

ER_BLUERIDGE_LF_02-12-16

02/10/2016 - 02/10/2016

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/g	Uncertainty	MDA	Code	Method
BB01268	BLUE_RIDGE_LANDFILL_Soil	2/10/16	soil						
				Bi-214	3.66	0.194	0.226	=	GAMMA
				Pb-214	4.05	0.202	0.251	=	GAMMA
				Ra-226	7.55	0.855	1.95	=	GAMMA
				Ra-228	1.65	0.129	0.419	=	GAMMA

Results are reported using the activity concentrations from the peak associated with radium-226 (Ra-226) due to the fact that bismuth-214 (Bi-214) and lead-214 (Pb-214) are not in secular equilibrium with Ra-226 even after allowing each sample to sit sealed for 21 days. These activity concentration results could be slightly elevated due to the interference from uranium-235 (U-235) which contributes slightly to a peak in the same area as the Ra-226 peak. Given that these samples are being used to make public health decisions, the decision was made to err on the side of reporting potentially higher activity concentrations for Ra-226 rather than potentially lower activity concentrations.

Stephanie C. Busch

04/08/16

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"U" Less than MDA or greater than MDA with high counting uncertainty.

"U***" Analyte not detected. Activity based on software calculation, not identified peak(s).

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"J" Value is estimated.

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Friday, April 8, 2016

ER_BLUERIDGE_LF_02-12-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/L	Uncertainty	02/10/2016 - 02/10/2016		
							MDA	Code	Method
BB01216	BLUE_RIDGE_LANDFILL Leachate Tank	2/10/16	Leachate						
				Bi-214	31.2	28.7	58.2	U	GAMMA
				Pb-214	30.2	27.9	59.0	U	GAMMA
				Ra-226	524	254	558	U	GAMMA
				Ra-228	60.1	50.4	106	U	GAMMA
				Gross Alpha	37.52	23.40	26.58	U	GFPC
				Gross Beta	646.80	26.92	41.77	=	GFPC

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Results are reported using the activity concentrations from the peak associated with radium-226 (Ra-226) due to the fact that bismuth-214 (Bi-214) and lead-214 (Pb-214) are not in secular equilibrium with Ra-226 even after allowing each sample to sit sealed for 21 days. These activity concentration results could be slightly elevated due to the interference from uranium-235 (U-235) which contributes slightly to a peak in the same area as the Ra-226 peak. Given that these samples are being used to make public health decisions, the decision was made to err on the side of reporting potentially higher activity concentrations for Ra-226 rather than potentially lower activity concentrations.

Stephanie C. Buck

04/08/16

Friday, April 8, 2016

ER_BLUERIDGE_LF_03-07-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/g	Uncertainty	03/04/2016 - 03/04/2016		Method
							MDA	Code	
BB01255	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL	Bi-214	125	5.23	2.10	=	GAMMA
				Pb-214	131	5.64	2.24	=	GAMMA
				Ra-226	131	11.2	20.7	=	GAMMA
				Ra-228	96.6	3.78	3.18	=	GAMMA
BB01256	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL	Bi-214	5.37	0.306	0.321	=	GAMMA
				Pb-214	5.69	0.297	0.354	=	GAMMA
				Ra-226	9.78	1.22	2.76	=	GAMMA
				Ra-228	1.57	0.164	0.600	=	GAMMA
BB01257	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL	Bi-214	1.02	0.0868	0.177	=	GAMMA
				Pb-214	1.09	0.0786	0.165	=	GAMMA
				Ra-226	2.34	0.529	1.53	=	GAMMA
				Ra-228	1.57	0.119	0.307	=	GAMMA
BB01258	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL	Bi-214	3.05	0.214	0.402	=	GAMMA
				Pb-214	3.36	0.202	0.280	=	GAMMA
				Ra-226	6.21	0.965	2.43	=	GAMMA
				Ra-228	1.62	0.167	0.582	=	GAMMA

ER_BLUERIDGE_LF_03-07-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/g	Uncertainty	03/04/2016 - 03/04/2016		Method
							MDA	Code	
BB01259	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL	Bi-214	150	6.21	2.35	=	GAMMA
					156	6.67	2.50	=	GAMMA
					166	13.6	22.5	=	GAMMA
					114	4.39	3.39	=	GAMMA
BB01260	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL	Bi-214	64.6	2.67	1.12	=	GAMMA
					65.5	2.81	1.08	=	GAMMA
					71.4	5.90	10.2	=	GAMMA
					48.4	1.88	1.59	=	GAMMA
BB01261	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL	Bi-214	5.49	0.309	0.301	=	GAMMA
					5.90	0.305	0.334	=	GAMMA
					10.3	1.27	2.68	=	GAMMA
					1.41	0.164	0.697	=	GAMMA
BB01262	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL	Bi-214	3.83	0.246	0.267	=	GAMMA
					4.34	0.275	0.269	=	GAMMA
					7.23	1.17	2.44	=	GAMMA
					1.17	0.149	0.555	=	GAMMA

ER_BLUERIDGE_LF_03-07-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/g	Uncertainty	03/04/2016	03/04/2016	Method
							MDA	Code	
BB01263	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL						
				Bi-214	4.86	0.415	0.515	=	GAMMA
				Pb-214	5.60	0.426	0.522	=	GAMMA
				Ra-226	7.32	1.77	4.41	=	GAMMA
				Ra-228	1.80	0.292	1.10	=	GAMMA
BB01264	BLUE_RIDGE_LANDFILL_Soil	3/4/16	SOIL						
				Bi-214	1.01	0.0685	0.128	=	GAMMA
				Pb-214	1.10	0.0742	0.169	=	GAMMA
				Ra-226	2.77	0.479	1.34	=	GAMMA
				Ra-228	1.61	0.0948	0.282	=	GAMMA
BB01265	BLUE_RIDGE_LANDFILL_Retention_Pond	3/4/16	SURFACE WATER						
				Bi-214	2.38	10.6	46.9	U	GAMMA
				Pb-214	16.1	29.5	51.6	U	GAMMA
				Ra-226	174	138	487	U	GAMMA
				Ra-228	33.8	47.3	81.3	U	GAMMA
BB01266	BLUE_RIDGE_LANDFILL_Retention_Pond	3/4/16	SURFACE WATER						
				Bi-214	30.5	28.5	57.5	U	GAMMA
				Pb-214	38.0	27.4	59.0	U	GAMMA
				Ra-226	584	246	544	U*	GAMMA
				Ra-228	11.3	51.6	95.2	U	GAMMA

ER_BLUERIDGE_LF_03-07-16

03/04/2016 - 03/04/2016

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Friday, April 8, 2016

Results are reported using the activity concentrations from the peak associated with radium-226 (Ra-226) due to the fact that bismuth-214 (Bi-214) and lead-214 (Pb-214) are not in secular equilibrium with Ra-226 even after allowing each sample to sit sealed for 21 days. These activity concentration results could be slightly elevated due to the interference from uranium-235 (U-235) which contributes slightly to a peak in the same area as the Ra-226 peak. Given that these samples are being used to make public health decisions, the decision was made to err on the side of reporting potentially higher activity concentrations for Ra-226 rather than potentially lower activity concentrations.

Stephanie C Buck

04/08/16

ER_BRINE_DRY_03-07-16

03/04/2016 - 03/04/2016

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/g	Uncertainty	MDA	Code	Method
BB01930	FAIRMONT_BRINE_Processing_Concrete_Basin_Setting_Tank_Dried	3/4/16	Sludge						
				Bi-214	1810	67.7	5.02	=	GAMMA
				Pb-214	1880	77.5	7.68	=	GAMMA
				Ra-226	2040	141	72.0	=	GAMMA
				Ra-228	433	14.7	11.1	=	GAMMA

This sample when dried became a very light, fine powder. This may be of concern for its distribution in the environment.

Stephanie C Buck

04/08/16

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Stephanie C Buck

04/08/16

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ER_ECHS&MS_AIR_03-14-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/m3	Uncertainty	03/12/2016 - 03/12/2016		
							MDA	Code	Method
BB01513	Estill County Middle School Air Sample	3/12/16	Air Filter	Gross Alpha	1.27E-02	5.41E-02	1.75E-01	U	GFPC
				Gross Beta	1.32E-01	2.16E-01	7.05E-01	U	GFPC
BB01514	Estill County Middle School Air Sample	3/12/16	Air Filter	Gross Alpha	9.80E-02	6.05E-02	1.76E-01	U	GFPC
				Gross Beta	-2.95E-02	2.14E-01	7.07E-01	U	GFPC
BB01515	Estill County High School Air Sample	3/12/16	Air Filter	Gross Alpha	4.26E-03	5.35E-02	1.76E-01	U	GFPC
				Gross Beta	7.38E-02	2.15E-01	7.07E-01	U	GFPC
BB01516	Estill County High School Air Sample	3/12/16	Air Filter	Gross Alpha	-4.50E-03	5.59E-02	1.86E-01	U	GFPC
				Gross Beta	2.42E+00	2.65E-01	7.47E-01	=	GFPC
BB01517	Estill County High School Air Sample	3/12/16	Air Filter	Gross Alpha	-4.24E-03	5.27E-02	1.75E-01	U	GFPC
				Gross Beta	2.57E-01	2.18E-01	7.04E-01	U	GFPC

ER_ECHS&MS_AIR_03-14-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/m3	Uncertainty	03/12/2016	03/12/2016	Method
							MDA	Code	
BB01518	Estill County High School Air Sample	3/12/16	Air Filter	Gross Alpha	-1.28E-02	5.21E-02	1.75E-01	U	GFPC
				Gross Beta	1.25E-01	2.16E-01	7.06E-01	U	GFPC
BB01519	Estill County High School Air Sample	3/12/16	Air Filter	Gross Alpha	-5.54E-02	4.86E-02	1.76E-01	U	GFPC
				Gross Beta	-1.25E-01	2.12E-01	7.07E-01	U	GFPC
BB01520	Estill County High School Air Sample	3/12/16	Air Filter	Gross Alpha	-3.82E-02	4.98E-02	1.75E-01	U	GFPC
				Gross Beta	-6.61E-02	2.12E-01	7.03E-01	U	GFPC
BB01521	Estill County High School Air Sample	3/12/16	Air Filter	Gross Alpha	-5.71E-03	2.33E-02	7.85E-02	U	GFPC
				Gross Beta	5.61E-02	9.67E-02	3.16E-01	U	GFPC
BB01522	Estill County High School Air Sample	3/12/16	Air Filter	Gross Alpha	5.72E-03	2.43E-02	7.86E-02	U	GFPC
				Gross Beta	6.61E-02	9.70E-02	3.16E-01	U	GFPC

ER_ECHS&MS_AIR_03-14-16

03/12/2016 - 03/12/2016

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Stephanie C Buck

04/08/16

ER_ECHS&MS_SWIP_03-14-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value DPM	Uncertainty	03/12/2016 - 03/12/2016		
							MDA	Code	Method
BB01532	ER_ESTILLCOMS_Swipes	3/12/16	Swipe	Gross Alpha	3.37E+00	1.68E+00	0.00E+00	U	GFPC
				Gross Beta	1.25E+01	3.51E+00	5.92E+00	=	GFPC
BB01533	ER_ESTILLCOMS_Swipes	3/12/16	Swipe	Gross Alpha	8.41E-01	8.41E-01	0.00E+00	U	GFPC
				Gross Beta	-7.32E-01	1.64E+00	5.92E+00	U	GFPC
BB01534	ER_ESTILLCOMS_Swipes	3/12/16	Swipe	Gross Alpha	8.41E-01	8.41E-01	0.00E+00	U	GFPC
				Gross Beta	1.76E+01	4.01E+00	5.92E+00	=	GFPC
BB01535	ER_ESTILLCOMS_Swipes	3/12/16	Swipe	Gross Alpha	3.37E+00	1.68E+00	0.00E+00	U	GFPC
				Gross Beta	1.46E+01	3.73E+00	5.92E+00	=	GFPC
BB01536	ER_ESTILLCOMS_Swipes	3/12/16	Swipe	Gross Alpha	2.52E+00	1.46E+00	0.00E+00	U	GFPC
				Gross Beta	7.32E+00	2.93E+00	5.92E+00	=	GFPC

ER_ECHS&MS_SWIP_03-14-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value DPM	Uncertainty	03/12/2016 - 03/12/2016		
							MDA	Code	Method
BB01537	ER_ESTILLCOMS_Swipes	3/12/16	Swipe	Gross Alpha	0.00E+00	0.00E+00	0.00E+00	U	GFPC
				Gross Beta	3.66E+00	2.43E+00	5.92E+00	U	GFPC
BB01538	ER_ESTILLCOMS_Swipes	3/12/16	Swipe	Gross Alpha	0.00E+00	0.00E+00	0.00E+00	U	GFPC
				Gross Beta	1.46E+00	2.07E+00	5.92E+00	U	GFPC
BB01539	ER_ESTILLCOMS_Swipes	3/12/16	Swipe	Gross Alpha	0.00E+00	0.00E+00	0.00E+00	U	GFPC
				Gross Beta	-7.32E-01	1.64E+00	5.92E+00	U	GFPC
BB01540	ER_ESTILLCOHS_Swipes	3/12/16	Swipe	Gross Alpha	1.68E+00	1.19E+00	0.00E+00	U	GFPC
				Gross Beta	1.46E+00	2.07E+00	5.92E+00	U	GFPC
BB01541	ER_ESTILLCOHS_Swipes	3/12/16	Swipe	Gross Alpha	1.68E+00	1.19E+00	0.00E+00	U	GFPC
				Gross Beta	2.20E+00	2.20E+00	5.92E+00	U	GFPC

ER_ECHS&MS_SWIP_03-14-16

LAB #	Location	Collection Date	Matrix	Analysis Type	Value DPM	Uncertainty	03/12/2016 - 03/12/2016		
							MDA	Code	Method
BB01542	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	1.68E+00	1.19E+00	0.00E+00	U	GFPC
				Gross Beta	7.32E-01	1.94E+00	5.92E+00	U	GFPC
BB01543	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	0.00E+00	0.00E+00	0.00E+00	U	GFPC
				Gross Beta	7.32E-01	1.94E+00	5.92E+00	U	GFPC
BB01544	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	5.05E+00	2.06E+00	0.00E+00	=	GFPC
				Gross Beta	1.10E+01	3.36E+00	5.92E+00	=	GFPC
BB01545	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	1.68E+00	1.19E+00	0.00E+00	U	GFPC
				Gross Beta	1.46E+01	3.73E+00	5.92E+00	=	GFPC
BB01546	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	1.68E+00	1.19E+00	0.00E+00	U	GFPC
				Gross Beta	2.64E+01	4.75E+00	5.92E+00	=	GFPC

ER_ECHS&MS_SWIP_03-14-16

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							MDA	Code	Method
BB01547	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	1.68E+00	1.19E+00	0.00E+00	U	GFPC
				Gross Beta	7.32E-01	1.94E+00	5.92E+00	U	GFPC
BB01548	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	2.52E+00	1.46E+00	0.00E+00	U	GFPC
				Gross Beta	4.39E+00	2.54E+00	5.92E+00	U	GFPC
BB01549	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	0.00E+00	0.00E+00	0.00E+00	U	GFPC
				Gross Beta	1.46E+00	2.07E+00	5.92E+00	U	GFPC
BB01550	ER_ESTILCOHS_Swipes	3/12/16	Swipe	Gross Alpha	0.00E+00	0.00E+00	0.00E+00	U	GFPC
				Gross Beta	7.32E-01	1.94E+00	5.92E+00	U	GFPC

ER_ECHS&MS_SWIP_03-14-16

03/12/2016 - 03/12/2016

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Stephanie C Buck

04/08/16

ER_FAIRMONTBRIN_03-07-16

03/04/2016 - 03/04/2016

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/L	Uncertainty	MDA	Code	Method
BB01267	FAIRMONT_BRINE_Processing_Concrete_Basin_Setting_Tank	3/4/16	Sludge						
				Bi-214	994000	37200	2670	=	GAMMA
				Pb-214	995000	41700	4350	=	GAMMA
				Ra-226	950000	67600	43000	=	GAMMA
				Ra-228	207000	7150	5450	=	GAMMA

Results are reported using the activity concentrations from the peak associated with radium-226 (Ra-226) due to the fact that bismuth-214 (Bi-214) and lead-214 (Pb-214) are not in secular equilibrium with Ra-226 even after allowing each sample to sit sealed for 21 days. These activity concentration results could be slightly elevated due to the interference from uranium-235 (U-235) which contributes slightly to a peak in the same area as the Ra-226 peak. Given that these samples are being used to make public health decisions, the decision was made to err on the side of reporting potentially higher activity concentrations for Ra-226 rather than potentially lower activity concentrations.

Stephanie C Buck

04/08/16

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ER_FRANKFORTAIR_03-14-16

03/11/2016 - 03/11/2016

LAB #	Location	Collection Date	Matrix	Analysis Type	Value pCi/m3	Uncertainty	MDA	Code	Method
BB01554	Frankfortl Air Sample	3/11/16	Air Filter						
				Gross Alpha	2.99E-02	5.57E-02	1.76E-01	U	GFPC
				Gross Beta	1.92E-01	2.18E-01	7.09E-01	U	GFPC

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Stephanie C Buck

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