FACT SHEET
Appendix D
New River WPCP
NPDES Permit No. GA0048470

Hg Evaluation at the confluence of New River and Withlacoochee River

Stream Data (upstream of the discharge):

TSS:	**10**	mg/L
7Q10:	**1.5**	ft^3/s
1Q10:	**1.2**	ft^3/s
Mean flow:		ft^3/s

Effluent Data:

Average Effluent TSS:	**6.5**	mg/L
Permitted Flow:	**8,000,000**	gal/day
Flow:	12.4	ft^3/s
Receiving Water Type:	**Freshwater**	
Permit Type:	**Municipal**	

Stream data (downstream of the discharge):

Hardness:	**17.0**	mg/L
TSS (at 7Q10):	6.88	mg/L
Dilution factor (at mean annual flow):		
Dilution factor (at 7Q10):	1.1	
Dilution factor (at 1Q10):	1.1	

IWC (at mean annual flow):	
IWC (at 7Q10):	89
IWC (at 1Q10):	91

Acute Water Quality Criteria (WQC_{Acute}) - Metals:

Metal	K_{PO}	α	f_D	Number of samples	**Maximum** effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	WQC_{Acute} (adjusted) (1) (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0	**0.0**	0.0	340	170	no
Cadmium	4.00.E+06	-1.131	0.000	0	**0.0**	0.0	0.34	0.17	no
Chromium III	3.36.E+06	-0.930	0.00	0	**0.0**	0.0	133	67	no
Chromium VI	3.36.E+06	-0.930	0.00	0	**0.0**	0.0	16	8	no
Copper	1.04.E+06	-0.744	0.00	0	**0.0**	0.0	2.5	1.3	no
Lead	2.80.E+06	-0.800	0.00	0	**0.0**	0.0	9	4	no
Mercury	---	---	---	6	**0.0037**	0.0034	0.0068	0.0034	no
Nickel	4.90.E+05	-0.572	0.00	0	**0.0**	0.0	105	52	no
Selenium	---	---	---	0	**0.0**	0.0	N/A	N/A	no
Zinc	1.25.E+06	-0.704	0.00	0	**0.0**	0.0	26.1	13.1	no

NOTES:

(1) The "adjusted" WQC is the WQC applicable to a pollutant based on the number of samples used in the analysis. In accordance with Georgia EPD's *NPDES Reasonable Potential Procedures*, January 2003, when less than 10 samples are used, the effluent concentration shall be compared to 50% of the acute WQC. The chronic WQC is always compared to 50% of the WQC.

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Dilution Factor} = \frac{Q_{Stream}(ft^3/sec) + Q_{Effluent}(ft^3/sec)}{Q_{Effluent}(ft^3/sec)}$$