

APPENDIX D: NONRADIOLOGICAL ENVIRONMENTAL PROGRAM SUPPLEMENTAL INFORMATION

Appendix Table D-1 Water Quality Summary Results

Location	Metals Detected	# Detected	Max Value	Min Value	Avg
FMC-2	Aluminum	11	0.3440	0.0200	0.1791
	Copper	8	0.0041	< 0.0010	0.0018
	Iron	12	6.0100	0.6940	2.6838
	Mercury	1	0.0242	< 0.0200	0.0204
	Manganese	12	0.5710	0.0310	0.2123
	Thallium	1	0.0135	< 0.0100	0.0103
	Zinc	12	0.0482	0.0100	0.0241
FM-2B	Aluminum	12	0.7860	0.0410	0.2184
	Cadmium	1	0.0006	< 0.0005	0.0005
	Chromium	1	0.0014	< 0.0010	0.0010
	Copper	6	0.0037	< 0.0010	0.0015
	Iron	12	17.7000	0.7390	3.4019
	Lead	1	0.0053	< 0.0050	0.0050
	Mercury	1	0.0234	< 0.0200	0.0203
	Manganese	12	1.5400	0.0169	0.3098
	Zinc	12	0.0326	0.0089	0.0189
FM-6	Aluminum	11	0.7130	< 0.0200	0.2023
	Copper	8	0.0018	< 0.0010	0.0013
	Iron	12	1.6600	0.4900	1.0290
	Lead	1	0.0059	< 0.0050	0.0051
	Manganese	12	0.1020	0.0395	0.0607
	Zinc	11	0.0328	< 0.0010	0.0155
L3R-2	Aluminum	11	0.2510	< 0.0200	0.1041
	Cadmium	1	0.0007	< 0.0005	0.0005
	Chromium	2	0.0012	< 0.0010	0.0010
	Copper	1	0.0016	< 0.0010	0.0010
	Iron	12	0.9380	0.3000	0.5820
	Manganese	12	0.1560	0.0235	0.0727
	Thallium	1	0.0106	< 0.0100	0.0101
	Zinc	11	0.0377	< 0.0010	0.0186

Location	Metals Detected	# Detected	Max Value	Min Value	Avg
PB-3	Aluminum	11	0.5390	< 0.0200	0.2457
	Cadmium	1	0.0006	< 0.0005	0.0005
	Chromium	1	0.0018	< 0.0010	0.0011
	Copper	3	0.0026	< 0.0010	0.0012
	Iron	12	2.1700	0.5460	0.9198
	Manganese	12	0.1340	0.0331	0.0637
	Thallium	1	0.0169	< 0.0100	0.0106
	Zinc	11	0.0702	< 0.0010	0.0229
RM-118.8	Aluminum	11	0.5890	< 0.0200	0.2800
	Chromium	1	0.0010	< 0.0010	0.0010
	Copper	8	0.0023	< 0.0010	0.0014
	Iron	12	1.6000	0.2660	0.6899
	Lead	1	0.0070	< 0.0050	0.0052
	Manganese	12	0.1690	0.0543	0.0953
	Zinc	5	0.0109	< 0.0010	0.0037
RM-129.1	Aluminum	11	2.2000	< 0.0200	0.3585
	Chromium	1	0.0057	< 0.0010	0.0014
	Copper	4	0.0036	< 0.0010	0.0014
	Iron	12	4.8600	0.3750	0.9975
	Mercury	1	0.0288	< 0.0200	0.0207
	Manganese	12	1.0000	0.0192	0.1673
	Nickel	1	0.0015	< 0.0010	0.0010
	Thallium	2	0.0145	< 0.0100	0.0104
	Zinc	6	0.0233	< 0.0010	0.0061
RM-141.5	Aluminum	11	0.6640	< 0.0200	0.2564
	Chromium	1	0.0013	< 0.0010	0.0010
	Copper	8	0.0026	< 0.0010	0.0013
	Iron	12	1.2100	0.2410	0.6219
	Manganese	12	0.1680	0.0509	0.0876
	Zinc	7	0.1080	< 0.0010	0.0145
RM-150.4	Aluminum	12	0.9210	0.1360	0.2941
	Copper	5	0.0020	< 0.0010	0.0013
	Iron	12	1.3300	0.3140	0.5813
	Lead	1	0.0053	< 0.0050	0.0050
	Manganese	12	0.1720	0.0558	0.0973
	Zinc	6	0.0251	< 0.0010	0.0068

Location	Metals Detected	# Detected	Max Value	Min Value	Avg
RM-160	Aluminum	11	1.4100	< 0.0200	0.2721
	Chromium	1	0.0013	< 0.0010	0.0010
	Copper	8	0.0029	< 0.0010	0.0014
	Iron	12	1.4700	0.2170	0.4790
	Lead	1	0.0052	< 0.0050	0.0050
	Manganese	12	0.1710	0.0491	0.0884
	Thallium	1	0.0120	< 0.0100	0.0102
	Zinc	8	0.0134	< 0.0010	0.0057
SC-4	Aluminum	11	0.2720	< 0.0200	0.1389
	Copper	2	0.0027	< 0.0010	0.0012
	Iron	12	0.7440	0.2810	0.5311
	Lead	1	0.0064	< 0.0050	0.0051
	Manganese	12	0.0670	0.0230	0.0460
	Thallium	1	0.0141	< 0.0100	0.0103
	Zinc	10	0.0256	< 0.0010	0.0117
TB-5	Aluminum	11	0.1660	< 0.0200	0.0974
	Cadmium	1	0.0005	< 0.0005	0.0005
	Copper	1	0.0023	< 0.0010	0.0011
	Iron	12	5.7600	1.6200	3.3233
	Manganese	12	0.5230	0.0681	0.1554
	Nickel	7	0.0062	< 0.0010	0.0025
	Zinc	8	0.0271	< 0.0010	0.0096
TC-1	Aluminum	11	0.2360	< 0.0200	0.1150
	Iron	12	1.0600	0.3060	0.6412
	Manganese	12	0.0740	0.0129	0.0306
	Thallium	1	0.0143	< 0.0100	0.0104
	Zinc	8	0.0282	< 0.0010	0.0084
U3R-1A	Aluminum	11	0.2340	< 0.0200	0.1177
	Copper	1	0.0100	< 0.0010	0.0018
	Iron	12	0.6010	0.2490	0.4163
	Manganese	12	0.0208	0.0070	0.0120
	Zinc	9	0.0287	< 0.0010	0.0117
U3R-4	Aluminum	11	0.7690	< 0.0200	0.2588
	Cadmium	1	0.0006	< 0.0005	0.0005
	Copper	1	0.0017	< 0.0010	0.0011
	Iron	12	1.4600	0 0.3920	0.7046
	Manganese	12	0.0675	0 0.0179	0.0328
	Thallium	1	0.0102	< 0.0100	0.0100
	Zinc	9	0.0264	< 0.0010	0.0129

*metals detected in monthly samples

** if metal not detected, data were removed from table

Appendix Table D-2 Summary of Detected Metal Results for Freshwater Fish¹ Tissue Collected from the Savannah River

Analyte	Number of Detections (above the MDC)	Number of Estimated Values (above the MDC, below the SQL)	Maximum Concentration (ug/g)	SQL (ug/g)	MDC (ug/g)	Fish Type with Maximum Concentration	Location of Maximum Concentration
Mercury	125	41	11.8	0.2	0.02	Catfish	Highway 301
Arsenic	13	13	1.26	9.44	0.944	Catfish	Four Mile Creek Mouth
Cadmium	1	1	0.399	0.726	0.073	Catfish	New Savannah Bluff Lock & Dam (control location)
Chromium	101	99	1.07	0.717	0.072	Bass	Steel Creek Mouth
Copper	95	95	0.781	1.32	0.132	Panfish	Four Mile Creek Mouth
Manganese	87	84	1.88	0.946	0.095	Panfish	Highway 301
Nickel	7	7	0.292	1.81	0.181	Catfish	Upper Three Runs Creek Mouth
Zinc	126	0	11.8	1.36	0.136	Panfish	Highway 301

NOTES

1: 126 freshwater tissue samples were collected and analyzed for metals and mercury.

Appendix Table D-3 Summary of Detected Metal Results for Saltwater Fish¹ Tissue Collected from the Savannah River between River Miles 0-8, Near Savannah, GA

Analyte	Number of Detections (above the MDC)	Number of Estimated Values (above the MDC, below the SQL)	Maximum Concentration (ug/g)	SQL (ug/g)	MDC (ug/g)	Fish Type with Maximum Concentration
Mercury	9	9	0.115	0.20	0.02	Red Drum
Arsenic	2	2	1.21	9.28	0.928	Red Drum
Chromium	10	10	0.128	0.793	0.079	Red Drum
Copper	14	14	0.484	1.93	0.193	Mullet
Manganese	9	9	0.222	0.849	0.085	Red Drum
Zinc	14	0	6.17	1.93	0.193	Mullet

*NOTES**1: 14 saltwater tissue samples were collected and analyzed for metals and mercury.*

**Appendix Table D-4 Precipitation Results of SRS National Trends Network Station
for Calendar Year 2014**

Analyte	Precipitation Weighted Concentration	Deposition
Calcium (Ca^{2+})	0.061 mg/L	0.72 kg/ha
Magnesium (Mg^{2+})	0.019 mg/L	0.225 kg/ha
Potassium (K^{+})	0.016 mg/L	0.189 kg/ha
Sodium (Na^{+})	0.126 mg/L	1.490 kg/ha
Ammonium (NH_4^{+})	0.154 mg/L	1.87 kg/ha
Nitrate (NO_3^{-})	0.562 mg/L	6.65 kg/ha
Chloride (Cl^{-})	0.226 mg/L	2.67 kg/ha
Sulfate (SO_4^{2-})	0.562 mg/L	6.65 kg/ha
pH (free acidity H^{+})	4.95	0.130 kg/ha

ha = hectare – a metric unit of area defined as 10,000 square meters.