

Laboratory Results For MAPEP-08-GrF19
(SEML01) SRS Environmental Monitoring Laboratory
Bldg 735-B
Aiken, SC 29808

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Gross alpha	0.00075		A				0.0039	
Gross beta	0.538	0.525	A		2.5	0.263 - 0.788	0.035	

Radiological Reference Date: August 1, 2008

Gross Alpha Flags:

A = Result acceptable, Bias $\leq \pm 100\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 100\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias $\leq \pm 50\%$ with a statistically positive result at two standard deviations (Result/Uncertainty > 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias $> \pm 50\%$ or the reported result is not statistically positive at two standard deviations (Result/Uncertainty ≤ 2 , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Laboratory Results For MAPEP-08-GrW19
 (SEML01) SRS Environmental Monitoring Laboratory
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Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Gross alpha	0.088	<0.56	A				0.074	
Gross beta	0.908	<1.85	A				0.145	

Radiological Reference Date: August 1, 2008

The MAPEP-08-GrW19 water standard was designed to test the Safe Drinking Water screening levels of 0.56 Bq/L (15 pCi/L) for gross alpha and 1.85 Bq/L (50 pCi/L) found in 40CFR141. Laboratories reporting values less than or equal to these screening levels were found to be Acceptable "A"; Laboratories reporting values greater than these were found to be Not Acceptable "N".

Laboratory Results For MAPEP-08-MaS19
(SEML01) SRS Environmental Monitoring Laboratory
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Inorganic							Units: (mg/kg)	
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Antimony	NR	69.49				48.64 - 90.34		
Arsenic	NR	79.93				55.95 - 103.91		
Barium	NR	248				174 - 322		
Beryllium	NR	36.61				25.63 - 47.59		
Cadmium	NR	12.02				8.41 - 15.63		
Chromium	NR	81.23				56.86 - 105.60		
Cobalt	NR	88.57				62.00 - 115.14		
Copper	NR	79.02				55.31 - 102.73		
Lead	NR	60.15				42.11 - 78.20		
Mercury	NR	0.0167				0.0117 - 0.0217		
Nickel	NR	124.49				87.14 - 161.84		
Selenium	NR	12.99				9.09 - 16.89		
Silver	NR	61.6				43.1 - 80.1		
Thallium	NR	89.71				62.80 - 116.62		
Vanadium	NR	35.8				25.1 - 46.5		
Zinc	NR	242.35				169.65 - 315.06		
Technetium-99	NR	0.0005341				0.0003739 - 0.0006943		
Uranium-235	NR	0.171				0.120 - 0.222		
Uranium-238	NR	24.4				17.1 - 31.7		
Uranium-Total	NR	24.5				17.2 - 31.9		

Organic							Units: (ug/kg)	
Analyte	Result	Ref Value	Flag	Notes	Z-	Acceptance Range	Unc Value	Unc Flag
Aldrin	NR	127				45 - 210		
gamma-BHC (Lindane)	NR	78				14 - 142		
Dieldrin	NR	215				88 - 342		
Endosulfan sulfate	NR	270				71 - 468		
Heptachlor epoxide	NR	96				37 - 154		
1,2,4-Trichlorobenzene	NR	1401				236 - 2567		
Anthracene	NR	1456				369 - 2543		
Benzo(b)fluoranthene	NR	1002				222 - 1782		
Butylbenzylphthalate	NR	2684				739 - 4628		
4-Chloro-3-methylphenol	NR	4064				1359 - 6770		
2-Chloronaphthalene	NR	1993				538 - 3449		
2-Chlorophenol	NR	1229				123 - 2411		

Organic						Units: (ug/kg)	
Analyte	Result	Ref Value	Flag	Notes	Z-	Acceptance Range	Unc Value Unc Flag
Chrysene	NR	1284				455 - 2113	
Di-n-butylphthalate	NR	2009				364 - 3654	
2,4-Dichlorophenol	NR	1747				183 - 3310	
Diethylphthalate	NR	1659				308 - 3010	
Dimethylphthalate	NR	1459				292 - 2625	
2,4-Dinitrotoluene	NR	1238				124 - 2514	
2,6-Dinitrotoluene	NR	1311				280 - 2342	
Bis(2-ethylhexyl)phthalate	NR	2570				642 - 4498	
Fluoranthene	NR	1130				400 - 1860	
Fluorene	NR	2259				780 - 3738	
Hexachlorobenzene	NR	1610				595 - 2625	
2-Methylnaphthalene	NR	3532				1705 - 5360	
2-Nitrophenol	NR	3344				445 - 6243	
2,4,6-Trichlorophenol	NR	2322				441 - 4203	

Radiological						Units: (Bq/kg)	
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value Unc Flag
Americium-241	69.5	69.1	A		0.6	48.4 - 89.8	5.6
Antimony-125	20.9	22.8	A		-8.3	16.0 - 29.6	3.6
Cesium-134	493.1	581	A		-15.1	407 - 755	10.2 L
Cesium-137	2.26	2.8	A	(17)			0.92
Cobalt-57	307.7	333	A		-7.6	233 - 433	9.6
Cobalt-60	140.5	145	A		-3.1	102 - 189	3.1 L
Iron-55	NR	676				473 - 879	
Manganese-54	402.3	415	A		-3.1	291 - 540	13
Nickel-63	NR	760				532 - 988	
Plutonium-238	0.35		A				0.15
Plutonium-239/240	48.4	55.6	A		-13.0	38.9 - 72.3	3.9
Potassium-40	575.3	570	A		0.9	399 - 741	33
Strontium-90	-.23		A				1.60
Technetium-99	NR	335				235 - 436	
Uranium-234/233	297.4	292	A		1.8	204 - 380	23.8
Uranium-238	308.4	303	A		1.8	212 - 394	24.6
Zinc-65	-0.33		A				1.81

Radiological Reference Date: August 1, 2008

Organic Flags:

Criteria based on FoPT Tables July 1, 2007

A = Result acceptable Z-score <=3.0

N = Result not acceptable Z-score > 3.0

Other Flags:

A = Result acceptable Bias <=20%

W = Result acceptable with warning 20% < Bias < 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

Radiological							Units: (Bq/kg)	
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag

Notes:
 (17) = NOT DETECTED - reported a statistically zero result

Laboratory Results For MAPEP-08-MaW19
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Inorganic							Units: (mg/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Antimony	1.09	1.044	A		4.4	0.731 - 1.357	0.06	
Arsenic	3.66	3.692	A		-0.9	2.584 - 4.800	0.24	
Barium	1.82	1.79	A		1.7	1.25 - 2.33	0.05	L
Beryllium	<0.001	<0.005	A				0.001	
Cadmium	0.763	.78	A		-2.2	0.55 - 1.01	0.024	
Chromium	1.28	1.277	A		0.2	0.894 - 1.660	0.034	L
Cobalt	2.65	2.672	A		-0.8	1.870 - 3.474	0.04	L
Copper	3.68	3.671	A		0.2	2.570 - 4.772	0.11	L
Lead	<0.01	<0.01	A				0.01	
Mercury	0.0151	.01885	A		-19.9	0.01320 - 0.02451	0.0008	
Nickel	2.46	2.499	A		-1.6	1.749 - 3.249	0.1	
Selenium	0.631	.646	A		-2.3	0.452 - 0.840	0.06	
Thallium	2.66	2.637	A		0.9	1.846 - 3.428	0.29	
Vanadium	2.29	2.254	A		1.6	1.578 - 2.930	0.064	L
Zinc	2.51	2.549	A		-1.5	1.784 - 3.314	0.1	
Technetium-99	NR	0.0000060				0.00000420 - 0.00000780		
Uranium-Total	NR	0.287				0.201 - 0.373		
Uranium-235	NR	0.00201				0.00141 - 0.00261		
Uranium-238	NR	0.285				0.200 - 0.371		

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.0018		A				0.0012	
Cesium-134	17.3	19.5	A		-11.3	13.7 - 25.4	0.47	L
Cesium-137	23.3	23.6	A		-1.3	16.5 - 30.7	0.82	
Cobalt-57	-0.046		A				0.097	
Cobalt-60	11.8	11.6	A		1.7	8.1 - 15.1	0.32	L
Hydrogen-3	356.3	341	A		4.5	239 - 443	9.2	L
Iron-55	NR	46.2				32.3 - 60.1		
Manganese-54	14.3	13.7	A		4.4	9.6 - 17.8	0.59	
Nickel-63	NR							
Plutonium-238	0.503	0.5	A		0.6	0.4 - 0.7	0.04	
Plutonium-239/240	-0.0017		A				0.0007	
Strontium-90	6.45	6.45	A		0.0	4.52 - 8.39	0.55	
Technetium-99	4.96	3.76	N		31.9	2.63 - 4.89	0.59	

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Uranium-234/233	3.64	3.44	A		5.8	2.41 - 4.47	0.29	
Uranium-238	3.68	3.55	A		3.7	2.49 - 4.62	0.29	
Zinc-65	18.1	17.1	A		5.8	12.0 - 22.2	0.83	

Radiological Reference Date: August 1, 2008

Flags:

A = Result acceptable Bias $\leq$ 20%

W = Result acceptable with warning $20\% < \text{Bias} < 30\%$

N = Result not acceptable Bias $> 30\%$

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Laboratory Results For MAPEP-08-RdF19
(SEML01) SRS Environmental Monitoring Laboratory
Bldg 735-B
Aiken, SC 29808

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Uranium-238	NR	21.9				15.3 - 28.5		
Uranium-235	NR	0.157				0.110 - 0.204		
Uranium-Total	NR	22.0				15.4 - 28.6		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.00013		A				0.0001	
Cesium-134	2.27	2.63	A		-13.7	1.84 - 3.42	0.12	
Cesium-137	-0.006		A				0.066	
Cobalt-57	1.40	1.50	A		-6.7	1.05 - 1.95	0.10	
Cobalt-60	0.018		A				0.063	
Manganese-54	2.50	2.64	A		-5.3	1.85 - 3.43	0.20	
Plutonium-238	0.127	0.118	A		7.6	0.083 - 0.153	0.010	
Plutonium-239/240	0.145	0.152	A		-4.6	0.106 - 0.198	0.012	
Strontium-90	1.24	1.12	A		10.7	0.78 - 1.46	0.17	
Uranium-234/233	0.264	0.262	A		0.8	0.183 - 0.341	0.021	
Uranium-238	0.278	0.272	A		2.2	0.190 - 0.354	0.022	
Zinc-65	0.89	0.94	A		-5.3	0.66 - 1.22	0.20	H

Radiological Reference Date: August 1, 2008

Flags:

A = Result acceptable Bias ≤ 20%
W = Result acceptable with warning 20% < Bias < 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag

Laboratory Results For MAPEP-08-RdV19
(SEML01) SRS Environmental Monitoring Laboratory
Bldg 735-B
Aiken, SC 29808

Inorganic						Units: (ug/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Uranium-Total	NR	28.4				19.9 - 36.9		
Uranium-235	NR	0.199				0.139 - 0.259		
Uranium-238	NR	28.2				19.7 - 36.7		

Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag
Americium-241	0.282	0.286	A		-1.4	0.200 - 0.372	0.022	
Cesium-134	5.24	5.5	A		-4.7	3.9 - 7.2	0.16	
Cesium-137	0.052		A				0.096	
Cobalt-57	7.52	7.1	A		5.9	5.0 - 9.2	0.23	
Cobalt-60	4.59	4.7	A		-2.3	3.3 - 6.1	0.12	L
Manganese-54	5.50	5.8	A		-5.2	4.1 - 7.5	.33	
Plutonium-238	0.0018		A				.0007	
Plutonium-239/240	0.213	0.209	A		1.9	0.146 - 0.272	0.017	
Strontium-90	1.99	1.9	A		4.7	1.3 - 2.5	0.10	
Uranium-234/233	0.396	0.339	A		16.8	0.237 - 0.441	0.032	
Uranium-238	0.409	0.351	A		16.5	0.246 - 0.456	0.033	
Zinc-65	5.32	6.9	W		-22.9	4.8 - 9.0	0.26	

Radiological Reference Date: August 1, 2008

Flags:

A = Result acceptable Bias <=20%
W = Result acceptable with warning 20% < Bias < 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Quantitation Limit
RW = Report Warning
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Radiological						Units: (Bq/sample)		
Analyte	Result	Ref Value	Flag	Notes	Bias	Acceptance Range	Unc Value	Unc Flag