State of California
The Resources Agency
Department of Water Resources
Northern District

ANTELOPE GROUND WATER STUDY

April 1987

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Nitrates

Drinking water has a recommended limit of 45 mg/L nitrate. Four of the 72 wells tested in 1986 exceeded that limit. In general, nitrate levels are moderate in the Antelope area, ranging from 0 to 62 mg/L, with a median value of 14 mg/L.

Figure 21 shows the pattern of nitrate occurrence found in the area during 1986 sampling. Water containing the higher concentrations of nitrates came from wells in an area north of Antelope Boulevard adjacent to Chestnut and Mulberry Avenues.

Phosphates

Total phosphorous as P was analyzed in 54 wells. Values ranged from 0.02 to 0.22 mg/L, with a median of 0.06 mg/L. Although no distinct pattern of distribution was discernible, the highest concentrations of phosphorus were found in the Salt Creek drainage and in an area at the north edge of the study area associated with water from the Tuscan Formation.

Sodium Adsorption Ratio

Adjusted Sodium Adsorption Ratio (ASAR) values for 71 wells range from 0.5 to 8.8, and have a median of 1.6. None of the water had an ASAR value exceeding 9, although two had values exceeding 6 and seventeen wells had values exceeding 3. All 17 wells producing water with the high ASAR values are along Salt Creek, in the eastern portion of the study area.

Boron

Boron concentrations in 67 wells ranged from 0 to 2.2 mg/L, with a median concentration of 0.1 mg/L. Eleven wells produce water containing boron in excess of 1 mg/L; these are in the vicinity of Salt Creek, which flows along the eastern edge of the study area. Two wells in the Salt Creek drainage had boron levels greater than 2 mg/L.

Bacteriological Quality

Numerous historic bacteriological samples taken from domestic water supply systems had shown the widespread presence of coliform bacteria throughout the study area. An area-wide sampling of 20 wells was made to determine if bacterial contamination of the ground water had occurred. The bacteriological samples were taken by Tehama County personnel either directly from the well or from the nearest point from which the water could be sampled in the water system. The samples were tested for both total and fecal coliform, with the following results:

18 samples = <2.2 MPN
1 sample = 16 total and <2.2 fecal MPN
1 sample = 16 total and 16 fecal MPN

Health departments usually consider <2.2 MPN as uncontaminated, while 16 MPN is considered excessively contaminated.