Water Quality of Groundwater and Bull Run Water

The table below shows water quality data for groundwater wells and Bull Run from past results. The calculated blend is based on a 14% groundwater contribution within a total system demand of 130 MGD (million gallons/day), representing the maximum groundwater contribution to the system anticipated during the operation. Users will experience water quality ranging between the water quality of 100% Bull Run and the calculated blend of groundwater and Bull Run water below. The actual results may differ from what is shown below based on changes in the wells selected during the course of operations, the actual water demand and the blend ratio. Where a value is preceded by a less than symbol (<), the substance was not present or was present below the method reporting limit (MRL) of the prescribed method. Results are in mg/L (parts per million) unless otherwise noted.

Substance	100% Groundwater	100% Bull Run	Expected Blend (86% Bull Run/ 14% Groundwater)	EPA/DHS-DWP Standard
Field Measurements				
Temperature (degrees C)	13.6	13.1	13.2	NA
pH (standard units)	8.0	8.0	8.0	6.5 - 8.5 (S)
Physical Characteristics				
Color (color units)	1	7	6	15 (S)
Specific Conductance (μmhos/cm)	184	26	48	NA
Suspended Solids (mg/L)	0.2	<MRL	<MRL	NA
Total Dissolved Solids (mg/L)	135	8	25	500 (S)
Turbidity (NTU)	0.08	0.25	0.22	5
Nutrients				
Nitrate Nitrogen as N (mg/L)	0.223	<MRL	0.030	10
Nitrite Nitrogen as N (mg/L)	<MRL	<MRL	<MRL	1
Reactive Phosphorus as P (mg/L)	0.121	0.003	0.019	NA
Silica as Silicon (mg/L)	19	4	6	NA
Total Organic Carbon (mg/L)	0.3	1.0	0.9	NA
Anions and Cations				
Alkalinity as CaCO3 (mg/L)	95	9	22	NA
Calcium (mg/L)	20.0	1.4	3.9	NA
Chloride (mg/L)	2.4	2.7	2.7	250 (S)
Fluoride (mg/L)	0.133	<MRL	0.019	4.0
Hardness as CaCO3 (mg/L)	89	5.6	17.2	250 (S)
Magnesium (mg/L)	9.2	0.8	2.0	NA
Sodium (mg/L)	8.9	2.9	3.8	NA
Sulfate (mg/L)	4.0	0.4	0.9	250 (S)
Metals				
Iron (mg/L)	0.052	0.039	0.041	0.3 (S)
Manganese (mg/L)	0.129	0.002	0.020	0.05 (S)
Microbiological Contaminants				
Total Coliform (MPN/ 100mL)	<1	<1	<1	90%<100 for source water
VOCs (μg/L)	<MRL	<MRL	<MRL	varies