

NOTE: The data below represents surface water samples that were collected on Feb 5, 2014 by EPA sampling teams. Water sample measurement is in micrograms per liter (ug/L) and milligrams per liter (mg/L) for water 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 surface water are all below the EPA ERSLs with the exception of copper and lead. The copper value slightly exceeds the EPA ERSL, but is below the current North Carolina Surface Water Standard of 7 ug/L. EPA typically screens the surface water concentrations using total metals samples, because this is a conservative practice for screening. Because lead was not detected in any of the samples of the dissolved fraction of surface water (i.e., samples that were filtered to remove particulates), there is no threat of toxicity of lead to aquatic organisms. □

Analyte	Ecological Screening Standard for Surface Water Samples <sup>2</sup>		Hwy 14 (Above Discharge)		Hwy 880 (Below Discharge)		Hwy 880 (Below Discharge)		Danville WTP	
<b>Sample Information</b>										
Sample ID	-		EDEN-VANBUREN-SW-20140206		EDEN-BERRYHILL-SW-20140206		EDEN-BERRYHILL-SW-20140206 DUP		EDEN-DANVILLEWTP-RAW-20140206	
Date	-		2/6/2014		2/6/2014		2/6/2014		2/6/2014	
Time	-		1100		1315		1316		1453	
Status	-		Validated Stage 2A		Validated Stage 2A		Validated Stage 2A		Validated Stage 2A	
Type	-		River		River		River		River	
<b>Water Quality</b>										
Temperature	-		5.55	°C	6.06	°C	-	-	-	-
Dissolved Oxygen	6	mg/L	10	mg/L	10	mg/L	-	-	-	-
Specific Conductance	-		0.04	mS/cm	0.041	mS/cm	-	-	-	-
pH	6.5 - 9.0	std	7.34	std	7.44	std	-	-	-	-
Turbidity	-		25	NTU	36	NTU	-	-	-	-
<b>Dissolved metals</b>										
Aluminum	87	µg/L	6.5J	µg/L	26.0J+	µg/L	19.6J+	µg/L	8.0J	µg/L
Antimony	-	-	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Arsenic	-	-	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Barium	220	µg/L	19.2	µg/L	20.7	µg/L	20.6	µg/L	20.8	µg/L
Beryllium	0.66	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Boron	360	µg/L	149	µg/L	112	µg/L	111	µg/L	90.9	µg/L
Cadmium	0.1*	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Calcium	-*	-	7,310	µg/L	7,150	µg/L	6,980	µg/L	6,890	µg/L
Chromium	25	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Cobalt	-	-	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Copper	3	µg/L	1.0U	µg/L	1.6	µg/L	0.60J	µg/L	0.58J	µg/L
Iron	1,000	µg/L	30.9J	µg/L	66.9	µg/L	52.3	µg/L	50U	µg/L
Lead	0.59	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Magnesium	-	-	2,590	µg/L	2,600	µg/L	2,540	µg/L	2,500	µg/L
Manganese	200	µg/L	11.9	µg/L	9.1	µg/L	8.2	µg/L	10.1	µg/L
Mercury	-	-	0.020U	µg/L	0.2U	µg/L	0.2U	µg/L	0.2U	µg/L
Molybdenum	800	µg/L	10U	µg/L	10U	µg/L	10U	µg/L	10U	µg/L
Nickel	17	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Potassium	53,000	µg/L	1,340	µg/L	1,400	µg/L	1,370	µg/L	1,440	µg/L
Selenium	5	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Silica	-	-	13,200	µg/L	13,400	µg/L	13,300	µg/L	13,400	µg/L
Silver	-	-	0.10U	µg/L	0.10U	µg/L	0.10U	µg/L	0.10U	µg/L
Sodium	680,000	µg/L	4,280	µg/L	5,060	µg/L	4,850	µg/L	5,180	µg/L
Thallium	0.24	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Vanadium	27	µg/L	1.0U	µg/L	0.58J	µg/L	0.54J	µg/L	0.61J	µg/L
Zinc	39	µg/L	5.0U	µg/L	5.0	µg/L	5.0U	µg/L	5.0U	µg/L
<b>Total Suspended Solids</b>										
Total Suspended Solids	-	-	11.1	mg/L	34.2	mg/L	35.7	mg/L	17.6	mg/L
<b>Total Metals</b>										
Aluminum	-	-	1,310	µg/L	1,700	µg/L	1,950	µg/L	1,160	µg/L
Antimony	5.6	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Arsenic	10	µg/L	1.0U	µg/L	1.2	µg/L	1.4	µg/L	1.3	µg/L
Barium	220	µg/L	24.8	µg/L	35.7	µg/L	37.2	µg/L	31.7	µg/L
Beryllium	0.66	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Boron	-	-	151	µg/L	115	µg/L	116	µg/L	92.6	µg/L
Cadmium	2	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L

Analyte	Ecological Screening Standard for Surface Water Samples <sup>2</sup>		Hwy 14 (Above Discharge)		Hwy 880 (Below Discharge)		Hwy 880 (Below Discharge)		Danville WTP	
Calcium	-	-	7,410	µg/L	7,040	µg/L	7,260	µg/L	6,940	µg/L
Chromium	29	µg/L	1.6	µg/L	2.2	µg/L	2.5	µg/L	1.6	µg/L
Cobalt	24	µg/L	1.0U	µg/L	0.78J	µg/L	0.91J	µg/L	0.60J	µg/L
Copper	3	µg/L	1.2	µg/L	2.5	µg/L	3.1	µg/L	2.1	µg/L
Iron	-	-	1,400	µg/L	1,760	µg/L	2,100	µg/L	1,150	µg/L
Lead	0.6	µg/L	0.64J	µg/L	1.2	µg/L	1.4	µg/L	0.89J	µg/L
Magnesium	-	-	2,690	µg/L	2,680	µg/L	2,760	µg/L	2,630	µg/L
Manganese	200	µg/L	25.7	µg/L	30.4	µg/L	34.9	µg/L	178	µg/L
Mercury	0.012	µg/L	0.2U	µg/L	0.2U	µg/L	0.2U	µg/L	0.2U	µg/L
Molybdenum	-	-	10U	µg/L	10U	µg/L	10U	µg/L	10U	µg/L
Nickel	17	µg/L	0.88J	µg/L	1.5	µg/L	1.7	µg/L	1.3	µg/L
Potassium	53,000	µg/L	1,420	µg/L	1,520	µg/L	1,540	µg/L	1,540	µg/L
Selenium	-	-	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Silica	-	-	16,300	µg/L	17,300	µg/L	18,000	µg/L	16,800	µg/L
Silver	0.06	µg/L	0.10U	µg/L	0.10U	µg/L	0.10U	µg/L	0.10U	µg/L
Sodium	680,000	µg/L	4,310	µg/L	4,970	µg/L	4,990	µg/L	5,210	µg/L
Thallium	0.24	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L	1.0U	µg/L
Vanadium	27	µg/L	2.9	µg/L	4.9	µg/L	5.5	µg/L	3.7	µg/L
Zinc	39	µg/L	4.1J	µg/L	4.7J	µg/L	5.6	µg/L	4.2J	µg/L
<b>Anions</b>										
Bromide	-	-	0.10U	mg/L	0.10U	mg/L	0.10U	mg/L	0.10U	mg/L
Chloride	230	mg/L	9.5	mg/L	8.8	mg/L	8.6	mg/L	8.6	mg/L
Nitrate Nitrogen <sup>3</sup>	0.31	mg/L	-	-	-	-	-	-	-	-
Nitrite Nitrogen <sup>4</sup>	-	-	-	-	-	-	-	-	-	-
Sulfate	-	-	5.3	mg/L	5.5	mg/L	5.3	mg/L	5.4	mg/L
Orthophosphate	-	-	0.10U	mg/L	0.10U	mg/L	0.10U	mg/L	0.10U	mg/L
<b>Nutrients</b>										
Ammonia Nitrogen	-	-	-	-	-	-	-	-	-	-
Total Kjeldhal Nitrogen	-	-	-	-	-	-	-	-	-	-
Phosphorus	-	-	-	-	-	-	-	-	-	-

Notes

<sup>2</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); NCDNER State Standards for surface water

<sup>3</sup>

Value listed is for Nitrate.

<sup>4</sup>

Value listed is for Nitrite.

<sup>5</sup>

Only compared to Human Health Screening Values

R

Instrument calibration error; monitoring result rejected

°C

degrees Celsius

EPA

U.S. Environmental Protection Agency

J

Value is estimated

J+

Value is estimated with a possible high bias

µg/L

micrograms per liter

mg/L

milligrams per liter

mS/cm

millisiemens/centimeter

NTU

Nephelometric turbidity units

std

standard

U

Analyte was not detected above the listed reporting limit.

\*

The screening values for Cadmium and Calcium in dissolved metals were originally reported incorrectly. The correct screening value for Cadmium is 0.1 µg/L and there is no screening value for Calcium. This table was updated on 2/27/14 to reflect the correction.