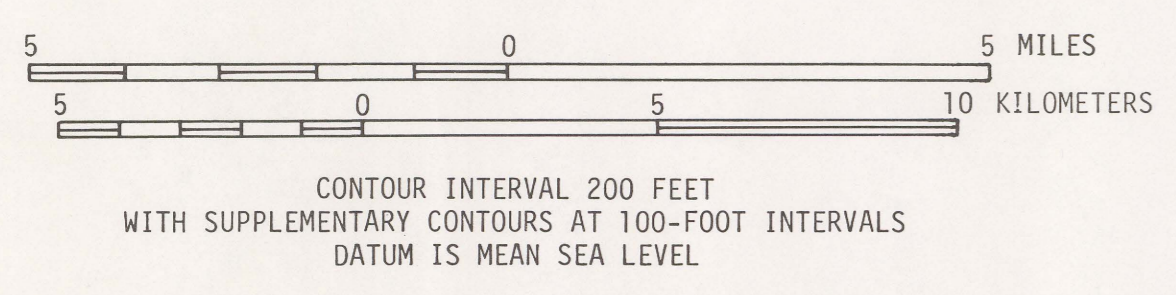


- EXPLANATION**
- APPROXIMATE AREA IN WHICH THE DISSOLVED-SOLIDS CONCENTRATION IN WATER FROM MOST WELLS EXCEEDS THE MAXIMUM RECOMMENDED FOR PUBLIC SUPPLY—U.S. Public Health Service (1962)
 - APPROXIMATE AREA IN WHICH THE FLUORIDE CONCENTRATION IN WATER FROM MOST WELLS EXCEEDS THE MAXIMUM RECOMMENDED FOR PUBLIC SUPPLY—Maximum recommended fluoride concentration is 1.6 mg/L based on an annual average maximum daily air temperature of 78°F (U.S. Public Health Service, 1962)
 - 4000 — WATER-LEVEL CONTOUR—Shows approximate altitude of the water level. Contour interval 20 and 40 feet. Dashed where inferred. Datum is mean sea level
 - APPROXIMATE BOUNDARY OF THE MAIN WATER-BEARING UNIT—The main water-bearing unit consists principally of sedimentary deposits of gravel, sand, silt, and clay. The igneous, metamorphic, and sedimentary rocks, which make up the surrounding mountains, generally yield a few gallons per minute of water where fractured. Queried where uncertain
 - ARBITRARY BOUNDARY OF GROUND-WATER AREA

The ground water in the Willcox area is of suitable to unsuitable chemical quality for drinking purposes and is suitable for irrigation use. In 76 water samples dissolved-solids concentrations range from 100 to 2,940 mg/L (milligrams per liter) and average about 391 mg/L; dissolved solids of more than 500 mg/L are present in 16 of the samples. The recommended limit for dissolved-solids concentrations in public water supplies is 500 mg/L (U.S. Public Health Service, 1962); however, water having much higher concentrations of dissolved solids is used when water of better quality is not available. Water that contains more than 1,000 mg/L of dissolved solids is present in the Willcox Playa and in a small area southeast of the playa.

In 73 water samples the fluoride concentrations range from 0 to 16 mg/L and average about 2.5 mg/L. The recommended average optimum fluoride concentration for a water supply differs according to the annual average maximum daily air temperature (U.S. Public Health Service, 1962). In the Willcox area the annual average maximum daily air temperature is about 78°F, and the optimum concentration of fluoride in drinking water is 0.8 mg/L. The presence of concentrations greater than 1.6 mg/L is grounds for rejection of the water for public supply. Concentrations greater than 1.6 mg/L are present in about one-third of the samples.

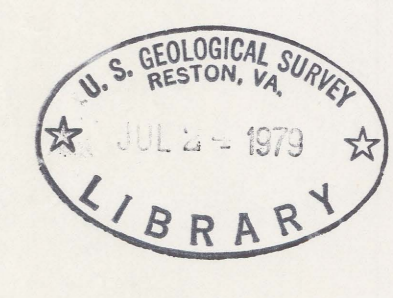


ALTITUDE OF THE WATER LEVEL, 1975, AND DISTRIBUTION OF DISSOLVED SOLIDS AND FLUORIDE IN THE MAIN WATER-BEARING UNIT

BASE FROM U.S. GEOLOGICAL SURVEY
 TUCSON 1:250,000, 1956,
 NOGALES 1:250,000, 1956,
 SILVER CITY 1:250,000, 1954,
 AND DOUGLAS 1:250,000, 1959

MAPS SHOWING GROUND-WATER CONDITIONS IN THE WILLCOX AREA, COCHISE AND GRAHAM COUNTIES, ARIZONA—1975

By
 Larry J. Mann, Natalie D. White, and R. P. Wilson



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