U.S. Department of the Interior
U.S. Geological Survey

Geochemistry of the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota

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Water-Resources Investigations Report 01-4129

Prepared in cooperation with the
South Dakota Department of Environment and Natural Resources
and the West Dakota Water Development District

U.S. Department of the Interior
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Rapid City, South Dakota: 2001

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CONVERSION FACTORS, ACRONYMS, AND ABBREVIATIONS

Multiply	By	To obtain
acre	4,047	square meter
acre	0.4047	hectare
acre-foot per year (acre-ft/yr)	1,233	cubic meter per year
acre-foot per year (acre-ft/yr)	0.001233	cubic hectometer per year
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
foot per year (ft/yr)	0.3048	meter per year
gallon per minute (gal/min)	0.06309	liter per second
inch	2.54	centimeter
inch	25.4	millimeter
inch per year (in/yr)	25.4	millimeter per year
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F = (1.8 \times °C) + 32$$

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:

$$°C = (°F - 32) / 1.8$$

Water year: Water year is the 12-month period, October 1 through September 30, and is designated by the calendar year in which it ends. Thus, the water year ending September 30, 1998, is called the "1998 water year."

Per mil (‰): A unit expressing the ratio of stable-isotopic abundances of an element in a sample to those of a standard material. Per mil units are equivalent to parts per thousand. Stable-isotopic ratios are computed as follows:

$$\delta X = \left(\frac{R(sample)}{R(standard)} - 1\right) \times 1,000$$

where

X is the heavier isotope and
R is the ratio of the heavier, less abundant stable isotope to the lighter, stable isotope in a sample or standard.

The δ values for oxygen and hydrogen stable isotopic ratios discussed in this report are referenced to the following standard material:

Ratio (R)	Standard identity and reference
hydrogen-2:hydrogen-1	Vienna Standard Mean Ocean Water (VSMOW)
oxygen-18:oxygen-16	Vienna Standard Mean Ocean Water (VSMOW)