ABSTRACT

FACTORS INFLUENCING FELDSPATHIC GROUNDWATER CHEMISTRY
IN THE CONCOW AND COHASSET AREAS
OF NORTHERN CALIFORNIA

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Measurements of groundwater pH, electrical conductivity, temperature and major ionic constituents were taken over a period of 15 months in two areas of greatly differing geologic characteristics. The data were analyzed in an attempt to understand the relationship between the constituents in solution and the composition of the contributing lithic materials. In the process of this analysis it was found that the waters issuing from the Tuscan Lahars of Cohasset Ridge are lower in pH and TDS than those originating in the hornblende quartz-diorite of Concow. This was surprising because the lithic material of which the Cohasset mudflows are comprised is generally more soluble than the granitics of Concow. This study identifies the major factors influencing the groundwater chemistry of the two areas. The aquifer’s physical structures rather than mineralogical properties were found to have more control.