

KINGBROOK RURAL WATER SYSTEM, INC.
WATER QUALITY ANALYSIS

	PHASE I-Bruce WTP (test results 6-2019)	PHASE II-DeSmet WTP (test results 9-2021)	PHASE III-Chester WTP (test results 2021)	SUGGESTED LIMITS
Nitrate	1.4 mg/L	<0.2 mg/L	<0.2 mg/L	10 mg/L
Fluoride	0.77 mg/L	0.76 mg/L	0.55 mg/L	4.0 mg/L
Chloride	12.6 mg/L	16.8 mg/L	17 mg/L	250 mg/L
Iron, Total	<0.05 mg/L	<0.05 mg/L	<0.05 mg/L	0.3 mg/L
Manganese	<0.05 mg/L	<0.05 mg/L	0.05 mg/L	0.05 mg/L
Sulfate	129 mg/L	260 mg/L	283 mg/L	levels >250 mg/L may have bitter taste
Solids, Total Dissolved	512 mg/L	733 mg/L	682 mg/L	upper limit 1000 mg/L
pH	8.02 pH	8.19 pH	7.54 pH	between 6.5 - 8.5
Alkalinity-M	264 mg/L	269 mg/L	260 mg/L	no rec. standard set
Alkalinity-P	0 mg/L	0 mg/L	0 mg/L	no rec. standard set
Bicarbonate	322 mg/L	328 mg/L	311 mg/L	no rec. standard set
Carbonate	0 mg/L	0 mg/L	0 mg/L	no rec. standard set
Conductivity	752 umho/cm	1014 umho/cm	978 umho/cm	2000 umho/cm
Calcium	96.5 mg/L	137 mg/L	119 mg/L	no rec. standard set
Magnesium	33.7 mg/L	49.4 mg/L	55.0 mg/L	1000 mg/L
Hardness (calcium)	22 grains	32 grains	27 grains	see table below
Langlier Index	(+)0.88	(+)1.31	(+)1.19	(+)deposit forming, (-) corrosive
Sodium	10.6 mg/L	18.5 mg/L	23.2 mg/L	**no rec. standard set
Potassium	2.7 mg/L	6.5 mg/L	3.9 mg/L	2000 mg/L

** Sodium has no recommended EPA standard, however; individuals on a low-salt diet should use 25.0 mg/L or less as a guideline.
Water samples for the above common ions are taken and analyzed by the Dept of Ag & Nat'l Resources once every three years.

0-3 grains - soft water
4-10 grains - reasonably soft
11-25 grains - fairly hard, less than average for South Dakota
26-50 grains - average hardness for South Dakota
51-75 grains - very hard
Over 75 grains - extremely hard



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