



Water Quality Laboratory

Inorganics Analyses

Period of 01/01/2016 TO 12/31/2016

Griffith Treatment Plant Finished Water

Date Report Generated: 12/19/2016

Parameter	MCL ¹	Units ²	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Quant Limit ³
Aggressive Index Number		Units	11	11	10	11	11	11	11	11	11	11	11	-	N/A
Alkalinity, Bicarbonate		mg/L	57	49	33	54	59	60	67	72	78	71	75	-	0
Alkalinity, Carbonate		mg/L	0	0	0	0	0	0	0	0	0	0	0	-	0
Alkalinity, Hydroxyl		mg/L	0	0	0	0	0	0	0	0	0	0	0	-	0
Alkalinity, Phenolphthalein		mg/L	0	0	0	0	0	0	0	0	0	0	0	-	0
Alkalinity, Total		mg/L	57	49	33	54	59	60	67	72	78	71	75	-	0
Bromate ⁴	10 P	µg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	5	BQL	BQL	BQL	5
Bromide		mg/L	0.02	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.02	0.03	-	0.01
Carbon Dioxide		mg/L	3	2	4	3	5	4	5	5	5	4	5	-	N/A
Chloride	250 S	mg/L	35.2	87.9	57.3	65.4	58.8	48.6	47.2	48.8	51.7	54.3	54.8	-	5.0
Chlorine, Free ⁴		mg/L	0.1	0.2	0.2	3.1	3.1	3.1	0.2	0.3	0.3	0.2	0.2	-	0.0
Chlorine, Total ⁴		mg/L	3.4	3.2	3.4	3.4	3.3	3.3	3.4	3.6	3.5	3.5	3.5	-	0.0
Color	15 S	Units	0	0	0	0	0	0	0	0	0	0	0	-	0
Dissolved Oxygen		mg/L	18.0	18.0	20.0	18.6	21.5	15.8	14.8	16.6	14.5	14.5	16.7	-	0.0
Fluoride	4.0/2.0 P/S	mg/L	0.7	0.7	0.6	0.8	0.7	0.7	0.7	0.8	0.8	0.7	0.7	-	0.2
Hardness, Calcium		mg/L	54	58	31	65	61	57	60	68	78	90	94	-	10
Hardness, Total		mg/L	75	80	43	88	84	77	82	92	105	118	120	-	10
Methylene Blue Activated Substances	0.5 S	mg/L	-	-	-	-	-	-	BQL	-	-	-	-	-	0.05
N, Ammonia (Ammonia as N) ⁴		mg/L	0.67	0.66	0.66	BQL	BQL	BQL	0.72	0.75	0.74	0.75	0.72	-	0.20
N, Nitrate (Nitrate as N)	10 P	mg/L	1.00	1.03	0.68	1.00	0.80	1.07	1.01	1.00	1.19	2.51	2.32	-	0.20
N, Nitrite (Nitrite as N)	1 P	mg/L	BQL	0.01	BQL	BQL	BQL	BQL	BQL	BQL	BQL	0.01	0.01	-	0.01
pH	6.5 - 8.5 S	Units	7.6	7.7	7.2	7.5	7.4	7.5	7.4	7.5	7.5	7.6	7.5	-	N/A
Phosphate as Phosphorous		mg/L	0.28	0.31	0.38	0.43	0.35	0.41	0.37	0.43	-	0.49	0.45	-	0.10
Orthophosphate as PO ₄		mg/L	0.86	0.94	1.17	1.32	1.08	1.25	1.12	1.31	-	1.50	1.36	-	0.31
Solids, Total		mg/L	184	261	158	226	225	176	202	229	240	266	264	-	1
Solids, Total Dissolved	500 S	mg/L	184	258	140	222	228	210	224	229	258	279	289	-	1
Solids, Total Suspended		mg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	-	1
Specific Conductivity		µmhos/cm	294	448	288	398	365	350	379	391	433	477	479	-	0
Sulfate	250 S	mg/L	24.8	23.0	13.4	32.3	29.4	25.3	28.6	34.3	37.9	55.0	56.1	-	5.0
Taste		Units	2	2	2	2	2	3	1	2	2	1	1	-	1
Temperature		°C	12.8	9.8	13.4	15.0	17.2	20.7	22.9	24.0	24.4	20.6	19.1	-	N/A
Threshold Odor Number	3 S	Units	1	4	8	7	11	6	5	-	8	3	5	-	0
Total Organic Carbon		mg/L	2.2	1.6	1.7	1.5	1.8	2.1	2.0	2.0	2.1	2.2	2.1	-	0.5
Turbidity	≤ 5 P	NTU	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.10	0.05	0.05	0.05	-	0.05

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 at points of entry to the water distribution system

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, µmhos/cm = micromhos per centimeter, NTU = Nephelometric Turbidity Units

³Quant Limit = Quantitation Limit : lowest level of measurement, N/A = not applicable

⁴Monthly result composed from an average of parameter results for finished water points of entry to distribution system

- Not sampled

* Analysis pending



Water Quality Laboratory

Metal Analyses

Period of 01/01/2016 TO 12/31/2016

Griffith Treatment Plant Finished Water

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Parameter	MCL ¹	Units ²	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Quant Limit ³
Aluminum	50 - 200 S	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	25.0
Antimony	6 P	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	2.0
Arsenic	10 P	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	2.0
Barium	2000 P	µg/L	BQL	-	-	37.2	-	-	33.3	-	-	35.7	-	-	25.0
Beryllium	4 P	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	2.0
Cadmium	5 P	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	2.0
Calcium		mg/L	20.5	-	-	24.3	-	-	24.6	-	-	34.6	-	-	1.0
Chromium	100 P	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	5.0
Copper	1300 AL	µg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	-	25.0
Iron	300 S	µg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	-	25.0
Lead	15 AL	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	2.0
Magnesium		mg/L	5.9	-	-	6.4	-	-	6.5	-	-	7.3	-	-	1.0
Manganese	50 S	µg/L	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	-	25.0
Mercury	2 P	µg/L	BQL	-	-	-	-	-	BQL	-	-	BQL	-	-	0.50
Nickel	100 P	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	5.0
Potassium		mg/L	3.1	-	-	3.1	-	-	4.0	-	-	6.2	-	-	1.0
Selenium	50 P	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	5.0
Silicon		mg/L	4.9	-	-	3.5	-	-	4.2	-	-	3.4	-	-	1.0
Silver	100 S	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	5.0
Sodium		mg/L	24.5	47.8	33.6	37.1	35.4	31.3	35.5	37.9	40.7	39.2	38.6	-	1.0
Thallium	2 P	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	2.0
Zinc	5000 S	µg/L	BQL	-	-	BQL	-	-	BQL	-	-	BQL	-	-	25.0

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