Hydrogeologic Data from Selected Wells and Test Holes In and Adjacent to the Nevada Test Site, Nye County, Nevada, Through 1986

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(Plate is in pocket at back of report)

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CONVERSION FACTORS AND ABBREVIATIONS

"Inch-pound" units of measure used in this report may be converted to metric (International System) by using the following factors:

Multiply	*By*	*To obtain*
Foot (ft)	0.3048	Meter (m)
Inch (in.)	25.40	Millimeter (mm)
Mile (mi)	1.609	Kilometer (km)

SEA LEVEL

In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929, formerly called "Sea-Level Datum of 1929"), which is derived from a general adjustment of the first-order leveling networks of both the United States and Canada.

HYDROGEOLOGIC DATA FROM SELECTED WELLS AND TEST HOLES IN AND ADJACENT TO THE NEVADA TEST SITE, NYE COUNTY, NEVADA, THROUGH 1986

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ABSTRACT

Hydrogeologic data collected from selected wells and test holes in the Nevada Test Site area show that the measured depth to water in the area ranged from 92 to 2,467 feet below land surface. The measured altitude of the ground-water surface ranged from 2,289 to 5,913 feet above sea level. Ground water in the Nevada Test Site area is present in three major types of rocks: Quaternary sediments, Tertiary volcanics, and Paleozoic sedimentary and minor intrusive rocks.

The hydrogeologic data were collected from wells and test holes ranging from 261 to 13,686 feet deep. The casing size ranged from 1.2-inch diameter in exploratory holes to 122-inch diameter in emplacement holes. Detailed geologic descriptions, selected borehole geophysical logs, aquifer-test data, and water-quality data for many of the wells and test holes can be obtained from published reports.

INTRODUCTION

An understanding of the ground-water hydrology in the area of the Nevada Test Site (NTS) is necessary for the safe and economical operation of the NTS facility. Since the early 1950's, the U.S. Geological Survey, in cooperation with the U.S. Atomic Energy Commission (now the U.S. Department of Energy), has studied the ground-water hydrology and the geology of the NTS area. Hydrogeologic data collected by the U.S. Geological Survey and other governmental agencies and private contractors are being compiled for input to a computerized data base. This report contains location, construction, water-level, and geologic data for selected wells and test holes in the NTS area. Users of this report will find summarized information listed in table 1. Detailed information can be obtained from published reports listed in the "References Cited" section.

Several data bases supported by national laboratories and the U.S. Geological Survey incorporate water level, geology, geophysical, geomechanical, and water-quality data for the NTS. Data included in this report are being stored in the Ground Water Site Inventory (GWSI) data base. This computerized data base is maintained by the U.S. Geological Survey as a national repository for ground-water information. The information stored in this data base has been screened carefully and may be retrieved in several different formats. The Nevada District Office of the U.S. Geological Survey, Water Resources Division, may be contacted for additional information regarding retrieval of these data.

Ground-water data presented in this report are limited to selected well and test-hole data collected within the boundaries of NTS, selected data from exploratory holes used by the Nevada Nuclear Waste Storage Investigation program (NNWSI), and data from several holes in other areas adjacent to the NTS. Well and test-hole locations are shown on plate 1.

A detailed description of the ground-water hydrology in the area of NTS is presented in Blankennagel and Weir (1973), Waddell (1982), Waddell and others (1984), and Winograd and Thordarson (1975).

DATA SOURCE

Computerized data bases, published and unpublished reports, and U.S. Geological Survey data files were used to compile the information on the 187 wells and test holes listed in this report. The unpublished reports and files are located in the U.S. Geological Survey offices in Mercury and Las Vegas, Nev., and Denver, Colo.

Locations of the wells and test holes were obtained from the Lawrence Livermore National Laboratory (LLNL) data base (Howard, 1976, 1983) and construction data were obtained from Fenix & Scisson, Inc., data files located in Mercury, Nev. Data for several test holes and wells drilled prior to 1960 were obtained from Thordarson and others (1967).

Water-level data were compiled from published reports, LLNL data base, and U.S. Geological Survey data files. The LLNL data base contains many water-level measurements that are not representative of the natural ground-water flow system. These nonrepresentative water levels, perhaps, resulted from the techniques used in the construction of the hole. Therefore, they reflect physical conditions in the hole at the time of the measurement, and may not represent the true static water levels in the surrounding rocks. These data have been screened to retain only representative static water levels; however, additional information could cause a reinterpretation of the static water level from field data. Any changes resulting from the reinterpretations will be entered into the GWSI data base.

The geologic data were obtained from published reports of the U.S. Geological Survey, Geologic Division, and from a U.S. Geological Survey geologic data base described by Williams (1986). Only the saturated portions of the hole are addressed in this report. The GWSI data base, however, contains geologic data for the entire hole.

ACKNOWLEDGMENTS

Substantial contributions, including field inventories of water wells and other hydrologic work, were made by consulting firms that were, at the time, under contract with the U.S. Department of Energy. These include: Holmes & Narver, Inc.; Fenix & Scisson, Inc.; and Birdwell, Inc. Data also were provided by Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratory. In addition, Evan C. Jenkins and Paul P. Orkild of the U.S. Geological Survey, Geologic Division, furnished geologic data from their files. The authors also are indebted to Jefferson D. Hanson and Glenn Jablin for assistance in preparing the reference list.

MAP INFORMATION

Plate 1 presents the well or test-hole location and the assigned index number. The NTS administrative areas are also outlined on the map. Water-level contour maps are available in reports by Blankennagel and Weir (1973), Doty and Thordarson (1983), Waddell and others (1984), and Winograd and Thordarson (1975).

TABLE EXPLANATION

Map Index Number

Each well and test hole has been assigned an index number for cross-referencing plate 1 and table 1. The hydrogeologic data listed in table 1 are grouped according to the administrative areas of the NTS. Wells and test-holes located outside the NTS boundary are listed at the end of table 1.

Well and Test-Hole Designation

Wells and test holes are assigned a designation according to the type of hole drilled, area drilled in, and the sequence code for the consecutive order that the hole was drilled or redrilled. Emplacement holes begin with the letter "U," followed by the NTS area number and the sequence code letter. Sometimes the drilling of a hole is abandoned and a nearby location is used. The letter "S" is then added to the sequence designation to indicate a substitute hole. An example is "U19aS," which is an emplacement hole in area 19 with the sequence code "a" and an "S" to indicate that the original hole was abandoned but a substitute hole was completed. Exploratory holes follow the same designation procedure, but begin with "UE." Thus, "UE1a" is an exploratory hole in area 1 with a sequence code of "a."

Post-shot holes are designated to associate them with the appropriate emplacement hole. The emplacement-hole designation is used with the addition of "PS" and another sequence code for the post-shot holes associated with the particular emplacement hole. For example, "U20nPS1DDH" is a post-shot hole associated with the "U20n" emplacement hole, and has a sequence code of "1DDH." Holes instrumented for nuclear testing are designated to associate them with the appropriate emplacement hole. Thus, "U19ab-2" is the number-two instrumented hole associated with emplacement hole "U19ab."

Other holes are designated according to the associated projects. "RNM-1" is a hole used for radionuclide migration studies. "Pahute Mesa No. 2" is a hole drilled for exploration purposes on Pahute Mesa.

Wells are designated as either test wells or water wells. "Well C-1" is a water well in area 6. Test wells and test holes have been drilled for exploration purposes and are designated appropriately. Holes drilled southwest of NTS in support of NNWSI objectives are prefixed with a "USW."

Latitude and Longitude

The latitude and longitude of the wells and test holes are given in degrees, minutes, and seconds. Rounding procedures used for presentation of latitude and longitude reduce the accuracy to ±1 second. The well and test-hole locations are surveyed to a greater degree of accuracy than can be recorded with latitude and longitude coordinates. Accurate locations of up to 1 foot, based on the Nevada coordinate system, can be found in Fenix & Scisson, Inc., data files.

Construction Data

The construction data listed in table 1 include the date the well or test hole was completed, depth drilled, and diameter and depth of casing. The diameter of the casing refers to the inside diameter for emplacement holes, and the outside diameter for all others. The completion date is in month and year. The depth drilled and casing depth are in feet below land surface.

Casing in the emplacement holes may have diameters of up to 122 inches. Casing in wells and exploratory holes diameters generally range from 2.9 to 20 inches. The deepest hole drilled, "UE20f," is 13,686 feet below land surface. The deepest casing has been set to 7,543 feet below land surface in "Pahute Mesa No. 1."

Land-Surface Altitude

The surveyed land-surface altitude for each well or test hole is reported to the nearest foot. Land-surface altitudes for wells and test holes range from 3,081 to 7,573 feet above sea level. Holes "U12e03-1" and "U12eM1" were drilled in a tunnel complex. The land-surface altitude for these two holes is the altitude of the tunnel floor.

Ground-Water Level Data

The ground-water level data contained in this report are depth to water, date measured, water-surface altitude, and source of the measurement. The depth to water is the distance to water, in feet, measured below the land surface. For holes used as production wells, measurements were taken after the well had been shut off for a period of time. All water-level measurements are rounded to the nearest foot. In wells tapping more than one aquifer, the water level listed is considered to be a composite of the static level of each aquifer penetrated.

For water-levels with the source designated as "USGS," the measurements were obtained by a steel tape or iron horse. Garber and Koopman (1968) and Weir and Nelson (1976) describe the field measurement techniques used. Water-level measurements with the source designated as "BFDL" were obtained from fluid density logs taken by Birdwell, Inc., as reported in the LLNL data base. Water-level measurements with the source designated as "BWL" were obtained by means of water locater tools by Birdwell, Inc., as reported in the LLNL data base. Water levels for "UE5j," "UE5k," and "UE5m" did not have an identifiable source, but are contained in the LLNL data base.

Depth-to-water measurements ranged from 92 to 2,467 feet below land surface. Water-surface altitudes ranged from 2,289 to 5,913 feet above sea level. The water-level measurement dates range from 1959 to 1986. Some wells have more than one depth-to-water measurement, but no measurements since 1986 are reported in table 1.

Water-level values marked with ">" are from wells and test holes where the water-level measurements were not representative of static conditions because mud or water used during the drilling process was still present in the hole at the time of the measurement. Time constraints of the drilling program did not allow fluid levels to stabilize.

Lithology and Geologic Unit Code

The lithology of the saturated portion of the hole was taken from published material and U.S. Geological Survey data files. Abbreviations used in table 1 are standard GWSI terminology. The three major types of saturated material found at NTS are Quaternary sediments, Tertiary volcanics, and Paleozoic sedimentary rocks. Minor intrusive rocks also occur in several parts of NTS and are saturated at depth. During the drilling of "UE20f" on Pahute Mesa, more than 13,000 feet of Tertiary volcanic rocks were penetrated.

Geologic unit codes, used in GWSI, are listed for each hole. For many of the holes completed in the Tertiary volcanics, either detailed stratigraphic information is unavailable or geologic unit codes have not been assigned for particular units. These holes use the overall geologic unit code "120VLCC" which stands for Tertiary volcanic rocks. Stratigraphic data for some of the holes finished in the Paleozoic sedimentary carbonates do not differentiate between the different units. The geologic unit code for these holes is "300CRBN." Detailed information on the thickness of individual geologic units can be found in the referenced reports.

Reference list

References listed in table 1 include selected published U.S. Geological Survey reports that contain comprehensive information on well construction, geologic formations penetrated, well-pumping tests, geophysical logs, water-quality analyses, and other related hydrogeologic data. Most of the formation-property logs (including caliper, resistivity, density, velocity, and magnetometer logs) are stored routinely in the Geophysical Data System, maintained by the Lawrence Livermore National Laboratory.

REFERENCES CITED

1. Benson, L.V., Robison, J.H., Blankennagel, R.K., and Ogard, A.E., 1983, Chemical composition of ground water and the locations of permeable zones in the Yucca Mountain Area, Nevada: U.S. Geological Survey Open-File Report 83-854, 19 p.

2. Bentley, C.B., 1984, Geohydrologic data for Test Well USW G-4 Yucca Mountain area, Nye County, Nevada: U.S. Geological Survey Open-File Report 84-063, 48 p.

3. Bentley, C.B., Robison, J.H., and Spengler, R.W., 1983, Geohydrologic data for Test Well USW H-5, Yucca Mountain area, Nye County, Nevada: U.S. Geological Survey Open-File Report 83-853, 34 p.

4. Blankennagel, R.K., 1967, Hydraulic testing techniques of deep drill holes at Pahute Mesa, Nevada Test Site: U.S. Geological Survey Open-File Report, 50 p.

5. Blankennagel, R.K., and Weir, J.E., Jr., 1973, Geohydrology of the eastern part of Pahute Mesa, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Professional Paper 712-B, 35 p.

6. Byers, F.M., Jr., and Hawkins, W.L., 1981, Geology of drill hole UE18t and area 18, Timber Mountain caldera moat, Nevada Test Site, *with a section on* Geophysical logging by D.C. Muller: U.S. Geological Survey Report USGS-474-312, 69 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

7. Carr, W.J., Byers, F.M., Jr., and Jenkins, E.C., 1981, Geology of drill hole UE18r, Timber Mountain Caldera, Nevada Test Site: U.S. Geological Survey Report USGS-474-313, 23 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

8. Claassen, H.C., 1973, Water quality and physical characteristics of Nevada Test Site water-supply wells: U.S. Geological Survey Report USGS-474-158, 145 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

9. Craig, R.W., and Johnson, K.A., 1984, Geohydrologic data for Test Well UE-25p#1, Yucca Mountain area, Nye County, Nevada: U.S. Geological Survey Open-File Report 84-450, 63 p.

10. Craig, R.W., Reed, R.L., and Spengler, R.W., 1983, Geohydrologic data for Test Well USW H-6 Yucca Mountain area, Nye County, Nevada: U.S. Geological Survey Open-File Report 83-856, 35 p.

11. Craig, R.W., and Robison, J.H., 1984, Geohydrology of rocks penetrated by Test Well UE-25p#1 Yucca Mountain Area, Nye County, Nevada: U.S. Geological Survey Water-Resources Investigations Report 84-4248, 57 p.

12. Dinwiddie, G.A., and Weir, J.E., Jr., 1979, Summary of hydraulic tests and hydrologic data for holes UE16d and UE16f, Syncline Ridge area, Nevada Test Site: U.S. Geological Survey Report USGS-1543-3, 25 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

13. Dixon, G.L., Quinlivan, W.D., Ray, J.M., and Ohl, J.P., 1975, Supplementary lithologic logs and stratigraphic identifications for exploratory and emplacement drill holes in areas 3, 4, and 7, Nevada Test Site: U.S. Geological Survey Report USGS-474-211, 87 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

14. Doty, G.C., and Thordarson, William, 1983, Water table in rocks of Cenozoic and Paleozoic age, 1980, Yucca Flat, Nevada Test Site, Nevada: U.S. Geological Survey Water-Resources Investigations Report 83-4067, 1 sheet.

15. Ellis, W.L., and Swolfs, H.S., 1983, Preliminary assessment of *in-situ* geomechanical characteristics in drill hole USW G-1, Yucca Mountain, Nevada: U.S. Geological Survey Open-File Report 83-401, 18 p.

16. Garber, M.S., 1971, Hydraulic-test and quality-of-water data from hole U-3cn PS#2, Bilby Site, Nevada Test Site: U.S. Geological Survey Report USGS-474-105, 81 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

17. Garber, M.S., and Koopman, F.C., 1968, Methods of measuring water levels in deep wells: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 8, Chapter A1, 23 p.

18. Garber, M.S., and Thordarson, William, 1962, Ground water Test Well C, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report TEI-818, 79 p.

19. Gonzalez, D.D., Warren, C.T., and Washington, C.L., 1973, Water levels and spring discharges for selected wells and springs in Nevada, 1966-69: U.S. Geological Survey Report USGS-474-171, 69 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

20. Hood, J.W., 1964, Water wells in Frenchman and Yucca Valleys, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report TEI-788, 59 p.

21. Hoover, D.L., 1972, Geology of the U12e.06 UG-1 drill hole, area 12, Nevada Test Site: U.S. Geological Survey Open-File Report 12-31, 17 p.

22. Houser, F.N., and Poole, F.G., 1959a, "Granite" exploration hole, area 15, Nevada Test Site, Nye County, Nevada--Interim Report, Part A, structural, petrographic, and chemical data: U.S. Geological Survey Open-File Report USGS-TEM-836, 58 p.

23. -----1959b, Lithilogic log and drilling information for the Marble Exploration Hole 3, U15 Area, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report TEM-1031, 22 p.

24. Howard, N.W., 1976, The Lawrence Livermore Laboratory nuclear test effects and geologic data bank: Lawrence Livermore National Laboratory, Preprint UCRL-78799, 20 p.

25. -----1983, LLNL containment program nuclear test effects and geologic data base--glossary and parameter definitions: Lawrence Livermore National Laboratory, UCID-18300, part 1, revision 1, 88 p.

26. Izett, G.A., 1960, "Granite" exploration hole, area 15, Nevada Test Site, Nye County, Nevada--Interim Report, Part C, physical properties: U.S. Geological Survey Open-File Report USGS-TEM-836-C, 37 p.

27. Jenkins, C.E., 1969, Summary geologic report on the UE20p exploratory hole, area 20, Pahute Mesa, Nevada Test Site: U.S. Geological Survey Report USGS-474-15, 20 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

28. -----1970, Revised lithologic log of Pahute Mesa Exploratory Drill Hole No. 1, Nevada Test Site: U.S. Geological Survey Report USGS-474-96, 8 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

29. Lahoud, R.G., Lobmeyer, D.H., and Whitfield, M.S., Jr., 1984, Geohydrology of volcanic tuff penetrated by Test Well UE-25b#1, Yucca Mountain, Nye County, Nevada: U.S. Geological Survey Water-Resources Investigations 84-4253, 44 p.

30. Lobmeyer, D.H., Whitfield, M.S., Lahoud, R.R., and Bruckheimer, Laura, 1983, Geohydrologic data for Test Well UE-25b#1 Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report 83-855, 48 p.

31. Maldonado, Florian, and Koether, S.L., 1983, Stratigraphy, structure, and some petrographic features of tertiary volcanic rocks at the USW G-2 drill hole, Yucca Mountain, Nye County, Nevada: U.S. Geological Survey Open-File Report 83-732, 83 p.

32. McKeown, F.A., and Wilmarth, V.R., 1959, Geology of the Marble Exploration Hole 4, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report TEM-1036, 26 p.

33. Moore, J.E., 1962, Selected logs and drilling records of wells and test holes drilled at the Nevada Test Site prior to 1960: U.S. Geological Survey Open-File Report TEI-804, 54 p.

34. Moore, J.E., Doyle, A.C., Walker, G.E., and Young, R.A., 1963, Ground water Test Well 2, Nevada Test Site, Nye County, Nevada, *with a section on* Geophysical logs by R.D. Carroll: U.S. Geological Survey Open-File Report TEI-836, 73 p.

35. Moore, J.E., and Garber, M.S., 1962, Ground water Test Well B, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report TEI-808, 39 p.

36. Orkild, P.P., 1969, Summary geologic report on the U20m emplacement hole, Pahute Mesa, Nevada Test Site: U.S. Geological Survey Report USGS-474-7, 10 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

37. Orkild, P.P., and Jenkins, E.C., 1970, Report of exploration progress, Pahute Mesa January 31, 1968 - October 1, 1969: U.S. Geological Survey Report USGS-474-70, 82 p. Available only from National Technical Service, U.S. Department of Commerce, Springfield, VA 22161.

38. Price, C.E., 1959, "Granite" exploration hole, area 15, Nevada Test Site, Nye County, Nevada--Interim Report, Part B, hydrologic data: U.S. Geological Survey Open-File Report TEM-836-B, 20 p.

39. Price, C.E., and Thordarson, William, 1961, Ground water Test Well A, Nevada Test Site, Nye County, Nevada--a summary of lithologic data, aquifer tests and construction: U.S. Geological Survey Open-File Report TEI-800, 59 p.

40. Quinlivan, W.D., Ohl, J.P., and Blackmon, P.D., 1977, Lithologic logs of selected exploratory and emplacement drill holes in areas 2 and 8, Nevada Test Site: U.S. Geological Survey Report USGS-474-227, 80 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

41. Schoff, S.L., and Moore, J.E., 1964, Chemistry and movement of ground water, Nevada Test Site: U.S. Geological Survey Open-File Report TEI-838, 66 p.

42. Spengler, R.W., Beyers, F.M., Jr., and Warner, J.B., 1981, Stratigraphy and structure of volcanic rocks in drill hole USW-G1, Yucca Mountain, Nye County, Nevada: U.S. Geological Survey Open-File Report 81-1349, 50 p.

43. Thordarson, William, 1965, Perched ground water in zeolitized-bedded tuff, Rainer Mesa and vicinity, Nevada Test Site, Nevada: U.S. Geological Survey Open-File Report TEI-862, 90 p.

44. -----1983, Geohydrologic data and test results from Well J-13, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Water-Resources Investigations Report 83-4171, 57 p.

45. Thordarson, William, Garber, M.S., and Walker, G.E., 1962, Ground water Test Well D, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report TEI-803, 58 p.

46. Thordarson, William, Rush, F.E., Spengler, R.W., and Waddell, S.J., 1984, Geohydrologic and drill-hole data for Test Well USW H-3, Yucca Mountain, Nye County, Nevada: U.S. Geological Survey Open-File Report 84-149, 28 p.

47. Thordarson, William, Rush, F.E., and Waddell, S.J., 1985, Geohydrology of test well USW H-3, Yucca Mountain, Nye County, Nevada: U.S. Geological Survey Water-Resources Investigations Report 84-4272, 38 p.

48. Thordarson, William, Young, R.A., and Winograd, I.J., 1967, Records of wells and test holes in the Nevada Test Site and vicinity (through December 1966): U.S. Geological Survey Open-File Report TEI-872, 26 p.

49. U.S. Geological Survey, 1971, Geologic and hydrologic effects evaluation and safety program, Bahia (U20p) event: U.S. Geological Survey Report USGS-474-126, 28 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

50. -----1973, Geologic and hydrologic effects prediction and effects program, Almendro (U19v) event, Pahute Mesa, Nevada Test Site: U.S. Geological Survey Report USGS-474-163, 38 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

51. Waddell, R.K., 1982, Two-dimensional, steady-state model of groundwater flow, Nevada Test Site and vicinity, Nevada-California: U.S. Geological Survey Water-Resources Investigations Report 82-4085, 72 p.

52. -----1985, Hydrologic and drill-hole data for test wells UE-29a#1 and UE-29a#2, Fortymile Canyon, Nevada Test Site: U.S. Geological Survey Open-File Report 84-142, 25 p.

53. Waddell, R.K., Robison, J.H., and Blankennagel, R.K., 1984, Hydrology of Yucca Mountain and vicinity, Nevada-California--investigative results through mid-1983: U.S. Geological Survey Water-Resources Investigations Report 84-4267, 72 p.

54. Walker, G.E., 1962, Ground water in the Climax Stock, Nevada Test Site, Nye County: U.S. Geological Survey Open-File Report TEI-813, 48 p.

55. Weir, J.E., Jr., and Hodson, J.N., 1979, Geohydrology of Hole UE-17a, Syncline Ridge area, Nevada Test Site: U.S. Geological Survey report USGS-1543-4, 18 p.

56. Weir, J.E., Jr., and Meyer, G.L., 1970, Geohydrology of the U20f emplacement chamber, Pahute Mesa, Nevada Test Site, *with a section on* Geology by D.L. Hoover: U.S. Geological Survey Report USGS-474-60, 25 p. Available only from National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

57. Weir, J.E., Jr., and Nelson, J.W., 1976, Operation and maintenance of a deep-well water-level measurement device, the "iron horse": U.S. Geological Survey Water-Resources Investigations Report 76-27, 28 p.

58. Whitfield, M.S., Jr., Eshom, E.P., Thordarson, William, and Schaefer, D.H., 1985, Geohydrology of rocks penetrated by test well USW H-4, Yucca Mountain, Nye County, Nevada: U.S. Geological Survey Water-Resources Investigations Report 85-4030, 33 p.

59. Whitfield, M.S., Thordarson, William, and Eshom, E.P., 1984, Geohydrologic and drill-hole data for Test Well USW H-4, Yucca Mountain, Nye County, Nevada: U.S. Geological Survey Open-File Report 84-449, 39 p.

60. Williams, V.S., 1986, Computer generation of geologic cross sections and derivative maps, Nevada Test Site: Third Symposium on the Containment of Underground Nuclear Explosions, Idaho Falls, Idaho, September 1985, Proceedings, v. 2, p. 85-98

61. Wilmarth, V.R., Healey, D.L., Clebsch, Alfred, Jr., Winograd, I.J., Zietz, Isidore, and Oliver, H.W., 1959, A summary interpretation of geologic, hydrologic, and geophysical data for Yucca Valley, Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report TEI-358, 53 p.

62. Winograd, I.J., and Thordarson, William, 1975, Hydrogeologic and hydrochemical framework, south-central Great Basin, Nevada-California, with special reference to the Nevada Test Site: U.S. Geological Survey Professional Paper 712-C, 126 p.

BASIC DATA

TABLE 1.--*Hydrogeologic data for selected wells and test holes*

["--," no information available.]

Map index number: Wells and test holes listed herein are numbered sequentially (from 1 to 187) for ease of identification on plate 1. Holes 73 and 80 are listed with area-10 holes because of their area-10 designations, but the holes are located in area 8; likewise with hole 78, which is located in area 15. Similarly, hole 88 is listed in the area-14 grouped but is located in area 6.
Water level--source: BFDL, from logs by Birdwell, Inc.; LLNL, from Lawrence Livermore National Laboratory data base; USGS, measured by U.S. Geological Survey personnel. See section titled "Ground-Water Level Data" in text.
Lithology code: ALVM, alluvium; ARGL, argillite; BSLT, basalt; CLVM, colluvium; DLMT, dolomite; GRNT, granite; LMDM, limestone and dolomite; LMSN, limestone; MDSN, mudstone; MRBL, marble; QRTZ, quartzite; RYLT, rhyolite; SDMN, sedimentary (undifferentiated); SLSN, siltstone; TUFF, tuff; and VLCC, volcanic (undifferentiated).
Geologic unit code: 111CLVM, colluvium; 112ALVM, alluvium, older; 120GRNC, granitic rocks; 120VLCC, volcanic rocks; 121AMTK, Ammonia Tanks member; 121RRMS, Rainier Mesa member; 122AR20, tuffs and rhyolites of Area 20; 122BDRG, Belted Range Tuff; 122CRFL, tuff of crater flat; 122DDHF, lava and tuff of Deadhorse Flat; 122GRSC, Grouse Canyon member; 122IDTL, Indian Trail Formation; 122PBRS, Paintbrush Tuff; 122QRDM, Quartet Dome Rhyolite; 122TBSP, Tub Springs member; 122TPPS, Topopah Spring member; 122TVCN, Tiva Canyon member; 122WHMN, Wahmonie Formation; 200GRNC, granitic rocks; 300CCSM, clastic sedimentary rocks; 300CRBN, carbonate rocks; 327ELEN, Eleana Formation; 350LNMN, Lone Mountain Dolomite; 350SLRN, Silurian system; 354RBRM, Roberts Mountain Formation; 360ALPV, Antelope Valley Limestone; 361EURK, Eureka Quartzite; 364PGNP, Pogonip group; 370CMBR, Cambrian system; 371BZKG, Bonanza King Formation; 374CRRR, Carrana Formation; 400PCMB, Precambrian rocks.
References: Numbers refer to list in text (see "References Cited").

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 1										
1	UE1a	37 02 54 116 07 06	2-64	957	10.8	78	4,303	543	3-05-85	3,760	USGS	CLVM MDSN SLSN	111CLVM 327ELEN 327ELEN	--	--	--	--
2	UE1b	37 02 54 116 06 42	2-64	1,254	10.8	76	4,273	645	3-13-85	3,628	USGS	TUFF ARGL	120VLCC 327ELEN	--	--	--	--
3	UE1c	37 02 53 116 05 52	2-64	1,880	10.8	74	4,206	1,297	3-13-85	2,909	USGS	TUFF TUFF TUFF DLMT	122PBRS 122GRSC 122IDTL 364PGNP				
4	UE1d	37 03 01 116 06 53	3-64	857	10.8	79	4,296	536	4-16-64	3,760	USGS	TUFF LMSN QRTZ	120VLCC 361EURK 361EURK	--	--	--	--
5	UE1f	37 02 46 116 06 49	3-64	703	10.8	59	4,277	628	4-16-64	3,649	USGS	SLSN	327ELEN	--	--	--	--
6	UE1h	37 00 05 116 04 03	7-68	3,358	9.6	2,134	3,995	1,559	6-16-82	2,436	BFDL	DLMT	300CRBN	--	--	--	--
7	UE1k	37 02 18 116 03 31	8-69	2,338	13.4	110	4,051	1,604	1-21-73	2,447	USGS	ALVM TUFF	112ALVM 121RRMS	--	--	--	--
8	UE1l	37 02 54 116 08 20	8-72	5,339	13.4	716	4,454	518	7-08-86	3,936	USGS	ARGL	327ELEN	--	--	--	--
9	UE1r	37 01 42 116 03 33	1-84	4,182	13.4	2,319	4,042	1,626	1-28-84	2,416	BFDL	TUFF TUFF TUFF LMDM	121RRMS 122PBRS 122IDTL 300CRBN	--	--	--	--

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 2										
10	U2v	37 07 37 116 03 59	4-66	2,530	48.0	2,456	4,256	1,826	--	2,430	--	TUFF TUFF	121RRMS 122PBRS	--	--	--	--
11	UE2aa	37 09 09 116 04 19	8-77	2,317	13.4	77	4,348	1,918	11-16-76	2,430	USGS	TUFF LMDM	122BDRG 300CRBN	--	--	--	--
12	U2ar	37 07 26 116 04 03	7-69	2,300	48.0	2,036	4,239	1,785	--	2,454	--	ALVM TUFF	112ALVM 121RRMS	--	--	--	--
13	UE2ar	37 07 26 116 04 03	10-76	2,351	13.4	80	4,241	1,791	7-07-75	2,450	BFDL	ALVM TUFF TUFF	112ALVM 121AMTK 121RRMS	--	--	--	--
14	UE2aw	37 07 58 116 04 06	8-74	2,328	13.4	76	4,272	1,818	2-20-74	2,454	LLNL	TUFF TUFF	121RRMS 120VLCC	--	--	--	--
15	UE2ax-2	37 09 10 116 04 59	1-73	2,450	13.4	72	4,396	1,968	2-23-73	2,428	BFDL	ALVM TUFF TUFF TUFF	112ALVM 122PBRS 122GRSG 122BDRG	--	--	--	--
16	U2bs	37 07 23 116 03 31	1-73	2,000	98.0	78	4,226	1,723	7-27-72	2,503	USGS	TUFF	120VLCC	--	--	--	--
17	UE2ce	37 08 31 116 08 07	1-77	1,650	8.6	1,624	4,764	1,470	3-07-85	3,294	USGS	LMDM	300CRBN	--	--	--	--
18	UE2dj	37 08 23 116 05 00	5-72	2,350	20.0	77	4,341	1,894	8-06-71	2,447	BFDL	ALVM TUFF	112ALVM 121RRMS	--	--	--	--
19	U2dr	37 08 02 116 05 03	12-74	2,020	88.0	117	4,313	1,857	5-21-74	2,456	BFDL	ALVM	112ALVM	--	--	--	--
20	U2eh	37 09 00 116 04 56	2-77	2,250	98.0	112	4,368	1,898	12-19-74	2,470	BFDL	ALVM TUFF TUFF	112ALVM 122PBRS 122GRSC	--	--	--	--
21	U2ei	37 09 04 116 04 03	5-77	2,100	98.0	117	4,327	1,898	4-16-77	2,429	BFDL	TUFF	120VLCC	--	--	--	--
22	U2ex	37 08 26 116 04 19	11-82	2,009	98.0	117	4,311	1,840	8-02-83	2,471	BFDL	TUFF	121RRMS	--	--	--	--
23	Water Well 2	37 09 58 116 05 15	3-62	2,045	11.8	1,465	4,470	1,915	3-28-61	2,555	USGS	TUFF	122IDTL	34	34	8, 34, 41, 48, 62	8, 34, 41, 62
							AREA 3										
24	U3an-3	37 03 54 116 02 14	1-65	3,555	10.8	3,262	4,061	1,685	12-01-63	2,376	USGS	LMDM	300CRBN	--	--	--	--
25	U3cn-1	37 03 38 116 01 18	6-63	2,460	10.8	2,000	4,074	1,670	6-14-63	2,404	USGS	TUFF	120VLCC	--	--	--	--
26	U3cnPS-2	37 03 38 116 01 19	10-63	2,603	4.5	2,599	3,994	1,550	9-16-77	2,444	BFDL	TUFF	120VLCC	--	--	16	16
27	U3cn-4	37 03 55 116 01 30	4-77	2,295	10.8	2,020	4,084	1,680	9-06-63	2,404	USGS	TUFF	120VLCC	--	--	--	--
28	U3cn-5	37 03 34 116 01 21	2-66	3,030	6.6	2,832	4,012	1,626	3-11-85	2,386	USGS	LMDM	300CRBN	--	--	62	--

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 3 (Continued)										
29	U3jg	37 00 17 116 01 42	7-72	1,650	66.0	118	3,962	1,550	9-09-72	2,412	USGS	ALVM	112ALVM	--	--	--	--
30	U3jn-1	37 03 26 116 02 11	7-71	2,000	13.4	1,354	4,046	1,648	7-02-71	2,398	USGS	TUFF	120VLCC	--	--	--	--
31	U3jq-1	37 03 53 116 00 06	5-72	2,224	24.0	118	4,175	1,713	2-03-72	2,462	USGS	TUFF LMDM	122GRSC 300CRBN	--	--	--	--
32	U3ks	37 00 53 116 00 29	6-77	1,615	54.0	117	3,966	1,549	10-07-77	2,417	BFDL	TUFF	122PBRS	--	--	--	--
33	Test Well 7	37 03 53 116 02 02	-54	2,272	12.0	2,251	4,066	1,614	6-30-86	2,452	USGS	TUFF	120VLCC	61	--	61	--
34	Well A	37 02 13 116 02 11	9-60	1,870	10.8	1,870	4,006	1,614	4-10-69	2,392	USGS	ALVM	112ALVM	39	--	8, 39, 41, 62	8, 39
35	HTH "E"	37 03 21 115 59 42	4-62	2,620	10.8	1,970	4,172	1,716	11-30-60	2,456	USGS	TUFF DLMT	120VLCC 300CRBN	--	--	--	62
							AREA 4										
36	UE4a	37 06 01 116 03 01	3-67	3,028	8.6	2,886	4,155	1,740	11-18-61	2,415	USGS	TUFF DLMT	122IDTL 300CRBN	--	--	--	--
37	UE4aa	37 05 43 116 05 41	2-73	1,220	13.4	76	4,254	>1,155	3-20-73	<3,099	USGS	--	--	--	--	--	--
38	UE4ab	37 06 08 116 04 31	6-82	2,650	16.0	71	4,201	1,626	1-13-80	2,575	USGS	TUFF TUFF LMDM	122GRSC 122IDTL 300CRBN	13	--	--	--
39	UE4ae	37 04 34 116 04 07	11-81	2,457	13.4	75	4,130	1,625	6-23-81	2,505	LLNL	TUFF TUFF TUFF TUFF LMDM	121RRMS 122PBRS 122GRSC 122IDTL 300CRBN	13	--	--	--
40	UE4ah	37 05 01 116 04 13	5-78	2,851	13.4	79	4,142	1,644	11-20-78	2,498	BFDL	TUFF TUFF TUFF TUFF TUFF LMDM	121AMTK 121RRMS 122PBRS 122GRSC 122IDTL 300CRBN	--	--	--	--
41	U4ak	37 04 35 116 04 07	5-81	1,630	98.0	117	4,131	1,615	7-10-81	2,516	BFDL	TUFF	121RRMS	--	--	--	--
42	Test Well D	37 04 28 116 04 30	-61	1,950	10.8	1,900	4,150	1,724	3-26-85	2,426	USGS	LMDM	327ELEN	45	45	45	45, 62
							AREA 5										
43	UE5c	36 50 11 115 58 47	11-64	2,682	13.4	1,682	3,216	807	1-18-73	2,409	USGS	RYLT	122WHMN	--	--	--	--
44	UE5f	36 52 13 115 56 44	6-65	1,100	20.0	83	3,301	890	6-15-65	2,411	USGS	ALVM	112ALVM	--	--	--	--
45	UE5j	36 52 39 116 02 09	3-66	1,242	24.0	74	3,578	796	3-29-66	2,782	LLNL	ALVM TUFF	112ALVM 121AMTK	--	--	--	--

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 5 (Continued)										
46	UE5k	36 52 18 115 55 51	2-68	1,728	13.4	38	3,349	939	5-25-66	2,410	LLNL	ALVM TUFF	112ALVM 121AMTK	--	--	--	--
47	UE5m	36 45 39 116 02 43	4-66	1,504	20.0	88	3,500	518	4-26-66	2,982	LLNL	TUFF TUFF	122WHMN 120VLCC	--	--	--	--
48	UE5n	36 49 15 115 57 41	3-76	1,687	10.8	1,523	3,112	705	1-10-84	2,407	USGS	ALVM	112ALVM	--	--	--	--
49	RNM-1	36 49 28 115 58 01	5-74	1,302	5.5	1,259	3,136	789	7-08-77	2,347	USGS	ALVM	112ALVM	--	--	--	--
50	RNM-2	36 49 23 115 57 57	8-74	935	2.9	825	3,132	728	3-19-85	2,404	USGS	ALVM	112ALVM	--	--	--	--
51	RNM-2S	36 49 21 115 58 01	4-74	1,156	2.9	969	3,133	725	6-13-80	2,408	USGS	ALVM	112ALVM	--	--	--	--
53	Water Well 5A	36 46 35 115 57 29	3-51	910	10.0	877	3,093	709	1-16-80	2,384	USGS	ALVM	112ALVM	--	--	8, 20, 41	8, 41, 62
54	Water Well 5B	36 48 05 115 58 08	5-51	900	10.0	900	3,092	687	1-16-80	2,405	USGS	ALVM	112ALVM	--	--	8, 20, 41, 48, 62	8, 41, 62
55	Water Well 5C	36 47 20 115 57 49	-54	1,200	10.0	1,187	3,081	730	1-16-80	2,351	USGS	ALVM	112ALVM	--	--	8, 20, 41, 48, 62	8, 41, 62
							AREA 6										
56	UE6d	36 59 05 116 03 32	5-68	3,896	7.6	2,125	3,947	1,517	3-26-85	2,430	USGS	ALVM TUFF	112ALVM 120VLCC	--	--	--	--
57	UE6e	36 59 05 116 01 20	12-73	4,209	9.6	2,090	3,936	1,509	3-20-85	2,427	USGS	TUFF TUFF TUFF TUFF TUFF DLMT	122TPPS 122PBRS 122AR20 122IDTL 120VLCC 300CRBN	--	--	--	--
58	Test Well B	36 58 45 116 00 49	-61	1,675	10.8	1,675	3,929	1,504	3-09-85	2,425	USGS	TUFF	122TPPS	35, 61	--	35, 48, 61, 62	35, 41, 62
59	Water Well 4	36 54 18 116 01 26	11-81	1,479	13.4	1,438	3,602	830	2-24-83	2,772	USGS	TUFF TUFF TUFF TUFF TUFF	121RRMS 122PBRS 122TPPS 122PBRS 120VLCC	--	--	--	--
60	Well 3	36 59 43 116 03 29	-52	1,799	6.0	1,765	3,969	1,544	1-10-80	2,425	USGS	ALVM	112ALVM	--	--	8, 20, 41, 62	8, 41, 62
61	Water Well C	36 55 08 116 00 35	4-67	1,701	10.8	1,701	3,921	1,544	10-18-75	2,377	BFDL	LMSN	374CRRR	18	18	8, 18, 41, 62	8, 18, 41, 62
62	Water Well C-1	36 55 07 116 00 34	6-62	1,707	16.6	1,650	3,921	1,545	8-06-72	2,376	USGS	LMSN	374CRRR	--	--	8, 48, 62	8

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 7										
63	U7a	37 06 26 116 01 56	1-64	2,699	48.0	1,303	4,255	1,868	8-26-63	2,387	USGS	TUFF LMDM	122IDTL 300CRBN	--	--	--	--
64	UE7nS	37 05 56 116 00 09	7-76	2,205	7.6	2,199	4,367	1,968	4-01-86	2,399	USGS	LMDM	300CRBN	--	--	--	--
65	UE7aa	37 04 12 115 59 36	4-72	2,154	13.4	345	4,259	1,865	10-24-71	2,394	USGS	LMDM	360ALPV	--	--	--	--
66	U7ag	37 06 32 116 01 44	4-73	1,975	66.0	565	4,286	--	--	--	--	--	--	13	--	--	--
67	U7bd	37 04 54 116 00 32	6-78	2,000	88.0	117	4,223	1,749	6-21-78	2,474	BFDL	TUFF TUFF	120VLCC 122IDTL	--	--	--	--
							AREA 8										
68	UE8e	37 10 14 116 05 16	5-73	2,470	13.4	71	4,488	1,910	8-16-76	2,578	USGS	TUFF DLMT	120VLCC 300CRBN	40	--	--	--
69	U8j	37 10 48 116 05 20	3-83	2,000	98.0	117	4,556	1,867	9-19-84	2,689	BFDL	TUFF LMDM	120VLCC 300CRBN	--	--	--	--
70	U8n	37 10 31 116 05 30	7-84	1,893	122.0	117	4,542	1,772	9-10-84	2,770	BFDL	TUFF	120VLCC	--	--	--	--
							AREA 9										
71	U9ca-1	37 08 46 116 03 08	8-64	3,210	10.8	1,800	4,244	1,779	11-17-76	2,465	USGS	TUFF LMDM	120VLCC 300CRBN	--	--	--	--
72	U9ITS UES25	37 08 19 116 02 29	7-71	2,028	10.8	79	4,222	1,792	4-27-71	2,430	USGS	TUFF QRTZ	120VLCC 300CCSM	--	--	--	--
							AREA 10										
73	UE10j	37 11 08 116 04 53	5-65	2,380	20.0	55	4,574	2,163	6-15-65	2,411	USGS	LMDM	371BZKG	--	--	--	--
74	U10k-1	37 09 53 116 03 08	11-65	2,289	7.6	1,983	4,272	1,864	1-19-65	2,408	USGS	TUFF	120VLCC	--	--	--	--
75	U10l-1	37 09 17 116 02 37	4-64	2,208	10.8	1,375	4,264	1,857	1-14-80	2,407	USGS	TUFF LMDM	122IDTL 300CRBN	--	--	--	--
76	UE10aa	37 11 31 116 02 15	8-83	1,390	13.4	1,228	4,401	1,151	1-14-80	3,250	USGS	LMDM	300CRBN	--	--	--	--
77	UE10bf	37 11 23 116 02 52	4-78	2,266	13.4	76	4,387	1,875	1-14-80	2,512	USGS	TUFF TUFF LMDM	122TBSP 122IDTL 300CRBN	--	--	--	--
78	UE10ITS-1	37 11 54 116 02 46	11-72	2,300	9.6	2,011	4,486	1,221	7-14-86	3,265	USGS	TUFF TUFF GRNT	122TBSP 122IDTL 200GRNC	--	--	--	--
79	UE10ITS-3	37 11 09 116 02 47	11-72	1,926	10.8	1,867	4,353	1,850	3-19-85	2,503	USGS	TUFF TUFF	122TBSP 122IDTL	--	--	--	--
80	UE10ITS-5	37 11 55 116 03 14	4-84	2,350	9.6	2,150	4,522	1,987	5-13-77	2,535	BFDL	TUFF	122IDTL	--	--	--	--

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 11										
81	UE11a	36 52 59 115 57 16	10-82	1,400	10.8	599	3,547	1,147	9-04-82	2,400	BFDL	TUFF TUFF	121RRMS 120VLCC	--	--	--	--
82	UE11b	36 53 15 115 56 27	10-65	1,303	10.8	285	3,586	1,146	12-06-85	2,440	LLNL	TUFF	122PBRS	--	--	--	--
							AREA 12										
83	U12e03-1	37 11 22 116 12 22	-59	855	3.0	702	[a]6,150	>710	9-30-59	<5,440	USGS	--	--	--	--	--	--
84	U12e06-1	37 10 52 116 12 52	1-62	3,180	2.9	3,178	7,573	>2,930	5-23-62	<4,643	USGS	--	--	--	--	--	41
85	U12eM1	37 11 06 116 12 30	-60	1,501	3.4	854	[a]6,158	>1,485	2-25-60	<4,673	USGS	--	--	--	--	--	--
86	U12s	37 13 42 116 12 51	4-68	1,596	88.0	12	6,794	958	6-29-78	5,836	BFDL	GRNT	200GRNC	37	--	--	--
87	Hagestad 1	37 11 31 116 12 59	7-57	1,952	5.5	1,941	7,485	1,572	9-26-63	5,913	USGS	TUFF	122IDTL	43	--	43	--
							AREA 14										
88	UE14a	36 55 50 116 08 42	8-83	3,300	20.0	1,970	4,339	1,646	9-23-83	2,693	USGS	TUFF TUFF TUFF TUFF TUFF	121RRMS 120VLCC 122TVCN 120VLCC 122TPPS	--	--	--	--
89	UE14b	36 55 50 116 09 11	3-84	3,680	13.4	2,051	4,353	1,664	12-06-84	2,689	USGS	TUFF TUFF	121RRMS 120VLCC	--	--	--	--
							AREA 15										
90	U15a-31 (Granite Hole)	37 13 35 116 03 34	-59	1,200	3.6	1,090	5,112	187	0-0-62	4,925	USGS	GRNT	200GRNC	22, 26	22, 26	38, 54	26
91	UE15d Water Well	37 12 33 116 02 29	4-62	6,001	4.5	5,400	4,586	686	1-13-83	3,900	USGS	DLMT	400PCMB	--	--	8, 62	8, 41
92	Marble 1	37 13 40 116 03 52	5-59	378	3.8	15	5,210	336	9-22-59	4,874	USGS	LMSN	364PGNP	--	--	--	--
93	Marble 3	37 13 46 116 03 58	7-59	978	4.0	20	5,316	477	2-18-59	4,839	USGS	MRBL GRNT	364PGNP 200GRNC	23	--	48	41
94	Marble 4	37 14 00 116 04 11	8-59	1,187	8.0	7	5,490	>942	9-01-59	<4,548	USGS	--	--	--	--	--	--

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 16										
95	UE16d	37 04 12 116 09 51	3-81	3,000	7.0	2,117	4,684	753	3-04-81	3,931	BFDL	ARGL	327ELEN	12	12	12	12
96	UE16f	37 02 08 116 09 24	9-77	1,479	9.6	1,293	4,652	367	3-05-85	4,285	USGS	ARGL	327ELEN	12	12	12	12
							AREA 17										
97	UE17a	37 04 25 116 09 58	9-76	1,214	4.5	1,210	4,696	639	7-08-86	4,057	USGS	QRTZ ARGL	327ELEN 327ELEN	55	--	55	55
98	UE17c	37 06 16 116 09 08	7-76	586	1.2	538	4,835	511	11-22-76	4,324	USGS	--	--	--	--	--	--
99	Test Well 1	37 09 29 116 13 23	8-62	4,206	8.6	3,711	6,156	1,465	3-26-85	4,691	USGS	TUFF DLMT	120VLCC 300CRBN	43	--	43, 62	41, 62
							AREA 18										
100	UE18r	37 08 05 116 26 41	2-68	5,004	10.8	1,629	5,538	1,370	6-11-78	4,168	BFDL	TUFF TUFF RYLT TUFF	120VLCC 121AMTK 120VLCC 121RRMS	7, 37	--	5, 7	5
101	UE18t	37 07 41 116 19 45	10-78	2,600	2.4	1,896	5,201	915	3-26-85	4,286	USGS	TUFF	121RRMS	6	6	--	--
102	Water Well 8	37 09 56 116 17 21	1-63	5,499	11.8	2,041	5,695	1,076	2-17-82	4,619	USGS	TUFF	120VLCC	37	--	5, 8, 48	5, 8, 62
							AREA 19 (Continued)										
103	U19aS	37 16 30 116 22 12	1-65	3,584	48.0	3,356	6,761	2,192	7-27-64	4,569	USGS	TUFF RYLT	122AR20 122AR20	37	--	5	5
104	UE19b-1	37 18 52 116 17 57	5-66	4,500	13.4	2,190	6,802	2,117	1-13-65	4,685	USGS	RYLT TUFF RYLT TUFF	122QRDM 122QRDM 122DDHF 122DDHF	37	--	5	5
105	U19c	37 15 54 116 18 53	3-65	3,177	48.0	2,344	7,032	2,343	10-28-65	4,689	BFDL	TUFF RYLT TUFF	122PBRS 122DDHF 122DDHF	4, 37	4	4	4
106	UE19c	37 16 08 116 19 10	6-75	8,489	13.4	2,421	7,033	2,336	10-15-85	4,697	USGS	RYLT TUFF TUFF RYLT	122DDHF 122DDHF 122BDRG 122BDRG	37	--	5, 62	5
107	U19d-2	37 20 54 116 19 19	4-66	7,689	10.8	2,560	6,861	2,177	1-13-65	4,684	USGS	RYLT TUFF TUFF RYLT	122DDHF 122DDHF 122BDRG 122BDRG	37	--	--	5, 62
108	U19e	37 17 48 116 19 59	3-67	5,050	48.0	5,016	6,919	2,242	9-06-66	4,677	BFDL	TUFF RYLT RYLT TUFF	122AR20 122AR20 122DDHF 122DDHF	-- 37	--	5 5, 8	-- 5, 8, 62

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
AREA 19 (Continued)																	
109	UE19e	37 17 50 116 19 59	9-75	6,005	13.4	2,475	6,919	2,217	1-13-65	4,702	USGS	TUFF RYLT RYLT TUFF TUFF	122AR20 122AR20 122DDHF 122DDHF 122GRSC	--	--	--	--
110	UE19fS	37 13 29 116 22 03	10-75	6,950	13.4	2,565	6,735	2,305	8-17-65	4,430	USGS	TUFF TUFF RYLT TUFF RYLT TUFF	122PBRS 122AR20 122AR20 120VLCC 120VLCC 122TBSP	37	--	5	5
111	U19g	37 18 36 116 21 51	1-66	3,292	48.0	3,210	6,734	2,064	1-04-76	4,670	BFDL	TUFF TUFF RYLT RYLT TUFF	122PBRS 122AR20 122AR20 122DDHF 122DDHF	37	--	5	--
112	UE19gS	37 18 30 116 21 53	1-76	7,500	13.4	2,650	6,719	2,045	5-06-65	4,674	USGS	TUFF TUFF RYLT RYLT TUFF TUFF TUFF	122PBRS 122AR20 122AR20 122DDHF 122DDHF 122GRSC 122BDRG	37	--	5, 8	5, 8, 62
113	UE19h	37 20 34 116 22 25	8-65	3,705	13.4	2,321	6,780	2,112	8-09-65	4,668	USGS	RYLT TUFF RYLT TUFF RYLT	122DDHF 122DDHF 122AR20 122TBSP 120VLCC	37	--	5	--
114	UE19i	37 15 00 116 20 49	8-68	8,000	13.4	2,896	6,839	2,258	9-01-65	4,581	USGS	TUFF TUFF RYLT TUFF RYLT TUFF RYLT TUFF RYLT	120VLCC 122AR20 122AR20 120VLCC 120VLCC 122AR20 122AR20 120VLCC 120VLCC	37, 50	--	5, 50	5
115	U19yS	37 16 33 116 21 26	4-78	2,350	98.0	52	6,694	--	--	--	--	--	--	--	--	--	--
116	U19ab	37 15 12 116 19 31	3-81	2,250	66.0	58	6,928	2,024	2-11-81	4,904	BFDL	TUFF	120VLCC	--	--	--	--
117	U19ab-2	37 15 13 116 19 30	12-84	2,400	13.4	60	6,930	2,015	12-12-84	4,915	USGS	TUFF	120VLCC	--	--	--	--
118	U19ae	37 14 10 116 22 13	12-80	2,730	66.0	40	6,775	2,280	2-23-82	4,495	BFDL	TUFF RYLT	122AR20 122AR20	--	--	--	--

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 20 (Continued)										
119	U20a	37 14 34 116 25 51	9-65	2,540	36.0	2,511	6,520	2,161	2-13-64	4,359	USGS	TUFF RYLT	122AR20 122AR20	37	--	--	--
120	U20c	37 13 53 116 28 25	5-66	4,800	48.0	4,755	6,281	2,097	2-25-65	4,184	USGS	TUFF TUFF RYLT	122PBRS 122AR20 122AR20	--	--	--	--
121	UE20C	37 13 52 116 28 18	4-64	5,348	13.4	650	6,283	2,126	2-28-64	4,157	USGS	TUFF RYLT	122AR20 122AR20	37	--	--	--
122	UE20d	37 14 52 116 28 49	3-67	4,492	10.8	2,446	6,253	2,075	1-14-65	4,178	USGS	RYLT TUFF TUFF RYLT	120VLCC 122PBRS 122AR20 122AR20	37	--	5	5
123	U20e	37 18 51 116 27 38	2-69	3,853	108.0	12	6,316	1,853	2-07-69	4,463	BFDL	TUFF RYLT	122AR20 122AR20	37	--	--	--
124	UE20e-1	37 19 01 116 27 25	10-68	6,395	13.4	1,500	6,297	1,826	4-05-75	4,471	BFDL	TUFF RYLT TUFF TUFF RYLT	122AR20 122AR20 122BDRG 120VLCC 120VLCC	37	--	5, 48	5, 62
125	U20f	37 16 17 116 29 18	7-65	4,202	48.0	4,181	6,117	1,930	5-19-65	4,187	USGS	TUFF TUFF TUFF RYLT	120VLCC 122PBRS 122AR20 122AR20	37	--	5, 56	5
126	UE20f	37 16 17 116 29 17	4-64	[b]4,543	9.6	4,456	6,116	1,954	4-08-64	4,162	USGS	TUFF TUFF TUFF RYLT	120VLCC 122PBRS 122AR20 122AR20	4, 38	4	4, 5, 48, 56	4, 5, 62
127	U20g	37 18 07 116 24 30	11-66	4,200	48.0	4,181	6,470	2,017	10-30-64	4,453	USGS	TUFF RYLT	122AR20 122AR20	37	--	--	--
128	UE20h	37 16 19 116 26 02	2-66	7,207	13.4	2,518	6,557	2,116	8-28-64	4,441	USGS	TUFF RYLT	122AR20 122AR20	37	--	5, 48	5
129	U20i	37 17 44 116 27 21	12-67	4,705	48.0	3,835	6,370	1,904	8-30-67	4,466	USGS	TUFF RYLT	122AR20 122AR20	37	--	--	--
130	UE20j	37 18 01 116 32 03	12-69	5,690	13.4	1,740	5,903	1,270	10-23-64	4,633	USGS	TUFF TUFF RYLT	122BDRG 120VLCC 120VLCC	37	--	5, 48	5
131	U20m	37 18 02 116 32 03	3-69	4,100	48.0	4,036	5,903	--	--	--	--	--	--	36, 37	--	36	--
132	U20n PS1DDH	37 14 33 116 25 13	8-83	4,520	5.5	4,495	6,468	2,039	9-03-85	4,429	USGS	TUFF	120VLCC	--	--	--	--
133	UE20p	37 20 24 116 31 20	8-74	4,480	7.6	3,998	5,553	884	9-27-70	4,669	BFDL	TUFF TUFF TUFF TUFF RYLT	121RRMS 120VLCC 122GRSC 120VLCC 120VLCC	27, 37	--	27, 49	--

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 20 (Continued)										
134	U20y	37 13 15 116 28 27	3-75	2,602	98.0	52	6,257	2,067	2-18-75	4,190	BFDL	TUFF TUFF	120VLCC 122TPPS	--	--	--	--
135	U20aa	37 18 22 116 28 17	2-76	4,247	88.0	17	6,337	--	--	--	--	--	--	--	--	--	--
136	U20ac	37 14 54 116 25 21	10-79	2,220	98.0	56	6,473	--	--	--	--	--	--	--	--	--	--
137	U20ad	37 17 23 116 27 19	3-79	2,350	98.0	60	6,366	--	--	--	--	--	--	--	--	--	--
138	UE20ae	37 15 23 116 28 39	12-78	2,550	13.4	63	6,189	--	--	--	--	--	--	--	--	--	--
139	U20ag	37 13 28 116 27 46	7-80	2,200	98.0	60	6,234	--	--	--	--	--	--	--	--	--	--
140	U20ah	37 15 21 116 25 20	6-80	2,300	98.0	60	6,445	2,001	4-01-81	4,444	BFDL	RYLT	122AR20	--	--	--	--
141	U20ai	37 15 51 116 26 25	8-81	2,154	98.0	56	6,503	2,055	3-12-85	4,448	USGS	RYLT	122AR20	--	--	--	--
142	U20ak	37 14 52 116 29 21	3-82	2,100	98.0	58	6,235	2,038	11-30-84	4,197	USGS	RYLT	120VLCC	--	--	--	--
143	U20al	37 16 12 116 29 51	3-83	2,000	98.0	56	6,124	--	--	--	--	--	--	--	--	--	--
144	U20am	37 16 04 116 24 38	6-83	2,200	98.0	55	6,593	2,142	2-01-84	4,451	BFDL	RYLT	122AR20	--	--	--	--
145	U20an	37 17 50 116 26 27	11-83	2,026	98.0	60	6,462	1,991	3-12-85	4,471	USGS	RYLT	122AR20	--	--	--	--
146	U20ao	37 14 16 116 28 22	3-85	2,150	122.0	19	6,279	1,957	5-17-85	4,322	USGS	RYLT	120VLCC	--	--	--	--
147	U20as	37 13 13 116 27 42	4-86	2,100	98.0	69	6,227	2,013	6-06-86	4,214	USGS	VLCC	120VLCC	--	--	--	--
148	Pahute Mesa 1	37 16 49 116 24 21	5-64	7,858	10.8	7,543	6,558	2,099	1-04-81	4,459	BFDL	RYLT	120VLCC	28, 37	--	--	--
149	Pahute Mesa 2	37 20 42 116 34 05	10-64	8,782	9.6	5,499	5,586	852	3-13-85	4,734	USGS	RYLT TUFF RYLT GRNT	120VLCC 120VLCC 120VLCC 120GRNC	37	--	--	--
150	U20a-2 Water Well	37 14 34 116 25 16	1-76	4,500	8.6	2,369	6,474	2,066	2-11-65	4,408	USGS	TUFF RYLT	122AR20 122AR20	37	--	5, 8	5, 8, 62
151	U20 Water Well	37 15 05 116 25 45	9-82	3,268	13.4	3,199	6,468	2,034	7-25-85	4,434	USGS	TUFF RYLT	122AR20 122AR20	--	--	--	--
							AREA 22										
152	Army No. 1 Water Well	36 35 30 116 02 14	7-62	1,945	7.6	1,360	3,154	785	10-15-87	2,369	USGS	DLMT	300CRBN	33	--	8, 62	8, 41, 62

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 25										
153	UE25a-1	36 51 05 116 26 24	9-78	2,501	2.9	2,450	3,935	1,537	4-29-85	2,398	USGS	TUFF	120VLCC	--	--	--	--
154	UE25a-3	36 51 47 116 18 53	10-78	2,530	4.5	190	4,546	2,091	12-19-79	2,455	USGS	TUFF	120VLCC	--	--	--	--
155	UE25b-1	36 51 08 116 26 23	9-81	4,002	2.9	3,935	3,939	1,543	12-30-82	2,396	USGS	TUFF RYLT	120VLCC 120VLCC	29, 31	30	1, 29, 30	1, 30
156	UE25c-1	36 49 47 116 25 43	10-83	3,000	10.8	1,365	3,709	1,314	4-20-84	2,395	USGS	TUFF	120VLCC	--	--	--	--
157	UE25c-2	36 49 45 116 25 43	3-84	3,000	10.8	1,365	3,714	1,322	10-24-85	2,392	USGS	TUFF	120VLCC	--	--	--	--
158	UE25p-1	36 49 38 116 25 21	5-83	5,923	7.6	4,526	3,656	1,189	10-12-84	2,467	USGS	TUFF TUFF TUFF TUFF DLMT DLMT	122TPPS 120VLCC 122CRFL 120VLCC 350LNMN 354RBRM	9, 11	9	9, 11	9
159	UE25WT-3	36 47 57 116 24 58	5-83	1,142	2.9	1,125	3,379	985	3-22-85	2,394	USGS	TUFF	120VLCC	--	--	--	--
160	UE25WT-4	36 51 40 116 26 03	6-83	1,580	2.9	1,567	3,836	1,438	2-12-86	2,398	USGS	TUFF	120VLCC	--	--	--	--
161	UE25WT-6	36 53 40 116 26 46	6-83	1,256	2.9	1,221	4,314	921	2-13-86	3,393	USGS	TUFF	120VLCC	--	--	--	--
162	UE25WT-12	36 46 56 116 26 16	8-83	1,308	2.9	1,276	3,526	1,133	1-29-86	2,393	USGS	TUFF	120VLCC	--	--	--	--
163	UE25WT-13	36 49 45 116 23 50	7-83	1,160	2.9	1,136	3,388	998	2-12-85	2,391	USGS	TUFF	122TPPS	--	--	--	--
164	UE25WT-14	36 50 32 116 24 35	9-83	1,310	2.9	1,303	3,530	1,136	1-28-86	2,394	USGS	TUFF TUFF	122TPPS 120VLCC	--	--	--	--
165	UE25WT-15	36 51 16 116 23 38	11-83	1,360	2.9	1,335	3,554	1,162	2-13-86	2,392	USGS	TUFF	122TPPS	--	--	--	--
166	UE25WT-16	36 52 39 116 25 34	11-83	1,710	2.9	1,686	3,973	1,551	2-13-86	2,422	USGS	TUFF	120VLCC	--	--	--	--
167	UE25WT-17	36 48 22 116 26 26	10-83	1,453	2.9	1,376	3,688	1,294	2-12-86	2,394	USGS	TUFF	120VLCC	--	--	--	--
168	J11	36 47 06 116 17 06	-57	1,329	12.8	1,327	3,445	1,043	6-04-85	2,402	USGS	BSLT TUFF	120VLCC 120VLCC	33	--	19, 62	62
169	J12	36 45 54 116 23 24	-68	1,139	12.8	887	3,128	742	12-05-83	2,386	USGS	TUFF	122TPPS	33	--	1, 8, 62	1, 8
170	J13	36 48 29 116 23 40	1-63	3,488	5.5	3,385	3,318	929	10-31-83	2,289	USGS	TUFF TUFF	122TPPS 120VLCC	44	--	1, 8, 62	1, 8, 44, 62
							AREA 26										
171	Pluto 4	36 49 35 116 06 54	-62	261	4.5	51	4,152	110	7-21-62	4,042	USGS	VLCC	120VLCC	--	--	--	--
172	Pluto 6	36 49 20 116 06 42	-62	1,000	--	--	4,091	166	7-21-62	3,925	USGS	VLCC	120VLCC	--	--	--	--

TABLE 1.--*Hydrogeologic data for selected wells and test holes*--Continued

Map index number	Well- and test-hole designation	Latitude, longitude	Construction: Date completed (month-year)	Construction: Depth drilled (feet)	Construction: Diameter of casing (inches)	Construction: Depth of casing (feet)	Land surface altitude (feet)	Water level: Depth (feet)	Water level: Date measured	Water level: Water surface altitude (feet)	Water level: Source	Saturated zone: Lithology code	Saturated zone: Geologic unit code	References: Geology	References: Borehole geophysics	References: Aquifer characteristics	References: Water quality
							AREA 27										
173	Test Well F	36 45 34 116 06 59	6-62	3,400	8.6	3,150	4,143	1,734	1-14-86	2,409	USGS	LMDM	350SLRN	--	--	--	--
							AREA 29										
174	UE29a-2	36 56 29 116 22 26	12-81	1,383	1.6	1,172	3,987	92	10-10-85	3,895	USGS	TUFF	120VLCC	52	--	1, 52	1
							OUTSIDE OF NTS BOUNDARY										
52	Test Well 3	36 48 30 115 51 26	5-62	1,860	7.0	1,517	3,477	1,105	1-11-80	2,372	USGS	LMDM	364PGNP	--	--	--	--
175	Army 6A	36 34 37 116 01 08	-55	1,253	10.0	1,228	3,445	1,032	1-16-80	2,413	USGS	SDMN	370CMBR	33	--	--	--
176	USWG-1	36 52 00 116 27 29	9-80	6,000	4.5	1,016	4,349	1,878	3-23-82	2,471	USGS	TUFF	120VLCC	15, 42	15	--	--
177	USWG-2	36 53 22 116 27 35	11-82	6,006	9.6	795	5,098	1,722	9-17-82	3,376	USGS	TUFF	120VLCC	31	--	--	--
178	USWG-3	36 49 05 116 28 01	3-82	5,031	5.5	2,598	4,858	2,461	2-11-86	2,397	USGS	TUFF	120VLCC	--	--	--	--
179	USWG-4	36 51 14 116 27 04	1-83	3,003	9.6	2,017	4,166	1,769	12-31-85	2,397	USGS	TUFF	120VLCC	2	2	1, 2	1, 2
180	USWH-3	36 49 42 116 28 01	3-82	4,000	10.8	2,600	4,867	2,467	5-18-84	2,400	USGS	TUFF	120VLCC	46, 47	46, 47	46, 47	46, 47
181	USWH-4	36 50 32 116 26 54	6-82	4,000	10.0	1,839	4,096	1,702	12-30-82	2,394	USGS	TUFF	120VLCC	59	59	1, 58, 59	1, 59
182	USWH-5	36 51 22 116 27 55	8-82	4,000	10.0	2,585	4,852	2,310	12-22-82	2,542	USGS	TUFF	120VLCC	3	3	1, 3	1, 3
183	USWH-6	36 50 49 116 28 55	10-82	4,002	10.0	1,906	4,271	1,727	12-15-82	2,544	USGS	TUFF	120VLCC	10	10	1, 10	1, 10
184	USWWT-1	36 49 16 116 26 56	5-83	1,689	2.9	1,665	3,942	1,545	2-12-86	2,397	USGS	TUFF	120VLCC	--	--	--	--
185	USWWT-2	36 50 23 116 27 18	7-83	2,060	2.9	2,040	4,270	1,874	3-20-85	2,396	USGS	TUFF	120VLCC	--	--	--	--
186	USWWT-7	36 49 33 116 28 57	7-83	1,610	2.9	1,579	3,927	1,382	1-22-86	2,545	USGS	TUFF	120VLCC	--	--	--	--
187	USWWT-10	36 48 25 116 29 05	8-83	1,413	2.9	1,321	3,685	1,139	1-22-86	2,546	USGS	TUFF	120VLCC	--	--	--	--

[a] Tunnel floor

[b] Hole UE20f was later drilled to a depth of 13,686 feet.