	NaOH	47C	N/A	58C	U & Tc-99
4C	N/A	15C	U, F, NO3	26C	UN, NO3, U, Tc-99	37C	N/A	48C	HF, U	59C	U, Tc-99
5C	UN, NO3, U, Tc-99	16C	U, Tc-99	27C	U, NO3	38C	N/A	49C	U	60C	U, Tc-99
6C	U, NO3, ADU, Tc-99	17C	F, U, NO3	28C	U, Tc- 99	39C	N/A	50C	U	61C	U, Tc-99
7C	UN, NO3, U, Tc-99	18C	F, U, NO3	29C	U, Tc-99	40C	Oil	51C	Lime	62C	U
8C	N/A	19C	UN, NO3, U, Tc-99	30C	U, NO3	41C	U, NO3	52C	Fuel Oil	63C	U
9C	U, NO3	20C	HF, UN, NO3, U,	31C	F, U, NO3	42C	U	53C	U	64C	U, Tc-99
10C	U, NO3	21C	U, Tc-99	32C	HF, No U	43C	N/A	54C	UN, NO3, U,	65C	U, Tc-99
11C	UN, NO3, U, Tc-99	22C	U,	33C	U, NO3, Tc-99	44C	F, U, NO3	55C	U, Tc-99	66C	U, Tc-99

Top of Black Creek Contour Map



Site Map with Man-Made Canal



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

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

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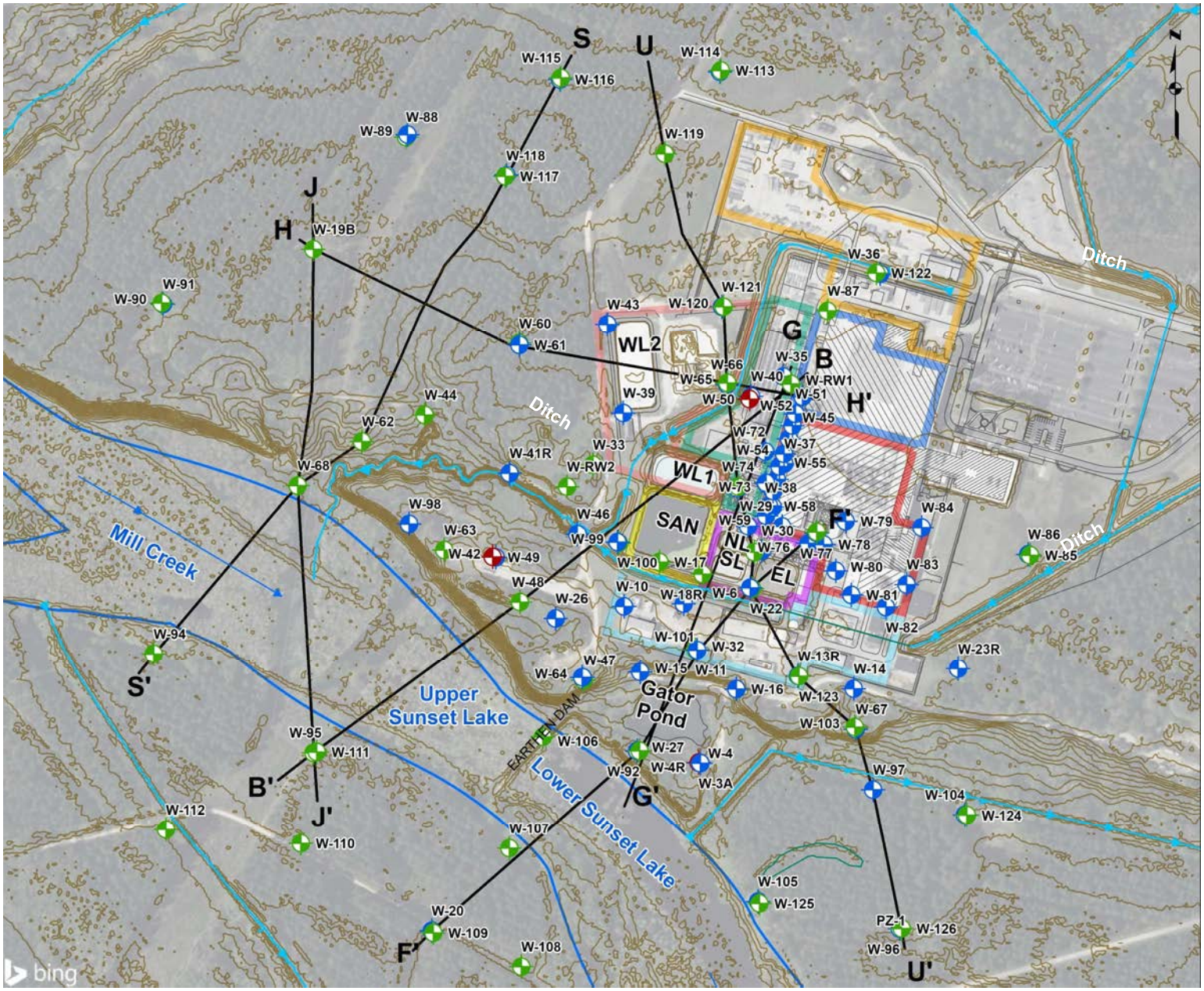
Site CSM Block Diagram – Transect Reference



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

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

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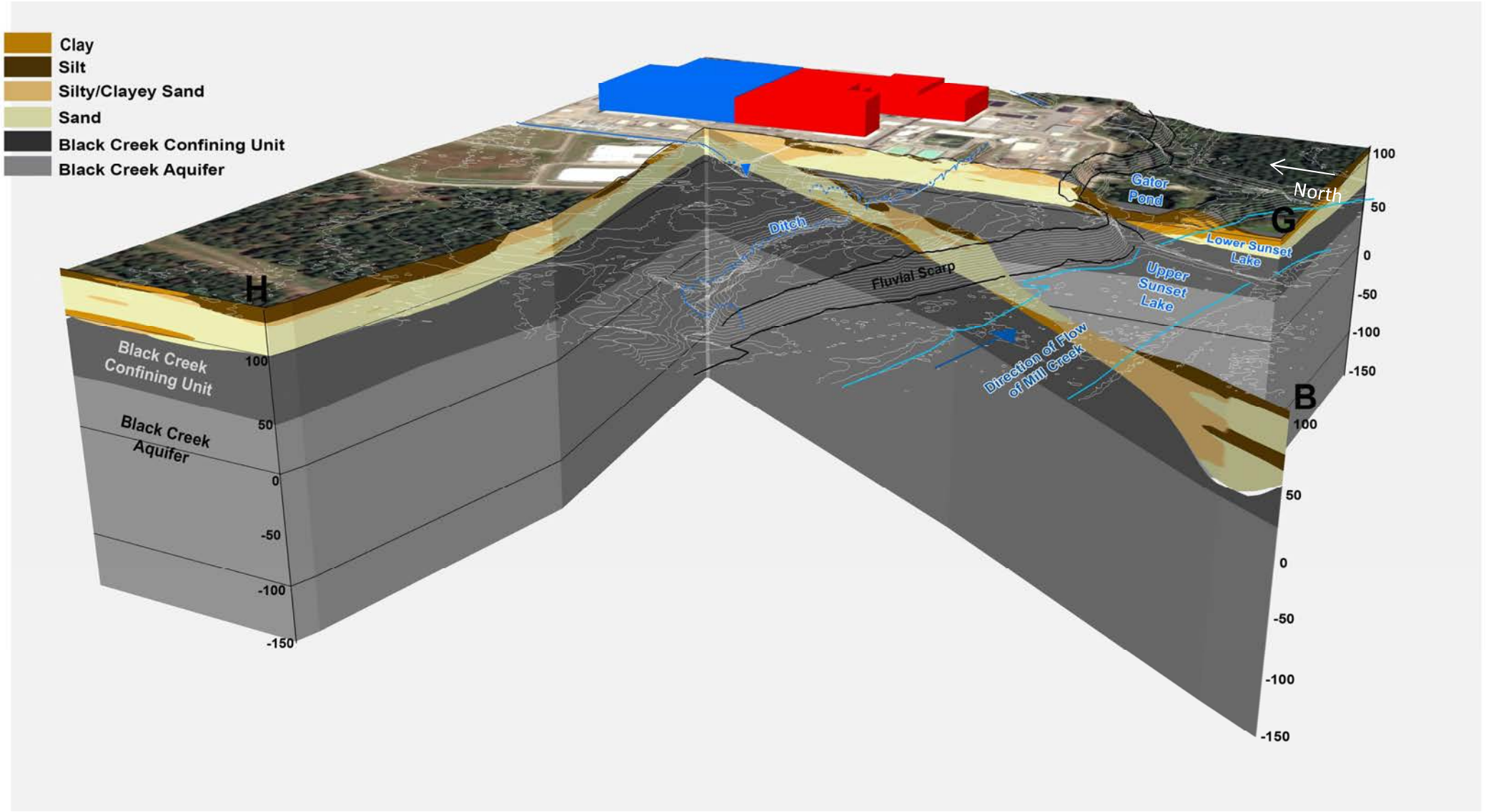
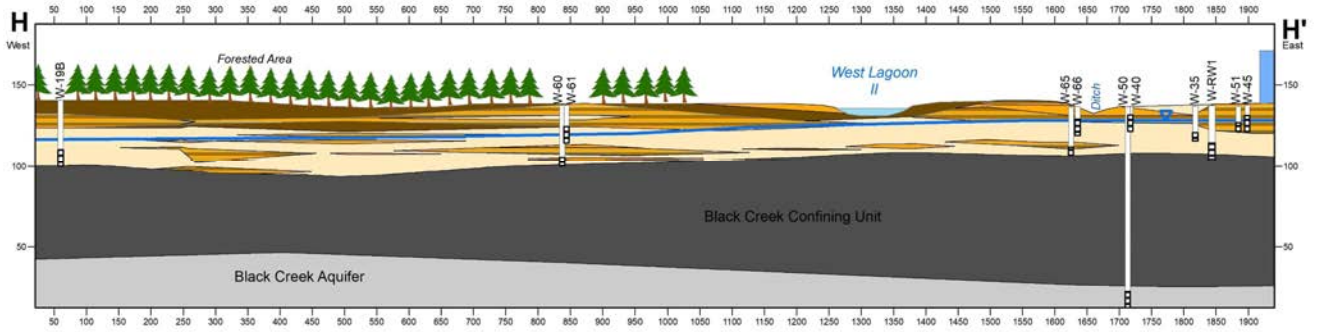
Site CSM Block Diagram – Geology

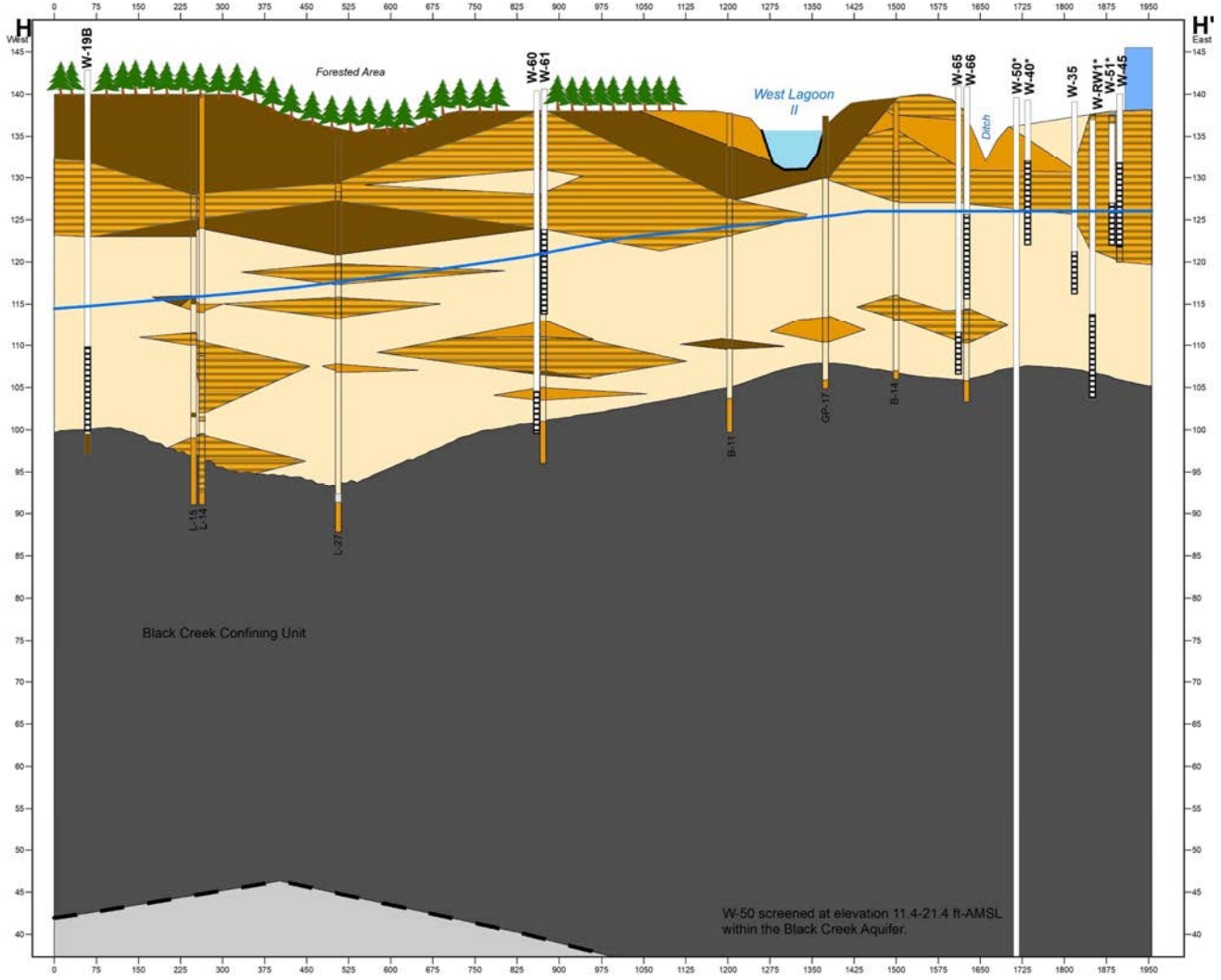


2.5X Vertical Exaggeration

Site CSM Cross Sections



2.5X Vertical Exaggeration



15X Vertical Exaggeration

Wells up to 75' away from the transect are projected onto the cross sections. Wells that are >20 ft and less than 75 ft are indicated with an asterisk (*). Borings are projected from up to 100' from the transect for stratigraphic interpretation and evaluation.

Legend

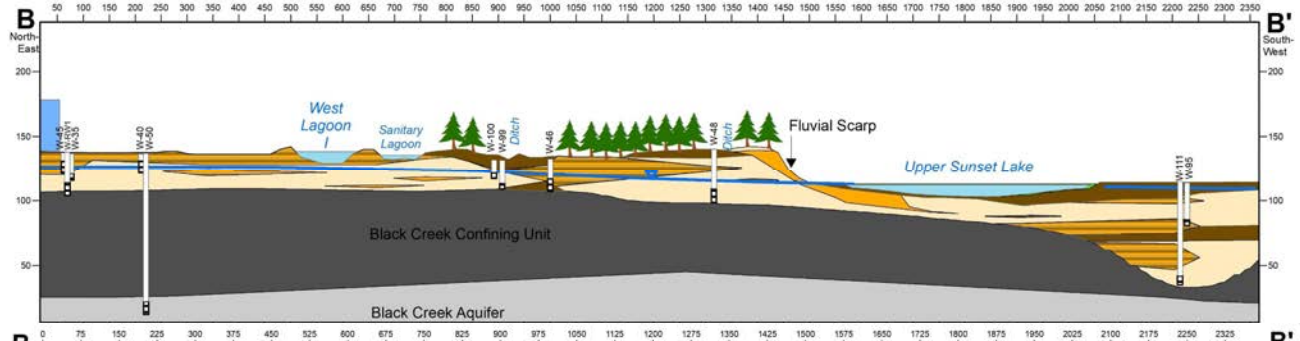
- Well Riser
- Well Screen
- Shallow Aquifer Potentiometric Surface
- Mechanical Area OU
- Surface Water

Lithology

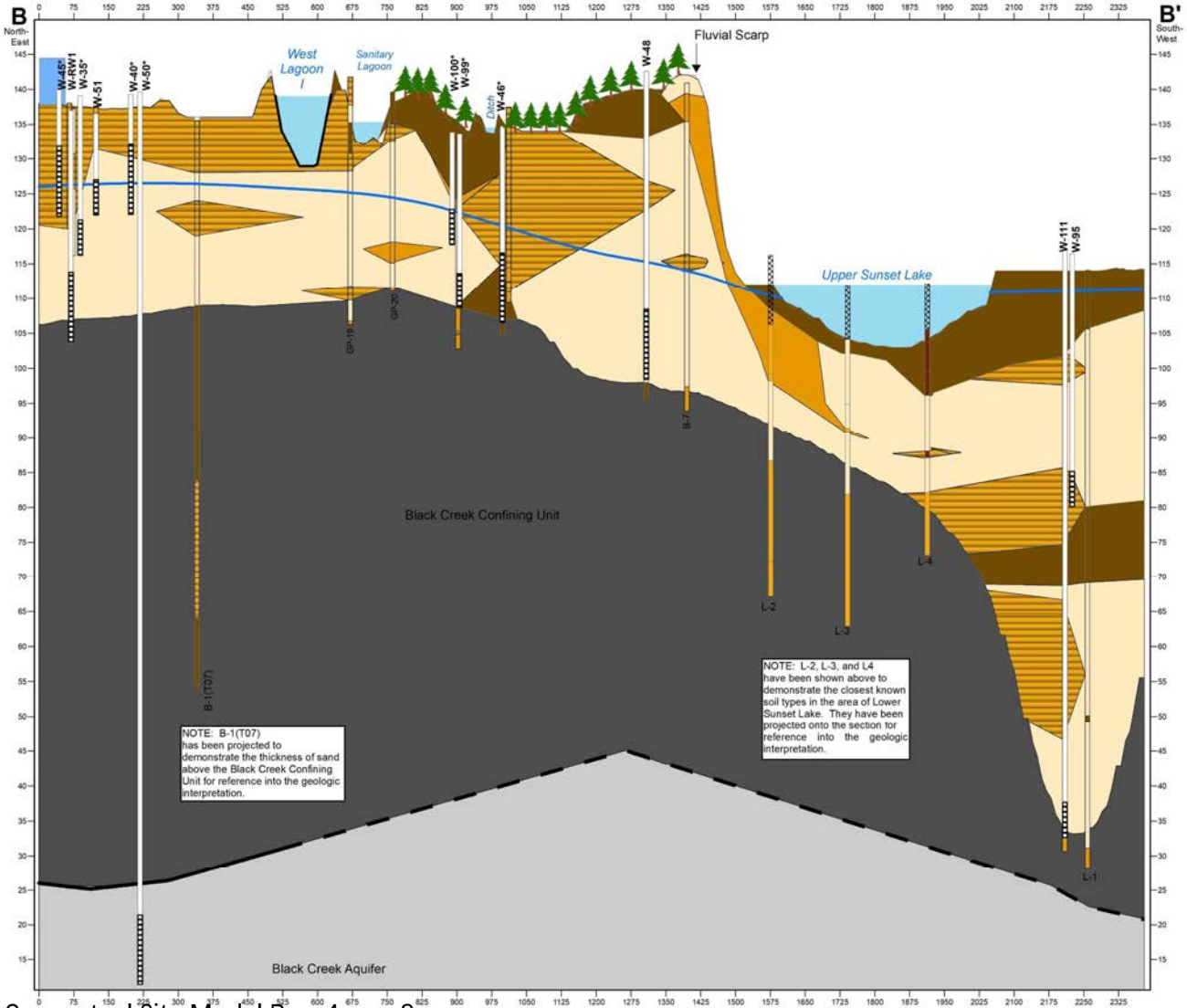
Surficial Soil Aquifer:
- Silty/Clayey Sand
- Clay
- Silt
- Sand

- Black Creek Confining Unit
- Black Creek Aquifer
- Inferred Geologic Contact

Site CSM Cross Sections

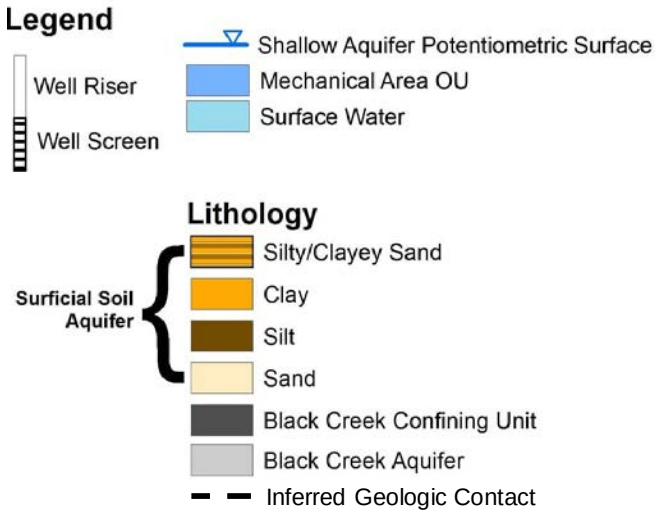


2.5X Vertical Exaggeration

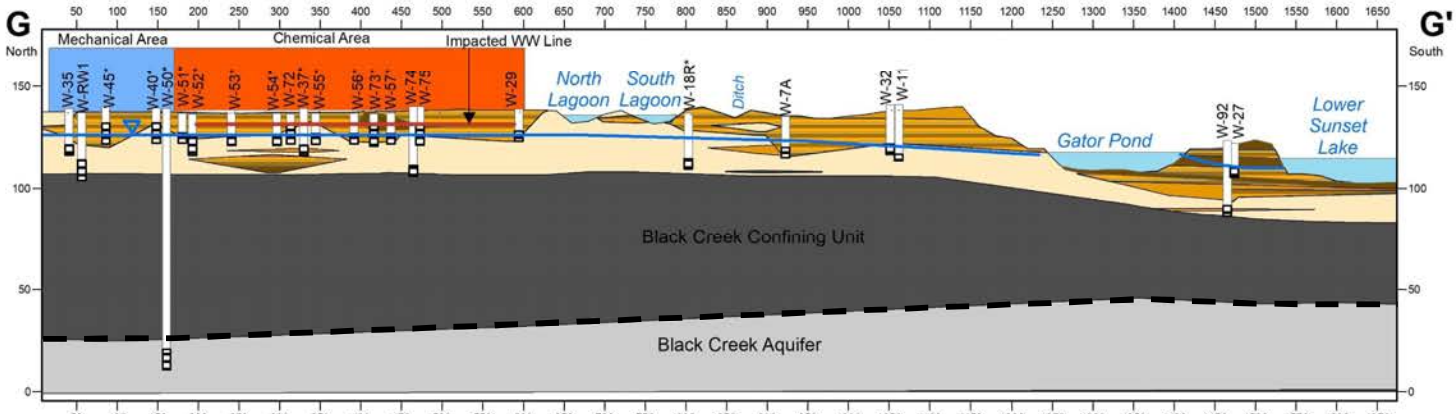


15X Vertical Exaggeration

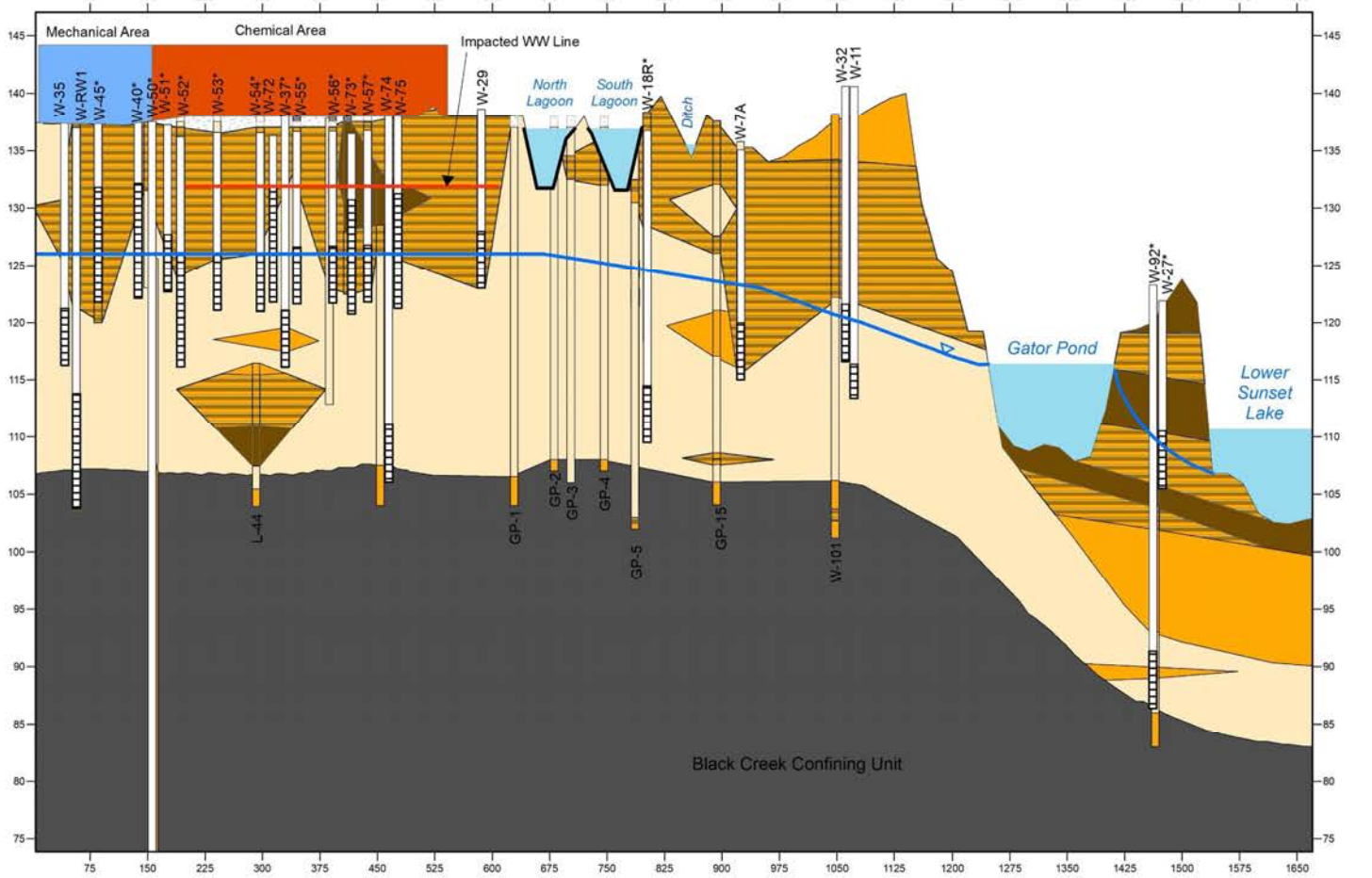
Wells up to 75' away from the transect are projected onto the cross sections. Wells that are >20 ft and less than 75 ft are indicated with an asterisk (*). Borings are projected from up to 100' from the transect for stratigraphic interpretation and evaluation.



Site CSM Cross Sections



2.5X Vertical Exaggeration



15X Vertical Exaggeration

Wells up to 100' away from the transect are projected onto the cross sections. Wells that are >20 ft and less than 100 ft are indicated with an asterisk (*).
Borings are projected from up to 100' from the transect for stratigraphic interpretation and evaluation.

Legend

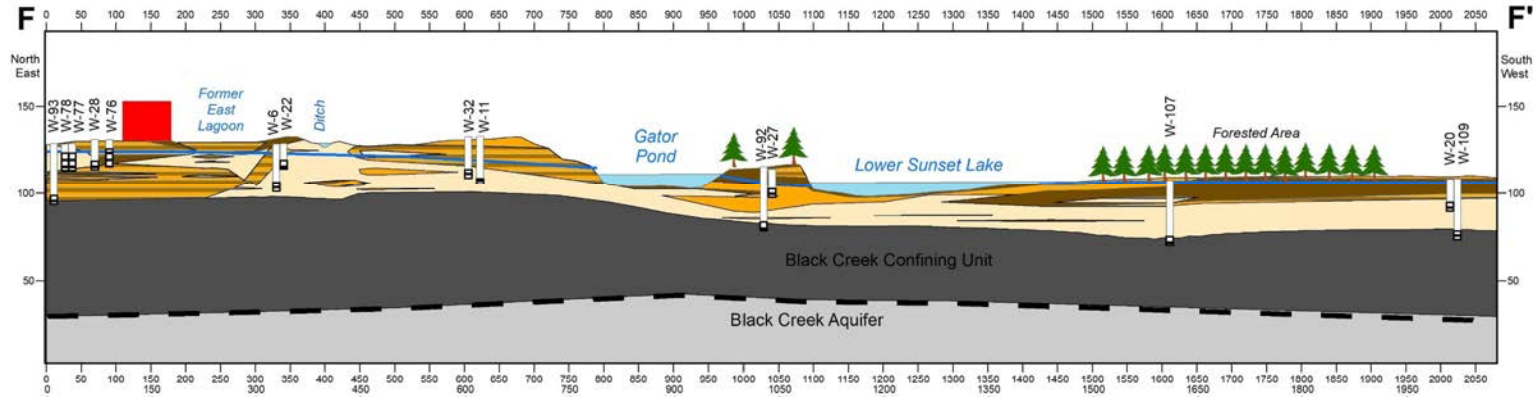
- Well Riser
- Well Screen
- Shallow Aquifer Potentiometric Surfac
- Mechanical Area OU
- Chemical Area OU
- Surface Water

Lithology

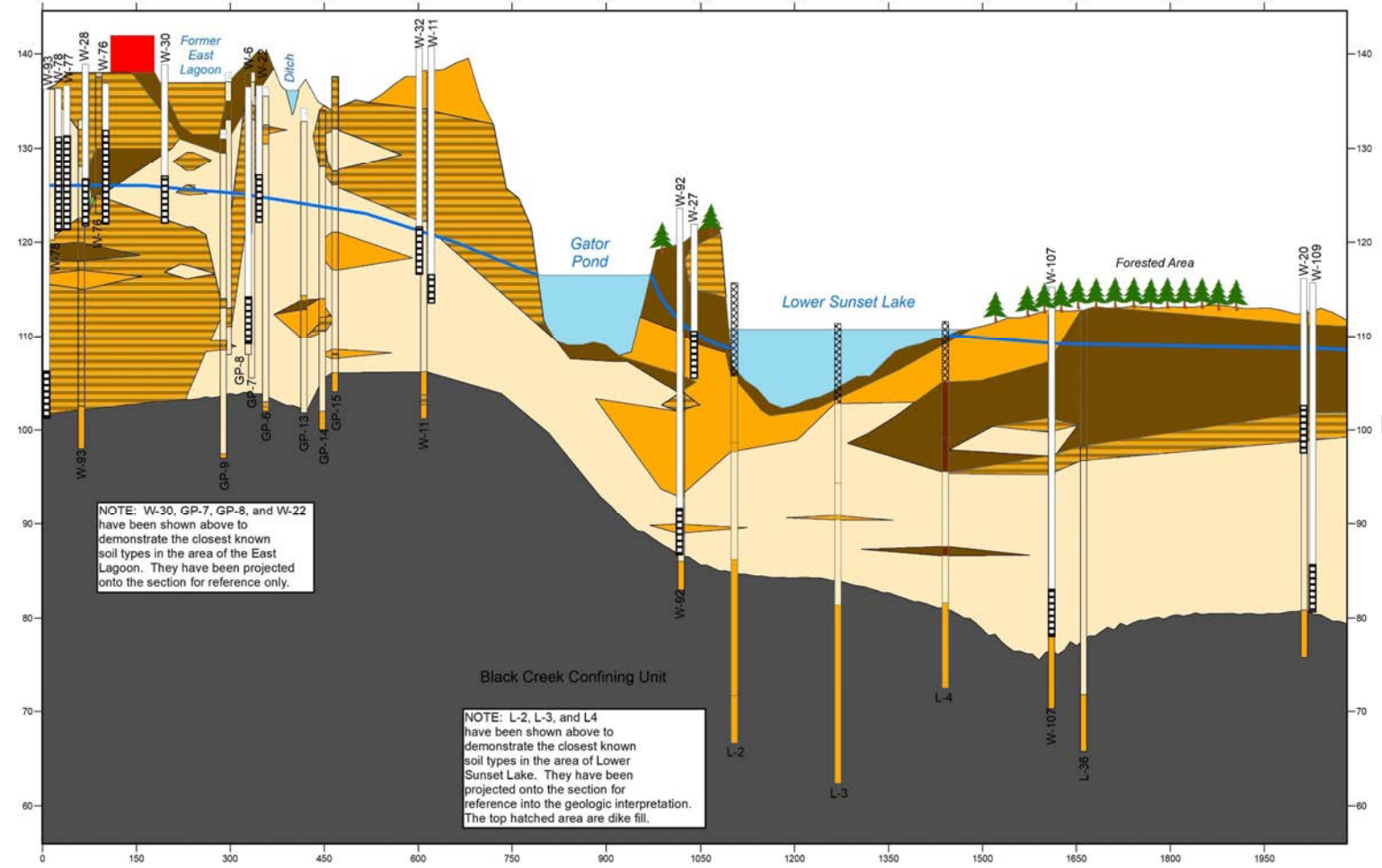
Surficial Soil Aquifer:
- Silty/Clayey Sand
- Clay
- Silt
- Sand

- Black Creek Confining Unit
- Black Creek Aquifer
- Inferred Geologic Contact

Site CSM Cross Sections



2.5X Vertical Exaggeration



15X Vertical Exaggeration

Wells up to 75' away from the transect are projected onto the cross sections. Wells that are >20 ft and less than 75 ft are indicated with an asterisk (*). Borings are projected from up to 100' from the transect for stratigraphic interpretation and evaluation.

Legend

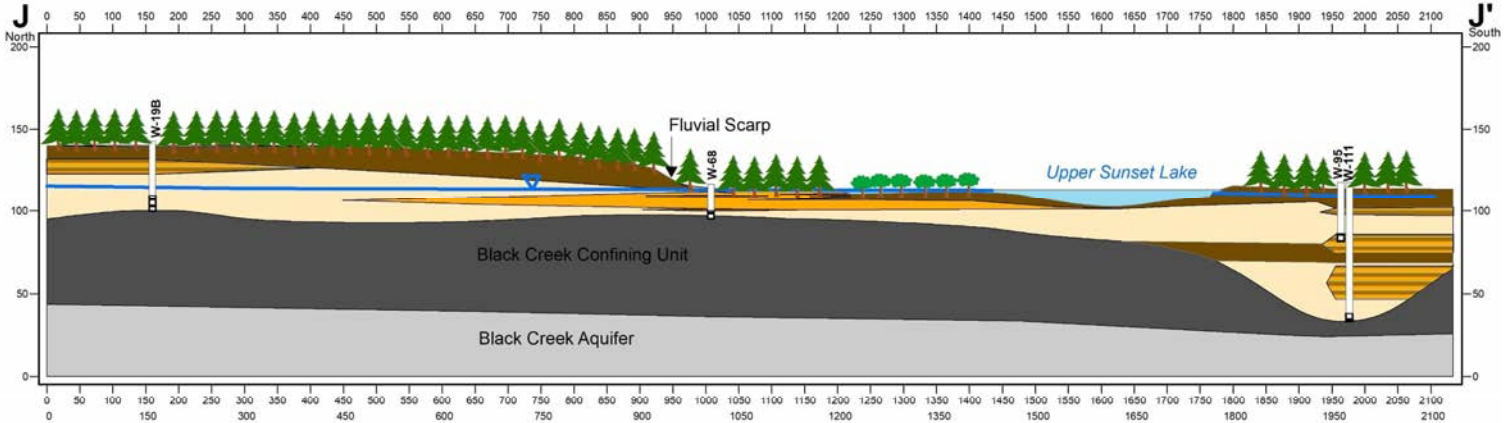
- Well Riser
- Well Screen
- Shallow Aquifer Potentiometric Surface
- Mechanical Area OU
- Chemical Area OU
- Surface Water

Lithology

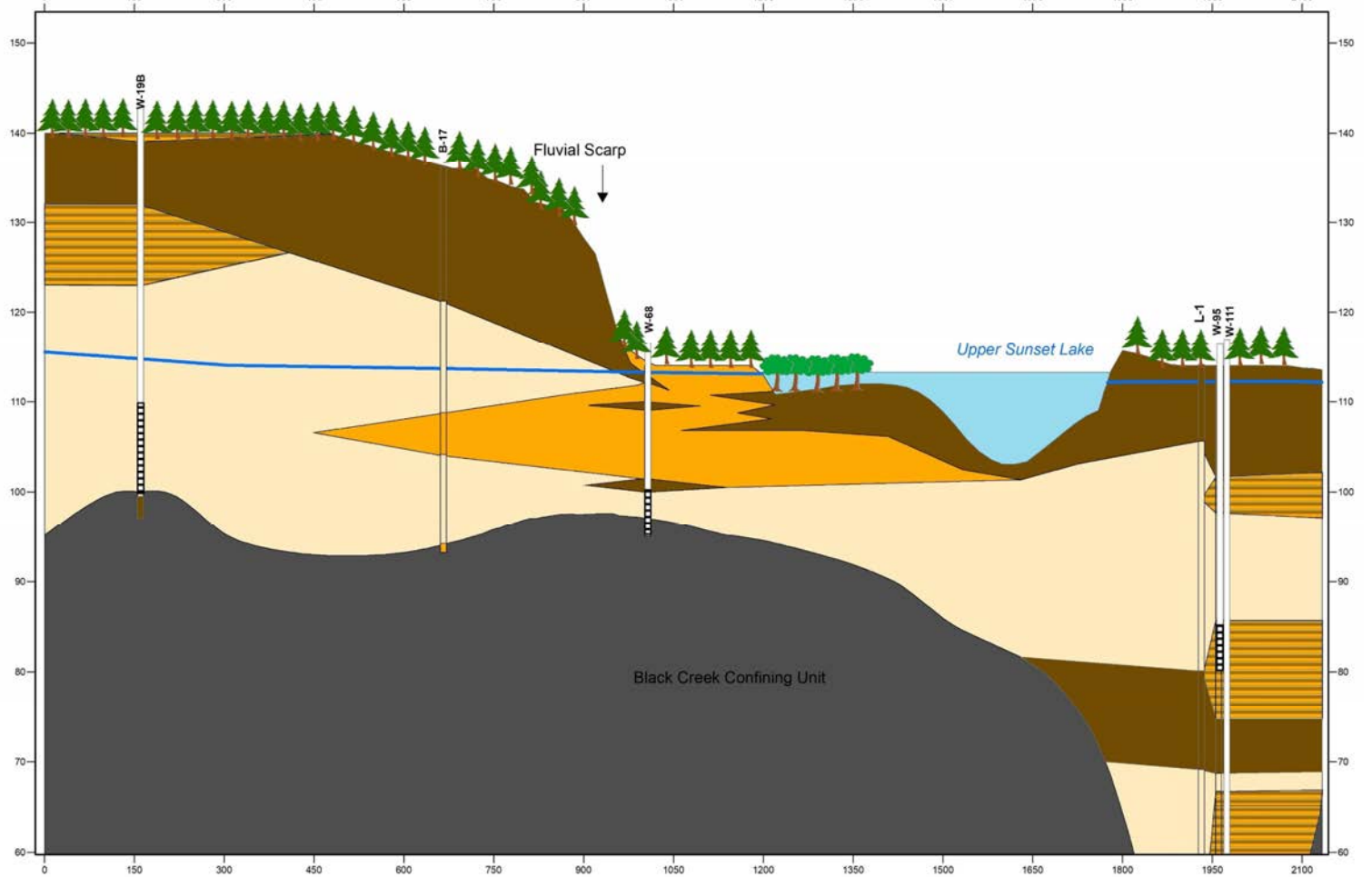
Surficial Soil Aquifer:
- Silty/Clayey Sand
- Clay
- Silt
- Sand

- Black Creek Confining Unit
- Black Creek Aquifer
- Inferred Geologic Contact

Site CSM Cross Sections

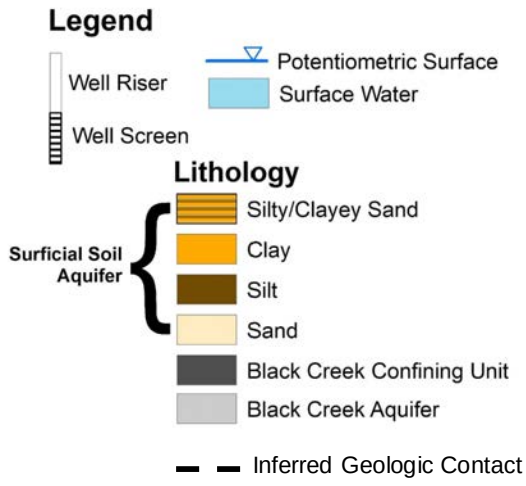


2.5X Vertical Exaggeration

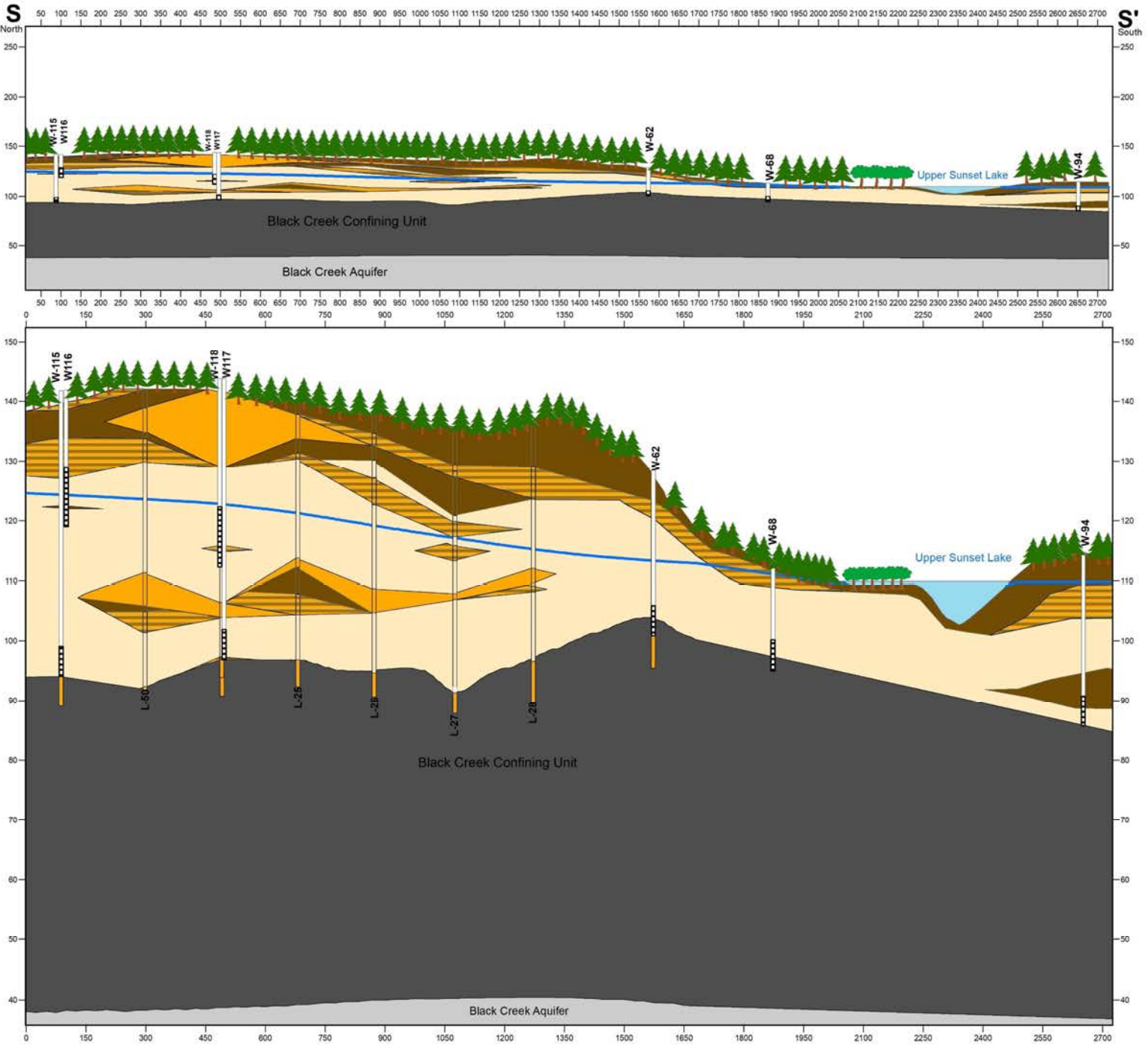


15X Vertical Exaggeration

Wells up to 75' away from the transect are projected onto the cross sections. Wells that are >20 ft and less than 75 ft are indicated with an asterisk (*).
Borings are projected from up to 100' from the transect for stratigraphic interpretation and evaluation.



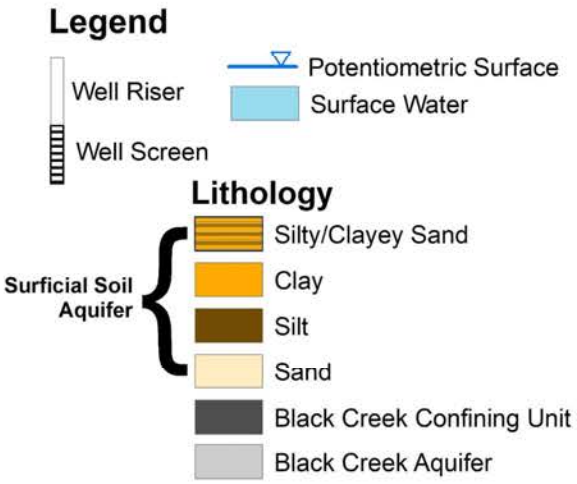
Site CSM Cross Sections



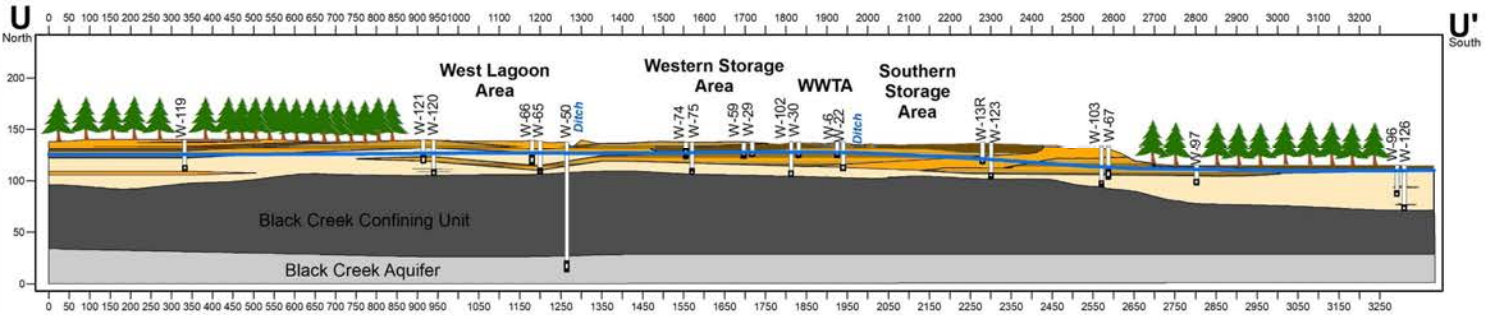
2.5X Vertical Exaggeration

15X Vertical Exaggeration

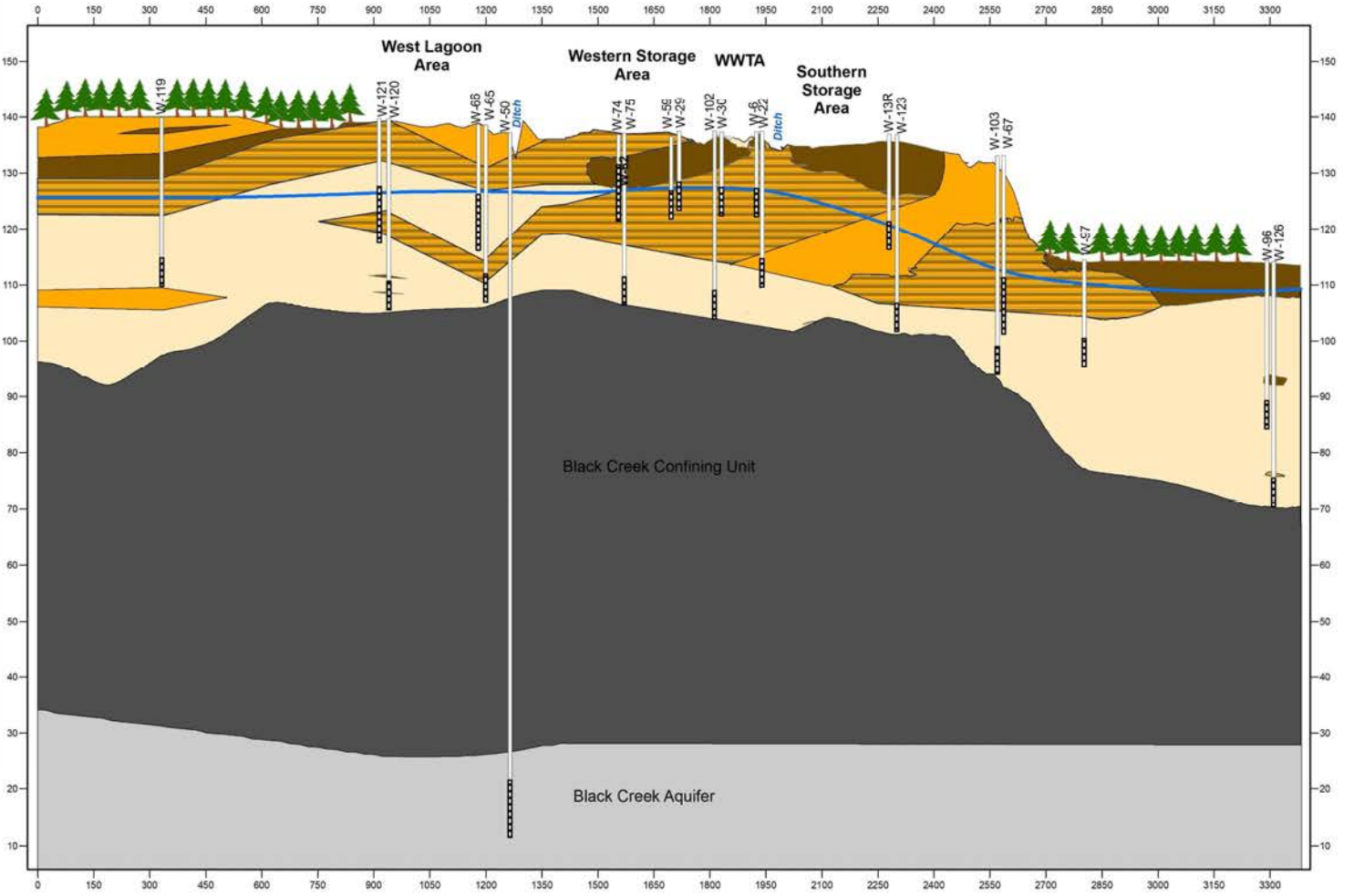
Wells up to 75' away from the transect are projected onto the cross sections. Wells that are >20 ft and less than 75 ft are indicated with an asterisk (*). Borings are projected from up to 100' from the transect for stratigraphic interpretation and evaluation.



Site CSM Cross Sections



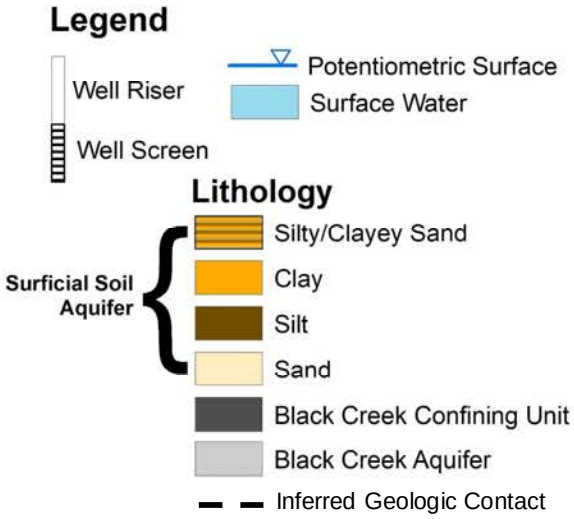
2.5X Vertical Exaggeration



15X Vertical Exaggeration

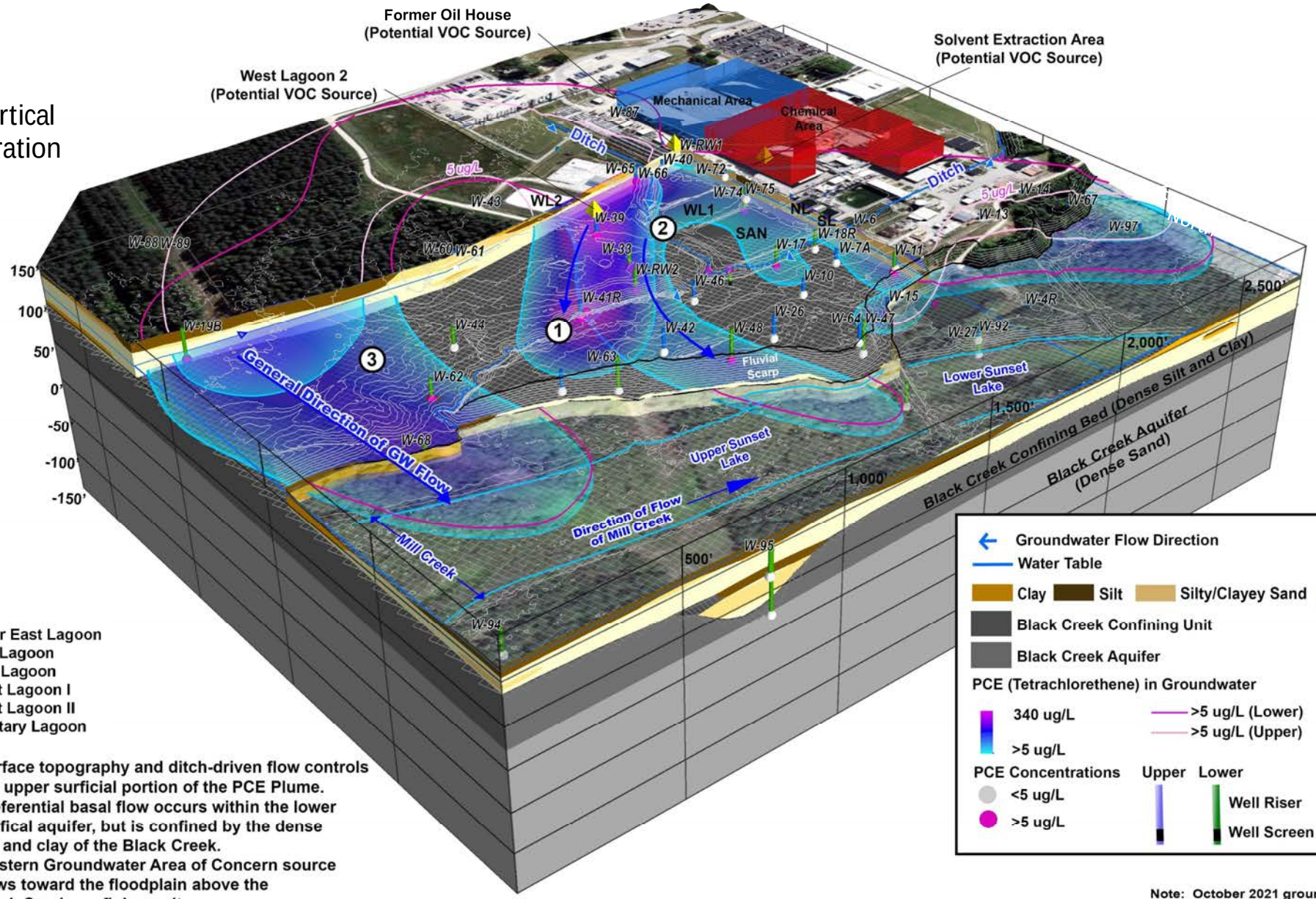
Wells up to 75' away from the transect are projected onto the cross sections. Wells that are >20 ft and less than 75 ft are indicated with an asterisk (*).
Borings are projected from up to 100' from the transect for stratigraphic interpretation and evaluation.

WWTA – Wastewater Treatment Area



Site CSM Block – PCE (2021)

2.5X Vertical Exaggeration

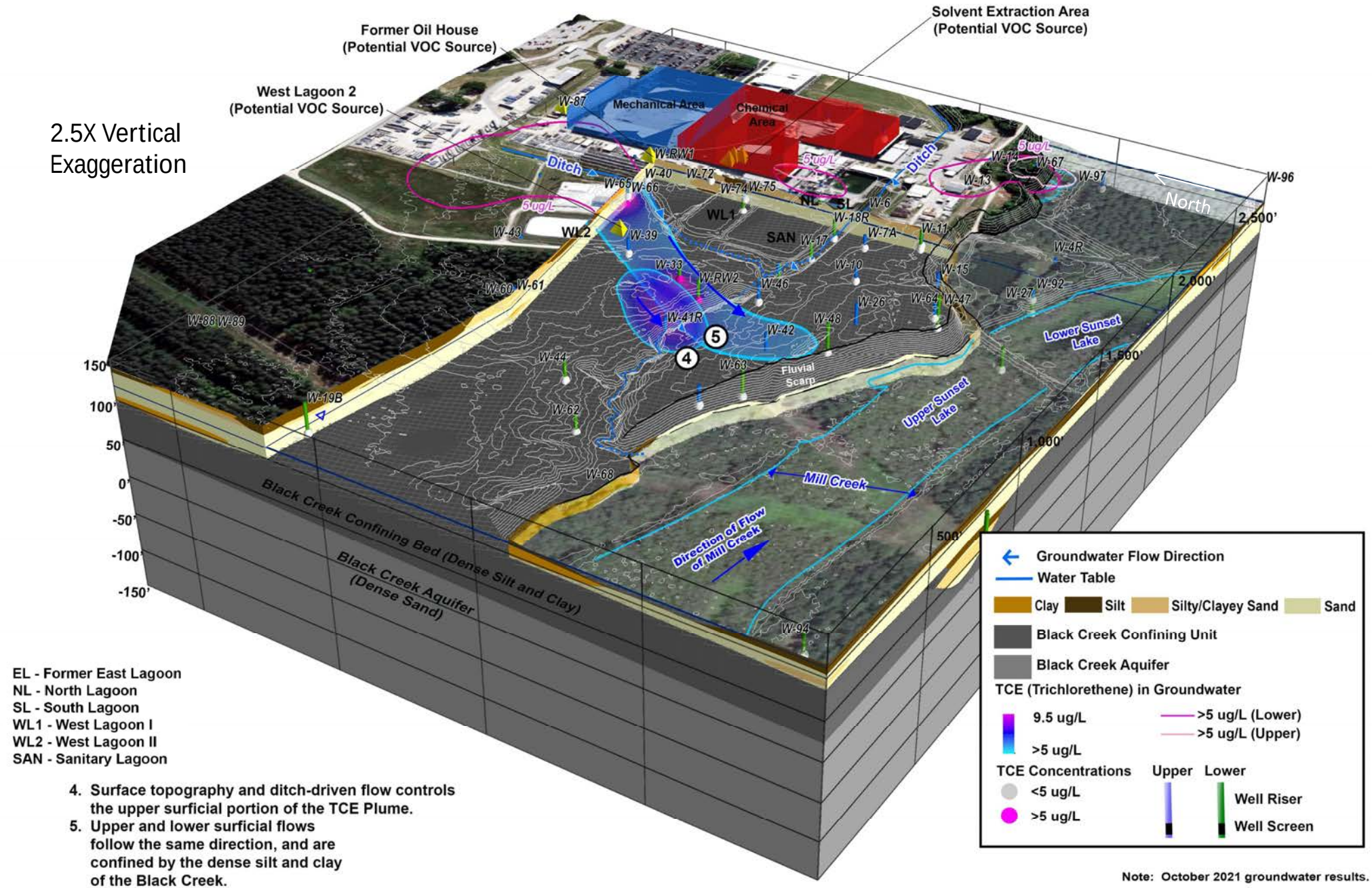


EL - Former East Lagoon
NL - North Lagoon
SL - South Lagoon
WL1 - West Lagoon I
WL2 - West Lagoon II
SAN - Sanitary Lagoon

1. Surface topography and ditch-driven flow controls the upper surficial portion of the PCE Plume.
2. Preferential basal flow occurs within the lower surfical aquifer, but is confined by the dense silt and clay of the Black Creek.
3. Western Groundwater Area of Concern source flows toward the floodplain above the Black Creek confining unit.

Note: October 2021 groundwater results.

Site CSM Block – TCE (2021)

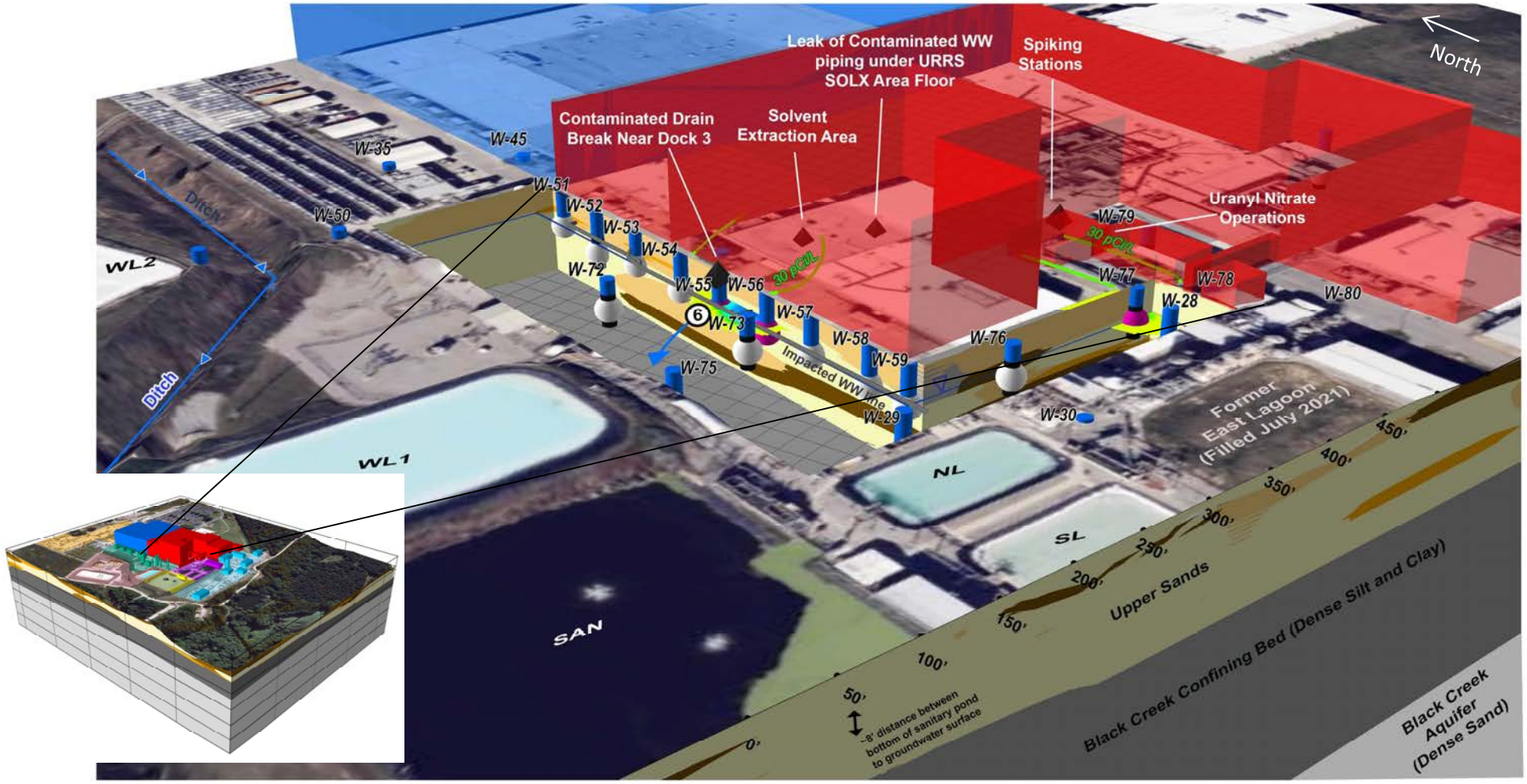


EL - Former East Lagoon
NL - North Lagoon
SL - South Lagoon
WL1 - West Lagoon I
WL2 - West Lagoon II
SAN - Sanitary Lagoon

4. Surface topography and ditch-driven flow controls the upper surficial portion of the TCE Plume.
5. Upper and lower surficial flows follow the same direction, and are confined by the dense silt and clay of the Black Creek.

Note: October 2021 groundwater results.

Site CSM Block –Uranium (2021)



Uranium Concentrations
143 ug/L in Groundwater
>30 ug/L in Groundwater
Potential Radioactive Release Sources
Uranium in Groundwater Above MCL
Uranium in Groundwater Below MCL
Note: October 2021 groundwater results

Upper Surficial Groundwater Well

Upper Sands
Black Creek Confining Unit
Black Creek Aquifer
Groundwater Flow Direction
Water Table
>30 pCi/L (Upper)

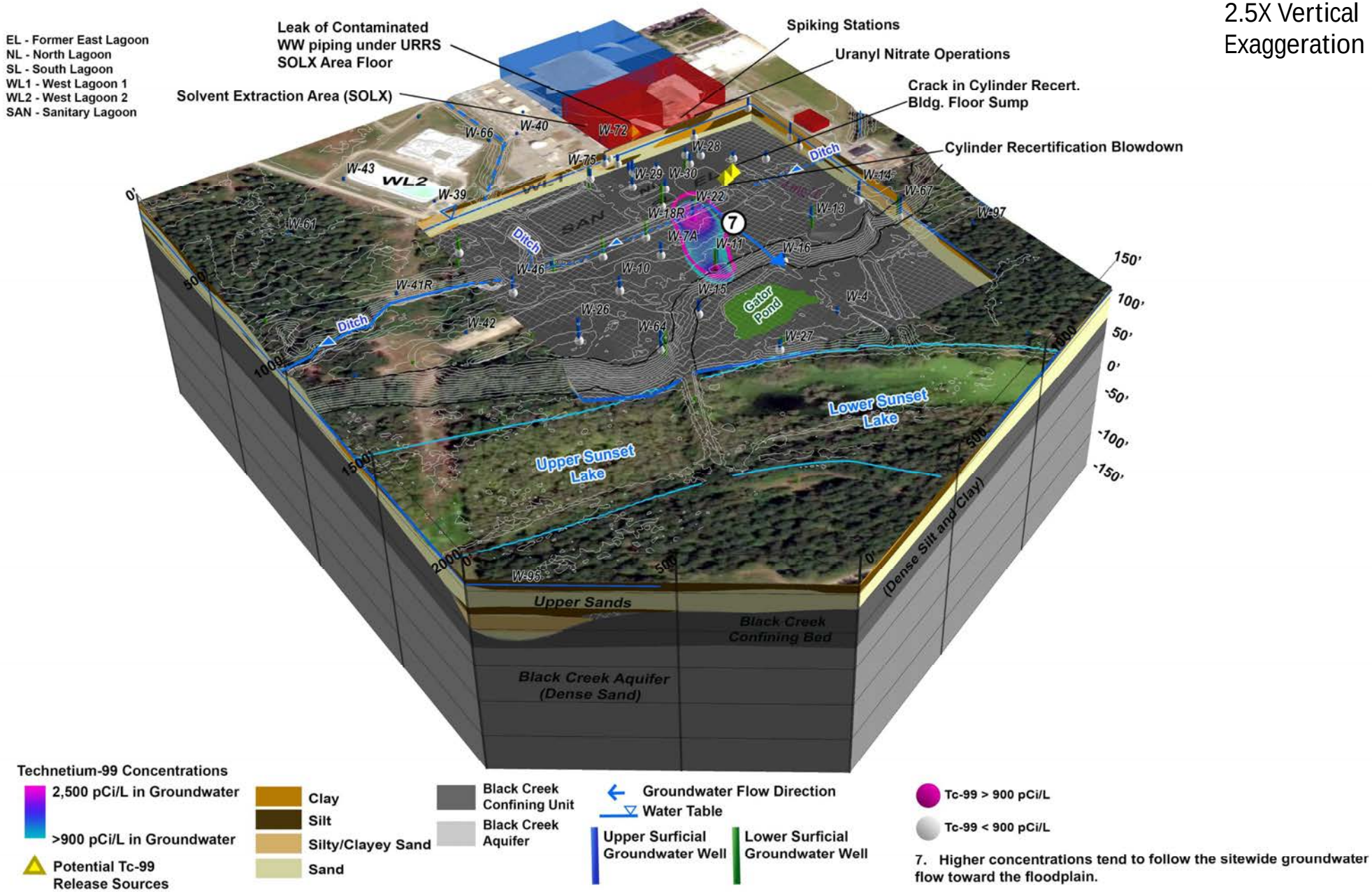
6. Flow from source areas into uppermost surficial aquifer only and low rate of advection and dispersion

EL - Former East Lagoon
NL - North Lagoon
SL - South Lagoon
WL1 - West Lagoon 1
WL2 - West Lagoon 2
SAN - Sanitary Lagoon

2.5X Vertical Exaggeration

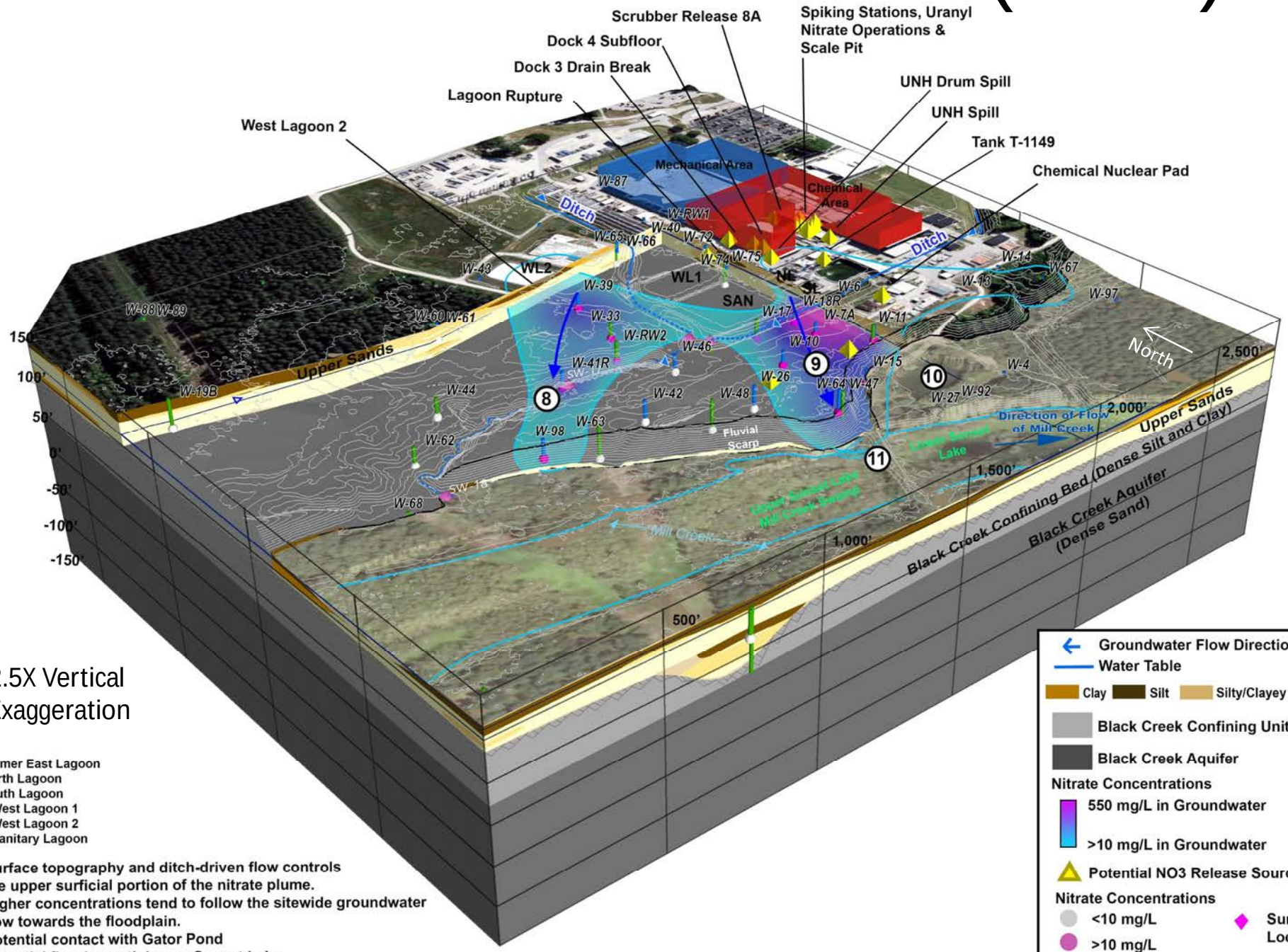
Site CSM Block –Sitewide Tc-99 (2021)

2.5X Vertical Exaggeration



Note: October 2021 groundwater results

Site CSM Block –Nitrate (2021)



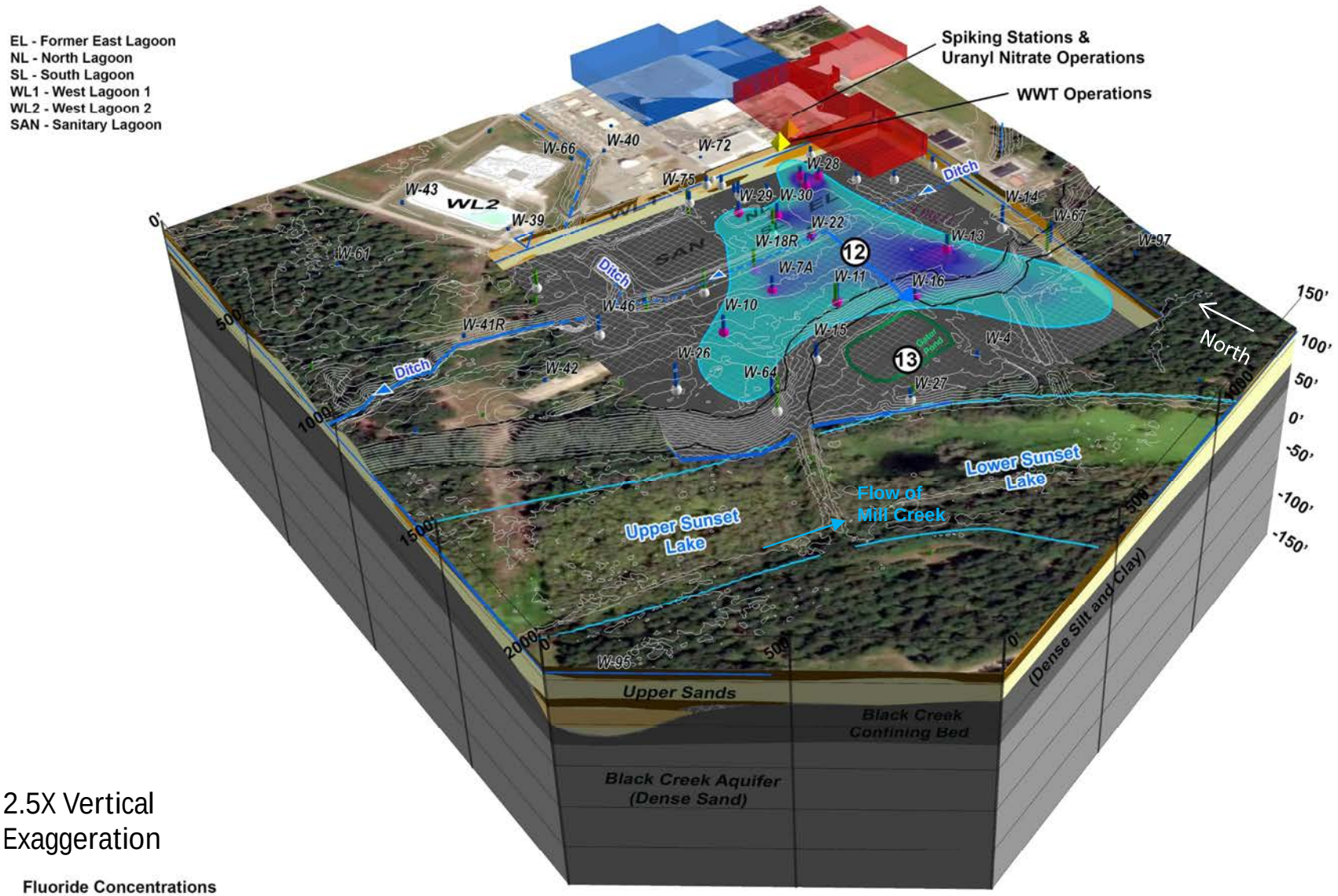
2.5X Vertical Exaggeration

EL - Former East Lagoon
NL - North Lagoon
SL - South Lagoon
WL1 - West Lagoon 1
WL2 - West Lagoon 2
SAN - Sanitary Lagoon

8. Surface topography and ditch-driven flow controls the upper surficial portion of the nitrate plume.
9. Higher concentrations tend to follow the sitewide groundwater flow towards the floodplain.
10. Potential contact with Gator Pond
11. Potential flow beneath Lower Sunset Lake

Note: October 2021 groundwater results.

Site CSM Block –Fluoride (2021)



2.5X Vertical Exaggeration

Fluoride Concentrations
- 14 mg/L in Groundwater
- >4mg/L in Groundwater
- Potential Fluoride Release Sources

- Clay
- Silt
- Silty/Clayey Sand
- Sand
- Black Creek Confining Unit
- Black Creek Aquifer

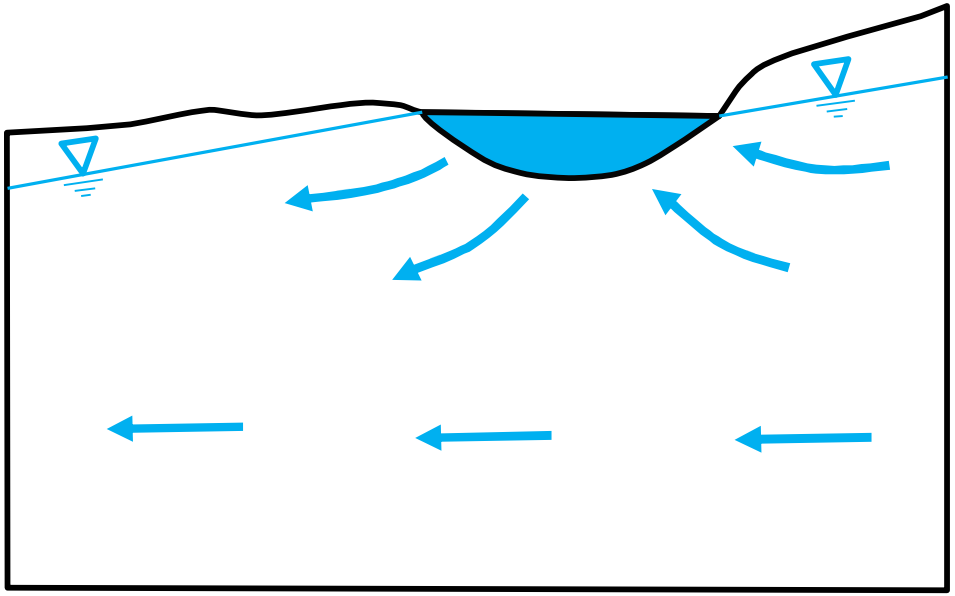
- Groundwater Flow Direction
- Water Table
- Upper Surficial Groundwater Well
- Fluoride > 4 mg/L
- Fluoride < 4 mg/L

12. Fluoride plume tends to follow the sitewide groundwater flow toward the Gator Pond and the floodplain.
13. Contact with the Gator Pond.

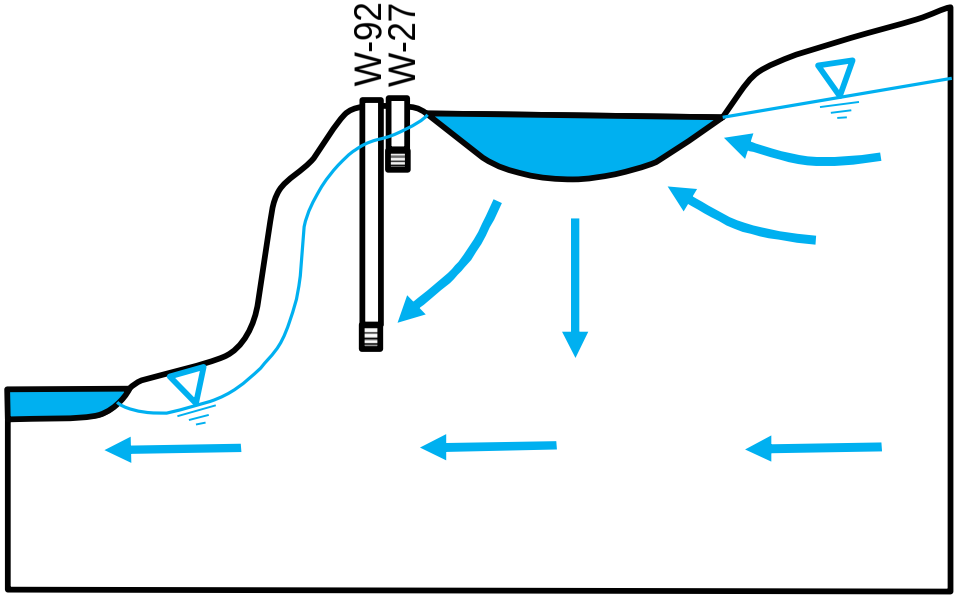
Note: October 2021 groundwater results.

Surface Water CSM:
Gator Pond (Flow-Through Lake)

A. Conceptual Example

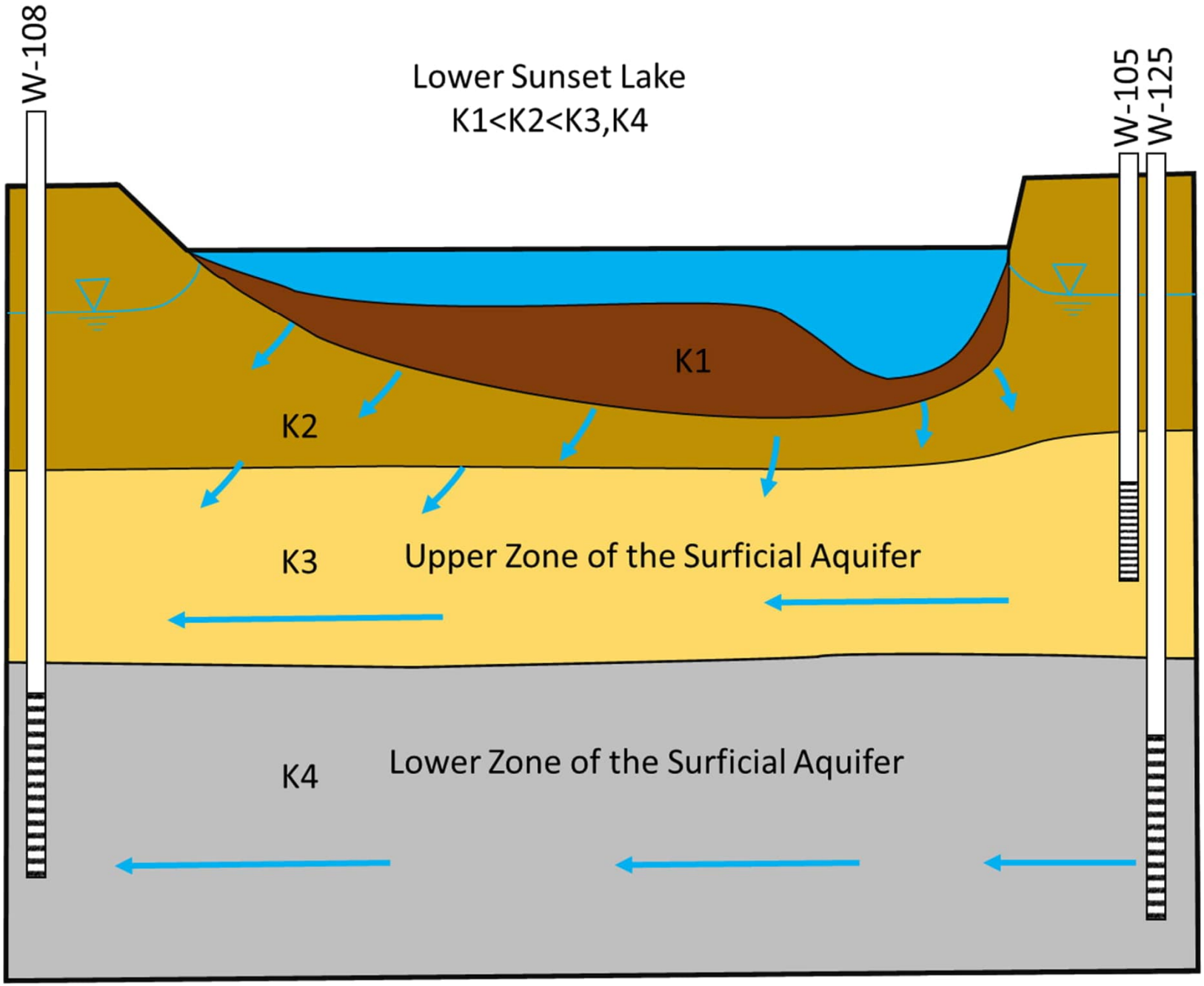


B. Conceptual Example applied to Gator Pond



Flow-through lake (from Anderson and Munter, Water Resources Res., v.17, p. 1139-1150, 1981. Copyright by Amer Geophysics Union.

Surface Water CSM



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