



**WATER QUALITY LABORATORY
INORGANIC ANALYSES
PERIOD OF 01/01/2010 TO 12/31/2010
Griffith Treatment Plant Finished Water**

Parameter	MCL ¹	Units ²	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Max	Min	Quant ³ Limit	# of Tests
Aggressive Index Number		Units	10	11	10	10	11	11	11	11	11	11	11	11	11	11	10	-	12
Alkalinity, Bicarbonate		mg/L	26	40	31	40	51	54	60	70	71	58	60	64	52	71	26	-	12
Alkalinity, Carbonate		mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	12
Alkalinity, Hydroxyl		mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	12
Alkalinity, Phenolphthalein		mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	12
Alkalinity, Total		mg/L	26	40	31	40	51	54	60	70	71	58	60	64	52	71	26	-	12
Bromate	10 P	µg/L	BQL*	BQL*	BQL*	BQL*	BQL*	BQL*	BQL*	6*	BQL*	5*	BQL*	BQL*	BQL	6	BQL	5	36
Bromide		mg/L	BQL	0.02	0.01	BQL	0.01	0.01	0.02	0.02	0.02	0.01	0.01	BQL	0.01	0.02	BQL	0.01	12
Carbon Dioxide		mg/L	3	2	2	5	5	7	4	6	4	4	5	5	4	7	2	-	12
Chloride	250.0 S	mg/L	44.8	58.3	40.2	40.6	44.2	40.8	40.4	49.9	49.9	41.9	36.6	37.4	43.8	58.3	36.6	5.0	12
Chlorine, Free		mg/L	0.1*	0.1*	0.3*	2.9*	2.7*	2.9*	0.3*	0.3*	0.2*	0.2*	0.1*	0.1*	0.9	3.0	0.0	0.0	36
Chlorine, Total		mg/L	3.3*	3.1*	3.1*	3.1*	2.9*	3.1*	2.9*	3.5*	3.0*	3.3*	3.2*		3.1	3.7	2.4	0.0	36
Color	15 S	Units	0	0	0	0	1	1	1	1	0	1	1	0	1	1	0	0	12
Cyanide (as free cyanide)	0.2 P	mg/L	--	--	--	--	--	--	--	--	--	BQL	--	--	BQL	BQL	BQL	0.025	1
Dissolved Oxygen		mg/L	27.5	25.0	18.1	16.5	21.1	17.3	13.3	12.8	15.8	16.6	17.8	17.8	18.3	27.5	12.8	0.0	12
Fluoride	4.0/2.0 P/S	mg/L	0.9	0.9	1.0	1.0	1.1	1.0	1.1	1.0	1.0	1.2	1.0	0.9	1.0	1.2	0.9	0.2	12
Hardness, Calcium		mg/L	30	52	34	45	52	57	55	71	68	55	55	61	53	71	30	-	12
Hardness, Total		mg/L	43	79	65	85	80	78	67	92	93	76	78	90	77	93	43	-	12
Methylene Blue Activated Substances	0.5 S	mg/L	--	--	--	--	--	--	BQL	--	--	--	--	--	BQL	BQL	BQL	0.050	1
N, Ammonia (Ammonia as N)		mg/L	0.74*	1.12*	0.87*	BQL*	BQL*	BQL*	0.71*	0.71*	0.68*	0.77*	--	--	0.56	1.14	BQL	0.20	30
N, Nitrate (Nitrate as N)	10 P	mg/L	0.7	1.0	0.7	0.6	1.0	0.9	0.5	1.3	0.8	1.5	1.5	2.0	1.0	2.0	0.5	0.2	12
N, Nitrite (Nitrite as N)	1 P	mg/L	0.02	0.01	BQL	BQL	BQL	BQL	BQL	0.01	BQL	0.01	0.01	0.01	BQL	0.02	BQL	0.01	12
pH	6.5-8.5 S	Units	7.3	7.7	7.4	7.2	7.3	7.2	7.5	7.4	7.5	7.5	7.4	7.4	7.4	7.7	7.2	-	12
Phosphate as Phosphorous		mg/L	0.66	0.56	0.39	0.49	0.49	0.41	0.46	0.30	0.33	0.29	0.30	0.36	0.42	0.66	0.29	0.10	12
Solids, Total		mg/L	142	195	156	148	177	175	172	237	226	201	203	213	187	237	142	1	12
Solids, Total Dissolved	500 S	mg/L	130	194	111	148	174	151	168	229	213	199	201	195	176	229	111	1	12
Solids, Total Suspended		mg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	1	12
Specific Conductivity		µmhos/cm	235	346	246	275	301	304	292	424	414	337	340	347	322	424	235	0	12
Sulfate	250.0 S	mg/L	11.4	21.1	13.6	17.1	24.5	21.7	22.7	38.6	35.2	28.8	27.4	30.6	24.4	38.6	11.4	5.0	12
Taste		Units	1	1	2	2	2	3	2	4	2	3	2	2	2	4	1	1	12
Temperature		°C	11.2	13.1	16.1	17.1	18.0	21.9	24.1	24.9	23.6	19.9	20.0	13.6	18.6	24.9	11.2	-	12
Threshold Odor Number	3 S	Units	1	7	4	4	8	4	4	4	4	6	1	4	4	8	1	0	12
Total Organic Carbon		mg/L	1.6	1.8	2.2	2.2	2.0	2.1	2.2	2.1	2.2	2.4	2.5	2.9	2.2	2.9	1.6	0.5	12
Turbidity	≤ 5 P	NTU	0.05	0.05	0.15	0.10	0.05	0.05	0.10	0.15	0.05	0.05	0.05	0.05	0.08	0.15	0.05	0.00	12

* = Monthly result composed from an average of parameter results for Griffith Treatment Plant finished water points of entry to distribution system.

BQL = The lowest quantitation limit of all analyses for the particular parameter, Below Quantitation Limit.

¹Environmental Protection Agency/Virginia Department of Health established levels for drinking water

P=Primary-enforceable, S=Secondary-non-enforceable, AL=Action Level on specific taps, MCL=Maximum Contaminant Level.

²mg/L=milligrams per liter, µg/L=micrograms per liter

³Quant Limit = Quantitation Limit = Lowest level of measurement.



**WATER QUALITY LABORATORY
METAL ANALYSES
PERIOD OF 01/01/2010 TO 12/31/2010
Griffith Treatment Plant Finished Water**

Parameter	MCL ¹	Units ²	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Max	Min	Quant ³ Limit	# of Tests
Aluminum	50-200 S	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	25.0	4
Antimony	6 P	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	2.0	4
Arsenic	10 P	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	2.0	4
Barium	2000 P	µg/L	BQL	--	--	28.1	--	--	27.9	--	--	BQL	--	--	BQL	28.1	BQL	25.0	4
Beryllium	4 P	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	2.0	4
Cadmium	5 P	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	2.0	4
Calcium		mg/L	11.4	--	--	15.9	--	--	18.8	--	--	22.4	--	--	17.1	22.4	11.4	1.0	4
Chromium	100 P	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	5.0	4
Copper	1300 AL	µg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	25.0	12
Iron	300 S	µg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	25.0	12
Lead	15 AL	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	2.0	4
Magnesium		mg/L	3.6	--	--	4.8	--	--	5.0	--	--	4.9	--	--	4.6	5.0	3.6	1.0	4
Manganese	50 S	µg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	25.0	12
Mercury	2 P	µg/L	BQL	--	--	--	--	--	BQL	--	--	--	--	--	BQL	BQL	BQL	0.50	2
Nickel	100 P	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	5.0	4
Potassium		mg/L	2.7	--	--	2.4	--	--	3.9	--	--	4.7	--	--	3.4	4.7	2.4	1.0	4
Selenium	50 P	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	5.0	4
Silicon		mg/L	3.8	--	--	3.4	--	--	3.3	--	--	3.0	--	--	3.4	3.8	3.0	1.0	4
Silver	100 S	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	5.0	4
Sodium		mg/L	28.7	35.2	26.6	27.6	27.3	28.0	31.9	38.2	38.3	30.6	30.2	31.0	31.1	38.3	26.6	1.0	12
Thallium	2 P	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	2.0	4
Zinc	5000 S	µg/L	BQL	--	--	BQL	--	--	BQL	--	--	BQL	--	--	BQL	BQL	BQL	25.0	4

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