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

Chronic Water Quality Criteria ($WQC_{Chronic}$) - Metals:

Metal	K_{PO}	α	f_D	Number of samples	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	$WQC_{Chronic}$ (adjusted) (1) (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	7	**0.0**	0.0	150	75	no
Cadmium	4.00.E+06	-1.131	0.000	7	**0.0**	0.0	0.19	0.09	no
Chromium III	3.36.E+06	-0.930	0.00	7	**0.0**	0.0	17	9	no
Chromium VI	3.36.E+06	-0.930	0.00	7	**0.0**	0.0	11	5.5	no
Copper	1.04.E+06	-0.744	0.37	7	**10.7**	4.0	2.0	1.0	yes
Lead	2.80.E+06	-0.800	0.00	7	**0.0**	0.0	0.3	0.2	no
Mercury	---	---	---	6	**0.0019**	0.0019	0.012	0.006	no
Nickel	4.90.E+05	-0.572	0.00	7	**0.0**	0.0	12	5.8	no
Selenium	---	---	---	7	**0.0**	0.0	5.0	2.5	no
Zinc	1.25.E+06	-0.704	0.31	7	**46.0**	14.4	26.3	13.2	yes

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}} \qquad \text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

Total Recoverable Metal Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L)	Chronic C_T (lb/day)	Acute C_T (µg/L)	Acute C_T (lb/day)
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A

NOTES:

- Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33:**

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E} \qquad \text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

(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.