



RECEIVED
NOV 05 2001
WASHOE COUNTY
DEPT. OF WATER RESOURCES

News Release

U.S. Department of the Interior
U.S. Geological Survey

Address
Nevada District Office
333 West Nye Lane, Room 206
Carson City, Nevada 89706

Release: November 1, 2001 Contact: David L. Berger Phone: 775-887-7658 Fax: 775-887-7629

Study Describes Geology and Potential Ground-Water Resources of Two Valleys Near Reno, Nev.

A report by the U.S. Geological Survey (USGS), Department of the Interior, describes the hydrogeologic framework of Antelope Valley and Bedell Flat, two valleys about 15 miles north of the Reno–Sparks metropolitan area. The USGS study was done in cooperation with the Washoe County Department of Water Resources to assess potential supplies of ground water that could support the expansion of urban development to rural areas north of Reno.

USGS scientists used geophysical methods, including gravimetry and seismic refraction, to obtain information about structures below the land surface. Such information is useful for inferring the thickness and extent of aquifers in the area and to add to knowledge of regional ground-water flow. The study found the maximum thickness of sedimentary and volcanic deposits to be about 2,500 feet in Bedell Flat and probably less than 300 feet beneath Antelope Valley.

Throughout the study area, researchers used a device called a gravimeter to measure small changes in the Earth's gravitational field. These gravity anomalies can reveal the contrast in density between sedimentary deposits (known as basin fill) and the underlying basement rock. Data were compiled from 351 different gravity stations to provide information about the thickness of basin-fill deposits and the structure of the basement.

The USGS study also used seismic refraction, in which seismic waves are propagated through the ground and their velocity measured after they are refracted back to the surface. Because velocities increase when seismic waves encounter basin-fill deposits that are saturated with water, this method can be useful for determining the depth to the water table.

(MORE)

The 11-page report, titled "Hydrogeologic Framework of Antelope Valley and Bedell Flat, Washoe County, West-Central Nevada," by David L. Berger, David A. Ponce, and Wyn C. Ross, is U.S. Geological Survey Water-Resources Investigations Report 01-4220. It is available for inspection at the U.S. Geological Survey offices in Carson City (333 W. Nye Lane, Room 103), Las Vegas (6770 S. Paradise Road), and Elko (275 Third Street, Room 208). The report also may be inspected at the U.S. Geological Survey libraries in Menlo Park, Calif., Denver, Colo., and Reston, Va., and at the U.S. Geological Survey Earth Science Information Center in Menlo Park, Calif.

The report may be purchased at cost from the U.S. Geological Survey, Branch of Information Services, Box 25286, Denver, CO 80225-0286 (telephone 1-888-ASK-USGS). The price is \$4.00 per copy plus \$5.00 per order for shipping and handling. Request must specify report number WRIR 01-4220 and should include a check or money order payable to "Department of the Interior--USGS." In addition, the report is available on the Internet at <<http://pubs.water.usgs.gov/wri014220/>>

Additional information about this and other USGS studies of water resources in Nevada may be obtained by e-mail to <GS-W-NVpublic-info@usgs.gov> or by visiting the USGS home page at <<http://nevada.usgs.gov>>.

* * * USGS * * *

As the Nation's largest water, earth, and biological sciences and civilian mapping agency, the USGS works in cooperation with more than 2,000 organizations across the country to provide reliable, impartial scientific information to resource managers, planners, and other customers. This information is gathered in every State by USGS scientists to minimize the loss of life and property from natural disasters, to contribute to the conservation and the sound economic and physical development of the Nation's natural resources, and to enhance the quality of life by monitoring water, biological, energy, and mineral resources.

In-depth information about USGS programs may be found on the USGS home page at <<http://www.usgs.gov>>. To receive the latest USGS news releases automatically by e-mail, send a request to <listproc@listserver.usgs.gov>. Specify the listserver(s) of interest from the following names: water-pr; geologic-hazards-pr; biological-pr; mapping-pr; products-pr; lecture-pr. In the body of the message write: subscribe (name of listserver) (your name). Example: subscribe water-pr joe smith.

(Editors: Review copies of the report are available to the news media from the
USGS Public Information Assistant in Carson City; call 775-887-7649)

2368-00064