

Table 1. State of Utah ground-water classification system and water-quality standards

Class	Class name	Class requirements
IA	Pristine	Dissolved-solids concentration less than 500 milligrams per liter; no water-quality standards are exceeded
IB	Irreplaceable	Same as Class IA; no other reliable supply reasonably available
IC	Ecologically Important	Same as Class IA; constitutes a source necessary for the existence of a wildlife habitat
II	Drinking-Water Quality	Dissolved-solids concentration greater than 500 milligrams per liter and less than 3,000 milligrams per liter; no water-quality standards are exceeded
III	Limited Use	Dissolved-solids concentration greater than 3,000 milligrams per liter and less than 10,000 milligrams per liter and (or) one or more constituents exceed water-quality standards
IV	Saline	Dissolved-solids concentration greater than 10,000 milligrams per liter

## Part A. Classification

Constituent or characteristic	Maximum allowable concentration in micrograms per liter, unless noted otherwise
Metals	
Arsenic	50
Barium	2,000
Cadmium	5
Chromium	100
Copper	1,300
Lead	15
Mercury	2
Selenium	50
Silver	100
Zinc	5,000
Inorganic chemicals	
Fluoride	4.0 milligrams per liter
Nitrate plus nitrite	10.0 milligrams per liter
Organic chemicals (pesticides)	
2,4-D	70
2,4,5-TP	50
Volatile organic chemicals	
Trichloroethylene	5
1,1,1-Trichloroethane	5
Vinyl chloride	2
Benzene	5
1,2-Dichloroethane	5
1,1-Dichloroethylene	7
1,1,1-Trichloroethane	200
1,4-Dichlorobenzene	75

Multiply	By	To obtain
inch (in.)	2.54	centimeter
foot (ft)	0.3048	meter
foot per day (ft/d)	0.3048	meter per day
foot per mile (ft/mi)	0.1894	meter per kilometer
foot per year (ft/yr)	0.3048	meter per day
mile (mi)	1.609	kilometer
square mile (mi <sup>2</sup> )	2.59	square kilometer

Water temperature is reported in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by using the following equation:  

$$^{\circ}\text{F} = 9/5(\text{°}\text{C}) + 32.$$

**Sea level:** In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929—a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

Chemical concentration and water temperature are reported only in metric units. Chemical concentration is reported in milligrams per liter (mg/L) or micrograms per liter (µg/L). Milligrams per liter is a unit expressing the solute mass per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. For concentrations less than 7,000 milligrams per liter, the numerical value is about the same as for concentrations in parts per million. Specific conductance is reported in microsiemens per centimeter (µS/cm) at 25 degrees Celsius,

Table 2. Chemical quality of water from selected springs and wells penetrating deposits of saturated thickness less than or equal to 150 feet, Tooele Valley, Tooele County, Utah

[All values have been rounded to conform to U.S. Geological Survey publication standards; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; —, no data or information; T, total concentration; <, less than; Do, ditto; D, dissolved concentration]

Location: See figure 2 for explanation of the numbering system and figure 3 for site location.

pH: Measured in the field except where L, laboratory value.

Laboratory: UDH, Utah Department of Health Laboratory; USGS, U.S. Geological Survey; PRIV, private laboratory used by consultants.

Location	Date	Depth of well or surface (feet)	Altitude of land surface (feet)	Specific conductance (µS/cm)	pH (standard units)	Water temperature (°C)	Hardness-total (mg/L as CaCO<sub>3</sub>)	Calcium dissolved (mg/L as Mg/L as Ca)	Magnesium dissolved (mg/L as Mg/L as Ca)	Sodium dissolved (mg/L as Na)	Bicarbonate (mg/L HCO<sub>3</sub>)	Carbo-nate (mg/L as CO<sub>3</sub>)	Alkalinity dissolved (mg/L as SO<sub>4</sub>)	Sulfate, dissolved (mg/L as F)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as SiO<sub>4</sub>)	Silica, residue at 180 °C, dissolved (mg/L as SiO<sub>2</sub>)	Solids, residue at 180 °C, dissolved (mg/L as N)	Nitrogen, NO<sub>2</sub>+NO<sub>3</sub>, dissolved (µg/L as N)	Phosphorus, total (mg/L as P)	Arsenic, dissolved (µg/L as As)	Boron, dissolved (µg/L as Cd)	Cadmium, dissolved (µg/L as Cu)	Chromium, dissolved (µg/L as Cr)	Copper, dissolved (µg/L as Zn)	Manganese, dissolved (µg/L as Mn)	Selenium, dissolved (µg/L as Se)	Zinc, dissolved (µg/L as Zn)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L as As)	Selenium, dissolved (µg/L as Zn)	Zinc, dissolved (µg/L as Cd)	Silver, dissolved (µg/L as Pb)	Mercury, dissolved (µg/L as Hg)	Lead, dissolved (µg/L as Cd)	Iron, dissolved (µg/L as Fe)	Manganese, dissolved (µg/L