



# Plant Bowen

Prepared by: TETRA TECH

## Monthly Dewatering Results<sup>1</sup> May 2019

Parameter	Units	Effluent Concentration		Permit Limits	
		Minimum	Maximum	Daily Avg	Daily Max
Flow	MGD	0.021	0.288	***	***
pH	SU	6.7	8.0	6.0 - 9.0	
Total Suspended Solids	mg/L	11.0	18.0	30.0	100.0
Oil and Grease	mg/L	ND <sup>2</sup>	ND	15.0	20.0

Parameter	Units	Measured Effluent Concentration				
		Week 1	Week 2	Week 3	Week 4	Week 5
		5/1/2019	5/8/2019	5/14/2019	No Discharge	No Discharge
Turbidity	NTU	7.89	7.63	7.90		
Total Dissolved Solids	mg/L	1,600	1,600	1,400		
Ammonia	mg/L	0.07	0.11	0.23		
Total Kjeldahl Nitrogen	mg/L	0.22	0.31	0.38		
Nitrate-Nitrite	mg/L	0.055	0.077	0.23		
Organic Nitrogen	mg/L	ND	0.2	ND		
Phosphorus	mg/L	ND	ND	ND		
Ortho-Phosphorus	mg/L	ND	ND	ND		
Biological Oxygen Demand	mg/L	ND	2.4	2.3		
Hardness	mg/L	820	860	960		

Parameter	Units	Effluent Concentration <sup>3</sup>					Calculated River Value <sup>3</sup>					Water Quality Standard <sup>4</sup>
		Week 1	Week 2	Week 3	Week 4	Week 5	Week 1	Week 2	Week 3	Week 4	Week 5	
		5/1/2019	5/8/2019	5/14/2019	No Discharge	No Discharge	5/1/2019	5/8/2019	5/14/2019	No Discharge	No Discharge	
Arsenic	µg/L	2.0	5.4	5.9			0.003	0.008	0.009			340
Cadmium	µg/L	ND	ND	ND			***	***	***			1
Chromium <sup>5</sup>	µg/L	ND	ND	ND			***	***	***			16
Copper	µg/L	ND	ND	ND			***	***	***			7
Lead	µg/L	ND	ND	ND			***	***	***			30
Nickel	µg/L	9.2	5.6	5.5			0.015	0.009	0.009			260
Selenium <sup>6</sup>	µg/L	18.0	15.0	11.0			0.032	0.027	0.020			5
Zinc	µg/L	ND	ND	ND			***	***	***			65
Mercury	ng/L	2.9	10.0	12.0			0.0009	0.0032	0.0038			1400

<sup>1</sup> Tetra Tech verifies the correct laboratory analysis methods were used, any applicable permit limits have been met and other results are protective of Georgia EPD's water quality standards.

<sup>2</sup> ND = Not Detected.

<sup>3</sup> Calculated River Value shows what the total effluent concentration looks like once it has fully mixed in the receiving waterbody. This value is calculated as a dissolved concentration for an appropriate comparison to the numeric water quality criteria, which are also in the dissolved form. Consistent with Georgia EPD, non-detectable effluent concentrations are not translated into calculated river values.

<sup>4</sup> Numeric Water Quality Criteria is the maximum concentration of a parameter (calculated at a default hardness of 50 mg/L as calcium carbonate) established for the receiving waterbody that will be protective of the designated use per Georgia EPD's rules and regulations. Calculated River Values less than these criteria are protective of the waterbody.

<sup>5</sup> Numeric water quality criterion shown is for Hexavalent Chromium.

<sup>6</sup> The numeric water quality criterion shown is the chronic (long-term) water quality criterion for selenium since this parameter does not have an acute (short-term) water quality criterion.

\*\*\* = Not Applicable

mg/L = milligrams per liter = parts per million; µg/L = micrograms per liter = parts per billion; ng/L = nanograms per liter = parts per trillion; SU = Standard Units; MGD = Million Gallons Day



# Plant Bowen

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## Monthly Instream Results<sup>1</sup>

May 2019

Parameter <sup>3</sup>	Units	Etowah River <sup>2</sup>			
		Sample 1		Sample 2	
		5/8/2019	5/8/2019	5/20/2019	5/20/2019
		Upstream	Downstream	Upstream	Downstream
pH	SU	6.93	7.11	7.81	7.92
TSS	mg/L	2.6	4.6	4.2	2.3
O&G	mg/L	ND	ND	ND	ND
Turbidity	NTU	5.8	5.6	1.8	1.9
TDS	mg/L	68	57	77	84
BOD	mg/L	ND	ND	2.3	ND
Arsenic	µg/L	ND	ND	ND	ND
Cadmium	µg/L	ND	ND	ND	ND
Chromium	µg/L	ND	ND	ND	ND
Copper	µg/L	ND	ND	ND	ND
Lead	µg/L	ND	ND	ND	ND
Mercury	ng/L	1.8	1.8	1.6	2.2
Nickel	µg/L	ND	ND	ND	ND
Selenium	µg/L	ND	ND	ND	ND
Zinc	µg/L	ND	ND	ND	ND
Ammonia	mg/L	ND	ND	ND	ND
TKN	mg/L	ND	ND	0.21	ND
Nitrate-Nitrite	mg/L	0.45	0.50	0.56	0.55
Organic Nitrogen	mg/L	ND	ND	0.21	ND
Phosphorus	mg/L	0.1100	ND	ND	ND
Ortho-phosphorus	mg/L	ND	ND	ND	ND
Hardness	mg/L	31	32	47	45

1 Tetra Tech verifies the correct laboratory analysis methods were used.

2 Etowah River measured 1000ft upstream and 1000ft downstream of the Final Plant Discharge (Outfall 01).

3 Metals results are total recoverable.

4 ND = Non-detect

mg/L = milligrams per liter = parts per million; µg/L = micrograms per liter = parts per billion;

ng/L = nanograms per liter = parts per trillion; SU = Standard Units; MGD = Million Gallons Day