

## EDEN NORTH CAROLINA COAL ASH SPILL SEDIMENT-WATER INTERFACE RESULTS

NOTE: The data below represents sediment-water interface samples that were collected on April 23, 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 with the exception of aluminum and lead. When chemical concentrations exceed the screening values it doesn't mean there will be adverse health or ecological effects, but recommends further investigation may be needed.

Analyte	Ecological Screening Standard for Surface Water Samples <sup>1</sup>		Transect EPA 04 Left Descending		Transect EPA 05 Left Descending	
<b>Sample Information</b>						
Sample ID	-		EDEN-EPA04-L-BW-20140423		EDEN-EPA05-L-BW-20140423	
Date	-		04/23/2014		04/23/2014	
Time	-		0800		0925	
Status	-		Validation Complete		Validation Complete	
Type	-		Sediment-Water Interface		Sediment-Water Interface	
<b>Dissolved metals</b>						
Aluminum	87	µg/L	130	µg/L	110	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	23	µg/L	23	µg/L
Beryllium	0.66	µg/L	0.4U	µg/L	0.4U	µg/L
Boron	0.36	mg/L	0.045J	mg/L	0.046J	mg/L
Cadmium	0.1	µg/L	0.1U	µg/L	0.1U	µg/L
Calcium	-	-	6,500	µg/L	6,600	µg/L
Chromium	25	µg/L	1.2J	µg/L	2U	µg/L
Cobalt	3	µg/L	0.4U	µg/L	0.4U	µg/L
Copper	3	µg/L	0.61J	µg/L	0.54J	µg/L
Iron	1,000	µg/L	330	µg/L	300	µg/L
Lead	0.59	µg/L	0.12J	µg/L	0.11J	µg/L
Magnesium	-	-	2,500	µg/L	2,500	µg/L
Manganese	200	µg/L	11	µg/L	9.5	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	1,600	µg/L	1,600	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	4,900	µg/L	5,000	µg/L
Thallium	0.24	µg/L	0.2U	µg/L	0.2U	µg/L
Vanadium	27	µg/L	5.7	µg/L	4.1	µg/L
Zinc	39	µg/L	20U	µg/L	20U	µg/L
<b>Total Dissolved Solids</b>						
Total Dissolved Solids	-	-	70	mg/L	69	mg/L
<b>Total Suspended Solids</b>						
Total Suspended Solids	-	-	16	mg/L	15	mg/L

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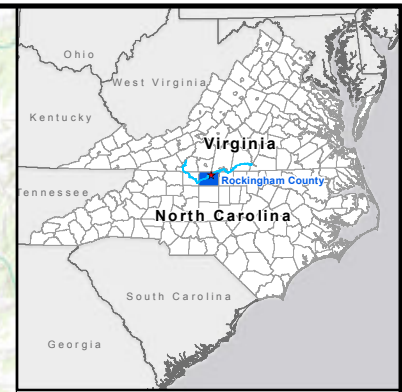
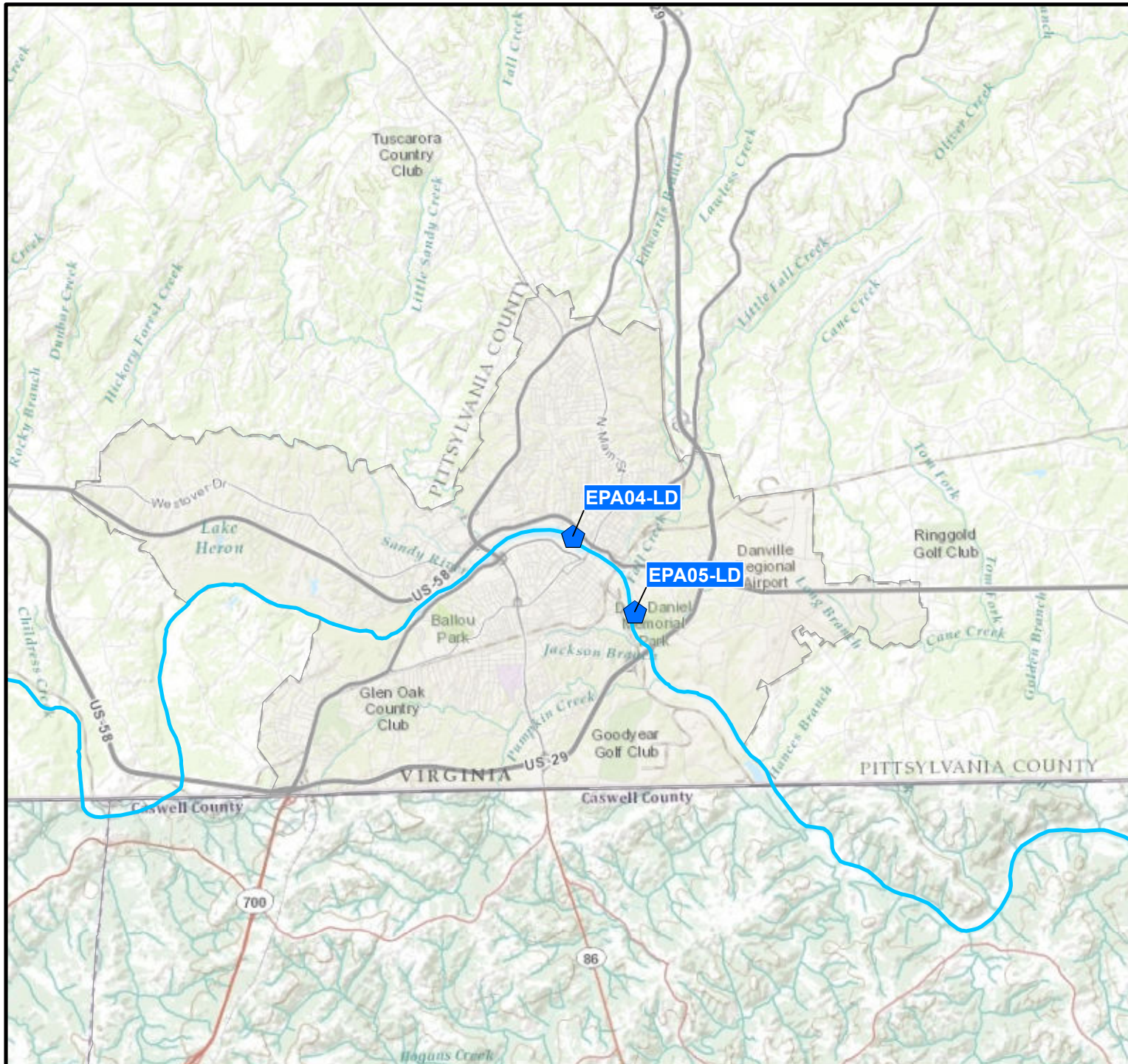
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Status	-		Validation Complete	Validation Complete		
Type	-		Sediment-Water Interface	Sediment-Water Interface		
<b>Total Metals</b>						
Aluminum	2,000	µg/L	170	µg/L	200	µg/L
Antimony	5.6	µg/L	1U	µg/L	1U	µg/L
Arsenic	10	µg/L	1U	µg/L	1U	µg/L
Barium	220	µg/L	25	µg/L	27	µg/L
Beryllium	0.66	µg/L	0.4U	µg/L	0.4U	µg/L
Boron	0.36	mg/L	0.049J	mg/L	0.051J	mg/L
Cadmium	2	µg/L	0.1U	µg/L	0.1U	µg/L
Calcium	-	-	6,600	µg/L	6,800	µg/L
Chromium	29	µg/L	1.2J	µg/L	1.3J	µg/L
Cobalt	24	µg/L	0.27J	µg/L	0.31J	µg/L
Copper	3	µg/L	0.93J	µg/L	0.94J	µg/L
Iron	2,300	µg/L	590	µg/L	630	µg/L
Lead	0.6	µg/L	1.3	µg/L	0.45	µg/L
Magnesium	-	-	2,500	µg/L	2,600	µg/L
Manganese	200	µg/L	41	µg/L	43	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	0.51J	µg/L	0.63J	µg/L
Potassium	53,000	µg/L	1,600	µg/L	1,600	µg/L
Selenium	5	µg/L	2U	µg/L	0.75J	µg/L
Silver	0.06	µg/L	1U	µg/L	1U	µg/L
Sodium	680,000	µg/L	4,900	µg/L	5,000	µg/L
Thallium	0.24	µg/L	0.2U	µg/L	0.2U	µg/L
Vanadium	27	µg/L	7.3	µg/L	7.8	µg/L
Zinc	39	µg/L	20U	µg/L	2.9J	µg/L
<b>Anions</b>						
Bromide	-	-	34	µg/L	34	µg/L
Chloride	230	mg/L	6	mg/L	6.3	mg/L
Sulfate	-	-	5.4	mg/L	5.6	mg/L

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Status	-		Validation Complete		Validation Complete	
Type	-		Sediment-Water Interface		Sediment-Water Interface	
<b>Wet Chemistry</b>						
Alkalinity, Total (As CaCO <sub>3</sub> )	-	-	24	mg/L	26	mg/L
Hardness, Calcium/Magnesium (As CaCO <sub>3</sub> )	-	-	27	mg/L	28	mg/L
Organic Carbon, Dissolved	-	-	1.6	mg/L	1.6	mg/L
pH	6.5 - 9.0		std	7.39J	std	7.48J

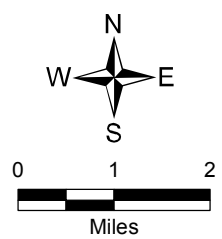
Notes

- <sup>1</sup> 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 23, 2014**

