

EDEN NORTH CAROLINA COAL ASH SPILL SEDIMENT RESULTS

NOTE: The data below represents sediment samples that were collected on May 20, 2014 by EPA START Team 1. Sediment sample measurements are in milligrams per kilogram (mg/kg). The data is being compared to ecological risk screening levels (ERSLs) to protect aquatic life in the sediments 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 are all below the ERSLs with the exception of aluminum, barium, iron, and zinc. There were no exceedances of human health screening criteria for sediment. 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 Standards for Sediment ²		DUKE 1H	
Sample Information				
Sample ID	-		EDEN-DUKE1H-040-SD-20140520	
Date	-		05/20/2014	
Time	-		14:15	
Status	-		Validation Complete	
Type	-		Sediment	
Total Metals				
Aluminum	3,200 (bkg)	mg/kg	15000	mg/kg
Antimony	2 ^a	mg/kg	1.4UJ	mg/kg
Arsenic	9.8	mg/kg	7.3	mg/kg
Barium	60 ^b	mg/kg	110	mg/kg
Beryllium	-	-	1.2	mg/kg
Boron	-	-	14U	mg/kg
Cadmium	0.99	mg/kg	0.12J	mg/kg
Calcium	-	-	800	mg/kg
Chromium	43.4	mg/kg	31J-	mg/kg
Cobalt	50	mg/kg	10	mg/kg
Copper	31.6	mg/kg	17	mg/kg
Iron	6,800 (bkg)	mg/kg	22000	mg/kg
Lead	35.8	mg/kg	15	mg/kg
Magnesium	-	-	2800	mg/kg
Manganese	460 ^c	mg/kg	380	mg/kg
Mercury	0.18	mg/kg	0.032	mg/kg
Molybdenum	-	-	0.66J	mg/kg
Nickel	22.7	mg/kg	12	mg/kg
Potassium	-	-	1900	mg/kg
Selenium	2 ^d	mg/kg	0.63J	mg/kg
Silver	0.733	mg/kg	0.13J	mg/kg
Sodium	-	-	290U	mg/kg
Thallium	-	mg/kg	0.28J	mg/kg
Vanadium	57 ^e	mg/kg	47J-	mg/kg
Zinc	121	mg/kg	48	mg/kg
Physical Properties				
Percent Ash	-	-	ND	%

Notes

² MacDonald, D.D.; Ingersoll, C.G.; Smorong, D.E.; Lindskoog, R.A.; Sloane, G; and T.

^a The screening value for antimony is from Long, Edward R., and Lee G. Morgan. 1991. The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program. NOAA Technical Memorandum NOS OMA 52.

^b The screening value for barium was the probable effect level (PEL) instead of the threshold

^c Sediment screening values for manganese and vanadium come from the NOAA SQUIRT. <http://response.restoration.noaa.gov/sites/default/files/SQuiRTs.pdf>

^d The screening value for selenium is from Region 3 after Lemley, A.D. 2002. Selenium

^e Cadmium from diet

^f Chromium (VI)

^g Methyl Mercury

^h Thallium Chloride

% Percent

EPA U.S. Environmental Protection Agency

J Value is estimated

J- Value is estimated with a possible low bias

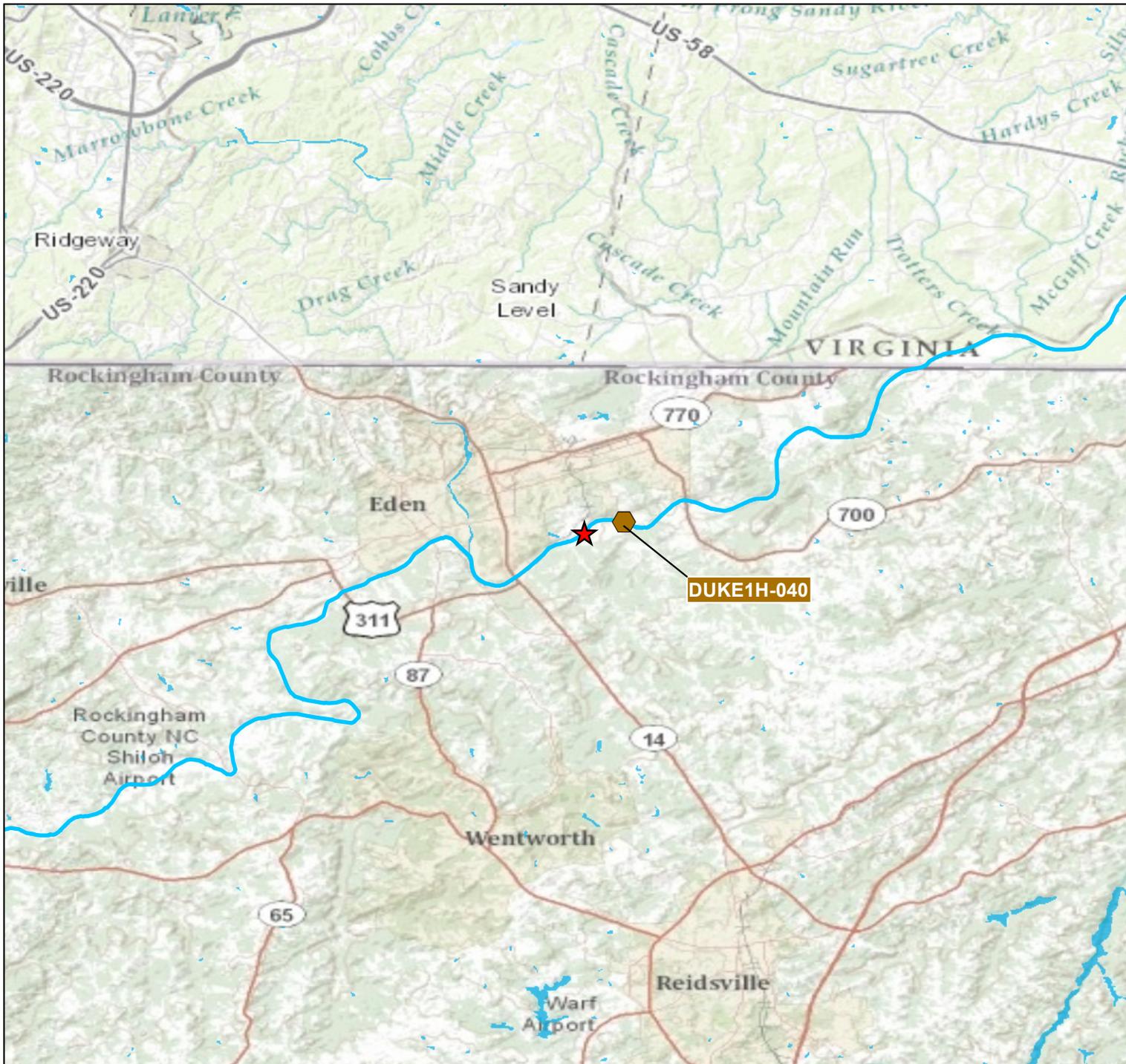
mg/kg milligrams per kilogram

ND No fly ash detected at a PLM reporting limit of 1 percent

PLM Polarized light microscopy

U Analyte was not detected at the listed reporting limit.

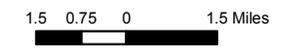
UJ Analyte was not detected at the listed reporting limit, which is an estimated quantitation.



Legend

-  Approximate Spill Location
-  Sediment Sample Location

Imagery Source:
ESRI, USGS Mapping Service, 2013



Eden Coal Ash Spill
Eden, North Carolina

Sediment
Sample Locations
May 20, 2014

