Appendix D Radiological Environmental Monitoring Program Supplemental Information

Negative values are reported in tables in this appendix. Background counts are subtracted from the sample counts. Negative values occur when the background count is greater than the sample count. Background counts reflect naturally occurring radionuclides and cosmic radiation that is detected by laboratory instrumentation.

Appendix Table D-1 Summary of Radioactive Atmospheric Releases by Source

All values under the "Calculated" column through "Totals" column are reported in curies.[a]

In the Calculated column, blanks indicate the radionuclide is not present. In the facility (Reactors, Separations, SRNL) columns, a blank indicates the radionuclide was not analyzed. A 0.00E+00 in the facility columns indicates the result was not significant.

Radionuclide	Half-Life[b]	Calculated[c]	Reactors	Separations[d]	SRNL	Total
Gases and Vapors						
H-3 (oxide)	12.3 y	2.24E+03	9.15E+02	1.67E+04		**1.99E+04**
H-3 (elemental)	12.3 y			1.88E+03		**1.88E+03**
H-3 Total	12.3 y	2.24E+03	9.15E+02	1.86E+04		**2.17E+04**
C-14	5700 y	1.57E-07		1.64E-02		**1.64E-02**
Hg-203	46.6 d	5.22E-10				**5.22E-10**
Kr-85	10.8 y			3.96E+03		**3.96E+03**
I-129	1.57E+07 y	2.01E-04		1.89E-03	9.06E-06	**2.09E-03**
I-131	8.02 d	6.75E-10				**6.75E-10**
Particles						
Ag-110m	250 d	1.48E-11				**1.48E-11**
Am-241	432 y	1.12E-05	0.00E+00	2.61E-05		**3.73E-05**
Am-243	7370 y	4.50E-09				**4.50E-09**
Ba-133	10.5 y	7.01E-10				**7.01E-10**
Cd-109	461 d	1.34E-08				**1.34E-08**
Ce-139	138 d	5.20E-10				**5.20E-10**
Ce-141	32.5 d	4.94E-11				**4.94E-11**
Ce-144	285 d	2.00E-08				**2.00E-08**
Cm-244	18.1 y	2.83E-07	0.00E+00	8.54E-07		**1.14E-06**
Co-57	272 d	4.96E-10				**4.96E-10**
Co-60	5.27 y	4.96E-07	0.00E+00	0.00E+00	0.00E+00	**4.96E-07**
Cs-134	2.06 y	4.31E-07				**4.31E-07**
Cs-137	30.2 y	1.25E-03	0.00E+00	7.80E-03	0.00E+00	**9.05E-03**
Eu-152	13.5 y	1.47E-09				**1.47E-09**
Eu-154	8.59 y	3.56E-07				**3.56E-07**
Eu-155	4.76 y	1.18E-07				**1.18E-07**
F-18	110 m	4.00E-02				**4.00E-02**
Fe-55	2.74 y	1.17E-08				**1.17E-08**
Mn-54	312 d	3.78E-10				**3.78E-10**
Nb-94	2.03E+04 y	2.42E-07				**2.42E-07**
Nb-95	35.0 d	3.63E-07				**3.63E-07**
Ni-59	1.01E+05 y	5.76E-11				**5.76E-11**
Ni-63	100 y	5.46E-09				**5.46E-09**
Np-237	2.14E+06 y	1.62E-06	0.00E+00	8.79E-08		**1.71E-06**
Pa-233	27.0 d	1.42E-06				**1.42E-06**

Radionuclide	Half-Life[b]	Calculated[c]	Reactors	Separations[d]	SRNL	Total
Particles						
Pb-212	10.6 h	8.43E-07				**8.43E-07**
Pm-147	2.62 y	2.89E-06				**2.89E-06**
Pm-148m	41.3 d	1.90E-12				**1.90E-12**
Pr-144	17.3 m	2.00E-08				**2.00E-08**
Pu-236	2.86 y	5.55E-10				**5.55E-10**
Pu-238	87.7 y	3.14E-05	4.72E-10	8.01E-06		**3.94E-05**
Pu-239	2.41E+04 y	4.34E-05	0.00E+00	6.09E-05		**1.04E-04**
Pu-240	6560 y	7.73E-06				**7.73E-06**
Pu-241	14.4 y	2.07E-04				**2.07E-04**
Pu-242	3.75E+05 y	2.16E-06				**2.16E-06**
Ra-226	1600 y	2.48E-07				**2.48E-07**
Ra-228	5.75 y	2.29E-07				**2.29E-07**
Rh-106	29.8 s	1.19E-08				**1.19E-08**
Ru-103	39.3 d	5.11E-10				**5.11E-10**
Ru-106	374 d	3.04E-06				**3.04E-06**
Sb-125	2.76 y	1.18E-06				**1.18E-06**
Sb-126[e]	12.4 d	1.70E-07				**1.70E-07**
Se-75	120 d			1.94E-07		**1.94E-07**
Se-79	2.95E+05 y	4.90E-09				**4.90E-09**
Sm-151	90 y	2.89E-06				**2.89E-06**
Sn-113	115 d	6.27E-10				**6.27E-10**
Sn-123	129 d	6.66E-12				**6.66E-12**
Sn-126	2.30E+05 y	1.70E-07				**1.70E-07**
Sr-85	64.8 d	6.00E-10				**6.00E-10**
Sr-89	50.5 d	5.99E-10				**5.99E-10**
Sr-90	28.8 y	3.34E-05	2.30E-09	1.53E-04		**1.87E-04**
Tc-99	2.11E+05 y	1.06E-06				**1.06E-06**
Te-127	9.35 h	1.04E-11				**1.04E-11**
Te-129	69.6 m	1.05E-12				**1.05E-12**
Th-228	1.91 y	1.26E-10	8.29E-10			**9.55E-10**
Th-229	7340 y	1.60E-09				**1.60E-09**
Th-230	7.54E+04 y	1.43E-10	7.68E-09			**7.82E-09**
Th-231	25.5 h	2.12E-04				**2.12E-04**
Th-232	1.41E+10 y	4.79E-12	2.17E-09			**2.18E-09**
Tl-208	3.05 m	1.41E-06				**1.41E-06**
U-232	68.9 y	6.04E-09				**6.04E-09**
U-233	1.59E+05 y	4.21E-10				**4.21E-10**
U-234	2.46E+05 y	6.11E-07	2.41E-09	1.02E-04		**1.03E-04**
U-235	7.04E+08 y	8.41E-09	0.00E+00	6.33E-06		**6.34E-06**
U-236	2.34E+07 y	3.01E-08				**3.01E-08**
U-238	4.47E+09 y	2.08E-07	1.99E-09	1.48E-04		**1.48E-04**

Radionuclide	Half-Life[b]	Calculated[c]	Reactors	Separations[d]	SRNL	Total
Particles						
Y-88	107 d	4.58E-10				**4.58E-10**
Y-90[e]	64.1 h	3.34E-05	2.30E-09	1.53E-04		**1.87E-04**
Y-91	58.5 d	7.98E-10				**7.98E-10**
Zn-65	244 d	9.56E-10				**9.56E-10**
Zr-95	64.0 d	1.22E-07				**1.22E-07**
Unidentified alpha[f]	N/A	3.94E-05	0.00E+00	1.21E-05	0.00E+00	**5.15E-05**
Unidentified beta[f]	N/A	2.17E-03	5.17E-05	9.05E-04	1.73E-06	**3.13E-03**
TOTAL		2.24E+03	9.15E+02	2.25E+04	1.08E-05	**2.57E+04**

Notes:
[a] One curie equals 3.7E+10 becquerels
[b] ICRP 107, *Nuclear Decay Data for Dosimetric Calculations* (2008)
[c] Estimated releases from unmonitored sources. Beginning in 2016, individual isotope annual releases below 1E-12 Ci (1 pCi) are no longer reported in this table and, therefore, not used in the dose calculations.
[d] Includes separations, waste management, and tritium processing facilities
[e] Daughter products (Sb-126 & Y-90) in secular equilibrium with source terms (Sn-126 & Sr-90, respectively). In MAXDOSE/POPDOSE, they are included in the source term and their ingrowth is included in their parents' source term.
[f] For dose calculations, unidentified alpha and beta releases are assumed to be Pu-239 and Sr-90, respectively.

Appendix Table D-2 Summary of Air Effluent DOE DCS Sum of Fractions

Facility (Sampling Location)	Radionuclides Included in the DCS Sum of Fractions	DCS Sum of Fractions
A Area (791-A Sandfilter Discharge)	I-129	3.71E-04
C Area (C-Area Main Stack [148'])	H-3 (oxide)	1.73E+00
F Area (235-F Sandfilter Discharge)	U-234, U-238, Pu-238, Pu-239, Am-241	1.14E-03
F Area (291-F Stack Isokinetic)	Sr-89/90, I-129, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241, Cm-244	6.66E-01
F Area (772-4F Stack)	U-234, U-238, Pu-238, Pu-239, Am-241	1.43E-03
H Area (291-H Stack Isokinetic)	H-3 (oxide), C-14, Kr-85, Sr-89/90, I-129, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241	4.11E-01
K Area (K-Area Main Stack [148'])	H-3 (oxide)	1.30E+01
K Area (KIS Facility)	Sr-89/90, Th-228, Th-230, Th-232, U-234, U-238, Pu-238	5.05E-03
L Area (L-Area Disassembly)	H-3 (oxide)	2.31E+01
L Area (L-Area Main Stack [148'])	H-3 (oxide)	1.56E+01
Tritium (232-H (200ft))	H-3 (elemental), H-3 (oxide)	2.30E+01
Tritium (233-H)	H-3 (elemental), H-3 (oxide)	1.92E+00
Tritium (234-H)	H-3 (elemental), H-3 (oxide)	2.20E+01
Tritium (238-H)	H-3 (oxide)	3.23E+01
Tritium (264-H)	H-3 (elemental), H-3 (oxide), Se-75	6.48E+00

Note: DOE-STD-1196-2011, Derived Concentration Technical Standard

Appendix Table D-3 Summary of Tritium in Environmental Air

All concentrations are in pCi/m^3. Bolded minimum and maximum concentration results were reported as detected. Minimum and maximum concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large.

The results at the following locations were all not detected: 25-Mile Radius (Aiken Airport and the Control Location–Hwy 301 @ State Line)

Location	Number of Samples	Mean Conc. (std. dev.)	Minimum Conc. (std. dev.)	Maximum Conc. (std. dev.)
Onsite				
Burial Ground North	26	1.64E+02 (1.62E+00)	**3.81E+01 (6.74E+00)**	**3.68E+02 (1.04E+01)**
Site Perimeter				
Allendale Gate[a]	26	2.00E+00 (6.67E-01)	-6.84E+00 (2.55E+00)	9.81E+00 (4.63E+00)
Barnwell Gate	26	1.06E+01 (8.32E-01)	-6.68E+00 (5.36E+00)	**1.73E+02 (3.39E+00)**
D Area	26	5.17E+00 (7.93E-01)	-2.56E+00 (3.32E+00)	**2.38E+01 (4.45E+00)**
Darkhorse @ Williston Gate	26	5.11E+00 (8.19E-01)	-5.03E+00 (6.26E+00)	**2.92E+01 (4.38E+00)**
East Talatha	26	5.38E+00 (8.35E-01)	-1.94E+00 (1.91E+00)	**2.04E+01 (5.47E+00)**
Green Pond	26	4.51E+00 (8.15E-01)	-3.51E+00 (5.66E+00)	**1.29E+01 (6.94E+00)**
Highway 21/167	26	3.72E+00 (8.50E-01)	-6.16E+00 (5.54E+00)	**1.98E+01 (5.50E+00)**
Jackson	26	4.38E+00 (8.65E-01)	-6.54E+00 (4.65E+00)	**1.79E+01 (5.25E+00)**
Patterson Mill Road	26	3.06E+00 (9.59E-01)	-7.11E+00 (5.31E+00)	**1.73E+01 (4.95E+00)**
Talatha Gate	26	4.49E+00 (7.87E-01)	-5.81E+00 (5.39E+00)	**1.43E+01 (5.30E+00)**
25-Mile Radius				
Augusta Lock and Dam 614	26	2.75E+00 (7.96E-01)	-8.57E+00 (4.97E+00)	**1.59E+01 (4.94E+00)**

Note:
[a]There were two detected results. However, neither was the maximum measured value.

Appendix Table D-4 Summary of Tritium in Rainwater

Samples were collected approximately every 4 weeks at each of 13 locations. All concentrations are in pCi/L. Twelve samples were collected from each location during 2016. Bolded minimum and maximum concentration results were reported as detected. Minimum and maximum concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large. The results at the following locations were all not detected: Site Perimeter (Allendale Gate, Barnwell Gate, Darkhorse @ Williston Gate, Patterson Mill Road) and 25-Mile Radius (Augusta Lock and Dam 614 and Highway 301 @ State Line). The Highway 301 @ State Line location is the control location.

Location	# of Detected Results	Mean Conc. (std. dev.)	Minimum Conc. (std. dev.)	Maximum Conc. (std. dev.)
Onsite				
Burial Ground North	11	2.24E+03 (5.67E+01)	-1.06E+02 (1.57E+02)	**6.92E+03 (2.83E+02)**
Site Perimeter				
D Area	1	1.19E+02 (4.11E+01)	-3.11E+02 (1.66E+02)	**4.81E+02 (1.51E+02)**
East Talatha	1	6.23E+01 (4.01E+01)	-3.00E+02 (1.66E+02)	**4.05E+02 (1.47E+02)**
Green Pond	1	1.16E+02 (4.05E+01)	-1.41E+02 (1.33E+02)	**8.03E+02 (1.41E+02)**
Highway 21/167	1	4.43E+01 (3.96E+01)	-1.82E+02 (1.31E+02)	**2.62E+02 (5.21E+01)**
Jackson	1	1.06E+02 (4.01E+01)	-2.27E+02 (1.29E+02)	**4.89E+02 (1.50E+02)**
Talatha Gate	1	1.10E+02 (4.01E+01)	-2.66E+02 (1.60E+02)	**3.89E+02 (1.27E+02)**
25-Mile Radius				
Aiken Airport	1	1.02E+02 (4.11E+01)	-2.02E+02 (1.33E+02)	**4.57E+02 (1.48E+02)**

Appendix Table D-5 Summary of Radionuclides in Soil

Samples are collected annually from 18 locations. Bolded values are detected results. Values not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large.

The following locations are sampled: F Area (2000 feet West), H Area (2000 ft East), Z Area (#3), Burial Ground Locations (643-26E-2 and Burial Ground North), Plant Perimeter Locations (Allendale Gate, Barnwell Gate, D Area, Darkhorse @ Williston Gate, East Talatha, Green Pond, Highway 21/167, Jackson, Patterson Mill Road, and Talatha Gate) and 25-Mile Radius Locations (Aiken Airport, August Lock and Dam 614, and Highway 301 @ State Line). The Highway 301 @ State Line is the control location.

All Co-60 and Np-237 results were not detected; thus, they were not reported in this table.

Radionuclide	# of Detected Results	Control - HWY 301 Conc. (pCi/g)	Location of Minimum Conc.	Minimum Conc. (pCi/g)	Location of Maximum Conc.	Maximum Conc. (pCi/g)
Cs-137	17 of 18	1.34E-01	Burial Ground (643-26E-2)	-4.51E-03	Allendale Gate	4.27E-01
Sr-89/90	2 of 18	3.24E-02	Z-Area #3	-4.76E-02	Aiken Airport	2.56E-01
U-234	18 of 18	2.00E+00	Allendale Gate	4.43E-01	Highway 301 @ State Line	2.00E+00
U-235	18 of 18	9.62E-02	Green Pond	1.71E-02	Highway 301 @ State Line	9.62E-02
U-238	18 of 18	2.10E+00	Allendale Gate	3.97E-01	Highway 301 @ State Line	2.10E+00
Pu-238	5 of 18	4.08E-04	Darkhorse @ Williston Gate	-1.24E-04	F Area (2000 Feet West)	3.32E-02
Pu-239	18 of 18	8.92E-03	Jackson	2.29E-03	F Area (2000 Feet West)	4.86E-02
Am-241	16 of 18	2.26E-03	Burial Ground (643-26E-2)	-9.95E-06	D-Area	9.84E-03
Cm-244	1 of 18	3.22E-04	Barnwell Gate	-3.41E-04	Jackson	1.97E-03
Gross Beta	15 of 18	8.57E+00	Barnwell Gate	2.95E+00	D Area	1.57E+01
Gross Alpha	18 of 18	1.16E+01	Aiken Airport	1.89E+00	Burial Ground North	2.29E+01

Appendix Table D-6 Summary of Radionuclides in Grassy Vegetation

Samples are collected annually from 14 locations. Bolded values are detected results. Values not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large. All results for Co-60, U-235, Np-237, Pu-238, Pu-239, Cm-244 and Gross alpha were not detected; thus, not reported in this table.

The following locations are sampled: Control (Highway 301 at the SC/GA State line), Onsite location (Burial Ground North), Site Perimeter locations (Allendale Gate, Barnwell Gate, D Area, Darkhorse @ Williston Gate, East Talatha, Green Pond, Highway 21/167, Jackson, Patterson Mill Road, Talatha Gate), and 25-Mile Radius Locations (Aiken Airport and the Augusta Lock and Dam 614). Samples are collected annually.

Radionuclide	# of Detected Results	Control (Highway 301) Conc. (pCi/g)	Location of Minimum Conc.	Minimum Conc. (pCi/g)	Location of Maximum Conc.	Maximum Conc. (pCi/g)
H-3	3 of 14	3.62E-02	D-Area	-1.54E-02	Burial Ground North	**2.24E+00**
Cs-137	9 of 14	**1.45E-01**	Burial Ground North	-1.76E-02	Allendale Gate	**5.46E-01**
Sr-89/90	14 of 14	**1.01E-01**	Burial Ground North	**7.05E-02**	Highway 21/167	**6.14E-01**
U-234	14 of 14	**2.92E-03**	Darkhorse @ Williston Gate	**1.15E-03**	Aiken Airport	**1.20E-02**
U-238	14 of 14	**2.57E-03**	Patterson Mill Road	**7.86E-04**	Jackson	**1.22E-02**
Am-241	1 of 14	9.14E-05	Aiken Airport	-5.73E-05	Augusta Lock and Dam 614	**7.84E-04**
Tc-99	14 of 14	**2.25E-01**	Talatha Gate	**1.57E-01**	Augusta Lock and Dam 614	**9.57E-01**
Gross Beta	14 of 14	**1.23E+01**	Highway 21/167	**4.76E+00**	Augusta Lock and Dam 614	**1.56E+01**

Appendix Table D-7 Summary of Radionuclides in Foodstuffs

Samples of five foodstuffs are collected annually from five regions surrounding SRS. Beef, greens, and fruit are collected each year. There are six foodstuffs that are collected on a rotating three-year cycle. Wheat and cabbage were the rotational crop samples collected in 2016.

Units are in pCi/g. Bolded minimum and maximum concentration results were reported as detected. Minimum and maximum concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large.

Food Type	Nuclide	Number of Samples	Number of Results > Detection Limit	Mean Sample Conc.	Minimum Sample Conc.	Maximum Sample Conc.
Beef	Cs-137	5	1	3.51E-03	2.70E-04	**1.46E-02**
	U-234	5	4	8.99E-05	5.00E-05	**1.23E-04**
	U-238	5	4	7.94E-05	1.74E-05	**1.27E-04**
	Gross Beta	5	5	2.55E-00	**2.22E+00**	**2.86E+00**
H-3, Co-60, Np-237, Pu-238, Pu-239, Am-241, Cm-244, Sr-89,90, U-235, Tc-99 and gross alpha were not detected in beef						
Greens	Cs-137	5	4	1.40E-02	3.78E-03	**2.31E-02**
	Sr-89,90	5	5	2.52E-01	**1.91E-01**	**3.27E-01**
	U-234	5	4	1.63E-02	4.81E-04	**4.57E-02**
	U-235	5	1	6.19E-04	-6.92E-05	**2.24E-03**
	U-238	5	4	1.60E-02	5.68E-04	**4.70E-02**
	Tc-99	5	4	5.04E-01	1.85E-01	**1.02E+00**
	Gross Beta	5	5	3.32E+01	**2.78E+01**	**3.81E+01**
H-3, Co-60, Np-237, Pu-238, Pu-239, Am-241, Cm-244 and gross alpha were not detected in greens						
Fruit (watermelon)	Gross Beta	5	5	5.30E-01	**4.49E-01**	**6.46E-01**
H-3, Cs-137, Co-60, Np-237, Pu-238, Pu-239, Am-241, Cm-244, Sr-89,90, U-234, U-235, U-238, Tc-99 and gross alpha were not detected in fruit						
Wheat	Cs-137	5	1	4.02E-03	1.14E-03	**1.02E-02**
	U-234	5	5	2.15E-03	**1.03E-03**	**5.68E-03**
	U-238	5	5	2.04E-03	**7.70E-04**	**5.68E-03**
	Np-237	5	1	3.35E-04	1.96E-04	**6.97E-04**
	Gross Beta	5	5	4.05E+00	**3.86E+00**	**4.27E+00**
H-3, Co-60, Pu-238, Pu-239, Am-241, Cm-244, Sr-89,90, U-235, Tc-99 and gross alpha were not detected in wheat.						

Food Type	Nuclide	Number of Samples	Number of Results > Detection Limit	Mean Sample Conc.	Minimum Sample Conc.	Maximum Sample Conc.
Cabbage	H-3	5	1	3.87E-02	-6.11E-03	**1.11E-01**
	Cs-137	5	5	2.75E-02	**2.15E-02**	**3.35E-02**
	Sr-89,90	5	5	1.41E-01	**4.08E-02**	**2.78E-01**
	U-234	5	4	1.75E-02	**5.08E-04**	**9.11E-02**
	U-235	5	1	6.59E-01	-1.14E-04	**3.00E-03**
	U-238	5	5	1.72E-02	-1.32E-04	**9.41E-02**
	Am-241	5	1	8.61E-05	-1.09E-04	**5.95E-04**
	Cm-244	5	1	1.15E-04	0.00E+00	**3.78E-04**
	Tc-99	5	3	1.64E-01	3.35E-02	**2.55E-01**
	Gross Beta	5	5	2.19E+01	**1.51E+01**	**3.11E+01**
Co-60, Np-237, Pu-238, Pu-239 and gross alpha were not detected in cabbage. Uranium series was reanalyzed to confirm this year's elevated, outside of the historical trend, results. The reanalyzed results were comparable with the original results. All results were retained. Thus, there are 10 reported values for U-234, U-235, and U-238 for the 5 cabbage samples. Each sample had at least one of the two results with a detected result.						

Appendix Table D-8 Summary of Radionuclides in Dairy

SRS collects cow's milk samples from dairies located in communities surrounding the Site. The number listed in parentheses after the state in which the dairies are located, indicates the number of dairies that provide samples to SRS from that state.

Bolded minimum and maximum concentration results were reported as detected. Minimum and maximum concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large. All Co-60 results were not detected, thus, not reported in this table.

Location	Nuclide	Number of Samples	Number of Results > Detection Limit	Mean Sample Conc. (pCi/L)	Minimum Sample Conc. (pCi/L)	Maximum Sample Conc. (pCi/L)
SC-Dairies (4)	Cs-137	16	0			
GA-Dairies (4)	Cs-137	16	1	1.42E+00	-3.89E-03	**3.92E+00**
SC-Dairies (4)	Sr-90	16	1	4.08E-01	-6.27E-01	9.84E-01
GA-Dairies (4)	Sr-90	16	2	1.48E-01	-7.16E-01	**1.33E+00**
SC-Dairies (4)	H-3	16	1	4.19E+01	-3.65E+02	**4.41E+02**
GA-Dairies (4)	H-3	16	1	6.08E+01	-1.53E+02	**2.92E+02**

Appendix Table D-9 Radiation in Liquid Release Sources

All values under the three Areas columns and the "Totals" column are reported in curies.

Tritium is the main contributing radionuclide in Liquid Sources releases. Although the remaining radionuclides are contributors, their contributions in liquid source releases are minimal.

In the facility (Reactor, Separations, SRNL) columns, a blank indicates the radionuclide was not analyzed. A 0.00E+00 in the facility columns indicates the result was not significant.

All Co-60 results were not detected; thus, they were not reported in this table.

Radionuclide	Half-Life	Reactors	Separations[a]	SRNL	Totals
H-3[b]	12.3 y	2.40E+02	4.28E+02	0.00E+00	**6.68E+02**
C-14	5700 y		5.82E-04	0.00E+00	**5.82E-04**
Sr-90	28.8 y	0.00E+00	1.95E-02		**1.95E-02**
Tc-99	2.11E+05 y		1.88E-02	0.00E+00	**1.88E-02**
I-129	1.57E+07 y		1.82E-02	0.00E+00	**1.82E-02**
Cs-137[c]	30.2 y	0.00E+00	1.78E-02	0.00E+00	**1.78E-02**
U-234	2.46E+05 y		3.29E-02	3.79E-05	**3.29E-02**
U-235	7.04E+08 y		1.04E-03	1.20E-06	**1.04E-03**
U-238	4.47E-09 y		3.68E-02	2.65E-05	**3.68E-02**
Np-237	2.14E+06 y		2.78E-06		**2.78E-06**
Pu-238	87.7 y		2.57E-04	2.91E-06	**2.60E-04**
Pu-239	2.41E+04 y		1.28E-05	8.50E-07	**1.37E-05**
Am-241	432 y		1.80E-03		**1.80E-03**
Cm-244	18.1 y		1.54E-04		**1.54E-04**
Alpha[d]	N/A	2.59E-03	1.35E-03	3.74E-04	**4.31E-03**
Beta-Gamma[e]	N/A	1.03E-01	4.84E-03	5.76E-04	**1.08E-01**
				Sum	**6.68E+02**

Notes:

[a] Includes separations, waste management, and tritium processing facilities.

[b] The tritium release total, which includes direct + migration releases, is used in the dose calculations for SRS impacts.

[c] Depending on which value is higher, the Cs-137 release total is based on concentrations measured in RM 118.8 fish or on the actual measured effluent release total from the Site. Refer to chapter 6 (Dose) for more information.

[d,e] For dose calculations, unidentified alpha and beta/gamma releases are assumed to be Pu-239 and Sr-90, respectively.

Appendix Table D-10 Summary of Liquid Effluent DOE DCS Sum of Fractions by Facility

Facility (sampling location)	Radionuclides Included in the Sum of Fractions	DCS Sum of Fractions
A Area (TB-2 Outfall at Road 1A)	H-3, C-14, Co-60, I-129, Cs-137, U-234, U-235, U-238, Pu-238, Pu-239, Tc-99	1.59E-03
F Area (F-013 200-F Cooling Basin)	H-3, Co-60, Sr-89/90, I-129, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241, Cm-244, Tc-99	4.56E-03
F Area (F-05)	H-3, C-14, Co-60, Sr-89/90, I-129, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241, Cm-244, Tc-99	5.87E-03
F Area (FM-3 F-Area Effluent)	H-3, C-14, Co-60, Sr-89/90, I-129, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241, Cm-244, Tc-99	1.96E-03
F-Tank Farm (F-012 281-8F Retention Basin)	H-3, Co-60, Sr-89/90, I-129, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241, Cm-244, Tc-99	5.64E-03
H Area (FM-1C H-Area Effluent)	H-3, C-14, Co-60, Sr-89/90, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241, Cm-244	7.85E-03
H Area (H-004)	H-3, Co-60, Sr-89/90, Cs-137, U-234, U-235, U-238, Pu-238, Pu-239	8.89E-03
H-ETP (U3R-2A ETP Outfall at Road C)	H-3, C-14, Co-60, Sr-89/90, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241, Cm-244	4.52E-01
H-Tank Farm (H-017 281-8H Retention Basin)	H-3, Co-60, Sr-89/90, I-129, Cs-137, U-234, U-235, Np-237, U-238, Pu-238, Pu-239, Am-241, Cm-244, Tc-99	2.18E-02
H-Tank Farm (HP-52 H-Area Tank Farm)	H-3, Co-60, Sr-89/90, Cs-137, U-234, U-235, U-238, Pu-238, Pu-239, Am-241, Cm-244	8.31E-04
K Area (K Canal)	H-3, Co-60, Sr-89/90, Cs-137	2.92E-04
L Area (L-07)	H-3, Co-60, Sr-89/90, Cs-137	3.35E-04
S Area (S-004)	H-3, Co-60, Sr-89/90, Cs-137, U-234, U-235, U-238, Pu-238, Pu-239	6.53E-03
Tritium (HP-15 Tritium Facility Outfall)	H-3, Co-60, Sr-89/90, Cs-137	6.45E-03

Appendix Table D-11 Summary of Radionuclides in Sediments

Sediment samples are collected annually. SRS collected sediment samples at 8 Savannah River locations and 27 onsite streams, basins, ponds, or swamp discharge locations. This table presents a summary for the analytes detected for the sediment samples collected at the 35 locations categorized as river, stream or stormwater basin. Each table includes the respective control location concentration, whether detected or not, as well as the maximum value of the river, stream, and stormwater basin samples. Bolded concentration results were reported as detected. Concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large. All results for Co-60 were not detectable. Np-237 was not detected in any river samples, but was detected in stream and stormwater basin samples. Radionuclides not detected in a type of waterbody (river, stream, or stormwater basin) are not reported in that table.

The following locations are the sampling locations: Controls (River Mile 160.5 and Upper Three Runs Creek (U3R)-1A Treadway Bridge RD 8-1), Savannah River Locations (River Miles 118.7, 129, 134.0, 150.2, 151, 152.1, and 157.2), SRS Storm Basin locations (E-005, E-006, E-004, -003, POND 400, E-002, E-001, and Z Basin), and SRS Stream locations (FM-2 at Road 4, FM-3A Below F-Area Effluent, Four Mile A-7A (Beaver Pond), Four Mile Creek Swamp Discharge, Four Mile Creek at Road A-7, L3R-1A at Road B, L3R-2 Sediment, McQueens Branch (MCQBR) at Monroe Road, MCQBR downstream of Z-Basin, Pen Branch Swamp Discharge, SC-2A 1 mile above Road B, SC-4 Steel Creek at Road A, TB-5 Near Road C, Tinker Creek 1, U3R-4 Sediment, RM 150.4 Sediment, River Mile 160.0 Sediment, and R-Area Sediment.

The streams and stormwater basins have the same control location, U3R-1A Treadway Bridge RD 8-1.

River Sediment Results			
Radionuclide	**Control Conc. (pCi/g)**	**Location of Maximum Result**	**Maximum Conc. (pCi/g)**
Cs-137	3.73E-02	RM-150.2 Below Four Mile Creek	**6.95E-01**
Sr-89/90	**1.41E-01**	RM-134.0 Below Little Hell Landing	**1.62E-01**
U-234	**1.84E+00**	RM-150.2 Below Four Mile Creek	**2.09E+00**
U-235	**9.14E-02**	RM-150.2 Below Four Mile Creek	**9.49E-02**
U-238	**1.76E+00**	RM-150.2 Below Four Mile Creek	**1.88E+00**
Pu-238	2.31E-04	RM-150.2 Below Four Mile Creek	**2.78E-03**
Pu-239	0.00E-00	RM-157.2 Upper 3 Runs Mouth	**4.46E-03**
Am-241	**4.32E-03**	RM-160.5 Demier Landing	**4.32E-03**
Cm-244	8.03E-04	RM-150.2 Below Four Mile Creek	**2.29E-03**
Gross B	**2.02E+01**	RM-151 R-3A Above Vogtle	**2.37E+01**
Gross A	**7.49E+00**	RM-157.2 Upper 3 Runs Mouth	**1.78E+01**

Stream Sediment Results			
Radionuclide	**Control Conc. (pCi/g)**	**Location of Maximum Result**	**Maximum Conc. (pCi/g)**
Cs-137	**1.45E-01**	Z Basin	**2.92E+03**
Sr-89/90	7.51E-02	Four Mile A-7A (Beaver Pond)	**8.65E-01**
U-234	**1.84E+00**	TB-5 Near Road C	**6.30E+00**
U-235	**1.14E-01**	TB-5 Near Road C	**2.76E-01**
Np-237	0.00E+00	Z Basin	**2.80E-02**
U-238	**2.03E+00**	TB-5 Near Road C	**6.38E+00**
Pu-238	1.02E-03	FM-2 at Road 4	**9.97E-01**
Pu-239	**9.62E-03**	Four Mile A-7A (Beaver Pond)	**2.84E-01**
Am-241	**3.22E-03**	Four Mile A-7A (Beaver Pond)	**2.67E-01**
Cm-244	0.00E+00	Four Mile A-7A (Beaver Pond)	**2.18E-01**
Gross B	**4.86E+01**	Z Basin	**2.51E+03**
Gross A	**5.62E+01**	U3R-1A Treadway Bridge RD 8-1	**5.62E+01**

Stormwater Basin Sediment Results			
Radionuclide	**Control Conc. (pCi/g)**	**Location of Maximum Result**	**Maximum Conc. (pCi/g)**
Cs-137	**1.45E-01**	POND 400	**3.76E-01**
Sr-89/90	7.51E-02	E-06	**2.49E-01**
U-234	**1.84E+00**	POND 400	**2.11E+00**
U-235*	**1.14E-01**	U3R-1A Treadway Bridge RD 8-1	**1.14E-01**
Np-237	0.00E+00	SWDF Basin South (E-001)	**3.54E-03**
U-238	**2.03E+00**	EAV Basin North (E-004)	**2.07E+00**
Pu-238	1.02E-03	SWDF Basin South (E-001)	**3.05E-01**
Pu-239	**9.62E-03**	POND 400	**2.73E-01**
Am-241	**3.22E-03**	EAV Basin South (E-003)	**7.59E-02**
Cm-244	0.00E+00	SWDF Basin South (E-001)	**5.92E-03**
Gross B*	**4.86E+01**	U3R-1A Treadway Bridge RD 8-1	**4.86E+01**
Gross A*	**5.62E+01**	U3R-1A Treadway Bridge RD 8-1	**5.62E+01**

Note:
* The control location, a Site stream (U3R-1A Treadway Bridge RD 8-1), is the maximum result.

Appendix Table D-12 Summary of Radionuclides in Drinking Water

Units are in pCi/L. Bolded minimum and maximum concentration results were reported as detected. Minimum and maximum concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large.

Samples at the Treatment Plants are collected monthly. These samples are analyzed for tritium, Co-60, Cs-137, gross alpha and gross beta. For the Treatment Plants samples, all results for Co-60 and Cs-137 were below detection limits; and thus, not presented in the table below. One onsite location is collected quarterly. All other onsite locations are collected annually. For the annual and quarterly samples, all results for tritium, Co-60, Cs-137, Sr-89/90, U-235, Pu-238, Pu-239 and Cm-244 were below detection limits; and thus, not presented in the table below. The treatment plant samples are analyzed for tritium, Co-60, Cs-137, gross alpha and gross beta.

Treatment Plants—Finished Water Summary

	Nuclides	Tritium		
Locations	Number of Samples	Mean Conc.	Minimum Conc.	Maximum Conc.
BJWSA Purrysburg WTP	12	2.14E+02	9.35E+01	**3.41E+02**
N. Augusta Public Water Works	12	6.98E+01	5.46E-04	1.76E+02

	Nuclides	Gross Beta			Gross Alpha		
Locations	Number of Samples	Mean Conc.	Minimum Conc.	Maximum Conc.	Mean Conc.	Minimum Conc.	Maximum Conc.
BJWSA Purrysburg WTP	12	1.62E+00	**7.35E-01**	**2.25E+00**	5.15E-02	-7.78E-02	2.27E-01
N. Augusta Public Water Works	12	1.85E+00	**1.55E+00**	**2.33E+00**	9.24E-02	-6.30E-02	**2.78E-01**

Onsite Location Summary—Quarterly Samples

	Nuclides	Gross Beta			Gross Alpha		
Location	Number of Samples	Mean Conc.	Minimum Conc.	Maximum Conc.	Mean Conc.	Minimum Conc.	Maximum Conc.
782-3A quarterly	4	1.84E+00	**7.03E-01**	**2.56E+00**	1.93E+00	**5.70E-01**	**2.86E+00**

Onsite Location Summary—Annual Samples

	Nuclides	U-234	U-238	Am-241	Gross Beta	Gross Alpha
Location	Number of Samples	Conc.	Conc.	Conc.	Conc.	Conc.
617-G	1	**2.30E-02**	**1.53E-02**	1.77E-03	**1.29E+00**	**5.38E-01**
681-3G Dom. Water Faucet	1	4.95E-03	**1.32E-02**	2.45E-03	**2.62E+00**	**1.32E+00**
704-16G	1	**1.28E-02**	**1.97E-02**	**8.30E-03**	**1.70E+00**	**2.09E+00**
709-1G	1	**2.78E-02**	**3.38E-02**	4.00E-03	9.51E-01	1.50E-01
737-G	1	5.54E-03	**1.54E-02**	8.16E-03	**1.36E+00**	1.51E-01
782-3A (annual)	1	**3.76E-02**	**5.46E-02**	4.22E-03	Quarterly, See above	Quarterly, see above
905-112G Well	1	**2.73E-02**	**5.22E-02**	3.59E-03	**1.45E+00**	**6.49E-01**
905-113G Well	1	**4.86E-02**	**2.95E-02**	**1.05E-02**	**1.55E+00**	**1.00E+00**
905-125B	1	**5.30E-02**	**8.73E-02**	5.78E-03	**1.76E+00**	**1.62E+00**
905-67B	1	**2.43E-02**	**2.60E-02**	4.05E-03	**7.97E-01**	**1.14E+00**

Appendix Table D-13 Summary of Radionuclides in Freshwater Fish

Units are in pCi/g. Bolded minimum and maximum concentration results were reported as detected. Minimum and maximum concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large. All Co-60, I-129, and gross alpha results were nonsignificant and thus, not reported in this table.

The analyte mean is set to zero if all composite values per fish species at a single location are less than the MDL or the uncertainty is large. Three composite samples were analyzed for each fish type from each location.

Tritium (H-3) (Edible)									
	Bass			Catfish			Panfish		
Location	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.
Augusta L&D	0.00E+00	2.22E-02	4.46E-02	0.00E+00	5.00E-03	1.65E-02	0.00E+00	4.08E-02	5.19E-02
Upper Three Runs Creek River Mouth	0.00E+00	-4.00E-03	2.24E-02	7.16E-02	4.68E-02	1.09E-01	9.30E-02	5.11E-03	**1.57E-01**
Four Mile Creek River Mouth	2.44E-01	7.81E-02	**5.49E-01**	0.00E+00	6.65E-02	7.84E-02	1.31E-01	5.57E-02	**2.66E-01**
Steel Creek River Mouth	1.90E-01	**6.62E-02**	**3.76E-01**	1.12E-01	1.67E-02	**2.08E-01**	4.94E-02	1.04E-02	**7.68E-02**
Lower Three Runs Creek River Mouth	1.43E-01	**1.40E-01**	**1.45E-01**	4.70E-02	2.31E-02	**8.11E-02**	7.59E-02	2.54E-02	**1.16E-01**
Hwy 301 Bridge Area	9.72E-02	**8.30E-02**	**1.09E-01**	0.00E+00	-1.69E-02	4.51E-02	0.00E+00	2.15E-02	5.86E-02

Cs-137 (Edible)									
	Bass			Catfish			Panfish		
Location	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.
Augusta L&D	5.19E-02	**2.06E-02**	**1.11E-01**	2.51E-02	1.16E-02	**4.00E-02**	1.93E-02	8.86E-03	**3.59E-02**
Upper Three Runs Creek River Mouth	1.20E-01	**3.84E-02**	**2.19E-01**	2.93E-02	**2.06E-02**	**3.97E-02**	1.72E-02	1.03E-02	**3.05E-02**
Four Mile Creek River Mouth	1.57E-01	**9.78E-02**	**2.69E-01**	5.20E-02	**2.86E-02**	**8.27E-02**	1.08E-01	**5.03E-02**	**2.12E-01**
Steel Creek River Mouth	1.15E-01	**9.76E-02**	**1.40E-01**	7.25E-02	**5.76E-02**	**9.32E-02**	5.81E-02	**3.11E-02**	**9.54E-02**
Lower Three Runs Creek River Mouth	1.43E-01	**4.08E-02**	**2.86E-01**	1.14E-01	**8.43E-02**	**1.45E-01**	1.78E-01	**3.89E-02**	**4.14E-01**
Hwy 301 Bridge Area	3.77E-02	**3.03E-02**	**4.24E-02**	2.48E-02	**1.72E-02**	**3.03E-02**	1.26E-02	**1.08E-02**	**1.52E-02**

Sr-89/90 (Edible)									
	Bass			Catfish			Panfish		
Location	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.
Augusta L&D	0.00E+00	6.73E-04	9.03E-04	0.00E+00	1.29E-03	2.70E-03	6.51E-03	2.52E-03	**9.76E-03**
Upper Three Runs Creek River Mouth	2.07E-03	7.95E-04	**3.35E-03**	0.00E+00	-3.11E-04	1.82E-03	0.00E+00	1.45E-03	3.32E-03
Four Mile Creek River Mouth	6.78E-03	**4.59E-03**	**9.22E-03**	2.34E-03	-7.62E-04	**5.54E-03**	5.33E-03	3.41E-03	**8.57E-03**
Steel Creek River Mouth	0.00E+00	9.08E-04	2.21E-03	1.80E-03	-1.46E-04	**3.92E-03**	0.00E+00	7.86E-04	4.49E-03
Lower Three Runs Creek River Mouth	2.58E-03	4.00E-04	**4.11E-03**	2.10E-03	1.39E-03	**3.27E-03**	0.00E+00	9.00E-04	1.97E-03
Hwy 301 Bridge Area	1.83E-03	3.81E-04	**4.19E-03**	0.00E+00	1.15E-03	1.88E-03	0.00E+00	1.42E-03	5.00E-03

Sr-89/90 (Nonedible)									
	Bass			Catfish			Panfish		
Location	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.
Augusta L&D	7.58E-01	**6.35E-01**	**9.22E-01**	7.41E-01	**7.05E-01**	**7.84E-01**	8.25E-01	**6.97E-01**	**8.97E-01**
Upper Three Runs Creek River Mouth	7.30E-01	**5.70E-01**	**9.05E-01**	7.36E-01	**6.05E-01**	**8.81E-01**	8.55E-01	**6.22E-01**	**1.15E+00**
Four Mile Creek River Mouth	2.28E+00	**9.22E-01**	**4.57E+00**	1.01E+00	**7.84E-01**	**1.32E+00**	1.65E+00	**1.26E+00**	**1.93E+00**
Steel Creek River Mouth	6.43E-01	**4.32E-01**	**7.73E-01**	6.21E-01	**4.70E-01**	**8.59E-01**	9.72E-01	**7.92E-01**	**1.20E+00**
Lower Three Runs Creek River Mouth	6.34E-01	**4.65E-01**	**8.24E-01**	8.77E-01	**6.41E-01**	**1.15E+00**	7.86E-01	**6.81E-01**	**9.00E-01**
Hwy 301 Bridge Area	6.73E-01	**6.03E-01**	**7.08E-01**	6.25E-01	**4.68E-01**	**7.30E-01**	7.30E-01	**6.73E-01**	**8.41E-01**

Tc-99 (Edible)									
	Bass			Catfish			Panfish		
Location	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.
Augusta L&D	4.52E-02	1.78E-02	**8.22E-02**	0.00E+00	3.08E-02	5.51E-02	0.00E+00	2.00E-02	4.89E-02
Upper Three Runs Creek River Mouth	0.00E+00	-9.73E-03	5.46E-02	5.86E-02	4.97E-02	**7.65E-02**	0.00E+00	4.24E-02	6.92E-02
Four Mile Creek River Mouth	9.80E-02	**7.57E-02**	**1.26E-01**	7.08E-02	5.05E-02	**1.09E-01**	6.60E-02	3.73E-02	**9.59E-02**
Steel Creek River Mouth	0.00E+00	2.56E-02	6.19E-02	0.00E+00	-1.07E-02	6.19E-02	0.00E+00	6.86E-03	2.81E-02
Lower Three Runs Creek River Mouth	0.00E+00	1.15E-02	2.97E-02	0.00E+00	3.27E-03	5.32E-02	0.00E+00	3.14E-02	6.00E-02
Hwy 301 Bridge Area	0.00E+00	1.12E-02	5.97E-02	0.00E+00	7.70E-03	4.22E-02	0.00E+00	2.14E-02	3.57E-02

Gross Beta (Edible)									
	Bass			Catfish			Panfish		
Location	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.
Augusta L&D	2.80E+00	**2.62E+00**	**3.00E+00**	2.95E+00	**2.81E+00**	**3.16E+00**	1.78E+00	**1.45E+00**	**2.02E+00**
Upper Three Runs Creek River Mouth	2.92E+00	**2.46E+00**	**3.35E+00**	2.96E+00	**2.64E+00**	**3.22E+00**	2.50E+00	**2.31E+00**	**2.67E+00**
Four Mile Creek River Mouth	2.74E+00	**2.62E+00**	**2.89E+00**	3.25E+00	**3.03E+00**	**3.57E+00**	2.46E+00	**2.35E+00**	**2.61E+00**
Steel Creek River Mouth	2.53E+00	**2.32E+00**	**2.78E+00**	2.65E+00	**2.55E+00**	**2.76E+00**	2.04E+00	**1.85E+00**	**2.31E+00**
Lower Three Runs Creek River Mouth	2.67E+00	**2.44E+00**	**3.14E+00**	2.89E+00	**2.67E+00**	**3.19E+00**	2.27E+00	**1.94E+00**	**2.78E+00**
Hwy 301 Bridge Area	2.50E+00	**2.31E+00**	**2.76E+00**	2.84E+00	**2.78E+00**	**2.89E+00**	2.28E+00	**1.82E+00**	**2.62E+00**

Appendix Table D-14 Summary of Radionuclides in Saltwater Fish

Bolded minimum and maximum concentration results were reported as detected. Minimum and maximum concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large. Results of all samples for Co-60, Cs-137, Tc-99, I-129, Sr-89/90 (in flesh), and gross alpha were below method detection limits.

All saltwater fish are collected at the location designated as River Miles 0–8 (mouth of Savannah River).

Analyte	Marine Mullet				Red Drum			
	Number of Samples	Mean (pCi/g)	Minimum (pCi/g)	Maximum (pCi/g)	Number of Samples	Mean (pCi/g)	Minimum (pCi/g)	Maximum (pCi/g)
H-3	3	0.00E+00	-7.22E-03	2.11E-02	3	0.00E+00	2.37E-02	4.76E-02
Sr-89/90 Nonedible	3	2.82E-01	**2.41E-01**	**3.11E-01**	3	0.00E+00	-8.68E-02	2.44E-01
Gross Beta	3	2.47E+00	**2.35E+00**	**2.53E+00**	3	1.56E+00	**1.23E+00**	**1.76E+00**

Analyte	Sea Trout			
	Number of Samples	Mean (pCi/g)	Minimum (pCi/g)	Maximum (pCi/g)
H-3	2	5.52E-02	3.62E-02	**7.41E-02**
Sr-89/90 Nonedible	2	0.00E+00	1.26E-01	2.19E-01
Gross Beta	2	1.76E+00	**1.74E+00**	**1.78E+00**

Appendix Table D-15 Summary of Radionuclides in Shellfish

Bolded minimum and maximum concentration results were reported as detected. Minimum and maximum concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large. All Co-60, Cs-137, I-129, and Tc-99 results were not detected; thus, not reported in this table.

All shellfish are collected at the location designated as River Miles 0-8 (at the mouth of Savannah River).

The species of shellfish collected in 2016 were shrimp and crab. Insufficient volume of shrimp was collected to perform the Tc-99 analyses. Thus, only the crab sample was analyzed for Tc-99.

Nuclide	Number of Samples	Number of Results > Detection Limit	Mean Concentration (pCi/g)	Minimum Concentration (pCi/g)	Maximum Concentration (pCi/g)
Sr-89/90	2	1	5.66E-03	3.32E-03	**8.00E-03**
Gross B	2	2	8.34E-01	**4.38E-01**	**1.23E+00**
Gross A	2	1	3.10E-01	1.43E-01	**4.76E-01**

Appendix Table D-16 Summary of Radionuclides in Wildlife

Bolded concentration results were reported as detected. Concentrations not bolded indicate the result was less than the analytical method detection limit or the uncertainty is large. All Co-60 results were below detection limits, and thus are not reported in this table.

Sample Type	Nuclide	Number of Samples	Number of Results > Detection Limit	Mean Sample Conc. (pCi/g)	Minimum Sample Conc. (pCi/g)	Maximum Sample Conc. (pCi/g)
Deer Flesh: Regular Hunts	Cs-137	42	42	2.64E+00	**4.59E-01**	**1.18E+01**
Deer Flesh: Roadside Removal	Cs-137	75	75	1.21E+00	1.31E-01	**7.20E+00**
Hog Flesh	Cs-137	3	3	7.78E-01	3.03E-01	**1.14E+00**
Deer Flesh: Regular Hunts	Sr-89/90	42	4	2.44E-03	-1.40E-03	**1.09E-02**
Hog Flesh	Sr-89/90	3	0	3.22E-03	2.89E-03	3.57E-03
Deer Bone: Regular Hunts	Sr-89/90	42	42	3.83E+00	**1.93E+00**	**6.73E+00**
Hog Bone	Sr-89/90	3	3	2.08E+00	**1.62E+00**	**2.50E+00**