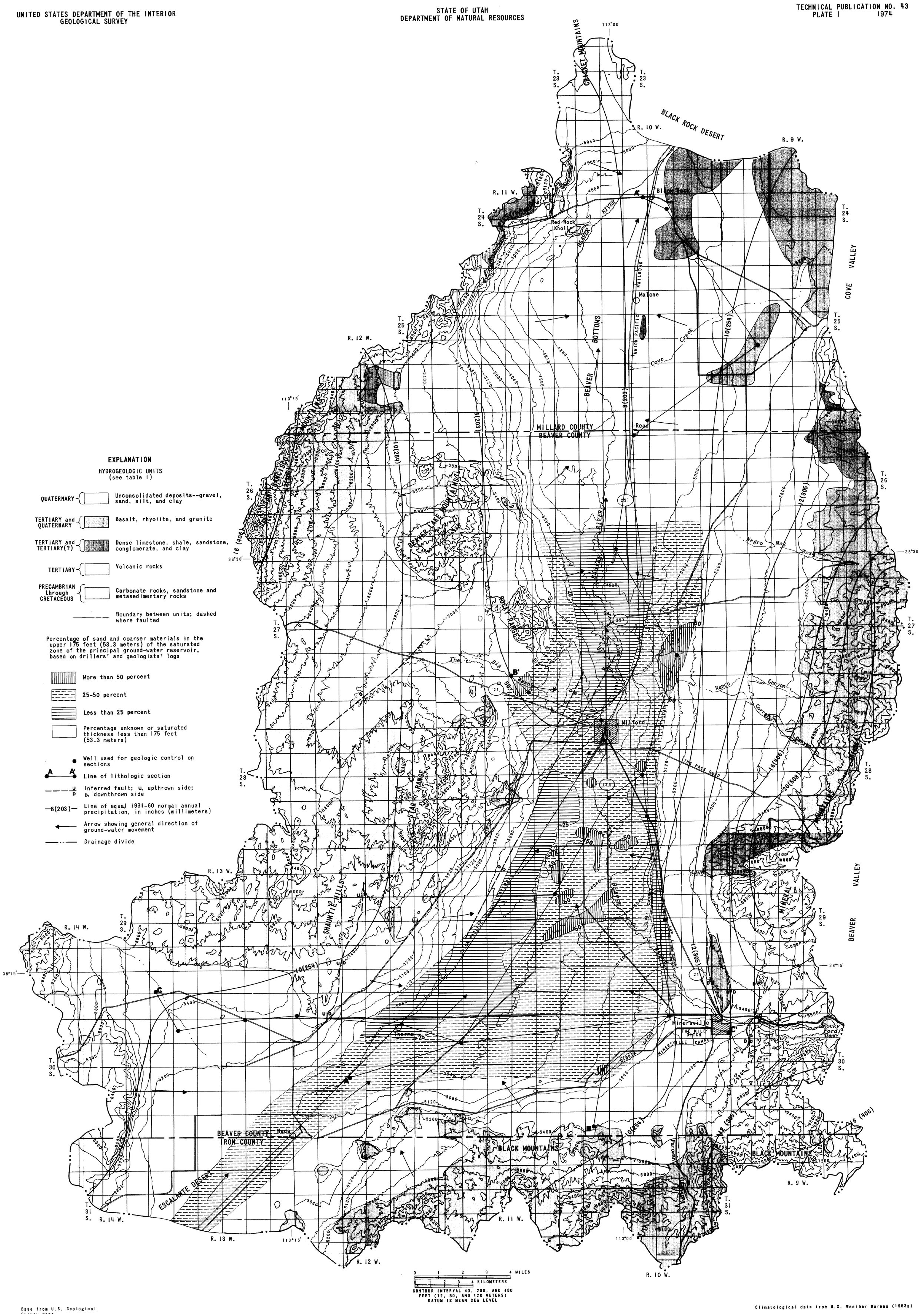
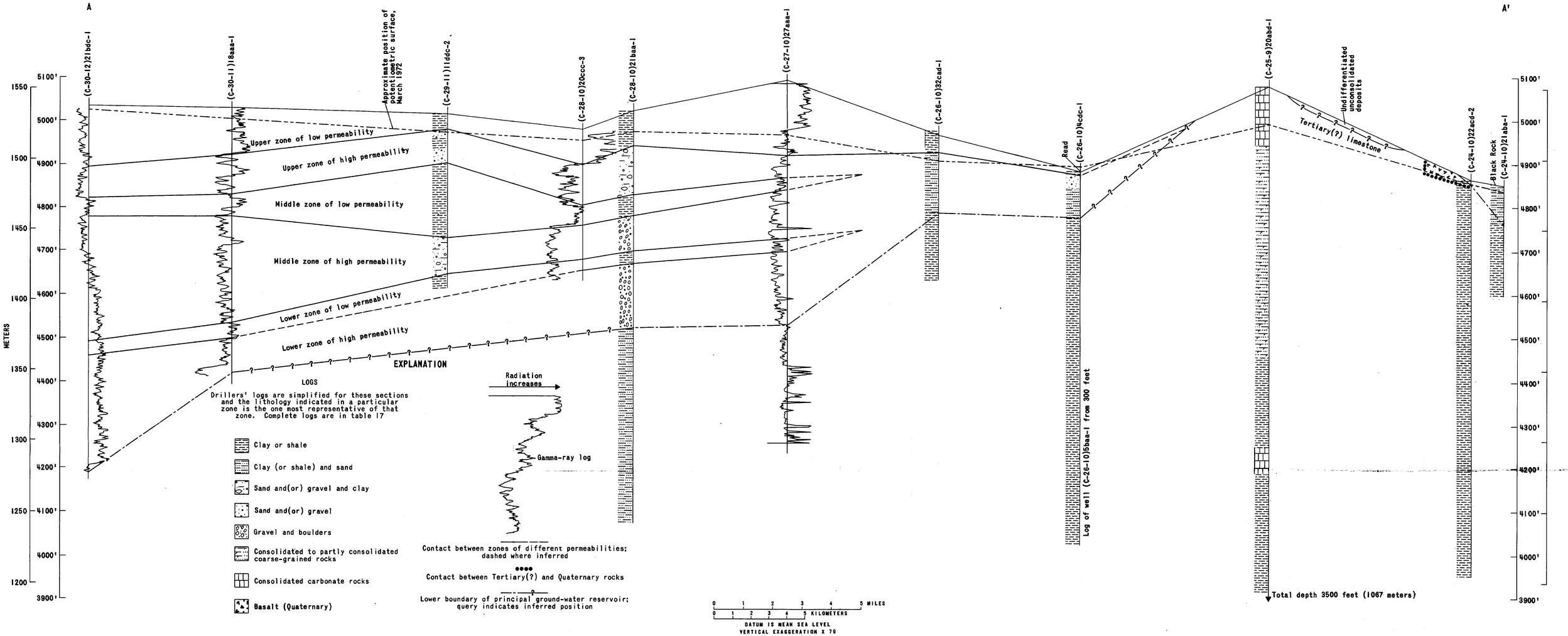


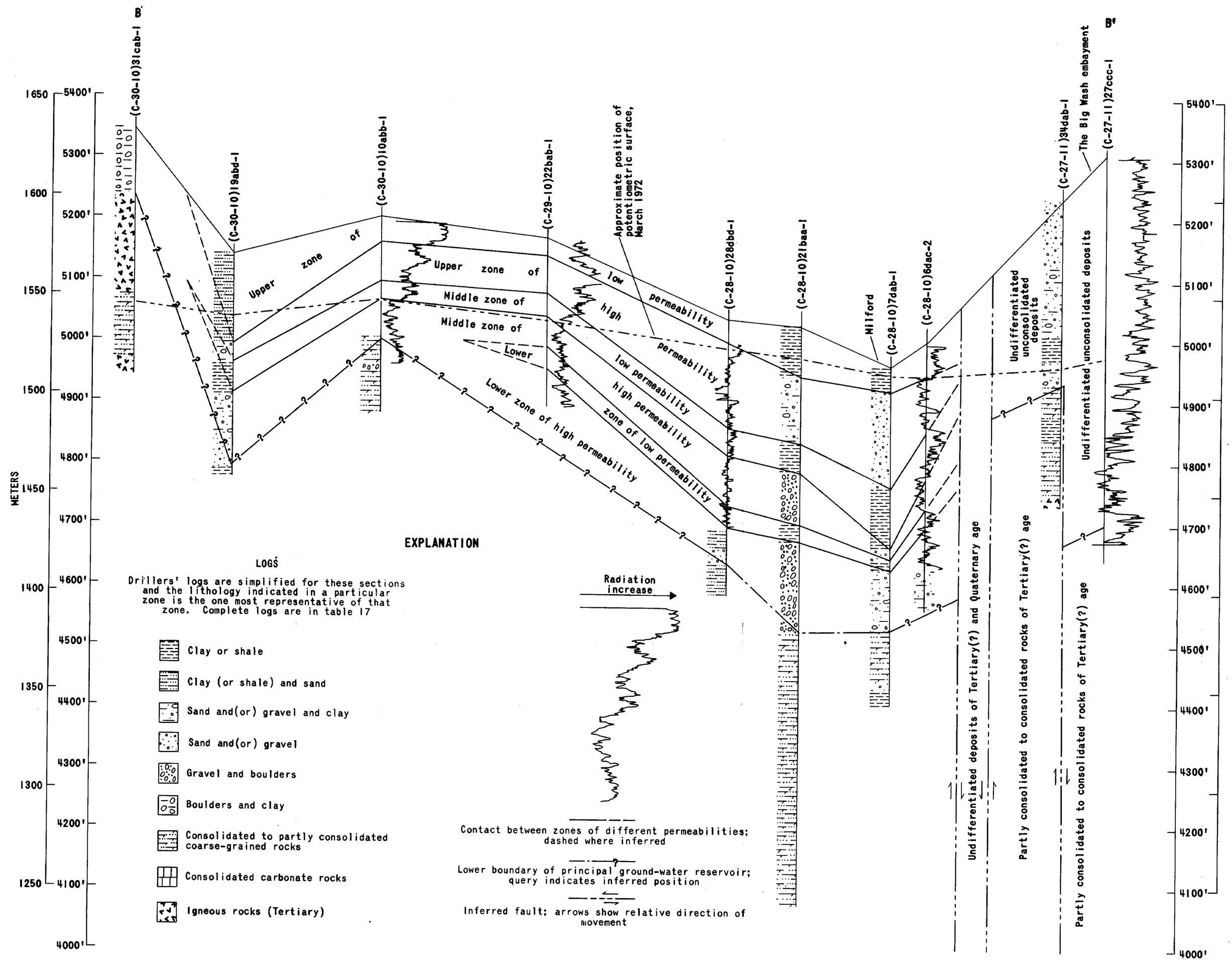
Base from U.S. Geological Survey maps

Climatological data from U.S. Weather Bureau (1963a)

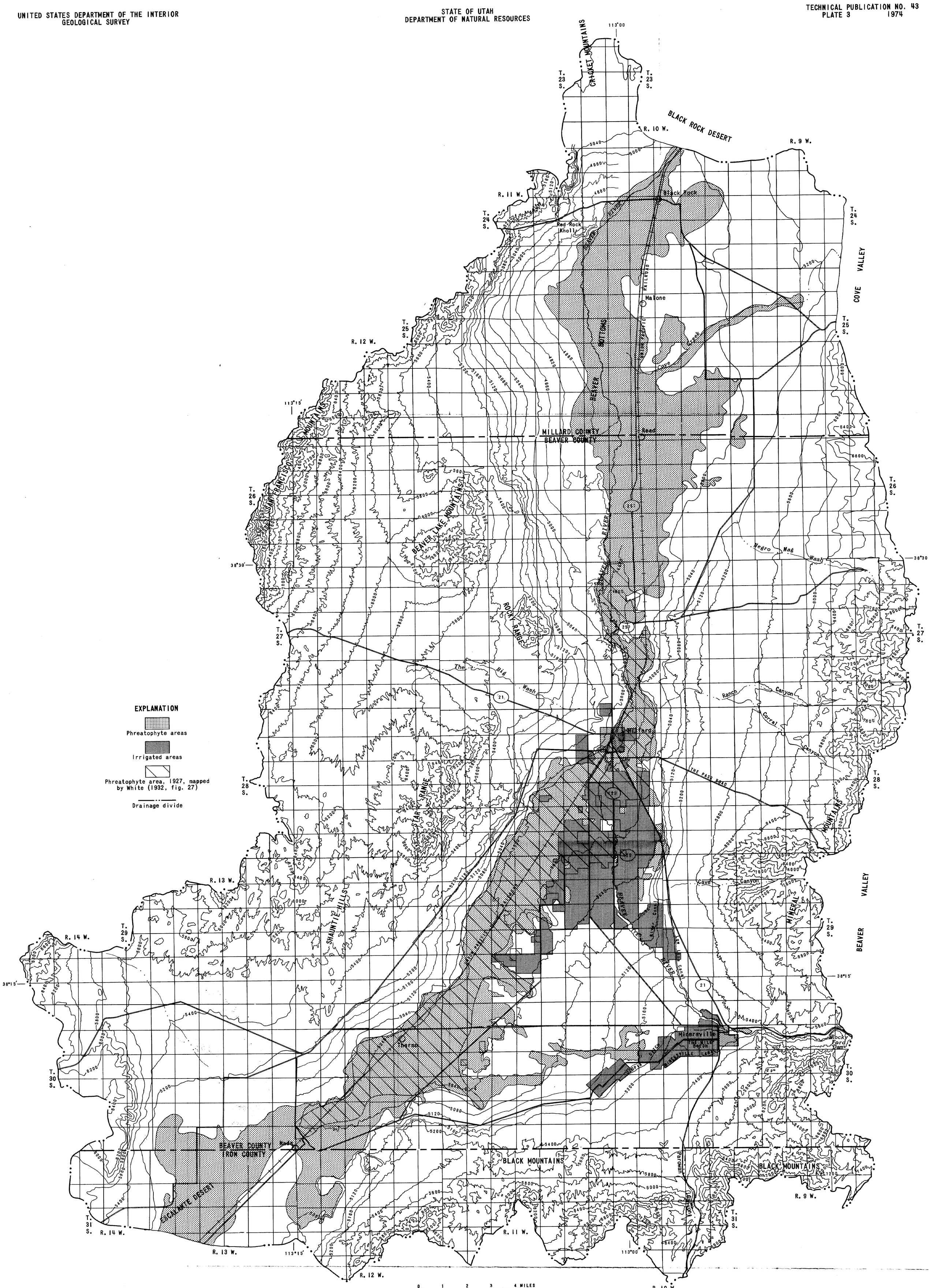
MAP OF THE MILFORD AREA, UTAH, SHOWING HYDROGEOLOGIC UNITS, DISTRIBUTION OF SAND AND COARSER MATERIALS, LINES OF LITHOLOGIC SECTIONS, 1931-60 NORMAL ANNUAL PRECIPITATION, AND GENERAL DIRECTION OF GROUND-WATER MOVEMENT



LITHOLOGIC SECTION A-A', MILFORD AREA, UTAH



LITHOLOGIC SECTIONS B-B′ AND C-C′, MILFORD AREA, UTAH



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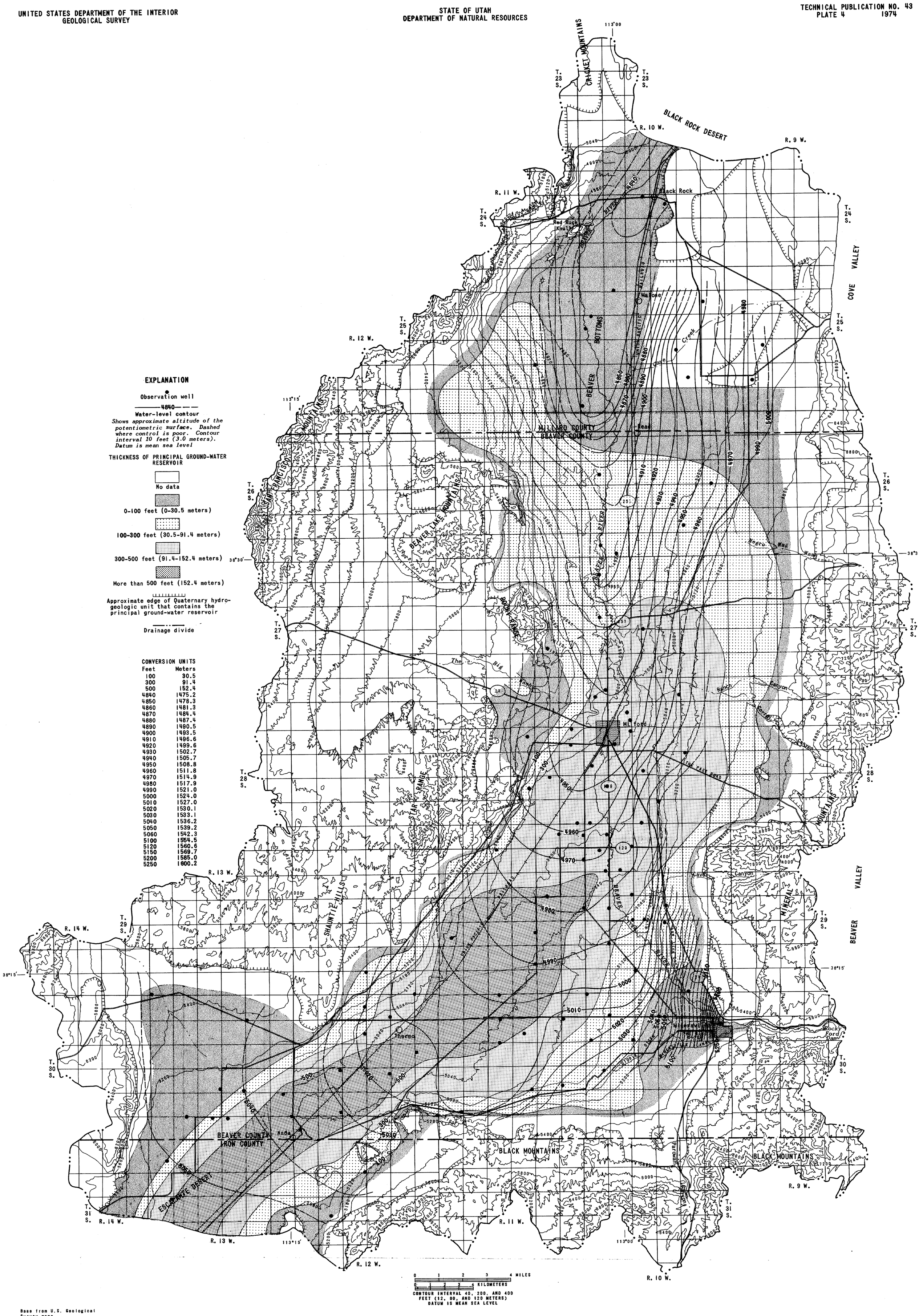
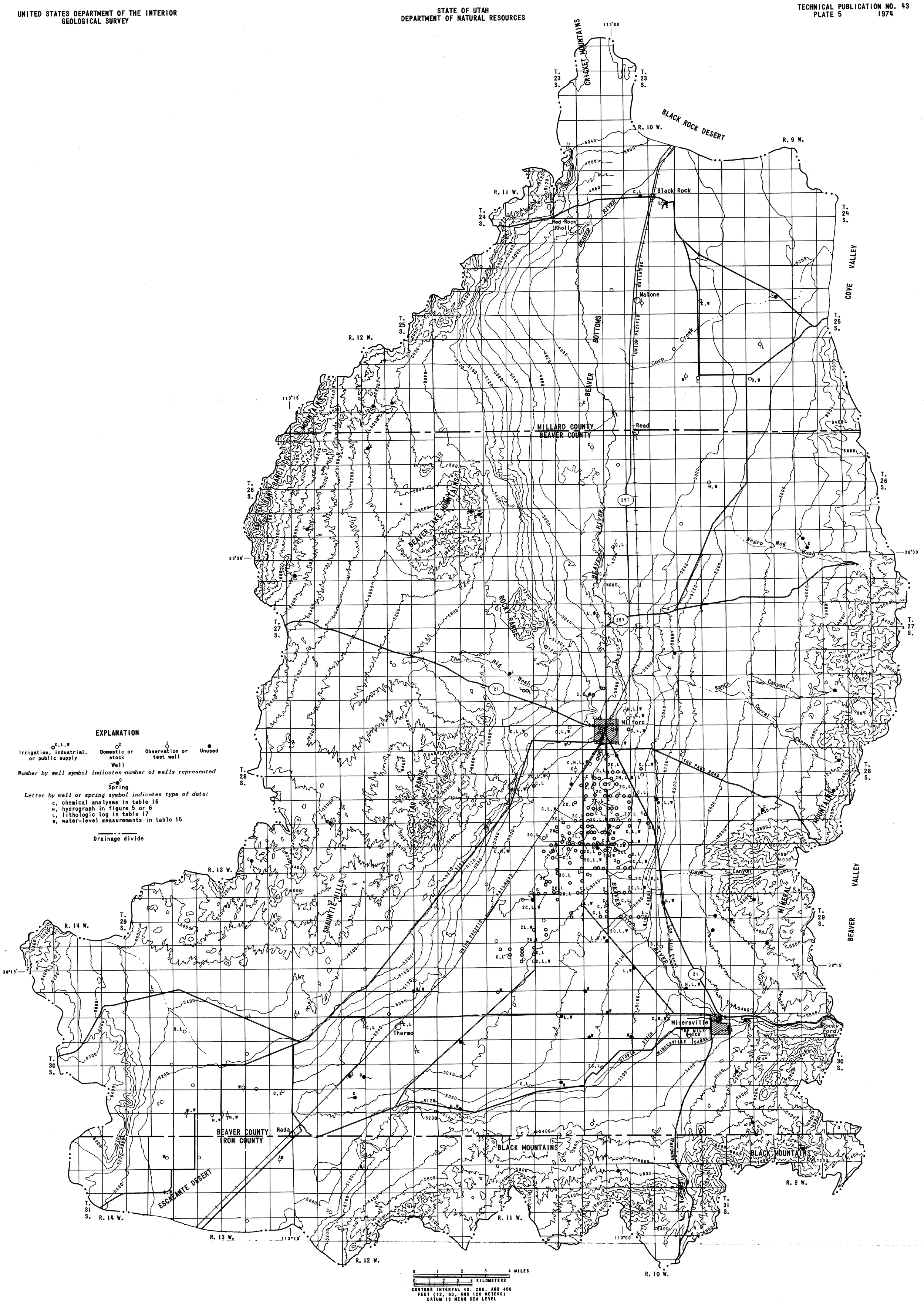
MAP OF THE MILFORD AREA, UTAH, SHOWING IRRIGATED AND PHREATOPHYTE AREAS, 1927 AND 1971.



Base from U.S. Geological Survey maps

MAP OF THE MILFORD AREA, UTAH, SHOWING APPROXIMATE THICKNESS OF THE PRINCIPAL GROUND-WATER RESERVOIR AND POTENTIOMETRIC-SURFACE CONTOURS, MARCH 1972



Base from U.S. Geological Survey maps

MAP OF THE MILFORD AREA, UTAH, SHOWING LOCATIONS OF SELECTED WELLS AND SPRINGS

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES

Technical Publication No. 43

WATER RESOURCES OF THE MILFORD AREA, UTAH, WITH EMPHASIS ON GROUND WATER

by

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Prepared by
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WITH EMPHASIS ON GROUND WATER

by

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ABSTRACT

The Milford area includes 1,160 square miles (3,004 km^2) in parts of Beaver, Iron, and Millard Counties, Utah, and is in the Basin and Range physiographic province. The project area consists of a valley bounded almost completely by mountains. The valley is underlain by unconsolidated to consolidated sedimentary materials of Tertiary and Quaternary age. The mountains comprise metamorphic rocks of Precambrian age, consolidated sedimentary rocks of Paleozoic through Tertiary age, and igneous rocks of Tertiary and Quaternary age.

The water needs of the area are supplied mainly by the Beaver River, which enters through a canyon just east of Minersville, and by wells in the unconsolidated materials. The 1914-71 average annual inflow of the Beaver River was 27,600 acre-feet (34.0 hm^3). Pumpage from wells for irrigation has increased from 60 acre-feet (0.07 hm^3) in 1918 to 56,000 acre-feet (69.1 hm^3) in 1971, and pumpage for all other uses increased from 400 acre-feet (0.5 hm^3) in 1918 to 900 acre-feet (1.1 hm^3) in 1971.

The unconsolidated materials underlying the valley contain the principal ground-water reservoir of the Milford area. This reservoir consists of three high-permeability zones separated by low-permeability zones; the observed thickness of the reservoir varies considerably, reaching a maximum of about 840 feet (256.0 m) about 21 miles (33.8 km) south of Milford.

Recharge to the principal ground-water reservoir for 1970-71 was estimated as 58,000 acre-feet (71.5 hm^3) annually. The largest sources of recharge were infiltration from irrigation ditches and irrigated fields, 22,700 acre-feet (28.0 hm^3), and underflow from the consolidated rocks of the mountains, 16,000 acre-feet (19.7 hm^3).

Discharge from the principal ground-water reservoir for 1970-71 was estimated at 81,000 acre-feet (99.9 hm^3) annually. Discharge was mainly by irrigation wells, 56,000 acre-feet (69.1 hm^3), and evapotranspiration, 24,000 acre-feet (29.6 hm^3).

Ground water in the principal ground-water reservoir is moving from the recharge areas that include alluvial fans, the bounding mountains, and adjacent valleys to discharge areas in the valley; it is moving out of the valley through a narrow gap north of Black Rock.

The increased pumping of ground water, especially since about 1950, has resulted in water-level declines of as much as 30 feet (9.1 m), which in turn have caused compaction and land subsidence in the area of heavy pumping south of Milford. The desiccation and contraction of dewatered clay have produced polygonal fracturing and small subsided fault blocks in an area about 1 mile (1.6 km) wide and 11 miles (17.7 km) long south of Milford.

The total amount of ground water in storage in the unconsolidated materials is about 40 million acre-feet (49,340.0 hm^3). An average decline of 1 foot (0.3 m) in water levels from the March 1972 altitude would release about 84,000 acre-feet (103.6 hm^3) of water. This amount per foot (0.3 m) is not a constant value, however, but decreases with depth. At an altitude of 100 feet (30.5 m) below the levels of March 1972, the amount of water released by 1 foot (0.3 m) of water-level decline would be about 52,000 acre-feet (64.1 hm^3).

The median dissolved-solids concentration is 569 milligrams per liter for water from wells and 530 milligrams per liter for water from springs. The chemical quality of ground water from wells improves with depth; however, the quality has deteriorated with time, apparently as a result of the increased pumping for irrigation and losses from irrigated fields that recharge the principal ground-water reservoir.

INTRODUCTION

The investigation of the water resources of the Milford area was made as part of a cooperative program with the Utah Department of Natural Resources, Division of Water Rights, to investigate the water resources of the State. The primary purpose of this report is to provide basic hydrologic information needed for the effective administration and adjudication of water rights in the valley.

The study on which this report is based was made during 1970-72 and included an evaluation of all the water resources of the Milford area. The surface-water resources were evaluated only as they pertained to the understanding of the ground-water resources. The primary elements of the study included a determination of the source and quantity of recharge to the ground-water reservoir; the quantity and quality of the water in storage; the amount and location of discharge; and the effects of pumping on ground-water levels and on quality of the water.

The basic data on which this report is based are given in tables 13-17, and the locations of selected wells and springs are shown on plate 5.

For those readers interested in using the metric system, metric equivalents of English units of measurements are given in parentheses following the English units. For additional information and a conversion table, refer to the section "Use of metric units" in the appendix.

tion relating to the drilling and testing of wells. Installation of test holes for moisture determinations and initial neutron logging was under the direction of Eugene Shuter of the U.S. Geological Survey. Pumpage records for irrigation wells were supplied by Lee Strong, the water commissioner for the Milford area. Many well owners granted permission for the measurement and testing of their wells and supplied other useful information.

HYDROLOGIC ENVIRONMENT

Hydrogeology

The Milford area is underlain in part by consolidated rocks ranging in age from Precambrian to Quaternary, and in part by Quaternary unconsolidated rocks. Unconsolidated rocks, consisting mainly of clay, silt, sand, and gravel eroded from the mountains, underlie most of the valley. In some places the unconsolidated deposits are clay, silt, sand, or gravel, and in other places they are a mixture of two or more of these materials.

Based on hydrologic properties, the [redacted] lithologic units in the area are combined for purposes of this report into five hydrogeologic units (table 1 and pl. 1). The Quaternary hydrogeologic unit contains the principal ground-water reservoir of the area.

The percentage of sand and coarser materials in a given thickness of saturated unconsolidated material is an indication of the water-yielding potential. The percentage of sand and coarser material in the upper 175 feet (53.3 m) of the ground-water reservoir in the Milford area was determined from well and test-hole logs; the areal distribution of the percentages is shown on plate 1. The principal ground-water reservoir consists mainly of 50 percent or less of sand and coarser material, however, a fairly large part of the reservoir, especially north and southwest of Milford, consists of less than 25 percent of sand and coarser materials.

Physiography and drainage

The Milford area is in the Basin and Range physiographic province (Fenneman, 1931) and comprises a desert valley once occupied by part of ancient Lake Bonneville and rugged mountains that almost completely bound the valley. The valley is mostly between the altitudes of 4,850 and 5,500 feet (1,478.3 and 1,676.4 m) above mean sea level. The bulk of the mountain area is below 9,000 feet (2,743.2 m); the highest point is Frisco Peak, altitude 9,660 feet (2,944.4 m), in the San Francisco Mountains.

The Milford area is drained by the Beaver River and numerous ephemeral tributaries (pl. 1). This system is part of the larger Sevier River drainage that terminates at Sevier Lake. The Beaver River enters the area through a stream gap east of Minersville (pl. 1). The river channel is generally dry below Minersville because the streamflow is diverted for irrigation during the growing season and for stock watering

Table 1.--Hydrogeologic units and their qualitative hydrologic properties

Hydrogeologic units			
Number used in tables 14 and 16	Geologic age	Lithology	Qualitative hydrologic properties
1	Quaternary	Unconsolidated deposits--sand, gravel, silt, and clay	Contains the principal ground-water reservoir. Coarse-grained deposits probably accept a large quantity of recharge, especially along most of the eastern and southern sides of the valley. The sand and coarser deposits, which are generally within 500 feet (152.4 m) of the surface, readily yield water to wells.
2	Tertiary and Quaternary	Basalt, rhyolite, and granite	Water is mainly in widely spaced systems of open joints, which generally are large and well connected. Probably accepts a fairly large quantity of recharge and contributes large quantities of water to the Quaternary hydrogeologic unit. Would yield water readily to wells intersecting systems of open joints.
3	Tertiary and Tertiary(?)	Dense limestone, shale, sandstone, conglomerate, and clay	Ground water is mainly in small disconnected fractures. Accepts a small quantity of recharge but generally yields little or no water to wells.
4	Tertiary	Volcanic rocks	Ground water is mainly in poorly developed and poorly interconnected joints. Accepts a small quantity of recharge but generally would not yield water readily to wells.
5	Precambrian through Cretaceous	Carbonate rocks, sandstone, and metasedimentary rocks	Ground water is in closely spaced systems of well-developed and well-interconnected open joints within several hundred feet of the land surface. Probably accepts a large quantity of recharge and contributes large quantities of water to the Quaternary hydrogeologic unit. Would yield water readily to wells intersecting systems of open joints.

during the nongrowing season. Water not needed for immediate use is stored in Minersville Reservoir about 5 miles (8.0 km) upstream from Minersville. The generally dry channel extends northward to a stream gap about 2 miles (3.2 km) north of Black Rock where it leaves the valley. In addition to the river, two ephemeral tributaries enter the area--an unnamed stream at the southwest and Cove Creek in the northeast (pl. 1).

Part of Lake Bonneville occupied the valley in Pleistocene time and left erosional and depositional features up to an altitude of about 5,120 feet (1,560.6 m) (Dennis, 1941). Depositional features include deltas, bars, and spits. Large deltas extend from the base of the Mineral Mountains and from the mouth of The Big Wash, indicating that abundant surface runoff and erosional material were available from these two areas during at least part of Pleistocene time. There is a sandbar about midway between Milford and Minersville in secs. 9, 10, 15, and 16, T. 29 S., R. 10 W.; another bar west of Minersville in secs. 18 and 19, T. 30 S., R. 10 W.; and several spits southwest of Black Rock near Red Rock Knoll. The well-sorted, coarse-grained materials of the deltas, bars, and spits readily accept recharge from precipitation and runoff.

A large alluvial fan deposited by the Beaver River extends from Minersville into the valley for about 8 miles (12.9 km) and includes an area of about 30 square miles (78.0 km^2); the sediments of the toe of this fan may have been reworked by waves and currents in Lake Bonneville. The tributaries of the Beaver River also have deposited small alluvial fans along the mountain fronts. Erosion by streams has not had a strong influence on recent topographic development in the valley; most stream channels are shallow and floored with thin alluvial deposits. Sand dunes have developed in several places in the valley, but most dune areas are small. The largest area of dune development is in the Beaver Bottoms. Here the dunes are composed largely of clay and silt fragments derived from the soils of abandoned farms along the river. Volcanic (basaltic) flows are in the area of Antelope Springs and Black Rock, and volcanic cones (basaltic) form several knolls near the Black Mountains.

Recent normal faulting has formed grabens in fan materials in Ranch Canyon and in the canyon of Negro Mag Wash. These grabens are 2-3 miles (3-5 km) long, less than a quarter of a mile (0.4 km) wide, and show a vertical displacement of 150-200 feet (45.7-60.9 m). Faults in the valley fill west and southwest of Milford (see pl. 1) can be recognized in aerial photographs; one such fault was traced for 13 miles (20.9 km). Normal faulting is also developed in The Big Wash embayment, and the deeply incised channel of the wash may have resulted from local uplift. A reach of the Beaver River channel from about 1½ miles (2.4 km) north of Milford to near the Millard County line is entrenched about 20 feet (6.1 m). This entrenchment is probably the result of localized uplift of the valley, because both upstream and downstream from the area of entrenchment the channel is less than 5 feet (1.5 m) below the adjacent land surface.

Hot-spring deposits surround Roosevelt Hot Springs in the SW½SE½ sec. 34, T. 26 S., R. 9 W.; form a linear ridge in secs. 9 and 16, T. 27 S., R. 9 W.; and form two parallel ridges in secs. 21, 22, and 28, T. 30 S., R. 12 W., at Thermo Hot Springs. The linear pattern of the deposits is strong evidence of faults as conduits for the mineralized thermal water.

Polygonal fracturing was observed in an area about 1 mile (1.6 km) wide and 11 miles (17.7 km) long, extending southwest from near Milford. The largest and best developed fractures are in the areas of Tadpole and Hay Springs.

The width of individual fractures at the surface ranges from a fraction of an inch (a centimeter) to more than 1 foot (0.3 m). Figure 1 shows an example of the fracturing near Tadpole Springs. Single fractures can be traced for several hundred feet. Locally the fractures have been enlarged by runoff flowing into them. An example of fracture enlargement by running water is shown in figure 2. Water from storm runoff collects in a small channel and disappears into a fracture on the bottom of the normally dry Beaver River channel. In a few localities, such as in secs. 7 and 18, T. 28 S., R. 10 W., fractures are not obvious, but depressions and holes up to several feet in diameter dot the local terrane.

Figure 1.—Typical fracture at SW¼SW¼ sec. 24, T. 28 S., R. 11 W. The stick lying to right of fracture is 4 feet (1.2 meters) long. Photograph taken October 5, 1972.

Figure 2.—Typical fracture at SE¼SE¼ sec. 7, T. 28 S., R. 10 W., enlarged by storm runoff eroding the sides. Fracture is in bottom of the normally dry Beaver River channel. Photograph taken October 5, 1972.

The fracturing has resulted from the drying, contraction, and subsidence of a clay or clayey zone near the land surface. The withdrawal of ground water from beneath the clay by pumping has caused a significant lowering of the potentiometric surface, which originally was at or near the land surface in the area of fracturing. When the potentiometric surface was in or above the clay, the clay was saturated by upward-moving ground water. After significant lowering of the potentiometric surface, upward movement into the clay stopped or slowed sufficiently so that the rate of evapotranspiration exceeded the rate of supply. Once the clay was no longer supplied with ground water, it dried out; in the process of drying it contracted and fractured, and the land surface subsided. Polygonal blocks formed by the fractures are as much as 30 feet (9.1 m) across. The shapes of these blocks are similar to those formed in molten igneous rocks while cooling or to those formed in drying mud. A few blocks, however, as in the Hay and Tadpole Springs areas, are small rectangular grabens; the vertical displacement is as much as 6 feet (1.8 m).

Although the fractures are a manifestation of the lowering of the potentiometric surface, they serve as entrances to the ground-water reservoir of recharge by water that flows across the ground surface. Evidence at many of the holes in and near the Beaver River channel near Milford shows that as much as several hundred gallons a minute of surface water has flowed into some of them.

Climate

The climate of the Milford area is characterized by mild summers and cool winters. Daytime temperatures seldom exceed 100°F (38°C). Winter temperatures usually are below freezing at night, but rarely are below -10°F (-23°C). The mean annual temperature at Milford is 49.3°F (9.6°C). The average growing season is 128 days, from mid-May to late September.

The normal annual precipitation (1931-60) is less than 10 inches (254 mm) in the valley and ranges from about 8 to about 25 inches (203 to 635 mm) in the mountains (pl. 1) (U.S. Weather Bureau, 1963a). Figure 3 shows the cumulative departure from average annual precipitation for the period 1908-71. Annual precipitation at Milford during 1908-71 ranged from a low of 4.48 inches (114 mm) in 1950 to a high of 13.22 inches (336 mm) in 1941. The average annual precipitation at Milford during 1908-71 was 8.51 inches (216 mm); the 1931-60 normal annual is 8.00 inches (203 mm).

Average pan evaporation for April-October during 1953-71 was 78 inches (1,981 mm) a year. The high rate of evaporation for the latitude and altitude at Milford is due largely to excessive wind, which during the same period averaged 23,000 miles (37,013.9 km) a year.

WATER RESOURCES

Precipitation

The amount of precipitation that reaches the ground-water reservoir is estimated to be 25,200 acre-feet (31.1 hm^3) per year, an average of about one-third of an inch or only about 4 percent of the total precipitation, 630,000 acre-feet (777.1 hm^3), on the area. Most of the precipitation is disposed of by direct evaporation, by restoration of soil moisture that is later transpired by vegetation or evaporation to the atmosphere, and by runoff in surface streams; the remainder recharges the ground-water reservoir. There are no perennial streams in the Milford area. The methods used to determine the amount of precipitation that reaches the ground-water reservoir are discussed in detail on pages 15-22.

Surface Water

The Beaver River is the only dependable source of surface water for irrigation in the Milford area, and essentially all its water originates outside the valley.

Rocky Ford Dam controls the flow of Beaver River and impounds water in Minersville Reservoir at the head of Beaver River Canyon, about 5 miles (8.0 km) east of Minersville. All the flow of the Beaver River is diverted to the Minersville and Low Line Canals and the Utopia Ditch for irrigation in the southeastern part of the valley between Minersville and Milford.

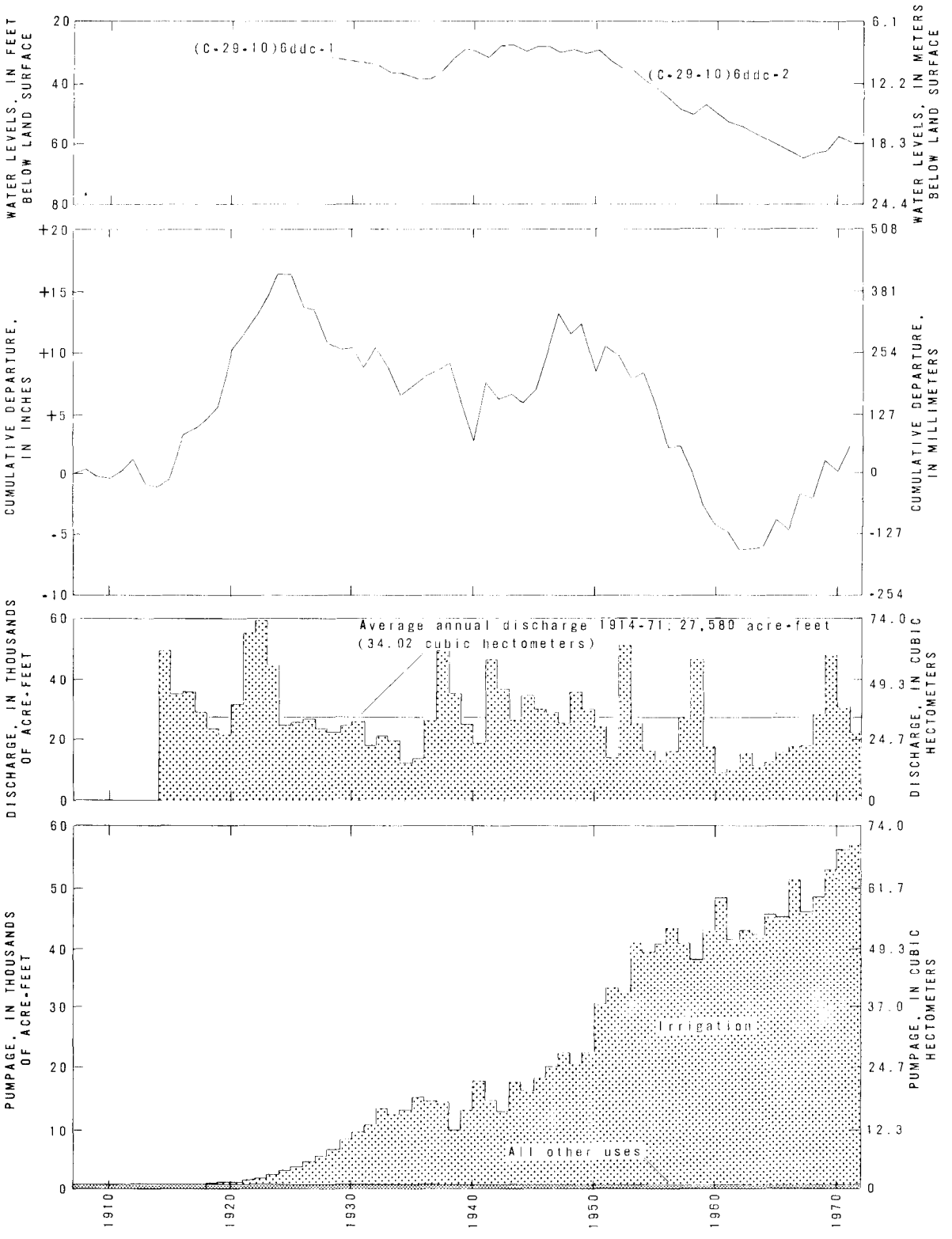

Figure 3.—Relation of water levels in wells (C-29-10)6ddc-1 and 2 to cumulative departure from the 1908-71 average annual precipitation at Milford, to discharge of Beaver River at Rocky Ford Dam, and to pumpage in the Milford area.

The flow of the Beaver River is measured near Rocky Ford Dam[1]. During the period of record, 1914-71, the average annual discharge was 27,600 acre-feet (34.0 hm^3) (table 6); the maximum was 55,600 acre-feet (68.6 hm^3) in 1921 and the minimum was 9,150 acre-feet (11.3 hm^3) in 1960.

The Beaver River was the only source of water for irrigation in the Milford area before 1918. Since 1918, however, pumped irrigation wells, particularly in the central part of the valley south of Milford, have provided a progressively larger part of the irrigation supply (fig. 3).

The flows of other streams in the Milford area are not gaged. Other streams are ephemeral and flow only in direct response to snowmelt and intense rainstorms. Only rarely do any of the ephemeral flows reach the lower parts of the valley, and only negligible amounts flow out of the valley in the Beaver River channel. The small amount of runoff in ephemeral streams has not warranted impoundment or distribution facilities except for a few small stock ponds and flood-control structures near Milford and Minersville. These small structures do not regularly augment the water supply in the valley. Occasionally, water from flood-control structures is used for irrigation, and some of the impounded water seeps to the ground-water reservoir.

The mean annual runoff in 13 ephemeral streams was estimated using a channel-geometry method described by Moore (1968, p. 29-39). The total estimated mean annual runoff in the 13 streams is 7,100 acre-feet (8.8 hm^3). These streams drain 160 square miles (414 km^2); the average annual water yield is about 45 acre-feet per square mile (0.021 hm^3/km^2). The mean annual runoff, therefore, from the entire mountain area of 540 square miles (1,399 km^2) is about 24,000 acre-feet (29.6 hm^3).

Ground water

The principal ground-water reservoir

The principal ground-water reservoir in the Milford area includes three zones or components of high permeability and three of low permeability. The relation of these six components is shown in three lithologic sections on plates 2A and 2B. Gamma-ray logs were the principal sources of data used to determine the vertical and lateral extent of the reservoir components. Lithologic logs, although less accurate for indicating relative permeability than the gamma-ray logs, were used at places where there were no gamma-ray logs or where additional control for correlation was needed.

The permeability of each of the components of the principal ground-water reservoir differs from place to place. In addition, the

[1]Records of inflow are reported in publications cited in "Selected references."

permeability of a particular high- (or low) permeability zone in any locality may be more or less than that of the other zones of high (or low) permeability in the same locality. Locally the high-permeability zones include small units of low permeability that have not been distinguished in the lithologic sections.

The upper zone of low permeability consists of alluvial-fan, eolian, and recent channel-fill deposits, none of which has been differentiated on plates 1, 2A, and 2B. Locally this zone contains saturated materials that are above the main zone of saturation.

The hydraulic boundary at the base of the principal ground-water reservoir is not completely impermeable; small amounts of ground water are transmitted across it. Data for four wells finished below the boundary suggest that the specific capacity is 2 gal/min (gallons per minute) per foot (25 l/min/m) of drawdown or less; values for about 100 wells finished above the boundary generally exceed 20 gal/min per foot (249 l/min/m) of drawdown.

The hydraulic connection between different components of the principal ground-water reservoir was indicated during aquifer tests, when pumping one well quickly caused water-level declines in other wells finished in different beds. During short-term aquifer tests (less than 72 hours of continuous pumping), the magnitude of the effects in observation wells varied inversely with the vertical distance between the beds tapped by the pumped well and by the observation wells. An effect was observed during such tests even when observation wells were finished near the top of a zone of high permeability and the pumped well was finished near the bottom of the zone. Over a long period (several months to several years) of pumping or of nonpumping, all components of the ground-water reservoir are affected. For any long-term analysis, therefore, the principal ground-water reservoir must be analyzed as a unit.

Hydraulic properties of the principal ground-water reservoir

The capacity of an aquifer to transmit and store water is described by the transmissivity of the aquifer (which depends upon the thickness and hydraulic conductivity of the water-bearing material) and by the storage coefficient or specific yield of the aquifer (definitions are in appendix). Knowledge of these properties allows prediction of hydraulic behavior of an aquifer under specified pumping or other stresses. The hydraulic properties of an aquifer can be estimated from detailed lithologic descriptions and the observed thickness, but more accurate quantitative estimates are obtained from laboratory or field tests.

The most dependable values for the hydraulic properties of the principal ground-water reservoir in the Milford area were determined by analyzing data from pumping tests. In addition, tranmissivity was estimated at about 50 sites from the specific capacities (p. 34-36) of large-yield wells, more than 300 gal/min (1,136 l/min). In areas where there are no large-yield wells, transmissivity was estimated from lithologic logs and the estimated thickness of the ground-water reservoir. The specific yield of core samples from 26 sites was measured by laboratory methods.

Data from the aquifer tests were analyzed by the Theis equation (1935) and by the straight-line solutions of Cooper and Jacob (1946). Transmissivity and hydraulic conductivity at some wells were estimated from specific capacity using a method described by Theis, Brown, and Meyer (1963). The determined hydraulic properties were used to prepare a map of transmissivity (fig. 4) of the principal ground-water reservoir in the Milford area. The transmissivity in figure 4 should be applied with caution at distances farther than a mile from the data points because of variations in hydraulic conductivity and thickness of the aquifer.

During an aquifer test, a well was pumped at a measured constant rate for periods ranging from 3 to 72 hours; and periodic water-level measurements were made in 1-7 observation wells at distances from the pumped well ranging from 100 to 8,000 feet (30.5 to 2,438.4 m). The area influenced by pumping for such short periods is small, and the results apply only to small areas around the pumped wells.

The transmissivity (T) of the principal ground-water reservoir ranges from about 1,000 to slightly more than 40,000 ft^2/d (92.91 to slightly more than 3,716.54 m^2/d). The largest values of T were observed south of Milford in the central part of the valley where the reservoir consists mostly of thick deposits of well-sorted coarse sand and gravel. Lines of equal T in figure 4 were extrapolated between wells used in aquifer tests by comparing gamma-ray and lithologic logs of tested wells with logs of untested wells to estimate K (table 2), which was multipled by the saturated thickness to determine T.

Table 2.--Estimated average values of hydraulic conductivity, K, in feet per day, of materials described in drillers' logs of wells in the Milford area

	South of Milford	North of Milford
Gravel	500	400
Boulders	250	225
Sand and gravel	125	100
Sand	50	25
Sand, clay, and gravel	15	10
Sand and clay	3	3
Hardpan and cemented materials	3	3
Clay or silt or a combination	1	1

The storage coefficient (S) observed during the relatively short-term aquifer tests of the principal ground-water reservoir ranges from about 0.2 in some parts of the unconfined section near the edge of the valley to about 0.001 in the confined parts near the central part of the valley. S, as determined from the short-term aquifer tests in semiconfined parts of the system, is an apparent value only; it changes to a larger value, one of the magnitude for unconfined conditions, during an irrigation season.

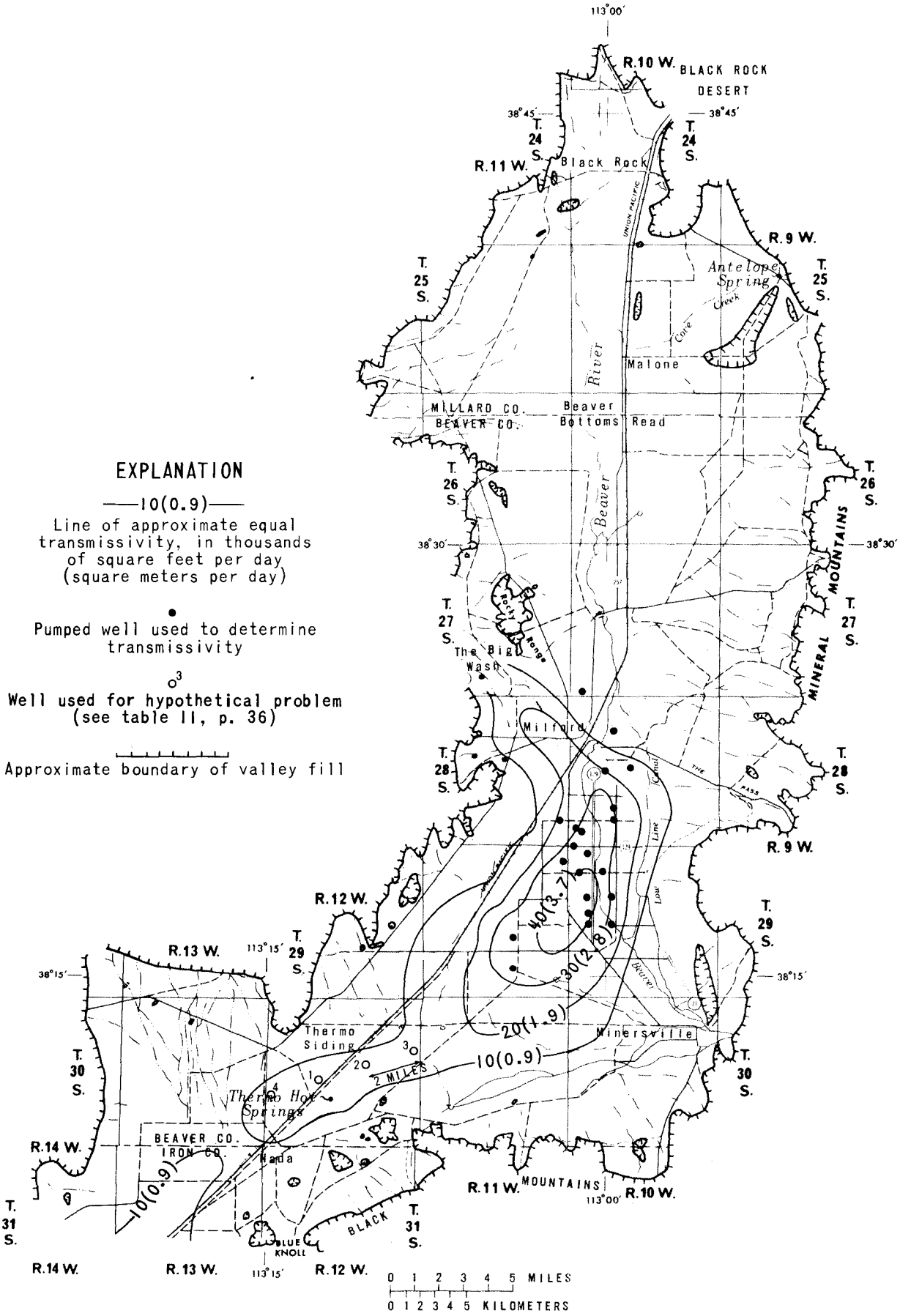

Figure 4.— Approximate transmissivity of the principal ground-water reservoir.

A neutron-radiation method described by Keys and MacCary (1971, p. 74-86) was used to determine the moisture content and S in 11 specially constructed boreholes during the 1972 irrigation season. The moisture content was logged a few days before the start of the irrigation season and four times during the season. By the end of the 1972 season, S reached 0.04 in clayey silt and 0.20 in sandy gravel; the mean for all the materials was 0.08.

Comparison of the moisture content in various saturated materials in the principal ground-water reservoir to similar materials that had been dewatered since pumping began in the valley yielded a long-term average S of 0.20. The ultimate S may be even larger than this, as indicated by a comparison of the moisture content of the materials in the dewatered zone with the moisture content of the overlying materials. Such a comparison indicates that the ultimate S due to gravity drainage since Lake Bonneville occupied the valley may be as much as 0.40 for the fine materials and about 0.25 for the coarse materials. Use of an average S value of 0.20 in computations, therefore, probably is reasonable for short periods of 1 to about 20 years.

Recharge

Recharge to the principal ground-water reservoir in the Milford area is from at least eight sources (table 3). Sources 2, 3, 7, and 8 are from precipitation within the area, the other sources are from water originating, largely, outside the area.

Table 3.--Summary of estimated ground-water recharge to the principal ground-water reservoir in the Milford area, 1970-71

	Source	Average annual quantity (acre-feet)
(1)	Subsurface inflow from tributary valleys	1,700
(2)	Subsurface inflow in The Big Wash	2,200
(3)	Losses from stream channels	5,000
(4)	Losses from major canals	8,500
(5)	Infiltration from farms	22,700
(6)	Infiltration from irrigated lawns and gardens in towns	100
(7)	Infiltration from precipitation on the valley floor	2,000
(8)	Subsurface inflow from bedrock in the mountains	16,000
	Total (rounded)	58,000

Opportunities exist for artificial recharge, but no systematic plan for accomplishing this has been adopted. Thomas (1941) explained how excess Beaver River water could be diverted into canals and ditches that traverse the gravelly alluvial slopes, for the purpose of recharging the ground-water reservoir. His suggestions are as valid in 1973 as they were in 1941, although the amount of water available for artificial recharge may be less than he envisioned.

Subsurface inflow

Ground water enters the Milford area in the subsurface from adjacent Escalante Desert and Beaver Valley (pl. 1). The saturated cross-sectional areas and hydraulic properties of the unconsolidated deposits at the places where water enters the area were estimated from figure 4, plate 4, and from an examination of well logs. The amount of ground water entering the area as subsurface inflow may be estimated using an equation based upon Darcy's law:

$$Q = TIL \tag{1}$$

where,

Q = discharge, in ft^3/d,
T = transmissivity, in ft^2/d,
I = hydraulic gradient (dimensionless),

and

L = length of saturated cross section, in feet.

Total subsurface flow into the valley is estimated as 1,700 acre-feet (2.1 hm^3) per year, as shown below.

	T (ft^2/d)	I	L (ft)	Q Ft^3/d (rounded)	Q Acre-ft/yr (rounded)
Beaver Valley	6,000	0.0057	2,600	89,000	700
Escalante Desert	5,000	.0007	35,000	122,000	1,000
Total				211,000	1,700

Water enters the main body of the principal ground-water reservoir in the lowlands through channel fill in The Big Wash, which drains a large mountainous area. Subsurface flow in The Big Wash, at a constricted section about 4 miles (6.4 km) northwest of Milford, was estimated using equation (1) and the average value of the parameters: T = 5,000 ft^2/d, I = 0.005, and L = 10,600 feet. Hence Q = 260,000 ft^2/d, or 2,200 acre-feet (2.7 hm^3) per year.

Losses from stream channels and major canals

Streamflow measurements on the Beaver River show that there is little gain or loss between the gaging station near Rocky Ford Dam and the abandoned gaging station at Minersville, a distance of about 5 miles (8.0 km). The observed rates of flow varied only slightly between stations during four seepage runs (table 4). The apparent gain or loss between measuring stations was small, well within the degree of error of the measuring devices.

Water from creek channels in the mountains, above the alluvial fans, moves to the ground-water reservoir in the valley mingled with water from bedrock; because of a lack of appropriate data, no attempt was made to estimate the amount. The amount of infiltration on alluvial fans was estimated from the following general observations:

(1) The mean annual runoff in the ephemeral streams (estimated in the section of surface water) is 24,000 acre-feet (29.6 hm^3).
(2) Following intense rainstorms during 1970-71, runoff in most streams either infiltrated the channels or became ponded near the edges of the valley where further, usually rapid, infiltration occurred.

Table 4.--Seepage runs on the Beaver River, 1968 and 1971

Station or location	Distance between stations (miles)	Rate of discharge (ft^3/s) June 7, 1968	Oct. 30, 1968	May 27, 1971	Nov. 15 1971
Gaging station at Rocky Ford Dam		-	8.76	78.6	5.43
	1.7				
Near center of sec. 9, T. 30 S., R. 9 W.		-	9.09	75.7	6.11
	1.9				
About 100 ft upstream from Minersville Canal diversion dam		-	8.50	77.2	6.04
	.4				
At highway bridge 1 mile east of Minersville		73.2	-	43.3[1]	2.38[2]
	1.6				
Abandoned gaging station at Minersville		71.8	-	40.5[1]	3.60[2]

[1]Minersville Canal diverting 33.9 ft^3/s.
[2]Minersville Canal diverting 3.46 ft^3/s.

It is estimated that the infiltration loss from ephemeral streams is the same as that estimated for canals, 30 percent of the total flow. Recharge in The Big Wash is calculated separately. The estimated average annual recharge from stream channels other than The Big Wash, therefore, is (24,000 acre-feet x 0.30) - (2,200 acre-feet) or 5,000 acre-feet (6.2 hm^3).

Unlined canals and ditches in the valley lose water where they traverse unsaturated unconsolidated deposits. Vegetation along the canals uses some water and some water evaporates, but most of the water lost from the canals recharges the principal ground-water reservoir. Discharge measurements were made in selected reaches of the Utopia Canal in 1968 and 1971 and in the Low Line Canal in 1971 (table 5) to determine the amount of loss. Measured rates of loss ranged from about zero to 3.8 ft^3/s (cubic feet per second) per mile (0.07 $m^3/s/km$). The average of the measured losses in the test reaches was 0.7 ft^3/s per mile (0.01 $m^3/s/km$), about 13 percent of the water at the upper end of the test reaches, when the flows were large, and about 0.15 ft^3/s per mile (0.003 $m^3/s/km$), about 20 percent of the water, when the flows were small. On the basis of total annual diversions the weighted-average loss in the test reach is 14 percent of the water diverted, or about 1.5 percent per mile (0.9 percent/km) of canal. The average rate of loss from the test reaches is assumed to apply to all the canals in the valley. The total length of all canals is 23 miles (37.0 km), thus 34 percent of all diversions from the Beaver River, which is here assumed to be the discharge of Beaver River at Rocky Ford Dam, is lost. Of the water that is lost from the canals, an estimated 4 percent evaporates or is transpired by streambank vegetation; the other 30 percent recharges the ground-water reservoir. At this rate, the annual long-term (1914-71) recharge from canal losses averaged 8,300 acre-feet (10.2 hm^3) per year; the recent (1970-71) recharge was 8,500 acre-feet (10.5 hm^3) per year.

The average annual volume of losses from canals to the ground-water reservoir during selected periods are summarized in table 6.

Infiltration from farms, lawns, and gardens

The records of diversions from streams (table 6) and pumpage from wells (table 9) for 1970-71 indicate an annual diversion of 85,100 acre-feet (105.0 hm^3) of water for irrigation in the Milford area. Subtracting the 9,500 acre-feet (11.7 hm^3) of water lost from major canals (table 6) leaves about 75,600 acre-feet (93.3 hm^3) available for delivery to irrigated tracts (pl. 3). The water delivered to farms is consumed there by evapotranspiration or infiltrates to the ground-water reservoir.

The amount of infiltration from irrigated farms will decrease as more efficient farm distribution systems and irrigation methods are employed. Some loss from irrigated fields is necessary, however, to prevent an excessive accumulation of salts in the soil and to insure adequate restoration of soil moisture in all parts of the fields. Greater efficiency is being attained by land leveling and by use of sprinkler-irrigation systems, concrete ditches, and pipelines. A study of the use of

water on three farms was made in 1970-71, in order to make an estimate of the amount of potential reduction of losses from irrigated farms through improved irrigation practices and methods. The average annual use of water during the 2 years ranged from 6.8 feet per acre (2.1 m/ha) on a farm using unlined ditches and irrigated by furrow and flooding methods to 2.5 feet per acre (0.8 m/ha) on a farm using pipelines and a sprinkler-irrigation system (table 7).

Table 5.--Seepage runs on the Utopia and Low Line Canals

UTOPIA CANAL

Station or location	Distance between stations (miles)	Rate of discharge (ft^3/s) June 21, 1968	Rate of discharge (ft^3/s) May 27, 1971
At diversion from Beaver River		20.52	-
	1.5		
Near NW cor. sec 11, T. 30 S., R. 10 W.		19.27	6.65
	.8		
Near north-central part of sec. 10, T. 30 S., R. 10 W.		16.23	6.12
	3.1		
Near center of NW¼ sec. 20, T. 30 S., R. 10 W.		16.07	6.18

LOW LINE CANAL

Station or location	Distance between stations (miles)	Rate of discharge (ft^3/s) May 27, 1971	Rate of discharge (ft^3/s) Nov. 15, 1971
At diversion from Beaver River		30.3	2.85
	4.1		
Near diversion from canal at north-central part sec. 27, T. 29 S., R. 10 W.		27.9	-
	4.9		
Near NW cor. sec. 3, T. 27 S., R. 10 W.		-	1.44

Table 6.--Summary of recharge from water diverted from the Beaver River, 1914-71

(In acre-feet)

	1914-71	1950-71	1970-71
Average annual diversion from Beaver River	27,600	21,500	28,200
Average annual farm deliveries	18,200	14,200	18,700
Average annual recharge from canals	8,300	6,400	8,500
Average annual evapo-transpiration from canals	1,100	800	1,000
Average annual recharge from farms	5,500	4,300	5,600

Table 7.--Amount of irrigation water used on three selected farms in the Milford area, 1970-71

	Farm 1	Farm 2	Farm 3
Type of water distribution system	Unlined ditches	Surface pipelines	Buried pipeline
Method of irrigation	Furrow and flooding	Sprinklers	Furrow and flooding
1970			
Irrigated area (acres)	468	310	515
Amount of irrigation water used (ft/acre)	7.1	2.2	3.9
1971			
Irrigated area (acres)	468	251	515
Amount of irrigation water used (ft/acre)	6.5	2.8	3.5

All three farms have similar sandy-loam soil and cropping patterns; alfalfa, potatoes, and grain are the principal crops, with alfalfa by far the most common. The conclusion is, therefore, that the amount of irrigation water lost to infiltration from farms in the Milford area is governed largely by type of distribution system and method of application, and that the amount will diminish as irrigation systems and methods are improved.

Willardson and Bishop (1967) in an analysis of surface irrigation application efficiency in the Milford area concluded that "a 60 percent water-application efficiency (40 percent loss) is probably attainable under most conditions." They suggest, however, that the average irrigation efficiency attainable by the furrow or flooding methods commonly used there probably is between 60 and 80 percent (loss between 40 and 20 percent). Recharge from farm irrigation losses during 1970-71 in the valley, therefore, is estimated conservatively to be about 30 percent of the average annual farm delivery of 75,600 acre-feet (93.3 hm^3), or 22,700 acre-feet (28.0 hm^3) per year.

Although irrigation practices for lawns and gardens in towns differ markedly from those for commercial crops, recharge from lawns and gardens is estimated to be the same rate as from irrigated fields (30 percent of the water applied). An estimated 50 percent of the public supply and industrial water used during 1970-71, or 400 acre-feet (0.49 hm^3) per year, was used for lawns and gardens. Estimated recharge from this source was, therefore, 0.30 x 400 or about 100 acre-feet (0.12 hm^3) per year.

Infiltration from precipitation on the valley floor

The average annual precipitation on most of the valley floor is less than 10 inches (254 mm) (pl. 1), far less than could be consumed by evapotranspiration under natural conditions. Contributions to recharge from precipitation probably are so small everywhere on the valley floor, except on irrigated fields, that it may be considered nil.

Precipitation may contribute to recharge on irrigated fields that are already saturated sufficiently from irrigation that any additional water supplied will move downward beyond the root zone and recharge the ground-water reservoir. In the discussion of losses from irrigated fields it was shown that 30 percent of the delivered water recharges the ground-water reservoir. It may be assumed, therefore, that 30 percent of the precipitation on irrigated lands during the irrigation season also recharges the ground-water reservoir. The soils usually are so dry during the nonirrigation season that there is little opportunity for recharge from precipitation. Precipitation on the irrigated parts of the valley during the irrigation season averages about 4 inches, 1/3 foot (102 mm), (U.S. Weather Bureau, 1963a). Thus the amount of water from precipitation on the irrigated areas that reaches the ground-water reservoir is 1/3 x 0.30 x 19,900 = 2,000 acre-feet (2.5 hm^3) per year.

Subsurface flow from bedrock in the mountains

The amount of inflow from bedrock probably has not changed since the valley was settled. The amount may be estimated, therefore, if all other items in the recharge-discharge equation are known for the period before the hydrologic regimen was disturbed appreciably. All items in the equation have been estimated except spring discharge on the valley floor and losses from the Beaver River in a 12-mile (19.3 km) reach between Minersville and Milford, where the bottom of the channel was above

the water table. Loss in this reach of the Beaver River is estimated to have been 11 ft^3/s (0.31 m^3/s) on the basis of measurements made by the Geological Survey on November 26, 1916. If this rate is assumed to be the average before the natural hydrologic regimen was disrupted, then recharge to the principal ground-water reservoir from Beaver River would have been about 8,000 acre-feet (9.9 hm^3) per year.

Inflow from bedrock is the difference between all other sources of recharge and the total ground-water discharge from the valley as given in the following tabulation:

	Acre-feet
Discharge	
Evapotranspiration of ground water (table 10)	33,000
Spring discharge (page 31)	150
Subsurface outflow (table 9)	8
Total discharge (rounded)	33,000
Recharge	
Losses from stream channels (table 3)	5,000
Subsurface inflow in The Big Wash (table 3)	2,200
Subsurface inflow from tributary valleys (table 3)	1,700
Losses from Beaver River	8,000
Total recharge (rounded)	17,000
Inflow from bedrock is the difference between discharge and recharge	16,000

Movement

Ground water moves downgradient in the direction of the slope of the water table or potentiometric surface and approximately at a right angle to the contours. The general direction of water movement in the principal ground-water reservoir in the Milford area is shown on plate 1; more detailed information on the direction of flow in March 1972 is available by analysis of water-level contours on plate 4. Water-level measurements used in the definition of the contours on plate 4 were made in March 1972 after the irrigation wells in the valley had been idle for 5 months. The water-level contours, therefore, are a portrayal of the potentiometric surface as it existed at that time. The observation wells range from about 20 to 900 feet (6.1 to 274.3 m) deep and most of them are perforated through most of the saturated coarse-grained material.

Ground water moves from deeper to shallower zones within the ground-water reservoir throughout most of the valley because the hydrostatic pressure on the water in the deep zones causes upward leakage through the confining beds into shallower zones. The usual upward hydraulic gradient may be reversed locally by pumping, causing the head in deeper zones to decline below the head in shallower zones. At such times, water moves from shallower to deeper zones. During such periods,

the ground water from the deep zones may mix with water of poorer quality moving downward as return flow from irrigation water applied to the land, and also may mix with water moving laterally through the shallower zones toward points of discharge. Because of such mixing, therefore, the quality of the rising ground water progressively deteriorates as it approaches the land surface.

The rate of movement of ground water is slow in comparison with the flow of surface streams. The velocity of ground water (v) is governed by the hydraulic conductivity (K) and porosity (θ) of the aquifer materials and the hydraulic gradient (I) in accordance with the equation:

$$v = \frac{KI}{\theta} \tag{2}$$

An example is afforded by substituting in equation (2) the data applicable to a line 2 miles (3.2 km) long near the south-central part of the irrigated area south of Milford. K is 82 ft/d (24.99 m/d) (obtained from field data on average transmissivity, 37,000 ft^2/d, [3,437.80 m^2/d] and average thickness of the aquifer, 450 ft [137.2 m]), I is 0.0012 (from change in potentiometric surface, 12.5 ft [3.8 m], and distance between points, 10,560 ft [3,218.7 m]) and average θ is estimated to be 0.40. Hence,

$$v = \frac{(82 \text{ ft/d})\ (0.0012)}{0.40} = 0.2 \text{ ft/d } (0.06 \text{ m/d})$$

This average velocity of 0.2 foot per day (0.06 m/d) or about 75 feet per year (22.9 m/yr) may be typical of ground-water velocities in the Milford area, but large variations are to be expected because of variations in hydraulic gradient and hydraulic conductivity. The above example represents conditions during March 1972 when no large withdrawals were being made from wells near the example site.

Areal variations of the hydraulic gradient are indicated by the map of the potentiometric surface. The range of average values is from about 0.00028 foot per foot (1.5 ft per mile) (0.28 m/km) in the north-central part of the valley to about 0.015 foot per foot (80 ft per mile) (15.1 m/km) near the mountains in the southeastern part of the valley.

The hydraulic conductivity of the principal ground-water reservoir is highest in the alluvial fans, where the reservoir generally is thinnest, and lowest in the lake deposits, where the reservoir generally is thickest. Thus, both a steep hydraulic gradient and a large hydraulic conductivity tend to produce the highest velocities near the mountains. Conversely, the gentle hydraulic gradient and the small hydraulic conductivity cause the lowest velocities in the north-central part of the valley.

Water-level fluctuations

Although water-level fluctuations are caused by many factors, the most important ones in the Milford area reflect additions to or withdrawals from the reservoir, thus they indicate changes in storage. Other fluctuations are usually minor and of short duration and do not indicate changes in storage.

Measurements of water levels in the Milford area have been made intermittently in some wells since 1925. Graphs of the water levels in 18 selected observation wells are shown in figures 5 and 6, and the water levels in selected wells are given in table 15.

Water levels in the area irrigated with ground water fluctuate in direct response to long-term trends of precipitation, discharge of the Beaver River, and ground-water pumpage (fig. 3). The approximate effect, based on the quantity of water available in the irrigated area from each source, that each had on water levels during 1970-71 was: precipitation, 3 percent; Beaver River, 25 percent; and pumpage, 72 percent. The hydrographs in figure 5 show somewhat irregular short-term (seasonal) fluctuations, which are superimposed on a long-term rising or falling trend. Fluctuations are most pronounced near the central part of the irrigated area and become decreasingly pronounced at increased distances from this area.

A general long-term downward trend of water levels began about 1950 and continued into 1972 in some places, particularly in and near the area of irrigation pumping. Beginning about 1950 and continuing for several years the precipitation was markedly below normal, as was discharge of the Beaver River; consequently, there was a large increase in ground-water pumpage (fig. 3). The net effect was diminished storage and declining water levels. In the 1960's, the precipitation was generally above normal, but the discharge of the Beaver River remained below normal during most years, although it increased gradually from year to year to 1969. Although pumpage was high and usually increased from year to year, the downward trend of water levels slackened in most parts of the valley during the latter part of the 1960's and water levels even rose slightly in some localities.

Storage

The amount of ground water in storage in the principal ground-water reservoir in the Milford area was estimated from the volume of saturated deposits and their water content. The volume of saturated deposits in the ground-water reservoir is estimated from the map of the thickness of saturated valley fill (pl. 4) as 95 million acre-feet (117,182.5 hm^3).

The water content of the saturated materials was estimated from well logs by assigning an estimated water content to various lithologic types (table 8). The values in table 8 were based on laboratory analyses of 110 relatively undisturbed soil samples and on measurements made in

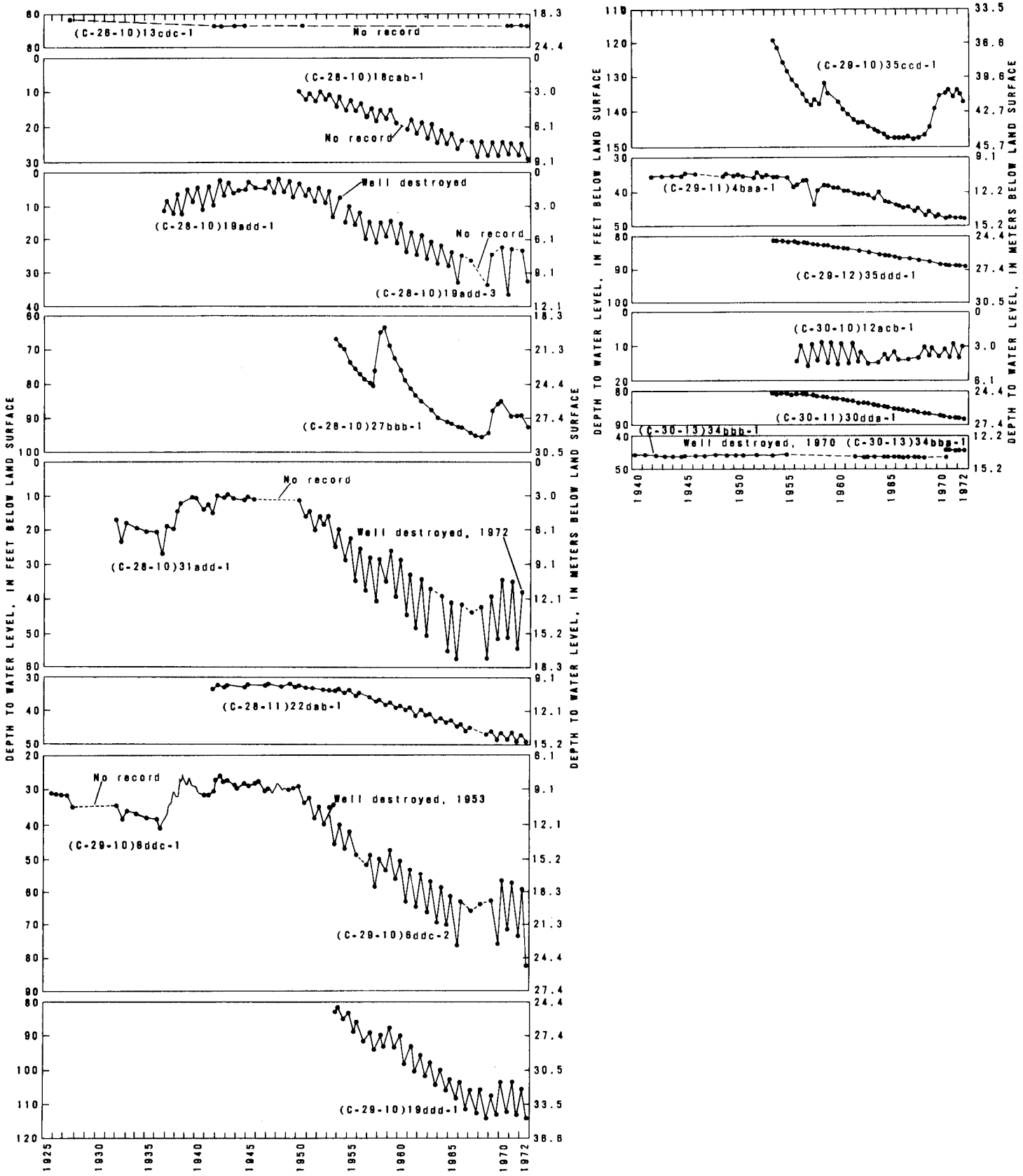

Figure 5.—Water levels in selected wells in the Milford area, 1925-72.

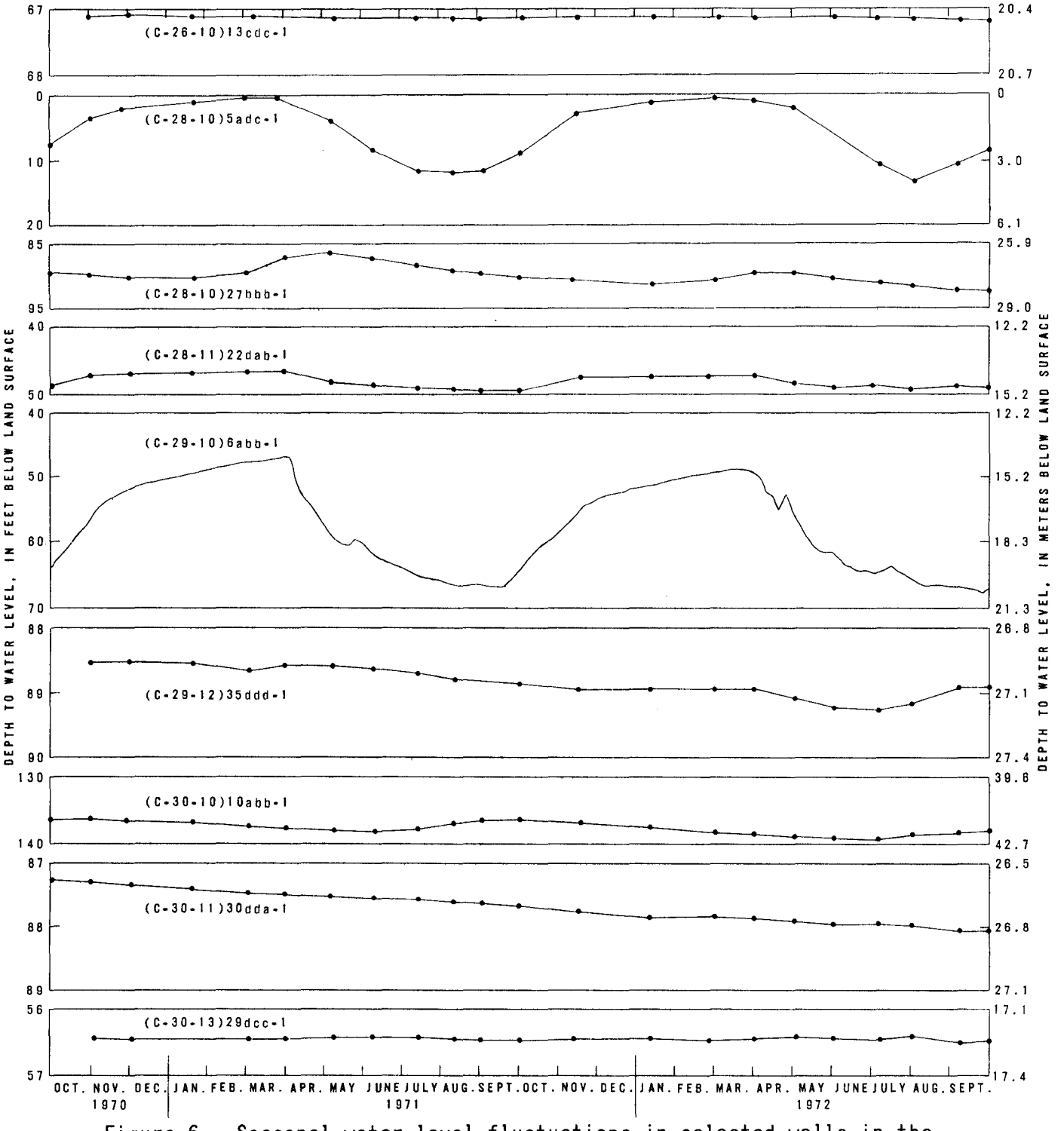

Figure 6.—Seasonal water-level fluctuations in selected wells in the Milford area, 1970-72.

place in the field with a neutron moisture-meter. One lithologic log was examined for each section or square mile of land where logs were available; usually the log of the deepest well in the section was used. From the logs and table 8 it is estimated that the saturated materials in the valley contain an average of 40 percent water by volume. The amount of ground water in storage in the principal ground-water reservoir, therefore, is 0.40 times 95 million acre-feet (117,182.5 hm^3) of saturated materials, or about 40 million acre-feet (49,340.0 hm^3) less than half of which may be recoverable.

Table 8.--Estimated water content of saturated deposits of the principal ground-water reservoir in the Milford area

Lithologic material as described by drillers	Water content (percent)
Clay; clay and silt	50
Clay and sand; sandy clay	40
Sand	30
Gravel	25
Sand and gravel	20
Hardpan; conglomerate; all other cemented materials	10

The amount of ground water in storage is greater than the amount that is available for withdrawal from storage. One measure of the amount of water available from storage is the quantity of water that can be removed from storage in a ground-water reservoir by lowering water levels a specified distance. This quantity is determined by the volume and the specific yield of the reservoir.

An average change in water level from the March 1972 level (pl. 4) of 1 foot (0.3 m) over an area of 1 square mile (2.59 km^2) would result in a change in ground-water storage of 128 acre-feet (0.158 hm^3), assuming an average specific yield of 0.20. An average change in water level from the March 1972 level of 1 foot (0.3 m) over the entire area underlain by the principal ground-water reservoir represents a change in storage of about 84,000 acre-feet (103.7 hm^3).

When estimating the amount of change in storage, due consideration must be given to the difference between the water levels being studied and those of March 1972, because the areal extent of the aquifer changes with changes in the saturated thickness. The lower curve in figure 7 shows the amount of water that can be withdrawn from storage at various average water levels below those of March 1972. The amount of water recoverable from storage per foot of decline gradually decreases as water levels decline; the amount is about 84,000 acre-feet per foot (32 hm^3/m) at 1972 levels and would be about 52,000 acre-feet per foot (20 hm^3/m) when water levels are 100 feet (30.5 m) below their 1972 counterparts.

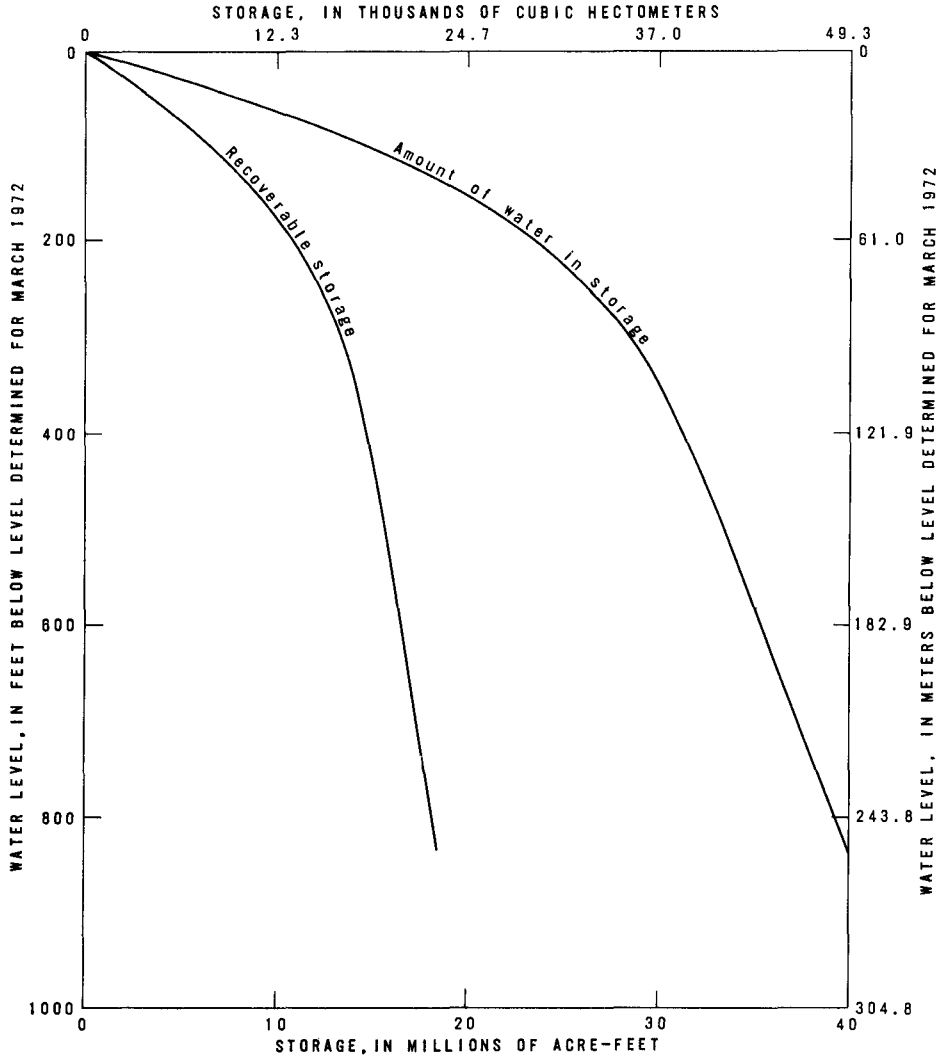

Figure 7.—Approximate amount of water in storage in the principal ground-water reservoir in the Milford area and the approximate amount that can be withdrawn with uniform lowering of water levels below the levels of March 1972.

Historically, ground-water storage in the area was near its maximum in 1950, when water levels in most parts of the valley were at or near their highest levels of record (see section on water-level fluctuations). From March 1950 to March 1972 water levels declined more than 30 feet (9.1 m) in some areas (fig. 8) and storage decreased by about 410,000 acre-feet (505.7 hm^3). There was little or no change in storage in the northern and southern parts of the valley; most of the depleted storage occurred in the approximate triangular-shaped area bounded by Milford on the north, Thermo on the southwest, and Minersville on the southeast.

Discharge

Ground water in the lowlands of the Milford area is discharged naturally by (1) springs, (2) evapotranspiration, and (3) subsurface outflow to the Black Rock Desert. Ground water is discharged artificially by (1) pumped wells throughout most of the valley and (2) a few small-diameter flowing wells in the Beaver Bottoms north of Milford.

Before withdrawals from wells began, the long-term average annual discharge equaled the average annual recharge. The water discharged artificially may be derived from (1) an increase of recharge to the ground-water reservoir, (2) a decrease of the natural discharge, (3) a decrease of the amount of ground water in storage, or (4) various combinations of these. The ground-water discharge is summarized in table 9, and details are discussed below.

Table 9.--Summary of estimated ground-water discharge from the principal ground-water reservoir in the Milford area, 1970-71

Source	Average annual quantity (acre-feet)	
Thermo Hot Springs		100
Evapotranspiration from ground water		24,000
Subsurface outflow to Black Rock Desert		8
Wells		
Domestic and stock	100	
Public supply and industrial	800	
Irrigation	56,000	
Total wells		56,900
Total ground-water discharge (rounded)		81,000

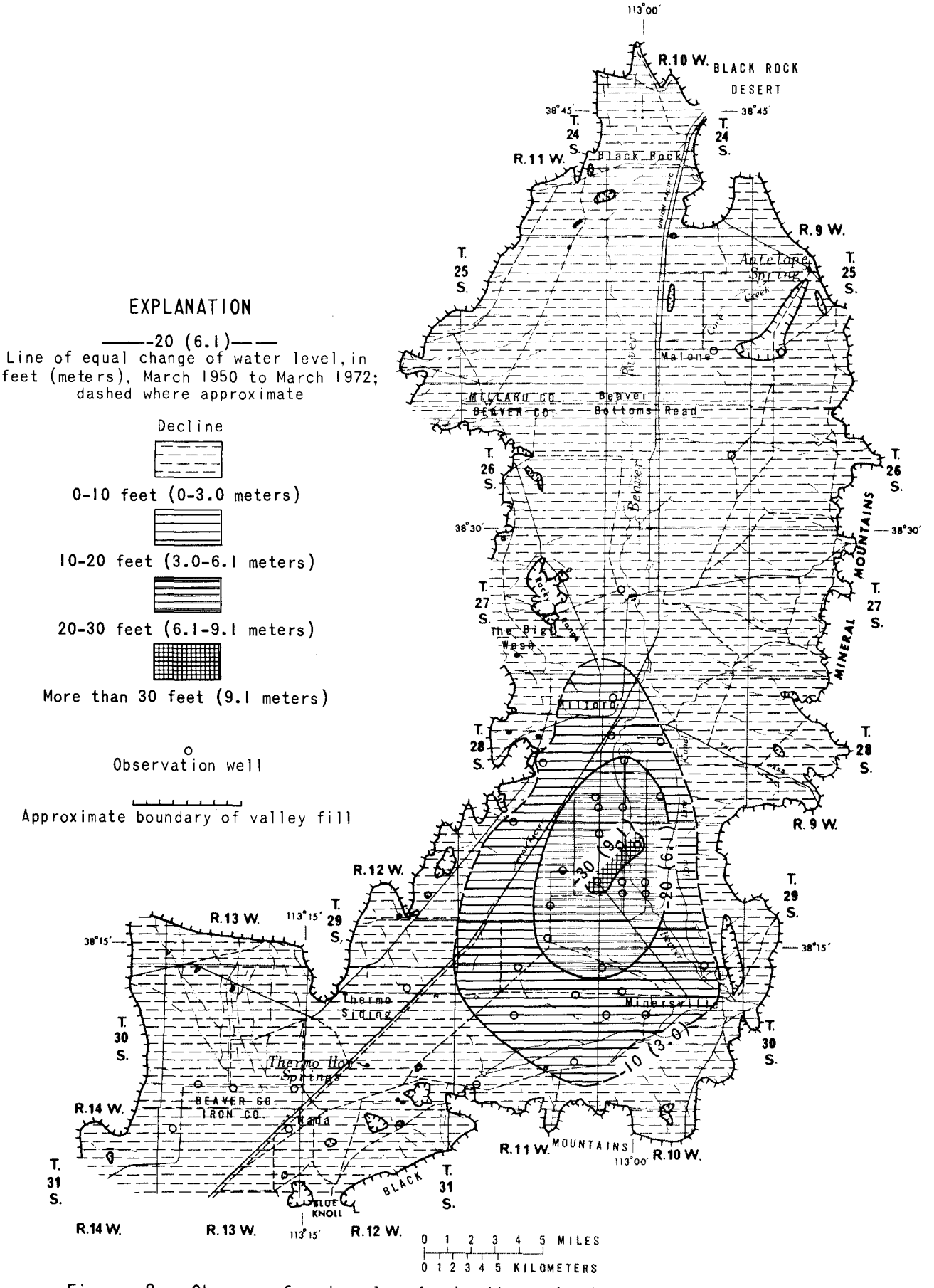

Figure 8.—Change of water levels in the principal ground-water reservoir from March 1950 to March 1972.

Springs

Although no cold-water springs discharged from the principal ground-water reservoir of the Milford area in 1972, White (1932, p. 90) estimated discharge from such springs in the mid-1920's to be 100-150 acre-feet (0.12-0.18 hm^3) per year. On this basis, it is estimated that before any wells had been placed in use, discharge would have been near White's upper estimate, or 150 acre-feet (0.18 hm^3) per year.

Of 33 springs listed in table 14, the only spring discharging from the principal ground-water reservoir during 1970-71 was Thermo Hot Springs. Water at Thermo Hot Springs--(C-30-12)21aad-S1 and (C-30-12) 28acb-S1--issues from numerous orifices and seep areas on two elongate mounds totaling 220 acres (89 ha). On May 9, 1971, the aggregate discharge from the 94 largest-yielding orifices and seep areas was about 30 gal/min (114 l/min). Probably another 30 gal/min (114 l/min) was being discharged at other smaller seep areas for a total of about 60 gal/min (227 l/min) or 100 acre-feet (0.12 hm^3) a year.

Evapotranspiration by phreatophytes

An estimated 24,000 acre-feet (29.6 hm^3) of ground water was consumed in 1971 by evapotranspiration from 95,000 acres (38,447 ha) of non-irrigated, low-lying lands in the valley that mainly support phreatophytes (table 10). The rate of evapotranspiration is governed by many factors, including plant species and growth density, depth to the water table, soil type, water quality, air temperature and movement, and humidity. Greasewood (*Sarcobatus vermiculatus*), rabbitbrush (*Chrysothamnus nauseosus*), saltgrass (*Distichlis stricta*), and pickleweed (*Allenrolfea occidentalis*) are the principal phreatophytes in the valley; greasewood is predominant. These plants seldom occur as pure stands, generally they are associated with one another. Other plants not dependent upon ground water as a source of supply may grow in association with the phreatophytes. The main areas occupied by phreatophytes in 1971 and the areas mapped in 1927 by White (1932) are shown on plate 3.

For purposes of comparison, phreatophyte species and areas were mapped and classified according to the method used in 1927 by White (1932, p. 86) in the valley as follows:

> "A, Meadowlands and adjoining lowlands occupied by salt grass associated with greasewood, rabbit brush, and pickleweed, with salt grass dominant (depth to ground water 0 to 5 feet [0 to 1.5 m]); B, lowlands occupied chiefly by greasewood, rabbit brush, and shad scale with scattering salt grass, seep weed, and pickleweed (depth to ground water 0 to 8 feet [0 to 2.4 m]); C, uplands occupied by greasewood, rabbit brush, and shad scale (depth to ground water 8 to 30 feet [2.4 to 9.1 m]); D, lands irrigated or naturally subirrigated with ground water, chiefly fields of alfalfa."

The areas mapped by White (pl. 3) were mapped again in 1971 to ascertain changes in the intervening period, and at the same time all other phreatophyte areas in the valley were mapped. It was noted that none of the areas classified as A or D in 1927 were classified as such in 1971 because of the changes that have occurred since 1927. Saltgrass is still the predominant phreatophyte in the A areas, but the water level has declined to a point greater than 5 feet (1.5 m) below the land surface, hence, they were classified B in 1971. The areas classified D in 1927 have had even larger water-level declines, thus in 1971 there was no direct use of ground water by vegetation in those areas.

Table 10.--Evapotranspiration of ground water, in acre-feet, in the Milford area, 1927 and 1971

Township	1927	1971	Remarks
T. 24 S.	2,600	2,600	Evapotranspiration in 1927 assumed same as in 1971 on the basis that water levels did not decline during 1927-71.
T. 25 S.	5,800	5,800	Do.
T. 26 S.	5,700	5,700	Do.
T. 27 S.	2,200	800	
T. 28 S.	4,700	1,800	
T. 29 S.	3,500	2,000	
T. 30 S.	3,900	3,900	1,000 acre-feet added to the amount determined by White for the areas which he omitted in Rs. 9-11 W.
T. 31 S.	1,900	1,900	Evapotranspiration in 1927 assumed same as in 1971 on the basis that water levels did not decline during 1927-71.
Class D (entire valley)	2,500	0	No class D areas in 1971.
Springs	100	0	Springs flowing in 1927 that had ceased flowing by 1971.
Total (rounded)	33,000	24,000	

Subsurface outflow

Ground water is moving out of the lowlands of the Milford area only at the north end near Black Rock (pl. 4). The contours representing the ground-water surface indicate that everywhere in the lowlands ground water is moving toward that point. Most of the ground water is discharged by pumpage or by evapotranspiration, however, long before it reaches the northern boundary. The amount that crosses the northern boundary can be estimated using equation (1).

The average transmissivity of the aquifer at the northern boundary of the valley is estimated on the basis of drillers' logs of wells near Black Rock and the saturated thickness of the valley fill shown on plate 4 to be 75 ft^2/d (6.97 m^2/d). The average hydraulic gradient, 0.0003, in 1971 was determined from the potentiometric surface map, and the length of the cross section, 4,000 feet (1,219.2 m), was determined using plate 4. Hence, Q = (75 ft^2/d) (0.003) (4,000 ft) = 900 ft^2/d, or only 8 acre-feet (0.01 hm^3) per year.

Wells

The first wells in the Milford area were dug for domestic and stockwater supplies where ground water was within a few tens of feet of the land surface. Records concerning most of these early wells have not been found, and only a few dug wells were in use in 1972. The oldest wells in use in 1972 were a few stock wells at the Beaver Bottoms several miles north of Milford. These wells were jetted about 1900-10, and they all flow less than 1 gal/min (4 l/min). The withdrawal from domestic and stock wells is not known accurately but the amount increased gradually from an estimated 10 acre-feet (0.01 hm^3) in 1900 to 100 acre-feet (0.1 hm^3) in 1971.

Construction of wells for industrial and public-supply purposes began shortly after 1900. Records of withdrawal from these wells were intermittent prior to the period of this study. The annual withdrawal is estimated, on the basis of these records, to have increased from 400 acre-feet (0.5 hm^3) in 1918 to 900 acre-feet (1.1 hm^3) in 1971.

The first irrigation wells of record were used in 1914 at two experimental farms--one at Malone in the northern part of the valley and one at Nada in the southern part. Privately owned irrigation wells were first used in 1918. By 1923, 20 privately owned irrigation wells, ranging from 43 to 94 feet (13.1 to 28.7 m) deep and yielding from 250 to 600 gal/min (946 to 2,271 l/min) were in use (W. N. White and Depue Falck, written commun., 1927). In 1971, 150 irrigation wells, ranging from 50 to 949 feet (15.2 to 289.3 m) deep, yielded from 300 to 1,900 gal/min (1,136 to 7,192 l/min).

The amount of ground water used for irrigation increased from 60 acre-feet (0.07 hm^3) in 1918 to 56,000 acre-feet (69.2 hm^3) in 1971 (see fig. 3). Pumpage for irrigation was estimated by W. N. White and Depue Falck (written commun., 1927) or data were given by them from which estimates could be made for 1918, 1920, and 1923 and by White (1932, p. 90) for 1926 and 1927. Irrigation pumpage for the other years during

1918-30 was estimated by interpolation between years of known pumpage. The amount pumped annually during 1931-57 from individual wells was determined by the Geological Survey from power-consumption or operating-time records and periodic discharge measurements. The amount pumped for irrigation during 1958-71 was measured with totalizing water meters on the irrigation wells.

Performance of wells.--The performance of a well is determined by characteristics of both well and aquifer and is measured by the specific capacity, which in this report is defined as the yield of the well in gallons per minute per foot of drawdown after pumping for 24 hours. Well characteristics that affect the specific capacity include the depth of penetration of the well into the aquifer; the diameter of the well; the extent, type, and location of the perforations or screen; the extent of corrosion, incrustation, and plugging of aquifer materials of the perforations or screen; and the effectiveness of well development. Proper well development removes some of the fine-grained material from around the perforated casing or screen and forms a more permeable pack of coarse-grained material. Thus, the effect of well development is similar to that of increasing the diameter.

Water can be withdrawn from a well as fast as the aquifer can yield it if the efficiency of the well is 100 percent. The efficiency of a well is the ratio of the theoretical drawdown to the actual drawdown multiplied by 100. In a well that is 100 percent efficient, the water in the well and the water immediately outside the casing remain at the same levels regardless of drawdown. In a well that is less efficient, however, the water level in the well is below the outside level when the well is pumped.

Efficiencies were computed for 29 wells in the Milford area. The theoretical drawdown was determined using the formula of Theis (1935) and transmissivity and storage values derived from aquifer tests. Six of the wells have efficiencies of less than 25 percent, seven have efficiencies of 26-50 percent, seven have efficiences of 51-75 percent, and nine have efficiencies of more than 75 percent, but none are 100 percent efficient.

Interference among wells.--When a well flows or is pumped, the potentiometric surface in the aquifer around the well is lowered. The area of lowered potentiometric surface is called the cone of depression or cone of influence of the well. The amount of lowering increases with time but decreases with increasing distance from the discharging well. The cones of depression around discharging wells sometimes overlap, a situation which results in additional water-level decline at each well. This effect is called interference among wells.

The Theis formula (1935) may be used to determine the amount of interference under various conditions of transmissivity, storage coefficient, discharge, distance, and time. Theoretical graphs were constructed from solutions of the Theis equation to provide a basis for estimating interference among wells and water-level declines due to pumping in the Milford area (fig. 9). The graphs were prepared from computed water-

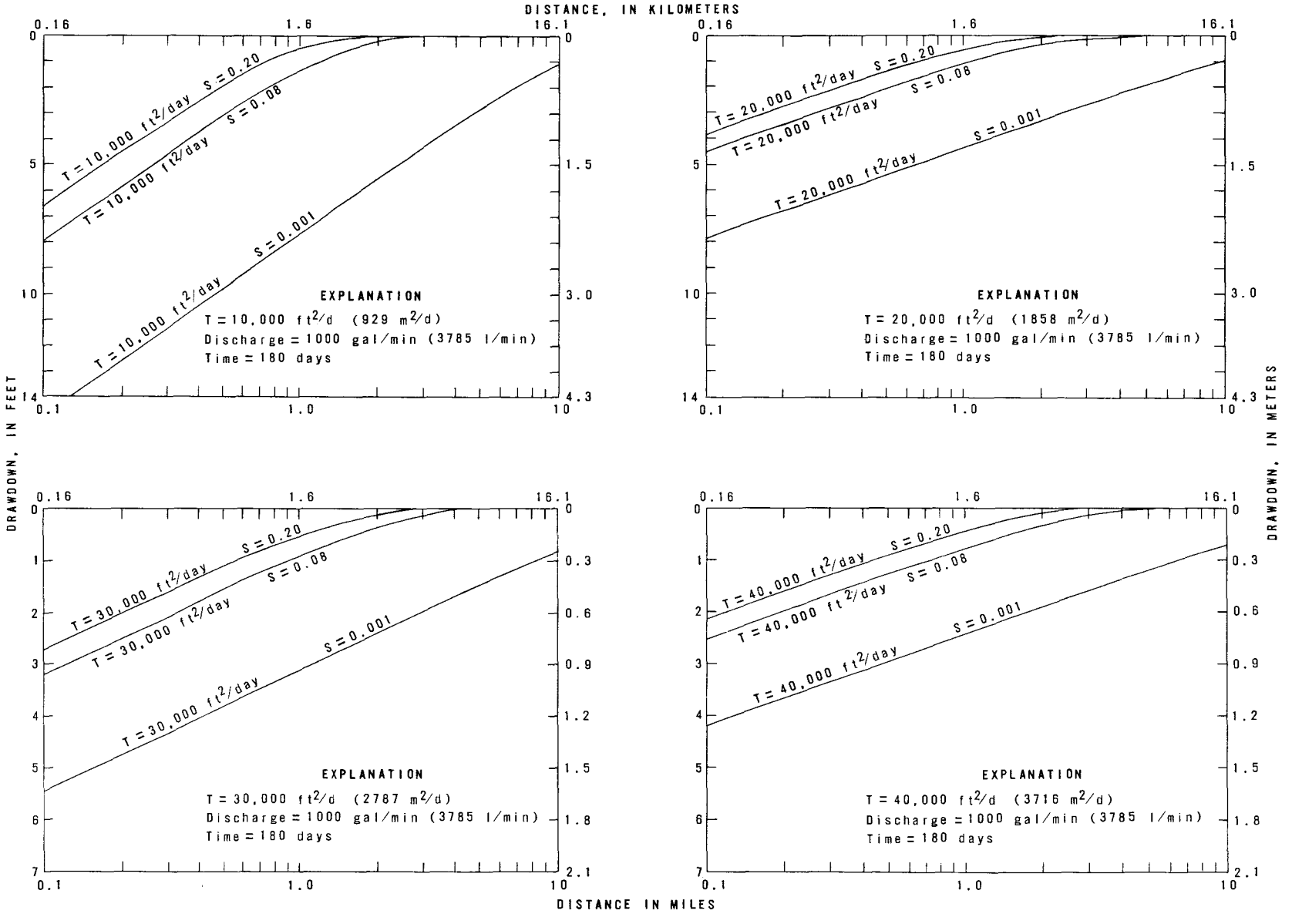

Figure 9.—Distance-drawdown graphs for the principal ground-water reservoir in the Milford area for several assumed values of T and S.

level declines for commonly occuring combinations of T and S and for distances of 0.1-10 miles (0.16-16 km) from a well pumping 1,000 gal/min (3,785 l/min) for 180 days. Values used for T are in the range of values shown in figure 4. The values used for S were 0.001, the approximate average value determined from aquifer tests shorter than 1 day; 0.08, the average value determined from soil-moisture measurements made during the course of one irrigation season; and 0.20, the average value determined for the material in the zone that has been dewatered since pumping began in the valley. The storage factor of the principal ground-water reservoir is not known well enough to permit the derivation of drawdown graphs that will represent the reservoir exactly because the storage factor changes during the course of an irrigation season.

As an example of an interference problem in the Milford area, assume that three wells will be pumped simultaneously for 180 days. (See table 11 for data for the problem and fig. 4 for locations of the hypothetical wells in the central part of the valley.) Well 1 will be pumped continuously at 1,000 gal/min (3,785 l/min), well 2 will be pumped 16 hours a day at 1,000 gal/min (3,785 l/min) and well 3 will be pumped continuously at 100 gal/min (379 l/min). It is desired to estimate the water-level decline at well 4 at the end of the principal pumping season (180 days). The four wells lie in a straight line at 2-mile (3.2 km) intervals. In this area, T is 10,000 ft^2/d (929 m^2/d) and S is 0.08, and the appropriate distance-drawdown curve in figure 9 will be used. It is assumed that intermittent pumping during a given period may be spread over the entire period at a proportionately lower rate; the average pumping rate for well 2, therefore, is 16/24 of 1,000 gal/min (3,785 l/min) or 667 gal/min (2,525 l/min).

Table 11.--Approximate interference for hypothetical problem

[T = 10,000 ft^2/d]

Pumped well	Average pumping rate during 180-day season (gal/min)	Distance from pumped well to well 4 (miles)	Interference at well 4 at end of 180-day season (feet)
Well 1	1,000	2	0.22
Well 2	667	4	.02
Well 3	100	6	0
	Total interference		0.24

The effect on the water level at well 4 caused by pumping at wells 1, 2, and 3 is analyzed separately; the total interference is the sum of the effects of the three pumping wells. The effect of well 1 at the end of a pumping season is determined thus: on figure 9 locate the intersection of the distance-drawdown curve and the vertical line at a distance of 2 miles (3.2 km), then move horizontally to the left edge and read 0.22 foot (0.07 m). Effects of wells 2 and 3 are determined in like

manner except that the effect of well 2 is 667/1,000 (2,525/3,785) of that read from the graph because its effective pumping rate is 667 gal/min (2,525 l/min), and the effect of well 3 is 100/1,000 (379/3,785) of that read from the graph.

Aquifer compaction and land subsidence

When the hydrostatic pressure is reduced by withdrawing water from unconsolidated deposits, such as the principal ground-water reservoir in the Milford area, there is a resultant increase in the pressure on the rock materials that form the reservoir skeleton. This pressure increase may cause compaction of the aquifer materials and subsidence of the land surface. Subsidence usually occurs so gradually and so uniformly over extensive areas that little or no structural damage probably has resulted in the Milford area. Land subsidence may cause flattening or grade reversal of some canals, but it probably will cause little or no other damage.

Evidence of subsidence often is a well casing that protrudes farther above the land surface than it did when the well was drilled. Such well casings usually extend into the material being compacted. The casings usually do not settle as much as the land surface subsides in reference to the top of the casings; therefore, such surface evidence of subsidence is only minimal evidence of the magnitude of the amount of subsidence that has occurred.

Surface evidence of subsidence was noted at several places in the most heavily pumped parts of the valley. A striking example is shown in figure 10. Water is pumped into a pipeline through a flexible connection which allows the pipeline to decline without interfering with the pump. The discharge pipe from the well and intake pipe to the pipeline were offset about 4 inches (10.2 cm) at the time the picture was taken. This offset is the result of land subsidence which caused the pipeline to lower as the land surface subsided in relation to the pump, which is supported by the top of the casing, and therefore may have settled less than the amount of subsidence at the land surface.

Compaction may be elastic and reversible or inelastic and permanent. In general, compaction of sand and gravel is small and is chiefly elastic and temporary; but compaction of silt and clay is greater and is chiefly inelastic and permanent. For this reason, large fluctuations of water level in the parts of the valley where the aquifer is largely sand and coarser material would induce less subsidence than the same fluctuation in parts where the aquifer is mostly fine-grained material.

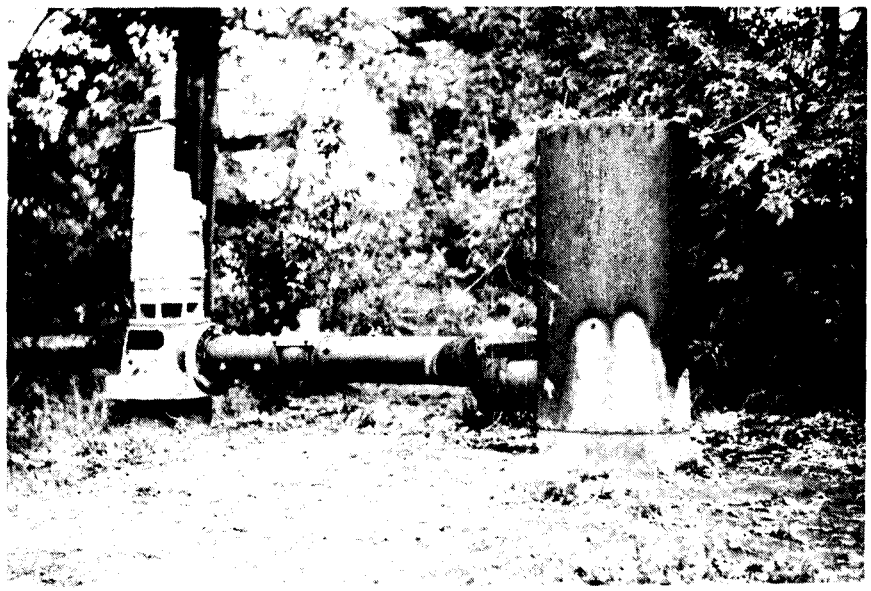

Figure 10.—Photograph showing a result of land subsidence at well (C-29-10)6baa-2 in the Milford area. The offset between the well discharge pipe and pipeline is due to subsidence. Diameter of discharge pipe is 8 inches (20.3 cm). Photograph taken October 5, 1972.

Chemical quality of the water

General statement

The type and amount of minerals in solution in ground water depend chiefly on the chemical and physical composition of the soil or rocks through which the water passes, the length of time the water is in contact with the soil or rocks, and other factors such as water temperature and pressure. Chemical analyses of water samples from many wells and springs in the Milford area are given in table 16, and the concentrations of selected constituents are summarized in table 12.

The range of dissolved-solids concentration (1970-72 data) of the nonthermal water in the principal ground-water reservoir differs in the north part compared to the south part of the area. North of T. 29 S., the concentration ranges from 226 to 4,600 mg/l (milligrams per liter); from T. 29 S. south, the range is from 253 to 1,110 mg/l.

The difference in the range of dissolved-solids concentration between the two parts is probably the result of evapotranspiration, infiltration of unconsumed irrigation water, and solution of residual salts in the fine-grained materials. All of these processes are more effective in the north part because of a higher water table, more intensive irrigation, or more fine-grained materials.

Table 12.--Summary of chemical-quality data of water from selected wells and springs

	Number of samples	Milligrams per liter Range	Median
	Wells 1970-72 data		
Specific conductance (micromhos/cm at 25°C)	40	310-7,190	939
Total dissolved solids	35	224-4,600	569
Sulfate	40	25-1,500	140
Chloride	40	19-1,700	115
Hardness as $CaCO_3$	40	23-2,000	385
Nitrate	34	.0-14	1.3
Boron	33	.00-2.2	.09
	Springs		
Specific conductance (micromhos/cm at 25°C)	24	100-2,760	795
Total dissolved solids	21	114-2,240	530
Sulfate	24	7.6-1,200	50
Chloride	24	5.0-290	76
Hardness as $CaCO_3$	21	19-1,600	250
Nitrate	24	.1-3.8	1.2
Boron	22	.03-.6	.2

Infiltration of unconsumed irrigation water affects the chemical quality of the water, because minerals are concentrated by evapotranspiration and added from fertilizers, pesticides, and herbicides. The chemical quality of water from wells in the irrigated parts of the valley changes with depth (1970-72 data) as a result of the infiltration of excess irrigation water. The improvement in quality of water in the principal ground-water reservoir to a depth of about 250 feet (76.2 m) is shown by the graphical relation of specific conductance to depth to perforations (fig. 11). The dispersion of the data points away from the straight line results partly from the unequal effects of contamination from infiltration of unconsumed irrigation water and partly from inaccurately known depths to perforations.

The chemical quality of water from wells in the area of withdrawals for irrigation has changed significantly with time, at least since 1950, as shown by graphical plots of specific conductance against time for five selected wells (fig. 12). Long-term deterioration of quality is shown at many wells, but most significantly at wells (C-28-10)17ccc-1, (C-28-11)25dcd-1, and (C-29-11)11cdd-2. This deterioration has an apparent relation to significantly increased pumpage for irrigation which began in about 1950; however, chemical-quality data for these wells prior

to 1950 are unavailable. Short-term changes during an irrigation season are also apparent at three of the same wells. If the specific conductances over a short span of time (to minimize the superposed long-term effect) are compared, the values early in the year are generally lower than those late in the year.

The deterioration in quality probably results from the infiltration of irrigation water or from the encroachment of poorer quality ground water from outside the pumped areas.

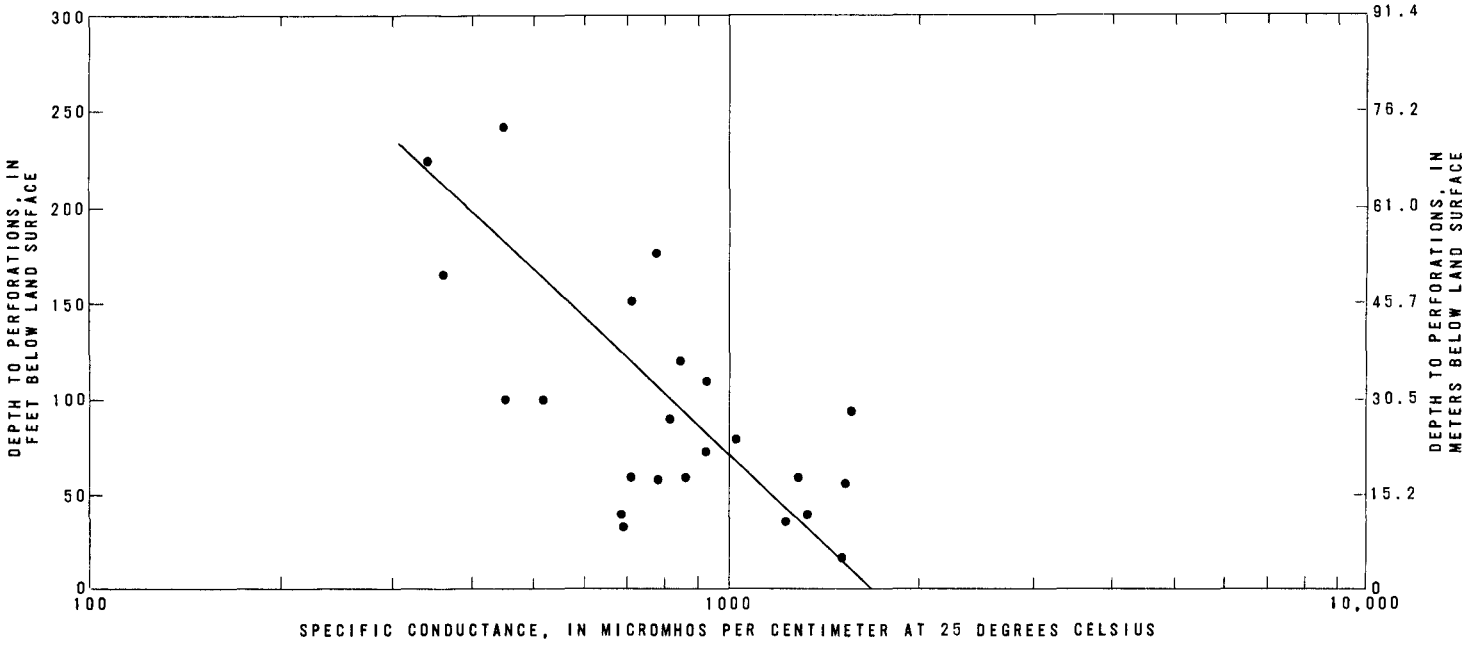

Figure 11.—Relation of specific conductance of water from selected wells to depth to perforations, 1970-72.

Relation to use

Public supply.--The U.S. Public Health Service (1962) has recommended quality standards for drinking water and water-supply systems. A partial list of these standards is as follows:

Constituent	Recommended maximum limit (mg/l)
Dissolved solids	500[1]
Sulfate	250
Chloride	250
Nitrate	45

[1]1,000 is permissible if better water is not available.

A comparison of the summarized data (table 12) with the recommended standards shows that the median dissolved-solids concentration of water from wells and springs exceeds somewhat the recommended maximum limit. Sulfate, chloride, and nitrate median concentrations of water from both wells and springs are well below these limits; it should be noted

that the limits for sulfate and chloride are determined mainly by taste considerations.

Hardness is a characteristic of water which is mainly the result of the concentration of calcium and magnesium. The classification used by the U.S. Geological Survey is as follows:

Hardness as $CaCO_3$ (mg/l)	Rating
0 - 60	Soft
61 - 120	Moderately hard
121 - 180	Hard
More than 180	Very hard

Comparison of the summary of data (table 12) with the hardness ratings indicates that the median of water from wells and springs is very hard, but some wells and springs yield water rated as soft.

Irrigation.--The water from wells in the Milford area was classified (fig. 13) according to salinity hazard and sodium hazard using the method of the U.S. Salinity Laboratory Staff (1954, p. 69). In classifying water for irrigation, it is assumed that an average quantity of water will be used under average conditions of soil texture, salt tolerance of crops, climate, drainage, and infiltration. The classification illustrated in figure 13 is based on the relation between sodium-adsorption ratio (SAR) and specific conductance (conductivity). The SAR is a measure of the sodium hazard, and the specific conductance is a measure of the salinity hazard. Depending upon the values of SAR and specific conductance, a water may fit into one of 16 classes.

For the Milford area, water from most wells is in the low-sodium hazard class and in the medium- and high-salinity hazard classes. Low-sodium hazard water is usable on nearly all soils without the development of harmful amounts of exchangeable sodium. Medium-salinity hazard water is usable if a moderate amount of leaching occurs and if plants grown have a moderate salt tolerance. High-salinity hazard water is not recommended for use on poorly drained soil, and special salinity management practices may be required even with well-drained soil.

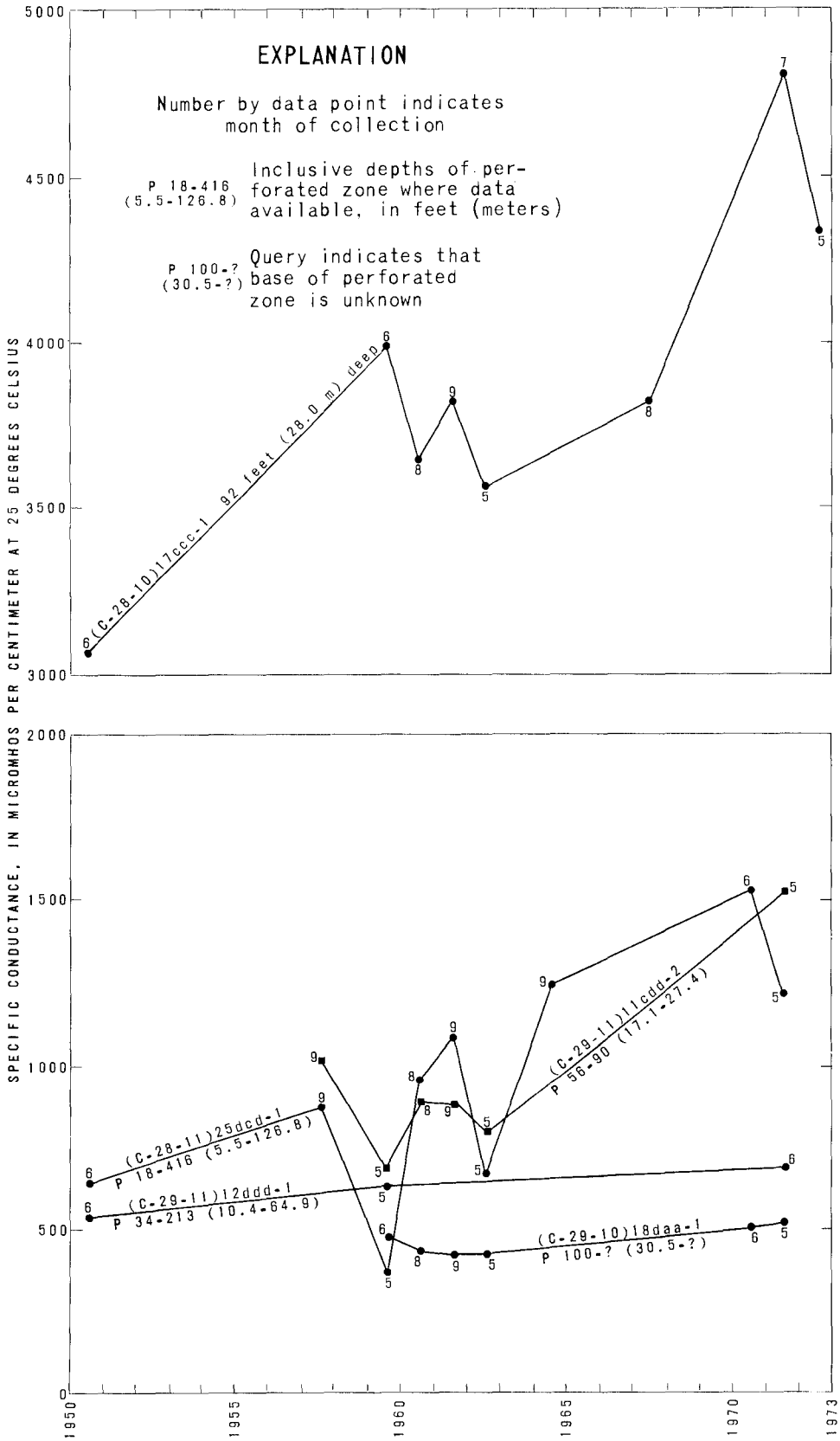

Figure 12.—Change in specific conductance of ground water with time at five wells, 1950-72.

EXPLANATION

1	(C-24-10)21aba-1
2	(C-25-9)29cbd-1
3	(C-25-10)12bcc-1
4	31cbc-1
5	(C-27-10)31dcb-1
6	(C-28-10)5dad-2
7	8aad-2
8	14bba-1
9	16cda-1
10	17ccc-1
11	18cab-1
12	19bbc-1
13	19bcd-2
14	19ccd-4
15	28cdd-1
16	30bdc-3
17	31ddc-2
18	(C-28-11)12abb-1
19	23cbb-2
20	25dcd-1
21	35cad-1
22	36dcc-2
23	(C-29-10)5add-1
24	5cdd-5
25	8ddd-2
26	18daa-1
27	18dcd-1
28	(C-29-11)1add-2
29	4baa-1
30	10ddd-1
31	11cdd-2
32	12ddd-1
33	19caa-2
34	27dad-1
35	(C-30-11)22ddc-1
36	(C-30-12)9add-1
37	(C-30-13)8caa-1
38	25abb-1
39	30bdd-2
40	(C-31-13)18aad-1

(Chemical analyses in table 16)

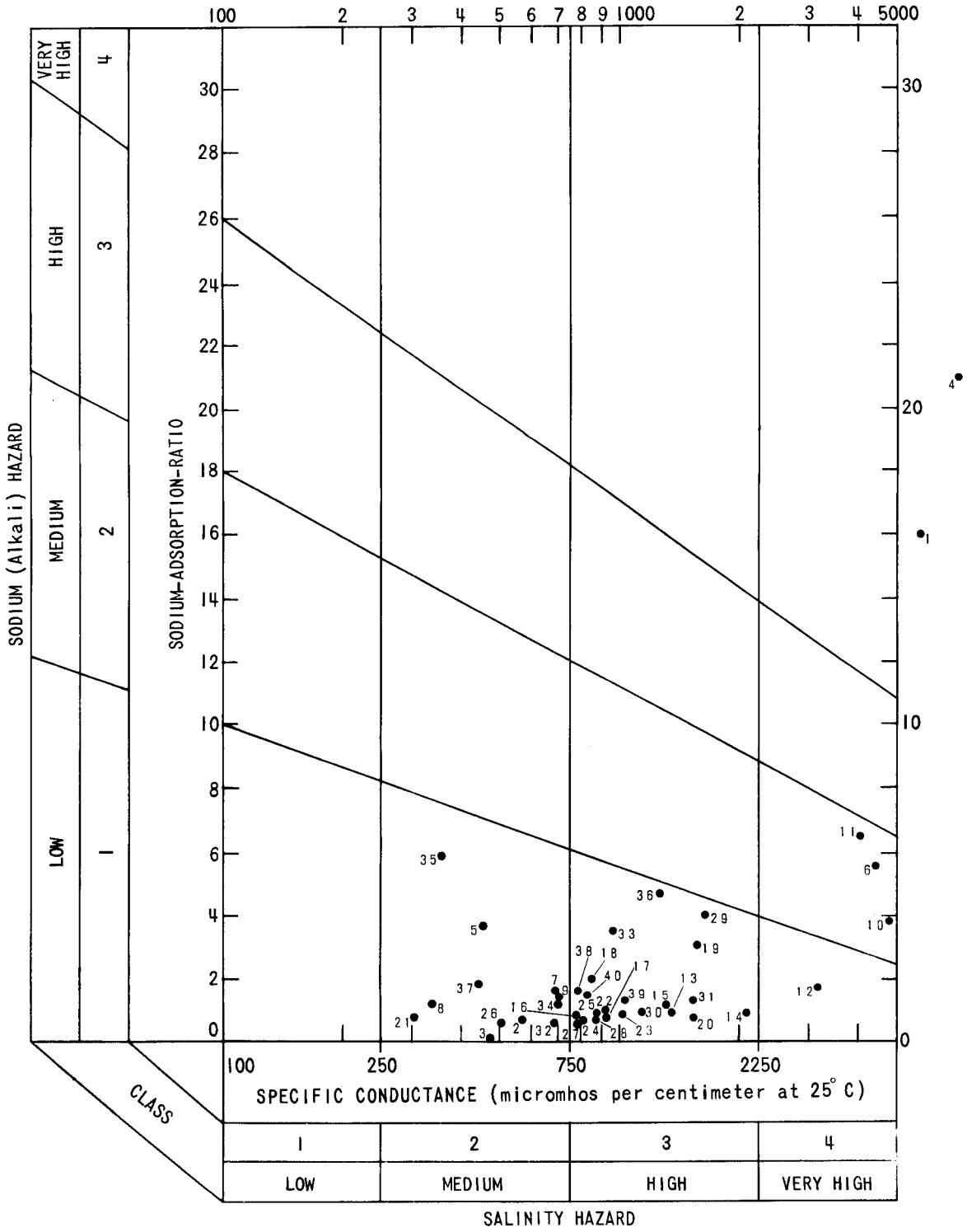

Figure 13.—Classification of irrigation water (method of the U.S. Salinity Laboratory Staff, 1954).

SUMMARY AND CONCLUSIONS

The average annual amount of water entering the Milford area from precipitation is about 630,000 acre-feet (777.1 hm^3); about 4 percent of this or 25,200 acre-feet (31.1 hm^3) becomes ground-water recharge. An average of 27,600 acre-feet (34.0 hm^3) of water flows into the valley in the Beaver River each year. The entire flow of the river is diverted for irrigation and stock watering, but much of the water recharges the ground-water reservoir. About 1,700 acre-feet (2.1 hm^3) of water enters the valley as subsurface inflow from Beaver and Escalante Valleys.

The unconsolidated materials underlying the Milford area contain the principal ground-water reservoir. This principal ground-water reservoir consists of three zones of high permeability separated by zones of low permeability. The thickness of the reservoir reaches a maximum of about 840 feet (256.0 m) about 21 miles (33.8 km) south of Milford.

Recharge to the principal ground-water reservoir averaged 58,000 acre-feet (71.5 hm^3) in the years 1970 and 1971, but discharge averaged 81,000 acre-feet (99.9 hm^3), 56,000 acre-feet (69.1 hm^3) of which was from pumped irrigation wells.

Increased pumping from irrigation wells, particularly since 1950, has caused water levels to decline as much as 30 feet (9.1 m) near the central part of the heavily pumped area. The small annual rate of decline, however, even at places where the total decline was greatest, suggests that the principal ground-water reservoir probably could sustain the 1950-71 average rate of withdrawals for many years with few problems, with the possible exception of land subsidence. Land subsidence may cause flattening or grade reversal of some canals, but it probably will cause little or no other damage.

The total amount of ground water in storage in the principal ground-water reservoir is about 40 million acre-feet (49,340.0 hm^3). A 1-foot (0.3 m) average change of water level over the valley from that of March 1972 would result in a change in storage of about 84,000 acre-feet (103.6 hm^3). The amount of change in storage per foot of change in water levels is not constant but decreases rapidly with increased depth to water.

The median concentration of dissolved solids is 569 mg/l in water from wells and 530 mg/l in water from springs. The chemical quality of water from wells improves with depth to a depth of at least 250 feet (76.2 m). The quality of the ground water is deteriorating with time, however, apparently as percolation from irrigated fields reaches the principal ground-water reservoir.

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APPENDIX

Hydraulic-property definitions

Transmissivity (T) is the rate at which water is transmitted through a unit width of the aquifer under a unit hydraulic gradient. The units for *T* are cubic feet per day per foot, which reduces to ft^2/d. The term transmissivity replaces the term coefficient of transmissibility, which was formerly used by the U.S. Geological Survey and which was reported in units of gallons per day per foot. To convert a value for coefficient of transmissibility to the equivalent value of transmissivity, multiply by 0.134; to convert from transmissivity to coefficient of transmissibility, multiply by 7.48.

The *hydraulic conductivity (K)* of a water-bearing material is the volume of water that will move through a unit cross section of the material in unit time under a unit hydraulic gradient. The units for *K* are cubic feet per day per square foot, which reduces to ft/d. The term hydraulic conductivity replaces the term field coefficient of permeability, which was formerly used by the U.S. Geological Survey and which was reported in units of gallons per day per square foot. To convert a value for field coefficient of permeability to the equivalent value of hydraulic conductivity, multiply by 0.134; to convert from hydraulic conductivity to coefficient of permeability, multiply by 7.48.

The *storage coefficient (S)* of an aquifer is the volume of water it releases from or takes into storage per unit surface area of the aquifer per unit change in head. Under confined conditions, *S* is typically small, generally between 0.001 and 0.00001. Under unconfined conditions, *S* is much larger, typically from 0.05 to 0.30.

Specific yield (Sy) is defined as the ratio (sometimes expressed as a percentage) of the volume of water that an aquifer will yield by gravity to the volume of the aquifer dewatered. The specific yield is generally several thousand times larger than the small quantity released by compaction of an aquifer and expansion of the water. For practical purposes, the specific yield (*Sy*) can be considered equal to the storage coefficient (*S*) for unconfined aquifers.

Use of metric units

The results of chemical analyses and temperature measurements are given in this report in metric units, rather than the more familiar English units. Temperatures are given in degrees Celsius, and concentrations are reported in milligrams per liter or milliequivalents per liter.

Measurements are given in this report in both English and metric (in parenetheses) dimensions, and the conversion factors used are:

English Unit (Multiply)	English Abbreviation	(by)	Metric Unit (to obtain)	Metric Abbreviation
Acre	acre	0.4047	Hectare	ha
Acre-foot	acre-ft	.0012335	Cubic hectometer	hm^3
Cubic foot	ft^3	.02832	Cubic meter	m^3
Foot	ft	.3048	Meter	m
Gallon	gal	3.7854	Liter	l
Inch	in.	25.4	Millimeter	mm
Inch	in.	2.54	Centimeter	cm
Mile	mi	1.6093	Kilometer	km
Square foot	ft^2	.0929	Square meter	m^2
Square mile	mi^2	2.59	Square kilometer	km^2

Degrees Celsius (°C) are the units used for reporting temperature in the metric system. One degree Celsius is equal to 9/5 degrees Fahrenheit, and the freezing point of water is 0° on the Celsius scale. The following table may be used to convert the temperature data given in this report to the more familiar Fahrenheit scale:

Temperatures in °C are rounded to nearest 0.5 degree. Underscored temperatures are exact equivalents. To convert from °F to °C where two lines have the same value for °F, use the line marked with an asterisk (*) to obtain equivalent °C.

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
-20.0	-4	-10.0	14	0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
-19.5	-3	-9.5	15	+0.5	33	10.5	51	20.5	69	30.5	87	40.5	105
-19.0	-2	-9.0	16	1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
-18.5	-1	-8.5	17	1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
-18.0 *	0	-8.0 *	18	2.0 *	36	12.0 *	54	22.0 *	72	32.0 *	90	42.0 *	108
-17.5	0	-7.5	18	2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
-17.0	1	-7.0	19	3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
-16.5	2	-6.5	20	3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
-16.0	3	-6.0	21	4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
-15.5	4	-5.5	22	4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
-15.0	5	-5.0	23	5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
-14.5	6	-4.5	24	5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
-14.0	7	-4.0	25	6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
-13.5	8	-3.5	26	6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
-13.0	9	-3.0	27	7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
-12.5	10	-2.5	28	7.5	46	17.5	64	27.5	82	37.5	100	47.5	118
-12.0 *	10	-2.0 *	28	8.0 *	46	18.0 *	64	28.0 *	82	38.0 *	100	48.0 *	118
-11.5	11	-1.5	29	8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
-11.0	12	-1.0	30	9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
-10.5	13	-0.5	31	9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

Milligrams per liter (mg/l) is the base unit for expressing the concentration of chemical constituents in solution, and it represents the weight of solute per unit volume of water. For concentrations of less than about 7,000 mg/l, this unit is numerically very nearly equal to the unit parts per million (ppm), which was formerly used by the U.S. Geological Survey.

Milliequivalents per liter (meq/l) is the base unit for expressing the concentration of chemical constituents in terms of the interacting values of the electrically charged particles, or ions, in solution. One meq/l of a positively charged ion can react with 1 meq/l of a negatively charged ion. Milliequivalents per liter is numerically equal to the units equivalents per million, which was formerly used by the U.S. Geological Survey. For comparison of water types and for graphical meq/l is a more convenient unit than mg/l.

Well- and spring-numbering system

The system of numbering wells and springs in Utah is based on the cadastral land-survey system of the U.S. Government. The number, in addition to designating the well or spring, describes its position on the land net. By the land-survey system, the State is divided into four quadrants by the Salt Lake base line and meridian, and these quadrants are designated by the uppercase letters A, B, C, and D, indicating the northeast, northwest, southwest, and southeast quadrants, respectively. Numbers designating the township and range (in that order) follow the quadrant letter, and all three are enclosed in parentheses. The number after the parentheses indicates the section, and is followed by three letters indicating the quarter section, the quarter-quarter section, and the quarter-quarter-quarter section (generally 10 acres [4 ha][1]); the letters a, b, c, and d indicate, respectively, the northeast, northwest, southwest, and southeast quarters of each subdivision. The number after the letters is the serial number of the well or spring within the 10-acre (4 ha) tract; the letter "S" preceding the serial number denotes a spring. If a well or spring cannot be located within a 10-acre tract, one or two location letters are used and the serial number is omitted. Thus (C-29-11)1add-2 designates the second well constructed or visited in the SE¼SE¼NE¼ sec. 1, T. 29 S., R. 11 W. Other sites where hydrologic data were collected are numbered in the same manner, but three letters are used. The numbering system is illustrated in figure 14, and the locations of selected wells and springs are shown on plate 5.

[1]Although the basic land unit, the section, is theoretically a 1-mile (1.6 km) square, many sections are irregular. Such sections are subdivided into 10-acre (4 ha) tracts, generally beginning at the southeast corner, and the surplus or shortage is taken up in the tracts along the north and west sides of the section.

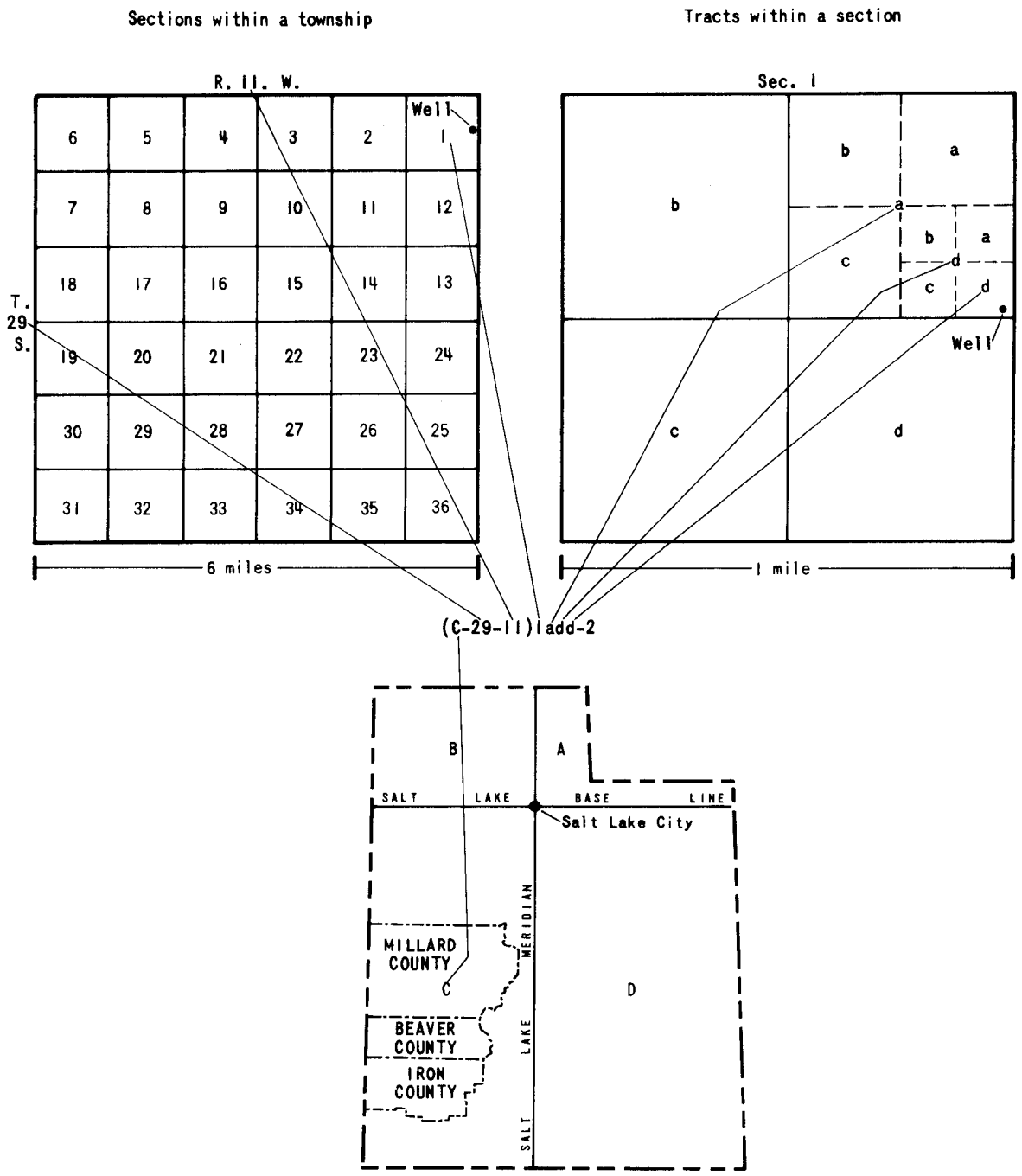

Figure 14.—Well- and spring-numbering system used in Utah.

BASIC DATA

Table 13.--Records of selected wells

Location: See text for explanation of numbering system.
Altitude: Surveyed altitudes are given in feet and tenths; altitudes interpolated from topographic maps are given in feet.
Use of well or water in 1972: D, domestic; I, irrigation; N, industrial; O, water-level observation; P, public supply; S, stock; T, test well; U, unused.
Other data available: C, chemical analysis given in table 16; H, hydrograph in figure 5 or 6; L, log in table 17; W, water-level measurements in table 15.

Location	Owner	Year constructed	Depth of well (feet)	Casing		Altitude (feet above mean sea level)	Water level		Production		Use of well or water in 1972	Other data available
				Diameter (inches)	Depth to first perforations (feet)		Above(+) or below land-surface datum (feet)	Date of measurement	Yield (gal/min)	Drawdown (feet)		
(C-24-10)21aba-1	U.S. Bureau of Land Management	1959	250	6	50	4,850	13	11-71	18	6	S	C,L
22acd-2	V. A. Kaufman	1958	908	2	-	4,862	-	-	-	-	U	L
(C-25-9)20abd-1	do.	1930	3,500	10	-	5,080	83	11-41	-	-	U	L
29cbd-1	Floyd Anderson	-	-	8	-	5,043	61	10-70	-	-	S	C,W
(C-25-10)5cdd-1	U.S. Bureau of Land Management	-	-	6	-	4,859	13	8-71	-	-	S	-
9dba-1	Millard School District	-	-	-	-	4,910	56	9-41	-	-	U	-
12bcc-1	U.S. Bureau of Land Management	-	-	6	-	4,975	32	10-70	-	-	S	C,W
22add-1	J. L. King	-	-	-	-	4,950	8	7-71	-	-	S	-
26caa-1	State of Utah	-	-	-	-	4,960	18	9-41	-	-	S	W
26daa-1	Fleeman and Bertch	-	20	60	-	4,970	15	1923	-	-	U	C
31cbc-1	U.S. Bureau of Land Management	-	-	6	-	4,884	31	12-41	5	2	S	C
(C-26-10)4cdc-1	Union Pacific Railroad	-	518	3	-	4,884	-	-	-	-	U	L
5baa-1	Frank Paxton	1900	860	-	-	4,900	+	1906	-	-	U	L
7acc-1	Ralph Pearson	-	215	1	215	4,882	+	1906	-	-	U	C
13cdc-1	Hanson Land and Livestock Co.	-	-	6	-	5,020	64	1927	-	-	S	H,W
17abd-1	Ralph Pearson	-	185	-	-	4,815	+	8-71	-	-	S	-
18dab-1	do.	1898	180	1	-	4,895	+3	4-36	.5	-	S	-
26cbd-1	G. A. Hanson	1950	140	10	68	5,020	62	10-71	-	-	S	-
29cbd-1	Ralph Pearson	1967	199	16	-	4,918	13	9-67	-	-	U	-
31ddb-1	do.	1928	96	8	-	4,920	8	2-38	-	-	U	-
32cad-1	do.	1949	332	6	248	4,970	11	12-49	-	11	S	C,L
(C-27-10)6dac-1	Ephraim Livestock Coop.	1925	100	8	-	4,918	12	9-70	500	30	S	C,L
18dba-1	Cannon Livestock Co.	1941	74	14	8	4,945	14	12-41	-	-	U	L,W
21abb-2	U.S. Bureau of Land Management	1962	116	8	71	4,992	56	12-62	-	-	S	-
27aaa-1	do.	1972	857	6	-	5,094	126	6-72	-	-	T	L
29acc-1	Sullivan Land and and Livestock Co.	1917	241	4	-	4,939	2	9-70	-	-	S	-
31daa-1	Town of Milford	1940	391	6	378	5,031	93	11-70	60	10	P	W
31dcb-1	Sullivan Land and Livestock Co.	1956	700	14	100	5,040	92	11-70	770	58	I	C,L,W
34dad-1	Hanson Land and Livestock Co.	-	178	3	-	5,130	156	6-53	-	-	U	-
(C-27-11)23dcb-1	U.S. Bureau of Land Management	1957	275	8	235	5,152	204	5-57	-	-	U	-
27ccc-1	do.	1971	665	6	0	5,310	370	7-71	-	-	T	L
34dab-1	Essex Int., Inc.	1947	500	16	380	5,235	274	-	-	-	N	L
34dba-1	do.	1967	593	10	198	5,248	295	1967	-	-	N	L
(C-27-12)26cab-1	U.S. Bureau of Land Management	1934	336	8	-	5,635	141	12-34	-	-	S	C
(C-28-10)5adc-1	Sullivan Land and Livestock Co.	-	360	6	278	4,947	10	9-70	-	-	U	H,L,W
5cdc-3	do.	1964	146	16	20	4,951	4	4-64	-	-	I	-
5dad-2	W. J. Burns	1965	130	6	20	4,953	15	10-68	-	-	S	C,L,W
6dac-1	Town of Milford	1947	173	12	0	5,001	62	8-71	-	-	P	-
6dac-2	do.	1971	439	12	200	5,001	64	8-71	1,200	130	P	L
7aac-2	do.	1960	589	16	274	4,970	18	9-60	-	-	P	-
7aad-1	do.	1913	478	12	-	4,957.9	-	-	-	-	U	C
7aad-2	do.	1921	468	10	200	4,956.6	8	9-35	620	53	U	C
7aad-5	do.	1951	467	16	245	4,957.9	11	6-51	-	-	U	C,L
7adb-1	do.	1947	533	14	284	4,970	30	4-47	615	50	P	C
7dab-1	Union Pacific Railroad	1909	555	12	300	4,961	-	-	-	-	N	C,L
8aad-2	Sullivan Land and Livestock Co.	1967	185	16	40	4,962	17	3-68	960	77	I	C,L,W
8bac-2	do.	1955	144	16	25	4,955	5	9-55	1,240	-	I	-
8bad-3	do.	1955	145	16	22	4,953	4	9-55	900	-	I	-
8cac-1	Gillins and Myers	1931	67	14	-	4,956.8	2	2-38	-	-	U	W
8cac-2	do.	1951	78	14	16	4,957	16	11-70	-	-	I	L,W
14bba-1	Hanson Land and Livestock Co.	1957	255	8	225	5,188	190	12-57	-	-	S	C
16cda-1	Jerry Mayer	1952	440	16	60	5,025.5	48	3-71	900	109	I	C,L,W
17bda-1	M. H. Pool	1941	-	8	-	4,964.4	7	3-58	-	-	I	-
17ccc-1	G. C. Goodwin	1934	92	14	-	4,970.0	6	4-40	580	15	I	C,L
17cdc-1	E. N. Davie	1927	60	14	-	4,971.6	6	4-40	-	-	U	C,L
17cdc-2	do.	1953	220	14	-	4,971.4	-	-	-	-	I	-
17cdd-1	Kenley Taylor	1949	170	14	40	4,975.1	8	3-50	600	14	I	-
17dcd-1	Jerry Mayer	1951	155	14	60	4,982.9	16	4-52	470	22	I	-
18aca-1	G. C. Goodwin	1882	452	2	-	4,963.3	7	10-56	-	-	I	-
18aca-2	do.	-	-	-	-	4,962.1	-	-	-	-	D	C

Table 13.--Records of selected wells - Continued

Location	Owner	Year con-structed	Depth of well (feet)	Casing: Diameter (inches)	Casing: Depth to first perforations (feet)	Altitude (feet above mean sea level)	Water level: Above(+) or below land-surface datum (feet)	Water level: Date of measure-ment	Production: Yield (gal/min)	Production: Draw-down (feet)	Use of well or water in 1972	Other data available
(C-28-10)18acd-2	G. C. Goodwin	1955	180	14	50	4,965	-	-	-	-	I	-
18ada-1	do.	1950	10	8	10	4,960.7	2	4-50	-	-	U	C
18cab-1	L. E. Mayer	1949	193	14	35	4,968.9	10	3-50	480	-	I	C,H,L,W
19abc-1	T. E. Walker	1904	260	2	-	4,967.6	+3	11-36	6	-	D	C
19abd-2	do.	1961	189	12	68	4,968.6	-	-	1,200	85	I	-
19acc-2	J. E. Price	1956	200	14	40	4,972.5	18	5-56	370	-	I	-
19add-1	do.	1923	65	16	12	4,972.7	11	11-36	-	-	U	H,L,W
19add-3	do.	1954	160	14	-	4,974.4	14	10-54	530	31	I	H,L,W
19bbc-1	D. M. Yardley	1935	71	14	-	4,970.5	9	1-38	370	-	I	C
19bcd-2	do.	1961	210	12	40	4,972.7	35	3-61	1,200	80	I	C,L
19ccd-4	do.	1946	102	16	16	4,977.5	7	3-50	1,120	-	I	C
19dad-2	V. L. Roberts	1957	280	14	-	4,979	-	-	1,120	-	I	-
19dcc-2	H. L. Tolley	1946	300	6	-	4,981	-	-	38	-	D	C
19dcc-3	do.	1952	125	16	-	4,979.5	-	-	450	25	I	-
19ddd-2	S. C. Roberts	1961	163	14	47	4,980.6	-	-	1,250	72	I	-
20bbd-2	Nelson Stott	1956	140	-	29	4,973	22	5-56	-	-	I	-
20bdd-1	Jerry Mayer	1923	85	16	-	4,982.0	8	4-42	620	-	I	-
20ccc-3	do.	1961	390	14	68	4,983	44	8-61	1,600	120	I	L
20ccd-1	do.	1924	84	14	0	4,983.9	10	12-42	-	-	U	C
20ccd-2	do.	1951	148	14	24	4,983.0	24	12-56	550	-	I	L
20cdd-1	C. W. Chaney	1920	48	10	-	4,987.5	16	10-51	-	-	U	-
20cdd-2	do.	1952	120	14	28	4,987.3	13	3-53	-	-	U	L
20dcd-2	Wiseman Bros.	1958	344	14	86	4,993.3	70	9-58	1,320	38	I	-
20ddd-1	do.	1951	410	16	101	4,997.0	20	3-55	1,062	-	I	-
21baa-1	Jerry Mayer	1960	949	14	140	5,026	38	3-60	1,050	-	I	L
21ccd-1	W. C. Wiseman	1949	316	12	125	5,009.7	21	3-50	540	-	I	C,L
27bbb-1	Hanson Land and Livestock Co.	1953	132	4	93	5,085	67	11-53	-	-	O	H,L,W
28cdd-1	Mayer Bros.	1952	360	16	60	5,019.0	21	4-52	800	65	I	C,L,W
28dbd-1	do.	1971	450	12	200	5,038	59	8-71	510	95	I	L
29aad-1	do.	-	-	-	-	4,999	-	-	-	-	I	-
29add-1	do.	1952	543	16	60	4,999.6	14	4-52	2,250	79	I	-
29bcc-1	O. R. Williams	1927	74	14	-	4,990.3	8	4-40	-	-	U	C
29bcc-2	do.	1953	253	14	40	4,990	13	3-53	1,200	30	I	L
29bcd-2	do.	1951	143	14	14	4,990	10	4-51	-	-	I	C
29bdd-1	J. R. Coyle	1927	62	14	-	4,991.7	10	3-50	440	-	U	C,L
29bdd-2	do.	1956	200	14	40	4,992	30	4-56	1,800	40	I	-
29cad-2	Waldo Yardley	1956	204	-	-	4,997	-	-	400	-	I	-
29ccd-3	D. W. Yardley	1960	156	12	50	4,998	30	4-60	1,200	100	I	-
29cdc-2	do.	1936	212	8	-	4,998.0	13	4-38	-	-	U	C,L
29cdc-3	do.	1955	220	14	40	4,998	-	-	-	-	I	-
29dcc-3	L. Rowley	1958	180	14	-	4,999	-	-	-	-	I	-
29ddd-1	Mayer Bros.	1952	360	16	-	5,005.0	34	4-71	1,200	-	I	-
30adc-1	McCoy Williams	1935	101	14	18	4,990.0	11	3-51	400	-	U	C,L
30adc-3	do.	1961	404	14	60	4,990	-	-	1,140	-	I	-
30bdc-1	Jeff Baldwin	1920	48	16	-	4,984.7	12	10-23	350	-	U	C,L
30bdc-3	do.	1963	290	17	176	4,985	-	-	1,100	-	I	C,L
30bdd-1	do.	1920	58	16	10	4,986.4	10	2-20	270	-	U	C,L
30bdd-2	do.	1952	148	16	18	4,986	-	-	-	-	I	C,L
30cad-2	D. M. Yardley	1954	150	14	-	4,991	-	-	-	-	I	-
30cbd-1	L. E. Paice	1950	196	16	-	4,989	-	-	620	-	I	-
30cdc-1	do.	1924	54	14	-	4,994.1	8	4-23	-	-	U	C,L
30cdc-2	do.	1954	160	14	44	4,994.1	29	10-54	500	-	I	W
30dbb-2	P. B. Fisher	1956	186	6	-	4,988	-	-	15	-	D	C
31acc-2	J. A. Mayer	1961	180	12	51	5,003.5	57	10-70	480	17	I	-
31adc-2	Latter-day Saints Church	1951	175	16	27	5,003	36	4-71	750	-	I	-
31add-1	do.	1931	77	16	18	5,003.7	17	6-31	-	-	U	H,W
31bad-3	J. A. Mayer	1961	290	14	-	5,000	55	10-70	580	17	I	-
31bbd-2	Rosa Thurston	-	-	-	-	4,998	-	-	-	-	I	-
31bcd-2	H. Narsue	1953	136	14	40	5,001	22	8-53	350	-	I	-
31bdd-2	do.	1956	240	14	40	5,003	33	4-56	1,800	47	I	-
31cad-2	J. A. Mayer	1956	150	14	-	5,007	61	9-70	390	12	I	-
31ccd-3	do.	1952	172	16	42	5,007	57	9-70	760	32	I	-
31cdd-3	O. T. Puffer	1954	160	12	40	5,011	72	9-70	630	-	I	-
31dcc-3	do.	1960	269	12	60	5,011	38	10-60	-	-	I	-
31dcd-2	do.	1951	176	16	47	5,013.2	25	-	470	-	I	-
31ddc-2	J. E. Price	1949	195	12	-	5,014	40	7-50	700	-	I	C,L
32aad-1	J. H. Valine	1956	171	14	25	5,009	35	4-71	260	-	I	-
32bbc-3	Waldo Yardley	1942	132	14	0	5,000	27	6-50	-	-	I	-
32bda-2	do.	1961	400	14	68	5,001	52	8-61	360	-	I	-
32cac-4	J. E. Yardley	1960	250	14	50	5,010	-	-	2,000	110	I	-
32ccd-1	L. E. Paice	1926	60	12	25	5,014	20	11-26	300	18	U	C,L
32ccd-2	do.	1952	298	14	43	5,014.0	35	3-58	440	-	I	-
32cdc-2	do.	1961	300	14	70	5,014	70	8-61	1,600	55	I	-
32dcd-1	do.	1955	300	14	-	5,019	43	4-71	780	-	I	-
32ddd-1	G. D. Vantassell	1954	287	16	80	5,020	36	3-56	-	-	I	L,W
33aba-1	G. R. Eyre	1916	140	8	-	5,045	39	9-35	-	-	U	C
33aba-4	do.	1968	328	6	312	5,045	65	4-68	-	-	D	L

Table 13.--Records of selected wells - Continued

Location	Owner	Year con-structed	Depth of well (feet)	Casing: Diameter (inches)	Casing: Depth to first perforations (feet)	Altitude (feet above mean sea level)	Water level: Above(+) or below land-surface datum (feet)	Water level: Date of measure-ment	Production: Yield (gal/min)	Production: Draw-down (feet)	Use of well or water in 1972	Other data available
(C-28-11)10acd-1	U.S. Bureau of Land Management	1939	227	5	-	5,108	154	9-70	1	-	S	C,L,W
12abb-1	Province of the Holy Name	1954	440	16	120	5,062	108	10-54	590	-	I	C,L,W
12dbc-1	Russel Mayer	1954	460	14	70	5,030	74	10-54	1,600	82	I	W
13dca-1	Frank Brinkman	1903	600	6	-	4,971.8	+1	12-38	1	-	U	C
22dab-2	Haywood and others	1938	72	10	54	5,004	33	9-41	50	8	U	H,L,W
23abb-1	South Milford Live-stock Assoc.	1923	80	14	0	4,987.6	22	5-41	-	-	U	C,W
23abb-2	do.	1968	113	6	86	4,987.6	37	9-70	-	-	U	L,W
23cbb-2	J. L. Moody	1952	95	16	-	4,990	22	11-52	620	-	I	C,L
24daa-1	L. E. Mayer	1928	204	12	55	4,973.6	8	2-39	-	-	I	-
25abd-1	G. E. Smith	1928	77	14	-	4,977.1	4	4-40	-	-	U	C,L
25abd-3	do.	1961	203	14	27	4,977	25	9-61	-	-	I	-
25dcd-1	Green Diamond Ranch	1950	431	16	18	4,987.4	14	6-50	2,500	50	I	C,L,W
25ddd-1	do.	1924	73	14	-	4,989.0	7	4-24	450	-	U	C,L
25ddd-2	do.	1954	150	14	44	4,989	22	5-54	480	-	I	-
35aad-2	W. J. Stewart	1962	204	14	62	4,987	30	8-62	430	-	I	-
35add-1	Irene Stewart	1928	77	14	-	4,989.1	11	4-40	-	-	U	W
35add-2	do.	1951	171	16	-	4,991.4	13	3-53	425	-	I	W
35cad-1	H. and J. Cook	-	-	-	-	4,980.5	17	5-71	1	-	S	C
35dcd-2	L. E. Mayer	1968	215	14	40	4,995	32	11-68	-	-	I	-
35ddd-1	D. R. Sly	1927	74	14	-	4,998.9	11	2-39	-	-	U	C
35ddd-2	do.	1952	150	16	40	5,000	22	5-52	-	-	I	L
36aad-2	J. E. Moore	1961	270	12	0	4,994	50	3-61	700	22	I	-
36add-1	G. E. Smith	1925	62	14	12	4,997.8	8	2-39	-	-	U	W
36add-2	do.	1955	154	14	26	4,997	30	5-55	900	-	I	L,W
36bac-2	W. J. Stewart	1951	140	14	16	4,988	12	5-51	-	-	I	-
36bba-2	do.	1928	66	14	0	4,982.7	9	2-36	-	-	U	C,L
36bba-3	do.	1949	150	4	134	4,983	4	4-49	20	7	D	C,L
36bdd-2	do.	1952	223	16	20	4,994	12	10-52	-	-	I	-
36cad-3	H. Naruse	1951	170	14	-	4,998.4	16	12-51	570	-	I	-
36cbd-1	Mayer Bros.	1934	78	14	-	4,995.9	15	12-51	390	-	U	C
36cca-2	do.	1967	184	14	-	4,997	40	2-67	1,010	-	I	-
36cdd-1	H. S. Thompson	1920	90	16	-	5,002.9	15	3-50	-	-	U	C,L
36cdd-3	do.	1951	315	16	37	5,003	36	4-71	620	-	I	-
36dcc-2	do.	1951	172	16	33	5,004.7	38	4-71	410	-	I	C,L
36ddd-1	J. L. McBride	1925	60	-	-	5,003.6	12	3-50	460	-	U	C
36ddd-3	do.	1956	204	14	40	5,002	25	4-56	1,600	22	I	L
36ddd-4	do.	1960	170	14	102	5,002	44	8-60	-	-	I	-
(C-29-10)5add-1	G. D. Vantassell	1953	310	16	80	5,032	35	4-53	1,000	-	I	C,L
5bac-2	do.	1953	178	14	42	5,020	-	-	500	-	I	-
5bbb-3	Thompson and others	1965	225	6	181	5,016	70	6-65	-	-	D	-
5cad-2	G. D. Vantassell	1952	166	6	151	5,031	46	5-52	-	-	D	-
5cad-3	do.	1957	302	14	70	5,031	26	4-57	1,500	64	I	-
5cdd-4	do.	1949	198	14	40	5,036.7	31	3-50	400	13	D	C,W
5cdd-5	do.	1964	295	14	90	5,037	58	3-70	1,300	104	I	C,L,W
5dcd-1	do.	1952	320	16	50	5,039	50	9-52	2,000	40	I	-
5ddd-1	do.	1958	320	14	90	5,042	60	8-58	1,800	58	I	-
6aad-2	J. A. Mayer	1954	168	14	-	5,019.0	35	6-54	780	8	I	C
6abb-1	do.	1950	98	16	15	5,013.5	27	3-53	-	-	O	H,W
6abb-2	do.	1951	193	6	170	5,012	39	7-51	-	-	D	-
6aca-2	do.	1952	200	16	64	5,022	50	4-71	900	22	I	-
6baa-1	do.	1921	90	12	-	5,012.1	-	-	-	-	U	C,L
6baa-2	do.	1953	190	16	41	5,012	26	3-53	560	-	I	C
6dcc-1	Mayer Bros.	1961	258	14	-	5,030	68	8-61	1,800	110	I	-
6dcd-1	do.	1949	235	12	138	5,033	33	4-49	660	-	I	-
6ddc-1	Terral Bowen	1925	90	12	-	5,032.7	37	5-53	-	-	U	C,H,W
6ddc-2	do.	1952	154	16	45	5,032.7	35	3-53	500	14	I	H,L,W
7bdb-2	L. W. Dalton	1955	200	14	50	5,037	35	5-55	1,200	65	I	-
7bdb-3	do.	1957	207	6	190	5,037	-	-	-	-	D	-
7ddd-1	Russel Mayer	1948	241	14	121	5,054	47	3-51	1,520	-	I	-
7ddd-2	do.	1960	207	6	180	5,054	-	-	-	-	D	-
8ada-2	C. and W. Gillins	1965	422	16	110	5,050	60	4-71	1,070	-	I	-
8cdd-1	N. and T. Marshall	1952	218	14	18	5,060	74	4-71	700	-	I	-
8dcd-1	do.	1969	392	16	91	5,063	76	4-71	1,290	-	I	-
8ddd-1	Ross Marshall	1952	210	16	60	5,066.5	63	3-55	1,800	40	S	W
8ddd-2	do.	1961	410	14	95	5,067	82	3-65	1,080	34	I	C,L,W
15bdc-1	Utah State Road Comm.	1953	224	4	180	5,212	171	11-53	-	-	O	L,W
16cdc-2	Fock Parkinson	1952	192	14	96	5,098	-	3-53	980	-	I	-
16cdd-2	do.	1950	157	6	-	5,102	75	10-50	-	-	D	L
17add-1	Thurman and Eyre	1950	202	16	60	5,077.7	62	3-51	480	20	U	C,L
17dcc-1	L. and K. Marshall	1950	201	16	60	5,081	65	12-50	3,260	26	I	-
17ddd-1	Thurman and Eyre	1950	304	16	-	5,090.3	71	3-51	2,025	32	U	C,L,W
17ddd-2	do.	1960	220	14	105	5,090	87	3-60	520	-	I	W
18add-1	Russel Mayer	1949	180	16	55	5,065	47	9-49	-	-	U	C
18daa-1	do.	1957	298	16	100	5,065	45	9-57	1,480	-	I	C,L
18dad-1	do.	1955	314	16	100	5,067	80	3-71	1,800	13	I	-
18dcd-1	do.	1970	375	14	-	5,068	78	3-71	1,660	28	I	C,L
18ddd-1	do.	1950	166	16	60	5,072	57	12-50	1,140	-	I	-

Table 13.--Records of selected wells - Continued

Location	Owner	Year constructed	Depth of well (feet)	Casing: Diameter (inches)	Casing: Depth to first perforations (feet)	Altitude (feet above mean sea level)	Water level: Above(+) or below land-surface datum (feet)	Water level: Date of measurement	Production: Yield (gal/min)	Production: Draw-down (feet)	Use of well or water in 1972	Other data available
(C-29-10)19ddd-1	U.S. Bureau of Land Management	1953	133	4	122	5,094.5	114	10-72	-	-	O	L,H,W
27bbd-1	Ralph Pearson	1947	146	6	122	5,169	108	4-47	-	-	S	C,L
33bbb-1	U.S. Bureau of Land Management	1953	160	4	-	5,137.3	118	12-53	-	-	O	L,W
35ccd-1	do.	1953	175	4	-	5,249.7	119	12-53	-	-	O	H,L,W
(C-29-11)1abd-2	W. Powell	1956	230	12	40	5,008	23	9-56	1,250	67	I	-
1ada-3	Mayer Bros.	1954	145	14	40	5,009	41	3-71	480	-	I	-
1add-1	J. A. Mayer	1926	64	14	18	5,014.6	31	9-35	460	16	U	W
1add-2	do.	1955	200	14	60	5,015.1	39	10-55	900	25	I	C,L,W
1bad-2	M. K. Price	1950	140	14	-	5,004	19	12-51	720	24	I	C,L
1cad-3	D. P. Sly	1953	220	16	30	5,013	23	5-53	660	18	I	-
1ddd-1	A. R. Bachus	1950	210	16	25	5,023	23	5-50	-	-	I	-
2aac-2	J. Sherwood	1956	204	14	40	5,006.7	29	12-56	1,500	52	I	-
2adc-1	L. D. Applegate	1955	200	12	40	5,003	26	4-55	1,780	46	I	-
2add-1	do.	1922	52	16	-	5,003.4	14	12-41	250	18	U	C,L
2bad-3	H. and J. Cook	1966	98	8	84	4,988	27	8-66	15	20	S	-
2ddd-2	D. R. Sly	1956	200	14	40	5,010	35	4-56	2,000	30	I	-
4baa-1	H. and J. Cook	-	68	16	-	5,022.8	48	10-72	-	-	S	C,H,W
9cbb-1	U.S. Bureau of Land Management	1961	63	8	48	5,010	20	5-71	45	12	S	-
10ddd-1	L. H. Larsen	1957	103	6	-	5,007	-	-	6	-	S	C
11aad-1	T. B. Rimpau	1923	70	16	-	5,011.6	16	12-48	-	-	U	C,L
11aad-2	do.	1953	220	16	45	5,012	21	4-53	340	-	I	-
11aad-3	do.	1970	215	6	123	5,009	43	10-70	-	-	D	-
11acc-1	do.	1914	53	5	-	5,008.3	13	4-40	-	-	U	C
11acc-2	do.	1957	170	6	150	5,008	30	6-57	-	-	I	-
11acd-2	do.	1955	166	14	27	5,010	21	5-55	-	-	I	-
11caa-1	do.	1952	95	14	18	5,010	14	4-52	420	-	I	-
11ccd-1	L. D. Applegate	1928	62	14	-	5,016	18	3-50	410	-	I	C
11cdd-1	do.	1929	63	18	15	5,017.7	17	1-30	-	-	U	W
11cdd-2	do.	1949	90	16	56	5,018.2	18	12-49	580	15	I	C,L,W
11ddc-1	E. Applegate	1927	65	16	-	5,018.3	19	4-41	-	-	U	C
11ddc-2	do.	1961	400	16	33	5,018	39	9-61	-	-	I	L
11ddd-1	Cook Bros.	1918	83	-	16	5,018.4	20	12-37	-	-	U	C,L
11ddd-4	do.	1961	155	8	-	5,018	32	9-61	-	-	D	-
12aaa-1	Green Diamond Ranch	1950	305	8	127	5,021.7	24	3-50	-	-	D	L
12add-1	do.	-	202	14	-	5,030	26	3-50	-	-	I	-
12caa-1	do.	1963	312	16	57	5,021	45	5-63	-	-	I	-
12ddc-1	do.	1952	240	16	30	5,033	35	6-53	560	-	I	-
12ddd-1	do.	1950	232	16	34	5,035.4	29	6-50	1,910	56	I	C,L
13add-1	D. and V. Nebeker	1946	278	14	135	5,042.8	34	4-47	1,000	-	I	L,W
13dcb-1	do.	1969	445	16	70	5,040	65	5-69	1,440	-	I	-
13dcc-1	do.	1955	300	16	80	5,043	45	6-55	2,600	40	I	-
13ddd-1	do.	1947	248	16	136	5,053	46	12-51	1,475	14	U	-
14aad-2	S. R. Barnes	1952	210	16	20	5,022.6	23	3-53	990	10	I	-
15abc-1	Cook Bros.	1966	100	6	39	5,007	15	1-71	-	-	S	-
19caa-2	do.	1960	75	6	47	5,052.1	54	10-71	-	-	S	C
21cdd-1	do.	1933	-	6	-	5,012	8	10-70	-	-	S	-
22add-1	R. Christiansen	1928	65	14	-	5,028.1	22	4-40	690	14	U	W
22add-2	do.	1960	212	16	52	5,028.1	42	7-60	490	-	I	L,W
23bdd-1	L. D. Tonn	1950	204	16	32	5,037	31	-	1,630	-	I	-
23cad-2	R. Christiansen	1953	200	14	60	5,039.0	34	10-53	730	-	I	-
27aad-1	Ross Marshall	1955	204	16	50	5,039	37	8-55	1,090	-	I	-
27add-2	do.	1948	118	14	36	5,043.0	-	-	890	-	I	C,L
27bad-1	do.	1930	70	12	-	5,031.5	-	-	-	-	U	C
27bad-2	do.	1949	200	6	184	5,031.5	23	12-51	-	-	D	C,L
27bda-1	do.	1951	189	14	35	5,032	28	6-51	1,030	-	I	-
27bdd-2	do.	1951	155	14	44	5,034	29	6-51	540	-	I	-
27cda-1	do.	1955	216	16	40	5,037	32	8-55	-	-	I	-
27dad-1	do.	1948	300	16	150	5,045.1	33	3-50	1,270	-	I	C,L,W
27dcb-1	do.	1928	68	12	-	5,038.4	29	2-38	-	-	S	-
28aad-2	E. F. Jeppson	1950	202	14	52	5,026.1	18	12-51	1,160	-	I	-
28abc-1	do.	1959	259	16	40	5,025	28	6-59	1,240	-	I	-
28add-2	O. Kesler	1948	196	12	24	5,028.3	21	4-50	960	23	I	C,L
28daa-1	do.	-	140	6	-	5,028	-	-	-	-	S	-
(C-29-12)33aaa-1	-	-	-	6	-	5,270	245	8-72	-	-	S	-
35ddd-1	U.S. Bureau of Land Management	1953	102	4	74	5,095	81	12-53	-	-	O	H,W
36cbb-1	do.	-	-	8	-	5,110	103	11-70	-	-	S	-
(C-29-13)31ccc-1	do.	-	480	6	-	5,442	390	-	-	-	S	L
(C-30-9)7adb-1	Town of Minersville	1956	78	12	38	5,312	8	6-57	-	-	P	C
(C-30-10)6bbb-1	U.S. Bureau of Land Management	1953	113	4	108	5,096	75	10-53	-	-	O	W
6ddd-1	do.	1953	140	4	125	5,127.5	97	10-53	-	-	O	W
7ccd-1	Goodson and others	1953	140	4	135	5,109	75	11-53	-	-	O	W
8ddd-1	U.S. Bureau of Land Management	1953	167	4	162	5,159	109	10-53	-	-	O	W
10abb-1	Sheral Carter	1955	320	14	100	5,202	131	9-55	300	25	U	C,H,W

Table 13.--Records of selected wells - Continued

Location	Owner	Year constructed	Depth of well (feet)	Casing: Diameter (inches)	Casing: Depth to first perforations (feet)	Altitude (feet above mean sea level)	Water level: Above(+) or below land-surface datum (feet)	Water level: Date of measurement	Production: Yield (gal/min)	Production: Drawdown (feet)	Use of well or water in 1972	Other data available
(C-30-10)11cdc-1	Newell Marshall	1971	200	6	174	5,267	155	4-61	-	-	S	-
12acb-1	Latter-Day Saints Church	1956	100	6	60	5,268	14	3-56	-	-	U	H,W
12dad-2	Town of Minersville	1956	1,018	-	-	5,315	20	3-72	-	-	U	L
19abd-1	Net Craw	1960	360	6	-	5,140	97	10-60	-	-	T	L
19abd-2	do.	1960	293	16	112	5,140	97	3-61	1,000	18	I	C
31cab-1	U.S. Bureau of Land Management	1964	400	6	-	5,347	307	10-64	15	10	S	L
(C-30-11)4baa-1	Minersville Land and Livestock Co.	1953	299	16	34	5,031	21	5-54	-	-	I	W
12bbb-1	U.S. Bureau of Land Management	1953	112	4	92	5,081	55	11-53	-	-	O	L,W
18aaa-1	do.	1971	630	6	0	5,031	26	7-71	-	-	T	L
22ddc-1	do.	1935	165	6	-	5,124.1	102	1-35	9	-	S	C,L
24ccb-1	Minersville Land and Livestock Co.	1953	112	4	107	5,129.0	83	11-53	-	-	O	W
30dda-1	U.S. Bureau of Land Management	1953	125	4	88	5,098	80	11-53	-	-	O	H,W
(C-30-12)3dda-1	Posik and others	1935	-	38	-	5,061	51	12-70	8	-	S	-
6cca-1	U.S. Bureau of Land Management	1935	537	6	340	5,280	230	10-35	-	-	U	L
9aad-1	L. H. Larsen	1925	-	-	-	5,067.7	-	-	-	-	U	C
9add-1	do.	1940	50	10	-	5,065	-	-	8	-	S	C,L
11bad-1	Union Pacific Railroad	1905	401	12	337	5,032	27	1905	100	16	N	C,L
13bcb-1	Minersville Land and Livestock Co.	-	43	2	-	5,022.7	9	10-39	-	-	U	C
21bdc-1	U.S. Bureau of Land Management	1971	857	6	0	5,035	13	7-71	-	-	T	L
(C-30-13)2ccc-1	D. C. Lamoreaux	1950	323	6	270	5,310	271	9-50	-	-	S	L
8caa-1	Jess Guymon	1949	263	6	243	5,277.0	-	-	7	-	S	C,L
14bcc-1	H. and J. Cook	-	-	6	-	5,189.0	150	8-71	-	-	S	-
18ddd-1	Jess Guymon	1918	209	6	-	5,220.1	172	4-40	-	-	S	-
20ddb-2	do.	1968	149	6	140	5,147.2	106	12-68	-	-	S	-
22ddd-1	D. C. Lamoreaux	1921	90	16	-	5,100.6	64	4-40	-	-	U	W
23cdd-1	H. and J. Cook	1915	75	12	-	5,093.8	53	11-70	-	-	S	-
25abb-1	do.	-	74	-	-	5,071.8	-	-	-	-	S	C,L
29dcc-1	Jess Guymon	-	185	6	-	5,102.2	56	7-38	-	-	U	H,W
30bdd-2	do.	-	-	6	-	5,128.1	84	11-70	-	-	S	C
33abb-1	H. and J. Cook	1913	90	12	-	5,090.7	50	4-40	-	-	S	-
34bba-1	do.	1916	144	12	-	5,086.3	44	4-40	-	-	U	H,W
34bbb-1	do.	1914	90	12	-	5,087.8	46	4-40	-	-	U	H,W
(C-31-12)4ddd-1	Nada Land and Livestock Co.	1950	132	6	113	5,140	108	11-61	-	-	U	W
17dcb-1	Alta Bonner	-	49	48	-	5,094	46	8-39	20	-	S	C
(C-31-13)1dbb-1	V. Stephenson	1928	114	12	-	5,071.2	28	3-38	-	-	U	W
4bcc-2	Beehive State Bank	1931	94	12	-	5,072	28	11-61	-	-	S	-
6adc-1	do.	1915	84	8	69	5,104.6	50	8-39	-	-	S	W
18aad-1	do.	1961	101	6	85	5,117.0	62	5-62	-	-	S	C,W
23bbb-2	Nada Land and Livestock Co.	1950	65	6	-	5,081	30	4-50	-	-	S	-

Table 14.--Records of selected springs

Location: See text for explanation of numbering system.
Hydrogeologic unit: See table 1 for description of hydrogeologic units.
Use of water: I, irrigation; P, public supply; S, stock.
Remarks and other data available: C, chemical analysis given in table 16.

Location	Name or owner	Altitude (feet above mean sea level)	Hydro-geologic unit	Yield		Use of water	Remarks and other data available
				Discharge (gal/min)	Date of measurement		
(C-24-10)22adb-S1	V. A. Kaufman	4,880	2	(1/)	-	I,S	Northernmost spring orifice of several near Black Rock. C.
(C-25-9)9adb-S1	Antelope	5,080	1	3.4	9-29-71	S	C.
(C-25-12)34dbc-S1	High Rock	5,890	4	.25	9- 7-63	S	
35caa-S1	Armstrong	5,645	4	-	-	S	C.
(C-26-9)34bd-S	Salt	6,100	1	-	-		
34dcb-S1	Roosevelt	6,000	1	0	10- 5-70	-	No flow in many years. C.
(C-26-11)19dbb-S1	West	6,100	5	-	-	S	C.
29aac-S1	Smith	5,830	4	(2/)	-	S	C.
29abb-S1	Bardsley	6,050	4	-	-	S	C.
(C-26-12)10bdb-S1	Three Kilns	5,970	4	.83	9-22-71	S	C.
30dab-S1	South Seep	6,590	4	-	-	S	C.
(C-27-9)35dcb-S1	Ranch Canyon	6,500	2	18.8	9-28-71	S	
(C-27-12)6cac-S1	Coyote	6,750	4	-	-	S	C.
(C-28-9)14dbb-S1	Rock Corral	7,150	2	4.5	9-28-71	S	C.
23cdd-S1	McEwen	7,250	2	-	-	S	C.
29cad-S1	Griffith	6,400	1	-	-	S	C.
(C-28-11)24acc-S1	Tadpole	4,970	1	0	6- 7-72	-	No flow in 1972.
(C-28-12)29dcc-S1	Woodhouse	6,160	4	-	-	S	C.
(C-29-9)17bcb-S1	Guyo	6,610	5	-	-	S	C.
19bbb-S1	Oak	6,108	5	-	-	S	C.
29abb-S1	Creole	6,380	5	-	-	-	C.
(C-29-10)13cdd-S1	Shearing Corral	5,840	1	-	-	S	
24cab-S1	North	5,700	1	-	-	S	
(C-29-11)15aad-S1	Hay	4,995	1	0	6- 7-72	-	No flow in 1972. C.
(C-29-13)2bdc-S1	-	6,070	4	-	-	S	C.
(C-30-9)7aca-S1	Minersville	5,302	1	-	-	P	C.
19bdc-S1	U.S. Bureau of Land Management	5,715	4	-	-	S	C.
31daa-S1	Willow	6,160	4	-	-	S	C.
(C-30-12)21add-S1	Thermo (north mound)	5,045	1	10.8	5- 9-71	S	Discharge is a total for 45 openings. C.
28acb-S1	Thermo (south mound)	5,045	1	19.3	5- 9-71	S	Discharge is a total for 49 openings. C.
(C-31-9)3cba-S1	Big Maple	6,700	4	-	-	S	C.
5bba-S1	Wire Grass	6,280	4	-	-	S	C.
(C-31-10)8bda-S1	Dry Willow	6,000	4	-	-	S	C.

1/ Discharge in 1972 estimated to be between 500 and 1,000 (gal/min).
2/ Discharge 9-24-71 estimated to be less than 1 (gal/min).

Table 15.--Water levels in selected observation wells

LOCAL NUMBER (C-25-9)29CBD-1. FLOYD ANDERSON. DRILLED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 8 IN. LSD 5043 FT ABOVE MSL. MP TOP OF CASING, 0.24 FT ABOVE LSD.
HIGHEST WATER LEVEL 61.09 BELOW LSD, DEC. 1, 1970.
LOWEST WATER LEVEL 61.38 BELOW LSD, OCT. 31, 1970.
RECORDS AVAILABLE 1941-45, 1950, 1962, 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 1, 1941	61.12	JUNE 7, 1950	61.13	JULY 12, 1971	61.14	APR. 1, 1972	61.17
APR. 13, 1942	61.15	DEC. 5	61.22	AUG. 10	61.18	MAY 1	61.18
JULY 28	61.12	DEC. 23, 1962	61.20	SEP. 1	61.17	JUNE 2	61.14
DEC. 8	61.21	OCT. 31, 1970	61.38	OCT. 3	61.16	JULY 5	61.14
MAR. 11, 1943	61.17	DEC. 1	61.09	NOV. 15	61.14	AUG. 3	61.18
NOV. 24, 1944	61.30	JAN. 20, 1971	61.17	JAN. 14, 1972	61.14	SEP. 9	61.20
MAR. 27, 1945	61.31	MAY 9	61.16	MAR. 3	61.18	OCT. 5	61.24

LOCAL NUMBER (C-25-10)12BCC-1. BUREAU OF LAND MANAGEMENT. DRILLED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 6 IN. LSD 4975 FT ABOVE MSL. MP TOP OF CASING, 0.80 FT ABOVE LSD.
HIGHEST WATER LEVEL 32.28 BELOW LSD, MAR. 2, 1971, MAR. 3, 1972.
LOWEST WATER LEVEL 34.61 BELOW LSD, JULY 5, 1972.
RECORDS AVAILABLE 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 31, 1970	32.33	JULY 14, 1971	32.46	JAN. 14, 1972	32.33	JUNE 2, 1972	32.29
DEC. 1	32.30	AUG. 10	32.43	MAR. 3	32.28	JULY 5	34.61A
JAN. 20, 1971	32.32	SEP. 1	33.44	APR. 1	32.30	AUG. 3	32.42
MAR. 2	32.28	NOV. 18	32.34	MAY 1	32.30	OCT. 5	32.40
MAY 9	32.67						

LOCAL NUMBER (C-25-10)26CAA-1. STATE OF UTAH. DUG STOCK WATER-TABLE WELL IN ALLUVIUM. LSD 4960 FT ABOVE MSL. MP HOLE IN WELL COVER, 0.60 FT ABOVE LSD.
HIGHEST WATER LEVEL 16.12 BELOW LSD, MAR. 10, 1948.
LOWEST WATER LEVEL 17.76 BELOW LSD, MAR. 11, 1943.
RECORDS AVAILABLE 1941-53, 1955, 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 23, 1941	17.67	MAR. 27, 1945	17.40	DEC. 6, 1949	16.50	MAR. 21, 1953	16.85
DEC. 1	17.69	MAR. 14, 1946	17.32	MAR. 22, 1950	16.54	MAR. 21, 1955	16.85
APR. 13, 1942	17.64	DEC. 9	17.46	DEC. 5	16.64	OCT. 23, 1962	17.40
JULY 28	17.53	MAR. 20, 1947	17.08	MAR. 12, 1951	16.72	NOV. 1, 1970	17.06
DEC. 8	17.73	MAR. 10, 1948	16.12	DEC. 10	16.59	JULY 15, 1971	17.60
MAR. 11, 1943	17.76	DEC. 3	16.30	MAR. 31, 1952	16.85	MAR. 3, 1972	17.01
NOV. 24, 1944	17.37	APR. 24, 1949	16.44	NOV. 18	16.84	OCT. 5	17.20

LOCAL NUMBER (C-26-10)13CDC-1. HANSON LAND AND LIVESTOCK CO. DRILLED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 6 IN. LSD 5020 FT ABOVE MSL. MP TOP OF CASING, 0.10 FT ABOVE LSD.
HIGHEST WATER LEVEL 64.00 BELOW LSD, 1927.
LOWEST WATER LEVEL 67.19 BELOW LSD, AUG. 3, 1972, SEP. 9, 1972, OCT. 5, 1972.
RECORDS AVAILABLE 1927, 1941-44, 1950, 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
1927	64.	OCT. 31, 1970	67.14	AUG. 10, 1971	67.16	APR. 1, 1972	67.15
NOV. 20, 1941	66.88	DEC. 1	67.11	SEP. 1	67.17	JUNE 2	67.15
DEC. 1	66.88	JAN. 20, 1971	67.13	OCT. 3	67.16	JULY 5	67.17
JULY 29, 1942	67.05	MAR. 2	67.13	NOV. 15	67.14	AUG. 3	67.19
DEC. 6, 1943	66.95	MAY 9	67.15	JAN. 14, 1972	67.13	SEP. 9	67.19
NOV. 24, 1944	66.98	JULY 12	67.16	MAR. 3	67.15	OCT. 5	67.19
JUNE 7, 1950	66.85						

LOCAL NUMBER (C-27-10)18DBA-1. CANNON LIVESTOCK CO. DRILLED UNUSED WATER-TABLE WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 74 FT. LSD 4945 FT A BOVE MSL. MP TOP OF CASING, 7.50 FT BELOW LSD.
HIGHEST WATER LEVEL 12.54 BELOW LSD, MAR. 20, 1947.
LOWEST WATER LEVEL 24.80 BELOW LSD, SEP. 23, 1941.
RECORDS AVAILABLE 1941-53, 1955, 1956, 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 23, 1941	24.8 A	MAR. 10, 1948	12.55	MAR. 31, 1952	13.07	JUNE 8, 1971	16.58
DEC. 2	14.05	JULY 14	13.30	NOV. 18	13.41	JULY 12	17.23
APR. 14, 1942	12.59	DEC. 3	13.84	MAR. 21, 1953	13.90	AUG. 10	17.50
JUNE 2	12.61	MAR. 31, 1949	13.86	DEC. 10	14.18	SEP. 3	17.66
JULY 28	19.81A	APR. 23	12.95	MAR. 21, 1955	13.90	OCT. 3	17.67
DEC. 8	18.84A	AUG. 15	13.81	NOV. 30	14.92	NOV. 16	17.20
MAR. 11, 1943	21.39A	DEC. 6	14.05	MAR. 22, 1956	14.50	JAN. 12, 1972	16.94
DEC. 6	22.38	MAR. 22, 1950	13.35	DEC. 4	15.32	MAR. 1	16.70
MAR. 12, 1944	13.33	JUNE 7	13.30	NOV. 6, 1970	17.32	APR. 1	16.58
NOV. 24	13.97	SEP. 25	14.62	DEC. 1	17.14	MAY 1	16.54
MAR. 27, 1945	12.88	DEC. 5	14.47	JAN. 20, 1971	16.88	JUNE 2	16.77
MAR. 27, 1946	12.68	MAR. 12, 1951	13.88	MAR. 2	16.64	JULY 7	17.33
DEC. 9	13.52	AUG. 16	14.42	APR. 2	16.57	AUG. 2	17.66
MAR. 20, 1947	12.54	OCT. 9	14.64	MAY 9	16.43	SEP. 9	14.24
DEC. 6	13.90	DEC. 10	14.23				

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-27-10)31DAA-1. MILFORD. DRILLED PUBLIC SUPPLY ARTESIAN WELL IN ALLUVIUM, DIAM 6 IN, DEPTH 391 FT, CASED TO 378. LSD 5031 FT ABOVE MSL. MP TOP OF CASING, 7.00 FT BELOW LSD.
HIGHEST WATER LEVEL 91.12 BELOW LSD, MAR. 21, 1969,
LOWEST WATER LEVEL 95.54 BELOW LSD, AUG. 3, 1972.
RECORDS AVAILABLE 1968-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 28, 1968	91.7	DEC. 1, 1970	92.55	AUG. 10, 1971	94.12	MAY 1, 1972	91.94
OCT. 2	92.92	JAN. 20, 1971	92.15	SEP. 3	94.10	JUNE 2	93.05
MAR. 21, 1969	91.12	MAR. 2	92.05	OCT. 3	93.69	JULY 7	95.48
OCT. 1	94.35	APR. 2	91.80	NOV. 18	92.78	AUG. 3	95.54
MAR. 11, 1970	91.77	MAY 9	92.24	JAN. 12, 1972	92.20	SEP. 9	94.22
OCT. 1	93.60	JUNE 9	93.00	MAR. 2	91.96	OCT. 5	93.77
NOV. 2	92.95	JULY 14	93.79	APR. 1	91.88		

LOCAL NUMBER (C-27-10)31DCB-1. SULLIVAN LAND AND LIVESTOCK CO. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIA 14 IN, DEPTH 700 FT, CASED TO 100. LSD 5040 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 84.27 BELOW LSD, MAR. 20, 1958,
LOWEST WATER LEVEL 98.74 BELOW LSD, SEP. 30, 1970.
RECORDS AVAILABLE 1956-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 6, 1956	89.64	AUG. 26, 1958	88.26	OCT. 11, 1962	89.06	OCT. 2, 1968	93.52
OCT. 12	88.37	OCT. 10	87.25	MAR. 19, 1963	87.13	MAR. 21, 1969	91.30
DEC. 4	87.55	DEC. 5	85.39	OCT. 11	89.48	OCT. 1	92.94
MAR. 18, 1957	86.80	MAR. 28, 1959	84.55	MAR. 28, 1964	87.83	MAR. 11, 1970	89.54
APR. 19	86.97	OCT. 10	85.40	OCT. 28	89.76	SEP. 30	98.74B
MAY 17	94.40	DEC. 4	85.46	MAR. 12, 1965	87.91	NOV. 2	92.30
JUNE 12	87.88	MAR. 21, 1960	84.60	OCT. 8	90.28	DEC. 1	90.98
JULY 29	88.19	OCT. 13	88.82	MAR. 14, 1966	88.16	JAN. 20, 1971	90.81
OCT. 10	90.38	DEC. 7	86.98	AUG. 30	92.16	MAR. 2	90.69
DEC. 6	85.80	MAR. 15, 1961	86.40	MAR. 1, 1967	89.04	OCT. 3	96.27
MAR. 20, 1958	84.27	OCT. 6	90.25	OCT. 6	91.69	MAR. 1, 1972	91.34
JULY 23	89.77	APR. 2, 1962	86.17	MAR. 5, 1968	89.32	OCT. 3	97.09

LOCAL NUMBER (C-28-10)5ADC-1. SULLIVAN LAND AND LIVESTOCK CO. DRILLED UNUSED STOCK ARTESIAN WELL IN ALLUVIUM, DIAM 6 IN, DEPTH 360 FT, CASED TO 278. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 0.30 ABOVE LSD, MAR. 21, 1969,
LOWEST WATER LEVEL 13.20 BELOW LSD, AUG. 3, 1972.
RECORDS AVAILABLE 1968-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 5, 1968 +	0.15	DEC. 1, 1970	1.56	AUG. 10, 1971	12.02	APR. 1, 1972	1.02
OCT. 2	6.95	JAN. 21, 1971	1.18	SEP. 3	11.73	MAY 1	2.09
MAR. 21, 1969 +	0.30	MAR. 2	0.38	OCT. 2	8.91	JULY 7	10.67
OCT. 1	7.90	APR. 1	0.33	NOV. 15	2.96	AUG. 3	13.20
MAR. 11, 1970	0.10	MAY 7	4.01	JAN. 12, 1972	1.22	SEP. 6	10.51
OCT. 1	7.58	JUNE 8	8.32	MAR. 1	0.71	OCT. 2	8.40
NOV. 2	3.77	JULY 14	11.90				

LOCAL NUMBER (C-28-10)5DAD-2. W. J. BURNS. DRILLED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 6 IN, DEPTH 130 FT, CASED TO 20. LSD 4953 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 13.90 BELOW LSD, MAR. 11, 1970,
LOWEST WATER LEVEL 16.87 BELOW LSD, SEP. 3, 1971.
RECORDS AVAILABLE 1968-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 2, 1968	15.22	OCT. 1, 1970	16.12	MAR. 2, 1971	14.24	SEP. 3, 1971	16.87
MAR. 21, 1969	14.95	NOV. 2	15.97	APR. 1	13.97	NOV. 15	15.55
OCT. 1	15.87	DEC. 1	15.31	JULY 14	15.05	MAR. 1, 1972	14.34
MAR. 11, 1970	13.90	JAN. 21, 1971	14.74				

LOCAL NUMBER (C-28-10)8AAD-2. SULLIVAN LAND AND LIVESTOCK CO. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 185 FT. LSD 4962 FT ABOVE MSL. MP TOP OF CASING, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 16.92 BELOW LSD, MAR. 21, 1969,
LOWEST WATER LEVEL 105.70 BELOW LSD, AUG. 24, 1971.
RECORDS AVAILABLE 1967-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 29, 1967	20.13	OCT. 1, 1970	21.22	AUG. 24, 1971	105.70A	MAR. 28, 1972	17.62
MAR. 5, 1968	16.98	NOV. 2	19.77	OCT. 2	22.13	SEP. 6	24.49
MAR. 21, 1969	16.92	JAN. 21, 1971	18.25	NOV. 17	19.58	OCT. 2	22.52
MAR. 11, 1970	17.32	MAR. 2	17.73	MAR. 1, 1972	17.84		

LOCAL NUMBER (C-28-10)8CAC-1. GILLINS AND MYERS. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 67 FT. LSD 4956.84 FT ABOVE MSL. MP TOP OF CASING, 2.00 FT BELOW LSD. WELL DESTROYED; MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 2.18 BELOW LSD, DEC. 5, 1941.
LOWEST WATER LEVEL 4.43 BELOW LSD, AUG. 11, 1938.
RECORDS AVAILABLE 1938, 1940-42.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 10, 1938	2.38	APR. 15, 1940	2.43	DEC. 5, 1941	2.18	JULY 29, 1942	4.09
JUNE 15	4.00	SEP. 19, 1941	4.29	APR. 14, 1942	2.26	DEC. 8	3.03
AUG. 11	4.43						

LOCAL NUMBER (C-28-10)8CAC-2. GILLINS AND MYERS. DRILLED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 78 FT, CASED TO 16. LSD 4957 FT ABOVE MSL. MP HOLE IN PUMP BASE, 0.30 FT ABOVE LSD.
HIGHEST WATER LEVEL 4.63 BELOW LSD, MAR. 18, 1957.
LOWEST WATER LEVEL 19.38 BELOW LSD, OCT. 2, 1972.
RECORDS AVAILABLE 1956-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 12, 1956	6.62	OCT. 10, 1959	8.61	OCT. 28, 1964	13.93	MAR. 21, 1969	12.30
DEC. 4	5.78	DEC. 4	7.17	MAR. 12, 1965	10.75	MAR. 11, 1970	12.37
MAR. 18, 1957	4.63	MAR. 21, 1960	6.16	OCT. 8	15.50	OCT. 1	18.15
OCT. 10	7.13	OCT. 12	10.66	MAR. 14, 1966	11.30	NOV. 2	15.81
DEC. 7	6.51	DEC. 16	8.64	FEB. 28, 1967	12.58	MAR. 2, 1971	12.97
MAR. 20, 1958	4.90	MAR. 15, 1961	7.43	OCT. 6	16.95	OCT. 2	18.63
OCT. 10	7.60	APR. 2, 1962	8.00	MAR. 5, 1968	12.30	MAR. 1, 1972	12.89
DEC. 5	6.68	MAR. 19, 1963	8.95	OCT. 2	18.02	OCT. 2	19.38
MAR. 28, 1959	5.49	MAR. 28, 1964	9.42				

LOCAL NUMBER (C-28-10)16CDA-1. JERRY MAYER. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 440 FT, CASED TO 60. LSD 5025.5 FT ABOVE MSL. MP BOTTOM OF HOLE IN CASING, 0.67 FT ABOVE LSD.
HIGHEST WATER LEVEL 34.91 BELOW LSD, DEC. 9, 1953.
LOWEST WATER LEVEL 69.96 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1952-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 25, 1952	38.31	OCT. 10, 1952	37.64	FEB. 25, 1953	36.4 E	DEC. 5, 1958	39.78
MAY 31	38.42	OCT. 15	37.59	FEB. 28	36.4 E	MAR. 28, 1959	39.22
JUNE 5	38.53	OCT. 20	37.49	MAR. 5	36.4 E	OCT. 10	42.31
JUNE 10	38.07	OCT. 25	37.41	MAR. 10	36.4 E	DEC. 4	40.94
JUNE 15	38.31	OCT. 31	37.28	MAR. 15	36.4 E	MAR. 21, 1960	40.97
JUNE 20	38.67	NOV. 5	37.24	MAR. 20	36.26	OCT. 12	45.52
JUNE 25	38.86	NOV. 10	37.18	MAR. 25	36.32	DEC. 16	45.06
JUNE 30	39.06	NOV. 15	37.00	MAR. 31	36.30	MAR. 14, 1961	42.86
JULY 5	39.23	NOV. 20	37.07	APR. 5	36.24	MAR. 31, 1962	43.49
JULY 10	38.76	NOV. 25	37.02	OCT. 8	40.25	MAR. 19, 1963	44.42
JULY 15	38.70	NOV. 30	36.94	DEC. 9	34.91	MAR. 28, 1964	45.83
JULY 20	39.15	DEC. 5	36.90	MAR. 3, 1954	37.61	OCT. 28	48.51
JULY 25	39.43	DEC. 10	36.90	JULY 17	45.138	MAR. 12, 1965	46.67
JULY 31	39.33	DEC. 15	36.93	JULY 30	42.56	MAR. 14, 1966	47.34
AUG. 5	39.06	DEC. 20	36.8 E	OCT. 7	40.26	FEB. 28, 1967	48.79
AUG. 10	38.77	DEC. 25	36.78	DEC. 9	38.79	OCT. 6	54.06
AUG. 15	38.77	DEC. 31	36.70	MAR. 22, 1955	38.28	MAR. 5, 1968	49.12
AUG. 20	38.71	JAN. 5, 1953	36.68	OCT. 10	42.33	OCT. 2	69.96
AUG. 25	38.67	JAN. 10	36.74	NOV. 30	39.68	MAR. 21, 1969	48.90
AUG. 31	38.58	JAN. 15	36.69	MAR. 20, 1956	38.98	OCT. 1	58.31
SEP. 5	38.46	JAN. 20	36.62	OCT. 12	42.08	MAR. 11, 1970	47.53
SEP. 10	38.27	JAN. 25	36.6 E	DEC. 4	40.66	OCT. 1	53.81
SEP. 15	38.26	JAN. 31	36.62	MAR. 18, 1957	40.25	NOV. 2	50.28
SEP. 20	38.10	FEB. 5	36.51	OCT. 9	43.78	MAR. 2, 1971	47.97
SEP. 25	37.99	FEB. 10	36.4 E	DEC. 7	41.31	MAR. 1, 1972	48.61
SEP. 30	37.87	FEB. 15	36.50	MAR. 20, 1958	40.17	OCT. 2	57.69
OCT. 5	37.74	FEB. 20	36.4 E	OCT. 10	41.37		

LOCAL NUMBER (C-28-10)18CAB-1. L. E. MAYER. DRILLED IRRIGATION WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 193 FT. LSD 4968.93 FT ABOVE MSL. MP BOTTOM OF HOLE IN CASING, 0.67 FT ABOVE LSD.
HIGHEST WATER LEVEL 9.68 BELOW LSD, APR. 1, 1952.
LOWEST WATER LEVEL 36.08 BELOW LSD, SEP. 16, 1971.
RECORDS AVAILABLE 1950-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 23, 1950	9.72	MAR. 10, 1953	10.29	DEC. 4, 1956	16.35	MAR. 12, 1965	21.93
JUNE 9	10.55	MAR. 16	10.35	MAR. 18, 1957	14.66	OCT. 8	26.14
SEP. 26	12.12	MAY 11	10.70	OCT. 9	18.48	MAR. 14, 1966	23.41
OCT. 31	12.12	JUNE 18	11.54	DEC. 7	16.53	FEB. 28, 1967	24.31
DEC. 6	11.40	AUG. 20	13.21	MAR. 21, 1958	15.19	SEP. 22	28.70
MAR. 13, 1951	10.35	SEP. 11	13.34	OCT. 10	17.83	MAR. 7, 1968	24.08
JUNE 6	12.95	OCT. 14	14.15	DEC. 6	16.60	OCT. 2	28.19
AUG. 16	21.1 A	DEC. 9	12.67	MAR. 28, 1959	15.28	MAR. 21, 1969	24.43
OCT. 12	12.33	MAR. 5, 1954	11.35	OCT. 10	18.98	OCT. 1	28.36
DEC. 6	11.51	MAY 21	12.35	DEC. 4	17.68	MAR. 11, 1970	24.50
JAN. 1, 1952	11.26	JUNE 8	12.52	OCT. 13, 1960	20.83	OCT. 1	27.78
APR. 1	9.68	OCT. 7	15.23	DEC. 16	19.16	NOV. 2	26.94
MAY 21	9.73	DEC. 9	14.02	MAR. 15, 1961	17.63	MAR. 2, 1971	24.43
JUNE 25	10.48	FEB. 23, 1955	13.08	OCT. 6	21.80	MAY 7	25.33
AUG. 2	12.89	MAR. 23	12.19	MAR. 31, 1962	18.45	SEP. 16	36.08B
SEP. 10	12.20	SEP. 2	16.21	OCT. 11	22.98	OCT. 2	28.18
OCT. 7	11.85	OCT. 12	15.33	MAR. 19, 1963	19.59	NOV. 16	26.78
NOV. 1	10.61	NOV. 30	14.39	OCT. 11	24.19	MAR. 2, 1972	24.57
NOV. 19	11.73	MAR. 20, 1956	13.18	MAR. 25, 1964	20.74	MAR. 29	24.20
DEC. 12	11.28	OCT. 12	17.15	OCT. 28	24.73	OCT. 2	29.28
JAN. 1, 1953	11.00						

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-28-10)19AUD-1. J. E. PRICE. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 65 FT. LSD 4972.67 FT ABOVE MSL. MP NAIL IN WOOD CURBING, AT LSD. WELL DESTROYED, MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 1.81 BELOW LSD, MAR. 27, 1948.
LOWEST WATER LEVEL 29.41 BELOW LSD, AUG. 10, 1940.
RECORDS AVAILABLE 1936-54.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1936	11.02	APR. 1, 1939	4.47	JUNE 6, 1942	11.50A	JULY 13, 1948	17.30A
DEC. 24	10.23	MAY 7	15.80A	JUNE 28	11.75A	JULY 29	20.56A
FEB. 11, 1937	9.23	JUNE 3	7.30	JULY 23	25.30A	AUG. 31	20.05A
FEB. 28	8.60	JUNE 15	17.12A	JULY 28	25.05A	OCT. 5	5.48
MAR. 15	8.28	JULY 1	21.95A	AUG. 26	25.55A	OCT. 28	4.46
MAR. 30	8.04	AUG. 5	22.35	SEP. 30	6.62	NOV. 30	4.8[illegible]
APR. 18	8.05	AUG. 15	22.50A	OCT. 4	5.23	MAR. 27, 1949	2.51
MAY 23	27.90A	SEP. 2	8.60	DEC. 2	4.60	MAR. 31	2.38
JULY 7	10.62	OCT. 7	8.70	DEC. 9	4.78	MAY 15	13.88A
SEP. 29	11.75	OCT. 24	6.38	JAN. 5, 1943	4.19	JUNE 26	15.10
OCT. 22	9.88	NOV. 4	6.28	FEB. 2	3.70	JULY 24	6.16
NOV. 5	9.39	DEC. 2	5.75	MAR. 11	4.50	AUG. 30	7.03
NOV. 20	9.08	DEC. 18	5.50	APR. 4	2.73	SEP. 25	6.59
DEC. 2	8.78	JAN. 6, 1940	5.10	MAY 2	15.20A	OCT. 25	5.80
DEC. 19	8.37	FEB. 3	4.67	MAY 31	21.55A	NOV. 26	5.09
JAN. 2, 1938	7.95	MAR. 2	4.10	JULY 6	22.65A	DEC. 7	4.96
JAN. 15	7.79	APR. 6	17.10A	JULY 13	20.05A	JAN. 4, 1950	4.65
FEB. 3	7.42	MAY 4	17.78A	AUG. 23	19.64A	JAN. 27	4.15
FEB. 18	7.15	JUNE 1	25.14A	SEP. 29	19.80A	FEB. 26	3.60
MAR. 7	6.87	JULY 6	25.20A	OCT. 7	4.47	MAR. 24	3.25
MAR. 18	6.02	AUG. 3	28.15A	OCT. 15	5.84	APR. 23	19.50A
APR. 3	6.20	AUG. 10	29.41A	NOV. 27	3.77	MAY 30	20.39A
APR. 20	5.98	SEP. 7	10.85	DEC. 6	4.97	JUNE 7	6.35
MAY 13	6.50	OCT. 5	24.20A	MAR. 12, 1944	4.95	JUNE 28	20.60A
MAY 22	7.05	NOV. 2	8.95	NOV. 25	4.84	JULY 27	23.78A
JUNE 5	7.20	DEC. 7	6.20	MAR. 27, 1945	2.55	SEP. 3	24.72A
JUNE 22	7.32	JAN. 4, 1941	5.74	DEC. 13	4.12	OCT. 31	6.48
JUNE 29	7.52	FEB. 1	5.15	DEC. 10, 1946	4.29	DEC. 6	6.37
JULY 13	27.50A	MAR. 1	4.77	FEB. 17, 1947	2.83	MAR. 13, 1951	4.73
JULY 22	12.18	APR. 5	4.40	MAR. 20	2.47	MAY 9	21.53A
AUG. 8	8.93	APR. 30	4.00	APR. 25	18.70A	JULY 5	22.23A
AUG. 22	8.90	MAY 4	20.6 A	MAY 25	19.62A	AUG. 16	24.63A
SEP. 2	9.05	JUNE 7	20.5 A	JUNE 29	20.87A	OCT. 10	8.25
SEP. 17	8.45	JULY 5	23.1 A	JULY 27	17.70A	DEC. 6	6.29
OCT. 1	8.09	AUG. 2	23.0 A	AUG. 24	5.25	MAR. 31, 1952	4.43
OCT. 15	7.65	SEP. 6	23.4 A	SEP. 28	5.84	JUNE 25	25.93A
OCT. 28	7.24	SEP. 19	9.23	NOV. 7	4.42	OCT. 7	8.33
NOV. 12	6.84	OCT. 4	7.79	DEC. 6	4.16	NOV. 19	7.25
NOV. 26	6.39	NOV. 1	6.00	DEC. 25	3.82	MAR. 17, 1953	5.36
DEC. 10	6.20	DEC. 3	5.34	JAN. 25, 1948	3.20	MAY 6	24.03A
DEC. 24	6.03	JAN. 3, 1942	4.38	MAR. 3	2.54	JUNE 16	24.03A
JAN. 7, 1939	5.80	FEB. 7	3.40	MAR. 10	2.44	JULY 13	26.33A
JAN. 21	5.65	MAR. 7	3.49	MAR. 27	1.81	OCT. 8	11.33
FEB. 4	5.30	APR. 4	3.50	APR. 28	13.97A	DEC. 9	8.90
FEB. 18	5.11	APR. 16	2.52	MAY 30	15.03A	MAR. 5, 1954	7.16
MAR. 4	4.92	MAY 4	2.00	JUNE 30	17.34A		

LOCAL NUMBER (C-28-10)19AUD-3. J. E. PRICE. DRILLED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 160 FT. LSD 4974.4 FT ABOVE MSL. MP HOLE IN PUMP BASE, AT LSD.
HIGHEST WATER LEVEL 9.85 BELOW LSD, MAR. 24, 1955.
LOWEST WATER LEVEL 41.58 BELOW LSD, SEP. 16, 1971.
RECORDS AVAILABLE 1954-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 7, 1954	14.44	DEC. 7, 1957	17.54	OCT. 6, 1961	24.43	MAR. 1, 1967	26.12
DEC. 9	11.97	MAR. 21, 1958	14.73	MAR. 31, 1962	18.60	OCT. 2, 1968	33.86
MAR. 24, 1955	9.85	OCT. 10	18.80	OCT. 11	25.72	MAR. 21, 1969	24.30
OCT. 11	16.53	DEC. 6	16.72	MAR. 20, 1963	20.29	MAR. 11, 1970	22.16
NOV. 30	14.40	MAR. 28, 1959	13.83	OCT. 11	27.06	NOV. 2	26.55
MAR. 20, 1956	11.80	OCT. 10	20.90	MAR. 25, 1964	21.85	MAR. 2, 1971	22.74
OCT. 12	19.82	DEC. 5	18.45	OCT. 28	28.05	SEP. 16	41.58B
DEC. 5	17.04	MAR. 22, 1960	15.26	MAR. 12, 1965	23.78	MAR. 2, 1972	23.54
MAR. 19, 1957	14.61	OCT. 13	23.50	OCT. 8	33.10	MAR. 30	23.30
JUNE 11	22.96	DEC. 7	20.20	MAR. 14, 1966	24.45	OCT. 2	32.75
OCT. 9	20.80	MAR. 15, 1961	17.54				

LOCAL NUMBER (C-28-10)27BBB-1. HANSON LAND AND LIVESTOCK CO. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 132 FT, CASED TO 93. LSD 5085 FT ABOVE MSL. MP TOP OF CASING, 2.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 63.32 BELOW LSD, JULY 23, 1958.
LOWEST WATER LEVEL 95.50 BELOW LSD, MAR. 5, 1968.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 22, 1953	67.18	DEC. 4, 1956	79.39	JUNE 6, 1960	77.34	OCT. 1, 1969	85.70
DEC. 9	66.88	MAR. 18, 1957	79.94	JULY 8	77.76	MAR. 1, 1970	84.68
MAR. 3, 1954	68.24	APR. 19	80.12	AUG. 8	78.30	OCT. 1	89.48
APR. 8	68.54	MAY 17	80.28	SEP. 6	78.82	NOV. 2	89.92
APR. 28	68.68	JULY 29	77.63	OCT. 12	79.39	DEC. 2	90.24
JUNE 10	69.14	SEP. 4	76.21	DEC. 7	80.14	JAN. 21, 1971	90.35
JULY 26	68.98	OCT. 9	75.38	MAR. 14, 1961	81.17	MAR. 2	89.58
SEP. 1	69.65	DEC. 7	71.36	MAY 2	81.66	APR. 1	87.07
OCT. 5	70.14	MAR. 20, 1958	64.77	JUNE 9	82.09	MAY 6	86.35
NOV. 16	71.28	MAY 6	65.67	JULY 5	82.40	JUNE 9	87.25
DEC. 10	71.69	JUNE 24	63.53	AUG. 11	82.85	JULY 13	88.32
MAR. 22, 1955	73.50	JULY 23	63.32	SEP. 6	83.14	AUG. 10	89.13
MAY 3	73.99	AUG. 26	63.91	MAR. 31, 1962	84.97	SEP. 2	89.66
MAY 27	74.38	OCT. 10	64.18	MAR. 19, 1963	87.50	OCT. 1	90.29
AUG. 6	76.55	DEC. 5	65.83	MAR. 28, 1964	89.70	NOV. 16	90.85
SEP. 2	75.45	MAR. 28, 1959	68.78	OCT. 28	90.96	JAN. 13, 1972	91.35
OCT. 12	76.10	MAY 2	69.65	MAR. 12, 1965	91.53	MAR. 1	90.70
NOV. 30	76.48	JUNE 3	70.70	OCT. 8	92.35	APR. 1	89.64
MAR. 20, 1956	77.25	JULY 6	71.34	MAR. 14, 1966	92.89	MAY 1	89.64
MAY 7	77.50	AUG. 6	72.02	FEB. 28, 1967	94.45	JUNE 1	90.28
JUNE 7	77.68	SEP. 3	72.65	AUG. 29	95.25	JULY 7	91.09
JULY 5	77.99	OCT. 9	73.37	MAR. 5, 1968	95.50	AUG. 2	91.65
AUG. 8	78.25	DEC. 4	74.66	OCT. 2	94.30	SEP. 6	92.17
SEP. 6	78.55	MAR. 21, 1960	75.94	MAR. 21, 1969	87.50	OCT. 2	92.46
OCT. 12	78.91	MAY 5	76.70				

LOCAL NUMBER (C-28-10)28CDD-1. MAYER BROS. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 360 FT, CASED TO 60. LSD 5019.0 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 16.56 BELOW LSD, OCT. 7, 1952.
LOWEST WATER LEVEL 98.4 BELOW LSD, MAY 8, 1953.
RECORDS AVAILABLE 1952-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 1, 1952	20.80	DEC. 9, 1954	26.39	MAR. 23, 1959	22.87	MAR. 14, 1966	48.87
APR. 30	21.07	FEB. 23, 1955	26.00	OCT. 10	33.66	FEB. 28, 1967	50.32
JUNE 24	21.35	MAR. 23	25.42	DEC. 4	30.23	OCT. 6	57.57
AUG. 2	20.66	OCT. 11	35.00	MAR. 21, 1960	29.62	MAR. 5, 1968	47.30
AUG. 28	19.16	DEC. 2	30.61	OCT. 12	41.91	MAR. 21	47.00
OCT. 7	16.56	MAR. 20, 1956	29.25	DEC. 16	37.48	APR. 24	46.27
DEC. 11	17.13	OCT. 12	38.73	MAR. 15, 1961	36.41	OCT. 2	54.50
JAN. 1, 1953	17.41	DEC. 4	34.89	MAR. 31, 1962	40.74	MAR. 13, 1969	41.13
MAR. 10	18.15	MAR. 19, 1957	33.85	OCT. 11	48.05	MAR. 11, 1970	32.30
MAR. 17	18.06	OCT. 9	36.18	MAR. 19, 1963	42.56	OCT. 1	41.46
MAY 8	98.4 A	DEC. 7	32.01	MAR. 28, 1964	45.23	NOV. 2	35.08
OCT. 8	25.34	MAR. 20, 1958	30.00	OCT. 28	53.13	MAR. 2, 1971	32.83
DEC. 9	21.39	OCT. 10	23.25	MAR. 12, 1965	47.98	MAR. 1, 1972	36.90
MAR. 5, 1954	21.50	DEC. 5	21.99	OCT. 8	59.26	OCT. 2	48.56
OCT. 7	29.00						

LOCAL NUMBER (C-28-10)30CDC-2. L. E. PAICE. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 160 FT. LSD 4994.11 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 22.12 BELOW LSD, MAR. 20, 1956.
LOWEST WATER LEVEL 63.40 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1954-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 7, 1954	28.58	OCT. 11, 1958	37.49	OCT. 11, 1962	45.55	OCT. 2, 1968	63.40
OCT. 12, 1955	33.24	DEC. 6	30.16	MAR. 19, 1963	33.45	MAR. 21, 1969	39.93
NOV. 30	26.20	MAR. 28, 1959	24.73	MAR. 28, 1964	35.60	MAR. 11, 1970	39.07
MAR. 20, 1956	22.12	OCT. 10	40.10	OCT. 28	48.64	OCT. 1	55.62
OCT. 12	37.62	MAR. 22, 1960	26.50	MAR. 12, 1965	38.04	NOV. 2	47.89
DEC. 4	29.70	OCT. 13	42.10	OCT. 8	51.28	MAR. 3, 1971	36.96
MAR. 19, 1957	24.44	DEC. 16	39.42	MAR. 14, 1966	39.50	OCT. 2	53.34
OCT. 9	39.35	MAR. 15, 1961	29.69	MAR. 1, 1967	41.69	MAR. 2, 1972	37.90
DEC. 7	31.59	OCT. 6	43.34	OCT. 6	51.85	OCT. 2	54.62
MAR. 21, 1958	25.76	MAR. 31, 1962	30.50	MAR. 7, 1968	39.75		

LOCAL NUMBER (C-28-10)31ADD-1. LDS CHURCH. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 77 FT, CASED TO 18. LSD 5003.67 FT ABOVE MSL. MP TOP OF CONCRETE CURBING, AT LSD. WELL DESTROYED, MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 9.95 BELOW LSD, MAR. 10, 1943.
LOWEST WATER LEVEL 57.51 BELOW LSD, OCT. 8, 1965.
RECORDS AVAILABLE 1931-45, 1950-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUNE 1931	17.	JUNE 29, 1938	21.1 A	JULY 5, 1951	32.7 A	MAR. 15, 1961	33.08
MAR. 27, 1932	17.3	JULY 13	12.0	OCT. 10	20.19	OCT. 5	48.31
APR. 21	18.3	AUG. 8	12.15	DEC. 9	18.52	MAR. 31, 1962	34.64
OCT. 2	23.5	OCT. 28	10.08	APR. 2, 1952	16.40	OCT. 16	50.80
OCT. 30	21.3	DEC. 17	10.08	SEP. 11	22.75	MAR. 19, 1963	37.30
DEC. 5	20.2	MAY 5, 1939	15.78A	OCT. 7	18.60	MAR. 28, 1964	39.30
JAN. 5, 1933	19.3	JUNE 15	16.56A	NOV. 20	17.72	OCT. 28	55.14
JAN. 31	19.1	AUG. 12	17.65A	MAR. 17, 1953	16.06	MAR. 12, 1965	41.08
MAR. 1	18.7	SEP. 27	17.8 A	OCT. 8	25.10	OCT. 8	57.51
APR. 1	18.2	OCT. 24	10.51	DEC. 9	21.98	MAR. 14, 1966	41.64
MAY 4	18.6	DEC. 18	10.36	MAR. 4, 1954	20.10	MAR. 1, 1967	43.88
MAR. 11, 1934	19.5	APR. 16, 1940	10.73	OCT. 6	28.95	MAR. 7, 1968	42.30
APR. 8	18.8	AUG. 13	23.95A	DEC. 9	24.79	OCT. 2	57.43
JAN. 10, 1935	21.4	DEC. 9	14.02	MAR. 23, 1955	22.42	MAR. 21, 1969	39.74
MAR. 17	20.6	APR. 30, 1941	12.47	OCT. 11	34.90	OCT. 1	51.61
FEB. 3, 1936	21.60	SEP. 19	15.22	DEC. 2	28.12	MAR. 11, 1970	34.65
APR. 16	20.73	DEC. 3	11.25	MAR. 20, 1956	25.65	OCT. 1	51.20
JUNE 15	28.13B	APR. 16, 1942	10.05	OCT. 12	37.72	NOV. 2	44.47
JULY 31	27.98	JULY 24	19.3 A	DEC. 5	31.19	DEC. 4	39.89
SEP. 22	27.00	DEC. 9	10.45	MAR. 19, 1957	28.14	JAN. 21, 1971	37.53
NOV. 18	21.92	MAR. 10, 1943	9.95	OCT. 10	40.69	MAR. 2	36.25
FEB. 11, 1937	19.94	DEC. 6	10.92	DEC. 7	33.49	APR. 1	35.21
MAR. 30	19.05	NOV. 25, 1944	11.13	MAR. 21, 1958	28.81	MAY 10	48.78
MAY 19	21.65	MAR. 28, 1945	10.27	OCT. 11	34.93	JUNE 10	45.49
AUG. 7	19.75	DEC. 13	11.05	DEC. 6	29.82	JULY 14	54.31
SEP. 29	19.82	MAR. 24, 1950	11.45	MAR. 28, 1959	26.27	AUG. 11	54.95
DEC. 2	16.26	JUNE 9	24.70A	OCT. 10	39.60	SEP. 2	55.19
JAN. 28, 1938	15.20	JULY 28	26.20	DEC. 5	33.78	OCT. 2	54.45
FEB. 18	15.07	DEC. 6	16.25	MAR. 22, 1960	29.02	NOV. 19	43.82
APR. 20	14.56	MAR. 14, 1951	14.50	OCT. 13	44.90	JAN. 12, 1972	39.60
MAY 24	23.4 A	MAY 10	27.3 A	DEC. 16	37.85	MAR. 2	38.06

LOCAL NUMBER (C-28-10)32DDD-1. G. D. VANTASSELL. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 287 FT, CASED TO 80. LSD 5020 FT ABOVE MSL. MP HOLE IN PUMP BASE 0.20 FT ABOVE LSD.
HIGHEST WATER LEVEL 33.05 BELOW LSD, MAR. 23, 1955.
LOWEST WATER LEVEL 71.71 BELOW LSD, OCT. 8, 1965.
RECORDS AVAILABLE 1955-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 23, 1955	33.05	OCT. 11, 1958	40.85	MAR. 31, 1962	46.07	MAR. 13, 1969	50.28
OCT. 11	43.43	DEC. 6	37.90	OCT. 16	57.55	OCT. 1	59.39
DEC. 2	39.12	MAR. 28, 1959	35.80	MAR. 19, 1963	48.67	MAR. 1, 1970	42.19
MAR. 20, 1956	36.21	OCT. 10	46.37	MAR. 24, 1964	51.72	OCT. 2	56.65
OCT. 12	46.54	DEC. 5	43.60	OCT. 28	62.43	NOV. 2	48.40
DEC. 5	42.43	MAR. 22, 1960	39.48	MAR. 12, 1965	52.50	MAR. 2, 1971	44.42
MAR. 19, 1957	39.56	OCT. 13	53.13	OCT. 8	71.71A	OCT. 2	64.14
OCT. 10	48.80	DEC. 16	51.60	MAR. 14, 1966	53.41	MAR. 2, 1972	47.50
DEC. 7	43.00	MAR. 15, 1961	44.21	FEB. 28, 1967	55.55	OCT. 2	64.53
MAR. 21, 1958	39.54	OCT. 5	61.30	MAR. 5, 1968	53.25		

LOCAL NUMBER (C-28-11)10ACD-1. BUREAU OF LAND MANAGMENT. DRILLED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 5 IN, DEPTH 227 IN. LSD 5108 FT ABOVE MSL. MP TOP OF CASING, 1.90 FT BELOW LSD.
HIGHEST WATER LEVEL 153.79 BELOW LSD, JAN. 20, 1971,
LOWEST WATER LEVEL 155.58 BELOW LSD, OCT. 3, 1972.
RECORDS AVAILABLE 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 17, 1970	154.05	APR. 1, 1971	154.48	OCT. 1, 1971	154.95	JUNE 2, 1972	155.24
OCT. 1	154.04	MAY 6	154.52	NOV. 18	154.36	JULY 6	155.33
NOV. 2	154.23	JUNE 9	154.46B	JAN. 12, 1972	155.02	AUG. 1	155.40
DEC. 2	154.20	JULY 13	154.64B	MAR. 1	155.19	SEP. 6	155.49
JAN. 20, 1971	153.79	AUG. 11	154.77	APR. 1	155.18	OCT. 3	155.58
MAR. 2	154.38	SEP. 2	154.75	MAY 2	155.21		

LOCAL NUMBER (C-28-11)12ABB-1. PROVINCE OF THE HOLY NAME. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 440 FT, CASED TO 120. LSD 5062 FT ABOVE MSL. MP HOLE IN PUMP BASE, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 107.18 BELOW LSD, MAR. 24, 1955,
LOWEST WATER LEVEL 121.78 BELOW LSD, OCT. 1, 1971.
RECORDS AVAILABLE 1954-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 8, 1954	108.12	MAR. 20, 1958	108.84	JULY 5, 1961	112.17	AUG. 29, 1967	118.06
DEC. 9	107.50	OCT. 10	109.30	AUG. 11	113.60	MAR. 5, 1968	115.87
MAR. 24, 1955	107.18	DEC. 5	109.20	MAR. 31, 1962	111.20	MAR. 21, 1969	115.27
DEC. 2	107.84	MAR. 28, 1959	108.94	MAR. 19, 1963	111.92	OCT. 1	119.85
MAR. 21, 1956	107.32	OCT. 9	110.59	MAR. 28, 1964	112.74	MAR. 11, 1970	118.60
OCT. 12	116.84	DEC. 4	110.28	OCT. 28	114.75	NOV. 2	121.05
DEC. 4	109.03	MAR. 21, 1960	109.75	MAR. 12, 1965	112.90	MAR. 2, 1971	117.45
MAR. 19, 1957	108.66	OCT. 13	111.98	OCT. 8	115.85	OCT. 1	121.78
OCT. 10	111.11	DEC. 7	111.38	MAR. 14, 1966	115.43	MAR. 1, 1972	117.66
DEC. 7	108.47	MAR. 15, 1961	110.49	MAR. 1, 1967	115.60		

LOCAL NUMBER (C-28-11)12DBC-1. RUSSEL MAYER. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 460 FT, CASED TO 70. LSD 5030 FT ABOVE MSL. MP HOLE IN WELL COVER, AT LSD.
HIGHEST WATER LEVEL 72.58 BELOW LSD, MAR. 24, 1955,
LOWEST WATER LEVEL 89.70 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1954, 1955, 1968-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 8, 1954	74.28	MAR. 21, 1969	84.48	OCT. 1, 1970	88.73	OCT. 1, 1971	89.16
DEC. 9	73.49	OCT. 1	87.73	NOV. 2	87.15	MAR. 1, 1972	84.78
MAR. 24, 1955	72.58	MAR. 11, 1970	84.12	MAR. 2, 1971	84.44	OCT. 3	88.75
OCT. 2, 1968	89.70						

LOCAL NUMBER (C-28-11)22DAB-2. HAYWOOD ET AL. DRILLED UNUSED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 10 IN, DEPTH 72 FT, CASED TO 54. LSD 5004 FT ABOVE MSL. MP TOP OF CASING, 5.10 FT BELOW LSD.
HIGHEST WATER LEVEL 31.60 BELOW LSD, MAR. 20, 1947,
LOWEST WATER LEVEL 49.48 BELOW LSD, SEP. 2, 1971.
RECORDS AVAILABLE 1941-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 21, 1941	33.28	DEC. 9, 1953	33.86	OCT. 6, 1961	41.36	JAN. 20, 1971	46.95
DEC. 2	32.88	MAR. 5, 1954	33.68	APR. 2, 1962	39.92	MAR. 2	46.85
APR. 14, 1942	32.18	OCT. 8	34.75	OCT. 11	41.57	APR. 1	46.75
MAY 31	32.03	DEC. 10	34.55	MAR. 19, 1963	41.00	MAY 6	48.18
JULY 23	32.62	MAR. 25, 1955	33.95	OCT. 11	43.08	JUNE 9	48.84
DEC. 7	32.78	DEC. 2	35.30	MAR. 28, 1964	42.08	JULY 13	49.10
MAR. 12, 1943	32.16	MAR. 21, 1956	34.80	OCT. 28	43.50	AUG. 10	49.33
NOV. 26, 1944	32.89	MAR. 19, 1957	36.05	MAR. 12, 1965	43.15	SEP. 2	49.48
MAR. 28, 1945	32.08	OCT. 9	37.17	OCT. 8	44.73	OCT. 1	48.42
DEC. 10, 1946	32.20	DEC. 7	37.16	MAR. 14, 1966	44.02	NOV. 18	47.74
MAR. 20, 1947	31.60	MAR. 20, 1958	36.82	AUG. 30	46.91	JAN. 12, 1972	47.48
JULY 14, 1948	32.70	OCT. 11	38.05	MAR. 1, 1967	45.02	MAR. 1	47.37
DEC. 3	32.72	DEC. 6	37.98	OCT. 2, 1968	47.00	APR. 1	47.22
APR. 23, 1949	31.80	MAR. 28, 1959	37.50	MAR. 21, 1969	46.13	MAY 2	48.12
DEC. 7	32.72	OCT. 9	38.89	OCT. 1	48.80	JUNE 2	49.01
APR. 3, 1950	31.97	DEC. 5	38.65	MAR. 11, 1970	46.82	JULY 6	48.46
DEC. 7	33.02	MAR. 22, 1960	38.46	OCT. 1	48.76	AUG. 1	49.40
AUG. 14, 1951	33.05	OCT. 13	39.60	NOV. 2	47.30	SEP. 6	48.83
NOV. 19, 1952	33.45	DEC. 16	39.37	DEC. 2	47.10	OCT. 3	48.83
MAR. 18, 1953	33.44B	MAR. 15, 1961	39.20				

LOCAL NUMBER (C-28-11)23ABB-1. SOUTH MILFORD LIVESTOCK ASSOC. DRILLED UNUSED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 80 FT. LSD 4987.6 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD. WELL DESTROYED; MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 15.15 BELOW LSD, APR. 29, 1927,
LOWEST WATER LEVEL 24.24 BELOW LSD, OCT. 8, 1954.
RECORDS AVAILABLE 1925-27, 1941-45, 1954.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 25, 1925	16.10	FEB. 14, 1942	21.71	MAY 16, 1942	21.37	AUG. 18, 1942	23.5
MAY 30, 1926	15.70	FEB. 21	21.56	MAY 23	21.57	AUG. 26	23.65
OCT. 25	16.24	FEB. 28	21.58	MAY 30	21.58	SEP. 2	23.66
APR. 29, 1927	15.15	MAR. 7	21.60	JUNE 7	21.60	SEP. 9	23.85
MAY 1, 1941	21.60	MAR. 14	21.57	JUNE 13	21.35	SEP. 16	24.05A
SEP. 24	23.00	MAR. 21	21.50	JUNE 20	21.67	SEP. 23	24.07
DEC. 2	22.67	MAR. 28	21.36	JUNE 27	21.68	DEC. 7	22.01
DEC. 22	22.48	APR. 4	21.33	JULY 4	21.98	JAN. 6, 1943	24.10
DEC. 27	22.07	APR. 11	21.32	JULY 11	22.05	JAN. 20	24.07
JAN. 3, 1942	21.90	APR. 14	21.38	JULY 20	22.60	FEB. 2	23.89
JAN. 10	21.97	APR. 18	21.32	JULY 23	22.92	NOV. 26, 1944	22.33A
JAN. 17	21.91	APR. 25	21.34	JULY 28	23.05	MAR. 28, 1945	20.98
JAN. 24	21.89	MAY 4	21.35	AUG. 4	23.14	OCT. 8, 1954	24.24
FEB. 7	21.82	MAY 9	21.36	AUG. 11	23.15		

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-28-11)23ABB-2. SOUTH MILFORD LIVESTOCK ASSOC. DRILLED UNUSED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 6 IN, DEPTH 113 FT, CASED TO 86. LSD 4987.5 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 36.14 BELOW LSD, APR. 1, 1971.
LOWEST WATER LEVEL 37.56 BELOW LSD, OCT. 3, 1972.
RECORDS AVAILABLE 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 17, 1970	36.81	MAY 6, 1971	36.25	NOV. 18, 1971	37.12	JUNE 2, 1972	36.81
NOV. 2	36.84	JUNE 9	36.57	JAN. 12, 1972	36.89	JULY 6	37.01
DEC. 2	36.67	JULY 13	36.81	MAR. 1	36.68	AUG. 1	37.27
JAN. 20, 1971	36.45	AUG. 11	37.03	APR. 1	37.00	SEP. 8	37.48
MAR. 2	36.27	SEP. 2	37.19	MAY 2	36.5[illegible]	OCT. 3	37.56
APR. 1	36.14	OCT. 1	37.27				

LOCAL NUMBER (C-28-11)25DCD-1. GREEN DIAMOND RANCH. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 431 FT, CASED TO 18. LSD 4987.4 FT ABOVE MSL. MP BOTTOM OF PUMP BASE, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 8.45 BELOW LSD, APR. 1, 1952.
LOWEST WATER LEVEL 42.70 BELOW LSD, OCT. 1, 1969, OCT. 1, 1970.
RECORDS AVAILABLE 1950-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUNE 9, 1950	14.32	DEC. 9, 1953	13.80	MAR. 21, 1958	18.40	MAR. 12, 1965	28.65
AUG. 10	11.90	MAR. 4, 1954	12.25	OCT. 11	26.53	MAR. 14, 1966	29.61
SEP. 26	12.15	OCT. 6	20.22	DEC. 6	22.3[illegible]	MAR. 1, 1967	31.48
DEC. 6	10.27	DEC. 9	15.75	MAR. 28, 1959	18.00	MAR. 7, 1968	30.65
MAR. 13, 1951	8.60	MAR. 23, 1955	13.31	OCT. 10	28.0[illegible]	MAR. 21, 1969	30.68
JULY 5	12.50	OCT. 12	22.08	DEC. 5	23.69	OCT. 1	42.70
OCT. 10	13.04	NOV. 30	18.70	MAR. 22, 1960	20.39	MAR. 11, 1970	29.85
DEC. 9	11.31	MAR. 20, 1956	15.30	OCT. 13	30.21	OCT. 1	42.70
APR. 1, 1952	8.45	OCT. 13	25.81	DEC. 16	25.80	NOV. 2	36.36
OCT. 7	15.298	DEC. 5	21.81	MAR. 15, 1961	22.05	MAR. 3, 1971	30.61
NOV. 19	11.80	MAR. 19, 1957	17.74	APR. 2, 1962	22.90	OCT. 2	41.94
MAR. 17, 1953	9.21	OCT. 9	26.90	MAR. 19, 1963	25.19	MAR. 2, 1972	30.80
OCT. 23	17.19	DEC. 7	25.30	MAR. 25, 1964	26.81	OCT. 2	42.08

LOCAL NUMBER (C-28-11)35ADD-1. IRENE STEWART. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 77 FT. LSD 4989.09 FT ABOVE MSL. MP TOP OF CURBING, 0.30 FT ABOVE LSD. WELL DESTROYED; MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 7.83 BELOW LSD, MAY 28, 1938.
LOWEST WATER LEVEL 14.38 BELOW LSD, AUG. 10, 1938.
RECORDS AVAILABLE 1938-42.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 28, 1938	7.83	AUG. 11, 1939	13.70	SEP. 20, 1941	13.40	JULY 29, 1942	12.52
JULY 26	12.25	APR. 16, 1940	11.05	DEC. 4	11.88	DEC. 9	12.59
AUG. 10	14.38	APR. 30, 1941	10.44	APR. 15, 1942	9.80		

LOCAL NUMBER (C-28-11)35ADD-2. IRENE STEWART. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 171 FT. LSD 4991.4 FT ABOVE MSL. MP TOP OF CASING, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 13.12 BELOW LSD, MAR. 17, 1953.
LOWEST WATER LEVEL 38.48 BELOW LSD, SEP. 2, 1971.
RECORDS AVAILABLE 1951-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 10, 1951	19.1 A	DEC. 4, 1956	21.31	MAR. 25, 1964	26.24	MAY 6, 1971	34.33
JULY 5	23.1 A	MAR. 18, 1957	18.92	OCT. 28	29.93	JUNE 10	35.29
JUNE 27, 1952	24.1 A	OCT. 9	23.85	MAR. 12, 1965	27.46	AUG. 10	37.02
NOV. 19	15.06	DEC. 7	22.27	OCT. 8	31.34	SEP. 2	38.48
MAR. 17, 1953	13.12	MAR. 21, 1958	19.99	MAR. 14, 1966	29.08	OCT. 2	34.54
MAY 11	22.3	OCT. 11	24.14	MAR. 1, 1967	29.62	NOV. 19	32.18
OCT. 14	21.56	DEC. 6	22.67	MAR. 7, 1968	29.29	JAN. 11, 1972	30.68
DEC. 9	16.15	MAR. 28, 1959	22.67	MAR. 13, 1969	30.51	MAR. 2	29.72
MAR. 5, 1954	14.62	OCT. 10	25.16	MAR. 11, 1970	30.82	APR. 1	29.43
OCT. 6	19.36	DEC. 4	23.48	OCT. 1	33.47	MAY 2	34.39
DEC. 8	17.56	MAR. 22, 1960	21.38	NOV. 2	32.29	JUNE 1	35.79
MAR. 23, 1955	15.55	OCT. 13	25.95	DEC. 4	31.41	JULY 6	36.19
OCT. 11	20.32	DEC. 16	24.46	JAN. 21, 1971	30.39	AUG. 1	36.96
NOV. 30	19.07	MAR. 15, 1961	22.70	MAR. 3	29.53	SEP. 6	36.92
MAR. 20, 1956	17.00	APR. 2, 1962	23.36	APR. 1	29.16	OCT. 2	34.39
OCT. 13	27.16	MAR. 19, 1963	24.86				

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-28-11)36ADD-1. G. E. SMITH. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 62 FT, CASED TO 12. LSD 4997.80 FT ABOVE MSL. MP NAIL IN WOOD CURBING, 1.00 FT BELOW LSD. WELL DESTROYED; MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 6.58 BELOW LSD, APR. 4, 1943,
LOWEST WATER LEVEL 40.50 BELOW LSD, OCT. 13, 1960.
RECORDS AVAILABLE 1938-61.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 31, 1938	12.00	JUNE 28, 1942	8.72	JULY 27, 1948	13.33	FEB. 29, 1952	13.50
JULY 22	11.13	JULY 28	10.62	AUG. 31	14.44	MAR. 31	12.80
AUG. 12	8.62	AUG. 26	11.54	OCT. 2	14.0[illegible]	APR. 30	13.16
FEB. 24, 1939	8.10	SEP. 29	11.22	OCT. 28	13.11	MAY 21	14.52
APR. 1	8.02	NOV. 4	9.52	NOV. 30	11.9[illegible]	JUNE 26	18.10
MAY 5	8.24	DEC. 2	8.64	JAN. 25, 1949	10.2[illegible]	JULY 29	21.09
JUNE 3	7.65	DEC. 9	8.58	FEB. 28	9.58	AUG. 28	21.34
JUNE 15	7.58	JAN. 6, 1943	7.90	MAR. 25	8.99	SEP. 10	20.75
JULY 1	8.30	FEB. 2	7.49	MAR. 31	8.78	OCT. 31	16.85
AUG. 5	8.78	MAR. 12	7.03	APR. 23	8.50	NOV. 20	16.04
AUG. 14	9.78	APR. 4	6.58	MAY 15	9.97	DEC. 10	15.43
SEP. 2	9.75	MAY 3	6.70	JUNE 26	11.97	DEC. 31	14.89
OCT. 7	9.46	JULY 6	9.05	JULY 19	13.34	JAN. 31, 1953	14.23
OCT. 24	9.00	AUG. 23	11.02	AUG. 30	15.77	MAR. 10	13.47
NOV. 4	9.02	SEP. 22	11.04	SEP. 25	15.48	MAR. 18	12.98
DEC. 2	8.30	NOV. 22	9.60	OCT. 25	13.89	APR. 1	13.15
DEC. 18	8.10	MAR. 12, 1944	6.74	NOV. 26	12.53	MAY 1	14.70
JAN. 6, 1940	7.87	NOV. 25	9.46	DEC. 7	12.13	OCT. 8	25.74
FEB. 3	7.66	MAR. 28, 1945	7.10	JAN. 4, 1950	11.2[illegible]	DEC. 1	20.02
MAR. 2	7.31	DEC. 13	8.88	JAN. 26	10.80	DEC. 8	19.67
APR. 6	7.15	FEB. 17, 1946	7.53	FEB. 26	9.89	MAR. 4, 1954	16.66
APR. 16	7.43	MAR. 15	7.01	MAR. 23	9.24	MAY 4	18.55
MAY 4	7.66	MAR. 24	6.77	APR. 23	9.70	MAY 30	21.58
JUNE 1	9.47	APR. 28	6.68	MAY 29	12.78	JULY 2	27.56
JULY 6	11.27	JUNE 2	9.15	JUNE 21	14.48	OCT. 6	27.70
AUG. 3	11.60	JUNE 23	9.26	JUNE 28	15.38	DEC. 9	21.95
SEP. 7	13.59	AUG. 24	11.81	JULY 28	17.35	DEC. 24	21.24
OCT. 5	13.20	AUG. 30	12.58	SEP. 3	17.74	FEB. 23, 1955	19.20
NOV. 2	13.24	OCT. 10	12.67	SEP. 26	17.74	MAR. 23	18.40
DEC. 7	11.60	DEC. 9	10.26	SEP. 30	15.54	MAY 23	26.45
JAN. 4, 1941	10.99	FEB. 17, 1947	8.55	NOV. 30	14.32	OCT. 11	32.97
FEB. 1	10.59	MAR. 17	8.05	DEC. 6	14.10	DEC. 2	25.52
MAR. 1	10.04	APR. 25	8.46	FEB. 6, 1951	12.54	MAR. 20, 1956	21.00
APR. 12	9.45	MAY 25	8.69	FEB. 26	12.08	MAY 9	28.50
APR. 30	9.26	JUNE 29	10.57	MAR. 13	11.80	NOV. 10	32.22
MAY 4	9.83	JULY 27	12.19	MAR. 25	11.58	DEC. 5	29.56
JUNE 7	10.3	AUG. 24	13.20	MAY 1	13.29	MAR. 18, 1957	23.70
JULY 5	11.48	SEP. 28	13.07	MAY 10	14.00	JUNE 28	34.05
AUG. 2	11.73	NOV. 7	11.99	MAY 27	15.05	OCT. 9	36.80
SEP. 6	12.43	DEC. 6	10.90	JUNE 6	15.95	DEC. 7	31.35
SEP. 19	12.75	DEC. 27	10.34	JUNE 27	16.59	MAR. 21, 1958	25.33
OCT. 4	12.38	JAN. 26, 1948	9.58	JULY 26	19.44	OCT. 11	35.70
NOV. 1	11.60	FEB. 29	8.71	AUG. 17	19.90	DEC. 6	29.64
DEC. 4	10.45	MAR. 1	8.71	AUG. 30	20.24	MAR. 28, 1959	24.00
JAN. 4, 1942	9.47	MAR. 10	8.55	SEP. 29	20.10	OCT. 10	36.45
FEB. 7	8.43	MAR. 27	8.14	OCT. 11	18.6[illegible]	DEC. 5	32.12
MAR. 7	7.85	APR. 24	7.57	OCT. 31	17.0[illegible]	MAR. 22, 1960	26.44
APR. 4	7.25	MAY 27	9.13	NOV. 30	15.76	OCT. 13	40.50
APR. 15	7.26	JUNE 30	10.98	DEC. 9	15.50	DEC. 16	33.45
MAY 2	7.12	JULY 13	12.00	JAN. 1, 1952	14.9[illegible]	MAR. 15, 1961	28.44
JUNE 7	8.00						

LOCAL NUMBER (C-28-11)36ADD-2. G. E. SMITH. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 154 FT, CASED TO 26. LSD 4997 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 21.00 BELOW LSD, MAR. 20, 1956,
LOWEST WATER LEVEL 57.33 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1955-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 23, 1955	30.16	MAR. 21, 1958	25.20	APR. 2, 1962	29.84	MAR. 7, 1968	38.13
OCT. 11	31.18	OCT. 11	35.41	OCT. 16	42.21	OCT. 2	57.33
DEC. 2	25.20	DEC. 6	29.96	MAR. 19, 1963	32.95	MAR. 21, 1969	38.42
MAR. 20, 1956	21.00	MAR. 28, 1959	24.02	OCT. 11	44.41	OCT. 1	51.67
MAY 9	32.00	OCT. 10	38.63	MAR. 25, 1964	34.53	MAR. 11, 1970	36.00
OCT. 13	35.96	DEC. 5	32.10	OCT. 27	46.82	OCT. 1	51.02
DEC. 5	29.40	MAR. 22, 1960	25.66	MAR. 12, 1965	36.44	NOV. 2	44.84
MAR. 18, 1957	23.78	OCT. 13	40.78	OCT. 8	49.27	MAR. 3, 1971	36.31
JUNE 28	36.00	DEC. 16	35.20	MAR. 14, 1966	37.44	OCT. 2	51.69
OCT. 9	36.70	MAR. 15, 1961	29.00	MAR. 1, 1967	39.61	MAR. 2, 1972	36.90
DEC. 7	31.21	OCT. 5	41.24	SEP. 22	54.0[illegible]	OCT. 2	54.21

LOCAL NUMBER (C-29-10)5CDD-4. G. D. VANTASSELL. DRILLED DOMESTIC ARTESIAN WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 198 FT, CASED TO 40. LSD 5036.67 FT ABOVE MSL. MP TOP OF CASING, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 30.95 BELOW LSD, MAR. 22, 1950,
LOWEST WATER LEVEL 73.18 BELOW LSD, OCT. 27, 1964.
RECORDS AVAILABLE 1950-64.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 22, 1950	30.95	NOV. 19, 1952	39.54	NOV. 30, 1955	51.40	OCT. 10, 1959	60.14
JULY 29	53.3 A	MAR. 17, 1953	37.35	MAR. 20, 1956	48.41	DEC. 5	55.97
DEC. 6	35.41	MAY 8	48.0 A	OCT. 13	58.19	MAR. 22, 1960	52.54
MAR. 14, 1951	34.72	JUNE 16	54.6 A	DEC. 5	54.50	OCT. 13	66.58
JUNE 6	48.50A	JULY 17	63.7 A	MAR. 18, 1957	51.66	DEC. 16	65.75
JULY 7	49.2 A	OCT. 9	48.0	JUNE 11	65.60	MAR. 15, 1961	56.44
AUG. 16	50.5 A	DEC. 9	44.15	OCT. 9	63.60	OCT. 5	69.62
OCT. 9	39.70	MAR. 5, 1954	41.86	DEC. 7	57.11	MAR. 31, 1962	58.31
DEC. 8	38.52	OCT. 7	50.42	MAR. 21, 1958	53.05	OCT. 16	72.40
APR. 2, 1952	37.25	DEC. 9	45.76	OCT. 11	55.95	MAR. 19, 1963	61.58
JUNE 26	51.0 A	MAR. 22, 1955	45.01	DEC. 6	52.9[illegible]	MAR. 28, 1964	63.93
SEP. 10	51.3 A	OCT. 11	54.80	MAR. 28, 1959	49.60	OCT. 27	73.18
OCT. 7	41.02						

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-29-10)5CDD-5. G. D. VANTASSELL. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 295 FT, CASED TO 90. LSD 5037 FT ABOVE MSL. MP HOLE IN PUMP BASE, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 58.08 BELOW LSD, MAR. 11, 1970.
LOWEST WATER LEVEL 88.65 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1965-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 12, 1965	64.45	MAR. 5, 1968	66.45	MAR. 11, 1970	58.08	OCT. 2, 1971	79.97
OCT. 8	78.82	OCT. 2	88.65	OCT. 1	72.54	MAR. 2, 1972	61.74
MAR. 12, 1966	65.77	MAR. 13, 1969	65.71	NOV. 2	65.19	OCT. 2	81.82
FEB. 28, 1967	68.03	OCT. 1	77.65	MAR. 2, 1971	59.76		

LOCAL NUMBER (C-29-10) 6ABB-1. J. A. MAYER. DRILLED UNUSED WATER-TABLE WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 98 FT, CASED TO 15. LSD 5013.5 FT ABOVE MSL. MP TOP OF CASING, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 28.14 BELOW LSD, APR. 5, 1953.
LOWEST WATER LEVEL 69.22 BELOW LSD, SEP. 15, 1964.
RECORDS AVAILABLE 1950-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 23, 1950	22.	JULY 6, 1951	50.5 A	JUNE 27, 1952	50.4 A	MAR. 25, 1953	26.9 E
JUNE 6, 1951	48.7 A	DEC. 9	28.98	MAR. 18, 1953	26.97	MAR. 31	27.0 E

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
						1953						
5	.....	.....	.....	28.14	39.82	38.9 E	42.44	42.87	47.14	42.11	35.8 E	33.55
10	.....	.....	.....	29.46	34.59	40.5 E	42.76	43.63	46.81	41.28	35.1 E	33.4 E
15	.....	.....	.....	30.37	32.7 E	40.85	43.41	45.1 E	47.0 E	40.22	34.77	33.2 E
20	.....	.....	.....	31.50	35.37	41.47	43.63	46.24	45.76	37.87	34.42	32.99
25	.....	.....	.....	34.2 E	36.64	40.84	43.6 E	46.83	45.5 E	37.1 E	34.18	32.82
EOM	.....	.....	.....	37.3 E	37.54	40.70	43.48	46.93	44.09	36.4 E	33.85	32.55
						1954						
5	32.42	31.60	30.94	30.29	39.05	44.2 E	48.32	49.18	52.2 E	42.70	37.80	36.20
10	32.34	31.42	30.69	30.25	40.83	44.52	48.91	49.75	49.76	41.35	37.43	35.94
15	32.17	31.36	30.70	31.30	41.75	45.43	49.13	50.08	47.87	40.28	37.10	35.73
20	32.01	31.23	30.58	34.60	43.28	46.00	48.8 E	50.63	46.72	39.58	36.87	35.60
25	31.9 E	31.10	30.53	37.60	43.06	46.50	48.40	50.86	47.13	38.88	36.51	35.42
EOM	31.73	31.01	30.41	38.11	43.9 E	47.15	48.04	51.09	45.57	38.10	36.4 E	35.2 E
						1955						
5	35.1 E	34.3 E	33.6 E	32.90	44.05	44.94	52.26	54.64	55.78	48.42	42.54	39.78
10	34.9 E	34.2 E	33.5 E	32.69	45.10	50.07	52.83	53.47	56.23	46.85	41.79	39.5 E
15	34.78	34.1 E	33.3 E	37.54	45.12	50.56	53.42	54.61	54.90	45.79	41.3 E	39.2 E
20	34.73	34.0 E	33.2 E	39.17	47.33	51.00	53.89	54.72	52.78	44.93	40.8 E	38.8 E
25	34.58	33.73	33.1 E	41.70	48.46	50.68	53.73	53.72	51.78	44.1 E	40.3 E	38.5 E
EOM	34.40	33.83	33.10	42.92	48.90	51.56	54.83	55.04	49.87	43.4 E	39.8 E	38.30
						1956						
5	37.98	36.7 E	35.63	35.85	49.48	52.8 E	55.35	57.2 E	57.77	49.7 E	45.75	43.40
10	37.7 E	36.5 E	35.65	36.02	50.17	53.30	55.57	57.65	57.85	48.9 E	45.27	43.54
15	37.69	36.2 E	35.7 E	37.4 E	50.7 E	53.62	55.55	58.11	55.75	48.14	44.75	43.1 E
20	37.68	35.9 E	35.75	42.7 E	51.2 E	54.2 E	55.74	59.26	52.09	47.60	44.53	42.7 E
25	37.3 E	35.5 E	35.33	45.73	51.7 E	54.85	56.38	59.15	51.2 E	47.2 E	43.1 E	42.4 E
EOM	37.0 E	35.3 E	35.97	48.37	52.4 E	53.70	56.8 E	57.70	50.4 E	46.8 E	42.7 E	42.1 E
						1957						
5	41.70	40.10	39.18	38.22	47.35	53.60	56.24	58.90	60.21	51.83	48.16	45.75
10	41.21	39.91	38.97	38.08	49.11	54.80	56.39	59.10	60.53	51.03	47.70	45.33
15	41.05	39.71	38.79	38.04	50.16	54.28	56.95	59.27	59.75	50.40	47.27	44.95
20	40.77	39.57	38.67	38.93	51.67	53.26	57.7 E	59.25	56.85	49.80	46.89	44.72
25	40.55	39.50	38.52	41.48	52.29	53.41	58.4 E	58.99	53.78	49.29	46.44	44.30
EOM	40.33	39.28	38.31	44.95	52.45	55.80	59.16	59.75	52.80	48.58	46.25	44.15
						1958						
5	43.90	42.26	40.85	39.86	47.32	52.52	53.50	57.98	58.80	49.14	45.14	42.90
10	43.53	41.91	40.68	39.58	48.44	53.01	54.93	57.83	58.20	48.36	44.85	42.78
15	43.37	[illegible]	40.48	38.79	49.44	52.79	55.79	58.31	53.90	47.63	44.34	42.39
20	43.05	[illegible]	40.26	41.48	49.88	52.70	56.54	58.69	51.84	46.95	44.17	42.03
25	42.78	41.06	40.10	42.37	50.58	53.40	57.66	58.85	50.90	46.36	43.72	41.66
EOM	42.57	41.13	39.85	45.56	51.42	53.66	58.10	58.99	50.01	45.80	43.62	41.38
						1959						
5	40.95	39.57	38.46	37.59	49.29	54.61	57.56	60.43	60.52	50.48	47.57	45.45
10	40.79	39.36	38.34	40.62	49.95	55.37	58.43	60.05	60.40	49.95	47.02	45.10
15	40.60	39.13	38.32	41.27	50.92	55.90	59.05	58.24	57.44	49.40	46.66	44.87
20	40.22	38.89	38.17	43.98	51.65	56.02	59.51	58.91	53.32	48.92	46.39	44.58
25	40.06	38.80	37.95	45.75	52.38	56.42	59.62	59.30	51.84	48.41	45.97	44.12
EOM	39.80	38.73	37.87	48.00	53.49	56.92	60.42	60.23	51.11	47.94	45.72	43.83
						1960						
5	43.69	42.17	40.81	39.75	49.55	57.74	60.44	63.12	64.19	57.62	51.50	49.25
10	43.41	41.79	40.59	39.71	51.77	58.45	61.20	63.33	64.47	56.02	51.07	48.88
15	43.20	41.66	40.42	43.33	53.00	58.73	61.64	63.44	64.58	54.29	50.71	48.59
20	43.03	41.56	40.28	45.67	54.23	59.10	62.05	63.67	62.89	53.30	50.27	48.26
25	42.59	41.07	40.05	47.84	55.51	58.92	62.44	63.91	61.03	52.63	49.86	47.83
EOM	42.32	41.02	39.95	49.43	56.99	59.70	62.75	64.21	59.16	51.93	49.55	47.48
						1961						
5	47.29	45.98	44.75	43.62	50.32	59.16	61.37	64.12	65.97	58.81	52.89	47.68
10	47.07	45.8 E	44.53	43.42	51.98	60.37	62.83	64.43	65.78	57.79	52.33	47.33
15	46.79	45.5 E	44.24	43.38	53.66	61.12	63.28	64.82	65.59	56.43	51.93	47.02
20	46.50	45.3 E	44.18	43.16	55.13	61.35	63.72	65.03	63.63	54.44	51.57	46.84
25	46.34	45.1 E	43.93	44.86	56.08	61.20	64.15	65.38	61.72	54.08	51.33	46.43
EOM	46.16	45.0 E	43.85	47.52	57.83	61.85	64.32	65.73	60.13	53.27	47.98	46.31

Table 15.--Water levels in selected observation wells - Continued

(C-29-10)6ABB-1 - CONTINUED

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
						1962						
5	48.88	47.38	46.40	45.23	52.79	61.61	63.51	66.36	67.40	63.67	56.33	52.62
10	48.68	47.13	46.01	45.02	55.01	62.21	64.03	66.50	67.45	61.87	55.29	52.32
15	48.37	46.96	45.88	44.83	56.84	62.73	64.64	66.66	67.39	60.52	54.37	52.10
20	47.89	46.67	45.67	47.45	58.22	62.56	65.28	66.81	67.03	59.48	53.83	52.17
25	48.03	46.60	45.55	49.27	59.57	62.52	65.67	67.04	66.63	58.47	53.39	52.25
EOM	47.63	46.65	45.35	51.35	60.83	62.97	66.14	67.27	65.63	57.31	52.90	52.14
						1963						
5	50.96	49.50	48.5 E	48.06	56.8 E	62.8 E	66.10	67.70	68.64	65.95	60.2 E	58.1 E
10	50.55	49.19	48.4 E	48.06	58.90	63.4 E	66.39	67.88	68.22	64.85	59.7 E	57.6 E
15	50.40	49.12	48.3 E	48.22	60.60	63.9 E	66.66	68.02	68.64	63.61	59.1 E	57.0 E
20	50.25	48.85	48.2 E	50.4 E	61.1 E	64.5 E	67.00	68.23	68.17	62.43	58.6 E	56.5 E
25	49.87	48.72	48.08	52.5 E	61.7 E	65.00	67.22	68.38	67.45	61.32	59.1 E	56.0 E
EOM	49.67	48.6 E	48.07	54.6 E	62.3 E	65.65	67.51	68.57	66.67	60.7 E	58.6 E	55.4 E
						1964						
5	54.9 E	51.20	50.15	49.16	56.13	62.89	65.22	67.84	68.92	68.72	64.02	59.00
10	54.4 E	51.02	50.14	49.18	57.77	63.28	65.90	68.14	69.08	68.23	62.77	58.08
15	53.8 E	50.81	49.95	48.90	57.26	64.25	66.43	68.38	69.22	67.58	61.76	57.52
20	53.3 E	50.30	49.70	48.90	58.15	64.47	66.80	68.60	69.21	66.95	61.05	56.9 E
25	52.8 E	50.62	49.70	51.45	59.85	64.36	67.14	68.65	68.97	66.17	60.10	56.3 E
EOM	52.2 E	50.32	49.31	54.12	61.63	64.50	67.57	68.82	69.02	65.02	59.45	55.6 E
						1965						
5	55.05	52.98	52.05	51.08	59.00	65.48	67.21	68.27	68.02	67.09	64.97	60.54
10	54.52	52.94	51.85	50.84	60.88	65.93	67.49	68.13	68.28	66.61	64.25	59.92
15	54.40	52.70	51.64	50.94	62.39	66.41	67.76	68.07	68.30	66.55	63.40	59.37
20	53.82	52.48	51.54	51.03	63.78	66.62	67.99	68.11	68.15	66.19	62.57	58.79
25	53.77	52.37	51.44	54.60	64.58	66.82	68.12	67.96	67.85	65.69	61.78	58.26
EOM	53.23	52.22	51.10	57.37	65.23	67.00	68.25	67.86	67.54	65.27	61.15	57.55
						1966						
5	57.18	54.20	53.07	54.55	63.22	66.42	67.86	67.97	68.22	67.2 E	64.83	61.89
10	56.43	54.00	52.84	58.21	63.75	66.70	67.93	68.25	68.43	66.7 E	64.53	61.56
15	55.92	53.96	52.51	59.48	64.30	67.02	68.00	68.24	68.43	66.3 E	64.11	61.15
20	55.42	53.68	52.32	60.48	64.83	67.17	68.08	68.07	68.10	65.8 E	63.55	60.63
25	55.07	53.27	52.67	61.58	65.40	67.42	68.22	68.07	68.04	65.42	63.03	60.18
EOM	54.52	53.07	53.23	62.52	65.97	67.63	67.83	68.03	67.6 E	65.20	62.53	59.40
						1967						
5	58.9 E	56.3 E	54.4 E	52.96	63.07	65.64	64.98	66.81	67.[illegible]	67.14	63.07	59.5 E
10	58.4 E	55.9 E	54.1 E	53.31	63.88	65.74	65.04	67.07	68.08	66.60	62.35	58.7 E
15	58.0 E	55.5 E	53.9 E	58.83	64.57	65.76	65.57	67.12	68.27	66.10	61.62	58.1 E
20	57.6 E	55.2 E	53.6 E	60.55	65.04	65.45	66.02	67.10	68.23	65.57	61.1 E	57.6 E
25	57.2 E	54.9 E	53.29	60.42	65.06	65.48	66.55	67.30	67.99	64.68	60.4 E	57.2 E
EOM	56.7 E	54.6 E	53.12	61.67	65.34	65.20	66.70	67.67	67.63	63.78	59.90	56.9 E
						1968						
5	56.5 E	54.1 E	52.74H	52.6 E	56.6 E	63.4 E	64.09	66.5 E	67.3 E	68.03	65.28	60.48
10	56.0 E	53.8 E	52.6 E	52.8 E	58.0 E	63.4 E	64.99	66.6 E	67.4 E	67.86	64.54	59.76
15	55.6 E	53.6 E	52.4 E	53.0 E	59.4 E	63.5 E	65.51	66.7 E	67.6 E	67.64	63.70	59.20
20	55.2 E	53.4 E	52.3 E	53.2 E	60.8 E	63.6 E	65.87	66.83	67.7 E	67.18	62.87	58.57
25	54.8 E	53.2 E	52.13H	53.45E	62.2 E	63.73	66.22H	67.0 E	67.9 E	66.65	61.95	57.83
EOM	54.3 E	52.9 E	52.4 E	55.2 E	63.30	63.9 E	66.4 E	67.2 E	68.1 E	65.90	61.13	57.27
						1969						
5	56.55	53.65	52.52	51.36	58.03	62.50	61.69	66.34	65.18	63.00	57.60	52.10
10	55.77	53.58	52.40	51.48	59.20	62.78	62.6 E	66.38	65.50	62.35	56.46	51.84
15	55.21	53.24	52.33	51.44	60.62	62.72	63.5 E	65.99	65.54	61.70	54.68	51.38
20	54.68	53.09	52.10	51.20	61.87	62.86	64.4 E	65.3 E	65.25	60.37	53.75	51.00
25	54.22	52.83	52.04	55.30	62.57	63.05	65.2 E	64.6 E	64.66	59.20	53.23	50.60
EOM	53.98	52.70	51.54	56.67	62.05	61.78	66.15	64.8 E	63.25	58.46	52.60	50.40
						1970						
5	50.15	48.73	47.52	46.63	57.75	62.25	64.73	66.27	66.69	63.02	55.58	51.86
10	49.90	48.46	47.25	49.53	58.96	63.00	64.28	66.26	66.62	62.01	54.56	51.51
15	49.65	48.32	47.20	52.14	59.92	62.28	64.84	66.20	66.53	60.77	53.80	51.05
20	49.45	48.10	47.08	54.57	60.51	62.06	65.17	66.33	65.77	59.67	53.16	50.83
25	49.25	47.89	46.84	55.72	60.68	62.42	65.63	66.45	64.80	58.55	52.52	50.65
EOM	48.87	47.65	46.69	56.67	61.42	63.26	66.04	66.70	63.94	57.19	52.10	50.33
						1971						
5	50.15	48.73	47.70	47.02	58.55	61.17	64.38	66.12	66.58	63.28	58.02	53.21
10	49.80	48.58	47.58	50.64	59.70	62.14	64.73	66.32	66.77	62.15	57.10	52.80
15	49.72	48.31	47.52	52.88	60.41	62.97	65.20	66.52	66.93	61.15	56.03	52.55
20	49.39	48.08	47.21	54.52	60.74	63.18	65.50	66.62	66.77	60.47	54.25	52.30
25	49.28	47.89	47.07	55.94	59.80	63.57	65.60	66.52	65.63	59.67	54.32	51.88
EOM	48.92	47.83	46.84	57.13	60.20	63.87	65.88	66.40	64.45	58.82	53.68	51.76
						1972						
5	51.52	50.12	49.15	49.93	57.12	62.58	64.9 E	66.09	66.79	.....	.....	.....
10	51.23	49.94	48.92	52.17	58.92	63.52	64.31	66.43	66.98	.....	.....	.....
15	51.07	49.74	48.85	53.00	60.25	63.83	63.70	66.75	67.12	.....	.....	.....
20	50.83	49.56	48.97	55.1	61.18	64.14	64.36	66.67	67.16	.....	.....	.....
25	50.53	49.42	49.08	52.72	61.48	64.18	64.85	66.59	66.73	.....	.....	.....
EOM	50.20	49.17	49.52	55.18	61.57	64.47	65.55	66.66	66.21	.....	.....	.....

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-29-10)6DDC-1. TERRAL BOWEN. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 12 IN, DEPTH 90 FT. LSD 5032.67 FT ABOVE MSL. MP TOP OF CASING, 0.20 FT ABOVE LSD. WELL DESTROYED; MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 25.54 BELOW LSD, NOV. 10, 1938.
LOWEST WATER LEVEL 37.02 BELOW LSD, APR. 10, 1937.
RECORDS AVAILABLE 1925-27, 1932-53.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 12, 1925	30.66	OCT. 30, 1932	38.0	MAY 10, 1934	37.2	SEP. 23, 1936	40.74
APR. 30, 1926	31.09	DEC. 5	37.2	JUNE 2	38.5	NOV. 18	39.86
NOV. 3	31.31	JAN. 4, 1933	36.9	JAN. 10, 1935	38.4	DEC. 7	39.35
MAY 1, 1927	31.55	FEB. 1	36.6	FEB. 10	38.3	DEC. 24	38.84
NOV. 16	34.82	MAR. 1	36.4	MAR. 20	38.0	JAN. 15, 1937	37.95
APR. 22, 1932	34.5	APR. 1	36.0	MAY 5	38.2	FEB. 4	37.86
JULY 6	35.2	MAY 4	36.3	FEB. 3, 1936	39.24	FEB. 28	37.51
AUG. 3	37.8	JUNE 4	36.4	APR. 16	38.63	MAR. 15	37.32
SEP. 4	38.2	MAR. 11, 1934	36.9	JUNE 15	40.11	MAR. 30	37.25
OCT. 2	38.4	APR. 8	36.7	JULY 31	41.05	APR. 6	37.16

1937

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	.....	.....	.....	.....	36.40	34.14	34.68	34.39	34.49	32.3 E	31.39	30.8 E
10	.....	.....	.....	37.02	36.05	33.80	34.64	34.41	34.63	32.2 E	31.40	30.73
15	.....	.....	.....	36.99	35.85	34.10	34.58	34.41	34.3 E	32.0 E	31.61	30.66
20	.....	.....	.....	36.93	34.68	34.37	34.5 E	34.40	33.8 E	32.0 E	31.5 E	31.05
25	.....	.....	.....	36.9 E	34.51	34.5 E	34.43	34.45	33.3 E	31.67	31.06	31.36
EOM	.....	.....	.....	36.73	34.9 E	34.60	34.42	34.46	32.8 E	31.49	30.8 E	31.54

1938

5	31.66	31.84	32.03	31.97	32.03	29.8 E	27.6 E	26.87	27.33	27.52	25.55	26.83
10	31.8 E	31.85	31.99	32.03	32.08	29.68	27.37	27.07	27.46	27.39	25.54	26.94
15	31.83	31.87	32.0 E	32.05	31.53	28.9 E	27.3 E	27.18	27.59	27.34	25.67	27.09
20	31.8 E	31.90	31.93	32.03	31.07	28.4 E	27.20	27.28	27.65	27.18	25.95	27.25
25	31.8 E	32.0 E	32.0 E	32.03	31.1 E	28.3 E	26.47	27.30	27.63	26.34	26.23	27.40
EOM	31.8 E	32.00	32.03	32.2 E	31.17	28.2 E	26.62	27.34	27.60	25.65	26.51	27.58

1939

5	27.67	28.25	28.64	28.95	28.05	26.67	26.99	27.67	28.84	28.97	28.89	29.01
10	27.82	28.36	28.64	29.0 E	27.98	26.66	27.07	27.84	28.92	29.01	28.92	29.03
15	27.90	28.41	28.75	29.00	27.80	26.82	27.13	28.01	29.01	28.91	28.88	29.10
20	27.97	28.50	28.80	28.86	27.53	26.91	27.17	28.24	29.02	28.93	28.92	29.09
25	28.12	28.50	28.83	28.39	27.00	26.98	27.25	28.42	28.99	28.86	28.95	29.10
EOM	28.11	28.54	28.91	28.12	26.8 E	27.01	27.55	28.70	28.97	28.92	28.97	29.14

1940

5	29.15	29.42	29.42	29.58	30.17	30.69	31.09	31.41	.....	.....	.....	.....
10	29.20E	29.35	29.39	29.64	30.28	30.74	31.05	.....	.....	.....	.....	.....
15	29.26	29.33	29.45	29.64	30.37	30.81	31.02	.....	.....	.....	.....	.....
20	29.27	29.44	29.44	29.78	30.46	30.91	31.12	.....	.....	.....	.....	.....
25	29.29	29.42	29.44	29.85	30.53	30.97	31.17	.....	.....	.....	.....	.....
EOM	29.33	29.39	29.50	29.97	30.68	31.04	31.29	.....	.....	.....	.....	.....

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 7, 1940	31.30	JAN. 31, 1942	27.05	AUG. 4, 1942	26.54	JAN. 27, 1943	27.18
OCT. 5	31.22	FEB. 7	27.02	AUG. 11	26.56	FEB. 2	27.56
NOV. 2	31.46	FEB. 14	26.97	AUG. 18	26.40	FEB. 11	27.54
DEC. 7	31.66	FEB. 21	26.86	AUG. 26	26.70	FEB. 18	27.52
JAN. 4, 1941	31.31	FEB. 28	27.50	SEP. 2	26.80	FEB. 27	27.51
FEB. 1	31.55	MAR. 8	27.48	SEP. 9	27.20	APR. 4	27.24
MAR. 1	31.49	MAR. 14	27.86	SEP. 16	27.36	MAY 3	27.60
APR. 5	31.45	MAR. 21	27.85	SEP. 23	26.90	JUNE 1	28.58
APR. 30	31.53	MAR. 28	27.80	SEP. 30	26.91	JULY 19	28.01
MAY 4	31.59	APR. 4	28.20	OCT. 7	27.46	AUG. 23	28.36
JUNE 7	28.5	APR. 11	28.21	OCT. 14	27.42	SEP. 22	28.45
JULY 5	28.1	APR. 18	28.40	OCT. 21	27.24	OCT. 15	28.70
AUG. 2	28.3	APR. 25	28.42	OCT. 28	27.16	NOV. 29	28.72
SEP. 6	29.05	MAY 2	28.41	NOV. 4	26.90	MAR. 12, 1944	29.52
SEP. 20	29.83	MAY 9	28.43	NOV. 11	27.27	NOV. 25	28.17
OCT. 4	30.38	MAY 16	27.66	NOV. 18	27.29	MAR. 28, 1945	28.78
NOV. 1	29.19	MAY 23	27.68	NOV. 25	26.80	DEC. 13	28.08
DEC. 3	27.34	MAY 30	26.25	DEC. 2	26.74	MAR. 15, 1946	27.64
DEC. 6	27.30	JUNE 6	26.37	DEC. 9	26.98	AUG. 30	29.90
DEC. 20	27.02	JUNE 13	26.14	DEC. 9	26.77	OCT. 10	30.10
DEC. 27	26.99	JUNE 20	26.19	DEC. 16	26.76	DEC. 10	30.18
JAN. 4, 1942	27.11	JUNE 27	26.03	DEC. 23	26.74	FEB. 17, 1947	29.97
JAN. 10	27.08	JULY 4	26.18	JAN. 5, 1943	27.40	MAR. 20	29.94
JAN. 17	27.05	JULY 20	26.36	JAN. 13	27.38	APR. 25	30.05
JAN. 24	27.11	JULY 28	26.40	JAN. 20	27.23	MAY 22	29.92

1947

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	.....	.....	.....	.....	.....	29.99	30.31	30.65	30.90	31.09	30.4 E	29.98
10	.....	.....	.....	.....	.....	29.92	30.50	30.69	30.97	31.03	30.27	29.91
15	.....	.....	.....	.....	.....	29.87	30.33	30.76	31.02	30.81	30.18	29.9 E
20	.....	.....	.....	.....	.....	29.88	30.56	30.80	31.06	30.6 E	30.10	29.9 E
25	.....	.....	.....	.....	29.96	29.9 E	30.72	30.81	31.08	30.5 E	30.12	29.6 E
EOM	.....	.....	.....	.....	29.9 E	30.11	30.86	30.86	31.11	30.4 E	30.04	29.37

1948

5	29.3 E	28.9 E	28.57	28.56	28.98	29.4 E	29.87	30.2 E	29.93	.....	.....	.....
10	29.4 E	28.9 E	28.5 E	28.63	29.12	29.43	30.03	29.96	29.90	.....	.....	.....
15	29.4 E	28.8 E	28.5 E	28.7 E	29.20	29.4 E	30.09	30.06	30.03	.....	.....	.....
20	29.4 E	28.7 E	28.5 E	28.72	29.20	29.4 E	30.01	30.1 E	29.09	.....	.....	.....
25	29.4 E	28.7 E	28.5 E	28.83	29.43	29.54	30.15	30.14	.....	.....	.....	.....
EOM	29.08	28.6 E	28.46	28.87	29.4 E	29.77	30.27	30.08	.....	.....	.....	.....

(C-29-10)6DDC-1 - CONTINUED

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 25, 1948	29.46	OCT. 25, 1949	29.77	JUNE 6, 1951	43.30A	AUG. 28, 1952	43.78
SEP. 30	29.58	NOV. 26	29.98	JULY 7	43.9 A	OCT. 6	39.63
OCT. 28	30.13	DEC. 1	30.19	AUG. 16	44.9 A	NOV. 1	37.72
NOV. 30	30.17	FEB. 26, 1950	29.15	OCT. 12	38.04	NOV. 19	37.28
JAN. 1, 1949	30.18	MAR. 22	28.83	DEC. 9	36.24	DEC. 10	36.84
MAR. 25	30.04	APR. 23	30.48	JAN. 1, 1952	36.28	JAN. 1, 1953	36.41
MAY 15	30.89	JUNE 20	38.80A	APR. 2	34.85	MAR. 10	35.18
JUNE 26	30.72	SEP. 26	34.10	APR. 30	34.85	MAR. 17	34.7
JULY 19	30.34	OCT. 31	33.70	MAY 21	35.20	MAY 1	36.45
AUG. 30	29.83	DEC. 6	33.05	AUG. 2	40.00	MAY 8	36.72
SEP. 25	29.46	MAR. 14, 1951	32.55				

LOCAL NUMBER (C-29-10)6DDC-2. TERRAL BOWEN. DRILLED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 154 FT. LSD 5032.67 FT ABOVE MSL. MP TOP OF CASING, AT LSD.
HIGHEST WATER LEVEL 35.10 BELOW LSD, MAR. 16, 1953.
LOWEST WATER LEVEL 84.70 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1952-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 21, 1952	35.40	DEC. 9, 1954	44.62	DEC. 5, 1959	52.86	MAR. 12, 1966	62.94
JUNE 27	52.0 A	FEB. 23, 1955	42.61	MAR. 22, 1960	50.47	MAR. 1, 1967	65.34
OCT. 6	40.30	MAR. 22	41.90	OCT. 13	62.83	MAR. 5, 1968	63.50
NOV. 19	37.34	NOV. 30	48.65	DEC. 16	55.94	OCT. 2	84.70
MAR. 16, 1953	35.10	MAR. 20, 1956	45.25	MAR. 15, 1961	53.15	MAR. 21, 1969	62.50
MAY 8	37.36	DEC. 5	51.58	OCT. 5	64.68	OCT. 1	75.62
JUNE 12	51.5 A	MAR. 18, 1957	48.45	MAR. 31, 1962	54.45	MAR. 11, 1970	56.84
JULY 18	52.0 A	OCT. 9	58.50	OCT. 16	65.98	OCT. 1	71.30
SEP. 11	46.37A	DEC. 7	53.65	MAR. 19, 1963	57.05	NOV. 2	64.29
OCT. 9	45.58	MAR. 21, 1958	50.02	OCT. 11	69.20	MAR. 3, 1971	57.40
DEC. 9	41.53	OCT. 11	53.43	MAR. 28, 1964	58.90	OCT. 2	73.20
MAR. 5, 1954	39.68	DEC. 6	52.85	OCT. 27	69.86	MAR. 2, 1972	59.19
MAY 21	44.90	MAR. 28, 1959	47.18	MAR. 12, 1965	61.40	OCT. 2	82.60
OCT. 7	47.92	OCT. 10	56.16	OCT. 8	75.93		

LOCAL NUMBER (C-29-10)8DDD-1. ROSS MARSHALL. DRILLED STOCK (FORMERLY IRRIGATION) ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 210 FT, CASED TO 60. LSD 5066.5 FT ABOVE MSL. MP HOLE IN PUMP BASE, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 63.07 BELOW LSD, MAR. 23, 1955.
LOWEST WATER LEVEL 92.19 BELOW LSD, OCT. 27, 1964.
RECORDS AVAILABLE 1955-64.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 23, 1955	63.07	MAR. 18, 1957	69.12	MAR. 28, 1959	65.42	MAR. 15, 1961	74.05
OCT. 11	72.95	OCT. 10	79.27	OCT. 10	74.30	MAR. 31, 1962	75.37
DEC. 2	69.66	DEC. 7	73.85	DEC. 5	69.55	MAR. 19, 1963	77.81
MAR. 20, 1956	65.91	MAR. 20, 1958	69.75	MAR. 22, 1960	68.60	MAR. 28, 1964	81.83
OCT. 13	77.51	OCT. 11	72.25	OCT. 13	84.58	OCT. 27	92.19
DEC. 4	73.26	DEC. 6	68.30	DEC. 16	78.43		

LOCAL NUMBER (C-29-10)8DDD-2. ROSS MARSHALL. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 410 FT, CASED TO 95. LSD 5067 FT ABOVE MSL. MP BOTTOM OF HOLE IN CASING, AT LSD.
HIGHEST WATER LEVEL 76.48 BELOW LSD, MAR. 11, 1970.
LOWEST WATER LEVEL 113.7 BELOW LSD, MAY 11, 1971.
RECORDS AVAILABLE 1965-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 12, 1965	82.20	MAR. 5, 1968	83.93	MAR. 11, 1970	76.48	MAY 11, 1971	113.7 A
OCT. 8	94.01	OCT. 2	101.78	OCT. 1	92.23	OCT. 2	95.35
MAR. 14, 1966	82.10	MAR. 21, 1969	83.35	NOV. 2	84.93	MAR. 2, 1972	80.37
FEB. 28, 1967	84.04	OCT. 1	88.38	MAR. 2, 1971	77.86	OCT. 2	93.97

LOCAL NUMBER (C-29-10)15BDC-1. UTAH STATE ROAD COMM. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 224 FT, CASED TO 180. MP TOP OF CASING, 3.50 FT ABOVE MSL.
HIGHEST WATER LEVEL 171.25 BELOW LSD, NOV. 27, 1953.
LOWEST WATER LEVEL 193.25 BELOW LSD, AUG. 30, 1966.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 27, 1953	171.25	DEC. 4, 1956	176.09	MAY 5, 1960	176.58	OCT. 1, 1969	189.17
DEC. 3	171.98	MAR. 18, 1957	176.50	JUNE 6	176.71	MAR. 1, 1970	187.98
MAR. 3, 1954	172.35	APR. 19	176.58	JULY 8	177.04	OCT. 1	190.51
APR. 8	172.41	MAY 17	176.63	AUG. 8	177.27	NOV. 2	188.46
APR. 28	172.46	JULY 29	176.99	SEP. 6	177.50	DEC. 2	188.20
JUNE 10	172.61	SEP. 4	176.50	OCT. 12	177.85	JAN. 21, 1971	188.14
JULY 26	172.75	OCT. 9	175.93	DEC. 6	178.16	MAR. 2	188.17
SEP. 1	172.80	MAR. 20, 1958	176.42	MAR. 14, 1961	178.16	APR. 1	188.16
OCT. 5	172.80	MAY 6	176.67	MAY 2	178.58	MAY 6	188.41
NOV. 16	173.05	JUNE 24	176.02	OCT. 5	180.31	JUNE 9	188.86
DEC. 10	173.22	JULY 23	175.70	APR. 2, 1962	181.39	JULY 13	189.33
MAR. 22, 1955	172.76	AUG. 26	175.24	OCT. 11	182.85	AUG. 10	189.35
MAY 3	172.75	SEP. 16	175.20	MAR. 19, 1963	183.42	SEP. 2	189.40
MAY 26	172.95	OCT. 10	175.07	OCT. 11	184.51	OCT. 1	189.85
JULY 6	173.22	DEC. 5	174.85	MAR. 28, 1964	183.34	NOV. 17	190.03
AUG. 6	173.47	MAR. 28, 1959	174.99	OCT. 27	188.30	JAN. 13, 1972	189.93
SEP. 2	173.60	MAY 2	175.14	MAR. 12, 1965	187.59	MAR. 1	189.74
DEC. 1	173.02	JUNE 3	175.44	OCT. 8	190.52	APR. 1	189.72
MAR. 21, 1956	174.42	JULY 6	175.60	MAR. 12, 1966	190.09	MAY 2	189.95
MAY 7	174.61	AUG. 6	175.79	AUG. 30	193.25	JUNE 1	190.19
JUNE 7	174.88	SEP. 3	175.89	FEB. 28, 1967	191.41	JULY 6	190.84
JULY 5	175.05	OCT. 9	176.08	MAR. 5, 1968	192.15	AUG. 2	191.34
AUG. 8	175.36	DEC. 4	176.40	OCT. 2	192.08	SEP. 6	191.93
SEP. 6	175.60	MAR. 21, 1960	176.20	MAR. 21, 1969	190.52	OCT. 2	192.13
OCT. 12	175.80						

LOCAL NUMBER (C-29-10)17DDD-1. THURMAN AND EYRE. DRILLED UNUSED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 304 FT, CASED TO 40. LSD 5090.3 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 71.35 BELOW LSD, MAR. 14, 1951.
LOWEST WATER LEVEL 115.82 BELOW LSD, OCT. 2, 1971.
RECORDS AVAILABLE 1950-71.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JULY 29, 1950	87.15	MAR. 17, 1953	74.18	DEC. 7, 1957	90.95	MAR. 28, 1964	99.77
SEP. 28	72.65	MAY 8	93.9 A	MAR. 20, 1958	86.88	OCT. 28	111.75
DEC. 6	71.60	OCT. 23	84.00	OCT. 11	89.75	MAR. 12, 1965	102.48
MAR. 14, 1951	71.35	DEC. 9	80.30	DEC. 6	87.02	MAR. 14, 1966	103.50
JUNE 6	92.1 A	MAR. 5, 1954	80.05	MAR. 28, 1959	85.05	FEB. 28, 1967	105.98
JULY 7	99.5 A	OCT. 7	92.34	OCT. 10	91.10	MAR. 5, 1968	105.95
AUG. 15	102.9 A	DEC. 9	86.12	DEC. 5	91.72	MAR. 21, 1969	104.00
AUG. 30	78.55	FEB. 23, 1955	81.20	MAR. 22, 1960	86.14	MAR. 11, 1970	96.66
OCT. 9	76.30	MAR. 23	80.35	OCT. 13	101.77	OCT. 1	112.76
DEC. 8	75.34	DEC. 2	86.65	DEC. 16	95.81	NOV. 2	107.16
APR. 2, 1952	74.40	MAR. 20, 1956	83.70	MAR. 15, 1961	91.88	DEC. 2	103.97
MAY 22	77.47	OCT. 13	98.27	OCT. 6	105.94	JAN. 21, 1971	101.11
JUNE 24	104.6 A	DEC. 4	90.60	MAR. 31, 1962	94.80	MAR. 2	99.69
SEP. 10	101.4 A	MAR. 18, 1957	87.58	OCT. 16	105.95	APR. 1	98.79
OCT. 6	80.06	OCT. 10	95.83	MAR. 19, 1963	97.15	OCT. 2	115.82
NOV. 19	76.70						

LOCAL NUMBER (C-29-10)17DDD-2. THURMAN AND EYRE. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 220 FT, CASED TO 105. LSD 5090 FT ABOVE MSL. MP TOP OF CASING, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 86.69 BELOW LSD, MAR. 22, 1960.
LOWEST WATER LEVEL 119.27 BELOW LSD, OCT. 2, 1972.
RECORDS AVAILABLE 1960, 1972.
MAR.22, 1960 86.69 MAR. 2, 1972 97.76 OCT. 2, 1972 119.27

LOCAL NUMBER (C-29-10)19DDD-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 133 FT, CASED TO 122. LSD 5094.5 FT ABOVE MSL. MP TOP OF CASING, 2.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 81.47 BELOW LSD, APR. 8, 1954.
LOWEST WATER LEVEL 114.27 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 19, 1953	83.23	FEB. 18, 1957	89.30	JUNE 6, 1960	93.95	OCT. 2, 1968	114.27
DEC. 3	83.23	MAR. 19	88.98	JULY 8	95.63	MAR. 21, 1969	107.39
MAR. 3, 1954	81.81	APR. 19	88.53	AUG. 8	96.74	OCT. 1	112.97
APR. 8	81.47	MAY 17	89.54	SEP. 6	98.08	MAR. 1, 1970	103.57
APR. 28	81.91	JUNE 12	91.03	OCT. 13	97.18	OCT. 1	112.44
JUNE 10	83.57	AUG. 1	92.90	DEC. 15	95.45	NOV. 2	113.25
JULY 17	85.00	SEP. 4	93.95	MAR. 15, 1961	93.70	DEC. 2	109.48
SEP. 1	86.20	OCT. 10	93.60	MAY 2	93.75	JAN. 20, 1971	107.91
OCT. 5	85.89	DEC. 7	92.04	JUNE 9	97.15	MAR. 3	104.33
NOV. 16	85.25	MAR. 19, 1958	90.13	JULY 5	98.33	APR. 1	103.62
DEC. 10	84.14	MAY 6	89.91	AUG. 11	100.26	MAY 8	105.68
FEB. 23, 1955	83.97	JUNE 24	91.47	SEP. 6	100.76	JUNE 10	107.39
MAR. 24	83.70	JULY 23	92.60	OCT. 5	100.20	JULY 13	109.43
MAY 3	84.41	AUG. 26	93.04	MAR. 31, 1962	95.76	AUG. 10	111.55
MAY 23	85.35	SEP. 17	92.60	MAY 7	96.32	SEP. 2	112.69
JULY 6	87.65	OCT. 11	91.50	OCT. 11	101.43	SEP. 17	113.13
AUG. 30	88.92	DEC. 6	89.87	MAR. 19, 1963	97.60	OCT. 2	113.18
OCT. 12	88.48	MAR. 28, 1959	87.95	OCT. 11	104.07	NOV. 17	111.84
DEC. 1	87.57	MAY 2	88.65	MAR. 28, 1964	99.72	JAN. 12, 1972	109.47
MAR. 21, 1956	86.08	JUNE 3	90.31	OCT. 27	105.84	MAR. 2	107.00
MAY 8	87.79	JULY 6	91.45	MAR. 12, 1965	102.72	APR. 1	105.52
JUNE 8	89.47	AUG. 6	92.80	OCT. 8	108.23	MAY 3	106.14
JULY 5	89.53	SEP. 3	93.34	MAR. 12, 1966	103.52	JUNE 1	107.72
AUG. 8	91.65	OCT. 10	92.37	AUG. 30	111.48	JULY 6	110.71
SEP. 6	92.48	DEC. 5	91.35	MAR. 1, 1967	105.62	AUG. 2	112.92
OCT. 13	91.70	MAR. 22, 1960	89.97	SEP. 22	112.57	SEP. 6	113.95
DEC. 3	90.63	MAY 5	91.74	MAR. 5, 1968	106.46	OCT. 2	114.11

LOCAL NUMBER (C-29-10)33BBB-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 160 FT, CASED TO 129. LSD 5137.3 FT ABOVE MSL. MP TOP OF CASING, 1.70 FT ABOVE LSD.
HIGHEST WATER LEVEL 116.90 BELOW LSD, APR. 28, 1954.
LOWEST WATER LEVEL 142.00 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 3, 1953	118.20	AUG. 8, 1956	123.40	OCT. 13, 1960	128.39	JAN. 20, 1971	137.49
MAR. 3, 1954	117.99	SEP. 6	124.02	DEC. 15	128.75	MAR. 3	136.76
APR. 8	117.05	OCT. 12	124.68	MAR. 15, 1961	128.06	APR. 1	136.40
APR. 28	116.90	DEC. 3	124.83	MAR. 31, 1962	130.05	MAY 8	136.01
JUNE 10	117.48	FEB. 18, 1957	124.20	OCT. 11	132.24	JUNE 10	136.25
JULY 17	118.48	MAR. 19	123.98	MAR. 19, 1963	131.80	JULY 13	136.98
SEP. 1	119.29	APR. 19	123.67	MAR. 28, 1964	133.68	AUG. 10	137.63
OCT. 5	119.83	MAY 17	123.57	OCT. 27	136.03	SEP. 2	138.15
NOV. 16	120.03	AUG. 1	125.01	MAR. 12, 1965	135.61	SEP. 17	138.56
DEC. 10	119.90	SEP. 4	126.00	OCT. 8	137.36	OCT. 2	138.85
MAR. 23, 1955	119.14	OCT. 10	126.06	MAR. 12, 1966	137.00	NOV. 17	139.29
MAY 3	119.01	MAR. 19, 1958	125.03	MAR. 1, 1967	138.73	JAN. 12, 1972	138.79
MAY 23	119.30	MAY 6	124.51	MAR. 5, 1968	139.80	MAR. 2	138.05
JULY 6	120.37	JULY 23	124.58	OCT. 2	142.00	APR. 1	137.58
AUG. 30	121.50	AUG. 26	125.05	MAR. 21, 1969	140.70	MAY 3	137.29
OCT. 12	122.20	OCT. 11	125.18	OCT. 1	139.61	JUNE 1	137.40
DEC. 1	122.10	DEC. 6	124.30	MAR. 11, 1970	136.63	JULY 6	138.02
MAR. 21, 1956	121.34	MAR. 28, 1959	123.02	OCT. 1	138.02	AUG. 2	138.70
MAY 8	121.41	OCT. 10	125.70	NOV. 2	138.39	SEP. 7	139.49
JUNE 8	122.16	DEC. 5	125.84	DEC. 4	138.20	OCT. 4	139.94
JULY 5	122.71	MAR. 22, 1960	124.78				

LOCAL NUMBER (C-29-10)35CCD-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 175 FT, CASED TO 126. LSD 5249.72 FT ABOVE MSL. MP TOP OF CASING, 2.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 119.28 BELOW LSD, DEC. 10, 1953,
LOWEST WATER LEVEL 147.84 BELOW LSD, AUG. 29, 1967.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 1, 1953	119.29	APR. 19, 1957	137.12	AUG. 8, 1960	139.11	OCT. 1, 1969	139.43
DEC. 10	119.28	MAY 17	139.62	SEP. 6	139.28	MAR. 1, 1970	135.58
MAR. 3, 1954	121.49	JULY 29	138.20	OCT. 12	139.45	OCT. 1	134.85
APR. 8	122.58	SEP. 4	137.65	DEC. 16	139.96	NOV. 2	134.17
APR. 28	123.16	OCT. 9	137.05	MAR. 14, 1961	140.84	DEC. 3	133.81
JUNE 10	124.29	DEC. 7	136.55	MAY 2	141.40	JAN. 20, 1971	133.82
JULY 26	125.11	MAR. 20, 1958	137.60	JUNE 9	141.83	MAR. 2	134.43
SEP. 1	125.37	MAY 6	137.94	JULY 5	142.10	APR. 1	134.82
OCT. 5	125.58	JUNE 18	137.03	AUG. 11	142.33	MAY 6	135.16
NOV. 16	125.13	JULY 23	135.70	OCT. 5	142.20	JUNE 9	135.64
DEC. 10	126.39	AUG. 26	134.28	APR. 2, 1962	143.21	JULY 13	135.89
MAR. 22, 1955	128.11	SEP. 17	133.45	MAY 7	143.50	AUG. 10	135.21
MAY 4	128.96	OCT. 10	132.65	OCT. 11	143.09	SEP. 2	134.58
MAY 26	129.32	DEC. 5	131.82	MAR. 19, 1963	144.16	SEP. 17	134.37
JULY 6	130.06	MAR. 28, 1959	134.64	OCT. 11	144.98	OCT. 1	134.10
SEP. 2	130.61	MAY 2	133.87	MAR. 24, 1964	145.91	NOV. 17	133.75
DEC. 1	131.28	JUNE 3	134.43	OCT. 27	146.20	JAN. 13, 1972	134.66
MAR. 21, 1956	132.65	JULY 6	134.91	MAR. 12, 1965	147.18	MAR. 1	135.02
MAY 7	133.30	AUG. 6	135.05	OCT. 8	147.06	APR. 1	135.57
JUNE 8	133.70	SEP. 3	134.95	MAR. 12, 1966	147.34	MAY 2	136.11
JULY 5	134.22	OCT. 9	134.82	AUG. 30	147.30	JUNE 1	136.61
AUG. 8	134.62	DEC. 4	135.43	FEB. 28, 1967	147.11	JULY 6	136.97
SEP. 6	134.83	MAR. 21, 1960	137.08	AUG. 29	147.84	AUG. 2	136.87
OCT. 12	135.07	MAY 5	137.99	MAR. 5, 1968	147.48	SEP. 6	136.45
DEC. 4	135.55	JUNE 6	138.44	OCT. 2	146.65	OCT. 2	136.14
MAR. 18, 1957	136.85	JULY 8	138.87	MAR. 21, 1969	144.75		

LOCAL NUMBER (C-29-11)1ADD-1. J. A. MAYER. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 64 FT, CASED TO 18. LSD 5014.63 FT ABOVE MSL. MP TOP OF CASING, 17.00 FT BELOW LSD. WELL DESTROYED: MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 17.50 BELOW LSD, MAR. 15, 1946,
LOWEST WATER LEVEL 43.1 BELOW LSD, JUNE 26, 1952.
RECORDS AVAILABLE 1935-55.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 17, 1935	30.56	JUNE 5, 1938	20.65	JULY 6, 1940	27.99A	MAY 31, 1943	19.70
OCT. 15	29.45	JUNE 29	20.35	AUG. 3	23.72	JULY 20	19.85
NOV. 27	28.01	JULY 22	20.15	AUG. 14	28.8 A	AUG. 23	21.14
FEB. 3, 1936	26.44	AUG. 8	19.66	SEP. 7	25.108	SEP. 22	21.84
APR. 16	25.41	AUG. 22	19.5	OCT. 5	23.17	SEP. 29	21.23
JUNE 15	29.01C	SEP. 3	19.83	DEC. 7	22.34	NOV. 29	21.18
JULY 31	29.85	SEP. 17	19.55	JAN. 4, 1941	22.09	DEC. 6	19.90
SEP. 22	29.47	OCT. 1	19.34	FEB. 1	21.80	MAR. 12, 1944	18.28
NOV. 18	27.60	OCT. 15	19.04	MAR. 1	21.57	NOV. 25	19.62
DEC. 24	26.57	OCT. 30	19.06	APR. 12	21.43	MAR. 28, 1945	17.98
JAN. 15, 1937	26.16	NOV. 12	18.20	APR. 30	20.07	DEC. 13	19.07
FEB. 11	25.65	NOV. 26	18.20	MAY 4	21.19	MAR. 15, 1946	17.50
FEB. 28	25.43	DEC. 10	18.15	JUNE 7	21.75	DEC. 9	20.20
MAR. 15	25.02	DEC. 17	18.08	JULY 5	21.9	MAR. 19, 1947	18.92
MAR. 30	24.84	DEC. 24	18.10	AUG. 2	22.41	DEC. 4, 1948	20.40
APR. 18	24.70	JAN. 7, 1939	18.11	SEP. 6	22.15	MAR. 31, 1949	17.74
MAY 19	25.82	JAN. 21	18.13	SEP. 20	22.55	DEC. 7	21.22
JUNE 4	26.10	FEB. 4	18.04	OCT. 4	22.47	MAR. 24, 1950	19.50
JULY 7	26.20	FEB. 18	18.18	NOV. 1	21.80	JUNE 10	38.20A
JULY 17	26.23	MAR. 4	18.10	DEC. 4	19.96	JULY 31	40.1 A
AUG. 1	26.27	APR. 1	18.20	DEC. 20	19.60	DEC. 6	22.69
AUG. 7	26.25	MAY 5	18.48	JAN. 4, 1942	19.49	MAR. 13, 1951	21.15
AUG. 17	26.47	JUNE 3	18.49	FEB. 7	19.42	JUNE 6	40.9 A
SEP. 16	26.58	JUNE 15	18.30	MAR. 8	19.00	JULY 6	41.5 A
SEP. 29	26.12	JULY 1	18.32	APR. 4	18.74	AUG. 19	42.8 A
OCT. 5	25.98	AUG. 5	18.5	APR. 16	17.93	OCT. 12	27.90
OCT. 22	24.88	AUG. 14	19.07	MAY 2	18.71	DEC. 7	25.20
NOV. 5	24.07	SEP. 2	19.52	JUNE 7	19.00	APR. 2, 1952	23.25
NOV. 20	23.39	OCT. 7	19.78	JUNE 28	19.60	JUNE 26	43.1 A
DEC. 2	23.04	OCT. 24	19.26	JULY 28	20.01	OCT. 7	28.79
DEC. 19	22.37	NOV. 4	19.17	AUG. 26	20.14	NOV. 18	26.50
JAN. 2, 1938	22.06	DEC. 2	18.66	SEP. 29	20.62	MAR. 18, 1953	24.02
JAN. 15	21.99	DEC. 18	18.54	NOV. 4	19.75	MAY 7	40.4 A
FEB. 3	21.78	JAN. 6, 1940	18.50	DEC. 2	19.60	OCT. 14	32.85
FEB. 18	21.75	FEB. 3	18.45	DEC. 9	18.62	DEC. 8	29.50
MAR. 7	21.55	MAR. 2	18.34	JAN. 5, 1943	19.50	MAR. 5, 1954	27.28
MAR. 20	21.42	APR. 6	18.35	FEB. 2	18.55	OCT. 6	36.81
APR. 3	21.37	APR. 16	18.67	MAR. 10	17.60	DEC. 9	33.81
APR. 20	21.27	MAY 4	18.70	APR. 4	18.23	MAR. 23, 1955	30.33
MAY 22	21.30	JUNE 1	27.72A	MAY 3	18.60		

LOCAL NUMBER (C-29-11)1ADD-2. J. A. MAYER. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM, DIAM 14 IN, DEPTH 200 FT, CASED TO 60. LSD 5015.1 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 31.12 BELOW LSD, MAR. 20, 1956,
LOWEST WATER LEVEL 88.00 BELOW LSD, SEP. 9, 1971.
RECORDS AVAILABLE 1955-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1955	38.57	DEC. 6, 1958	38.92	OCT. 16, 1962	49.01	MAR. 21, 1969	47.85
DEC. 2	34.55	OCT. 10, 1959	43.77	MAR. 20, 1963	43.10	MAR. 11, 1970	43.30
MAR. 20, 1956	31.12	DEC. 5	39.65	OCT. 11	51.78	NOV. 2	48.51
OCT. 12	42.20	MAR. 22, 1960	36.24	MAR. 24, 1964	44.14	MAR. 3, 1971	43.40
DEC. 5	38.48	OCT. 13	47.56	OCT. 27	54.07	SEP. 9	88.00A
MAR. 18, 1957	34.12	DEC. 16	44.25	MAR. 12, 1965	45.97	OCT. 2	53.46
OCT. 9	44.20	MAR. 15, 1961	39.25	MAR. 12, 1966	46.86	NOV. 16	48.13
DEC. 7	40.04	OCT. 5	48.65	MAR. 1, 1967	48.76	MAR. 2, 1972	44.09
MAR. 21, 1958	35.70	APR. 2, 1962	40.67	MAR. 5, 1968	47.71	OCT. 2	57.76
OCT. 11	42.16						

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-29-11)4BAA-1. M. AND J. COOK. DRILLED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 68 FT. LSD 5022.8 FT ABOVE MSL. MP TOP OF WELL COVER, 0.90 FT ABOVE LSD.
HIGHEST WATER LEVEL 34.10 BELOW LSD, APR. 1, 1952,
LOWEST WATER LEVEL 48.49 BELOW LSD, OCT. 10, 1957.
RECORDS AVAILABLE 1941-46, 1948-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 19, 1941	35.40	DEC. 9, 1954	39.70	OCT. 6, 1961	39.98	OCT. 1, 1970	47.59B
DEC. 7, 1942	35.28	MAR. 25, 1955	35.52	APR. 2, 1962	40.82	NOV. 2	47.40
DEC. 8, 1943	35.24	DEC. 2	38.30	OCT. 11	40.68	DEC. 2	47.44
NOV. 26, 1944	35.20	MAR. 21, 1956	37.77	MAR. 20, 1963	40.91	JAN. 20, 1971	47.43
MAR. 28, 1945	34.57	OCT. 13	36.57	OCT. 11	41.75	MAR. 3	47.45
MAR. 15, 1946	34.72	DEC. 4	36.68	MAR. 28, 1964	39.92	JUNE 9	47.33
DEC. 3, 1948	35.31	MAR. 18, 1957	36.37	OCT. 27	42.60	JULY 13	47.67
APR. 23, 1949	34.45	OCT. 10	48.49B	MAR. 12, 1965	42.91	AUG. 11	47.61
DEC. 7	35.07	DEC. 7	43.61	OCT. 8	43.73	SEP. 2	47.64B
APR. 30, 1950	34.52	MAR. 20, 1958	39.30	MAR. 15, 1966	44.10	OCT. 1	47.76B
DEC. 7	35.22	OCT. 11	37.99	AUG. 30	44.91	NOV. 18	47.69B
AUG. 14, 1951	35.18	DEC. 6	38.16	MAR. 1, 1967	44.52	JAN. 12, 1972	47.63B
DEC. 7	35.60	MAR. 28, 1959	37.95	OCT. 6	45.60	MAR. 1	47.55B
APR. 1, 1952	34.10	OCT. 9	38.69	MAR. 5, 1968	44.73	APR. 1	47.49
SEP. 18	35.22	DEC. 5	38.85	OCT. 2	46.67	MAY 2	47.07
MAR. 18, 1953	34.94	MAR. 22, 1960	38.65	MAR. 21, 1969	45.86	JULY 6	47.48
DEC. 9	35.42	OCT. 13	39.31	OCT. 1	48.09	AUG. 1	47.62
MAR. 5, 1954	35.13	DEC. 9	39.38	MAR. 11, 1970	46.71	SEP. 8	47.79
OCT. 8	44.60	MAR. 15, 1961	39.44	SEP. 17	47.19	OCT. 3	47.89

LOCAL NUMBER (C-29-11)11CDD-1. L. D. APPLEGATE. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 18 IN, DEPTH 63 FT, CASED TO 15. LSD 5017.66 FT ABOVE MSL. MP BOTTOM OF FLOOR BEAM AT LSD. WELL DESTROYED; MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 17.00 BELOW LSD, JAN. 28, 1930,
LOWEST WATER LEVEL 200.70 BELOW LSD, FEB. 7, 1938.
RECORDS AVAILABLE 1930, 1937-50.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 28, 1930	17.	AUG. 5, 1939	20.17	DEC. 3, 1941	18.90	APR. 25, 1947	17.79
DEC. 2, 1937	20.69	AUG. 14	20.30	DEC. 20	18.73	MAY 25	18.10
FEB. 7, 1938	200.7	SEP. 2	20.17	JAN. 4, 1942	18.47	JUNE 29	18.53
FEB. 18	19.97	OCT. 7	20.35	FEB. 8	18.10	JULY 27	19.07
APR. 3	19.65	OCT. 24	19.12	MAR. 8	18.11	AUG. 24	19.04
APR. 20	19.52	NOV. 4	19.05	APR. 4	18.04	SEP. 28	18.83
MAY 22	19.79	DEC. 2	18.86	APR. 16	17.96	NOV. 7	18.54
JUNE 2	20.02	DEC. 17	18.70	MAY 4	18.00	DEC. 6	18.31
JUNE 29	20.40	JAN. 6, 1940	18.63	JUNE 7	18.50	DEC. 27	18.19
JULY 15	21.20	FEB. 3	18.47	JUNE 28	18.90	JAN. 26, 1948	17.99
JULY 22	20.49	MAR. 2	18.33	JULY 28	19.13	MAR. 1	17.77
AUG. 8	20.93	APR. 6	18.38	AUG. 26	19.45	MAR. 26	17.64
AUG. 22	21.0	APR. 18	18.87	SEP. 30	19.30	APR. 28	17.54
SEP. 2	21.04	MAY 4	18.99	NOV. 11	18.64	MAY 27	19.43
SEP. 17	21.00	JUNE 1	19.14	DEC. 3	18.25	JUNE 30	37.00A
OCT. 1	20.94	JULY 6	19.77	DEC. 10	18.33	JULY 28	38.35A
OCT. 15	20.15	AUG. 3	20.88	FEB. 2, 1943	17.95	AUG. 31	20.00
OCT. 28	19.90	SEP. 7	20.38	MAR. 12	17.72	OCT. 5	19.46
OCT. 30	19.88	OCT. 5	19.74	APR. 8	17.58	OCT. 28	18.95
NOV. 12	19.58	NOV. 2	19.32	MAY 9	17.54	NOV. 30	18.72
NOV. 26	19.59	DEC. 9	19.12	JUNE 1	17.52	DEC. 4	18.72
DEC. 10	19.44	JAN. 4, 1941	19.03	JULY 19	18.82	MAR. 25, 1949	17.79
DEC. 17	19.34	FEB. 1	18.11	AUG. 23	19.25	MAY 15	19.84B
DEC. 24	19.30	MAR. 1	18.73	SEP. 29	19.30	JUNE 26	35.66A
JAN. 7, 1939	19.17	APR. 30	18.53	NOV. 22	18.42	JULY 19	36.25A
JAN. 21	19.09	MAY 4	18.74	MAR. 12, 1944	17.44	AUG. 30	36.01A
JAN. 25	19.04	JUNE 7	19.02	NOV. 25	18.22	SEP. 25	20.37
FEB. 4	18.93	JULY 5	21.2	MAR. 28, 1945	17.40	OCT. 25	18.78
FEB. 18	19.01	AUG. 2	20.32	DEC. 13	17.79	NOV. 26	18.38
APR. 1	18.60	SEP. 6	20.36	MAR. 15, 1946	17.32	DEC. 7	17.95
MAY 5	19.19	SEP. 20	20.13	DEC. 9	18.00	MAR. 23, 1950	17.10
JUNE 3	19.65	OCT. 4	22.58	FEB. 17, 1947	17.40	JULY 28	27.49
JUNE 15	19.76	NOV. 1	19.09	MAR. 19	17.32	SEP. 26	21.35
JULY 1	19.87						

LOCAL NUMBER (C-29-11)11CDD-2. L. D. APPLEGATE. DRILLED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 90 FT, CASED TO 56. LSD 5018.16 FT ABOVE MSL. MP BOTTOM OF HOLE IN CASING, AT LSD.
HIGHEST WATER LEVEL 17.52 BELOW LSD, FEB. 26, 1950,
LOWEST WATER LEVEL 45.50 BELOW LSD, OCT. 2, 1968.
RECORDS AVAILABLE 1949-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 7, 1949	18.25	OCT. 7, 1952	21.47	OCT. 9, 1957	28.45	OCT. 27, 1964	38.05
JAN. 4, 1950	17.89	NOV. 18	21.20	DEC. 7	27.98	MAR. 12, 1965	36.02
JAN. 26	17.80	MAR. 17, 1953	20.26	MAR. 21, 1958	27.14	OCT. 8	39.56
FEB. 26	17.52	MAY 11	36.80A	OCT. 11	29.52	MAR. 15, 1966	38.49
APR. 23	34.90A	JUNE 11	36.9 A	DEC. 6	28.79	AUG. 30	44.28
MAY 29	35.48A	JULY 18	38.2 A	MAR. 28, 1959	27.50	MAR. 1, 1967	38.53
JUNE 28	34.84A	OCT. 13	22.79	OCT. 10	30.68	AUG. 29	44.20
JULY 28	35.9 A	DEC. 9	22.35	DEC. 5	29.85	MAR. 5, 1968	39.10
SEP. 3	35.60A	MAR. 5, 1954	21.72	MAR. 22, 1960	28.75	OCT. 2	45.50
SEP. 26	21.42	OCT. 6	23.71	OCT. 13	32.13	MAR. 13, 1969	39.34
OCT. 31	19.53	DEC. 9	23.43	DEC. 16	31.30	OCT. 1	39.34
DEC. 7	19.27	FEB. 23, 1955	22.82	MAR. 15, 1961	30.25	MAR. 11, 1970	39.27
MAR. 13, 1951	18.67	MAR. 22	22.67	OCT. 5	33.59	OCT. 1	43.95
JULY 5	35.6 A	OCT. 12	25.22	APR. 2, 1962	31.30	NOV. 2	42.29
OCT. 12	20.80	NOV. 30	24.82	OCT. 11	34.93	MAR. 3, 1971	39.35
JAN. 1, 1952	19.82	MAR. 20, 1956	24.00	MAR. 19, 1963	33.69	OCT. 2	42.57
APR. 1	18.90	OCT. 13	27.50	OCT. 11	36.65	MAR. 2, 1972	39.73
MAY 21	20.11	DEC. 4	26.57	MAR. 25, 1964	33.95	OCT. 2	42.13
JUNE 28	36.5 A	MAR. 19, 1957	25.79				

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-29-11)13AUD-1. D. AND V. NEBEKER. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM. DIAM 14 IN. DEPTH 278 FT. CASED TO 135. LSD 5042.77 FT ABOVE MSL. MP TOP OF CASING. 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 33.15 BELOW LSD. APR. 28. 1948.
LOWEST WATER LEVEL 76.88 BELOW LSD. OCT. 2. 1968.
RECORDS AVAILABLE 1947-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 25. 1947	33.75	OCT. 25. 1949	34.20	OCT. 7. 1952	41.55	OCT. 13. 1960	58.37
MAY 25	35.01	NOV. 26	33.76	NOV. 18	40.85	DEC. 16	55.95
JUNE 29	35.55	JAN. 4. 1950	33.63	MAR. 17. 1953	39.26	MAR. 15. 1961	54.45
JULY 27	36.65	JAN. 26	33.62	JUNE 12	68.0 A	OCT. 5	59.98
AUG. 24	34.28	FEB. 26	33.38	JULY 23	67.6 A	APR. 2. 1962	55.90
SEP. 28	34.30	MAR. 23	33.30	OCT. 9	45.54	OCT. 11	61.62
NOV. 7	34.01	APR. 23	35.65	DEC. 8	43.80	MAR. 20. 1963	58.30
DEC. 6	33.81	MAY 29	43.66	MAR. 5. 1954	42.53	OCT. 11	63.76
DEC. 27	33.71	JUNE 10	36.25	OCT. 6	48.20	MAR. 25. 1964	60.11
JAN. 26. 1948	33.55	JUNE 17	37.20	DEC. 9	45.73	OCT. 27	65.40
MAR. 1	33.33	JUNE 24	37.21	FEB. 23. 1955	44.70	MAR. 12. 1965	62.24
MAR. 26	33.23	JULY 15	37.97	MAR. 22	44.35	OCT. 8	68.00
APR. 28	33.15	JULY 24	36.86	OCT. 11	49.15	MAR. 15. 1966	64.35
MAY 27	35.98	JULY 30	37.32	NOV. 30	48.11	AUG. 30	71.03
JUNE 30	37.70	SEP. 26	36.58	MAR. 20. 1956	46.55	MAR. 1. 1967	65.60
JULY 27	37.42	OCT. 31	36.51	DEC. 5	50.77	AUG. 29	70.53
AUG. 31	38.38	DEC. 6	36.22	MAR. 19. 1957	49.29	MAR. 5. 1968	65.65
OCT. 5	34.30	MAR. 13. 1951	35.75	OCT. 9	53.90	OCT. 2	76.88
OCT. 28	34.08	JUNE 6	38.26	DEC. 7	52.83	MAR. 21. 1969	65.69
NOV. 30	33.95	AUG. 16	39.65	MAR. 21. 1958	50.98	OCT. 1	72.65
MAR. 25. 1949	33.63	OCT. 11	39.10	OCT. 11	53.94	MAR. 11. 1970	63.96
MAY 15	35.24	DEC. 8	38.57	DEC. 6	51.90	OCT. 1	70.91
JUNE 26	35.77	JAN. 1. 1952	38.35	MAR. 28. 1959	49.95	NOV. 2	68.14
JULY 19	34.96	APR. 2	37.64	OCT. 10	55.20	MAR. 3. 1971	63.90
AUG. 30	34.72	MAY 21	38.31	DEC. 5	53.40	OCT. 2	70.42
SEP. 25	34.42	JUNE 26	51.7 A	MAR. 22. 1960	51.46	MAR. 2. 1972	64.76

LOCAL NUMBER (C-29-11)22AUD-1. R. CHRISTIANSEN. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN. DEPTH 65 FT. LSD 5028.13 FT ABOVE MSL. MP TOP OF CASING. 6.00 FT BELOW LSD. WELL DESTROYED: MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 21.05 BELOW LSD. APR. 16. 1942.
LOWEST WATER LEVEL 39.20 BELOW LSD. MAY 11. 1953. JUNE 15. 1953.
RECORDS AVAILABLE 1938-42. 1950-54.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 8. 1938	23.04	SEP. 20. 1941	22.36	JULY 5. 1951	38.00A	MAY 11. 1953	39.2 A
JUNE 9	32.0 A	DEC. 3	22.18	OCT. 12	23.60	JUNE 15	39.2 A
JULY 21	33.4 A	APR. 16. 1942	21.05	APR. 1. 1952	22.24	JULY 20	38.7 A
AUG. 8	31.5 A	JUNE 1	31.20A	JUNE 28	36.4 A	OCT. 13	24.01
SEP. 30. 1939	21.93	JULY 29	23.26	OCT. 7	24.30	DEC. 9	24.85
APR. 18. 1940	21.65	DEC. 10	21.78	NOV. 20	24.00	MAR. 5. 1954	24.80
AUG. 15	31.8 A	DEC. 7. 1950	22.00	MAR. 17. 1953	23.63	OCT. 6	25.75
MAY 1. 1941	21.42	MAR. 13. 1951	21.62				

LOCAL NUMBER (C-29-11)22AUD-2. R. CHRISTIANSEN. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM. DIAM 16 IN. DEPTH 212 FT. CASED TO 52. LSD 5028.13 FT ABOVE MSL. MP HOLE IN PUMP BASE. 2.02 FT ABOVE LSD.
HIGHEST WATER LEVEL 41.48 BELOW LSD. APR. 1. 1971.
LOWEST WATER LEVEL 55.14 BELOW LSD. MAY 7. 1971.
RECORDS AVAILABLE 1960. 1971. 1972.
JULY21. 1960 42. 6.APR. 1. 1971 41.48. MAY 7. 1971 55.14A.MAR. 2. 1972 42.64.

LOCAL NUMBER (C-29-11)27DAD-1. ROSS MARSHALL. DRILLED IRRIGATION ARTESIAN WELL IN ALLUVIUM. DIAM 16. DEPTH 300 FT. CASED TO 150. LSD 5045.1 FT ABOVE MSL. MP TOP OF CASING. 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 33.41 BELOW LSD. MAR. 24. 1950.
LOWEST WATER LEVEL 66.20 BELOW LSD. JULY 29. 1950.
RECORDS AVAILABLE 1950-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 24. 1950	33.41	JULY 22. 1953	55.9 A	OCT. 11. 1958	44.56	OCT. 27. 1964	51.13
JULY 29	66.2 A	OCT. 8	37.13	DEC. 6	43.49	MAR. 12. 1965	49.55
DEC. 7	34.25	DEC. 9	36.48	MAR. 28. 1959	42.45	OCT. 8	52.96
MAR. 13. 1951	34.00	MAR. 5. 1954	36.44	OCT. 10	46.00	MAR. 15. 1966	50.64
JULY 5	58.50A	OCT. 6	38.25	DEC. 4	44.52	MAR. 1. 1967	52.11
AUG. 16	58.20A	MAR. 23. 1955	37.30	MAR. 22. 1960	43.54	AUG. 29	55.18
OCT. 12	36.10	OCT. 12	39.30	OCT. 13	47.30	MAR. 5. 1968	52.69
DEC. 12	34.93	NOV. 30	38.86	DEC. 15	45.86	MAR. 21. 1969	54.02
APR. 1. 1952	34.52	MAR. 20. 1956	38.50	MAR. 15. 1961	46.02	OCT. 1	65.12
JUNE 28	56.4 A	OCT. 13	41.42	OCT. 5	48.30	MAR. 11. 1970	54.06
SEP. 10	55.6 A	DEC. 3	40.59	APR. 2. 1962	48.42	NOV. 2	60.25
OCT. 7	35.73	MAR. 19. 1957	40.22	OCT. 11	50.67	MAR. 3. 1971	54.64
NOV. 20	35.52	OCT. 9	43.10	MAR. 20. 1963	47.13	OCT. 2	57.83
MAR. 17. 1953	35.24	DEC. 7	42.09	OCT. 11	50.88	MAR. 2. 1972	55.00
MAY 11	35.84	MAR. 21. 1958	41.52	MAR. 25. 1964	48.64	OCT. 3	60.04
JUNE 11	55.3 A						

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-29-12)35DDD-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 102 FT, CASED TO 74. LSD 5095 FT ABOVE MSL. MP TOP OF CASING, 2.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 81.14 BELOW LSD, APR. 28, 1954.
LOWEST WATER LEVEL 89.79 BELOW LSD, OCT. 1, 1970.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 3, 1953	81.25	OCT. 10, 1957	82.29	OCT. 27, 1964	85.47	JUNE 9, 1971	88.61
DEC. 10	81.31	DEC. 7	82.40	MAR. 12, 1965	85.63	JULY 13	88.69
MAR. 4, 1954	81.23	MAR. 20, 1958	82.41	OCT. 8	85.94	AUG. 11	88.79
APR. 28	81.14	OCT. 11	82.68	MAR. 17, 1966	86.31	SEP. 2	88.53
JUNE 10	81.18	DEC. 6	82.76	MAR. 1, 1967	86.54	OCT. 1	88.86
JULY 17	81.37	MAR. 28, 1959	82.86	MAR. 5, 1968	87.01	NOV. 16	88.94
SEP. 1	81.32	OCT. 9	83.13	MAR. 21, 1969	87.50	JAN. 12, 1972	88.93
OCT. 5	81.38	DEC. 5	83.25	MAR. 11, 1970	88.47	MAR. 1	88.94
NOV. 16	81.45	MAR. 22, 1960	83.25	OCT. 1	89.79	APR. 1	88.93
DEC. 10	81.42	OCT. 13	83.57	NOV. 2	88.52	MAY 2	89.08
MAR. 25, 1955	81.41	DEC. 15	83.65	DEC. 2	88.51	JUNE 1	89.22
DEC. 3	81.63	MAR. 15, 1961	83.70	JAN. 20, 1971	88.53	JULY 6	89.27
MAR. 20, 1956	81.65	APR. 2, 1962	84.16	MAR. 3	88.67	AUG. 1	89.17
OCT. 12	81.54	MAR. 20, 1963	84.62	APR. 1	88.55	SEP. 7	88.90
DEC. 3	81.96	MAR. 24, 1964	85.11	MAY 8	88.58	OCT. 3	88.94
MAR. 19, 1957	81.98						

LOCAL NUMBER (C-30-10)6BBB-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 113 FT, CASED TO 108. LSD 5096 FT ABOVE MSL. MP TOP OF CASING, 2.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 74.55 BELOW LSD, NOV. 30, 1953.
LOWEST WATER LEVEL 93.87 BELOW LSD, OCT. 4, 1972.
RECORDS AVAILABLE 1953-62, 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 29, 1953	74.63	JULY 5, 1956	77.99	DEC. 5, 1958	81.11	JUNE 10, 1971	92.58
NOV. 30	74.55	AUG. 8	78.16	MAR. 28, 1959	80.79	JULY 13	92.77
MAR. 3, 1954	74.83	SEP. 6	78.37	OCT. 10	81.30	AUG. 10	92.97
APR. 28	74.75	OCT. 12	78.61	DEC. 4	81.47	SEP. 2	93.12
JUNE 10	74.88	DEC. 3	78.92	MAR. 22, 1960	81.41	OCT. 2	93.34
JULY 17	75.10	MAR. 19, 1957	79.32	OCT. 13	82.39	NOV. 17	93.49
SEP. 1	75.34	APR. 19	79.35	DEC. 15	82.76	JAN. 12, 1972	93.39
OCT. 5	75.52	MAY 17	79.41	MAR. 15, 1961	83.02	MAR. 2	93.14
NOV. 16	75.73	AUG. 1	79.77	MAR. 31, 1962	84.81	APR. 1	92.98
DEC. 10	75.82	OCT. 10	80.25	NOV. 2, 1970	93.52	MAY 3	92.93
MAR. 23, 1955	76.04	DEC. 6	80.67	DEC. 4	93.42	JUNE 1	93.04
AUG. 30	76.77	MAR. 19, 1958	80.75	JAN. 20, 1971	93.17	JULY 6	93.27
DEC. 1	77.20	MAY 6	80.69	MAR. 3	92.91	AUG. 2	93.48
MAR. 21, 1956	77.50	JULY 23	80.89	APR. 1	92.75	SEP. 7	93.77
MAY 8	77.62	OCT. 11	81.12	MAY 8	92.38	OCT. 4	93.87
JUNE 8	77.75						

LOCAL NUMBER (C-30-10)5DDD-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 140 FT, CASED TO 125. LSD 5127.5 FT ABOVE MSL. MP TOP OF CASING, 1.80 FT ABOVE LSD.
HIGHEST WATER LEVEL 96.45 BELOW LSD, NOV. 30, 1953.
LOWEST WATER LEVEL 114.92 BELOW LSD, MAR. 21, 1969.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 31, 1953	96.52	AUG. 8, 1956	100.34	MAR. 22, 1960	103.09	MAR. 3, 1971	112.10
NOV. 30	96.45	SEP. 6	100.50	OCT. 13	104.08	APR. 1	112.07
MAR. 3, 1954	96.75	OCT. 12	100.80	DEC. 15	104.44	MAY 8	112.02
APR. 28	96.83	DEC. 3	101.01	MAR. 15, 1961	104.81	JUNE 10	112.08
JUNE 10	97.01	MAR. 19, 1957	101.50	MAR. 31, 1962	106.68	JULY 13	112.28
JULY 17	97.10	APR. 19	101.51	MAR. 20, 1963	108.13	AUG. 10	112.42
SEP. 1	97.34	MAY 17	101.54	MAR. 24, 1964	109.77	SEP. 2	112.56
OCT. 5	97.50	AUG. 1	101.99	OCT. 27	110.74	OCT. 2	112.82
NOV. 16	97.78	OCT. 10	101.95	MAR. 12, 1965	111.27	NOV. 17	112.92
DEC. 10	97.82	DEC. 6	102.57	OCT. 8	112.40	JAN. 12, 1972	112.82
MAR. 23, 1955	98.16	MAR. 19, 1958	102.72	MAR. 15, 1966	112.55	MAR. 2	112.80
MAY 4	98.29	MAY 6	102.63	MAR. 1, 1967	113.78	APR. 1	112.74
AUG. 30	98.77	JUNE 24	102.69	MAR. 5, 1968	114.78	MAY 3	112.82
OCT. 12	99.10	JULY 23	102.77	MAR. 21, 1969	114.92	JUNE 1	112.96
DEC. 1	99.22	OCT. 11	102.68	MAR. 1, 1970	112.92	JULY 6	113.14
MAR. 21, 1956	99.69	DEC. 6	102.37	NOV. 2	112.78	AUG. 2	113.37
MAY 8	99.84	MAR. 27, 1959	102.23	DEC. 4	112.57	SEP. 7	113.65
JUNE 8	100.00	OCT. 10	102.86	JAN. 20, 1971	112.30	OCT. 4	113.77
JULY 5	100.10	DEC. 4	102.90				

LOCAL NUMBER (C-30-10)7CCD-1. E. J. GOODSON ET AL. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 140 FT, CASED TO 135. LSD 5109 FT ABOVE MSL. MP TOP OF CASING, 3.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 74.90 BELOW LSD, NOV. 2, 1953.
LOWEST WATER LEVEL 90.20 BELOW LSD, SEP. 7, 1972.
RECORDS AVAILABLE 1953-62, 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 2, 1953	74.90	JULY 5, 1956	78.31	DEC. 5, 1958	79.70	JUNE 10, 1971	88.64
NOV. 30	75.13	AUG. 8	78.47	MAR. 27, 1959	79.82	JULY 13	88.85
MAR. 3, 1954	75.42	SEP. 6	78.57	OCT. 10	80.50	AUG. 10	88.90
APR. 28	75.55	OCT. 12	78.83	DEC. 4	80.61	SEP. 2	88.94
JUNE 10	75.70	DEC. 3	78.92	MAR. 22, 1960	80.84	OCT. 2	89.13
JULY 17	75.70	MAR. 19, 1957	79.45	SEP. 6	81.49	NOV. 17	89.85
SEP. 1	75.94	APR. 19	79.54	OCT. 13	81.70	JAN. 12, 1972	89.19
OCT. 5	76.04	MAY 17	79.61	DEC. 15	81.00	MAR. 2	89.33
NOV. 16	76.31	AUG. 1	80.00	MAR. 15, 1961	82.35	APR. 1	89.40
DEC. 10	76.23	OCT. 10	80.00	MAR. 31, 1962	84.18	MAY 3	89.49
MAR. 23, 1955	75.66	DEC. 6	80.31	NOV. 2, 1970	88.65	JUNE 1	89.64
AUG. 30	77.15	MAR. 19, 1958	80.41	DEC. 4	88.55	JULY 6	89.84
DEC. 1	77.37	MAY 6	80.20	JAN. 20, 1971	88.36	AUG. 2	84.99
MAR. 21, 1956	77.95	AUG. 27	80.04	MAR. 3	88.36	SEP. 7	90.20
MAY 8	78.10	OCT. 11	79.90	APR. 1	88.46	OCT. 4	90.15
JUNE 8	78.25						

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-30-10)8DDD-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 4 IN, DEPTH 167 FT, CASED TO 162. LSD 5159 FT ABOVE MSL. MP TOP OF CASING, 2.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 109.18 BELOW LSD, OCT. 28, 1953.
LOWEST WATER LEVEL 125.78 BELOW LSD, MAR. 21, 1969.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 28, 1953	109.18	SEP. 6, 1956	114.23	DEC. 15, 1960	117.86	APR. 1, 1971	120.84
DEC. 10	109.24	OCT. 12	114.43	MAR. 14, 1961	118.11	MAY 8	121.30
MAR. 3, 1954	109.80	OCT. 10, 1957	115.06	MAR. 31, 1962	119.67	JUNE 10	121.77
APR. 28	110.03	DEC. 6	114.44	MAR. 20, 1963	120.52	JULY 13	122.03
JUNE 10	110.45	MAR. 19, 1958	115.48	MAR. 25, 1964	121.82	AUG. 11	122.26
JULY 17	110.56	MAY 6	115.76	OCT. 27	122.75	SEP. 2	121.75
SEP. 1	110.72	JUNE 24	115.55	MAR. 12, 1965	122.81	SEP. 18	121.58
OCT. 5	110.78	AUG. 26	114.90	OCT. 8	123.51	OCT. 1	121.35
NOV. 16	111.03	OCT. 11	114.35	MAR. 13, 1966	123.96	NOV. 17	121.15
DEC. 10	111.06	DEC. 5	114.23	MAR. 1, 1967	124.70	JAN. 11, 1972	121.47
MAR. 22, 1955	111.56	MAR. 27, 1959	114.83	MAR. 5, 1968	123.80	MAR. 1	121.71
MAY 4	111.86	OCT. 10	115.61	MAR. 21, 1969	125.78	APR. 1	121.91
AUG. 30	112.35	DEC. 4	115.96	OCT. 1	125.33	MAY 2	122.28
DEC. 1	112.85	MAR. 22, 1960	116.35	MAR. 11, 1970	120.88	JUNE 1	122.75
MAR. 21, 1956	113.21	JULY 8	117.10	NOV. 2	120.75	JULY 6	123.14
MAY 7	113.54	JULY 19	117.14	DEC. 4	120.47	AUG. 2	123.33
JUNE 8	113.85	AUG. 28	117.30	JAN. 20, 1971	120.47	SEP. 7	123.33
JULY 5	114.02	SEP. 6	117.50	MAR. 3	120.74	OCT. 4	123.28
AUG. 8	114.15	OCT. 13	117.60				

LOCAL NUMBER (C-30-10)10ABB-1. SHERAL CARTER. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN, DEPTH 320 FT, CASED TO 100. LSD 5202 FT ABOVE MSL. MP TOP OF CASING, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 130.60 BELOW LSD, SEP. 2, 1955.
LOWEST WATER LEVEL 144.86 BELOW LSD, MAR. 15, 1966.
RECORDS AVAILABLE 1955-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP. 2, 1955	130.60	MAR. 22, 1960	138.10	DEC. 5, 1960	138.55	MAR. 21, 1969	142.40
OCT. 12	133.55	MAY 5	137.45	DEC. 10	138.43	OCT. 1	137.86
DEC. 1	131.85	JULY 8	141.47	DEC. 15	138.51	MAR. 11, 1970	138.47
MAR. 21, 1956	132.90	AUG. 8	138.17	DEC. 20	138.68	OCT. 1	136.53
MAY 7	133.91	AUG. 15	138.03	DEC. 25	138.56	NOV. 2	136.33
OCT. 12	134.14	AUG. 20	138.03	DEC. 31	138.49	DEC. 4	136.60
DEC. 4	135.19	AUG. 25	138.03	JAN. 5, 1961	138.65	JAN. 20, 1971	136.91
MAR. 19, 1957	136.79	AUG. 31	137.95	JAN. 10	138.73	MAR. 3	137.38
APR. 19	138.38	SEP. 5	137.92	MAR. 14	138.85	APR. 1	137.79
SEP. 4	135.50	SEP. 10	137.95	MAY 2	141.20	MAY 8	138.08
OCT. 10	143.93	SEP. 15	137.94	JUNE 9	139.37	JUNE 10	138.14
DEC. 7	139.30	SEP. 20	137.88	JULY 5	142.78	JULY 13	137.86
MAR. 19, 1958	143.84	SEP. 25	137.97	AUG. 11	139.39	AUG. 10	136.99
MAY 6	136.76	SEP. 30	137.92	SEP. 6	138.98	SEP. 2	136.38
JUNE 24	135.30	OCT. 5	138.04	MAR. 31, 1962	140.45	OCT. 1	136.40
JULY 23	134.50	OCT. 10	138.05	MAY 7	140.59	NOV. 19	136.89
AUG. 26	133.55	OCT. 15	138.12	OCT. 11	139.70	JAN. 12, 1972	137.38
OCT. 11	132.98	OCT. 20	138.17	MAR. 20, 1963	141.48	MAR. 1	138.20
DEC. 5	133.31	OCT. 25	138.20	MAR. 24, 1964	142.73	APR. 1	138.45
MAR. 28, 1959	137.51	OCT. 31	138.22	OCT. 28	142.49	MAY 2	138.90
MAY 2	135.07	NOV. 5	138.39	MAR. 12, 1965	143.69	JUNE 1	139.08
JUNE 3	135.33	NOV. 10	138.33	OCT. 8	142.59	JULY 6	139.07
AUG. 6	137.13	NOV. 15	138.51	MAR. 15, 1966	144.86	AUG. 2	138.64
SEP. 3	136.44	NOV. 20	138.39	MAR. 1, 1967	144.17	SEP. 7	138.29
SEP. 10	138.74	NOV. 25	138.30	MAR. 5, 1968	144.36	OCT. 4	138.18
DEC. 4	135.99	NOV. 30	138.46	OCT. 2	142.1[illegible]		

LOCAL NUMBER (C-30-10)12ACB-1. LDS CHURCH. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 6 IN, DEPTH 100 FT, CASED TO 60. LSD 5268 FT ABOVE MSL. MP TOP OF CASING, 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 8.14 BELOW LSD, JUNE 9, 1961.
LOWEST WATER LEVEL 15.55 BELOW LSD, APR. 19, 1957.
RECORDS AVAILABLE 1956-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 22, 1956	14.20	SEP. 17, 1958	10.27	JUNE 9, 1961	8.14	NOV. 2, 1970	11.29
MAY 8	14.00	OCT. 10	10.52	JULY 5	8.96	DEC. 3	11.81
JUNE 8	11.21	DEC. 5	13.23	AUG. 11	8.86	JAN. 20, 1971	12.61
JULY 5	9.61	MAR. 27, 1959	14.74	SEP. 6	10.00	MAR. 3	12.92
AUG. 8	10.30	MAY 2	12.64	NOV. 25	13.29	APR. 1	13.08
SEP. 9	10.93	JUNE 3	9.34	MAR. 21, 1962	14.13	MAY 6	12.52
OCT. 12	12.87	JULY 6	9.31	MAY 7	11.58	JUNE 9	10.81
FEB. 18, 1957	15.01	AUG. 6	8.80	OCT. 11	12.44	JULY 13	9.25
MAR. 18	15.34	SEP. 3	9.00	MAR. 20, 1963	14.90	AUG. 10	9.05
APR. 19	15.55	OCT. 9	12.08	MAR. 24, 1964	14.69	SEP. 2	9.46
MAY 17	11.26	DEC. 4	13.70	OCT. 28	12.37	OCT. 1	10.63
JUNE 12	10.33	MAR. 21, 1960	15.07	MAR. 12, 1965	13.81	NOV. 19	12.03
JULY 29	9.69	MAY 5	12.90	OCT. 8	11.40	JAN. 11, 1972	12.49
SEP. 4	9.34	JUNE 6	9.69	MAR. 12, 1966	13.61	MAR. 1	13.03
OCT. 9	11.38	JULY 8	9.19	MAR. 1, 1967	13.73	APR. 1	13.11
DEC. 6	13.20	AUG. 8	9.12	MAR. 5, 1968	13.26	MAY 2	13.03
MAR. 20, 1958	14.02	SEP. 6	9.45	OCT. 2	10.23	JUNE 1	10.20
MAY 6	10.58	OCT. 12	12.20	MAR. 21, 1969	12.56	JULY 6	8.99
JUNE 18	9.25	DEC. 8	13.70	OCT. 1	10.16	AUG. 2	9.12
JULY 23	8.91	MAR. 14, 1961	14.77	MAR. 11, 1970	12.88	SEP. 7	9.44
AUG. 26	8.80	MAY 2	12.71	OCT. 1	10.51	OCT. 4	10.70

LOCAL NUMBER (C-30-11)4BAA-1. MINERSVILLE LAND AND LIVESTOCK CO. DRILLED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 16 IN, DEPTH 299 FT, CASED TO 34. LSD 5031 FT ABOVE MSL. MP BOTTOM OF PUMP BASE, 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 21.35 BELOW LSD, MAY 14, 1954.
LOWEST WATER LEVEL 36.55 BELOW LSD, OCT. 3, 1972.
RECORDS AVAILABLE 1954-62, 1971-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 14, 1954	21.35	OCT. 13, 1956	24.37	DEC. 6, 1958	26.12	DEC. 15, 1960	27.55
OCT. 6	23.01	MAR. 19, 1957	23.88	MAR. 28, 1959	25.72	MAR. 15, 1961	27.29
DEC. 10	22.32	OCT. 9	25.65	OCT. 10	27.22	MAR. 31, 1962	31.50
MAR. 22, 1955	22.08	DEC. 7	25.30	DEC. 4	27.02	SEP. 29, 1971	36.05
OCT. 12	23.40	MAR. 20, 1958	24.93	MAR. 22, 1960	26.11	MAR. 2, 1972	35.10
DEC. 1	23.00	OCT. 11	26.33	OCT. 13	28.02	OCT. 3	36.55
MAR. 20, 1956	22.82						

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-30-11)12BBB-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 112 FT, CASED TO 92. LSD 5081 FT ABOVE MSL. MP TOP OF CASING, 2.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 55.28 BELOW LSD, NOV. 30, 1953.
LOWEST WATER LEVEL 70.41 BELOW LSD, SEP. 7, 1972.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 2, 1953	55.49	AUG. 8, 1956	58.05	MAR. 22, 1960	60.44	MAR. 3, 1971	68.96
NOV. 30	55.28	SEP. 6	58.21	SEP. 6	61.19	APR. 1	68.91
MAR. 3, 1954	55.60	OCT. 13	58.31	OCT. 13	61.27	MAY 8	68.97
APR. 28	55.50	DEC. 3	58.38	DEC. 15	61.41	JUNE 10	69.19
JUNE 10	55.69	MAR. 19, 1957	58.66	MAR. 15, 1961	61.53	JULY 13	69.43
JULY 17	55.80	APR. 19	58.72	MAR. 31, 1962	62.83	AUG. 10	69.61
SEP. 1	56.01	MAY 17	58.82	MAR. 20, 1963	64.02	SEP. 2	69.70
OCT. 5	56.09	AUG. 1	59.27	MAR. 24, 1964	65.30	OCT. 2	69.76
NOV. 16	56.19	OCT. 10	59.53	OCT. 27	66.35	NOV. 16	69.60
DEC. 10	56.14	DEC. 6	59.61	MAR. 12, 1965	66.54	JAN. 12, 1972	69.41
MAR. 23, 1955	56.31	MAR. 19, 1958	59.74	OCT. 8	67.56	MAR. 2	69.31
MAY 4	56.46	MAY 6	59.68	MAR. 15, 1966	67.72	APR. 1	69.26
AUG. 30	57.00	JULY 24	59.90	MAR. 1, 1967	68.81	MAY 3	69.38
OCT. 12	57.35	AUG. 27	60.07	MAR. 5, 1968	69.72	JUNE 1	69.67
DEC. 1	57.10	OCT. 11	60.10	MAR. 21, 1969	70.20	JULY 6	69.94
MAR. 21, 1956	57.30	DEC. 5	59.96	MAR. 1, 1970	69.31	AUG. 2	70.16
MAY 7	57.51	MAR. 27, 1959	59.83	NOV. 2	69.55	SEP. 7	70.41
JUNE 8	57.72	OCT. 10	60.41	DEC. 4	69.36	OCT. 4	70.39
JULY 5	57.85	DEC. 4	60.44	JAN. 20, 1971	69.10		

LOCAL NUMBER (C-30-11)24CCB-1. MINERSVILLE LAND AND LIVESTOCK CO. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 112 FT, CASED TO 107. LSD 5129.01 FT ABOVE MSL. MP TOP OF CASING, 3.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 83.44 BELOW LSD, NOV. 7, 1953.
LOWEST WATER LEVEL 96.06 BELOW LSD, MAR. 21, 1969.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 7, 1953	83.44	OCT. 13, 1956	85.61	JULY 8, 1960	87.84	MAR. 3, 1971	94.70
NOV. 30	83.57	DEC. 3	85.59	OCT. 12	088.18	APR. 1	94.95
MAR. 3, 1954	83.49	MAR. 19, 1957	85.97	DEC. 15	88.40	MAY 6	94.89
APR. 28	83.80	APR. 19	86.04	MAR. 14, 1961	88.60	JUNE 9	95.24
JUNE 10	83.94	MAY 17	86.11	MAR. 31, 1962	89.99	JULY 13	95.44
JULY 17	83.92	AUG. 1	86.29	MAR. 20, 1963	90.90	AUG. 11	95.58
SEP. 1	83.98	OCT. 9	86.47	MAR. 25, 1964	92.16	SEP. 2	95.60
OCT. 5	84.04	DEC. 6	86.64	OCT. 27	92.90	OCT. 1	95.60
NOV. 16	84.18	MAR. 19, 1958	86.82	MAR. 12, 1965	93.19	NOV. 17	95.47
DEC. 10	84.12	MAY 6	86.73	OCT. 8	93.92	JAN. 11, 1972	95.29
MAR. 22, 1955	83.56	JUNE 24	86.87	MAR. 17, 1966	93.65	MAR. 1	95.22
AUG. 30	84.57	AUG. 26	86.93	MAR. 1, 1967	95.10	APR. 1	95.23
DEC. 1	84.68	OCT. 11	86.97	MAR. 6, 1968	95.80	MAY 2	95.28
MAR. 21, 1956	85.05	DEC. 5	86.88	MAR. 21, 1969	96.06	JUNE 1	95.45
MAY 7	85.12	MAR. 27, 1959	87.05	MAR. 11, 1970	95.05	JULY 6	95.69
JUNE 8	85.25	OCT. 9	87.40	NOV. 2	95.23	AUG. 2	95.86
JULY 5	85.29	DEC. 4	87.50	DEC. 3	95.11	SEP. 7	96.02
AUG. 8	85.35	MAR. 22, 1960	87.62	JAN. 20, 1971	94.92	OCT. 4	95.97
SEP. 6	85.42						

LOCAL NUMBER (C-30-11)30DDA-1. BUREAU OF LAND MANAGEMENT. DRILLED OBSERVATION WATER-TABLE WELL IN ALLUVIUM, DIAM 4 IN, DEPTH 125 FT, CASED TO 88. LSD 5098 FT ABOVE MSL. MP TOP OF CASING, 2.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 80.16 BELOW LSD, NOV. 30, 1953.
LOWEST WATER LEVEL 88.05 BELOW LSD, OCT. 4, 1972.
RECORDS AVAILABLE 1953-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 5, 1953	80.20	MAR. 19, 1957	80.90	MAR. 31, 1962	83.29	JAN. 20, 1971	87.39
NOV. 30	80.16	APR. 19	80.95	OCT. 11	83.30	MAR. 3	87.46
MAR. 3, 1954	80.82	MAY 17	80.95	MAR. 20, 1963	83.48	APR. 1	87.48
APR. 28	80.20	AUG. 1	81.02	OCT. 11	83.85	MAY 6	87.50
JUNE 10	80.22	OCT. 9	81.14	MAR. 25, 1964	84.04	JUNE 9	87.56
JULY 17	80.20	DEC. 6	81.23	OCT. 27	84.30	JULY 13	87.56
SEP. 1	80.29	MAR. 19, 1958	81.34	MAR. 12, 1965	84.50	AUG. 11	87.60
OCT. 5	80.28	MAY 6	81.23	OCT. 8	84.88	SEP. 2	87.63
NOV. 16	80.35	AUG. 27	81.38	MAR. 17, 1966	85.03	OCT. 1	87.67
DEC. 10	80.34	OCT. 10	81.49	AUG. 30	85.22	NOV. 17	87.75
MAR. 22, 1955	80.35	DEC. 5	81.53	MAR. 1, 1967	85.53	JAN. 11, 1972	87.84
AUG. 30	80.96	MAR. 27, 1959	81.62	OCT. 6	85.85	MAR. 1	87.82
DEC. 1	80.47	OCT. 10	81.90	MAR. 6, 1968	86.03	APR. 1	87.86
MAR. 21, 1956	80.82	DEC. 4	82.00	OCT. 2	86.33	MAY 2	87.90
MAY 7	80.59	MAR. 22, 1960	82.11	MAR. 21, 1969	86.55	JUNE 1	87.96
JULY 5	80.70	OCT. 12	82.35	MAR. 1, 1970	86.95	JULY 6	87.93
AUG. 8	80.75	DEC. 9	82.43	OCT. 1	87.25	AUG. 1	87.97
SEP. 6	80.30	MAR. 14, 1961	82.50	NOV. 2	87.28	SEP. 7	88.04
OCT. 12	80.79	OCT. 5	82.79	DEC. 3	87.33	OCT. 4	88.05
DEC. 3	80.80						

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-30-13)22DDD-1. D. C. LAMOREAUX. DUG UNUSED STOCK WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN. DEPTH 90 FT. LSD 5100.64 FT ABOVE MSL. MP TOP OF PUMP COLUMN. 1.74 FT ABOVE LSD.
HIGHEST WATER LEVEL 58.50 BELOW LSD. SEP. 24. 1941.
LOWEST WATER LEVEL 63.70 BELOW LSD. APR. 19. 1940.
RECORDS AVAILABLE 1940-45. 1961. 1962. 1968. 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 19. 1940	63.70	NOV. 26. 1944	59.79	APR. 1. 1971	60.84	MAR. 1. 1972	60.88
MAY 1. 1941	60.20	MAR. 28. 1945	59.70	MAY 8	60.59	APR. 1	60.86
SEP. 24	58.50	NOV. 14. 1961	60.50	JUNE 9	60.83	MAY 2	60.88
DEC. 9	59.52	MAY 16. 1962	60.51	JULY 13	60.84	JUNE 1	60.89
APR. 13. 1942	59.54	MAR. 6. 1968	61.05	AUG. 11	60.79	JULY 6	60.87
MAY 28	59.51A	NOV. 4. 1970	60.88	SEP. 2	60.59	AUG. 1	60.91
JULY 30	59.44A	DEC. 2	60.60	OCT. 1	60.88	SEP. 8	60.93
DEC. 10	59.52	JAN. 20. 1971	60.87	NOV. 18	60.92	OCT. 3	60.99
MAR. 13. 1943	59.56	MAR. 3	60.84	JAN. 12. 1972	60.90		

LOCAL NUMBER (C-30-13)29DCC-1. JESS GUYMON. DRILLED UNUSED DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN. DEPTH 185 FT. LSD 5102.2 FT ABOVE MSL. MP TOP OF CASING. 0.50 FT ABOVE LSD.
HIGHEST WATER LEVEL 55.41 BELOW LSD. MAR. 24. 1950.
LOWEST WATER LEVEL 56.50 BELOW LSD. SEP. 8. 1972.
RECORDS AVAILABLE 1938. 1941-50. 1952. 1953. 1961. 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JULY 7. 1938	56.2	DEC. 10. 1946	56.11	DEC. 3. 1970	56.47	NOV. 18. 1971	56.47
MAY 1. 1941	55.95	MAR. 20. 1947	56.05	JAN. 20. 1971	56.39	JAN. 12. 1972	56.44
SEP. 24	56.00	DEC. 4. 1948	55.97	MAR. 3	56.46	MAR. 1	56.48
DEC. 8	55.97	APR. 23. 1949	55.90	APR. 1	56.46	APR. 1	56.47
APR. 18. 1942	56.00	DEC. 7	55.92	MAY 8	56.43	MAY 2	56.42
JULY 30	55.99	MAR. 24. 1950	55.41	JUNE 9	56.42	JUNE 1	56.43
DEC. 10	56.04	DEC. 7	55.87	JULY 13	56.44	JULY 6	56.48
MAR. 13. 1943	56.00	APR. 3. 1952	55.92	AUG. 11	56.44	AUG. 1	56.41
DEC. 8	56.08	OCT. 28. 1953	55.82	SEP. 2	56.48	SEP. 8	56.50
NOV. 26. 1944	56.07	NOV. 14. 1961	55.99	OCT. 1	56.47	OCT. 3	56.49
MAR. 28. 1945	56.08	NOV. 4. 1970	56.45				

LOCAL NUMBER (C-30-13)34BBA-1. H. AND J. COOK. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN. DEPTH 144 FT. LSD 5086.33 FT ABOVE MSL. MP TOP OF CASING. 1.00 FT ABOVE LSD.
HIGHEST WATER LEVEL 43.37 BELOW LSD. DEC. 10. 1942.
LOWEST WATER LEVEL 44.50 BELOW LSD. JULY 13. 1971.
RECORDS AVAILABLE 1940-45. 1970-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 22. 1940	43.87	MAR. 28. 1945	43.73	JULY 13. 1971	44.50	APR. 1. 1972	44.23
SEP. 24. 1941	43.82	DEC. 3. 1970	44.14	AUG. 11	44.42	MAY 2	44.23
DEC. 8	43.72	JAN. 20. 1971	44.07	SEP. 2	44.43	JUNE 1	44.24
APR. 18. 1942	43.75	MAR. 3	44.09	OCT. 1	44.43	JULY 6	44.27
JULY 30	43.78	APR. 1	44.11	NOV. 18	44.36	AUG. 1	44.24
DEC. 10	43.37	MAY 8	44.09	JAN. 12. 1972	44.31	SEP. 8	44.35
MAR. 13. 1943	43.71	JUNE 9	44.05	MAR. 1	44.24	NOV. 3	44.37
NOV. 26. 1944	43.75						

LOCAL NUMBER (C-30-13)34BBB-1. H. AND J. COOK. DRILLED UNUSED DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN. DEPTH 90 FT. LSD 5087.8 FT ABOVE MSL. MP TOP OF CASING. AT LSD. WELL CAVED! MEASUREMENT DISCONTINUED.
HIGHEST WATER LEVEL 45.64 BELOW LSD. APR. 23. 1949.
LOWEST WATER LEVEL 46.50 BELOW LSD. OCT. 3. 1968.
RECORDS AVAILABLE 1940-50. 1952. 1953. 1955. 1961-68. 1970.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 19. 1940	45.70	MAR. 28. 1945	45.90	DEC. 7. 1950	45.78	MAR. 12. 1965	46.17
MAY 1. 1941	45.72	AUG. 23	45.95	APR. 3. 1952	45.72	OCT. 8	46.32
SEP. 24	45.85	MAR. 15. 1946	45.87	OCT. 28. 1953	45.78	MAR. 17. 1966	46.21
DEC. 8	45.87	DEC. 10	45.98	MAR. 25. 1955	45.72	AUG. 30	46.29
APR. 18. 1942	45.77	MAR. 20. 1947	45.80	NOV. 14. 1961	46.10	MAR. 1. 1967	46.24
JULY 30	45.78	MAR. 10. 1948	45.77	OCT. 9. 1962	46.19	SEP. 22	46.27
DEC. 10	45.94	DEC. 4	45.84	MAR. 21. 1963	46.07	MAR. 6. 1968	46.15
MAR. 13. 1943	45.88	APR. 23. 1949	45.64	OCT. 11	46.18	OCT. 3	46.50
DEC. 8	45.99	DEC. 7	45.76	OCT. 27. 1964	46.25	NOV. 4. 1970	46.31
NOV. 26. 1944	45.03	MAR. 24. 1950	45.66				

LOCAL NUMBER (C-31-12)4DDD-1. NADA LAND AND LIVESTOCK CO. DRILLED UNUSED STOCK WATER-TABLE WELL IN ALLUVIUM. DIA. 6 IN. DEPTH 132 FT. LSD 5143 FT ABOVE MSL. MP TOP OF CASING. AT LSD.
HIGHEST WATER LEVEL 107.60 BELOW LSD. NOV. 15. 1961.
LOWEST WATER LEVEL 108.20 BELOW LSD. MAR. 20. 1969.
RECORDS AVAILABLE 1961-62. 1968-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 15. 1961	107.60	JAN. 20. 1971	107.91	SEP. 2. 1971	107.98	MAY 2. 1972	107.82
MAY 16. 1962	107.63	MAR. 3	107.94	OCT. 1	107.99	JUNE 1	107.99
MAR. 21. 1968	107.90	APR. 1	107.99	NOV. 81	108.00	JULY 6	107.99
MAR. 20. 1969	108.20	MAY 6	107.94	JAN. 11. 1972	107.95	AUG. 1	107.97
MAR. 11. 1970	107.95	JUNE 9	107.91	MAR. 1	108.00	SEP. 8	108.03
NOV. 5	107.80	JULY 13	107.96	APR. 1	107.98	OCT. 4	108.02
DEC. 3	107.95	AUG. 11	107.98				

Table 15.--Water levels in selected observation wells - Continued

LOCAL NUMBER (C-31-13)1DBB-1. FORMERLY (C-31-13)1A-1. V. STEPHENSON. DRILLED UNUSED IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM 12 IN, DEPTH 114 FT. LSD 5071.23 FT ABOVE MSL. MP TOP OF TIE CURBING, AT LSD.
HIGHEST WATER LEVEL 27.35 BELOW LSD, MAR. 24, 1950.
LOWEST WATER LEVEL 30.60 BELOW LSD, MAR. 5, 1968.
RECORDS AVAILABLE 1938-51, 1953, 1958, 1962, 1968-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR. 30, 1938	28.10	OCT. 23, 1939	27.72	MAR. 28, 1945	27.62	OCT. 9, 1962	29.15
APR. 15	27.70	DEC. 17	27.70	MAR. 16, 1946	27.65	MAR. 5, 1968	30.60
MAY 31	27.64	APR. 23, 1940	27.62	MAR. 20, 1947	27.48	MAR. 20, 1969	29.58
JUNE 9	27.61	DEC. 9	27.77	DEC. 4, 1948	27.54	MAR. 11, 1970	29.98
JULY 29	27.67	MAY 1, 1941	27.65	APR. 23, 1949	27.59	NOV. 6	28.13
AUG. 25	27.70	SEP. 21	27.70	DEC. 7	28.46	DEC. 3	27.75
SEP. 30	27.73	APR. 17, 1942	27.58	MAR. 24, 1950	27.35	JAN. 20, 1971	27.76
OCT. 28	27.72	JULY 31	27.67	DEC. 7	27.70	MAR. 3	27.72
NOV. 20	27.72	DEC. 10	28.66	OCT. 13, 1951	27.56	OCT. 1	27.83
DEC. 9	27.71	MAR. 13, 1943	27.70	APR. 9, 1953	27.53	MAR. 1, 1972	27.95
JAN. 14, 1939	27.71	DEC. 8	28.05	DEC. 3, 1958	27.43	OCT. 4	27.82
JUNE 14	27.64	NOV. 26, 1944	27.69				

LOCAL NUMBER (C-31-13)6ADC-1. BEEHIVE STATE BANK. DRILLED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 8 IN, DEPTH 84 FT, CASED TO 69. LSD 5104.58 FT ABOVE MSL. MP TOP OF CASING, 0.80 FT ABOVE LSD.
HIGHEST WATER LEVEL 50.28 BELOW LSD, APR. 22, 1940.
LOWEST WATER LEVEL 51.53 BELOW LSD, NOV. 6, 1970.
RECORDS AVAILABLE 1939-42, 1962, 1968-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 30, 1939	50.49	DEC. 8, 1941	50.39	MAR. 5, 1968	50.87	OCT. 1, 1971	51.18A
APR. 22, 1940	50.28	APR. 18, 1942	50.41	MAR. 20, 1969	50.87	MAR. 1, 1972	51.15
MAY 1, 1941	50.31	JULY 30	50.43	NOV. 6, 1970	51.53	OCT. 3	51.15B
SEP. 24	50.40	MAY 11, 1962	50.86	DEC. 3	51.15		

LOCAL NUMBER (C-31-13)18AAD-1. BEEHIVE STATE BANK. DRILLED STOCK WATER-TABLE WELL IN ALLUVIUM, DIAM 6 IN, DEPTH 101 FT, CASED TO 85. LSD 5117.0 FT ABOVE MSL. MP TOP OF CASING, 0.50 FT ABOVE MSL.
HIGHEST WATER LEVEL 61.80 BELOW LSD, MAY 11, 1962.
LOWEST WATER LEVEL 62.18 BELOW LSD, OCT. 3, 1972.
RECORDS AVAILABLE 1962, 1968-72.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 11, 1962	61.80	NOV. 6, 1970	62.09	MAY 8, 1971	62.04	MAR. 1, 1972	62.16
MAR. 5, 1968	61.98	DEC. 3	62.15	JUNE 9	62.04	OCT. 3	62.18
MAR. 20, 1969	62.14	MAR. 3, 1971	62.13U	OCT. 1	61.85		

A, PUMPING AT TIME OF MEASUREMENT.
B, PUMPED RECENTLY.
C, NEARBY WELL PUMPING.
E, ESTIMATED.
H, TAPE MEASUREMENT.

Location: See text for explanation of numbering system.
Hydrogeologic unit: See table 1 for description of hydrogeologic units.
Sodium: Where no value is given for potassium, sodium (Na) plus potassium (K) values are reported as sodium.
Source of data: GS, U.S. Geological Survey; SH, Utah State Department of Health; UR, Utah Emergency Relief Administration.

Location	Date of collection	Hydrogeologic unit	Sampling depth (feet)	Temperature (°C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)
					Milligrams							
					WELLS							
(C-24-10)21aba-1	11- 6-70	1	250	-	44	0.08	130	89	940	42	186	0
(C-25-9)29cbd-1	3- 2-71	1	-	-	74	.10	58	22	23	5.7	200	0
(C-25-10)12bcc-1	5- 9-71	3	-	15.0	61	-	45	14	30	5.2	161	0
26daa-1	10-15-23	3	20	-	50	-	300	110	380		149	0
31cbc-1	11- 6-70	1	-	12.0	56	.07	110	110	1,300	46	461	0
(C-26-10)7acc-1	1906	1	215	-	24	-	130	130	730		495	0
32cad-1	6-21-50	1	332	-	32	-	90	92	480		304	0
(C-27-10)6dac-1	6-27-62	1	100	13.5	22	-	25	15	200		250	0
31dcb-1	9-17-70	1	700	27.0	70	-	20	6.4	74	8.4	220	0
(C-27-12)26cab-1	12- -34	1	336	-	21	.40	44	17	36	-	-	-
(C-28-10)5dad-2	10- 1-69	1	130	14.0	45	-	400	230	390		227	0
	6-25-70	1	130	11.0	-	-	-	-	-	-	-	-
	5- 7-71	1	130	12.5	-	-	310	200	510	8.1	270	0
7aad-1	1906	1	478	-	35	.10	11	6.6	66		190	0
	6-21-50	1	478	-	33	-	-	-	61		162	0
7aad-2	2- 7-52	1	468	-	6.7	.17	30	7.7	63		150	-
7aad-5	2- 7-52	1	467	-	6.8	.28	18	3.7	70		159	-
7adb-1	2- 7-52	1	533	-	9.3	.18	17	3.8	67		172	-
	2- 2-55	1	533	25.5	35	-	13	5.8	62	2.8	160	0
7dab-1	-	1	525	-	90	3.0	47	10	8.0		104	-
8aad-2	10- 1-69	1	185	15.0	38	-	53	16	34		133	0
	6-25-70	1	185	15.0	-	-	-	-	-	-	-	-
	9-18-70	1	185	16.0	38	-	71	22	36	3.2	133	0
14bba-1	5-20-71	1	255	20.5	27	-	33	5.7	29	2.2	134	0
16cda-1	5- 9-71	1	440	19.0	26	-	65	23	50	2.6	158	0
17bab-1	5-19-65	1	22	13.5	47	-	240	130	47		268	0
17ccc-1	6-19-50	1	92	-	52	-	330	96	200		226	0
	6- 3-59	1	92	14.0	49	.00	440	120	300		241	0
	8- 8-60	1	92	14.0	52	.00	400	120	270	10	198	0
	9- 6-61	1	92	14.5	46	.15	470	110	270		249	0
	5-18-62	1	92	14.5	45	.02	390	120	200	10	169	0
	5-19-65	1	92	14.0	45	-	420	150	210		207	0
	8-29-67	1	92	-	-	-	-	-	-	-	-	-
	8-18-70	1	92	13.0	-	-	-	-	-	-	-	-
	7-15-71	1	92	13.5	-	-	520	180	400	11	293	0
	5- 1-72	1	92	14.0	48	-	480	160	270	16	251	0
17cdc-1	4- 3-50	1	60	-	-	-	-	-	-	-	200	0
18aca-2	4- 3-50	1	452	21.0	34	-	-	-	56		164	0
18ada-1	4- 3-50	1	10	-	-	-	-	-	-	-	230	0
18cab-1	5-12-71	1	193	15.0	38	-	290	100	500	13	208	0
19abc-1	11- 3-50	1	260	25.5	32	.09	14	7.0	45	3.0	132	8
19bbc-1	4- 3-50	1	71	-	-	-	-	-	9.2		128	0
	5- 7-71	1	71	13.5	50	-	380	140	150	11	237	0
19bcd-2	5- 7-71	1	210	17.0	42	-	160	60	51	6.0	147	0
19ccd-4	5- 7-71	1	102	15.5	49	-	260	75	66	8.9	170	0
19dcc-2	4- 2-50	1	300	-	-	-	-	-	23		130	0
20ccd-1	4- 9-43	1	84	-	-	-	550	130	190		306	0
20cdd-1	4- 2-50	1	48	-	45	-	-	-	440		245	0
	6-21-50	1	48	-	54	-	480	150	500		246	0
21ccd-1	6-21-50	1	316	14.5	62	-	150	110	85		136	0
	9- 4-57	1	316	15.0	53	-	150	86	51		120	0
	5- 2-59	1	316	14.5	53	.01	160	95	68		146	
28cdd-1	8-26-69	1	355	16.0	34	-	99	39	51		192	0
	6-25-70	1	355	14.0	-	-	-	-	-	-	-	-
	5-15-71	1	355	16.0	-	-	120	67	63	3.9	186	0

of selected water samples

per liter												
					Dissolved solids							
Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Residue at 180°C	Sum of determined constituents	Hardness (Ca,Mg)	Noncarbonate hardness	Specific conductance (micromhos/cm at 25°C)	pH	Sodium-adsorption ratio	Source of data
200	1,700	1.3	0.6	2.20	-	3,200	690	-	5,750	7.9	16	GS
41	53	2.8	.0	.14	-	380	240	-	570	8.0	.7	GS
43	54	.3	.5	.10	-	334	170	38	477	7.7	.1	GS
750	-	-	8.8	-	2,670	2,450	1,200	-	-	-	-	GS
1,000	1,700	3.9	14	2.20	-	4,600	760	-	7,190	7.9	21	GS
35	1,570	-	-	-	2,940	-	850	-	-	-	11	GS
16	980	-	1.6	-	-	1,840	600	350	3,430	-	8.5	GS
20	240	1.2	.7	2.00	653	647	124	0	1,190	8.2	7.9	GS
31	17	1.2	.1	.23	316	336	76	-	452	7.9	3.7	GS
24	56	-	-	-	-	-	-	-	-	-	-	UR
1,300	920	-	.0	-	3,820	3,360	1,950	1,760	4,790	7.9	3.8	GS
-	980	-	-	-	-	-	-	-	5,460	-	-	GS
1,500	670	-	-	-	-	-	1,600	1,400	4,420	7.7	-	GS
53	13	-	.5	-	248	-	-	-	-	-	3.9	GS
40	16	1.0	-	-	-	-	67	0	394	-	3.2	GS
80	28	.7	.4	-	333	-	100	-	-	7.6	2.6	SH
48	25	.8	.3	-	259	-	58	-	-	8.0	3.9	SH
38	17	.9	.0	-	260	-	56	-	-	7.8	3.8	SH
40	16	.6	.5	-	253	255	56	0	390	8.2	3.6	GS
-	12	-	-	-	330	-	160	-	-	-	.3	SH
76	57	-	-	-	-	-	-	-	555	7.6	-	GS
-	64	-	-	-	-	-	-	-	571	-	-	GS
110	80	.9	1.5	.04	449	405	270	-	682	7.4	1.6	GS
25	33	.6	.7	-	-	224	110	0	340	8.0	1.2	GS
160	59	.6	2.7	.01	-	476	260	130	712	7.9	1.4	GS
300	500	.8	1.7	-	1,750	1,400	1,100	920	2,290	7.5	.6	GS
650	570	-	2.3	-	-	2,020	1,200	1,000	3,060	-	2.5	GS
900	800	-	6.2	-	-	2,750	1,600	1,400	3,990	7.4	3.3	GS
840	740	.2	4.8	.36	2,750	2,540	1,500	1,300	3,640	7.3	3.0	GS
910	760	-	1.4	-	2,970	2,690	1,600	1,400	3,820	7.5	2.9	GS
780	680	.1	1.8	.32	2,860	2,310	1,400	1,300	3,560	7.6	2.3	GS
810	770	.5	1.7	-	2,920	2,500	1,600	1,500	3,600	7.2	2.3	GS
-	800	-	-	-	-	-	1,800	-	3,820	-	-	GS
-	900	-	-	-	-	-	-	-	4,380	-	-	GS
1,200	1,000	-	-	-	-	-	2,000	1,800	4,800	7.6	3.9	GS
1,000	850	-	-	-	-	2,950	1,900	1,700	4,330	7.0	2.7	GS
-	890	-	-	-	-	-	-	-	3,840	-	-	GS
37	10	1.0	-	-	-	-	68	0	364	-	3.0	GS
-	430	-	-	-	-	-	900	710	2,090	-	-	GS
860	920	.5	.0	.42	-	2,820	1,100	960	4,030	7.7	6.5	GS
-	9.5	.7	.1	.08	211	219	64	0	328	7.8	2.5	GS
28	26	.6	-	-	-	-	150	47	320	-	.3	GS
780	670	.3	1.0	.12	-	2,300	1,500	1,300	3,180	7.7	1.7	GS
370	190	.4	.6	.04	-	954	650	530	1,350	7.9	.9	GS
560	290	.3	3.2	.11	-	1,410	960	820	2,100	7.9	.9	GS
40	11	.8	-	-	-	-	120	10	283	-	.9	GS
840	850	.2	2.5	.30	-	2,710	1,900	-	3,940	-	1.9	GS
1,200	910	.4	-	-	-	-	1,800	1,600	4,730	-	4.5	GS
1,300	920	-	6.0	-	-	3,570	1,800	1,600	4,980	-	5.1	GS
370	320	-	11	-	-	1,210	820	710	1,920	-	1.3	GS
250	340	-	9.4	-	-	986	720	620	1,730	7.5	.8	GS
350	350	-	9.9	-	-	1,120	790	670	1,810	8.1	1.1	GS
190	110	-	4.2	-	673	626	410	250	990	7.7	-	GS
-	160	-	-	-	-	-	-	-	1,330	-	-	GS
330	170	-	-	-	-	-	580	420	1,300	8.0	1.1	GS

Table 16.--Chemical analyses

Location	Date of collection	Hydrogeologic unit	Sampling depth (feet)	Temperature (°C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)
					Milligrams							
					WELLS							
(C-28-10) 29bcc-1	6-19-50	1	74	-	48	-	-	-	260		340	0
29bcd-2	5-20-65	1	143	17.5	38	-	56	17	51		158	0
29bdd-1	4- 3-50	1	60	-	-	-	-	-	-	-	248	0
	6-21-50	1	60	13.5	52	-	390	99	270		365	0
29cdc-2	4- 2-50	1	212	-	-	-	-	-	-	-	242	0
	6-21-50	1	212	-	44	-	150	35	95		278	0
30adc-1	6-19-50	1	101	13.5	44	-	-	-	10		126	0
30bdc-1	10-15-23	1	48	-	40	-	62	12	18		161	0
	6-21-50	1	48	-	53	-	350	78	260		332	0
30bdc-3	8- 8-68	1	290	19.0	38	-	120	39	48		132	0
	8-26-69	1	290	14.0	41	-	178	57	34		146	0
	6-25-70	1	290	16.0	-	-	-	-	-	-	-	-
	6-10-71	1	290	16.5	42	-	91	24	33	4.4	137	0
30bdd-1	4- 3-50	1	58	13.5	-	-	-	-	-	-	352	0
30bdd-2	9- 4-57	1	148	13.5	46	-	260	51	63		286	0
	5- 2-59	1	148	14.0	57	0.02	210	40	80		260	0
	8- 8-60	1	148	14.5	43	.00	280	47	95	8.9	247	0
	9- 6-61	1	148	14.5	45	.10	280	47	99		254	0
30cdc-1	4- 9-43	1	54	-	-	-	74	16	35		136	0
	4- 3-50	1	54	-	45	-	-	-	340		512	0
30dbb-2	5-19-65	1	186	16.0	39	-	44	11	18		122	0
31ddc-2	6-10-71	1	195	13.5	41	-	130	25	33	5.5	220	0
32ccd-1	4- 3-50	1	60	-	-	-	-	-	48		318	0
33aba-1	4- 9-43	1	140	-	-	-	98	82	260		562	0
(C-28-11) 10acd-1	11- 3-50	1	227	16.5	48	.05	54	40	99	4.2	285	0
12abb-1	5- 6-71	1	440	20.0	45	-	64	23	72	4.9	200	0
13dca-1	4- 3-50	1	600	15.5	-	-	-	-	-	-	152	0
23abb-1	10-15-27	1	80	-	44	.39	67	26	130	9.6	193	0
23cbb-2	9- 4-69	1	95	13.0	37	-	220	75	170		217	0
	6-25-70	1	95	17.0	-	-	-	-	-	-	-	-
	9-17-70	1	95	14.0	39	-	120	51	160	12	180	0
	5- 6-71	1	95	14.0	-	-	120	54	170	8.4	191	0
25abd-1	4- 3-50	1	77	-	-	-	-	-	-	-	322	0
25dcd-1	6-20-50	1	431	-	43	-	-	-	26		154	0
	9- 4-57	1	431	17.0	40	-	100	24	36		154	0
	5- 2-59	1	431	20.5	38	.00	27	9.0	40		144	0
	8- 8-60	1	431	17.0	20	.00	120	27	38	5.6	158	0
	9- 6-61	1	431	17.5	40	.07	160	26	48		167	0
	5-18-62	1	431	19.5	36	.12	71	16	36	4.0	144	0
	9- 1-64	1	431	17.0	37	-	170	39	36	6.5	169	0
	5-20-65	1	431	18.5	37	-	150	46	38		164	0
	5-26-66	1	431	18.5	38	-	170	46	48		169	0
	8-10-67	1	431	17.5	-	-	220	48	70		186	0
	7-18-68	1	431	17.0	-	-	-	-	-	-	-	-
	8-26-69	1	431	16.0	40	-	190	56	22		182	0
	6-25-70	1	431	16.0	-	-	210	49	45		189	0
	5-14-71	1	431	18.0	-	-	150	38	52	5.7	180	0
25ddd-1	6-20-50	1	73	13.5	50	-	260	57	190		315	0
35cad-1	5-14-71	1	-	15.5	54	-	30	8.8	16	3.9	131	0
35ddd-1	4- 3-50	1	74	-	-	-	-	-	30		226	0
36bba-2	4- 3-50	1	66	-	-	-	-	-	-	-	308	0
36bba-3	4- 3-50	1	150	-	45	-	-	-	4.8		130	0
36cbd-1	5-20-65	1	78	13.5	43	-	180	58	92		282	0
36cdd-1	4- 3-50	1	90	-	-	-	-	-	-	-	204	0
36dcc-2	6-10-71	1	172	13.0	46	-	130	26	43	5.8	218	0
36ddd-1	6-20-50	1	60	-	45	-	130	27	43		275	0
(C-29-10) 5add-1	6-10-71	1	310	14.0	37	-	120	37	39	4.5	142	0
5cdd-4	4- 3-50	1	198	-	-	-	-	-	-	-	190	0
	9-25-57	1	198	13.5	38	.04	170	32	42		261	0
	5- 2-59	1	198	13.5	35	.01	170	35	58		262	16

of selected water samples - Continued

per liter												
					Dissolved solids							
Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Residue at 180°C	Sum of determined constituents	Hardness (Ca,Mg)	Noncarbonate hardness	Specific conductance (micromhos/cm at 25°C)	pH	Sodium-adsorption ratio	Source of data
- Continued												
650	520	-	-	-	-	-	1,100	830	3,070	-	3.4	GS
100	56	0.9	1.9	-	414	403	210	80	616	7.2	1.5	GS
-	480	-	-	-	-	-	-	-	2,430	-	-	GS
10	640	-	8.1	-	-	2,340	-	-	3,520	-	3.1	GS
-	160	-	-	-	-	-	-	-	1,150	-	-	GS
200	200	-	7.5	-	-	869	520	290	1,420	-	1.8	GS
27	20	-	-	-	-	-	140	34	327	-	.4	GS
57	37	-	-	-	339	305	200	-	-	-	.6	GS
830	440	-	9.4	-	-	2,190	1,200	930	3,090	-	3.3	GS
230	150	-	4.6	-	773	696	460	350	1,080	7.6	1.0	GS
320	210	-	6.4	-	1,060	918	680	560	1,430	7.3	.6	GS
-	83	-	-	-	-	-	-	-	731	-	-	GS
160	92	.6	1.6	0.01	-	522	330	210	779	7.7	.8	GS
-	290	-	-	-	-	-	-	-	1,850	-	-	GS
400	250	-	3.2	-	-	1,220	870	630	1,890	7.1	.9	GS
360	200	-	5.6	-	-	1,080	700	480	1,570	8.2	1.3	GS
540	240	.2	11	.20	1,520	1,390	890	690	1,940	7.3	1.4	GS
550	230	-	9.9	-	1,490	1,390	690	900	1,920	7.5	1.4	GS
71	90	.4	16	-	-	369	250	-	644	-	.9	GS
450	350	.8	-	-	-	-	640	220	2,570	-	9.9	GS
35	38	.8	2.3	-	263	248	155	55	385	7.5	.6	GS
100	150	.5	7.7	-	-	627	430	250	929	7.6	.7	GS
180	200	.3	30	-	-	-	660	390	1,420	-	.8	GS
440	150	1.3	19	.30	-	1,330	580	-	2,000	-	4.7	GS
170	82	.3	.1	.09	616	642	300	66	988	8.0	2.5	GS
130	86	.9	8.3	.23	-	561	250	90	842	7.9	2.0	GS
-	30	-	-	-	-	-	56	0	446	-	-	GS
190	140	-	1.2	-	716	712	270	-	-	-	3.4	GS
800	140	-	.4	-	1,650	1,540	850	670	2,040	7.9	2.5	GS
-	95	-	-	-	-	-	-	-	1,180	-	-	GS
480	130	2.1	.4	.39	1,160	1,080	500	-	1,580	7.4	3.1	GS
540	130	-	-	-	-	-	520	370	1,620	8.0	3.2	GS
290	400	.7	-	-	-	-	-	-	2,560	-	-	GS
100	64	-	-	-	-	-	260	140	642	-	.7	GS
160	100	-	1.5	-	-	538	350	230	872	7.4	.8	GS
44	19	-	.6	-	-	249	100	0	373	7.7	1.7	GS
210	120	.5	1.6	.09	691	617	420	290	960	7.5	.8	GS
270	130	-	.6	-	794	749	490	360	1,090	7.8	.9	GS
120	60	.3	.4	.08	455	416	240	130	668	7.7	1.0	GS
290	160	.4	1.3	.11	948	822	590	450	1,250	7.7	.6	GS
300	130	.8	2.0	-	901	791	560	430	1,180	7.4	.7	GS
360	150	-	1.0	-	967	896	620	480	1,300	7.5	.8	GS
460	190	-	-	-	1,230	1,070	740	590	1,540	7.6	1.1	GS
-	160	-	-	-	-	-	690	-	1,440	-	-	GS
360	160	-	1.8	-	1,070	914	700	550	1,390	7.6	.4	GS
380	180	-	4.0	-	1,180	963	720	560	1,530	8.1	.7	GS
330	140	-	-	-	-	-	530	380	1,220	8.0	1.0	GS
530	350	-	16	-	-	1,610	890	640	2,410	-	2.8	GS
25	19	.7	.8	.02	-	226	110	4	310	7.8	.7	GS
220	140	1.1	-	-	-	-	580	400	1,200	-	.5	GS
-	460	-	-	-	-	-	-	-	3,060	-	-	GS
19	10	.8	-	-	-	-	130	26	264	-	.2	GS
360	190	1.1	13	-	1,160	1,070	680	450	1,580	7.2	1.5	GS
-	98	-	-	-	-	-	-	-	786	-	-	GS
120	130	.5	3.1	.04	-	623	430	250	927	7.6	.9	GS
130	110	-	6.1	-	-	628	430	200	1,120	-	.9	GS
140	180	.5	9.5	.00	-	670	450	340	1,030	7.9	.8	GS
120	140	.3	-	-	-	-	-	-	980	-	-	GS
150	170	-	33	-	-	767	550	340	1,270	7.7	.8	GS
170	180	-	36	-	-	827	330	570	1,270	8.5	1.1	GS

Table 16.--Chemical analyses

Location	Date of collection	Hydrogeologic unit	Sampling depth (feet)	Temperature (°C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)
					Milligrams							
												WELLS
(C-29-10) 5cdd-4	8- 8-60	1	198	12.5	29	0.00	170	31	46	5.9	279	0
	9- 6-61	1	198	13.5	37	.06	170	27	47		270	0
5cdd-5	8-26-69	1	295	12.0	36	-	110	22	35		259	0
	6-25-70	1	295	13.0	-	-	-	-	-	-	-	-
	5-11-71	1	295	13.5	-	-	120	26	30	4.7	240	0
6aad-2	5-20-65	1	168	14.0	37	-	120	34	34	-	212	0
6baa-1	4- 4-50	1	90	-	-	-	-	-	-	-	198	0
6baa-2	5-20-65	1	190	16.5	37	-	34	6.1	19		123	0
6ddc-1	4- 3-50	1	90	-	-	-	-	-	-	-	256	0
8ddd-2	6-10-71	1	410	14.5	30	-	110	30	35	4.0	217	0
17add-1	6-20-50	1	202	-	37	-	170	36	66		323	0
17ddd-1	6-19-50	1	304	-	38	-	-	-	29		245	0
18add-1	6-20-50	1	180	-	36	-	-	-	46		206	0
18daa-1	6- 3-59	1	298	12.5	39	.00	58	11	23		153	0
	8- 8-60	1	298	15.0	36	.00	53	12	20	3.9	152	0
	9- 6-61	1	298	13.5	32	.04	58	8.5	23		148	0
	5-18-62	1	298	13.5	33	.01	51	11	16	3.0	141	0
	6-26-66	1	298	12.5	-	-	-	-	20		145	0
	8-26-69	1	298	12.0	-	-	64	20	14		167	0
	6-25-70	1	298	12.0	-	-	57	15	23		157	0
	5-10-71	1	298	13.5	36	-	64	13	19	3.7	168	0
18dcd-1	6-10-71	1	375	15.0	36	-	100	22	27	4.8	207	0
27bbd-1	12- 6-58	1	146	12.5	28	-	110	30	68		303	0
(C-29-11) 1add-2	8-26-69	1	200	11.0	45	-	150	37	56		265	0
	6-25-70	1	200	13.0	-	-	-	-	-	-	-	-
	5-17-71	1	200	14.0	-	-	120	23	34	5.5	238	0
1bad-2	4- 3-50	1	140	14.0	-	-	-	-	-	-	148	0
2add-1	4- 3-50	1	52	12.5	-	-	-	-	39		190	0
4baa-1	4- 3-50	1	68	-	-	-	-	-	-	-	334	0
	6-27-62	1	68	15.5	17	.01	120	81	360		169	0
	6-10-71	1	68	13.5	20	-	89	55	200	2.3	178	0
10ddd-1	6-10-71	1	103	12.5	47	-	140	28	44	6.8	165	0
11aad-1	4- 3-50	1	70	-	-	-	-	-	-	-	156	0
11acc-1	5-19-65	1	53	16.0	41	-	34	9.7	19		118	0
11ccd-1	4- 2-50	1	62	13.5	-	-	-	-	-	-	110	0
11cdd-2	9- 4-57	1	90	14.0	38	-	110	19	77		234	0
	5- 2-59	1	90	14.0	44	.01	72	14	37		127	0
	8- 8-60	1	90	14.5	31	.01	100	16	53	5.3	157	0
	9- 6-61	1	90	14.5	38	.06	100	15	54		155	0
	5-18-62	1	90	14.5	38	.06	71	25	39	4.5	140	0
	5-20-65	1	90	14.0	37	-	120	19	44	.6	132	0
	5-26-66	1	90	14.0	37	-	120	29	43		141	0
	7-25-68	1	90	14.0	-	-	-	-	-	-	-	-
	7-29-69	1	90	13.0	38	-	170	50	37		190	0
	5-14-71	1	90	14.0	-	-	190	37	69	6.8	199	0
11ddc-1	6-20-50	1	65	13.5	38	-	-	-	66		310	0
11ddd-1	4- 2-50	1	83	13.5	-	-	-	-	21		130	0
12ddd-1	6-20-50	1	431	-	42	-	-	-	11		168	0
	5- 2-59	1	431	14.5	37	.01	78	16	22		130	0
	6-10-71	1	431	14.5	39	-	86	17	22	5.0	157	0
19caa-2	6-10-71	1	75	16.0	60	-	45	28	120	4.4	215	0
27add-2	5-19-65	1	118	14.5	38	-	92	21	55		233	0
27bad-1	4- 2-50	1	70	-	-	-	-	-	-	-	292	0
27bad-2	4- 2-50	1	200	-	-	-	-	-	26		132	0
27dad-1	5-18-71	1	300	15.0	44	-	67	14	47	5.3	194	0
28add-2	9- 4-57	1	196	13.5	19	.05	230	60	280		307	0
	6- 3-59	1	196	14.0	46	.00	110	23	85		176	0
	8-10-60	1	196	13.5	48	.00	140	33	99	7.2	206	0
	9- 6-61	1	196	14.5	43	.08	120	23	85		162	0
	5-18-62	1	196	14.0	43	.02	130	23	81	6.2	189	0

of selected water samples - Continued

per liter												
					Dissolved solids							
Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Residue at 180°C	Sum of determined constituents	Hardness (Ca,Mg)	Noncarbonate hardness	Specific conductance (micromhos/cm at 25°C)	pH	Sodium-adsorption ratio	Source of data
- Continued												
160	160	0.2	29	0.13	876	767	550	320	1,240	7.5	0.9	GS
160	160	-	34	-	882	775	540	320	1,190	7.4	.9	GS
92	84	-	16	-	555	521	364	152	832	7.8	.8	GS
-	-	-	-	-	-	-	-	-	844	-	-	GS
110	92	-	-	-	-	-	410	210	814	7.8	.6	GS
110	130	.6	22	-	681	583	430	260	946	7.1	.7	GS
69	65	.4	-	-	-	-	-	-	633	-	-	GS
21	19	.7	.7	-	195	198	110	9	283	7.5	.8	GS
-	57	-	-	-	-	-	-	-	707	-	-	GS
120	99	.4	11	.06	-	584	400	220	867	7.8	.8	GS
160	150	-	70	-	-	855	570	300	1,350	-	1.2	GS
120	120	-	-	-	-	-	430	230	1,010	-	.6	GS
89	95	-	-	-	-	-	300	130	816	-	1.2	GS
48	44	-	3.8	-	-	302	190	66	485	7.7	.7	GS
51	37	.4	3.8	-	290	292	58	180	440	7.4	.6	GS
47	40	-	2.6	-	282	284	180	58	435	7.6	.7	GS
41	38	.2	1.6	.04	282	264	170	56	434	7.2	.5	GS
59	68	-	-	-	381	-	230	110	569	7.2	.6	GS
51	60	-	-	-	362	291	240	110	559	7.6	.4	GS
45	51	-	5.6	-	340	274	200	73	502	7.5	.7	GS
49	49	.3	2.8	.07	-	329	210	75	513	7.9	.6	GS
80	95	.4	13	.00	-	525	340	170	778	7.8	.6	GS
150	75	-	36	-	-	642	390	140	1,010	7.5	1.5	GS
150	190	-	16	-	854	771	530	310	1,260	7.8	1.1	GS
-	110	-	-	-	-	-	-	-	867	-	-	GS
83	120	-	-	-	-	-	390	200	866	7.7	.7	GS
49	56	.4	-	-	-	-	-	-	484	-	-	GS
120	110	.7	-	-	-	-	350	200	830	-	.9	GS
-	650	-	-	-	-	-	-	-	4,880	-	-	GS
710	370	1.4	.2	.63	1,860	1,750	640	500	2,710	7.4	6.2	GS
490	160	1.5	1.1	.48	-	1,110	450	300	1,620	7.5	4.1	GS
140	210	.5	4.7	.05	-	718	460	330	1,130	7.6	.9	-
-	62	-	-	-	-	-	-	-	513	-	-	GS
27	23	.7	9.4	-	240	222	120	28	329	7.6	.7	GS
35	67	.8	-	-	-	-	-	-	484	-	-	GS
86	150	-	28	-	-	621	350	160	1,030	7.9	1.8	GS
58	92	-	26	-	-	405	240	130	674	8.0	1.0	GS
98	130	.4	30	.12	592	543	320	190	888	7.5	1.3	GS
99	130	-	34	-	622	544	320	190	869	7.4	1.3	GS
74	110	.4	28	.09	582	457	280	160	797	7.2	1.0	GS
83	180	.6	27	-	690	569	370	260	969	7.4	1.0	GS
89	190	-	32	-	755	611	420	300	1,080	8.2	.9	GS
-	240	-	-	-	-	-	530	-	1,310	-	-	GS
150	260	-	30	-	1,010	827	620	470	1,400	7.7	.6	GS
180	290	-	-	-	-	-	630	460	1,530	7.9	1.2	GS
120	170	-	-	-	-	-	480	220	-	-	1.3	GS
35	58	.4	9.2	-	-	-	190	82	450	-	.7	GS
55	51	-	-	-	-	-	240	110	548	-	.3	GS
49	100	-	4.9	-	-	375	260	150	644	8.2	.6	GS
62	100	.5	9.1	.00	-	449	280	160	694	7.6	.6	GS
160	110	.7	3.8	.23	-	651	230	51	949	8.0	3.5	GS
83	100	.6	13	-	548	520	320	120	838	7.5	1.3	GS
-	1,200	-	-	-	-	-	-	-	4,640	-	-	GS
53	130	.4	5.4	-	-	-	290	180	763	-	.7	GS
67	75	.6	3.9	.12	-	433	220	66	711	7.9	1.4	GS
550	440	-	5.6	-	-	1,730	830	580	2,580	7.7	4.2	GS
140	180	-	6.3	-	-	684	370	230	1,130	7.7	1.9	GS
170	240	.4	6.6	.17	896	838	470	300	1,340	7.6	2.0	GS
170	200	-	5.5	-	794	724	400	270	1,140	7.4	.1	GS
160	200	.2	6.0	.15	838	739	420	270	1,220	7.2	1.7	GS

Table 16.--Chemical analyses

Location	Date of collection	Hydrogeologic unit	Sampling depth (feet)	Temperature (°C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)
					Milligrams							
WELLS												
(C-29-11)28add-2	7-28-65	1	196	13.5	-	-	-	-	76		168	0
	8-29-67	1	196	12.5	-	-	-	-	-	-	180	0
	7-18-68	1	196	13.0	-	-	-	-	-	-	-	-
	6-25-70	1	196	12.0	-	-	-	-	-	-	-	-
(C-30-9)7adb-1	9- 7-61	3	72	-	24	0.03	100	24	180	27	205	1
	6-27-62	3	72	33.5	32	.00	110	23	190		230	0
(C-30-10)10abb-1	6- 6-60	1	320	13.5	34	.05	120	26	32		217	0
19abd-2	8- 8-60	1	293	21.0	47	.01	34	8.8	38	5.0	144	0
	9- 6-61	1	293	21.0	60	.03	40	8.5	43		147	0
(C-30-11)22ddc-1	9- 2-71	1	165	22.5	46	-	7.3	1.2	65	2.3	117	0
(C-30-12)9add-1	6- 9-71	1	-	15.0	55	-	55	28	170	3.7	195	0
11bad-1	1906	1	401	-	160	10.0	32	15	57		171	-
31bcb-1	10-14-23	1	43	-	49	-	130	78	450		171	0
(C-30-13)8caa-1	6- 9-71	1	-	18.0	43	-	32	11	47	1.8	158	0
25abb-1	5-18-71	1	74	13.5	49	-	51	30	57	6.2	178	0
30bdd-2	11- 4-70	1	-	15.0	20	.01	88	38	55	4.5	181	0
(C-31-12)17dcb-1	3-24-50	1	49	13.5	-	-	-	-	-	-	138	0
(C-31-13)18aad-1	6- 9-71	1	101	14.0	41	-	71	32	57	4.7	174	0
SPRINGS												
(C-24-10)22adb-S1 1/	1- 4-50	2	-	14.5	55	-	-	-	-	-	145	0
(C-25-9)9adb-S1	7-29-57	1	-	-	52	-	39	11	39		142	0
(C-25-12)35caa-S1	9- 7-63	4	-	17.5	56	0.13	43	9.0	100	7.2	154	0
(C-26-9)34bd-S	11- 8-55	1	-	24.5	-	-	-	-	-	-	264	0
34dcb-S1	1906	1	-	-	100	5.0	31	9.7	100		30	0
	11- 4-50	1	-	85.0	400	.04	19	3.3	2,100	470	42	57
	11- 8-55	1	-	38.0	-	-	-	-	-	-	154	0
	9-11-57	1	-	55.0	310	.04	22	.0	2,500	490	1,560	0
(C-26-11)19dbb-S1	9- 7-63	5	-	17.0	13	.29	42	28	120	8.7	205	0
29aac-S1	9- 7-63	4	-	17.5	30	.31	66	23	80	11	219	0
29abb-S1	9- 7-63	4	-	15.0	24	.20	56	14	64	6.7	240	0
(C-26-12)10bdb-S1	9- 7-63	4	-	17.5	41	.08	120	50	69	3.0	197	0
30dab-S1	9- 9-63	1	-	17.5	53	.53	110	25	84	1.7	364	12
(C-27-12)6cac-S1	9- 9-63	4	-	18.5	25	.22	190	67	87	6.2	150	0
(C-28-9)14dbb-S1	8-23-63	2	-	12.0	23	.00	18	3.4	12	1.3	80	0
23cdd-S1	8-23-63	2	-	9.0	11	.02	13	2.9	5.5	1.1	51	0
29cad-S1	8-23-63	1	-	12.5	17	.02	67	20	21	1.9	306	0
(C-28-12)29dcc-S1	9- 6-63	4	-	22.0	61	.60	80	47	76	1.0	265	0
(C-29-9)17bcb-S1	8-23-63	5	-	17.5	23	.07	100	58	39	2.0	388	0
19bbb-S1	8-23-63	5	-	17.0	21	.04	67	29	18	2.6	284	0
29abb-S1	8-23-63	2	-	14.0	23	.02	150	52	24	2.3	253	0
(C-29-11)15aad-S1	4- 2-50	1	-	-	-	-	-	-	-	-	268	10
(C-29-13)2bdc-S1	8-31-63	4	-	18.5	18	.82	440	110	98	7.4	256	0
(C-30-9)7aca-S1	4- 9-43	1	-	-	-	-	110	27	180		242	0
	8-21-63	1	-	32.5	31	.02	110	24	170	18	220	3
	3-12-66	1	-	31.0	29	-	100	26	160	18	222	0
	7-11-67	1	-	31.5	32	-	88	35	170	17	228	0
19bdc-S1	8-24-63	4	-	33.0	10	.19	12	4.1	160	.5	251	3
31daa-S1	8-22-63	4	-	21.5	40	.01	79	13	49	2.8	308	0
(C-30-12)21add-S1	10-23-39	1	-	85.0	-	-	-	-	-	-	370	0
	8-21-63	1	-	-	110	.13	83	9.7	360	49	384	0
28acb-S1	1906	1	-	-	55	1.4	86	11	430		414	0
	10-24-39	1	-	-	-	-	-	-	-	-	360	0
	11- 3-50	1	-	82.5	120	.05	72	9.8	360	61	360	0
	10-17-54	1	-	-	110	.78	82	11	370	51	384	0
	8-21-63	1	-	-	100	.27	71	9.2	370	45	314	16
	5-25-66	1	-	78.0	100	-	75	9.7	360	52	359	0
	7-11-67	1	-	76.5	10	-	76	12	360	47	374	0
(C-31-9)3cba-S1	8-22-63	4	-	21.0	35	.09	57	6.8	21	2.6	206	0
5bba-S1	8-22-63	4	-	19.5	39	.52	7.2	.2	125	1.1	256	0
(C-31-10)8bda-S1	8-22-63	4	-	17.5	50	.61	73	14	35	16	244	0
BEAVER												
(C-30-9)8bca	5-12-71	-	(2/)	10.5	23	-	56	18	45	7.1	257	0
11bad	7-13-50	-	(3/)	-	-	-	42	16	60	12	281	-

1/ Northernmost spring orifice of several near Black Rock.
2/ Discharge estimated 0.05 ft^3/s.
3/ Discharge 63 ft^3/s.

of selected water samples - Continued

per liter												
					Dissolved solids							
Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Residue at 180°C	Sum of determined constituents	Hardness (Ca,Mg)	Noncarbonate hardness	Specific conductance (micromhos/cm at 25°C)	pH	Sodium-adsorption ratio	Source of data
- Continued												
150	170	-	-	-	647	-	370	230	1,040	7.9	1.7	GS
-	160	-	-	-	-	-	380	240	1,050	7.3	-	GS
-	180	-	-	-	-	-	440	-	1,220	-	-	GS
-	170	-	-	-	-	-	-	-	1,140	-	-	GS
480	68	3.9	0.4	0.63	1,020	-	360	-	1,580	8.0	4.2	SH
480	65	3.3	.5	.42	1,030	1,020	370	180	1,460	7.7	4.3	GS
110	120	-	13	-	-	571	410	230	942	8.0	.7	GS
50	25	.3	4.8	.09	291	284	120	2	400	7.5	1.5	GS
54	34	-	5.2	-	309	317	140	14	438	7.7	1.6	GS
34	36	.9	.6	.16	-	253	23	0	360	8.2	5.9	GS
230	180	.7	1.0	.25	-	823	250	93	1,250	7.5	4.7	GS
4.0	87	-	-	-	689	-	140	-	-	-	2.1	SH
660	560	-	-	-	2,110	2,010	640	-	-	-	7.7	GS
59	36	.6	2.3	.08	-	318	130	0	444	7.5	1.8	GS
84	97	.4	.1	.14	-	463	250	100	783	8.0	1.6	GS
160	150	.7	3.2	.09	-	610	380	-	1,040	8.0	1.2	GS
-	250	-	-	-	-	-	530	420	1,460	-	-	GS
180	96	.7	.1	.07	-	569	310	170	823	7.3	1.4	GS
53	98	-	0.9	-	-	-	-	-	649	-	-	GS
37	50	-	2.4	-	-	300	140	26	474	7.9	1.4	GS
51	140	0.4	3.8	0.21	496	495	140	19	797	7.8	3.8	GS
-	3,200	-	-	-	-	-	390	170	9,640	7.7	-	GS
90	87	-	1.8	-	645	-	-	-	-	-	4.2	GS
65	3,800	7.1	1.9	3.00	7,040	6,940	61	0	11,500	8.5	93	GS
-	3,800	-	-	-	-	-	58	0	11,400	6.8	-	GS
73	4,200	7.5	11	4.00	7,840	7,800	-	-	12,700	7.9	150	GS
50	190	.9	.5	.25	547	551	220	52	987	8.0	3.4	GS
57	150	.7	1.6	.18	545	530	260	79	907	7.8	2.2	GS
40	78	.4	2.2	.14	399	404	200	1	671	7.8	2.0	GS
79	290	.4	2.3	.10	948	752	510	350	1,330	7.3	1.3	-
51	150	.4	.6	.16	671	664	380	64	1,100	8.4	1.9	GS
460	250	.3	1.5	.17	1,290	1,170	760	630	1,720	7.8	1.4	GS
7.6	8.0	.4	1.2	.03	108	114	58	0	161	7.5	.7	GS
8.6	5.0	.2	.1	.03	-	-	-	-	100	7.7	.4	GS
19	18	1.6	.7	.03	-	-	-	-	526	8.2	.6	GS
40	220	.6	1.7	.16	720	653	390	180	1,110	7.7	1.7	GS
200	46	.2	1.8	.09	673	668	500	180	996	7.9	.8	GS
45	37	.3	.7	.05	352	361	290	55	592	8.0	.5	GS
354	47	.7	.8	.20	797	775	580	370	1,070	8.2	.4	GS
-	540	-	-	-	-	-	780	540	2,340	-	-	GS
1,200	260	.5	.8	.22	2,480	2,240	1,600	1,300	2,760	7.8	1.1	GS
470	67	3.5	.1	-	-	983	390	-	-	-	4.0	GS
480	65	9.8	.2	.31	1,030	1,020	370	190	1,420	8.3	3.9	GS
460	64	4.3	.1	.03	997	977	370	180	1,410	8.2	3.7	GS
440	63	4.5	.0	.47	1,020	956	360	180	1,390	7.4	3.8	GS
69	90	1.4	.8	.18	475	487	48	0	793	8.3	-	GS
25	60	.3	1.4	.07	421	422	250	0	671	8.0	1.3	GS
460	220	-	.0	-	-	-	220	-	-	-	-	GS
480	210	14	1.0	.64	1,500	1,500	250	0	2,120	8.1	9.8	GS
520	240	-	.0	-	1,620	-	-	-	-	-	12	GS
460	220	-	.0	-	-	-	200	-	-	-	-	GS
470	220	6.7	.1	.30	1,490	1,490	220	0	2,170	7.8	12	GS
460	210	6.0	.6	-	-	-	-	-	2,160	7.1	10	GS
470	220	4.7	1.1	.60	1,480	1,460	220	0	2,100	8.6	11	GS
460	210	6.7	.1	.05	1,470	1,450	230	0	2,130	7.7	10	GS
460	210	14	.0	.85	1,490	1,470	240	0	2,100	7.4	10	GS
14	30	.5	.4	.05	268	266	170	2	414	8.2	.7	GS
17	42	.3	.7	.08	337	359	19	0	514	8.0	12	GS
24	74	.5	2.7	.11	430	410	240	38	635	7.7	1.0	GS
RIVER												
51	34	0.8	0.2	0.10	-	362	210	3	594	8.0	1.3	GS
48	43	-	.1	.30	-	-	171	0	680	-	.6	GS

Table 17.--Logs of selected wells and test holes

Altitude: Surveyed altitudes are given in feet and tenths; altitudes interpolated from topographic maps are given in feet.
Thickness in feet.
Depth in feet below land surface.
Drillers' descriptions modified by R. M. Cordova.

Material	Thickness	Depth
(C-24-10)21aba-1. Log by Scott S. Stephenson. Alt. 4,850 ft.		
Surficial material	6	6
Clay, gray	6	12
Sand, black, fine; contains thin clay layers; water at 12 ft	43	55
Sand, coarser than above	13	68
Sand, fine, and thin gray clay layers	23	91
Clay, gray	159	250
(C-24-10)22acd-2. Log by H. S. Petersen. Alt. 4,865 ft.		
Clay	15	15
Sand	1	16
Clay, blue, with intermittent thin layers of mica	892	908
(C-25-9)20abd-1. Log by Beaver Valley Oil Co. Alt. 5,080 ft.		
Limestone, white	80	80
Limestone, white, soft; water	10	90
Limestone, white, hard	5	95
Limestone, white, soft; water	9	104
Limestone, gray, hard	8	112
Limestone, white	23	135
Shale, blue, and sandstone	123	258
Limestone, white	5	263
Shale, blue, and sandstone	118	381
Limestone, white	7	388
Shale, blue, and sandstone	232	620
Shale, blue	193	813
Shale, black	18	831
Limestone, black, hard	56	887
Shale, blue	62	949
Gypsum	4	953
Shale, blue, and three thin layers of sandstone and salt; water at 961 ft	594	1,547
Sandstone, black	15	1,562
Sandstone, blue	20	1,582
Shale, black	11	1,593
Shale, blue	252	1,845
Sandstone, black	4	1,849
Shale, blue, hard	201	2,050
Shale, sandy; gas and oil	115	2,165
Shale, blue	135	2,300
Shale, blue, sandy	400	2,700
Gypsum	2	2,702
Shale, blue	98	2,800
Sandstone	2	2,802
Shale, blue, sandy	90	2,892
Limestone, dolomitic; water at 2,895 ft	6	2,898
Sandstone, gray	42	2,940
Shale, gray, sandy, and thin, hard layers; salt water at 3,130 ft	200	3,140
Sandstone, gray; water in sandy limestone at 3,148 ft	10	3,150
Shale and limestone	8	3,158
Sand, black; oil	6	3,164
Sand, gray	20	3,184
Limestone, black	8	3,192
Shale, gray; sand and oil showing at 3,200 ft	11	3,203
Limestone, black	19	3,222
Limestone, gray	13	3,235
Shale, gray, sandy, and shells and black limestone; hole full of water at 3,250 ft	19	3,254
Shale and thin layers of sandstone	31	3,285
Limestone, gray	13	3,298
Shale, gray; caves; oil odor at 3,300 ft	40	3,338
Limestone	7	3,345
Shale, sandy	35	3,380
Limestone, gray, sandy, hard	18	3,398
Shale, gray, sandy	12	3,410
Limestone, hard, sandy; salt water at 3,422 ft; at drilling depth of 3,425 ft, water was standing at 3,200 ft	25	3,435
Shale, gray, limy	15	3,450
Limestone, black	28	3,478
Sand, gray; oil	14	3,492
Material not reported; water at 3,500 ft	8	3,500
(C-26-10)4cdc-1. Log from Union Pacific Railroad. Alt. 4,884 ft.		
Clay, yellow and brown	10	10
Clay and sandy gravel	6	16
Sand, white, fine	11	27
Gravel, coarse, and sand	14	41
Clay, yellow	12	53
Quicksand	4	57
Clay, yellow and blue	10	67
Quicksand	6	73
Clay, blue	4	77
Quicksand	3	80
(C-26-10)4cdc-1 - Continued		
Clay, yellow and blue	20	100
Quicksand	5	105
Clay, yellow and blue	38	143
Quicksand	2	145
Clay, yellow	13	158
Quicksand	2	160
Clay, yellow	18	178
Clay, brown, and sand seams	26	204
Clay, yellow and blue	191	395
Limestone, white	3	398
Clay, blue and brown	60	458
Limestone, white	2	460
Clay, blue and brown	58	518
(C-26-10)5baa-1. Log reported in Lee (1908, p. 30). Alt. 4,900 ft.		
Clay, some sand	300	300
Clay	560	860
(C-26-10)32cad-1. Log by P. C. Bradshaw. Alt. 4,970 ft.		
Clay, sandy	42	42
Gravel; water	4	46
Clay, sandy	24	70
Sand and fine gravel	7	77
Clay, sandy	67	144
Clay	20	164
Clay, sandy	18	182
Clay, blue	20	202
Clay, red	46	248
Clay, sandy	6	254
Clay, red	14	268
Clay, sandy	14	282
Clay	50	332
(C-27-10)6dac-1. Log reported by claimant. Alt. 4,918 ft.		
Surficial material, black	20	20
Gravel	12	32
Sand and gravel; water	68	100
(C-27-10)18dba-1. Log by J. G. Weber. Alt. 4,945 ft.		
Clay	14	14
Sand, tight	8	22
Clay	10	32
Gravel	3	35
Clay	13	48
Gravel	1	49
Sand, tight	20	69
Quicksand	2	71
Gravel	3	74
(C-27-10)27aaa-1. Log by R. M. Cordova. Alt. 5,094 ft.		
Sand, light-brown, very fine, quartzose; minor gray sticky clay	10	10
Sand, light-brown, coarse, some medium and very coarse, quartzose; some quartz and felsic igneous gravel to ½ inch	5	15
Sand, light-brown, medium, some coarse and very coarse, quartzose; some gravel as above	5	20
Sand, coarse and very coarse, and fine gravel to ¼ inch; about 30 percent felsic igneous material but mainly quartzose	5	25
Sand, medium and coarse, quartzose; about 30 percent felsic igneous very coarse sand and gravel to ½ inch; thin tuff zone in the 30-35 foot interval	20	45
Gravel to ½ inch comprising felsic igneous material; quartzose sandy	5	50
Sand, medium, some very fine and fine, some coarse and very coarse, quartzose; minor felsic igneous gravel	5	55
Sand, medium and coarse, some very fine and fine and very coarse, minor gravelly quartzose; minor felsic igneous sand and gravel as above but amounts increasing from 70 to 75 ft	20	75
Sand, medium, quartzose; minor tuff fragments of coarse and very coarse sand sizes	5	80
Sand, very fine to medium, quartzose; many tuff fragments to ¼ inch	5	85
Sand, very fine to coarse, quartzose; about 30 percent very coarse sand and gravel to 1 inch of felsic igneous material	25	110
(C-27-10)27aaa-1 - Continued		
Gravel to ¼ inch and coarse and very coarse sand; mainly tuffaceous material	5	115
Sand, medium, quartzose; some very coarse sand and fine gravel of tuffaceous fragments and minor felsic igneous material	10	125
Sand, medium, some fine and coarse, quartzose; minor very coarse sand and fine gravel to ¼ inch of acid igneous material; thin hard zone (hardpan or limestone) at 143 ft	20	145
Sand as above but no igneous material; thin hard zone (hardpan or limestone) at 148 ft	5	150
Sand, very fine to very coarse, and gravel to ¼ inch, quartzose; minor igneous material	5	155
Limestone, light-gray, soft, porous; some interbedded very fine and fine sand	20	175
Sand, coarse and very coarse, quartzose	15	190
Sand, coarse, some medium, minor very coarse, mainly quartz	5	195
Sand, very coarse, some medium and coarse, and gravel to 3/16 inch, mainly quartz	5	200
Sand, coarse, some medium and very coarse, and fine gravel to ¼ inch, mainly quartz	10	210
Sand, very coarse, and gravel to 1/8 inch, mainly quartz	5	215
Gravel to 3/16 inch, some medium sand, mainly quartz	5	220
Sand, medium, some very fine and fine, minor very coarse, and minor gravel as above, mainly quartz; clayey; clay content significant from 230 to 240 ft	20	240
Sand as above but no clay	5	245
Sand, medium and coarse, some very coarse, and some gravel to 3/16 inch, quartzose	5	250
Sand, very fine and fine, some medium to very coarse, quartzose	10	260
Sand, very fine to very coarse, quartzose	5	265
Sand, very fine to medium, much very coarse, and much gravel to 1/8 inch, quartzose; minor tuff	5	270
Sand as above but clayey	5	275
Sand, very fine to medium, much very coarse, and much gravel to 1/8 inch, quartzose; minor tuff	5	280
Gravel, fine, and very coarse sand, quartzose; very clayey	5	285
Sand, very fine to medium, some very coarse, and fine gravel, quartzose	5	290
Sand, very fine to very coarse, quartzose; minor tuff	5	295
Sand, very fine and fine, some coarse, and very coarse, and some fine gravel, quartzose; clayey	5	300
Sand, very fine to coarse, some very coarse; mainly quartz	5	305
Sand as above but some gravel to ¼ inch	5	310
Sand, fine and medium, minor coarse and very coarse sand and gravel to 1/8 inch, mainly quartz; minor tuff	10	320
Sand, medium, some fine to coarse, minor very coarse sand and gravel to 1/8 inch, mainly quartzose; minor tuff	35	355
Sand as above but more fine and very fine	10	365
Sand as above but fine and medium predominant	10	375
Sand, coarse, some medium, minor very coarse, quartzose	5	380
Sand, very fine to very coarse, quartzose	15	395
Clay, red-brown, hard, and sand as above	20	415
Sand, very fine to medium, some coarse and very coarse, quartzose; some red-brown, hard clay	15	430
Sand very fine, and silt, quartzose; some coarse and very coarse quartzose sand; some clay as above	5	435
Clay, red-brown and gray-green, and coarse and very coarse quartzose sand and minor gravel to ¼ inch	10	445

Table 17.--Logs of selected wells and test holes - Continued

Material	Thickness	Depth
(C-27-10)27aaa-1 - Continued		
Sand, very fine to coarse, and gravel to 3/16 inch, mainly quartz; much clay as above increasing from 450 to 455 ft; minor tuff	10	455
Clay, red-brown and gray-green, sticky; some coarse and very coarse quartzose sand and minor gravel to ¼ inch	10	465
Clay as above but more sand	5	470
Clay as from 455 to 465 ft	5	475
Clay, red-brown, sticky; minor sand and fine gravel	10	485
Clay, red-brown, some gray-green, tough; some very fine quartzose sand and silt and minor gravel to 1/8 inch	20	505
Clay, red-brown, some gray-green; some very fine quartzose sand and silt	5	510
Clay, red-brown, soft, some hard gray-green; much very fine and fine, and minor coarse and very coarse quartzose sand	5	515
Clay, red-brown and gray-green, sticky; minor very coarse sand	5	520
Clay, red-brown and gray-green, increasing from 530 to 545 ft	25	545
Clay, gray-green and minor red-brown; minor sand	20	565
Clay, gray-green	40½	605½
Clay, gray-green; some thin limestone zones	10	615½
Clay, gray-green	20	635½
Clay, gray-green; some thin limestone zones	20½	656
Clay, gray-green	10	666
Clay, gray-green; some thin limestone zones	30	696
Clay, gray-green, plastic	20	716
Clay, gray-green	20	736
Clay, gray-green, plastic	10	746
Clay, gray-green, plastic; some thin limestone zones	10	756
Clay, gray-green, hard; some thin limestone zones	30½	786½
Clay, gray-green; minor dark-gray clay	10	796½
Clay as above; some thin limestone zones	40½	837
Clay, dark-gray; minor gray-green clay	10	847
Clay as above; some thin limestone zones	10	857
(C-27-10)31dcb-1. Log by B and B Drilling Co. Alt. 5,040 ft.		
Surficial material	18	18
Clay	34	52
Clay and boulders	26	78
Boulders and gravel	10	88
Clay	30	118
Boulders	8	126
Clay	25	151
Boulders and gravel	12	163
Clay and gravel	15	178
Boulders and gravel	3	181
Clay	12	193
Gravel and boulders	4	197
Clay	39	236
Gravel and sand	11	247
Clay	5	252
Boulders and gravel	19	271
Clay	5	276
Boulders and gravel	15	291
Clay and gravel	30	321
Boulders and gravel	26	347
Clay, hard	12	359
Gravel and boulders	7	366
Clay	12	378
Boulders and gravel	16	394
Clay	7	401
Boulders and gravel	15	416
Clay	8	424
Boulders and gravel	23	447
Clay	16	463
Boulders and gravel	15	478
Clay	12	490
Boulders and gravel	75	565
Clay	7	572
Gravel	64	636
Clay	35	671
Gravel	8	679
Clay	13	692
Gravel	8	700
(C-27-11)27ccc-1. Log by R. M. Cordova. Alt. 5,310 ft.		
Sand, light-brown, very fine to coarse, quartzose; some gray, siliceous, very coarse sand and fine gravel; silty	5	5
(C-27-11)27ccc-1 - Continued		
Sand as above but with some brown, dark-red, and gray igneous gravel to ½ inch	10	15
Gravel to ½ inch, siliceous; some very coarse, siliceous sand	5	20
Gravel to 1½ inches and very coarse sand; mainly red igneous and gray quartzitic materials	40	60
Gravel as above but interbedded with silty very fine to medium quartzose sand	230	290
Gravel to 1½ inches and very coarse sand; silty very fine to medium quartzose sand more abundant than above	110	400
Sand, coarse and very coarse, and gravel (mainly igneous) to ½ inch; some very fine to medium quartzose sand. Slow drilling from 603 ft probably indicates cementation of sediments below this depth	265	665
(C-27-11)34dab-1. Log by A. C. Myers. Alt. 5,235 ft.		
Fill materials (mainly siliceous sand and gravel)	82	82
Boulders	3	85
Gravel and boulders	25	110
Clay and gravel	50	160
Boulders	5	165
Clay and gravel	45	210
Boulders	5	215
Clay, sandy	42	257
Clay and gravel	49	306
Conglomerate	48	354
Clay, sandy	35	389
Conglomerate, soft	89	478
Sand, wet	3	481
Granite, decomposed	16	497
Granite	3	500
(C-27-11)34dba-1. Log by American Mining Co. Alt. 5,248 ft.		
Silt, sand, and gravel	140	140
Clay and boulders	23	163
Sand and gravel	78	241
Clay	9	250
Sand and gravel	4	254
Clay and gravel	16	270
Clay and boulders	13	283
Sand and gravel	21	304
Clay and gravel	16	320
Boulders	1	321
Sand and gravel	6	327
Clay and boulders	2	329
Clay and gravel	6	335
Sand and gravel	30	365
Gravel and boulders	7	372
Sand and gravel	1	373
Boulders	2	375
Clay and gravel	26	401
Gravel	52	453
Clay and gravel	51	504
Sand and gravel	36	540
Clay and gravel	10	550
Sand and gravel	13	563
Clay	30	593
(C-28-10)5adc-1. Log by A. C. Myers. Alt. 4,947 ft.		
Surficial material	3	3
Clay	14	17
Gravel, coarse, and sand; wet	49	66
Clay and gravel	54	120
Clay and sand	20	140
Clay	41	181
Clay, sandy	56	237
Sand	20	257
Clay, sandy	21	278
Sand	8	286
Clay, sandy	4	290
Sand	13	303
Clay, sandy	21	324
Clay	36	365
(C-28-10)5dad-2. Log by Tim Ballard. Alt. 4,953 ft.		
Sand	4	4
Clay	16	20
Sand and gravel	5	25
Clay	10	35
Sand and gravel	10	45
Sand	15	60
Clay and sand	10	70
Sand and gravel	10	80
Sand	5	85
Clay	30	115
Sand	15	130
(C-28-10)6dac-2. Log by B and B Drilling Co. Alt. 5,001 ft.		
Surficial material	5	5
(C-28-10)6dac-2 - Continued		
Clay and sand	65	70
Sand	25	95
Clay and sand	23	118
Sand	10	128
Clay and sand	22	150
Clay	20	170
Sand	10	180
Clay	30	210
Sand and gravel	20	230
Clay and sand	82	312
Sand and gravel	12	324
Clay and sand	69	393
Sand and gravel	46	439
(C-28-10)7aad-5. Log by P. C. Bradshaw. Alt. 4,957.9 ft.		
Clay, sandy	6	6
Sand; water	2	8
Clay, sandy	16	24
Gravel	25	49
Clay	4	53
Sand and gravel	25	78
Clay, sandy	7	85
Sand	45	130
Clay, sandy	30	160
Clay	18	178
Sand	5	183
Clay, sticky	7	190
Sand	18	208
Clay	6	214
Sand, fine	9	223
Clay, sandy	15	238
Clay	7	245
Sand and fine gravel	6	251
Clay	10	261
Sand and fine gravel	10	271
Clay	24	295
Sand and fine gravel	5	300
Sand	4	304
Clay, sticky	28	332
Sand and a little gravel	11	343
Clay	4	347
Sand and gravel	18	365
Clay	9	374
Sand and fine gravel	2	376
Clay, sticky	28	404
Sand and fine gravel	11	415
Clay	4	419
Sand and fine gravel	4	423
Clay and fine gravel	14	437
Hardpan	4	441
Clay, sandy	9	450
Clay and hardpan	5	455
Clay, sandy	7	462
Gravel, fine	2	464
Clay	3	467
(C-28-10)7dab-1. Log reported by Union Pacific Railroad. Alt. 4,961 ft.		
Clay, brown	40	40
Sand and coarse gravel; water	50	90
Clay, yellow	15	105
Sand	50	155
Clay, yellow	6	161
Quicksand	34	195
Clay, brown	11	206
Clay, sandy	87	293
Clay, yellow	7	300
Sand; water	16	316
Clay, yellow	18	334
Sand	9	343
Clay, yellow, and gravel	31	374
Sand; water	12	386
Clay, blue, and gravel	47	433
Hardpan	79	512
Sand, coarse; water	13	525
Shale, blue	18	543
Clay, blue; fossil boulder; bottomed in limestone	12	555
(C-28-10)8aad-2. Log by P. C. Bradshaw. Alt. 4,962 ft.		
Sand	3	3
Clay	15	18
Clay and sand	9	27
Clay, white	8	35
Gravel	11	46
Sand	2	48
Clay	2	50
Sand and gravel	8	58
Clay	4	62
Sand and gravel	6	68
Clay	17	85
Gravel	3	88
Clay, sand, and fine gravel	12	100
Clay	10	110
Sand and fine gravel	5	115
Clay	6	121
Gravel, fine	2	123
Clay	5	128
Clay and sand	22	150
Sand and gravel	28	178
Clay	7	185

Table 17.--Logs of selected wells and test holes - Continued

Material	Thickness	Depth
(C-28-10)8cac-2. Log by P. C. Bradshaw. Alt. 4,957 ft.		
Clay	8	8
Clay, sandy; water	4	12
Clay	4	16
Gravel; water	27	43
Clay	15	58
Sand and gravel	9	67
Clay, sandy	9	76
Clay	2	78
(C-28-10)16cda-1. Log by B and B Drilling Co. Alt. 5,025.5 ft.		
Surficial material	25	25
Clay, sandy	27	52
Clay, yellow	63	115
Gravel and boulders	9	124
Clay, yellow	7	131
Gravel and boulders	7	138
Clay	7	145
Sand and gravel	21	166
Clay	4	170
Sand and gravel	255	425
Rock, solid	15	440
(C-28-10)17ccc-1. Log reported by claimant. Alt. 4,970.0 ft.		
Surficial material	10	10
Gravel; water	19	29
Clay	8	37
Gravel; water	8	45
Clay	20	65
Gravel; water	6	71
Clay	15	86
Gravel; water	6	92
(C-28-10)17cdc-1. Log reported by claimant. Alt. 4,971.6 ft.		
Surficial material	28	28
Gravel	18	46
Clay	11	57
Gravel	3	60
(C-28-10)18cab-1. Log by P. C. Bradshaw. Alt. 4,970 ft.		
Clay	27	27
Gravel; water	32	59
Clay	52	111
Sand	6	117
Clay, sandy	11	128
Sand	43	171
Clay, blue	5	176
Clay, gravelly, hard	4	180
Clay	8	188
Sand	4	192
Clay	1	193
(C-28-10)19add-1. Log reported by claimant. Alt. 4,974 ft.		
Clay	14	14
Gravel	6	20
Clay	1	21
Gravel	6	27
Clay	6	33
Gravel	10	43
Clay	13	56
Gravel	9	65
(C-28-10)19add-3. Log reported by claimant. Alt. 4,974.4 ft.		
Clay	15	15
Gravel	4	19
Clay	4	23
Gravel	7	30
Clay	3	33
Gravel	12	45
Clay	10	55
Gravel	7	62
Clay, sandy	16	78
Clay, sandy, and gravel	42	120
Clay	30	150
Gravel	4	154
Clay, sticky	6	160
(C-28-10)19bcd-2. Log by B and B Drilling Co. Alt. 4,972.7 ft.		
Surficial material	9	9
Sand	9	18
Sand and gravel	17	35
Clay and sand	14	49
Sand and gravel	6	55
Clay and sand	7	62
Sand and gravel	8	70
Clay	8	78
Sand and gravel	11	89
Clay	5	94
Sand and gravel	5	99
Clay and sand	9	108
Gravel and boulders	6	114
Clay	3	117
Sand and gravel	6	123
Clay	18	141
Gravel	8	149
Clay	11	160
Gravel and boulders	6	166
(C-28-10)19bcd-2 - Continued		
Clay	9	175
Sand and gravel	8	183
Clay	2	185
Boulders	13	198
Clay	2	200
Gravel and boulders	10	210
(B-28-10)20ccc-3. Log by B and B Drilling Co. Alt. 4,983 ft.		
Surficial material	2	2
Clay	13	15
Sand and gravel	14	29
Clay	6	35
Sand and gravel	21	56
Clay	8	64
Sand and gravel	14	78
Clay	8	86
Sand and gravel	7	93
Clay	9	102
Sand and gravel	13	115
Clay	28	143
Sand and gravel	2	145
Clay	19	164
Sand and gravel	8	172
Clay	28	200
Sand, gravel, and boulders	33	233
Clay	3	236
Not reported	23	259
Clay	8	267
Sand, gravel, and boulders	7	274
Clay	24	298
Sand and gravel	47	345
Clay	5	349
Sand and boulders	41	390
(C-28-10)20ccd-2. Log by Irvin Barney. Alt. 4,983.0 ft.		
Surficial material	4	4
Clay, sandy	16	20
Sand	4	24
Gravel	18	42
Clay	20	62
Gravel	6	68
Clay	14	82
Gravel	14	96
Clay	4	100
Hardpan	4	104
Clay	24	128
Clay and sand	3	131
Clay	17	148
(C-28-10)20cdd-2. Log by Floyd Hastings. Alt. 4,987.3 ft.		
Clay	22	22
Clay, sandy	6	28
Gravel	4	32
Clay	8	40
Gravel	8	48
Clay	18	66
Gravel	6	72
Clay	16	88
Clay, sandy	5	93
Gravel	2	95
Clay	20	115
Gravel	1	116
Clay	4	120
(C-28-10)21baa-1. Log by B and B Drilling Co. Alt. 5,026 ft.		
Surficial material	3	3
Sand	15	18
Clay, sandy	63	81
Sand and gravel	8	89
Clay, sandy	15	104
Clay	19	123
Sand and gravel	5	128
Clay	8	136
Sand and gravel	15	151
Clay	13	164
Gravel and boulders	11	175
Sand and gravel	16	191
Clay	30	221
Boulders and clay	7	228
Clay, sandy	4	232
Sand	7	239
Sand and clay	1	240
Boulders, gravel, and sand	44	284
Clay, sandy	17	301
Boulders and gravel	22	323
Clay, sandy	7	330
Sand	6	336
Clay, sandy	15	351
Boulders and gravel	16	367
Clay	8	375
Gravel and sand	14	389
Clay	3	392
Boulders, gravel, and streaks of clay	100	492
Clay	4	496
Boulders, gravel, and streaks of clay; probably varying degrees of cementation from 520 to 949 ft; bottom of casing at 500 ft.	24	520
Clay	28	548
(C-28-10)21baa-1 - Continued		
Boulders and gravel	12	560
Clay	28	588
Boulders and gravel	66	654
Clay, sandy	19	673
Boulders, gravel, and sand	37	710
Clay, sandy	25	735
Gravel	9	744
Clay	31	775
Gravel and sand	20	795
Clay	10	805
Gravel and sand	12	817
Clay, blue	34	851
Sand, gravel, and streaks of clay	98	949
(C-28-10)21ccd-1. Log by P. C. Bradshaw. Alt. 5,010 ft.		
Clay	8	8
Clay, sandy	12	20
Clay, sandy, and gravel; water	4	24
Clay, sandy	75	99
Gravel	8	107
Clay	18	125
Gravel and clay	3	128
Clay	20	148
Gravel	9	157
Clay	159	316
(C-28-10)27bbb-1. Log by B and B Drilling Co. Alt. 5,085 ft.		
Clay, sandy	7	7
Sand and gravel	5	12
Clay	10	22
Clay and gravel	83	105
Sand, fine, and gravel	27	132
(C-28-10)28cdd-1. Log by B and B Drilling Co. Alt. 5,019 ft.		
Surficial material	8	8
Clay, yellow, sandy	16	24
Clay, yellow	40	64
Sand and gravel	15	79
Clay, yellow	24	103
Gravel and boulders	16	119
Clay, yellow, soft	22	141
Sand and gravel	12	153
Clay, yellow	41	194
Gravel and boulders	91	285
Clay	40	325
Sand, gravel, and boulders	15	340
Clay	20	360
(C-28-10)28dbd-1. Log by B and B Drilling Co. Alt. 5,038 ft.		
Surficial material	3	3
Clay, sand, and gravel	69	72
Clay and sand	108	180
Rock (probably hardpan)	1	181
Sand and gravel	19	200
Clay and sand	70	270
Clay, sand, and gravel	30	300
Clay and gravel	35	335
Clay and sand	40	375
Sand and gravel	25	400
Clay and sand	50	450
(C-28-10)29bcc-2. Log by B and B Drilling Co. Alt. 4,990 ft.		
Surficial material	6	6
Clay	11	17
Sand and gravel	2	19
Clay and streaks of gravel	17	36
Sand and gravel	4	40
Clay	19	59
Sand and gravel	15	74
Clay	14	88
Sand and gravel	20	108
Clay	6	114
Sand and gravel	28	142
Clay	12	154
Sand and gravel	11	165
Clay	30	195
Sand and gravel	7	202
Clay	14	216
Sand and boulders	16	232
Clay	2	234
Sand and gravel	19	253
(C-28-10)29bdd-1. Log reported by claimant. Alt. 4,991.7 ft.		
Surficial material	21	21
Gravel	9	30
Clay	4	34
Gravel	14	48
Clay	4	52
Gravel	10	62
(C-28-10)29cdc-2. Log 0-77 ft by B and B Drilling Co; 77-212 ft by H. L. Hall. Alt. 4,998 ft.		
Surficial material	18	18
Sand and gravel	10	28
Clay, sandy	2	30
Sand and gravel	16	46
Clay	11	57

Table 17.--Logs of selected wells and test holes - Continued

Material	Thickness	Depth
(C-28-10)29cdc-2 - Continued		
Sand and gravel	12	69
Clay and gravel	8	77
Clay, red	15	92
Gravel	4	96
Clay, white	6	102
Sand and clay	14	116
Gravel	10	126
Clay	4	130
Gravel, coarse	4	134
Sand	22	156
Clay, white	21	177
Sand	2	179
Clay	6	185
Sand	12	197
Clay	12	209
Sand	3	212
(C-28-10)30adc-1. Log reported by claimant. Alt. 4,990 ft.		
Clay	18	18
Gravel	4	22
Clay	17	39
Gravel	5	44
Clay	1	45
Gravel	20	65
Clay	28	93
Gravel	5	98
Clay	3	101
(C-28-10)30bdc-1. Log reported by claimant. Alt. 4,984.7 ft.		
Surficial material	13	13
Gravel	17	30
Clay	3	33
Sand	2	35
Gravel	13	48
(C-28-10)30bdc-3. Log by R. D. Nichols. Alt. 4,985 ft.		
Clay	14	14
Sand and gravel	32	46
Clay	34	80
Sand and gravel	10	90
Clay and silt	18	108
Sand and gravel	7	115
Clay	6	121
Sand and gravel	18	139
Clay and sand	22	161
Sand and gravel	7	168
Clay, sand, and gravel	8	176
Sand and gravel	5	181
Clay, silt, and sand	25	206
Sand and gravel	11	217
Clay	5	222
Sand and gravel	17	239
Clay and sand	7	246
Sand and gravel	4	250
Clay	4	254
Sand and gravel	18	272
Clay	18	290
(C-28-10)30bdd-1. Log reported by claimant. Alt. 4,986.4 ft.		
Surficial material	10	10
Gravel	16	26
Clay	9	35
Gravel	7	42
Clay	1	43
Gravel, pea-size	7	50
Clay	4	54
Gravel	4	58
(C-28-10)30bdd-2. Log by Floyd Hastings. Alt. 4,986 ft.		
Clay	12	12
Gravel; water from 11 ft.	15	27
Clay	7	34
Gravel	31	65
Clay	61	126
Gravel	3	129
Clay	19	148
(C-28-10)30cdc-1. Log reported by claimant. Alt. 4,994.1 ft.		
Surficial material	10	10
Gravel	14	24
Clay	8	32
Gravel	8	40
Clay	2	42
Gravel	12	54
(C-28-10)31ddc-2. Log by P. C. Bradshaw. Alt. 5,014 ft.		
Clay	20	20
Gravel; water	16	36
Clay	4	40
Gravel	8	48
Clay, white	11	59
Gravel	3	62
Sand	4	66
Clay	8	74
Gravel	13	87
Clay	5	92
Gravel, sandy	8	100
(C-28-10)31ddc-2 - Continued		
Clay, sandy	25	125
Gravel	13	138
Clay	10	148
Gravel	5	153
Clay, sandy	17	170
Gravel	7	177
Clay	18	195
(C-28-10)32ccd-1. Log reported by claimant. Alt. 5,014 ft.		
Surficial material	20	20
Gravel	3	23
Clay	2	25
Gravel	8	33
Clay	21	54
Gravel	6	60
(C-28-10)32ddd-1. Log by B and B Drilling Co. Alt. 5,020 ft.		
Surficial material	8	8
Clay, sandy	13	21
Gravel and sand	5	26
Sand	14	40
Clay	7	47
Boulders and clay	5	52
Clay	2	54
Gravel, sand, and boulders	15	69
Clay	14	83
Sand and gravel	4	87
Clay	4	91
Boulders and gravel	9	100
Clay	7	107
Clay and boulders	2	109
Boulders and gravel	3	112
Clay, sandy	14	126
Gravel, sandy	6	132
Clay	6	138
Gravel, sandy	10	148
Clay and gravel	4	152
Boulders and gravel	14	166
Clay, sandy	15	181
Boulders and gravel	23	204
Clay	7	211
Boulders and sand	8	219
Clay	5	224
Boulders and gravel	14	238
Clay	11	249
Boulders	12	261
Clay	13	274
Boulders and gravel	13	287
(C-28-10)33aba-4. Log by P. C. Bradshaw. Alt. 5,045 ft.		
Clay and sand	155	155
Clay	35	190
Clay and sand	10	200
Sand and fine gravel	20	220
Gravel	6	226
Clay and sand	21	247
Gravel	4	251
Clay and sand	36	287
Sand and gravel	6	293
Clay	3	296
Clay and sand	5	301
Sand and sandstone	6	307
Gravel	11	318
Sand	10	328
(C-28-11)10acd-1. Log by J. S. Lee. Alt. 5,108 ft.		
Sand and clay	16	16
Clay and gravel	26	42
Clay, brown, and gravel	43	85
Conglomerate	41	126
Clay and hardpan	56	182
Gravel; water	25	207
Clay	20	227
(C-28-11)12abb-1. Log by B and B Drilling Co. Alt. 5,062 ft.		
Surficial material	9	9
Sand and gravel	25	34
Boulders and clay	21	55
Clay	10	65
Not reported	30	95
Clay	14	109
Clay and gravel streaks	19	128
Sand	6	134
Boulders and gravel	22	156
Clay	35	191
Gravel	15	206
Clay, sandy	6	212
Gravel and boulders	12	224
Clay	18	242
Gravel	6	248
Clay	5	253
Gravel	7	260
Clay	18	278
Boulders and gravel	19	297
Clay	6	303
Gravel	8	311
Clay	11	322
Gravel	26	348
Clay	6	354
(C-28-11)12abb-1 - Continued		
Gravel and boulders	16	370
Clay and boulders	15	385
Gravel	6	391
Clay	11	402
Gravel	16	418
Clay and boulders	18	436
Clay and gravel	4	440
(C-28-11)22dab-2. Log by J. C. Weber. Alt. 5,004 ft.		
Soil and sand	36	36
Sand	10	46
Gravel and thin clay layers	26	72
(C-28-11)23abb-2. Log by P. C. Bradshaw. Alt. 4,988 ft.		
Clay and sand	20	20
Sand	15	35
Gravel (finer from 50 ft)	37	72
Clay and sand	13	85
Gravel	5	90
Sand and fine gravel	23	113
(C-28-11)23cbb-2. Log by Floyd Hastings. Alt. 4,990 ft.		
Clay, sandy	12	12
Clay, sticky	26	38
Gravel; water	33	71
Hardpan	13	84
Clay	6	90
Clay and gravel	5	95
(C-28-11)25abd-1. Log reported by claimant. Alt. 4,977.1 ft.		
Not reported	7	7
Clay	15	22
Gravel	9	31
Clay	4	35
Gravel	13	48
Clay	12	60
Gravel	4	64
Clay	13	77
(C-28-11)25dcd-1. Log by P. C. Bradshaw. Alt. 4,987 ft.		
Clay, sandy	18	18
Gravel	4	22
Clay, sandy	12	34
Gravel	6	40
Clay, sandy	8	48
Hardpan (composed of gravel)	7	55
Gravel	2	57
Clay, sandy	13	70
Gravel, clay, and hardpan	8	78
Clay	4	82
Gravel, sand, and clay	8	90
Gravel	12	102
Clay and gravel	22	124
Gravel	6	130
Clay	19	149
Sand and gravel	3	152
Clay	17	169
Sand and clay in streaks	35	204
Sand and some gravel	22	226
Clay, sticky	18	244
Sand	1	245
Sandstone, hard	9	254
Sand, fine	5	259
Clay	2	261
Sand, coarse	3	264
Clay	15	279
Sand and fine gravel	4	283
Clay	4	287
Sand, fine, gravel, and clay	29	316
Clay	7	323
Sand, fine gravel, and clay in streaks	10	333
Clay	3	336
Gravel, fine	3	339
Clay, sticky	24	363
Gravel, fine	6	369
Clay	4	373
Hardpan and sand	4	377
Clay	2	379
Hardpan and sand	10	389
Clay and a little gravel	3	392
Clay	4	396
Sand and gravel	6	402
Clay, gravelly	5	407
Gravel, fine	9	416
Clay	2	418
Sand	10	428
Clay	3	431
(C-28-11)25ddd-1. Log reported by claimant. Alt. 4,989.0 ft.		
Surficial material	12	12
Gravel	14	26
Clay	12	38
Gravel	16	54
Clay	16	70
Gravel	3	73

Table 17.--Logs of selected wells and test holes - Continued

Material	Thickness	Depth
(C-28-11)35ddd-2. Log by Floyd Hastings. Alt. 5,000 ft.		
Clay	22	22
Clay, sandy	6	28
Clay	12	40
Gravel	5	45
Clay	9	54
Gravel	5	59
Clay, sandy	12	71
Gravel	4	75
Clay	35	110
Gravel	10	120
Clay, sandy	20	140
Gravel	3	143
Clay	7	150
(C-28-11)36add-2. Log by Floyd Hastings. Alt. 4,997 ft.		
Clay	12	12
Gravel; water from 26 ft	18	30
Clay	5	35
Gravel	15	50
Clay	20	70
Gravel	2	72
Clay	26	98
Gravel	2	100
Sand and clay	12	112
Gravel	11	123
Clay	8	131
Gravel	1	132
Clay	16	148
Gravel	6	154
(C-28-11)36bba-2. Log reported by claimant. Alt. 4,982.7 ft.		
Surficial material	8	8
Gravel	14	22
Clay	1	23
Gravel	7	30
Clay	12	42
Gravel	10	52
Clay	8	60
Gravel	6	66
(C-28-11)36bba-3. Log by J. P. Renbow. Alt. 5,088 ft.		
Surficial material	7	7
Gravel; water	22	29
Clay	13	42
Gravel	6	48
Clay	23	71
Gravel	16	87
Clay	4	91
Gravel; water	5	96
Clay	8	104
Gravel; water	2	106
Clay	6	112
Gravel; water	4	116
Clay	10	126
Gravel; water	4	130
Clay	6	136
Gravel; water	12	148
Clay	2	150
(C-28-11)36cdd-1. Log reported by claimant. Alt. 5,002.9 ft.		
Surficial material	12	12
Gravel	20	32
Clay	1	33
Gravel	5	38
Clay	3	41
Gravel	6	47
Clay	1	48
Gravel	9	57
Clay	10	67
Gravel	7	74
Clay	4	78
Gravel	1	79
Clay	5	84
Gravel	4	88
Clay	2	90
(C-28-11)36dcc-2. Log by P. C. Bradshaw. Alt. 5,005 ft.		
Surficial material	3	3
Clay, sandy	7	10
Clay and gravel	22	32
Gravel; water	3	35
Clay	6	41
Clay and gravel	4	45
Clay	5	50
Gravel	12	62
Clay	3	65
Gravel, sandy	8	73
Gravel	4	77
Clay	7	84
Gravel	6	90
Clay	8	98
Gravel	2	100
Sand	7	107
Gravel	18	125
Clay and sand	13	138
Gravel	16	154
Clay	18	172

Material	Thickness	Depth
(C-28-11)36ddd-3. Log reported by claimant. Alt. 5,002 ft.		
Surficial material	10	10
Sand and gravel	80	90
Clay	5	95
Sand	3	98
Clay	15	113
Gravel	4	117
Clay	9	126
Sand and gravel	3	129
Clay	6	135
Sand and gravel	34	169
Clay	11	180
Gravel	16	196
Clay	8	204
(C-29-10)5add-1. Log by B and B Drilling Co. Alt. 5,032 ft.		
Surficial material	10	10
Clay	13	23
Boulders and sand beds containing clay streaks	32	55
Clay and boulders	14	69
Sand and gravel	9	78
Clay	7	85
Boulders and sand	9	94
Clay	49	143
Sand and boulders	22	165
Clay	7	172
Sand, gravel, and boulders	14	186
Clay	12	198
Sand and gravel	6	204
Clay	21	225
Clay, boulders, and sand streaks	25	250
Sand and gravel	14	264
Clay	11	275
Sand and gravel	12	287
Clay	4	291
Sand, boulders, and clay streaks	9	300
Sand, boulders, and clay	10	310
(C-29-10)5cdd-1. Log by B and B Drilling Co. Alt. 5,037 ft.		
Surficial material	3	3
Clay	10	13
Gravel	4	17
Clay	6	23
Gravel	64	87
Clay	7	94
Gravel and boulders	4	98
Clay	8	106
Gravel and boulders	4	110
Clay	9	119
Clay and sand	21	140
Clay	11	151
Boulders	2	153
Clay	4	157
Clay and gravel	20	177
Clay	11	188
Boulders	13	201
Clay	3	204
Boulders	8	212
Clay	24	236
Boulders	9	245
Clay	50	295
(C-29-10)6baa-1. Log reported by claimant. Alt. 5,012.1 ft.		
Surficial material	15	15
Gravel	17	32
Clay	12	44
Gravel	10	54
Clay	8	62
Gravel	5	67
Clay	20	87
Gravel	3	90
(C-29-10)6ddc-2. Log by Floyd Hastings. Alt. 5,032.7 ft.		
Clay	16	16
Gravel; water from 41 ft	40	56
Clay	4	60
Gravel	31	91
Clay, sandy	18	109
Clay	23	132
Clay and gravel	5	137
Gravel	17	154
(C-29-10)8ddd-2. Log by B and B Drilling Co. Alt. 5,067 ft.		
Surficial material	7	7
Clay	5	12
Clay and gravel	11	23
Clay, gravel, and boulders	27	50
Clay	12	62
Gravel and boulders	33	95
Clay	11	106
Gravel	8	114
Clay	12	126
Gravel	4	130
Clay	2	132
Sand and gravel	21	153
Clay	29	182
Gravel	7	189

Material	Thickness	Depth
(C-29-10)8ddd-2 - Continued		
Clay	15	204
Gravel and boulders	22	226
Clay	18	244
Sand and gravel	19	263
Clay	5	268
Gravel	8	276
Clay, sand, and gravel	25	301
Sand and gravel	26	327
Clay	7	334
Clay, sand, and gravel	76	410
(C-29-10)15bdc-1. Log by B and B Drilling Co. Alt. 5,212 ft.		
Clay, sandy, and cobbles	7	7
Clay, gravel, and cobbles	37	44
Compact formation	169	213
Sand, fine	11	224
(C-29-10)16cdd-2. Log by P. C. Bradshaw. Alt. 5,102 ft.		
Surficial material	6	6
Clay and gravel	64	70
Sand	4	74
Clay	18	92
Gravel; water	42	134
Clay	9	143
Gravel	9	152
Clay	5	157
(C-29-10)17add-1. Log by Raymond Young. Alt. 5,077.7 ft.		
Surficial material	6	6
Gravel, coarse	74	80
Clay, yellow, and sand	3	83
Gravel, coarse	15	98
Boulders	5	103
Sand	57	160
Clay	15	175
Clay, sandy	11	186
Sand	3	189
Clay, yellow	13	202
(C-29-10)17ddd-1. Log by Raymond Young. Alt. 5,090.3 ft.		
Surficial material	6	6
Gravel and boulders	84	90
Clay and boulders	33	123
Clay, yellow	6	129
Gravel and clay	11	140
Gravel	16	156
Clay, yellow	24	180
Gravel and clay	15	195
Clay, yellow	45	240
Clay, sandy	50	290
Clay, yellow	14	304
(C-29-10)18daa-1. Log by B and B Drilling Co. Alt. 5,065 ft.		
Surficial material	7	7
Gravel	48	55
Gravel and clay	7	62
Sand and gravel	6	68
Clay and gravel	3	71
Gravel and boulders	7	78
Clay and gravel	13	91
Gravel	6	97
Clay	7	104
Gravel and boulders	4	108
Boulders	22	130
Sand and gravel	4	134
Clay and boulders	26	160
Clay, sandy	4	164
Clay	6	170
Gravel	11	181
Clay	7	188
Gravel	18	206
Clay	8	214
Clay, sandy	8	222
Sand and gravel	7	229
Clay and boulders	6	235
Clay	30	265
Gravel and sand	28	293
Gravel and boulders	5	298
(C-29-10)18dcd-1. Log by B and B Drilling Co. Alt. 5,068 ft.		
Surficial material	78	78
Clay	3	81
Sand and gravel	9	90
Clay and gravel	15	105
Gravel	7	112
Clay and gravel	16	128
Gravel and boulders	10	138
Clay and gravel	7	145
Gravel and boulders	13	158
Clay	9	169
Gravel and boulders	12	181
Clay and gravel	14	195
Gravel and boulders	60	255
Sand and gravel	12	267
Clay and sand	12	279
Sand and gravel	14	293
Clay	12	305

Table 17.--Logs of selected wells and test holes - Continued

Material	Thickness	Depth
(C-29-10)18dcd-1 - Continued		
Sand and gravel	13	318
Clay	9	327
Sand and gravel	16	343
Clay	13	356
Sand and gravel	19	375
(C-29-10)19ddd-1. Log by B and B Drilling Co. Alt. 5,094.5 ft.		
Clay, sandy	1	1
Gravel and cobbles	19	20
Clay, gravel, and cobbles	5	25
Clay and gravel	95	120
Clay, sand, and gravel	13	133
(C-29-10)27bbd-1. Log by Harry Wilson. Alt. 5,169 ft.		
Clay	6	6
Clay and gravel	18	24
Gravel	41	65
Clay and gravel	57	122
Gravel; water	20	142
Clay and gravel	4	146
(C-29-10)33bbb-1. Log by B and B Drilling Co. Alt. 5,137.3 ft.		
Clay, sandy	3	3
Gravel and cobbles	12	15
Clay and gravel	135	150
Sand and gravel	10	160
(C-29-10)35ccd-1. Log by B and B Drilling Co. Alt. 5,250 ft.		
Clay, sandy, and cobbles	5	5
Clay and gravel	7	12
Clay, sandy, and gravel	32	44
Gravel	11	55
Clay and gravel	106	161
Sand and gravel	14	175
(C-29-11)1add-2. Log by B and B Drilling Co. Alt. 5,014 ft.		
Surficial material	6	6
Sand and gravel	7	13
Clay	5	18
Sand and gravel	4	22
Clay	4	26
Sand and gravel	9	35
Clay	9	44
Sand and gravel	9	53
Clay	13	66
Sand and gravel	21	87
Clay	7	94
Sand and gravel	5	99
Clay	19	118
Sand and gravel	16	134
Clay	4	138
Sand and gravel	18	156
Clay	16	172
Sand and gravel	9	181
Clay	5	186
Sand and gravel	11	197
Clay	3	200
(C-29-11)1bad-2. Log by P. C. Bradshaw. Alt. 5,004 ft.		
Clay, sandy	8	8
Clay, gravelly	4	12
Gravel	43	55
Clay, gravelly	3	58
Clay, gray	7	65
Gravel	9	74
Clay, sandy	6	80
Gravel	15	95
Clay, sandy	14	109
Gravel	15	124
Clay	16	140
(C-29-11)2add-1. Log reported by claimant. Alt. 5,003.4 ft.		
Surficial material	10	10
Gravel	4	14
Clay	5	19
Gravel	6	25
Clay	4	29
Gravel	12	41
Clay	4	45
Gravel	7	52
(C-29-11)11aad-1. Log reported by claimant. Alt. 5,011.6 ft.		
Surficial material	15	15
Gravel	3	18
Sand and gravel	4	22
Clay	5	27
Gravel	10	37
Clay	6	43
Sand and gravel	4	47
Clay	3	50
Sand	5	55
Clay	1	56
Gravel	12	68
Clay	2	70
(C-29-11)11cdd-2. Log by P. C. Bradshaw. Alt. 5,018 ft.		
Surficial material	4	4
Gravel	16	20
Clay	22	42
Gravel	4	46
Clay	10	56
Gravel	6	62
Sand	3	65
Gravel	4	69
Gravel and clay	9	78
Gravel	12	90
(C-29-11)11ddc-2. Log by Pinkerton Drilling Service. Alt. 5,018 ft.		
Surficial material	2	2
Silt and gravel	18	20
Clay, red	5	25
Gravel	5	30
Clay, red	3	33
Gravel; water	23	56
Clay	26	82
Gravel, pea-size	8	90
Clay	1	91
Sand, coarse, and pea-size gravel	21	112
Clay, red	36	148
Gravel, pea-size	3	151
Clay, brown	21	172
Gravel, pea-size	6	178
Clay, brown	2	180
Gravel, pea-size	3	183
Clay, gray	22	205
Gravel, pea-size	2	207
Clay, brown and gray streaks	77	284
Sand and pea gravel	15	299
Clay, pinkish	8	307
Silt and pea gravel	25	332
Quicksand	7	339
Silt, red	1	340
Sand, red, very fine	4	344
Clay, brown	5	349
Sand, red, very fine	2	351
Clay and sand streaks, light brown	19	370
Clay, brown	2	372
Sandstone, soft	2	374
Sand, very fine	13	387
Clay, yellow	7	394
Clay, green	6	400
(C-29-11)11ddd-1. Log reported by claimant. Alt. 5,018.4 ft.		
Surficial material	16	16
Gravel	34	50
Clay	6	56
Gravel	5	61
Clay	19	80
Gravel	3	83
(C-29-11)12aaa-1. Log by A. H. Sheehy. Alt. 5,021.7 ft.		
Clay	2	2
Sand and gravel	29	35
Clay	3	38
Gravel	16	54
Clay, sandy	8	62
Clay	2	64
Sand, fine	3	67
Clay	3	70
Sand and gravel	7	77
Clay	7	84
Sand	8	92
Clay	15	107
Gravel, fine	2	109
Clay	4	113
Gravel, fine	7	120
Clay	7	127
Gravel, pea-size	13	140
Clay	1	141
Gravel	6	147
Clay	53	200
Gravel	7	207
Clay	78	285
Sand and gravel	5	290
Clay	15	305
(C-29-11)12ddd-1. Log by P. C. Bradshaw. Alt. 5,035.4 ft.		
Soil	2	2
Hardpan	4	6
Gravel; dry	19	25
Gravel; water	5	30
Clay	11	41
Gravel	11	52
Clay	6	58
Gravel	14	72
Clay	12	84
Gravel	10	94
Clay	12	106
Gravel	2	108
Clay	8	116
Hardpan	6	122
Clay, sandy	8	130
Gravel	45	175
(C-29-11)12ddd-1 - Continued		
Clay	22	197
Gravel	6	203
Clay	7	210
Not reported	22	232
(C-29-11)13add-1. Log by Harry Wilson. Alt. 5,043 ft.		
Clay and gravel	40	40
Gravel, sandy; water	33	73
Clay	7	80
Gravel	14	94
Clay	2	96
Gravel, sandy	9	105
Clay	17	122
Clay, sandy	13	135
Gravel	9	144
Clay, sandy	6	150
Gravel	12	162
Clay, sandy	2	164
Gravel	16	180
Clay	47	227
Gravel	9	236
Clay	4	240
Gravel	4	244
Clay	7	251
Gravel	2	253
Clay, sandy	5	258
Gravel	8	266
Clay	12	278
(C-29-11)22add-2. Log by P. C. Bradshaw. Alt. 5,028.1 ft.		
Clay and sand	7	7
Gravel	26	33
Clay	17	50
Gravel	3	53
Clay and sand	17	70
Gravel	5	75
Clay	3	78
Gravel	2	80
Clay and gravel	10	90
Gravel	6	96
Clay	14	110
Gravel	6	116
Clay	17	133
Clay and gravel	2	135
Clay	12	147
Gravel	1	148
Clay	12	160
Gravel	14	174
Clay	17	191
Gravel	11	202
Clay	10	212
(C-29-11)27add-2. Log by F. N. Quinn. Alt. 5,043 ft.		
Surficial material	1	1
Sand	9	10
Sand, gravel, and clay	8	18
Gravel	5	23
Gravel and clay	5	28
Clay, sandy	6	34
Gravel	6	40
Gravel and clay	28	68
Gravel	10	78
Gravel and sand	5	83
Gravel	5	88
Clay	16	104
Gravel	7	111
Clay	7	118
(C-29-11)27bad-2. Log by J. P. Feighny. Alt. 5,031.5 ft.		
Clay, sandy	9	9
Gravel	17	26
Clay	21	47
Gravel	39	86
Clay	38	124
Gravel	12	136
Clay	14	150
Gravel	6	156
Clay	16	172
Gravel, fine, and clay	14	186
Gravel, coarse; water	14	200
(C-29-11)27dad-1. Log by Harry Wilson. Alt. 5,045 ft.		
Surficial material	2	2
Gravel	23	25
Clay	7	32
Gravel	12	44
Clay	13	57
Gravel	11	68
Clay	2	70
Sand	3	73
Gravel	6	79
Clay	4	83
Gravel	6	89
Clay and gravel	17	106
Gravel	8	114
Clay	13	127
Gravel	4	131

Table 17.--Logs of selected wells and test holes - Continued

Material	Thickness	Depth
(C-29-11)27dad-1 - Continued		
Clay	19	150
Gravel	2	152
Clay	20	172
Gravel	18	190
Clay	13	203
Gravel	4	207
Clay	3	210
Gravel	1	211
Clay	37	248
Gravel and clay	4	252
Clay	27	279
Gravel	1	280
Clay	20	300
(C-29-11)28add-2. Log by Wilson and Bradshaw. Alt. 5,028.3 ft.		
Clay	12	12
Gravel; water from 24 ft	16	28
Clay	11	39
Gravel; water	18	57
Clay	5	62
Sand	4	66
Gravel	5	71
Clay	22	93
Gravel	7	100
Clay and rock	26	126
Gravel	6	132
Clay	28	160
Clay and gravel	4	164
Clay	4	168
Gravel	10	178
Clay	8	186
Gravel	10	196
(C-29-13)31ccc-1. Log reported by U.S. Bureau of Land Management. Alt. 5,442 ft.		
Gravel, clay, and lava, mixed	390	390
Gravel, clay, and lava, layered	90	480
(C-30-10)10abb-1. Log by B and B Drilling Co. Alt. 5,202 ft.		
Surficial material	2	2
Gravel and boulders	62	64
Sand, clay, and gravel	13	77
Gravel and boulders	30	107
Gravel, clay, and boulders	37	144
Gravel and boulders	16	160
Boulders and clay	28	188
Boulders and gravel	11	199
Sandstone	42	241
Boulders and gravel	13	254
Sandstone	66	320
(C-30-10)12acb-1. Log by B and B Drilling Co. Alt. 5,268 ft.		
Surficial material	2	2
Gravel	7	9
Gravel, boulders, and clay	9	18
Clay and gravel	5	23
Sandstone	8	31
Gravel and boulders; water	2	33
Sandstone; some water	67	100
(C-30-10)12dad-1. Log by B and B Drilling Co. Alt. 5,315 ft.		
Surficial material, sandy	12	12
Sand and gravel	6	18
Rock	353	371
Rock, broken	12	383
Rock	135	518
Rock, broken	3	521
Rock	497	1,018
(C-30-10)19abd-1. Log by Mac Exploration Co. Alt. 5,140 ft.		
Silt and soil	4	4
Clay and gravel	2	6
Clay and sand	20	26
Clay, light-brown, and gravel	26	52
Clay, black, and hardpan	3	55
Clay and sand	59	114
Clay, soft	11	125
Clay and minor coarse gravel	21	146
Clay and lenses of gravel	27	173
Gravel and cobbles; water	2	175
Clay, sandy, gravelly	51	226
Clay and lenses of gravel	62	288
Sand and gravel cemented	14	302
Sand, coarse; caves; water	46	348
Clay, tight, and cobbles	12	360
(C-30-10)31cab-1. Log by C. A. Stephenson Drilling Co. Alt. 5,347 ft.		
Surficial material	2	2
Clay and lava boulders mixed, green and blue	108	110
Lava, green and blue, hard	20	130
Lava, brown, hard	35	165
Lava, green, hard	105	270
Hardpan and conglomerate, brown, hard; water at 335 ft	100	370
Lava, black; water	30	400
(C-30-11)12bbb-1. Log by B and B Drilling Co. Alt. 5,081 ft.		
Clay, sandy	4	4
Sand and gravel	11	15
Clay, sandy, and gravel	26	41
Gravel	9	50
Clay and gravel	25	75
Clay, sandy	31	106
Sand and gravel	6	112
(C-30-11)18aaa-1. Log by R. M. Cordova. Alt. 5,031 ft.		
Sand, very fine and fine, quartzose; some tan and gray igneous grains; clay abundant from 5 ft	10	10
Clay and quartzose silt, tan	45	55
Clay, reddish-tan, silty, hard, and light-gray clay	5	60
Clay, grayish-tan, silty, hard	60	120
Sand, light-brown, mostly medium and coarse, but some other sizes; mainly quartz but some white tuff and dark igneous grains; minor igneous gravel to 1/8 inch	10	130
Silt, quartzose, and tan clay; some dark- and light-gray igneous gravel to ¼ inch	15	145
Sand, light-brown, mostly medium and coarse, but some other sizes; mainly quartz but minor dark-red and gray igneous grains; much clay	40	185
Sand as above but more clay	5	190
Clay, light-gray and reddish-brown, silty, hard	25	215
Clay as above but with sand and dark-red and gray igneous gravel	5	220
Sand, coarse and very coarse, mainly comprising gray, red, and black igneous grains but some fine and medium quartzose sand; some igneous gravel to ¼ inch; gravel more numerous and up to ½ inch from 230 to 260 ft	40	260
Silt, light-reddish-brown, clayey; minor dark igneous grains to ¼ inch	10	270
Sand as from 220 to 260 ft but less gravel; clayey from 275 ft	10	280
Clay, light-reddish-brown, silty, hard; minor dark igneous gravel to ¼ inch	35	315
Sand as from 220 to 260 ft	5	320
Silt and very fine to fine tan quartzose sand but some black igneous grains; some hard clay	5	325
Clay, silty and clayey silt, tan; mixed with sand and small gravel from 335 ft	20	345
Sand as from 220 to 260 ft	5	350
Clay, tan, silty	5	355
Sand, medium to very coarse, mainly dark-red, light-gray, and white igneous grains but some very fine and fine quartzose; minor white clay abundant from 360 ft	10	365
Silt, clayey, quartzose	5	370
Sand as from 355 to 365 ft but amounts of clay and gravel variable	125	495
Sand as above but no clay	30	525
Gravel, dark-red and gray igneous to ¾ inch but mainly less than ½ inch; some quartzose sand and silt	10	535
Sand, coarse and very coarse; comprises dark-red and gray igneous grains, minor igneous gravel to ¼ inch, and some very fine and fine quartzose sand and silt	25	560
Sand, very fine to medium, quartzose, and quartzose silt; some coarse and very coarse quartzose sand and igneous gravel to ½ inch; clayey	30	590
Sand as above but much hard gray and red clays	10	600
Sand as above but abundant gray clay	20	620
Gravel, dark-red and gray, igneous to ½ inch, sandy	5	625
Sand, very fine and fine, and silt, quartzose; some coarse and very coarse igneous sand and pinkish-white clay. Slow drilling from 610 ft, probably indicates cementation of sediments below this depth	5	630
(C-30-11)22ddc-1. Log reported by Utah Emergency Relief Admin. Alt. 5,124.1 ft.		
Boulders and gravel	8	8
Clay and cemented gravel	30	38
Sand and gravel	6	44
(C-30-11)22ddc-1 - Continued		
Clay and cemented gravel	36	80
Sand	4	84
Clay, sand, and gravel	32	116
Sand and gravel	19	135
Sand and gravel; water	15	150
Clay and gravel; water	5	155
Sand and gravel; water	10	165
(C-30-12)6cca-1. Log reported by Utah Emergency Relief Admin. Alt. 5,280 ft.		
Sand, gravel, and soil	35	35
Granite, weathered	60	95
Quartzite, gray and brown	35	130
Granite, brown, and clay layers	40	170
Shale and granite, gray	40	210
Shale, sandy	95	305
Gravel; water	40	345
Shale, gray, sandy	45	390
Limestone	2	392
Clay	58	450
Clay and gravel	50	500
Clay	37	537
(C-30-12)9add-1. Log by J. G. Weber. Alt. 5,065 ft.		
Clay	33	33
Gravel	4	37
Clay	13	50
(C-30-12)11bad-1. Log reported in Lee (1908). Alt. 5,032 ft.		
Soil	5	5
Gravel, fine	5	10
Sand, red	3	13
Clay, white	25	38
Gravel, fine; water	3	41
Clay, white	54	95
Clay, red	45	140
Quicksand	27	167
Clay, red	13	180
Sand and clay	25	205
Clay, blue	20	225
Sand	10	235
Clay	9	244
Clay and gravel	31	275
Clay and sand	41	316
Clay and gravel	12	328
Sand	13	341
Clay and water-bearing gravel	60	401
(C-30-12)21bdc-1. Log by R. M. Cordova. Alt. 5,035 ft.		
Silt, tan; some fine sand; quartzose except for minor black igneous grains	15	15
Sand, tan, fine and medium; quartzose except for minor black igneous grains	20	35
Sand, tan, medium and coarse, minor very coarse; quartzose except for minor black igneous grains	5	40
Sand, coarse, some very coarse, gravelly; quartzose except for minor black igneous grains	5	45
Silt and tan clay; some small dark-gray and red (minor) igneous gravel to ½ inch	15	60
Sand, tan, medium, some coarse to very coarse, quartzose; minor gravel as above	10	70
Silt, tan, siliceous; some gravel as above to 80 ft but increasing in diameter to 1 inch from 80 to 100 ft	30	100
Clay, silt, and very fine sand, light-brown, quartzose; minor gray siliceous fragments	5	105
Clay and quartzose silt, light-brown; minor gray igneous gravel to ½ inch	10	115
Sand, tan, very fine, and silt; minor sand of larger sizes; quartzose except for minor igneous grains	5	120
Clay and silt, tan; minor siliceous rock fragments to ¼ inch	10	130
Clay, light-gray and light-red	5	135
Sand, light-brown, medium, coarse and very coarse; quartzose except for about 20 percent dark siliceous grains	5	140
Sand, tan, medium, gravelly; quartzose except for numerous clay, tuff, and siliceous fragments	10	150
Sand as above but with some very coarse sand and more small gravel	35	185
Silt, hard clay, and small gravel	5	190
Sand, tan, medium, some coarse and very coarse, gravelly; quartzose except for minor dark igneous grains	20	210

Table 17.--Logs of selected wells and test holes - Continued

Material	Thickness	Depth
(C-30-12)21bdc-1 - Continued		
Clay and silt; minor very coarse quartzose sand and dark-gray and dark red (minor) igneous sand and gravel to ¼ inch increasing in amount to about 20 percent from 215 ft	35	245
Sand, grayish-brown, coarse and very coarse; comprises about 50 percent quartz and 50 percent gray and dark-red igneous grains as above	15	260
Sand as above but clayey and silty.	30	290
Clay and silt, tan; some dark igneous very coarse sand	40	330
Silt, light-reddish-gray; some gray, light red, or tan very coarse sand and small igneous gravel; some hard gray clay.	30	360
Sand, pinkish-tan, very fine to very coarse; quartzose except for some igneous gravel to ½ inch.	20	380
Sand, very coarse, and gravel to ¼ inch, silty (quartzose); sand and gravel comprise gray and dark-red (minor) igneous materials.	120	500
Sand, very fine to medium, quartzose; much coarse sand and small gravel of igneous origin as above (colors are as above but also tan, white, and light gray)	10	510
(C-30-12)21bdc-1 - Continued		
Sand, coarse to very coarse, silty, very minor gravel; igneous constituents predominate as from 380 to 500 ft.	90	600
Sand, very coarse, and gravel to 1/8 inch; gray igneous grains predominate as in interval from 380 to 500 ft; matrix is very fine to fine quartzose sand; minor tan, white, and red gravel, mainly igneous in origin.	30	630
Gravel, gray, igneous as above, less than ¼ inch; minor silt, very fine and fine quartzose sand but increasing in amount from 690 ft	85	715
Sand, very fine to medium, quartzose; much coarse and very coarse igneous sand; minor small red, gray, and tan igneous and nonigneous siliceous gravel	10	725
Sand, coarse and very coarse, igneous mainly (dark-gray grains mainly, some reddish gray); minor coarse and very coarse nonigneous siliceous tan grains; some very fine and fine quartzose sand and silt	40	765
(C-30-12)21bdc-1 - Continued		
Sand as above but very fine and fine quartzose sand increases with depth to about 50 percent of total. Slow drilling from 840 ft probably indicates cementation of sediments from this depth.	92	857
(C-30-13)2ccc-1. Log by Frank Quinn. Alt. 5,310 ft.		
Surficial material, sandy	4	4
Clay, sandy, and rock	132	136
Rock, red	19	155
Rock, red, broken	54	209
Rock, brown, and clay	27	236
Clay and rock	17	253
Clay, sandy	17	270
Clay, sandy, gray	5	275
Limestone, sandy; water-bearing zone at 280 ft	48	323
(C-30-13)8caa-1. Log by P. C. Bradshaw. Alt. 5,277.0 ft.		
Clay.	5	5
Clay, gravelly.	231	236
Gravel; water	27	263
(C-30-13)25abb-1. Log by Pinkerton Drilling Service. Alt. 5,071.8 ft.		
Not reported.	48	48
Sand, gravel, and an unidentified material	26	74

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