

# ADEM POLLUTION INCIDENT REPORT

Status: VALIDATED

Date Closed: 07/06/2016

ERIS #: 8673

Field Office: BIRMINGHAM

Received Date: 06/16/2016

Time: 09:00

On Site: Y

Investigator: Josh Therrien

Received By: Josh Therrien

Photos: Y

Samples: Y

Collected By: ADEM

Hours: 15

## NOTIFIER

First: Chris

Last: Greene

Phone: 205 561 4030

## INCIDENT

Town: Parrish

County: WALKER

State: AL

Date: 06/16/2016

Time: 09:00

Latitude: 33.6419

Longitude: -87.2001

## POTENTIAL RESPONSIBLE PARTY

Company: Unknown

Address:

City:

State:

Contact:

Phone:

## MATERIAL

Material Category: null

Chemical: unknown

Cas ID: 0

Est. Spillage: 0

Units: null

Chemical:

Cas ID:

Est. Spillage:

Units:

Chemical:

Cas ID:

Est. Spillage:

Units:

## IMPACT

Primary Impact: WATER

Secondary Impact:

Tertiary Impact:

Incident Category: MEDIUM

Water Body: Mulberry Fork

HUC Code: 03160109

Fish Kill: Y

**CLEAN-UP**

**Cleanup Attempted:**

**Est. Recovered:**

**Units:**

**Completion Date:**

**PRFA #:**

**NRC #:**

**Referred to:**

**Name:**

**Date:**

**Dept./Agency:**

**Attachments:**

- 1.
- 2.
- 3.

**Comments:**

6/16/2016 – 9:00 am – Received a call from ADCNR about a fish kill on Mulberry Fork in Cordova, Walker County. The fish kill investigation was conducted in conjunction with ADCNR. Approximately 100 dead fish were observed across from the Mulberry Fork/Baker Creek confluence and down stream from confluence. The fish appeared to be dead for multiple days due to decay. Samples were taken at the following points: upstream Mulberry Fork, Mulberry Fork/Baker Creek confluence, downstream Mulberry fork, Gorgas Steam Plant discharge point, and upstream Baker Creek. The lab data will be included in the digital file once available.

6/27/2016- Additional dissolved oxygen sampling conducted.

# Mulberry Fork Fish Kill

6/16/2016

Walker County

Joshua Therrien

# Sampling Points



# Sampling Points



**Upstream Mulberry Fork**

33.64194, -87.19346

pH - 7.81

D.O. - 9.45mg/L

Temperature - 29.2 C

**Mulberry Fork-Baker Creek Confluence**

33.64216, -87.20004

pH - 6.83

D.O. - 3.28 mg/L

Temperature - 27.1 C

**Downstream Mulberry Fork**

33.64377, -87.20387

pH - 6.97

D.O. - 4.45mg/L

Temperature - 29.1 C

**Discharge - Gorgas Plant**

33.64461, -87.19782

pH - 6.89

D.O. - 3.65 mg/L

Temperature - 27.2 C

**Upstream Baker Creek**

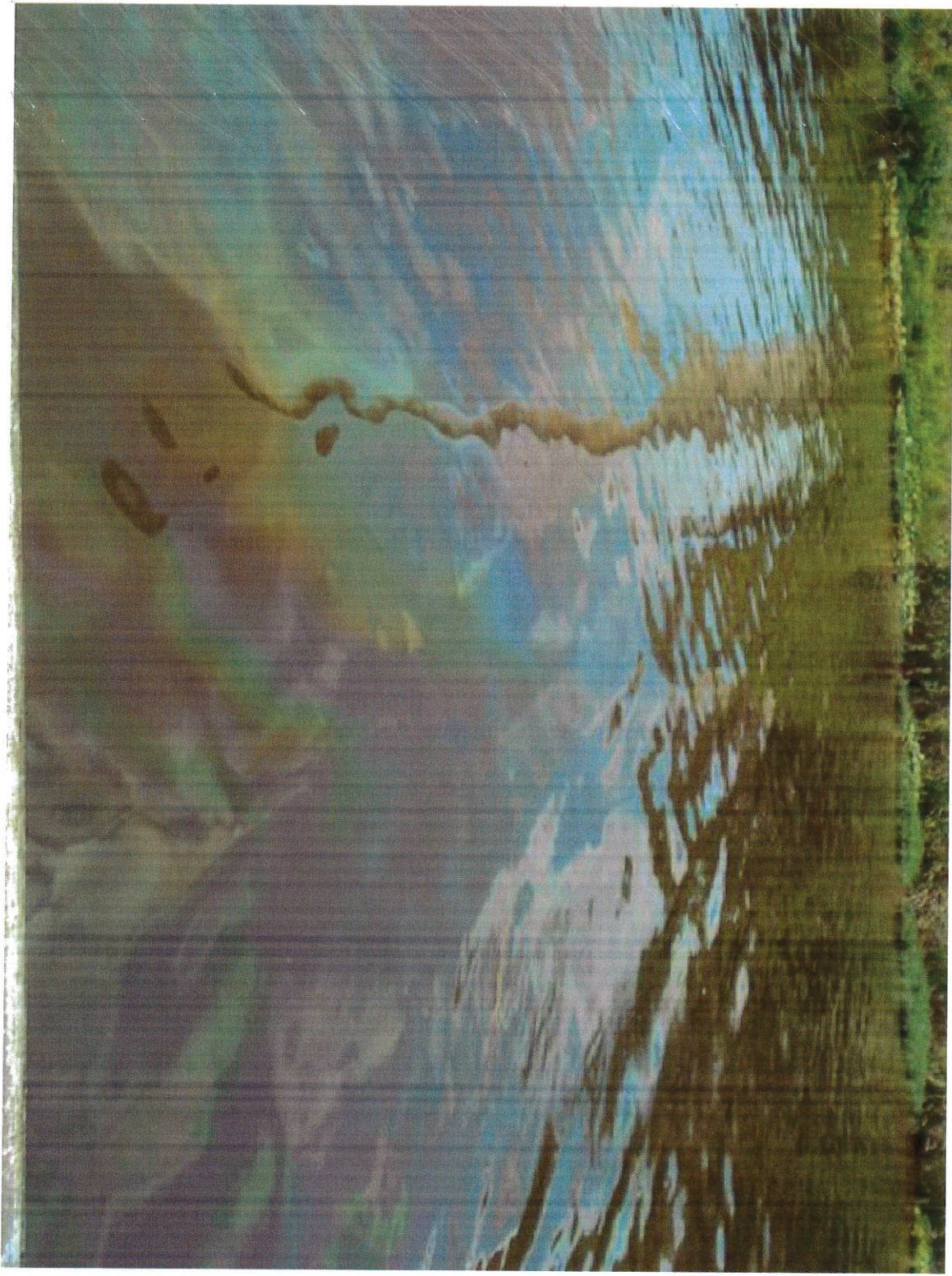
33.66179, -87.21077

pH - 7.45

D.O. - 6.19 mg/L

Temperature - 29.0 C

Sheen on Mulberry Fork between Barge Loading Area and Baker Creek Confluence



Dead Fish Located Across From Mulberry Fork-Baker Creek Confluence





Dead Fish Located Across From Mulberry Fork-Baker Creek Confluence



Dead Fish Located Across From Mulberry Fork-Baker Creek Confluence



TABLE 1 Upstream Mulberry Fork							June 2016
LOCATION	DATE	H <sub>2</sub> O Temp °C GRAB	pH s.u. GRAB	TSS mg/L GRAB	Alkalinity mg/L GRAB	CBOD-5 mg/L GRAB	D.O. mg/L Grab
	6/16/2016	29.2	7.81	6.00	38.9	2.29	9.45
<b>PERMIT LIMITS:</b> Daily Minimum                   ... Daily Maximum               ... Daily Average                 ...							

TABLE 2 Upstream Mulberry Fork							June 2016
LOCATION	DATE	NH <sub>3</sub> -N mg/L GRAB	NO <sub>3</sub> +NO <sub>2</sub> -N mg/L GRAB	Total-P mg/L GRAB	COD mg/L GRAB	As mg/L GRAB	Cu mg/L GRAB
	6/16/2016	0.024 <sup>1</sup>	0.009 <sup>1</sup>	0.019	16.5	0.00109 <sup>1</sup>	< MDL
<b>PERMIT LIMITS:</b> Daily Minimum                   ... Daily Maximum               ... Daily Average                 ...							

TABLE 3 Upstream Mulberry Fork							June 2016
LOCATION	DATE	Fe mg/L GRAB	Cr mg/L GRAB	Ni mg/L GRAB	Zn mg/L GRAB	Se mg/L GRAB	Cd mg/L GRAB
	6/16/2016	0.104 <sup>1</sup>	0.00344 <sup>1</sup>	0.00462 <sup>1</sup>	< MDL	< MDL	< MDL <sup>2</sup>
<b>PERMIT LIMITS:</b> Daily Minimum                   ... Daily Maximum               ... Daily Average                 ...							

TABLE 4 Upstream Mulberry Fork							June 2016
LOCATION	DATE	Ag mg/L GRAB	Sb mg/L GRAB	TI mg/L GRAB	Pb mg/L GRAB	Al mg/L GRAB	Mn mg/L GRAB
	6/16/2016	< MDL <sup>2</sup>	< MDL	< MDL <sup>2</sup>	< MDL	0.063 <sup>1</sup>	0.037 <sup>1</sup>
<b>PERMIT LIMITS:</b> Daily Minimum                   ... Daily Maximum               ... Daily Average                 ...							

Note 1: Estimated value between MDL/POL.  
 Note 2: QC failure; estimated value

TABLE 1 Mulberry Fork/Baker Creek Confluence							June 2016
LOCATION	DATE	H <sub>2</sub> O Temp °C GRAB	pH s.u. GRAB	TSS mg/L GRAB	Alkalinity mg/L GRAB	CBOD-5 mg/L GRAB	D.O. mg/L Grab
	6/16/2016	27.1	6.83	10.0	64.4	<2.0	3.28
PERMIT LIMITS:							
Daily Minimum	...	...	...	...	...	...	...
Daily Maximum	...	...	...	...	...	...	...
Daily Average	...	...	...	...	...	...	...

TABLE 2 Mulberry Fork/Baker Creek Confluence							June 2016
LOCATION	DATE	NH <sub>3</sub> -N mg/L GRAB	NO <sub>3</sub> +NO <sub>2</sub> -N mg/L GRAB	Total P mg/L GRAB	COD mg/L GRAB	As mg/L GRAB	Cu mg/L GRAB
	6/16/2016	0.179	0.129	0.027	11.4	0.00138 <sup>1</sup>	< MDL
PERMIT LIMITS:							
Daily Minimum	...	...	...	...	...	...	...
Daily Maximum	...	...	...	...	...	...	...
Daily Average	...	...	...	...	...	...	...

TABLE 3 Mulberry Fork/Baker Creek Confluence							June 2016
LOCATION	DATE	Fe mg/L GRAB	Cr mg/L GRAB	Ni mg/L GRAB	Zn mg/L GRAB	Se mg/L GRAB	Cd mg/L GRAB
	6/16/2016	0.417	< MDL	< MDL	0.0137 <sup>1</sup>	< MDL	< MDL <sup>2</sup>
PERMIT LIMITS:							
Daily Minimum	...	...	...	...	...	...	...
Daily Maximum	...	...	...	...	...	...	...
Daily Average	...	...	...	...	...	...	...

TABLE 4 Mulberry Fork/Baker Creek Confluence							June 2016
LOCATION	DATE	Ag mg/L GRAB	Sb mg/L GRAB	Tl mg/L GRAB	Pb mg/L GRAB	Al mg/L GRAB	Mn mg/L GRAB
	6/16/2016	< MDL <sup>2</sup>	< MDL	< MDL <sup>2</sup>	< MDL	0.291	0.373
PERMIT LIMITS:							
Daily Minimum	...	...	...	...	...	...	...
Daily Maximum	...	...	...	...	...	...	...
Daily Average	...	...	...	...	...	...	...

Note 1: Estimated value between MDL/PQL.

Note 2: QC failure; estimated value

TABLE 1 Downstream Mulberry Fork							June 2016
LOCATION	DATE	H <sub>2</sub> O Temp °C GRAB	pH s.u. GRAB	TSS mg/L GRAB	Alkalinity mg/L GRAB	CBOD-5 mg/L GRAB	D.O. mg/L Grab
	6/16/2016	29.1	6.97	5.00	61.7	<2.0	4.45
PERMIT LIMITS:							
Daily Minimum	...	...	...	...	...	...	...
Daily Maximum	...	...	...	...	...	...	...
Daily Average	...	...	...	...	...	...	...

TABLE 2 Downstream Mulberry Fork							June 2016
LOCATION	DATE	NH <sub>3</sub> -N mg/L GRAB	NO <sub>3</sub> +NO <sub>2</sub> -N mg/L GRAB	Total-P mg/L GRAB	COD mg/L GRAB	As mg/L GRAB	Cu mg/L GRAB
	6/16/2016	0.09	0.157	0.035	16.4	0.00123 <sup>1</sup>	< MDL
PERMIT LIMITS:							
Daily Minimum	...	...	...	...	...	...	...
Daily Maximum	...	...	...	...	...	...	...
Daily Average	...	...	...	...	...	...	...

TABLE 3 Downstream Mulberry Fork							June 2016
LOCATION	DATE	Fe mg/L GRAB	Cr mg/L GRAB	Ni mg/L GRAB	Zn mg/L GRAB	Se mg/L GRAB	Cd mg/L GRAB
	6/16/2016	0.252	0.0102	0.0655	0.0124 <sup>1</sup>	< MDL	< MDL <sup>2</sup>
PERMIT LIMITS:							
Daily Minimum	...	...	...	...	...	...	...
Daily Maximum	...	...	...	...	...	...	...
Daily Average	...	...	...	...	...	...	...

TABLE 4 Downstream Mulberry Fork							June 2016
LOCATION	DATE	Ag mg/L GRAB	Sb mg/L GRAB	Tl mg/L GRAB	Pb mg/L GRAB	Al mg/L GRAB	Mn mg/L GRAB
	6/16/2016	< MDL <sup>2</sup>	< MDL	< MDL <sup>2</sup>	< MDL	0.122 <sup>1</sup>	0.277
PERMIT LIMITS:							
Daily Minimum	...	...	...	...	...	...	...
Daily Maximum	...	...	...	...	...	...	...
Daily Average	...	...	...	...	...	...	...

Note 1: Estimated value between MDL/POL.

Note 2: QC failure; estimated value

TABLE 1		Gorgas Steam Plant				AL0002909		June 2016	
LOCATION	DATE	H <sub>2</sub> O Temp °C GRAB	pH s.u. GRAB	TSS mg/L GRAB	Alkalinity mg/L GRAB	CBOD-5 mg/L GRAB	D.O. mg/L Grab		
DSN001	6/16/2016	27.2	6.89	13.0	65.0	<2.0	3.65		
<b>PERMIT LIMITS:</b> Daily Minimum                   ... Daily Maximum                Monitor Daily Average                 Monitor									

TABLE 2		Gorgas Steam Plant				AL0002909		June 2016	
LOCATION	DATE	NH <sub>3</sub> -N mg/L GRAB	NO <sub>3</sub> +NO <sub>2</sub> -N mg/L GRAB	Total-P mg/L GRAB	COD mg/L GRAB	As mg/L GRAB	Cu mg/L GRAB		
DSN001	6/16/2016	0.154	0.161	0.024	16.4	0.00132 <sup>1</sup>	< MDL		
<b>PERMIT LIMITS:</b> Daily Minimum                   ... Daily Maximum                ... Daily Average                 ...									

TABLE 3		Gorgas Steam Plant				AL0002909		June 2016	
LOCATION	DATE	Fe mg/L GRAB	Cr mg/L GRAB	Ni mg/L GRAB	Zn mg/L GRAB	Se mg/L GRAB	Cd mg/L GRAB		
DSN001	6/16/2016	0.4	0.0162 <sup>1</sup>	0.00704	< MDL	< MDL	< MDL <sup>2</sup>		
<b>PERMIT LIMITS:</b> Daily Minimum                   ... Daily Maximum                ... Daily Average                 ...									

TABLE 4		Gorgas Steam Plant				AL0002909		June 2016	
LOCATION	DATE	Ag mg/L GRAB	Sb mg/L GRAB	Tl mg/L GRAB	Pb mg/L GRAB	Al mg/L GRAB	Mn mg/L GRAB		
DSN001	6/16/2016	< MDL <sup>2</sup>	< MDL	< MDL <sup>2</sup>	< MDL	0.269	0.307		
<b>PERMIT LIMITS:</b> Daily Minimum                   ... Daily Maximum                ... Daily Average                 ...									

Note 1 : Estimated value between MDL/POL.  
 Note 2: QC failure; estimated value

TABLE 1 Upstream Baker Creek							June 2016	
LOCATION	DATE	H <sub>2</sub> O Temp °C GRAB	pH s.u. GRAB	TSS mg/L GRAB	Alkalinity mg/L GRAB	CBOD-5 mg/L GRAB	D.O. mg/L Grab	
	6/16/2016	29.0	7.45	27.0	162	<2.0	6.19	
PERMIT LIMITS:								
Daily Minimum		...	...	...	...	...	...	
Daily Maximum		...	...	...	...	...	...	
Daily Average		...	...	...	...	...	...	

TABLE 2 Upstream Baker Creek							June 2016	
LOCATION	DATE	NH <sub>3</sub> -N mg/L GRAB	NO <sub>3</sub> +NO <sub>2</sub> -N mg/L GRAB	Total-P mg/L GRAB	COD mg/L GRAB	As mg/L GRAB	Cu mg/L GRAB	
	6/16/2016	0.10	1.09	0.03	12.4	0.0028 <sup>1</sup>	< MDL	
PERMIT LIMITS:								
Daily Minimum		...	...	...	...	...	...	
Daily Maximum		...	...	...	...	...	...	
Daily Average		...	...	...	...	...	...	

TABLE 3 Upstream Baker Creek							June 2016	
LOCATION	DATE	Fe mg/L GRAB	Cr mg/L GRAB	Ni mg/L GRAB	Zn mg/L GRAB	Se mg/L GRAB	Cd mg/L GRAB	
	6/16/2016	2.06	0.00205 <sup>1</sup>	0.00804	0.0208	0.00152 <sup>1</sup>	< MDL <sup>2</sup>	
PERMIT LIMITS:								
Daily Minimum		...	...	...	...	...	...	
Daily Maximum		...	...	...	...	...	...	
Daily Average		...	...	...	...	...	...	

TABLE 4 Upstream Baker Creek							June 2016	
LOCATION	DATE	Ag mg/L GRAB	Sb mg/L GRAB	Tl mg/L GRAB	Pb mg/L GRAB	Al mg/L GRAB	Mn mg/L GRAB	
	6/16/2016	< MDL <sup>2</sup>	< MDL	< MDL <sup>2</sup>	< MDL	2.40	0.345	
PERMIT LIMITS:								
Daily Minimum		...	...	...	...	...	...	
Daily Maximum		...	...	...	...	...	...	
Daily Average		...	...	...	...	...	...	

Note 1: Estimated value between MDL/PQL.

Note 2: QC failure; estimated value

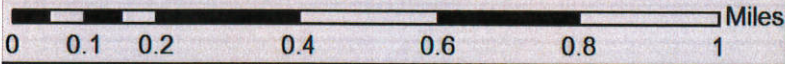
# Mulberry Fork Fish Kill

6/27/2016

Walker County

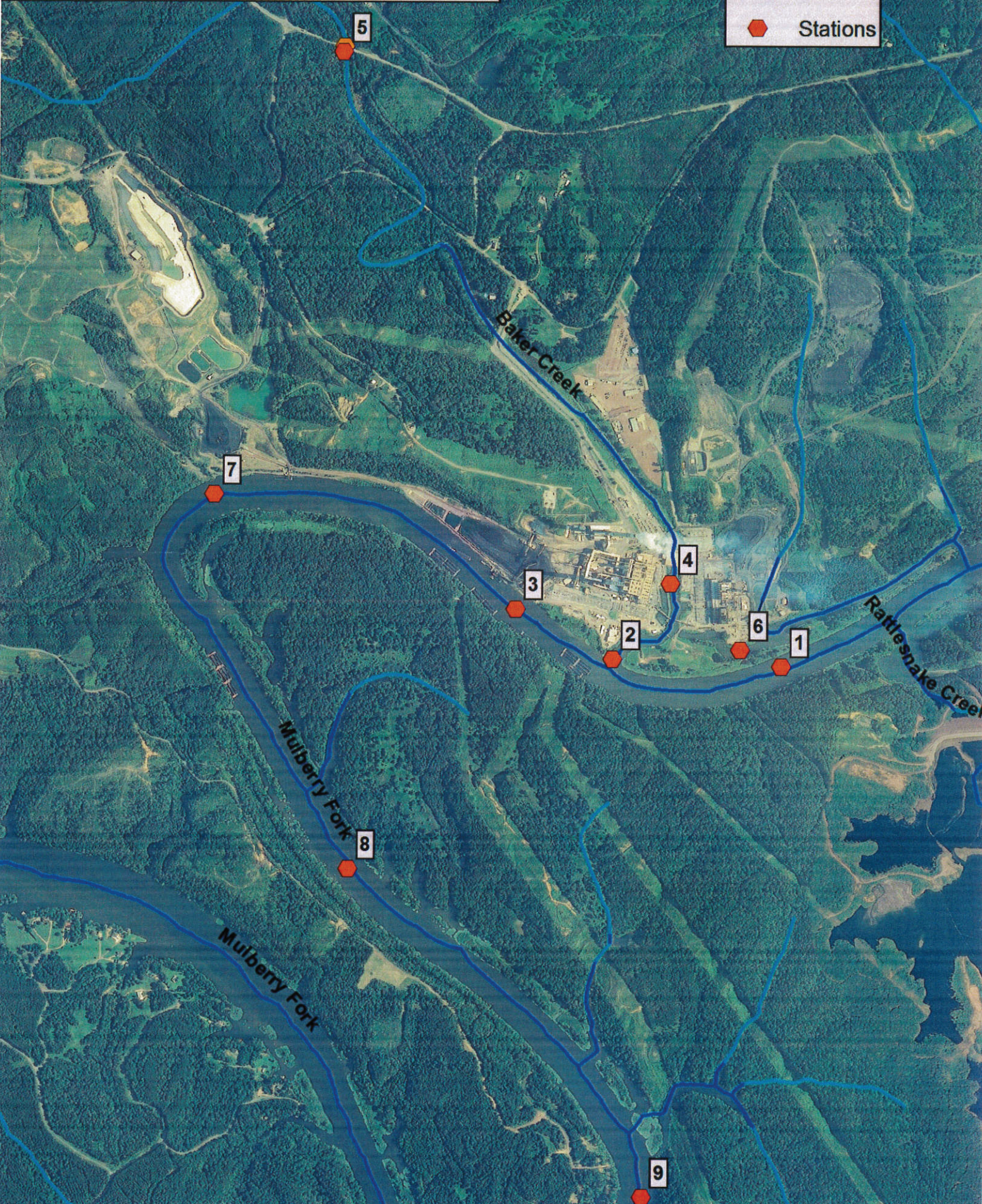
Joshua Therrien





**Legend**

- Stations



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**ADEM Data - June 27th 2016**

<b>Mulberry Fork Upstream</b>	<b>Depth (ft)</b>	<b>Temp C</b>	<b>Flow(cfs)</b>	<b>DO (mg/l)</b>	<b>pH</b>
	0.7	30.3	-338.551	8.49	7.6
	1.7	30.2		8.54	7.33
	3.3	29.0		8.55	7.28
	4.9	28.3		8.11	7.17
	6.6	28.1		7.82	7.14
	9.9	27.6		7.37	7.11
	13.1	27.0		7.12	7.05
	16.4	25.8		7.02	7.02
	19.7	23.1		7.07	6.97
	23.0	19.9		7.06	6.83
	26.3	19.4		6.88	6.67
	29.6	19.3		6.76	6.64
	32.8	19.2		6.58	6.63
	36.1	19.0		6.15	6.63
	37.4	19.0		5.8	6.6

<b>Mulberry Fork Downstream</b>	<b>Depth (ft)</b>	<b>Temp C</b>	<b>Flow(cfs)</b>	<b>DO (mg/l)</b>	<b>pH</b>
	0.7	29.6		7.31	7
	1.6	29.4		7.38	6.82
	3.3	28.9		7.41	6.76
	4.9	28.5		7.47	6.63
	6.6	28.3		7.59	6.56
	9.9	27.9		7.46	6.54
	13.2	27.7		7.47	6.52
	16.5	27.3		7.44	6.51
	19.7	24.1		7.08	6.67
	23.0	20.9		6.56	6.49
	26.3	20.3		6.3	6.31
	29.6	19.7		5.97	6.14
	32.4	19.6		5.73	6.1

**ADEM Data - June 27th 2016**

<b>Mulberry Fork Downstream</b>	<b>Depth (ft)</b>	<b>Temp C</b>	<b>Flow(cfs)</b>	<b>DO (mg/l)</b>	<b>pH</b>
1.2 miles DS mid channel	0.7	29.6	145.399	7.31	7
	1.6	29.4		7.38	6.82
	3.3	28.9		7.41	6.76
	4.9	28.5		7.47	6.63
	6.6	28.3		7.59	6.56
	9.9	27.9		7.46	6.54
	13.2	27.7		7.47	6.52
	16.5	27.3		7.44	6.51
	19.7	24.1		7.08	6.67
	23.0	20.9		6.56	6.49
	26.3	20.3		6.3	6.31
	29.6	19.7		5.97	6.14
	32.4	19.6		5.73	6.1

<b>Gorgas Discharge</b>	<b>Depth (ft)</b>	<b>Temp C</b>	<b>Flow(cfs)</b>	<b>DO (mg/l)</b>	<b>pH</b>
	0.7	28.9		7.13	6.59
	1.6	29.1		7.03	6.56
	3.3	29.2		7.06	6.55
	4.9	29.0		7.09	6.53
	5.5	28.9		7.1	6.53

<b>Upstream Baker</b>	<b>Depth (ft)</b>	<b>Temp C</b>	<b>Flow(cfs)</b>	<b>DO (mg/l)</b>	<b>pH</b>
	0.7	28.1		5.73	7.15

<b>Mulberry-Baker Confluence</b>	<b>Depth (ft)</b>	<b>Temp C</b>	<b>Flow(cfs)</b>	<b>DO (mg/l)</b>	<b>pH</b>
	0.7	30.5		7.06	7.02
	1.6	30.3		7.04	6.5
	3.3	30.3		7.01	6.49
	4.9	30.3		7.08	6.49
	6.6	30.3		7.11	6.51
	9.9	30.3		7.08	6.5
	12.3	30.2		7.09	6.57

<b>APCO Cooling Water Intake Canal</b>	<b>Depth (ft)</b>	<b>Temp C</b>	<b>Flow(cfs)</b>	<b>DO (mg/l)</b>	<b>pH</b>
	0.7	21.3		7.13	6.57
	1.7	21.3		7.16	6.39
	3.3	21.2		7.15	6.39
	4.9	21.2		7.14	6.39
	6.6	21.3		7.13	6.4
	9.9	21.1		7.11	6.41
	13.2	21.1		7.11	6.42
	19.7	21.1		7.05	6.47
	20.6	21.1		7.04	6.47

Note: Sample locations 8 and 9 were contingency sampling locations and were to be sampled only if Dissolved Oxygen levels were below the standard. Based on observed DO measurements sample locations 8 and 9 were not sampled.