

EDEN NORTH CAROLINA COAL ASH SPILL SEDIMENT-WATER INTERFACE RESULTS

NOTE: The data below represents sediment-water interface samples that were collected on April 14, 2014 by EPA START (Team 1) sampling teams. Water sample measurements are in milligrams per liter (mg/L) and/or micrograms per liter (µg/L) for these samples. The data is being compared to EPA ecological risk screening levels (ERSLs) to protect aquatic life in the surface water of the Dan River. Specific qualifiers and footnotes are listed below the summary table. These samples were collected at various locations along the river (refer to map for generalized locations). The detected concentrations in sediment-water interface are all below the EPA ERSLs.

Analyte	Ecological Screening Standard for Surface Water Samples ¹		Transect FWS-4A-RD		Transect EPA02-RD	
Sample Information						
Sample ID	-		EDEN-FWS-4A-R-BW-20140414		EDEN-EPA02-R-BW-20140414	
Date	-		04/14/2014		04/14/2014	
Time	-		1330		1330	
Status	-		Validation Complete		Validation Complete	
Type	-		Sediment-Water Interface		Sediment-Water Interface	
Dissolved metals						
Aluminum	87	µg/L	53	µg/L	53	µg/L
Antimony	5.6	µg/L	1U	µg/L	1U	µg/L
Arsenic	10	µg/L	1U	µg/L	1U	µg/L
Barium	220	µg/L	20	µg/L	20	µg/L
Beryllium	0.66	µg/L	0.4U	µg/L	0.4U	µg/L
Boron	0.36	mg/L	0.097J	mg/L	0.091J	mg/L
Cadmium	0.1	µg/L	0.1U	µg/L	0.1U	µg/L
Calcium	-	-	6,600	µg/L	6,400	µg/L
Chromium	25	µg/L	2U	µg/L	2U	µg/L
Cobalt	3	µg/L	0.4U	µg/L	0.4U	µg/L
Copper	3	µg/L	0.6J	µg/L	0.72J	µg/L
Iron	1,000	µg/L	150	µg/L	150	µg/L
Lead	0.59	µg/L	0.071J	µg/L	0.072J	µg/L
Magnesium	-	-	2,500	µg/L	2,400	µg/L
Manganese	200	µg/L	2.5U	µg/L	2.5U	µg/L
Mercury	0.000012	mg/L	0.0002U	mg/L	0.0002U	mg/L
Molybdenum	800	µg/L	1U	µg/L	1U	µg/L
Nickel	17	µg/L	1U	µg/L	1U	µg/L
Potassium	53,000	µg/L	1,500	µg/L	1,500	µg/L
Selenium	5	µg/L	2U	µg/L	2U	µg/L
Silver	0.06	µg/L	1U	µg/L	1U	µg/L
Sodium	680,000	µg/L	4,500	µg/L	4,400	µg/L
Thallium	0.24	µg/L	0.2U	µg/L	0.2U	µg/L
Vanadium	27	µg/L	4.3J	µg/L	3.6J	µg/L
Zinc	39	µg/L	20U	µg/L	20U	µg/L

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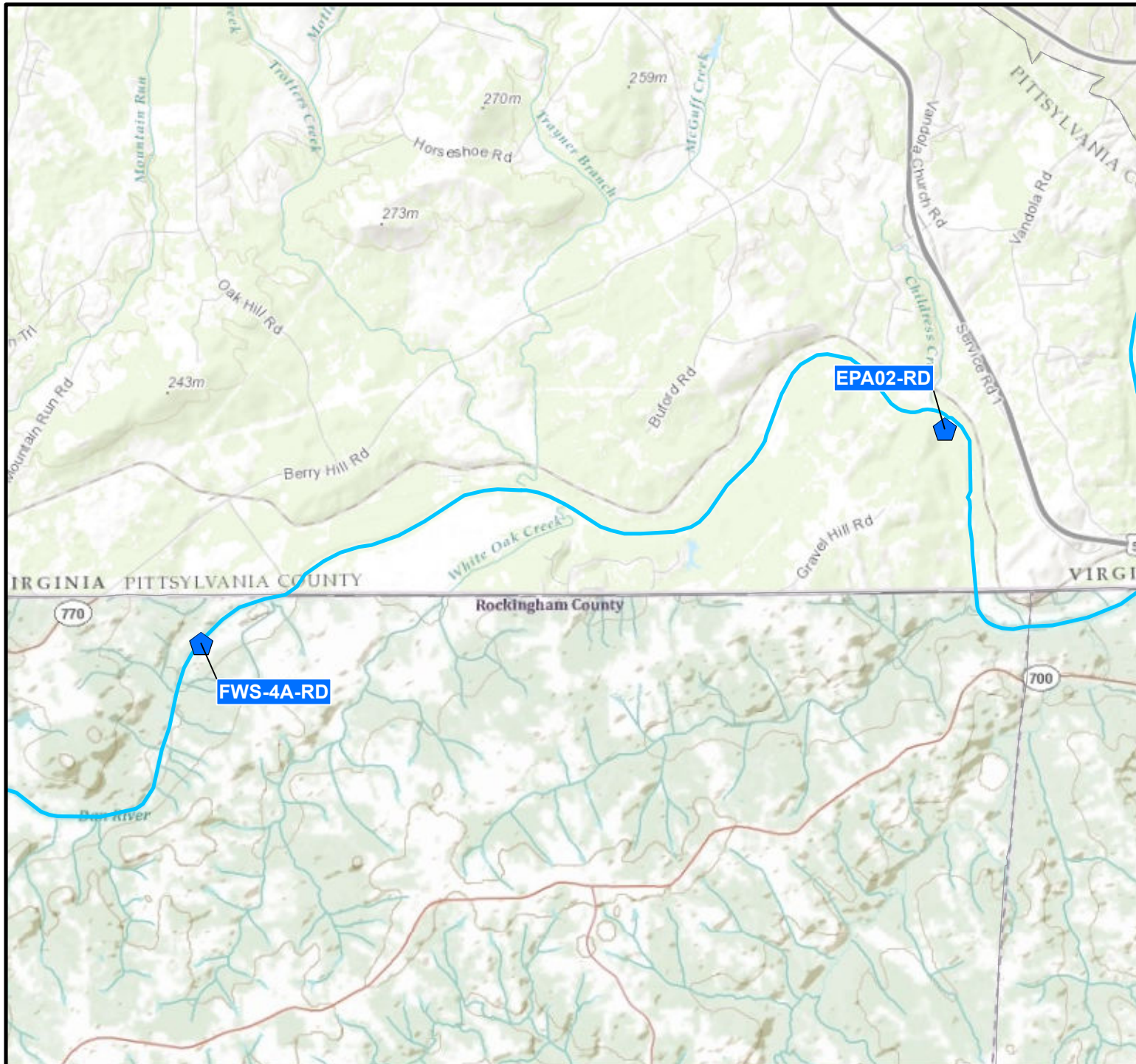
Analyte	Ecological Screening Standard for Surface Water Samples ¹		Transect FWS-4A-RD		Transect EPA02-RD	
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Status	-		Validation Complete		Validation Complete	
Type	-		Sediment-Water Interface		Sediment-Water Interface	
Total Dissolved Solids						
Total Dissolved Solids	-	-	76	mg/L	83	mg/L
Total Suspended Solids						
Total Suspended Solids	-	-	16	mg/L	17	mg/L
Total Metals						
Aluminum	2,000	µg/L	170	µg/L	170	µg/L
Antimony	5.6	µg/L	1U	µg/L	1U	µg/L
Arsenic	10	µg/L	1U	µg/L	1U	µg/L
Barium	220	µg/L	22	µg/L	22	µg/L
Beryllium	0.66	µg/L	0.4U	µg/L	0.4U	µg/L
Boron	0.36	mg/L	0.095J	mg/L	0.092J	mg/L
Cadmium	2	µg/L	0.1U	µg/L	0.1U	µg/L
Calcium	-	-	6,200	µg/L	6,100	µg/L
Chromium	29	µg/L	2U	µg/L	2U	µg/L
Cobalt	24	µg/L	0.14J	µg/L	0.15J	µg/L
Copper	3	µg/L	0.94J	µg/L	0.9J	µg/L
Iron	2,300	µg/L	390	µg/L	380	µg/L
Lead	0.6	µg/L	0.31	µg/L	0.27J	µg/L
Magnesium	-	-	2,400	µg/L	2,300	µg/L
Manganese	200	µg/L	13	µg/L	14	µg/L
Mercury	0.000012	mg/L	0.0002U	mg/L	0.0002U	mg/L
Molybdenum	-	-	1U	µg/L	1U	µg/L
Nickel	17	µg/L	0.47J	µg/L	0.41J	µg/L
Potassium	53,000	µg/L	1,400	µg/L	1,400	µg/L
Selenium	5	µg/L	0.59J	µg/L	2U	µg/L
Silver	0.06	µg/L	1U	µg/L	1U	µg/L
Sodium	680,000	µg/L	4,300	µg/L	4,100	µg/L
Thallium	0.24	µg/L	0.2U	µg/L	0.2U	µg/L
Vanadium	27	µg/L	0.92J	µg/L	1J	µg/L
Zinc	39	µg/L	20U	µg/L	20U	µg/L
Anions EPA 300.1						
Bromide	-	-	55	µg/L	53	µg/L
Anions						
Chloride	230	mg/L	7.3	mg/L	7.2	mg/L
Sulfate	-	-	5.2	mg/L	5.3	mg/L

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Type	-		Sediment-Water Interface		Sediment-Water Interface	
Wet Chemistry						
Alkalinity, Total (As CaCO ₃)	-	-	22	mg/L	22	mg/L
Hardness, Calcium/Magnesium (As CaCO ₃)	-	-	25	mg/L	25	mg/L
Organic Carbon, Dissolved	-	-	1.4	mg/L	1.3	mg/L
pH	6.5 - 9.0	std	7.36J	std	7.37J	std

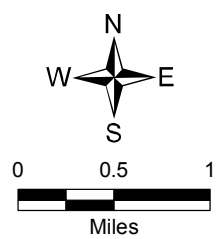
Notes

- ¹ Value obtained from the GL Tier 2 Values; National Recommended Water Quality Criteria; Suter and Tsao (1996); Reference condition for EcoRegion XI (25 percentile); NCDENR State Standards for surface water
- EPA U.S. Environmental Protection Agency
- J Value is estimated
- J+ Value is estimated with a possible high bias
- J- Value is estimated with a possible low bias
- µg/L micrograms per liter
- mg/L milligrams per liter
- std standard
- U Analyte was not detected at the listed reporting limit.



Legend

-  Approximate Spill Location
-  Sediment-Water Interface Sample Location
-  Dan River



Map Source: ArcGIS Online World Map Topo, 2014

**Sediment-Water Interface
Sample Locations
April 14, 2014**

