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SUMMARY OF WATER RESOURCES FOR THE CAMPO, CUYAPAIPE, LA POSTA, AND MANZANITA INDIAN RESERVATIONS AND VICINITY, SAN DIEGO COUNTY, CALIFORNIA

By W. R. Moyle, Jr., and D. J. Downing

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CONVERSION FACTORS FOR EQUIVALENT SPANISH, U.S. CUSTOMARY, AND METRIC UNITS

For readers who prefer metric units rather than U.S. customary units, conversion factors for the terms in this report are listed below. The Spanish units of measure in the report by Lynch (1931) are also included.

Spanish	*Multiply by*	*To obtain U.S. customary units*	*Multiply by*	*To obtain metric*
		acres	4.047×10^{-1}	hectares
		acre-ft (acre-feet)	1.233×10^{-3}	cubic hectometers
fanega	1.6	bushel		
		ft (feet)	3.048×10^{-1}	meters
		ft^3/s (cubic feet per second)	2.832×10^{-2}	cubic meters per second
		gal/min (gallons per minute)	6.308×10^{-2}	liters per second
varas	33.38	in (inches)	2.540×10	millimeters
leagues	3.455	mi (miles)	1.609	kilometers
		mi^2 (square miles)	2.590	square kilometers

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ABSTRACT

Since 1945, precipitation and runoff on the Campo, Cuyapaipe, La Posta, and Manzanita Indian Reservations and the surrounding areas generally have been below normal, and water levels are declining.

Most of the water is of excellent quality. The analysis of water from one well on the Campo Reservation indicates a concentration of nitrate that exceeds the recommended limit established in 1972 by the U.S. Environmental Protection Agency.

Most wells and springs in the study area yield water for domestic purposes. The yields range from less than 1 gallon per minute to 210 gallons per minute. Most of the water is produced from shallow alluvial-filled channels or from consolidated rocks that are deeply weathered locally or highly fractured. The well data show that insufficient water is available on the four reservations for large-scale irrigation.

INTRODUCTION

The Campo, Cuyapaipe, La Posta, and Manzanita Indian Reservations were established February 10, 1893, under the authority of the Act of 1891 (U.S. Statutes at large, January 12, 1891, Act for the release of the Mission Indians in the State of California: 26 Stat., p. 712-714, c. 65). The four reservations occupy 26,361.80 acres or 41.2 mi^2 and are in the same general area (fig. 1 and pl. 1) about 40 mi east of San Diego and adjacent to the United States boundary with Mexico. The south edge of the Campo Reservation is 0.3 mi north of the United States-Mexico boundary and the north edge of the Cuyapaipe Reservation is at the south end of Mount Laguna, 18.5 mi north of the Mexican boundary. Campo (town) is southwest of the reservations, Mount Laguna (town) is to the north, and Boulevard is to the east. Some of the other towns in the area are Cameron Corners, Boulder Oaks, Manzanita, and Live Oak Springs. All are small towns.

The total membership of the four reservations is 184 people, although the number of residents is 48, according to the U.S. Bureau of Indian Affairs "Tribal Information and Directory" (1975).

Purpose and Scope

The purpose of the study, made in cooperation with the U.S. Bureau of Indian Affairs, was to collect sufficient hydrologic data on the four reservations to enable the U.S. Geological Survey to assess the water-supply potential of the reservations. The Bureau of Indian Affairs and tribal members need to know whether or not the potential water supply is sufficient to irrigate or only to dry-farm crops on the reservations. This report lists the data collected, summarizes the hydrologic conditions, and assesses the water potential for irrigation.

The study included a visit to all wells and springs and observation of the streamflow on the reservations. Selected wells in the vicinity were visited. Data collected on wells and springs included depth, water level, construction details, type of pump and power, discharge, specific conductance and temperature of the water, and any other data pertaining to well or spring use. In addition, well and spring data from the files of other Government agencies were reviewed and correlated during the field visits. The study also included the collection of data on precipitation, surface-water flow, pumpage from wells, variability of spring flow, and chemical quality of water.

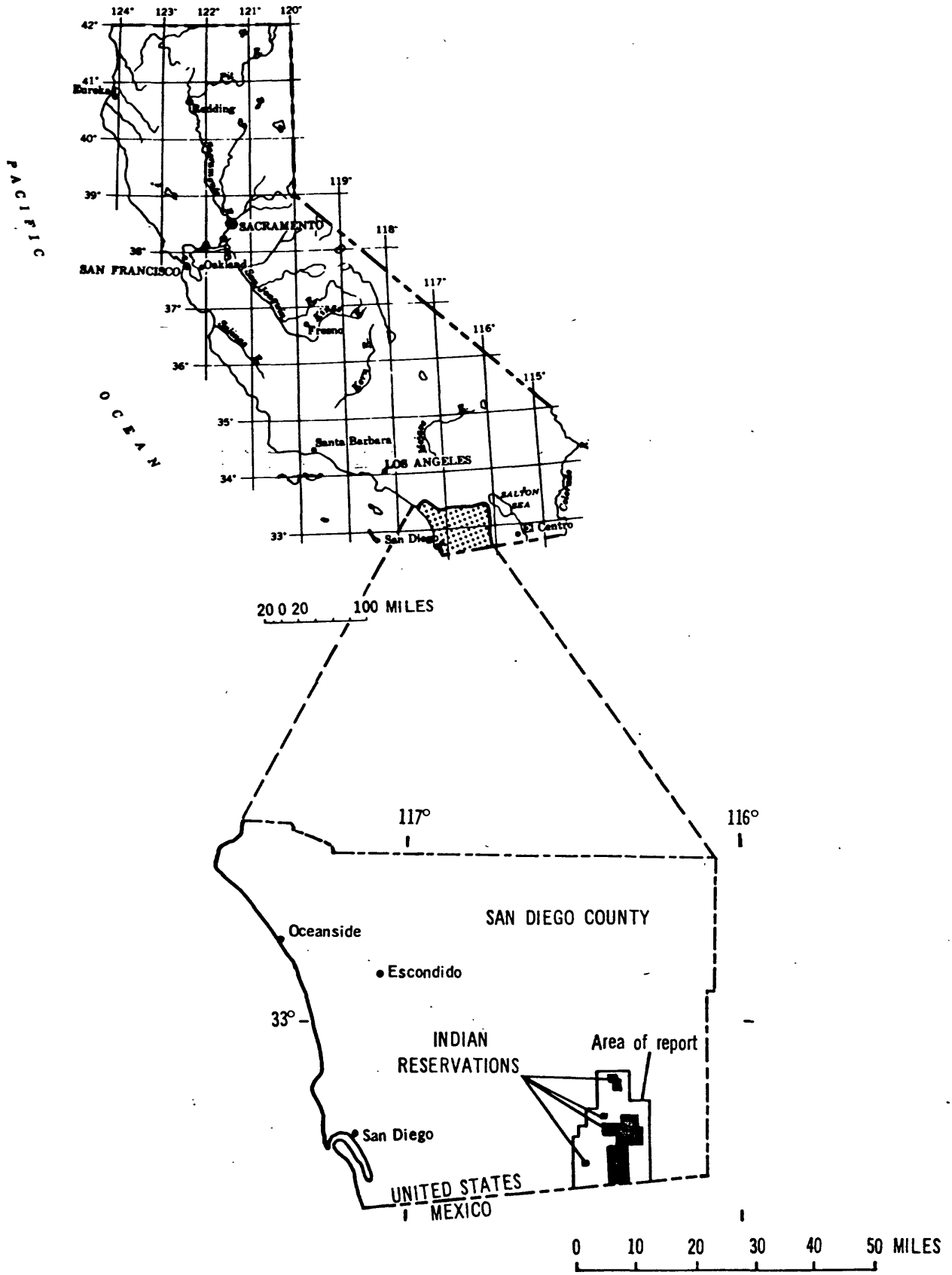


FIGURE 1.--Index map.

Previous Work and Acknowledgments

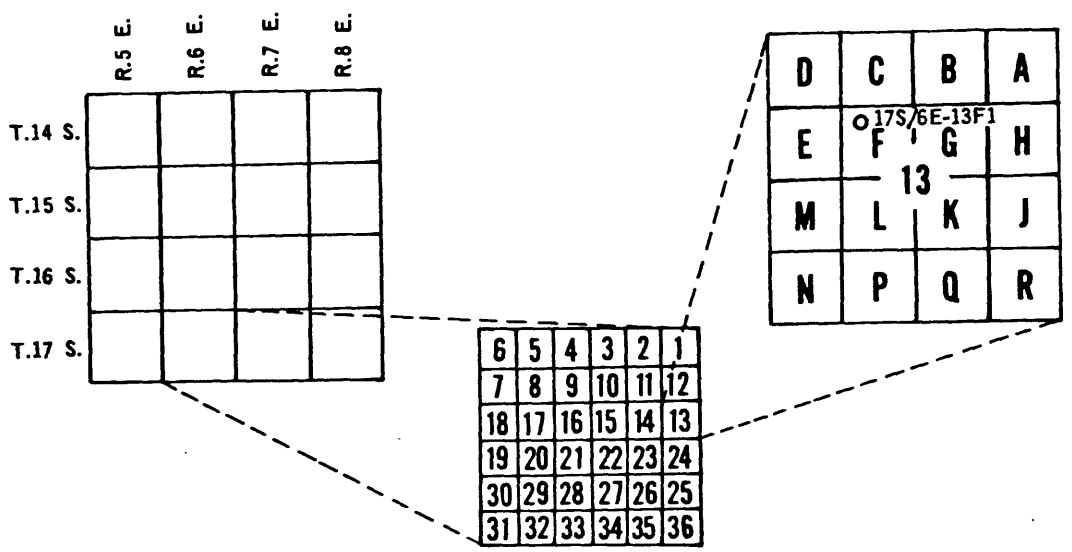
Many reports have been written and maps drawn pertaining to the study area (pl. 1). These reports include data on geology, precipitation, surface-water flow, wells, and springs and are discussed in later sections of this report. They also include maps showing new roads and highways that aided in plotting the location of wells and springs in this study.

All of San Diego County was mapped for soil type by the U.S. Department of Agriculture (1973) at a scale of 1:24,000.

The help given by people in State and Federal offices and by well owners is gratefully acknowledged.

Well- and Spring-Numbering System

Wells and springs are numbered according to their location in the rectangular system for the subdivision of public land. The part of the number preceding the slash (as in 17S/6E-13F1) indicates the township (T. 17 S.); the number after the slash indicates the range (R. 6 E.); the number after the dash indicates the section (sec. 13); the letter after the section number indicates the 40-acre subdivision of the section according to the lettered diagram below. The final digit is a serial number for wells in each 40-acre subdivision. The area lies entirely in the southeast quadrant of the San Bernardino base line and meridian. Springs are numbered similarly except that an S is placed between the 40-acre subdivision letter and the final digit.



GEOHYDROLOGY

The geology of the area (pl. 1) is mostly from Richard H. Merriam's 1955 University of Southern California faculty research project (unpub. data). He mapped the geology of the Mount Laguna and Campo topographic quadrangles at a scale of 1:62,500. Plate 1 also includes some geology mapped by Olmsted (1953) and some fractures mapped by Moyle in this study. A geologic map similar to plate 1 was published by Weber (1963, pl. 1) at a scale of 1:125,000 and showed the mines and mineral resources in San Diego County.

The geology, which provides the water-resources framework in the study area, consists of igneous and metamorphic rocks in the mountains and hills and alluvium in the valleys and stream channels. Igneous and metamorphic rocks form the basement complex, except for the igneous rocks composed of tonalite. Tonalite was not included in the basement complex, because it is water bearing. The basement complex contains virtually no water, but the tonalite contains water where it is deeply weathered or highly fractured. The basement complex includes igneous rocks of the Woodson Mountain Granodiorite and San Marcos Gabbro of Cretaceous age and the Stonewall Quartz Diorite of Jurassic age(?) and metamorphic rock of the Julian Schist of Triassic age(?) or older. Tonalite rock includes the Bonsall Tonalite, Lakeview Mountain Tonalite, and Green Valley Tonalite, all of Cretaceous age.

Many of the small valleys and stream channels (pl. 1) are filled with alluvium that ranges in thickness from a few feet to about 100 ft. In most areas the alluvium contains water, but the yield of a well depends on the hydraulic properties and thickness of the alluvial fill and the construction details of the well.

PRECIPITATION

Precipitation was measured near Campo intermittently from 1877 through 1899 and continuously from 1900 through 1976 (table 1). The measurements were started by Mr. A. Campbell in 1877. The average precipitation at this station, on the Leach Ranch between Cameron Corners and Campo in sec. 10, T. 18 S., R. 5 E. (pl. 1), is 17.12 in. This average is based on 89 years of record in the past 100 years. Annual precipitation ranged from 6.01 in (1947) to 35.31 in (1891) (table 1). This high is not quite an annual total. After 16 in of rain in August 1891, the rain gage was washed away by a flash flood.

Since 1945 the weather in the study area has become drier. From 1946 through 1976, 7 years were above the long-term average in rainfall and 24 years were below the average. The average precipitation for the years 1946 through 1976 was 13.02 in. This average is 4.10 in less than the 89-year average of 17.12 in, or 76 percent of the long-term figure.

Precipitation measurements were published by the National Oceanic and Atmospheric Administration or by the U.S. Weather Bureau. A projection of rainfall in the San Diego area back to 1800 was made by Lynch (1931). This projection was based mainly on records, letters, and diaries from the California missions and from reports by early California explorers, visitors, and historians. Many of the early records were translated into English from Spanish; however, the Spanish units of measure were retained in Lynch's report. These Spanish units and their English and metric equivalents are listed in the conversion factors, page IV.

SURFACE WATER

Surface-water runoff in the study area is from three drainage areas, as shown by plate 1. Runoff from the eastern drainage area flows east toward the Colorado Desert. Runoff from the other two drainage areas flows west toward the Pacific Ocean via the Otay River in the north and the Tijuana River in the south (both off map).

The earliest report of flow in Campo Creek was an inquiry form letter sent by F. H. Newell (U.S. Geological Survey) May 14, 1895, and returned June 7, 1895, by John Ward of Campo, Calif. Mr. Ward described Campo Creek as follows: "There are running streams and springs that furnish plenty of good water. Here where I live there is a very high mountain of solid bedrock and a narrow gap where the water runs through. If it were dammed it would store water to last one or two dry years."

Campo Creek was measured from 1937 through 1975 (table 2) at a gage about 3½ mi west of Campo (west of pl. 1). These measurements were published by the U.S. Geological Survey (1960, 1964, 1970, and 1976). With the exception of calendar years 1952 and 1969, runoff was below average after the beginning of a dry trend in 1946. Surface-water runoff toward the desert and flow in the Otay River probably have also been below average since 1946.

GROUND WATER

Data on wells and springs have been collected and published by several Federal and State agencies. Most of the data are included in this report (tables 3-9). Agencies contributing data are U.S. Bureau of Indian Affairs, U.S. Indian Health Service, California Department of Water Resources, California Water Quality Control Board, and U.S. Geological Survey. Publications of the U.S. Geological Survey include those by Waring (1915), Ellis and Lee (1919), Piper (1941), Olmsted (1953), and Bader and Kunkel (1957).

According to a letter to the Zone Constructing Quartermaster in San Francisco (Piper, 1941), a well was drilled on the Statler Ranch in Campo Valley in sec. 16, T. 18 S., R. 5 E. The well (18S/5E-16H1) was tested to determine if sufficient water could be developed for Camp Lockett, which was the cantonment site for the 11th U.S. Cavalry in 1941. Camp Lockett is now the town of Campo (pl. 1).

Data show that the test well was 103 ft deep, with 92 ft of alluvium overlying tonalite rock. The well flowed about 5 gal/min at land surface in 1941, and when pumped it yielded 210 gal/min with 70 ft of drawdown. Although this well may be one of the largest producing wells in the study area, the yield probably would not be sufficient for a large-scale irrigation project because of the small storage capacity of the saturated alluvium. Piper (1941) thought that the aquifer would be depleted with continued pumping and doubted that the well would yield the desired quantity throughout the year.

Many small alluvial valleys and stream channels similar to Campo Valley (pl. 1) exist on the four reservations; however, they contain far less saturated alluvial fill than Campo Valley, and the yield of wells and springs would consequently be less. In general, wells and springs on the four reservations yield less than 40 gal/min for sustained periods of pumping. The data in tables 3-7 suggest that the use of ground-water supplies for large-scale irrigation probably is not feasible.

WATER DEVELOPMENT

Many small domestic water-supply systems are being used on the Campo (including the old part of Campo), Manzanita, and La Posta Reservations. Most homes have their own well and water-supply system. Although no large water-supply system exists on any of the four reservations, the towns of Campo and Live Oak Springs have small community water companies.

Cuyapaipe Reservation and the isolated part of La Posta Reservation in secs. 24 and 25, T. 16 S., R. 5 E., contain natural springs and streamflow, but no water system has been developed on these reservations.

IRRIGATION AND FARMING

Little farming or irrigation is done in the study area, because wells generally do not produce sufficient water for any large-scale operation. The first irrigation on the Campo Reservation was near surface-water site 2 (pl. 1) in 1909. A dam 16 ft wide and 5 ft high and a pipeline half a mile long and of 8 in diameter were constructed on Campo Creek to store and transport water to irrigate 20 acres of land. In 1914 a 4-in pipeline was

installed to irrigate 6 more acres. Another 4-in pipeline was added to the system in 1914 but was partially washed out by floods in 1916 and 1927. In 1936 a 6-in pipeline replaced the 1909 pipeline. Surface-water runoff varies considerably from year to year and is not dependable for irrigation, even in relatively wet years.

Many places cleared of brush support some natural grass pasture or a small amount of dry-farmed grain. These cleared areas depend entirely upon local rainfall for their water supply. Because of the lack of precipitation, dry-farmed grain usually gives a poor crop in this area. Many areas in San Diego County produce dry-farmed barley if sufficient precipitation is available. Figure 2 shows the semimonthly and seasonal need for water by barley. About 25 in of water is required in a 5-month period to produce fully developed barley. This precipitation should come when the plants need irrigation. Table 1 shows that precipitation at Campo has been less than 25 in since 1928 and was as low as 6.01 in in 1947. Unless yearly precipitation increases or irrigation water is imported, farming on the four reservations does not seem to be feasible.

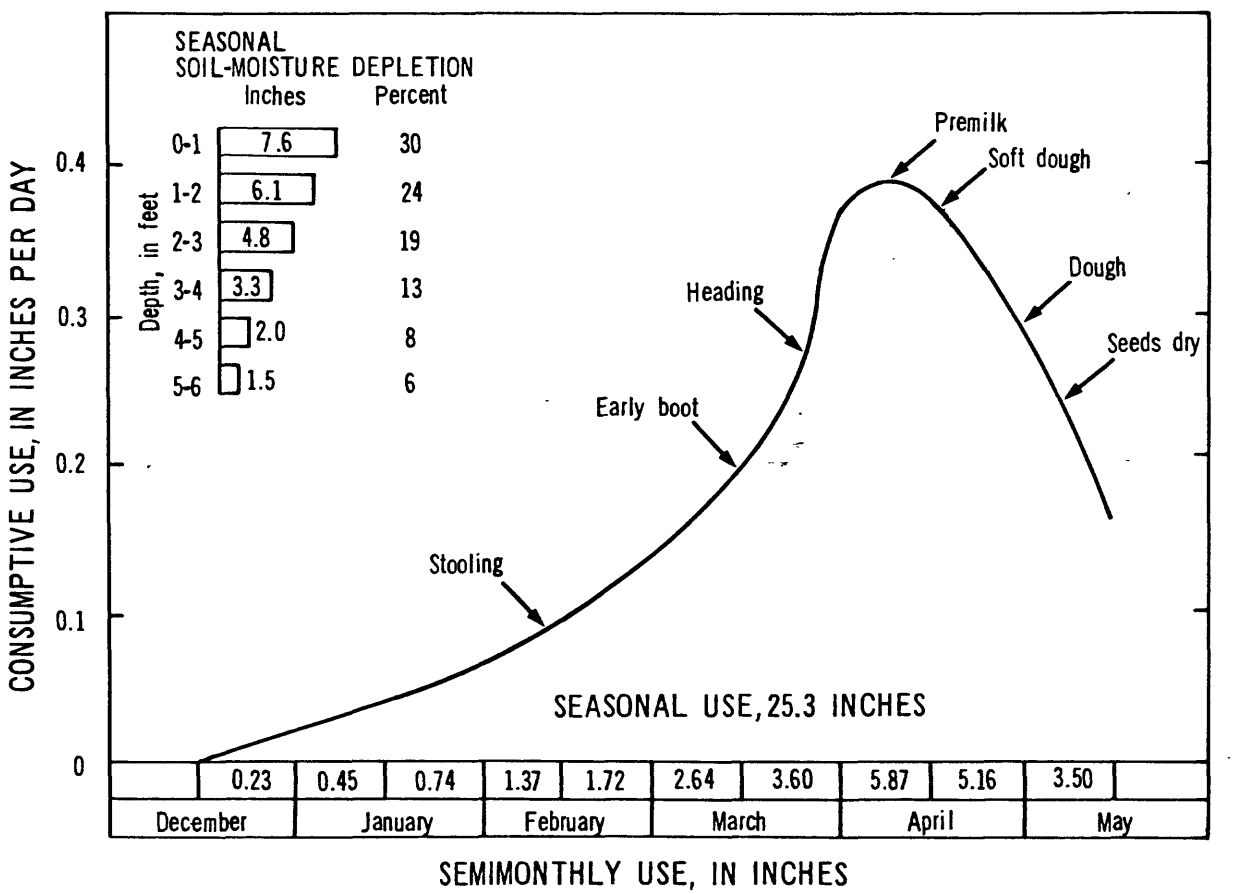


FIGURE 2.--Average consumptive use of water for barley at Mesa, Ariz., 1952, 1953, and 1956. (Modified from Erie, French, and Harris, 1965, p. 20.)

WATER QUALITY

Tables 8 and 9 show that the water in the study area is generally good to excellent in quality, except for the high nitrate (NO_3) in well 17S/6E-28J3 on the Campo Reservation (pl. 1). This well contains 50 mg/L (milligrams per liter) nitrate (NO_3) or 11.3 mg/L nitrate-nitrogen (N). This is above the recommended limit for drinking water set by the U.S. Environmental Protection Agency (1972). The limit is set at 44 mg/L NO_3 or 10 mg/L N. High concentrations of nitrate (NO_3) in drinking water may cause infantile methemoglobinemia (nitrate poisoning), especially in infants under 3 months of age.

The electrical specific conductance was measured in water from more than 100 wells and springs. Chemical analyses of water samples from more than 40 wells were made. The specific conductance was measured to determine the approximate dissolved-solids concentration in the water. According to Hem (1970, p. 99), a reasonably well-defined relation exists between specific conductance and dissolved-solids concentration.

A conversion factor used in the equation KA = S will give the estimated dissolved solids where K is measured specific conductance in micromhos per centimeter at 25°C, A is the conversion factor, and S is dissolved solids in milligrams per liter. Thirty-three laboratory analyses were used to determine the average conversion factor of 0.64 for the study area. Specific-conductance values obtained at the wells, springs, and streams (tables 8 and 9) indicate that the water has a dissolved-solids concentration of 800 mg/L or less.

SUMMARY AND CONCLUSIONS

Data indicate that since 1945 the annual precipitation and surface-water runoff were generally below average and that some of the wells and springs have gone dry. Well yields are insufficient to sustain large-scale irrigation on the four reservations, and dry farming is probably not feasible because of insufficient precipitation. If the annual precipitation increases or additional water is imported into the area for irrigation, farming may become feasible.

The quality of water in the study area is generally good to excellent; locally, dissolved-solids concentrations may approach 800 mg/L. An analysis of water from well 17S/6E-28J3 shows a nitrate concentration above the recommended limit established for drinking water by the U.S. Environmental Protection Agency (1972).

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TABLE 1.--*Annual precipitation at Campo, Calif.*

[Data from National Oceanic and Atmospheric Administration]

Year	Precipitation (inches)	Year	Precipitation (inches)	Year	Precipitation (inches)
1877	a16.23	1912	18.74	1947	6.01
1878	19.72	1913	16.64	1948	8.70
1879	11.34	1914	20.56	1949	12.76
1880	19.63	1915	20.08	1950	7.17
1881	11.39	1916	29.97	1951	21.24
1882	a16.01	1917	13.20	1952	23.24
1883	--	1918	19.80	1953	7.48
1884	--	1919	15.90	1954	17.23
1885	--	1920	19.35	1955	13.86
1886	--	1921	27.61	1956	7.38
1887	--	1922	27.05	1957	18.82
1888	--	1923	15.04	1958	21.49
1889	a29.16	1924	a12.87	1959	11.13
1890	25.18	1925	13.88	1960	13.65
1891	b35.31	1926	a18.71	1961	7.39
1892	14.28	1927	a31.43	1962	11.99
1893	22.48	1928	9.77	1963	13.67
1894	a24.04	1929	15.83	1964	12.50
1895	--	1930	23.92	1965	24.28
1896	--	1931	23.39	1966	b6.32
1897	--	1932	22.56	1967	16.06
1898	--	1933	c13.54	1968	9.03
1899	--	1934	c10.94	1969	18.92
1900	11.31	1935	a19.34	1970	13.80
1901	15.58	1936	18.77	1971	11.02
1902	22.10	1937	18.06	1972	8.07
1903	12.92	1938	20.20	1973	12.39
1904	13.32	1939	16.39	1974	11.67
1905	34.48	1940	19.22	1975	9.75
1906	32.85	1941	24.48	1976	14.14
1907	14.57	1942	9.89		
1908	17.72	1943	19.00		
1909	27.15	1944	19.20		
1910	15.84	1945	16.54		
1911	15.29	1946	12.37		

a. Estimated in part from nearby station.
b. Partial record, data for a single month missing.
c. Near Campo.

TABLE 2.--*Flow record for Campo Creek*

11012500 CAMPO CREEK NEAR CAMPO, CALIF.

Location.--Lat 32°35'28", long 116°31'29", in SW¼NE¼SE¼ sec. 24, T. 18 S., R. 4 E., San Diego County, on left bank just upstream from bridge on State Highway 94, 3½ mi southwest of Campo.

Drainage Area.--85.0 mi^2, of which 3 mi^2 is in Mexico.

Period of Record.--October 1936 to 1975.

Gage.--Water-stage recorder and broad-crested weir. Datum of gage is 2,178.92 ft above mean sea level. Prior to Dec. 1, 1954, at datum 1 ft higher.

Year	Runoff, in acre-feet	Year	Runoff, in acre-feet
1937	4,820	1957	0
1938	5,080	1958	64
1939	3,590	1959	13
1940	2,110	1960	2.6
1941	11,140	1961	0
1942	3,650	1962	0
1943	3,570	1963	0
1944	4,610	1964	.2
1945	3,220	1965	2.2
1946	1,560	1966	.4
1947	249	1967	14
1948	45	1968	0
1949	141	1969	249
1950	33	1970	71
1951	18	1971	41
1952	1,210	1972	13
1953	106	1973	36
1954	107	1974	27
1955	65	1975	18
1956	22		

EXPLANATION OF WELL TABLE

[Boxhead explanations are abstracted and modified from U.S. Geological Survey "Instructions for Using the Punch-Card System for the Storage and Retrieval of Ground-Water Data"]

State number: The wells are identified according to their location in the rectangular system for the subdivision of public land. The identification consists of the township number, north or south; the range number, east or west; and the section number. The section is further subdivided into sixteen 40-acre tracts lettered consecutively (excepting I and O), beginning with A in the northeast corner of the section and progressing in a sinusoidal manner to R in the southeast corner. Wells within the 40-acre tract are numbered sequentially. The base line and meridian are indicated by the final letter, as follows: H, Humboldt; M, Mount Diablo; S, San Bernardino.

Owner or name: The apparent owner or user. In some cases, the local name of the well is given.

Inventory date: The year the well was field canvassed; other information given generally applies for this date.

Method drilled:

- A Rotary
- B Bored or augered
- C Cable-tool
- D Dug
- H Hydraulic-rotary
- J Jetted
- P Air percussion
- R Reverse-rotary
- T Trenching
- V Driven
- W Drive-wash
- Z Other.

Depth of well: Depth, in feet below land-surface datum, is defined as the bottom of the perforated or screened interval or the bottom of the uncased part of the well.

Depth cased: Length of casing, in feet below land-surface datum, or to the top of the perforated or screened interval.

Well finish:

- C Porous concrete
- F Gravel wall, perforated or slotted casing
- G Gravel wall, commercial screen
- H Horizontal gallery or collector
- O Open end
- P Perforated or slotted casing
- S Screen
- T Sand point
- W Walled or shored
- X Open hole in aquifer (generally cased to aquifer)
- Z Other.

Diameter: Inside diameter of the well, in inches; nominal inside diameter, in inches, of the innermost casing at the surface for drilled cased wells.

Power:

- 1 Hand
- 2 Natural gas engine
  - A 0-20 hp
  - B >20-50
  - C >50-100
  - D >100-200
  - E >200
- 3 Gasoline engine
  - F 0-5 hp
  - G >5-20
  - H >20-50
  - J >50-100
  - K >100-200
  - L >200
- 4 Diesel engine
  - M 0-50 hp
  - N >50-150
  - P >150-400
  - Q >400-750
  - R >750
- 5 Electric motor
  - S 0-1 hp
  - T >1-5
  - U >5-15
  - V >15-100
  - W >100
- 6 Wind
- 7 LP gas engine (propane or butane)
  - A 0-20 hp
  - B >20-50
  - C >50-100
  - D >100-200
  - E >200
- 8 Other.

Lift method:

- A Air
- B Bucket
- C Centrifugal
- J Jet
- L Multiple (centrifugal)
- M Multiple (turbine)
- N None
- P Piston
- R Rotary
- S Submergible
- T Turbine
- Z Other.

Water use:

- A Air conditioning
- B Bottling
- C Commercial
- D Dewatering
- E Power generation
- F Fire protection
- H Domestic
- I Irrigation
- M Medicinal
- N Industrial, including mining
- P Public supply
- R Recreation
- S Stock supply
- T Institutional
- U Unused
- V Repressurization
- W Recharge
- X Desalination, public supply
- Y Desalination, other use
- Z Other.

Well use:

- A Anode
- D Drainage
- G Seismic hole
- H Heat reservoir
- O Observation
- P Oil or gas
- R Recharge
- T Test hole
- U Unused
- W Withdraw water
- X Waste disposal
- Z Destroyed.

Altitude of lad: Altitude of land-surface datum, in feet, above or below (-) mean sea level. Land-surface datum is an arbitrary plane closely approximating land surface at the time of the first measurement and used as the plane of reference for all subsequent measurements.

Number of water level: O Indicates one measurement; I indicates more than one measurement.

Chemical analyses:

- C Indicates one analysis in which the major chemical constituents were determined in order to permit an anion-cation equation balance
- M Indicates more than one analysis
- P Indicates one analysis in which a few selected constituents and properties were determinad.

Pumping data:

- P Indicates pumping data available.

Log data: Restricted information. Availability to public dependent upon requester securing owner's permission.

- A Drilling-time
- B Casing-collar
- C Caliper (diameter) survey
- D Driller's
- E Electric
- F Fluid-conductivity or fluid-resistivity
- G Geologist or semple
- H Magnetic
- I Induction
- J Gamma-ray
- K Dipmeter or diractional (inclinometer) survey
- L Laterolog
- M Microlog
- N Neutron
- O Microlaterolog
- P Photographic
- Q Radioactive-tracer
- R Radiation (includes both neutron and gamma-ray)
- S Sonic
- T Temperatura
- U Temparature and fluid-conductivity (resistivity)
- V Fluid-velocity
- W Electric and radiation
- X Electric, radiation, caliper, and fluid-velocity
- Y Electric, radiation, and sample (or driller's)
- Z Electric, radiation, temperature, and fluid-conductivity
- 8 Miscallaneous (other combinations).

TABLE 3.--*Description of wells*

STATE NUMBER	OWNER OR NAME	INVENTORY DATE	DRILLED	METHOD DRILLED	DEPTH WELL (FT)	DEPTH CASED (FT)	WELL FINISH	DIAM. (IN)	POWER	LIFT METHOD	WATER USE	WELL USE	ALTITUDE OF LSD (FT)	NUMBER WELL.	CHEMICAL ANALYSES	PUMPING DATA	LOG DATA
15S/05E-24B01 S	U.S.FOREST SVC	1974						8	T	S	H	W	5730	0			
16S/06E-02N01 S	BLM	1974	1966	C	75	24	X	6	6	P	H	W	4355	0	C		D
16S/06E-25M01 S	MANZANITA RES	1974		D			W	60	8	Z	H	W	4100	0	C		
16S/06E-26A01 S	J.CUERO	1974	1972				F	6	F	J	H	S	4075	0	P	P	
16S/06E-26Q01 S	M.CUERO	1974		D			X	72	8	Z	H	W	4120	0	P		
16S/06E-26Q02 S	M.CUERO	1974		D			W	240	8	Z	H	W	4125	0	P		
16S/06E-26Q03 S	M.CUERO	1974		D			W	96	8	Z	H	W	4130	0	P		
16S/06E-26Q04 S	M.CUERO	1974	1974	A	60	40	F	6			U	U	4120	I	C	P	D
16S/06E-28N01 S	CRESTWOOD RANCH	1974		D			W	48	5	S	U	U	3900	0	P		
16S/06E-30P01 S	FISHEL-THING	1974						11	3	T	H	W	3550	0	P		
16S/06E-30P02 S	P.MARSTON	1974						12		T	U	U	3545	0			
16S/06E-31C01 S	SPENCER	1974						8	5	S		S	3540	0			
16S/06E-33G01 S	CRESTWOOD RANCH	1974		D				36	5	S	U	U	4140	0	P		
16S/06E-33H01 S	CRESTWOOD RANCH	1974						9	6	P	H	W	4180	0	P		
16S/06E-33H02 S	CRESTWOOD RANCH	1974						9	U	S	R	W	4140		P		
16S/06E-33J01 S	LA POSTA RES	1974		D			W	42		N	U	U	4160	0			
16S/06E-33J02 S	LA POSTA RES	1974	1974	A	97	38	F	6		N	U	U	4195	I		P	D
16S/06E-34L01 S	B.BLACKWOOD	1974						8	5	S	H	W	4330	0	M		
16S/07E-16D02 S	W.LASSABY	1974	1974	A	295	95	F	4		N	U	U	4050	0		P	D
16S/07E-20D01 S	BLM	1974	1968	C				6	6	P	U	U	3965	I	P	P	D
16S/07E-20D02 S	BLM	1974		C			X	6		N	U	U	3965	0			
16S/07E-31P01 S		1974						10		N	U	U	3710	0	P		
16S/07E-31P02 S		1974							4	T	U	U	3710				
16S/07E-33N01 S	BLM	1974	1966	C				6	6	P	H	W	3840	I	M	P	D
17S/05E-03P01 S	U.S.FOREST SVC	1974	1958					8	5	S	H	W	3250		M		
17S/05E-03R01 S	U.S.FOREST SVC	1974		D			W	60		N	U	U	3250	I	C		
17S/05E-33H01 S	B.MEYER	1976						7	S	S	H	W	2905	0	P		
17S/05E-33R01 S	J.MARCEAU	1975	1974	P	81	41	F	6	5	S	H	W	2805	I	C	P	D
17S/05E-34L01 S		1976									H	W	2605		P		
17S/06E-01L01 S	CAMPO RES	1974		D								Z	3980	0			
17S/06E-01L02 S	J.HAMMOND	1974	1973	C	50	40	F	6		N	U	U	3980	I		P	
17S/06E-06C01 S	LA POSTA RES	1974		D			W	24		N	U	U	3460	0			
17S/06E-10F01 S	O.LARGO	1974		D			W	24	1	B	H	W	4205	I	P		
17S/06E-10F02 S	O.LARGO	1974	1972	C				6	S	S	H	W	4200	I	P	P	
17S/06E-11N01 S	J.SKINNER	1974						5	5	S	U	U	4045	0	P		
17S/06E-11P01 S	J.PANGLE	1974	1972				F	10	5	S	S	W	4090	0	P	P	
17S/06E-11P02 S	J.PANGLE	1974		D			X	96		N	U	U	4095	0			
17S/06E-11Q01 S	E.CUREO	1974	1973	C				6		S	U	U	4120	I		P	
17S/06E-12F01 S	A.ELLIOT	1974		D				240	8	Z	H	W	3970	0	P		
17S/06E-12M01 S	D.ELLIOT	1974	1973	C	119	99	F	6		S	U	U	4100	I	C	P	
17S/06E-12M02 S	D.ELLIOT	1974		D			W	120	8	Z	H	W	4120	0	C		
17S/06E-12M03 S	D.ELLIOT	1974		D			W	140		N	H	W	4110	0	P		
17S/06E-12M04 S	A.ELLIOT	1974		D			W	48	8	Z	H	W	4115	0	C		
17S/06E-13E01 S	E.JOWLLS	1975	1973	C				6	5	S	H	W	4020	0	P		
17S/06E-13M02 S	J.ELLIOTT	1975	1973	C	60	50	F	6	5	S	H	W	3940	I	M	P	
17S/06E-13M03 S	J.ELLIOTT	1975						6	1	P	U	U	3920	0	C		
17S/06E-13N02 S	V.THACKER	1975	1973	C	80	60	X	6	5	S	H	W	3945	I	M	P	
17S/06E-14C01 S	J.PANGLE	1974						5		N	U	U	4020	0	P		
17S/06E-14D01 S	J.PANGLE	1974						1		N	U	U	4025	0	P		
17S/06E-14Q01 S	LIVE OAKS MGT	1976						6	T	S	P	W	3910	0	C		
17S/06E-14Q02 S	LIVE OAKS MGT	1976						12		N	U	U	3905	0			
17S/06E-14Q03 S	LIVE OAKS MGT	1976						10		N	U	U	3905	0			
17S/06E-14R01 S	LIVE OAKS MGT	1976	1975	H			F	6	T	S	P	W	3865	0	C		
17S/06E-14R02 S	LIVE OAKS MGT	1976						14	T	P	U	U	3900	0			
17S/06E-15L01 S	J.FINN	1976							5	J	H	W	3865		P		

TABLE 3.--*Description of wells*--Continued

STATE NUMBER	OWNER OR NAME	INVENTORY DATE	YEAR DRILLED	METHOD DRILLED	DEPTH WELL (FT)	DEPTH CASED (FT)	WELL FINISH	DIAM. (IN)	PUMP POWER	LIFT METHOD	WATER USE	WELL USE	ALTITUDE OF LSD (FT)	NUMBER WELL	CHEMICAL ANALYSES	PUMPING DATA	LOG DATA
17S/06E-15P01 S		1975		D								Z	3870				
17S/06E-25D01 S	R.ROUNTREE	1976						8	S	J	H	W	3680	O	C		
17S/06E-25D02 S	R.ROUNTREE	1976						8	T	J	H	W	3645	O	C		
17S/06E-25N02 S	W.LAMBERSON	1976		C			F	8	6	P	H	W	3730	O	C		
17S/06E-27A01 S	N.RIAS	1975	1973	C	76	56	F	6	5	S	H	W	3640	I	M	P	
17S/06E-27B02 S	N.RINS	1975	1959	D				36	3	C	U	U	3630	O	P		
17S/06E-27D01 S	B.MOFFETT	1975	1973	C	58	46	X	6	5	S	H	W	3565	I	C	P	
17S/06E-28J01 S	M.MESA	1975	1949	D				36		N	U	U	3335	I			
17S/06E-28J02 S	B.COLEMAN	1975	1973	C	75	65	X	6	5	S	H	W	3335	I	M	P	
17S/06E-28J03 S	M.MESA	1975	1972	C				8	5	S	H	W	3335	I	M	P	
17S/06E-32H01 S	H.CUREO	1975	1939		48	18	F	8		N	U	U	3185	I		P	D
17S/06E-32H02 S	H.CURED	1975	1972	C				8	5	S	H	W	3165	I	M	P	
17S/06E-33N01 S	J.PABLO	1952		D				72			U	U	3115	O			
17S/06E-33N02 S		1975						8		N	U	U	3135	O			
17S/06E-33R02 S	R.ROBERTSON	1975	1972	C				6	5	S	H	W	3232	U	P	P	
17S/06E-33R03 S	R.ROHERTSON	1975	1965	D				48	3	C	H	W	3235	I	C		
17S/06E-34H01 S	D.CUERO	1975	1972	C	90	20	X	8	5	S	H	W	3470	I	M	P	
17S/06E-34H01 S	CAMPO RES	1975						8	F	J	P	W	3260	O	C		
17S/06E-34N01 S		1975	1939		52	10	F	8		N	U	U	3280	I		P	D
17S/06E-34N02 S	R.LARGO	1975	1972	C				8	5	S	H	W	3275	I	M	P	
17S/06E-34N03 S	H.CUREO	1975	1972	C	95	85	F	6	5	S	H	W	3290	I	M	P	
17S/06E-35P01 S	KUNIN	1976	1972					8	S	S	P	W	3500	O	C		
17S/07E-06C01 S		1974							4	T	S	W	3675				
17S/07E-07D01 S	K.BARNES	1974		D				48	6	P	H	W	3790	O	P		
17S/07E-07D02 S		1974						6	6	P	H	W	3805				
18S/05E-01B01 S	J.FARRIS		1955					10			H	W	2800	O	C		
18S/05E-03D01 S	L.LACHAPPA	1975	1939		100	46	F	8		P	U	U	2715	I		P	D
18S/05E-03D02 S	L.LACHAPPA	1975	1972	C	96	76	F	6	5	S	H	W	2725	O	C	P	
18S/05E-03M01 S	L.MESA	1975	1972	A	83	63		6	5	S	H	W	2660	I	C	P	
18S/05E-09K01 S	E.SCHAEFER	1976						8	6	P	S	W	2590	O	C		
18S/05E-12C01 S	W.MIKENAS		1966	A	140	24	X	7			H	W	2740	O			D
18S/05E-16H01 S	CAMPO WATER CO		1941					10			P	W	2550	I	C	P	
18S/05E-16H02 S	CAMPO WATER CO		1957								P	W	2550	O			
18S/06E-03D01 S	C.ELLIOTT	1975	1972	C				6	5	S	H	W	3275	I	M	P	
18S/06E-03D02 S	C.ELLIOTT	1975							1	P	U	U	3280				
18S/06E-04F01 S		1975	1974	A	75	34	F	6	5	S	H	W	3180	I	C	P	D
18S/06E-07C01 S		1976		D				54	6	P	U	U	2910	U			
18S/06E-09B01 S	R.SHUMAN	1975	1971	C				6	5	S	H	W	3300	I	M	P	
18S/06E-09B02 S	R.SHUMAN	1975	1969	D				48		N	U	U	3300				

EXPLANATION OF SPRING TABLE

Owner or name: The apparent owner or user on the date indicated. In some cases, the local name of the spring is given.

Date measured: The date the spring discharge was measured.

Discharge: Discharge, in gallons per minute; D Dry, F Flowing.

Method measured:

- O Estimated
- 1 Bucket
- 5 Weir
- R Reported.

Improvements:

- 0 None
- 1 Trough
- 3 Boxed or small covered basin
- 5 Springhouse
- 8 Pipe (not for conduction of water from springs).

Altitude of lsd: Altitude of land-surface datum, in feet, above or below (-) mean sea level. Land-surface datum is an arbitrary plane closely approximating land surface.

Water use:

- H Domestic
- R Recreation
- S Stock supply
- U Unused
- Z Other (wildlife, etc.).

Chemical analyses:

- C Indicates one analysis in which the major chemical constituents were determined in order to permit an anion-cation equation balance
- P Indicates one analysis in which a few selected constituents and properties were determined.

TABLE 4.--*Description of springs*

State number	Owner or name	Data visited or measured	Discharge (gal/min)	Method measured	Water use	Improvements	Chemical analyses	Altitude of LSD (feet)
15S/05E-24CS1 S	U.S. Forest Service	10-11-74	0.56	1	S	1	P	5,960
15S/06E-19ES1 S	Cuyapaipe Reservation	12-18-74			Z	1	P	5,520
15S/06E-19FS1 S	do.	12-17-74			Z	0	P	5,390
15S/06E-20ES1 S	do.	12-05-74	.2	0	H	0	C	5,235
16S/05E-27KS1 S	U.S. Forest Service	10-09-74			Z	3	P	3,860
16S/06E-02PS1 S	Bureau of Land Management	8-07-74	D		U	1		4,280
16S/06E-11ES1 S	do.	8-16-74	8.97	5	S	1	P	4,350
16S/06E-11HS1 S	do.	8-01-74			Z	1	P	4,250
16S/06E-12CS1 S	do.	8-07-74	D		U	0		4,150
16S/06E-13QS1 S	do.	8-08-74	D		U	1		4,080
		8-26-74	D					
16S/06E-15AS1 S	do.	9-04-74	.09	1	S	1	P	4,390
16S/06E-15QS1 S	do.	9-05-74	.23	1	S	1	P	4,430
16S/06E-15QS2 S	do.	9-05-74	D		U	1		4,440
16S/06E-18QS1 S	U.S. Forest Service	11-20-74			U	0	P	3,950
16S/06E-24KS1 S	R. Gastavlum	8-26-74			U	1	P	4,080
16S/06E-25DS1 S	Manzanita Reservation	8-09-74	2.24	5	R	1	P	4,000
16S/06E-25ES1 S	do.	8-27-74	2.24	5	R	1	P	4,000
16S/06E-26LS1 S	do.	8-27-74	.18	1	S	8	P	4,200
16S/06E-26PS1 S	do.	8-27-74	D		U	0		4,200
16S/06E-27HS1 S	McCain	8-27-74			S	1	P	4,320
16S/06E-33HS3 S	Crestwood Ranch	8-29-74			S	0	P	4,120
16S/06E-35BS1 S	Manzanita Reservation	5-12-76	3.17	1	S	0	P	4,040
16S/06E-35HS1 S	do.	5-12-76	.63	1	S	0	P	4,045
16S/06E-35JS1 S	do.	8-27-74	D		U	1		4,080
16S/06E-35JS2 S	do.	5-11-76	.63	1	S	0	P	4,055
16S/06E-36JS1 S		9-11-74	D		U	0		3,780
16S/06E-36PS1 S		10-02-74	.09	1	S	1	P	3,980
16S/07E-07GS1 S	Bureau of Land Management	5-24-66	F		S	0	P	3,800

TABLE 4.--*Description of springs*--Continued

State number	Owner or name	Data visited or measured	Discharge (gal/min)	Method measured	Water use	Improvements	Chemical analyses	Altitude of LSD (feet)
16S/07E-07MS1 S	Bureau of Land Management	5-24-66	F		S	1	P	4,000
		9-04-74	0.10	1				
16S/07E-18DS1 S	do.	5-24-66	F		U	0		4,000
		8-13-74	D					
16S/07E-19JS1 S		8-26-74	D		U	1		4,000
17S/06E-01DS1 S	F. Shaw	8-27-74			H	1	P	4,080
17S/06E-01DS2 S	do.	8-27-74			S	1	P	4,040
17S/06E-01MS1 S	Campo Reservation	9-18-74			Z	0	P	4,050
17S/06E-03AS1 S	do.	8-29-74	.005	1	U	3	P	4,460
17S/06E-05ES1 S	La Posta Reservation	11-22-74	1.98	1	S	1	C	3,560
17S/06E-11DS1 S	Campo Reservation	8-29-74			U	1	P	4,335
17S/06E-11DS2 S	do.	8-29-74	D		U	1		4,360
17S/06E-11MS1 S	J. Pangle	8-28-74			U	0	P	4,140
17S/06E-11MS2 S	do.	8-28-74	D		U		P	4,140
17S/06E-11NS2 S	do.	8-28-74			S	1	P	4,120
17S/06E-11QS2 S	E. Cureo	8-28-74			H	3	P	4,010
17S/06E-12ES1 S	Campo Reservation	8-28-74	.24	1	H	1	P	4,160
17S/06E-13ES2 S	E. Jowlls	1-09-75			U	1	P	4,020
17S/06E-13MS1 S	V. Thacker	10-29-52	2.00	0	U	5	P	3,970
17S/06E-13NS1 S	Campo Reservation	1-09-75			U	0		3,955
17S/06E-14JS1 S	J. Elliott	10-29-52	6.00	R	S	1	P	3,920
		1-09-75	.396	1				
17S/06E-15FS1 S	Campo Reservation	5-10-76	.79	1	U	0	C	3,960
17S/06E-27BS1 S	do.	1-09-75			U	1		3,670
17S/06E-28AS1 S	do.	1-08-75	.5	0	S	0	C	3,455
17S/06E-33RS1 S		10-24-52	2.5		U	1	P	3,240
		1-07-75	D					
18S/06E-08NS1 S	Bureau of Land Management	4-06-76	.03	1	S	1	C	3,390
18S/06E-09RS1 S	Campo Reservation	1-07-75	D		U	1		3,470

TABLE 5.--*Water-level measurements in wells*

Letter(s) following water-level measurements:

A Well being pumped.	G Measurement by another agency.	M Obstruction in well above water surface.
B Well pumped recently.	H Tape measurement (recorder).	N No measurement.
C Nearby well being pumped.	I Affected by atmospheric pressure.	O Discontinued.
D Nearby well pumped recently.	J Water level below sea level.	P Destroyed.
E Estimated.	K Measurement from recorder chart.	Q Flowing
F Dry.		

15S/5E-24B1 S.
LSD 5730 FT ABOVE MSL.
HIGHEST WATER LEVEL 186.44 BELOW LSD, NOV. 19, 1974,
LOWEST WATER LEVEL 186.44 BELOW LSD, NOV. 19, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 19, 1974	186.44						

16S/6E-2N1 S. PERFORATED 24-32 FT; OPEN HOLE 32-75 FT.
LSD 4355 FT ABOVE MSL.
HIGHEST WATER LEVEL 23.00 BELOW LSD, , 1966,
LOWEST WATER LEVEL 23.00 BELOW LSD, , 1966.
RECORDS AVAILABLE: 1966, 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1966	23. 6	AUG. 8, 1974	N				

16S/6E-25M1 S. DEPTH 4 FT IN 1974.
LSD 4100 FT ABOVE MSL.
HIGHEST WATER LEVEL 2.50 BELOW LSD, SEP. 12, 1974,
LOWEST WATER LEVEL 2.50 BELOW LSD, SEP. 12, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 12, 1974	2.5						

16S/6E-26A1 S. DEPTH 50.7 FT IN 1974.
LSD 4075 FT ABOVE MSL.
HIGHEST WATER LEVEL 25.32 BELOW LSD, AUG. 27, 1974,
LOWEST WATER LEVEL 25.32 BELOW LSD, AUG. 27, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 27, 1974	25.32						

16S/6E-26Q1 S. DEPTH 4 FT IN 1974.
LSD 4120 FT ABOVE MSL.
HIGHEST WATER LEVEL 3.00 BELOW LSD, AUG. 1, 1974,
LOWEST WATER LEVEL 3.00 BELOW LSD, AUG. 1, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 1, 1974	3.0						

TABLE 5.--*Water-level measurements in wells*--Continued

16S/6E-26Q2 S.
LSD 4125 FT ABOVE MSL.
HIGHEST WATER LEVEL 1.70 BELOW LSD, AUG. 1, 1974,
LOWEST WATER LEVEL 1.70 BELOW LSD, AUG. 1, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 1, 1974	1.7						

16S/6E-26Q3 S. DEPTH 5 FT IN 1974.
LSD 4130 FT ABOVE MSL.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 1, 1974	4.4 A						

16S/6E-26Q4 S. PERFORATED 40-45, 55-60 FT.
LSD 4120 FT ABOVE MSL.
HIGHEST WATER LEVEL 9.21 BELOW LSD, MAY 12, 1976,
LOWEST WATER LEVEL 28.00 BELOW LSD, JULY 8, 1974.
RECORDS AVAILABLE: 1974, 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JULY 8, 1974	28. G	AUG. 1, 1974	11.49	MAY 12, 1976	9.21		

16S/6E-28N1 S. DEPTH 75.0 FT IN 1974.
LSD 3900 FT ABOVE MSL.
HIGHEST WATER LEVEL 36.70 BELOW LSD, AUG. 29, 1974,
LOWEST WATER LEVEL 36.70 BELOW LSD, AUG. 29, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 29, 1974	36.70						

16S/6E-30P1 S.
LSD 3550 FT ABOVE MSL.
HIGHEST WATER LEVEL 39.30 BELOW LSD, OCT. 3, 1974,
LOWEST WATER LEVEL 39.30 BELOW LSD, OCT. 3, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 3, 1974	39.30						

16S/6E-30P2 S.
LSD 3545 FT ABOVE MSL.
HIGHEST WATER LEVEL 42.47 BELOW LSD, OCT. 3, 1974,
LOWEST WATER LEVEL 42.47 BELOW LSD, OCT. 3, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 3, 1974	42.47						

TABLE 5.--*Water-level measurements in wells*--Continued

16S/6E-31C1 S.
LSD 3540 FT ABOVE MSL.
HIGHEST WATER LEVEL 29.05 BELOW LSD, OCT. 3, 1974,
LOWEST WATER LEVEL 29.05 BELOW LSD, OCT. 3, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 3, 1974	29.05						

16S/6E-33G1 S. DEPTH 39.50 FT IN 1974.
LSD 4140 FT ABOVE MSL.
HIGHEST WATER LEVEL 12.06 BELOW LSD, AUG. 29, 1974,
LOWEST WATER LEVEL 12.06 BELOW LSD, AUG. 29, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 29, 1974	12.06						

16S/6E-33H1 S. DEPTH 90 FT WHEN DRILLED.
LSD 4180 FT ABOVE MSL.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 29, 1974	33.88A						

16S/6E-33J1 S. DEPTH 12.2 FT IN 1974.
LSD 4160 FT ABOVE MSL.
DRY, WATER LEVEL NOT MEASUREABLE, NOV. 21, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 21, 1974	F						

16S/6E-33J2 S. PERFORATED 38-58, 78-97 FT.
LSD 4195 FT ABOVE MSL.
HIGHEST WATER LEVEL 41.14 BELOW LSD, NOV. 21, 1974,
LOWEST WATER LEVEL 42.00 BELOW LSD, JULY 2, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JULY 2, 1974	42. G	NOV. 21, 1974	41.14				

16S/6E-34L1 S. DEPTH 41.1 FT IN 1974.
LSD 4330 FT ABOVE MSL.
HIGHEST WATER LEVEL 21.23 BELOW LSD, AUG. 29, 1974,
LOWEST WATER LEVEL 21.23 BELOW LSD, AUG. 29, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 29, 1974	21.23						

16S/7E-18D2 S. PERFORATED 95-120, 285-295 FT.
LSD 4050 FT ABOVE MSL.
HIGHEST WATER LEVEL 18.49 BELOW LSD, AUG. 13, 1974,
LOWEST WATER LEVEL 18.49 BELOW LSD, AUG. 13, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 13, 1974	18.49						

16S/7E-20D1 S. PERFORATIONS UNKNOWN; DEPTH 73 FT IN 1968.
LSD 3965 FT ABOVE MSL.
HIGHEST WATER LEVEL 25.00 BELOW LSD, MAR. 7, 1968,
LOWEST WATER LEVEL 28.42 BELOW LSD, AUG. 13, 1974.
RECORDS AVAILABLE: 1968, 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 7, 1968	25. G	AUG. 13, 1974	28.42				

16S/7E-20D2 S. DEPTH 22.9 FT IN 1974.
LSD 3965 FT ABOVE MSL.
DRY, WATER LEVEL NOT MEASUREABLE, AUG. 13, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 13, 1974	F						

16S/7E-31P1 S. DEPTH 122.5 FT IN 1974.
LSD 3710 FT ABOVE MSL.
HIGHEST WATER LEVEL 32.39 BELOW LSD, SEP. 11, 1974,
LOWEST WATER LEVEL 32.39 BELOW LSD, SEP. 11, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 11, 1974	32.39						

16S/7E-33N1 S. DEPTH 130 FT IN 1966.
LSD 3840 FT ABOVE MSL.
HIGHEST WATER LEVEL 47.00 BELOW LSD, , 1966,
LOWEST WATER LEVEL 55.36 BELOW LSD, OCT. 19, 1972.
RECORDS AVAILABLE: 1966, 1972, 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1966	47. G	OCT. 19, 1972	55.36 B	AUG. 13, 1974	M		

17S/5E-3R1 S. DEPTH 49 FT WHEN DRILLED, 48.7 FT IN 1974.
LSD 3250 FT ABOVE MSL.
HIGHEST WATER LEVEL 44.00 BELOW LSD, MAY 19, 1953,
LOWEST WATER LEVEL 48.40 BELOW LSD, AUG. 7, 1957.
RECORDS AVAILABLE: 1953, 1957, 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 19, 1953	44. G	JULY 14, 1953	47.3 G	AUG. 7, 1957	48.4	OCT. 9, 1974	46.55

TABLE 5.--*Water-level measurements in wells*--Continued

17S/5E-33H1 S. DEPTH 160 FT IN 1976.
LSD 2905 FT ABOVE MSL.
HIGHEST WATER LEVEL 52.09 BELOW LSD, APR. 8, 1976,
LOWEST WATER LEVEL 52.09 BELOW LSD, APR. 8, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 8, 1976	52.09						

17S/5E-33R1 S. PERFORATED 41-81 FT.
LSD 2805 FT ABOVE MSL.
HIGHEST WATER LEVEL 35.21 BELOW LSD, APR. 8, 1976,
LOWEST WATER LEVEL 39.00 BELOW LSD, JULY 18, 1974.
RECORDS AVAILABLE: 1974-76.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JULY 18, 1974	39. G	JAN. 6, 1975	35.62	APR. 8, 1976	35.21		

17S/6E-1L1 S.
LSD 3980 FT ABOVE MSL.
HIGHEST WATER LEVEL 2.50 BELOW LSD, OCT. 29, 1952,
LOWEST WATER LEVEL 2.50 BELOW LSD, OCT. 29, 1952.
RECORDS AVAILABLE: 1952, 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 29, 1952	2.5	AUG. 27, 1974	P				

17S/6E-1L2 S. PERFORATED 40-50 FT.
LSD 3980 FT ABOVE MSL.
HIGHEST WATER LEVEL 21.30 BELOW LSD, , 1973,
LOWEST WATER LEVEL 21.56 BELOW LSD, AUG. 14, 1974.
RECORDS AVAILABLE: 1973-74.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1973	21.3 G	AUG. 14, 1974	21.56				

17S/6E-6C1 S. DEPTH 22.8 FT IN 1974.
LSD 3460 FT ABOVE MSL.
DRY, WATER LEVEL NOT MEASUREABLE, NOV. 21, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 21, 1974	F						

17S/6E-10F1 S. DEPTH 7.4 FT IN 1952, 8.2 FT IN 1974.
LSD 4205 FT ABOVE MSL.
HIGHEST WATER LEVEL 2.39 BELOW LSD, OCT. 29, 1952,
LOWEST WATER LEVEL 4.05 BELOW LSD, SEP. 20, 1974.
RECORDS AVAILABLE: 1952, 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 29, 1952	2.39	SEP. 20, 1974	4.05				

17S/6E-10F2 S. DEPTH 75 FT IN 1972, 76.5 FT IN 1974.
LSD 4200 FT ABOVE MSL.
HIGHEST WATER LEVEL 7.10 BELOW LSD, SEP. 14, 1972,
LOWEST WATER LEVEL 16.67 BELOW LSD, SEP. 20, 1974.
RECORDS AVAILABLE: 1972, 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 14, 1972	7.1 G	SEP. 20, 1974	16.67				

17S/6E-11N1 S.
LSD 4045 FT ABOVE MSL.
HIGHEST WATER LEVEL 19.35 BELOW LSD, AUG. 28, 1974,
LOWEST WATER LEVEL 19.35 BELOW LSD, AUG. 28, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 28, 1974	19.35						

17S/6E-11P1 S. DEPTH 85 FT IN 1972.
LSD 4090 FT ABOVE MSL.
HIGHEST WATER LEVEL 18.70 BELOW LSD, AUG. 28, 1974,
LOWEST WATER LEVEL 18.70 BELOW LSD, AUG. 28, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 28, 1974	18.70						

17S/6E-11P2 S. DEPTH 8 FT IN 1974.
LSD 4095 FT ABOVE MSL.
DRY, WATER LEVEL NOT MEASUREABLE, AUG. 28, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 28, 1974	F						

17S/6E-11Q1 S. DEPTH 55 FT IN 1973, 54.1 FT IN 1974.
LSD 4120 FT ABOVE MSL.
HIGHEST WATER LEVEL 22.05 BELOW LSD, AUG. 28, 1974,
LOWEST WATER LEVEL 28.00 BELOW LSD, , 1973.
RECORDS AVAILABLE: 1973-74.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1973	28. G	AUG. 28, 1974	22.05				

17S/6E-12F1 S. DEPTH 5 FT IN 1974.
LSD 3970 FT ABOVE MSL.
HIGHEST WATER LEVEL 3.50 BELOW LSD, AUG. 14, 1974,
LOWEST WATER LEVEL 3.50 BELOW LSD, AUG. 14, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 14, 1974	3.5						

TABLE 5.--*Water-level measurements in wells*--Continued

17S/6E-12M1 S. PERFORATED 99-119 FT.
LSD 4100 FT ABOVE MSL.
HIGHEST WATER LEVEL 18.00 BELOW LSD, , 1973,
LOWEST WATER LEVEL 36.16 BELOW LSD, AUG. 14, 1974.
RECORDS AVAILABLE: 1973-74.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1973	18. G	AUG. 14, 1974	36.16				

17S/6E-12M2 S. DEPTH 6.3 FT IN 1974.
LSD 4120 FT ABOVE MSL.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 14, 1974	1.3 A						

17S/6E-12M3 S. DEPTH 5.5 FT IN 1974.
LSD 4110 FT ABOVE MSL.
HIGHEST WATER LEVEL 1.50 BELOW LSD, AUG. 14, 1974,
LOWEST WATER LEVEL 1.50 BELOW LSD, AUG. 14, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 14, 1974	1.5						

17S/6E-12M4 S. DEPTH 1.6 FT IN 1974.
LSD 4115 FT ABOVE MSL.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 14, 1974	1.2 A						

17S/6E-13E1 S.
LSD 4020 FT ABOVE MSL.
HIGHEST WATER LEVEL 20.38 BELOW LSD, JAN. 9, 1975,
LOWEST WATER LEVEL 20.38 BELOW LSD, JAN. 9, 1975.
RECORDS AVAILABLE: 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 9, 1975	20.38						

17S/6E-13M2 S. PERFORATED 50-60 FT.
LSD 3940 FT ABOVE MSL.
HIGHEST WATER LEVEL 16.85 BELOW LSD, JAN. 9, 1975,
LOWEST WATER LEVEL 18.00 BELOW LSD, , 1973.
RECORDS AVAILABLE: 1973, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1973	18. G	JAN. 9, 1975	16.85				

TABLE 5.--*Water-level measurements in wells*--Continued

17S/6E-13M3 S.
LSD 3920 FT ABOVE MSL.
HIGHEST WATER LEVEL 3.76 BELOW LSD, JAN. 9, 1975,
LOWEST WATER LEVEL 3.76 BELOW LSD, JAN. 9, 1975.
RECORDS AVAILABLE: 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 9, 1975	3.76						

17S/6E-13N2 S. OPEN HOLE 60-80 FT.
LSD 3945 FT ABOVE MSL.
HIGHEST WATER LEVEL 40.00 BELOW LSD, , 1973,
LOWEST WATER LEVEL 42.29 BELOW LSD, JAN. 9, 1975.
RECORDS AVAILABLE: 1973, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1973	40. G	JAN. 9, 1975	42.29				

17S/6E-14C1 S. DEPTH 77.1 FT IN 1974.
LSD 4020 FT ABOVE MSL.
HIGHEST WATER LEVEL 15.52 BELOW LSD, AUG. 29, 1974,
LOWEST WATER LEVEL 15.52 BELOW LSD, AUG. 29, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 29, 1974	15.52						

17S/6E-14D1 S. DEPTH 1000 FT WHEN DRILLED.
LSD 4025 FT ABOVE MSL.
HIGHEST WATER LEVEL 12.17 BELOW LSD, AUG. 29, 1974,
LOWEST WATER LEVEL 12.17 BELOW LSD, AUG. 29, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 29, 1974	12.17						

17S/6E-14Q1 S. DEPTH 275 FT IN 1976.
LSD 3910 FT ABOVE MSL.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 13, 1976	39.77A						

17S/6E-14Q2 S. DEPTH 29.0 FT IN 1976.
LSD 3905 FT ABOVE MSL.
DRY, WATER LEVEL NOT MEASUREABLE, MAY 13, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 13, 1976	F						

TABLE 5.--*Water-level measurements in wells*--Continued

17S/6E-14Q3 S. DEPTH 53.4 FT IN 1976.
LSD 3905 FT ABOVE MSL.
HIGHEST WATER LEVEL 40.46 BELOW LSD, MAY 13, 1976,
LOWEST WATER LEVEL 40.46 BELOW LSD, MAY 13, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 13, 1976	40.46						

17S/6E-14R1 S. PERFORATIONS UNKNOWN; DEPTH 300 FT IN 1975.
LSD 3865 FT ABOVE MSL.
HIGHEST WATER LEVEL 26.12 BELOW LSD, MAY 13, 1976,
LOWEST WATER LEVEL 26.12 BELOW LSD, MAY 13, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 13, 1976	26.12						

17S/6E-14R2 S. DEPTH 46.3 FT IN 1976.
LSD 3900 FT ABOVE MSL.
HIGHEST WATER LEVEL 37.70 BELOW LSD, MAY 13, 1976,
LOWEST WATER LEVEL 37.70 BELOW LSD, MAY 13, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 13, 1976	37.70						

17S/6E-25D1 S. DEPTH 78.7 FT IN 1976.
LSD 3680 FT ABOVE MSL.
HIGHEST WATER LEVEL 27.83 BELOW LSD, MAY 11, 1976,
LOWEST WATER LEVEL 27.83 BELOW LSD, MAY 11, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 11, 1976	27.83						

17S/6E-25D2 S. DEPTH 53.2 FT IN 1976.
LSD 3645 FT ABOVE MSL.
HIGHEST WATER LEVEL 13.54 BELOW LSD, MAY 11, 1976,
LOWEST WATER LEVEL 13.54 BELOW LSD, MAY 11, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 11, 1976	13.54						

17S/6E-25N2 S. DEPTH 64.8 FT IN 1976.
LSD 3730 FT ABOVE MSL.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 13, 1976	19.26A						

17S/6E-27A1 S. PERFORATED 56-76 FT.
LSD 3640 FT ABOVE MSL.
HIGHEST WATER LEVEL 18.00 BELOW LSD, , 1973,
LOWEST WATER LEVEL 27.73 BELOW LSD, JAN. 9, 1975.
RECORDS AVAILABLE: 1973, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1973	18. G	JAN. 9, 1975	27.73				

17S/6E-27B2 S. DEPTH 13 FT IN 1975.
LSD 3630 FT ABOVE MSL.
HIGHEST WATER LEVEL 6.34 BELOW LSD, JAN. 9, 1975,
LOWEST WATER LEVEL 6.34 BELOW LSD, JAN. 9, 1975.
RECORDS AVAILABLE: 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 9, 1975	6.34						

17S/6E-27D1 S. OPEN HOLE 46.5-58 FT.
LSD 3565 FT ABOVE MSL.
HIGHEST WATER LEVEL 29.00 BELOW LSD, , 1973,
LOWEST WATER LEVEL 34.32 BELOW LSD, JAN. 9, 1975.
RECORDS AVAILABLE: 1973, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1973	29. G	JAN. 9, 1975	34.328				

17S/6E-28J1 S. DEPTH 55 FT IN 1952, 5.3 FT IN 1975.
LSD 3335 FT ABOVE MSL.
HIGHEST WATER LEVEL 28.36 BELOW LSD, OCT. 28, 1952,
DRY, WATER LEVEL NOT MEASUREABLE, JAN. 8, 1975.
RECORDS AVAILABLE: 1952, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 28, 1952	28.36	JAN. 8, 1975	F				

17S/6E-28J2 S. OPEN HOLE 65-75 FT.
LSD 3335 FT ABOVE MSL.
HIGHEST WATER LEVEL 49.06 BELOW LSD, JAN. 8, 1975,
LOWEST WATER LEVEL 55.00 BELOW LSD, , 1973.
RECORDS AVAILABLE: 1973, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1973	55. G	JAN. 8, 1975	49.08				

17S/6E-28J3 S. DEPTH 74 FT IN 1972.
LSD 3335 FT ABOVE MSL.
HIGHEST WATER LEVEL 46.00 BELOW LSD, , 1972,
LOWEST WATER LEVEL 49.32 BELOW LSD, JAN. 8, 1975.
RECORDS AVAILABLE: 1972, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1972	46. G	JAN. 8, 1975	49.32				

TABLE 5.--*Water-level measurements in wells*--Continued

17S/6E-32H1 S. PERFORATED 18-48 FT; DEPTH 11.6 FT IN 1975.
LSD 3185 FT ABOVE MSL.
HIGHEST WATER LEVEL 15.00 BELOW LSD, MAR. 20, 1939, APR. 15, 1939,
DRY, WATER LEVEL NOT MEASUREABLE, JAN. 7, 1975.
RECORDS AVAILABLE: 1939, 1952, 1975.

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL	
MAR. 20, 1939	15.	G	OCT. 23, 1952	20.65		NOV. 23, 1953	21.89		JAN. 7, 1975		F
APR. 15	15.	G	OCT. 30	20.34							

17S/6E-32H2 S. DEPTH 61 FT IN 1972.
LSD 3185 FT ABOVE MSL.
HIGHEST WATER LEVEL 28.00 BELOW LSD, , 1972,
LOWEST WATER LEVEL 28.63 BELOW LSD, JAN. 7, 1975.
RECORDS AVAILABLE: 1972, 1975.

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL	
1972	28.	G	JAN. 7, 1975	28.63							

17S/6E-33N1 S. DEPTH 15 FT IN 1952.
LSD 3115 FT ABOVE MSL.
DRY, WATER LEVEL NOT MEASUREABLE, OCT. 23, 1952.
RECORDS AVAILABLE: 1952, 1975.

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL	
OCT. 23, 1952		F	JAN. 7, 1975		P						

17S/6E-33N2 S. DEPTH 50.7 FT IN 1975.
LSD 3135 FT ABOVE MSL.
HIGHEST WATER LEVEL 36.16 BELOW LSD, JAN. 7, 1975,
LOWEST WATER LEVEL 36.16 BELOW LSD, JAN. 7, 1975.
RECORDS AVAILABLE: 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 7, 1975	36.16						

17S/6E-33R2 S. DEPTH 55 FT IN 1972.
LSD 3232 FT ABOVE MSL.
HIGHEST WATER LEVEL 12.30 BELOW LSD, JAN. 7, 1975,
LOWEST WATER LEVEL 12.30 BELOW LSD, JAN. 7, 1975.
RECORDS AVAILABLE: 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 7, 1975	12.30						

17S/6E-33R3 S. DEPTH 16.6 FT IN 1976.
LSD 3235 FT ABOVE MSL.
HIGHEST WATER LEVEL 10.05 BELOW LSD, APR. 7, 1976,
LOWEST WATER LEVEL 10.30 BELOW LSD, JAN. 7, 1975.
RECORDS AVAILABLE: 1975-76.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 7, 1975	10.30	APR. 7, 1976	10.05				

17S/6E-34H1 S. OPEN HOLE 20-90 FT.
LSD 3470 FT ABOVE MSL.
HIGHEST WATER LEVEL 31.28 BELOW LSD, JAN. 8, 1975,
LOWEST WATER LEVEL 32.00 BELOW LSD, SEP. , 1972.
RECORDS AVAILABLE: 1972, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 1972	32. G	JAN. 8, 1975	31.28				

17S/6E-34M1 S. DEPTH 53.3 FT IN 1976.
LSD 3260 FT ABOVE MSL.
HIGHEST WATER LEVEL 15.84 BELOW LSD, APR. 14, 1976,
LOWEST WATER LEVEL 15.84 BELOW LSD, APR. 14, 1976.
RECORDS AVAILABLE: 1975-76.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 8, 1975	N	APR. 14, 1976	15.84				

17S/6E-34N1 S. PERFORATED 10-52 FT; DEPTH 7.7 FT IN 1975.
LSD 3280 FT ABOVE MSL.
HIGHEST WATER LEVEL 5.00 BELOW LSD, APR. 8, 1939,
DRY, WATER LEVEL NOT MEASUREABLE, JAN. 8, 1975.
RECORDS AVAILABLE: 1939, 1952, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 8, 1939	5. G	OCT. 24, 1952	15.77	JAN. 8, 1975	F		

17S/6E-34N2 S. DEPTH 40.6 FT IN 1972.
LSD 3275 FT ABOVE MSL.
HIGHEST WATER LEVEL 27.00 BELOW LSD, , 1972,
LOWEST WATER LEVEL 30.39 BELOW LSD, JAN. 8, 1975.
RECORDS AVAILABLE: 1972, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1972	27. G	JAN. 8, 1975	30.39				

17S/6E-34N3 S. PERFORATED 85-95 FT.
LSD 3290 FT ABOVE MSL.
HIGHEST WATER LEVEL 57.25 BELOW LSD, SEP. 14, 1972,
LOWEST WATER LEVEL 58.00 BELOW LSD, JAN. 8, 1975.
RECORDS AVAILABLE: 1972, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 14, 1972	57.25G	JAN. 8, 1975	58. C				

17S/6E-35P1 S. DEPTH 350 FT IN 1972.
LSD 3500 FT ABOVE MSL.
HIGHEST WATER LEVEL 32.43 BELOW LSD, APR. 15, 1976,
LOWEST WATER LEVEL 32.43 BELOW LSD, APR. 15, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 15, 1976	32.43						

TABLE 5.--*Water-level measurements in wells*--Continued

17S/7E-7D1 S. DEPTH 19.0 FT IN 1974.
LSD 3790 FT ABOVE MSL.
HIGHEST WATER LEVEL 13.89 BELOW LSD, SEP. 18, 1974,
LOWEST WATER LEVEL 13.89 BELOW LSD, SEP. 18, 1974.
RECORDS AVAILABLE: 1974.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 18, 1974	13.89						

18S/5E-1B1 S. DEPTH 64 FT IN 1955.
LSD 2800 FT ABOVE MSL.
HIGHEST WATER LEVEL 30.00 BELOW LSD, AUG. 10, 1966,
LOWEST WATER LEVEL 30.00 BELOW LSD, AUG. 10, 1966.
RECORDS AVAILABLE: 1966.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 10, 1966	30. G						

18S/5E-3D1 S. PERFORATED 46-100 FT.
LSD 2715 FT ABOVE MSL.
HIGHEST WATER LEVEL 45.00 BELOW LSD, APR. 8, 1939,
LOWEST WATER LEVEL 64.03 BELOW LSD, JAN. 6, 1975.
RECORDS AVAILABLE: 1939, 1952, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 8, 1939	45. G	FEB. 28, 1952	62. G	OCT. 23, 1952	54.31	JAN. 6, 1975	64.03

18S/5E-3D2 S. PERFORATED 76-96 FT.
LSD 2725 FT ABOVE MSL.
HIGHEST WATER LEVEL 60.21 BELOW LSD, JAN. 6, 1975,
LOWEST WATER LEVEL 60.21 BELOW LSD, JAN. 6, 1975.
RECORDS AVAILABLE: 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 6, 1975	60.21						

18S/5E-3M1 S. PERFORATED 63-83 FT.
LSD 2660 FT ABOVE MSL.
HIGHEST WATER LEVEL 22.00 BELOW LSD, , 1972,
LOWEST WATER LEVEL 29.05 BELOW LSD, JAN. 7, 1975.
RECORDS AVAILABLE: 1972, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1972	22. G	JAN. 7, 1975	29.05				

18S/5E-9K1 S. DEPTH 64.1 FT IN 1976.
LSD 2590 FT ABOVE MSL.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 8, 1976	13.83A						

TABLE 5.--*Water-level measurements in wells*--Continued

18S/5E-12C1 S. OPEN HOLE 24-140 FT.
LSD 2740 FT ABOVE MSL.
HIGHEST WATER LEVEL 56.00 BELOW LSD, MAY 20, 1966,
LOWEST WATER LEVEL 56.00 BELOW LSD, MAY 20, 1966.
RECORDS AVAILABLE: 1966.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 20, 1966	56. G						

18S/5E-16H1 S. DEPTH 103 FT IN 1941.
LSD 2550 FT ABOVE MSL.
HIGHEST WATER LEVEL FLOWING, JUNE 20, 1941,
LOWEST WATER LEVEL 33.90 BELOW LSD, AUG. 11, 1961.
RECORDS AVAILABLE: 1941, 1961.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 21, 1941	70. A	JUNE 20, 1941	Q	AUG. 11, 1961	33.9 G		

18S/5E-16H2 S. DEPTH 97 FT IN 1957.
LSD 2550 FT ABOVE MSL.
HIGHEST WATER LEVEL 29.00 BELOW LSD, AUG. 11, 1961,
LOWEST WATER LEVEL 29.00 BELOW LSD, AUG. 11, 1961.
RECORDS AVAILABLE: 1961.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 11, 1961	29. G						

18S/6E-3D1 S. DEPTH 85 FT IN 1972.
LSD 3275 FT ABOVE MSL.
HIGHEST WATER LEVEL 31.10 BELOW LSD, , 1972,
LOWEST WATER LEVEL 32.75 BELOW LSD, JAN. 8, 1975.
RECORDS AVAILABLE: 1972, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1972	31.1 G	JAN. 8, 1975	32.75				

18S/6E-4F1 S. PERFORATED 34-44, 65-75 FT.
LSD 3180 FT ABOVE MSL.
HIGHEST WATER LEVEL 12.00 BELOW LSD, JULY 11, 1974,
LOWEST WATER LEVEL 46.92 BELOW LSD, JAN. 7, 1975.
RECORDS AVAILABLE: 1974-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JULY 11, 1974	12. G	JAN. 7, 1975	46.92				

TABLE 5.--*Water-level measurements in wells*--Continued

18S/6E-7C1 S. DEPTH 42.2 FT IN 1976.
LSD 2910 FT ABOVE MSL.
DRY, WATER LEVEL NOT MEASUREABLE, APR. 6, 1976.
RECORDS AVAILABLE: 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 6, 1976	F						

18S/6E-9B1 S. DEPTH 118 FT IN 1971, 110 FT IN 1975.
LSD 3300 FT ABOVE MSL.
HIGHEST WATER LEVEL 47.25 BELOW LSD, JAN. 7, 1975,
LOWEST WATER LEVEL 48.00 BELOW LSD, OCT. , 1971.
RECORDS AVAILABLE: 1971, 1975.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 1971	48. G	JAN. 7, 1975	47.25				

TABLE 6.--*Pumping-test results*

Time: Time of measurement, in minutes, after pump was started.

Static water level: Depth to water, in feet below or above (+) land-surface datum, prior to start of test.

Pumping water level: Depth to water, in feet below or above (+) land-surface datum, at end of test. Q means flowing above land surface.

Drawdown: Difference, in feet, between the static and pumping water levels.

Yield: Yield of the well, in gallons per minute, for drawdown indicated.

Specific capacity: Yield, in gallons per minute per foot of drawdown. In a fully efficient and fully penetrating well, specific capacity directly reflects aquifer transmissivity. A declining specific capacity, with time, indicates a deteriorating well condition with respect to hydraulic efficiency, such as plugged well perforations, well sanding, or a declining water level in the aquifer. An increasing specific capacity indicates continuing development of the aquifer near the well. For a given amount of available drawdown, a well with a large specific capacity will have a greater yield than a well with a small specific capacity.

STATE NUMBER	DATE	TIME (MIN)	STATIC WATER LEVEL (FT)	PUMPING WATER LEVEL (FT)	DRAW-DOWN (FT)	YIELD (GAL/MIN)	SPECIFIC CAPACITY (GAL/MIN/FT OF DD)
16S/06E-26A01 S	72					5.0	
16S/06E-26Q04 S	07 08 74	360	28.0	61.0	33.0	12.0	0.36
16S/06E-33J02 S	07 02 74	360	42.0	105.0	63.0	5.0	0.08
16S/07E-18D02 S	08 02 74					7.8	
16S/07E-20D01 S	03 07 6[illegible]	300	25.0			6.0	
16S/07E-33N01 S	10 19 72					6.0	
17S/05E-33R01 S	07 18 74	360	39.0	53.0	14.0	20.0	1.43
17S/06E-01L02 S	73		21.3			6.0	
17S/06E-10F02 S	09 14 72	75	7.1	68.1	61.0	2.5	0.04
17S/06E-11P01 S	72					40.0	
17S/06E-11Q01 S	73		28.0			10.0	
17S/06E-12M01 S	73		18.0			8.0	
17S/06E-13M02 S	73		18.0			12.0	
17S/06E-13N02 S	73		40.0			10.0	
17S/06E-27A01 S	73		18.0			6.0	

TABLE 6.--*Pumping test results*--Continued

STATE NUMBER	DATE	TIME (MIN)	STATIC WATER LEVEL (FT)	PUMPING WATER LEVEL (FT)	DRAW-DOWN (FT)	YIELD (GAL/MIN)	SPECIFIC CAPACITY (GAL/MIN/FT OF DD)
17S/06E-27D01 S	73		29.0			7.0	
17S/06E-28J02 S	73		55.0			25.0	
17S/06E-28J03 S	72		460.0			35.0	
17S/06E-32H01 S	04 15 39	720	15.0	50.0	35.0	36.0	1.03
17S/06E-32H02 S	72		28.0			5.0	
17S/06E-33R02 S	72					5.0	
17S/06E-34H01 S	09 15 72	78	32.0	41.8	9.8	5.0	0.51
17S/06E-34N01 S	04 08 39	960	5.0	44.0	39.0	60.0	1.54
17S/06E-34N02 S	72		27.0			5.0	
17S/06E-34N03 S	09 14 72	240	57.2	93.5	36.3	15.0	0.41
18S/05E-03D01 S	04 08 39	960	45.0	75.0	30.0	58.0	1.90
18S/05E-03D02 S	72					75.0	
18S/05E-03M01 S	72		22.0			30.0	
18S/05E-16H01 S	05 21 41			70.0	70.0	210.0	3.00
18S/05E-16H01 S	06 20 41		Q			5.0	
18S/06E-03D01 S	72	180		31.1	49.0	7.5	0.15
18S/06E-04F01 S	07 11 74	360			59.0	8.0	0.14
18S/06E-09B01 S	72					5.0	

TABLE 7.--*Drillers' logs*

	THICKNESS (FEET)	DEPTH (FEET)
16S/6E-2N1 S. DATE OF COMPLETION 1966, LSD 4355 FT ABOVE MSL, 6-5/8-INCH CASING 0-32 FT; PERFORATED 24-32 FT; OPEN HOLE 32-75 FT. DRILLED BY JIM FUGUAY.		
TOPSOIL, BLACK	6	6
GRANITE, DECOMPOSED, WITH CLAY	22	28
'QUARTZ STRINGER'	2	30
GRANITE, DECOMPOSED, WITH CLAY	18	48
GRANITE, DECOMPOSED, GRAY	11	59
GRANITE, DECOMPOSED, WITH CLAY	16	75
16S/6E-26Q4 S. DATE OF COMPLETION 1974, LSD 4120 FT ABOVE MSL, 6-5/8-INCH CASING 0-64 FT; PERFORATED 40-45, 55-60 FT. DRILLED BY TRUNNELL WELLS AND PUMPS.		
TOPSOIL	2	2
GRANITE, DECOMPOSED	36	38
'FRACTURED AREA, WITH POSSIBLE SEEP OF WATER'	1	39
GRANITE, GRAY	3	42
'FRACTURE WITH 6 GPM'	1	43
GRANITE	15	58
CREVICE WITH WATER	1	59
GRANITE	5	64
16S/6E-33J2 S. DATE OF COMPLETION 1974, LSD 4195 FT ABOVE MSL, 6-5/8-INCH CASING 0-97 FT; PERFORATED 38-58, 78-97 FT. GRAVEL SHOE INSTALLED ON BOTTOM OF CASING. DRILLED BY TRUNNELL WELLS AND PUMPS.		
TOPSOIL	5	5
GRANITE, DECOMPOSED	28	33
GRANITE, WHITE	12	45
'CREVICE WITH WATER'	1	46
GRANITE, GRAY	34	80
'FRACTURED AREA WITH INCREASE OF WATER'	1	81
GRANITE, GRAY, WITH FRACTURES AT 118, 136, AND 150 FEET; NO APPARENT INCREASE IN WATER	120	201
16S/7E-18D2 S. DATE OF COMPLETION 1974, LSD 4050 FT ABOVE MSL, 6-INCH CASING 0-52 FT, 4-INCH PLASTIC LINER 0-295 FT; PERFORATED 95-120, 285-295 FT. DRILLED BY REX ANDERSON CO.		
GRANITE, DECOMPOSED, SOFT	19	19
GRANITE, DECOMPOSED, FIRM	24	43
GRANITE, DECOMPOSED, SOFT	10	53
GRANITE	35	88
GRANITE, DECOMPOSED, SOFT (2 GPM)	5	93
GRANITE, DECOMPOSED, FIRM	6	99
CLAY	5	104
GRANITE, DECOMPOSED, SOFT	9	113
GRANITE, DECOMPOSED, FIRM	3	116
GRANITE, DECOMPOSED, SOFT (5.8 GPM)	18	134
GRANITE	18	152
GRANITE, DECOMPOSED, SOFT	8	160
GRANITE	76	236
GRANITE, COARSE	32	268
GRANITE	27	295

TABLE 7.--*Drillers' logs*--Continued

	THICKNESS (FEET)	DEPTH (FEET)
16S/7E-20D1 S. DATE OF COMPLETION 1968, LSD 3965 FT ABOVE MSL, 6-1/2-INCH CASING; PERFORATIONS UNKNOWN. DRILLED BY J. FUGUAY.		
TOPSOIL	15	15
GRANITE, DECOMPOSED, SOFT	15	30
GRANITE BOULDERS, LARGE	8	38
GRANITE, DECOMPOSED, AND TALC, MIXED	12	50
GRANITE, DECOMPOSED, AND GRANITE BOULDERS, HARD, MIXED	23	73
16S/7E-33N1 S. DATE OF COMPLETION 1966, LSD 3840 FT ABOVE MSL, 6-5/8-INCH CASING 0-53 FT. DRILLED BY JIM FUGUAY.		
GRANITE, DECOMPOSED, WITH CLAY	58	58
GRANITE, DECOMPOSED, WITH TALC DEPOSITS	9	67
ROCK OR BOULDERS	49	116
GRANITE, DECOMPOSED, WITH TALC OR CLAY	14	130
17S/5E-33R1 S. DATE OF COMPLETION 1974, LSD 2805 FT ABOVE MSL, 6-5/8-INCH CASING 0-81 FT; PERFORATED 41-81 FT. DRILLED BY TRUNNELL WELLS AND PUMPS.		
TOPSOIL	2	2
GRANITE, DECOMPOSED, SOFT	13	15
SAND	8	23
GRANITE, DECOMPOSED, FIRM	4	27
CLAY, BROWN	1	28
GRANITE, DECOMPOSED, GRAY; FRACTURES AT 35, 51, 55, 66, 68, AND 76 FEET; ALL PRODUCING WATER FROM 51 FEET DOWN	53	81
17S/6E-32H1 S. DATE OF COMPLETION 1939, LSD 3185 FT ABOVE MSL, 8-5/8-INCH CASING 0-50 FT; PERFORATED 18-48 FT. DRILLED BY ARTHUR A. KING.		
SOIL, SANDY	18	18
SAND	12	30
GRANITE, SOFT	20	50
GRANITE, HARD	10	60
17S/6E-34N1 S. DATE OF COMPLETION 1939, LSD 3280 FT ABOVE MSL, 8-5/8-INCH CASING 0-54 FT; PERFORATED 10-52 FT. DRILLED BY ARTHUR A. KING.		
SOIL, SANDY, AND FILL	28	28
GRANITE, DECOMPOSED	23	51
GRANITE, HARD	3	54
18S/5E-3D1 S. DATE OF COMPLETION 1939, LSD 2715 FT ABOVE MSL, 8-INCH CASING 0-102 FT; PERFORATED 46-100 FT. DRILLED BY ARTHUR A. KING.		
SOIL, SANDY	46	46
GRANITE, SOFT	56	102
GRANITE, HARD	2	104

TABLE 7.--*Drillers' logs*--Continued

	THICKNESS (FEET)	DEPTH (FEET)
18S/5E-12C1 S. DATE OF COMPLETION 1966, LSD 2740 FT ABOVE MSL, 7-INCH CASING 0-24 FT; OPEN HOLE 24-140 FT. DRILLED BY BURTS DRILLING CO.		
TOPSOIL AND SAND	24	24
GRANITE, DECOMPOSED, HARD	6	30
GRANITE, DECOMPOSED, WITH SEAMS OF SAND	15	45
GRANITE, DECOMPOSED	15	60
GRANITE, WHITE; SEAM WITH WATER (1 GPM)	39	99
GRANITE	11	110
ROSE QUARTZ	1	111
GRANITE	3	114
GRANITE, RED	1	115
GRANITE	14	129
GRANITE, RED	2	131
GRANITE	9	140
18S/6E-4F1 S. DATE OF COMPLETION 1974, LSD 3180 FT ABOVE MSL, 6-5/8-INCH CASING 0-75 FT; PERFORATED 34-44, 65-75 FT. DRILLED BY TRUNNELL WELLS AND PUMPS.		
GRANITE, DECOMPOSED	8	8
SOIL, BLACK	1	9
GRANITE	3	12
'CREVICED WITH SURFACE WATER'	1	13
GRANITE	5	18
'FRACTURED'	1	19
GRANITE	5	24
CREVICE	1	25
GRANITE, GRAY, WITH CREVICED AREAS AT 27, 36, 41, 50, 69, AND 73 FT	50	75

TABLE 8.--*Chemical analyses of water from surface-water sampling sites*

[Results are shown in milligrams per liter (mg/L) except for iron and boron which are shown in micrograms per liter (µg/L), water temperature in degrees Celsius, specific conductance in micromhos per centimeter at 25°C, percent sodium, and pH]

	Site 1[1] (12-5-74)	Site 2[2] (10-30-52)	Site 3 (10-24-52)
Temperature	13.0	--	--
Silica	34	--	--
Iron	70	--	--
Calcium	47	61	37
Magnesium	15	12	8.4
Sodium	42	71	46
Potassium	2.1	1.9	2.2
Bicarbonate	272	274	176
Carbonate	--	8	0
Sulfate	9.8	--	--
Chloride	33	66	54
Fluoride	.4	--	--
Nitrate	.18	.5	.6
Sum of determined constituents	318	356	235
Hardness as $CaCO_3$	180	202	127
Noncarbonate hardness	0	0	0
Percent sodium	33	43	44
Specific conductance	535	675	466
pH	7.9	8.4	8.2
Boron	130	110	90

[1]Streamflow 0.20 ft^3/s.
[2]150 ft above dam.

LOCAL IDENTIFIER	DATE OF SAMPLE	TOTAL DEPTH OF HOLE (FT, BELOW LSD)	TOTAL DEPTH OF WELL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)
015S005E24CS1S	74-10-08	--	--	--	--	--	--	--	--	--	--	--	--	--
015S006E05ES1S	74-12-05	--	--	--	--	36	50	44	16	19	3.7	236	--	9.2
015S006E19ES1S	74-12-18	--	--	--	--	--	--	--	--	--	--	--	--	--
015S006E19FS1S	74-12-17	--	--	--	--	--	--	--	--	--	--	--	--	--
016S005E27KS1S	74-10-09	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E02N01S	74-06-08	75	75	24	75	--	--	--	--	--	--	--	--	--
	75-11-10	75	75	24	75	--	560	36	7.0	36	4.0	160	0	21
016S006E11ES1S	74-08-16	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E11HS1S	74-08-01	--	--	--	--	--	--	--	--	--	--	--	--	--
	74-08-07	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E15AS1S	74-09-04	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E15QS1S	74-09-05	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E18QS1S	74-11-20	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E24KS1S	74-08-26	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E25DS1S	74-08-09	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E25ES1S	74-08-09	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E25M01S	74-09-12	--	--	--	--	48	100	16	5.4	25	2.6	94	--	5.8
016S006E26A01S	72-03-00	51	--	--	--	--	2250	77	17	120	--	--	--	120
	74-08-27	51	--	--	--	--	--	--	--	--	--	--	--	--
016S006E26LS1S	74-08-27	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E26Q04S	76-05-12	--	--	--	--	--	--	--	--	--	--	82	--	--
016S006E26Q01S	74-08-01	4.0	--	--	--	--	--	--	--	--	--	--	--	--
	74-08-09	4.0	--	--	--	--	--	--	--	--	--	--	--	--
016S006E26Q02S	74-08-01	--	--	--	--	--	--	--	--	--	--	--	--	--
	74-08-09	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E26Q03S	74-08-09	5.0	--	--	--	--	--	--	--	--	--	--	--	--
016S006E27HS1S	74-08-27	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E28N01S	74-08-29	75	--	--	--	--	--	--	--	--	--	--	--	--
016S006E30P01S	74-10-03	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E33G01S	74-08-29	40	--	--	--	--	--	--	--	--	--	--	--	--
016S006E33HS3S	74-08-29	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E33H01S	74-08-29	90	--	--	--	--	--	--	--	--	--	--	--	--
016S006E33H02S	74-08-29	90	--	--	--	--	--	--	--	--	--	--	--	--
016S006E34L01S	74-08-29	41	--	--	--	--	--	--	--	--	--	--	--	--
	74-12-19	--	--	--	--	46	20	17	4.4	24	1.2	82	--	5.3
016S006E35BS1S	76-05-12	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E35HS1S	76-05-12	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E35JS2S	76-05-11	--	--	--	--	--	--	--	--	--	--	--	--	--
016S006E36PS1S	74-10-02	--	--	--	--	--	--	--	--	--	--	--	--	--
016S007E07GS1S	74-08-13	--	--	--	--	--	--	--	--	--	--	--	--	--
016S007E07MS1S	74-09-04	--	--	--	--	--	--	--	--	--	--	--	--	--
016S007E20D01S	75-08-08	73	--	--	--	--	--	--	--	--	--	--	--	--
016S007E31P01S	74-09-11	122	--	--	--	--	--	--	--	--	--	--	--	--
016S007E33N01S	74-08-13	130	--	--	--	--	--	--	--	--	--	--	--	--
	75-08-08	130	--	--	--	--	--	--	--	--	--	--	--	--
	75-11-10	130	--	--	--	--	460	38	18	49	5.0	222	15	16
017S005E03P01S	66-08-02	100	--	--	--	--	--	43	16	45	2.0	253	0	19
	74-10-09	100	--	--	--	--	--	--	--	--	--	--	--	--
017S005E03R01S	53-07-14	49	--	--	--	--	--	52	19	48	2.6	256	0	40
017S005E33H01S	76-04-08	160	--	--	--	--	--	--	--	--	--	--	--	--
017S005E33R01S	76-04-08	--	--	--	--	42	10	30	7.6	35	2.7	150	0	7.7
017S005E34L01S	76-04-08	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E01DS1S	74-08-27	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E01DS2S	74-08-27	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E01MS1S	74-09-18	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E03AS1S	74-08-29	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E05ES1S	74-11-22	--	--	--	--	47	30	40	9.1	45	3.2	219	--	5.9
017S006E10F01S	74-09-20	8.0	--	--	--	--	--	--	--	--	--	--	--	--
017S006E10F02S	74-09-20	76	--	--	--	--	--	--	--	--	--	--	--	--
017S006E11QS1S	74-08-29	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E11MS1S	74-08-28	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E11MS2S	74-08-28	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E11NS2S	74-08-28	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E11NQ1S	74-08-28	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E11P01S	74-08-28	85	--	--	--	--	--	--	--	--	--	--	--	--
017S006E11QS2S	74-08-28	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E12ES1S	74-08-28	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E12F01S	74-08-14	5.0	--	--	--	--	--	--	--	--	--	--	--	--
017S006E12M01S	76-04-13	--	--	--	--	40	60	24	6.8	37	1.9	87	0	15
017S006E12M02S	74-08-14	--	--	--	--	26	330	10	3.0	20	1.7	66	--	5.3
017S006E12M03S	74-08-14	6.0	--	--	--	--	--	--	--	--	--	--	--	--
017S006E12M04S	74-08-14	--	--	--	--	45	60	14	3.9	24	1.8	91	--	5.2
017S006E13ES2S	75-01-09	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E13E01S	75-01-09	--	--	--	--	--	--	--	--	--	--	--	--	--
017S006E13MS1S	52-10-29	--	--	--	--	--	--	29	5.3	40	1.2	138	0	--

DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	TOTAL NITRATE (NO3) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DIS-SOLVED BORON (B) (UG/L)	LOCAL IDENTIFIER
--	--	--	--	--	--	--	--	--	265	--	12.5	--	015S005E24CS1S
16	.1	--	.03	--	263	180	0	19	425	8.1	10.0	60	015S006E05ES1S
--	--	--	--	--	--	--	--	--	255	--	10.0	--	015S006E19ES1S
--	--	--	--	--	--	--	--	--	360	--	7.0	--	015S006E19FS1S
--	--	--	--	--	--	--	--	--	520	--	18.5	--	016S005E27KS1S
--	--	--	--	--	--	--	--	--	375	8.2	17.5	--	016S006E02N01S
27	.5	13	--	275	--	120	0	39	410	7.7	--	8	
--	--	--	--	--	--	--	--	--	245	6.4	23.0	--	016S006E11ES1S
--	--	--	--	--	--	--	--	--	300	--	23.0	--	016S006E11MS1S
--	--	--	--	--	--	--	--	--	--	8.1	27.0	--	
--	--	--	--	--	--	--	--	--	370	7.8	25.0	--	016S006E15AS1S
--	--	--	--	--	--	--	--	--	290	7.8	31.5	--	016S006E15QS1S
--	--	--	--	--	--	--	--	--	1250	--	13.5	--	016S006E18QS1S
--	--	--	--	--	--	--	--	--	205	7.1	27.5	--	016S006E24KS1S
--	--	--	--	--	--	--	--	--	730	7.5	19.5	--	016S006E25DS1S
--	--	--	--	--	--	--	--	--	730	7.5	19.5	--	016S006E25ES1S
20	.3	--	2.2	--	179	62	0	45	270	6.9	26.0	20	016S006E25M01S
83	.4	5.8	--	600	--	260	--	--	--	6.9	--	--	016S006E26A01S
--	--	--	--	--	--	--	--	--	620	7.2	21.0	--	
--	--	--	--	--	--	--	--	--	235	6.5	18.0	--	016S006E26LS1S
--	--	--	--	--	151	56	0	44	--	--	--	--	016S006E26Q04S
--	--	--	--	--	--	--	--	--	220	--	22.5	--	016S006E26Q01S
--	--	--	--	--	--	--	--	--	--	6.9	--	--	
--	--	--	--	--	--	--	--	--	180	--	21.5	--	016S006E26Q02S
--	--	--	--	--	--	--	--	--	--	7.8	--	--	
--	--	--	--	--	--	--	--	--	215	7.2	24.0	--	016S006E26Q03S
--	--	--	--	--	--	--	--	--	315	7.4	25.5	--	016S006E27MS1S
--	--	--	--	--	--	--	--	--	450	6.7	17.5	--	016S006E28N01S
--	--	--	--	--	--	--	--	--	555	--	21.0	--	016S006E30P01S
--	--	--	--	--	--	--	--	--	355	6.8	10.5	--	016S006E33B01S
--	--	--	--	--	--	--	--	--	680	6.5	17.0	--	016S006E33HS3S
--	--	--	--	--	--	--	--	--	375	7.8	10.5	--	016S006E33H01S
--	--	--	--	--	--	--	--	--	365	6.5	15.5	--	016S006E33H02S
--	--	--	--	--	--	--	--	--	230	6.8	25.5	--	016S006E34L01S
23	.3	--	4.3	--	103	61	0	46	255	7.7	20.0	40	
--	--	--	--	--	--	--	--	--	340	--	10.5	--	016S006E35BS1S
--	--	--	--	--	--	--	--	--	320	--	10.0	--	016S006E35HS1S
--	--	--	--	--	--	--	--	--	495	--	10.5	--	016S006E35JS2S
--	--	--	--	--	--	--	--	--	275	--	18.0	--	016S006E36PS1S
--	--	--	--	--	--	--	--	--	1050	8.8	27.5	--	016S007E07BS1S
--	--	--	--	--	--	--	--	--	265	7.1	27.0	--	016S007E07MS1S
--	--	--	--	--	--	--	--	--	--	--	--	--	016S007E20Q01S
--	--	--	--	--	--	--	--	--	305	8.6	10.0	--	016S007E31P01S
--	--	--	--	--	--	--	--	--	580	8.1	28.5	--	016S007E33N01S
--	--	--	--	--	--	--	--	--	--	--	--	--	
41	.5	10	--	330	--	170	0	38	560	8.4	--	0	
34	.6	2.0	--	313	--	170	0	36	522	7.6	--	40	017S005E03P01S
--	--	--	--	--	--	--	--	--	570	--	19.0	--	
40	.8	1.5	--	362	--	210	0	33	532	7.6	30.0	40	017S005E03R01S
--	--	--	--	--	--	--	--	--	360	7.2	15.5	--	017S005E33H01S
32	.4	--	3.6	--	251	110	0	41	480	7.2	10.0	50	017S005E33R01S
--	--	--	--	--	--	--	--	--	355	7.8	14.5	--	017S005E34L01S
--	--	--	--	--	--	--	--	--	255	6.9	19.0	--	017S006E01QS1S
--	--	--	--	--	--	--	--	--	410	7.4	18.5	--	017S006E01DS2S
--	--	--	--	--	--	--	--	--	295	6.6	19.5	--	017S006E01MS1S
--	--	--	--	--	--	--	--	--	355	7.0	16.5	--	017S006E03AS1S
36	.4	--	.01	--	295	140	0	41	465	--	11.0	60	017S006E05ES1S
--	--	--	--	--	--	--	--	--	195	6.6	19.0	--	017S006E10F01S
--	--	--	--	--	--	--	--	--	230	6.8	22.5	--	017S006E10F02S
--	--	--	--	--	--	--	--	--	215	7.8	10.0	--	017S006E11QS1S
--	--	--	--	--	--	--	--	--	388	7.0	16.5	--	017S006E11MS1S
--	--	--	--	--	--	--	--	--	365	6.9	17.5	--	017S006E11MS2S
--	--	--	--	--	--	--	--	--	335	7.0	16.0	--	017S006E11NS2S
--	--	--	--	--	--	--	--	--	345	9.3	29.0	--	017S006E11N01S
--	--	--	--	--	--	--	--	--	400	7.0	22.5	--	017S006E11P01S
--	--	--	--	--	--	--	--	--	260	7.2	21.0	--	017S006E11QS2S
--	--	--	--	--	--	--	--	--	245	7.1	17.5	--	017S006E12ES1S
--	--	--	--	--	--	--	--	--	310	6.5	19.5	--	017S006E12F01S
20	.3	--	16	--	267	88	17	47	385	7.0	13.5	150	017S006E12M01S
16	.3	--	.00	--	116	37	0	52	180	5.9	22.5	4	017S006E12M02S
--	--	--	--	--	--	--	--	--	200	6.6	21.5	--	017S006E12M03S
17	.4	--	1.8	--	163	51	0	50	230	8.0	26.5	3	017S006E12M04S
--	--	--	--	--	--	--	--	--	395	--	8.5	--	017S006E13ES2S
--	--	--	--	--	--	--	--	--	320	--	16.0	--	017S006E13E01S
34	--	10	--	--	--	94	0	40	364	8.1	15.6	140	017S006E13MS1S