

75-14436

TABLE 3.0.2

geochemistry GEOCHEMISTRY OF SALMON HOT SPRINGS¹
and flow information (all units expressed in mg/l)

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DEPARTMENT OF
WATER RESOURCES

T°C	45°
Depth	0
Discharge (l/min)	549
Silica (SiO ₂)	33.0
Calcium (Ca)	23.0
Magnesium (Mg)	11.0
Sodium (Na)	190.0
Potassium (K)	28.0
Bicarbonate (HCO ₃)	565.0
Carbonate (CO ₃)	0.0
Sulfate (SO ₄)	34.0
Phosphate (PO ₄)	0.04
Chloride (Cl)	50.0
Fluoride (F)	1.8
Nitrate (NO ₃)	0.03
Boron (B)	0.0
Ammonia (NH ₃)	0.0
Specific Conductance (field)	1059
Total Dissolved Solids (TDS)	648
ph (field)	6.3
Hardness:	
Carbonate	103.0
Noncarbonate	0.0
Alkalinity as CaCO ₃	46.3
Percent Sodium (%Na)	74.9
Sodium Absorption Ratio (SAR)	8.2
Cation-Anion Balance	-1.960

TABLE 3.0.3

GEOCHEMICAL THERMOMETERS¹

	T ₁	T ₂	T ₃
Salmon Hot Springs	83°C	86°C	52°C

T₁ = Silica temperature assuming quartz equilibrium and
conductive cooling (no steam loss)

T₂ = Silica temperature assuming quartz equilibrium and
adiabatic expansion of constant enthalpy (max steam loss)

T₃ = Silica temperature assuming equilibrium with chalcedony and
conductive cooling (no steam loss)

¹. Idaho Department of Water Resources, 1980, Bull. 30, Part. 9, Potential
For Direct Heat Application of Geothermal Resources.