E-TR-52-II

Vol. II

MX SITING INVESTIGATION
WATER RESOURCES PROGRAM

TECHNICAL SUMMARY REPORT

VOLUME II

The Earth Technology Corporation

In 1980, an Air Force valley-fill test well was drilled in the southern portion of Spring Valley (9N/68E-3ab1) to determine the hydraulic characteristics of the valley fill. The results from aquifer tests conducted did not allow for accurate calculation of transmissivity and storativity values because of pump malfuntion. Well yield during testing was 600 gpm (38 l/s) with only 14 feet (4.3 m) of drawdown. The results from a short-term aquifer test conducted in an existing well in the south-central portion of the valley (12N/67E-13dd) indicated a transmissivity of 474 ft^2/day (44 m^2/day). Specific capacity tests from numerous wells in the valley indicate transmissivity ranges of 1500 to 30,000 ft^2/day (139 to 2781 m^2/day). These data, along with information obtained from field reconnaissance and interpretation of lithologic logs, indicate that the the transmissivity and storativity of the valley fill varies greatly with location. Much of the valley-fill aquifer is believed to be under water-table conditions; confined conditions occur in areas containing playa deposits of Pleistocene age.

The carbonate aquifer has an estimated high potential for water-supply development. A significant amount of fractured and faulted carbonate rocks are present. In addition, Spring Valley is part of a known regional flow regime. No exploratory drilling has been conducted in the valley or in the near vicinity.

2.30.3.3 Water Quality

Water-chemistry data for Spring Valley are presented in Appendix F1-30. Fifteen ground- and surface-water samples were collected