

Chaffee Co

144† | Chaffee ..... | Mt. Princeton ..... | Big Flat Spring ..... | Big spring at lower end of flat between hotel and bath house.

MINERAL WATERS OF COLORADO

375

NUMBER 144

BIG SPRING

Location—At lower end of flat, Mt. Princeton.

Rate of Flow—250 to 300 gal. per min.

Temperature—126° to 130° F.

Class of Water—Sodic, potassic, bicarbonated, sulphated, alkaline-saline, (siliceous).

—100° to 120° F.  
—saline (siliceous).

Reacting value percentage
.....
19.04
25.09
.....
.....
5.87
.....
.....
.....
.....
8.01
.....
2.49
39.50
.....
100.00

Constituents	Formula	Milligrams per liter Approximately parts per million	Reacting value percentage
Silica .....	SiO <sub>2</sub>	60.5	.....
Sulphate .....	SO <sub>4</sub>	61.94	21.29
Bicarbonate .....	HCO <sub>3</sub>	85.8	23.26
Carbonate .....	CO <sub>3</sub>	Trace	.....
Phosphate .....	PO <sub>4</sub>	None	.....
Chloride .....	Cl	11.78	5.45
Iron .....	Fe	.....	.....
Aluminum .....	Al	.....	.....
Iron oxide .....	Fe <sub>2</sub> O <sub>3</sub>	} None	.....
Aluminum oxide .....	Al <sub>2</sub> O <sub>3</sub>		
Manganese .....	Mn	None	.....
Calcium .....	Ca	10.74	8.91
Magnesium .....	Mg	Trace	.....
Potassium .....	K	32.0	13.52
Sodium .....	Na	38.5	27.57
Lithium .....	Li	Trace	.....
Total .....		301.26	100.00

Concentration value .....	6.06	Excess carbon dioxide.....	30.96
Hydrogen sulphide, H <sub>2</sub> S.....	None	Iron precipitated .....	None
Arsenic, As .....	.....	Evaporated solids .....	270
Strontium, Sr .....	.....	Oxygen consuming capacity	0.7

Hypothetical Combinations

Milligrams per liter, approximately parts per million			
Lith. chlor., LiCl.....	Trace	Calc. bicarb., Ca(HCO <sub>3</sub> ) <sub>2</sub> ...	43.44
Pot. chlor., KCl.....	24.77	Iron and aluminum oxides, Fe <sub>2</sub> O <sub>3</sub> , Al <sub>2</sub> O <sub>3</sub> .....	.....
Sod. chlor., NaCl.....	.....	Calc. silicate, CaSiO <sub>3</sub> .....	.....
Sod. sulph., Na <sub>2</sub> SO <sub>4</sub> .....	57.08	Silica, SiO <sub>2</sub> .....	60.5
Mag. sulph., MgSO <sub>4</sub> .....	.....	Mang. oxide, Mn <sub>2</sub> O <sub>3</sub> .....	.....
Calc. sulph., CaSO <sub>4</sub> .....	.....	Mag. bicarb., Mg(HCO <sub>3</sub> ) <sub>2</sub> ...	Trace
Calc. carb., CaCO <sub>3</sub> .....	Trace	Sod. bicarb., NaHCO <sub>3</sub> .....	73.12
Ferrous bicarb., Fe(HCO <sub>3</sub> ) <sub>2</sub> .....	.....	Pot. sulph., K <sub>2</sub> SO <sub>4</sub> .....	42.34
Total .....			301.25

Properties of Reaction in Percent

Primary salinity .....	53.48	Primary alkalinity .....	28.70
Secondary salinity .....	.....	Secondary alkalinity .....	17.82
Tertiary salinity .....	.....	Tertiary alkalinity .....	.....

Radioactivity

Temperature—°C, 46.0. Temperature, °F, 114.8.  
Curies Ra Emanation per liter x 10<sup>-10</sup>, Water, 9.41.  
Mache Units per liter, Water, 2.54.

oxide..... 30.96  
..... None  
is ..... 225  
ng capacity 0.7

er million

a(HCO<sub>3</sub>)<sub>2</sub>... 36.22  
um oxides,  
aSiO<sub>3</sub>.....  
.....  
..... 52.0  
R<sub>2</sub>O<sub>3</sub>.....  
z(HCO<sub>3</sub>)<sub>2</sub>... Trace  
aHCO<sub>3</sub>..... 80.61  
..... 266.28

ity ..... 34.16  
inity ..... 16.02  
ity .....

15. Mount Princeton Hot Springs (Chalk Creek Hot Springs), Chaffee County. Mount Princeton Hot Springs are located along State Highway 162 on the north bank of Chalk Creek, 25 miles northwest of Salida, Colorado. The geologic conditions at these springs is quite similar to the Cottonwood Hot Springs area with the heating of the water probably coming from the Tertiary monzonite intrusion which forms the Collegiate Range. These hot springs have a total discharge between 250-400 gpm and a temperature range of 48°C-57°C. The thermal water has limited local use.

Pearl  
1972