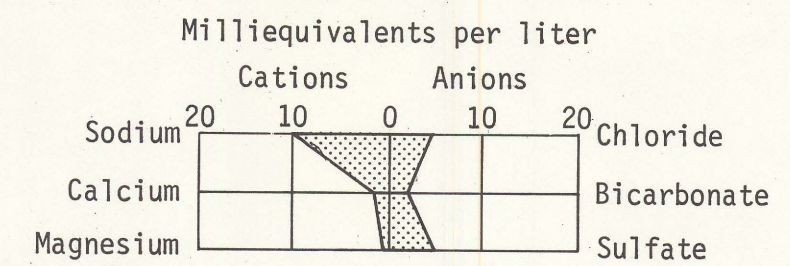


EXPLANATION

● 1100(1977)  
0.2 WELL FROM WHICH A WATER SAMPLE WAS COLLECTED IN 1978-79—Upper number, 1100(1977), is specific conductance in micromhos per centimeter at 25°C [(1977), year in which sample was collected if other than 1978-79]; specific conductance is an indication of the dissolved-solids concentration in water. Lower number, 0.2, is fluoride concentration in milligrams per liter

● 435  
0.7 SPRING FROM WHICH A WATER SAMPLE WAS COLLECTED IN 1978-79—Upper number, 435, is specific conductance in micromhos per centimeter at 25°C; specific conductance is an indication of the dissolved-solids concentration in water. Lower number, 0.7, is fluoride concentration in milligrams per liter

CHEMICAL-QUALITY DIAGRAM—Shows major chemical constituents in milliequivalents per liter. The diagrams are in a variety of shapes and sizes, which provides a means of comparing, correlating, and characterizing types of water



DS=749 DISSOLVED SOLIDS—Number, 749, is dissolved solids in milligrams per liter

APPROXIMATE AREAL EXTENT OF THE MAJOR WATER-BEARING UNITS—Queried where uncertain. The units are the unconsolidated deposits, conglomerate, volcanic clastic deposits, and lake deposits

APPROXIMATE AREAL EXTENT OF BASALTIC TO RHYOLITIC VOLCANIC ROCKS—Queried where uncertain. Locally include tuff and agglomerate

APPROXIMATE AREAL EXTENT OF SCHIST, GNEISS, AND GRANITE—Queried where uncertain. May include gravel, sand, and silt where transected by the Agua Fria River and its tributaries

ARBITRARY BOUNDARY OF GROUND-WATER AREA

QUALITY OF WATER

In the Agua Fria area the quality of water varies with differences in the geologic environment. Specific-conductance values indicate that the dissolved-solids concentrations generally range from 150 to 2,000 mg/L (milligrams per liter); the dissolved-solids values may be estimated by multiplying the specific conductance by 0.6. The maximum concentration for dissolved solids in public water supplies is 500 mg/L, as proposed in the secondary drinking-water regulations of the U.S. Environmental Protection Agency (1977b, p. 17146). The U.S. Environmental Protection Agency (1977a, b) has established national regulations and guidelines for the quality of water provided by public water systems. The regulations are either primary or secondary. Primary drinking-water regulations govern constituents in drinking water that have been shown to affect human health. Secondary drinking-water regulations apply to constituents that affect esthetic quality. The primary regulations are enforceable either by the Environmental Protection Agency or by the States; in contrast, the secondary regulations are not federally enforceable. The secondary regulations are intended as guidelines for the States. The regulations express limits as "maximum contaminant levels," where contaminant means any physical, chemical, biological, or radiological substance or matter in water.

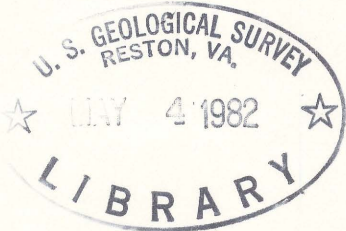
The major water-bearing units generally yield water of good chemical quality. Dissolved-solids concentrations in water from these units commonly range from 150 to 850 mg/L. However, the water from a well in sec. 17, T. 7 N., R. 1 E., which penetrates the volcanic clastic deposits, contained 1,800 mg/L dissolved solids. In the Black Canyon City area water from the schist is of poor chemical quality and contained 1,200 to 2,000 mg/L dissolved solids.

The maximum concentration for fluoride in public water supplies differs according to the annual average maximum daily air temperature (Bureau of Water Quality Control, 1978, p. 6). The amount of water consumed by humans, and therefore the amount of fluoride ingested, depends partly on air temperature. The annual average maximum daily air temperature in the area from Lake Pleasant to Black Canyon City, which includes the Castle Hot Springs and Spring Valley areas, is 72°F, and the maximum concentration for fluoride is 1.6 mg/L. Water from several wells and springs in these areas contained more than 1.6 mg/L of fluoride. In the Black Canyon City area, fluoride concentrations were 3.5 to 14.0 mg/L in water from wells that penetrate the schist, and 0.3 to 0.8 mg/L in water from wells that penetrate only the overlying gravel, sand, and silt. In the Castle Hot Springs and Spring Valley areas, ground water contained 3.1 to 13.0 mg/L fluoride. The annual average maximum daily air temperature in areas above 4,000 ft is about 61°F, and the maximum concentration for fluoride is 2.0 mg/L. None of the water from wells or springs at the higher altitudes contained more than 2.0 mg/L fluoride.

Water from a well that penetrates the schist in Black Canyon City contained 370 µg/L (micrograms per liter) or 0.37 mg/L arsenic. The maximum concentration for arsenic in public water supplies is 50 µg/L or 0.05 mg/L (Bureau of Water Quality Control, 1978, p. 5).

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5 0 5 MILES  
5 0 5 KILOMETERS  
TOPOGRAPHIC CONTOUR INTERVAL 200 FEET  
WITH SUPPLEMENTARY CONTOURS AT 100-FOOT INTERVALS  
DATUM IS MEAN SEA LEVEL