WRIR: 77-131

GEOHYDROLOGIC DATA FROM THE JEMEZ MOUNTAINS AND VICINITY NORTH-CENTRAL NEW MEXICO

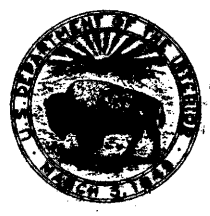
By

Frank W. Trainer

GEOHYDROLOGIC DATA FROM THE JEMEZ MOUNTAINS AND VICINITY, NORTH-CENTRAL NEW MEXICO

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations 77-131



GEOHYDROLOGIC DATA FROM THE JEMEZ MOUNTAINS AND VICINITY, NORTH-CENTRAL NEW MEXICO

By Frank W. Trainer

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations 77-131

January 1978

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

For additional information write to:

U.S. Geological Survey
P. O. Box 26650
Albuquerque, New Mexico 87125

CONTENTS

ILLUSTRATIONS

TABLES

Page

ENGLISH TO METRIC UNIT CONVERSION FACTORS

In this report figures for measurements are given in English units only. The following table contains factors for converting to metric units.

English	Multiply by	Metric
in (inch)	25.4	mm (millimeters)
ft (foot)	.3048	m (meter)
ft^3/s (cubic foot per second)	.02832	m^3/s (cubic meter per second)
mi (mile)	1.609	km (kilometer)
gal/min (gallon per minute)	.06309	L/s (liter per second)

Blank page

GEOHYDROLOGIC DATA FROM THE JEMEZ MOUNTAINS AND VICINITY, NORTH-CENTRAL NEW MEXICO

by Frank W. Trainer

ABSTRACT

The Jemez Mountains volcanic region, on the west margin of the Rio Grande rift in north-central New Mexico, is the site of studies whose objective is power development using geothermal heat. This report summarizes geohydrologic data obtained to provide background information relative to the geothermal exploration and to investigate the usefulness of hydrology in assessment of the geothermal resource. Eleven tables present chemical, temperature, discharge, and other data for springs, wells, and streams. Accompanying figures show locations of the data points and present temperature profiles and geophysical logs for selected wells.

INTRODUCTION

The Jemez Mountains comprise a complex of volcanic rocks that lie athwart the marginal fault zone at the west side of the Rio Grande rift in New Mexico. Volcanism occurred during late Tertiary and Quaternary time; thermal springs and solfataras (fumaroles) are still present; and exploration and research by private and government organizations are in progress in the Jemez Mountains, with the objective of power development from geothermal heat. A geohydrologic study of the region was made by the U.S. Geological Survey to provide background information relative to the geothermal exploration and research and to investigate the usefulness of hydrology in assessment of the geothermal-resource potential of the region. This report is a summary of the data collected during the study.

The helpful cooperation of individuals and of government agencies made possible the collection of these data. Grateful acknowledgment is expressed to the many private landowners, the holders of the mineral rights to the Canyon de San Diego Grant, the governors and councils of Jemez Pueblo and of Zia Pueblo, the Los Alamos Scientific Laboratory, the New Mexico Department of Game and Fish, and the U.S. Forest Service for access to and information about wells and springs.

GEOGRAPHY

The Jemez Mountains (figs. 1 and 2) occupy Los Alamos County and parts of Rio Arriba, Sandoval, and Santa Fe Counties, in north-central New Mexico. They lie within the tract bounded by the 35°30' and 36°15' parallels of north latitude and the 106°00' and 107°00' meridians of west longitude, and cover a total area of about 1,500 square miles. The southern part of the Sierra Nacimiento, west of the Jemez Mountains, is included in this area because data were also collected at a few localities in the Sierra Nacimiento.

The Jemez Mountains form a topographic mound, oval in plane, that slopes outward from a high central region. They are bounded by the principal streams draining the region: the Rio Grande on the east, Rio Puerco and Rio Chama on the north, and the Jemez River on the south. The western boundary, between the Jemez Mountains and the Sierra Nacimiento, is poorly defined; it is approximately along Rio Guadalupe and the Jemez River. The highest point in the Jemez Mountains, Redondo Peak, is 11,254 feet above mean sea level; the altitude of the lowest point, at the Rio Grande near Bernalillo, is about 5,100 feet.

Daily climatological data are collected at four localities in the Jemez Mountains and at a number of localities in the valleys bounding the region (U.S. Environmental Data Service, 1975). Precipitation and temperature observations are recorded at Jemez Springs (fig. 1), and precipitation at Ponderosa in the southwestern part of the mountain region; and precipitation and temperature at Bandelier National Monument (Frijoles, fig. 1) and Los Alamos in the eastern part of the region. Precipitation and temperature are observed at six localities at the edges of the region, chiefly along its eastern side, and precipitation at three localities.

Mean annual precipitation in the valleys surrounding the Jemez Mountains ranges from about 8 inches at the southern edge of the region to 12 inches or more at the north. The precipitation at the higher altitudes in the mountains, where observation stations are not maintained, is estimated from isohyetal analyses and topographic data to reach maximum values greater than 30 inches (U.S. Soil Conservation Service, 1972). Much of the precipitation at the higher altitudes is snow, and the snow cover there lasts for several months in winter and spring. Vegetation ranges from desert plants in the low country to dense forest of conifer and aspen in the high country.

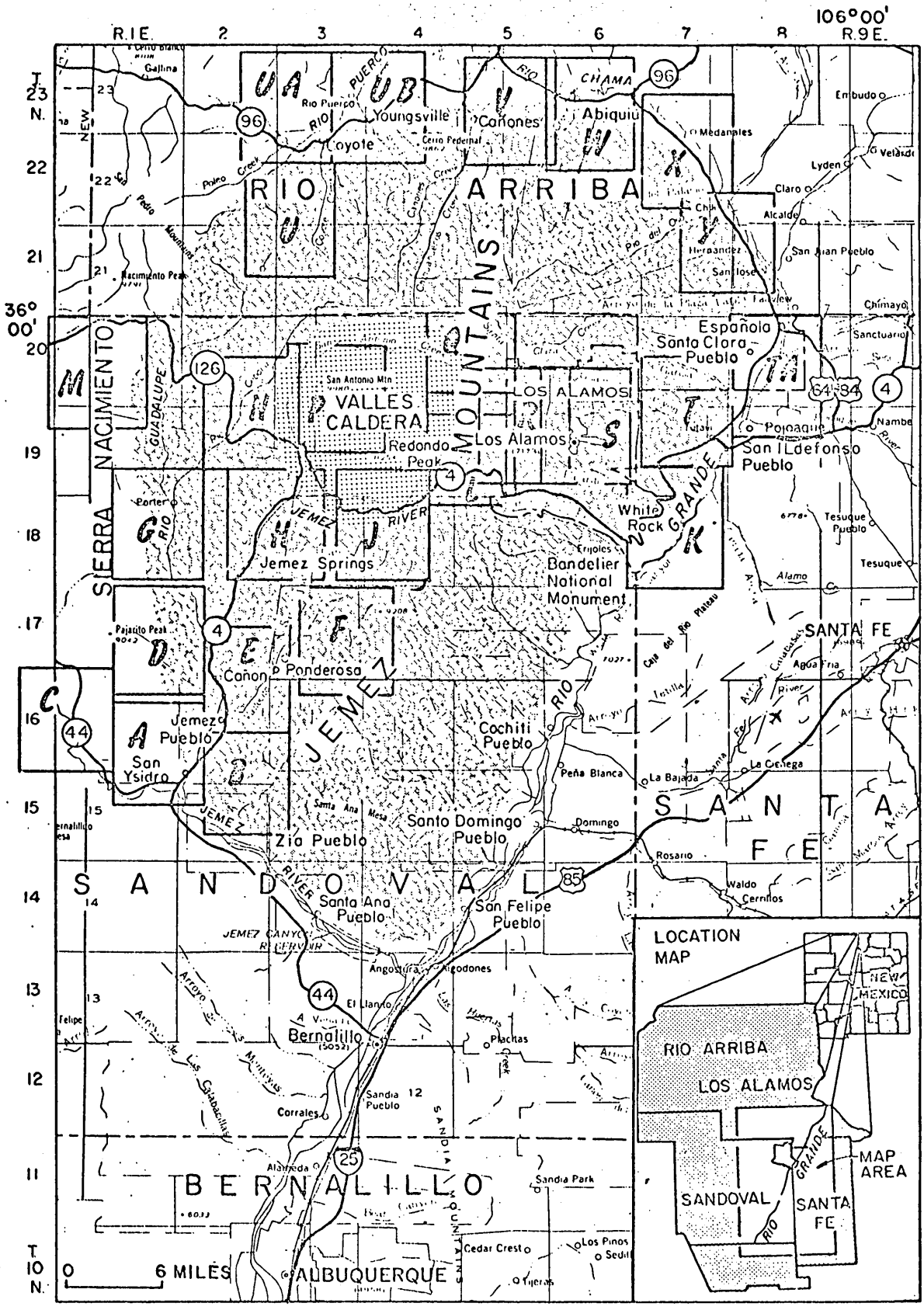
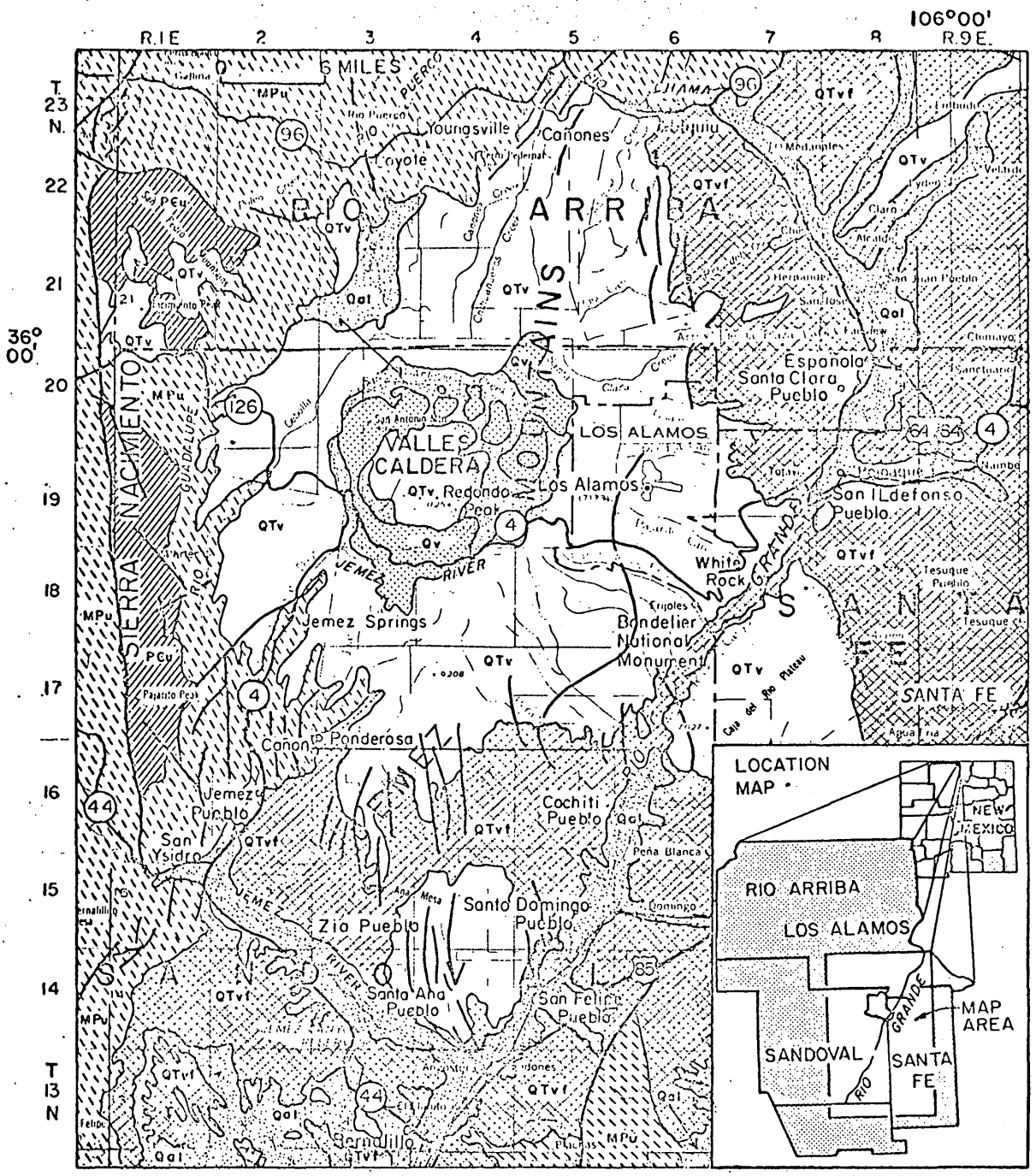


Figure 1.--Location of Jemez Mountains and index to maps for figure 3.



EXPLANATION — Geology modified from Dane and Bachman, 1965

CENOZOIC	Quaternary	Qal	Alluvial deposits in canyons and other drainage courses; includes some other unconsolidated deposits, undifferentiated
		Qv	Valles Ryolite
	Quaternary and Tertiary	QTv	Volcanic rocks, undifferentiated; includes caldera fill in Valles Caldera
		QTvf	Valley-fill deposits, undifferentiated, of Pleistocene, Pliocene and Miocene age; includes interbedded volcanic rock
MESOZOIC AND PALEOZOIC		MPu	Sedimentary rocks, undifferentiated; includes carbonate rock, shale, and sandstone
PRECAMBRIAN		PCu	Granite and other crystalline rocks, undifferentiated

Fault —

Figure 2.--Generalized geologic map of the Jemez Mountains and vicinity.

4

The total population of the Jemez Mountains region is probably less than 20,000. Most of its inhabitants live in Los Alamos (1970 pop. 11,310) and White Rock (3,861) (data from U.S. Bureau of the Census; World Almanac and Book of Facts, 1973, p. 174, 198). There are several small villages in the southwestern part of the region (Jemez Springs, Cañon, Ponderosa, and San Ysidro), and several Indian pueblos along the Jemez River and the Rio Grande--Jemez, Zia (near San Ysidro), Santa Ana, San Felipe, Santo Domingo, Cochiti, San Ildefonso, and Santa Clara (near Española). Small communities along the edges of the region include Coyote, Youngsville, Cañones, and Abiquiu, at the north; Española (1970 pop. 4,136) at the northeast; and Bernalillo at the south. Sante Fe, east of the region, had a population of 41,167 in 1970, and Albuquerque, to the south, 243,751.

Part of the region is privately owned, particularly within lands granted by the Spanish and Mexican governments, and part is Indian lands. The remainder, about two-thirds of the region, consists of Federal and State lands, mostly in the Santa Fe National Forest and in an area around Los Alamos that is administered by the Department of Energy (formerly Energy Research and Development Administration).

Access to the region is from Highways US 84 and NM 96 on the north; US 64-84, US 85, and I 25 on the east; and NM 44 on the south and west. NM 4 extends across the region from US 64-84, through Los Alamos and Jemez Springs, to San Ysidro. NM 126 extends from NM 4, about 9 miles north of Jemez Springs, to NM 44 at Cuba, west of the Jemez Mountains. A network of logging roads traverses much of the Santa Fe National Forest.

GEOLOGIC SETTING

The general and regional geologic relationships of the Jemez Mountains are illustrated by Dane and Bachman (1965). Smith, Bailey, and Ross (1970) have mapped the volcanic rocks and structure of the region, and Wood and Northrop (1946) have mapped the western part of the Jemez Mountains as part of an area centered on the Sierra Nacimiento.

The major physiographic features of the region include Valles Caldera, formed in the center of the Jemez Mountains volcanic complex by subsidence during the last major eruption; and extensive plateaus, surrounding the caldera, underlain by volcanic rocks. Canyons that extend radially down the slopes of these plateaus separate them into many smaller plateaus and buttes.

Figure 2 is a generalized geologic map of the Jemez Mountains region. The volcanic pile lies athwart the west marginal fault zone of the Rio Grande rift. This zone is delineated by a series of faults near Jemez Pueblo and San Ysidro on the south, and near Cañones on the north; the fault zone may extend through Valles Caldera (Ross, Smith, and Bailey, 1961, p. 142). This marginal fault zone separates thick valley-fill deposits in the rift from older crystalline and sedimentary rocks to the west. Other faults cut valley-fill deposits and volcanic rocks within the rift.

The oldest rocks in the region are Precambrian granitic and other crystalline rocks in the Sierra Nacimiento (from Nacimiento Peak to the vicinity of San Ysidro, fig. 2). These rocks are separated from sedimentary rocks of the San Juan Basin, to the west, by a major fault zone. To the east they are overlapped by Paleozoic and Mesozoic rocks that are chiefly limestone, sandstone, and shale. Wood and Northrop (1946) present descriptions, stratigraphic sections, and faunal lists for these sedimentary rocks.

The volcanic rocks, from basalt to rhyolite in composition and of Tertiary and Quaternary age, overlap the consolidated rocks outside the rift, and overlap and are interbedded with the valley fill within the rift. They represent a complex history of eruptions from numerous centers (Smith, Bailey, and Ross, 1970). The last eruptions, in the ring-fracture zone of the caldera, formed a series of volcanic domes within the caldera. These youngest volcanic rocks, the Valles Rhyolite, are identified on figure 2. The older volcanic rocks are shown as a single unit, undifferentiated; this unit also includes caldera fill that is largely of volcanic material but includes debris from sedimentary rocks (Smith, Bailey, and Ross, 1970).

The valley-fill deposits, of Tertiary and Quaternary age, have been shown by recent work (Galusha, 1966; Galusha and Blick, 1971) to be stratigraphically more complex than had previously been thought. Smith, Bailey, and Ross (1970) indicate the relative ages of the deposits exposed in different parts of the Jemez Mountains. These deposits are not differentiated on figure 2.

Quaternary alluvium in canyon floors, as shown at the small scale of figure 2, includes other unconsolidated deposits such as lake sediments and landslide and fan deposits (Smith, Bailey, and Ross, 1970).

HYDROLOGIC DATA

Most of the data in this report are related to the character and occurrence of ground water in the Jemez Mountains. Tables 1-4 (at end of report) contain records of springs and wells, and table 5 contains chemical analyses of ground water. Additional chemical data for ground water are presented in tables 7-9. The locations of the springs and wells are shown on figure 3. Water-quality data for streams are given in tables 6 and 11, and for precipitation in table 10; locations of the sampling sites are shown on figure 4. Additional hydrologic data can be found in references cited in the accompanying bibliographies. Other data related to hydrology--temperature profiles and geophysical logs in wells--are given in figures 5 and 6, respectively.

Effective use of these hydrologic data depends on the precise location of springs, wells, and other features. Several methods of locating these data points are used in this report.

First, springs and wells are located on a series of topographic maps in figure 3. Each map is designated by a letter symbol, and each locality on a given map (for example, A 1) is identified by an Arabic numeral. This letter-number identifier, which provides the simplest means of coordinating data in the tables and locations on the maps, is given in the "Map and location number" column in tables 1-9.

Second, the township-range system of location numbers is in wide use in New Mexico, and has long been used in investigations of the Geological Survey as a convenient means of locating features. This number is given for many of the data points in tables 1-5. To save space a 3-digit identifier is used to show the location of a feature within a fourth of a fourth of a quarter-section. Figure 7 illustrates this system of numbering wells and springs. The approximate township-range location of a geographic point is used in this report as a convenient location description, not as a position description related to land ownership.

In some parts of the Jemez Mountains (for example, in land grants) township-range surveys have not been made and this method of locality description is not applied. For data points located in unsurveyed areas this report uses the New Mexico coordinate system, a system of plane coordinates established by the U.S. Coast and Geodetic Survey (now part of the National Oceanic and Atmospheric Administration). Geographic position is designated by two distances expressed in feet: the X-coordinate states the position in the east-west direction, and the Y-coordinate the position in the north-south direction. The State is divided into three north-trending zones, of which the central zone contains the Jemez Mountains region. In the central zone distances are measured from the meridian 106°15' west longitude (at which

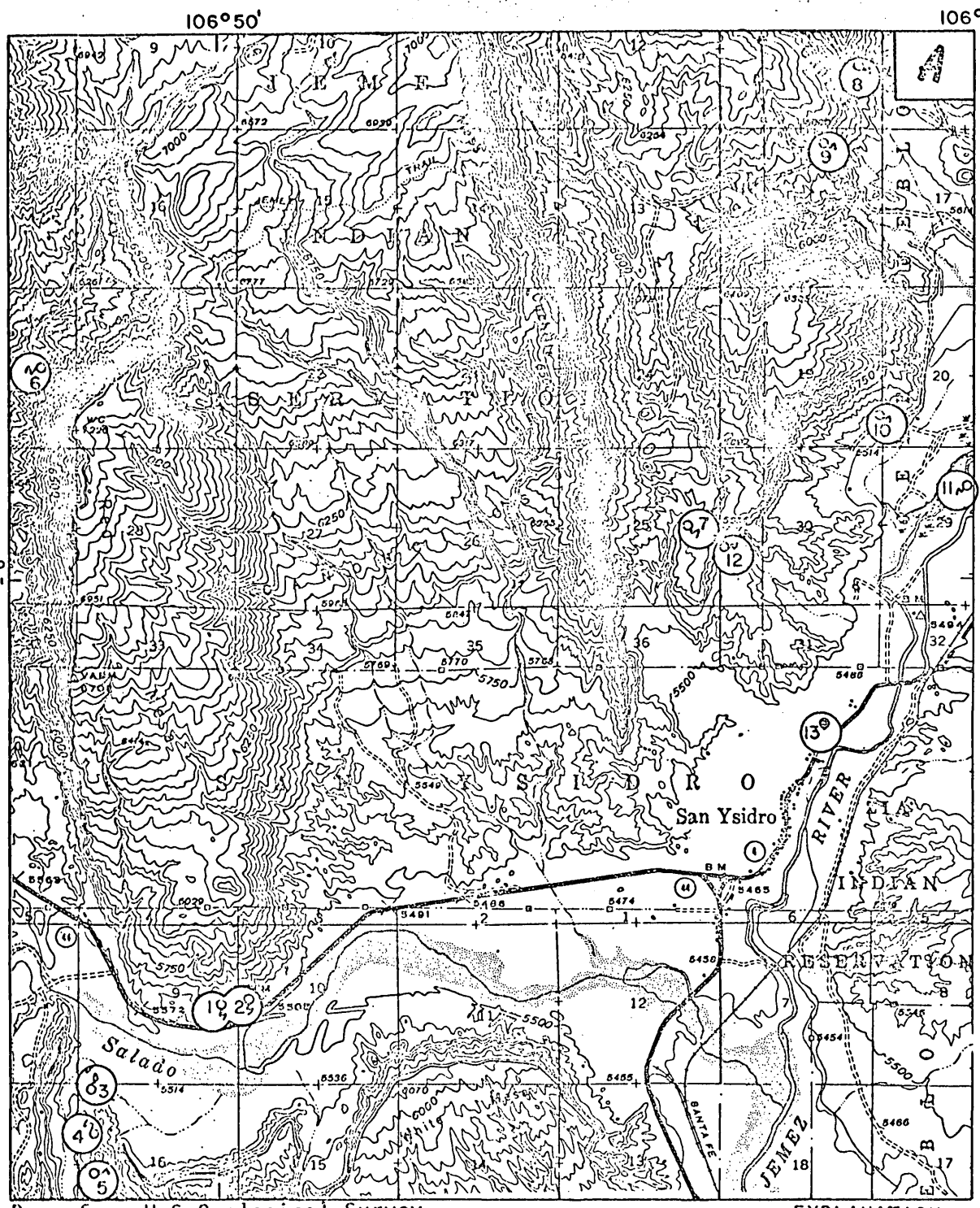
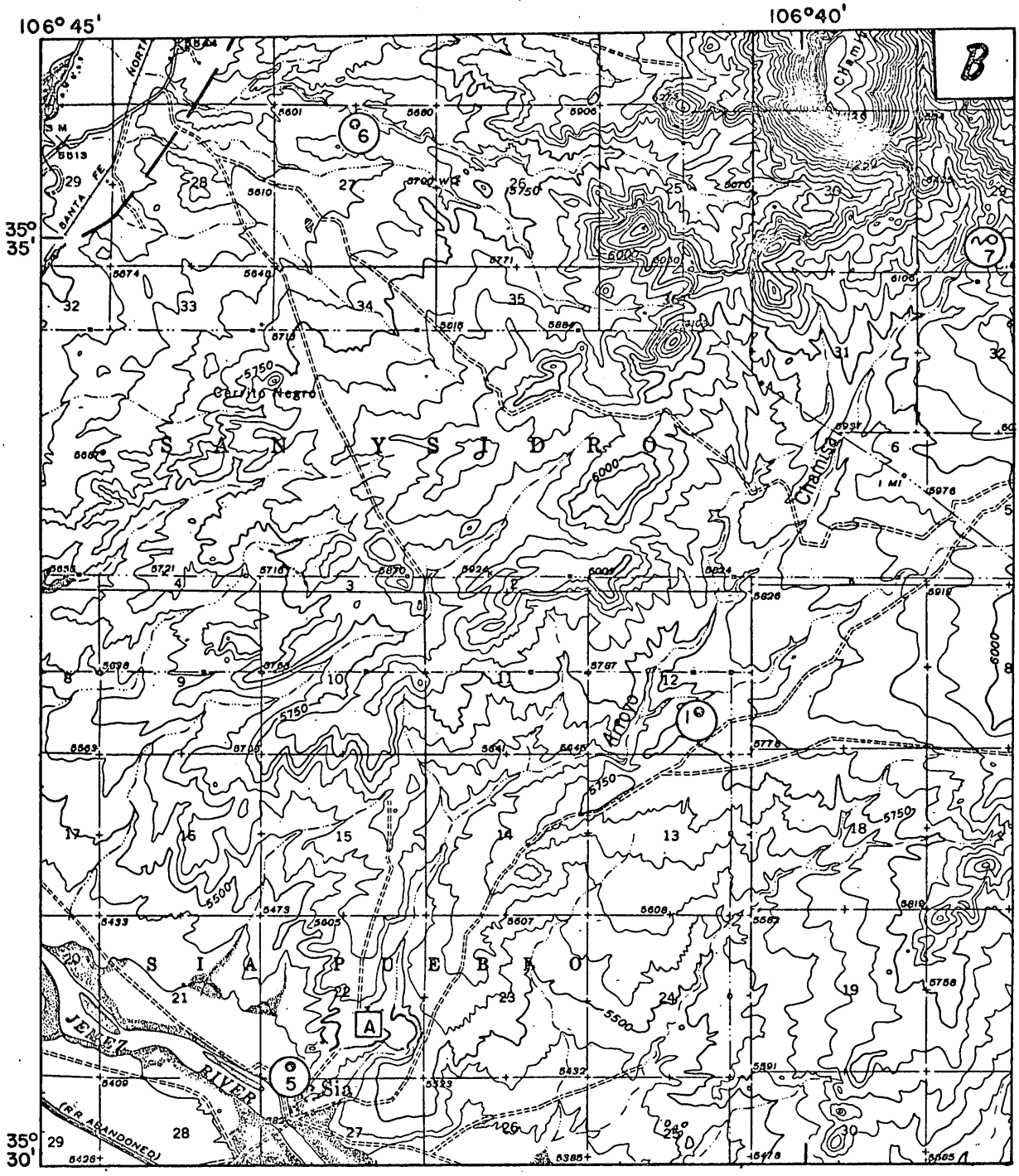
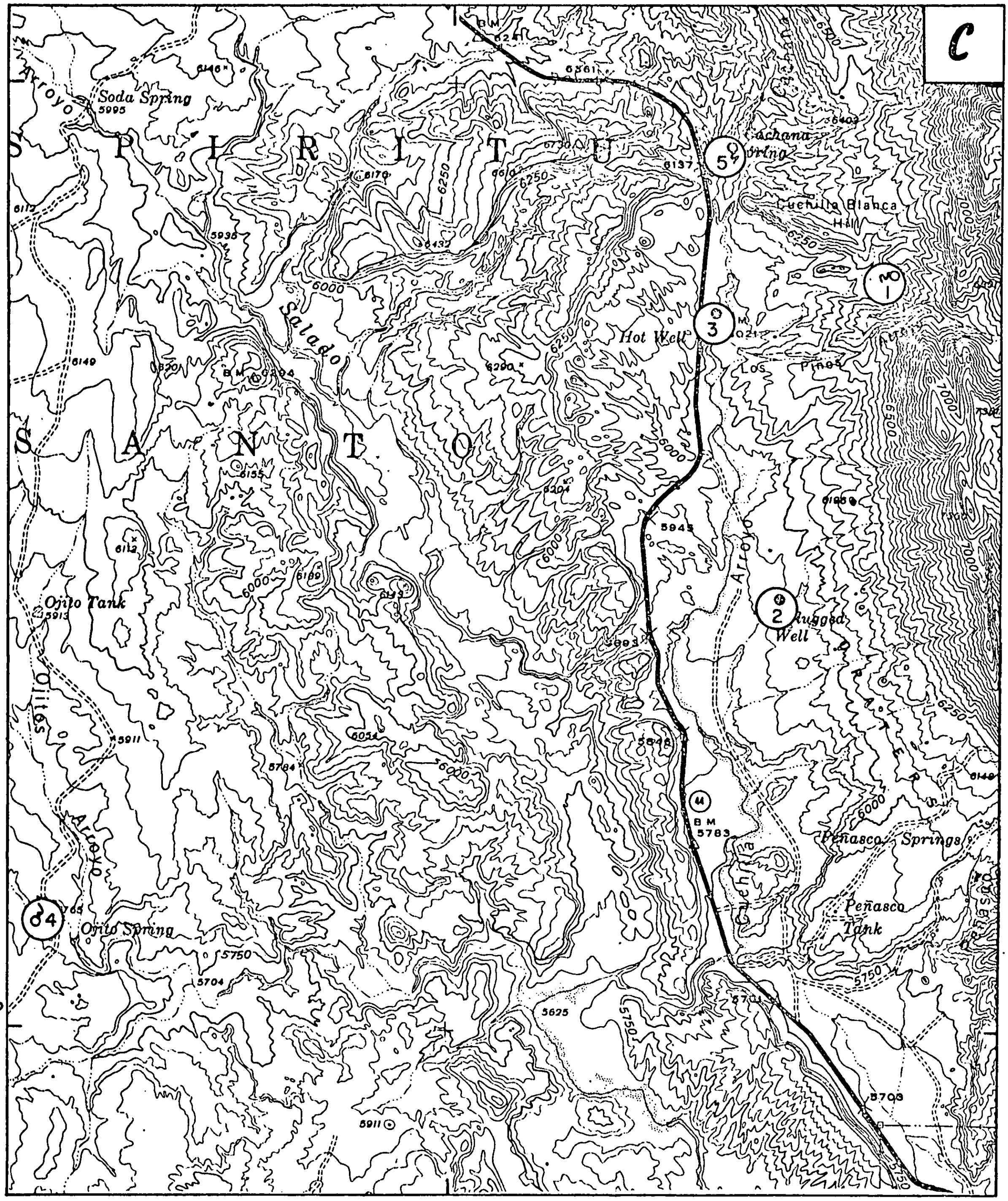


Figure 3.--Locations of springs and wells (26 maps).



Base from U.S.Geological Survey
Jemez 1:62,500, 1948

Figure 3.--Locations of springs and wells - Continued



Base from U.S. Geological Survey
San Ysidro 1:62,500, 1939

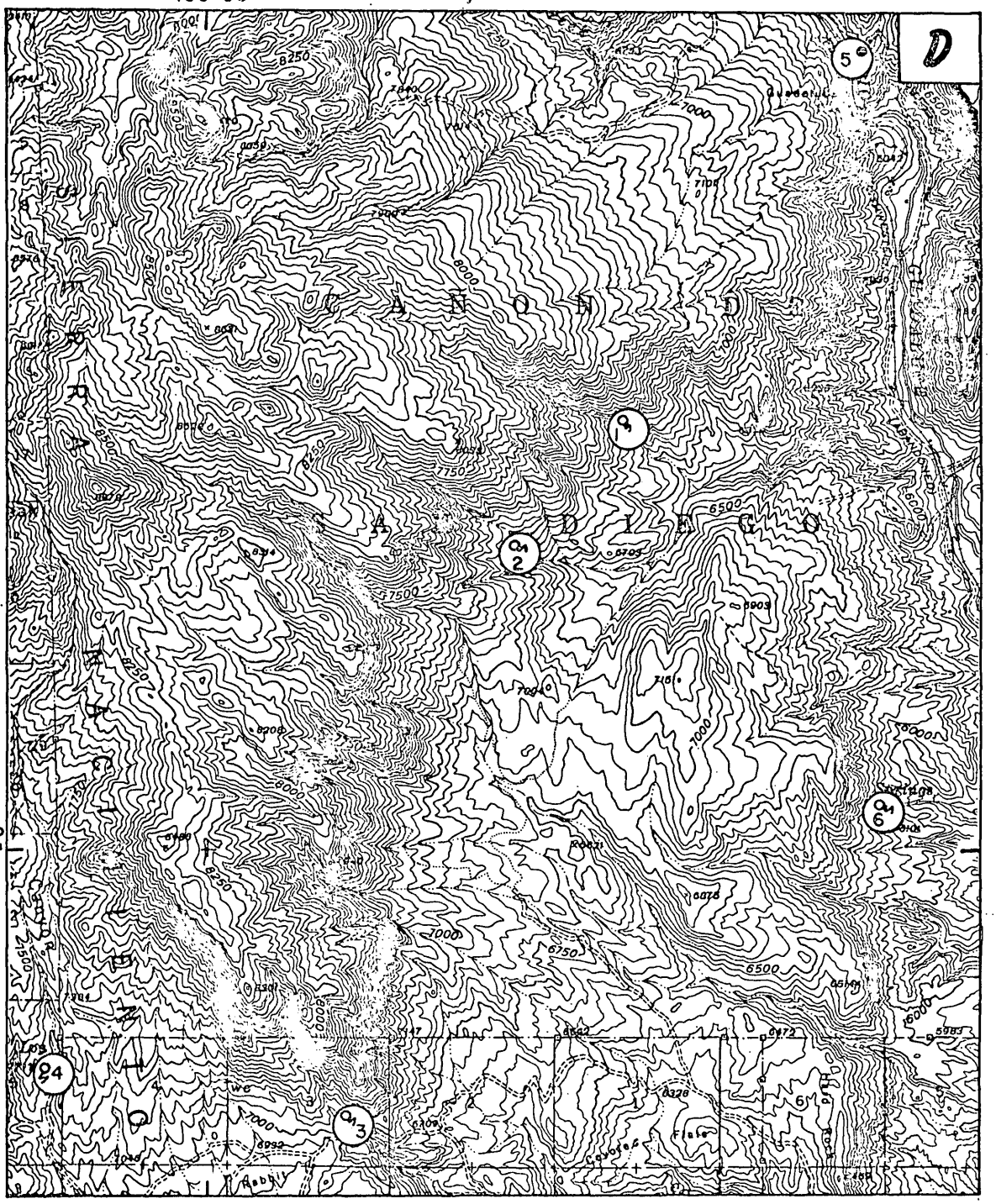
0 1 MILE

EXPLANATION

2 Well 4 Spring

Note: Number by symbol identifies well or spring in tables.

Figure 3.--Locations of springs and wells - Continued



Base from U.S.Geological Survey
San Ysidro 1:62,500, 1939

0 1 MILE

EXPLANATION

(5) Well (3d) Spring

Note: Number by symbol identifies well or spring in tables.

Figure 3.--Locations of springs and wells - Continued

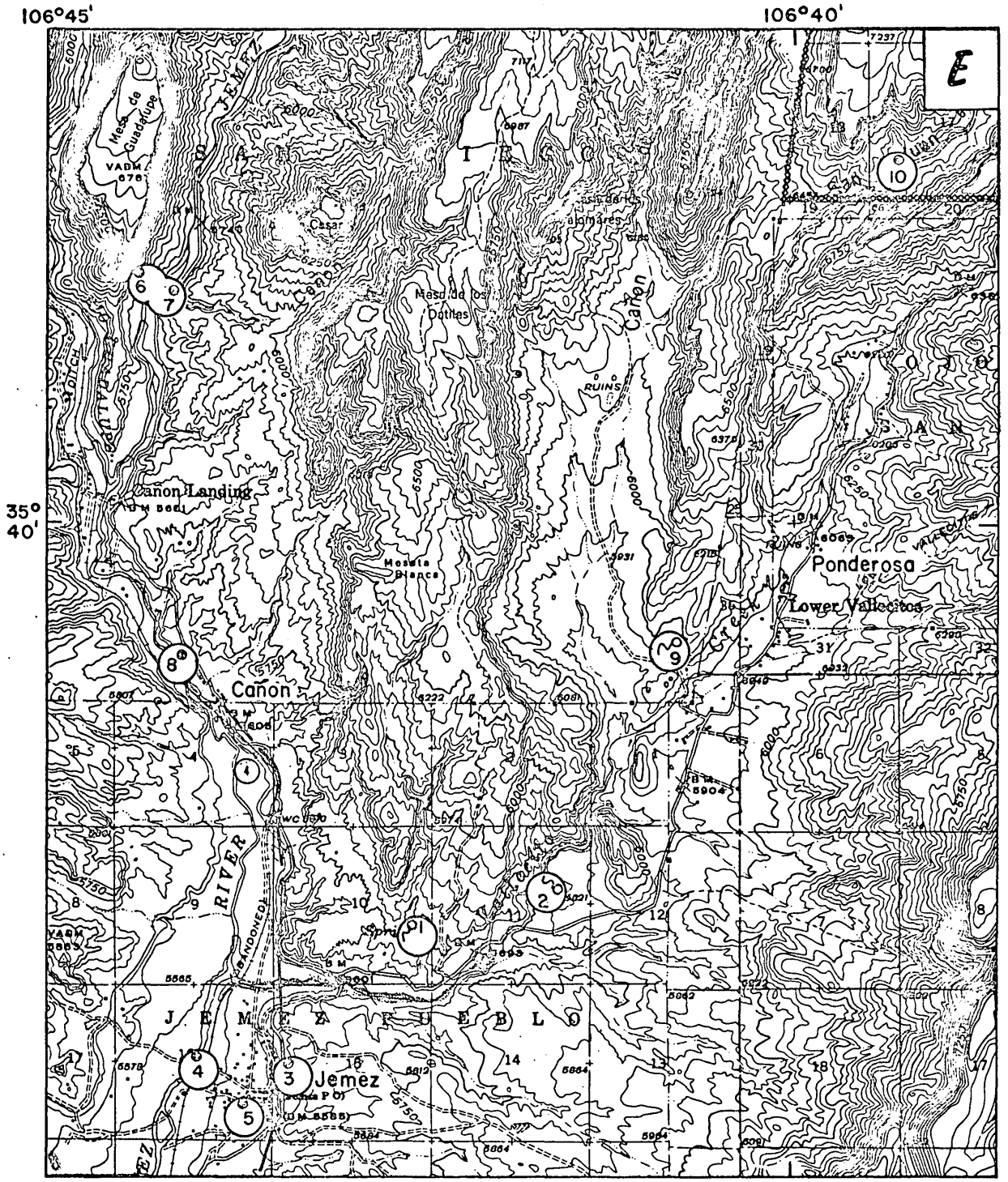
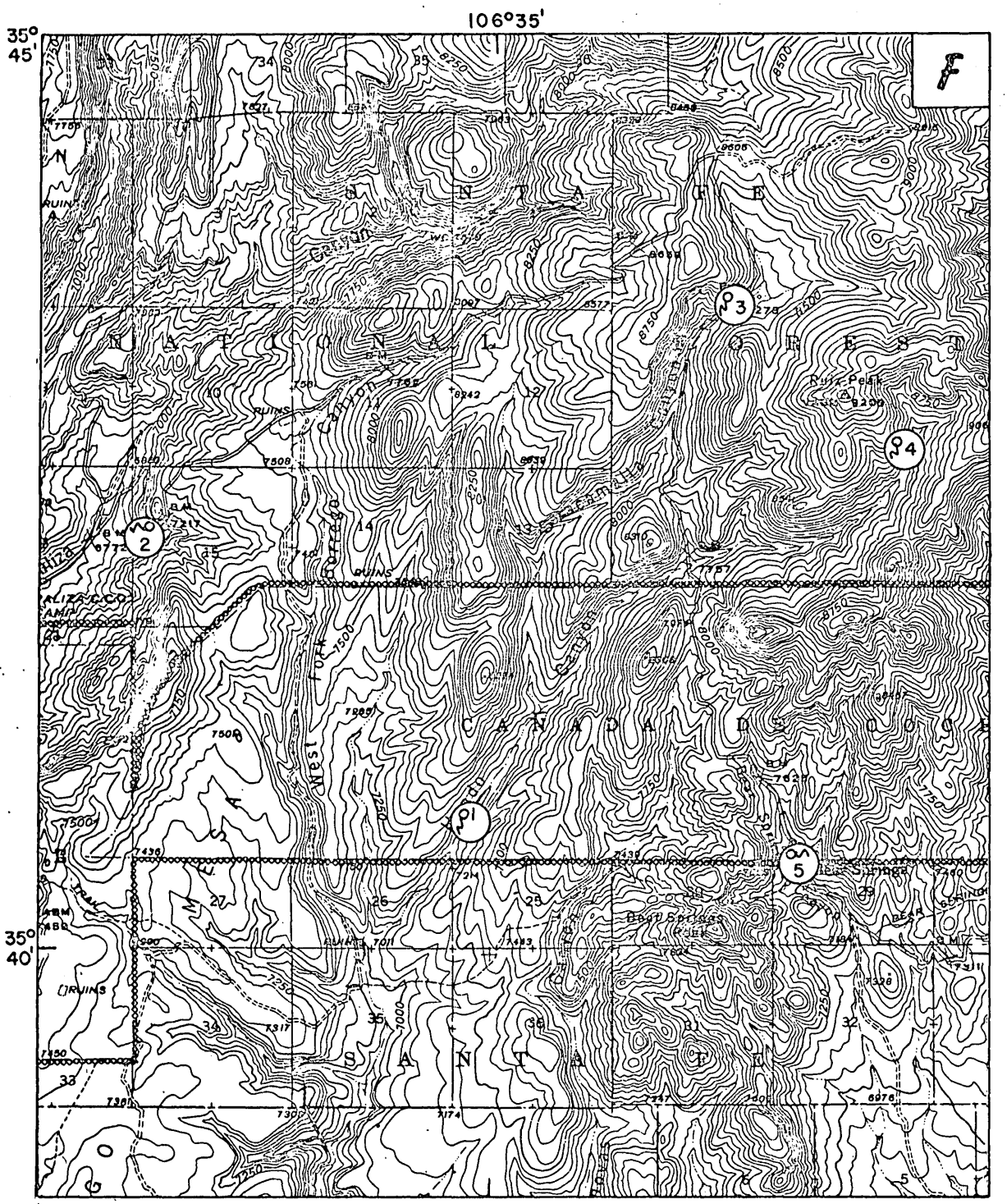


Figure 3.--Locations of springs and wells - Continued



Base from U.S.Geological Survey
Jemez 1:62,500, 1948

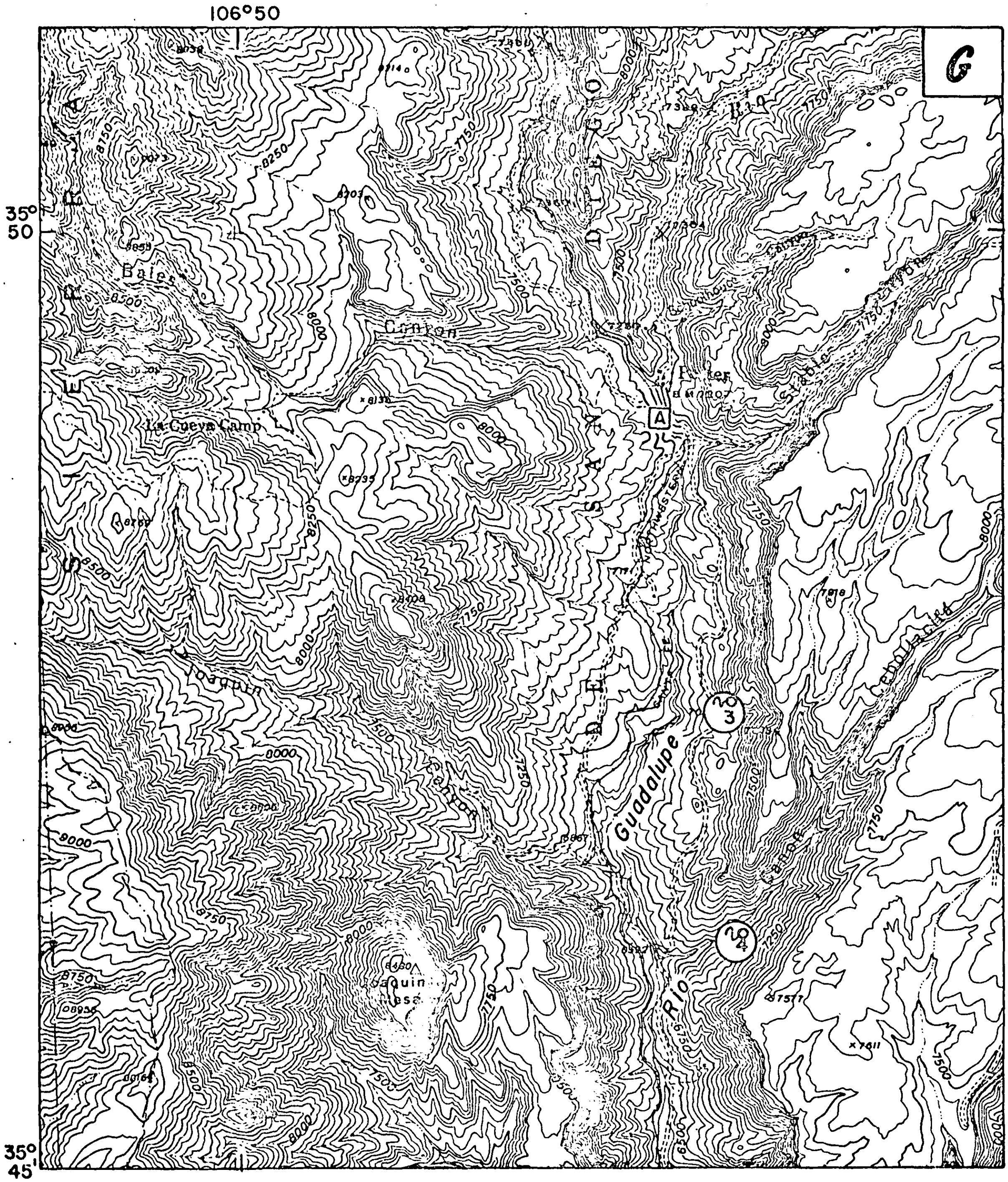
0 1 MILE

EXPLANATION

(50) Spring

Note: Number by symbol identifies spring in tables.

Figure 3.--Locations of springs and wells - Continued



Base from U.S.Geological Survey
La Ventana 1:62,500, 1939

0 1 MILE

INSERT A

● 1
● 2

NOT TO SCALE

EXPLANATION

(2●) Well (4○) Spring

Note: Number by symbol identifies well or spring in tables.

Figure 3.--Locations of springs and wells - Continued

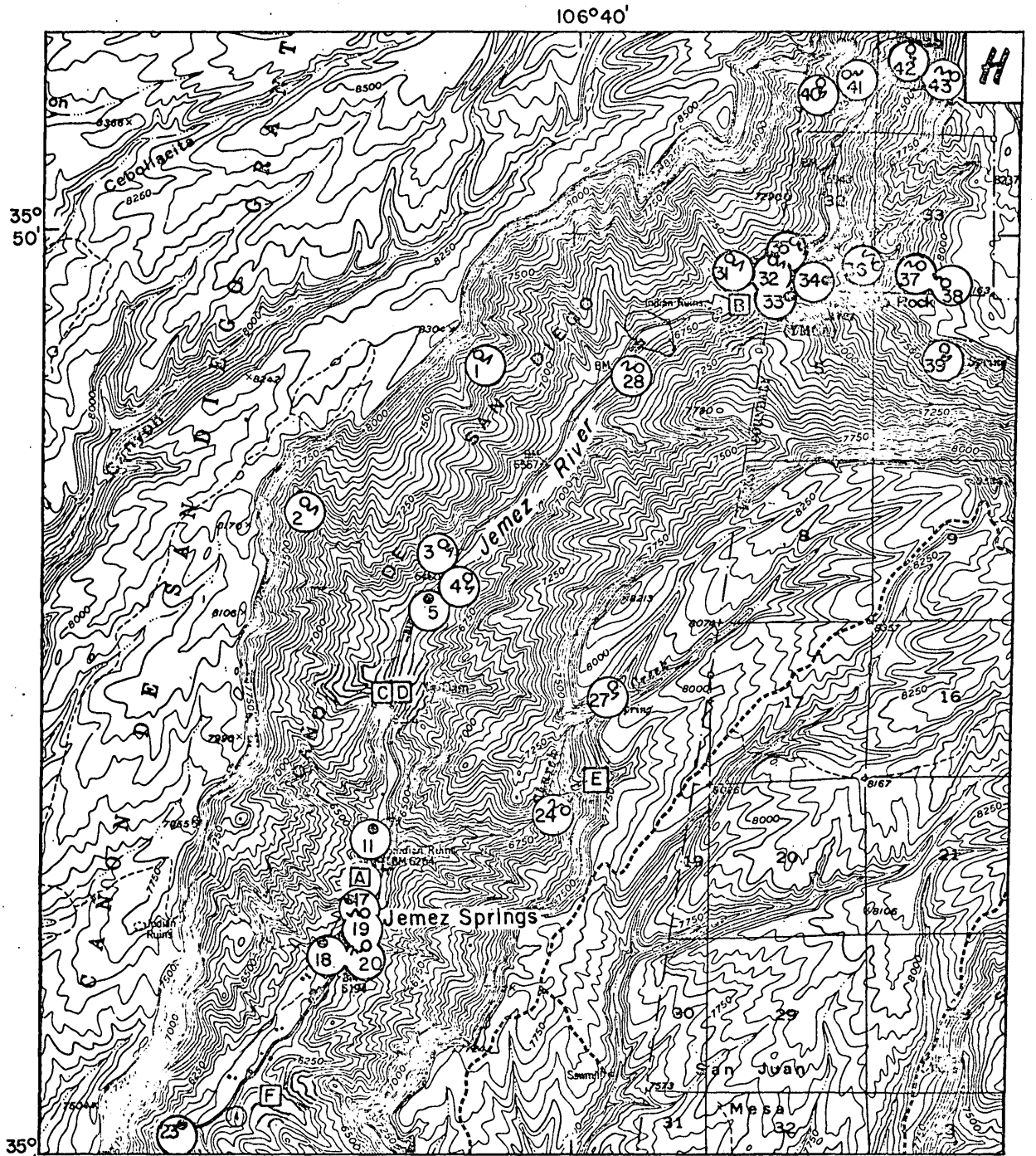


Figure 3.--Locations of springs and wells - Continued

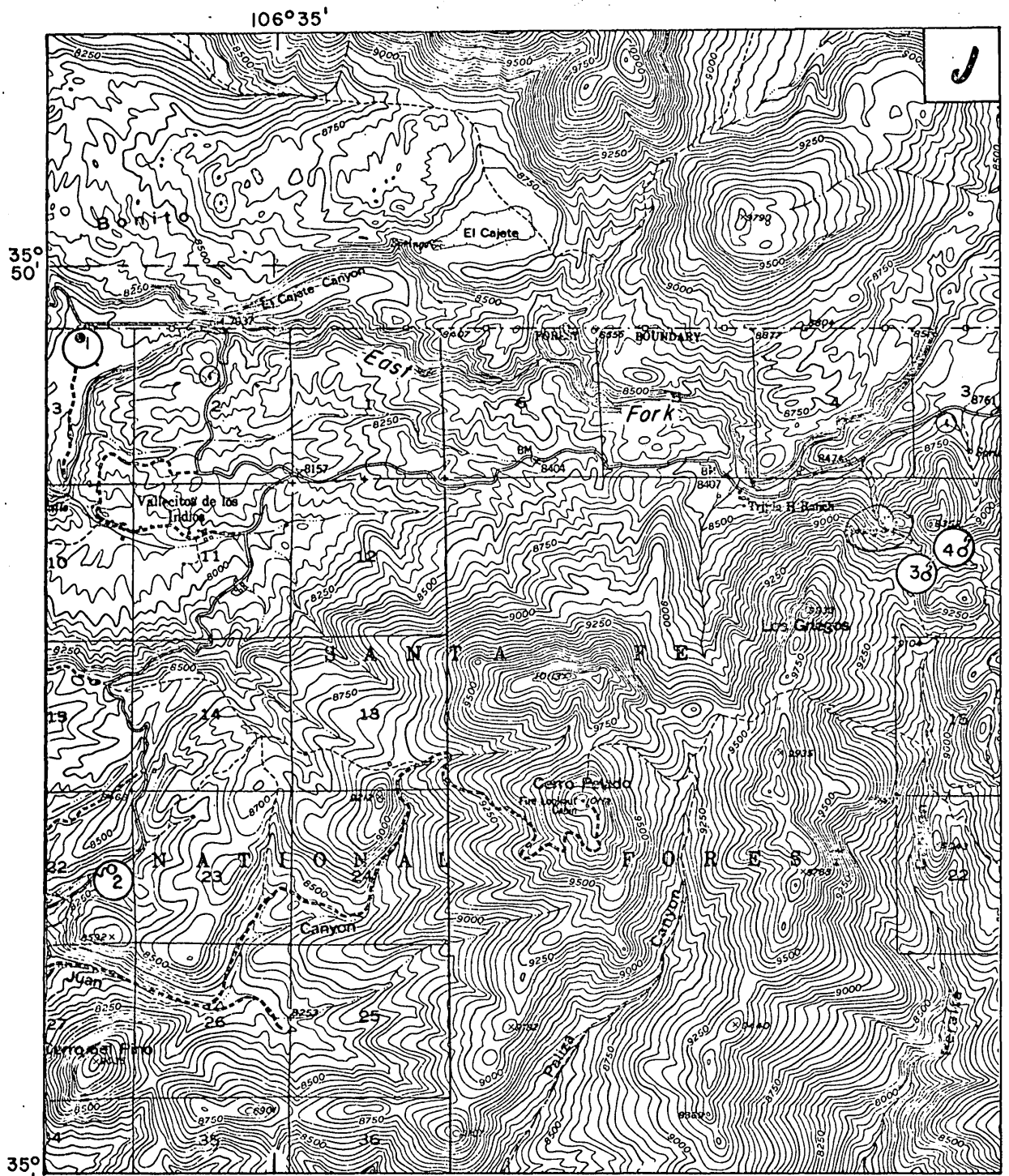


Figure 3.--Locations of springs and wells - Continued

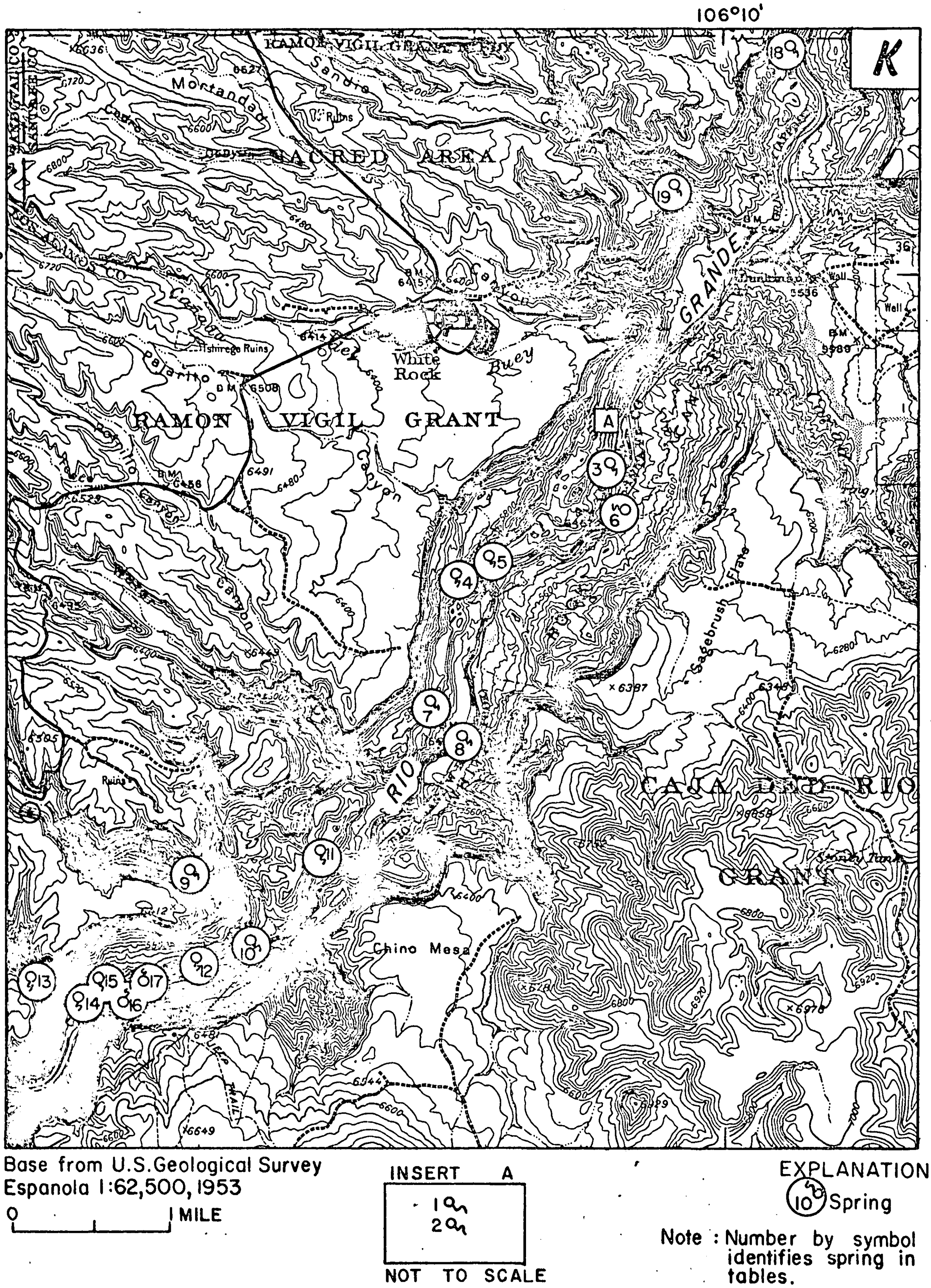
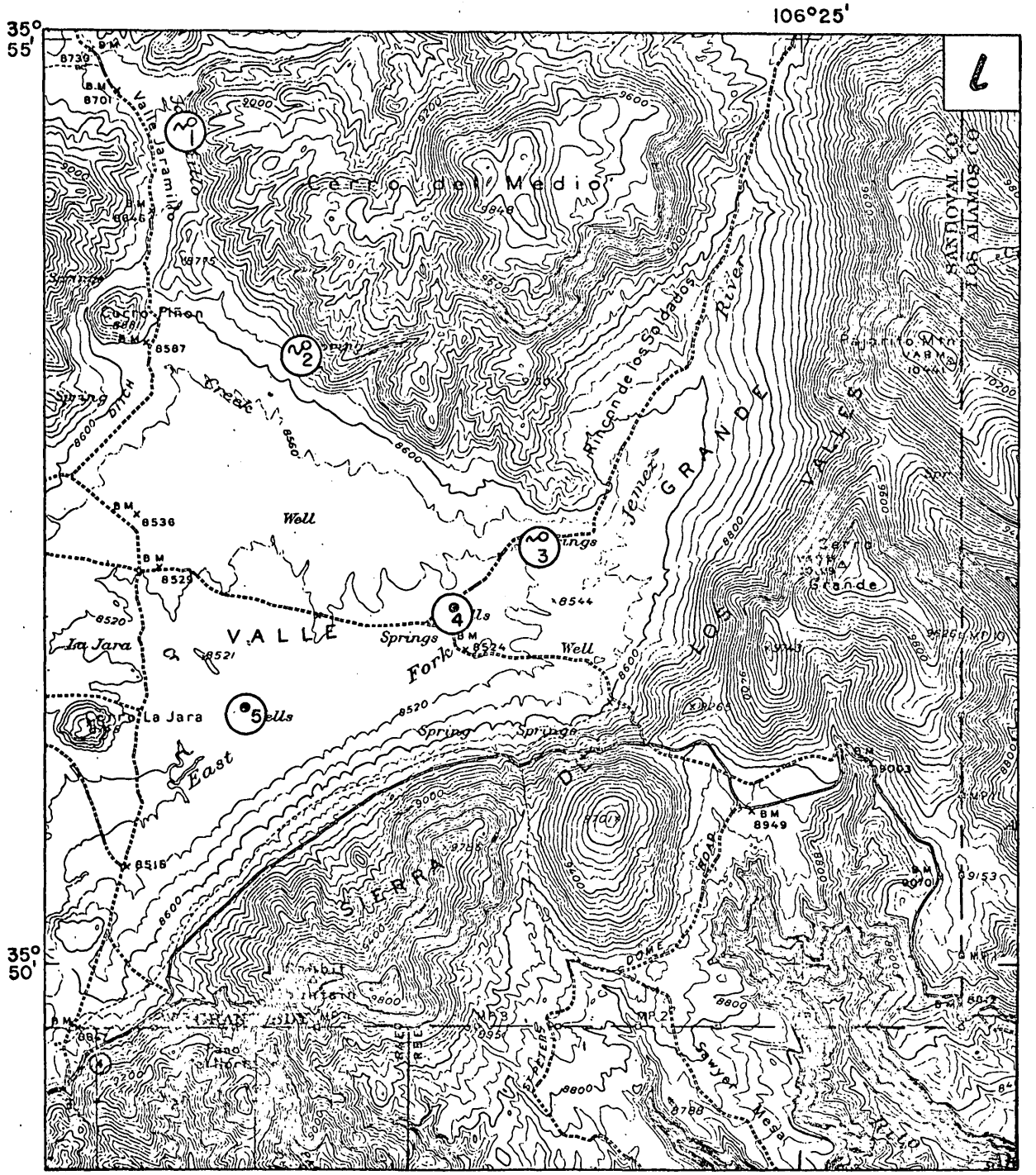


Figure 3.--Locations of springs and wells - Continued



Base from U.S.Geological Survey
Frijoles 1:62,500, 1953

EXPLANATION

(5) Well (3) Spring

Note: Number by symbol identifies well or spring in tables.

Figure 3.--Locations of springs and wells - Continued

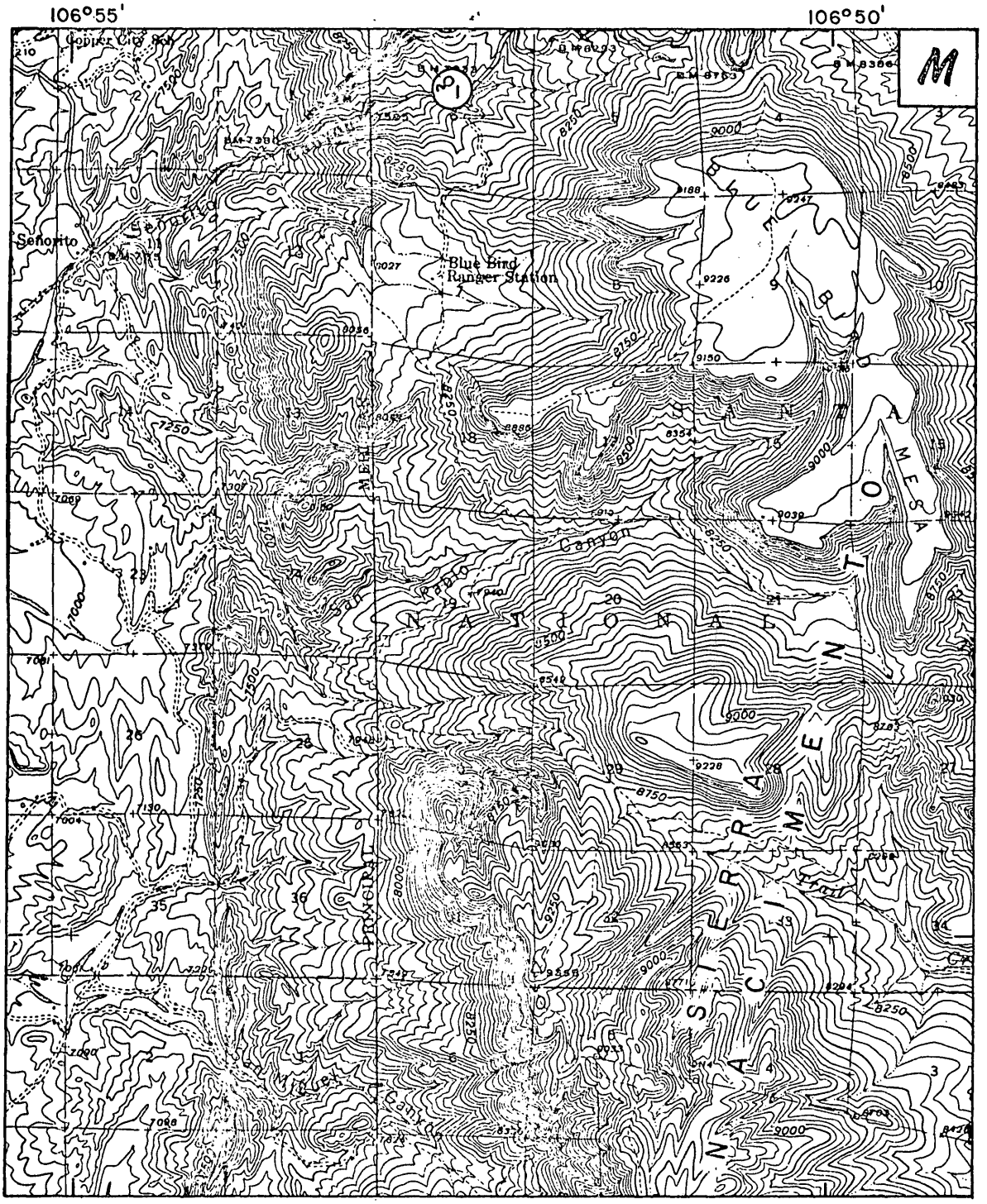


Figure 3.--Locations of springs and wells - Continued

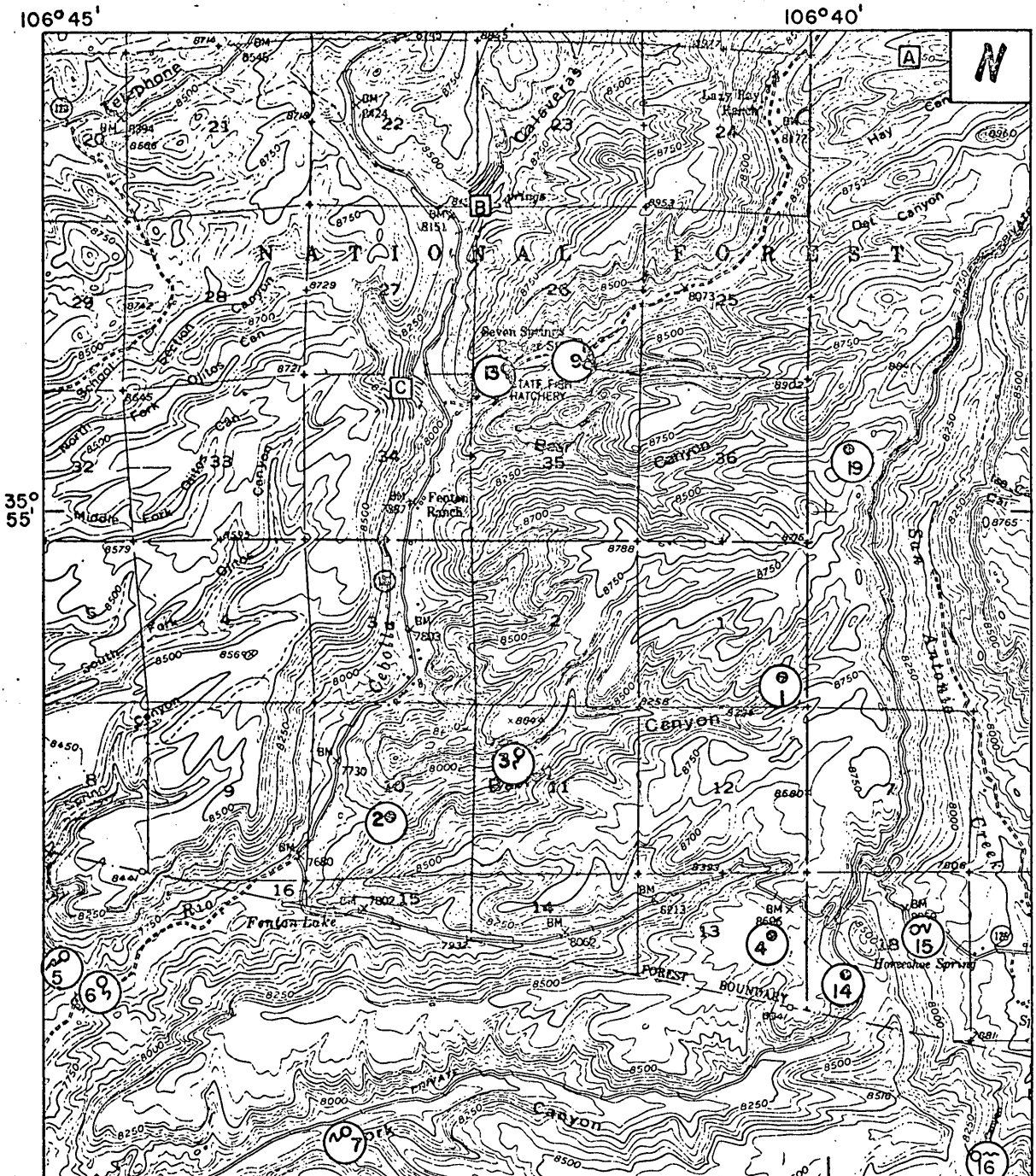
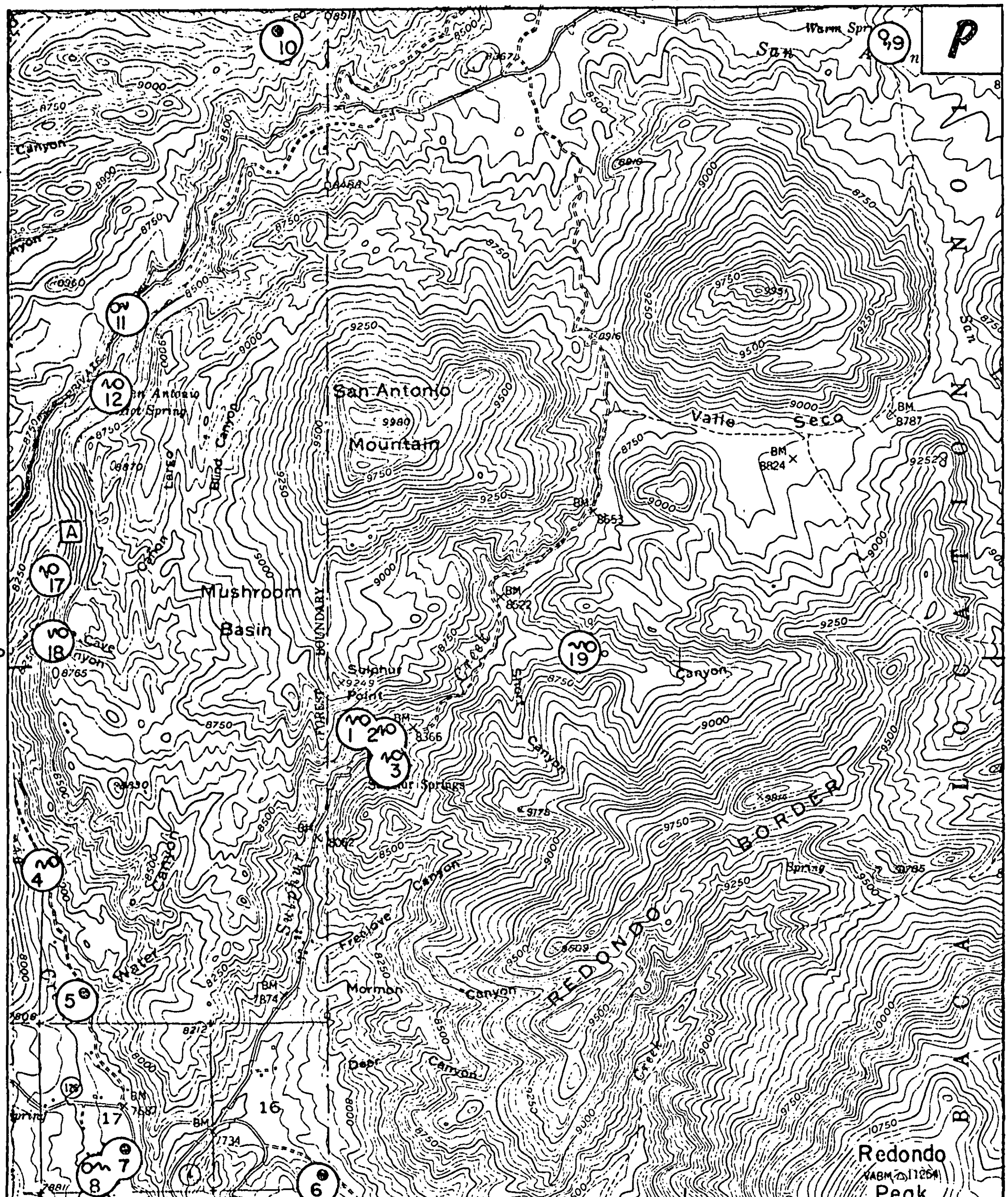


Figure 3.--Locations of springs and wells - Continued

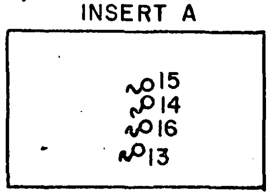
106°35'



Base from U.S.Geological Survey
Jemez Springs 1:62,500, 1952

0 — 1 MILE

INSERT A

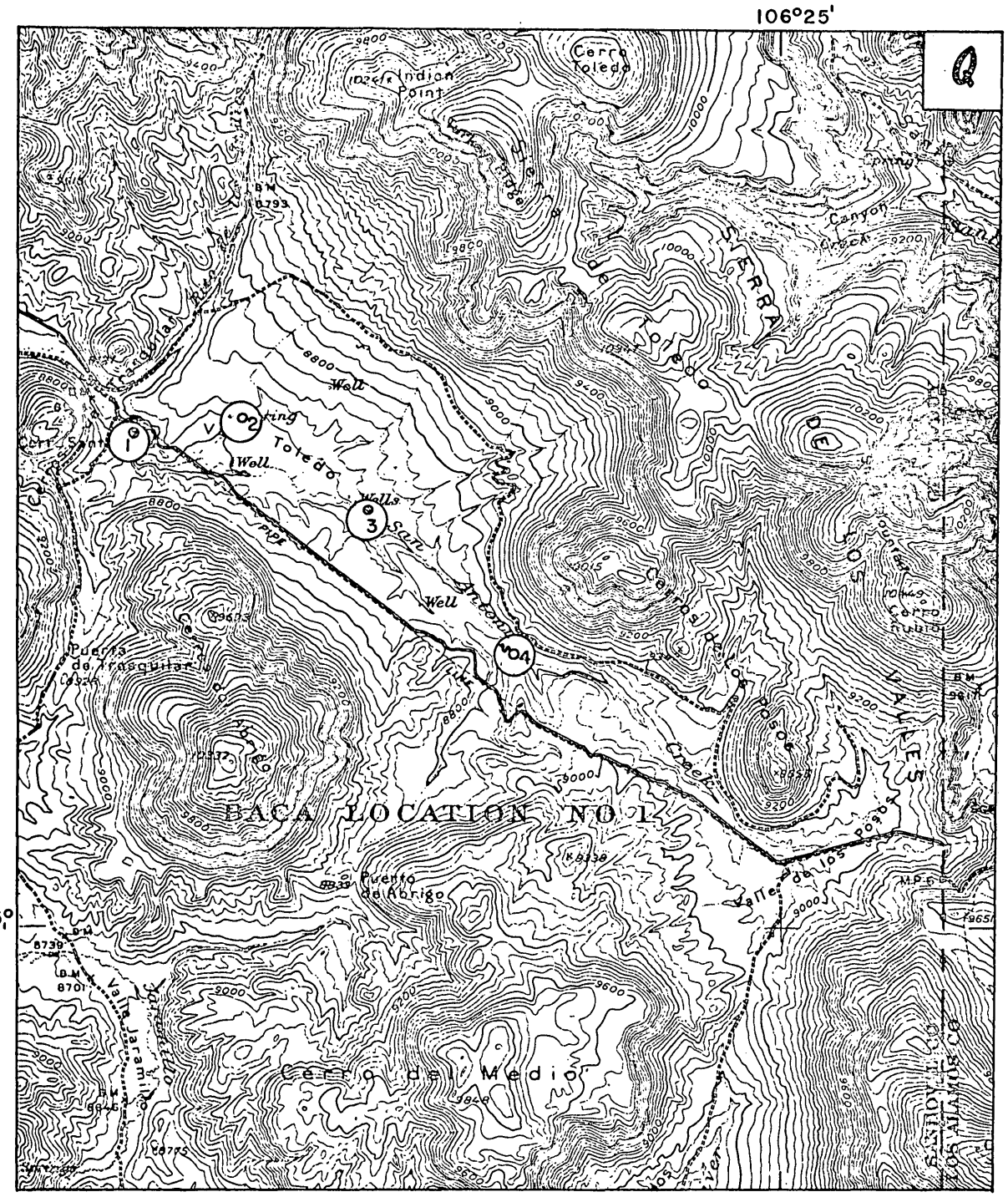


EXPLANATION

(6) Well (8) Spring

Note: Number by symbol identifies well or spring in tables.

Figure 3.--Locations of springs and wells - Continued



Base from U.S.Geological Survey
Frijoles 1:62,500, 1953

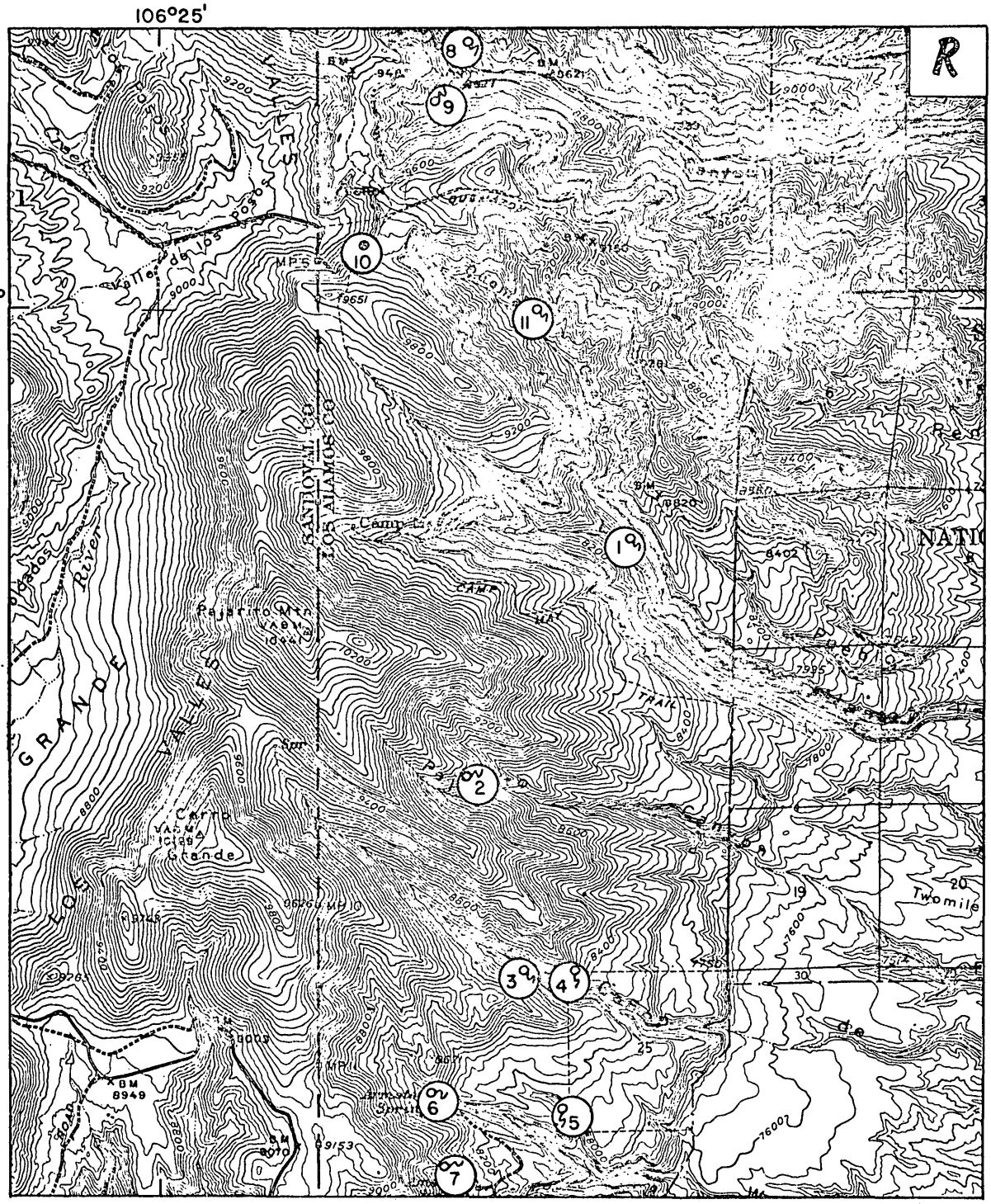
EXPLANATION

(3) Well (4) Spring

Note: Number by symbol identifies well or spring in tables.

0 1 MILE

Figure 3.--Locations of springs and wells - Continued



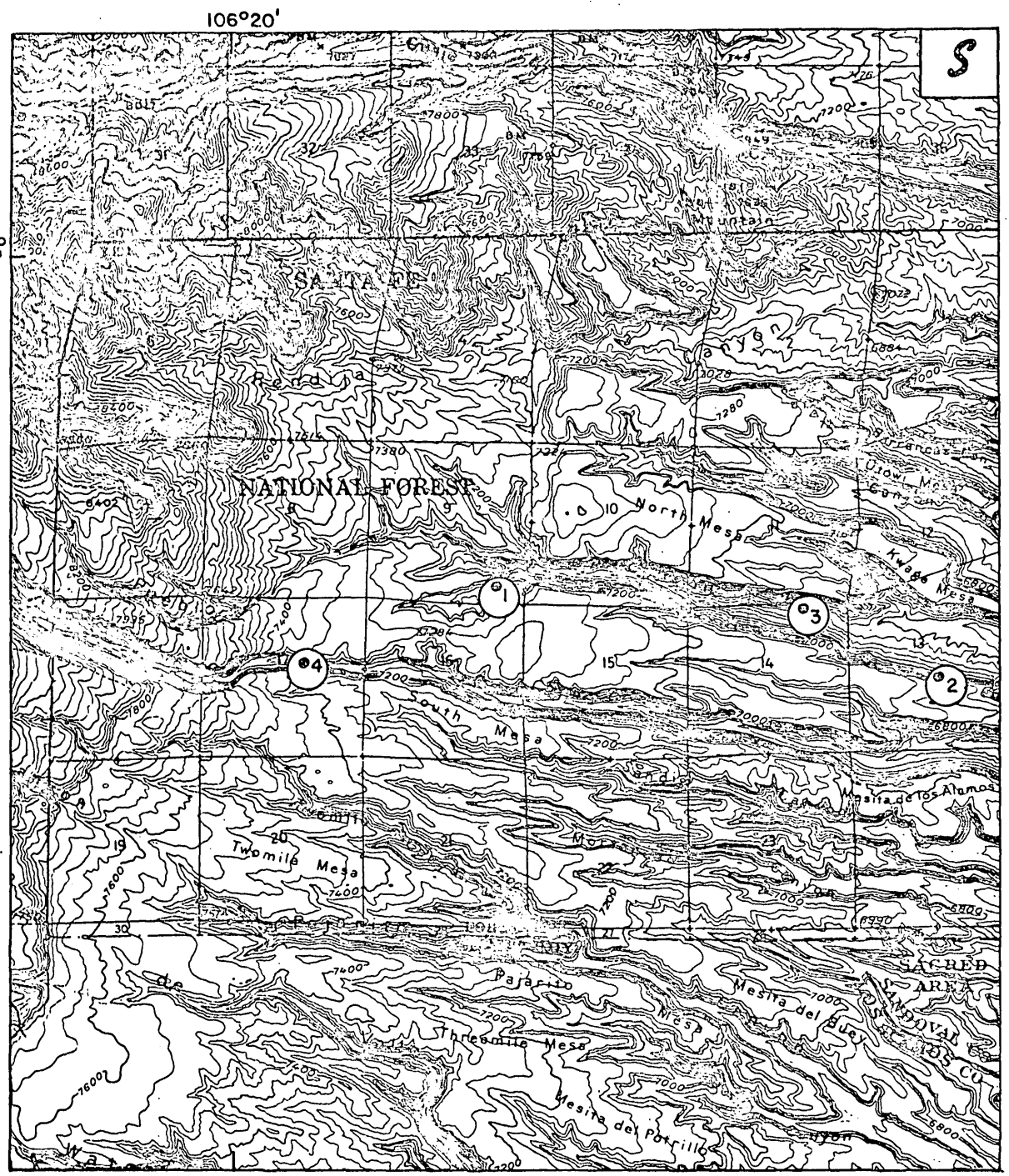
Base from U.S.Geological Survey
Frijoles 1:62,500, 1953

EXPLANATION

(10) Well (7) Spring

Note: Number by symbol identifies well or spring in tables.

Figure 3.--Locations of springs and wells - Continued



Base from U.S.Geological Survey
Frijoles 1:62,500, 1953

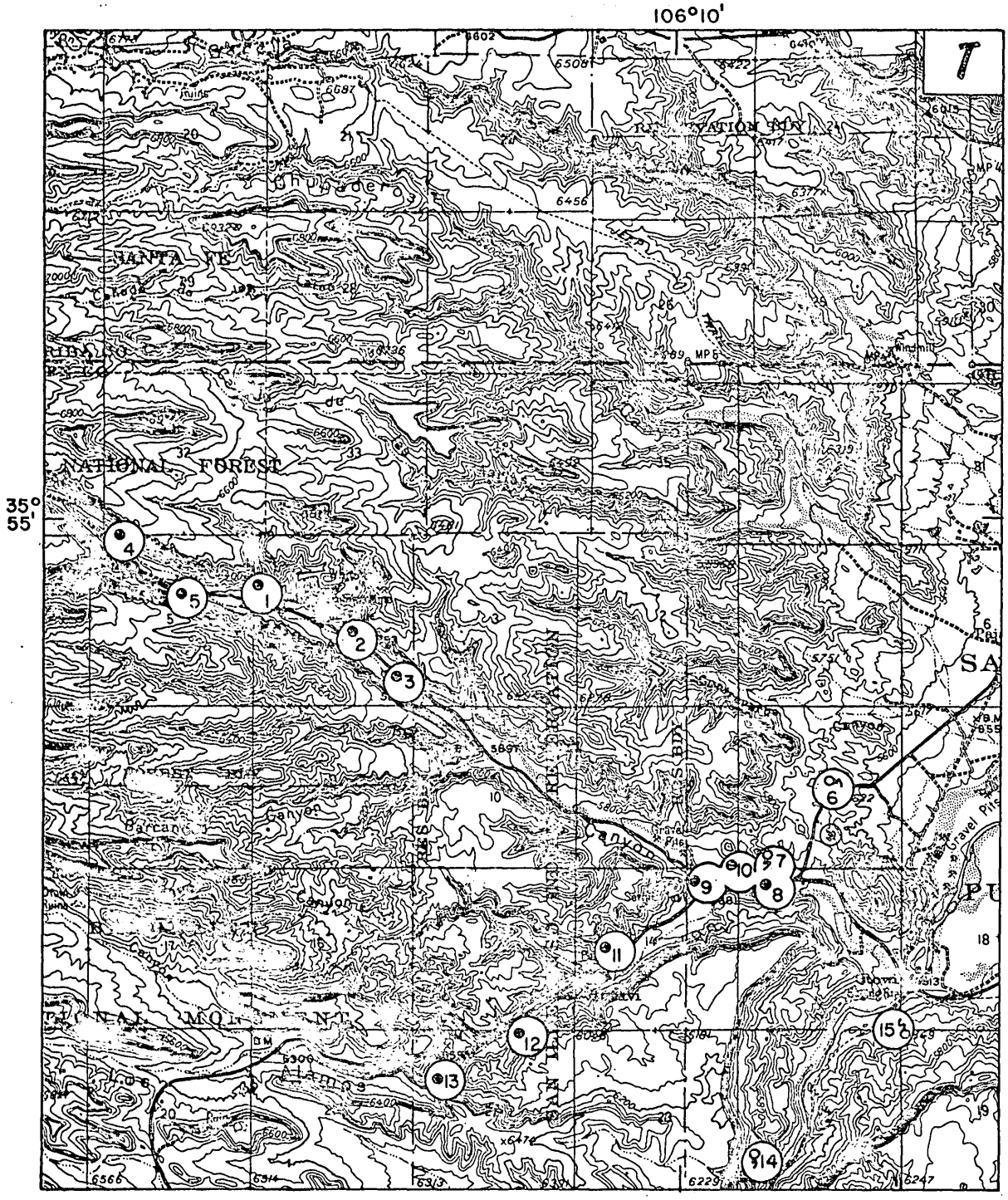
EXPLANATION

(2) Well

Note: Number by symbol identifies well in tables.

0 1 MILE

Figure 3.--Locations of springs and wells - Continued



Base from U.S.Geological Survey
Espanola 1:62,500, 1953

0 1 MILE

EXPLANATION

(13) Well (14) Spring

Note: Number by symbol identifies well or spring in tables.

Figure 3.--Locations of springs and wells - Continued

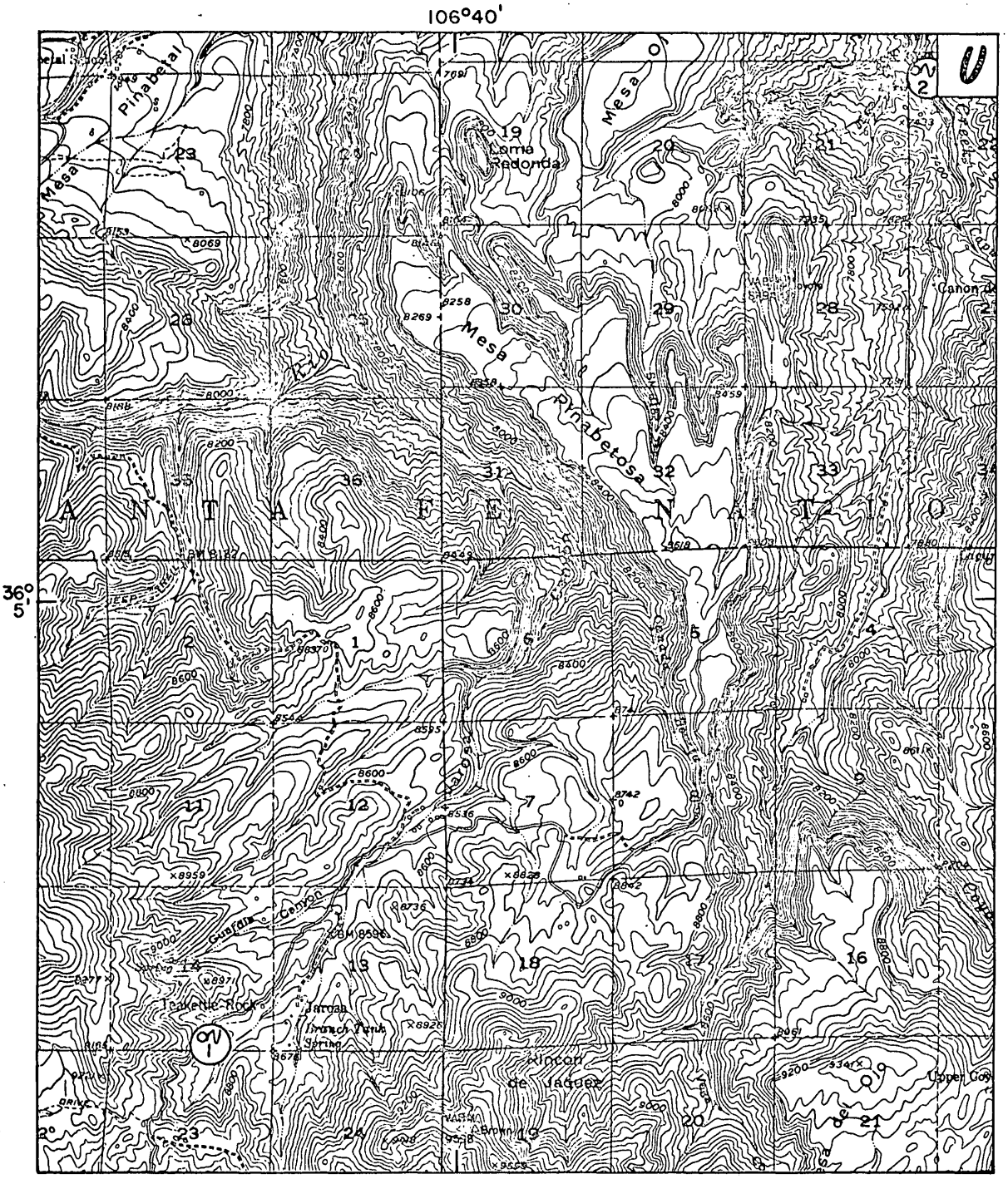


Figure 3.--Locations of springs and wells - Continued

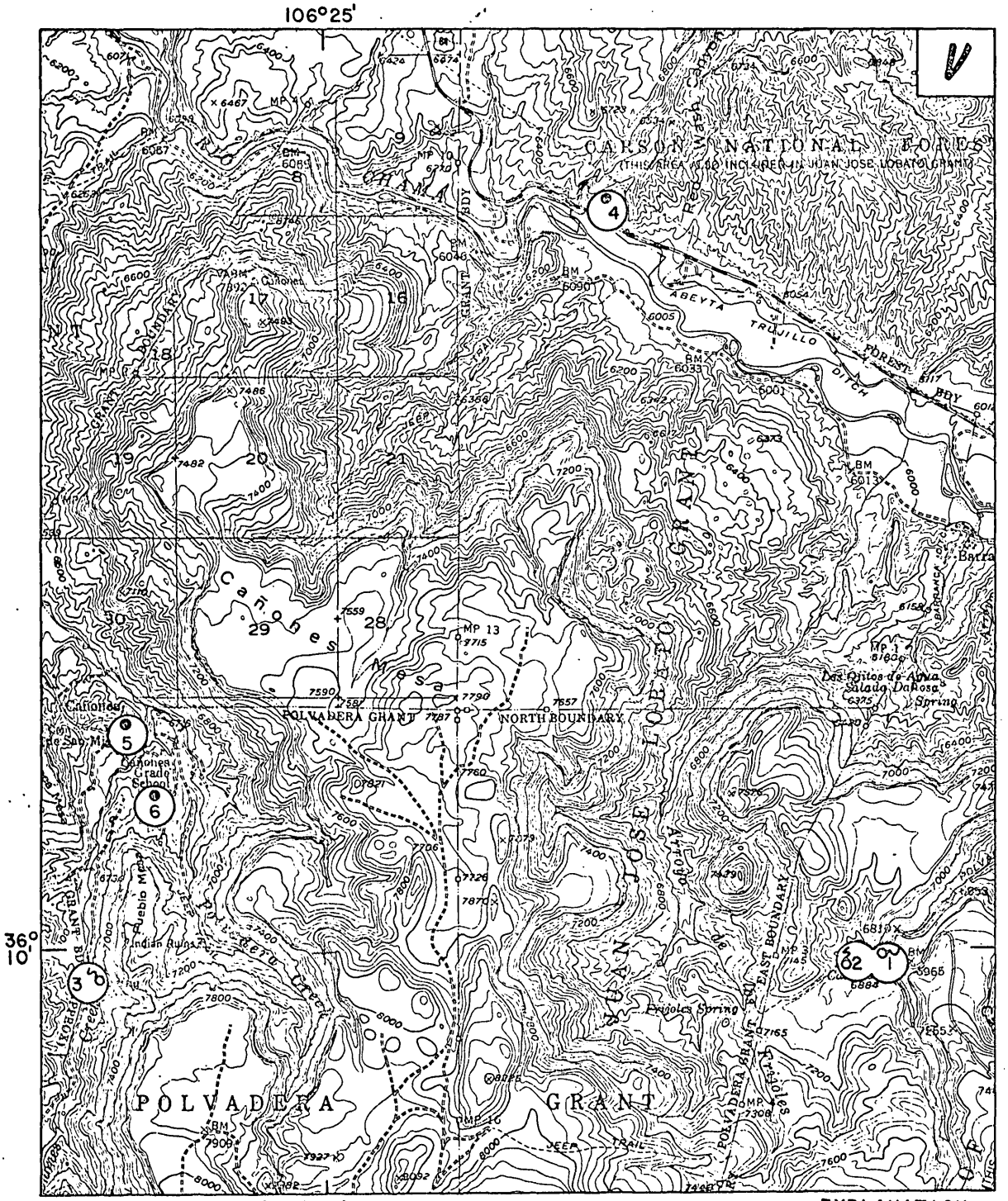
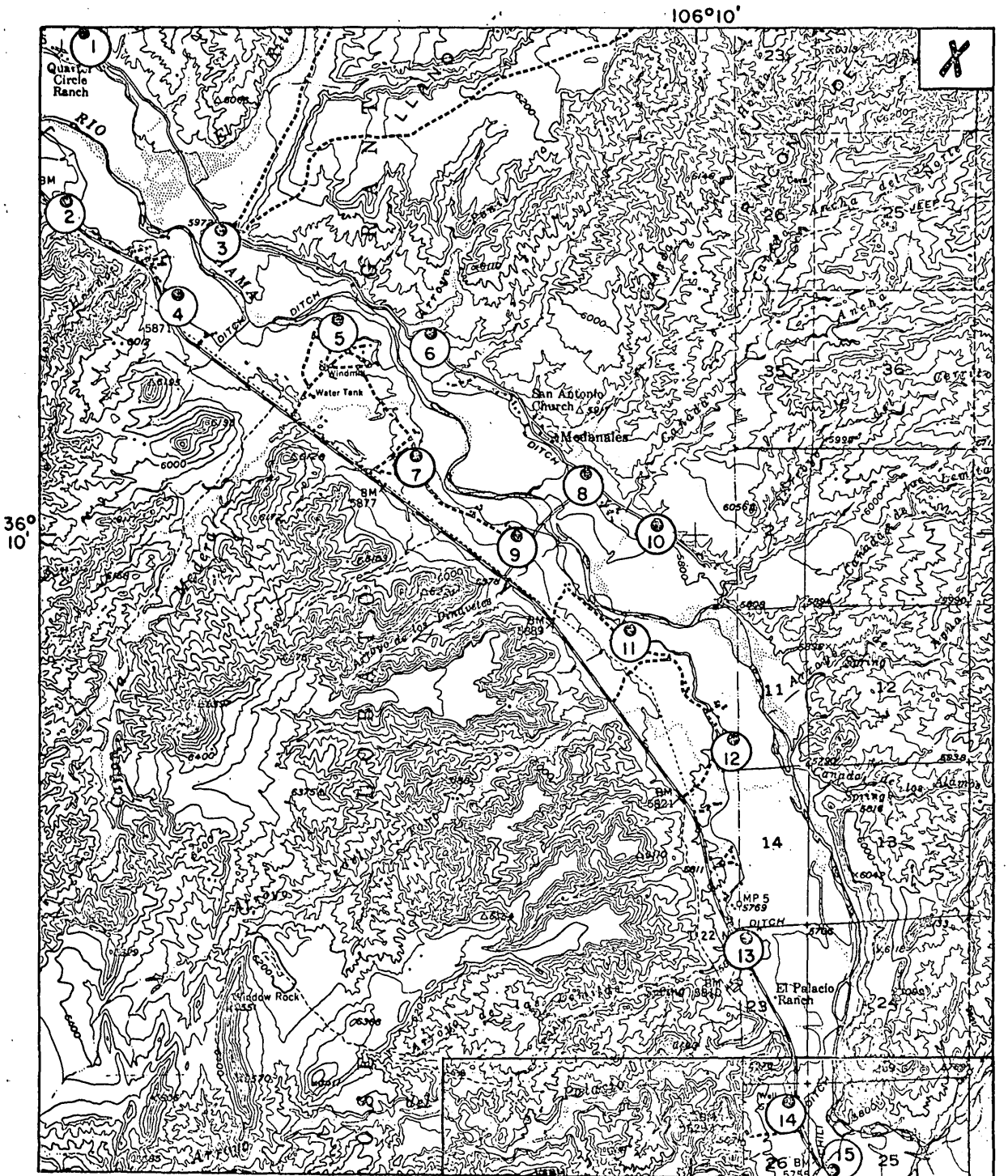


Figure 3.--Locations of springs and wells - Continued

Figure 3.--Locations of springs and wells - Continued



Base from U.S. Geological Survey
San Juan 1;62,500, 1953

0 1 MILE

EXPLANATION

(15) Well

Note: Number by symbol identifies well in tables.

Figure 3.--Locations of springs and wells - Continued

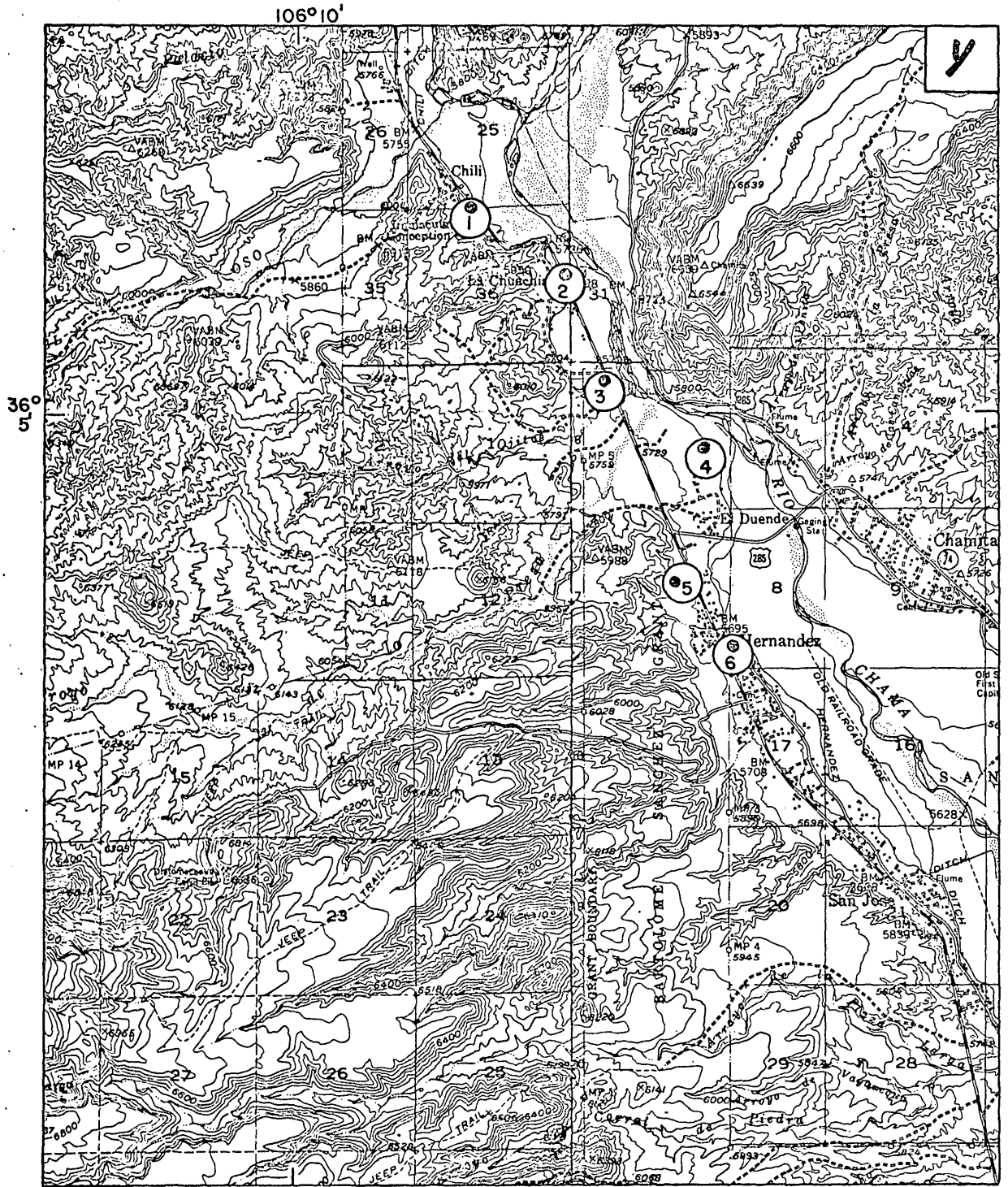
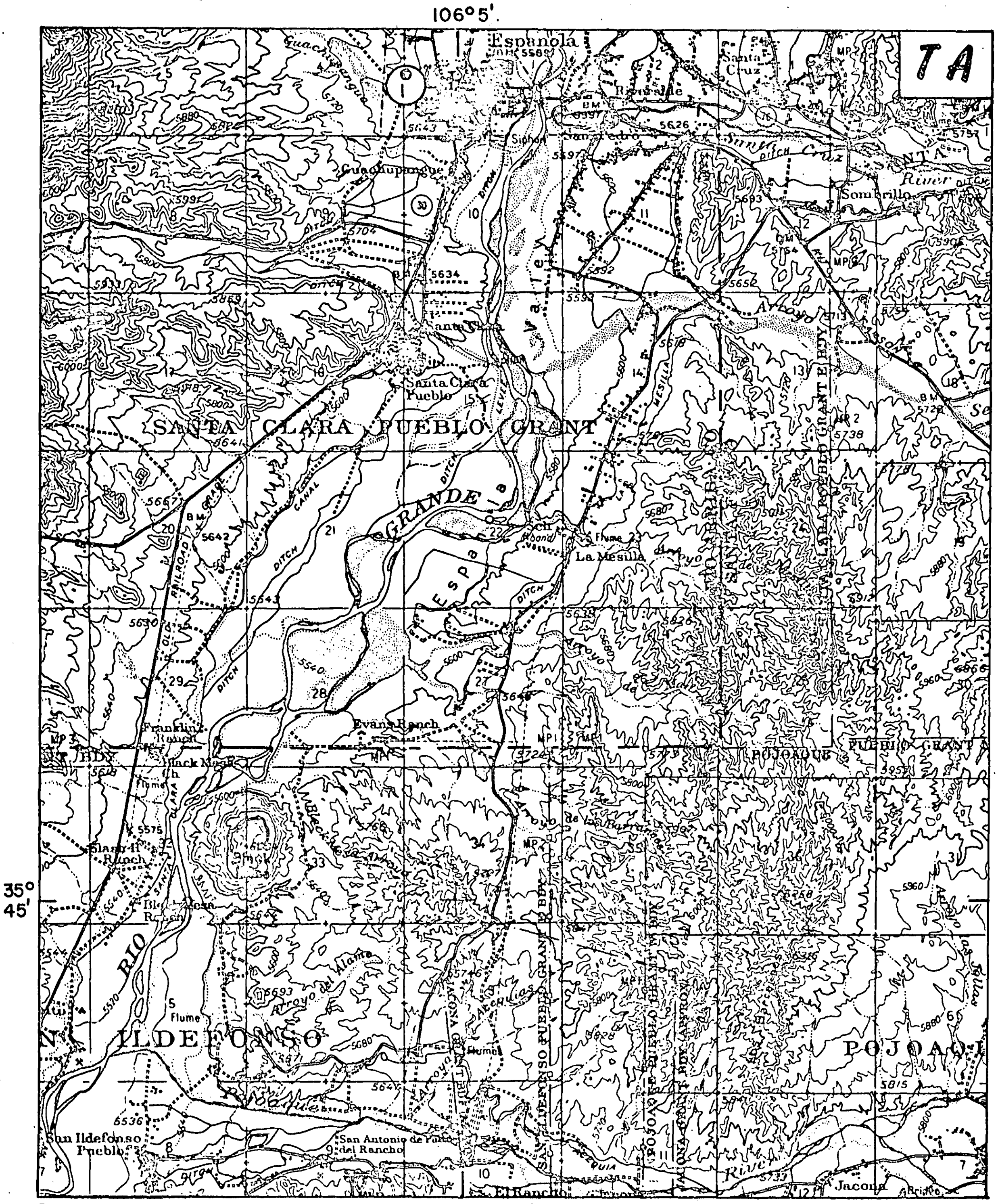


Figure 3.--Locations of springs and wells - Continued



Base from U.S. Geological Survey
Espanola 1:62,500, 1953

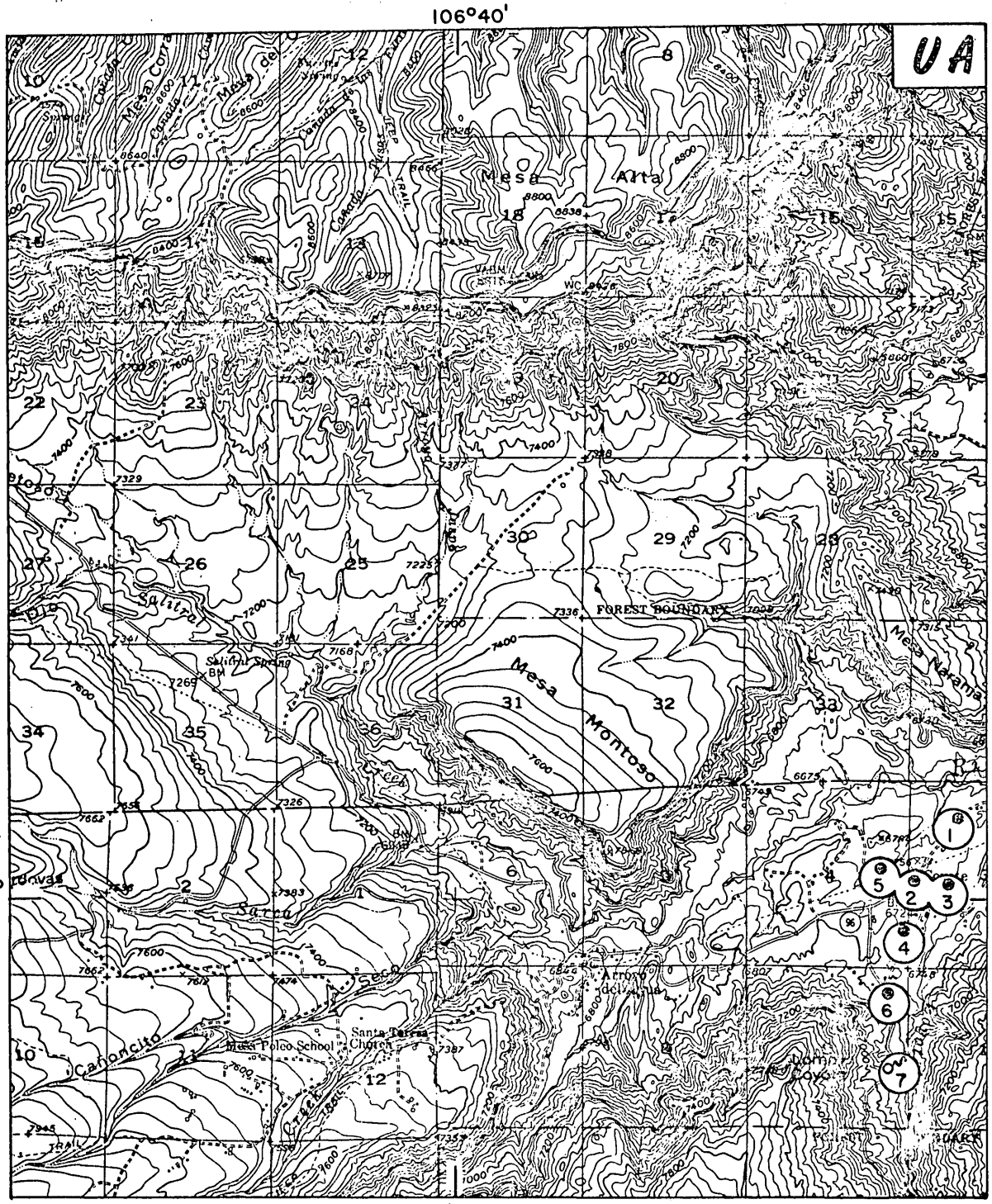
0 1 MILE

EXPLANATION

(1) Well

Note: Number by symbol identifies well in tables.

Figure 3.--Locations of springs and wells - Continued



Base from U.S. Geological Survey
Youngsville 1:62,500, 1953

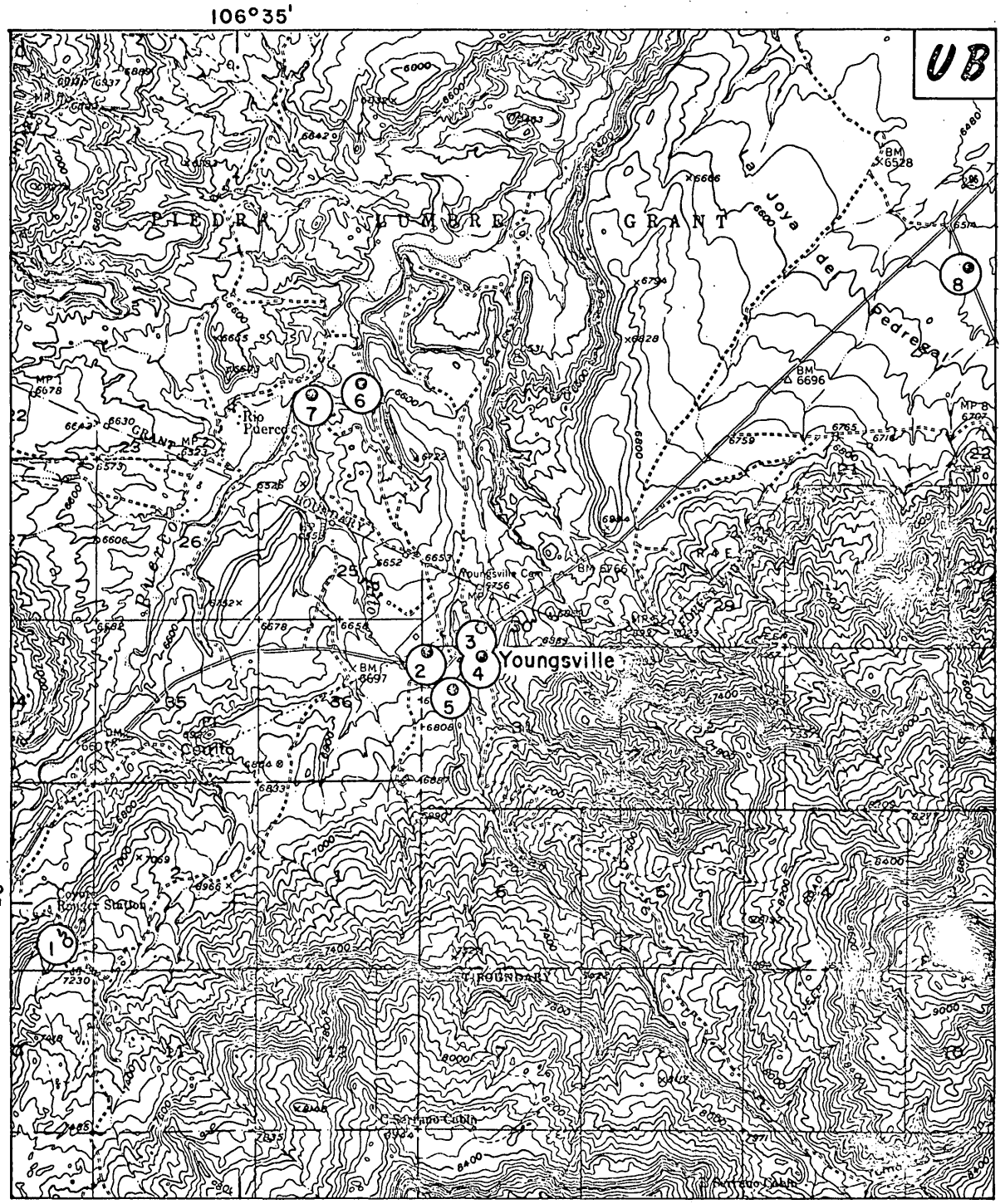
0 MILE

EXPLANATION

6 Well 7 Spring

Note: Number by symbol identifies well in tables.

Figure 3.--Locations of springs and wells - Continued



Base from U.S. Geological Survey
Youngsville 1:62,500, 1953

0 1MILE

EXPLANATION

(5) Well (10) Spring

Note: Number by symbol identifies well in tables.

Figure 3.--Locations of springs and wells - Concluded

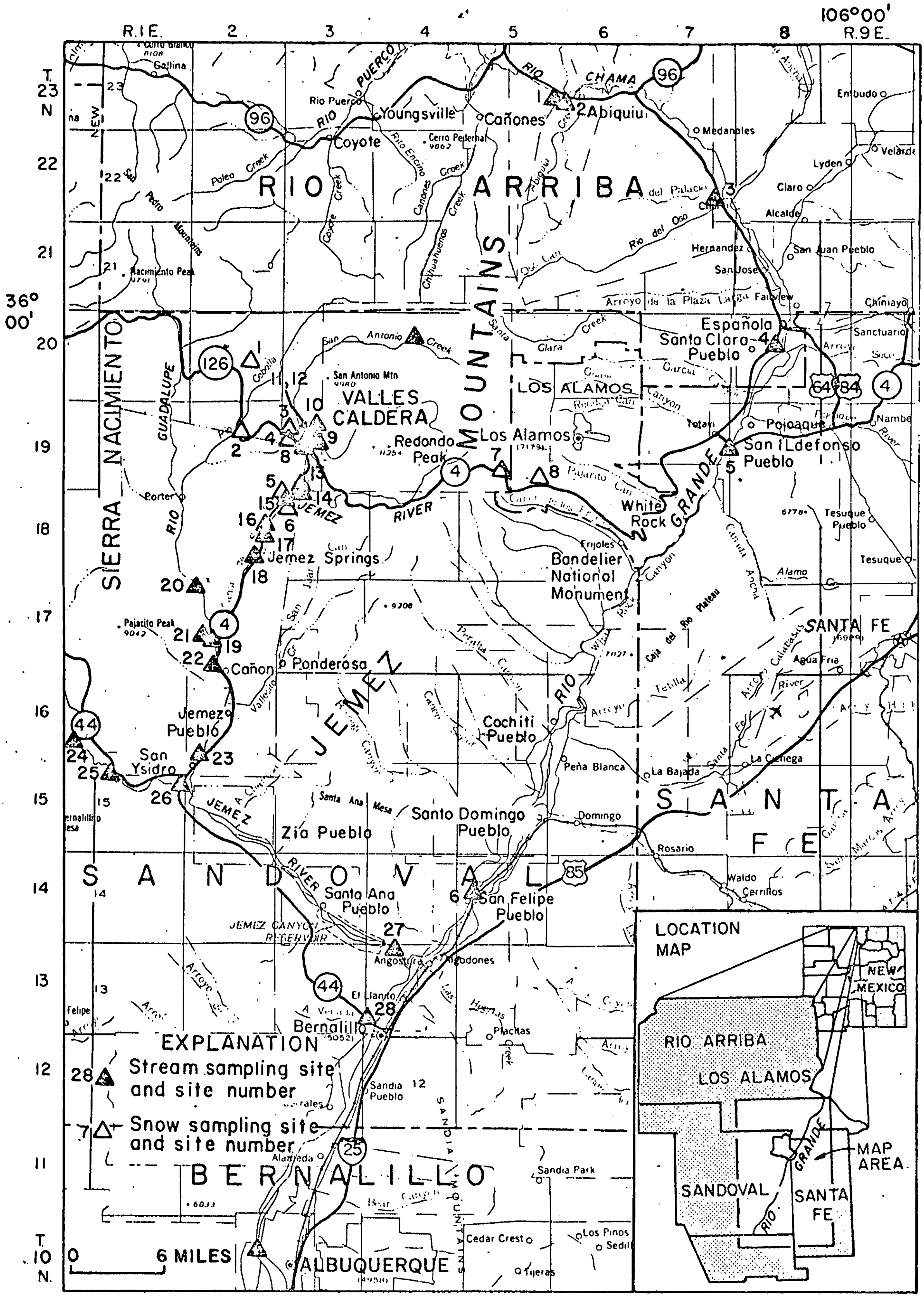
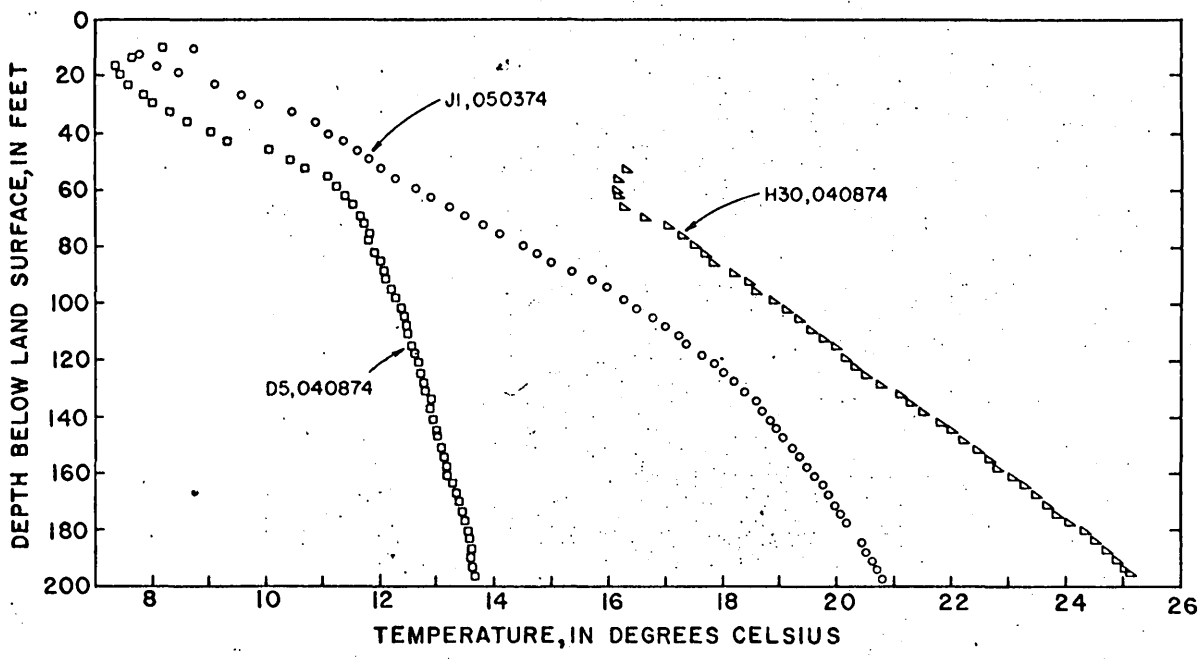


Figure 4.--Locations of stream and snow sampling sites.



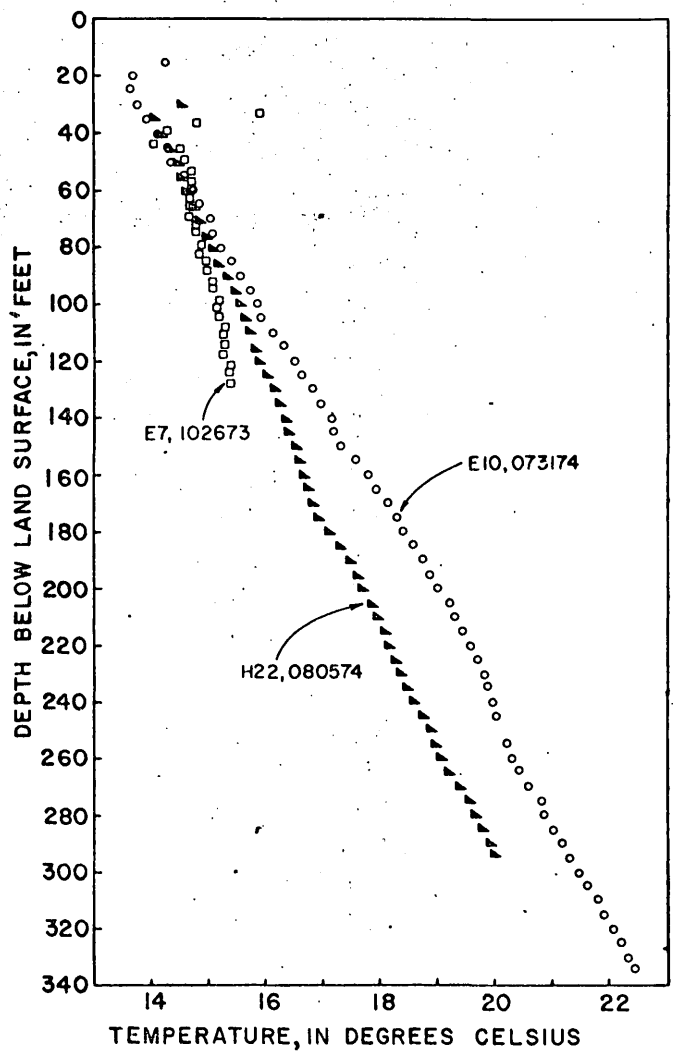


Figure 5.--Temperature profiles in wells. [Each profile is identified by the map number used for the well in table 3, and by date (year-month-day).]

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA GAMMA LOG

OWNER OR FIELD NO: Guadalupe Box Test Hole

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°44'09" N. Lat., 106°45'52" W. Long.

¼SE¼SE¼SE¼ SEC. 31 T 18 (N) S R 2 (E) W

ALTITUDE: LAND SURFACE ____ FT.

DETERMINED BY ____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) ____

CASING DATA

CASING: DIAM. 3 IN. 0 FT. TO 200 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 200 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL 6 FT. (ABOVE, BELOW) Land Surface

TOTAL DEPTH 200 FT. FROM ____

INTERVAL LOGGED 0 FT. TO 195 FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS Clear

FLUID LEVEL 6 FT. FLUID TEMPERATURE ____ °F.

DATE 10/8/74 DATE ____

LOGGING DATA

RUN NO. 1 OF 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 1K

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 1K

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

CALIBRATION IN HOLE: ____

REMARKS Density Increase ←

RADIATION INTENSITY INCREASE ←

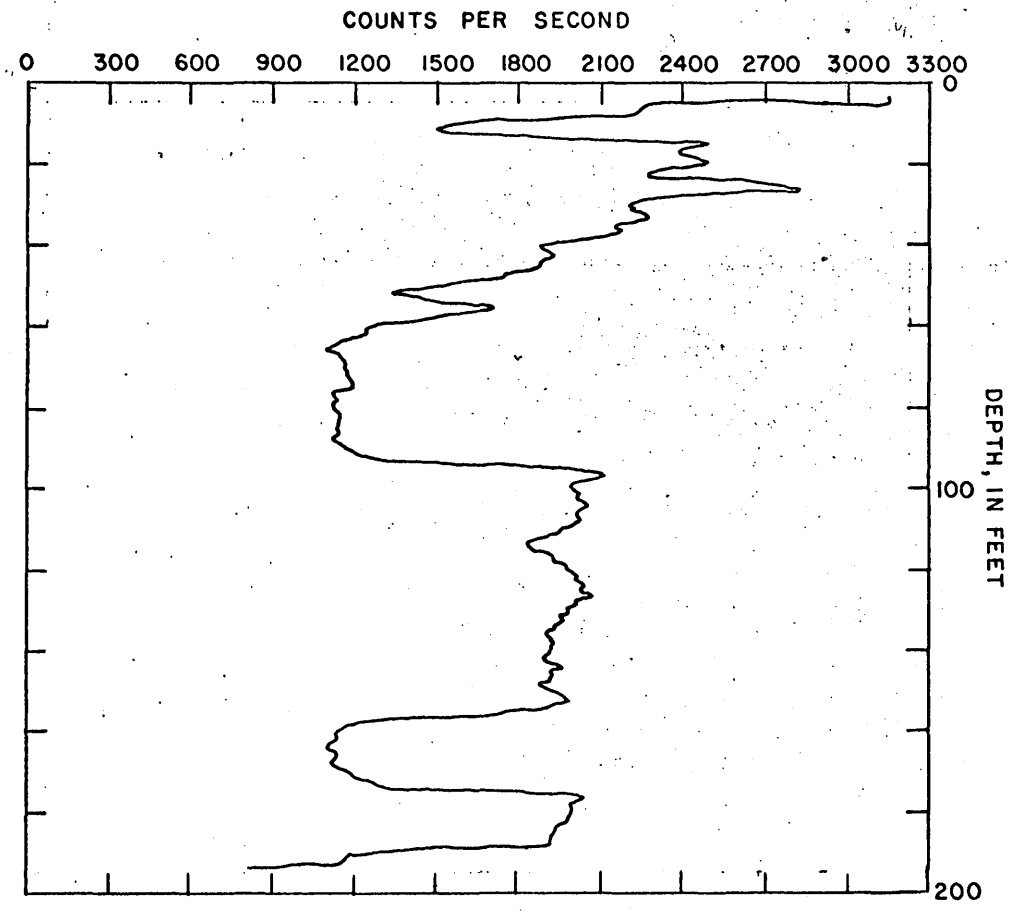


Figure 6.--Geophysical logs in wells (16 logs).

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

NEUTRON LOG

OWNER OR FIELD NO. Guadalupe Box Test Hole

PROJECT NAME Jemez Geothermal Study

U.S.G.S. NO. _____ TOWN _____

STATE New Mexico COUNTY Sandoval

LOCATION 35°44'09" N. lat., 106°45'52" W. long.

¼SE¼SE¼SE¼ SEC. 31 T. 18 (N/S) R. 2 (E/W)

ALTITUDE: LAND SURFACE _____

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT _____ DATE _____

EQUIPMENT NO.: I-99763 VEHICLE NO. I-99763

HOLE LOGGING DATA

CASING: DIAM. 3 IN. 0 FT. TO 200 FT.

BORE: DIAM. 5 IN. 0 FT. TO 200 FT.

DIAM. _____ IN. _____ FT. TO _____ FT.

FLUID LEVEL 6 FT. (ABOVE, BELOW) Land Surface

DATE 10/8/74

DEPTH DRILLED (FEET): 200

DEPTH MEASURED (FEET) 195

INTERVAL LOGGED: 0 FT. TO 195 FT.

OPERATION DATA

RUN NO. 1 OF 1 RUNS. LOGGING SPEED 20 FT./MIN.

VERTICAL SCALE _____ FT./IN.

SOURCE 4 CURRIES AM-BE SPACERS 16 IN.

HORIZONTAL SCALE 100 T.C. 4 SEC.

SENSITIVITY SCALE .50 BASE SCALE 10

FLUID DATA

TYPE: Fresh Water

REMARKS. Porosity Increase ←

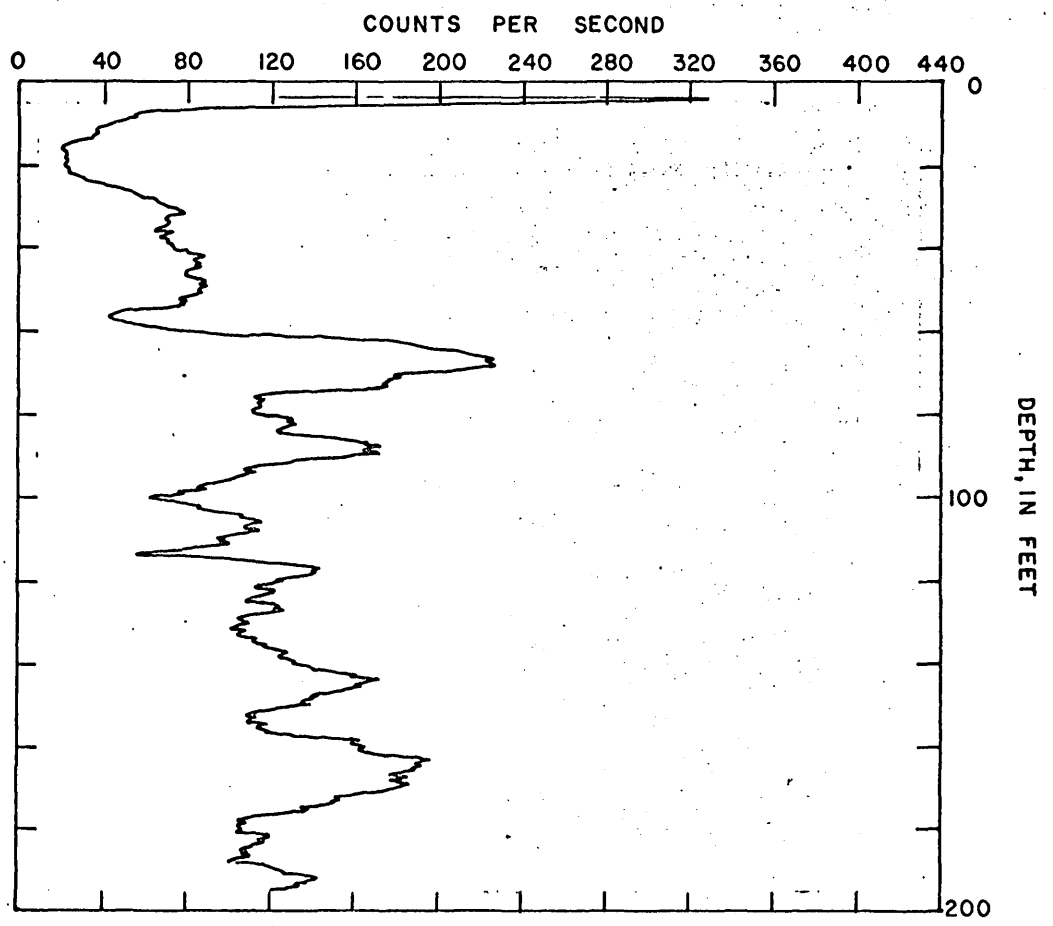


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

ELECTRICAL LOG

OWNER OR FIELD NO. USPHS Test Hole-Jemez Pueblo

PROJECT NAME Jemez Geothermal Study

U.S.G.S. NO. 16N02E15.313 TOWN Jemez Pueblo

STATE New Mexico COUNTY Sandoval

LOCATION 35°36'51" N. Lat., 106°43'23" W. Long.

SW ¼ NW ¼ SW ¼ ¼ SEC. 15 T 16 (N) S R 2 (E) W

ALTITUDE: LAND SURFACE 5690 feet

DETERMINED BY USGS 7.5' Topo

OPERATOR(S) Basler and Trainer

EQUIPMENT I-99763 DATE Aug. 1, 1974

EQUIPMENT NO.: _____ VEHICLE NO. _____

HOLE LOGGING DATA

CASING: DIAM. NONE IN. _____ FT. TO _____ FT.

BORE: DIAM. 5-5/8 IN. 0 FT. TO 195 FT.

DIAM. 5 IN. 195 FT. TO 590 FT.

FLUID LEVEL 56 FT. (ABOVE, BELOW) Land Surface

DATE _____

DEPTH DRILLED (FEET): 590

DEPTH MEASURED (FEET) _____

INTERVAL LOGGED: 56 FT. TO 590 FT.

OPERATION DATA

RUN NO. 1 OF 1 RUNS. LOGGING SPEED 20 FT./MIN.

VERTICAL SCALE _____ FT./IN.

SOURCE _____ CURRIES AM-BE SPACERS _____ IN.

HORIZONTAL SCALE _____ T.C. _____ SEC.

SENSITIVITY SCALE _____ BASE SCALE _____

FLUID DATA

TYPE: _____

REMARKS. _____

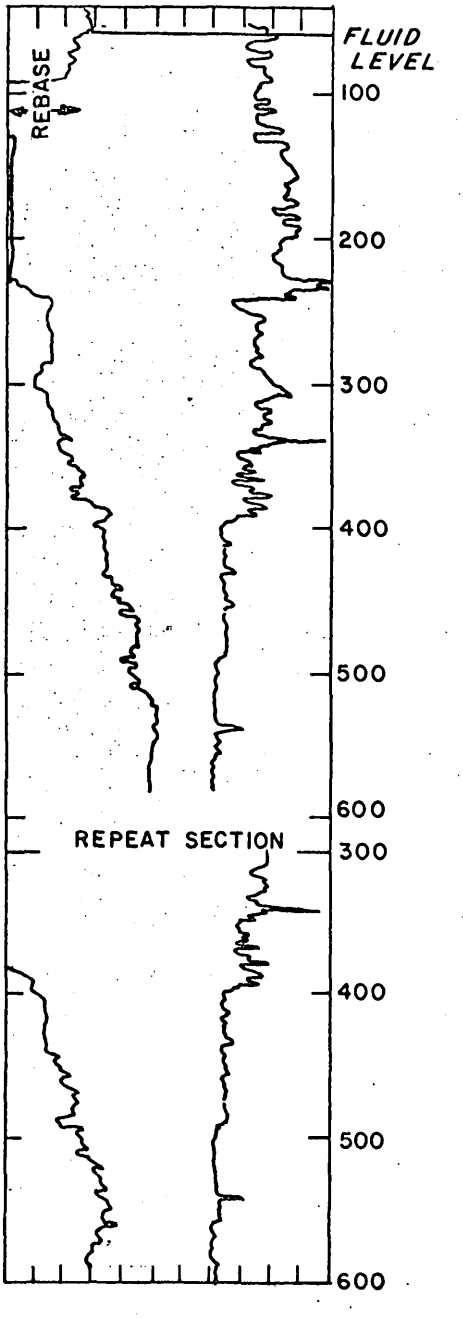


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: U.S.P.H.S. Test Hole-Jemez Pueblo

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°36'51" N. lat., 106°43'23" W. long.

___ ¼ SW ¼ NW ¼ SW ¼ SEC. 15 T. 16 (N) S R. 2 (E) W

ALTITUDE: LAND SURFACE 5690 FT.

DETERMINED BY U.S.G.S. 7.5' Topo.

OPERATOR(S) Basler/Trainer

EQUIPMENT (VEHICLE NO.) I-99763 Date:

CASING DATA

CASING: DIAM. NONE IN. ___ FT. TO ___ FT. THICKNESS ___ IN.

BORE: DIAM. 5-5/8 IN. 0 FT. TO 195 FT. THICKNESS ___ IN.

DIAM. 5 IN. 195 FT. TO 590 FT. THICKNESS ___ IN.

FLUID LEVEL 56 FT. (ABOVE, BELOW) Land Surface

TOTAL DEPTH 590 FT. FROM ___

INTERVAL LOGGED 0 FT. TO 590 FT.

FLUID IN HOLE: ___ CHARACTERISTICS ___

FLUID LEVEL ___ FT. FLUID TEMPERATURE ___ °F.

DATE ___ DATE ___

LOGGING DATA

RUN NO. 1 OF 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: ___ FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE 1.00 TIME CONSTANT 2

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE ___

POTENTIAL CIRCUIT SCALE 1.00 TIME CONSTANT 2

CALIBRATION IN HOLE: ___

REMARKS ___

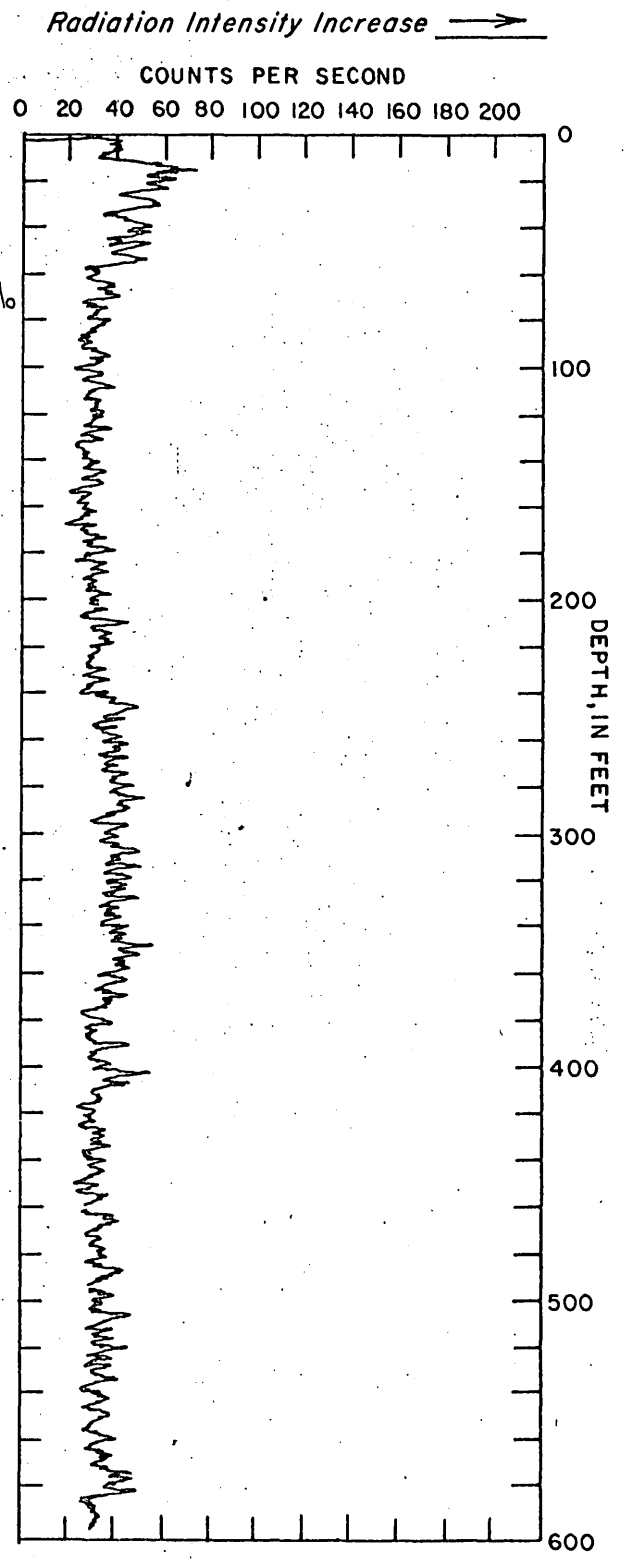


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: San Juan Mesa Test Hole

PROJECT NAME Jemez Geothermal Project

STATE New Mexico COUNTY Sandoval

LOCATION 35°41'57" N. lat., 106°39'18" W. long.

__ & NE & SW & SW & SEC. 17 T. 17 (N/S) R. 3 (E/W)

ALTITUDE: LAND SURFACE ____ FT.

DETERMINED BY ____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/16/74

CASING DATA

CASING: DIAM. 1.5 IN. 0 FT. TO 332 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 332 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL ____ FT. (ABOVE, BELOW) ____

TOTAL DEPTH 332 FT. FROM ____

INTERVAL LOGGED 0 FT. TO 332 FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS ____

FLUID LEVEL ____ FT. FLUID TEMPERATURE ____ °F.

DATE ____ DATE ____

LOGGING DATA

RUN NO. 1 OF 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

CALIBRATION IN HOLE: ____

REMARKS ____

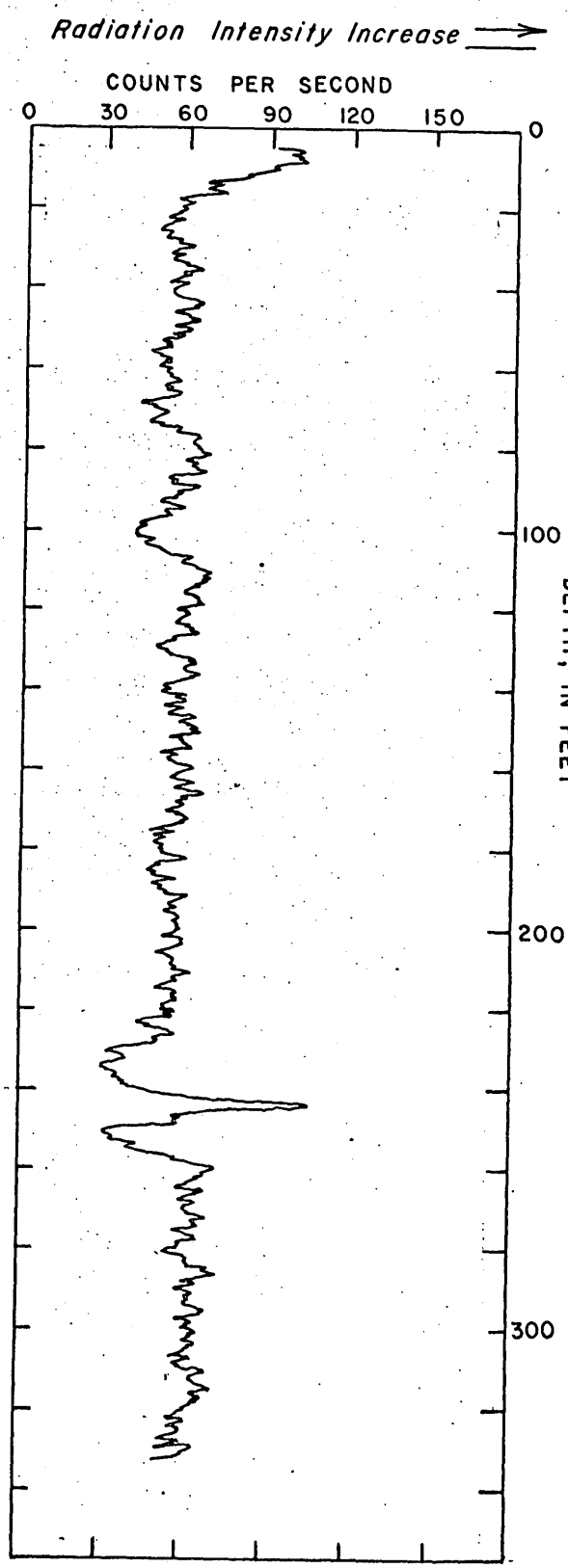


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: Porter Test Hole No.1

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°49'02" N. Lat., 106°47'14" W. Long.

¼NW¼NE¼SW¼ SEC. 1 T 18 (N/S) R 1 (E/W)

ALTITUDE: LAND SURFACE ____ FT.

DETERMINED BY ____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/16/74

CASING DATA

CASING: DIAM. 3 IN. 0 FT. TO 50 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 50 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL 38 FT. (ABOVE, BELOW) Land Surface

TOTAL DEPTH 50 FT. FROM ____

INTERVAL LOGGED 0 FT. TO 48 FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS ____

FLUID LEVEL 38 FT. FLUID TEMPERATURE ____ °F.

DATE 10/16/74 DATE ____

LOGGING DATA

RUN NO. 1 OF 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

CALIBRATION IN HOLE: ____

REMARKS ____

RADIATION INTENSITY INCREASE →

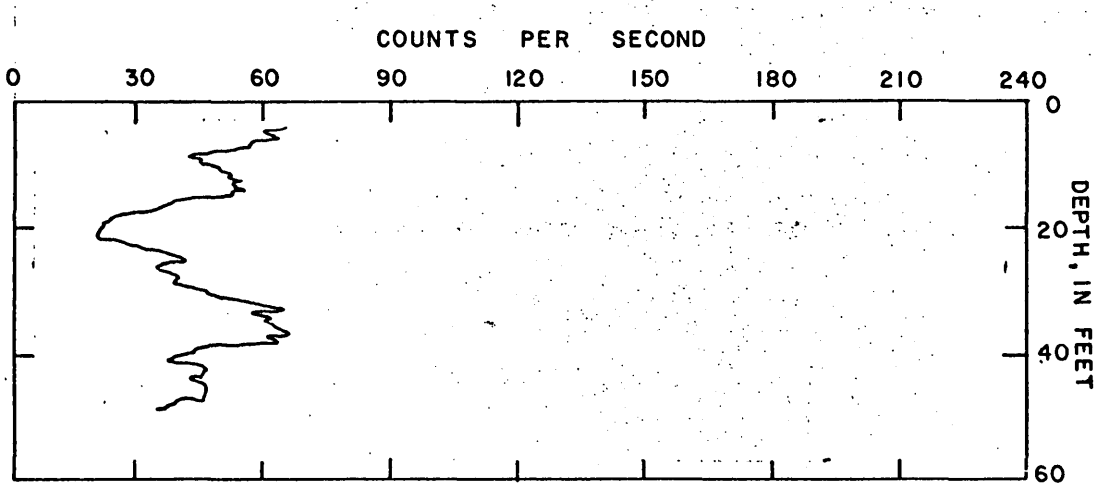


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA GAMMA LOG

OWNER OR FIELD NO: Porter Test Hole No. 1

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°49'02" N. Lat, 106°47'14" W. Long.

¼NW¼NE¼SW¼ SEC. 1 T 18 (N) S R 1 (E) W

ALTITUDE: LAND SURFACE _____ FT.

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/16/74

CASING DATA

CASING: DIAM. 3 IN. 0 FT. TO 50 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 50 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL 38 FT. (ABOVE, BELOW) Land Surface

TOTAL DEPTH _____ FT. FROM _____

INTERVAL LOGGED _____ FT. TO _____ FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS _____

FLUID LEVEL _____ FT. FLUID TEMPERATURE _____ °F.

DATE _____ DATE _____

LOGGING DATA

RUN NO. 1 OF 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 2.5K

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 2.5K

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

CALIBRATION IN HOLE: _____

REMARKS Density Increase ←

RADIATION INTENSITY INCREASE _____

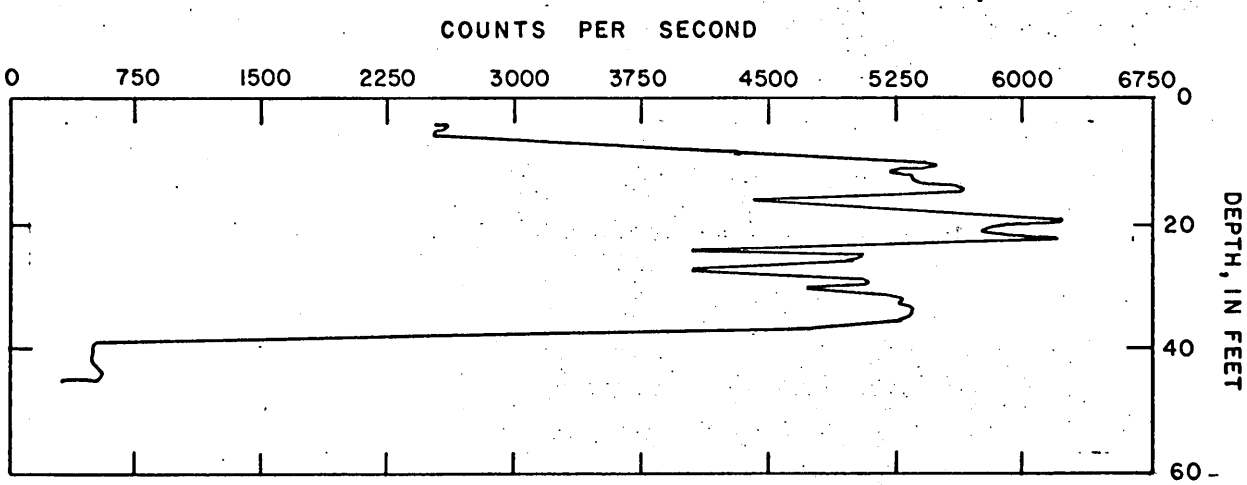


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

NEUTRON LOG

OWNER OR FIELD NO. Porter Test Hole No. 1

PROJECT NAME Jemez Geothermal Study

U.S.G.S. NO. _____ TOWN _____

STATE New Mexico COUNTY Sandoval

LOCATION 35°49'02" N. Lat., 106°47'14" W. Long.

¼NW¼NE¼SW¼ SEC. 1 T 18 (N) S R 1 (E) W

ALTITUDE: LAND SURFACE _____

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT _____ DATE 10/16/74

EQUIPMENT NO.: _____ VEHICLE NO. I-99763

HOLE LOGGING DATA

CASING: DIAM. 3 IN. 0 FT. TO 50 FT.

BORE: DIAM. 5 IN. 0 FT. TO 60 FT.

DIAM. _____ IN. _____ FT. TO _____ FT.

FLUID LEVEL 38 FT. (ABOVE, BELOW) Land Surface

DATE 10/16/74

DEPTH DRILLED (FEET): 50

DEPTH MEASURED (FEET) 48

INTERVAL LOGGED: 0 FT. TO 48 FT.

OPERATION DATA

RUN NO. 1 OF 1 RUNS. LOGGING SPEED 20 FT./MIN.

VERTICAL SCALE _____ FT./IN.

SOURCE 4 CURRIES AM-BE SPACERS 16 IN.

HORIZONTAL SCALE 100 T.C. 4 SEC.

SENSITIVITY SCALE 50 BASE SCALE 10

FLUID DATA

TYPE: Fresh Water

REMARKS. Porosity Increase ←

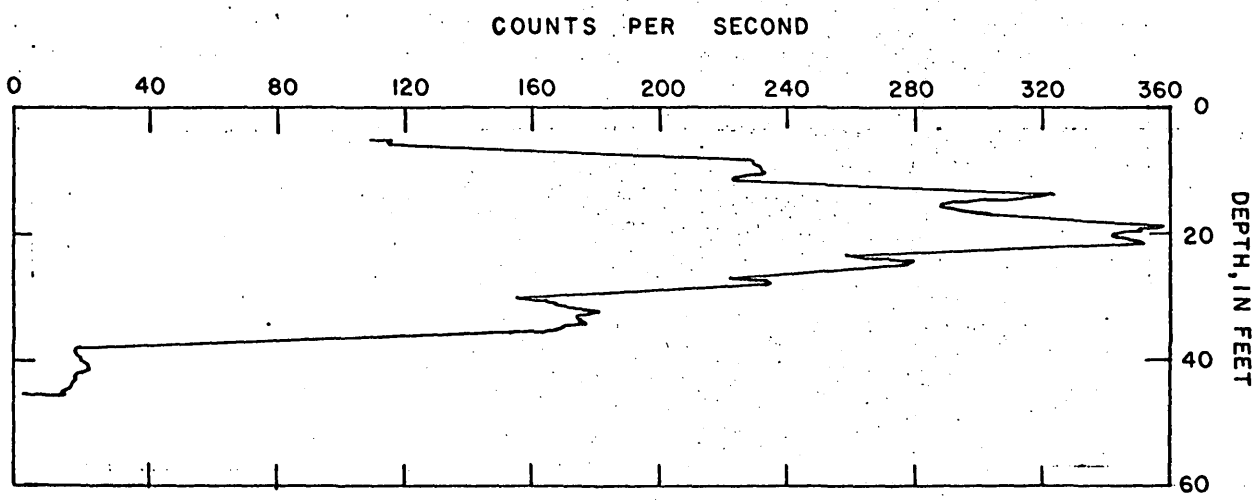


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: Porter Test Well No. 2

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°49'02" N. Lat., 106°39'18" W. Long.

¼NW¼NE¼SW¼ SEC. 1 T 18 (N) S R 1 (E) W

ALTITUDE: LAND SURFACE ____ FT.

DETERMINED BY ____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/16/74

CASING DATA

CASING: DIAM. 1½ IN. 0 FT. TO 185 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 185 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL ____ FT. (ABOVE, BELOW) ____

TOTAL DEPTH 185 FT. FROM ____

INTERVAL LOGGED 0 FT. TO 150 FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS ____

FLUID LEVEL ____ FT. FLUID TEMPERATURE ____ °F.

DATE ____ DATE ____

LOGGING DATA

RUN NO. 1 OF 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

CALIBRATION IN HOLE: ____

REMARKS ____

RADIATION INTENSITY INCREASE →

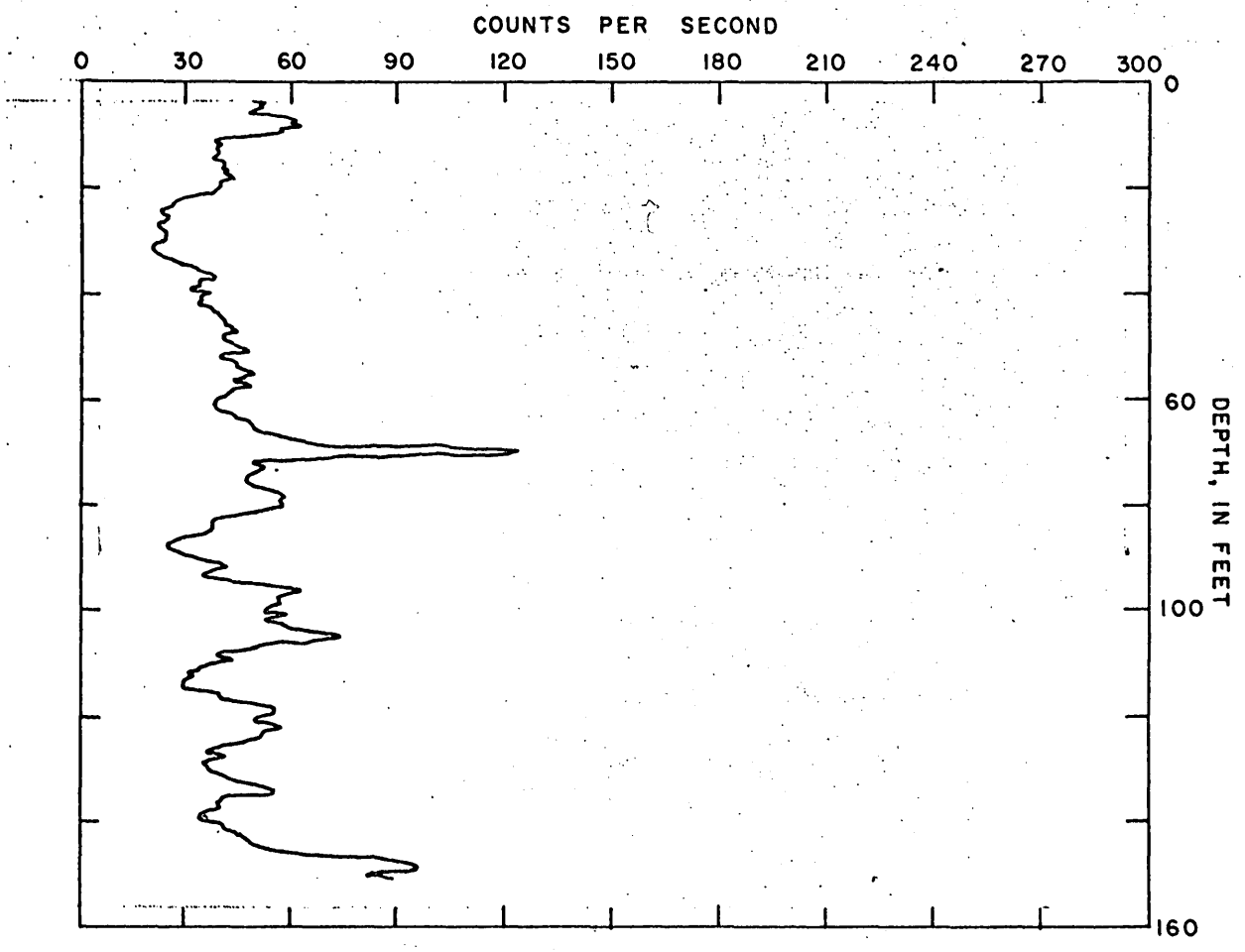


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: Jemez Springs Test Hole 2

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°45'22" N. Lat., 106°42'00" W. Long.

¼SE¼SW¼SW¼ SEC. 26 T 18 (N) S R 2 (E) W

ALTITUDE: LAND SURFACE _____ FT.

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/8/74

CASING DATA

CASING: DIAM. 3 IN. 0 FT. TO 150 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 150 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL 112 FT. (ABOVE, BELOW) Land Surface

TOTAL DEPTH 150 FT. FROM _____

INTERVAL LOGGED 0 FT. TO 150 FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS Clear

FLUID LEVEL _____ FT. FLUID TEMPERATURE _____ °F.

DATE _____ DATE _____

LOGGING DATA

RUN NO. 1 of 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .50 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .50 TIME CONSTANT 4

CALIBRATION IN HOLE: _____

REMARKS _____

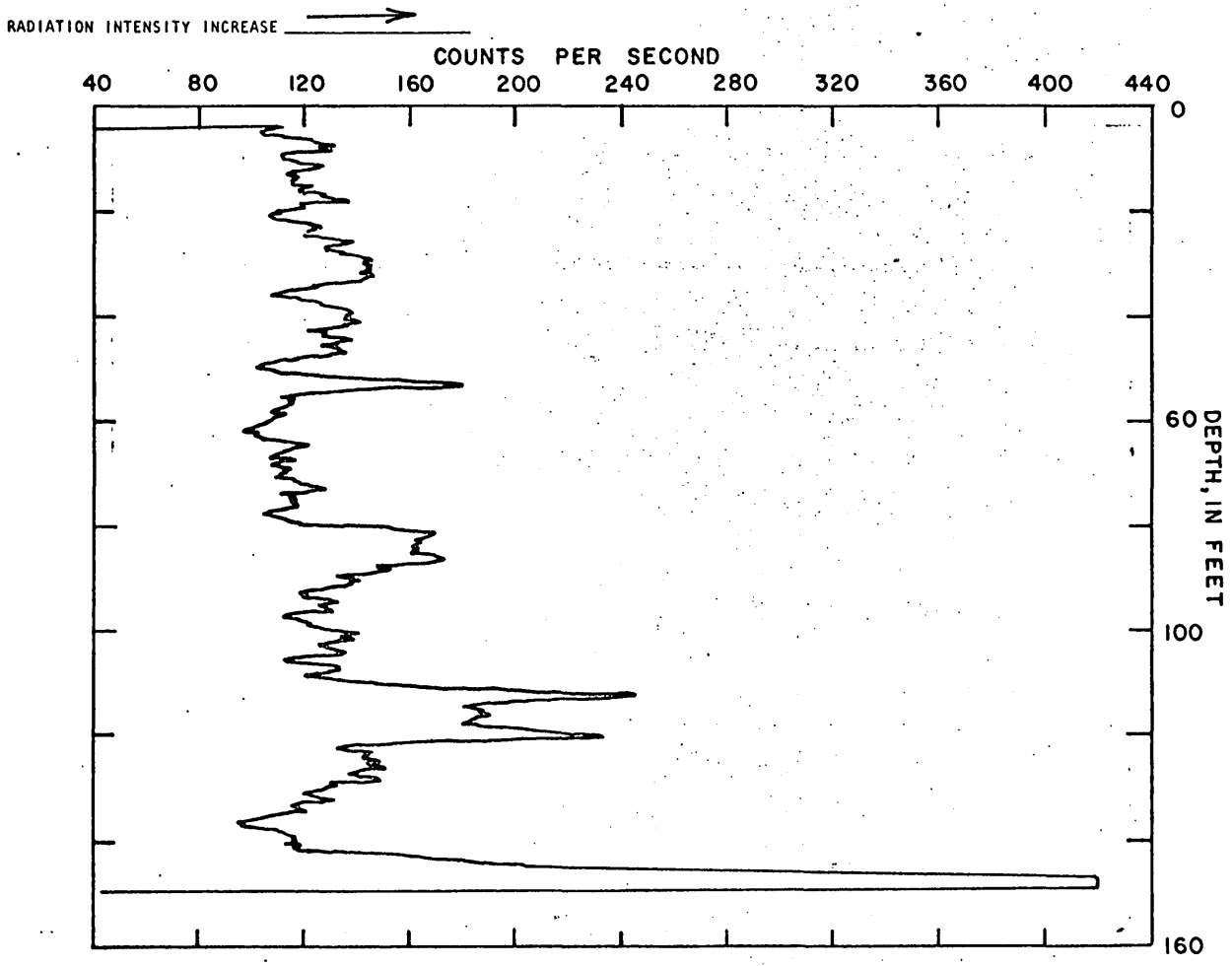


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA GAMMA LOG

OWNER OR FIELD NO: Jemez Springs Test Hole

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°45'22" N. Lat., 106°42'00" W. Long.

¼SE¼SW¼SW¼ SEC. 26 T 18 (N) S R 2 (E) W

ALTITUDE: LAND SURFACE _____ FT.

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/8/74

CASING DATA

CASING: DIAM. 3 IN. 0 FT. TO 150 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 150 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL 112 FT. (ABOVE, BELOW) Land Surface

TOTAL DEPTH 150 FT. FROM _____

INTERVAL LOGGED 0 FT. TO 149 FT.

FLUID IN HOLE: 112 CHARACTERISTICS _____

FLUID LEVEL _____ FT. FLUID TEMPERATURE 11-14 °C

DATE _____ DATE _____

LOGGING DATA

RUN NO. 1 OF 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 5K and 2.5K

POTENTIAL CIRCUIT SCALE 10 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 5K and 2.5K

POTENTIAL CIRCUIT SCALE 10 TIME CONSTANT 4

REMARKS Density Increase ←

Changed Scale at fluid level

RADIATION INTENSITY INCREASE _____

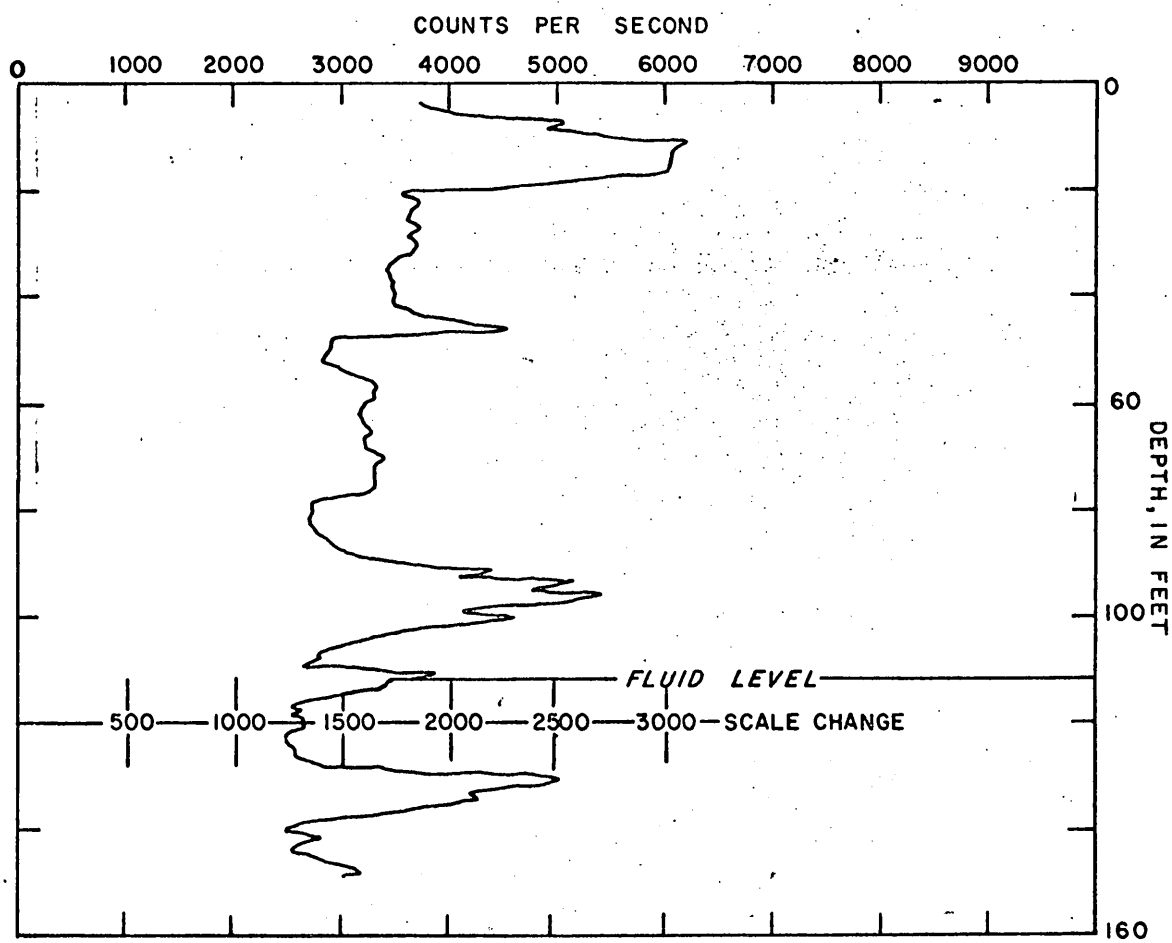


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

NEUTRON LOG

OWNER OR FIELD NO. Jemez Springs Test Hole No.2

PROJECT NAME Jemez Geothermal Study

U.S.G.S. NO. _____ TOWN Jemez Springs

STATE New Mexico COUNTY Sandoval

LOCATION 35°45'22" N. lat., 106°42'00" W. long.

¼SE¼SW¼SW¼ SEC. 26 T 18 (N) S R 2 (E) W

ALTITUDE: LAND SURFACE _____

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT Westronics DATE 10/8/74

EQUIPMENT NO.: _____ VEHICLE NO. I-99763

HOLE LOGGING DATA

CASING: DIAM. 3 IN. 0 FT. TO 150 FT.

BORE: DIAM. 5 IN. 0 FT. TO 150 FT.

DIAM. _____ IN. _____ FT. TO _____ FT.

FLUID LEVEL 112 FT. (ABOVE, BELOW) Land Surface

DATE 10/8/74

DEPTH DRILLED (FEET): 150

DEPTH MEASURED (FEET) 150

INTERVAL LOGGED: 0 FT. TO 149 FT.

OPERATION DATA

RUN NO. 1 OF 1 RUNS. LOGGING SPEED 20 FT./MIN.

VERTICAL SCALE _____ FT./IN.

SOURCE 4 CURRIES AM-BE SPACERS 16 IN.

HORIZONTAL SCALE 100 T.C. 4 SEC.

SENSITIVITY SCALE 10 and 50 BASE SCALE 10

FLUID DATA

TYPE: Fresh Water

REMARKS. Porosity Increase ←

Changed scale at Fluid Level.

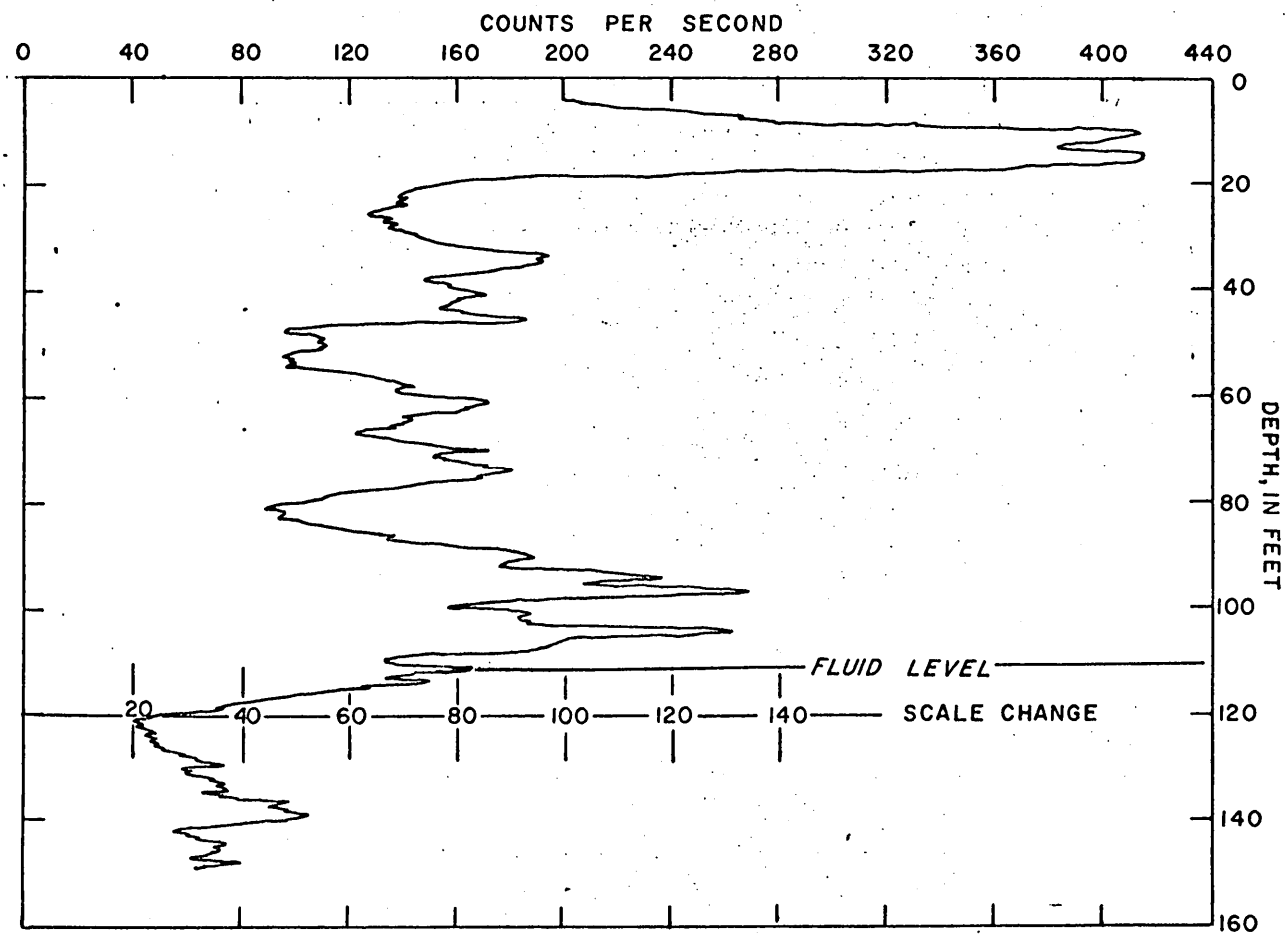


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: Jemez Springs Test Hole No. 1

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°45'22" N.Lat., 106°42'00" W.Long.

¼SE¼SW¼SW¼ SEC. 26 T. 18 (N/S) R. 2 (E/W)

ALTITUDE: LAND SURFACE _____ FT.

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/16/74

CASING DATA

CASING: DIAM. 1½ IN. 0 FT. TO 295 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 295 FT. THICKNESS ____ IN.
DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL _____ FT. (ABOVE, BELOW) _____

TOTAL DEPTH _____ FT. FROM _____

INTERVAL LOGGED _____ FT. TO _____ FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS: _____

FLUID LEVEL _____ FT. FLUID TEMPERATURE _____ °F.

DATE _____ DATE _____

LOGGING DATA

RUN NO. 1 of 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100
POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100
POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

CALIBRATION IN HOLE: _____

REMARKS Gamma tool hangs up at 121.6 feet

RADIATION INTENSITY INCREASE →

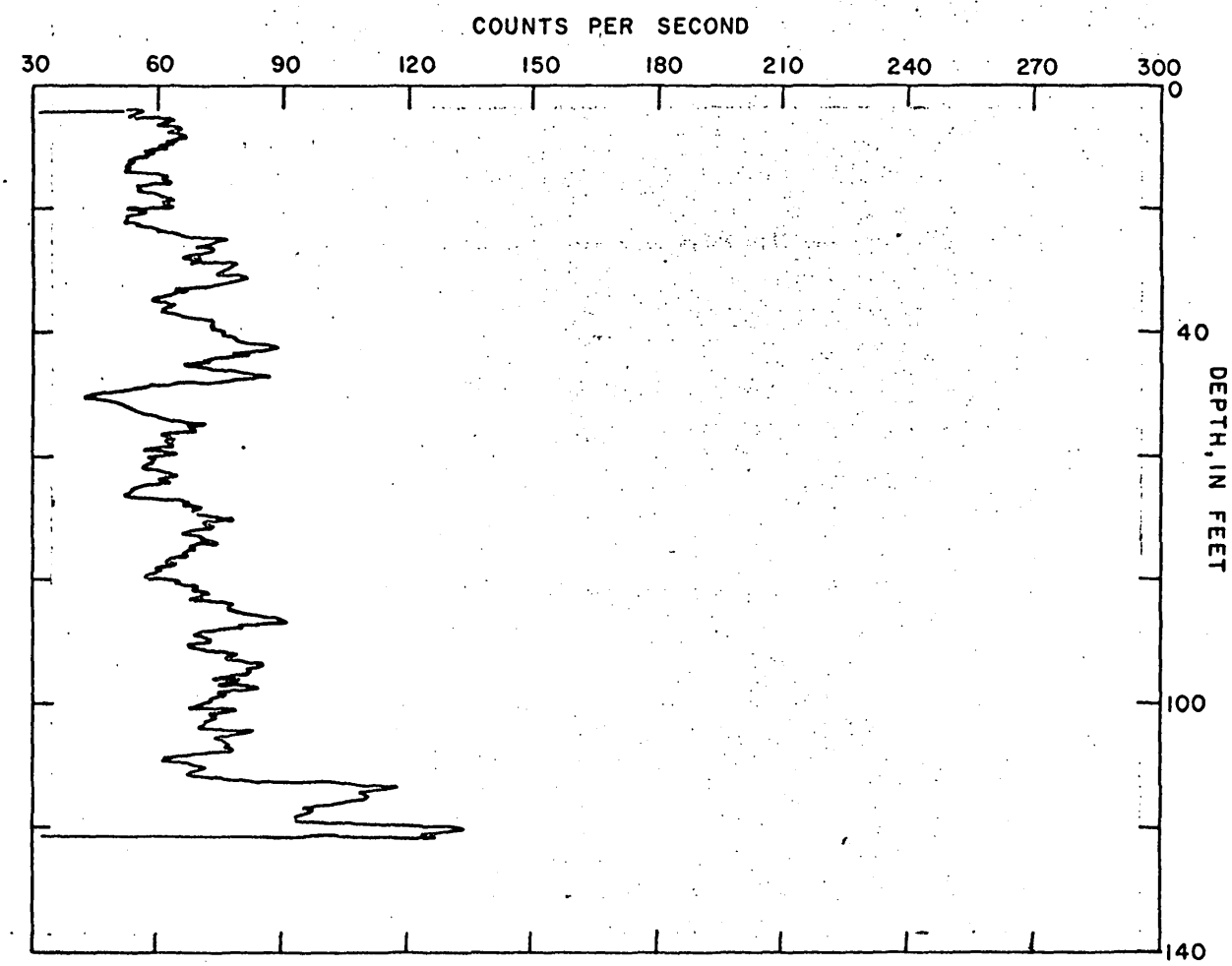


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: Test Well Near Battleship Rock

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°49'49" N. Lat., 106°38'56" W. Long.

¼SE¼SW¼SW¼ SEC. 32 T 10 (N) S R 3 (E) W

ALTITUDE: LAND SURFACE _____ FT.

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99963 Date: 10/16/74

CASING DATA

CASING: DIAM. 1½ IN. 0 FT. TO 200 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 200 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL _____ FT. (ABOVE, BELOW) _____

TOTAL DEPTH 200 FT. FROM _____

INTERVAL LOGGED 0 FT. TO 197 FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS _____

FLUID LEVEL _____ FT. FLUID TEMPERATURE _____ °F.

DATE _____ DATE _____

LOGGING DATA

RUN NO. 1 of 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .75 TIME CONSTANT 4

CALIBRATION IN HOLE: _____

REMARKS _____

RADIATION INTENSITY INCREASE →

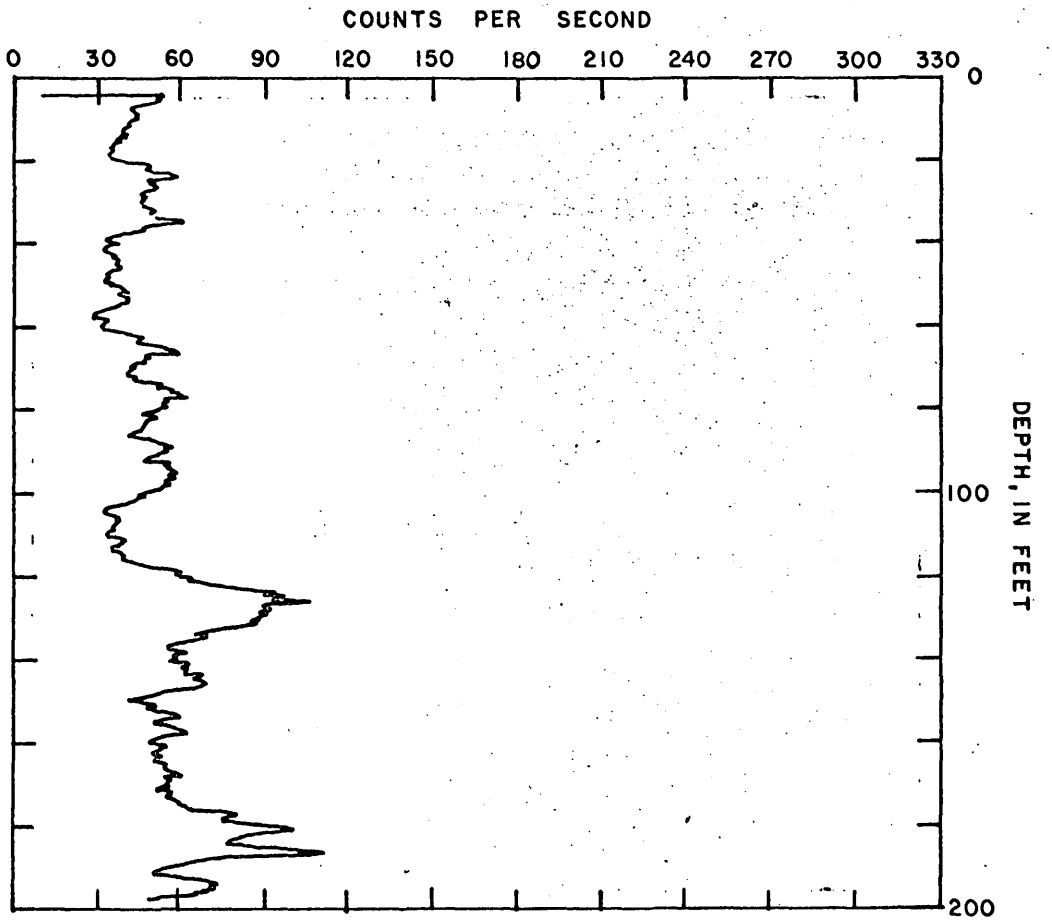


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: Banco Bonito Test Hole

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°49'36" N. Lat., 106°36'20" W. Long.

¼NW¼NW¼NE¼ SEC. 3 T. 18 (N) S R. 3 (E) W

ALTITUDE: LAND SURFACE _____ FT.

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/16/74

CASING DATA

CASING: DIAM. 7½ IN. 0 FT. TO 297 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 298 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL _____ FT. (ABOVE, BELOW) _____

TOTAL DEPTH 298 FT. FROM _____

INTERVAL LOGGED 0 FT. TO 297 FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS _____

FLUID LEVEL _____ FT. FLUID TEMPERATURE _____ °F.

DATE _____ DATE _____

LOGGING DATA

RUN NO. 1 of 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE 75 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE 75 TIME CONSTANT 4

CALIBRATION IN HOLE: _____

REMARKS _____

RADIATION INTENSITY INCREASE →

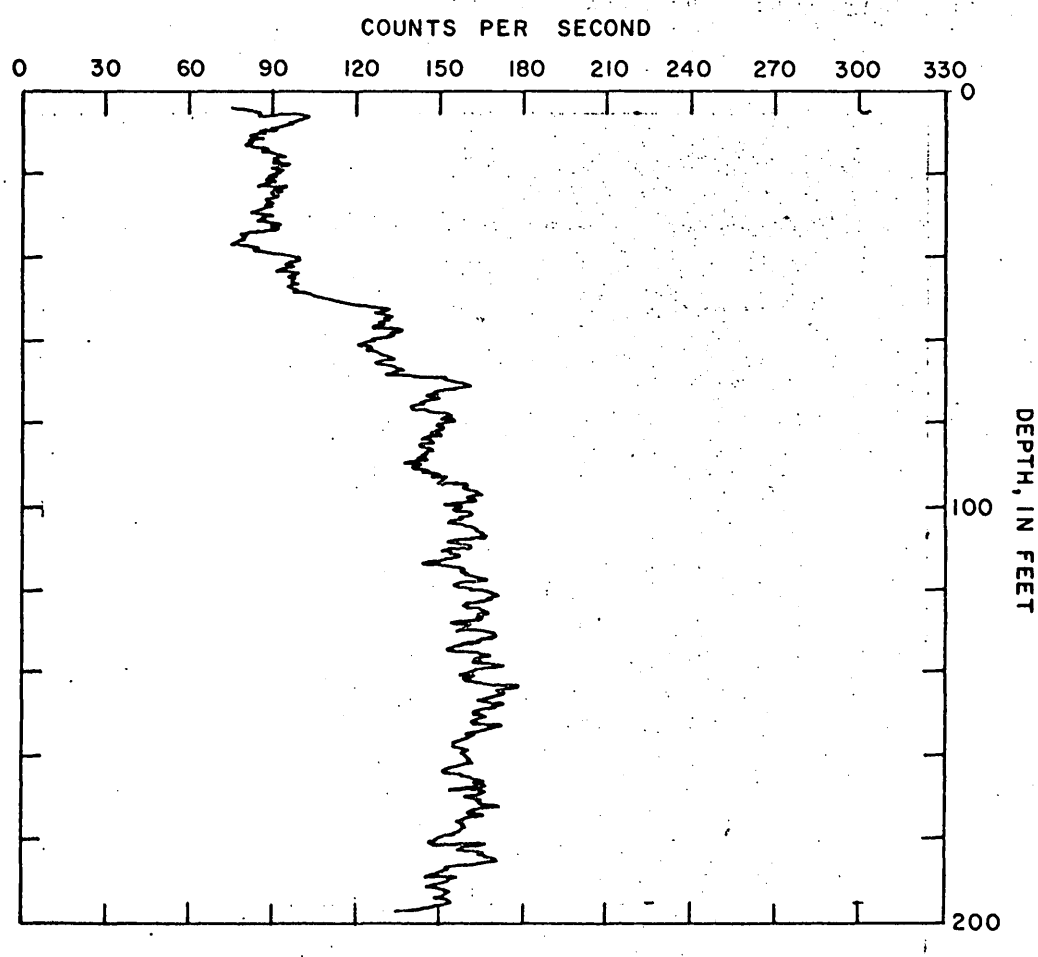


Figure 6.--Geophysical logs in wells - Continued

U. S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

GAMMA LOG

OWNER OR FIELD NO: Guadalupe Box Test Hole

PROJECT NAME Jemez Geothermal Study

STATE New Mexico COUNTY Sandoval

LOCATION 35°44'09" N. Lat., 106°45'52" W. Long.

¼ SE¼ SE¼ SE¼ SEC. 31 T 18 (N) S R 2 (E) W

ALTITUDE: LAND SURFACE _____ FT.

DETERMINED BY _____

OPERATOR(S) Hudson and Stevens

EQUIPMENT (VEHICLE NO.) I-99763 Date: 10/8/74

CASING DATA

CASING: DIAM. 3 IN. 0 FT. TO 200 FT. THICKNESS ____ IN.

BORE: DIAM. 5 IN. 0 FT. TO 200 FT. THICKNESS ____ IN.

DIAM. ____ IN. ____ FT. TO ____ FT. THICKNESS ____ IN.

FLUID LEVEL 6 FT. (ABOVE, BELOW) land surface

TOTAL DEPTH 200 FT. FROM _____

INTERVAL LOGGED 0 FT. TO 195 FT.

FLUID IN HOLE: Fresh Water CHARACTERISTICS Clear

FLUID LEVEL 6 FT. FLUID TEMPERATURE ____ °F.

DATE 10/8/74 DATE _____

LOGGING DATA

RUN NO. 1 of 1 RUNS. PROBE SENSITIVITY (HIGH)

DESCENT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE 100

POTENTIAL CIRCUIT SCALE .50 TIME CONSTANT 4

LOGGED OUT: 20 FT./MIN. GAMMA-RAY CIRCUIT SCALE _____

POTENTIAL CIRCUIT SCALE .50 TIME CONSTANT 4

CALIBRATION IN HOLE: _____

REMARKS _____

RADIATION INTENSITY INCREASE →

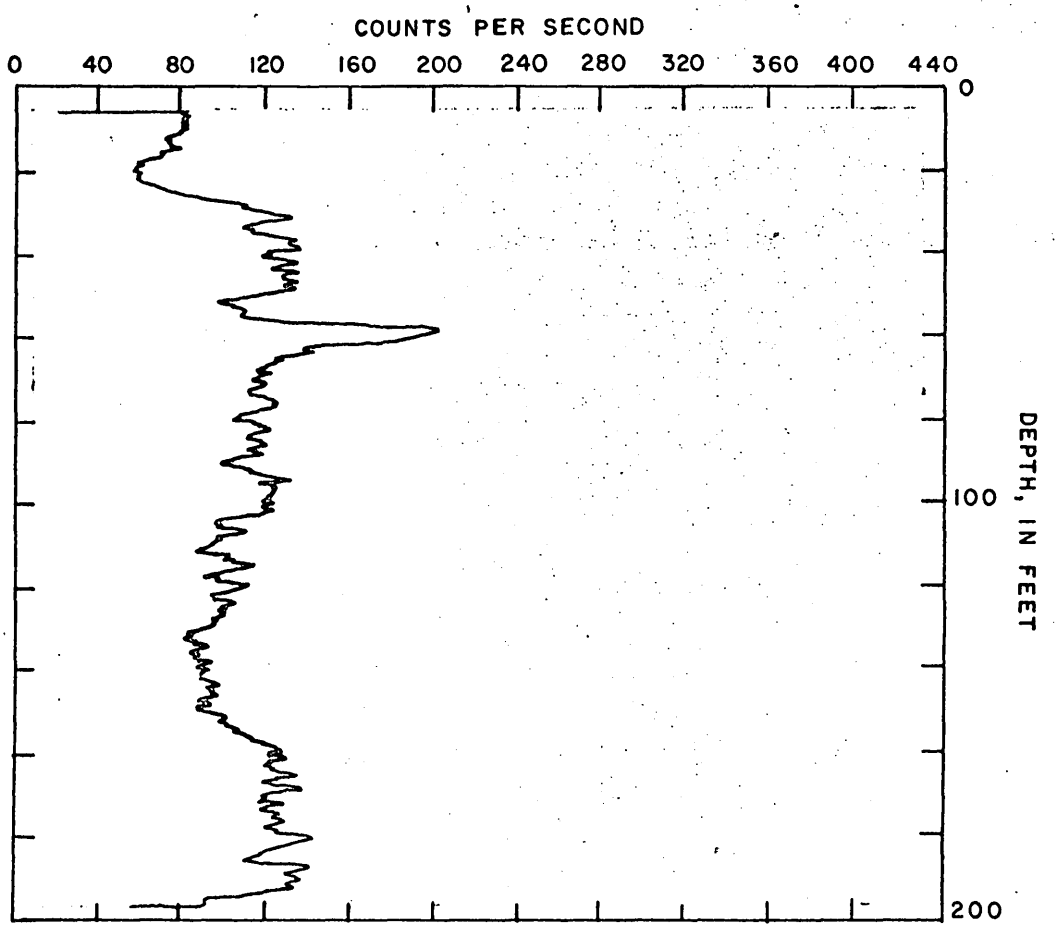


Figure 6.--Geophysical logs in wells - Concluded

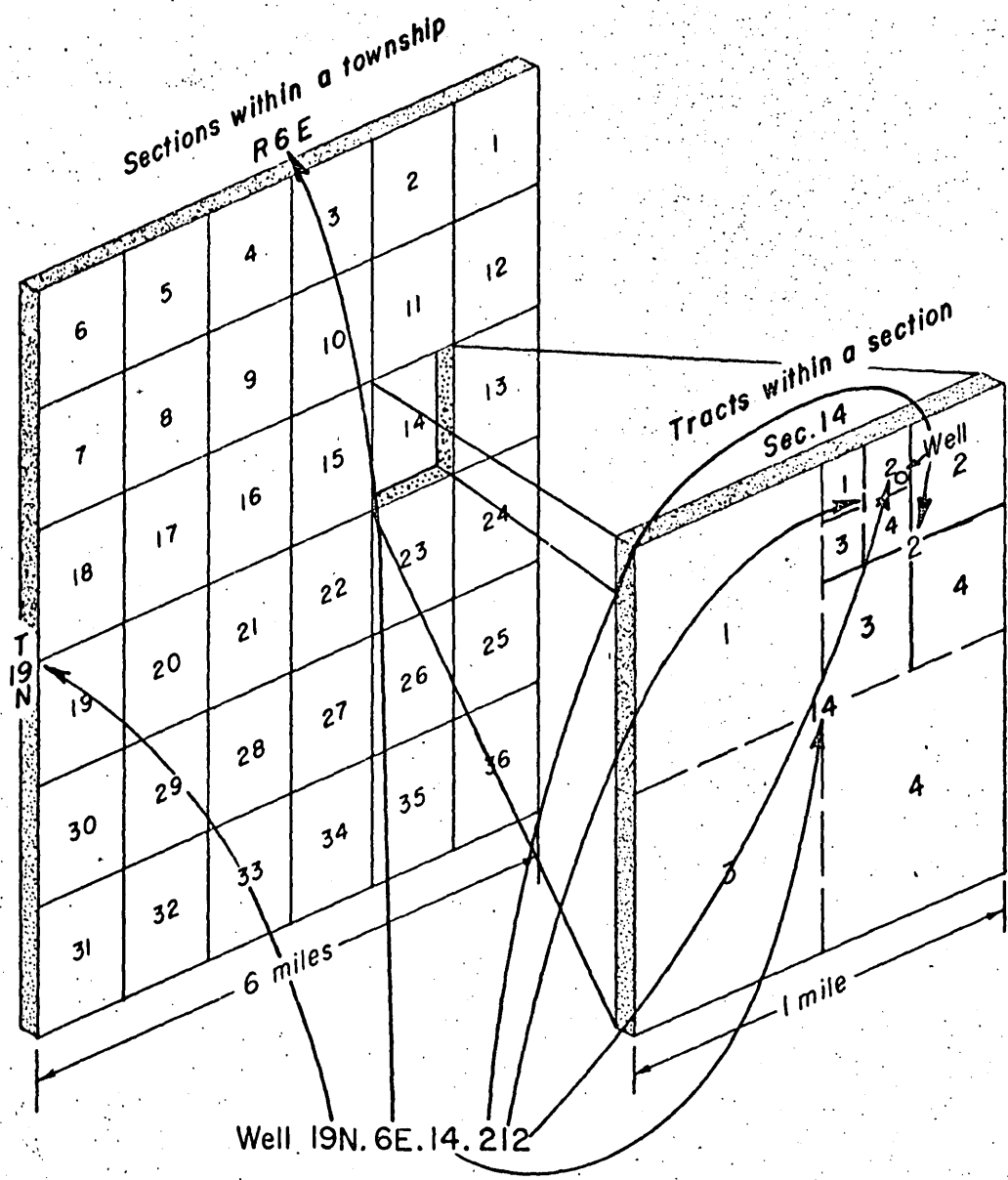


Figure 7.--System of numbering springs and wells by land-survey system.

X = 500,000 feet) and from the parallel 31°00' north latitude (Y = 0 feet). In the Jemez Mountains all values of X and Y are positive. Numbered ticks at the margins of Geological Survey 7-1/2 minute topographic quadrangles facilitate the scaling-off of distances in locating geographic points by this system.

REFERENCES CITED[1/]

Clark, J. D., 1929, The saline springs of the Rio Salado, Sandoval County, New Mexico: Univ. New Mexico Bull., Chemistry Series, v. 1, no. 3, 29 p.

Conover, C. S., Theis, C. V., and Griggs, R. L., 1963, Geology and hydrology of Valle Grande and Valle Toledo, Sandoval County, New Mexico: U.S. Geol. Survey Water-Supply Paper 1619-Y, 37 p.

Dane, C. H., and Bachman, G. O., 1965, Geologic map of New Mexico: U.S. Geol. Survey, scale 1:500,000.

Galusha, Ted, 1966, The Zia Sand Formation, new early to medial Miocene beds in New Mexico: Am. Museum Nat. History Novitates, no. 2271, p. 1-12.

Galusha, Ted, and Blick, J. C., 1971, Stratigraphy of the Santa Fe Group, New Mexico: Am. Museum Nat. History Bull., v. 144, article 1, 127 p.

Griggs, R. L., 1954, Geology and ground-water resources of the Los Alamos area, New Mexico, with a section on Quality of water by J. D. Hem: U.S. Geol. Survey Water-Supply Paper 1753, 107 p.

John, E. C., Enyart, E. A., and Purtymun, W. D., 1967, Records of wells, test holes, springs, and surface-water stations in the Los Alamos area, New Mexico: U.S. Geol. Survey open-file report, 129 p.

Mariner, R. H., Presser, T. S., and Evans, W. C., 1977, Chemical, isotope, and gas compositions of selected thermal springs in Arizona, New Mexico, and Utah: U.S. Geol. Survey Open-File Report 77-654, 56 p.

[1/] Citations of sources of published data given in tables in this report are in abbreviated form--author's or senior author's last name, and the year of publication--to save space. One such citation in the tables does not completely identify the report to which reference is made: "Purtymun 1974" refers to Purtymun, West, and Adams (1974).

REFERENCES CITED[1/] - Concluded

New Mexico Environmental Improvement Agency, 1974, New Mexico public water supplies, chemical data: New Mexico Health and Social Services Dept., Environmental Improvement Agency, 2 vol. (major communities, 157 p.; minor communities, 217 p.).

Purtymun, W. D., 1973, Geology of the Jemez Plateau west of Valles Caldera: Univ. California, Los Alamos Scientific Laboratory Pub. LA-5124-MS, 13 p.

Purtymun, W. D., West, F. G., and Adams, W. H., 1974, Preliminary study of the quality of water in the drainage area of the Jemez River and Rio Guadalupe: Univ. California, Los Alamos Scientific Laboratory Pub. LA-5595-MS, 26 p.

Renick, B. C., 1931, Geology and ground-water resources of western Sandoval County, New Mexico: U.S. Geol. Survey Water-Supply Paper 620, 117 p.

Ross, C. S., Smith, R. L., and Bailey, R. A., 1961, Outline of the geology of the Jemez Mountains, New Mexico: New Mexico Geol. Soc. Guidebook, 12th Field Conf., The Albuquerque Country, p. 139-143.

Scott, R. C., an- Barker, F. B., 1962, Data on uranium and radium in ground water in the United States, 1954 to 1957: U.S. Geol. Survey Prof. Paper 426, 115 p.

Smith, R. L., Bailey, R. A., and Ross, C. S., 1970, Geologic map of the Jemez Mountains, New Mexico: U.S. Geol. Survey Misc. Geol. Inv. Map I-571, scale 1:125,000.

Theis, C. V., and Conover, C. S., 1962, Pumping tests in the Los Alamos Canyon well field near Los Alamos, New Mexico: U.S. Geol. Survey, Water-Supply Paper 1619-I, 24 p.

U.S. Environmental Data Service, 1975, Climatological data, New Mexico: Environmental Data Service, National Oceanic and Atmospheric Administration, v. 79, monthly issues.

U.S. Soil Conservation Service, 1972, Normal annual precipitation, New Mexico: Soil Conservation Service, U.S. Dept. Agriculture, map, scale 1:500,000.

Wood, G. H., and Northrop, S. A., 1946, Geology of the Nacimiento Mountains, San Pedro Mountain, and adjacent plateaus in parts of Sandoval and Rio Arriba Counties, New Mexico: U.S. Geol. Survey Oil and Gas Inv. Prelim. Map 57, scale 1:95,040.

World Almanac and Book of Facts, 1973, The World Almanac and Book of Facts: New York, Newspaper Enterprise Association, 1040 p.

ADDITIONAL REFERENCES

The publications listed below, not cited in this report but dealing with the Jemez Mountains and vicinity, may be useful to those interested in the geology, hydrology, and geothermal resources of this region. These publications are grouped into several categories as an aid in reference.

Road logs

Kelley, V. C., Baltz, E. H. Jr., and Bailey, R. A., 1961, Road log: Jemez Mountains and vicinity: New Mexico Geol. Soc. Guidebook, 12th Field Conf., The Albuquerque Country, p. 47-62.

Kudo, A. M., and Woodward, L. A., 1974, Road log from junction of U.S. 84 and El Rito turnoff to Española, Valle Grande, San Ysidro, and Bernalillo: New Mexico Geol. Soc. Guidebook, 25th, Field Conf., Ghost Ranch, p. 35-49.

Smith, C. T., Muehlberger, W. R., Baltz, E. H., and Ash, S. R., 1969, Chama to vicinity of Cuba via Ghost Ranch, Coyote and Regina: New Mexico Geol. Soc. Guidebook, 11th Field Conf., Rio Chama Country, p. 35-44.

Woodward, L. A., Fassett, J. E., and Talbott, L. W., 1974, Road log from Ghost Ranch to Cuba and Nacimiento Mine: New Mexico Geol. Soc. Guidebook, 25th Field Conf., Ghost Ranch, p. 1-9.

Stratigraphy and geologic structure

DuChene, H. R., 1973, Structure and stratigraphy of Guadalupe Box and vicinity, Sandoval County, New Mexico: Univ. New Mexico, unpub. MS thesis, 100 p.

DuChene, H. R., 1974, Structure of the Guadalupe Box area, Sandoval County, New Mexico: New Mexico GEol. Soc. Guidebook, 25th Field Conf., Ghost Ranch, p. 131-135.

Galusha, Ted, 1974, Dating rocks of the Santa Fe Group; Programs and problems: New Mexico Geol. Soc. Guidebook, 25th Field Conf., Ghost Ranch, p. 283-286.

Purtymun, W. D., West, F. G., and Pettit, R. A., 1974, Geology of Geothermal Test Hole GT-2, Fenton Hill Site, July 1974: Univ. California, Los Alamos Scientific Laboratory, Pub. LA-5780-MS, 15 p.

Reutschilling, R. L., 1973, Structure and stratigraphy of the San Ysidro quadrangle, Sandoval County, New Mexico; Univ. New Mexico, unpub. MS thesis, 79 p.

Slemmons, D. B., 1975, Fault activity and seismicity near the Los Alamos Scientific Laboratory geothermal test site, Jemez Mountains, New Mexico: Univ. California, Los Alamos Scientific Laboratory Pub. LA-5911-MS, 26 p.

Woodward, L. A., Kaufman, W. H., and Anderson, J. B., 1972, Nacimiento Fault and related structures, northern New Mexico: Geol. Soc. America Bull., v. 83, no. 8, p. 2383-2396.

Volcanic rocks and history

Doell, R. R., Dalrymple, G. B., Smith, R. L., and Bailey, R. A., 1968, Paleomagnetism, potassium-argon ages, and geology of rhyolites and associated rocks of the Valles Caldera, New Mexico: Geol. Soc. America Mem. 116, p. 211-248.

Smith, R. L., and Bailey, R. A., 1968, Resurgent caldrons: Geol. Soc. America Mem. 116, p. 613-662.

Smith, R. L., Bailey, R. A., and Ross, C. S., 1961, Structural evolution of the Valles Caldera, New Mexico, and its bearing on the emplacement of ring dikes: U.S. Geol. Survey Prof. Paper 424-D, p. D145-D149.

Geophysics

Aiken, C. L. V., Laughlin, A. W., and West, F. G., 1977, Residual Bouguer gravity anomaly map of northern New Mexico: Univ. California, Los Alamos Scientific Laboratory, LA-6737-Map.

Cordell, Lindrith, 1972, Complete Bouguer anomaly gravity map of the Jemez area, New Mexico: U.S. Geol. Survey open-file map, scale 1:250,000.

———1976, Aeromagnetic and gravity studies of the Rio Grande graben in New Mexico between Belen and Pilar: New Mexico Geol. Soc. Spec. Pub. 6, p. 62-70.

Joesting, H. R., Case, J. E., and Cordell, L. E., 1961, The Rio Grande trough near Albuquerque, New Mexico: U.S. Geol. Survey Prof. Paper 424-D, p. D282-D286.

Jiracek, G. R., 1974, Geophysical studies in the Jemez Mountains region, New Mexico: New Mexico Geol. Soc. Guidebook, 25th Field Conf., Ghost Ranch, p. 137-144.

Jiracek, G. R., 1975, Deep electrical resistivity investigations coupled with dry geothermal reservoir experiments in New Mexico: Univ. New Mexico Tech. Prog. Rept. to Nat. Sci. Found./RANN, Contract No. NSF GI-42835, 47 p.

U.S. Geological Survey, 1972, Aeromagnetic map of the Jemez area, New Mexico: U.S. Geol. Survey open-file map, scale 1:250,000.

West, F. G., 1973, Regional geology and geophysics of the Jemez Mountains: Univ. California, Los Alamos Scientific Laboratory Pub. LA-5362-MS, 7 p.

West, F. G., Kintzinger, P. R., and Laughlin, A. W., 1975, Geophysical logging in Los Alamos Scientific Laboratory Geothermal Test Hole No. 2: Univ. California, Los Alamos Scientific Laboratory Pub. LA-UR-75-1518, 12 p.

Woltz, David, 1972. [See reference under Water chemistry and chemical analyses.]

Geothermal phenomena and research

Bailey, R. A., 1961, Hot spring and solfataric areas in the Valles Caldera, Jemez Mountains, N. Mex.: U.S. Geol. Survey open-file map, scale 1:62,500.

Pettit, R. A., 1975, Planning, drilling, and logging of Geothermal Test Hole GT-2, Phase I: Univ. California, Los Alamos Scientific Laboratory Pub. LA-5819-PR, 42 p.

Pettit, R. A., 1975, Planning, drilling, and logging of Geothermal Test Hole GT-2, Phase II: Univ. California, Los Alamos Scientific Laboratory Pub. LA-5897-PR, 21 p.

Potter, R. M., 1973, Heat flow of the Jemez Plateau [abs.]: Am. Geophys. Union Trans., v. 54, no 11, p. 1214.

Reiter, Marshall, Edwards, C. L., Hartman, Harold, and Weidman, Charles, 1975, Terrestrial heat flow along the Rio Grande rift, New Mexico and southern Colorado: Geol. Soc. America Bull., v. 86, no. 6, p. 811-818.

Summers, W. K., 1965a, A preliminary report on New Mexico's geothermal energy resources: New Mexico Bur. Mines and Mineral Resources Circ. 80, 41 p.

Summers, W. K., 1965b, Chemical characteristics of New Mexico's thermal waters--a critique: New Mexico Bur. Mines and Mineral Resources Circ. 83, 27 p.

———1976, Catalog of thermal waters in New Mexico: New Mexico Bur. Mines and Mineral Resources Hydrol. Rept. 4, 80 p.

West, F. G., 1974, Hot dry rock project: New Mexico Geol. Soc. Guidebook, 25th Field Conf., Ghost Ranch, p. 355-358.

White, D. E., and Williams, D. L., 1975, Assessment of geothermal resources of the United States, 1975: U.S. Geol. Survey Circ. 726, 155 p.

Climatological data

Hicks, J. D., 1970, Optimization for planning and location of precipitation stations in the Jemez Mountains: New Mexico State Univ., Engineering Experimental Sta., Tech. Rept. 65, 175 p.

Keyes, C. G. Jr., 1973, Studies associated with the Jemez terrestrial precipitation measurement system: New Mexico State Univ., Engineering Experimental Sta., Tech. Rept. 84, 101 p.

———1976, Augmentation of 1968-1972 winter storms in New Mexico: Jour. Hydraulics Div., Am. Soc. Civil Engineers, v. 102, no. HY12, Proc. Paper 12616, p. 1725-1735.

Water chemistry and chemical analyses

Bjorklund, L. J., and Maxwell, B. W., 1961. [See under Ground water.]

Dinwiddie, G. A., Mourant, W. A., and Basler, J. A., 1966, Municipal water supplies and uses, northwestern New Mexico: New Mexico State Engineer, Tech. Rept. 29C, 197 p.

Hiss, W. L., Trainer, F. W., Black, B. A., and Posson, D. R., 1975, Chemical quality of ground water in the northern part of the Albuquerque-Belen basin, Bernalillo and Sandoval Counties, New Mexico: New Mexico Geol. Soc. Guidebook, 26th Field Conf., Las Cruces Country, p. 219-235.

Kelly, Clyde, and Anspach, E. V., 1913, A preliminary study of the waters of the Jemez Plateau, New Mexico: Univ. New Mexico Bull., Chemistry Series, v. 1, no. 1, 43 p.

Purtymun, W. D., Adams, W. H., Stoker, A. K., and West, F. G., 1976, Water quality in vicinity of Fenton Hill site, 1975: Univ. California, Los Alamos Scientific Laboratory Rept. LA-6511-MS, 21 p.

Purtymun, W. D., and Cooper, J. B., 1969; Spiegel, Zane, and Baldwin, B. W., 1963; and Trainer, F. W., 1974. [See references under Ground water.]

U.S. Geological Survey, Water resources data for New Mexico--Part 2. Water quality records [published annually].

Woltz, David, 1972, The chemistry of groundwaters in the Jemez area and a magnetic survey of a potential source of magmatic fluids: Univ. New Mexico, unpub. MS thesis, 90 p.

Ground water

Bjorklund, L. J., and Maxwell, B. W., 1961, Availability of ground water in the Albuquerque area, Bernalillo and Sandoval Counties, New Mexico: New Mexico State Engineer, Tech. Rept. 21, 117 p.

Delisle, George, 1975, Determination of permeability of granitic rocks in GT-2 from hydraulic fracturing data: Univ. California, Los Alamos Scientific Laboratory, Rept. LA-6169-MS, 5 p.

Dinwiddie, G. A., Mourant, W. A., and Basler, J. A., 1966. [See under Water chemistry and chemical analyses.]

O'Connell, M. F., and Kaufmann, R. F., 1976, Radioactivity associated with geothermal waters in the western United States; Basic Data: U.S. Environmental Protection Agency, Tech. note ORP/LV-75-8A, 25 p.

Purtymun, W. D., and Cooper, J. B., 1969, Development of ground-water supplies on the Pajarito Plateau, Los Alamos County, New Mexico: U.S. Geol. Survey, Prof. Paper 650-B, p. B149-B153.

Purtymun, W. D., and Johansen, Steven, 1974, General geohydrology of the Pajarito Plateau: New Mexico Geol. Soc. Guidebook, 25th Field Conf., Ghost Ranch, p. 347-349.

Spiegel, Zane, and Baldwin, B. W., 1963, Geology and water resources of the Santa Fe area, New Mexico: U.S. Geol. Survey Water-Supply Paper 1525, 258 p.

Trainer, F. W., 1974, Ground water in the southwestern part of the Jemez Mountains volcanic region, New Mexico: New Mexico Geol. Soc. Guidebook, 25th Field Conf., Ghost Ranch, p. 337-345.

Trainer, F. W., 1975, Mixing of thermal and nonthermal waters in the margin of the Rio Grande rift, Jemez Mountains, New Mexico: New Mexico Geol. Soc. Guidebook, 26th Field Conf., Las Cruces Country, p. 213-218.

West, F. G., 1973, Geohydrology of the Jemez Plateau [abs.]: Am. Geophysical Union Trans., v. 54, no. 11, p. 1214-1215.

West, F. G., Kintzinger, P. R., and Purtymun, W. D., 1975, Hydrologic testing Geothermal Test Hole No. 2: Univ. California, Los Alamos Scientific Laboratory Pub. LA-6017-MS, 8 p.

Streamflow data

U.S. Geological Survey, Water resources data for New Mexico--Part 1. Surface water records [published annually].

Other topics

Abrahams, J. H. Jr., Weir, J. E. Jr., and Purtymun, W. D., 1961, Distribution of moisture in soil and near-surface tuff on the Pajarito Plateau, Los Alamos County, New Mexico: U.S. Geol. Survey Prof. Paper 424-D, p. D142-D145.

Chenoweth, W. L., 1974, Uranium occurrences of the Nacimiento-Jemez region, Sandoval and Rio Arriba Counties, New Mexico: New Mexico Geol. Soc. Guidebook, 25th Field Conf., Ghost Ranch, p. 309-313.

Kunkler, J. L., 1969, The sources of carbon dioxide in the zone of aeration of the Bandelier Tuff, near Los Alamos, New Mexico: U.S. Geol. Survey, Prof. Paper 650-B, p. B185-B188.

Pettitt, R. A., 1976, Environmental monitoring for the Hot Dry Rock Geothermal Energy Development Project, annual report for the period July 1975-June 1976: Univ. California, Los Alamos Scientific Laboratory, Rept. LA-6504-SR, 92 p.

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico

[Additional data for some springs are given in tables 2 and 5.]

Explanation:

Location number.--See text for explanation of numbering system.

Map and location number.--Letter identifier for location map in figure 3, and spring number on map.

Owner or name.--Owner or name of spring. USBLM, U.S. Bureau of Land Management; SF Nat For, Santa Fe National Forest; NM Dept Game and Fish, New Mexico Department of Game and Fish.

Aquifer.--Q alluv, Quaternary alluvial deposits in canyons and other drainage courses.
Q uncon, Quaternary unconsolidated deposits, undifferentiated.
Volc, lava or tuff of Quaternary and Tertiary age.
QT fill, Quaternary and Tertiary valley-fill deposits, undifferentiated, of Pleistocene, Pliocene, and Miocene age; includes interbedded volcanic rocks.
Mancos, Mancos Shale of Cretaceous age.
Morrison, shale in Morrison Formation of Jurassic age.
Chinle, sandstone and shale in Chinle Formation of Triassic age.
Abo, sandstone and shale in Abo Formation of Permian age.
Magdl, Limestone in Magdalena Group of Permian and Pennsylvanian age.
Pcamb, Precambrian granitic rocks.

Altitude.--Altitude of land surface at spring, in feet above mean sea level.

Date.--Month, day, year.

Discharge.--Gallons per minute. <, less than figure given.

Temp.--Temperature in degrees Celsius (centigrade), rounded to nearest 0.5 degree.

Spec. cond.--Specific conductance in micromhos per centimeter at 25°C. Symbol "F" denotes field measurement.

Use of water.--D, domestic supply; P, public supply; S, developed for livestock supply; N, not used, or used occasionally; O, other use.

Remarks.--Notation "table ___" refers to additional data in another table; notation Griggs (1954) cites reference listed in bibliography.

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
15N.1E. 9.414	A 1	USBLM	Chinle	5,520	5- 2-73	1	16.5	10,900	N	Tables 2,5,8.
15N.1E.10.311	A 2	USBLM	Chinle	5,500	5- 2-73	<1	16.5	1,400 F	N	Tables 2,5,7,8,9.
					1-25-74	-	14.5	9,590	-	-
15N.1E.16.111	A 3	USBLM	-	5,530	12-20-74	-	25.0	11,200	-	Tables 5,8.
15N.1E.16.233	A 4	USBLM	Chinle	5,740	10-18-74	-	-	20,000 F	-	Table 5.
15N.1E.16.313	A 5	USBLM	-	5,810	12-20-74	-	11.0	12,900	-	Tables 5,9.
16N.1E.20.411	A 6	Jemez Pueblo	Magdl	6,060	9-14-24	-	21.0		N	Tables 5,9.
16N.1E.25.244	A 7	Jemez Pueblo, Bluewater Spring	Chinle	5,640	9- 5-73	2	15.0	2,500 F	N	Table 5.
16N.2E. 7.423	A 8	Jemez Pueblo, Owl Spring	Magdl	5,780	5-24-73	15	15.6	900 F	N	Table 5.
16N.2E.18.214	A 9	Jemez Pueblo, Tunnel Spring	Magdl	5,760	5-24-73	<1	-	900 F	N	Table 5
16N.2E.20.332	A 10	Jemez Pueblo, Salt Spring	Chinle	5,535	5-24-73	<1	14.5	8,200 F	N	Tables 5,8.
16N.2E.29.142	A 11	Jemez Pueblo, Indian Spring	Q alluv	5,490	8-30-73	-	22.6	7,000 F	O	Water used occasionally for bathing, slight H_2S odor; tables 5,8.
16N.2E.30.323	A 12	Jemez Pueblo	Q alluv	5,575	9- 5-73	<1	18.5	3,200 F	N	Table 5.
16N.3E.29.344	B 7	Jemez Pueblo, Ojo Chamisa	QT fill	6,170	6- 8-73	<1	-	495 F	S	Table 5.
X315,600 Y1,693,000	C 1	Zia Pueblo	Chinle	6,320	10- 2-73	-	-	960 F	O	Water used for drinking; table 5.
X288,200 Y1,671,400	C 4	Zia Pueblo, Ojito Spring	Mancos	5,770	6- 5-73	2	21.0	10,100 F	N	Tables 5,7.
X311,500 Y1,696,300	C 5	Zia Pueblo, Cachana Spring	Q uncon	6,140	7- -46	-	-	1,130	N	Table 5.
X340,200 Y1,711,400	D 1	SF Nat For	Abo	6,630	8-31-73	<1	15.0	700 F	N	Table 5.
X337,000 Y1,708,400	D 2	SF Nat For	Q alluv	6,825	8-31-73	<1	13.5	530 F	N	Table 5.
16N.1E. 3.441	D 3	Jemez Pueblo	Abo	6,960	5-23-73	<1	11.5	640 F	N	Table 5.

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
16N.1E. 5.244	D 4	Jemez Pueblo, Log Spring	Pcamb	7,180	5-23-73	9	15.0	450 F	S	Table 5.
X349,000 Y1,700,300	D 6	Jemez Valley School	Pcamb	6,015	8-21-73	8	18.5	1,000 F	N	Formerly public water supply; table 5.
16N.2E.10.424	E 1	Jemez Pueblo	Chinle	5,680	5-24-73	3	-	2,800 F	N	Table 5.
16N.2E.11.234	E 2	Jemez Pueblo	Chinle	5,760	5-25-73	5	13.5	540 F	N	Table 5.
X372, 300 Y1,693,600	E 9	SF Nat For	Q alluv	5,960	6- 6-73	2	17.5	580 F	N	Table 5.
X400,400 Y1,702,300	F 1	Jemez Pueblo	Volc	6,985	9-18-73	2	11.5	180 F	N	Table 5.
17N.3E.15.131	F 2	SF Nat For, Paliza campground	Volc	6,870	10- 2-73	-	-	240 F	P	Supplies village, campground; table 5.
X409,000 Y1,719,100	F 3	SF Nat For	Q uncon	8,240	9-18-73	5	-	179	S	Table 5.
X414,900 Y1,714,800	F 4	SF Nat For	Volc	8,430	8-28-73	<1	10.0	195 F	N	Table 5.
17N.4E.29.133	F 5	SF Nat For, Bear Spring	Volc	7,420	8-28-73	5	12.5	175 F	S	Table 5.
X342,500 Y1,743,400	G 3	SF Nat For, Butterfly Spring	Magdl	7,070	11-30-73	50	12.0	365 F	N	Table 5.
X343,100 Y1,735,800	G 4	SF Nat For	Magdl	6,950	11-30-73	20	15.0	210 F	N	Table 5.
X373,000 Y1,754,500	H 1	Sino Spring	Volc	7,560	5- 8-73	<1	-	160 F	P	Jemez Springs domestic water cooperative; table 5.
X367,100 Y1,749,300	H 2	Agua Durme Spring	Volc	7,390	5- 8-73	100	16.0	160 F	P	Jemez Springs domestic water cooperative; table 5
X372,300 Y1,748,300	H 3	-	Magdl	6,480	7-13-73	2	15.0	1,450 F	N	Table 5.
X372,400 Y1,747,600	H 4	H. O. Russell	Magdl	6,450	6-21-73	<1	-	1,400 F	N	Table 5.

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
X370,700 Y1,743,600	H 6	-	Magdl	6,360	12- 1-72 3- 8-73	- -	48.0 45.5	8,000 F 8,000 F	O	Water used occasionally for bathing, H_2S odor; tables 2,5,7,8,9.
X370,700 Y1,743,600	H 7	-	Magdl	6,360	3-22-73	-	37.0	8,000 F	N	H_2S odor.
X370,700 Y1,743,600	H 8	-	Magdl	6,355	10-31-72	-	36.5	7,800 F	N	H_2S odor.
X370,800 Y1,744,100	H 9	-	Magdl	6,360	11-17-72	-	36.0	6,320	N	H_2S odor.
X370,800 Y1,743,900	H 10	-	Magdl	6,360	11-17-72	-	29.0	6,280	N	H_2S odor.
X369,400 Y1,736,600	H 12	-	Q alluv	6,192	12- 2-72	5.7	-	4,100	N	Table 2.
X369,400 Y1,736,700	H 13	-	Q alluv	6,197	11-17-72	-	47.0	3,100 F	N	-
X369,400 Y1,736,400	H 14	Jemez Springs Village	Q alluv	6,190	12- 2-72 2-21-73	1 1	75.0 71.5	3,930 F 4,700 F	N	Tables 2,5,7,8,9.
X369,400 Y1,736,500	H 15	Jemez Springs Village	Q alluv	6,193	12- 2-72	-	69.0	4,000 F	O	Water used for bathing; tables 2,5.
X369,400 Y1,736,300	H 16	Jemez Springs Village	Q alluv	6,190	12- 2-72	4.5	55.0	5,500 F	N	Discharge from tile field; table 2.
X368,900 Y1,735,900	H 19	Abousleman	Q alluv	6,177	5-18-73	-	48.5	3,600 F	N	Tables 2,5.
X368,500 Y1,735,200	H 20	-	Q uncon	6,150	5-28-74	10	-	1,300 F	N	Spring formed by sewer excavation; table 5.
X376,600 Y1,740,800	H 24	-	Volc	6,960	12- 4-72	-	-	320 F	N	-
X378,300 Y1,741,400	H 25	-	Volc	7,600	5- 8-73	-	-	120	P	Jemez Springs domestic water cooperative; table 5.
X378,300 Y1,741,400	H 26	-	Volc	7,600	12- 4-72	-	19.0	165 F	N	-

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
X378,000 Y1,743,500	H 27	-	Volc	7,670	12- 4-72	-	15.0	215 F	P	Tables 2,5.
X378,000 Y1,754,300	H 28	-	Volc	6,680	7-18-74	20	-	540 F	P	Table 5.
X381,700 Y1,757,700	H 31	SF Nat For	Madgl	6,980	9-24-73	<1	16.5	2,700 F	N	Table 5.
X382,600 Y1,757,400	H 32	SF Nat For	Magdl	6,760	6-28-49		16.5	2,700 F	N	Tables 2,5,7,8.
					1-17-73	16	18.5	2,200 F		
19N.3E.32.324	H 35	SF Nat For	Magdl	6,870	5-25-73	<1	13.5	3,660	N	Table 5.
19N.3E.32.444	H 36	SF Nat For	Volc	7,200	9-29-72	-	31.0	185 F	N	-
19N.3E.33.341	H 37	SF Nat For	Volc	7,700	9-29-72	-	-	175 F	N	-
19N.3E.33.344	H 38	SF Nat For	Volc	7,880	9-29-72	-	31.0	190 F	N	-
18N.3E. 4.321	H 39	Abousleman, McCauley Spring	Volc	7,350	12- 3-72	359	31.5	175 F	O	Water used for bathing;
					1-16-73	368	31.5	180 F		tables 2,5,7,8.
19N.3E.29.413	H 40	SF Nat For	Abo	7,680	7- 3-73	< 1	21.0	1,780	N	Table 5.
19N.3E.29.342	H 41	SF Nat For	Abo	7,360	5-10-73	-	16.5	1,470	N	Table 5.
19N.3E.28.143	H 42	SF Nat For, Spence Spring	Volc	7,340	11- 7-72	39	39.5	276	O	Water used for bathing;
					12- 1-72	44	40.5	282 F		tables 2,5,7,8.
19N.3E.28.322	H 43	SF Nat For	Volc	7,700	9-29-72	2	34.0	240 F	N	-
18N.3E.22.412	J 2	SF Nat For	Volc	8,190	10-13-72	< 1	9.5	180 F	S	Table 5.
18N.4E.10.311	J 3	-	Q uncon	9,070	10-13-72	-	9.5	80 F	N	-
18N.4E.10.143	J 4	-	Q uncon	9,090	10-13-72	-	13.0	140 F	N	-
X520,800 Y1,753,100	K 1	-	QT fill	5,560	6-21-63	19	22.0	172	N	Table 5.
X520,800 Y1,753,300	K 2	-	QT fill	5,560	6-21-63	47	22.0	175	N	Table 5.
X521,000 Y1,751,600	K 3	-	QT fill	5,460	-	< 1	-	-	N	-
X515,800 Y1,747,700	K 4	-	QT fill	5,600	-	583	-	-	N	Tables 5,7.

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
X516,900 Y1,748,300	K 5	-	QT fill	5,500	6-21-63	81	-	205	N	Table 5.
X521,400 Y1,749,900	K 6	-	QT fill	5,500	6-21-63	31	-	622	N	Table 5.
X514,700 Y1,743,200	K 7	-	QT fill	5,570	6-21-63	9	19.5	213	N	Table 5.
X515,700 Y1,742,200	K 8	-	QT fill	5,430	-	27	-	-	N	-
X506,700 Y1,737,300	K 9	Ancho Spring	QT fill	5,700	-	69	-	-	N	Griggs (1954).
X508,600 Y1,735,300	K 10	-	QT fill	5,380	6-21-63	57	20.0	137	N	Table 5.
X511,000 Y1,738,000	K 11	-	QT fill	5,400	-	10	-	-	N	-
X506,800 Y1,734,300	K 12	-	QT fill	5,375	-	150	-	-	N	-
X501,800 Y1,733,800	K 13	-	QT fill	5,600	-	-	-	-	N	-
X502,900 Y1,733,300	K 14	-	QT fill	5,510	6-21-63	8	21.0	150	N	Table 5.
X503,500 Y1,733,500	K 15	-	QT fill	5,365	-	26	-	-	N	-
X504,100 Y1,733,400	K 16	-	QT fill	5,370	6-21-63	70	21.0	160	N	Table 5.
X504,800 Y1,733,600	K 17	-	QT fill	5,370	6-21-63	173	21.5	128	N	Table 5.
X527,000 Y1,766,300	K 18	-	QT fill	5,600	6-21-63	-	-	316	N	Table 5.
X523,300 Y1,761,300	K 19	-	QT fill	5,640	-	-	-	-	N	-
X430,600 Y1,785,800	L 1	Baca Land and Cattle Co.	Volc	8,750	-	<5	-	-	S	Griggs (1954).
X432,500 Y1,778,800	L 2	Baca Land and Cattle Co.	Volc	8,726	-	<5	-	-	S	Griggs (1954)

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
X441,800 Y1,722,600	L 3	Baca Land and Cattle Company		8,520	5-25-54	-	-	80	S	Tables 5,8.
20N.1E. 6.233	M 1	SF Nat For, Horseshoe Spring	Abo	7,360	8- 5-74	2	10.5	580 F	O	Water hauled for drinking; tables 5,8.
19N.2E.11.143	N 3	SF Nat For	Q uncon	7,980	-	-	-	-	S	-
X352,300 Y1,874,900	N 5	NM Dept Game and Fish	Volc	7,715	10- 5-72	15	12.5	130 F	P	-
X353,800 Y1,874,400	N 6	NM Dept Game and Fish	Volc	7,655	11-15-72	7	12.5	130 F	O	Supplies picnic ground; table 5.
					5-31-73	21	12.5	130 F		
X360,900 Y1,770,100	N 7	SF Nat For	Q alluv	7,860	8-14-73	1	10.0	155 F	S	Table 5.
20N.2E.22.444	N 8	SF Nat For	Volc	8,160	10-17-72	-	10.5	120 F	D	Supplies fish hatchery, campground; table 2.
					11- 7-72	-	11.5	110		
20N.2E.26.433	N 9	SF Nat For, Guard Station	Q uncon	7,965	10- 5-72	6	8.0	130 F	O	Water used by campers; tables 2,5.
					5-31-73	20	8.0	125 F		
20N.2E.27.222	N 10	SF Nat For	Volc	8,155	10-17-72	-	11.0	120 F	D	Supplies fish hatcher, campground; tables 2,5,7,8.
					11- 7-72	-	12.0	105		
20N.2E.27.433	N 11	SF Nat For	Volc	8,040	10- 5-72	-	13.0	90 F	D	Supplies fish hatchery, campground; table 2.
20N.2E.27.433	N 12	SF Nat For	Volc	8,045	10-17-73	-	-	100 F	D	Supplies fish hatchery, campground; table 2.
20N.2E.35.111	N 13	NM Dept Game and Fish	Volc	7,960	1-17-73	-	9.0	100 F	D	Supplies fish hatchery; table 5.
19N.3E.18.412	N 15	-	Q uncon	7,950	11-23-72	-	-	200	D	Table 5.
X381,200 Y1,768,000	N 16	-	Q alluv	8,160	5-31-73	2.0	8.5	166	N	Table 5.
20N.3E.18.322	N 17	SF Nat For	Volc	8,400	10-27-72	12.0	9.5	75 F	N	-
20N.3E.18.322	N 18	SF Nat For	Volc	8,400	10-27-72	5.0	11.5	70 F	N	-
X391,700 Y1,785,700	P 1	D. J. Cosper, Sulphur Spring	Q uncon	8,200	8-31-49	-	-	4,570	N	Sulphur Springs, Lemonade Spring; H_2S odor; table 5.

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
X391,800 Y1,785,500	P 2	D. J. Cosper, Sulphur Spring	Q uncon	8,240	11- 4-63	-	87.0	13,800	N	Sulphur Springs, mens bathhouse, water formerly used for bathing; H_2S odor; tables 5,8,9.
X391,700 Y1,785,400	P 3	D. J. Cosper, Sulphur Spring	Q uncon	8,260	8-31-49	-	-	8,510	N	Sulphur Springs, ladies bathhouse, water formerly used for bathing; H_2S odor; table 5.
19N.3E. 5.333	P 4	SF Nat For	Q uncon	7,960	10- 4-72	<1	8.5	180 F	N	-
X383,400 Y1,772,700	P 8	-	Q uncon	7,670	11-21-59	-	11.0	153	D	Table 5.
X407,900 Y1,800,900	P 9	Baca Land and Cattle Co.	Volc	8,405	8- 1-47	-	-	167	O	Water used occasionally for bathing; table 5.
20N.2E.20.322	P 11	SF Nat For	Volc	8,280	10-12-72	1	20.5	110 F	N	-
20N.3E.29.123	P 12	SF Nat For, San Antonio Hot Spring	Volc	8,350	9-28-72 12- 1-72 5-16-73	157 220 323	40.0 40.5 40.0	130 F 120 F 110 F	O	Water used occasionally for bathing; tables 2,5,8.
20N.3E.29.334	P 13	SF Nat For	Volc	8,330	10- 4-72	<1	16.5	105 F	N	-
20N.3E.29.334	P 14	SF Nat For	Volc	8,300	10- 4-72	-	28.5	130 F	N	-
20N.3E.29.334	P 15	SF Nat For	Volc	8,300	10- 4-72	-	29.0	125 F	N	-
20N.3E.29.334	P 16	SF Nat For	Volc	8,330	10- 4-72	<1	22.0	130 F	N	-
20N.3E.32.113	P 17	SF Nat For	Q uncon	8,175	10- 4-72	-	8.5	135 F	N	-
20N.3E.32.314	P 18	SF Nat For	Q uncon	8,380	10-12-72	<1	12.5	120 F	N	-
X398,200 Y1,789,200	P 19	Baca Land and Cattle Co.	Q uncon	8,575	7-28-49	-	24.5	644	S	-
X429,900 Y1,804,300	Q 1	Baca Land and Cattle Co.	-	8,560	5-25-54	-	-	81	S	Tables 5,8.
X433,200 Y1,805,200	Q 2	Baca Land and Cattle Co.	Q uncon	8,630	-	2	-	-	S	Griggs (1954).
X441,900 Y1,798,000	Q 4	Baca Land and Cattle Co.	Q alluv	8,760	-	-	-	-	S	Griggs (1954).

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
X467,800 Y1,780,900	R 1	SF Nat For	Q alluv	8,000	-	20	-	-	N	Griggs (1954); formerly public water supply.
X461,400 Y1,773,200	R 2	SF Nat For	Q alluv	8,660	-	25	-	-	N	Griggs (1954); formerly public water supply.
19N.5E.26.221	R 3	SF Nat For	Q alluv	8,240	-	4	-	-	N	Griggs (1954); formerly public water supply.
19N.5E.25.111	R 4	SF Nat For	Volc	8,340	-	4	-	-	N	Griggs (1954); formerly public water supply.
19N.5E.25.333	R 5	SF Nat For	Volc	8,000	-	90	-	-	N	Griggs (1954); formerly public water supply.
X459,600 Y1,762,600	R 6	SF Nat For	Volc	8,216	-	-	-	-	N	Griggs (1954); formerly public water supply.
X460,800 Y1,760,000	R 7	SF Nat For	Volc	8,280	-	-	-	-	N	Griggs (1954); formerly public water supply.
X460,000 Y1,797,800	R 8	SF Nat For	Volc	8,850	-	25	-	-	N	Griggs (1954); formerly public water supply.
X459,900 Y1,795,800	R 9	SF Nat For	Volc	8,840	-	40	-	-	N	Griggs (1954); formerly public water supply.
X462,800 Y1,788,400	R 11	SF Nat For	Q uncon	8,660	-	15	-	-	N	Griggs (1954); formerly public water supply.
19N.7E.12.411	T 6	-	QT fill	5,640	-	-	-	-	-	-
19N.7E.13.112	T 7	-	QT fill	5,640	-	-	-	-	N	-
19N.7E.24.332	T 14	-	QT fill	5,615	6-21-63	-	-	205	N	Table 5.
19N.7E.24.222	T 15	-	QT fill	5,580	-	-	-	-	N	-
21N.2E.14.433	U 1	SF Nat For	Abo	8,725	6-19-74	1	10.5	570 F	-	Tables 5,8.
22N.3E.22.111	U 2	SF Nat For	Chinle	7,180	6-19-74	5	11.0	430 F	-	Tables 2,5.
22N.3E. 9.424	UA 7	-	Q alluv	6,860	4- 7-75	-	10.0	530 F	-	-
22N.3E. 3.441	UB 1	-	Chinle	6,980	-	-	-	610	-	-
X469,100 Y1,879,700	V 1	-	QT fill	6,880	3- 7-74	5	18.0	140 F	-	Tables 2,5.

Table 1.--Records of selected springs in the Jemez Mountains Region, New Mexico - Concluded

Location number	Map and location number	Owner or name	Aquifer	Altitude	Date	Discharge	Temp.	Spec. Cond.	Use	Remarks
X468,900 Y1,879,600	V 2	-	QT fill	6,900	3- 7-74	-	16.0	145 F	-	-
X443,200 Y1,879,000	V 3	Webster Waide	QT fill	6,817	6-19-74	10	16.0	120 F	-	Tables 2,5.
X476,700 Y1,891,900	W 1	-	QT fill	6,180	4- 9-75	-	10.0	640	-	-
X479,000 Y1,823,400	W 2	-	QT fill	6,100	4- 9-75	-	14.0	190	-	-
X481,100 Y1,894,300	W 3	-	QT fill	6,040	2-25-64	-	-	434	P	Dinwiddie and others (1966).

Table 2.--Miscellaneous data for springs in the Jemez Mountains Region, New Mexico

[Recurrent data for selected springs in table 1]

Explanation:

Map and location number.--Letter identifier for location map in figure 3, and spring number on map.

Aquifer.--Q alluv, Quaternary alluvial deposits in canyons and other drainage courses.
Q uncon, Quaternary unconsolidated deposits, undifferentiated.
Volc, lava or tuff of Quaternary and Tertiary age.
QT fill, Quaternary and Tertiary valley-fill deposits, undifferentiated, of Pleistocene, Pliocene, and Miocene age; includes interbedded volcanic rocks.
Mancos, Mancos shale of Cretaceous age.
Morrison, shale in Morrison Formation of Jurassic age.
Chinle, sandstone and shale in Chinle Formation of Triassic age.
Abo, sandstone and shale in Abo Formation of Permian age.
Magdl, Limestone in Magdalena Group of Permian and Pennsylvanian age.
Pcamb, Precambrian granitic rocks.

Date.--Month, day, year.

Discharge.--Gallons per minute. <, less than figure given.

Temperature.--Temperature in degrees Celsius (centigrade), rounded to nearest 0.5 degree.

Spec. cond.--Specific conductance in micromhos per centimeter at 25°C. Symbol "F" denotes field measurement.

Chloride.--Milligrams per liter.

pH.--Symbol "F" denotes field measurement.

Alkalinity.--Milligrams per liter, as bicarbonate equivalent. Symbol "F" denotes field measurement.

Remarks.--Notation "table ____" refers to additional data in another table.

Table 2.--Miscellaneous data for springs in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Aquifer	Date	Discharge	Temp.	Spec. cond.	Chloride	pH	Alkalinity	Remarks
A 2	Chinle	5- 2-73	< 1	16.5	9,930	1,900	-	-	Table 5
		6- 5-73	-	18.5	-	-	6.2 F	2,004 F	-
		10- 2-73	-	18.5	-	-	6.7 F	1,982 F	-
		1-25-74	-	14.5	9,590	1,840	-	-	-
		12-20-74	-	15.0	8,390	1,900	6.3 F	2,005 F	-
A 8	Magdl	5- 1-53	-	-	1,220	133	-	436 F	-
		5-24-73	15	15.6	900 F	60	-	338	-
		4- 4-74	-	15.5	630 F	-	-	-	-
H 3	Magdl	7-13-73	2	15.0	1,450 F	12	6.4 F	930 F	-
H 4	Magdl	6-21-73	< 1	-	1,400 F	14	7.1 F	858 F	-
		9- 5-74	-	-	-	-	-	-	-
H 6	Magdl	12- 1-72	-	48.0	-	1,500	6.1 F	1,578 F	Table 5
		3- 8-73	-	45.5	8,000 F	1,500	6.2 F	1,574 F	-
		6-28-73	-	45.5	7,200 F	-	6.2 F	-	-
		6-29-73	-	-	-	1,500	-	1,560 F	-
		11-29-73	-	45.0	7,000 F	-	6.9 F	1,481 F	-
		12- 2-74	-	-	-	1,550	6.3 F	1,462	Analysis by New Mexico Bureau of Mines and Mineral Resources
H 7	Magdl	3-22-73	-	37.0	8,000 F	-	-	-	-

Table 2.--Miscellaneous data for springs in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Aquifer	Date	Discharge	Temp.	Spec. cond.	Chloride	pH	Alkalinity	Remarks
H12	Q alluv	11-10-72	7	-	-	-	-	-	-
		12- 2-72	6	-	4,100 F	-	-	-	-
		1-16-73	-	50.5	4,200 F	-	-	-	-
H13	Q alluv	11-10-72	< 1	-	-	-	-	-	-
		11-17-72	-	47.0	3,100 F	-	-	-	-
H14	Q alluv	12- 2-72	1	75.0	3,930 F	920	6.3 F	732 F	Table 5
		12-20-72	3	-	-	-	-	-	-
		2-21-73	1	71.5	4,700 F	880	-	724 F	-
		6-26-73	-	71.5	4,300 F	-	6.8 F	748 F	-
		11-29-73	-	-	3,800 F	-	6.7	721 F	-
H15	Q alluv	12- 2-72	-	69.0	4,000 F	-	-	-	-
		5- 9-73	-	-	4,500 F	915	-	-	-
		12- 2-74	-	-	-	930	6.5 F	-	-
H16	Q alluv	11-10-72	11	-	-	-	-	-	-
		12- 2-72	5	55.0	5,500 F	-	-	-	-
H19	Q alluv	10-31-72	3	-	-	-	-	-	Table 5
		12- 2-72	1	-	-	-	-	-	-
		3-22-73	2	-	-	-	-	-	-
		5-18-73	-	48.5	3,600 F	800	6.4 F	812 F	-

Table 2.--Miscellaneous data for springs in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Aquifer	Date	Discharge	Temp.	Spec. cond.	Chloride	pH	Alkalinity	Remarks
H31	Magdl	9-24-73	< 1	16.5	2,700 F	120	8.6 F	-	-
H32	Magdl	6-28-49	-	16.5	2,040	387	-	461	Table 5
		1-17-73	16	18.5	2,200 F	470	6.7	761	-
		3- 8-73	15	18.5	2,700 F	460	6.6 F	770 F	-
		4-27-73	43	18.5	2,300 F	350	-	-	-
		5-17-73	-	18.0	1,400 F	180	6.9 F	502 F	-
		5-18-73	73	-	-	-	-	-	-
		6- 1-73	49	18.0	1,500 F	220	-	-	-
		6- 7-73	39	18.0	1,800 F	230	6.7 F	552 F	-
		6-28-73	28	17.5	1,850 F	290	6.6 F	586 F	-
		8-15-73	17	18.0	2,000 F	320	6.7 F	637 F	-
		9-24-73	-	18.0	2,100 F	-	6.7 F	644 F	-
		11-16-73	-	18.0	2,150 F	-	6.6 F	660 F	-
		1-25-74	-	18.0	1,900 F	-	6.6 F	614 F	-
H39	Volc	8- 1-47	-	-	198	8	8.1 F	87	Table 5
		12- 3-72	359	31.5	175 F	-	-	-	-
		1-16-73	368	31.5	180 F	4	8.2 F	94	-
		3- 6-73	400	31.0	175 F	-	-	-	-
		4-12-73	364	31.5	175 F	-	-	-	-

Table 2.--Miscellaneous data for springs in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Aquifer	Date	Discharge	Temp.	Spec. cond.	Chloride	pH	Alkalinity	Remarks
H39	Volc	8- 1-73	323	31.0	170 F	-	-	-	-
		1-25-74	-	31.5	170 F	-	-	-	-
		12-13-74	-	31.0	165 F	18	-	88	-
H42	Volc	8- 1-47	-	44.0	283	11	7.3	139	Table 5
		9-28-72	-	39.5	295 F	-	-	-	-
		10-25-72	39	-	300 F	-	-	-	-
		11- 7-72	39	39.5	-	-	-	-	-
		12- 1-72	44	40.5	282 F	12	8.0 F	144 F	-
		1-17-73	46	-	-	-	8.1 F	-	-
		3-15-73	-	39.5	295 F	-	8.1 F	148 F	-
		6-21-73	31	-	300 F	-	-	-	-
J 2	Volc	10-13-72	< 1	9.5	180 F	-	-	-	-
		9-18-73	-	9.5	200 F	3	6.5 F	93 F	-
N 6	Volc	11-15-72	6.6	12.5	130 F	-	-	-	-
		5-31-73	21	12.5	130 F	-	-	-	-
		6-21-73	18	12.5	125 F	-	-	-	-
		9-13-73	12	12.5	115 F	6	7.4 F	66 F	-
N 8	Volc	10-17-72	-	10.5	-	-	-	-	-
		11- 7-72	-	11.5	110	-	-	-	-
		12- 2-72	-	11.5	120 F	-	-	-	-
		4-27-73	-	12.5	115 F	-	-	-	-

Table 2.--Miscellaneous data for springs in the Jemez Mountains Region, New Mexico - Concluded

Map and location	Aquifer	Date	Discharge	Temp.	Spec. cond.	Chloride	pH	Alkalinity	Remarks
N 9	Q uncon	10- 5-72	6	8.0	130 F	-	-	-	Table 5
		5-31-73	20	8.0	125 F	-	-	-	-
		6-19-73	15	7.5	100 F	-	-	-	-
		9-13-73	10	8.5	125 F	6	6.9	36 F	-
N10	Volc	10-17-72	-	11.0	120 F	-	-	-	Table 5
		11- 7-72	-	12.0	105	-	-	-	-
		12- 2-72	-	11.5	113 F	4	7.0 F	62 F	-
		2-13-73	-	11.5	120 F	-	6.6 F	58 F	-
		5-22-73	-	12.5	109	2	7.4	54	-
		6-20-73	-	13.0	108 F	-	7.6 F	74 F	-
		6-28-73	-	12.5	110 F	-	7.5 F	50 F	-
		7-18-73	-	12.5	110 F	-	-	-	-
		9-13-73	-	12.0	110 F	-	7.3 F	56 F	-
N11	Volc	10- 5-72	-	13.0	90 F	-	-	-	-
		1-17-73	-	-	110 F	-	-	-	-
P12	Volc	9-28-72	157	40.0	130 F	-	-	-	Table 5
		12- 1-72	220	40.5	120 F	-	-	-	-
		5-16-73	323	40.0	110 F	2	-	61	-
		6- 7-73	296	-	-	-	-	-	-
		7-30-73	184	-	120 F	-	-	-	-

Table 3.—Records of selected wells in the Jemez Mountains Region, New Mexico

[Additional data for some wells are given in tables 4 and 5.]

Explanation:

Location number.—See text for explanation of numbering system.

Map and location number.—Letter identifier for location map in figure 3, and well number on map.

Owner or name.—SF Nat For, Santa Fe National Forest.

Aquifer.—Q alluv, Quaternary alluvial deposits in canyons and other drainage courses.
Q uncon, Quaternary unconsolidated deposits, undifferentiated.
Volc, lava or tuff of Quaternary and Tertiary age.
QT fill, Quaternary and Tertiary valley-fill deposits, undifferentiated, of Pleistocene, Pliocene, and Miocene age; includes interbedded volcanic rocks.
Mancos, Mancos Shale of Cretaceous age.
Morrison, shale in Morrison Formation of Jurassic age.
Chinle, sandstone and shale in Chinle Formation of Triassic age.
Abo, sandstone and shale in Abo Formation of Permian age.
Magdl, Limestone in Magdalena Group of Permian and Pennsylvanian age.
Pcamb, Precambrian granitic rocks.

Altitude.—Altitude of land surface at well, in feet above mean sea level.

Depth.—Depth of well below land surface, in feet.

Casing.—Diam, diameter in inches. Depth, depth below land surface, in feet.

Date.—Month, day, year.

Water level.—Depth of static water level below land surface, in feet, given to nearest foot. Symbol, R, denotes reported water level; others were measured.

Temp.—Temperature in degrees Celsius (centigrade), rounded to nearest 0.5 degree.

Spec. cond.—Specific conductance, in micromhos per centimeter at 25°C. Symbol, "F", denotes field measurement.

Use of water or well.—D, domestic supply; P, public supply; S, livestock supply; T, test hole or observation well; N, not in use. O, other use.

Remarks.—Notation "table___" refers to additional data in another table; notation Griggs (1963) cites reference listed in bibliography.

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing Diam.	Casing Depth	Date	Water level	Temp.	Spec. cond.	Use	Remarks
X346,000 Y1,662,500	A 13	E. C. Filsinger	Q uncon	5,475	20	-	-	3- 4-61	-	-	1,720	D	Table 5.
X344,000 Y1,658,000	A 14	Village of San Ysidro	Q alluv	5,460	-	-	-	-	-	-	-	P	Table 5.
15N.2E.12.431	B 1	Zia Pueblo Windmill No. 3	QT fill	5,765	-	-	-	4- 4-74	-	-	470	F S	Table 5.
15N.2E.22.414	B 2	Zia Pueblo	QT fill	5,525	170	-	-	5-19-52	-	-	848	N	Water, formerly public supply; table 5.
15N.2E.22.414	B 3	Zia Pueblo	QT fill	5,520	333	-	-	1-20-60	-	-	458	P	Water, energency public supply; table 5.
	B 4	Zia Pueblo	QT fill	-	-	-	-	4- 4-74	-	18.0	510	F P	Table 5.
15N.2E.27.112	B 5	Zia Pueblo	Q uncon	5,390	8	-	-	12-18-51	-	-	2,260	N	Table 5.
16N.2E.27.213	B 6	Jemez Pueblo Windmill No. 1	QT fill	5,655	-	-	-	4- 4-74	-	15.0	670	S	Table 5.
X312,600 Y1,681,800	C 2	Zia Pueblo	Chinle	5,900	550	-	-	9-29-26	-	46.0	-	-	Kaseman test No. 1 plugged in 1927; Clark (1929) Renick (1931) Table 5.
X311,000 Y1,690,800	C 3	Zia Pueblo, Warm Spring	Magdl	6,025	-	15½ 12½ 8¼ 6¼ 5	21 43 94 18 19	3-14-64 6- 5-73 6- 6-73 10- 2-73 1-25-74 12- 2-74	- - - - - -	- 52.0 - 51.5 - 52.0	15,530 15,700 - - - -	O	"Warm Spring", flowing abandoned well; Kaseman test No. 2; water used for bathing. Clark (1929), Renick (1931); tables 4, 5, 7, 8.
X347,400 Y1,724,200	D 5	SF Nat For	Pcamb	6,200	200	6 3	25 20	11- 2-73	-	13.0	460	F T	3-in. PVC pipes slotted 190-200 ft, and gravel-packed; table 5.
16N.2E.16.411	E 4	Jemez Pueblo	Q alluv	5,545	81	16 10	68 81	1-17-65 8-30-73	-	- 19.5	946 1,020	P F	10-in. casing perforated 19-81 ft; table 5.

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing Diam.	Casing Depth	Date	Water level	Temp.	Spec. cond.	Use	Remarks
16N.2E.16.411	E 5	Jemez Pueblo	QT fill	5,580	-	6	10	9-25-24	-	-	-	N	Formerly public water supply; table 5.
X355,300 Y1,705,700	E 6	James Williams	Q alluv	5,730	25	-	-	10- 5-73	-	-	1,040	F P	Table 5.
X355,600 Y1,705,700	E 7	James Williams	Abo	5,740	128	-	-	10-26-73	-	16.0	3,200	F N	Table 5.
X355,300 Y1,694,000	E 8	Jemez Valley High School	Q alluv	5,635	54	8	54	2-20-58	-	-	1,010	N	Table 5.
17N.3E.17.332	E 10	SF Nat For	Chinle	6,540	335	1½	33	-	-	-	-	T	PVC pipe capped bottom, water-filled.
X340,700 Y1,753,200	G 1	SF Nat For	Magdl	7,220	50	3	50	10-30-73	-	10.0	640	F T	3-in. PVC pipe, slotted 45-50 ft; table 5.
X340,700 Y1,753,200	G 2	SF Nat For	Magdl	7,220	185	1½	18	-	-	-	-	T	PVC pipe capped bottom, water-filled.
X372,000 Y1,747,200	H 5	H. O. Russell	Q alluv	6,420	57	6 4	46 57	12-13-57 6- 1-73	36.0	-	563 580	D	Table 5.
X370,000 Y1,737,200	H 11	Via Coeli, Servants Paraclete	Q alluv	6,210	-	-	-	10-14-54	-	16.5	994	N	Formerly domestic water supply; table 5.
X369,100 Y1,736,100	H 17	Abousleman	-	6,185	78	-	-	5-30-74	-	58.0	3,600	F N	Original depth, aquifer not known; formerly supplied bathhouse; tables 5, 8; strong H_2S odor.
X368,600 Y1,736,000	H 18	C. G. Brown	Q uncon	6,180	-	-	-	10-14-54	-	-	1,140	N	Formerly domestic water supply; table 5.
X366,500 Y1,730,900	H 21	SF Nat For	Abo	6,205	155	3	15	10-26-73 7- 3-74 11-26-74	-	16.5	3,500	F T	3-in. PVC pipe, slotted 150-155 ft; tables 5, 8.

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing Diam.	Casing Depth	Date	Water level	Temp.	Spec. cond.	Use	Remarks
X366,500 Y1,730,900	H 22	SF Nat For	Abo	6,205	295	1½	29	-	-	-	-	T	PVC pipe capped bottom, water-filled.
X363,800 Y1,729,400	H 23	T. W. Morgan	Q alluv	6,030	18	-	-	9-27-73	-	17.0	925 F	D	Table 5.
X381,800 Y1,757,100	H 29	SF Nat For	Magdl	6,760	54	3 6	54 10	10-24-73 11-16-73 1-18-74 11-26-74	43.9	14.5 14.0 14.5	3,200 F 3,200 F 3,200 F	T	3-in. PVC pipe slotted 49-54 ft; tables 4, 5, 8; strong H_2S odor.
X381,800 Y1,757,100	H 30	SF Nat For	Magdl	6,760	200	1½ 1½ 6	20 76 70	3-21-74 11-26-74	-	16.0 16.0	1,100 F 950 F	T	6-in, casing, 2 PVC pipes, 1 (heat flow) 0-200 ft, capped; 1 (water level) open interval 76-90 ft.
X382,900 Y1,757,000	H 33	Camp Shaver, YMCA	Q alluv	6,760	50	-	-	5- 8-73	-	-	140	P	Table 5.
X383,800 Y1,757,500	H 34	SF Nat For, Batt RK PG	Magdl	6,800	80	-	-	-	27.0	-	-	N	-
18N.3E. 3.211	J 1	SF Nat For	Volc	7,990	200	1½	20	-	-	-	-	T	PVC pipe capped bottom, water-filled.
X439,200 Y1,769,800	L 4	Baca Land and Cattle Co.	Q uncon	8,506	1,185	12 16	59 66	11-11-49 6-20-50	-	-	- 94	T	Screen (50 ft) and slots, 300-595 ft; Conover (1963), Griggs (1954), table 5.
X432,800 Y1,766,500	L 5	Baca Land and Cattle Co.	Q uncon	8,490	-	-	-	10-26-49	-	-	157	-	Table 5.
19N.2E. 1.441	N 1	SF Nat For	Pcamb	8,475	2,575	5 7 5/8 10 3/4	24 13 25	-	-	-	-	T	Los Alamos Scientific laboratory test hole GT-1; Purtymun (1973).
19N.2E.10.413	N 2	SF Nat For	Abo	7,900	500	4½ 7	50 97	-	-	-	-	T	Los Alamos Scientific laboratory test hole D; Purtymun (1973).

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing Diam.	Casing Depth	Date	Water level	Temp.	Spec. cond.	Use	Remarks
19N.2E.13.223	N 4	-	-	8,690	6,701	-	-	3-19-74 4-23-74 5- 3-74 5-14-74 7-17-74 9-19-74	-	- 76.0 	4,030 F 2,900 1,200 F 5,200 F 2,720 1,330	T	Los Alamos Scientific laboratory test hole GT-2; Pettitt (1975); later deepened to about 9,600 ft; tables 5, 8.
19N.3E.18.321	N 14	SF Nat For	Abo	8,450	590	4½ 7	57 97	-	-	-	-	T	Los Alamos Scientific laboratory test hole A; Purtymun (1973).
20N.3E.31.123	N 19	SF Nat For	Abo	8,625	650	4½ 7	56 97	-	-	-	-	T	Los Alamos Scientific laboratory test hole B; Purtymun (1973).
19N.3E. 8.442	P 5	SF Nat For San Antonio Campground	Q uncon	7,750	-	-	-	6- 8-73 9-24-74	-	12.0	170 420 F	P	Table 5. Supplies campground; Purtymun (1974).
19N.3E.16.444	P 6	SF Nat For Redondo campground	Q uncon	7,840	-	-	-	6- 5-73 9-24-74	3.0	-	320 F 390 F	P	Table 5. Supplies campground; Purtyman (1974).
X383,800 Y1,773,600	P 7	Harold Hofheins	Volc	7,640	96	6 8	89 31	8-14-73	-	19.5	850 F	D	Tables 5, 8; flowing from casing 2 ft above surface.
20N.3E. 9.443	P 10	SF Nat For	Abo	8,900	750	4½ 7	75 97	-	-	-	-	T	Los Alamos Scientific laboratory test hole C; Purtymun (1973).
X437,200 Y1,802,400	Q 3	Baca Land and Cattle Co.	Q uncon	8,650	652	12 16	45 70	9-20-49	-	17.0	91	T	Screen, 383-427 ft; Conover (1963) Griggs (1954); table 5.
X457,600 Y1,790,800	R 10	SF Nat For	Volc	9,505	1,269	-	-	-	-	-	-	T	Conover (1963).
19N.6E. 9.443	S 1	-	Volc	7,240	1,205	16 12 10 6	10 28 73 11	7-17-52	1,166	21.0	149	T	4-in. screen, 1,195-1,205 ft; table 5.

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing Diam.	Casing Depth	Date	Water level	Temp.	Spec. cond.	Use	Remarks
19N.6E.13.344	S 2	-	QT fill	6,605	815	16 10	33 81	1- 7-53	749.9	23.5	194	T	6-in. screen, 805-815 ft; table 5.
19N.6E.14.212	S 3	-	QT fill	6,770	788	16 12 10 8	57 19 51 77	1-6-53	760.1	21.5	141	T	6-in. screen, 778-788 ft; table 5.
19N.6E.17.234	S 4	-	QT fill	7,200	2,000	8	10	-	70.0	-	-	T	-
19N.7E. 4.133	T 1	-	QT fill	6,139	1,792	12 10	70 18	4- 1-52	-	28.0	172	P	400 ft of casing strings slotted; Griggs (1954), John (1967).
19N.7E. 4.411	T 2	-	QT fill	6,056	-	12 10	60 19	3-29-52	-	29.5	281	P	425 ft of 10-inch casing, perforated; Griggs (1954), John (1967); table 5.
19N.7E. 4.444	T 3	-	QT fill	5,973	-	12 10	49 20	4- 4-52 -	- -	25.5 25.5	169 169	P	490 ft of 10-inch casing perforated; Griggs (1954), John (1967); table 5.
19N.7E. 5.112	T 4	-	QT fill	6,306	1,840	12 10	73 18	4- 1-52	-	25.5	176	P	400 ft of 10-inch casing, slotted Griggs (1954), John (1967); table 5.
19N.7E. 5.231	T 5	-	QT fill	6,229	1,930	12 10	72 19	6- 7-51	-	26.0	177	P	Griggs (1954), John (1967); table 5.
19N.7E.13.114	T 8	-	QT fill	5,624	870	12 10	- 87	4-17-50 5-14-52	26.0 -	- 17.0	- 383	P	Casing strings contains screen, slots; Griggs (1954), John, (1967), Theis (1962); table 5.
19N.7E.14.221	T 9	-	QT fill	5,672	870	12	87	4-17-50 5-14-52	41.6 -	- 14.5	- 200	P	Table 5.

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing Diam.	Casing Depth	Date	Water level	Temp.	Spec. cond.	Use	Remarks
19N.7E.14.222	T 10	-	QT fill	5,651	870	12	87	4-17-50	37.5	-	-	P	195 ft 10-inch screen, 565 ft slotted, 12-inch casing; Griggs (1954), John (1967), Theis (1962); table 5.
								5-14-52	-	18.5	379		
19N.7E.14.312	T 11	-	QT fill	5,770	1,790	12	59	4- 3-50	58.8	-	-	P	400 ft 10-inch screen, 177 ft slotted 12-inch casing; Griggs (1954), John (1967), Theis (1962); table 5.
						10	17	5-14-52	-	25.5	273		
19N.7E.15.434	T 12	-	QT fill	5,840	1,750	12	63	4-28-50	121.5	-	-	P	50 ft 12-inch screen, 350 ft 10-inch screen; Griggs (1954), John (1967), Theis (1962); table 5.
						10	17	5-14-52	-	16.5	254		
19N.7E.22.114	T 13	-	QT fill	5,975	1,965	12	75	4-21-50	226.0	-	-	P	400 ft 10-inch screen; Griggs (1954), John (1967), Theis (1962); table 5.
						10	19	5-14-52	-	23.0	151		
20N.8E. 3.000	T A1	Village of Espanola	QT fill	5,610	260	10	-	1- 8-64	-	-	989	P	Table 5; one of 3 wells; Dinwiddie (1966).
22N.3E. 3.141	U A1	J. Trujillo	-	6,780	-	6	-	4- 8-75	19.9	-	615	F D	-
22N.3E. 3.311	U A2	J. Branch	Q alluv	6,730	42	6	-	4- 8-75	29.5	-	610	F D	-
22N.3E. 3.323	U A3	F. Garcia	Q alluv	6,680	91	6	-	2-26-64	18.6	-	989	P	Table 5; Dinwiddie (1966).
22N.3E. 3.331	U A4	A. Herrara	Q alluv	6,760	77	6	-	4- 8-75	39.0	-	1,175	F D	-
22N.3E. 4.422	U A5	Coyote elementary school	Chinle	6,710	-	6	-	4-18-75	44.0	-	850	F P	Table 5; reported more than 100 ft deep.

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing Diam.	Casing Depth	Date	Water level	Temp.	Spec. cond.	Use	Remarks
22N.3E. 9.224	U A6	S. Lovato	Chinle	6,860	88	6	-	4- 7-75	60.0	-	685 F	D	-
22N.4E.31.111	U B2	E. Salazar	Q alluv	6,760	53	6	-	4-18-75	34.0	-	1,800 F	D	Table 5.
22N.4E.31.112	U B3	Ms. B. Martinez	Chinle	6,815	64	6	-	4-18-75	40.2	-	3,100 F	D	Table 5.
22N.4E.31.131	U B4	Youngsville 1	Chinle	6,840	164	6	-	4-18-75	149.1	-	-	P	Table 5.
22N.4E.31.132	U B5	Youngsville 2	Chinle	6,790	147	6	-	2-26-64	46.3	-	1,240	P	Table 5; Dinwiddie (1966).
X405,700 Y1,896,700	U B6	A. Martinez	Q alluv	6,445	74	6	-	4- 8-75	28.6	-	1,500 F	D	-
X404,100 Y1,896,000	U B7	P. Serrano	Q alluv	6,460	76	6	-	4- 8-75	27.8	-	1,400 F	D	-
X425,900 Y1,899,800	U B8	-	Q alluv	6,540	-	6	-	-	-	-	-	S	Table 5.
X460,200 Y1,904,100	V 4	D. F. Luedtke	Morrison	6,040	18	-	-	3- 7-74	-	-	3,000 F	-	Table 5.
X444,600 Y1,887,100	V 5	Village of Canones	-	6,610	100	6	-	4- 8-75 4-18-75	8.4 -	- -	635 F 629	P	Table 5.
X445,500 Y1,874,800	V 6	E. Garcia	-	6,730	180	6	-	4- 8-75	52.9	-	495 F	N	-
X480,900 Y1,895,200	W 4	-	Q alluv	5,980	50	6	-	4-18-75	9.5	-	810 F	D	Table 5.
X486,200 Y1,900,600	W 5	-	QT fill	5,980	52	6	-	4- 9-75	33.6	-	1,410 F	N	-
X490,300 Y1,899,700	W 6	Skipworth	QT fill	5,955	82	6	-	4- 9-75	50.6	-	1,200 F	N	-
X491,100 Y1,899,200	W 7	Skipworth	QT fill	5,940	17	6	-	4- 9-75	14.0	-	1,060 F	N	-
X495,300 Y1,900,000	W 8	G. Lopez	QT fill	5,930	70	6	-	4- 9-75	26.6	-	760 F	D	-
X498,400 Y1,900,000	W 9	J. Martinez	QT fill	5,910	47	6	-	4- 9-75	19.4	-	1,190 F	D	-
X496,100 Y1,896,200	W 10	J. B. Martinez	QT fill	5,945	85	4½	-	4-10-75	34.6	-	465 F	N	-

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Continued

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing Diam.	Casing Depth	Date	Water level	Temp.	Spec. cond.	Use	Remarks
X498,000 Y1,896,200	W 11	J. Medina	QT fill	5,935	62	6	-	4-10-75	41.3	-	480	F D	Slight H_2S taste reported.
X504,200 Y1,896,400	X 1	A. Hoy	Q alluv	5,890	50	6	-	4-10-75	41.4	-	1,500	F D	-
X503,800 Y1,890,700	X 2	J. Manzanares	Q alluv	5,880	32	36	-	4-18-75	25.2	-	790	F D	Table 5.
X509,000 Y1,889,800	X 3	M. Martinez	Q alluv	5,870	43	36	-	4-10-75	34.5	-	460	F N	-
X507,200 Y1,877,600	X 4	F. Valdez	Q alluv	5,870	50	6	-	4-11-75	25.5	-	890	F N	-
X512,600 Y1,886,700	X 5	Balkey and Garcia	Q alluv	5,965	44	6	-	4-10-75	32.6	-	530	F D	-
X516,000 Y1,876,200	X 6	E. Martinez	Q alluv	5,835	23	30	-	4-10-75	17.2	-	690	F D	-
X515,300 Y1,882,200	X 7	G. A. Peel	Q alluv	5,825	40	6	-	4-11-75	20.9	-	280	F D	-
X520,800 Y1,881,400	X 8	Ms. A. Marshall	Q alluv	5,815	35	6	-	4-10-75	7.1	-	410	F D	-
X518,700 Y1,879,700	X 9	A. Trujillo	Q alluv	5,840	62	6	-	4-10-75	42.4	-	275	F D	-
X523,400 Y1, ,800	X 10	V. Vigil	Q alluv	5,815	47	6	-	4-11-75	29.6	-	590	F D	-
X522,500 Y1,876,400	X 11	F. Martinez	Q alluv	5,810	44	6	-	4-10-75	35.3	-	500	F N	-
X525,700 Y1,872,600	X 12	J. Martinez	Q alluv	5,790	30	30	-	4-10-75	21.4	-	565	F D	-
22N.7E.23.213	X 13	D. Martinez	Q alluv	5,785	130	6	-	4-18-75	13.3	-	1,425	F N	Table 5.
22N.7E.26.223	X 14	C. Hernandez	Q alluv	5,770	53	6	-	4-11-75	30.1	-	720	F D	-
22N.7E.25.314	X 15	C. Duran	Q alluv	5,755	46	6	-	4-11-75	17.9	-	380	F D	-
22N.7E.36.121	Y 1	J. D. Herrera	Q alluv	5,770	108	6	-	4-11-75	47.8	-	400	F D	Quicksand reported in casing above original depth of about 200 ft.

Table 3.--Records of selected wells in the Jemez Mountains Region, New Mexico - Concluded

Location number	Map and location number	Owner or name	Aquifer	Altitude	Well depth	Casing		Date	Water level	Temp.	Spec. cond.	Use	Remarks
						Diam.	Depth						
22N.7E.36.244	Y 2	K. Hutchinson	Q alluv	5,735	54	6	-	4-11-75	32.3	-	810	F D	-
X534,600 Y1,851,500	Y 3	M. Vigil	Q alluv	5,710	-	6	-	4-11-75	13.4	-	650	F D	-
X538,300 Y1,847,900	Y 4	N. Vigil	Q alluv	5,690	45	6	-	4-11-75	16.2	-	459	F D	-
X537,600 Y1,844,300	Y 5	J. Romero	Q alluv	5,720	84	6	-	4-11-75	50.0	-	425	F D	-
X538,900 Y1,851,500	Y 6	L. Maestes	Q alluv	5,705	65	6	-	4-11-75	36.6	-	1,100	F D	-

Table 4.--Miscellaneous data for wells in the Jemez Mountains Region, New Mexico

[Additional or recurrent data for selected wells in table 3]

Explanation:

Map and location number.--Letter identifier for location map in figure 3, and well number on map.

Aquifer.--Q alluv, Quaternary alluvial deposits in canyons and other drainage courses.
Q uncon, Quaternary unconsolidated deposits, undifferentiated.
Volc, lava or tuff of Quaternary and Tertiary age.
QT fill, Quaternary and Tertiary valley-fill deposits, undifferentiated, of Pleistocene, Pliocene, and Miocene age; includes interbedded volcanic rocks.
Mancos, Mancos shale of Cretaceous age.
Morrison, shale in Morrison Formation of Jurassic age.
Chinle, sandstone and shale in Chinle Formation of Triassic age.
Abo, sandstone and shale in Abo Formation of Permian age.
Magdl, limestone in Magdalena Group of Permian age.
Pcamb, Precambrian granitic rocks.

Date.--Month, day, year.

Water level.--Measured depth below land surface, in feet.

Discharge.--Gallons per minute.

Temp.--Temperature in degrees Celsius (centigrade), rounded to nearest 0.5 degree.

Spec. cond.--Specific conductance in micromhos per centimeter at 25°C. Symbol "F" denotes field measurement.

Chloride.--Milligrams per liter.

pH.--Symbol "F" denotes field measurement.

Alkalinity.--Milligrams per liter, as bicarbonate equivalent. Symbol "F" denotes field measurement.

Remarks.--Notation "table ____" refers to additional data in another table.

Table 4.--Miscellaneous data for wells in the Jemez Mountains Region, New Mexico - Concluded

Map and location number	Aquifer	Date	Static water level	Discharge	Temp.	Spec. cond.	Chloride	pH	Alkalinity	Remarks
C 3	Magdl	3-14-64	-	-	-	15,300	2,990	7.3	1,450	Tables 5,7,8.
		6- 5-73	-	-	52.0	15,700	3,100	6.4 F	1,420 F	-
		6- 6-73	-	85	-	-	-	-	-	-
		10- 2-73	-	96	51.5	-	-	6.9 F	1,412 F	-
		1-25-74	-	99	-	-	-	-	-	-
		12- 2-74	-	-	52.0	-	3,180	6.4 F	1,086 F	-
G 1	Magdl	10-30-73	38.21	-	10.0	640 F	13	7.3 F	376 F	-
H21	Abo	10-26-73	-	-	16.5	3,500 F	200	7.4 F	1,648 F	-
		4-23-74	112.11	-	-	-	-	-	-	-
		7- 3-74	112.13	-	-	-	-	-	-	-
H29	Magdl	10-24-73	-	44.0	14.5	3,200 F	300	6.5 F	1,611 F	Table 5.
		11-16-73	-	-	14.0	3,200 F	-	6.3 F	1,546 F	-
		1-18-74	-	-	14.5	3,200 F	-	6.3 F	1,514 F	-
		4- 2-74	42.99	-	-	-	-	-	-	-
		9- 9-74	44.03	-	-	-	-	-	-	-
		1-18-74	43.95	-	-	-	-	-	-	-
H30	Magdl	3-21-74	-	-	16.0	1,100 F	61	6.8 F	660	Table 5; perforated interval 76-90 feet.
		1-18-74	70.41	-	-	-	-	-	-	-
		4- 2-74	68.70	-	-	-	-	-	-	-
		11-26-74	-	-	16.0	950 F	-	-	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico

[Analyses by U.S. Geological Survey water-quality laboratories, except as noted.]

Explanation:

Map and location number.--Letter identifier for location map in figure 3, and spring or well number on map.

Date.--Month, day, year.

Constituents.--All constituents are dissolved (that is, determined on a filtered sample) except bicarbonate and carbonate, which are determined on an unfiltered (total) sample. Concentration in milligrams per liter unless otherwise noted.

Temp.--Temperature in degrees Celsius (centigrade), rounded to nearest 0.5 degree.

pH.--Symbol, "F", denotes field measurement.

Dissolved solids.--Milligrams per liter. Determined as residue on evaporation at 180°C or as sum of constituents in chemical analysis.

Hardness.--Milligrams per liter, expressed as calcium carbonate equivalent.

Spec. cond.--Specific conductance, in micromhos per centimeter at 25°C. Symbol, "F" denotes field measurement.

Remarks.--Notation, Dsil, gives concentration of Silica, in milligrams per liter, determined on sample diluted with deionized water in the field; NMEIA, New Mexico Environmental Improvement Agency; NMBMMR, New Mexico Bureau of Mines and Mineral Resources.

Others.--Concentrations in micrograms per liter.

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
A 1	3-14-64	15	157	70	1,760	–	71	1,080	0	1,220	1,680	2.9	0	–
	5- 2-73	–	–	–	–	–	–	–	–	–	2,040	–	–	–
	5-22-75	–	–	–	2,300	–	100	–	–	–	2,100	–	–	–
A 2	5- 2-73	17	300	68	2,000		81	1,970	0	1,300	1,900	2.7		0.09
	6- 5-73	–	–	–	–	–	–	2,004 F	–	–	–	–	–	–
	10- 2-73	–	–	–	–	–	–	1,982 F	–	–	–	–	–	–
	1-25-74	–	–	–	–	–	–	–	–	–	1,840	–	–	–
	12-20-74	20	300	68	2,000	–	83	2,005 F		1,200	1,900	3.4	–	–
A 3	12-20-74	15	390	65	3,000	–	91	1,855 F	–	2,600	2,400	4.0	–	–
A 4	10-18-74	–	–	–	3,900	–	140	–	–	–	2,800	–	–	–
A 5	12-20-74	18	220	110	3,800	–	140	2,260 F	4	3,700	2,700	2.0	–	–
A 6	9-14-24	30	260	70	–	400	–	1,301	0	1,728	2,330	–	–	–
A 7	9- 5-73	10	210	37	310	–	14	252 F	0	990	160	4.0	–	.02
A 8	5- 1-53	29	102	19	–	144	–	436	0	90	133	2.4	0	–
	5-24-73	24	88	12	69	–	4.1	338	0	55	60	1.8	–	.11
	4- 4-74	–	–	–	–	–	–	–	–	–	–	–	–	–
A 9	5-24-73	35	100	15	120	–	7.3	416	0	–	96	3.0	–	.00
A 10	5-24-73	13	110	18	1,400	–	63	1,320	0	470	1,400	8.6	–	.00
A 11	8-30-62	48	100	9	–	240	–	1,280	0	286	1,140	7.3	0	–
	8-30-73	68	110	21	1,300	–	73	1,456 F	0	270	1,200	4.0	–	.00
A 12	9- 5-73	15	270	62	420	–	26	586 F	0	850	410	3.4	–	.02
A 13	3- 4-61	59	56	4	–	349	–	652	0	76	199	5.8	3	–
A 14	–	–	70	20	177	–	20	516	0	38	117	1.2	–	–
B 1	4- 4-74	36	49	2	56	–	5.5	232 F	0	57	4	.4	–	1.90
B 2	5-19-52	23	71	15	–	86	–	158	0	194	60	.6	10	–
B 3	1-20-60	30	45	5	–	45	–	156	0	47	34	.6	6	–
B 4	4- 4-74	–	–	–	53	–	7.1	150 F	–	–	34	–	–	–
B 5	12-18-51	42	113	23	–	354	–	486	0	202	375	1.4	5	–
B 6	4- 4-74	30	64	9	69	–	9.6	186 F	0	190	5	.5	–	4.70
B 7	6- 8-73	33	31	4	46	–	3.3	211	0	20	3	.4	–	.11

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Orthophosphate as P	Phosphorus, Orthophosphate as PO_4	Others
A 1	3-14-64	-	6,800	-	-	6,400	-	-	-	-
	5- 2-73	-	-	-	-	-	-	-	-	-
	5-22-75	-	5,200	8.3	-	6,200	-	-	-	-
A 2	5- 2-73	210	20	8.0	800	-	740	0.07	-	-
	6- 5-73	-	-	-	-	-	-	-	-	-
	10- 2-73	-	-	-	-	-	-	-	-	-
	1-25-74	-	-	-	-	-	-	-	-	-
	12-20-74	-	-	-	140	6,100	-	-	-	-
A 3	12-20-74	-	6,900	-	420	5,200	-	-	-	Aluminum, 7.
A 4	10-18-74	190	8,200	10.0	-	7,100	-	-	-	-
A 5	12-20-74	-	8,000	-	-	6,300	-	-	-	-
A 6	9-14-24	-	-	-	-	-	-	-	-	-
A 7	9- 5-73	2	-	-	15,000	640	260	.02	-	-
A 8	5- 1-53	-	-	-	-	-	-	-	-	-
	5-24-73	0	170	.2	40	-	0	.02	-	-
	4- 4-74	-	-	-	-	110	-	-	-	-
A 9	5-24-73	8	320	.6	-	-	-	.02	-	-
A10	5-24-73	86	5,800	5.0	1,500	-	340	.03	-	-
A11	8-30-62	-	6,100	-	30	-	-	-	-	-
	8-30-73	69	8,200	5.0	50	6,700	300	.11	-	-
A12	9- 5-73	5	1,200	.5	80	1,100	630	.04	-	-
A13	3- 4-61	-	-	-	-	-	-	-	-	-
A14		-	1,110	-	-	-	-	-	-	-
B 1	4- 4-74	4	110	.0	1,700	60	0	-	-	-
B 2	5-19-52	-	-	-	-	-	-	-	-	-
B 3	1-20-60	-	-	-	-	-	-	-	-	-
B 4	4- 4-74	-	-	-	-	-	-	-	-	-
B 5	12-18-51	-	-	-	-	-	-	-	-	-
B 6	4- 4-74	12	240	.0	3,700	140	20	-	-	-
B 7	6- 8-73	15	50	.0	20	-	0	.02	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. cond.	Remarks
						Total	Noncarbonate		
A 1	3-14-64	-	7.6	-	5,510	678	0	8,560	-
	5- 2-73	16.5	-	-	-	-	-	10,900	-
	5-22-75	15.0	-	-	-	-	-	12,000 F	-
A 2	5- 2-73	16.5	6.5	-	6,650	1,000	0	9,930	-
	6- 5-73	18.5	-	-	-	-	-	-	-
	10- 2-73	18.5	-	-	-	-	-	-	-
	1-25-74	14.5	-	-	-	-	-	9,590	Dsil 22.
	12-20-74	15.0	-	-	-	-	-	8,390	Mariner (1977).
A 3	12-20-74	25.0	-	-	-	-	-	11,200	Mariner (1977).
A 4	10-18-74	-	-	-	-	-	-	20,000 F	-
A 5	12-20-74	11.0	-	-	-	-	-	12,900	Mariner (1977).
A 6	9-14-24	21.0	-	-	7,460	937	-	-	-
A 7	9- 5-73	15.0	6.4	-	1,830	680	540	2,500 F	-
A 8	5- 1-53	-	-	-	-	332	0	1,220	-
	5-24-73	15.6	7.3	-	482	270	0	900 F	-
	4- 4-74	15.5	-	-	-	-	-	630 F	-
A 9	5-24-73	-	7.0	-	674	310	0	900 F	-
A10	5-24-73	14.5	6.4	-	4,150	350	0	8,200 F	-
A11	8-30-62	-	8.0	-	3,470	285	0	5,680	Slight H_2S odor.
	8-30-73	22.6	8.0	-	3,770	360	0	7,000 F	-
A12	9- 5-73	18.5	7.0	-	2,350	930	440	3,200 F	-
A13	3- 4-61	-	7.5	-	1,070	154	0	1,720	-
A14		-	7.8	725	-	258	-	1,192	Undated analysis NMEIA (1974).
B 1	4- 4-74	-	7.9	-	332	130	0	470 F	-
B 2	5-19-52	-	7.9	-	538	238	109	848	-
B 3	1-20-60	-	7.9	-	290	134	6	458	-
B 4	4- 4-74	18.0	-	346	-	-	-	510 F	-
B 5	12-18-51	-	-	-	1,350	376	0	2,260	-
B 6	4- 4-74	15.0	7.8	-	493	200	46	670	-
B 7	6- 8-73	-	7.5	-	245	94	0	495 F	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
C 1	10- 2-73	20	77	26	100	-	5.5	333 F	0	120	82	2.0	-	0.13
C 2	9-29-26	18	400	73	-	450	-	1,498	0	3,645	2,660	-	0	-
C 3	3-14-64	31	345	56	3,550	-	87	1,450	0	3,260	2,990	2.8	0	-
	6- 5-73	30	350	61	3,500	-	88	-	0	3,300	3,100	3.4	-	.02
	6- 6-73	-	-	-	-	-	-	1,420 F	0	-	-	-	-	-
	10- 2-73	-	-	-	-	-	-	1,412 F	-	-	-	-	-	-
	1-25-74	-	-	-	-	-	-	-	-	-	-	-	-	-
	12- 2-74	31	340	62	3,300	-	80	1,086 F	0	2,690	3,180	2.8	0	-
C 4	6- 5-73	4	120	9	2,400	-	6.6	241	11	4,500	580	2.9	-	.08
C 5	7- -46	-	44	10	-	210	-	470	0	91	82	4.4	1	-
D 1	8-31-73	33	110	19	28	-	3.6	455 F	0	29	7	2.1	-	.00
D 2	8-31-73	30	85	15	11	-	2.0	322 F	0	26	4	.8	-	.00
D 3	5-23-73	32	96	15	24	-	1.7	331	0	72	11	3.0	-	.04
D 4	5-23-73	26	57	13	28	-	2.6	217	0	63	9	3.1	-	.06
D 5	11- 2-73	25	50	10	38	-	4.9	256 F	0	25	6	2.6	-	.05
D 6	8-21-73	44	32	6	190	-	8.2	409 F	0	120	49	7.6	-	.00
E 1	5-24-73	15	60	11	510	-	41	788	0	220	290	7.0	-	.00
E 2	5-25-73	12	21	4	87	-	12	281	0	38	7	3.1	-	.01
E 4	1-17-65	53	68	16	-	118	-	385	0	49	87	1.3	1	-
	8-30-73	54	73	15	120	-	15	416 F	0	40	100	1.3	-	.00
E 5	9-25-24	56	73	20	-	115	-	310	0	42	100	-	80	-
E 6	10- 5-73	53	78	14	120	-	16	362 F	0	52	130	1.3	-	.01
E 7	10-26-73	10	7	3	790	-	7.4	1,470	13	97	300	6.2	-	.02
E 8	2-20-58	-	-	-	-	-	-	406	0	-	122	1.4	0	-
E 9	6- 6-73	38	63	14	37	-	3.7	218	0	87 F	11	1.2	-	.01
F 1	9-18-73	56	19	6	7	-	5.9	86	0	17	2	.1	-	.00
F 2	10- 2-73	72	27	6	14	-	2.1	128	0	10	8	.4	-	.44
F 3	9-18-73	55	18	5	8	-	7.0	79	0	16	4	.1	-	.03
F 4	8-28-73	53	20	6	7	-	5.5	85 F	0	22	4	.1	-	.11

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Orthophosphate as P	Phosphorus, Orthophosphate as PO_4	Others
C 1	10- 2-73	2	290	0.5	0	210	13	0.06	-	-
C 2	9-29-26	-	-	-	-	-	-	-	-	-
C 3	3-14-64	600	4,800	4.6		6,900	-	-	-	Aluminum, 2,600; Copper, 40; Iodide, 300; Lead, 60; Zinc, 1,500.
	6- 5-73	360	7,500	8.1	1,400	-	90	-	-	
	6- 6-73	-	-	-	-	-	-	-	-	-
	10- 2-73	-	-	-	-	-	-	-	-	-
	1-25-74	-	-	-	-	-	-	-	-	
	12- 2-74	-	7,000	1.2	2,100	7,200	120	-	-	Aluminum, 300; Cadmium 20; Chromium, 16; Copper, 106; Lead, 31; Zinc, 27.
C 4	6- 5-73	0	1,800	.4	30	-	20	.01	-	-
C 5	7- -46	-	-	-	-	-	-	-	-	-
D 1	8-31-73	0	40	.1	10	50	120	.04	-	-
D 2	8-31-73	-	-	-	60	-	10	.05	-	-
D 3	5-23-73	0	20	.2	30	-	0	.02	-	-
D 4	5-23-73	3	50	.2	60	-	20	.03	-	-
D 5	11- 2-73	0	210	.0	60	140	250	-	-	-
D 6	8-21-73	67	380	.2	140	430	80	.04	-	-
E 1	5-24-73	20	3,300	1.0	30	-	70	.02	-	-
E 2	5-25-73	43	670	.3	90	-	80	.01	-	-
E 4	1-17-65	-	-	-	10	-	-	-	-	-
	8-30-73	17	900	-	540	890	750	-	-	-
E 5	9-25-24	-	-	-	200	-	-	-	-	-
E 6	10- 5-73	68	1,300	.7	90	1,500	80	-	-	-
E 7	10-26-73	4	1,100	.9	60	200	10	-	-	-
E 8	2-20-58	-	-	-	250	-	-	-	-	-
E 9	6- 6-73	1	60	.2	450	-	380	.02	-	-
F 1	9-18-73	-	-	-	60	-	0	.27	-	-
F 2	10- 2-73	5	20	.0	20	10	8	.15	-	-
F 3	9-18-73	-	-	-	20	-	130	-	-	-
F 4	8-28-73	-	-	-	30	-	70	.10	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. Cond.	Remarks
						Total	Noncarbonate		
C 1	10- 2-73	-	7.9	-	599	300	25	960 F	-
C 2	9-29-26	46.0	-	-	10,984	1,299	-	-	-
C 3	3-14-64	-	7.3	-	11,000	1,090	0	15,300	"Warm Springs", slight H_2S odor.
	6- 5-73	52.0	6.8	-	11,100	1,100	0	15,700	-
	6- 6-73	-	-	-	-	-	-	-	-
	10- 2-73	51.5	-	-	-	-	-	-	-
	1-25-74	-	-	-	-	-	-	-	Dsil 35.
	12- 2-74	52.0	-	-	-	-	-	-	Analysis by NMBMMR.
C 4	6- 5-73	21.0	8.5	-	7,750	340	120	10,100	-
C 5	7- -46	-	-	-	-	150	0	1,130	-
D 1	8-31-73	15.0	7.8	-	452	350	0	700 F	-
D 2	8-31-73	13.4	8.0	-	335	270	7	530 F	-
D 3	5-23-73	11.5	7.6	-	418	300	30	640 F	-
D 4	5-23-73	15.0	7.6	-	310	200	18	450 F	-
D 5	11- 2-73	13.0	8.2	-	292	-	-	460 F	-
D 6	8-21-73	18.5	8.0	-	638	100	0	1,000 F	-
E 1	5-24-73	-	7.6	-	1,560	200	0	2,800 F	-
E 2	5-25-73	13.5	7.7	-	324	69	0	540 F	-
E 4	1-17-65	-	7.6	-	582	236	0	946	Slight H_2S odor.
	8-30-73	19.5	8.0	-	626	240	0	1,020 F	-
E 5	9-25-24	-	-	-	642	264	-	-	-
E 6	10- 5-73	-	7.5	-	645	250	0	1,040 F	-
E 7	10-26-73	16.0	8.4	-	1,960	29	0	3,200 F	-
E 8	2-20-58	-	7.4	-	-	315	0	1,010	-
E 9	6- 6-73	17.5	7.4	-	364	220	36	580 F	-
F 1	9-18-73	11.5	6.8	-	159	72	0	180 F	-
F 2	10- 2-73	-	7.6	-	205	91	0	240 F	-
F 3	9-18-73	-	6.7	-	153	66	1	179	-
F 4	8-28-73	10.0	7.5	-	161	74	2	195 F	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
F 5	8-28-73	64	15	4	13	-	1.8	94 F	0	5	3	0.1	-	0.24
G 1	10-30-73	16	100	11	14	-	5.8	376 F	0	21	13	.3	-	.56
G 3	11-30-73	21	66	5	9	-	1.6	236 F	0	7	2	.2	-	.21
G 4	11-30-73	56	28	3	11	-	1.6	114 F	0	7	4	.5	-	.69
H 1	5- 8-73	70	16	6	12	-	-	88	0	3	6	.6	0	-
H 2	5- 8-73	64	18	5	13	-	-	88	0	3	6	.6	0	-
H 3	7-13-73	54	250	23	67	-	6.1	930 F	0	76	12	1.0	-	.06
H 4	6-21-73	55	180	34	75	-	8.9	858 F	0	71	14	1.2	-	.00
	9- 5- 74	-	-	-	-	-	-	-	-	-	-	-	-	-
H 5	12-13-57	-	-	-	-	-	-	338	5	-	9	-	-	-
	6- 1-73	-	99	9	-	23	-	292	0	-	14	.8	1	-
H 6	12- 1-72	50	330	24	990	-	200	1,578 F	0 F	52	1,500	3.3	-	-
	3- 8-73	-	-	-	-	-	-	1,574 F	-	40	1,500	-	-	-
	6-29-73	-	-	-	-	-	-	1,560 F	-	43	1,500	-	-	-
	11-29-73	-	-	-	-	-	-	1,481 F	-	-	-	-	-	-
	12- 2-74	44	328	26	1,030	-	185	1,462	0	34	1,550	3.6	0	-
H 11	10-14-54	59	93	12	-	108	-	370	0	28	129	1.0	1	-
H 14	12- 2-72	79	130	5	640	-	82	732 F	2 F	53	920	4.8	-	-
	2-21-73	-	-	-	-	-	-	724 F	-	43	880	-	-	-
	6-26-73	-	-	-	-	-	-	748 F	-	-	-	-	-	-
	11-29-73	-	-	-	-	-	-	721 F	-	-	-	-	-	-
H 15	12- 2-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	9- 5-73	-	-	-	-	-	-	-	-	-	915	-	-	-
	12- 2-74	62	131	5	660	-	70	731	0	55	930	4.5	0	-
H 17	5-30-74	71	160	-	510	-	63	760 F	0	43	700	4.4	-	.08
H 18	10-14-54	35	117	17	-	118	-	465	0	81	106	1.8	0	-
H 19	5-18-73	89	170	9	550	-	68	812 F	0	49	800	4.6	-	.01
H 20	5-28-74	57	68	10	170	-	24	399 F	-	22	220	1.8	-	.02
H 21	10-26-73	17	12	10	860	-	8.5	1,648 F	0	250	200	2.4	-	.03
	7- 3-74	-	-	-	-	-	-	-	-	-	-	-	-	-
	11-26-74	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Orthophosphate as P	as PO_4	Others
F 5	8-28-73	1	10	0.1	10	10	0	0.12	-	-
G 1	10-30-73	0	60	.2	10	60	10	-	-	-
G 3	11-30-73	2	10	.1	20	20	0	.05	-	-
G 4	11-30-73	0	10	.1	80	30	0	.13	-	-
H 1	5- 8-73	-	-	-	-	-	-	-	-	-
H 2	5- 8-73	-	-	-	-	-	-	-	-	-
H 3	7-13-73	4	140	.1	30	-	10	.04	-	-
H 4	6-21-73	5	180	.1	9	-	20	.03	-	-
	9- 5-74	-	-	-	-	0	-	-	-	-
H 5	12-13-57	-	-	-	-	-	-	-	-	-
	6- 1-73	-	-	.0	-	-	-	-	-	-
H 6	12- 1-72	500	2,500	6.9	40	3,000	550	.26	-	Aluminum, 5; Barium, 300; Beryllium, 0; Cesium, 2,000; Iodide, 70; Rubidium, 2,400; Selenium, 0; Strontium, 1,500.
	3- 8-73	100	4,000	.0	-	-	-	-	-	-
	6-29-73	-	3,000	.9	-	-	-	-	-	-
	11-29-73	-	-	-	-	-	-	-	-	-
	12- 2-74	-	2,500	5.3	290	7,500	600	-	-	Aluminum, 10; Cadmium, 8; Copper 11; Chromium, 4; Lead, 10; Zinc 21.
H11	10-14-54	-	-	-	-	-	-	-	-	-
H14	12- 2-72	660	7,400	4.0	-	8,700	175	.17	-	Aluminum, 2; Barium, 300; Cesium, 1,200; Iodide, 200; Rubidium, 890; Selenium, 0; Strontium, 510.
	2-21-73	720	6,100	1.0	-	-	-	-	-	-
	6-26-73	-	-	-	-	-	-	-	-	-
	11-29-73	-	-	-	-	-	-	-	-	-
H15	12- 2-72	-	-	-	-	-	-	-	-	-
	5- 9-73	-	-	-	-	-	-	-	-	-
	12- 2-74	-	7,200	2.2	80	1,300	260	-	-	-
H17	5-30-74	780	7,400	3.0	-	-	-	-	-	-
H18	10-14-54	-	-	-	-	-	-	-	-	-
H19	5-18-73	550	6,500	1.0	1,000	-	360	.15	-	-
H20	5-28-74	230	1,900	1.4	750	2,300	820	.11	-	-
H21	10-26-73	-	-	-	30	-	60	-	-	-
	7- 3-74	5	2,100	1.4	-	370	-	-	-	-
	11-26-74	-	-	-	-	-	-	-	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. Cond.	Remarks
						Total	Noncarbonate		
F 5	8-28-73	12.5	7.6	-	155	55	0	175 F	-
G 1	10-30-73	10.0	7.2	-	365	300	0	640 F	-
G 3	11-30-73	12.0	7.7	-	230	180	0	365 F	-
G 4	11-30-73	15.0	8.2	-	172	83	0	210 F	-
H 1	5- 8-73	-	7.4	188	-	64	-	160 F	Purtymun (1974).
H 2	5- 8-73	16.0	7.8	178	-	64	-	160 F	Purtymun (1974).
H 3	7-13-73	15.0	6.6	-	952	720	0	1,450 F	-
H 4	6-21-73	-	7.2	-	856	590	0	1,400 F	-
	9- 5-74	-	-	-	-	-	-	-	-
H 5	12-13-57	-	8.3	-	-	266	0	563	Purtymun (1974), except Bromide.
	6- 1-73	-	7.6	402	-	284	-	580	
H 6	12- 1-72	48.0	-	3,740	-	920	-	-	H_2S odor; Dsil 50; Dsil 48, 1-25-74.
	3- 8-73	45.5	-	-	-	-	-	8,000 F	-
	6-29-73	-	-	-	-	-	-	-	-
	11-29-73	45.0	-	-	-	-	-	7,000 F	-
	12- 2-74	-	-	-	-	-	-	-	Analysis by NMBMMR.
H11	10-14-54	16.5	-	-	613	280	0	994	-
H14	12- 2-72	75.0	-	3,500	-	340	-	3,930 F	Dsil 79; Dsil 95, 1-25-74.
	2-21-73	71.5	-	-	-	-	-	4,700 F	-
	6-26-73	71.5	-	-	-	-	-	4,300 F	-
	11-29-73	-	-	-	-	-	-	3,800 F	-
H15	12- 2-72	69.0	-	-	-	-	-	4,000 F	Analysis by NMBMMR.
	5- 9-73	-	-	-	-	-	-	4,500 F	-
	12- 2-74	-	-	-	-	-	-	-	Analysis by NMBMMR.
H17	5-30-74	58.0	7.1	-	1,960	430	0	3,600 F	Strong H_2S odor; Dsil 96; Temperature measured at 78 feet.
H18	10-14-54	-	-	-	705	362	0	1,140	-
H19	5-18-73	48.5	6.7	-	2,140	460	0	3,600 F	Dsil 80, 2-7-74.
H20	5-28-74	-	8.0	-	580	-	210	1,300 F	-
H21	10-26-73	16.5	7.6	-	2,170	71	0	3,500 F	-
	7- 3-74	-	-	-	-	-	-	-	-
	11-26-74	-	-	-	-	-	-	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
H 23	9-27-73	59	75	13	120	-	19	380 F	0	21	120	1.6	-	0.76
H 25	5- 8-73	42	16	6	-	10	-	68	0	10	8	.3	0	-
H 27	1-20-65	61	17	3	-	18	-	91	-	11	4	.6	1	-
	12- 4-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	5- 8-73	30	19	3	-	5	-	56	0	12	4	.3	1	-
H 28	7-18-74	87	38	4	70	-	5.5	254 F	-	18	40	1.4	-	.12
H 29	10-24-73	37	210	59	570	-	34	1,611 F	0	290	300	1.6	-	.02
	11-16-73	-	-	-	-	-	-	1,546 F	-	-	-	-	-	-
	1-18-74	-	-	-	-	-	-	1,514 F	-	-	-	-	-	-
H 30	3-21-74	37	130	25	100	-	11	660	0	32	61	1.0	-	.07
	11-26-74	-	-	-	-	-	-	-	-	-	-	-	-	-
H 31	9-24-73	24	19	44	720	-	66	1,550	154	150	120	9.1	-	.01
H 32	6-28-49	48	76	16	-	331	-	461	0	44	387	2.0	0	-
	1-17-73	45	140	13	390	-	51	761	0	32	470	4.6	-	.26
	3- 8-73	-	-	12	-	-	-	770 F	-	30	460	-	-	-
	4-27-73	-	-	-	-	-	-	-	-	-	350	-	-	-
	5-17-73	38	96	9	180	-	26	502 F	0	38	180	2.5	-	.18
	6- 1-73	-	-	-	-	-	-	-	-	-	220	-	-	-
	6- 7-73	-	93	10	-	-	-	552 F	-	36	230	-	-	-
	6-28-73	-	48	10	-	-	-	586 F	-	34	290	-	-	-
	8-15-73	42	130	12	250	-	35	637 F	0	32	320	2.3	-	.11
	9-24-73	-	-	-	-	-	-	644 F	-	-	-	-	-	-
	11-16-73	-	-	-	-	-	-	660 F	-	-	-	-	-	-
	1-25-74	-	-	-	-	-	-	614 F	-	-	-	-	-	-
	3- 4-74	-	-	-	-	-	-	-	-	-	-	-	-	-
H 33	5- 8-73	34	22	5	-	9	-	84	0	11	6	.7	0	-
H 35	5-25-73	17	35	46	840	-	45	1,810	0	280	330	6.5	-	.02
H 39	8- 1-47	53	11	4	-	23	-	87	0	8	8	1.6	0	-
	12- 3-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	1-16-73	56	9	5	19	-	.9	94	0	7	4	1.0	-	.42
	3- 6-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-12-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	8- 1-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	1-25-74	-	-	-	-	-	-	-	-	-	-	-	-	-
	12-13-74	54	12	5	25	-	1.4	88	-	7	18	.9	-	.50

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Orthophosphate		Others
								as P	as PO_4	
H23	9-27-73	150	1,200	0.4	30	1,400	0	-	-	-
H25	5- 8-73	-	-	-	-	-	-	-	-	-
H27	1-20-65	-	-	-	-	-	-	-	-	-
	12- 4-72	-	-	-	-	-	-	-	-	-
	5- 8-73	-	-	-	-	-	-	-	-	-
H28	7-18-74	26	370	.2	10	560	0	.38	-	-
H29	10-24-73	58	2,300	1.1	430	2,100	880	-	-	-
	11-16-73	-	-	-	-	-	-	-	-	-
	1-18-74	-	-	-	-	-	-	-	-	-
H30	3-21-74	5	510	.3	2,000	690	240	-	-	-
	11-26-74	-	-	-	-	-	-	-	-	-
H31	9-24-73	9	4,300	.4	30	2,200	0	.09	-	-
H32	6-28-49	-	1,000	-	-	-	-	-	-	-
	1-17-73	-	710	-	20	-	80	.03	-	-
	3- 8-73	3	3,300	-	-	-	-	-	-	-
	4-27-73	-	-	-	-	-	-	-	-	-
	5-17-73	0	1,700	.3	20	-	20	.03	-	-
	6- 1-73	-	-	-	-	-	-	-	-	-
	6- 7-73	6	2,200	1.0	-	-	-	-	-	-
	6-28-73	-	2,500	1.0	-	-	-	-	-	-
	8-15-73	0	2,900	-	60	-	20	.03	-	-
	9-24-73	-	-	-	-	-	-	-	-	-
	11-16-73	-	-	-	-	-	-	-	-	-
	1-25-74	-	-	-	-	-	-	-	-	-
	3- 4-74	-	-	-	-	3,600	-	-	-	-
H33	5- 8-73	-	-	-	-	-	-	-	-	-
H35	5-25-73	4	4,000	1.0	20	-	0	.02	-	-
H39	8- 1-47	-	-	-	-	-	-	-	-	-
	12- 3-72	-	-	-	-	-	-	-	-	-
	1-16-73	-	20	-	20	-	0	.05	-	-
	3- 6-73	-	-	-	-	-	-	-	-	-
	4-12-73	-	-	-	-	-	-	-	-	-
	8- 1-73	-	-	-	-	-	-	-	-	-
	1-25-74	-	-	-	-	-	-	-	-	-
	12-13-74	-	-	.1	20	270	0	-	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. Cond.	Remarks
						Total	Noncarbonate		
H23	9-27-73	17.0	7.5	-	625	240	0	925 F	-
H25	5- 8-73	-	7.3	118	-	64	-	120	Purtymun (1974)
H27	1-20-65	-	7.5	178	161	56	0	-	Purtymun (1974).
	12- 4-72	15.0	-	-	-	-	-	215 F	-
	5- 8-73	-	7.1	150	-	60	-	100	-
H28	7-18-74	-	-	-	393	110	0	540 F	-
H29	10-24-73	14.5	6.8	-	2,260	770	0	3,200 F	Strong H_2S odor; Dsil 44, 2-7-74.
	11-16-73	14.0	-	-	-	-	-	3,200 F	-
	1-18-74	14.5	-	-	-	-	-	3,200 F	-
H30	3-21-74	16.0	6.9	-	728	430	0	1,100 F	Slight H_2S odor.
	11-26-74	16.0	-	-	-	-	-	950 F	-
H31	9-24-73	16.5	8.5	-	2,080	230	0	2,700 F	-
H32	6-28-49	16.5	7.6	-	1,130	256	0	2,040	-
	1-17-73	18.5	6.7	-	1,520	400	0	2,200 F	-
	3- 8-73	18.5	-	-	-	-	-	2,700 F	-
	4-27-73	18.5	-	-	-	-	-	2,300 F	-
	5-17-73	18.0	6.9	-	814	280	0	1,400 F	-
	6- 1-73	18.0	-	-	-	-	-	1,500 F	-
	6- 7-73	18.0	-	-	-	-	-	1,800 F	-
	6-28-73	17.5	-	-	-	160	-	1,850 F	-
	8-15-73	18.0	6.8	-	1,120	370	0	2,000 F	-
	9-24-73	18.0	-	-	-	-	-	2,100 F	-
	11-16-73	18.0	-	-	-	-	-	2,150 F	-
	1-25-74	18.0	-	-	-	-	-	1,900 F	Dsil 48.
	3- 4-74	-	-	-	-	-	-	-	-
H33	5- 8-73	-	7.1	134	-	76	-	140	Purtymun (1974).
H35	5-25-73	13.5	8.2	-	2,500	280	0	3,660	-
H39	8- 1-47	-	8.1	-	-	-	-	198	-
	12- 3-72	31.5	-	-	-	-	-	175 F	-
	1-16-73	31.5	8.0	-	149	41	0	180 F	-
	3- 6-73	31.0	-	-	-	-	-	175 F	-
	4-12-73	31.5	-	-	-	-	-	175 F	-
	8- 1-73	31.0	-	-	-	-	-	170 F	-
	1-25-74	31.5	-	-	-	-	-	170 F	Dsil 60.
	12-13-74	31.0	-	-	179	50	0	165 F	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
H 40	7- 3-73	23	10	6	470	-	4.9	1,150	25	35	7	3.2	-	1.10
H 41	6-29-73	25	12	5	360	-	4.6	905	13	59	6	2.2	-	.00
	5-10-74	-	-	-	-	-	-	-	-	-	-	-	-	-
H 42	8- 1-47	71	8	2	-	56	-	139	0	17	11	.8	0	-
	9-28-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	10-25-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	11- 7-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	12- 1-72	-	6	2	55	-	1.8	144 F	1 F	18	12	.7	-	-
	1-17-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-15-73	-	-	-	-	-	-	148 F	-	-	-	-	-	-
	6-21-73	-	-	-	-	-	-	-	-	-	-	-	-	-
J 2	10-13-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	9-18-73	57	18	5	10	-	7.8	93 F	0	12	3	.1	-	.00
K 1	6-21-63	49	19	2	14	-	3.0	96	0	-	3	-	-	-
K 2	6-21-63	51	19	2	14	-	3.0	96	0	-	3	-	-	-
K 4	8-26-64	-	20	6	-	12	-	84	0	-	6	.4	1	-
	5-11-73	-	-	-	-	-	-	-	-	-	-	-	-	-
K 5	6-21-63	52	22	4	13	-	2.6	102	0	-	6	-	-	-
K 6	6-21-63	58	8	3	141	-	5.7	356	12	-	7	-	-	-
K 7	6-21-63	79	21	6	15	-	3.5	116	0	-	6	-	-	-
K 10	6-21-63	69	12	4	10	-	2.0	76	0	-	3	-	-	-
K 14	6-21-63	80	14	3	12	-	1.8	92	0	-	2	-	-	-
K 16	6-21-63	73	13	3	15	-	2.6	88	0	-	3	-	-	-
K 17	6-21-63	72	11	3	10	-	2.4	68	0	-	3	-	-	-
K 18	6-21-63	35	17	1	56	-	2.0	184	0	-	4	-	-	-
L 3	6-20-50	60	6	2	-	11	-	48	-	2	2	.8	1	-
	5-25-54	55	4	1	11	-	1.2	42	0	2	2	.6	0	-
L 4	6-20-50	71	6	2	-	11	-	49	-	2	2	.2	2	-
L 5	10-26-49	75	13	2	-	19	-	87	0	9	2	.2	0	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Orthophosphate as P	Phosphorus, Orthophosphate as PO_4	Others
H40	7- 3-73	6	750	0.0	100	-	20	0.03	-	-
H41	6-29-73	8	490	.0	10	-	0	.02	-	-
	5-10-74	-	-	-	-	300	-	-	-	-
H42	8- 1-47	-	-	-	-	-	-	-	-	-
	9-28-72	-	-	-	-	-	-	-	-	-
	10-25-72	-	-	-	-	-	-	-	-	-
	11- 7-72	-	-	-	-	-	-	-	-	-
	12- 1-72	72	70	.1	-	690	-	.04	-	Aluminum, 25; Barium, 0; Beryllium, 0; Iodide, 10; Selenium, 0; Strontium, 30.
	3-15-73	-	-	-	-	-	-	-	-	-
	6-21-73	-	-	-	-	-	-	-	-	-
J 2	10-13-72	-	-	-	-	-	-	-	-	-
	9-18-73	1	20	.0	110	0	0	.24	-	-
K 1	6-21-63	-	10	-	-	-	-	-	-	-
K 2	6-21-63	-	10	-	-	-	-	-	-	-
K 4	8-26-64	-	-	-	-	-	-	-	-	-
	5-11-73	-	-	-	-	-	-	-	-	-
K 5	6-21-63	-	10	-	-	-	-	-	-	-
K 6	6-21-63	-	140	-	-	-	-	-	-	-
K 7	6-21-63	-	30	-	-	-	-	-	-	-
K10	6-21-63	-	-	-	-	-	-	-	-	-
K14	6-21-63	-	10	-	-	-	-	-	-	-
K16	6-21-63	-	10	-	-	-	-	-	-	-
K17	6-21-63	-	-	-	-	-	-	-	-	-
K18	6-21-63	-	60	-	-	-	-	-	-	-
L 3	6-20-50	-	-	-	-	-	-	-	-	-
	5-25-54	-	-	-	-	-	-	-	-	-
L 4	6-20-50	-	-	-	-	-	-	-	-	-
L 5	10-26-49	-	-	-	570	-	-	-	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. Cond.	Remarks
						Total	Noncarbonate		
H40	7- 3-73	21.0	8.4	-	1,160	50	0	1,780	-
H41	6-29-73	16.5	8.5	-	933	49	0	1,470	-
	5-10-74	-	-	-	-	-	-	-	-
H42	8- 1-47	44.0	7.3	-	-	-	-	283	-
	9-28-72	39.5	-	-	-	-	-	295 F	-
	10-25-72	-	-	-	-	-	-	300 F	-
	11- 7-72	39.5	-	-	-	-	-	276	-
	12- 1-72	40.5	-	224	-	22	-	282 F	Dsil 100.
	3-15-73	39.5	-	-	-	-	-	295 F	-
	6-21-73	-	-	-	-	-	-	300 F	-
J 2	10-13-72	9.5	-	-	-	-	-	180 F	-
	9-18-73	9.5	7.1	-	161	65	0	200 F	-
K 1	6-21-63	22.0	7.3	-	-	54	0	172	-
K 2	6-21-63	22.0	7.3	-	-	55	0	175	-
K 4	8-26-64	-	-	164	-	73	-	-	-
	5-11-73	21.5	-	-	-	-	-	200 F	-
K 5	6-21-63	-	7.2	-	-	72	0	205	-
K 6	6-21-63	-	8.5	-	-	31	0	622	-
K 7	6-21-63	19.5	8.0	-	-	76	0	213	-
K10	6-21-63	20.0	7.0	-	-	45	0	137	-
K14	6-21-63	21.0	7.4	-	-	49	0	150	-
K16	6-21-63	21.0	7.1	-	-	46	0	160	-
K17	6-21-63	21.5	7.7	-	-	40	0	128	-
K18	6-21-63	-	7.7	-	-	45	0	316	-
L 3	6-20-50	-	-	108	-	23	-	84	Griggs (1954); Scott (1962).
	5-25-54	-	7.2	100	-	17	-	80	-
L 4	6-20-50	-	-	-	121	24	-	94	Griggs (1954).
L 5	10-26-49	-	-	-	165	42	-	157	Griggs (1954).

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
M 1	8- 5-74	12	50	12	65	-	5.2	374 F	-	10	5	0.4	-	0.11
	11-26-74	-	-	-	-	-	-	-	-	-	-	-	-	-
N 4	3-19-74	-	42	30	1,100	-	37	1,942	-	240	525	-	-	-
	4-23-74	2	2	2	6,300	-	350	6,820	1,080	2,100	3,500	0	-	.06
	5- 3-74	110	7	13	4,800	-	180	6,773 F	-	1,600	2,600	6.0	-	.08
	5-14-74	76	22	20	3,200	-	150	4,370 F	0	1,200	1,800	6.0	-	.01
	7-17-74	57	30	4	580	-	35	993 F	-	160	320	2.0	-	.24
	9-19-74	-	12	1	270	-	19	439 F	-	85	140	1.5	-	-
N 6	11-15-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-31-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	6-21-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	9-13-73	-	11	1	-	9	-	66 F	0	-	6	.4	-	-
N 7	8-14-73	22	19	5	-	7	-	68	0	2	4	-	0	-
N 9	10- 5-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-31-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	6-19-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	9-13-73	-	11	3	-	21	-	36 F	0	-	6	.9	0	-
N 10	10-17-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	11- 7-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	12- 2-72	-	11	1	9	-	2.4	62 F	0	5	4	.4	-	-
	2-13-73	-	-	-	-	-	-	58 F	-	-	-	-	-	-
	5-22-73	34	13	2	8	-	2.2	54	0	10	2	.4	-	.21
	6-20-73	-	-	-	-	-	-	74 F	-	-	-	-	-	-
	6-28-73	-	-	-	-	-	-	50 F	-	7	-	-	-	-
	7-18-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	9-13-73	-	-	-	-	-	-	56 F	-	-	-	-	-	-
	2-22-74	36	-	-	-	-	-	-	-	-	-	-	-	-
N 13	1-17-73	33	16	2	-	9	-	64	0	4	2	.7	0	-
	2-22-74	33	-	-	-	-	-	54 F	-	-	-	-	-	-
N 15	11-23-72	51	18	1	-	31	-	100	0	4	6	.8	0	-
N 16	5-31-73	58	16	4	8	-	6.0	39	0	33	3	.4	-	.58
P 1	8-31-49	216	185	52	7	-	24	0	0	1,570	4	1.1	0	-
P 2	11- 4-63	190	7	10	24	-	31	0	0	35,100	24	1.2	0	-
	12- 2-74	-	13	1	9	-	11	0	0	676	5	-	0	-
P 3	8-31-49	237	110	11	-	24	-	0	0	2,740	20	.5	1	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Orthophosphate as P	Phosphorus, Orthophosphate as PO_4	Others
M 1	8- 5-74	0	9	0.1	50	100	20	-	-	-
	11-26-74	-	-	-	-	-	-	-	-	-
N 4	3-19-74	6	4,100	1.3	-	930	-	-	-	Cadmium, 1.
	4-23-74	2	25,000	16.0	1,200	25,000	70	1.1	-	Iodide, 0.43; Strontium, 40; Zinc, 40.
	5- 3-74	300	26,000	14.0	1,200	15,000	50	.36	-	Iodide, 0.03; Strontium, 440; Zinc, 150.
	5-14-74	39	15,000	8.3	30	12,000	340	.16	-	Iodide, 0.17; Strontium, 110; Zinc, 10.
	7-17-74	6	1,500	3.7	40,000	610	780	.07	-	Strontium, 1,600.
	9-19-74	-	1,900	-	-	360	-	-	-	-
N 6	11-15-72	-	-	-	-	-	-	-	-	-
	5-31-73	-	-	-	-	-	-	-	-	-
	6-21-73	-	-	-	-	-	-	-	-	-
	9-13-73	-	-	-	-	-	-	-	-	-
N 7	8-14-73	-	-	-	-	-	-	-	-	-
N 9	10- 5-72	-	-	-	-	-	-	-	-	-
	5-31-73	-	-	-	-	-	-	-	-	-
	6-19-73	-	-	-	-	-	-	-	-	-
N 9	9-13-73	-	-	-	-	-	-	-	-	-
N10	10-17-72	-	-	-	-	-	-	-	-	-
	11- 7-72	-	-	-	-	-	-	-	-	-
	12- 2-72	6	20	.4	-	-	-	.01	-	Barium, 0; Beryllium, 0; Iodide, 6; Selenium, 0; Strontium, 80.
	2-13-73	-	-	-	-	-	-	-	-	-
	5-22-73	4	20	.0	260	-	0	-	-	-
	6-20-73	-	-	-	-	-	-	-	-	-
	6-28-73	-	-	-	-	-	-	-	-	-
	7-18-73	-	-	-	-	-	-	-	-	-
	9-13-73	-	-	-	-	-	-	-	-	-
	2-22-74	-	7	-	-	10	-	-	-	-
N13	1-17-73	-	-	-	-	-	-	-	-	-
	2-22-74	-	10	-	-	10	-	-	-	-
N15	11-23-72	-	-	-	-	-	-	-	-	-
N16	5-31-73	0	70	.0	140	-	-	.13	-	-
P 1	8-31-49	-	-	-	33,000	-	300	-	-	Aluminum, 56,000.
P 2	11- 4-63	50	-	-	11,500	70	330	-	2	Aluminum, 36,000; Lead, 120; Selenium, 30.
	12- 2-74	-	0	-	-	-	-	-	-	Chromium, 15; Copper, 20; Lead, 64; Zinc, 180.
P 3	8-31-49	-	-	-	93,000	-	-	-	-	Aluminum, 172,000.

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. Cond.	Remarks
						Total	Noncarbonate		
M 1	8- 5-74	10.5	-	-	344	170	0	580 F	-
	11-26-74	8.0	-	-	-	-	-	-	-
N 4	3-19-74	-	-	-	-	-	-	4,030 F	Depth of hole 1,780 feet.
	4-23-74	-	8.8	-	16,800	13	0	22,900	Depth of hole 3,530 feet; Dsil 32.
	5- 3-74	-	7.7	-	9,380	-	72	21,200 F	Depth of hole 3,557 feet; Dsil 170.
	5-14-74	76.0	7.7	-	-	-	140	15,200 F	Depth of hole 3,727 feet; Dsil 100.
	7-17-74	-	-	-	1,730	92	0	2,720	Depth of hole 6,356 feet; sample from packer test, 5,950-6,356 feet.
	9-19-74	-	-	939	-	32	0	1,330	Depth of hole 6,701 feet; sample from packer test.
N 6	11-15-72	12.5	-	-	-	-	-	130 F	Purtymun (1974).
	5-31-73	12.5	-	-	-	-	-	130 F	-
	6-21-73	12.5	-	-	-	-	-	125 F	-
	9-13-73	12.5	7.3	130	-	32	-	115 F	-
N 7	8-14-73	10.0	6.8	148	-	68	-	155 F	Purtymun (1974).
N 9	10- 5-72	8.0	-	-	-	-	-	130 F	Purtymun (1974).
	5-31-73	8.0	-	-	-	-	-	125 F	-
	6-19-73	7.5	-	-	-	-	-	100 F	-
	9-13-73	8.5	7.3	150	-	40	-	125 F	-
N10	10-17-72	11.0	-	-	-	-	-	120 F	-
	11- 7-72	12.0	-	-	-	-	-	105	-
	12- 2-72	11.5	-	126	-	33	-	113 F	Dsil 40.
	2-13-73	11.5	-	-	-	-	-	120 F	-
	5-22-73	12.5	7.4	-	99	39	0	109	-
	6-20-73	13.0	-	-	-	-	-	108 F	-
	6-28-73	12.5	-	-	-	-	-	110 F	-
	7-18-73	12.5	-	-	-	-	-	110 F	-
	9-13-73	12.0	-	-	-	-	-	110 F	-
	2-22-74	-	-	-	-	-	-	-	Dsil 38.
N13	1-17-73	9.0	7.5	114	-	48	-	90	Purtymun (1974); Dsil 44.
	2-22-74	10.0	-	-	-	-	-	120 F	Dsil 44.
N15	11-23-72	-	7.6	299	-	48	-	200	Purtymun (1974)
N16	5-31-73	8.5	7.9	-	151	55	23	166	-
P 1	8-31-49	-	1.9	-	1,950	676	676	4,570	Sulphur Spring, Lemonade Spring; H_2S odor.
P 2	11- 4-63	87.0	1.8	-	-	57	57	13,800	Sulphur Spring, mens bathhouse; H_2S odor.
	12- 2-74	70.0	-	-	-	-	-	-	Analyaes by NMBMMR.
P 3	8-31-49	-	1.6	-	2,690	320	320	8,510	Sulphur Spring, ladies bathhouse; H_2S odor.

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
P 5	6- 8-73	-	22	5	-	12	-	68	0	-	8	.3	0	-
	9-24-74	-	32	9	-	-	-	236 F	-	20	4	.5	-	-
P 6	6- 5-73	58	48	11	-	10	-	156	0	18	14	.4	0	-
	9-24-74	-	-	-	12	-	8.3	189 F	-	-	-	-	-	-
P 7	8-14-73	63	32	9	170	-	6.9	603 F	0	11	6	1.2	-	0.00
P 8	11-21-59	80	10	3	-	19	-	83	0	6	4	.2	1	-
	7-23-74	-	-	-	-	-	-	-	-	-	-	-	-	-
P 9	8- 1-47	103	7	1	-	40	-	77	0	15	17	1.6	0	-
P 12	9-28-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	12- 1-72	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-16-73	76	5	0	23	-	2.0	61	0	9	2	.8	-	.37
	6- 7-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	7-30-73	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-24-74	77	-	-	-	-	-	-	-	-	-	-	-	-
	11-12-74	-	-	-	-	-	-	-	-	-	-	-	-	-
P 19	7-28-49	77	17	4	-	-	-	0	0	192	0	.3	1	-
Q 1	7- 6-49	55	6	1	-	11	-	38	-	2	2	2.4	0	-
	5-25-54	50	5	2	10	-	1.6	41	0	2	2	1.8	0	-
Q 3	9-20-49	57	10	0	-	12	-	42	-	4	2	3.6	1	-
S 1	7-17-52	73	11	7	-	9	-	87	0	2	2	.1	0	-
S 2	1- 7-53	76	19	6	-	14	-	112	0	4	5	.3	0	-
S 3	1- 6-53	75	15	4	-	10	-	83	0	3	3	.3	1	-
T 1	4- 1-52	56	13	2	-	25	-	103	0	5	3	.3	1	-
T 2	3-29-52	54	13	1	-	54	-	166	0	8	5	1.4	1	-
T 3	4- 4-52	66	13	1	-	25	-	97	0	5	4	.3	1	-
T 4	4- 1-52	46	19	4	-	12	-	96	0	4	5	.3	2	-
T 5	6- 7-51	50	16	3	-	19	-	96	-	5	5	.3	1	-
T 8	4-17-50	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-14-52	27	7	1	-	80	-	177	0	20	18	1.3	2	-
T 9	4-17-50	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-14-52	32	16	1	-	32	-	117	0	8	4	.5	1	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Orthophosphate as P	Phosphorus, Orthophosphate as PO_4	Others
P 5	6- 8-73	-	-	-	-	-	-	-	-	-
	9-24-74	-	530	-	-	50	-	-	-	-
P 6	6- 5-73	-	-	-	-	-	-	-	-	-
	9-24-74	-	30	-	-	30	-	-	-	-
P 7	8-14-73	0	640	0.1	980	140	350	-	-	-
P 8	11-21-59	-	-	-	-	-	-	-	-	-
	7-23-74	1	20	.8	-	20	-	-	-	-
P 9	8- 1-47	-	-	-	-	-	-	-	-	-
P12	9-28-72	-	-	-	-	-	-	-	-	-
	12- 1-72	-	-	-	-	-	-	-	-	-
	5-16-73	3	40	.1	160	-	0	-	-	-
	6- 7-73	-	-	-	-	-	-	-	-	-
	7-30-73	-	-	-	-	-	-	-	-	-
	2-24-74	-	30	-	-	40	-	-	-	-
	11-12-74	-	-	-	-	-	-	-	-	-
P19	7-28-49	-	3,000	-	-	-	-	-	-	-
Q 1	7- 6-49	-	-	-	10	-	-	-	-	-
	5-25-54	-	-	-	-	-	-	-	-	-
Q 3	9-20-49	-	-	-	70	-	-	-	-	-
S 1	7-17-52	-	-	-	20	-	-	-	-	-
S 2	1- 7-53	-	-	-	10	-	-	-	-	-
S 3	1- 6-53	-	-	-	10	-	-	-	-	-
T 1	4- 1-52	-	-	-	20	-	-	-	-	-
T 2	3-29-52	-	-	-	30	-	-	-	-	-
T 3	4- 4-52	-	-	-	10	-	-	-	-	-
T 4	4- 1-52	-	-	-	10	-	-	-	-	-
T 5	6- 7-51	-	-	-	20	-	-	-	-	-
T 8	4-17-50	-	-	-	-	-	-	-	-	-
	5-14-52	-	-	-	30	-	-	-	-	-
T 9	4-17-50	-	-	-	-	-	-	-	-	-
	5-14-52	-	-	-	10	-	-	-	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. Cond.	Remarks
						Total	Noncarbonate		
P 5	6- 8-73	12.0	7.3	220	-	76	-	170	-
	9-24-74	-	-	286	-	120	0	420 F	-
P 6	6- 5-73	-	7.5	294	-	164	-	320 F	-
	9-24-74	-	7.2 F	294	-	-	-	390 F	-
P 7	8-14-73	19.5	9.1	-	-	120	0	850 F	Dsil 145, 10-12-73.
P 8	11-21-59	11.0	-	-	164	39	0	153	Dsil 64.
	7-23-74	-	-	-	-	-	-	-	-
P 9	8- 1-47	-	6.7	-	-	20	0	167	-
P12	9-28-72	40.0	-	-	-	-	-	130 F	-
	12- 1-72	40.5	-	-	-	-	-	120 F	-
	5-16-73	40.0	7.7	-	150	13	0	110 F	-
	6- 7-73	-	-	-	-	-	-	-	-
	7-30-73	-	-	-	-	-	-	120 F	-
	2-24-74	-	-	-	-	-	-	-	Dsil 80.
	11-12-74	-	-	-	-	-	-	-	-
P19	7-28-49	24.5	2.9	-	-	-	-	644	-
Q 1	7- 6-49	-	-	-	98	18	-	80	Conover (1963), Griggs (1954), Scott (1962).
	5-25-54	-	7.8	103	-	21	-	81	-
Q 3	9-20-49	17.0	-	-	111	26	-	91	-
S 1	7-17-52	21.0	7.2	-	-	56	-	149	-
S 2	1- 7-53	23.5	7.3	-	-	73	-	194	-
S 3	1- 6-53	21.5	7.4	-	-	54	-	141	-
T 1	4- 1-52	28.0	-	-	156	41	-	172	-
T 2	3-29-52	29.5	-	-	220	38	-	281	-
T 3	4- 4-52	25.5	-	-	163	37	-	169	-
T 4	4- 1-52	25.5	-	-	139	66	-	176	-
T 5	6- 7-51	26.0	-	-	146	50	-	177	-
T 8	4-17-50	-	-	-	-	-	-	-	-
	5-14-52	17.0	-	-	244	22	-	383	-
T 9	4-17-50	-	-	-	-	-	-	-	-
	5-14-52	14.5	-	-	152	42	-	200	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
T 10	4-17-50	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-14-52	30	6	1	-	84	-	185	0	18	18	2.0	1	-
T 11	4- 3-50	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-14-52	30	3	0	-	63	-	138	10	7	4	1.3	1	-
T 12	4-28-50	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-14-52	36	10	1	-	54	-	140	10	7	3	.7	2	-
T 13	4-21-50	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-14-52	36	9	0	-	27	-	91	0	4	3	.3	1	-
T 14	6-21-63	30	13	0	32	-	2.0	116	0	-	3	-	-	-
TA 1	1- 8-64	24	21	0	-	198	-	206	0	162	98	2.4	5	-
U 1	6-19-74	10	88	19	8	-	2.2	381 F	-	9	3	.2	-	0.50
U 2	6-19-74	19	30	8	50	-	6.9	247 F	-	20	3	1.2	-	.88
	4- 7-75	-	-	-	-	-	-	-	-	-	-	-	-	-
UA 3	2-26-64	49	99	34	-	86	-	508	0	123	17	.8	1	-
UA 5	4-18-75	-	-	-	-	-	-	476 F	30 F	-	-	-	-	-
UB 2	4-18-75	44	300	46	140	-	5.3	280 F	0	960	7	.4	-	1.30
UB 3	4-18-75	11	26	11	690	-	2.9	466 F	0	860	190	1.8	-	4.60
UB 4	4-18-75	-	-	-	-	-	-	804 F	-	-	-	-	-	-
UB 5	2-26-64	12	5	0	-	327	-	802	10	32	7	2.7	1	-
V 1	3- 7-74	50	12	5	10	-	1.1	80 F	0	2	2	.2	-	.43
	4- 9-75	-	-	-	-	-	-	-	-	-	-	-	-	-
V 3	6-19-74	51	11	3	8	-	1.0	60 F	-	4	2	.4	-	.65
	4- 9-75	-	-	-	-	-	-	-	-	-	-	-	-	-
V 4	3- 7-74	23	340	70	330	-	13	365 F	0	1,100	330	.5	-	.02
V 5	4- 8-75	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-18-75	-	-	-	-	-	-	410 F	-	-	-	-	-	-
W 3	4-18-75	-	-	-	-	-	-	261 F	-	-	-	-	-	-
W 4	4-18-75	48	92	23	76	-	4.5	587 F	0	10	7	.5	-	.12
X 2	4-18-75	39	28	4	160	-	0.6	292 F	0	110	40	1.4	-	2.50
X 13	4-18-75	34	65	7	260	-	2.6	252 F	0	250	210	4.1	-	1.10

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Continued

Map and location number	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Orthophosphate as P	Phosphorus, Orthophosphate as PO_4	Others
T10	4-17-50	-	-	-	-	-	-	-	-	-
	5-14-52	-	-	-	10	-	-	-	-	-
T11	4- 3-50	-	-	-	-	-	-	-	-	-
	5-14-52	-	-	-	20	-	-	-	-	-
T12	4-28-50	-	-	-	-	-	-	-	-	-
	5-14-52	-	-	-	10	-	-	-	-	-
T13	4-21-50	-	-	-	-	-	-	-	-	-
	5-14-52	-	-	-	10	-	-	-	-	-
T14	6-21-63	-	30	-	-	-	-	-	-	-
TA1	1- 8-64	-	-	-	-	-	-	-	-	-
U 1	6-19-74	2	20	0.1	20	20	20	-	-	-
U 2	6-19-74	1	110	.0	40	100	0	-	-	-
	4- 7-75	-	-	-	-	-	-	-	-	-
UA3	2-26-64	-	-	-	-	-	-	-	-	-
UA5	4-18-75	-	720	.0	-	50	-	-	-	-
UB2	4-18-75	-	280	.1	-	90	5	-	-	-
UB3	4-18-75	-	920	1.7	10	240	0	-	-	-
UB4	4-18-75	-	670	.3	-	130	-	-	-	-
UB5	2-26-64	-	-	-	-	-	-	-	-	-
V 1	3- 7-74	7	10	.0	80	20	0	-	-	-
	4- 9-75	-	-	-	-	-	-	-	-	-
V 3	6-19-74	2	10	.1	30	10	0	-	-	-
	4- 9-75	-	-	-	-	-	-	-	-	-
V 4	3- 7-74	0	150	1.0	-	130	200	-	-	-
V 5	4- 8-75	-	-	-	-	-	-	-	-	-
	4-18-75	-	70	.1	-	90	-	-	-	-
W 3	4-18-75	-	50	.0	-	30	-	-	-	-
W 4	4-18-75	-	160	.1	30	50	10	-	-	-
X 2	4-18-75	-	110	.3	40	60	20	-	-	-
X13	4-18-75	-	1,400	.5	10	820	10	-	-	-

Table 5.--Water-quality data for ground water in the Jemez Mountains Region, New Mexico - Concluded

Map and location number	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. cond.	Remarks
						Total	Noncarbonate		
T10	4-17-50	-	-	-	-	-	-	-	-
	5-14-52	18.5	-	-	251	18	-	379	-
T11	4- 3-52	-	-	-	-	-	-	-	-
	5-14-52	25.5	-	-	188	-	-	273	-
T12	4-28-50	-	-	-	-	-	-	-	-
	5-14-52	16.5	-	-	192	27	-	254	-
T13	4-21-50	-	-	-	-	-	-	-	-
	5-14-52	23.0	-	-	125	24	-	151	-
T14	6-21-63	-	7.2	-	-	33	0	205	-
TA 1	1- 8-64	-	7.6	-	611	54	0	989	Sample representative of 3 wells; Dinwiddie (1966).
U 1	6-19-74	10.5	-	-	332	300	0	570 F	-
	11-26-74	6.0	-	-	-	-	-	-	-
U 2	6-19-74	11.0	-	-	263	110	0	430 F	-
	4- 7-75	10.5	-	-	-	-	-	405 F	-
UA 3	2-26-64	-	7.4	-	660	385	0	989	Dinwiddie (1966).
UA 5	4-18-75	-	-	-	-	-	-	850 F	-
UB 2	4-18-75	-	-	-	1,650	940	710	1,800 F	-
UB 3	4-18-75	-	-	-	2,050	110	0	3,100 F	-
UB 4	4-18-75	-	-	-	-	-	-	-	Undated analysis NMEIA (1974).
UB 5	2-26-64	-	8.4	-	791	15	0	1,240	Dinwiddie (1966).
V 1	3- 7-74	18.0	7.8	-	124	50	0	140 F	Dsil 50.
	4- 9-75	16.0	-	-	-	-	-	150 F	-
V 3	6-19-74	16.0	-	-	112	40	0	120 F	-
	4- 9-75	15.0	-	-	-	-	-	120 F	-
V 4	3- 7-74	-	7.5	-	2,390	1,100	840	3,000 F	-
V 5	4- 8-75	-	-	-	-	-	-	635 F	Undated analysis NMEIA (1974).
	4-18-75	-	-	-	-	-	-	629	-
W 3	4-18-75	12.0	-	-	-	-	-	405 F	-
W 4	4-18-75	-	-	-	551	320	0	810 F	-
X 2	4-18-75	-	-	-	539	86	0	790 F	-
X13	4-18-75	-	-	-	965	190	0	1,425 F	-

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico

[Analyses by U.S. Geological Survey water-quality laboratory, except as noted.]

Explanation:

Date.--Month, day, year.

Constituents.--All constituents are dissolved (that is, determined on a filtered sample) except bicarbonate and carbonate, which are determined on an unfiltered (total) sample. Concentration in milligrams per liter unless otherwise noted.

Temp.--Temperature in degrees Celsius (centigrade), rounded to nearest 0.5 degree.

pH.--Symbol, F, denotes field measurement.

Dissolved solids.--Milligrams per liter. Determined as residue on evaporation at 180°C or as sum of constituents in chemical analysis.

Hardness.--Milligrams per liter, expressed as Calcium Carbonate equivalent.

Spec. Cond.--Specific conductance in micromhos per centimetre at 25°C. Symbol, "F", denotes field measurement.

Remarks.--Notation "table 8" refers to additional data in another table, number in parenthesis refers to location of site shown in figure 4.

Others.--Concentrations in micrograms per liter.

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Continued

Name, location	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate as N
Barranca Ditch near Abiquiu	3- 7-74	-	-	-	24	-	2.1	183 F	-	-	5	0.5	-	-
Arroyo Seco near Abiquiu	3- 7-74	-	-	-	33	-	2.5	149 F	-	-	14	.4	-	-
Rio Del Oso at Chili	3- 7-74	-	-	-	19	-	2.4	146 F	-	-	-	.5	-	-
Santa Clara Creek near Espanola	3- 7-74	-	-	-	9	-	1.2	75 F	-	-	2	.7	-	-
Rio Grande at Otowi Bridge	2-14-74	27	48	11	25	-	2.5	140 F	0	79	9	.4	-	0.43
Rio Grande at San Felipe	2-14-74	29	46	10	25	-	2.6	145	-	66	8	.4	-	.34
San Antonio Creek in Valle Toledo	6-20-50	60	7	1	-	12	-	45	0	2	2	2.2	0	-
San Antonio Creek above Sulphur Creek	11-30-73	-	-	-	-	-	-	97	-	-	-	-	-	-
	3-26-74	-	-	-	-	-	-	54	-	-	3	-	-	-
	4- 2-74	-	-	-	-	-	-	48 F	-	-	2	-	-	-
	4- 8-74	-	-	-	-	-	-	47 F	-	-	3	-	-	-
	4-23-74	-	-	-	-	-	-	60 F	-	-	2	-	-	-
	9- 5-74	-	-	-	-	-	-	-	-	-	-	-	-	-
	9-24-74	-	-	-	-	-	-	82 F	-	-	-	-	-	-
	11-12-74	-	-	-	-	-	-	-	-	-	-	-	-	-
Redondo Creek above Sulphur Creek	7-18-74	-	-	-	-	-	-	49 F	-	-	51	-	-	-
	11-12-74	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur Creek below Sulphur Springs	8-31-49	83	130	19	15	-	3.0	0	0	886	4	6	0	-
Sulphur Creek above Redondo Creek	7-18-74	-	-	-	-	-	-	-	-	-	6	-	-	-
	11-12-74	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Continued

Name, location	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Ortho-phosphate, as P	Others
Barranca Ditch near Abiquiu	3- 7-74	12	50	0.0	-	30	-	-	-
Arroyo Seco near Abiquiu	3- 7-74	2	80	.1	-		-	-	-
Rio Del Oso at Chili	3- 7-74	2	60	.1	-	40	-	-	-
Santa Clara Creek near Espanola	3- 7-74	0	10	.0	-	30	-	-	-
Rio Grande at Otowi Bridge	2-14-74	0	50	.1	0	20	30	0.04	-
Rio Grande at San Felipe	2-14-74	0	50	.0	0	20	10	.04	-
San Antonio Creek in Valle Toledo	6-20-50	-	-	-	-	-	-	-	-
San Antonio Creek above Sulphur Creek	11-30-73	-	-	-	-	-	-	-	-
	3-26-74	-	-	-	-	-	-	-	-
	4- 2-74	-	-	-	-	-	-	-	-
	4- 8-74	-	-	-	-	-	-	-	-
	4-23-74	-	-	-	-	-	-	-	-
	9- 5-74	-	-	-	-	-	-	-	-
	9-24-74	-	-	-	-	-	-	-	-
	11-12-74	-	-	-	-	-	-	-	-
Redondo Creek above Sulphur Creek	7-18-74	-	-	-	-	-	-	-	-
	11-12-74	-	-	-	-	-	-	-	-
Sulphur Creek below Sulphur Springs	8-31-49	-	-	-	31,000	-	-	-	Aluminum 52,000
Sulphur Creek above Redondo Creek	7-18-74	-	-	-	-	-	-	-	-
	11-12-74	-	-	-	-	-	-	-	-

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Continued

Name, location	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. cond.	Remarks
						Total	Noncarbonate		
Barranca Ditch near Abiquiu	3- 7-74	16.0	-	135	-	-	-	190 F	(1)
Arroyo Seco near Abiquiu	3- 7-74	10.0	-	193	-	-	-	280 F	(2)
Rio Del Oso at Chili	3- 7-74	4.5	-	178	-	-	-	270 F	(3)
Santa Clara Creek near Espanola	3- 7-74	2.5	-	107	-	-	-	130 F	(4)
Rio Grande at Otowi Bridge	2-14-74	3.5	-	-	-	-	170	420 F	(5)
Rio Grande at San Felipe	2-14-74	4.0	-	-	-	160	-	400 F	(6)
San Antonio Creek in Valle Toledo	6-20-50	-	-	-	108	20	-	86	(7)
San Antonio Creek above Sulphur Creek	11-30-73	-	7.8	-	-	-	-	-	Table 8. (8)
	3-26-74	-	7.1	-	-	-	-	-	
	4- 2-74	-	-	-	-	-	-	120 F	
	4- 8-74	-	-	-	-	-	-	120 F	
	4-23-74	-	-	-	-	-	-	-	
	9- 5-74	-	-	-	-	-	-	200 F	
	9-24-74	-	-	-	-	-	-	145 F	
	11-12-74	-	-	-	-	-	-	160 F	
Redondo Creek above Sulphur Creek	7-18-74	14.2	-	-	-	-	-	285 F	Table 8. (9)
	11-12-74	0.0	-	-	-	-	-	1,175 F	
Sulphur Creek below Sulphur Springs	8-31-49	-	2.6	-	1,250	402	402	1,820	(10)
Sulphur Creek above Redondo Creek	7-18-74	13.5	-	-	-	-	-	770 F	Table 8. (11)
	11-12-74	0.0	-	-	-	-	-	980 F	

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Continued

Name, location	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate, as N
Sulphur Creek above San Antonio Creek	11-21-49	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-23-73	33	18	2	7	-	3.6	11	0	49	11	0.2	-	0.02
	11-30-73	-	-	-	-	-	-	46	-	-	-	-	-	-
	3-21-74	33	54	7	19	-	8.6	0	0	200	31	.3	-	.06
	3-26-74	-	-	-	-	-	-	-	-	-	26	-	-	-
	4- 2-74	-	-	-	-	-	-	-	-	-	19	-	-	-
	4- 8-74	-	-	-	-	-	-	-	-	-	32	-	-	-
	4-23-74	-	-	-	-	-	-	2 F	-	-	53	-	-	-
	5- 3-74	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-10-74	-	-	-	-	-	-	-	-	-	-	-	-	-
	6-18-74	-	-	-	-	-	-	16	-	-	44	-	-	-
	7-18-74	-	-	-	-	-	-	12 F	-	-	44	-	-	-
	9- 5-74	-	-	-	-	-	-	-	-	-	-	-	-	-
	9-24-74	-	-	-	-	-	-	18 F	-	-	40	-	-	-
Jemez River below East Fork	11-14-74	50	15	3	17	-	2.8	71 F	-	13	6	.9	-	.01
Jemez River below Jemez Springs	1-29-74	55	51	5	98	-	7.0	233 F	0	17	120	1.3	-	.05
Jemez River above Rio Guadalupe	9- 7-73	46	59	7	120	-	8.0	279 F	0	17	140	1.3	-	.01
Rio Guadalupe Box Canyon near Jemez	11-14-74	23	40	3	10	-	2.0	152 F	-	7	3	.4	-	.01
Rio Guadalupe above Jemez River	9- 7-73	26	63	7	18	-	2.7	248 F	0	11	7	.7	-	.03
Jemez River near Jemez	11-14-74	38	48	5	60	-	9.8	203 F	-	0	71	.9	-	.05
Jemez River at Highway 4 near San Ysidro	9- 7-73	44	71	10	220	-	0.0	443 F	0	-	210	2.1	-	.01
	1-29-74	43	62	8	120	-	1.0	314 F	0	32	120	1.3	-	.01
Cuchilla Arroyo at Highway 44 near San Ysidro	1-25-74	-	-	-	-	-	-	-	-	-	3,410	-	-	-
	6-29-74	15	420	94	4,200	-	0.0	501 F	-	4,600	4,000	2.7	-	.01

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Continued

Name, location	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Ortho-phosphate, as P	Others
Sulphur Creek above San Antonio Creek	11-21-49	-	-	-	-	-	-	-	-
	5-23-73	0	80	0.1	140		160	0.02	
	11-30-73	-	-	-	-	-	-	-	-
	3-21-74	1	130	.1	2,600	110	1,100	.03	-
	3-26-74	-	-	-	-	-	-	-	-
	4- 2-74	-	-	-	-	-	-	-	-
	4- 8-74	-	-	-	-	-	-	-	-
	4-23-74	-	-	-	-	-	-	-	-
	5- 3-74	-	-	-	-	-	-	-	-
	5-10-74	-	-	-	-	-	-	-	-
	6-18-74	-	-	-	-	-	-	-	-
	7-18-74	-	-	-	-	-	-	-	-
	9- 5-74	-	-	-	-	-	-	-	-
	9-24-74	-	-	-	-	-	-	-	-
Jemez River below East Fork	11-14-74	6	40	.1	60	80	0	.03	Barium, <100; Cadmium, 1; Chromium, 0; Lead, dissolved, 4; Mercury, total, <0.1; Selenium, 0; Silver, <1; Zinc, <10.
Jemez River below Jemez Springs	1-29-74	110	850	-	50	1,300	30	.08	-
Jemez River above Rio Guadalupe	9- 7-73	-	-	-	140	-	20	.14	-
Rio Guadalupe at Box Canyon near Jemez	11-14-74	8	30	.0	110	-	0	.01	Cadmium, 0; Chromium, 0; Copper, 0; Lead, 3; Selenium, 0; table 8.
Rio Guadalupe above Jemez River	9- 7-73	-	-	-	10	-	30	.06	-
Jemez River near Jemez	11-14-74	50	570	.3	190	700	0	.03	Cadmium, 0; Chromium, 0; Copper, 1; Lead, 2; Selenium, 0; table 8.
Jemez River at Highway 4 near San Ysidro	9- 7-73	-	-	-	10		290	.13	-
	1-29-74	47	1,000	-	30	960	120	.08	-
Cuchilla Arroyo at Highway 44 near San Ysidro	1-25-74	-	-	-	-	-	-	-	-
	6-29-74	12	9,100	8.7	370	8,000	330	.05	-

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Continued

Name, location	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. cond.	Remarks
						Total	Noncarbonate		
Sulphur Creek above San Antonio Creek	11-21-49	-	4.3	-	-	-	-	698	(12)
	5-23-73	6.0	7.9	-	130	54	45	166	-
	11-30-73	-	7.5	-	-	-	-	-	-
	3-21-74	1.0	4.3	-	359	170	170	540 F	-
	3-26-74	-	-	-	-	-	-	-	-
	4- 2-74	1.0	-	-	-	-	-	390 F	-
	4- 8-74	10.3	-	-	-	-	-	380 F	-
	4-23-74	-	-	-	-	-	-	-	-
	5- 3-74	17.0	-	-	-	-	-	420 F	-
	5-10-74	-	-	-	-	-	-	450 F	-
	6-18-74	19.0	6.8	-	-	-	-	350 F	-
	7-18-74	14.0	-	-	-	-	-	280 F	-
	9- 5-74	-	-	-	-	-	-	410 F	-
	9-24-74	16.0	-	-	-	-	-	370 F	-
Jemez River below East Fork	11-14-74	4.5	-	133	144	50	0	185 F	(15)
Jemez River below Jemez Springs	1-29-74	8.5	7.8	-	480	150	0	800 F	(18)
Jemez River above Rio Guadalupe	9- 7-73	16.5	8.2	-	546	180	0	900 F	(19)
Rio Guadalupe at Box Canyon near Jemez	11-14-74	3.0	-	151	164	110	0	260 F	(20)
Rio Guadalupe above Jemez River	9- 7-73	16.5	7.9	-	264	190	0	410 F	(21)
Jemez River near Jemez	11-14-74	4.0	-	341	350	140	0	600 F	(22)
Jemez River at Highway 4 near San Ysidro	9- 7-73	14.5	7.6	-	854	220	0	1,400 F	(23)
	1-29-74	1.5	7.8	-	556	190	0	900 F	-
Cuchilla Arroyo at Highway 44 near San Ysidro	1-25-74	-	-	12,800	-	-	-	-	-
	6-29-74	27.0	-	-	-	1,400	-	24,600 F	(24)

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Continued

Name, location	Date	Silica	Calcium	Magnesium	Sodium	Sodium plus Potassium, as NA	Potassium	Bicarbonate	Carbonate	Sulfate	Chloride	Fluoride	Nitrate, as NO_3	Nitrite plus Nitrate, as N
Arroyo Penasco at Highway 44 near San Ysidro	1-25-74	-	-	-	-	-	-	-	-	-	2,210	-	-	-
	6-29-74	23	140	61	2,800	-	0.0	878 F	-	2,800	2,300	3.7	-	0.06
Rio Salado at Highway 44 near San Ysidro	1-29-74	12	390	55	3,800	-	3.1	483 F	0	4,700	3,100	1.7	-	.18
Jemez River below Jemez Canyon Dam	2-15-74	-	-	-	-	-	-	358	-	-	314	-	-	-
Rio Grande at Bernalillo	2-14-74	28	48	9	40	-	3.9	161 F	-	84	24	.5	-	.27
Rio Grande at Albuquerque	2-14-74	-	-	-	-	-	-	158	-	-	-	-	-	-

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Continued

Name, location	Date	Arsenic (µg/L)	Boron (µg/L)	Bromide	Iron (µg/L)	Lithium (µg/L)	Manganese (µg/L)	Phosphorus, Ortho-phosphate, as P	Others
Arroyo Penasco at Highway 44 near San Ysidro	1-25-74	-	-	-	-	-	-	-	-
	6-29-74	70	7,400	8.0	50	6,100	10	0.08	-
Rio Salado at Highway 44 near San Ysidro	1-29-74	0	8,000	-	20	8,300	150	.05	-
Jemez River below Jemez Canyon Dam	2-15-74	-	-	-	-	-	-	-	-
Rio Grande at Bernalillo	2-14-74	3	140	.1	10	110	0	.06	-
Rio Grande at Albuquerque	2-14-74	-	-	-	-	-	-	-	-

Table 6.--Water-quality data for water from selected streams in the Jemez Mountains Region, New Mexico - Concluded

Name, location	Date	Temp.	pH	Dissolved residue	Solids sum	Hardness		Spec. cond.	Remarks
						Total	Noncarbonate		
Arroyo Penasco at Highwayy 44 near San Ysidro	1-25-74	-	-	8,260	-	-	-	-	(25)
	6-29-74	18.0	-	-	-	600	-	14,400 F	-
Rio Salado at Highwayy 44 near San Ysidro	1-29-74	2.0	7.6	-	12,300	1,200	850	16,600	(26)
Jemez River below Jemez Canyon Dam	2-15-74	5.0	-	-	-	-	-	2,000 F	Table 8. (27)
Rio Grande at Bernalillo	2-14-74	6.0	-	-	-	160	-	498 F	(28)
Rio Grande at Albuquerque	2-14-74	8.5	8.0	-	-	-	-	479	(29)

Table 7.--Spectrographic analyses of ground water in the Jemez Mountains Region, New Mexico

[Analyses by spectrographic laboratory, Water Resources Division, U.S. Geological Survey, Denver, Colorado. Constituents in micrograms per liter.]

Map and location number refers to location map in figure 3, and identifies spring or well in table 1 or 3, respectively. Date given as month, day, year. Symbols that refer to concentration are: >, value known to be greater than that given; <, value known to be less than that given.

Name or location:	Spring near San Ysidro	Salt Spring	Warm Spring	Ojito Spring
Map and location number:	A 2	A 10	C 3	C 4
Date:	2- 5-73	5-24-73	6- 6-73	6- 5-73
Aluminum (Al)	650	130	1,400	100
Antimony (Sb)	< 10	< 7	< 6	< 6
Arsenic (As)	160	160	340	< 55
Barium (Ba)	< 210	< 15	< 35	< 25
Beryllium (Be)	21	1	.4	< .3
Bismuth (Bi)	< 2	< .7	< .6	< .6
Boron (B)	13,000	1,800	2,600	400
Cadmium (Cd)	< 10	< 11	< 12	< 12
Chromium (Cr)	< 3	< 1	< 2	< 1
Cobalt (Co)	< 17	1	< 2	< 1
Copper (Cu)	20	< 15	< 27	< 25
Gallium (Ga)	< 44	< 25	< 70	< 50
Germanium (Ge)	< 95	< 65	< 170	< 130
Iron (Fe)	3,000	1,100	850	65
Lanthanum (La)	< 26	< 5	< 6	< 5
Lead (Pb)	2	< 3	< 3	< 3
Lithium (Li)	7,500	> 2,800	> 740	1,200
Manganese (Mn)	450	200	28	9
Molybdenum (Mo)	< 2	9	< 7	11
Nickel (Ni)	< 56	< 2	< 3	< 2
Silver (Ag)	< 3	< 1	< 2	< 1
Strontium (Sr)	7,600	6,000	10,000	8,500
Tin (Sn)	< 95	< 65	< 170	< 130
Titanium (Ti)	< 26	1	< 2	2
Vanadium (V)		< 40	< 35	< 25
Ytterbium (Yb)	< 2	< .5	< .6	< .5
Yttrium (Y)	< 13	< .3	< .3	< .3
Zinc (Zn)	< 560	< 22	< 25	< 25
Zirconium (Zr)	< 13	3	< 3	3

Table 7.--Spectrographic analyses of ground water in the Jemez Mountains Region, New Mexico - Continued

Name or location:	Spring at Soda Dam	Spring at Jemez Springs	Spring 5 miles north of Jemez Springs	McCauley Spring
Map and location number:	H 6	H 14	H 32	H 39
Date:	2-21-73	2-21-73	3- 8-73	3-14-73
Aluminum (Al)--------	110	130	86	20
Antimony (Sb)--------	< 5	< 5	< 5	
Arsenic (As)---------	1,300	740	< 46	
Barium (Ba)----------	340	180	110	< 6
Beryllium (Be)-------	2	.8	< .2	< .9
Bismuth (Bi)---------	< .5	< .5	< .5	< 3
Boron (B)------------	13,000	6,500	3,900	43
Cadmium (Cd)---------	< 10	< 10	< 10	< 42
Chromium (Cr)--------	1	< 1	< 1	< 3
Cobalt (Co)----------	< .5	< .5	< .5	< 3
Copper (Cu)----------	< 13	< 8	< 6	< .6
Gallium (Ga)---------	< 27	< 16	< 11	< 2
Germanium (Ge)-------	< 58	< 34	< 24	< 3
Iron (Fe)------------	52	160	14	< 3
Lanthanum (La)-------	< 5	< 5	< 5	-
Lead (Pb)------------	< 3	< 3	< 3	< 3
Lithium (Li)---------	2,500	1,550	770	-
Manganese (Mn)-------	500	170	40	< 2
Molybdenum (Mo)------	< 1	< 1	2	18
Nickel (Ni)----------	< 2	< 2	< 2	< 3
Silver (Ag)----------	< .2	< .2	< .2	< .3
Strontium (Sr)-------	2,200	870	1,200	28
Tin (Sn)-------------	< 58	< 34	< 24	< 3
Titanium (Ti)--------	< 5	< 5	< 5	< 3
Vanadium (V)---------	< 58	< 34	< 24	4
Ytterbium (Yb)-------	< .2	< .2	< .2	-
Yttrium (Y)----------	< 1	< 1	< 1	-
Zinc (Zn)------------	< 22	< 22	< 22	< 190
Zirconium (Zr)-------	< 1	< 1	< 1	< 6

Table 7.--Spectrographic analyses of ground water in the Jemez Mountains Region, New Mexico - Concluded

Name or location:	Spence Spring	Spring in White Rock Canyon	Spring in Calaveras Canyon
Map and location number:	H 42	K 4	N 10
Date:	3-15-73	5-11-73	2-13-73
Aluminum (Al)	42	19	46
Antimony (Sb)			
Arsenic (As)			
Barium (Ba)	< 10	39	15
Beryllium (Be)	< 2	< 2	< .6
Bismuth (Bi)	< 5	< 4	< 2
Boron (B)	160	28	13
Cadmium (Cd)	< 65	< 51	< 27
Chromium (Cr)	< 5	< 4	< 2
Cobalt (Co)	< 5	< 4	< 2
Copper (Cu)	< .9	< .8	.4
Gallium (Ga)	< 2	< 2	< .9
Germanium (Ge)	< 5	< 4	< 2
Iron (Fe)	< 5	12	21
Lanthanum (La)	-	-	-
Lead (Pb)	< 5	< 4	< 2
Lithium (Li)	-	30	< 10
Manganese (Mn)	< 3	< 3	< 2
Molybdenum (Mo)	35	< 2	< .9
Nickel (Ni)	< 5	< 4	< 2
Silver (Ag)	< .5	< .4	< .2
Strontium (Sr)	40	79	56
Tin (Sn)	< 5	< 4	< 2
Titanium (Ti)	< 5	< 4	< 2
Vanadium (V)	< 5	8	< 2
Ytterbium (Yb)	-	-	-
Yttrium (Y)	-	-	-
Zinc (Zn)	< 300	< 230	< 120
Zirconium (Zr)	< 10	< 8	< 4

Table 8.--Radiochemical analyses for water in the Jemez Mountains Region, New Mexico

[Map number refers to location map in figure 3 and identifies spring or well in table 1 or 3, respectively. Date given as day, month, year.]

8A.--Tritium Analyses

[Concentration in tritium units ± standard deviation. Analyses by tritium laboratory, Water Resources Division, U.S. Geological Survey, Reston, Virginia.1

Map and location number	Date	Tritium concentration (TU ± 1σ)
A 1	5-16-73	0.0 ± 0.4
H 6	2-21-73	4.0 ± .4
H 14	2-21-73	6.4 ± .6
H 32	3- 8-73	18.8 ± 2.1
	5-22-73	75.0 ± 4.0
H 39	3-14-73	.0 ± .4
H 42	3-15-73	.2 ± .4
N 10	2-13-73	17.6 ± 1.3

Table 8B.--Other radiochemical analyses in the Jemez Mountains Region, New Mexico

[Analyses by radiochemical laboratory, Water Resources Division, U.S. Geological Survey, Denver, Colorado. Samples were collected and submitted for analysis without filtration or the use of preservation techniques. Number in parentheses following stream name refers to location map in figure 4.]

Map and location number or stream name	Date	Dissolved radium, Ra-226 (pC/L)	Dissolved natural uranium, (µg/L)	Dissolve gross alpha, as U-nat. (µg/L)	Dissolved gross beta, as Sr 90/Y90 (pC/L)	Dissolved gross beta, as Cs-137 (pC/L)	Suspended gross alpha, as U-nat. (µg/L)	Suspended gross beta, as Sr 90/Y90 (pC/L)	Suspended gross beta, as Cs-137 (pC/L)	Remarks
SPRINGS										
A 2	11-12-74	-	0.8	-	-	-	-	-	-	-
A 11	8-30-73	0.37	1.0	-	-	-	-	-	-	-
H 6	11-12-74	160	.8	1,900	420	530	2.8	0.9	1.0	-
H 14	11-12-74	13	.8	150	96	120	< .4	< .4	< .4	-
H 32	11-12-74	-	.7	-	-	-	-	-	-	-
H 39	12-13-74	-	.55	-	-	-	-	-	-	-
H 42	11-12-74	-	.43	-	-	-	-	-	-	-
L 3	5-25-54	<.1	.2	-	-	-	-	-	-	Ref. Scott
M 1	11-26-74	-	26	-	-	-	-	-	-	Cu, 1 µg/L
N 10	11-12-74	-	.4	-	-	-	-	-	-	-
P 2	11- 4-63	.6±0.1	1.1±0.4	-	-	-	-	-	-	-
P 12	11-12-74	.03	<.4	1.9	2.3	2.5	2.2	1.5	1.7	-
Q 1	5-25-54	<.1	.3	-	-	-	-	-	-	Ref. Scott
U 1	11-26-74	-	5.4	-	-	-	-	-	-	Cu, 1 µg/L

WELLS										
C 3	12- 2-74	-	3.2	-	-	-	-	-	-	-
H 21	11-26-74	.10	23	130	27	32	.6	1.1	1.2	See Fig. 7 Cu, 140 µg/L
H 29	11-26-74	4.3	4.9	<25	29	35	.4	1.3	1.4	-
H 30	11-26-74	-	1.4	-	-	-	-	-	-	-
P 7	12-13-74	-	.16	-	-	-	-	-	-	-
STREAMS										
Redondo Creek above Sulphur Creek (9)	11-12-74	-	.10	-	-	-	-	-	-	-
Sulphur Creek above Redondo Creek (11)	11-12-74	-	.67	-	-	-	-	-	-	-
San Antonio Creek above Sulphur Creek (8)	11-12-75	-	.4	-	-	-	-	-	-	-
East Fork Jemez River above Jemez River (14)	11-12-74	-	.23	-	-	-	-	-	-	-
Rio Guadalupe at Box Canyon (20)	11-14-74	1.1	1.7	8.4	3.0	3.7	.6	.5	.6	-
Jemez River near Jemez (22)	11-14-74	1.8	.9	19	12	15	3.9	2.1	2.3	-
Jemez River below Jemez Canyon Dam (27)	12-13-74	25	22	23	14	18	12	.17	4.1	-

Table 8C.--Deuterium and oxygen (-18) data for water from selected springs and wells.

[Map and location number refers to location map in figure 3 and identifies spring or well in table 1 or 3. Analyses by light stable isotope laboratory, Geologic Division, U.S. Geological Survey, Menlo Park, California. Date given as month, day, year.]

Map and location number	Date	δD ($^{o}/oo$)	δO^{18} ($^{o}/oo$)
A 2	12-20-74	-86.5	-10.12
A 3	12-20-74	-90.1	-11.22
A 5	12-20-74	-85.6	-10.01
C 3	12-13-74	-90.6	-10.99
H 2	12-13-74	-80.0	-12.05
H 6	12- 1-72	-84.8	-10.40
H 14	12- 2-72	-82.1	-10.52
H 17	5-30-74	-85.2	-11.42
H 39	12-13-74	-91.0	-12.44
H 42	12- 1-72	-86.8	-11.89
N 4	4-23-74	-78.9	- 8.12
N 10	12- 2-72	-96.5	-13.14
P 7	12-13-74	-92.7	-12.99

Table 9.--Analyses of gas from spring water in the Jemez Mountains Region, New Mexico. (Constituents in percent by volume.)

[Map and location number refers to location map in figure 3, and identifies spring in table 1. Date given as month, day, year.]

Name or location	Spring near San Ysidro	Spring near San Ysidro	Swimming Pool Spring
Map and location number	A 2	A 4	A 6
Date	9-15-24	9-15-24	9-14-24
Hydrogen (H_2)	-	-	-
Oxygen (O_2)	0.5	0.6	8.3
Oxygen + Argon (O_2+A)	-	-	-
Hydrogen sulfide (H_2S)	.0	.0	.0
Carbon monoxide (CO)	-	-	-
Carbon dioxide (CO_2)	97.5	96.7	70.4
Methane (CH_4)	-	-	-
Helium (He)	.0	.0	-
Nitrogen (N_2)	2.0	2.7	21.3
Remarks	Analysis in Renick (1931, p. 89).	Analysis in Renick (1931, p. 89).	Analysis in Renick (1931, p. 89).

Table 9.--Analyses of gas from spring water in the Jemez Mountains Region, New Mexico - Concluded

Name or location	Spring at Soda Dam	Spring at Soda Dam	Spring at Jemez Springs	Spring at Sulphur Springs
Map and location number	H 6	H 6	H 14	P 2
Date	8-21-24	12- 1-72	12- 2-72	8-31-24
Hydrogen (H_2)	-	Not detected	Not detected	-
Oxygen (O_2)	3.3	-	-	1.1
Oxygen + Argon (O_2+A)	-	1.0	0.88	-
Hydrogen sulfide (H_2S)	.0	-	-	7.1
Carbon monoxide (CO)	-	-	-	-
Carbon dioxide (CO_2)	82.8	90.2	89.7	85.9
Methane (CH_4)	-	.01	Not detected	-
Helium (He)	.0	-	-	.0
Nitrogen (N_2)	13.9	1.7	1.5	5.9
Remarks	Analysis in Renick (1931, p. 89).	Analysis from files U.S. Geol. Survey	Analysis from files, U.S. Geol. Survey	Analysis in Renick (1931, p. 89).

Table 10.--Chloride content of snow in the Jemez Mountains, New Mexico

[Location number explained in text; locations of sample sites shown on figure 4. Altitude in feet above mean sea level; date--day, month, year; chloride concentrations in milligrams per liter of melted snow.]

Location number	Site number	Altitude	Date	Chloride
18N.03E.06.222	6	6,700	1-18-74	0.05
19N.02E.15.113	2	7,720	2-22-74	.15
19N.03E.07.333	3	8,720	2-22-74	.20
18.113	4	8,600	3-18-74	.15
32.331	5	6,760	1-18-74	.40
19N.05E.20.131	7	8,800	1-15-74	.70
25.233	8	7,700	1-15-74	.50
20N.02E.15.222	1	8,120	2-22-74	.25

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico

[Shown on figure 4 number in parenthesis following stream name refers to location. Date given as day, month, year. To convert streamflow from cubic feet per second (cfs) to cubic meters per second, multiply figure given by 0.02832. Additional data for most of these sites are given in table 4.]

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Redondo Creek above Sulphur Creek (9)	7-18-74	-	-	51
	11-12	-	1,175	-
Sulphur Creek above Redondo Creek (11)	7-18-74	-	-	6
	11-12	-	980	-
Sulphur Creek above San Antonio Creek (12)	11-21-49	-	698	-
	3-22-73	4.1	630	52
	4-12	8.6	435	34
	4-27	31.4	205	14
	5- 9	30.2	185	14
	5-16	39.7	165	11
	5-23	31.5	175	11
	6-19	4.0	180	20
	7- 2	2.0	220	-
	11-29	.3	420	70
	3-18-74	-	390	32
	3-21	4.0	540	25
	3-26	2.7	515	26

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Sulphur Creek above San Antonio Creek (12)	2- 4-74	-	390	19
	4- 8	2.3	380	32
	4-23	-	-	53
	5- 3	-	420	-
	5-10	-	450	-
	6-18	-	350	44
	7-18	-	280	44
	9- 5	-	410	-
	9-24	-	-	40
San Antonio Creek above Sulphur Creek (8)	3-21-74	-	140	-
	3-26	-	-	2
	4- 2	-	120	2
	4- 8	-	120	3
	4-23	-	-	2
	9- 5	-	200	-
	9-25	-	145	-
	11-12	-	160	-
	7-15-75	-	140	-

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River above East Fork Jemez River (13)	1-23-73	9.3	270	-
	3- 2	9.4	240	15
	3- 6	14.3	255	15
	3-20	15.8	-	14
	4-10	29.5	-	10
	6-19	14.2	-	-
	11-29	-	190	-
East Fork Jemez River above Jemez River (14) (streamflow listed is difference between measurements, Jemez River below East Fork and Jemez River above East Fork)	10- 4-72	5.2	140	-
	1-23-73	3.9	125	-
	3- 2	4.3	125	4
	3- 6	2.9	135	-
	3-20	8.4	-	4
	4-10	10.5	-	4
	6-19	20.6	-	-
	11-29	-	120	-
	11-29	-	120	-
	11-12-74	-	125	-
Jemez River below East Fork (15)	1-17-73	14.9	250	-
	1-23	13.2	210	-
	3- 2	-	205	10
	3- 6	-	210	10
	3- 9	-	;05	9

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River below East Fork (15) continued	3-14-73	-	265	13
	3-20	24.2	-	11
	3-22	-	230	13
	4- 6	-	230	10
	4-10	40.0	-	9
	4-12	-	205	9
	4-27	-	100	-
	5- 3	444	90	2
	5- 9	-	95	3
	5-16	-	110	2
	5-22	248	109	4
	5-25	-	120	4
	5-30	92.4	128	4
	6-15	-	148	5
	6-19	34.8	165	-
	7-02	-	180	-
	7-13	-	205	-
	7-30	-	155	-
	8-10	-	190	-
	9- 7	-	185	-
	9-13	-	175	-
	9-21	-	180	-

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River below East Fork (15) continued	10- 1-73	-	180	-
	10-27	-	190	-
	11-29	-	175	2
	12-20	-	185	-
	1-18-74	-	175	6
	1-29	14.9	170	6
	2- 7	-	175	7
	2-22	-	190	8
	3- 4	-	170	8
	3-18	-	180	8
	3-21	75.9	130	4
	3-26	-	100	4
	4- 2	53.0	130	4
	4- 8	-	115	4
	4-12	-	140	4
	4-23	-	140	6
	4-30	28.2	140	6
	5- 3	-	145	6
	5-10	-	155	6
	5-14	20.1	-	6
	5-28	-	175	7
	6-18	11.6	182	5

Table 11.—Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River below East Fork (15) continued	7-10-74	12.7	170	5
	7-15	-	180	5
	9-24	13.5	168	5
	10-18	183.4	180	10
	11- 4	17.9	200	8
	11-12	-	205	-
	12- 3	14.5	180	8
	12-20	11.0	175	10
	1-24-75	12.5	165	7
	3-26	36.1	180	8
	5-22	95.6	65	6
Jemez River above Soda Dam (16)	2-23-73	14.1	210	10
	3-20	22.8	235	12
	3-22	32.0	260	13
	3-28	33.0	230	10
	4- 6	18.8	260	11
	7-30	-	195	-
	8-10	-	250	-
	8-21	-	240	-
	9- 7	-	250	-
	9-13	-	225	-
	9-21	-	230	-

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River above Soda Dam (16) continued	1-10-73	-	230	-
	10-27	-	230	-
	11-29	-	220	-
	12-20	-	230	-
	1-18-74	-	205	6
	1-29	-	210	-
	2- 7	-	210	6
	2-22	-	210	6
	3- 4	-	200	7
	3-18	-	180	8
	3-21	-	140	-
Jemez River below Soda Dam (17)	1-17-73	14.0	660	-
	1-23	9.5	870	-
	2-23	16.5	580	85
	3- 2	16.4	600	86
	3- 6	16.4	580	85
	3- 8	18.7	540	75
	3- 9	19.3	530	73
	3-14	15.8	680	102
	3-20	21.6	520	71
	3-22	26.2	475	60
	3-28	29.3	430	58

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River below Soda Dam (17) continued	4- 6-73	18.2	600	89
	4-12	49.7	355	38
	4-13	-	330	-
	4-18	-	210	16
	4-27	-	130	7
	5- 9	-	127	6
	6-15	43.8	340	34
	6-19	27.5	415	48
	7- 2	15.6	570	-
	7-13	23.2	510	-
	7-13	33.2	380	-
	7-30	20.9	450	-
	8- 1	22.5	450	-
	8-10	17.7	560	-
	8-15	16.5	545	-
	8-21	15.0	570	-
	9- 7	11.3	710	-
	9-13	9.3	550	-
	9-21	12.1	690	-
	10- 1	12.1	670	-
	10-27	11.3	650	-
	11-29	13.5	710	-
	12-20	11.0	710	-

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River below Soda Dam (17) continued	1-18-74	13.4	650	76
	1-29	15.2	540	60
	2- 7	16.0	510	38
	2-22	12.3	1,250	184
	3- 4	15.0	550	84
	3-18	29.5	380	42
	3-21	-	240	21
	3-26	-	180	16
	4- 2	-	265	31
	4- 8-74	-	240	28
	4-12	-	320	40
	4-23	-	375	52
	5- 3	-	365	47
	5-10	-	440	62
	5-28	-	780	117
	6-18	-	820	131
	7-15	-	720	116
	9-15	-	800	133
Jemez River below Jemez Springs (18)	2-23-73	16.9	700	108
	2-28	18.6	690	108
	3- 2	20.8	650	98

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River below Jemez Springs (18) continued	3- 6-73	18.5	745	118
	3- 8	22.3	640	97
	3- 9	22.8	635	95
	3-14	16.5	910	146
	3-15	16.5	1,060	169
	3-22	29.5	540	78
	3-28	32.0	500	73
	4- 6	23.7	690	109
	4-12	52.8	395	46
	4-13	-	360	-
	4-18	-	225	18
	4-27	-	140	7
	5- 9	-	136	9
	6-15	44.4	390	44
	6-19	25.6	520	72
	7- 2	16.3	770	-
	7-13	22.1	650	-
	7-17	31.8	470	-
	8- 1	22.5	588	-
	8-15	17.0	-	-
	8-21	16.8	732	-

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River below Jemez Springs (18) continued	8-30-73	15.0	800	-
	9- 7	11.0	900	-
	9-13	17.0	700	-
	9-21	9.5	900	-
	10- 1	13.0	860	-
	10-27	14.0	840	-
	11-29	14.5	910	-
	12-20	17.7	1,275	232
	1-18-74	16.1	750	120
	1-29	19.7	800	130
	2- 7	20.5	900	152
	2-22	9.0	1,480	248
	3- 4	19.0	650	102
	3-18	35.0	430	56
	3-21	-	240	-
	3-26	-	2;5	2;
	4- 2	-	320	41
	4- 8	-	280	34
	4-12	-	385	54
Rio Guadalupe at Box Canyon (20)	3-21-74	37.0	258	2
	4- 2	46.7	205	2
	4-30	85.6	-	1

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Rio Guadalupe at Box Canyon (20)	5-14-74	57.9	-	1
	6-18	10.5	258	3
	7-10	11.0	256	2
	8-13	13.2	-	-
	9-24	10.2	267	2
	10-21	9.2	275	5
	11- 4	18.3	250	4
	12- 3	17.0	275	4
	12-20	10.0	280	2
	1-24-75	12.0	270	4
	2-19	9.6	280	-
	3-26	55.8	215	3
	5-22	323	80	2
Jemez River near Jemez (22)	3-21-74	110	269	15
	4- 2	110	323	23
	4-30	118	-	18
	5-14	72	-	25
	6-18	14	714	81
	7-10	18	636	93
	9-24	18.6	744	106
	10-18	25.4	620	84
	11- 4	39.5	450	54

Table 11.--Streamflow and water-quality data at selected surface-water sites in the Jemez River Basin, Jemez Mountains, New Mexico - Continued

Location	Date	Streamflow (cubic feet per second)	Specific conductance (micromhos per cm at 25°C)	Chloride concentration (milligrams per liter)
Jemez River near Jemez (22) continued	11-14-74	-	600	71
	12- 3	29.8	580	74
	12-20	22.0	670	94
	1-24-75	-	545	68
	2-19	24.7	625	-
	3-26	92.5	320	30
	5-22	417	120	8
	7-15	75.6	-	-
Jemez River at Highway 4, near San Ysidro (23)	1-29-74	23.2	900	120
	2- 7	23.7	1,000	148
	2-22	23.7	880	124
	3- 4	35.9	740	100
	3-12	48.3	740	129
	3-18	76.5	485	113

Blank page