

ABSTRACT

RADIOLOGICAL LEVELS IN THE HARD ROCK DRINKING WATER WELLS OF EASTERN MADERA COUNTY, CALIFORNIA

The purpose of this study was to determine if the radiological levels in the groundwater changed over time in eastern Madera County. This retrospective study consisted of 32 water wells within eastern Madera County with radiological data tabulated and compared to determine if changes occurred. Seasonal trends and well depth were also observed to determine if they were a factor in radiological levels. As the data were collected, trends, data gaps, and questions that were initially not considered became evident.

This study revealed wide fluctuations in uranium and gross alpha levels, with only 8 of the 32 wells having radiological results at or below the maximum contaminant level for gross alpha and uranium throughout the period of 1989 to 2004. Ensuring that adequate quantities of safe drinking water can be provided to this growing community, with the naturally occurring radiological constituents in the drinking water wells, is an ongoing concern.

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