Ground Water in the Jordan Valley Utah

By G. H. TAYLOR *and* R. M. LEGGETTE

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ABSTRACT

The Jordan Valley is a small part of a larger area that during the glacial epoch was covered by an ancient lake known as Lake Bonneville. The Jordan River, the natural drainage path from Utah Lake, flows northward through the center of the valley and empties into Great Salt Lake. The Jordan Valley is a rock-bottomed valley in which a great thickness of clay, silt, sand, and gravel has been laid down irregularly. The thickness of this material is not definitely known, but wells in the valley have penetrated as much as 2,000 feet without encountering bedrock. These sediments are chiefly stream and lake deposits. The material at the surface of the valley was deposited in an ancient lake which at its highest stage stood about 1,000 feet above the level of Great Salt Lake. The shore deposits laid down in this lake occur in the form of terraces or benches around the margin of this basin. The two most prominent benches are known as the Bonneville and Provo benches. The Bonneville bench was formed during the highest stage of the lake, and the Provo bench during a later stage about 400 feet lower.

Ground water occurs in the valley as (1) shallow ground water overlying the confining layer creating the artesian basin, (2) local perched water bodies, and (3) an artesian basin or reservoir including the recharge area. It occurs chiefly in the pore spaces of the sand and gravel of the stream and lake deposits. The most permeable water-bearing material occurs near the foot of the Wasatch Mountains in the area occupied by the Provo and Bonneville benches. At some distance from the mountains beds of finer material—dense silt and clay—alternate with more permeable beds of sand and gravel, giving rise to artesian conditions. On the Provo and Bonneville benches the water levels lie at considerable distances below the surface; but in the lower areas along the Jordan River and west of Salt Lake City as far as the lake, artesian conditions exist and many flowing wells have been drilled.

The principal sources of ground water in the Jordan Valley are the water that seeps into the ground from the streams entering the valley, the water that penetrates directly from the rain and snow that fall upon the bench lands on the east side of the valley, and the water that percolates downward from irrigation canals and from irrigated lands, chiefly derived from Utah Lake. In addition some deep-seated thermal water rises along the Wasatch fault.

Field determinations of the chloride content of the ground water show that nearly all the waters from the main part of the area of artesian flow, extending from Salt Lake City to Murray have a chloride content of less than 100 parts per million, and most of them have less than 50 parts per million. The distribution of waters of different chloride content indicates that the water of the main

part of the area of artesian flow is derived chiefly from supplies that contain only small amounts of chloride—namely, seepage from the streams that head in the Wasatch Mountains and rain and snow that fall upon the Provo and Bonneville

benches and penetrate downward through the permeable materials that underlie these benches.

The streams entering the Jordan Valley lose water over portions of their channels below the mouths of their canyons where they cross the Provo and Bonneville benches. However, the length of channel from which loss occurs is relatively short, as was shown by tests of seepage loss made on some of the streams. The principal area on which direct penetration of rain and snow water takes place is that occupied by the Provo and Bonneville benches. These benches are in most places sandy and permeable and hence are favorable for rapid penetration of the precipitation upon them. The nearly complete absence of drainage channels on the benches is indicative of rapid penetration of the precipitation with no great amount of run-off. The greatest stream losses from Mill Creek and Cottonwood Creek occur in the sections where these streams cross or cut through the Provo and Bonneville benches. On the mountainsides above the benches, between the canyons of the principal streams, are facet-shaped areas which drain onto the benches and not into the principal streams. The small drainage systems on these facets are well developed, indicating considerable run-off. The small streams that discharge onto the benches have built small alluvial cones which, together with the material making up the benches, are favorable for absorbing and transmitting the storm waters that are occasionally poured upon them.

A considerable amount of water is contributed to the ground-water reservoir by seepage from irrigation canals and ditches and from the water applied to the soil in irrigation. Recharge from this source is apparent from the facts that the water levels in numerous wells rise when the canals are filled in the spring and drop when the flow through the canals ceases in the fall, and that a considerable net rise has occurred in many wells which were dug or drilled before much water was carried by canals from Utah Lake. The area in which this effect has been most notable is in the southern part of the valley, where some canals run at higher levels than most of the existing wells. It is doubtful, however, whether much of the ground water derived from irrigation supplies reaches the part of the ground-water reservoir that is drawn upon by the artesian wells in the most heavily developed area in the east-central part of the valley.

Discharge of ground water occurs in the Jordan Valley through the flow of springs, evaporation from the soil and transpiration from plants in the shallow-water areas, and withdrawals from flowing and nonflowing wells. A large part of the discharge occurs through the several thousand flowing wells that have been drilled in the valley, many of which are allowed to flow continuously.

There are numerous springs in the Jordan Valley. East of the Jordan River the upper limit of the area of springs is below the edge of the Provo bench and may be indicative of an overflow from the ground-water reservoir. Much of the water discharged by the springs at altitudes lower than those of the main irrigation canals may be supplied by seepage from the canals and irrigated lands. Considerable areas of land adjacent to the Jordan River are wet and swampy because of spring discharge. Several springs emerge directly from the beds of the streams entering the valley from the east, and it is possible that springs occur in the bed of the Jordan River. There is also some evidence that there are springs in the bed of Great Salt Lake. The water emerging along the upper line of springs, which lie below the Provo bench, may represent overflow from the main ground-water reservoir, or it may be the drainage from a water table perched

above the main ground-water reservoir. However, the manner in which the sediments of the valley were laid down makes it probable that the water from the upper line of springs represents overflow from the main ground-water reservoir.

A considerable amount of ground water is discharged by evaporation directly from the soil in the areas where the water table is within a few feet of the surface, and also by transpiration from the vegetation on the lower lands, especially by the grasses along the Jordan River and the trees along its tributaries.

Most of the artificial discharge of ground water in the Jordan Valley takes place through flowing wells. In an area of about 7 square miles in the northeast corner of T. 2 S., R. 1 W., and the northwest corner of T. 2 S., R. 1 E., there are more than 1,000 flowing wells. The total minimum ground water discharge from the artesian basin was estimated to be about 300 cubic feet per second.

The pressure head of the ground water is greatest on the sides of the valley, adjacent to the Wasatch and Oquirrh Mountains, and declines from both sides toward the Jordan River. There is also a general decline in head toward the north and northwest, in the direction of Great Salt Lake, which indicates a general movement of the ground water in that direction. Most of the wells in the northwestern part of the valley yield waters containing from 1,000 to 15,000 parts per million of chloride, but a tongue-shaped area of water low in chloride extends northwestward, and this is believed to indicate movement of the fresh ground water toward Great Salt Lake, with possibly some discharge into the lake.

A large number of measurements of the ground-water levels were made and a number of recording gages were maintained on various wells during the investigation, and these data are tabulated in this report. Water level fluctuations were observed, which were due to a variety of causes, including atmospheric pressure, earthquakes, transpiration, pumping, and discharge from flowing wells.

The ground-water levels are in nearly a continuous state of movement and the annual fluctuation was quite marked in some districts. The Jordan Valley was divided into six districts, in each of which the general trend and fluctuation of the ground-water level was similar, but different from each of the remaining five districts. The annual range of water-level fluctuations was greatest near the mountains, or the recharge area, and generally decreased in magnitude toward the northwest, or toward Great Salt Lake; the water levels in the wells in the flats northwest of Salt Lake City remain nearly the same throughout each year. The general trend of the water levels in the valley was downward from 1931 to 1934, when the lowest recorded levels occurred, and after the drought of 1934 the general trend was upward until the end of this investigation.

Interference tests show that the ground water underlying the valley is essentially in one basin, sometimes partially separated by lenses and interlocking fingers of less permeable water-bearing material. Operating wells of certain depths interfered with the water level in other nearby wells of about the same depth, and in many places with the water level in wells of greater or lesser depth. Interference caused by operating wells in groups or singly, was traced over areas of 2 to 3 square miles and to a distance of over 1¼ miles from the operated wells.

A very large percentage of the wells in the valley, estimated to be about 5,500 in number, were drilled by the jetting method, which is not inducive to obtaining the maximum amount of water from an individual well nor to the permanency of the well, especially wells developed in fine sand. The majority of the wells are 2 inches in diameter, most of the remainder being 6 inches or less in diameter. The adoption of more up-to-date well drilling methods is desirable.

The average depth of 1,138 wells tabulated was 222 feet, the range in depth being from 40 to 1,486 feet. The average maximum discharge from 776 flowing wells was 19.4 gallons a minute.

The temperature of the ground water tested ranged from 45° to 90° F.; the majority of the wells tested yielded water ranging from 50° to 60° F., and most of the water recovered in the highly developed artesian area ranged from 50° to 55° F.

During the drought of 1934, Salt Lake City Corporation averted a major water famine by the rapid drilling of 17 wells of large diameter (12 to 20 inches) in the benchlands east of the Jordan River. Fourteen of these were producing wells, yielding 46 cubic feet per second at a total cost of about $250,000. One of the wells yielded about 10 cubic feet per second with about 40 feet of drawdown. These wells are now used only when the city's surface-water supply is inadequate, and most of them may be used only infrequently.

INTRODUCTION

In July 1931 the Federal Geological Survey in cooperation with Salt Lake City began an investigation of the ground-water resources of the Jordan Valley, Utah. The need for detailed and accurate information pertaining to the ground-water conditions in the valley had been recognized for some time and became very apparent early that year, when, because of subnormal precipitation during the preceding winter, it became necessary for the city to purchase about 140 privately owned artesian wells to supplement the municipal surface-water supply.

The investigation, consisting of detailed geologic and hydrologic studies of the water-bearing materials in the valley, covered a period of about 4 years. In July 1932, at the end of the first year's work, a preliminary report was issued. This report briefly outlined the ground-water conditions and gave recommendations for the most favorable areas in which to put down test wells.[1] The present report gives the results of the initial investigation, together with the basic data obtained during the course of the work.

The investigation was in charge of R. M. Leggette, but the report was prepared chiefly by G. H. Taylor, as Mr. Leggette was assigned to other duties after the completion of the field work and for considerable periods while the field study was going on. The work was done under the general direction of O. E. Meinzer, geologist in charge of the Ground Water Division, Geological Survey. D. G. Thompson, also of the Geological Survey, spent about 2 weeks in the field at the start of the investigation. R. R. Woolley and A. B. Purton, of the Salt Lake City office of the Geological Survey, offered many helpful suggestions. Salt Lake City, chiefly through the offices of the city engineer and commissioner of water supply, aided in many ways during the course of the work. Acknowledgments are due the many private well owners in the valley for their cooperation in allowing free use of their wells for making measurements of water level, artesian pressure, and yield.

[1] Leggette, R. M., and Taylor, G. H., Ground-water supplies in the vicinity of Salt Lake City, Utah: U. S. Dept. Interior Press Mem. 64395, July 23, 1932.

The Jordan Valley lies in the north-central part of Utah and is bordered on the east by the Wasatch Mountains, on the south by the Traverse Mountains, on the west by the Oquirrh Mountains, and on the north by Great Salt Lake. Salt Lake City lies in the northeastern part of the valley. The area investigated covers about 400 square miles and has a maximum length of about 31 miles in a north-south direction and 23 miles in an east-west direction. This area constitutes a geologic and physiographic unit and is essentially also a hydrologic unit. The ground-water body of the valley extends toward the west and north under Great Salt Lake and merges with the ground-water underlying Tooele Valley and Davis County. (See pl. 1.)

The well numbers used throughout this report indicate the location by land subdivision according to a well-numbering system cooperatively devised by G. H. Taylor and the Utah State Engineer.[2] The complete well number comprises a group in parentheses designating the township (consisting of a letter designating the quadrant in relation to the base point of the standard base and meridian system, the number of the township, and the number of the range); the number of the section; a letter designating the quarter section; another letter designating the quarter of the quarter section; another letter designating the quarter of the quarter of the quarter section; and, finally, a number designating the particular well within the 10-acre tract. By this system the letters A, B, C, and D designate, respectively, the northeast, northwest, southwest, and southeast quadrants of the standard base and meridian system of the General Land Office, and the letters a, b, c, and d designate, respectively, the northeast, northwest, southwest, and southeast quarters of the section, quarter section, and the quarter-quarter section. Thus, the number (B–2–2)12dcd2 designates well 2 in the SE¼ SW¼ SE¼ sec. 12, T. 2 N., R. 2 W., the letter B showing that the township is north of the Salt Lake base line and the range west of the Salt Lake meridian; and the number (D–3–2) 34bca1 designates well 1 in the NE¼SW¼NW¼ sec. 34, T. 3 S.,R. 2 E. (See fig. 1.)

CLIMATE

The climate of the Jordan Valley is controlled by its location in the eastern part of the Great Basin and is modified by its proximity to Great Salt Lake and the Wasatch Mountains. The relative humidity in the Jordan Valley is low, the average annual humidity being about 52. Over a 31-year record ending in 1920 the maximum relative humidity was about 75 and the minimum about 26. However, the climate is not as arid as in most other parts of the Great

[2] Humpherys, T. H., 20th biennial report of the State Engineer to the Governor of Utah, for the biennium July 1, 1934, to June 30, 1936, p. 87.

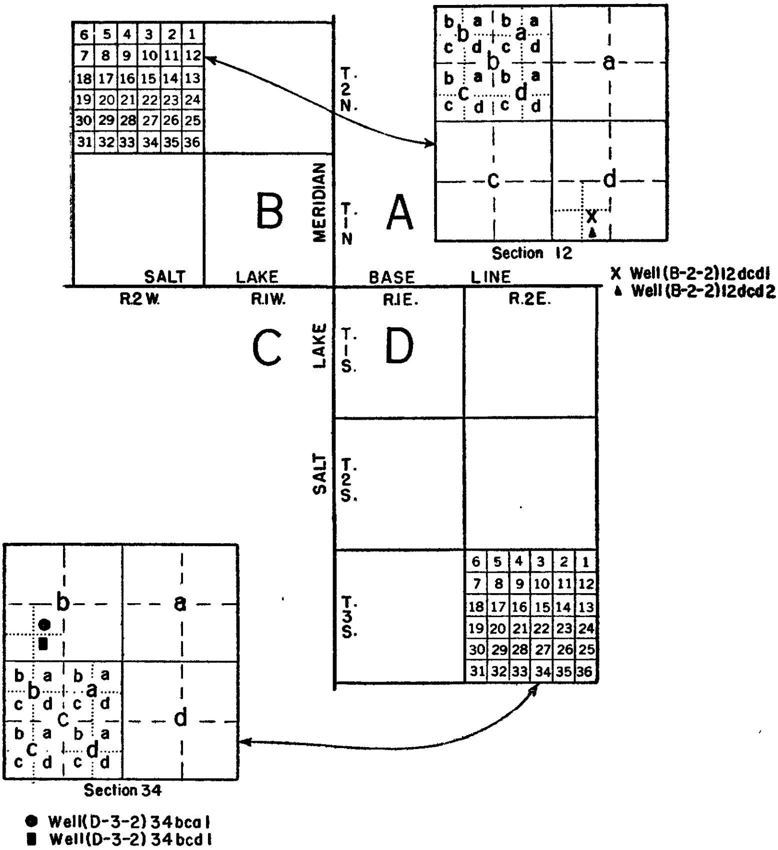

FIGURE 1.—System of well numbering adopted in Utah.

Basin. The wind velocities of the Jordan Valley are moderate. The daily temperature varies considerably, and the average daily temperature generally varies most from June to October and least from December to February. The highest temperature recorded in the valley was 108° F. at Midvale in 1931, and the lowest was —30° F. at the Salt Lake airport in February 1933. The average growing season over a period of 59 years was 185 days at Salt Lake City.

The following tables show the monthly and annual mean temperatures at five stations and the highest and lowest recorded temperatures at six stations in or near the Jordan Valley, Utah.

No complete yearly or long-term records of evaporation are available in the Jordan Valley. According to the records of the United States Weather Bureau, a class A standard Weather Bureau station maintained at Utah Lake (Lehi) during the period 1923 to 1933, *Monthly and Annual Mean Temperatures at Five Stations in or Near the Jordan Valley, Utah*

[From records of U. S. Weather Bureau]

Station	Jan.	Feb.	Mar.	Apr.	May	June	July
Lower Mill Creek	29.1	34.2	40.7	48.5	57.4	66.8	75.6
Midvale	27.5	34.2	41.0	49.1	58.4	67.0	74.8
Park City	22.5	25.6	30.2	39.2	49.4	58.5	64.8
Salt Lake City	29.2	33.8	41.7	49.6	57.4	67.4	75.7
Saltair	28.3	33.4	----------	49.6	58.4	68.2	75.9

Station	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Lower Mill Creek	73.0	64.2	52.7	39.9	30.1	51.0
Midvale	72.8	62.7	51.0	39.6	29.1	50.6
Park City	62.6	55.0	44.2	33.1	24.4	42.5
Salt Lake City	74.5	64.4	52.5	41.1	31.9	51.6
Saltair	73.7	63.5	51.1	39.7	30.4	----------

Highest and lowest recorded temperatures at six stations in or near the Jordan Valley, Utah

[From records of U. S. Weather Bureau]

Station	Altitude above sea level (feet)	Temperature			
		Highest (° F.)	Length of record (years)	Lowest (° F.)	Length of record (years)
Lower Mill Creek	4,959	103	16	−11	20
Midvale	4,365	108	20	−22	20
Park City	7,100	101	28	−30	30
Salt Lake airport	4,227	106	6	−30	6
Salt Lake City	4,408	105	60	−20	60
Saltair	4,220	101	27	−22	30

showed an average seasonal evaporation from a free water surface of 55.5 inches from April to October, inclusive. During the months April to October 1932, a similar station at Utah Lake recorded 55.73 inches, and a station at the Salt Lake City airport recorded 64.99 inches of evaporation from a free water surface.

The average annual precipitation recorded at Salt Lake City from 1875 to 1933 was 16.10 inches. Irrigation is necessary to produce satisfactory crops in most of the valley, although dry farming is more or less satisfactory in some parts of the valley where irrigation water is not available. Small grain is the main crop produced by dry farming. Figure 2 shows the annual precipitation, in inches, as recorded by the U. S. Weather Bureau at Salt Lake City for the period 1875 to 1933, inclusive, also the accumulated departure from the normal precipitation. It is interesting to note from this graph the negative value, minus 10 inches, in 1905. The year 1905 marked the end of a long period, extending back to 1878, over which the general trend of the cumulative departure from normal precipitation was down. The general trend between 1905 and 1927 was up, but it was broken by a slight downward trend between 1909 and 1919. The precipitation during the years 1928 to 1933 was below normal and resulted in a cumulative deficiency of 16.91 inches below normal during the 6 years. The following table gives the monthly and annual mean precipitation at Salt Lake City for the years 1875 to 1933, inclusive.

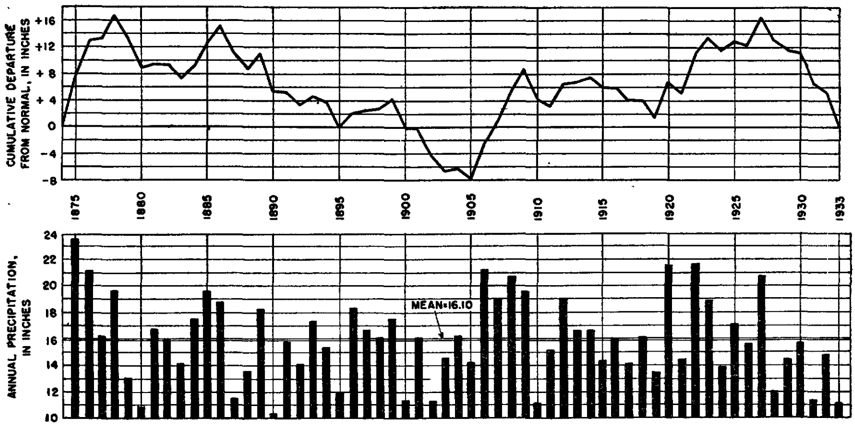

FIGURE 2.—Annual precipitation at Salt Lake City, Utah, and cumulative departure from normal, 1875–1933.

Monthly and Annual Mean Precipitation at Salt Lake City, Utah, 1875–1933

[From records of U. S. Weather Bureau]

Month	Average (inches)	Average (percentage)	Month	Average (inches)	Average (percentage)
January	1.33	8.26	August	0.86	5.34
February	1.43	8.89	September	.96	5.96
March	2.00	12.41	October	1.46	9.06
April	2.02	12.55	November	1.39	8.64
May	1.95	12.11	December	1.37	8.51
June	.78	4.85			
July	.55	3.42	Annual	16.10	100.00

PHYSIOGRAPHY AND GEOLOGY

The Jordan River Valley has a relief of more than 1,000 feet, Great Salt Lake lying about 4,200 feet above sea level, and the foot of the mountains about 5,200 feet above sea level. The land surface that extends from the foot of the Wasatch and Oquirrh Mountains toward the Jordan River consists of a series of benches, each of which slopes gradually away from the mountains and is terminated by a somewhat abrupt drop to the next bench in the series. Hence an east-west profile across the valley would show a series of steps leading from the mountains on each side down to the Jordan River and the flat valley floor, which is only a few feet above the present level of Great Salt Lake. For a number of miles southeast from the shore of Great

Salt Lake, the land surface is a monotonous flat covered with alkali soil that carries essentially no vegetation.

The Jordan River, which has its source in Utah Lake, flows northward through a gorge in the Traverse Mountains known as the Jordan Narrows and thence through the Jordan Valley to Great Salt Lake. Seven mountain streams that carry considerable water enter the Jordan Valley from the east. The largest of these, Big Cottonwood Creek, has a drainage area of 48½ square miles and a yearly run-off that since 1900 has ranged from 19,200 acre-feet (in 1934) to 98,500 acre-feet (in 1909). Only two streams of any consequence enter the Jordan Valley from the west. All these streams are tributary to the Jordan River.

The Jordan Valley is but a small part of a larger area that during the glacial epoch was covered by an ancient lake known as Lake Bonneville. This lake covered an area of about 20,000 square miles in northwestern Utah and had a maximum length in a north-south direction of about 350 miles and a width in an east-west direction of about 145 miles. The geology of this area was described many years ago in a classic report by Gilbert.[3] A brief history of the events that have taken place and the processes that have operated in the Jordan Valley in the geologic past is given here so that a clearer picture of the geologic setting may be obtained.

The Bonneville Basin was brought into existence in late Tertiary time by processes of earth deformation such as folding and faulting, which tended to reduce the relief of the region by cutting down the higher areas and filling in the lower ones.

The Jordan Valley is a rock-bottomed valley in which a great thickness of unconsolidated clay, silt, sand, and gravel was laid down irregularly, chiefly as stream, lake, or delta deposits. The thickness of this material is not definitely known, but wells in the valley have penetrated as much as 2,000 feet without reaching bedrock. The rate of deposition of detritus in the valley has varied, depending mainly on changes in climatic conditions.

Long after the Jordan Valley Basin had come into existence the climate became much more humid than it is at present, and lakes were formed in the lowest parts of the basin. These lakes continued to rise and coalesced to form one large lake that rose within about 90 feet of an overflow point at Red Rock Pass, at the north end of Cache Valley in southern Idaho. As the climate subsequently became more arid, the level of the lake declined until its area was probably less than that of the present Great Salt Lake.

With the return of a more humid climate, the lake again began to rise, and this time the net rise continued until the water overflowed

[3] Gilbert, G. K., Lake Bonneville: U. S. Geol. Survey Mon. 1, 438 pp., 1890.

at Red Rock Pass. At this level, known as the Bonneville stage, the lake surface stood at an altitude of about 5,200 feet above sea level, or about 1,000 feet above the present level of Great Salt Lake. The material at Red Rock Pass consisted of about 400 feet of soft unconsolidated alluvium, which was rapidly cut down by the outflowing water. When the limestone bedrock that lay beneath the alluvium, was reached, the rapid downcutting of the pass ceased. Although the life of Lake Bonneville at its highest stage was relatively short, it was long enough to allow the waves and shore currents to produce characteristic shore features, which are today recognizable around the whole margin of the basin. This high-level shore line is very conspicuous because of the abrupt change at this level from the rugged, mature mountain topography to the smooth, horizontal shore features that characterize the successive strand lines of the declining lake.

After the cutting down of the alluvial pass at the north end of Cache Valley, the lake stood at an altitude of about 4,800 feet, and at this level it overflowed but did not appreciably lower its outlet. This is known as the Provo stage. The lake remained at this stage for a much longer time than it did at the higher Bonneville stage. The shore features resulting from wave and current activity at the Provo level are much larger than are those of the higher stage, but they are less conspicuous because the contrast in topography above and below the Provo shore line is far less striking than the contrast between the topography above and below the Bonneville shore line.

The lowering of the lake level from the Provo stage to the present level of Great Salt Lake took place entirely by desiccation. At times the lake would fluctuate slightly, depending on whether or not there was an excess of inflow over evaporation. The net result, however, was a gradual lowering of the level of the lake to approximately the present stage of Great Salt Lake.

Very little is known of the history of the Bonneville Basin from the time of its origin up to the time of the first major rise of Lake Bonneville, although this early period in the history of the basin was many times longer than the period during which the basin was occupied by the several stages of Lake Bonneville. There is evidence that during this earlier period other lakes, possibly as extensive as Lake Bonneville, occupied the basin and contributed large quantities of lake sediments to the filling of the Bonneville Basin. In pre-Bonneville time there may have been periods when the climate was more arid than at present, possibly so arid that no lake existed in the basin. During these arid periods the streams flowing into the basin deposited large quantities of material and built large alluvial fans. Wash-outs producing slides similar to those that have taken place in recent times near Farmington, Utah, probably occurred intermittently. Although the quantity of material in any one landslide may seem trivial, the number of landslides occurring over a long period of time would conceivably be great.

During the more humid times the amount of detritus entering the basin was doubtless considerably greater than during the more arid times. Where the streams entered the lake their velocities were immediately checked, and the coarser sediments in the streams were dropped near the shore of the lake while the finer materials in suspension were carried out farther from shore and deposited in quieter and deeper waters. This gave rise to deltas at the mouths of the mountain streams entering the lake. Deltas formed by the larger streams are prominent features of the physiography in many parts of the Bonneville Basin. In the Jordan Valley, however, the tributary streams have relatively small drainage basins, and the deltas formed by them are likewise small and inconspicuous but nevertheless recognizable, with their characteristic topset, foreset, and bottomset beds. (See pl. 3.)

For the most part the sediments brought into Jordan Valley by the canyon streams did not remain undisturbed at the mouths of those canyons but were reworked and redistributed by the action of waves and shore currents. The products of this activity—the wave-cut and wave-built terraces or "benches," and the bars, spits, and other products of current action—constitute the most conspicuous features in the present topography of the valley. The benches form a considerable part of the areal extent of the valley, as they occupy two nearly continuous belts 1 to 4 miles wide on the east and west sides of the valley and separate the broad valley floor from the bedrock of the mountain ranges. The position of the foot of the Bonneville bench and of the Provo bench, the two broadest and most prominent benches in the valley, is shown in plate 2. The altitude of these features as mapped is somewhat lower in the north end of the valley than toward the south end but is consistent with the gentle northward slope of the valley floor.

The benches now occupy the area which, during the existence of Lake Bonneville, was preeminently the scene of coarse detrital deposition. As they once constituted benches of the old lake, some of them are bounded along their upper edges by wave-cut cliffs and resemble in many respects the rather narrow beaches along many of the more rugged stretches of the present Pacific coast line. The material underlying the benches is a typical beach gravel, made up of well-rounded pebbles and cobbles as much as 12 inches in diameter. The prevailing coarseness of these deposits is shown in several cuts into the Provo and Bonneville benches in Salt Lake City and its environs and near the mouths of the larger canyons. The absence of finer

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lake sediments on the Provo bench in particular was noted by Gilbert and constituted one of the items in his proof that the Provo stage was subsequent to the Bonneville stage of the lake.

In many of the exposures the beds of gravel are practically free of clay or silt and are highly permeable. No doubt because of this high permeability, the precipitation upon the benches and the lower parts of the ranges does not run down the steep slopes in any appreciable quantity but seeps into the ground.

The sediments underlying the benches are likewise predominantly coarse, insofar as they are known from records of wells drilled. Thus, in well (D-1-1)4cac1, drilled 385 feet deep at a point about 350 feet above the toe of the Provo bench, the driller logged gravel at all horizons except a 2-foot zone near the bottom. Similarly, in well (D-1-1)10cac1, drilled on the Provo bench, only 8 of 240 feet were logged as free from gravel. In these and other wells drilled in and near the Provo bench, the clay logged at numerous horizons may indicate that the coarse deposits at some depth are not as well sorted as some surface exposures or that there is a somewhat higher proportion of interstratified fine sediments.

Where the benches have been cut by the present stream channels one might expect to find the sediments underlying the stream channel to be of a coarse texture comparable to that under the adjacent uneroded benches, inasmuch as the deposits are presumed to have been primarily the work of currents operating along the shore. This expectation is substantiated by the logs of wells (D-1-1)23ccc and (D-1-1)34bab1, located respectively in the channels of Parleys Creek and Mill Creek, both of which show a large proportion of sand, gravel, and boulders. Streams crossing this zone of highly permeable gravels lose a considerable amount of water by seepage, and thus the belt of gravels that makes up the Bonneville, Provo, and intermediate benches constitutes the prime recharge area for the underground reservoir.

Under the valley floor the sediments are chiefly clay and silt, as shown by well logs. Thus, in well (B-1-3)34bd, 884 feet deep, the driller reported only 10 feet of "gravel and sand" and a predominance of "clay." In wells (C-1-1)1bcd1 and (C-2-1)34bcd1, respectively 1,142 and 1,397 feet deep, the drillers' logs show "gravel" or "sand and gravel" to have an aggregate thickness of about 10 percent of the total depth.

Although it is generally true that the coarser sediments were deposited near the margin and the finer sediments in the interior of the basin, there are numerous examples of moderately thick deposits of silt or clay near the foot of the mountains, and considerable quantities of coarse sand and fine gravel have been encountered in wells at some distance from the mountains. For example, the log of well (D-1-1)16caa1, located on the Provo bench about 1.7 miles west of the foot of the Wasatch Mountains, shows that more than 60 percent of the material encountered was classed by the driller as clay, whereas the log of well (D-2-1)7cbd2, situated below the Provo bench about 4.4 miles west of the foot of the mountains, indicates that about 70 percent of the material encountered was quicksand, sand, or gravel. It is not surprising that such great irregularity in sedimentation occurred when one considers the extremely varied character of all the factors that have contributed to the processes of deposition. The clay, silt, sand, and gravel, particularly that comprising the pre-Bonneville deposits, probably occur in lenses and fingers in such fashion that the permeable masses in most places are not completely isolated from one another. Particularly is this likely to be true near the mountains, where sediments are coarsest. In other words, water can probably move from one permeable bed to another, although the movement may be very slow, as is indicated by the interference tests described in another part of this report.

The force of the waves and currents depended not only on the velocity of the generating winds but also on the depth of the water and on the fetch of the waves—that is, the distance that the waves moved across the body of water, parallel to the direction of the wind. The Jordan Valley embayment opened out to the main body of Lake Bonneville toward the northwest, and for that reason wave activity was much greater on the east side of the valley along the foot of the Wasatch Mountains than on the west side along the Oquirrh Mountains. As evidence of this, one of the highest and most extensive wave-cut cliffs in the Bonneville Basin occurs on the northwest face of the Traverse Mountains east of the Jordan River, where there is a wave-cut cliff 1,000 feet high and more than 3 miles long. (See pl. 4.)

It is apparent from what has been said that the processes which resulted in the filling of the Jordan Valley with clay, silt, sand, and gravel were very complex and of entirely different character at different times. As it is not certain just how much of the valley filling is pre-Bonneville and how much consists of true Bonneville lake deposits, there is no basis for differentiation of the Bonneville sediments in the well logs. Although many wells have been drilled in the Jordan Valley, accurate and detailed records of the materials penetrated are available for only a few of the wells. Furthermore, the jetting method used in drilling all except a few of the larger wells in the valley is one that does not permit accurate logging of the materials encountered. The well logs on pages 118 to 134 are representative of the material encountered in drilling in different parts of the Jordan

Valley.[4] With the exception of the wells drilled by the Salt Lake City Corporation by the cable-tool method, most of the wells were drilled by the jetting method.

SURFACE WATERS

The Jordan River, which heads in Utah Lake, flows northward through the Jordan Valley and empties into the Great Salt Lake about 10 miles northwest of Salt Lake City. Its length from the Jordan Narrows to its mouth is about 35 miles. It is the natural outlet for Utah Lake, but in recent years the diversions from the lake for irrigation, together with subnormal precipitation during a series of years, have lowered the level of Utah Lake to such an extent that no natural flow occurs out of the lake. The first water pumped from Utah Lake to supplement the natural flow for irrigation was on August 11, 1902.[5] During the irrigation season water is now pumped from Utah Lake into the Jordan River and is diverted into canals at Jordan Narrows. Thus, the Jordan River normally contains but a very small amount of water immediately after it passes through the Jordan Narrows. A small amount of leakage occurs through and under the diversion structures, and during certain periods of the year some water is passed through the structures to satisfy the irrigation needs lower down the stream.

Part of the flow of the Jordan River is diverted by the Surplus Canal, an irrigation and flood-protection canal near 21st South Street. In the following table are given the records of the State Engineer's Office showing the estimated mean monthly discharge of the Jordan River and Surplus Canal during the period from July 1924 to December 1930. These records give the sum of the flow diverted through the canal and the flow in the river as measured in each stream about 3 miles below the diversion point of the canal. Except in the spring months, when there is discharge from the tributary streams, practically all the surface water contributed to Great Salt Lake from the Jordan Valley is ground water derived from springs, seepage, and waste from artesian wells in the valley.

The amount of drainage from the Oquirrh Mountains, which lie west of the Jordan Valley, is very small. Bingham Canyon Creek and Butterfield Canyon Creek are the only streams of any consequence that head in the Oquirrh Mountains and flow into the Jordan Valley. These streams carry only a relatively small amount of water during short periods of the year, and the greater part of the water from them

[4] See also, for record of deep well of Rio Grande Western Ry. Co. at Salt Lake City, Richardson, G. B., Underground water in the valleys of Utah Lake and Jordan River, Utah: U. S. Geol. Survey Water-Supply Paper, 157, p. 42, 1906.

[5] Mead, Elwood, Report of irrigation investigations in Utah: U. S. Dept. Agr. Exper. Sta. Bull. 124, p. 84, 1903.

Estimated mean monthly flow, in second-feet, through the Surplus Canal and the Jordan River below the Surplus Canal

Month	1924	1925	1926	1927	1928	1929	1930	Average
January	--------	320	270	290	330	280	280	290
February	--------	340	270	310	320	290	330	310
March	--------	360	300	360	330	360	310	340
April	--------	470	370	420	360	580	310	420
May	--------	660	440	570	410	530	310	490
June	--------	470	350	480	280	570	290	410
July	240	340	300	310	260	350	300	300
August	230	340	250	330	250	390	340	300
September	360	380	270	390	320	430	340	360
October	390	370	340	400	310	360	340	360
November	310	340	330	400	320	320	320	330
December	300	300	310	350	290	300	290	310

that reaches the Jordan Valley is dissipated by irrigation or seepage into the ground.

The east side of the valley receives most of the precipitation, because of its location with respect to the Wasatch Mountains, and thus most of the surface water contributed to the Jordan River comes from the east side of the valley. The main creeks entering the valley from the east, named in order from north to south, are City, Red Butte, Emigration, Parleys, Mill, Big Cottonwood, and Little Cottonwood. Stream-gaging stations are maintained by Salt Lake City on the main eastern tributaries to the Jordan River at points near the mouths of the canyons, where the streams emerge from the mountains. A monthly summary of the available information on discharge of these creeks to the end of the hydrographic year 1913 has been published.[6] The tables on pages 134 to 152 of this report continue the monthly summary up to and including the hydrographic year 1933. The records were furnished by the city engineer of Salt Lake City, and the totals and the runoff in acre-feet were computed by members of the Geological Survey.

Practically all of the surface water that enters the Jordan Valley from the Wasatch Mountains is diverted for irrigation or municipal use, except during periods of high water or floods. Consequently, the streams are practically dry a short distance out from the mouths of the canyons except during the periods of spring runoff. Farther down, the streams begin to pick up water again from seepage and from flow of springs. This pick-up begins, in general, at or near the points where the stream channels cross the toe of the Provo Bench, and nearly all of the streams gain considerable water between these points and their confluence with the Jordan River. Previous to this investigation no continuous records of the amount of the pick-up water that

[6] Woolley, R. R., Water powers of the Great Salt Lake Basin: U. S. Geol. Survey Water-Supply Paper 517, 270 pp., 1924.

entered the Jordan River from the east side of the valley had been obtained. During the progress of this investigation it was found desirable to gather information concerning the total amount of water so contributed. Consequently, during the summer of 1933, stream-gaging stations were installed on Little Cottonwood Creek and on Big Cottonwood Creek a short distance above their confluence with the Jordan River. These stations were equipped with automatic water-stage recorders, and current-meter measurements were made of the flow of water past the stations. The resulting data are given in the tables on pages 153 to 156. Other data concerning the return flow to the streams in the Jordan Valley were obtained on Spring Run (see p. 157), Big Cottonwood Creek (see pp. 160–162), and on Mill Creek (see pp. 162, 163). Other miscellaneous stream-flow measurements were made and are tabulated on pages 163, 164.

GROUND-WATER CONDITIONS

GENERAL CONDITIONS

The ground water in the Jordan Valley occurs in three general divisions: (1) A shallow ground-water body overlying the confining layer that creates the artesian basin, (2) local perched water bodies, and (3) an artesian basin or reservoir including the recharge area. This investigation is mainly concerned with the artesian basin, as it includes the available ground water most suitable for domestic or municipal purposes and in relatively large quantities.

ARTESIAN RESERVOIR

The artesian aquifers in the Jordan Valley form a single artesian reservoir rather than a group of separate reservoirs, as is shown by the results of numerous interference tests made on the artesian wells and described elsewhere in this report. That better flowing wells are obtainable in some areas than in others is due to the differences in the permeability of the artesian aquifers at different locations. The difference in quality of the artesian waters of different localities is caused by the difference in the mineral composition of the sediments through which the artesian water moves before it is withdrawn through the wells. The artesian reservoir underlies not only the area of artesian flow but also the nonflowing artesian area and the intake or recharge area of the artesian basin. As has been previously shown, the intake area of the artesian basin is thought to be that which is occupied by the Bonneville and Provo benches. The approximate outlines of these benches are shown on plate 2, but the exact area through which recharge to the artesian basin occurs is indefinite. The limits of the nonflowing artesian area are also indefinite, as the position of the lip of the confining layer causing the artesian conditions cannot be definitely established from available data. However, this area lies between the area of artesian flow and an indefinite line or zone some distance above the toe of the Provo bench.

AREA OF ARTESIAN FLOW

The area of artesian flow covers about 173 square miles, the limits of which during 1931–33 are shown on plate 2. Also shown on plate 2 are the limits of the area of artesian flow of the Jordan Valley in 1904, as reported by G. B. Richardson.[7] A comparison of these two areas shows that there has been practically no shrinkage in the flowing-well area since 1904, although there may have been slight increases or decreases. The small local differences are probably due to the more accurate base maps available during the present investigation, to the greater number of wells now available, and to more extensive ground-water exploration since 1904. This indicates that the decrease in artesian pressure since 1904, if any, has been small.[8]

A drop of 3 to 6 feet in artesian pressure in some localities is indicated from the reports of owners of some wells that have decreased in flow or stopped flowing and from reports that the springs along the toe of the Provo bench have decreased in flow during recent years. These reports pertain mainly to the most highly developed artesian area lying between Salt Lake City and Murray and east of the Jordan River. As the edge of the flowing-well area here lies along and on the Provo terrace, a drop of a few feet in artesian pressure may have occurred without materially decreasing the area. On the land of low gradient below the toe of the Provo terrace, however, any large drop in the artesian pressure due to an excessive overdraft on the artesian reservoir would materially decrease the size of the flowing-well area. It is therefore evident, for the area as a whole, that the overdraft on the artesian reservoir has not been excessive.

In order to make the greatest use of the artesian reservoir, the draft on it should be so regulated that the artesian pressure, and in some places the area of artesian flow, will be materially decreased during a part of each year in order to provide reservoir storage for excess water that otherwise would spill over the lip of the artesian reservoir. This is analogous to a surface-water reservoir which is drawn down each year during the dryer seasons and is then ready to receive the spring runoff for use later, when more water is required. However, to utilize fully all available water, it will be necessary to decrease materially the flow of some of the wells near the edge of the flowing-well area

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[7] Richardson, G. B., Underground water in the valleys of Utah Lake and Jordan River, Utah: U. S. Geol. Survey Water-Supply Paper 157, pl. 7, pp. 38–39, 1906.

[8] Taylor, G. H., and Thomas, H. E., Artesian-water levels and interference between artesian wells in the vicinity of Lehi, Utah: U. S. Geol. Survey Water-Supply Paper 836–C, p. 134, 1939.

during a part of each year, if not to stop it altogether. When a well ceases to flow it is not an indication that no more water is available from that well, for by the use of a pump an additional quantity of water may generally be withdrawn before a draw-down of more than a few feet occurs. During a year or series of years of low precipitation and consequent lack of water for adequate recharge of the artesian reservoir the artesian pressure and area of artesian flow may decrease, even though the quantity of water withdrawn is the same or less than before. The precipitation at Salt Lake City during each of the years from 1928 to 1933, inclusive, was below normal, the total deficit during the 6 years being 16.9 inches, or a deficit of more than a normal year's precipitation.

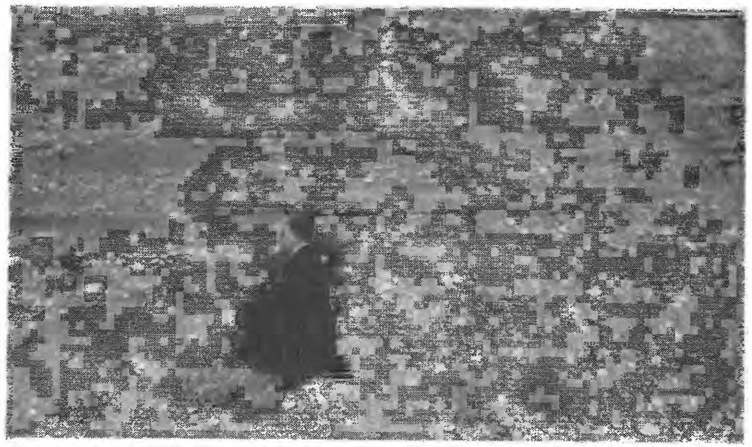
Other conditions being equal, it can be expected that the pressure of the artesian reservoir will decrease during years of subnormal precipitation, without any additional withdrawal of ground water, until a year or series of years of normal or more than normal precipitation occurs. Also, if no new large developments are made, the pressure in the artesian reservoir can be expected to recover during years of normal or more than normal precipitation.

PIEZOMETRIC SURFACE

The piezometric surface of an artesian aquifer is an imaginery surface that coincides with the static level of the water in the aquifer. An isopiestic line is an imaginary line on the piezometric surface of the aquifer, all points of which are at an equal elevation. Its position is expressed in feet above some datum, usually sea level. The artesian aquifers in the Jordan Valley are thought to be made up of lenticular bodies, more or less interconnected both horizontally and vertically. The water in wells of different depth in the same locality rises to different levels. Thus, there is more than one piezometric surface for the artesian aquifer, but it was not practicable to obtain sufficient data to establish definitely the position of the piezometric surface for different depths.

A generalized map (pl. 5) has been constructed by utilizing all available measurements of the artesian pressure at different locations and drawing approximate isopiestic lines. The shape and gradient of the piezometric surface indicate a general ground-water movement toward the Jordan River from the east and west, combined with a movement toward the north. The gradient is relatively steep in the south half of the valley but becomes less steep north and west of Murray and Taylorsville. In the vicinity of the southern limits of Salt Lake City the direction of movement changes gradually toward the northwest, as indicated by the shape of the piezometric surface, by the chloride content of the waters (see pl. 6) and by the

A. DELTAIC DEPOSITION NEAR THE MOUTH OF PARLEYS CANYON, NW1/4 SEC. 26, T. 1 S., R. 1 E.



B, *C*. BEACH GRAVELS OF PROVO STAGE IN GRAVEL PIT, SE1/4SW1/4 SEC. 26, T. 1 S., R. 1 E.

existence of a spring of relatively fresh water about a mile and a half from a recent shore line of Great Salt Lake northwest of Salt Lake City. These conditions indicate discharge of the artesian water in a northwesterly direction from the Jordan Valley. It seems probable that the water may be issuing from the bed of Great Salt Lake in numerous small springs or possibly in a few large undiscovered springs.

GROUND-WATER RECHARGE

GENERAL CONDITIONS

Precipitation is the source of nearly all water that occurs on or below the surface of the earth. Water falling on the surface of the earth is disposed of by evaporation, transpiration, runoff, and absorption into the earth. Of the water that is absorbed, only the part that reaches the zone of saturation constitutes ground-water recharge in the sense that it becomes the supply for springs and wells. In the Jordan Valley, ground-water recharge occurs by penetration of precipitation and by seepage from stream beds, irrigation canals, and irrigated lands.

RECHARGE FROM PRECIPITATION

The direct penetration of precipitation is probably an important source of ground water in the Jordan Valley. It is a well-recognized fact that after a year or series of years of relatively low precipitation the ground-water supply is greatly depleted. Evidence of this is seen in the decrease in flow and pressure of flowing wells and in the lowering of the water level in wells in which the water level is below the ground surface. The hydrographs of many of the wells observed during this investigation show the effect of the penetration of precipitation by a pronounced rise in water level soon after the snow began to melt and spring rains occurred. The hydrographs of 11 wells given in figures 3 and 4 show the rise of the water level in wells in different parts of the Jordan Valley, due in part to the penetration of precipitation. The hydrograph of well (D–2–1)27bbb2 (see fig. 4) shows a pronounced rise of the water level in March 1933 due to the penetration of water from melting snow.

The drought of 1934 is clearly indicated by the absence of a rise or only a small rise in water levels during the spring and summer of 1934.

The area over which recharge of the artesian basin occurs by penetration of rain and water from melting snow is thought to be the area that is occupied by the Bonneville and Provo benches. As these benches in most places are sandy and permeable they provide conditions very favorable for the rapid penetration of precipitation. They lie along the base of the Wasatch Mountains, along the west

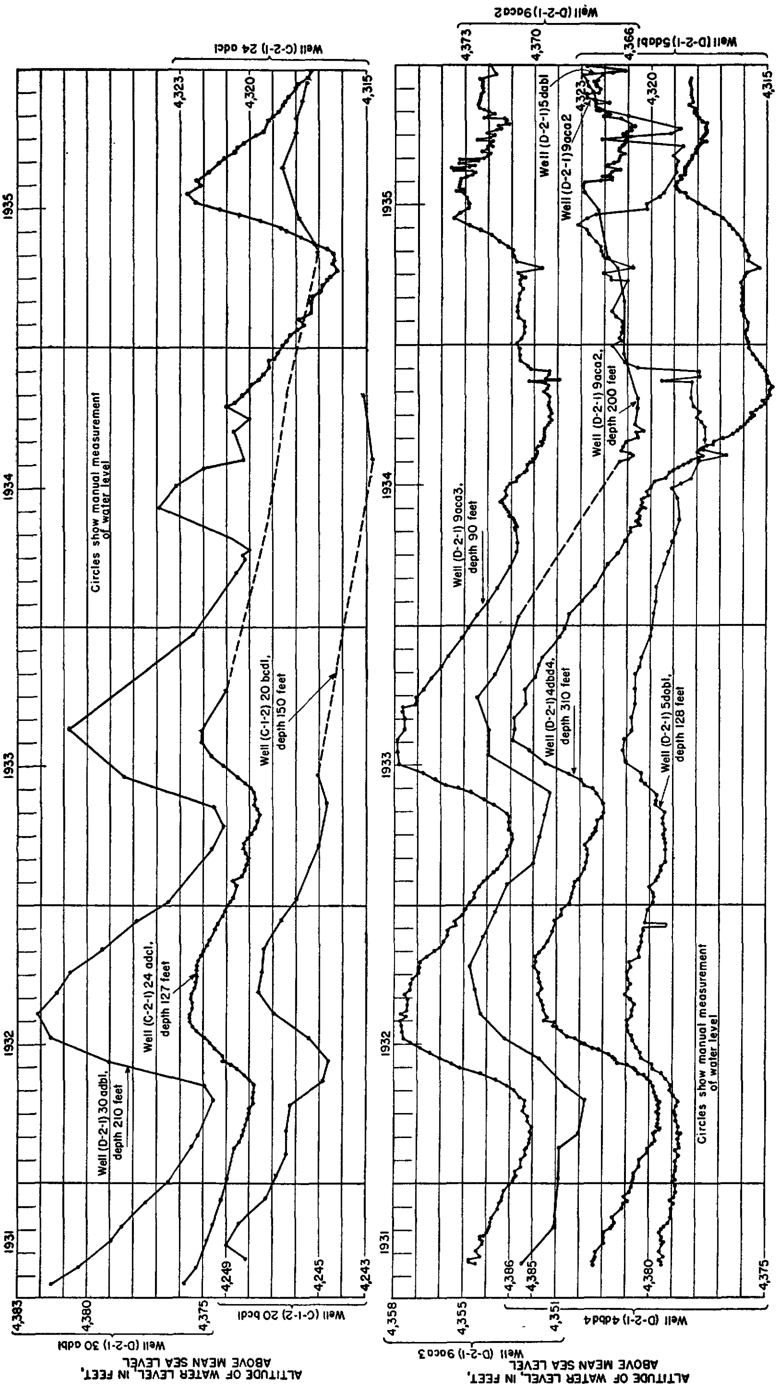


FIGURE 3.—Hydrographs of wells (D-2-1)30adb1, (C-2-1)24adc1, (C-1-2)20bcd1, (D-2-1)9aca3, (D-2-1)9aca2, (D-2-1)4dbd4, and (D-2-1)5dab1.

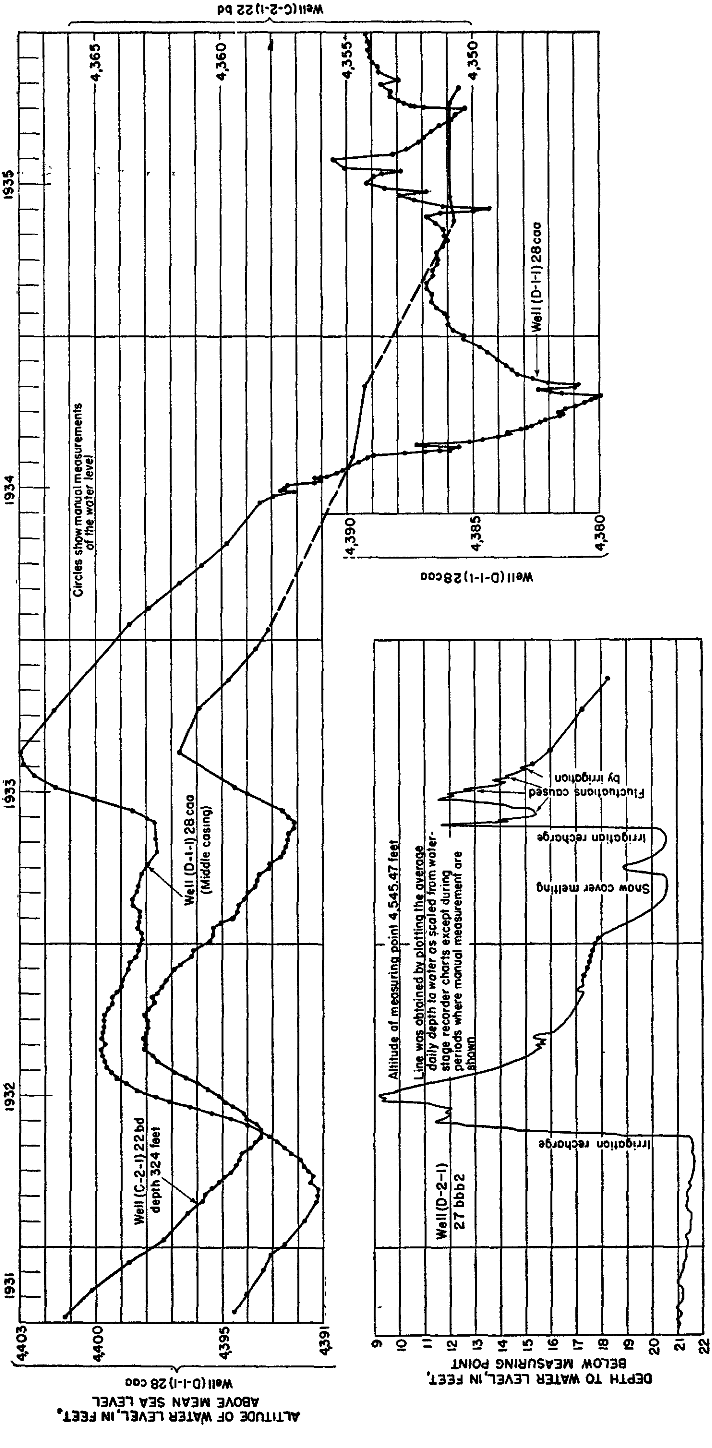


FIGURE 4.—Hydrographs of wells (C–2–1)22bd, (D–1–1)28caa, and (D–2–1)27bbb2.

face of which are numerous facets from which the runoff is carried through small draws and ravines onto the bench lands. These ravines carry a considerable amount of water during periods of heavy precipitation, as is shown by the alluvial fans at their mouths and by the extensive erosion. However, in most places no drainage channels occur at the foot of the alluvial fans, the water having penetrated into the permeable surface of the benches. This indicates the absorptive properties of the materials of the bench lands and the rapid penetration of the precipitation that falls directly upon them and of the water that drains onto them.

RECHARGE BY SEEPAGE FROM IRRIGATION CANALS

No measurements of the quantity of water lost by seepage from the irrigation canals were made during this investigation, but the loss is reported to be very large, especially where the canals cross the Bonneville and Provo benches.[9] Some of the canals have been lined with concrete over a part of their length to prevent loss through seepage. The water level in wells in the vicinity of irrigation canals has been observed to rise immediately after the canals begin to carry water in the spring and to recede shortly after the canals become dry in the fall. In some wells the rise of the water level is caused both by seepage from nearby irrigation canals and by penetration of precipitation or seepage from natural streams, as water is generally turned into the canals during or shortly after the period of heaviest spring runoff and penetration of precipitation.

Not much of the water lost by seepage from the large canals conveying irrigation water from Utah Lake is available as recharge to the main artesian reservoir, except possibly in the southern third of the valley, because the canals from Utah Lake are so located that a major part of their length is on the area below the Bonneville and Provo terraces, where confining beds cover the artesian reservoir. This lack of recharge from those large canals is also indicated by the fact that the chloride content of the artesian waters in the most highly developed area of artesian flow is much lower than the chloride content of the water obtained from Utah Lake. Much of the water that seeps from the part of the canals located on the bench lands probably enters the artesian reservoir, but that which is lost from the part of the canals located below the bench lands probably is contributed to the shallow ground-water body overlying the artesian reservoir. Recharge to the shallow ground-water body is evidenced by the increase in flow of springs in the lower lands and by the expansion of swampy tracts soon after the beginning of the irrigation sea-

[9] Lazenby, A. J., Experimental water spreading for ground-water storage in Salt Lake Valley, Utah Utah Acad. Sci., Arts and Letters, Proc. vol. 15, p. 27, 1938.

son. The owner of well (C-1-1)30ddc1 has reported that this well materially increases in flow when water is flowing in the irrigation canals south of the well. Irrigation canals that head in the streams entering the valley from the east and that cross the bench lands probably contribute a considerable amount of water to the artesian reservoir. The chloride content of the water entering the valley from the east is much lower than that from Utah Lake and corresponds to the chloride content of the water from the wells in the highly developed artesian area between Salt Lake City and Murray.

RECHARGE BY SEEPAGE FROM IRRIGATED LANDS

The use of water for irrigation of farm lands in the Jordan Valley is generally heavy. This is due in part to over-irrigation and in part to the permeability of some of the land. Irrigated land on the benches is generally very sandy and requires an excessive amount of irrigation to grow a crop. The surplus water percolates rapidly through the soil and serves to recharge the ground-water reservoir. This takes place in the Jordan Valley as is shown by the increase of pressure and the flow from artesian wells nearest to the recharge area. Many local reports indicate that these wells materially increase in flow soon after the irrigation of higher lands is begun. In areas below the bench lands seepage from irrigation is contributed to the shallow ground-water body, as is shown by the increase in the flow of the low-lying springs, the increase of moisture in low, swampy areas, and the rise of water level in shallow wells. The fluctuation of water levels in shallow wells caused by seepage from irrigated lands is well illustrated by figure 5, which is a reproduction of part of the hydrograph from

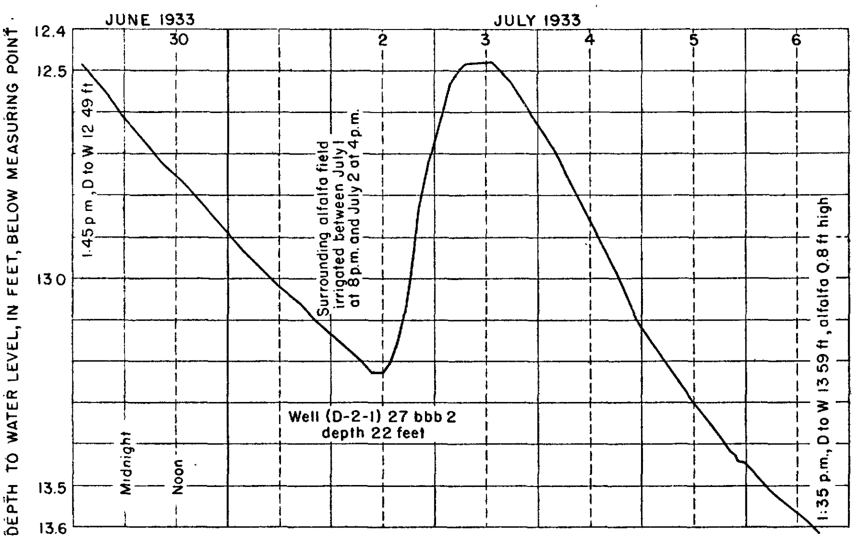


FIGURE 5.—Partial hydrograph of well (D-2-1)27bbb2 showing groundwater recharge caused by irrigation.

well (D–2–1)27bbb2, obtained by the use of an automatic water-stage recorder. The entire hydrograph of well (D–2–1)27bbb2 (fig. 4) illustrates the seasonal fluctuation of the water level in this well, caused by recharge from irrigation and penetration of precipitation.

RECHARGE BY SEEPAGE FROM STREAM CHANNELS

The effect of seepage from streams on the ground-water reservoir is clearly shown by the hydrograph of well (D–2–1)23dbb1, which is reproduced in figure 6. This well is about 50 feet from the channel of Big Cottonwood Creek, near the part of the creek from which the highest losses occur. During periods of low flow or no flow in the creek, the water level in the well drops rapidly. Very soon after water again begins to flow in the creek the water level in the well rises rapidly. The recharge conditions along the other streams entering the valley from the east are doubtless similar to the conditions along Cottonwood Creek.

LITTLE COTTONWOOD CREEK

A report made by E. R. Morgan in 1902 [10] states that a prominent engineer of Salt Lake City had previously determined the losses from Little Cottonwood Creek between the mouth of the canyon and the village of Union, Utah, to be about 16 percent of its flow. On July 2, 1932, current-meter measurements were made of the flow of Little Cottonwood Creek at two sections about 1.4 miles apart. (See table of miscellaneous stream-flow measurements, pp. 163, 164.) These measurements showed a loss of 10 second-feet, or 8.6 percent of the flow in the upper section. This represents a loss of 7.1 second-feet per mile of stream channel. Measurements made at the same sections on July 25, 1932, showed a loss of 4.8 second-feet, or 17.7 percent of the flow in the upper section. This represents a loss of 3.4 second-feet per mile of stream channel. On August 1, 1932, similar measurements showed a loss of 2.4 second-feet, representing 17.4 percent of the flow in the upper section, or a loss of 1.7 second-feet per mile of stream channel.

On September 24, 1931, an examination of the entire channel of Little Cottonwood Creek between the mouth of the canyon and the village of Union, Utah, showed the point of effluence, or point where the stream began to receive ground water, to be in the SE¼ sec. 28, T. 2 S., R. 1 E., at an elevation of about 4,550 feet above mean sea level. The point of first loss from the stream channel was probably in the vicinity of the northeast corner of sec. 11, T. 3 S., R. 1 E. Thus, the approximate length over which percolation loss may occur from the stream bed of Little Cottonwood Creek is 3.5 miles. Assuming the

[10] Morgan, E. R., in Mead, Elwood, Report of irrigation investigations for 1902: U. S. Dept. Agr. Exper. Sta. Bull. 1, p. 66, 1902.

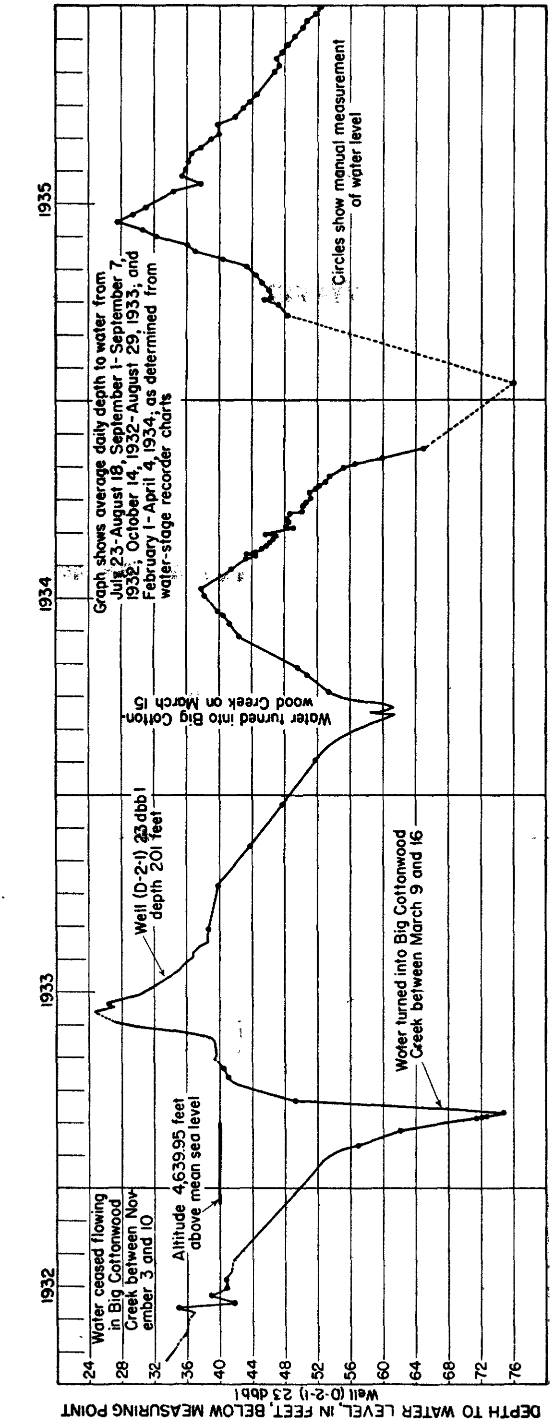


FIGURE 6.—Hydrograph of well (D-2-1)23dbb1, showing effect of seepage from streams.

loss per mile as stated above to be constant throughout the 3.5 mile section, the total percolation loss on July 2, July 25, and August 1, 1932, would have been about 40, 11.9, and 6 second-feet, respectively.

Between July 15 and November 10, 1931, a number of measurements were made with 27 weirs installed in Little Cottonwood Creek and in the irrigation ditches diverting water from the creek. This work was done under the direction of R. C. Towler, of the Engineering Department of Salt Lake City. The section of the creek studied was about 3.5 miles long, beginning at a point in the stream channel about 0.25 mile south of the north line of sec. 2, T. 3 S., R. 1 E. A preliminary report[11] gave an average net loss of 1.47 second feet, which was the average of eight separate determinations on as many days. The losses during the 8 days ranged from 0.63 second-foot to 2.40 second-feet. The lower mile of the section used was below the point of effluence as observed on September 24, 1931, and, therefore, the observed loss probably occurred over a 2.5-mile length of channel and may have been less than the actual loss because of water returning to the stream at the point of effluence.

The data available are not sufficient to estimate the total quantity of loss by percolation from Little Cottonwood Creek stream channel, but apparently the loss is relatively large, especially during periods of medium or high stages of the creek. This loss includes evaporation and transpiration, as well as recharge of the ground-water reservoir.

BIG COTTONWOOD CREEK

A visual examination of the stream channel of Big Cottonwood Creek on September 25, 1931, from the mouth of the canyon to the bridge over the creek on Highland Drive showed that the point of influence, or point where the stream began to lose water by influent seepage, was near the west line of sec. 25, T. 2 S., R. 1 E., and that the point of effluence, or point where the stream began to gain water by effluent seepage of ground water, was near Knutsen's Corner, in the northwest corner of sec. 23, T. 2 S., R. 1 E., a length of stream channel of about 1.5 miles. The point of effluence is at an elevation of about 4,550 feet above mean sea level; approximately at the same elevation as the point of effluence in the channel of Little Cottonwood Creek.

During September 1902, Morgan[12] determined by weir measurements that Big Cottonwood Creek was losing from its channel 7.4 second-feet between a point just below the Utah Power & Light Co.'s power plant and the head of the Green ditch, about a quarter of a mile north of the southeast corner of sec. 15, T. 2 S., R. 1 E. This section is 2.5 miles long. The loss was 22.6 percent of the flow at the upper

[11] Letter dated Apr. 9. 1932.

[12] Morgan, E. R., in Mead, Elwood, Report of irrigation investigations for 1902: U. S. Dept. Agr. Exper. Sta. Bull. 1, pp. 60-61, 1902.

point of measurement and was equal to 2.9 second-feet per mile of stream channel. However, the examination on September 25, 1931, indicated that the loss probably occurred over only a 1½-mile section of channel, which would represent a loss of 4.9 second-feet per mile of stream channel. Morgan states that there was a heavy loss in the stream channel above the power plant, but the observations during September 1931 indicated the point of influence to be below the power plant.

In 1925 R. C. Towler, of the Engineering Department of Salt Lake City, made a series of seepage-loss determinations on Big Cottonwood Creek over a section of channel corresponding to that used by Morgan, but about half a mile shorter; three sets of measurements in August and two in September showed an average loss of 4.8 second-feet with an average flow at the uppermost point of measurement of 22.5 second-feet, or a loss of 21.3 percent. During August and September 1928, Towler made four measurements, which showed an average loss of 5.1 second-feet, or 32.2 percent of the average flow at the uppermost point of 15.8 second-feet. It is possible that the losses as recorded by both Morgan and Towler were somewhat smaller than the actual losses, because of inflow from springs between the points of measurement.

On July 14, 1932, A. B. Purton and T. F. McDonald measured the flow of Big Cottonwood Creek above the diversion weirs at the mouth of the canyon. At this point 87 second-feet of water was passing, of which 25.4 second-feet was being diverted at the weirs, leaving a total of 61.6 second-feet passing down the stream channel. At a point near the center of sec. 25, T. 2 S., R. 1 E., about 1.5 miles below the weirs and 0.8 mile below the point of influence named above, a flow of 55.7 second-feet was observed. No diversions were being made between these points, and the percolation loss as measured was therefore 5.9 second-feet, representing 9.6 percent, or 3.9 second-feet per mile. If the loss is assumed to have taken place in the 0.8-mile section between the point of influence and the lower section, the loss per mile would have been about 7.4 second-feet. Also, if a proportionate loss is assumed to have occurred over the entire 1.5-mile section between the points of influence and effluence, the total loss would have been 10.0 second-feet, or 17.6 percent.

NEFFS CANYON CREEK

Neffs Canyon Creek is a small creek about 1 mile south of Mill Creek, with its entire drainage area on the west face of the mountains. The stream usually carries water from April until about the last of July, the flow sometimes reaching a peak of about 20 to 25 second-feet. No measurements of the flow of this creek are available. The water discharged from the creek is used for irrigation on the adjacent bench lands and does not reach either Mill Creek or the Jordan River. The irrigation is at times very heavy, and as a consequence the seepage loss, or irigation recharge to the groundwater reservoir, is high.

MILL CREEK

During September 1902, Morgan[13] determined the losses in Mill Creek between the Salt Lake City weir in the mouth of the canyon and a weir in the creek just below Neffs Mill pond to be 2.56 second-feet, or 22.7 percent, representing a loss per mile of stream channel of 1.28 second-feet. In a section extending three-fourths of a mile below the weir at Neffs Mill pond he determined the losses to be 0.14 second foot, or 3.6 percent, a loss of 0.19 second-foot per mile of stream channel. Thus, the loss in the two sections totaled 2.70 second-feet, representing 24 percent, or 0.98 second-foot per mile of stream channel.

Measurements of the flow and diversions were made on the same section of channel on July 10, 1932, except that the section was divided into two parts by a weir in the creek channel just above the Brigham Young ditch instead of below the Keller ditch; thus, during the measurements of 1932, the upper section was about 1.75 miles in length and the lower section about 1 mile in length. The following tabulation shows the results of these observations.

The data for 1932 are similar to those for 1902, the total loss of 2.43 second-feet in 1932 being not far from the 2.70 second-feet in 1902. The section of the stream channel having the greatest loss by percolation appears to lie between the mouth of the canyon and a point near the northeast corner of sec. 34, T. 1 S., R. 1 E. The loss is probably greater during periods of greater flow in the stream channel.

PARLEYS CREEK

No measurements of the amount of loss by percolation from the stream bed of Parleys Creek are available, but visual observation indicates a loss similar to that shown by Mill Creek. The point of effluence in Parleys Creek has been observed to be at the point where 13th East Street crosses the stream, which is on the west line of sec. 21, T. 1 S., R. 1 E. The elevation of the stream bed at this point is about 4,375 feet above mean sea level. The discharge from the springs in the stream bed at this point, as measured where the flow was diverted into the Jordan and Salt Lake City Canal on Highland Drive, on November 11, 1932, was 1.3 second-feet. Morgan[14] stated in 1902 that the gain in flow ranged between 2 and 5 second-feet during the period of a year.

[13] Morgan, E. R., op. cit., pp. 44–45.
[14] Morgan, E. R., op. cit., p. 34.

Seepage measurements on Mill Creek, Salt Lake County, Utah, July 10, 1932

	Sec.-ft.	
Flow at Salt Lake City gaging station at canyon mouth	3.7	
Addition at Utah Power & Light Co.'s power plant	14.35	
Total flow at mouth of canyon		18.05
Diversions:		
Chamberlain ditch	0.64	
Hillman Hussy ditch	.64	
Skidmore-Osquthorpe ditch	.12	
Hillman-Russel ditch	1.53	
James Russel ditch	.28	
F. &. J. Neff ditch	.64	
A. H. Neff ditch	.84	
Creek at 18-foot weir above B. Young ditch	11.34	
		16.03
Loss in section sec.-ft.		2.02
Do sec.-ft. per mile		1.15
Do percent		11.2
Flow in creek at 18-foot weir above B. Young ditch		11.34
Diversions:	Sec.-ft.	
Brigham Young ditch	3.78	
Keller ditch	1.10	
White ditch	1.06	
Hoagland & Murphy ditches	4.99	
Creek below Hoagland & Murphy ditches	.00	
		10.93
Loss in section sec.-ft.		0.41
Do sec.-ft. per mile		.41
Do percent		3.6

EMIGRATION, RED BUTTE, AND CITY CREEKS

No determinations regarding seepage are available for these creeks, but the opportunity for loss by percolation is probably as good as in the streams to the south. The total losses are probably less because their flows, except during short flood periods, are entirely diverted near the mouths of the canyons. The point of effluence in Emigration Creek is just west of the 13th East Street Bridge over the creek and is at an elevation of about 4,375 feet above mean sea level. The point of effluence in Red Butte Creek is near the place where 14th East Street, if extended, would cross the stream and is at an elevation of about 4,370 feet above mean sea level.

SUMMARY OF GROUND-WATER RECHARGE

The several means of recharge to the artesian reservoir of the Jordan Valley, named in the order of probable importance, are (1) seepage from stream channels, (2) deep penetration of direct precipitation,

(3) seepage from irrigated lands, and (4) seepage from irrigation canals. Much of the water that enters the earth by penetration or seepage over the area of the Bonneville and Provo benchlands is contributed to the main artesian reservoir. The water that enters the earth below the benchlands is contributed to the shallow ground-water body above the artesian reservoir. The artesian reservoir may also be recharged by deep-seated water that rises along faults, by underflow beneath the stream beds as the streams enter the valley, and by water that moves along joints, cracks, and fracture zones in the bedrock along the western base of the Wasatch Mountains. These three last-named sources are probably of only small importance. Thus, the available supply of ground water is dependent upon three major factors: (1) precipitation, (2) stream flow across the benchlands and, (3) irrigation on the benchlands. Of these three factors, precipitation is the most important. It limits not only the amount of direct penetration but also of stream flow and irrigation. The amount of stream flow across the benchland area is also materially affected by stream diversions at or near the mouths of the stream canyons. A total drying up of the stream channels below the canyon mouths will result in a total elimination of recharge of the ground-water reservoir by stream seepage.

Available data are insufficient to make an accurate estimate of the total recharge to the ground-water reservoir, especially as the recharge changes from year to year with the precipitation and opportunities for seepage. To make such an estimate would require an elaborate program of continuous stream gaging, soil-moisture determinations, determinations of the penetration of precipitation, and perhaps other determinations over a period of years.

GROUND-WATER DISCHARGE

GENERAL CONDITIONS

Ground water is discharged from the Jordan River Valley in several ways, which may be classified as (1) natural and (2) artificial. The natural agencies include discharge through springs, evaporation from the soil, and transpiration by plants. The artificial agencies include those methods of ground-water withdrawal developed by man, consisting primarily of flowing and nonflowing wells. Some artificial discharge is obtained through tunnels, which for the most part are spring developments resulting in a greater spring discharge.

NONTHERMAL SPRINGS

Numerous nonthermal springs occur throughout the Jordan River Valley, the greater number on the east side between the foot of the Wasatch Mountains and the Jordan River. Most of the springs west of the Jordan River originate in the upper parts of the few small streams emerging from the Oquirrh Mountains or near the Jordan River in the southern part of the valley. In general, the upper limit of the springs on the east side of the valley follows the foot of the Provo Bench. Springs occur in the beds of streams that enter the valley from the east, below the area of high seepage loss and at an elevation that corresponds approximately to the foot of the Provo Bench. The visible discharge of most of the springs that rise in the stream beds is generally not large, but the flow is continuous throughout the year. Most of these springs are utilized for irrigation, domestic supply, fish hatcheries, or park beautification.

The upper limit of the band of springs on the east side of the valley, with a few exceptions noted later, nearly coincides with, or is a little higher than, the east edge of the area of artesian flow. This condition indicates that the discharge from the springs is overflow from the artesian basin—that is, ground water that returns to the surface because the artesian reservoir is full. The springs that rise in the beds of the stream channels at an elevation corresponding to the foot of the Provo Beach and those along the Jordan River in the southern part of the valley are also believed to indicate overflow from the artesian basin. However, some of the springs, especially in the southeastern part of the valley, emerge at the foot of the terraces and represent discharge from perched water bodies at the point where local clay strata are cut off or exposed by the terraces. Much of the water received by recharge is now discharged through the flowing wells instead of being naturally discharged through the springs. Accordingly, the pressure head of some of the flowing wells along the edge of the flowing-well area is reported to be 3 to 5 feet less than in former years, and some of the highest flowing wells have ceased to flow entirely or during parts of each year. A greater shrinkage of the area of artesian flow has not occurred because the edge of the area that has been most heavily developed is and has been along the steep terrace slope leading from the top of the Provo Bench down to the foot.

These springs do not at present discharge as much water as they are reported to have discharged in previous years. Most of them have a greater discharge during the spring and early summer than during other periods of the year, according to records obtained by the Salt Lake City Corporation but not included in this report. This yearly fluctuation indicates that they vary with the periods of surface runoff and that they are supplied by water that runs off the west slope of the Wasatch Mountains and percolates into the bench lands and by direct penetration of rain and snow water into the bench lands.

A few springs issue at a higher elevation than that of the toe of the Provo Bench. The Utah State Prison is utilizing a spring that emerges from the bed of Emigration Creek in the NE¼ sec. 16, T. 1 S., R. 1 E., at an elevation of about 4,500 feet above sea level. This spring is probably overflow from a perched water body. Holiday Spring emerges in the SW¼ sec. 2, T. 2 S., R. 1 E., at an elevation of about 4,670 feet. The owners of the spring, including Salt Lake City, are incorporated, and a part of the water is used for domestic purposes, the remainder for irrigation. Just south of Holiday Spring are two other springs, Casto Spring, in the SW¼ sec. 2, T. 2 S., R. 1 E., and Dry Creek Spring, in the NW¼ sec. 11, T. 2 S., R. 1 E., which issue at an elevation of about 4,710 feet above mean sea level. Weirs have been maintained on Dry Creek and Casto Springs for a number of years by the irrigation companies that use the water. The discharge of Casto Spring at various times during the years 1924 to 1932, inclusive, and the discharge of Dry Creek Spring in 1932 are given in the tables that follow.

Discharge of Casto Spring Irrigation Co.'s Spring, 1924–32

[Spring in the SW¼ Sec. 2, T. 2 S., R. 1. E. Record furnished by observer for irrigation company]

Date	Discharge (sec. feet)
1924	
Apr. 7	0.68
13	1.30
20	1.66
27	2.23
May 4	3.92
11	4.94
18	5.20
25	4.68
June 1	3.68
15	3.21
22	2.23
29	1.84
July 13	1.47
27	1.14
Aug. 3	1.14
10	1.14
17	1.14
24	1.14
31	.98
Sept. 7	.98
14	.90
21	.82
28	.82
Oct. 5	.68
12	.49
1925	
Apr. 5	1.47
12	2.44
19	4.16
26	2.76
May 3	3.44
10	5.48
17	5.62
24	5.75
June 7	4.94
21	4.04
July 5	3.68
19	3.21
Aug. 2	2.76
16	1.47
23	1.14
1925	
Sept. 6	0.98
13	.90
20	.82
27	.82
Oct. 4	.76
11	.49
18	.38
25	.32
1926	
Apr. 4	.26
11	1.30
18	.98
25	3.21
May 2	4.42
9	4.94
16	4.16
30	4.04
June 6	3.44
13	2.98
20	2.23
27	1.84
July 4	1.66
11	1.47
18	1.47
25	1.30
Aug. 1	1.30
8	1.14
15	.98
22	.98
29	.82
Sept. 5	.76
12	.68
19	.68
26	.62
Oct. 3	.49
10	.43
17	.38
24	.32
31	.26
Nov. 7	.26
14	.26
1926	
Nov. 21	0.26
Dec. 5	.26
19	.26
26	.26
1927	
Jan. 2	.22
9	.22
16	.22
23	.22
30	.22
Feb. 6	.18
13	.18
Mar. 2	.04
6	.04
8	.06
9	.06
11	.10
12	.10
15	.13
16	.10
18	.10
20	.06
22	.06
23	.10
25	.22
26	.22
Apr. 1	.49
3	.82
10	.98
17	.68
24	1.47
May 1	4.94
8	5.20
15	4.68
22	5.20
29	4.42
June 5	4.68
12	4.42
19	3.92
26	3.68
30	3.44

Discharge of Casto Spring Irrigation Co.'s Spring, 1924–32—Continued

[Spring in the SW¼ Sec. 2, T. 2 S., R. 1. E. Record furnished by observer for irrigation company]

Date	Discharge (sec. feet)	Date	Discharge (sec. feet)	Date	Discharge (sec. feet)
1927		1928		1931	
July 3	2.98	Oct. 21	0.62	Apr. 12	0.68
10	2.76	Nov. 11	.62	25	2.23
24	2.23	25	.49	May 10	3.92
Aug. 14	1.66	Dec. 16	.49	24	2.76
21	1.38			June 14	1.84
28	1.22	1929		26	1.38
Sept. 11	1.14			July 2	.82
25	1.05	Jan. 1	.26	Aug. 16	.43
Oct. 9	.98	Feb. 7	.18		
		17	.18	1932	
1928		Mar. 7	.10		
		31	.22	Apr. 12	1.66
Jan. 1	.43	Apr. 14	.38	15	1.56
28	.38	18	1.56	18	2.14
Feb. 5	.26	May 5	3.21	21	2.54
26	.22	19	6.18	27	1.84
Mar. 8	.26	June 2	5.48	May 1	1.75
Apr. 1	1.30	16	4.94	3	2.98
8	.98	July 1	4.42	8	3.32
15	.82	15	3.92	12	4.42
30	3.92	29	2.76	15	5.75
May 2	4.68	Aug. 12	1.66	17	5.62
13	5.75	26	1.38	28	4.68
27	4.04	Sept. 9	1.38	June 1	4.68
June 3	4.80	23	1.14	6	4.16
17	2.76	Oct. 7	1.14	15	4.68
July 7	2.14	21	.98	24	4.16
15	2.14	Nov. 4	.82	July 1	3.21
29	1.47	18	.68	10	2.44
		Dec. 2	.49	15	2.03
1928		16	.38	19	2.34
		30	.32	Aug. 1	1.30
Aug. 12	1.14	1930		3	1.30
16	1.05			8	1.30
Sept. 9	.98	Jan. 11	.26	16	1.14
23	.82	Feb. 17	.10		
Oct. 7	.68	Apr. 6	.49		

Discharge of Dry Creek Irrigation Co.'s spring, 1932

[Spring in the NW¼ sec. 11, T. 2 S., R. 1 E. Record furnished by observer for irrigation company]

Date	Discharge (sec.-feet)	Date	Discharge (sec.-feet)	Date	Discharge (sec.-feet)
Apr. 12	1.66	May 12	3.68	July 1	2.76
18	2.03	17	4.42	10	2.14
21	2.44	28	3.92	19	1.84
27	1.84	June 6	3.56	Aug. 3	1.30
May 3	2.76	15	3.56	8	1.30
8	2.98	24	3.21	16	1.14

The foregoing data show that the discharge of Casto Spring ranges between about 0.1 second-foot to more than 6 second-feet. Each year the flow increases rapidly during April and May and reaches a peak about the middle of May, after which it decreases to about 1 second-foot by the end of August. The flow then decreases gradually until the low point is reached, generally in the latter part of March. This variation of flow agrees very closely with the stream flow of Cottonwood Creek and thus indicates that the flow of these springs is controlled by the time of occurrence and amount of the surface runoff from the adjoining west slope of the Wasatch Mountains. During the drought of 1934, when there was essentially no spring recharge, these springs ceased to flow but later began to flow again.

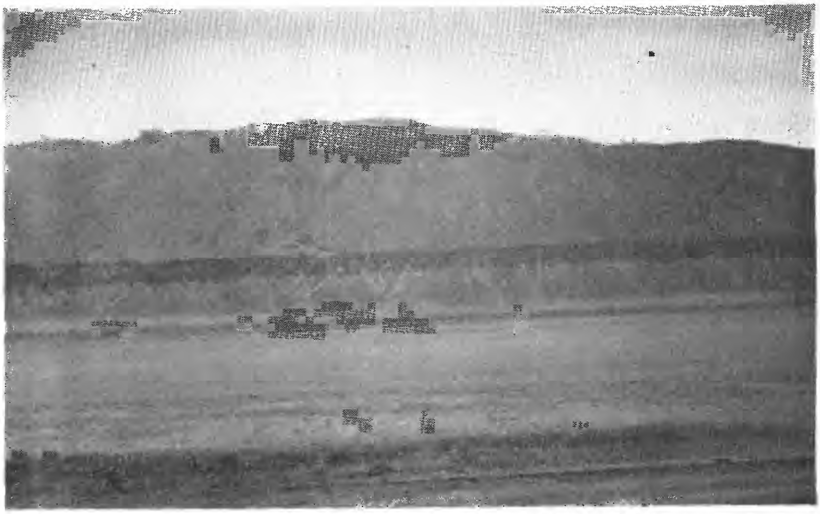
Most of the springs between the foot of the Provo bench and the Jordan River are at lower elevations and are doubtless not primarily caused by overflow of the artesian reservoir but are supplied by irrigation recharge of the shallow ground-water body, which is separated from the artesian reservoir by the confining beds that produce the artesian conditions. However, some of the lower springs possibly are caused by upward leakage of artesian water through openings in the confining beds. Some artesian water probably moves slowly upward through the confining layers and joins the shallow water body over the entire area of artesian flow.

The chloride content and temperature of samples of the water from a number of nonthermal springs are shown on page 55. It is to be noted that the chloride content and temperature of all the waters from springs along the east side of the valley are within the range of the chloride content and temperature of the waters from wells located in the adjoining artesian area.

Comparison of the map showing chloride content of the ground water (pl. 6) and the map showing the average altitude of the piezometric surface in the Jordan River Valley (pl. 5) led to the belief that there might be fresh-water springs northwest of the valley in the general direction of Antelope Island in Great Salt Lake. Inquiry among the residents of that area confirmed this belief. A small spring was found about 1¼ miles northwest of the well-defined old shore line of the Great Salt Lake. This spring is approximately in the W½ sec. 28, T. 2 N., R. 2 W., and issues at an estimated elevation of 4 or 5 feet above the present lake level. Chloride determinations of water from this spring are shown on page 55. Fresh-water vegetation, such as milkweed, sunflowers, and a species of tule, was found growing at the spring. (See pl. 7.) The water issues from several openings in an area of approximately a quarter of an acre that forms the top of a spring mound, which is elongated toward the southeast in the direction of the prevailing winds. The mound has been built up by sand and soil, which are blown across the surrounding expanse of flat, bare, waste land and collect among the vegetation that grows at the spring. The surrounding land has been covered by the waters of Great Salt Lake until very recent years. The chloride content of the water from these springs was somewhat more than 1,000 parts per million. A sample of water from a running stream just north of the spring mound, which is drainage from the Jordan River and nearby duck ponds, had a chloride content of about 775 parts per

A. VIEW FROM WEST SIDE OF VALLEY

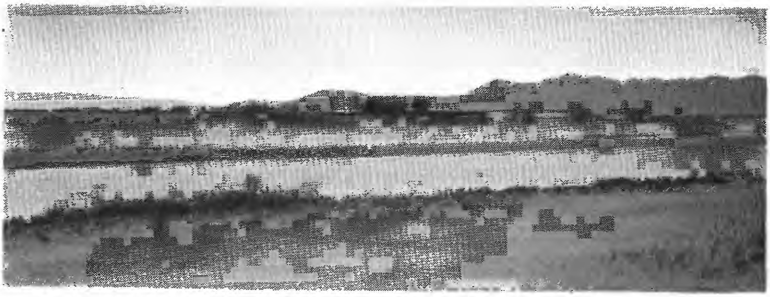
Provo bench is in foreground. Bonneville bench, in background, extends from top of dark vegetation zone more than 1/4 mile to foot of wave-cut cliff.



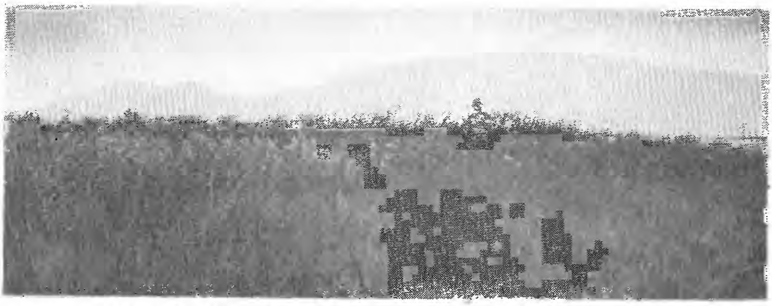
B. NEAR VIEW FROM PROVO BENCH.

Bottom of dark vegetation zone marks the contact of the bedrock wave-cut terrace with the overlying terrace sand and gravel.

WAVE-CUT CLIFF IN TRAVERSE MOUNTAINS ON EAST SIDE OF JORDAN NARROWS AT SOUTH END OF JORDAN VALLEY, UTAH.



A. THE MOUND AS SEEN FROM THE RECENT LAKE SHORE LINE.



B. NEAR VIEW OF MOUND SHOWING SUNFLOWER, MILKWEED, AND TULE GROWTH.

C. NEAR VIEW OF ONE OF THE SPRING OUTLETS.

FRESH-WATER SPRING IN BED OF GREAT SALT LAKE ABOUT 1 MILE FROM THE RECENT LAKE SHORE LINE.

million. The water from the bottom of a pit that was dug to a depth of 5 feet at a point about halfway between the spring mound and the old lake shore line to the southeast showed more than 75,000 parts per million of chloride; this water probably has about the same chloride concentration as the water of Great Salt Lake, or about 220,000 parts per million. The relatively fresh spring, although it discharges only a small quantity of water, suggests the probability of similar ground-water discharge into the bed of Great Salt Lake. The difficulties to be encountered in a search for springs over the large lake area between the shore line and Antelope Island precluded any further investigation. Fresh-water springs occur on Antelope Island, but there was no opportunity to make a study of their source.

THERMAL SPRINGS

Thermal springs are common along the western front of the Wasatch Mountains and are probably associated with faulting. They generally occur in the localities where the mountains project into the valleys in what are locally termed points of the mountain. Some thermal springs are in the southern part of the Jordan River Valley just north of the point of the mountain at the Jordan Narrows, and others are at the point of the mountain in the northern part of the valley. These latter springs supply water for several bathhouses. Wasatch Springs Plunge (originally Warm Springs) and Beck's Hot Springs being the main resorts. Between these two resorts is a group of springs along the railroad tracks called Hobo Springs, which rise through numerous openings and flow to waste. The thermal springs have temperatures considerably above the mean annual air temperature of the valley and probably do not discharge from the main body of ground water in the Jordan River Valley. Their temperature is considerably above the average ground-water temperature, and their source is more deep-seated, probably being related to the Wasatch fault.

The Crystal Hot Springs, in the southern part of the valley, have not been used as much as those nearer Salt Lake City, and consequently less is known concerning them. The earliest mention that the writer has been able to find relating to the springs is from the records of the Mormon Church Library under date of May 21, 1850. A note was found dated October 14, 1854, that a soldier had fallen into the springs and drowned. They have been used as bathing pools but are used now only to supply water for irrigation. They do not contain the large amounts of sulfur and salts that are found in the hot springs north of Salt Lake City. In connection with a proposed development of the springs, a pumping test was made on the lower group of springs during October 1934, and the following report was prepared:[15]

A group of springs in the NE¼ sec. 11 and NW¼ sec. 12, T. 4 S., R. 1 W., Salt Lake base and meridian, yield hot water and are known as Crystal Hot Springs. The depths of the springs were not measured but reports of 400 to 600 feet were received. In general, there are two areas in which the springs arise, the eastern group lying about 15 to 20 feet higher than the western group. Also, the eastern group consists of two main bodies of water with numerous small openings surrounding them; while the western group, which has had dikes built around them, forms one body of water.

The natural discharge from the lower group was 1.44 cubic feet per second on June 30, 1934. The temperatures of three of the springs in the higher, or easterly, group on June 30, 1934, were 122°, 132°, and 137° F. The smaller spring had the highest temperature, and it is probable that the others were colder because of the cooling effect of larger surface areas. A pumping test on the westerly group on October 1, 1934, lowered the water surface to such an extent that a few individual springs were uncovered and isolated from the main body of water. The temperature of one of these springs, in the northeast corner of the main body, was 139° F. on October 3, 1934. During the pumping test, this spring did not flow into the main body. The level of the water in the spring fluctuated with the water level in the main body but stayed several inches higher at all times.

The surface of the water in most of the springs has an appearance of boiling in many places. This is caused by the escape of carbon dioxide (CO_2) gas from the water as it arises from the depths. A sample of water obtained from the main body on May 22, 1934, was analyzed by the chemist of Salt Lake City Corporation, as follows:

Analysis of water from Crystal Hot Springs, Utah

[Sample collected May 22, 1934. Analyzed by Salt Lake City Corporation]

	Parts per million
Silica (SiO_2)	60
Iron and aluminum oxides ($Fe_2O_3+Al_2O_3$)	8
Calcium (Ca)	106
Magnesium (Mg)	25
Sodium and Potassium (Na+K)	304
Bicarbonate (HCO_3)	285
Sulfate (SO_4)	97
Chloride (Cl)	598
Total dissolved solids	1, 665
Total hardness as $CaCO_3$	368
pH	7. 6

A survey of the area of the lowest and largest lake formed by these springs and a pumping test to determine whether or not the rate of flow from the springs could be increased were begun on October 1, 1934, and completed on October 6, 1934. An automatic water-stage recorder was operated in conjunction with a 4-foot Cippoletti weir to determine the total amount of water pumped from the lake. The pumping was done under the direction of Mr. L. B. Glafcke by three engine-driven centrifugal pumps. An automatic water-stage recorder was in-

[15] Taylor, G. H., Pumping tests on Crystal Hot Springs: U. S. Geol. Survey, typerwitten report, released Oct. 15, 1934.

stalled on the lake to obtain a continuous record of the lake fluctuations but, due to a faulty clock, the record was not continuous.

The stadia survey of the lake gave a surface area of 2.99 acres at the beginning of the test, or high-water area; and an area of 2.63 acres at the conclusion of the pumping, or low-water area. The natural flow from the lake before starting the pumps was 1.18 cubic feet per second. The pumps were started at 1:30 p. m., October 1, 1934, and were run more or less continuously, due to the difficulty in keeping all engines running, over a period of 26 hours. The average discharge of the pumps was about 4.6 cubic feet per second, and there was no other out-flow of water from the lake. The total amount of water withdrawn from the lake during the test was about 9.86 acre-feet, and the level of the entire lake was lowered a total of 2.52 feet. A bar across the lake, which was exposed during pumping, then separated the lake into two parts, and water ran from the eastern part to the western part, from which the pumping was taking place. The western part, which had a low-water area of 0.97 acre, was then lowered about 3 inches more, or a total of 2.77 feet. The amount of water which was withdrawn and which represented storage in the lake was about 7.3 acre-feet. As a natural flow of 1.18 cubic feet per second existed at the beginning of the test, the same amount of flow can be assumed to have been coming from the springs during the test and amounted to 2.53 acre-feet. Thus, the total amount of water available during the period of pumping was 7.3 acre-feet from lake storage and 2.53 acre-feet from natural spring flow, a total of 9.83 acre-feet. The pumps, operating at an average rate of about 4.6 cubic feet per second, removed 9.86 acre-feet. Thus, it is apparent that the pumping of water from the lake and the subsequent lowering of the level of the lake did not increase the natural flow from the springs to any measurable amount.

The rate at which the lake level rose after pumping ceased was then observed as a check upon the rate of spring inflow. After both portions of the lake were again joined and had the same level, the lake rose a total of 0.90 foot during the first 20.5 hours. The lake storage during this period represented a spring flow of 1.44 cubic feet per second. During the next 27.5 hours, the lake level rose 1.04 feet, representing an inflow of 1.30 cubic feet per second. During the 48 hours, the average rate of inflow was 1.36 cubic feet per second. The lake level then rose another 0.47 foot during the next 15 hours, equaling a rate of inflow of 1.12 cubic feet per second. The lake was then at the level at which it stood when the pumping test was started. Therefore, the average rate of spring inflow to the lake, after it had been allowed to rise 0.11 foot to establish an equilibrium after pumping operations, was 1.30 cubic feet per second. The lake was then allowed to rise about 5 inches above the level at the beginning of the test, which required 23 hours and showed an inflow during the period of 0.67 cubic foot per second. A small unmeasured outflow from the lake during this period will increase the observed rate of inflow a small extent. Thus, the average rate of spring inflow during a 96-hour period, with a small unaccounted-for leakage during about the last 20 hours, was 1.13 cubic feet per second. Therefore, it is concluded that no material increase in the flow from the springs was obtained by the pumping test and that the assumption of an average inflow of 1.18 cubic feet per second during the period of pumping was practically correct. However, the observations of the recovery of the lake level show that the flow from the springs was slightly more at the lower than at the higher lake levels. This would normally be expected, as the lowering of the lake level is equivalent to a lowering of the discharge point of the springs and a reduction of the operating pressure against which the springs are flowing.

Three 4-inch auger holes were put down on the north side of the lake at distances of about 65, 135, and 190 feet from the edge of the lake. One hole was put down on the south side of the lake about 45 feet from the edge of the lake. These holes were drilled to a few feet below the shallow ground-water level. The three holes on the north side of the lake showed that the ground water sloped away from the lake, the water levels in the wells being 6.53, 9.48, and 10.88 feet below the original lake level. The water level in the hole on the south side of the lake was 0.34 foot below the original lake level. Measurements showed that there was no change in the water levels in the test holes during the pumping test. Therefore, if there is any movement of water from the lake to the surrounding shallow ground water, the movement is slow and very little actual transfer of water occurs.

Reference points were established in one small and one large spring of the higher, or easterly, group of springs. Observations of the water levels of these two springs, during the pumping operations on the lower group of springs, showed that there was no fluctuation caused by the pumping. This indicates either no connection between the two main groups of springs or a connection through which the movement of water or transfer of pressure occurs very slowly.

The hot springs just north of Salt Lake City have been the site of considerable activity. Beck's Hot Springs and Wasatch Springs Plunge are favorite bathing places for many people, and the latter is now being operated as a municipal enterprise by the Salt Lake City Corporation.

The first mention of these springs was found in the records of the Mormon Church under date of July 26, 1847, two days after the earliest settlers entered the valley. As a matter of historical interest the following quotations are taken from the Church records:

July 26, 1847.—Dr. Willard Richards recommended me to go with Solomon Chamberlain to the hot mineral springs to bathe for the benefit of my health. I saddled a couple of his mules, went past many mineral springs to the largest, which washes out at the foot of a large rock, having a large stone in the mouth to stand on, as if purposely placed there. The water was so very hot that I was unable to bear my fingers in it four or five seconds. This spring, with other small springs, forms a deep lake and runs off with a rapid current by a course about four or five feet wide and one deep, into a large lake two or three miles long, upon which are several thousand of snipe or plover. We returned to the nearest hot spring and bathed in it; it was very warm and smelt very bad.

—Thomas Bullock.

July 26, 1847.—Some of the sick have been to bathe in one of the hot springs and pronounce the effects wonderfully beneficial; others are going this morning to try the same experiment. * * * This water is about as warm as dishwater and very salty. There is much filthy kind of substance collected on it, and the smell arising from it is truly nauseating and sickly, though generally supposed to be in no way unhealthy. * * * [Speaking of what is now Beck's Hot Springs] There is a rock at the mouth of the spring where a person can stand and see inside. Standing on this rock with your face near the mouth of the spring a strong, warm, sulphurous air is felt to come in gusts out of the rock, and it is so hot that it requires only a few minutes to start the perspiration. * * * It is as hot as the hottest dishwater ever used for dishes. Immediately on emerging from the rock, the water forms a lake about three rods in diameter and evidently pretty deep. The water is exceeding clear and nice to look at but very salty indeed. We could see the water boil up in many parts of the lake. The water escapes at the north side of the lake at the base of the rock and there forms a stream about four feet wide and 18 inches deep. We concluded we would go down the stream six or eight rods to wash our feet, naturally expecting the water to be cool, but in taking off our boots and socks we found it impossible to hold our feet in it a moment and could scarcely wash them by dashing the water on them with our hands and suddenly dipping them in and out. It is supposed this would boil an egg in about ten minutes. —William Clayton.

Beck's Hot Springs were extensively developed and a large hotel was built. The water from the springs was bottled and sold for medicinal purposes for some time. On September 25, 1898, the hotel and other buildings were destroyed by fire, but a bathing resort is still being maintained by private enterprise. An item in the Salt Lake Herald under date of August 26, 1888, states:

Use of the springs for bathing and medicinal purposes is increasing. The hot springs discharge something over 200 gallons per minute. The temperature is given as 129° F. A partial analysis shows a content of more than 10,000 parts per million of dissolved mineral matter, of which over 70 percent is sodium chloride (common salt). Hydrogen sulphide gas is also reported.

Wasatch Warm Springs were developed more rapidly than the other springs of the group, presumably because they were closer to the center of settlement. A bathhouse was opened on November 27, 1850, with a festival attended by the First Presidency of the Church and others. The popularity of the springs as a bathing resort gradually increased. Several attempts have been made to increase the flow from the springs by driving tunnels. An item in the Deseret News of July 17, 1922, stated that the old bathhouse and adjoining buildings, built more than 50 years earlier were burned and that a new municipal bathhouse was being opened just north of the burned buildings. In a report to the city engineer of Salt Lake City under date of June 18, 1928, Dr. Frederick J. Peck, professor of geology at the University of Utah, states:

According to apparently reliable information, it appears that the original supply from the warm springs was as small as or even smaller than the amount now flowing from the tunnel. Moreover, the volume has been repeatedly increased by the drilling of more tunnels, but in each case the flow has diminished to near its original size.

The following analyses of water from Wasatch Springs Plunge, made by Herman Harms, Utah State chemist, were supplied by the Salt Lake City Corporation. Samples 1 to 4 were collected by H. H. Smith, assistant city attorney, on August 18, 1921; samples 5 and 6 were collected by F. S. Fernstrom on September 6, 1921.

Analyses of water from Wasatch Springs Plunge, Utah

[Analyzed by Herman Harms, State chemist. Parts per million]

	1	2	3	4	5	6
Silica (SiO_2)	22	22	24	22	26	42
Iron and aluminum oxides ($Fe_2O_3+Al_2O_3$)	1.1	1.3	1.5	1.3	2.3	2.1
Calcium (Ca)	326	369	495	397	490	511
Magnesium (Mg)	66	86	107	83	108	113
Sodium and potassium (Na+K)	1,293	1,581	2,149	1,721	2,106	2,153
Bicarbonate (HCO_3)	235	87	177	163	87	141
Sulfate (SO_4)	712	838	971	840	1,036	3,702
Chloride (Cl)	2,101	2,671	3,682	2,882	3,612	3,702
Total dissolved solids	5,283	6,396	8,520	6,794	8,432	8,658
Temperature (° F.)	97	103	100	90		

1. Tunnel No. 1.
2. Tunnel No. 2.
3. Tunnel No. 5.
4. Wasatka.
5. Trench south of tunnel No. 3.
6. Trench north of tunnel No. 4.

The following table shows the discharge of the hot springs at Wasatch Springs Plunge, as furnished by the Salt Lake City Corporation, and includes all the measurements the writer was able to locate:

Flow from springs at Wasatch Springs Plunge, Utah

Date	Flow (second-feet)
1920	
Nov. 9	1.17
1924	
May 2	.80
Oct. 3	2.10
1927	
Jan. 26	1.14
Mar. 7	.82
Apr. 21	2.17
Oct. 25	1.52
1928	
Apr. 19	1.25
May 8	1.16
June 25	1.33
Aug. 13	1.45
Oct. 17	1.35
Nov. 25	1.90
1929	
Jan. 8	1.65
Feb. 25	1.28
Mar. 29	1.39
Apr. 29	1.45
June 12	[1] 1.42
Oct. 2	[2] 2.17
Nov. 2	2.03
Dec. 19	2.17
1930	
Jan. 15	2.10
Feb. 1	2.17
Mar. 1	2.10
17	2.10

Date	Flow (second-feet)
1930	
Apr. 30	2.24
May 20	2.27
June 10	2.20
July 6	1.81
21	1.39
28	1.33
Aug. 7	1.28
19	1.28
Sept. 6	1.16
Oct. 1	1.16
23	1.16
Nov. 6	1.08
21	1.00
Dec. 6	1.05
23	1.00
1931	
Jan. 19	.94
26	.94
Feb. 10	.94
25	1.28
Mar. 5	1.52
16	1.90
26	1.97
Apr. 29	1.70
May 10	1.64
26	1.64
June 8	1.70
July 28	1.00
Oct. 8	.94
Dec. 1	.79
21	.89
26	.89
1932	
Jan. 28	.86
Feb. 20	.84
Mar. 12	.84

Date	Flow (second-feet)
1932	
Apr. 14	0.92
25	.94
May 28	.89
July 15	1.16
Aug. 12	1.11
Sept. 14	1.07
Oct. 22	1.07
1933	
Feb. 8	1.11
Mar. 8	1.07
May 24	1.05
June 29	1.03
1934	
Jan. 27	1.11
Apr 28	1.05
June 20	.84
July 20	.84
Sept. 13	.69
Dec. 22	.79
1935	
Feb. 1	1.00
Apr. 22	1.58
May 17	.94
July 8	1.00
Nov. 15	1.22
Dec. 27	1.70
1936	
Jan. 22	1.45
Feb. 28	1.39
June 6	1.77
Aug. 22	1.77

[1] In excavating for the new concrete weirs north of the municipal bathhouse, it was discovered that the Wasatka pipe line was diverting over half a second-foot of water from the city conduit. This may affect all prior measurements except that on Nov. 9, 1920.
[2] After concrete weir was built.

Flow from springs at Wasatch Springs Plunge, Utah—Continued

Date	Flow (second-feet)	Date	Flow (second-feet)	Date	Flow (second-feet)
1937		1938		1939	
Apr. 7	1.80	Mar. 15	1.28	Jan. 14	0.89
May 28	1.83	May 5	2.03	Feb. 14	.80
Nov. 26	1.33	June 25	1.16	Mar. 2	.80
		July 5	1.16	23	1.12
1938		Aug. 4	1.11	Apr. 15	1.45
Feb. 11	1.22	Nov. 16	.89	July 21	.92
				Oct. 14	1.00

DISCHARGE BY EVAPORATION AND TRANSPIRATION

A considerable amount of shallow ground water probably evaporates directly from the soil in areas where the water table is within a few feet of the surface. The depth of seasonal evaporation from a free water surface at the Salt Lake City Airport is about 5 feet (see p. 7), but no figures are available as to the amount of evaporation from the soil in the Jordan River Valley. The amount of water extracted from the artesian aquifers by direct evaporation from the soil is probably negligible. Undoubtedly a large amount of shallow ground water is lost by transpiration from plants. Much of the low-lying land is very wet and swampy throughout the year, especially along the bottom lands of the Jordan River and the shallow valleys that have been cut into the main valley floor by the streams entering the valley from the east. These areas discharge a considerable amount of water through transpiration, although probably very little of the water so lost is from the artesian reservoir. However, some of the water represented by soil evaporation and plant transpiration from the shallow water table is probably derived from the artesian strata by slow upward movement through the confining clay strata.

GAIN IN FLOW IN TRIBUTARIES TO THE JORDAN RIVER

Most of the tributary streams entering the Jordan River from the east lose considerable water from their stream beds immediately after the streams leave the base of the mountains. During the summer months the stream beds are generally dry below the mouths of the canyons, the water having been diverted by canals; but water again appears in the stream channels at a lower elevation, as described in the section on nonthermal springs. The flow in the streams then increases in amount toward their junction with the Jordan River, some of it being again diverted for irrigation along the stream channels. This gain in flow is derived from three and sometimes four sources: (1) Definite springs, (2) flowing wells, (3) seepage from the shallow water table, and (4) waste irrigation water. Thus, with the exception of the waste irrigation water, the gain in flow of these creeks is ground-water discharge.

The amount of this gain in flow in Big and Little Cottonwood Creeks, Spring Run, and Mill Creek is given in the section on surface water, pages 153 to 163. The data given on those pages for the summer irrigation months essentially represent ground-water discharge. During the months of heavy surface-water runoff the records include surface runoff that is not diverted at the mouths of the canyons.

GAIN IN FLOW IN JORDAN RIVER, EXCLUSIVE OF TRIBUTARIES

In November 1932, measurements were made of the flow through the Jordan River and of water diverted from or added to the river by canals or tributary streams for the purpose of estimating the ground-water flow to, or invisible gain in, the Jordan River, exclusive of all tributary streams or spring branches. The period selected for these measurements was a time during which a minimum amount of surface water was diverted from or added to the flow of the Jordan River and after a considerable length of time had elapsed since the irrigation season. The following table shows the summary and analysis of the data obtained during the test:

Determination of the gain in flow of the Jordan River, Salt Lake County, Utah, November 1932

Section of river	Flow (second-feet)		Diversions (second-feet)	Additions (second-feet)	Length of section (miles)	Gain (second-feet)	
	At upper end of section	At lower end of section				Total	Per mile
Jordan Narrows to Bluffdale Road	[1] 12	[2] 3	[3] 14	0	4	5	1.3
Bluffdale Road to 64th South Street	[2] 3	104	7	[4] 1	13	107	8.2
64th South Street to 33d South Street	104	207	0	[5] 50	7	53	7.6
33d South Street to 2d South Street	207	192	[6] 47	[7] 32	6	0	0
Total gain in Jordan River, exclusive of tributaries, Jordan Narrows to 2d South Street						165	

1 Leakage over and under dam estimated by keeper of dam.
2 Estimated flow over weir in river above Bluffdale Road.
3 Flow over weir in canal, estimated by keeper of dam.
4 Estimated return flow from Utah-Idaho Sugar Factory.
5 41 second-feet from Big Cottonwood Creek, 9 second-feet from Little Cottonwood Creek.
6 Surplus Canal.
7 22 second-feet from Mill Creek, 6 second-feet from Decker Pond, 4 second-feet estimated from Parleys and Emigration Creeks.

The table shows an apparent invisible gain of 165 second-feet in the flow of the Jordan River between the Jordan Narrows and 2d South Street, all of which occurs between the Jordan Narrows and

33d South Street. The sections between Bluffdale Road and 33d South Street showed a total gain in flow of 160 second-feet. The section between Bluffdale Road and 64th South Street showed a gain of 8.2 second-feet per mile, compared with a gain of 7.6 second-feet per mile in the section between 64th South and 33d South Streets. These gains in the flow of the Jordan River represent ground-water discharge from both the shallow ground-water body and the artesian reservoir.

In 1900 and 1901 several observations were made of the gain in flow of the Jordan River between the "power plant and head of North Jordan Canal".[16] The 10-mile section of the river observed corresponds roughly to the present section between the Jordan Narrows and 64th South Street. The head of North Jordan Canal is about 4 miles above 64th South Street. The average gain during the season of 1900 was 5.42 second-feet per mile, with a maximum and minimum total gain on any one date of measurement of 61.0 and 38.0 second-feet, respectively. Between July 1 and October 15, 1901, the average gain was 3.83 second-feet per mile, and the total gain ranged between 60 and 34.4 second-feet. The report on these measurements contained the following statement:

> No measurements have been made below the North Jordan Dam, but the gain in the flow of the river from seepage is known to be large. No direct relation between the quantity of return seepage and the flow of the river can be traced. There is a general correspondence, however, the volume of return seepage being large in the spring and diminishing as the season advances and the discharge of the river decreases. Aside from this general decrease in the volume of return seepage, there is a daily fluctuation. These fluctuations do not follow the fluctuations in the discharge of the river or in the volumes diverted by the canals heading above the section under consideration, nor the changes in temperature. Although there are no observations to prove the fact, it is probable that there is a certain part of the increase which is practically constant and comes from seepage proper * * *. Although the volume of return seepage decreases with the decrease in the flow of the river, it is not proportional.

The measurements during 1932 indicate that the gain in the flow of the river per unit length of channel is roughly proportional between Bluffdale Road and 33d South Street and that the present gain in flow is somewhat greater than in 1900–1901. This is probably caused by more irrigation at present, which results in a greater return seepage. The daily fluctuation cited above, in view of later ground-water knowledge, can now be explained as probably caused by daily fluctuations of the barometric pressure, which cause the overflow of the artesian reservoir to fluctuate, or by transpiration of vegetation along the river, or by both. The disproportional relation between the flow of the

[16] Mead, Elwood, Report of irrigation investigations in Utah: U. S. Dept. Agr. Exper. Sta. Bull. 124, pp. 81-83, 1903.

river and return seepage is probably due to the slow movement of the return irrigation seepage after it reaches the ground-water reservoir This slow movement results in a smaller fluctuation of the gain in flow of the river, and also it will maintain a more or less constant gain in flow over a considerable period.

DISCHARGE FROM WELLS

Most of the artificial discharge of artesian water in the Jordan River Valley takes place through several thousand flowing wells. There are a number of nonflowing wells in the valley but only a few large pumped wells. Most of the larger pumped wells were constructed during the drought periods of 1931 and 1934.

During the summer of 1932 that part of the flowing-well area between the Jordan River and the Wasatch Mountains and between Salt Lake City and the southern edge of the flowing-well area was divided in checkerboard fashion, and a complete survey was made of all wells in the alternate squares. Approximately 1,165 wells were thus located, most of which were flowing wells. Doubling this number gives an estimated total of 2,330 wells in the area surveyed. It is estimated that there are about as many flowing wells in the Jordan River Valley outside the area surveyed as inside this area. Thus the total number of flowing wells in the Jordan River Valley is estimated to be about 4,500.

Most of the flowing wells in the valley are used for domestic supply and for miscellaneous purposes, such as for lawns or small gardens. If a continuous flow for beneficial use of 4 gallons a minute is assumed for each flowing well, the total artesian flow for beneficial use equals about 18,000 gallons a minute, or about 29,000 acre-feet a year.

The measured wastage from flowing artesian wells in the area surveyed in detail—that is, water flowing from the wells but apparently put to no beneficial use—was 1,050 gallons a minute. Doubling this figure gives an estimated wastage of 2,100 gallons a minute from 2,330 flowing wells in the checkerboarded area surveyed, or an average of 0.9 gallon a minute. This waste results from noncontrol of flowing wells—that is, wells allowed to flow when the water is not used, wells that flow in excess of the amount needed, and wells that cannot be controlled because of poor well construction.

In the area outside that surveyed in detail, 160 flowing wells were located during a partial inventory, and a total wasted flow of 780 gallons a minute was estimated.

The total estimated waste from flowing wells in the Jordan River Valley amounts to about 4,000 gallons a minute ($0.9 \times 4{,}500$), or 6,500 acre-feet a year. If it requires 3 acre-feet of water a year to raise a crop, the wasted flow from artesian wells in the Jordan River Valley would irrigate more than 2,000 acres of land.

The number of nonflowing wells in the valley is estimated to be about 1,000, most of which are shallow dug wells. Many of these wells are abandoned; water is withdrawn from most of the remainder by hand pump or bucket. Water in any considerable quantity is obtained from probably less than 30 nonflowing wells. The total discharge of ground water through these nonflowing wells may be estimated to be about 500 acre-feet a year.

In summary, the annual discharge of ground water through wells in the Jordan River Valley is estimated to be 35,500 acre-feet from flowing artesian wells (29,000 acre-feet for beneficial use plus 6,500 acre-feet wasted) and 500 acre-feet from nonflowing wells, a total of about 36,000 acre-feet, or 50 second-feet. This figure is probably low. It is based on several estimates which indicate that there are about 5,500 wells in the valley (4,500 flowing, 1,000 nonflowing), but records in the office of the State Engineer of Utah indicate that the total number of wells may be as great as 6,500.

ESTIMATE OF THE TOTAL GROUND-WATER DISCHARGE

An estimate of the total ground-water discharge from the Jordan River Valley, exclusive of water lost by evaporation and transpiration, water discharged from hot springs, and water discharged in unknown amounts in places northwest of the valley, can be made by summarizing all known discharges and withdrawals.

The total flow from nonthermal springs is not definitely known, but it varies from year to year, the degree of variation depending primarily upon the yearly precipitation and ground-water withdrawals. Some of the flow from these springs is accounted for by the water picked up in the streams tributary to the Jordan River as they cross the valley between the mountains and the river. The discharge from nonthermal springs in addition to that picked up in the Jordan River and its tributaries is estimated to average about 5 second-feet or about 3,600 acre-feet a year.

That the gain in flow of the Jordan River and its tributaries is relatively constant is shown by the table on page 15. The gain in flow of the tributaries to the Jordan River during November 1932, as given in the table on page 42, was 9 second-feet from Little Cottonwood Creek, 41 second-feet from Big Cottonwood Creek, 22 second-feet from Mill Creek, 6 second-feet from Decker Pond, and 4 second-feet from Parleys and Emigration Creeks, a total gain in flow of 82 second-feet, or 59,500 acre-feet per year. This figure probably includes some water wasted from flowing wells which is duplicated in the figure for total well discharge; the amount involved is difficult to estimate but is believed to be relatively small in comparison with the total discharge.

The gain in flow of the Jordan River, exclusive of tributaries, during November 1932 (see table p. 42) was 165 second-feet, or about 120,000 acre-feet per year.

Thus, the total visible ground-water discharge estimated as the sum of the discharge from nonthermal springs, the gain in stream flow, and the discharge from wells, is about 300 second-feet, or 217,000 acre-feet per year. This includes visible discharge from both the artesian basin and the shallow water body overlying the artesian basin and may be considered as a minimum ground-water discharge. There are two other sources of ground-water discharge—invisible underflow out of the valley toward the northwest, and evaporation and transpiration. As this investigation was concerned primarily with the artesian basin, we may for the purposes of this report ignore the discharge from the shallow water body. However, if we assume that the invisible underflow out of the valley and from the artesian basin is about equal to the discharge from the shallow water body included above in the measured discharge, the total estimated ground-water discharge from the artesian basin would remain about the same—300 second-feet, or 217,000 acre-feet per year.

QUALITY OF WATER

GENERAL CHARACTER

In most parts of the Jordan River Valley the chief water-supply problem is to obtain an adequate supply of water, but in some parts of the valley where the supply is adequate, the quality of the water renders it unsatisfactory or undesirable for certain uses. Analyses of 76 samples of water in the Jordan River Valley, including four analyses of the water of streams, are given in the table that follows. The analyses show only the dissolved mineral content of the waters and indicate their suitability for commercial or home laundry work, industrial use, or irrigation. The analyses do not indicate the sanitary condition of the waters.

TOTAL DISSOLVED SOLIDS

The residue left after water has been evaporated consists of mineral matter, with which may be included some organic material and a little water of crystallization.

In general, waters with less than 500 parts per million of dissolved mineral matter are entirely satisfactory for domestic use, except for difficulties that may result from their hardness and, in some areas, because of excessive corrosiveness or content of iron or fluoride.

Waters having more than 1,000 parts per million of dissolved mineral matter are, as a rule, not satisfactory, for they are likely to contain enough of certain constituents to produce a noticeable taste or to make the water unsuitable in other respects.

The ground waters in the Jordon River Valley are relatively high in total solids, ranging from about 100 to 600 parts per million in the areas of most intensive development to more than 25,000 parts per million in the areas where the water is most highly mineralized, as shown by well (C-1-3)3add1.

CHLORIDE

The relatively fresh ground water in the eastern part of the valley led to a study of the chloride content of the waters. In this study, field tests for chloride were made on water from about 230 wells in the valley and also on water from canals, rivers, lakes, and springs. The results of these tests are given in the tables on pages 51 to 54. Chloride tests on water from the same wells at different times of the year show no significant differences, but this may be because not enough tests were made during the year. The chloride tests on the water of Utah Lake (p. 54) were made previous to this investigation.

The chloride content of the ground waters tested has been plotted on a map of the valley (pl. 6) to show the areal distribution of the chloride. In an area including Tps. 1, 2, and the northern part of T. 3 S., R. 1 E., on the east side of the Jordan River and extending in an easterly direction across the river to the southwestern part of T. 1 N., R. 1 W., the water had, with few exceptions, less than 100 parts per million of chloride. Included in this area is the main part of the area of artesian flow between Salt Lake City and Murray, where the water had 30 parts of chloride or less. In the rest of the valley, however, fewer than 6 waters were found with less than 100 parts per million of chloride.

Just east of Saltair, on the shores of Great Salt Lake, and extending tonguelike about 8 miles in an easterly direction is an area about 1½ miles wide in which the chloride content of the ground water is very high. Eleven wells in this area yielded water with more than 1,000 parts per million of chloride. The highest amount of chloride was found in water from well (C-1-3)3add1, at the old salt plant near Saltair, and from well (C-1-2)6bbb1, at the salt beds of the Royal Crystal Salt Co. Both wells are within about 2 miles of Great Salt Lake and east of Saltair, and each had a chloride content of more than 14,000 parts per million. The well at the salt beds yields water from two depths, the water from 360 feet having a chloride content of about 14,400 parts per million and that from 620 feet having a chloride content of about 2,200 parts per million. It is noteworthy

Analyses of Waters from Jordan River Valley, Utah

[Analyzed by E. W. Lohr. Parts per million. Well numbers correspond to numbers in tables of well records. For explanation of well-numbering system, see p. 5]

Well No.	Depth (feet)	Date of collection	Dissolved solids	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride	Nitrate	Total hardness as $CaCO_3$	Temperature (°F.)	Remarks
(A-1-1)31acb1	470	Sept. 30, 1932	253	13	0.02	59	20	12	1.4	252	14	20	0.3	1.8	230	53	
(B-1-1)5ddd3	1,000±	Sept. 27, 1932	1,155	64	.04	62	14	324	12	214	1.6	535	1.3	.0	212	83	
11caa	75	Mar. 30, 1932	415			75	25	56		374	2	73		.1	290	54	
19baa3	490	Nov. 13, 1931								443	2	266			142	66	
19baa5	645±	do								308	2	345			141	73	
19bab1	645±	do								282	2	405			162	74	
27cdd3	500±	Mar. 13, 1933	2,349			58	39	825		700	2	1,080		.0	305	61	
27dcb2	234	do			.40					600	2	228		.25	140	55	
36abc1		Mar. 30, 1932	567			98	39	53		352	123	63		18	405	55	
(B-1-2)15bcb2	300	May 19, 1933								290	2	124		.0	50	66	
28		Sept. 26, 1932	2,174	38	.02	112	26	618	19	117	20	1,165		.0	387	64	Spring in bed of Great Salt Lake.
35cdc1		May 19, 1933								226	2	194		.0	52	72	
36baa1	464	Nov. 12, 1931	3,840			240	76	1,131		174	60	2,245			912	84	
(C-1-1)2		Nov. 14, 1931	1,330			160	79	192		311	448	298			724		Jordan River at 2d South Street Bridge.
2cda1	115	Dec. 21, 1931	433			33	21	118		469	4	26		.4	169	53	
12cdc2	185	Mar. 30, 1932								436	36	28		.68	270	52	
13adc1	500	Dec. 21, 1931	602			109	36	45		263	258	24		.1	420	60	
13dac1	864	Mar. 30, 1932	485			73	18	77		264	148	34		5.4	256	63	
15abb2	138	do								227	70	43		.1	177	55	
24acc1	250	do	635			122	42	34		276	270	31		.1	477	56	
24bbb4	660	Apr. 1, 1932	682			135	46	24		236	338	23		.1	526	62	
24cdc2	400±	Mar. 30, 1932	380			70	23	35		253	109	16		1.9	269	57	
28cdd1	303	Mar. 6, 1933			1.0					236	65	105		2.8	258	53	
35aaa4	381	Mar. 30, 1932	317			72	25	4.7		208	101	12		.1	282	54	
35aaa5	330	do	323			67	23	14		198	110	11		.1	262	56	
(C-1-2)5bbb1	660	Nov. 12, 1931	3,600			188	116	1,032		152	65	2,125			946	64	
12daa1	411	May 19, 1933								157	45	359		1.0	249	71	
19dca1	208	Nov. 10, 1931	1,678			124	56	420		317	292	630			540	58	
20bcd1	150	do	1,456			158	64	291		241	189	635			657	55	
21	53-165	May 13, 1933	948	50	.05	30	16	276	17	260	118	305		5.6	141		Composite of Garfield Water Co. wells.
30abb1	120	Mar. 24, 1933	1,300	27	.02	99	50	281	11	325	231	398		15	452		
35ada2	64	do	1,274			121	71	238		375	321	325		13	594	55	
(C-1-3)3add1	345	do	25,400		6.7	1,580	537	7,349		138	827	15,000			6,152	65	
3add2	689	Nov. 12, 1931	7,200			1,197	76	1,412		79	15	4,460			3,304		
(C-2-1)1bab2	198	Mar. 30, 1932	223			48	18	7.0		159	59	12		.4	194	55	
10abd1	180	Mar. 6, 1933	446			70	28	52		133	85	145		.0	290	53	
27ddc1	235	do	476			82	37	39		176	75	155		1.8	357	57	

(C-2-2)8		Mar. 25, 1933	598	50	.06	79	32	63	6.4	231	51	158		6.9	329		Composite of 8 wells of Hercules Powder Co.
24aaa1	113	May 13, 1933								163	16	363		1.5	255		
(C-3-1)15bda1	358	Mar. 7, 1933	547	24	.02	80	31	47	2.9	178	89	128		7.4	327		
26		Nov. 9, 1931	2,364			371	109	285		386	839	570			1,374	55	Spring.
26cad1		Dec. 9, 1931	1,260			230	69	111		230	339	390		7.5	858	56	
26cdb1		Nov. 9, 1931	1,243			232	70	102		228	335	392			867	56	
(C-4-1)5ccb1	185	May 15, 1933	2,650			528	178	146		312	545	1,095			2,050		
(C-5-1)25		May 23, 1930	979	18	.20	67	56	184	14	281	256	238		2.3	397		Utah Lake at pump intake.
(D-1-1)7abd6	130	Dec. 21, 1931	576			110	43	31		318	167	50		18	451	51	
15bda1	102	Mar. 30, 1932	498			77	36	49		271	157	40		5.8	340		
18aaa3	300	do	620			100	38	62		292	235	38		2.8	406	55	
19daa2	140±	do	563			109	34	40		300	196	33		3.0	412	55	
21acc1	467	do	343			88	21	7.1		256	79	20		1.5	306		
21acc1	467	Sept 15, 1932	457	18	.02	72	27	59	3.6	350	80	27	.4	12	291	53	
24		Apr. 1, 1932	319			87	18	3.6		236	71	22		.64			Parleys Creek at weir.
30bbc1	324	Mar. 30, 1932	476			88	31	33		247	184	18		.1	347	55	
30bbc9	285	do	488			101	36	16		251	189	22		.6	400	53	
31cad4	220	do	297			66	23	6.2		194	95	10		.84	259	54	
32bab16	298	Dec. 21, 1931	377			77	31	11		222	128	20		.6	320	59	
32cdc2	185	Mar. 31, 1932	490			99	38	17		278	180	15		4.6	403	55	
(D-2-1)6	70–440	Oct. 3, 1932	319	12	.05	56	22	25	2.7	199	59	38	.0	5.0	230	52	Composite sample from weir outlet from Erekson group of wells.
7caa2		Mar. 7, 1933	573			84	28	85		242	126	125		5.5	325		
7cbd1	64	Dec. 7, 1931	154			35	11	7.6		131	20	14		1.4	133	54	
7cbd2	399	do	122			32	9.2	.7		108	16	9.0		1.7	118	54	
7ddd2	90	Mar. 31, 1932	291			58	25	12		198	65	28		5.6	248	51	
8abd8	188	Dec. 19, 1931	288			72	19	2.3		174	90	18		1.5	258	52	
8adb10	179	do	200			46	17	4.7		174	32	12		2.6	185	52	
8cca11	182	do	122			30	9.5	3.0		112	16	8.0		.8	114	51	
8ccd7	150	Oct. 3, 1932								118	18	7.0	.6	.63	105	52	
8ccd8	86	Dec. 19, 1931	458			83	32	38		275	99	61		9.3	339	50	
8ccd19	440	Oct. 3, 1932								109	16	11	1.0	.42	105	58	
8ccd21	215	do								96	16	6.0	.7	.75	88	53	
8ccd23	94	do								235	60	44	1.0	7.8	279	52	
9abc2	96	Dec. 21, 1931	492			107	36	17		323	136	28		8.4	415	50	
12		Apr. 1, 1932				43	8.7			80	59	2.5		.2	143		Little Cottonwood Creek at new power plant.
16bbd14	175	Mar. 31, 1932	210			52	20			181	32	14		2.7	212	52	
25		Apr. 1, 1932				30	17			126	70	4.2		.2	145		Big Cottonwood Creek at City's conduit intake.
30abc3	82	Mar. 13, 1933	256			58	17	15		219	35	21		2.5	215	50	
30dcb	10.4	Mar. 6, 1933	2,030			162	146	352		478	549	555		31	1,004		

that this area of very high chloride abuts at its east tip on the northwest tip of the low-chloride area.

North of the line formed by these two areas the waters range in chloride content from less than 100 to more than 1,000 parts per million.

Along the west side of the valley and also on the east side in the southern part of the valley the chloride content of the waters shows little uniformity, but in most places it is between 100 and 750 parts per million. The high chloride content of the waters in the southern part of the valley may reflect the relatively high chloride content of the irrigation waters from Utah Lake, which range in chloride content from about 200 to 400 parts per million.

From the data furnished by the chloride content of the waters it may be deduced that the sediments, particularly in the northern and western parts of the valley, contain considerable quantities of sodium chloride. The analyses indicate that in the area where the waters have a low chloride content the sediments contain mainly calcium carbonate and at some places appreciable amounts of calcium sulfate, with but little sodium chloride.

The water from 29 springs, ranging in flow from a small seep to 6.5 second-feet, was also tested in the field for chloride during August 1932. Nearly all these springs are located along the toe of the Provo terrace. The results obtained, as shown in the table (p. 55), indicate a range in temperature and chloride content that is very similar to that of the water from nearby flowing wells. All but seven of these springs are thought to represent overflow from the artesian basin.

The chloride data shown on plate 6 suggest that the movement of the ground water is in a northwesterly direction and indicate the possibility of ground-water discharge into Great Salt Lake in or near the southeast part of T. 2 N., R. 2 W. The data also suggest that the area of greatest ground-water recharge is near the base of the Wasatch Mountains. Thus, suggestions indicated by these data substantiate conclusions reached through consideration of the isopiestic lines of plate 5 concerning the origin and direction of movement of the ground water in the valley.

Results of field chloride tests of well water

Well No.	Depth (feet)	Date of collection of sample	Chloride (parts per million)
(B-1-1)5ddd3	1,000	Aug. 7, 1931	700
		June 16, 1932	450
		Aug. 11, 1932	600
6bbd1	300	Sept. 27, 1932	80
6cca1	365	Sept. 28, 1931	90
		Apr. 11, 1932	90
		June 16, 1932	90
		Mar. 20, 1933	110
7cdd1		Sept. 27, 1932	575
9aba1	300	Oct. 9, 1931	550
		June 16, 1932	575
		Mar. 20, 1933	650
9aba2	300	Oct. 9, 1931	700
		June 16, 1932	700
		Mar. 20, 1932	800
11caa	75	Oct. 6, 1931	90
		July 8, 1932	80
		Mar. 20, 1933	125
15bbc1	170	Sept. 27, 1932	1,025
19baa3	490	Oct. 10, 1931	300
		Apr. 11, 1932	275
		Aug. 12, 1932	300
		Mar. 20, 1933	325
19baa5	654	Oct. 10, 1931	350
		Apr. 11, 1932	350
		Aug. 12, 1932	400
		Mar. 20, 1933	425
19bab1	645	Oct. 10, 1931	425
		May 3, 1932	400
		Aug. 12, 1932	450
		Mar. 20, 1933	425
19daa1	487	Sept. 26, 1931	275
		June 16, 1932	275
		Mar. 20, 1933	325
19dad1	160	Oct. 9, 1931	30
		June 16, 1932	30
		Mar. 20, 1933	40
20aad1	215	Sept. 27, 1932	300
20baa1		do	125
		Mar. 20, 1933	120
21aa1	136	Sept. 27, 1932	400
		Mar. 20, 1933	375
21dba1	300	Dec. 1931	1,150
		June 16, 1932	1,125
		Mar. 20, 1933	1,200
27cdd3	500	Oct. 12, 1931	1,050
		June 16, 1932	1,100
		Aug. 5, 1932	1,150
27cdd4		Oct. 12, 1931	110
		June 16, 1932	110
		Aug. 11, 1932	130
		Mar. 13, 1933	125
27dcb2	234	Oct. 5, 1931	220
		June 16, 1932	250
		July 5, 1932	230
		Mar. 13, 1933	230
29dad1	265	Sept. 26, 1931	35
		Apr. 9, 1932	35
		Aug. 12, 1932	35
		Mar. 20, 1933	35
30ada1		Sept. 28, 1932	400
30ada2		do	250
30dda1		do	30
31dda1		do	45
31ddb1		do	65
32cda1		do	30
35ccb2	250	Apr. 28, 1933	60
36abc1		Oct. 6, 1931	80
		Aug. 5, 1932	100
(B-1-2)8aac1		Sept. 26, 1932	500
13aad1		Sept. 27, 1932	375
15bcb2		Sept. 24, 1932	130
19dac1		Sept. 22, 1932	400
21bbb		do	180
21cac1	223	do	275
22cca1		do	250
(B-1-2)23cbd1	290	Sept. 21, 1932	300
25cad1		do	400
26bad1		do	320
26cdc1		do	1,375
27acb1		Sept. 24, 1932	425
27bdd1		do	375
29daa1	450(?)	Sept. 22, 1932	400
29daa2		do	425
30abc1		do	950
31aad1	485	Nov. 13, 1931	1,400
		June 16, 1932	1,500
		Mar. 21, 1933	1,500
32bcb1	520	June 9, 1932	1,150
		Mar. 21, 1933	1,300
33baa1		Nov. 13, 1931	2,100
		June 16, 1932	2,100
35cda1		Sept. 28, 1932	1,200
35cda2		do	925
36baa1	464	Oct. 9, 1931	3,000
		Apr. 11, 1932	2,400
		June 16, 1932	2,600
		Mar. 20, 1933	2,300
35dad	160	do	140
(B-2-1)36cbc1	141	do	150
(B-2-2)35cdc1		Sept. 21, 1932	250
		May 19, 1933	200
35cdc2		Sept. 21, 1932	400
(C-1-1)1bdc1	1,486	Oct. 5, 1931	140
2cda1	115	Oct. 3, 1931	30
		Aug. 5, 1932	35
3bdb1	550	Nov. 1931	70
		May 11, 1932	55
		June 16, 1932	55
		Aug. 5, 1932	70
		Mar. 13, 1933	70
		Mar. 20, 1933	60
3cba2		Oct. 12, 1931	55
		June 16, 1932	55
		Aug. 5, 1932	75
		Mar. 24, 1933	65
		Mar. 30, 1933	60
8aca1	186	Sept. 25, 1931	15
		July 8, 1932	20
		Mar. 24, 1933	20
8aca2	420	Sept. 25, 1931	35
		July 8, 1932	35
		Mar. 24, 1933	40
12cdc2	193	Sept. 30, 1931	30
		Aug. 6, 1932	35
13adc1	500	Oct. 3, 1931	30
15abb2	138	Sept. 30, 1931	50
		Apr. 8, 1932	45
		June 16, 1932	45
		Mar. 24, 1933	50
18bba1	250	Sept. 24, 1931	500
		July 8, 1932	375
		Mar. 24, 1933	550
19cbb1		Nov. 7, 1932	350
20baa1	540	do	40
20dcd1		do	80
21dbb1		do	25
22bda1	315	Aug. 18, 1931	30
		June 16, 1932	25
		Mar. 16, 1933	30
22bdd2	530	Aug. 18, 1931	25
23bab1		Nov. 1931	15
		Aug. 6, 1932	20
23bab2		Nov. 1931	20
		Aug. 6, 1932	25
24acc1	400	Sept. 30, 1931	40
		July 6, 1932	35
24cdc1	210	Nov. 1931	15
		Aug. 6, 1932	20
24cdc2	400	Nov. 1931	20
		Aug. 6, 1932	25
27cdd1	296	Aug. 19, 1931	35

Results of field chloride tests of well water—Continued

Well No.	Depth (feet)	Date of collection of sample	Chloride (parts per million)
(C-1-1)27dda1	40	Oct. 8, 1931	290
		Mar. 8, 1932	300
		June 23, 1932	425
		Aug. 10, 1932	350
		Mar. 2, 1933	375
27dda2	115	Oct. 8, 1931	20
		Mar. 8, 1932	20
		June 23, 1932	20
		Aug. 10, 1932	25
		Mar. 21, 1933	20
28acd1	257	Nov. 7, 1932	15
28cdd1	303	Aug. 19, 1931	175
		June 23, 1932	150
		Aug. 10, 1932	150
		Mar. 21, 1933	125
29add1	375	Nov. 7, 1932	100
29bdc1	400	do	155
30ddc1	54	Sept. 16, 1931	375
		Mar. 8, 1932	375
		June 23, 1932	425
		Aug. 10, 1932	475
		Mar. 21, 1933	475
33abb1	373	Dec. 14, 1931	55
		June 23, 1932	55
		Aug. 10, 1932	60
		Mar. 21, 1933	60
34dbc1	300	Sept. 16, 1931	20
		Aug. 11, 1932	25
		Mar. 17, 1933	25
35aaa4	381	Sept. 29, 1931	15
		Apr. 16, 1932	15
		Aug. 6, 1932	25
35aaa5	330	Sept. 29, 1931	15
		June 23, 1932	15
		Aug. 6, 1932	20
(C-1-2)2bba1	--------	Sept. 28, 1932	775
2ddd2	--------	do	1,275
5bbb1	660	Sept. 25, 1931	2,050
		Mar. 23, 1932	2,400
		June 16, 1932	2,150
6bbb1	[1] 360	Nov. 13, 1931	14,400
	[2] 620	do	2,200
8ddd1	--------	Nov. 8, 1932	850
9ddc1	400	Nov. 7, 1932	550
12daa1	--------	Oct. 8, 1931	375
		July 8, 1932	375
		May 19, 1933	360
12dda1	--------	Sept. 25, 1931	300
		July 8, 1932	325
		Mar. 24, 1933	375
16bbb1	--------	Nov. 7, 1932	265
19dad1	166	Sept. 24, 1931	575
		June 16, 1932	625
		Mar. 21, 1933	700
19dca1	208	Oct. 7, 1931	700
		Aug. 11, 1932	700
20bcd1	126	Sept. 23, 1931	575
		Mar. 9, 1932	650
		June 16, 1932	600
		Mar. 21, 1933	625
21add1	56	Sept. 24, 1931	250
		Mar. 8, 1932	275
		July 9, 1932	275
		Mar. 21, 1933	325
22bac1	85	Sept. 24, 1931	250
		July 9, 1932	250
22cbb1	110	Oct. 7, 1931	300
		Apr. 12, 1932	275
		July 9, 1932	275
		Mar. 21, 1933	300
23cad1	--------	Nov. 7, 1932	350
24bdc1	280	do	500
(C-1-2)25ccc1	60	June 9, 1932	260
		June 16, 1932	240
		Mar. 21, 1933	275
30abb1	120	Mar. 24, 1933	425
35aaa1	60	do	200
35abb1	55	Dec. 1931	330
		Aug. 11, 1932	450
35ada2	64	Mar. 24, 1933	350
36ccc1	30	Oct. 7, 1931	350
36ccc2	121	Nov. 1931	390
		Aug. 11, 1932	400
(C-1-3)3add1	--------	Dec 1931	14,300
		Mar. 9, 1932	16,200
		June 9, 1932	15,000
		Mar. 21, 1933	16,000
3add2	880	Sept. 25, 1931	4,100
		Mar. 9, 1932	4,200
(C-2-1)1bab2	198	Sept. 23, 1931	15
		June 23, 1932	20
2aaa1	200	Oct. 13, 1931	15
2aaa2	200	Sept. 23, 1931	15
		Apr. 16, 1932	20
		June 23, 1932	15
11aaa1	220	Sept. 16, 1931	15
		June 23, 1932	20
		Mar. 17, 1933	20
12abb2	356	Sept. 23, 1931	20
		Apr. 16, 1932	20
		June 23, 1932	20
12abb3	130	Sept. 23, 1931	15
		Apr. 16, 1932	15
		June 23, 1932	15
13cbd1	80	Mar. 15, 1933	15
23daa1	12	do	190
24ccc2	153	Sept. 10, 1931	30
		July 7, 1932	30
		Mar. 15, 1933	35
27dcd1	242	Sept. 22, 1931	390
27ddc1	230	Mar. 17, 1933	200
32dcc1	152	do	700
34dbc1	265	do	150
(C-2-2)8baa3	295	Mar. 21, 1933	170
14dcd1	50	Mar. 25, 1933	300
14dcd2	49	do	170
24aaa1	112	do	320
25dda1	65	Mar. 17, 1933	310
(C-3-1)1bdb1	220	Nov. 1931	30
		July 20, 1932	25
		Mar. 14, 1933	25
6dbc3	494	Mar. 17, 1933	750
11aab1	165	Mar. 15, 1932	270
		July 21, 1932	300
		Aug. 9, 1932	300
		Aug. 20, 1932	450
		Mar. 14, 1933	300
12ccb1	118	Aug. 20, 1931	200
		July 21, 1932	120
		Mar. 14, 1933	130
13cdb1	226	Aug. 24, 1931	275
		Mar. 14, 1932	225
		July 20, 1932	250
		Mar. 15, 1933	300
13dcc1	185	Dec. 1931	250
		July 20, 1932	275
		Mar. 15, 1933	300
14acc1	217	Mar. 17, 1933	140
15bda1	358	do	150
15bdd1	250	Mar. 17, 1933	120
15ddd1	185	Sept. 21, 1931	110
		Mar. 14, 1932	110
		July 11, 1932	120
		Mar. 17, 1933	140

[1] Outside casing.
[2] Inside casing.

Results of field chloride tests of well water—Continued

Well No.	Depth (feet)	Date of collection of sample	Chloride (parts per million)
(C-3-1)16dcb1	200	Mar. 17, 1933	190
19dcd1	135	Mar. 15, 1933	225
20cdb1	35	Nov. 1931	160
		July 11, 1932	200
		Aug. 10, 1932	230
		Mar. 15, 1933	200
23dba1	75	Aug. 20, 1931	525
24dcc1	33	Aug. 24, 1931	500
25aa	135	do	700
		Aug. 9, 1932	700
		Mar. 15, 1933	650
26cad1		Aug. 24, 1931	475
		June 9, 1932	400
		July 11, 1932	400
		Mar. 7, 1933	425
26cad2		Aug. 24, 1931	425
		Mar. 14, 1932	375
		June 9, 1932	400
		Aug. 9, 1932	425
		Mar. 7, 1933	400
26cdb1		Aug. 24, 1931	575
		Mar. 14, 1932	475
		July 11, 1932	550
27cdd1	220	Mar. 15, 1933	425
28baa1	156	Mar. 17, 1933	875
29acc1	84	Sept. 17, 1931	170
		Apr. 22, 1932	160
		July 11, 1932	170
		Mar. 17, 1933	190
30dda1		Nov. 1931	240
		July 11, 1932	230
		Mar. 15, 1933	375
32abb1	144	July 11, 1932	100
		Mar. 15, 1933	120
33dcc1	242	do	270
(C-4-1)2aaa1	150	Sept. 14, 1931	500
3dbb1	112	Dec. 1931	400
5ccb1	185	May 15, 1933	1,100
10bdd1	42	Mar. 15, 1933	300
(D-1-1)7abd6	130	Oct. 2, 1931	65
		Mar. 10, 1932	60
		June 16, 1932	55
18aaa3	290	Sept. 30, 1931	40
		Apr. 21, 1932	45
		June 16, 1932	40
19daa1		Sept. 30, 1931	35
		Aug. 6, 1932	40
19daa2		Sept. 30, 1931	35
		Aug. 7, 1932	40
21acc1	467	Sept. 16, 1931	35
		Sept. 15, 1932	35
30bbc1	324	Sept. 29, 1931	20
		July 6, 1932	25
30bbc9	285	do	30
		Oct. 12, 1932	30
31caa2	320	Nov. 1931	15
31caa2	320	June 23, 1932	25
		Aug. 6, 1932	25
31caa5	120	Nov. 1931	45
31cad4	220	do	15
		June 23, 1932	15
32bab16	400	Sept. 29, 1931	25
		July 6, 1932	25
32cdc2	182	Sept. 29, 1931	20
		Apr. 15, 1932	20
		July 6, 1932	20
(D-2-1)2bcc1	185	Mar. 30, 1933	15
4dbd4	310	Aug. 2, 1932	20
4dbd5	115	Sept. 16, 1931	20
5aaa1	392	do	15
		Aug. 6, 1932	25
5daa1	206	June 23, 1932	25
6bcd2	110	Aug. 26, 1931	15
		June 23, 1932	15
6bcd11	225	Aug. 26, 1931	15
		June 23, 1932	10
(D-2-1)7aad2	225	Dec. 1931	15
		June 16, 1932	15
7cbd1	68	Dec. 1931	15
		July 7, 1932	15
		Mar. 15, 1933	20
7cdb2	399	Dec. 1931	15
		Apr. 22, 1932	15
		July 7, 1932	15
		Mar. 15, 1933	15
7ddd1	86	Sept. 18, 1931	25
		June 23, 1932	25
7ddd2	70	Sept. 18, 1931	25
		June 23, 1932	30
		Aug. 8, 1932	35
		Mar. 14, 1933	40
7ddd4	90	Sept. 18, 1931	25
7ddd5	90	June 23, 1932	25
7ddd6	110	do	25
8ada1		Sept. 16, 1931	15
		June 23, 1932	15
8ada2	158	Sept. 16, 1931	10
		June 23, 1932	15
8ada3	90	Sept. 16, 1931	15
		June 14, 1932	15
8abd8	67	Dec. 19, 1931	25
8adb10	179	do	15
8ccd8	85	do	70
9aca1	98	Sept. 16, 1931	25
		June 23, 1932	40
		Aug. 8, 1932	50
9abc2	96	Sept. 8, 1931	30
		Apr. 18, 1932	30
		June 23, 1932	25
9aca2	200	Sept. 16, 1931	20
		June 23, 1932	20
16bbd2	40	Sept. 15, 1931	65
		June 23, 1932	90
		Aug. 8, 1932	90
16bbd8	155	Sept. 15, 1931	20
		June 23, 1932	20
16bbd14	175	Oct. 13, 1931	20
		June 23, 1932	20
16bbd17	60	Sept. 15, 1931	85
		Apr. 18, 1932	90
		June 23, 1932	110
		Aug. 8, 1932	100
16bbd19	60	Sept. 15, 1931	105
		June 23, 1932	130
		Aug. 8, 1932	120
17bba1	80	Sept. 14, 1931	30
		Apr. 18, 1932	30
		July 6, 1932	35
17bbd2	240	Sept. 14, 1931	10
		June 23, 1932	10
17cdb		Sept. 14, 1931	25
		Apr. 18, 1932	20
		June 16, 1932	30
		Aug. 8, 1932	30
17ddc	40 (?)	Sept. 15, 1931	25
	80 (?)	do	25
17ddd3	88	do	25
19acb1	12.5	Aug. 18, 1931	350
19adc2	21	Dec. 1931	210
		July 7, 1932	150
		Aug. 8, 1932	140
		Mar. 14, 1933	275
19bba3	58	do	35
21dcd	10	Mar. 24, 1933	10
22aab1	10.5	Mar. 30, 1933	120
22dcb1	32	Aug. 18, 1931	15
		June 23, 1932	10
		Mar. 14, 1933	20
29acb4	11.5	Mar. 13, 1933	35
29dcd	15	Sept. 11, 1931	40
		July 20, 1932	50
		Mar. 13, 1933	140

Results of field chloride tests of well water—Continued

Well No.	Depth (feet)	Date of collection of sample	Chloride (parts per million)	Well No.	Depth (feet)	Date of collection of sample	Chloride (parts per million)
(D-2-1)29dcd		Mar. 30, 1933	120	(D-3-1)17bdd1	100	July 20, 1932	20
30abc3	83	Mar. 13, 1933	25			Mar. 2, 1933	20
31bcb1	210	Aug. 27, 1931	35	17caa1	70	July 20, 1932	10
31bda1	113	Mar. 13, 1933	40			Mar. 7, 1933	10
33add1	254	Sept. 11, 1931	15	29cac1	13.5	Nov. 1931	250
33cdc1	110	Mar. 14, 1933	10			July 20, 1932	125
(D-3-1)5cdc1	19.5	July 20, 1932	15			Aug. 9, 1932	150
		Mar. 7, 1933	10			Mar. 15, 1933	110
7bda1	60	Aug. 27, 1931	200	30dcb	8.5	Aug. 25, 1931	500
7caa1	53	Sept. 14, 1931	150			July 11, 1932	500
		Mar. 15, 1932	180			Mar. 15, 1933	350
		July 20, 1932	200	(D-4-1)6abd	10	Nov. 1931	360
		Mar. 7, 1933	230			July 20, 1932	450
8bbb1	11.5	Dec. 1931	180			Aug. 9, 1932	500
		July 21, 1932	110(?)			Mar. 6, 1933	450
		Aug. 9, 1932	210				

Results of field chloride tests of miscellaneous well and surface waters

Place	Date	Chloride (parts per million)
Utah Oil Co. wells	Oct. 14, 1931	190
Bacchus municipal wells (composite sample)	Mar. 25, 1933	170
Jordan River, 2d South Street Bridge	Nov. 14, 1931	320
	Mar. 13, 1933	330
Jordan River, 64th South Street Bridge	June 23, 1932	370
	July 28, 1932	425
	Aug. 25, 1932	425
	Sept. 22, 1932	425
Jordan River, Riverton Road Bridge	June 9, 1932	460
	July 11, 1932	390
	Mar. 17, 1933	560
Utah Lake at outlet pumps	June 9, 1932	230
	July 30, 1932	400
	Aug. 25, 1932	420
Jordan and Salt Lake City Canal, 9th East and 64th South Streets	June 23, 1932	310
	July 28, 1932	450
	Aug. 18, 1932	450
	Aug. 25, 1932	475
Utah Lake Irrigation Co. canal, E½ sec. 12, T. 4 S., R. 1 W	July 28, 1932	500
Swamp caused by old well, ¼ mile north of Lone Tree bench mark, SW¼ sec. 25, T. 1 N., R. 2 W	Sept. 21, 1932	3,750
Bridge at dike, center sec. 26, T. 1 N., R. 2 W	do	825
Southeast side Decker Pond, NE¼ sec. 28, T. 1 S., R. 1 W	Nov. 8, 1932	625
Northwest side Decker Pond, SE¼ sec. 21, T. 1, S., R. 1 W	do	575
Pond, NW corner sec. 29, T. 1 S., R. 1 W	do	850
Pond, SE corner sec. 23, T. 1 S., R. 2 W	do	600
Canal at underground intake, Hyland Drive and Ashton Street	Aug. 16, 1932	400

Chloride tests of water from Utah Lake, Utah County, Utah

[Chloride for samples taken in 1883-1904 calculated from U. S. Geol. Survey Bull. 770, p. 158, 1924. Sample taken in 1930 tested by Geological Survey]

Source	Date of sampling	Chloride (parts per million)	Remarks
Utah Lake	1883	12.4	
Do	1899	317	
Jordan River at intake of Utah and Salt Lake Canal.	1899	317	
Jordan River near Salt Lake City	1899	379	
Utah Lake	1903	336	
Do	May 1904	288	Mean of 3 analyses.
Do	1904	337	
Do	May 23, 1930	238	By U. S. Geol. Survey.

Results of field chloride and temperature tests of spring water in Jordan River Valley, Utah, 1932

Location of spring	Date	Chloride (parts per million)	Temperature (° F.)
Between 7th and 8th South and 12th East and Elizabeth Streets	Aug. 23	35	52
Seepage along Spring Run, SE¼ sec. 8, T. 2 S., R. 1 E	Aug. 16	170	
Across road south of 1631 12th East Street	Aug. 17	50	54
Opposite 1233 Kensington Avenue	do	50	54
About 773 South 11th East Street	Aug. 23	35	53
1170 Blaine Avenue, east of house	Aug. 19	45	
1168 East 17th South Street	do	30	62(?)
1066 East 3d South Street (old Sorenson Spring)	Aug. 23	40	
Just west of 1221 East 17th South Street	Aug. 17	50	54
Sugarhouse Park, about 11th East and Ashton Streets, (out of pipe from bank).	Aug. 16	35	55
Emigration Creek bed, at State Prison, about 17th East Street and Kensington Avenue (NE¼ sec. 16, T. 1 S., R. 1 E.).	Aug. 19	70	54
Parleys Creek bed, about 13th East Street and Wilmington Avenue	do	35	52
Parleys Creek bed, at conduit outlet below State Prison grounds	do	45	55
1631 South 12th East Street, in shed back of house	Aug. 17	55	58(?)
1205 East 13th South Street	do	45	
Pipe from tunnel, 455 South 11th East Street (old brewery)	Aug. 23	40	54
1390 Yale Avenue, Red Butte Creek	do	120	
East of 1123 Sunnyside Avenue	do	35	61(?)
1163 Blaine Avenue	Aug. 19	30	
North bank of Emigration Creek, southwest of Westminster College	do	35	57
1159 Gilmore Drive (from house tap)	Aug. 23	60	58(?)
Tile outlet opposite 669 South 10th East Street	do	35	56
1172 East 17th South Street (from basement)	Aug. 19	30	59(?)
1180 East 13 South Street	Aug. 17	60	55
Dry Creek Spring, NW¼ sec. 11, T. 2 S., R. 1 E	Aug. 16	10	52
Casto Spring, SW¼ sec. 2, T. 2 S., R. 1 E	do	10	52
Spring Creek Spring, SW¼ sec. 2, T. 2 S., R. 1 E	do	10	52
In Great Salt Lake about W½ sec. 28, T. 2 N., R. 2 W	Sept. 26	1,200	
In Great Salt Lake, W½ sec. 28, T. 2 N., R. 2 W., about 300 feet west of the other spring.	do	1,050	
Running stream on flats just north of springs in Salt Lake	Sept. 29	775	
Standing water in pit dug 5 feet deep about halfway between springs in Salt Lake and main shore line of lake.	do	75,000+	

FLUORIDE

Fluoride in water is known to be associated with the dental defect known as mottled enamel, if the water is used by young children during calcification or formation of the teeth. Only the teeth of children are endangered, as normally formed teeth have not been known to become mottled later, regardless of the fluoride content of the drinking water. Teeth injured by fluoride erupt showing a dull chalky white, which in many cases later takes on a characteristic dark-brown stain. This condition becomes more noticeable as the quantity of fluoride in water increases above 1.5 parts per million. Present investigations indicate that the incidence of dental caries—decay of teeth—is less when there are small amounts of fluoride present in the water supply than when there is none.

Tests were made for fluoride on only eight waters in the Jordan River Valley. Seven of these showed fluoride, in amounts ranging from 0.3 to 1.3 parts per million. One of the samples contained 1.3 parts per million; two contained 1.0 parts per million; and others contained smaller amounts. Although mottled teeth have not been apparent in residents of the Jordan River Valley, it may be advisable to determine the fluoride content of waters that are used extensively by children.

HARDNESS

The hardness of water, which is the property that generally receives chief attention, is most commonly recognized by its effects when soap is used in washing. In most natural waters hardness is due almost entirely to salts of calcium and magnesium. These constituents are also the active agents in the formation of most of the scale in steam boilers and in other vessels in which water is heated or evaporated.

Carbonate hardness is due to calcium and magnesium bicarbonates. It is largely removed by boiling and is consequently sometimes called temporary hardness. Noncarbonate hardness is due to calcium and magnesium sulfates or chlorides; as it cannot be removed by boiling it is sometimes referred to as permanent hardness. With reference to use with soap there is no difference between carbonate and noncarbonate hardness. In general, noncarbonate hardness forms a harder scale in steam boilers.

Water with a hardness of less than 50 parts per million is generally rated as soft, and treatment for removal of hardness is not necessary under ordinary circumstances. Hardness between 50 and 150 parts per million does not seriously interfere with the use of the water for most purposes, but as it slightly increases the consumption of soap its removal by a softening process is profitable for laundries or other industries using large quantities of soap. Waters in the upper part of this range of hardness will cause considerable scale in steam boilers. Hardness above 150 parts per million can be noticed by anyone, and in areas where the hardness of water is above 300 parts per million it is common practice to soften water for household use or to install cisterns for storing soft rain water. Where municipal supplies are softened an attempt is generally made to reduce the hardness to about 80 parts per million. The additional improvement from further softening of a whole public supply is not deemed worth the increase in cost.

Most of the ground water in the Jordan Valley is hard. Of the samples analyzed only 13 had less than 150 parts per million of hardness; 14 had more than 500 parts per million; and 5 had more than 1,000 parts per million. In the most intensely developed area, the water ranged in hardness from 50 to 450 parts per million.

WATER FOR IRRIGATION

The suitability of water for use in irrigation commonly depends mainly on the total quantity of soluble salts and on the ratio of the sodium to the calcium and magnesium. Boron may be present in sufficient amounts to cause difficulty. The following limits have been suggested by Scofield:[17]

Suggested limits for safe and unsafe waters for irrigation

Constituent	Safe if less than—	Unsafe if more than—
Total solids (T. S.) parts per million	700	2,000
Sodium percent	50	60
Sulfate (SO_4) parts per million	192	480
Chloride (Cl) do	142	355

The percentage of sodium is calculated by dividing the equivalents per million of sodium by the sum of the equivalents per million of sodium, calcium, and magnesium and multiplying the quotient by 100. Waters classified as safe in accordance with the limits suggested by Scofield are likely to be safe for use in irrigation under any possible conditions. Those classed as unsafe would be expected to damage land and crops if used continuously, even with some care. Waters intermediate between the two limits might or might not be harmful, according to the character of the soil and the crops and the method of use of the water.

According to this classification almost half the waters analyzed from the Jordan River Valley would be classified as unsafe for irrigation. Although most of the waters in the most intensely developed part of the valley are suitable for irrigation, a few in this area might require careful use because of their sulfate or chloride content.

TYPES OF WATER IN THE JORDAN VALLEY

The chemical characteristics of representative types of water in the Jordan River Valley are shown in figure 7. The height of the different sections of each column corresponds to the quantity of the different radicles, expressed in terms of equivalents per million rather than in parts per million. One unit of height corresponds to 20 parts per million of calcium, 12 of magnesium, 23 of sodium, 39 of potassium, 61 of bicarbonate, 48 of sulfate, 35.5 of chloride, 62 of nitrate, or 50 of hardness as calcium carbonate. The total hardness is measured to the top of the magnesium; the carbonate hardness is measured to the top of the bicarbonate, if this is lower than the top of the magnesium. If the bicarbonate extends above the top of the magnesium all the hardness is carbonate hardness. Only the basic (calcium, magnesium, sodium, and potassium) and acidic (bicarbonate, sulfate, chloride, and nitrate) constituents, which are in chemical equilibrium with each other, are represented in the diagrams; silica and iron,

[17] Scofield, C. S., Quality of irrigation waters: California Dept. Public Works, Div. Water Resources' Bull. 40, 1933.

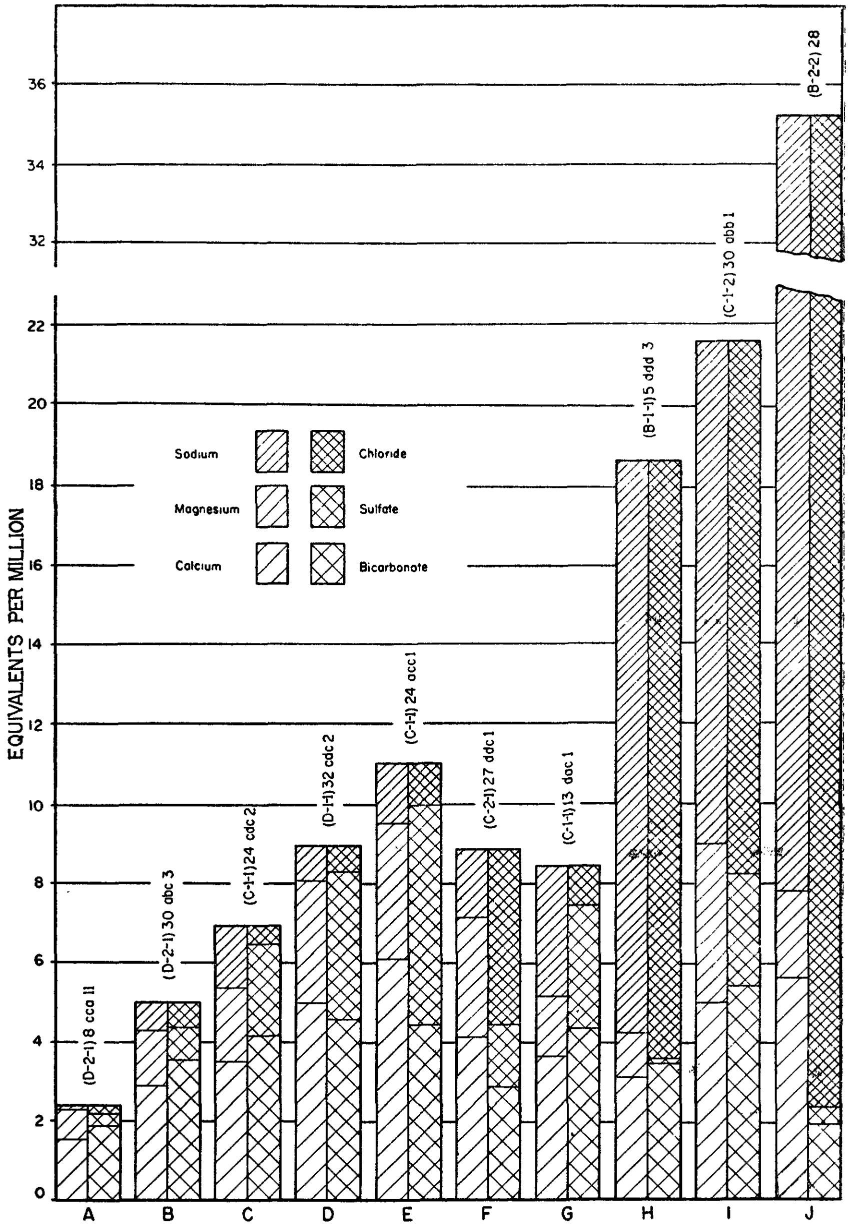


FIGURE 7.—Representative types of water found in the Jordan Valley.

which are generally considered to be in water in the colloidal state as oxides, are not represented. Potassium, which is usually present in relatively small quantities as compared with sodium, is included in the pattern for sodium; and nitrate, which also is usually present in relatively small quantities, especially in the deeper waters, is included in the pattern for chloride.

The waters in the Jordan River Valley differ greatly in the amount and relative proportion of the different mineral constituents in them. However, most of them may be referred to the representative types shown in figure 7. The analyses indicate that, in general, the ground waters east of the Jordan River in the centeral part of the valley and in a narrow area west of the river in the north-centeral part of the valley, that is, in Tps. 1 and 2 S., R. 1 E., and T. 1 S., R. 1 W., are similar to the waters shown in diagrams A to G, figure 7. These waters are, as a rule, characterized by low sodium and chloride. Most of these waters contain calcium (and magnesium) as the predominant basic constituents, with bicarbonate and/or sulfate as the predominant acidic constituent. The bicarbonate content of the calcium-sulfate waters is comparable to that of the calcium-bicarbonate waters, but the content of the calcium (and magnesium) sulfate is greater (diagrams B, C, D, and E). In the water represented by diagram D, the sulfate is about equivalent to the bicarbonate; in the water represented by diagram E, sulfate is the predominant acidic constituent although the bicarbonate content of the water is comparable to that of the calcium bicarbonate waters represented in diagrams B and C. Thus, the type of water represented in diagram B may be considered the fundamental type of water of which the calcium (and magnesium) sulfate waters are modifications through solution of varying amounts of these constituents from the sediments. The water represented in diagram B is, on the other hand, similar in type to that represented in diagram A but differs from the latter in that it contains, principally, more calcium (an dmagnesium) bicarbonate in solution. Diagram A represents the best water in the Jordan River Valley. The only place in the valley where such water was found was in T. 2. S., R. 1 E., secs. 7 and 8. From this vicinity the ground waters east of the Jordan River tend to increase in hardness northward. The types of water represented in diagrams F and G may also be referred to the type represented in diagram B as the fundamental type, but such waters contain, respectively, more magnesium chloride and sodium sulfate.

Waters similar to those represented in diagrams A to G are found also in T. 1 N., R. 1 W., and T. 3 S., R. 1 E. However, other waters in these townships are characterized by a high content of sodium chloride, like the water represented by diagram H. This is also true in general of the waters of the Jordan River and of those in the southern part of the valley on both sides of the river. The waters in T. 1 S., R. 1 W., which are an exception to this generalization and which are similar in chemical character to the waters in the central part of the valley east of the river, have already been noted. Although some of the waters west of the Jordan River contain relatively moderate amounts of chloride (100 to 250 parts per million), others contain several thousand parts per million. Sodium-chloride waters representative of the latter are shown graphically in diagrams H, I, and J. Of the 232 waters in the valley that were tested for chloride, 16 had more than 1,000 parts per million of chloride. Of these, 11 were from wells located in an area about 1½ miles wide just east of Saltair, on the shores of Great Salt Lake and extending for about 8 miles in an easterly direction. Two of the waters had more than 14,000 parts per million of chloride. The other waters having more than 1,000 parts per million of chloride were from wells in secs. 15, 21, and 27, T. 1 N., R. 1 W., and in sec. 2, T. 1. S., R. 2. W.

The sodium-chloride waters that were analyzed appear to be, for the most part, modified from waters of the types shown in diagrams A, B, C, and D by the addition of sodium chloride. For example, the waters represented by diagrams H and I are, with the exception of their sodium-chloride content, comparable to the waters shown by diagrams A, B, and D. In both these waters the magnesium runs up into the chloride, which is not characteristic of the calcium bicarbonate and sulfate waters, but the waters of the type represented by diagram F do contain magnesium chloride. Although some of the sodium-chloride waters are high in sulfate, containing almost as much sulfate as chloride, others contain very little sulfate. (See diagrams H and J, fig. 7.) One water, from well (C–1–3)3add2, had 4,460 parts per million of chloride and only 15 parts per million of sulfate. In general, the sodium-chloride waters are much more highly mineralized than the calcium-bicarbonate and sulfate waters and include the most highly mineralized waters in the Jordan River Valley.

The waters shown graphically in figure 7 represent about 80 percent of the waters analyzed from the Jordan River Valley; they also represent the most common types found in the valley. Waters not represented differ greatly from one another in chemical character and in mineral content; as no two are similar, they cannot be considered representative of the types generally found in the valley but appear to be the result of strictly local conditions.

The observed variation in types of water in the Jordan Valley cannot be explained fully on the basis of available data, but they must be related closely to the geologic history of the area, especially that of Lake Bonneville. When a natural water is concentrated by evaporation, it deposits its saline constituents in the reverse order of their solubility—the least soluble first, the most soluble last. In general, the order is calcium carbonate, calcium sulfate, sodium chloride, and finally magnesium sulfate and other more soluble compounds. Calcium sulfate and sodium chloride are commonly associated but not invariably. The mother liquors may be drained or washed away, the basin may be refilled before sodium chloride is deposited, or the more soluble sodium chloride may be dissolved and washed away, perhaps to be redeposited elsewhere. Sodium chloride and gypsum may thus be separated and the normal order of their association disturbed, particularly under conditions such as prevailed during Lake Bonneville time, as evidenced by borings made in the course of an investigation of the potash brines in the Great Salt Lake Desert.[18]

According to Gilbert,[19] the history of Lake Bonneville includes at least two high stages, the last of which was responsible for the Bonneville shore features. These high stages were separated by a low-water epoch that was longer than post-Bonneville time. The extent to which the waters subsided is undetermined, but the sediments indicate the possibility of complete desiccation. Indeed the several horizons of brine-saturated layers encountered in several of the borings made in the course of the potash-brine investigation suggest the possibility of several more periods of desiccation of Lake Bonneville than are described by Gilbert. Further evidence is the abundant gypsum in deep drill holes put down by the Southern Pacific Lines.

TEMPERATURE OF GROUND WATER

During the course of this investigation the temperature of the water from about 370 wells was observed. (See records of wells, pp. 164–356.) Nearly all of these are flowing wells, but the temperature of the water from a few nonflowing wells was taken after the well had been pumped for several minutes. The recorded temperature ranged from 45° to 90° F.; in 12 wells it was 71° to 80° F.; and in 3 wells it was over 80° F. The highest temperature found, 90° F., was shown by the water from a well in the NE¼ sec. 14, T. 1 S., R. 2 W. The depth of this well could not be ascertained. In most of the wells tested the water temperature was between 50° and 60° F.

No apparent relation exists between the depth of the well and the temperature of the water. However, it is interesting to note that, with a few exceptions, all the wells west of the Jordan River and north of an east-west line about half a mile south of the center of T. 1 S. yield water having a temperature of 60° F. or higher. In all other parts of the area investigated the ground waters tested, with very few exceptions, showed a temperature of 60° F. or less. The most noticeable exceptions are three wells close to the Jordan River in secs. 11 and 13, T. 3 S., R. 1 W., which yield water with temperatures of 65°, 68°, and 69° F. In the most highly developed artesian area,

[18] Nolan, T. B., Potash brines in the Great Salt Lake Desert, Utah: U. S. Geol. Survey Bull. 795-B, pp. 25–44, 1927.

[19] Gilbert, G. K., Lake Bonneville: U. S. Geol. Survey Mon. 1, p. 261, 1890.

between Salt Lake City and Murray, the temperature of the ground water is generally between 50° and 55° F.

Deep-seated water is known to rise at various places along the Wasatch fault, and it is probable that warm or hot water rises at other unknown places along this fault and is contributed to the ground-water reservoir. The addition of hot water raises the average temperature of the ground water and makes the temperature gradient, with respect to the depth of the well, very erratic. The highest temperatures of ground water in the northwestern part of the Jordan Valley are generally associated with either a relatively high chloride content or the presence of methane gase, or both. To obtain water in this area it is generally necessary to drive wells to a greater depth than in the more heavily developed area.

The temperature of the water from a number of springs along or near the foot of the Provo Bench and north of about 21st South Street is shown in the table on page 55. The temperature ranged from 52° to 57° F. and averaged 54.5° F. This average is about the same as the average temperature of artesian water in the area of artesian flow between Salt Lake City and Murray, and the range in temperature of the spring waters is about the same as that of the artesian water.

FLUCTUATIONS OF WATER LEVEL AND ARTESIAN PRESSURE

In almost all wells that have been investigated, the water level undergoes alternate upward and downward movements. It is the exception to find a well in which the water level remains stationary over any long period. The movement is generally slow and gradual, but in some wells the water level may move upward or downward several inches or even several feet in a few minutes. The fluctuations that are due to natural agencies generally occur in cycles—secular, annual, daily, or other periods. Secular cycles generally are caused by variaties in precipitation and a consequent variation in the amount of water available for recharge to the ground-water bodies. They may cover a period of years that are predominently dry, followed by a series of years that are predominately wet. To establish the existence of secular cycles in the fluctuations of the ground-water level requires that measurements be made over an extended period of years.

CHARACTERISTICS BY DISTRICTS

The periodic measurement of the water level in wells selected for observation in the Jordan Valley resulted in a series of hydrographs, a comparison of which showed that ground-water levels in different parts of the valley fluctuated with different periods and by different amounts. The general trend of ground-water levels was also found to be different in different areas. Grouping wells that have similar fluctuations of the water level showed that the Jordan Valley could be divided, somewhat arbitrarily, into six districts, in each of which the general trend and fluctuation of the ground-water level was similar. These districts are shown on figure.8.

The ground-water levels in district A range in annual fluctuation from less than 1 foot to more than 8 feet. The hydrographs for wells (D-2-1)9aca3, (D-2-1)9aca2, (D-2-1)4dbd4, and (D-2-1)5dab1 (see fig. 3) are representative of the fluctuation of ground-water level

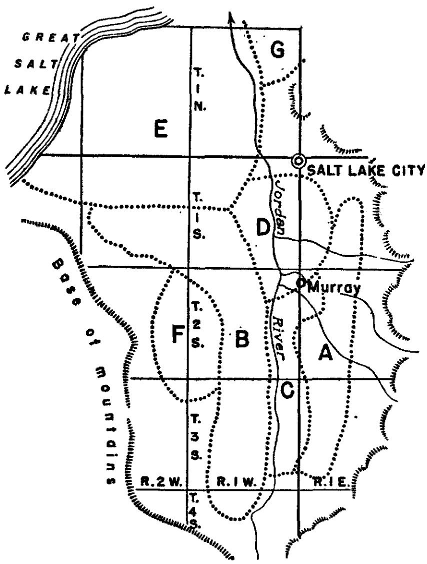


FIGURE 8.—Diagram of the Jordan Valley showing districts of different ground-water fluctuations.

near the center of district A, east of the city of Murray, Utah. These hydrographs show a distinct annual fluctuation, the low period occurring about April and the high period about July, August, or September of each year. The general trend of the water level was upward during the years 1931 to 1933, inclusive, which indicates that during this period the ground-water recharge in this part of district A was more than the discharge. During 1934 the water level in these wells dropped a considerable amount. The precipitation during the winter of 1933–34 was exceedingly low and resulted in a shortage of water supply and a withdrawal of ground water during 1934 that was heavier than normal. The rise of the water level in the wells during November and December 1934 was caused, in part, by the application of the control principle to the flowing wells used by the Salt Lake City corporation. Prior to this time, the water from these wells had been wasted when it was not being beneficially used, and prior to the purchase of the wells by the city the water had been used the entire year by fish hatcheries. The rise is particularly noticeable in wells (D–2–1)9aca3 and (D–2–1)5dab1.

Some recovery from the effects of the drought of 1934 occurred in 1935, although the recharge was rather small owing to the extreme dryness of the soil in the adjacent mountains and recharge area, which absorbed considerable water that would otherwise have been contributed to the ground-water body.

The fluctuations of the ground-water level in the southern part of district A are similar to those near the center of the area, but they become progressively less pronounced in a southerly direction. The hydrographs for wells (D–2–1)30adb1 and (C–2–1)24adc1 (see fig. 3) show that the high period normally occurs in July or August and the low period in April of each year. The general trend of the water level in these two wells from 1931 to 1933 was slightly downward, indicating a deficiency in ground-water recharge or an overdraft of the ground-water supply, probably the former. Only shallow dug wells were available for observation in the part of district A south of the above-mentioned wells, and the hydrogrographs for these wells do not indicate the condition in the artesian reservoir.

In the northern part of district A, the fluctuations of ground-water level show an annual cycle, with the high period occurring in June, July, or August and the low period in February, March, or April of each year. Representative fluctuations in this part of district A, are shown by the hydrographs for wells (D–1–1)28caa and (D–1–1)21acc1- and figures 4 and 9, respectively. These hydrographs show an up, ward trend from 1931 to 1933, inclusive, and a decided drop during the drought of 1934. Three new wells were developed by the Salt Lake City Corporation in the vicinity of these wells during the summer of 1934, and pumping from the new wells contributed to the decline of the water levels in the observation wells. The effect of the new development is most obvious in the hydrograph of well (D–1–1)28caa, which also shows draw-down effects from pumping during 1935. Pumping from observation well (D–1–1)21acc1 obscured interference by the new wells developed during 1934, although a short test on this well during the summer of 1934 showed no immediate interference from pumping the nearest newly developed well. Winter irrigation near well (D–1–1)21acc1 also affects the water level in this well at times. During 1935, the trend of the water level in both wells, especially (D–1–1)28caa, was upward, showing a recovery from the drought of 1934.

The hydrographs for the wells in district B show a range in annual fluctuation from about 1½ to 9 feet, with the smaller fluctuations

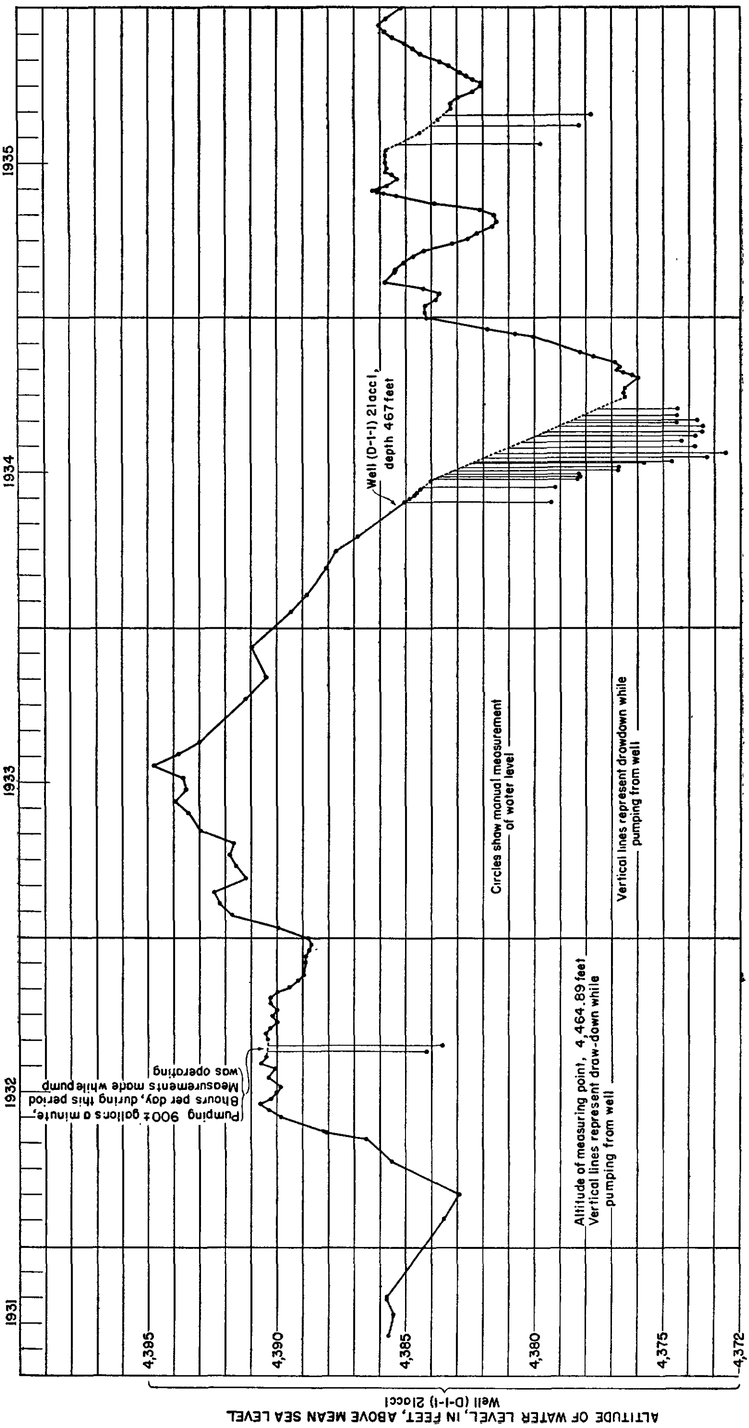


FIGURE 9.—Hydrograph of well (D-1-1)21accl, showing effect of pumping.

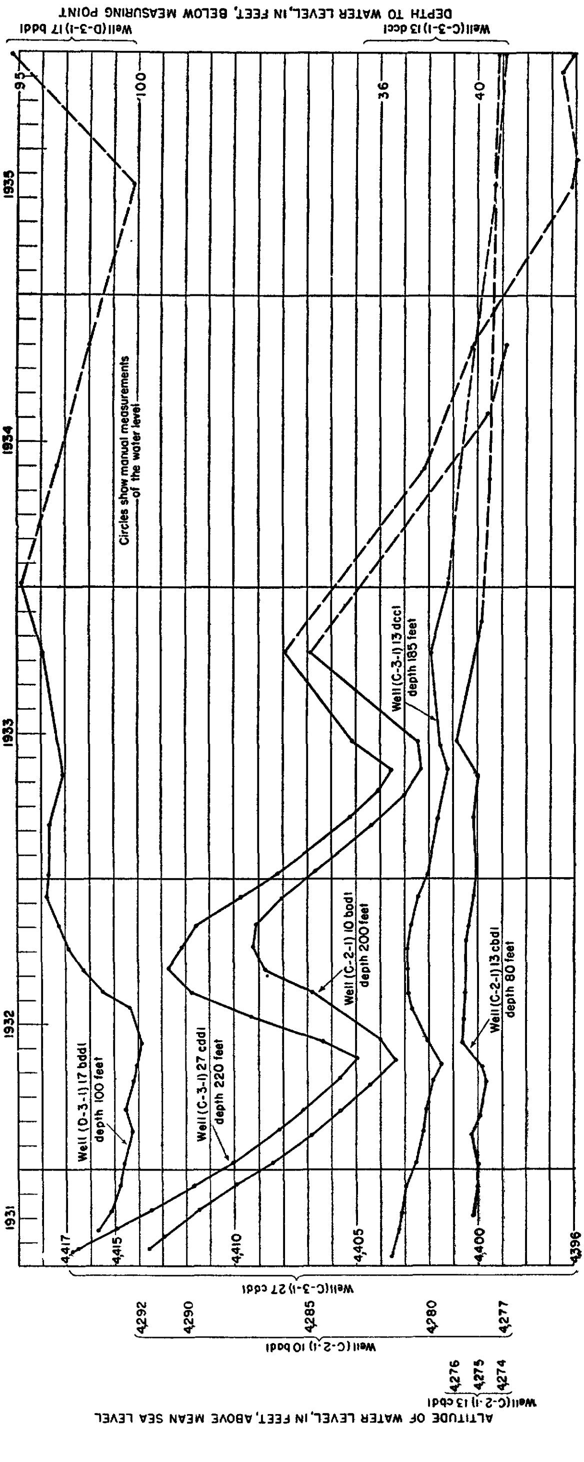


FIGURE 10.—Hydrographs of wells (D-3-1)17bdd1, (C-3-1)27cdd1, (C-2-1)10bad1, (C-3-1)13dcc1, and (C-2-1)13cbd1.

occurring in the northern part of the district. The hydrographs of well (C–1–2)20bcd1 (see fig. 3) and of wells (C–2–1)10bad1 and (C–3–1)-27cdd1 (see fig. 10) show representative fluctuations of the ground-water levels in district B. The general trend of ground-water levels in district B from 1931 to 1935 was downward, a greater decline occurring in the central and southern parts than in the northern part of the district. Later records, from 1935 to 1939, show a very great recovery of the water level in these wells.

The fluctuations of ground-water levels in district C are represented by the hydrographs for wells (C–3–1)13dcc1, (C–2–1)13cbd1, and (D–2–1)8bbb1. (See figs. 10 and 11.) This district is located along the Jordan River between districts A and B, its north end projecting into district A. The annual fluctuations of ground-water level in district C are similar to those in districts A and B but much less in amount. The trend of the ground-water level from 1931 to 1935 was slightly downward, the drought of 1934 being especially evident in well (D–2–1)8bbb1. The water level in this well also shows a marked rise in the autumn of 1934, which was caused primarily by the control of wastage from the wells purchased by the Salt Lake City Corporation in 1931.

District D is north of district C and between districts A and B. The fluctuations of the ground-water level in district D are rather peculiar in that two highs and two lows are shown each year. The peaks occur in April or May and November and the lows in July or August and January of each year. The peaks are probably the result of natural ground-water recharge in the spring and the closing of flowing wells after the irrigation season. The hydrographs of wells (C–1–1)35aaa5 and (C–1–1)12cdc2 (fig. 11) show representative fluctuations in this district. In general, the trend of the ground-water level from 1931 to 1935 was neither up nor down, even though there were semiannual fluctuations of from 1 to 9 feet.

District E includes most of the flat area lying between Salt Lake City and Great Salt Lake. The hydrographs for wells in this district show very little annual fluctuation. The ground-water levels in most of the wells changed little from 1931 to 1933, inclusive; and during 1934 and 1935 the trend was downward. The hydrographs for wells (B–1–1)9aba1, (C–1–2)21add1, and (B–1–1)6cca1 (fig. 11) show representative fluctuations of the ground-water levels in this district.

The fluctuations of ground-water level in wells in district F were erratic in that some showed a general upward trend and others a downward trend. Figure 12 gives the hydrograph for well (C–2–1)-19bba1, and figure 11 gives the hydrograph for well (C–3–1)6dbc3, both located in district F.

The ground water in district G, in the extreme northeastern part

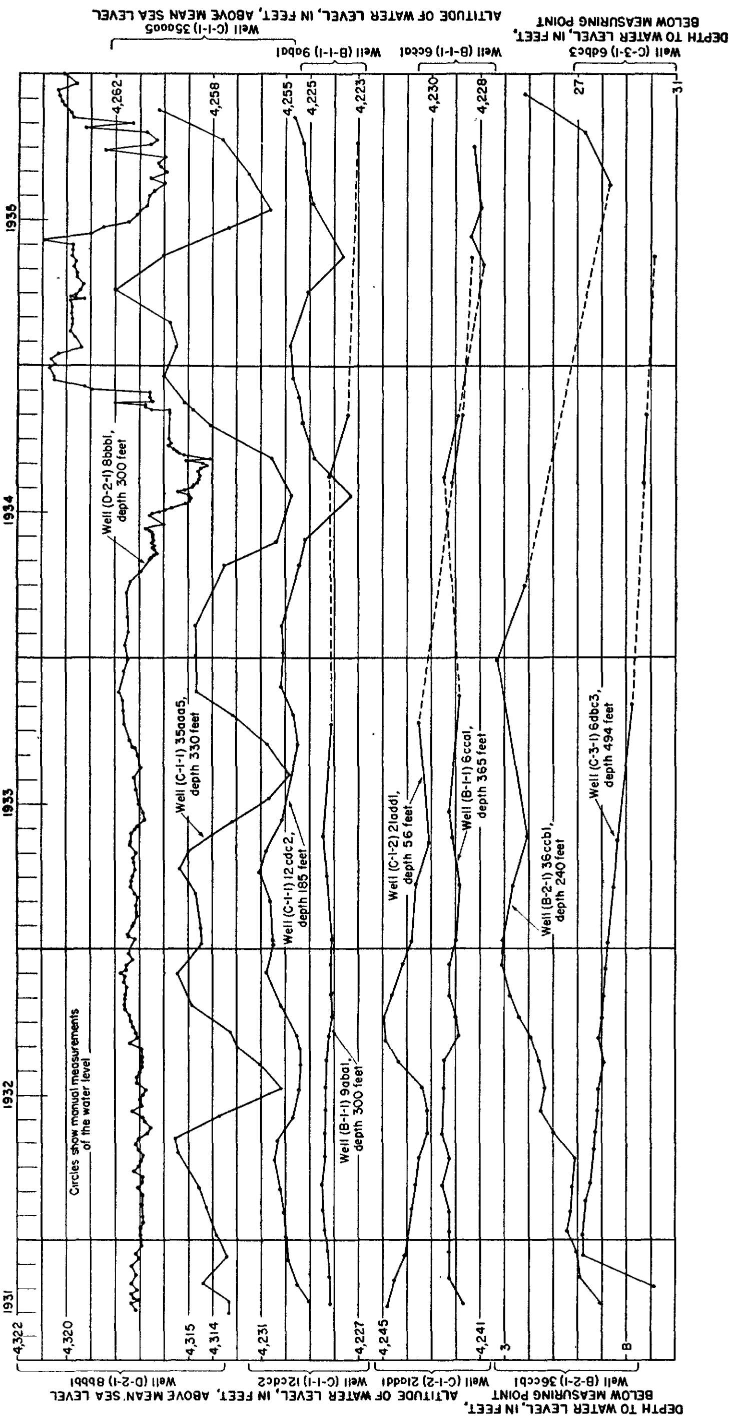


FIGURE 11.—Hydrographs of wells (D-2-1)8bbb1, (C-1-1)35aaa5, (C-1-1)12cdc2, (B-1-1)9aba1, (C-1-2)21add1, (B-1-1)6cca1, (B-2-1)36ccb1, and (C-3-1)6dbc3.

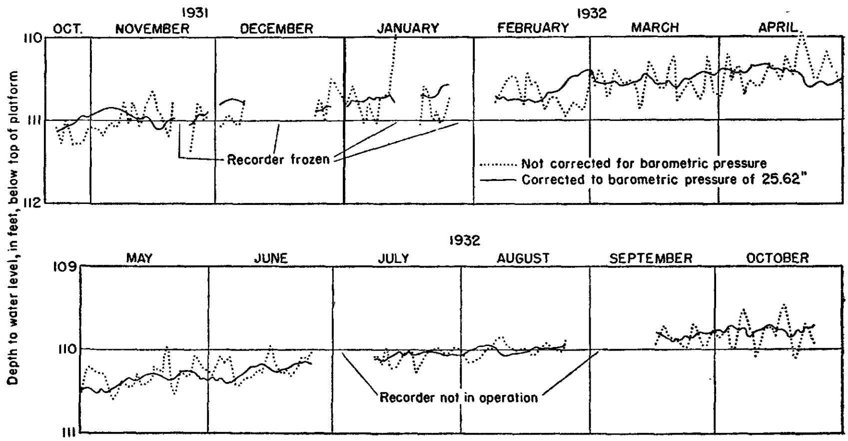


FIGURE 12.—Hydrograph of well (C-2-1)19bbal.

of the Jordan Valley, does not seem to be intimately related to the main body of ground water of the Jordan Valley and is probably more closely connected with the ground-water body lying north of the Jordan Valley in the region near Woods Cross and Bountiful, Utah. The hydrograph for well (B-2-1)36ccb1 (fig. 11) shows the fluctuation of ground-water level in a representative well in district G. The general trend in this district was upward during 1931, 1932, and 1933 and was about 3 feet higher during December 1933 than during December 1931. The measurements during 1935 show the lowering of water level in this well during the drought year of 1934 and indicate the beginning of a substantial recovery in the fall and winter of 1935. The periods of high and low water level and the annual cycle are not clearly shown, but high points in December or January and low points in April or May of each year are indicated.

The fluctuations of the ground-water level in districts A and B are somewhat similar in that the maximum range of annual fluctuation occurs in these two districts. This is to be expected because both districts are near the areas of recharge and are situated along the lower part of the Provo bench and extend into the valley beyond the foot of the bench. The fluctuations of ground-water level in districts C and D, being of lesser magnitude and having a more nearly level trend, indicate that the ground water is moving toward these districts from districts A and B. When the ground water, moving toward the north and west, has reached district E the annual fluctuations have become smoothed out until only small annual changes occur.

The general trend of ground-water levels from 1931 to 1933 was up in district A and down in district B. The annual precipitation during these years was below normal. This indicates that there charge in district B was mainly from precipitation, for there was little recharge from stream or irrigation seepage. While the ground-water level in district B was declining, the water level in district A was rising, which indicates that the recharge in district A from stream and irrigation seepage was sufficient in amount to overcome the deficiency of precipitation and cause an actual gain in ground-water storage.

The fluctuations of ground-water level further support the conclusions that were reached after the data on chloride content of the ground water and the data on shape of the piezometric surface had been analyzed. All data indicate that the area of greatest ground-water recharge is along the Provo and Bonneville benches on the east side of the valley and that the ground water moves toward the Jordan River from each side of the valley and thence northwestward.

FLUCTUATIONS CAUSED BY RECHARGE

The recharge to the ground-water basin affects both artesian and nonartesian wells. As the recharge to the artesian reservoir occurs primarily around the margin of the valley and adjacent to the base of the mountains, the fluctuation of the ground-water level caused by recharge is generally greatest in the wells that penetrate the artesian aquifers at the higher altitudes or in the wells that enter the zone of saturation in the recharge area. The water-level fluctuations caused by recharge decrease in magnitude as the distance of the wells from the recharge area increases until there is essentially no change in the water level that can be correlated with recharge in wells located in the flats west of Salt Lake City.

Examples of the rise of the water level in wells caused by annual recharge is shown by the hydrographs of figure 3. The water level in these wells begins to rise in April or May of each year at the time of the maximum surface-water runoff and reaches the highest level in July, August, or September of each year. During the drought of 1934 there was essentially no spring runoff from the adjacent mountains and consequently little or no ground-water recharge. Comparison of the well hydrographs in figure 3 representing 1934 with the other years represented in that figure shows little or no rise of the water level during the spring and summer of 1934. The hydrographs in figures 3 and 10 show similar water-level fluctuations in wells.

The hydrographs of well (D-2-1)23dbb1 (fig. 6) exemplify the water-level fluctuations caused by recharge in a well located in the recharge area and adjacent to the part of the Big Cottonwood Creek channel that loses a considerable amount of water by seepage from its stream bed. During 1933 the maximum change in water level in this well was about 50 feet.

Recharge of the shallow water body overlying the artesian reservoir is shown by the graphs of well (D-2-1)27bbb2. (See fig. 5.) The water causing the recharge is derived from excess irrigation water applied to an alfalfa field. Figure 16 shows an opposite effect on this well in connection with discharge of ground water by transpiration. Figure 4 shows the annual hydrograph of the same well and gives the fluctuations of water level caused by the recharge from irrigation and from the melting of snow.

Additional discussion of water-level fluctuations caused by ground-water recharge has been given in the preceding section, "Characteristics by districts" (pp. 62-70).

FLUCTUATIONS CAUSED BY CHANGES OF ATMOSPHERIC PRESSURE

Fluctuations of ground-water level caused by variations of atmospheric pressure have been observed in many localities and are characteristic of artesian wells. The so-called breathing or whistling of wells, noted at various localities in the United States, is caused by air moving into or out of a well as the atmospheric pressure changes. Flowing wells have been observed to yield more water at times of low atmospheric pressure than at times of high pressure, and springs also have been observed to vary in flow as the atmospheric pressure changes. According to reports from Jordan Valley, the owners of some nonflowing artesian wells have been able to predict storms by noticing that the water from the well became cloudy or roiled before storms. This phenomenon is caused by the lowering of the atmospheric pressure, which allows the water level in the well to rise. The movement of the water in the well loosens and stirs up small particles of the material in or around the well.

The action of the atmospheric pressure on the water level in a well can be explained by considering a U-tube filled with water. If both legs of the U-tube are open, any increase or decrease of atmospheric pressure acts upon the surface of the water in both legs of the U-tube and there is no change in the level of the water in either leg. Similarly in water-table wells, where changes in atmospheric pressure act not only upon the surface of the water in the well but quite as freely upon the water table outside the well through the innumerable and connected interstices of the soil above the water table, there is no movement of the water surface. If the U-tube has one leg closed, an increase of atmospheric pressure on the water surface in the open leg will cause a lowering of the water surface in that leg; likewise, a decrease of atmospheric pressure will cause the water surface in the open leg of the U-tube to rise.

When the interstices in the soil above the water table are saturated with water or when the soil is frozen, the changes in atmospheric pressure are prevented from acting upon the water table outside the well, and the water level within the well then fluctuates with the changes in pressure. Similar conditions exist at all times in artesian wells, for the confining layer that produces the artesian conditions prevents the changes of atmospheric pressure from acting with full force on the water outside the well. Under these conditions the water in the artesian well fluctuates, except as the changes in atmospheric pressure are transmitted to the artesian water because of incompetence of the confining layer to support the pressure.[20]

Barometric fluctuations are reflected in changes of ground-water level in the Jordan Valley. Figure 13 shows the atmospheric pressure at Salt Lake City and hydrographs for several wells on which automatic water-stage recorders were maintained. Well (C–2–1)19bba1, a dug well about 140 feet deep with about 30 feet of water in the bottom, acts somewhat as a natural barometer. The fluctuations of water level that followed the changes of atmospheric pressure during both the wet and the dry season indicate that the well penetrates one or more confining layers.

Well (D–2–1)27bbb2, a dug well 19 feet deep, responded slightly to changes in atmospheric pressure during the winter, when the soil was saturated, or saturated and frozen, but did not respond during the dry summer, when the moisture in the soil above the water table had been depleted by evaporation and by transpiration of plants.

Wells (C–1–3)3add2, (C–1–1)13adc1, and (B–1–1)19bab1 are all flowing wells, the last two about 500 and 645 feet deep, respectively. These wells did not respond to the changes in atmospheric pressure as markedly as well (C–2–1)19bba1. Well (D–2–1)8ccd15 showed slight responses, but it was being affected by nearby pumping to such an extent that the barometric effects were obscured. Well (D–2–1)8ada3 did not show any appreciable barometric effects, as it was also being disturbed by the pumping and operation of other wells.

The water-level fluctuations in well (C–2–1)19bba1 followed the changes in atmospheric pressure so closely that an attempt was made to determine a factor to correct the water level in the well for barometric pressure. A correlation of the barometric pressure and the water level in this well is shown in figure 14. The barometric pressure, as abscissa, was plotted against the depth to water, as ordinate, for four different periods of the year when there was considerable change in barometric pressure. Straight lines with approximately the same slope were then drawn through each set of points plotted. These lines gave an average slope representing a change of 0.01 foot in water level

[20] Meinzer, O. E., Compressibility and elasticity of artesian aquifers: Econ. Geology, vol. 23, No. 3, pp. 263-291, May 1928; Outline of methods for estimating ground-water supplies: U. S. Geol. Survey Water-Supply Paper 638-C, pp. 99-144, 1932.

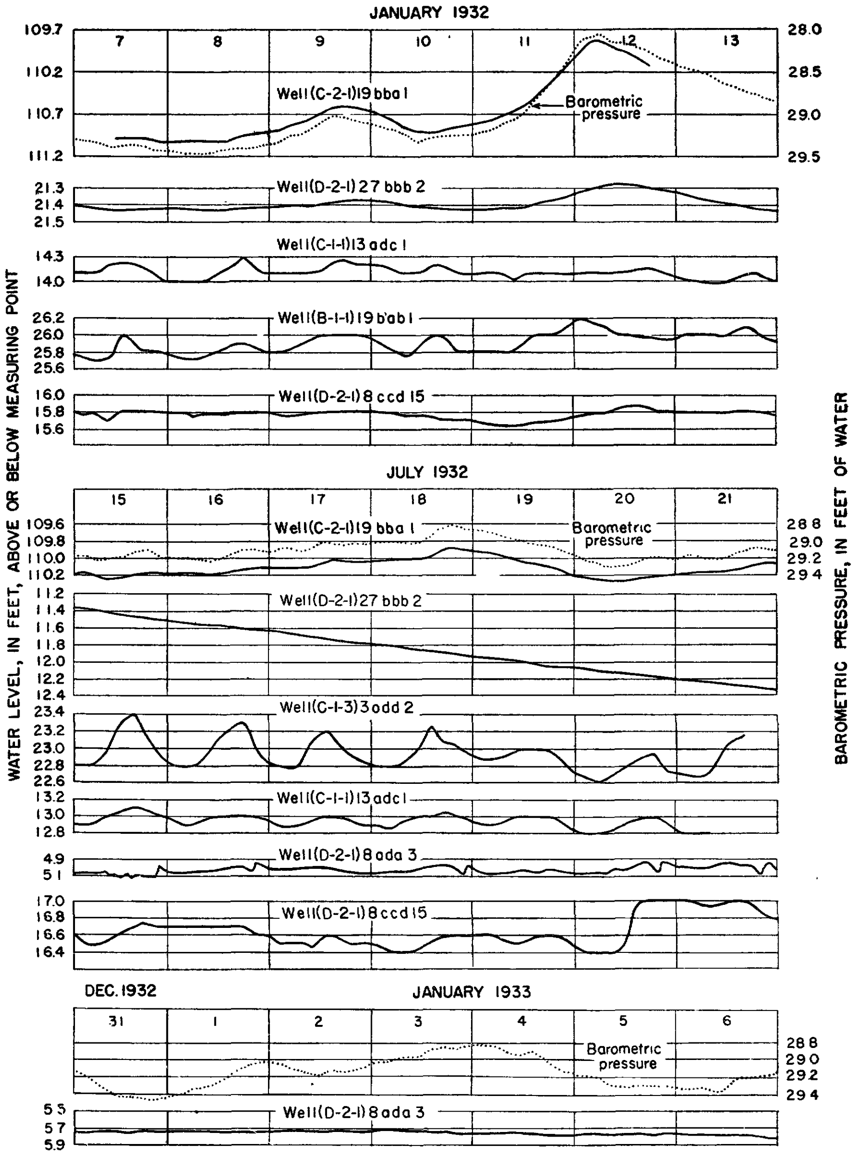


FIGURE 13.—Comparison of the barometric pressure at Salt Lake City with the water-level fluctuations in various wells in the Jordan Valley.

for each change of 0.01 inch in barometric pressure. This correction was then applied to the daily depth to water at 12 o'clock noon in the well by using the corresponding daily barometric pressure at 12 o'clock noon, and the water level was corrected to the average annual barometric pressure at Salt Lake City of 25.62 inches of mercury. The results of these corrections during the period in which a water-stage recorder was in operation on well (C–2–1)19bba1 are plotted in figure 12. The major peaks in the hydrograph are considerably reduced, but the resulting corrected curve is not smooth. This may indicate that the barometric correction to be applied should not be a constant factor and that it may vary according to the depth to the water in the well. As the well is more than a mile distant from any other well of comparable depth and as the depth to the water surface in the well is about 110 feet, it is improbable that factors other than atmospheric pressure and the natural seasonal change in water level due to ground-water recharge or discharge affect the well.

An attempt was made to obtain a correlation of the water-level fluctuations in well (D–2–1)8ada3 with the changes in barometric pressure. As this well is located in an area from which ground water is extensively developed by flowing wells, it was difficult to select a period when there appeared to be no other factor affecting the water level except the barometric pressure. It was not possible to obtain a period longer than a few hours in which to make the correlation. The attempted correlation is shown on figure 14, where three different short periods of a considerable change in atmospheric pressure were used. Three definite straight lines were obtained for the three periods, all of which had the same slope. The slope of these lines indicated a change in water level of 0.001 foot for each change of 0.01 inch of mercury in barometric pressure, which is only one-tenth of that obtained for well (C–2–1)19bba1. The artesian aquifer to which well (D–2–1)8ada3 was drilled is probably much coarser than that of well (C–2–1)19bba1, and this may result in a smaller factor of compressibility and elasticity. The large number of other flowing wells in the immediate vicinity of well (D–2–1)8ada3 may also have had some effect in reducing the barometric-pressure correction in this locality. The correction was so small for this well and the water level in the well was disturbed by so many factors other than atmospheric pressure that no attempt was made to correct the annual hydrograph of the well. Later observations of the effect of barometric and temperature changes on the Bowdon tube of pressure recorders have led to some doubt as to the accuracy of barometric correlations derived from pressure-recording gages.

The foregoing data show that a change in atmospheric pressure may cause a considerable fluctuation of the water level in a well. Thus, the relative atmospheric or barometric pressures must always be considered when the fluctuations of the water level in a well caused by other factors are being studied in close detail. Corrections for the differences in barometric pressure have not been applied to any of the water-level observations made during this investigation, except as described above.

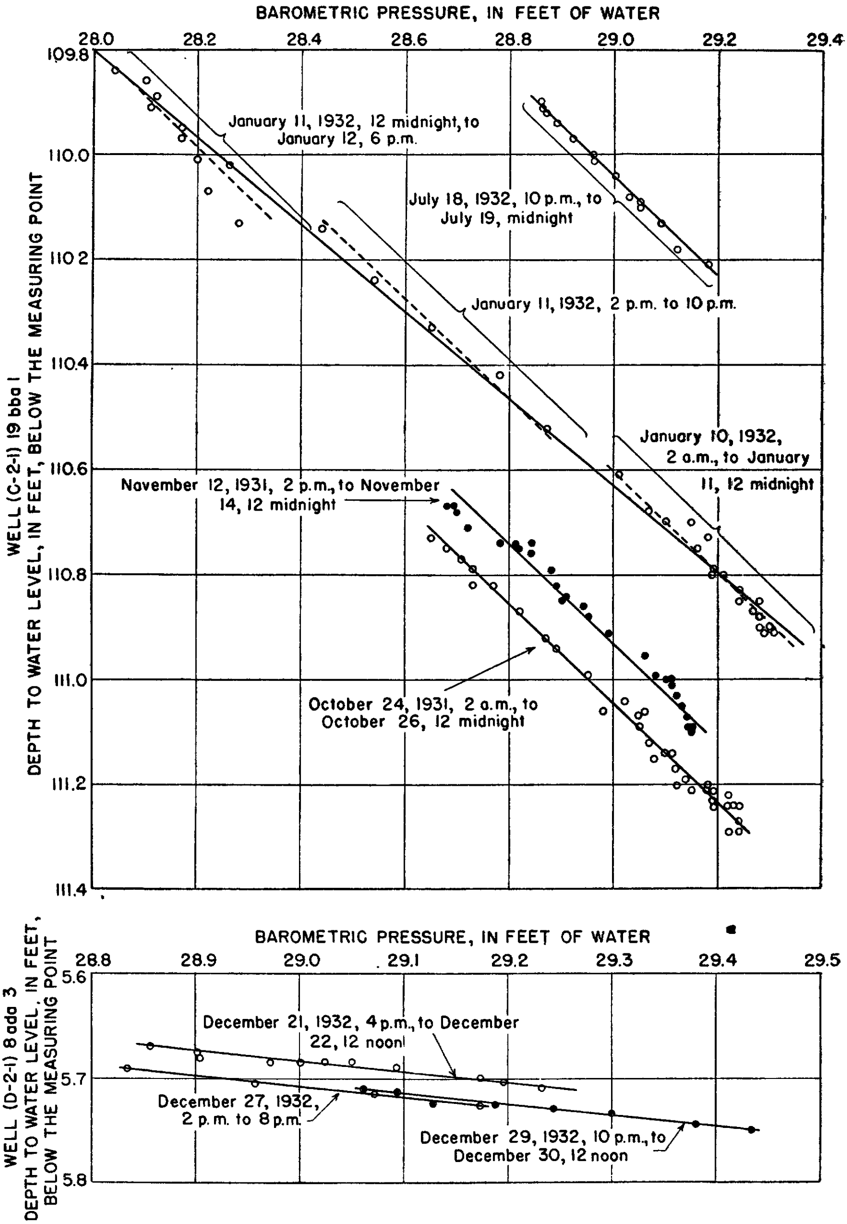


FIGURE 14.—Correlation of barometric pressure at Salt Lake City with water-level fluctuations in wells (C-2-1)19bba1 and (D-2-1)8ada3.

FLUCTUATIONS CAUSED BY EARTHQUAKES

That water levels in wells fluctuate rapidly when earthquakes occur has been known for some time, but it is rather unusual to obtain an instrumental record of the effects. Such effects were observed on records of water level obtained by automatic recorders during a ground-water investigation at Lodi, Calif.[21] Three deep wells were here noted to have water-level fluctuations of 0.02, 0.02, and 0.05 foot, caused by an earthquake centered about 150 miles from the wells. As far as the writer is aware, these are the first published records of instrumentally recorded effects of earthquakes on ground-water levels. Further reference to similar records of later earthquakes is given elsewhere.[22]

Veatch [23] has stated that small fluctuations of the ground-water level caused by earthquakes may be produced directly by the earth's tremors; by a deformation without faulting, causing a change in pressure; or by faulting that develops new ground-water outlets.

On December 20, 1932, at 11:13 p. m., an earthquake with a duration of about 1.5 minutes occurred in Salt Lake City. Newspaper dispatches stated that the earthquake was centered in the Dixie Valley section of Nevada along a line between Mina and Winnemucca, about 325 miles from Salt Lake City. In Salt Lake City the tremor caused clocks to stop, dishes to fall, and some of the taller buildings to sway. Some days later a few cracks were noted in granite blocks of a new post office building under construction in Salt Lake City, which the Federal building inspector ascribed to the earthquake. The intensity of this disturbance at Salt Lake City was probably about IV on the modified Mercalli intensity scale of 1931, and about IV to V on the Rossi-Forel scale.

At the time of the earthquake of 1932, automatic water-stage recorders were in operation on two artesian wells, both about 90 feet deep, in sec. 8, T. 2 S., R. 1 E. (See fig. 15.) Well (D-2-1)8ada3 showed a fluctuation of about 0.06 foot, the rise above the normal water level being about 0.05 foot and the drop below normal about 0.01 foot. Whether the rise or fall occurred first cannot be ascertained, as the movement was so rapid that the traces are superimposed. The water level then remained slightly more than 0.02 foot above its previous level but gradually subsided during the next 24 to 30 hours, when it appeared to have reached its previous level.

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[21] Stearns, H. T., Record of earthquake made by automatic recorders on wells in California: Seismol. Soc. America Bull., vol. 18, pp. 9-15, 1928. Stearns, H. T., Robinson, T. W., and Taylor, G. H., Geology and water resources of the Mokelumne area, Calif.: U. S. Geol. Survey Water-Supply Paper 619, pp. 145-151, 1930.

[22] Leggette, R. M., and Taylor, G. H., Earthquakes instrumentally recorded in artesian wells: Seismol. Soc. America Bull., vol. 25, pp. 169-175, 1935.

[23] Veatch, A. C., Fluctuations of the water level in wells, with special reference to Long Island, N. Y.: U. S. Geol. Survey Water-Supply Paper 155, p. 70, 1906.

The water level in well (D–2–1)8ccd1 did not show a drop but rose 0.06 foot. Whether there was more than one movement of the water level cannot be seen on the graph, as the traces would be superimposed on account of the rapidity of the movements. The water level gradually subsided after the tremor and appeared to have reached its previous level within about 9 hours.

Another water-stage recorder that was in operation on a water-table well did not show any effect of the earthquake. This well is about 200 feet deep, and the depth to water was about 48.5 feet.

Three pressure recorders were in operation on artesian wells at the time of the earthquake, but extremely cold weather a few days previous had stopped all the clocks. One of the pressure recorders showed a fluctuation of about 4 feet in the water level of a 180-foot well (D–2–1)8ccd15, some time during the week of the earthquake. As the normal fluctuation of this well is between one-half and three-fourths of a foot, it seems rather definite that the larger fluctuation was caused by the earthquake.

Eight water-stage recorders were in operation on wells in the Ogden Valley, Utah, four of which registered distinct fluctuations of the ground-water level due to the earthquake.[24] The earthquake was not registered on barometers either in Salt Lake City or in the Ogden Valley. Thus, of the three possible actions of earthquakes on ground water outlined by Veatch, it appears that the water-level fluctuations noted here were due to a deformation without faulting, which caused a change in pressure. The recovery of the water level in the wells after the tremor was probably due to the elasticity of the artesian aquifer.[25]

Another series of earthquakes was felt in Salt Lake City on March 12, 1934. The two shocks most distinctly felt in Salt Lake City occurred at 8:06 and 11:20 a. m. Several other shocks of less intensity were felt by many people. The epicenter of this series of quakes was about 15 miles southeast of Kelton, Utah, or about 85 miles northwest of Salt Lake City, and the intensity of the shocks at the epicenter was about VIII plus on the modified Mercalli intensity scale of 1931. The maximum intensity at Salt Lake City was about VI on the modified Mercalli intensity scale, or about VII on the Rossi-Forel scale. More than 100 separate and distinct shocks were counted in the vicinity of the epicenter between March 12 and 16, 1934, and lesser disturbances continued for several weeks. At Locomotive Springs, approximately the epicenter of the disturbances, several large springs flowing about 20 second-feet were reported to have

[24] Leggette, R. M., and Taylor, G. H., op. cit. Geology and ground-water resources of Ogden Valley, Utah: U. S. Geol. Survey Water-Supply Paper 796–D, p. 128, 1937.

[25] Meinzer, O. E., Compressibility and elasticity of artesian aquifers: Econ. Geology, vol. 23, No. 3, pp. 263–291, May 1928.

ceased flowing for about half an hour after the first shock. Then they began to flow again and are reported to have discharged 25 to 30 percent more water, at first very black and muddy but later clear. An old artesian well at Kosmo about 350 feet in depth, which had not flowed for about 13 years, started to flow profusely, but 4 days after the first shock it had again ceased to flow. Fifty or more new springs began to flow in the vicinity of the epicenter, and as many mud volcanoes, which formed mud cones 3 to 4 feet in diameter and 3 to 4 feet high. The flow of water later washed away most of the cones. Water mains were reported broken in the village of Snowville, some 40 miles from the epicenter.

Six water-stage recorders in operation on wells in the Ogden Valley, about 80 miles southeast of the disturbance, were affected by the two most distinct shocks of March 12, 1934; they recorded fluctuations of the water surface in the wells ranging from 0.01 to 0.75 foot. The water level in the well that rose 0.75 foot remained at the higher level. One pressure-recording gage was in operation on a flowing well in the same vicinity. This gage showed a maximum range of more than 12 feet in pressure variation during the first shock, about 7 feet of which was an increase above the normal pressure. Later shocks did not change the pressure as much as the first shock. The traces of the fluctuations were superimposed so that it could not be seen whether the increase or decrease in pressure occurred first. An employee of the United States Bureau of Reclamation reported that he was standing near some of the wells at Artesian Park at the time of the shock and that all the wells first ceased to flow for a few seconds and then began to flow again with an initial spurt of water much higher than during their normal flow.[26]

A record of two of the earthquake shocks was obtained on two water-stage recorders in operation on wells about 90 feet in depth near Murray, in the Jordan Valley. This location is approximately 85 miles from the epicenter of the disturbance. The first shock, about 8:06 a. m. on March 12, 1934, caused the water surface to fluctuate about 0.08 foot in one well and 0.09 foot in the other, practically all of which was an upward movement. The second heavy shock, about 11:20 a. m., caused a fluctuation of the water surface in these wells of only 0.01 to 0.02 foot. After the first shock one of the water surfaces did not return to normal until about 3 hours and the other until about 9 hours. Figure 15 shows a reproduction of the hydrographs of the two wells during the week of the earthquake.

Recording pressure gages were in operation on two wells about 180 feet in depth, during the disturbances of March 12. These wells are

[26] Leggette, R. M., and Taylor, G. H., Earthquakes instrumentally recorded in artesian wells: Seismol. Soc. America Bull., vol. 25, pp. 169-175, 1935.

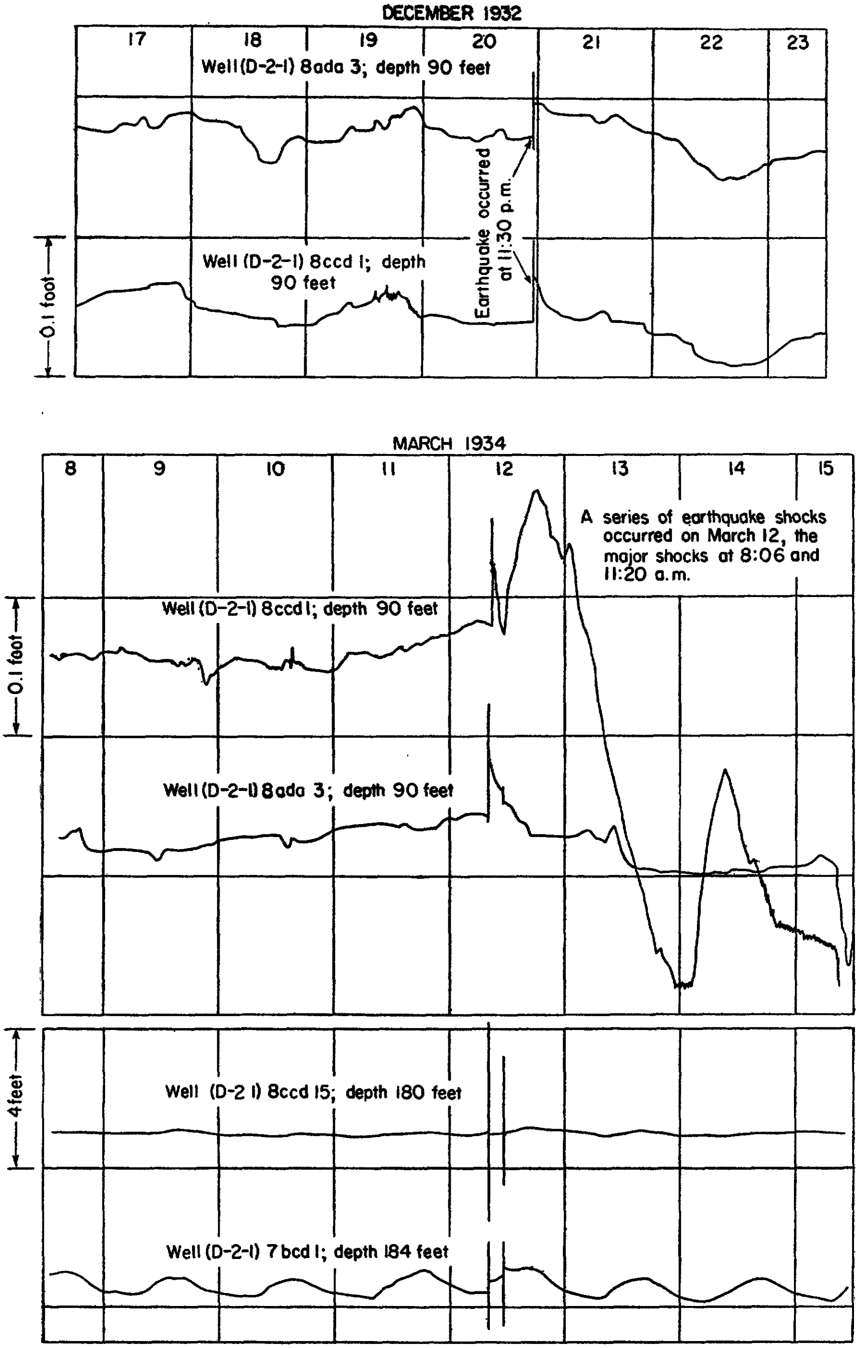

FIGURE 15.—Hydrographs of wells (D-2-1)8ada3, (D-2-1)8ccd1, (D-2-1)8ccd15, and (D-2-1)7bcd1, showing water-level fluctuations caused by earthquakes of December 20, 1932, and March 12, 1934.

near Murray, Utah, in the vicinity of the two 90-foot wells on which water-stage recorders were in operation. A reproduction of the hydrographs of the two 180-foot wells during the week of the earthquake is also shown by figure 15. The pressure of well (D–2–1)7bcd1 was noticeably changed during the shocks at 8:06 and 11:20 a. m. It fluctuated approximately 2¾ feet during the first shock, 1¾ feet of which showed an increase in pressure. During the shock at 11:20 a. m. the pressure fluctuated approximately 2¼ feet, about 1 foot of which was above the normal pressure. After each shock the pressure remained slightly above normal.

The pressure of well (C–2–1)8ccd15 fluctuated about 7 feet during the first shock, about 3½ feet of which was above normal. The shock at 11:20 a. m. caused a fluctuation in pressure of about 3¾ feet, of which about 2¼ feet was above normal. The pressure of the well returned to normal immediately after each shock.

The same type or amount of fluctuation was not obtained from any two wells in the Jordan Valley. No information was available to ascertain whether a decrease or increase in artesian pressure occurred first. The fluctuations of pressure in the aquifer are probably reproduced more nearly in their true amounts by the pressure recorders than by the water-stage recorders. The pressure recorders were on closed wells, so that no appreciable movement of water occurred, and any change in the artesian pressure was immediately recorded in approximately its true amount by the pressure recorder. As the pen arms of the pressure recorders that were used were not clamped, the sudden change in pressure possibly caused the pen to overswing and register an exaggerated pressure. The water-stage recorders were operated by a float resting on the water surface in the wells. Any change registered by the water-stage recorder was caused by a change in pressure head or level of the water surface in the well. If the level of the water surface in a well changed, the water was forced into or out of the end of the well casing where it ends in the aquifer. During an earthquake shock the change in pressure probably occurs so quickly that sufficient time does not elapse to allow enough water to enter or leave the end of the well casing to raise the level of the water an amount equal to the actual change in pressure. Thus, if the pressure is increased above normal and then in a few seconds decreased below normal, the rise in the water level of a well would probably be interrupted before a rise equal to the increase in pressure was obtained. Therefore, the fluctuations of water level in a well equipped with a float-operated water-stage recorder during earthquake disturbances are not thought to represent the true amount of changes in pressure in the aquifer.

Although the pressure-recording gages in use were not as sensitive to changes in pressure as the water-stage recorders were to changes in water level, the total amount of a sudden change in pressure in an aquifer is probably more accurately recorded by a pressure gage. This is especially true when the fluctuations of pressure are rapid.

The earthquakes of December 1932 and March 1934 were not registered on barometers located at Salt Lake City and at Artesian Park, in the Ogden Valley. Only once were variations noted on the gage-height traces from water-stage recorders in operation at stream-gaging stations. The gage-height trace from a water-stage recorder that was in operation on Little Cottonwood Creek at 2d West Street, near Murray, showed a fluctuation of about 0.02 foot. It is evident, however, that the fluctuations obtained by recorders operating on wells represented an actual fluctuation of the water surface, or pressure, and not a jarring or shaking of the instruments.

FLUCTUATIONS CAUSED BY TRANSPIRATION

The life of many plants depends partly or entirely on ground water. The plants obtain ground water by sending their roots down to the water table or its overlying capillary fringe. In some plants the root system is so developed that it may obtain the required amount of water with the least effort. When moisture is available from soil near the surface an upper system of roots withdraws this moisture. As the soil moisture becomes depleted in the upper zones, the plant will go progressively deeper for its supply of water; and some plants will send their roots down many feet in search of water. Alfalfa is one of the many plants capable of maintaining itself by ground water withdrawn by its roots from relatively great depths.[27]

In the Jordan Valley, it is not probable that much ground water is withdrawn from the artesian reservoir by plants, but a large quantity of shallow ground water is probably used by the various plants. Although no attempt has been made to estimate the quantity of water transpired by plants, their use of ground water is shown by the fluctuations of water level in well (D–2–1)27bbb2. Figure 16 is a reproduction of a part of the hydrograph of this well during a period when the alfalfa in a surrounding field was drawing heavily on the ground water. During that period the general trend of the water table was down. The action of the alfalfa roots on the water table was to accelerate the downward trend during the day, when transpiration was greatest, but the decline decreased or stopped during the night, when transpiration was least. On August 23, when the field was irrigated, the hydrograph shows that the irrigation water reached the water table and temporarily halted the general decline and the fluctuations caused by the

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[27] Meinzer, O. E., Plants as indicators of ground water: U. S. Geol. Survey Water-Supply Paper 577, 1927.

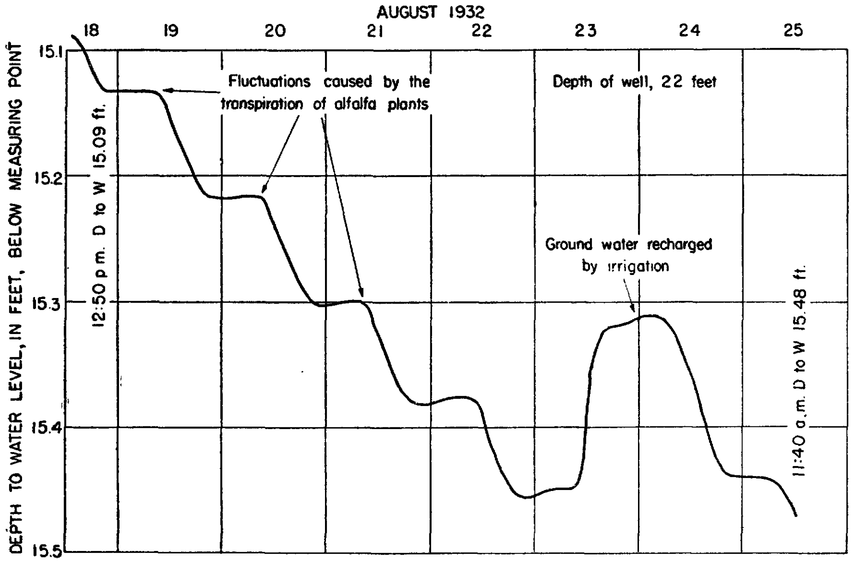

FIGURE 16.—Hydrograph of well (D-2-1)27bbb2 showing effects of tranpsiration and irrigation on ground-water levels.

withdrawal of water by the plants. The moisture added to the soil by irrigation was sufficient to supply the demands of the plants for about 2 days, after which they again began to draw upon the ground water.

FLUCTUATIONS CAUSED BY PUMPING

In 1931, Salt Lake City purchased 39 wells in the SW¼ sec. 8, T. 2 S., R. 1 E., known as the Erekson group or field, and 63 wells in the N½ sec. 8, T. 2 S., R. 1 E., known as the Spring Run group. The Spring Run group includes wells of the Utah State Fish Hatchery, of James A. Carlson, O. E. Carlson, Association Rearing Ponds, Reynolds-Welch Fish Hatchery, the Miller Estate, and the Johnson wells. The flow from these wells was collected by a system of pipe lines and led directly into pumps at a central pumping plant located at 24th South and 3d East Streets. The location of the flowing wells from which Salt Lake City obtains water and a sketch of the collecting system are shown on plate 8. The flow of the Erekson group can be measured by an overflow weir at a point about 100 feet north of the junction of the Little Green River and Big Cottonwood Creek, the flow from the Spring Run group can be measured by an overflow weir near 48th South and 9th East Streets, and the total flow from all groups can also be measured by the latter weir.

The periods of withdrawal from the artesian basin and the hydrographs of three Salt Lake City wells for the period from November 27 to December 14, 1933, are shown on figure 17. Wells (D-2-1)8ccd1

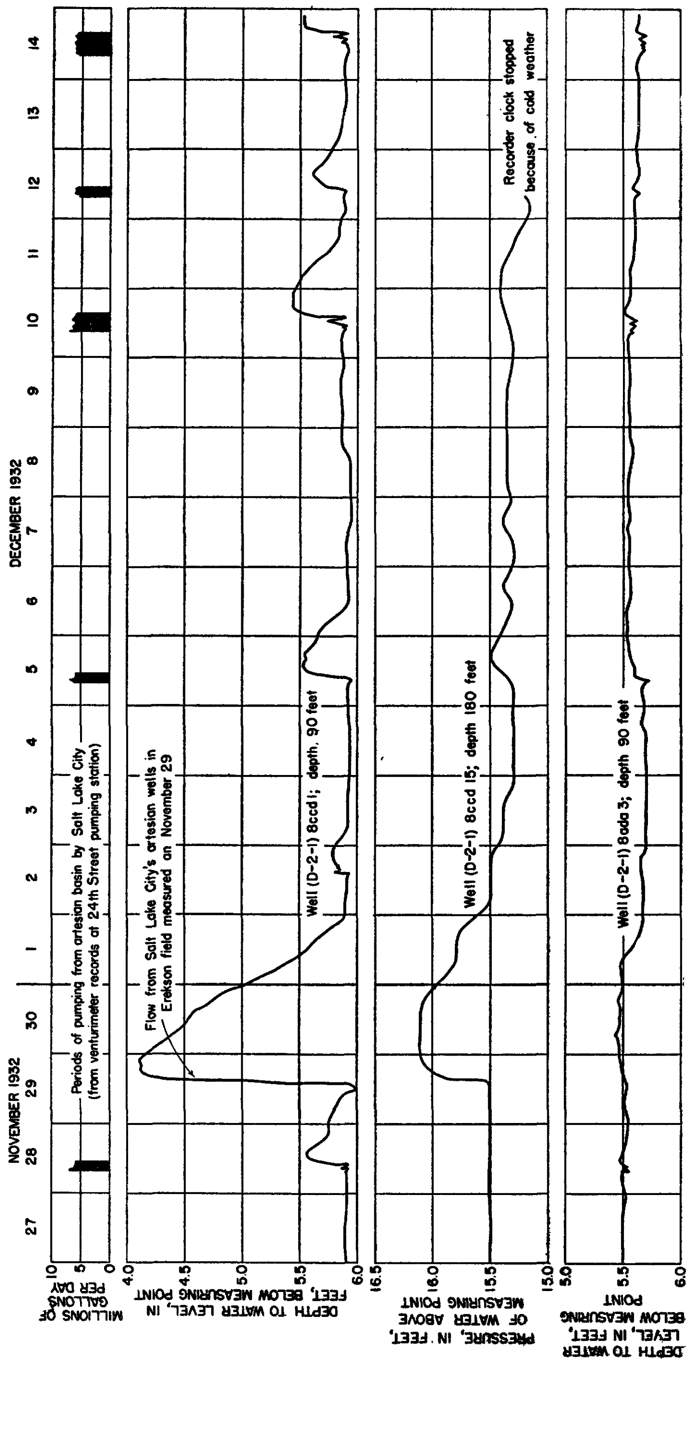

FIGURE 17.—Hydrographs of wells (D-2-1)8ccd1, (D-2-1)8ccd15, and (D-2-1)8ada3, showing the effect on the artesian basin caused by Salt Lake City's pumping from artesian wells and by the opening and closing of wells in the Erekson field.

and (D–2–1)8ccd15 are in the Erekson group, and well (D–2–1)8ada3 is near the Spring Run group. These wells are 90, 180, and 90 feet deep, respectively.

Figure 17 shows that whenever the Salt Lake City pumps are operated at the pumping station on 24th South Street a disturbance is caused in the artesian pressure of the well fields. The pressure is decreased when the pumps are started and while they are operating; it is increased when they are stopped; and it then gradually returns to normal over a period of several hours. The large disturbance in the hydrograph of wells (D–2–1)8ccd1 and (D–2–1)8ccd15 on November 29 occurred when the flow from the Erekson group was measured over the overflow weir near the mouth of the Little Green River. The fluctuations of pressure in the artesian basin that occur during periods of pumping by the Salt Lake City Corporation are explained as follows: When the pumps are not operating, the water from the Spring Run group of wells flows to 48th South and 9th East Streets, where it is wasted into Big Cottonwood Creek over the overflow weir. The water from the Erekson group of wells flows to the junction of the collecting lines from the two groups and thence up the collecting line toward the Spring Run group to 48th South and 9th East Streets, where it also is wasted into Big Cottonwood Creek over the overflow weir.[28] Thus, the head against which the wells of both groups are flowing is determined by the elevation of the overflow weir. When the pumps at 24th South and 3d East Streets are being operated, the head against the wells is reduced so that there is no wastage over the overflow weir, and the water from the Spring Run group moves past the overflow weir to the pumps.

The water from the Erekson group, when it reaches the junction of the collecting lines from the two groups, flows down the collection line toward the pumps instead of up the collection line toward the Spring Run group and overflow weir. Therefore, the head against which the wells are flowing during periods of no pumping, as represented by the elevation of the overflow weir, is reduced an undetermined amount when the pumps are operating. The effect on the artesian basin is that of lowering the artesian pressure a small amount during periods of pumping. When the pumps are stopped the flow of water in the collecting lines is suddenly stopped, and the momentum causes a surge and back pressure on the wells that is above normal. Thus, the head against which the wells are operating is raised above the head against which they are flowing when normal conditions at the overflow weir prevail. This above-normal back-pressure effect on the wells does not become readjusted for several hours after the pumps are stopped.

[28] Wastage at this weir was later eliminated.

Pumping operations cause a greater difference in operating head at the Erekson group of wells than at the Spring Run group of wells, and this results in a greater fluctuation of the artesian pressure in the vicinity of the Erekson group. When the water from the Erekson field is measured over the overflow weir the effect is similar to that caused by pumping. A valve in the collecting line is opened and the pipe allowed to carry all the water possible by a gravity flow, which causes a drop in the operating pressure of the wells. Another valve is closed that breaks the connection between this line and the remainder of the collecting lines of the system. When the measurement is complete the overflow valve is closed and the valve into the main system is opened, putting the water back into the collecting line and causing a back pressure on the wells, which in turn builds up the pressure in the well field. The three wells whose hydrographs are shown in figure 17 were not connected with the collecting lines. Two of them were separated from the system by valves, and the other one, (D–2–1)8ada3, is about 250 feet from the nearest well connected with the collecting system. Thus, the effects shown upon the three wells are transmitted through the artesian aquifers.

From interference test 2 (pp. 91–93) it is seen that the effects described above are noticeable a considerable distance from the wells that are being drawn upon. The pumping on January 16, 1933, was observed to be reflected as far away as 0.7 mile in well (D–2–1)8bbd. The effect was very pronounced on well (D–2–1)7ddc, which is about 0.4 mile from the Erekson group and which was equipped with an automatic recorder on January 16.

COMPRESSIBILITY AND ELASTICITY OF ARTESIAN AQUIFIERS

Measurements of the pressure head of flowing wells in the Jordan Valley showed that in some of the wells the pressure at the land surface would increase perceptibly for varying periods after the flow from the well was completely stopped. These periods varied from a few minutes to several days or even weeks. In most of the flowing wells in the Jordan Valley the recovery in pressure head probably does not occur immediately after the well is completely closed. A partial hydrograph of well (C–1–3)3add2 (fig. 18) illustrates the extended and gradual increase in or recovery of pressure after the well was closed. This well had been flowing freely for many years until April 27, 1932, when a recording pressure gage was installed and the flow completely stopped. A comparison of the part of the hydrograph obtained from the pressure recorder and the part obtained by manual measurements indicates that a recovery of pressure head of about 1½ feet had occurred before the installation was completed. The pressure then gradually increased for 45 to 50 days, when the normal pressure seemed to have been reached. The increase in pressure after the recorder was put into operation was about 9 feet.

The hydrograph of well (B–1–1)19bab1 (fig. 18) is another illustration of the length of time required for total recovery of the pressure head and of the amount of recovery. This well, which had evidently been flowing freely ever since it was drilled, was closed and equipped with a recording pressure gage on November 20, 1931. The pressure

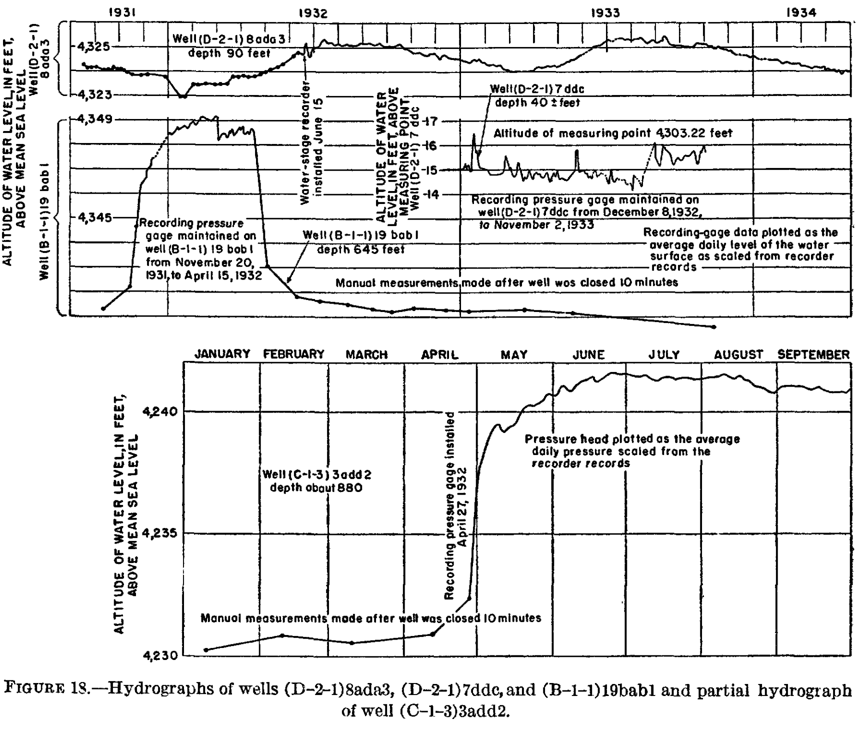

FIGURE 18.—Hydrographs of wells (D–2–1)8ada3, (D–2–1)7ddc, and (B–1–1)19bab1 and partial hydrograph of well (C–1–3)3add2.

increased several feet after the well was closed and before the recorder was completely installed. The recovery then continued gradually over a period of 60 to 70 days. After the recorder was removed on April 15, 1932, and the well again allowed to flow, the period during which the pressure was receding was apparently about 2 months, or possibly longer.

Other records of the virtual total recovery of the pressure head of wells in the most heavily developed artesian area and of the time required for recovery were obtained in connection with the interference tests described elsewhere in this report.

In recognition of the length of time required for full recovery of pressure head when a flowing well is closed, it was decided to make all manual pressure measurements of wells by taking the pressure immediately after the gage was attached and the well closed, followed by additional pressure readings after 5 and 10 minutes. If the pressure did not materially increase during the last few minutes, the readings gave approximately the true pressure head on the well. If the well showed a material increase between the 5- and 10-minute readings, the pressure readings did not represent the true pressure head of the well; however, a series of periodic 5- or 10-minute readings over several months gave the relative change in head, or fluctuation of the water surface of the well. The total recovery of the pressure head in flowing wells in the artesian area east of the Jordan River and south of Salt Lake City required much less time than in those in the area north and west of Salt Lake City. In the former area most of the wells regained nearly all of their total head within a few minutes after closing the well, and thus the pressure readings 5 or 10 minutes after closing a well represented the true pressure head on that well within a few hundredths of a foot.

The increase in the pressure head of flowing wells is probably due to the compressibility and elasticity of the artesian aquifers. This problem has been discussed by O. E. Meinzer,[29] who states the following:

> It has generally been assumed that the formations which constitute the aquifers are incompressible and inelastic and that, therefore, changes in the hydrostatic pressure do not produce any changes in the pore space of the rock. There are, however, several lines of evidence that the artesian water, especially in strata of sand or soft sandstone, supports a part of the load of the overlying rock and that the aquifers are compressed when the artesian pressure is decreased and expanded when it is increased. The evidence indicates that there are only very moderate amounts of contraction and expansion as a result of the changes of pressure produced by the operation of wells; nevertheless, the amounts are more than can be attributed to the elasticity or other volume change in the water itself, and they are large enough to affect radically the conclusions in regard to the recharge, movement, and discharge of the water in the artesian basins.

The aquifer of an artesian basin evidently has some volume elasticity, and when the pressure is relieved, as by opening a flowing well, the volume of the aquifer becomes slightly less through compression. After the well is opened a cone of depression is established in the piezometric surface. Thus, the volume of the aquifer is lessened and a hydraulic gradient toward the well is created. When the well is again closed, the gradual increase in pressure indicates that the hydraulic gradient toward the well continues until the pressure has again become normal for that formation. The existence of the hydraulic gradient toward the well means movement of water toward

[29] Meinzer, O. E., Compressibility and elasticity of artesian aquifers, Econ. Geology, vol. 23, No. 3 pp. 263-291, May 1928.

the well. However, as the artesian aquifer is saturated and the closing of the well allows no movement of water away from the well, the water moving toward it causes an expansion of the volume of the aquifer. That the expansion of the volume of the aquifer and the return of the well to normal pressure are not instantaneous but extend over varying periods of time is probably due to the fact that sufficient time must elapse to allow the water to move through the aquifer to the depleted and compressed formation surrounding the well and to expand the interstitial space.

The rate of movement of water through an aquifer is determined, in part, by the permeability and the elasticity of the aquifer, both of which differ with the coarseness or fineness of the materials of which it is composed. The fact that the wells in the northwestern part of the Jordan Valley are much slower in regaining their normal head than the wells on the east side of the valley indicates that the water-bearing material in the northwestern part of the valley is much finer and less permeable than that in the eastern part of the valley. A geologic consideration of the mode of deposition of the sediments underlying the Jordan Valley indicates that the coarser and more permeable sediments are to be expected on the east side of the valley, near the foot of the Wasatch Mountains.

INTERFERENCE BETWEEN WELLS

Between the Jordan River and Provo terrace on the east side of the valley, the land surface slopes gently toward the west and is intersected in a southeast-northwest direction by shallow valleys. Plate 8 shows a field sketch of these shallow interlocking valleys over a part of the area they occupy. Between these numerous small basins the land surface rises from about 15 to 40 feet. In the past the residents of the valley have had a general opinion that ground water obtained from wells in any one of the small basins was separate from and not connected with the ground water in any of the other basins. From the nature of the formation of the valley it would not seem logical to make that assumption, and consequently a number of tests were made to determine whether or not the wells in one basin are connected underground with wells in other basins.

INTERFERENCE TESTS

TEST 1

Test 1, made in November–December 1932, consisted in opening well (D-2-1)5daa1, located near the intersection of 13th East and 45th South Streets, and letting it flow at its full rate of about 116 gallons a minute for a period of 4 days. Before the well was opened, during the time it was flowing, and after it was closed, observations of the pressure head were made at frequent intervals on 33 other wells within a radius of about 1.25 miles from the test well, (D-2-1)5daa1.

The locations of the wells are shown on plate 8, and the measurements made on them are included in the well records at the end of this report. In addition, an automatic water-stage recorder was in operation on well (D-2-1)8ada3.

The flow of well (D-2-1)5daa1 was measured as about 116 gallons a minute just before the well was closed on December 5, 1932. An automatic pressure gage was installed on the well immediately after it was closed, and the pressure head rose from 15.5 feet to 17.8 feet within 3 hours and to 18.1 feet within 5 hours after closing the well. About 12 hours after closing the well the pressure had increased to about 18.5 feet, after which it remained practically constant for 20 hours longer; at the end of this time the water in the hose connecting the recorder to the well was frozen.

Plate 9 shows the fluctuation of the water surface in all the wells observed, together with a graph of the barometric pressure as recorded by the United States Weather Bureau at Salt Lake City and a record of the periods during which Salt Lake City pumped water from the artesian basin. It also indicates the time of opening and closing the test well (D-2-1)5daa1.

During the period covered by test 1 the barometric pressure ranged from about 25.4 to 26.0 inches. The pressure on November 30, 1932, when measurements for the test were started, was nearly the same as the pressure on December 5, when the test ended. Thus, the initial and final measurements are not materially affected by change in barometric pressure. On December 1, 1932, when well (D-2-1)5daa1 was opened, the barometer was rising, which tended to exaggerate the drop in water level of the wells under observation and at times made it difficult to determine the effect of opening the well.

An interpretation of the fluctuation of the water level in each well during the test is given in the following paragraphs, in which well (D-2-1)5daa1 is termed the test well.

Well (D-2-1)5daa3, which was not measured prior to opening the test well, showed an immediate recovery after the test well was closed, the water rising about 1.8 feet within 1 day and about 3 feet within 3 days.

Well (D-2-1)5dad4 was affected, but not rapidly, which shows a larger effect from closing than from opening the test well.

Well (D-2-1)5dab1 responded decidedly and immediately to the operation of the test well. The yearly hydrograph of this well (figure 3) shows the effects of the test very clearly.

Well (D-2-1)5ddd3 reflected the operation of the test well quickly and continuously over the period of the test, showing a total drop in water level of about 1.15 feet.

Well (D-2-1)9bab1 was affected by both the opening and the closing of the test well.

Well (D-2-1)4cab gave indications of a slight effect. Its water level rose between December 5 and 6, acting with the closing of the test well and against barometric effects.

Well (D-2-1)4dbd4 was probably affected by the operation of the test well, but the results are partly obscured by the action of barometric pressure. The yearly hydrograph of this well (fig. 3) indicated a response to the test.

Well (D-2-1)8abd11 gave indefinite results, although the rise in water level between December 5 and 6, against barometric effects, indicates a response to the closing of the test well.

Well (D-2-1)8ada3 shows very clearly the operation of the test well. The effect of opening and closing the well was apparently transmitted to the automatic recorder on well (D-2-1)8ada3 almost immediately, but in a later test, when checked with a recorder having a faster time gearing, the time actually required for transmittal of the effect to well (D-2-1)8ada3 was 24 or 25 minutes. (See also test 3, p. 93.) The effect of the operation of the Salt Lake City pumps that take water from the city-owned artesian wells is also to be noted on plate 9. The distance to the nearest well connected with the city's collecting system is about 250 feet.

Well (D-2-1)9bca2 clearly reflects the operation of the test well, but the response was not so prompt as in other wells.

Well (D-2-1)9bda1 was probably affected, as suggested by the drop in water level between measurements on December 1, but barometric effects obscurs the reaction to the operation of the test well.

Well (D-2-1)8acd1 was affected, but barometric effects obscure the reaction to the operation of the test well.

Well (D-2-1)9aab3 was affected, but the reaction to the operation of the test well was delayed in reaching this well.

Wells (D-2-1)9aca3, (D-2-1)9aca1, and (D-2-1)9acd1 very clearly responded to the operation of the test well.

Wells (D-2-1)8dbd and (D-2-1)8bbb1 responded slightly to the operation of the test well.

Well (D-2-1)9bcd2 very clearly responded to the operation of the test well.

Well (D-2-1)6daa3 showed the effects of operating the test well more clearly when the well was closed than when it was opened.

Wells (D-2-1)5aaa1, (D-2-1)5caa2, (D-2-1)4acc1, and (D-2-1)8ada1 were not measurably affected by the operation of the test well, the fluctuations of the water surface shown by their hydrographs probably being due to changes in barometric pressure.

Wells (D-1-1)33cba1 and (D-2-1)4abb1 were apparently not affected. The hydrographs of these wells show variations in water level that were probably caused by barometric fluctuations, although the difference in water level between the second and third measurements on December 1 suggests a response to the opening of the test well.

Well (D-2-1)4bda1 probably was not affected, but as the record is not complete the results are not definite.

Well (D-2-1)4dca1 gave a very erratic hydrograph but probably was not affected by the operation of the test well.

Wells (D-2-1)5aad, (D-2-1)4ccd, (D-1-1)32dbc3, and (D-1-1)33caa1 were not measurably affected by the operations of the test well.

Only a few measurements were made on wells (D-2-1)8cca14 and (D-2-1)8dba1, and as the results of the measurements were not significant they were not plotted.

The water level in most of the wells observed, except those closest to the test well, did not return after the test to the same level as before, probably owing to the general downward trend of the ground-water level during the period of the year in which the test was made. Thus, the effect of opening the test well was to increase the apparent rate at which the ground-water level was falling, and the effect of closing the well was to slow up the rate of fall but not to reestablish the original water level. These effects can be seen by an examination of the yearly hydrographs of wells (D-2-1)4dbd4, (D-2-1)9aca2, (D-2-1)9aca3, and (D-2-1)-5dab1. (See fig. 3.)

A comparison of the location of the wells observed during the opening and closing of the test well shows that none of the wells north of a line running about east and a line running about northwest through the test well showed any measurable effect. South of an east-west line through the test well all the wells observed except two showed a response to the manipulation of the test well. Of the wells affected, four did not show the effects clearly. Although the depths of some of the wells are not known, it is thought that some, if not all, of the wells not affected, especially south of the test well, are considerably deeper than the test well. When the relatively small flow of the test well and the large number of other artesian wells in the area under test are taken into consideration it is rather remarkable that such decisive results were obtained from some of the observation wells, especially those farthest from the test well, such as wells (D-2-1)9aca2, (D-2-1)9aca3, and (D-2-1)9acd1, all of which are more than a mile from it. Manual measurements for this type of test are not so satisfactory as automatic records. This is clearly shown by the definite results obtained on well (D-2-1)8ada3, which is about 0.8 mile away from the test well. The results from this test show conclusively that the small topographic basins in which flowing wells are best obtained are not separate ground-water basins but are connected underground through the formations. Well (D-2-1)8ada3, the hydrograph of which shows the most decisive results, is over one ridge and across another topographic basin from the test well.

TEST 2

Test 2, made in January 1933, consisted in closing 13 wells in the Wm. Erekson well field, now owned by Salt Lake City, for a period of 3 days. There are 39 wells in this field, 25 of which are in an area of less than 4 acres and 12 of which are in an area of about one-half acre. All are flowing wells that discharge a total of about 4.5 second-feet of water. The number, size, depth, approximate flow, and time of opening and closing of the wells that were operated for this test are shown in the following table, and the locations are shown on the inset map in plate 8.

Wells operated during interference test 2

Well No.	Original depth (feet)	Flow (gallons a minute)	Closed Jan. 14, 1933	Opened Jan. 17, 1933
(D-2-1)8cca1	87	55	2:07 p. m.	12:47 p. m.
8cca3	82	80	12:53 p. m.	12:49 p. m.
8cca7	84	40	12:54 p. m.	12:54 p. m.
8cca8	100.5	95	12:45 p. m.	12:44 p. m.
8cca9	90	55	12:46 p. m.	12:44 p. m.
8ccd3	106	25	1:00 p. m.	12:57 p. m.
8ccd4	82	70	1:09 p. m.	1:00 p. m.
8ccd5	81	70	1:13 p. m.	1:04 p. m.
8ccd6	82	80	1:17 p. m.	1:02 p. m.
8ccd11	97	35	1:26 p. m.	1:09 p. m.
8ccd12	87	30	1:31 p. m.	1:10 p. m.
8ccd13	88	15	1:45 p. m.	1:13 p. m.
8ccd20	70	15	1:50 p. m.	1:20 p. m.

According to the above table the indicated flow of water from the wells amounts to 665 gallons a minute. However, when these wells were closed the pressure head of the artesian basin in the immediate vicinity was increased by about 3 feet, and thus the flow of water from other nearby wells was increased by some unknown amount, which reduced the actual amount of water that was turned off by closing the 13 wells to some amount less than 665 gallons a minute. The total amount of water flowing from the city's well field was reduced from 11.46 to 10.74 second-feet, as shown by readings on an overflow Lyman weir at 9th East and 48th South Streets, which indicates that the amount of water turned off by closing the 13 wells was 0.72 second-foot, or about 323 gallons a minute.

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Before, during, and after the time of manipulating the 13 wells for test 2, field observations of the depth to water were made on 12 wells and pressure measurements were made on 2 wells, all located within a radius of about 1.15 miles from the Erekson field. Automatic waterstage or pressure recorders were maintained on wells (D–2–1)8ccd15, (D–2–1)7ddc, (D–2–1)8ada1, and (D–2–1)8ccd1. The locations of the wells observed are shown on plate 8, and the measurements made on the observation wells are given in the well records at the end of this report.

The hydrographs of all the wells observed, the barometric pressure at Salt Lake City, and the record of the periods of withdrawal from the artesian wells by Salt Lake City during the period of the test are shown on plate 10.

The changes in barometric pressure during test 2 greatly affected the results. The barometer registered about 0.7 inch lower at the end of the test than at the beginning, which is probably the principal reason why the water level in many of the wells observed did not return to as low a level after the test as at the beginning. The large drop in the barometric pressure during the day the wells were closed exaggerated the effects of closing. Nevertheless, a comparison of the well observations made immediately before and after closing or opening the wells or an examination of the complete hydrograph of each well shows that the operation of the test wells was reflected in all the wells observed. The greatest distance from the operated wells at which the effect was noted was about 1.15 miles, although it probably extended farther. It is interesting to note that the closing of the wells was reflected almost immediately in the pressure of wells (D–2–1)-7ddc and (D–2–1)8ada3, which are in separate topographic basins from each other and from the wells that were closed. The results from both tests 1 and 2 indicate that the effect of closing a flowing well is transmitted to other wells more rapidly than the opening of the well.

The hydrograph of well (D–2–1)8ccd1 shows that the pressure did not return to its original level until 3 days after the operated wells were closed and then not until after the water level was disturbed by the release of the back pressure on the collecting lines caused by a measurement made on January 20 of the total flow from the group of wells owned by Salt Lake City. The fluctuation of the water level in well (D–2–1)8ccd1 caused by this measurement is indicated very clearly on the hydrograph in plate 10. It is not known why the water level in this well did not return to normal during the period between the time of opening the wells on January 17 and the measurement of the total flow from the field on January 20.

The sudden increase of the pressure in well (D–2–1)8ada3 on January 20 has not been explained, but it occurred too long after the measurement of flow that disturbed well (D–2–1)8ccd1 on the same day to be connected with it.

The effects of pumping from the artesian basin are reflected in the hydrographs of all the wells that were equipped with automatic recorders, and the pumping on January 16 was reflected in the manual measurements on wells (D–2–1)8cca14, (D–2–1)17bbd3, (D–2–1)17bcb1, (D–2–1)8dba1, (D–2–1)7dab9, (D–2–1)8bbb1, and (D–2–1)8bbd. The distance between these wells and the nearest well connected with the Salt Lake City collecting lines ranges from 0.15 mile to 0.45 mile. The effect of the pumping from the wells is also reflected in wells in different topographic basins.

The hydrograph of well (D–2–1)8ccd15 also suggests the transmission of pressure from an aquifer of one depth to an aquifer of another depth, as well (D–2–1)8ccd15 is 180 feet deep and the maximum depth of any of the wells operated was 106 feet. The rise in the pressure of well (D–2–1)8ccd15 was not due entirely to barometric pressure but partly to the operation of the test wells, for the pressure returned to about normal on January 23 without a corresponding change in the barometric pressure. However, the response to the operation of the shallower wells lagged very much in well (D–2–1)8ccd15.

TEST 3

The automatic recorder used on well (D–2–1)8ada3 during test 1 did not have a time scale such that the interval of time which elapsed between the closing of test well (D–2–1)5daa1 and the resulting effect on well (D–2–1)8ada3 could be accurately determined. Consequently, another automatic recorder with a faster time gearing was installed on well (D–2–1)8ada3, and the closing and opening of well (D–2–1)5daa1 were repeated on November 27 and 28, 1933. The results of test 3 are given by the hydrograph of well (D–2–1)8ada3, as shown in figure 19. The first effect of opening well (D–2–1)5daa1 was observed on well (D–2–1)8ada3, about 0.8 mile distant, 24 minutes after the well was opened. Thus, the rate of travel of the pressure effect of opening well (D–2–1)5daa1 was about 175 feet per minute. The water surface in well (D–2–1)8ada3 continued to fall for about 3 hours 53 minutes, when it had reached a static level about 0.09 foot lower than before the test.

When well (D–2–1)5daa1 was closed, the effect was felt by the water surface in well (D–2–1)8ada3 within 25 minutes. This indicated a rate of travel nearly the same as that when the well was opened. The water surface in well (D–2–1)8ada3 continued to rise for about 5 hours 6 minutes, after which time it stood 0.09 foot higher than when well (D–2–1)5daa1 was flowing. This test verified part of the results of test 1 (see p. 88) and in addition gave information on the rate of travel through the artesian aquifer of a change in pressure at well (D–2–1)5daa1.

TEST 4

Test 4 consisted of the continued operation of the large time-scale recorder on well (D–2–1)8ada3 after the completion of test 2 and the operation of the Salt Lake City Corporation wells of different depths in the NE¼ sec. 8, T. 2 S., R. 1 E. (See fig. 19.) The distance between well (D–2–1)8ada3 and the wells operated during test 4 is about 250 feet.

Six wells, 178 to 198.5 feet in depth, which were flowing into the collecting lines of the Salt Lake City Corporation were closed at 4:56 p. m. on November 28, 1933. The hydrograph of well (D–2–1)8ada3 (fig. 19) shows that the first effect from closing these wells was the lowering of the water level in, or pressure on, well (D–2–1)8ada3, which is approximately 90 feet deep. This effect was created as follows: The collecting line from the large group of city-owned wells in the vicinity is evidently not large enough or the pipe-line gradient is not great enough to remove the flowing well water, resulting in a back pressure on some or all of the wells. Thus, when the six wells were closed on November 28, the flow of water into the collecting line was decreased and the pressure head of the closed wells was removed from the collecting line. The pressure in the collecting line being lessened, the flow from the remaining wells that discharged into the collecting line was increased and the operating pressure decreased. The decrease in the operating pressure of these wells was immediately transmitted to well (D–2–1)8ada3, directly through the aquifer tapped by these wells and by well (D–2–1)8ada3. The effect, a lowering of the pressure head on well (D–2–1)8ada3, continued only a few minutes, as it was entirely balanced within about 5 minutes and overcome within about 10 minutes by the transmission of the confined pressure of the closed wells from their deeper depths to the shallower depth of well (D–2–1)8ada3. This rise of the water surface, or pressure head, in well (D–2–1)8ada3 continued for about 5 hours 30 minutes, at which time the increase was about 0.05 foot.

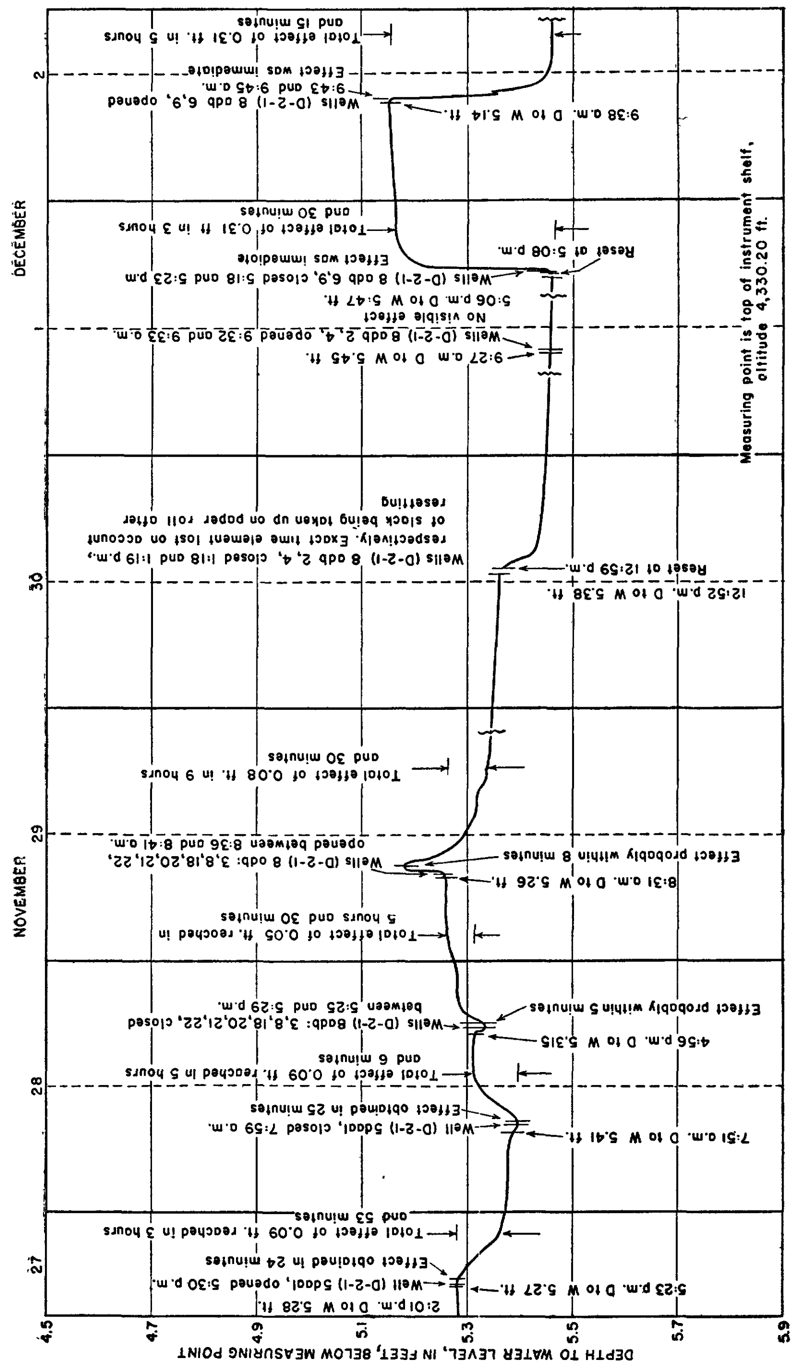

FIGURE 19.—Hydrograph of well (D-2-1)8ada3, November 27 to December 2, 1933.

The six wells that were closed on November 28 were opened at 8:30 a. m. on November 29. Figure 19 shows that the effects of this operation were opposite to those caused by closing the wells, that is, the pressure head on well (D–2–1)8ada3 was first increased, then quickly balanced, after which a total decrease of about 0.08 foot occurred over a period of about 9 hours 30 minutes. The operation of the six wells showed that the confinement or release of the artesian pressure in the aquifer penetrated by wells about 180 to 200 feet deep is almost immediately transmitted to the aquifer penetrated by well (D–2–1)8ada3 at a depth of about 90 feet.

On November 30, one well 147 feet deep and one well 148.5 feet deep were closed. Figure 19 shows that neither the closing nor the opening of these wells visibly affected the pressure head of well (D–2–1)8ada3, except indirectly by the decrease in flow and pressure in the collecting line, as explained above.

On December 1, one well 70 feet deep and one well 75 feet deep were closed about 5:20 p. m. The hydrograph of well (D–2–1)8ada3 shows an immediate response to the closing of the two wells which increased the pressure head of well (D–2–1)8ada3 by 0.31 foot in 3 hours 30 minutes. When the two wells were opened on December 2 the pressure head on well (D–2–1)8ada3 immediately decreased. After 5 hours 15 minutes it had dropped 0.31 foot.

Test 4 shows that in artesian wells about 90 feet deep there is an immediate response to the opening and closing of other artesian wells drilled to the same aquifer. The opening and closing of wells drilled to about twice the depth of the 90-foot well were reflected in the shallower well, the initial effect beginning within 5 to 8 minutes. However, the operation of two wells drilled to an intermediate depth of about 148 feet did not show any visible effect on the 90-foot well.

TEST 5

Test 5 consisted in operating flowing wells both in groups and singly and observing the effects on some or all of seven flowing wells, five of which were equipped with automatic water-stage recorders and two with recording pressure gages. The wells that were equipped with automatic recording devices are listed in the following table:

Wells equipped with automatic recording devices, test 5

Well No.	Depth (feet)	Type of recorder	Elevation of measuring point (feet above sea level)
(D-2-1)8ada3	90	Water-stage	4,330.20
8ccd1	90	do	4,326.22
8ccd15	180	Pressure	4,318.77
8dda2	70	do	
16baa8	60	Water-stage	4,367.06
16bab10	177	do	4,368.70
16bbd9		Water-stage, with large time scale	4,363.85

Operation A

Fourteen wells in the NW¼ sec. 16, T. 2 S., R. 1 E. (locally known as the Claude Hinnen wells), between 55 and 64 feet in depth, were closed on September 5, 1933. The time of closing of these wells is shown on the hydrograph of well (D–2–1)16bbd9. (See pl. 11.) The pressure head on these wells was about 2 to 4 feet above the ground surface when all the wells were flowing freely. The combined flow from the wells amounted to about 416 gallons a minute. The hydrograph of well (D–2–1)16baa8 a well 62 feet deep and 5 to 880 feet from the wells that were closed, shows that the closing of the wells was reflected immediately. (See pl. 12.) Most of the rise took place over a period of about 9 hours, and essential equilibrium was established within about 12 hours, after a total rise of about 1.5 feet.

The hydrograph of well (D–2–1)16bab10, which is 177 feet deep and within the group of wells that were closed, shows a rise of 0.3 to 0.4 foot, caused by closing the shallower wells. (See fig. 20.) Although the rise is small, the effect of closing the shallow wells is apparent on the hydrograph of the deeper well.

The hydrograph of well (D–2–1)16bbd9, a 58-foot well 1,050 to 1,630 feet from the wells that were closed, shows that the water surface of the well was disturbed when each of the other wells was closed. (See pl. 11.) Two minutes after well (D–2–1)16bab6 was closed the water surface in well (D–2–1)16bbd9 began to rise. As the effect traveled 1,053 feet, the rate of travel was 525 feet a minute. The total effect on well (D–2–1)16bbd9 was the raising of the water surface 0.47 foot within about 6½ hours after the last well was closed, mostly within the first 2 hours.

The hydrograph of well (D–2–1)8dda2 (fig. 21), a 70-foot well about half a mile from the nearest operated well, shows an increase in pressure of about 0.2 foot due to the closing of the wells. The time and amount of the effect is not clear because the scale of the automatic pressure recorder is too small to record the pressure changes in detail.

The water surface in well (D–2–1)8ada3, a 90-foot well about 0.9 mile from the operated wells, showed a rise of about 0.15 foot, the initial effect occurring about one-half hour to 1 hour after the first well was closed, and the total change occurring probably within about 16 hours. (See pl. 13.)

The recorder instrument on well (D–2–1)8ccd1 was not working correctly on September 5 and failed to register any effect of closing the wells, and no change of pressure occurred in well (D–2–1)8ccd15.

Operation B

On September 6, 1933, wells (D–2–1)16bab3, (D–2–1)16bab12, and (D–2–1)16baa3 were closed at intervals of 1 to 2 hours. (See pl. 11.) These wells were 68.5, 66.7, and 83.5 feet in depth, respectively, and discharged a total of about 110 gallons a minute when the entire group was flowing freely. The closing of these wells had no visible effect on the hydrograph of wells (D–2–1)16bab10, (D–2–1)8dda2, and (D–2–1)8ccd15. The hydrograph of well (D–2–1)16bbd9, (see pl. 11) shows that on closing each of the three wells an effect occurred practically immediately over distances of 1,280 to 1,600 feet. The total effect on well (D–2–1)16bbd9 was an increase in pressure of about 0.18 foot, most of which occurred within about 4 hours 30 minutes after the last well was closed.

The effect on the pressure head of well (D–2–1)16baa8 was immediate (see pl. 12), for the pressure was raised about 0.70 foot within about 3 hours 30 minutes, at the end of which time essential equilibrium was apparently reached. The effect on well (D–2–1)8ccd1 was not noticeable. The hydrograph of well (D–2–1)8ada3 (pl. 13) shows a probable effect by the continued rise of the water level.

Operation C

Well (D–2–1)16bab9 was opened at 5:21 p. m. on September 7, 1933, and the effect on well (D–2–1)16bbd9 (see pl. 11) was recorded within 1 minute, which indicates a rate of travel of 1,320 feet a minute. The total time that elapsed before the entire rise of 0.11 foot was completed on well (D–2–1)16bbd9 was about 7 hours. On September 8, the flow from well (D–2–1)16bab9 was 89.3

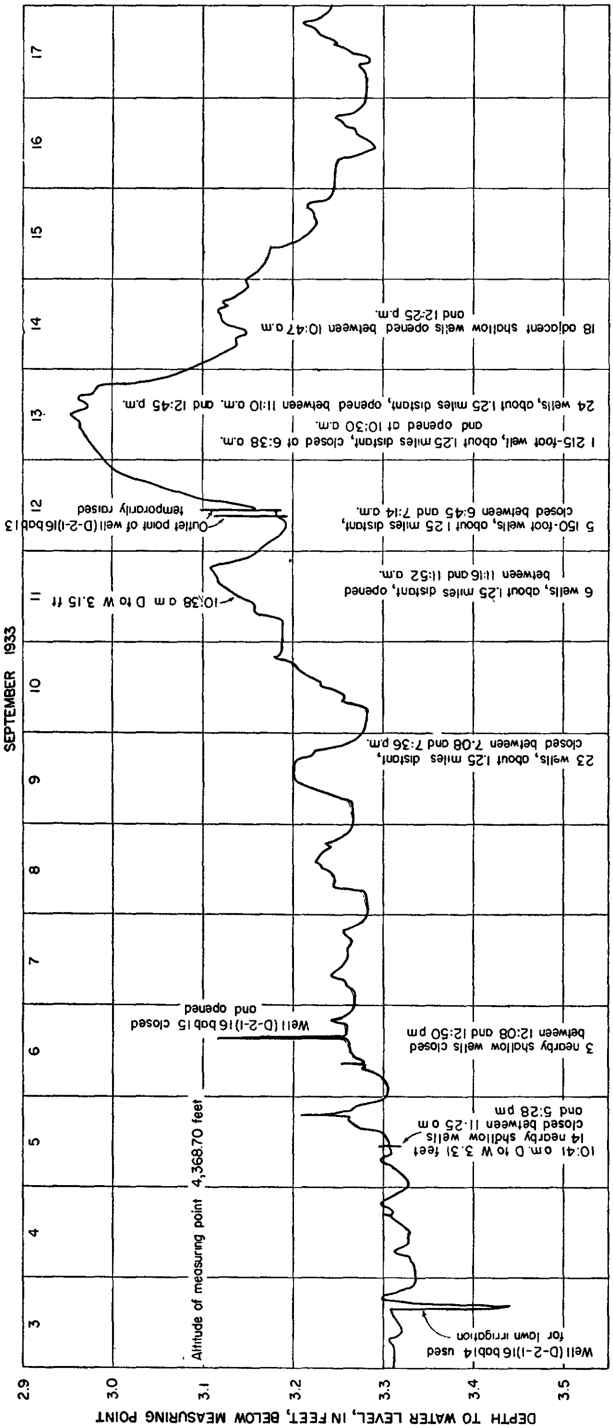

FIGURE 20.—Hydrograph of well (D-2-1)16bab10, September 3–17, 1933.

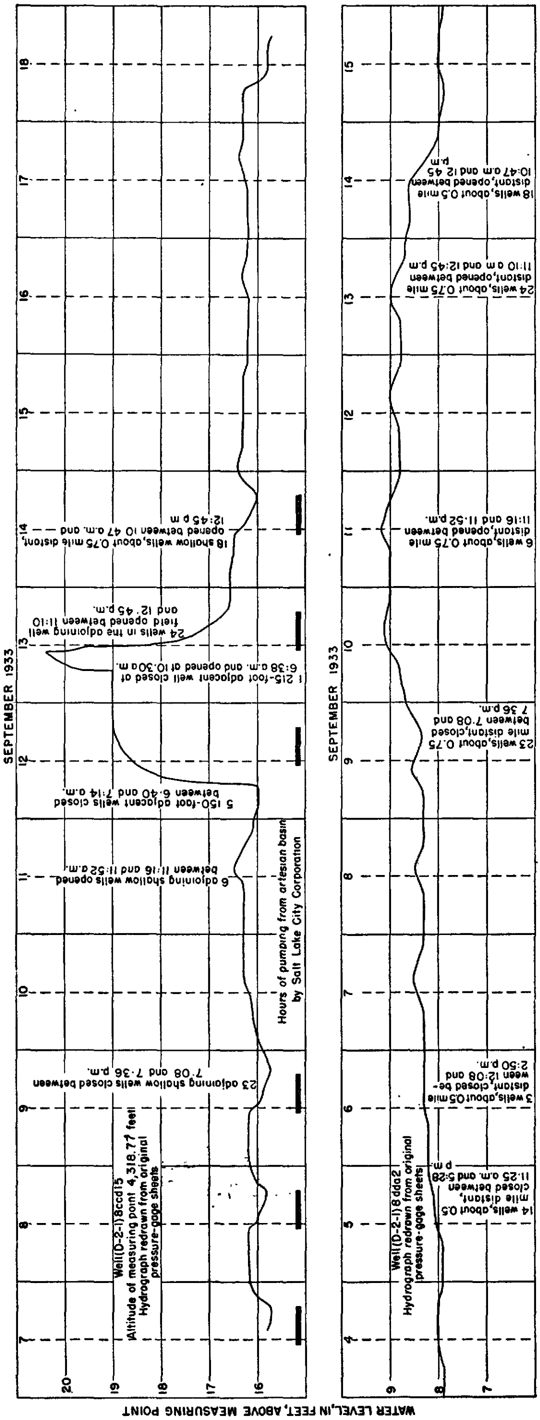

FIGURE 21.—Hydrograph of well (D-2-1)8ccd15, September 7-18, 1933, and of well (D-2-1)8dda2, September 4-15, 1933.

gallons a minute. The well was closed at 5:13 p. m., and this caused a total rise of the water level in well (D–2–1)16bbd9 of 0.08 foot in about 5½ hours. The initial effect was apparently about 4 minutes in reaching well (D–2–1)16bbd9, which was one-fourth the rate of travel indicated when well (D–2–1)16bab9 was opened.

The opening of well (D–2–1)16bab9 on September 7 lowered the pressure head of well (D–2–1)16baa8 (see pl. 12) about 0.29 foot. The total time element was not obtainable because the recorder pencil caught in a joint of the recorder paper. However, the water level of well (D–2–1)16baa8 was observed to have fallen a total of 0.12 foot in 8 minutes and after well (D–2–1)16bab9 was opened a total of 0.13 foot in 10 minutes. The distance between the two wells is 365 feet. After well (D–2–1)16bab9 was closed on September 8 the pressure head in well (D–2–1)16baa8 increased a total of about 0.20 foot within a period of about 6 hours, the increase being 0.10 foot within a few minutes and about 0.16 foot within 30 minutes.

Operation D

Twenty-three wells in the SW¼ sec. 8, T. 2 S., R. 1 E. (Erekson group), were closed in the evening of September 9, 1933. (See pl. 11.) These wells were 55 to 126 feet deep and had pressures between 0.8 foot and 10.8 feet above the ground when all were flowing freely. Well (D–2–1)8ccd1, in the group of wells that were closed, showed an increase in pressure head of more than 5 feet. The effects on the artesian basin of pumping operations by the Salt Lake City Corporation interfered seriously with this test, especially affecting well (D–2–1)8ccd1.

The hydrograph of well (D–2–1)8ccd15 (fig. 21) shows a gradual increase in pressure from about 16.0 feet on September 9 to about 16.3 feet on September 10. This well is about 180 feet deep and is at the same location as the wells that were closed on September 9. The effect on the pressure of the well shows that the closing of shallow wells affects the pressure head on deeper wells.

The hydrograph of well (D–2–1)8ada3 (pl. 13) shows a decided rise of about 0.20 foot on September 9, when the 23 wells were closed. The exact length of time that elapsed before the effect of closing the wells reached well (D–2–1)8ada3, which is about 0.95 mile distant, could not be determined because of the small time scale of the recorder on the well, but the interval of time was apparently short.

The effect on well (D–2–1)8dda2 (fig. 21), 70 feet deep and 0.75 mile distant, was to raise its pressure about 0.5 foot over a period of 12 to 13 hours. The time that the first effect reached well (D–2–1)8dda2 could not be determined because of the small time scale of the recording pressure gage. The pressure head of well (D–2–1)16bbd9 (see pl. 11), about 1 mile distant, gradually increased about 0.19 foot over a period of 22½ hours after the wells were closed. The initial effect reached well (D–2–1)16bbd9 about 5 minutes after the first well was closed, indicating a rate of travel of more than 1,000 feet a minute. The effect of closing the 23 wells on the pressure head of well (D–2–1)16baa8, about 1.3 miles distant, is shown by plate 12. The initial effect apparently occurred within a few minutes after the first well was closed, continued over a period of about 24 hours, and resulted in a total rise of the water surface in the well of about 0.15 foot. The effect on well (D–2–1)16bab10 (fig. 20), which is about 1.25 miles distant and deeper than any of the wells that were closed, was not so apparent as on the other wells. However, the pressure head in this well showed a gradual rise on September 10 and 11, which indicates a delayed response to the closing of the 23 wells on September 9 that perhaps amounted to about 0.1 foot.

Operation E

Six of the wells that were closed for operation D were opened between 11:16 and 11:52 a. m. on September 11, 1933. (See pl. 11.) The pressure head on well (D–2–1)8ccd15 (fig. 21) increased for a few hours after the six wells were opened, the increase probably being caused by the additional quantity of water flowing into the collecting line and creating an additional back pressure on the wells that had not been closed; later, the pressure head of the well gradually decreased a total of about 0.3 foot. The pressure head on well (D–2–1)8ada3, about 0.95 mile distant, was lowered about 0.1 foot by the opening of the six wells, the effect continuing for about 6 hours. The pressure head on well (D–2–1)8dda2 (fig. 21), about 0.75 mile distant, was apparently lowered about 0.2 foot.

The hydrograph of well (D–2–1)16bbd9, about 1 mile distant, showed a lowering of pressure head of about 0.05 foot, the initial effect being registered about 46 minutes after the first of the six wells was opened. (See pl. 11.) The opening of the six wells was registered on the pressure head of well (D–2–1)6baa8 (see pl. 12) between one-half hour and 1 hour after the initial change and totaled about 0.12 foot over a period of 18 hours. No change was noticeable on the pressure head of well (D–2–1)16bab10. A further change was made by closing wells (D–2–1)8ccd23 and (D–2–1)8ccd24 and soon afterward reopening well (D–2–1) 8ccd23. (See pl. 11.) The total effect on the pressure head of well (D–2–1)16bbd9 caused by the changes made on September 11 was to lower the pressure about 0.1 foot.

Operation F

Five wells, 150 feet deep and located in the SW¼ sec. 8, T. 2 S., R. 1 E. (Erekson group), were closed between 6:46 and 7:14 a. m. on September 12, 1933. (See pl. 11.) These wells are adjacent to wells (D-2–1)8ccd15 and (D–2–1)8ccd1, which are 180 and 90 feet deep, respectively. Well (D–2–1)8ccd1 responded almost immediately, as shown by visual observation, and the water level gradually rose a total of about 0.16 foot over a period of about 11 hours. (See pl. 13.) The pressure head of well (D–2–1)8ccd15 (fig. 21) began to rise almost immediately after the five wells were closed and rose 1 foot within one-half hour, 2 feet within 2 hours, and a total of 3 feet after 11 hours. This particular part of the test is very significant, as it establishes a relationship between wells that are 90, 150, and 180 feet in depth. No appreciable effect from closing these five wells occurred on wells (D–2–1)8dda2, (D–2–1)16bbd9, and (D–2–1)8ada3. The effects on well (D–2–1)8ada3 were disturbed by the pumping operations of the Salt Lake City Corporation on September 12, but the hydrograph (pl. 13) indicates that the water level rose about 0.05 foot. The hydrograph of well (D–2–1) 16bab10 (fig. 20) shows that the pressure head of the well responded almost immediately to the closing of the five wells, and although the well is about 1.25 miles from the closed wells and was disturbed by the temporary operation of another nearby well, the pressure head continued to rise to a total of about 0.23 foot over a period of about 24 hours.

Operation G

Well (D-2–1)8ccd21, which is 215 feet deep and close to wells (D–2–1)8ccd15 and (D–2–1)8ccd1, was closed at 6:38 a. m. on September 13, 1933. The effect on the pressure head of well (D–2–1)8ccd15 (fig. 21) was immediate, for the pressure rose about 0.75 foot within about 15 minutes and a total of about 1.5 feet within 4 hours, after which the well was opened before the total effect was obtained Well (D–2–1)8ccd1 (pl. 13) reacted slightly, for the pressure rose about 0.04 foot before well (D–2–1)8ccd21 was reopened; if the test could have been undisturbed by pumping and well (D–2–1)8ccd21 could have been left closed, a greater effect would undoubtedly have occurred. This part of the test is also very significant in that a relation between wells of 90 to 215 feet in depth is seen to exist at this location. The closing of well (D–2–1)8ccd21 may have affected the pressure of well (D–2–1)8ada3 (pl. 13), but the reaction, if any, was not definite, and the same is true of well (D–2–1)16bab10 (fig. 20). The other wells equipped with automatic recorders did not show any reaction to the opening and closing of well (D–2–1) 8ccd21.

Operation H

All the wells in the SW¼ sec. 8, T. 2 S., R. 1 E. (Erekson field), which remained closed after previous tests, were opened between 11:10 a. m. and 12:45 p. m. on September 13, 1933. (See pl. 11.) Well (D–2–1)8ccd1 reacted immediately, but the results were obscured by the pumping operations of the Salt Lake City Corporation. The pressure head on well (D–2–1)8ccd15 (fig. 21) dropped immediately, and at the end of 24 hours the pressure was about the same as before the test was begun. The hydrograph of well (D–2–1)8ada3 (pl. 13) showed a total drop in head of about 0.13 foot over a period of about 7 hours, although the effects were obscured by the pumping operations of the Salt Lake City Corporation.

The hydrograph of well (D–2–1)8dda2 (fig. 21) showed a drop of pressure on the well of about 0.3 foot within about 18 hours after the wells were opened. The initial effect of the opening of the wells reached well (D–2–1)16bbd9, about a mile distant, within 2 hours 13 minutes after the first change. (See pl. 11.) This time of travel was very much slower than that when the wells were closed, at which time the initial effect on well (D–2–1)16bbd9 occurred within 5 minutes after the first change. The total effect on the pressure head of this well was to lower it about 0.1 foot within 13¾ hours.

The hydrograph of well (D–2–1)16baa8 (pl. 12) shows that the initial effect was 2½ to 3 hours in reaching the well. The pressure head on this well decreased about 0.14 foot within about 24 hours after the initial change and had not quite reached equilibrium when further changes were made on September 14. The effect of opening the wells in the SW¼ sec. 8 did not reach well (D–2–1)16bab10 (fig. 20) for about 6 hours after the initial change, but after about 20 hours the pressure had decreased 0.18 foot.

Operation I

Eighteen wells in the NW¼ sec. 16, T. 2 S., R. 1 E (Claude Hinnen group) were opened between 10:47 a. m. and 12:25 p. m. on September 14, 1933. (See pl. 11.) These wells included all those at this location which had previously been closed during test 5 plus four others which had been closed before the beginning of test 5. The water level in well (D–2–1)16baa8 (pl. 12) began to drop immediately after the first well was opened and had decreased about 1.6 feet by the time the last well was opened. After an interval of 12 hours the water level had fallen 1.8 feet, and during the next 24 hours a gradual decrease in pressure head of 0.1 foot occurred. The recorder on this well failed to operate after midnight on September 15, but on September 21 the water level had fallen to 5.92 feet below the measuring point, which was a total decrease in head of 2.04 feet after the 18 wells were opened on September 14.

The initial effect on the pressure head of well (D–2–1)16bab10 (fig. 20) did not occur until 4 or 5 hours after the wells were opened, after which there was a gradual decline in the pressure head of about 0.17 foot during the next 48 hours. The result indicates a relationship at this location between wells 60 to 80 feet deep and wells about 175 feet deep. The initial effect of opening the 18 wells reached well (D-2-1)16bbd9 (pl.11) immediately after the first well was opened. A drop in pressure head of about 0.45 foot occurred within 2 hours after opening the first well, and the total decrease of 0.63 foot occurred within 8 hours 20 minutes.

The initial effect of opening the 18 wells reached well (D-2-1)8dda2, about half a mile distant, within a few minutes after the first well was opened. (See fig. 21.) After about 10 hours, the total decrease was about 0.6 foot. Whether or not the opening of the 18 wells affected the pressure head of well (D-2-1)8ccd15 (fig. 21) cannot be determined because of the interference of the pumping operations by the Salt Lake City Corporation, and the same is true for well (D-2-1)-8ccd1. (See pl. 13.) Although the pumping operations also disturbed the pressure head of well (D-2-1)8ada3 (pl. 13), the effect of opening the 18 wells, about 0.9 mile distant, was greater than the pumping effects, so that the decrease in the water level of well (D-2-1)8ada3 due to the opening of the wells is clear. The total decrease in water level, after a period of about 6 to 8 hours, was about 0.2 foot.

Operation J

Well (D-2-1)16bbd8, 155 feet deep, was closed on October 3, 1933, at 2:55 p. m. The effect of closing this well was reflected almost immediately on the pressure head of well (D-2-1)16bab10 (pl. 13), which is 177 feet deep and about 1,500 feet distant. The total rise in pressure head was about 0.06 foot after a period of about 3 hours. The closing of well (D-2-1)16bbd8 was not reflected on the pressure head of the nearby shallower wells, (D-2-1)16bbd9 and (D-2-1)16baa8, which were equipped with water-stage recorders.

Operation K

Wells (D-2-1)16bbd14 and (D-2-1)16bbd13, 175 and 160 feet deep, respectively, were closed at 3:50 p. m. on October 4, 1933. The effect on the pressure head of well (D-2-1)16bab10 (pl. 13), which is 1,090 feet distant, was immediate. The initial rise of the water surface in this well was abrupt and amounted to about 0.19 foot within 2½ to 3 hours. The total rise after about 14 hours was 0.3 foot. After the two operated wells were opened at 10:35 a. m. on October 5 an immediate reaction was again observed on the water level in well (D-2-1)16bab10. The water surface fell 0.045 foot in 9 minutes, 0.065 foot in 14 minutes, 0.08 foot in 19 minutes, 0.09 foot in 25 minutes, and after 6 hours it had dropped 0.22 foot. The water level reached approximate equilibrium within 12 hours, after dropping about 0.28 foot. The recorder on well (D-2-1)16baa8 was not operating during this part of test 5.

The hydrograph of well (D-2-1)16bbd9 does not show any visible reaction to the closing of the other two wells, and only a slight questionable reaction of about 0.01 foot when these wells were opened.

TEST 6

Test 6 was made to determine the draw-down in certain flowing wells caused by their discharge and by the interference between wells. Wells (D-2-1)16bbd9 and (D-2-1)16bab10 were equipped with automatic water-stage recorders, arranged in such a manner that the pressure head on the wells was recorded before, during, and after the time that the wells were allowed to flow.

Operation A

Well (D-2-1)16bbd9, which is considered a good flowing well in this locality, was closed at 2:05 p. m., October 17, 1933, after it had been flowing at the rate of

96 gallons per minute for a period of 21 hours, with a pressure gage attached to the well below the point of outlet. The resulting increase of the pressure head on the well was 4.85 feet. (See fig. 22.) This increase in pressure while discharging 96 gallons a minute indicates a specific capacity of nearly 20 gallons a minute for 1 foot of draw-down. The entire recovery took place within about 70 minutes; all but 0.10 foot of this occurred within about 3 minutes after the well was closed. No further change had occurred in the pressure of the well after 6 hours 40 minutes, when the well was reopened at 8:45 p. m. The draw-down began immediately and within 40 minutes amounted to 5.0 feet, 4.95 feet of which occurred within 4 minutes after the well was opened. The specific capacity indicated was slightly over 19 gallons a minute during this part of the test. Two separate operations of this well checked the above results.

Operation B

Well (D–2–1)16bab10, which is considered a poor flowing well, was opened at 9:19 a. m. on October 25, 1933, and allowed to flow at the rate of 14.3 gallons a minute. The well had been closed for about 18½ hours prior to the time of opening. The pressure of the well decreased a total of 6.2 feet, practically all of which occurred immediately or within about 10 minutes. (See fig. 22.) The specific capacity of the well was thus about 2.3 gallons a minute for a foot of draw-down. After the well had been allowed to flow at the rate of 14.3 gallons a minute for about 26 hours it was closed, at 11:02 a. m. on October 26, 1933. The recovery began immediately and within 15 minutes amounted to 6.08 feet. The time for total recovery was much longer than the time for total draw-down, an interval of about 5½ hours elapsing before the total recovery of 6.2 feet had occurred. The specific capacity was thus the same for the draw-down and recovery operations. Three separate check operations on this well gave similar results.

TEST 7

Test 7 was made on wells of approximately equal depth, withdrawing water from the same aquifer. The details of the operations and the hydrographs of the wells during the period of the test are shown by figures 23 and 24. The flow from well (D–2–1)16bab13 was measured volumetrically on October 27, 1933, and found to be 54.8 gallons a minute. The well was closed at 10:55 a. m. and the pressure head on the well obtained by the use of an indicating pressure gage. The draw-down of the well, as indicated by the recovery in pressure when the well was closed, was about 6.6 feet, most of which was recovered within a few minutes after the well was closed. The specific capacity of the well was thus indicated to be about 8.3 gallons a minute for a foot of drawdown, as compared with 2.3 gallons a minute for the nearby well (D–2–1)16bab10. (See test 6.) The two wells are of equal size and depth and are undoubtedly drawing water from the same aquifer. The difference in their yields is probably due to the lack of proper development of one or both of the wells.

The pressure head of well (D–2–1)16bab10 increased about 0.75 foot as a result of closing well (D–2–1)16bab13 (see fig. 24), and the initial effect reached the well immediately over a horizontal distance of about 288 feet. The total recovery of the pressure head did not occur until after a period of about 16 hours 40 minutes.

On October 28 wells (D–2–1)16bbd14 and (D–2–1)16bbd13 were discharging 53 and 30.1 gallons a minute, respectively. The first well was closed at 11:02 a.m., and 12 minutes later the second well was discharging 34 gallons a minute. The recovery of well (D–2–1)16bbd14 was about 6.9 feet, indicating a specific capacity of about 7.7 gallons a minute for a foot of draw-down, nearly the amount shown by the test of well (D–2–1)16bab13. The indicating pressure gage on well

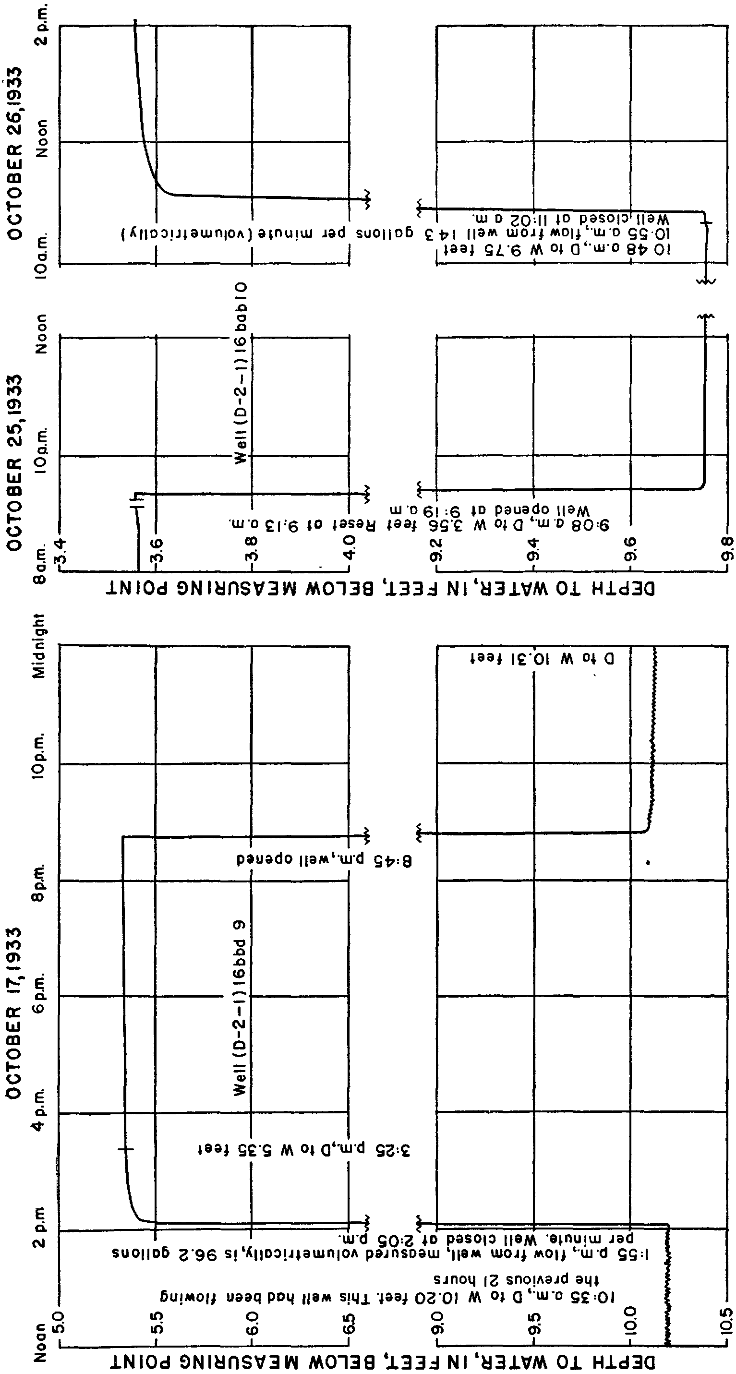

FIGURE 22.—Hydrographs of wells (D-2-1)16bbd9 and (D-2-1)16bab10, showing draw-down effects caused by opening the well.

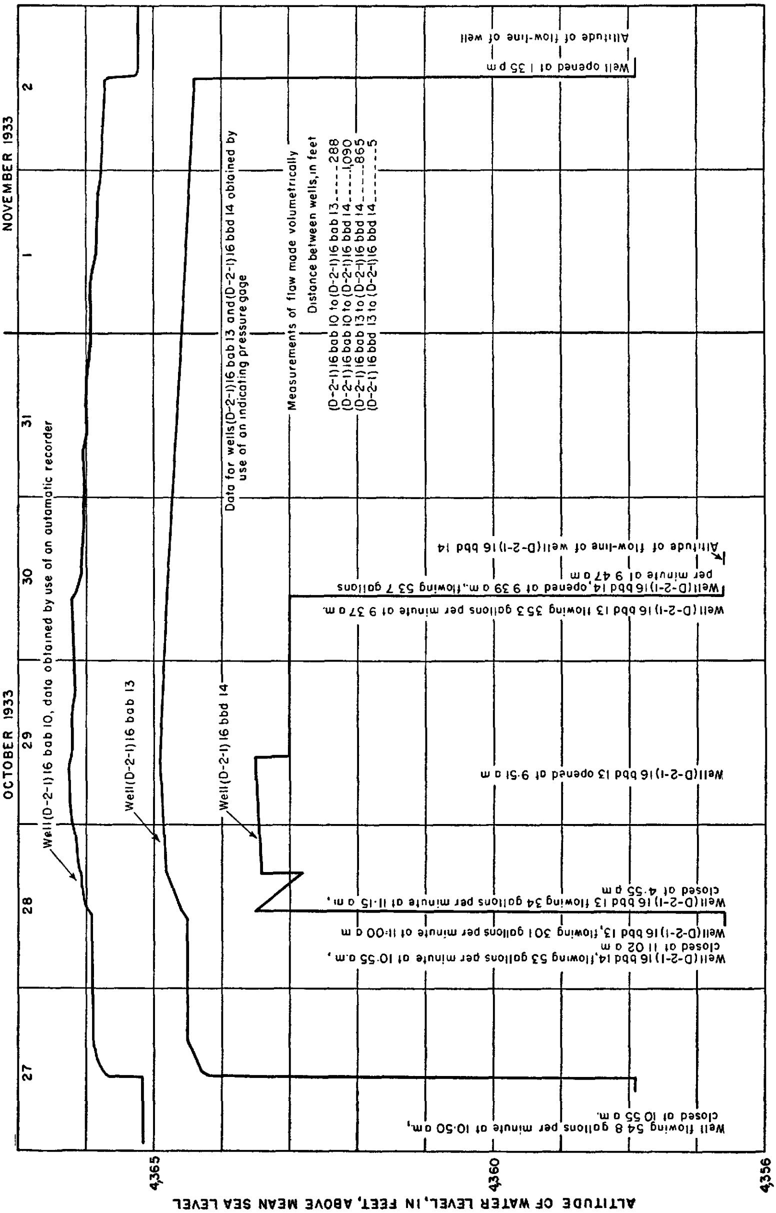

FIGURE 23.—Hydrographs of wells (D-2-1)16bbd14, (D-2-1)16bab13, and (D-2-1)16bab10, October 27 to November 2, 1933.

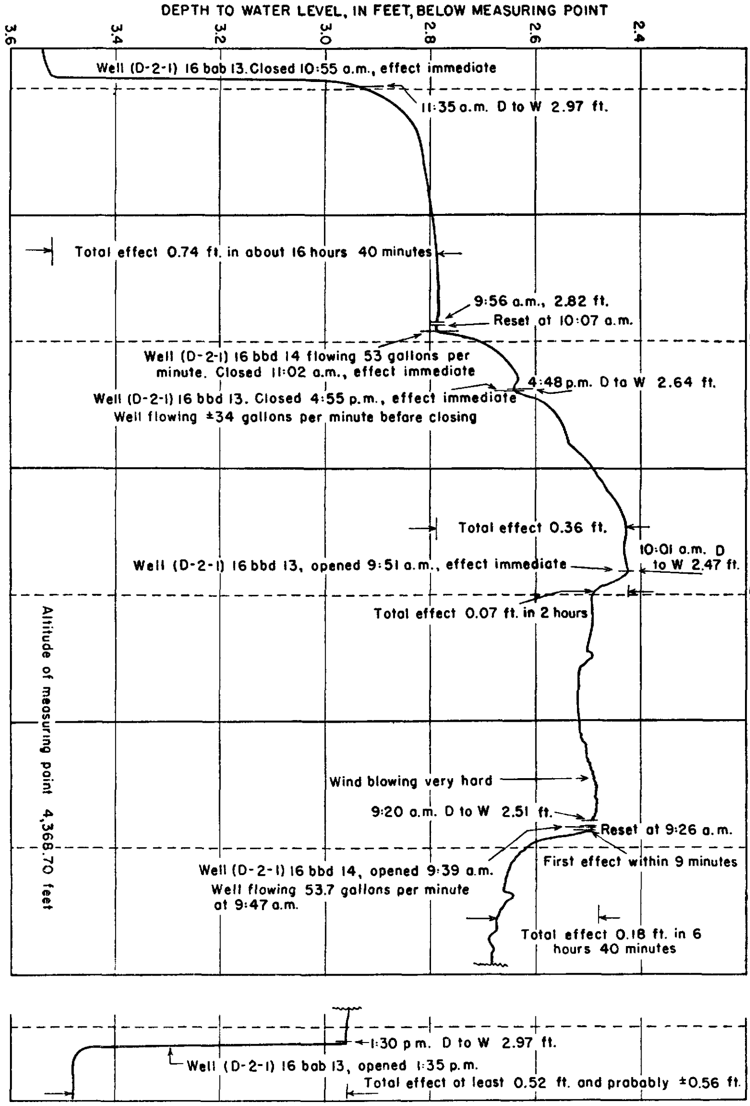

FIGURE 24.—Hydrograph of well (D–2–1)16bab10, October 27 to November 2, 1933.

(D–2–1)16bab13 showed an increase of about 0.3 foot in pressure head after a period of several hours. The effect of closing well (D–2–1)16bbd14 was reflected immediately on the pressure head of well (D–2–1)16bab10, about 1,090 feet distant. (See fig. 24.) After about 5 hours the pressure head of well (D–2–1)-16bab10 had increased 0.18 foot and was apparently in equilibrium. When well (D-2-1)16bbd13 was closed at 4:55 p. m. on October 28, the pressure head on well (D-2-1)16bbd14 immediately rose about 0.6 foot. The apparent lack of difference in head on well (D-2-1)16bab13 was probably due to lack of sensitiveness of the pressure gage in use. The reaction in the pressure on well (D-2-1)16bab10 was immediate when well (D-2-1)16bbd13 was closed. (See fig. 24.) The total recovery of the pressure head on well (D-2-1)16bab10 due to the closing of wells (D-2-1)16bbd14 and (D-2-1)16bbd13 was about 0.36 foot after about 12 hours.

Well (D-2-1)16bbd13 was reopened at 9:51 a.m. on October 29, and similar reactions were observed on wells (D-2-1)16bab13 and (D-2-1)16bab10 as when the well was closed. On October 30 the discharge of well (D-2-1)16bbd13 was 35.3 gallons a minute at 9:37 a. m., slightly more than before the well was closed, although the difference is within the limits of error in measuring the flow. Well (D-2-1)16bbd14 was reopened at 9:39 a. m. on October 30. The flow of the well was 53.7 gallons a minute 8 minutes after the well was opened, and the draw-down was about 6.4 feet, which checked the specific capacity of the well before it was closed. Reactions on the pressure of wells (D-2-1)16bab13 and (D-2-1)16bab10 were similar to those observed when the well was closed.

Well (D-2-1)16bab13 was reopened on November 2, 1933, and the pressure head on well (D-2-1)16bab10 was immediately decreased, the decrease being about 0.5 foot within 25 minutes and a total of about 0.52 foot within 1 hour. (See fig. 24.)

TEST 8

Well (D-2-1)16bab9 was opened at 5:21 p. m. on September 7, 1933, and allowed to flow freely. Riser pipes were installed on wells (D-2-1)16bab6, (D-2-1)16bab1, and (D-2-1)16bab16, which allowed their pressure head to be measured, without allowing them to flow, by measuring the distance to the water surface from the top of the pipes. An automatic recorder was in operation on well (D-2-1)16baa8. On September 8, after well (D-2-1)16bab9 had been flowing for about 22 hours, it was discharging water at the rate of 89.3 gallons a minute. A series of depth-to-water measurements was made at frequent intervals on the wells equipped with riser pipes, and well (D-2-1)16bab9 was closed at 5:13 p. m. The measurements on the other wells were continued for about 45 minutes, and on September 9 another set of measurements was made. The hydrographs of the wells during test 8 are shown by figure 25. A section through the wells, showing the piezometric surface during and after the time well (D-2-1)16bab9 was flowing, is shown by figure 26. A general rise of the piezometric surface of 0.2 to 0.3 foot occurred in the vicinity of well (D-2-1)16bab9 when it was closed, the water level in the nearest wells rising the most. At the same time the water level in well (D-2-1)16bbd9, about 1,320 feet distant, rose 0.08 foot and the initial effect on the well was had within 4 minutes after well (D-2-1)16bab9 was closed. (See pl. 11.)

Test 8 indicates that the opening or closing of an artesian well results in a general lowering or raising of the piezometric surface over a relatively large area but that what may be termed the vortex of the draw-down cone extends only a relatively short distance away from the operated well.

The draw-down of well (D-2-1)16bab9 caused by its artesian flow of 89.3 gallons a minute was about 4.65 feet as scaled from the diagram on figure 25. The specific capacity of this well is thus indicated to be about 19 gallons a minute for a foot of draw-down.

827626—49——8

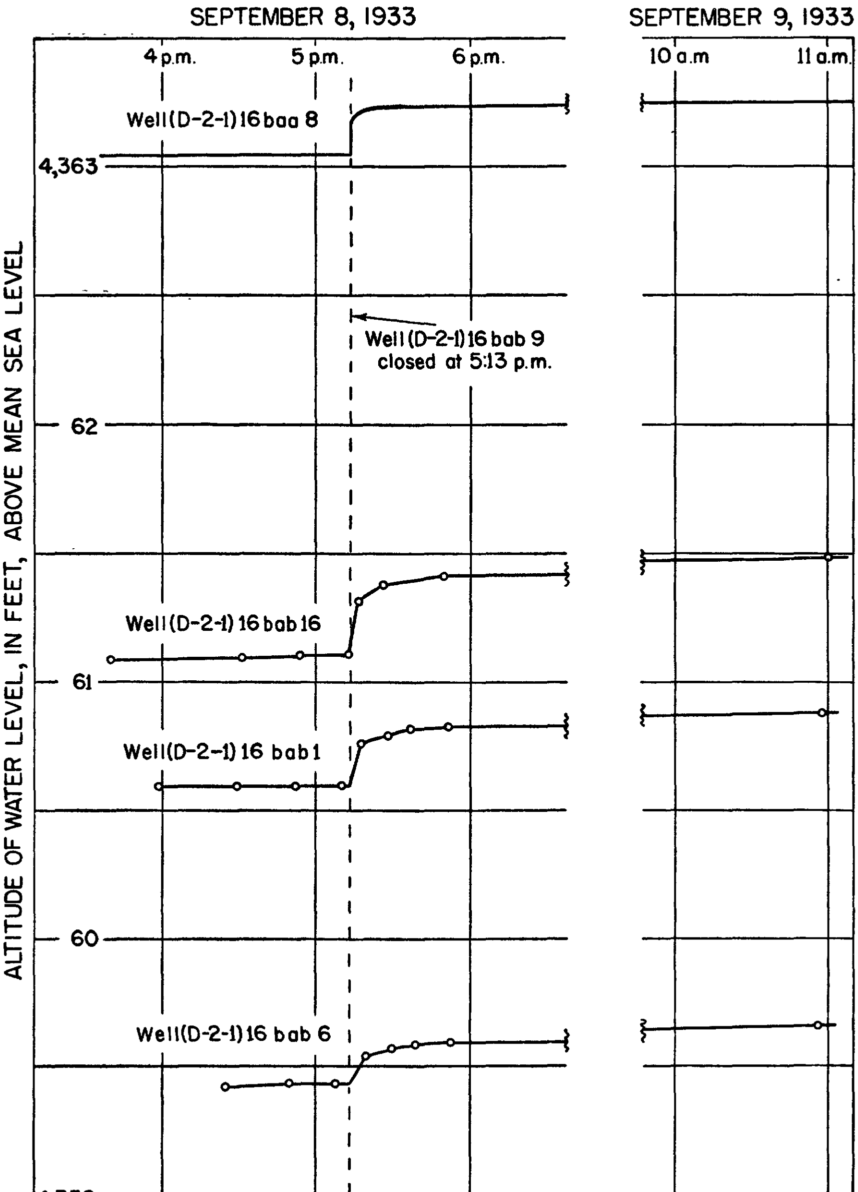

FIGURE 25.—Hydrographs of four wells, showing the recovery of their pressure head caused by closing well (D-2-1) 16bab9.

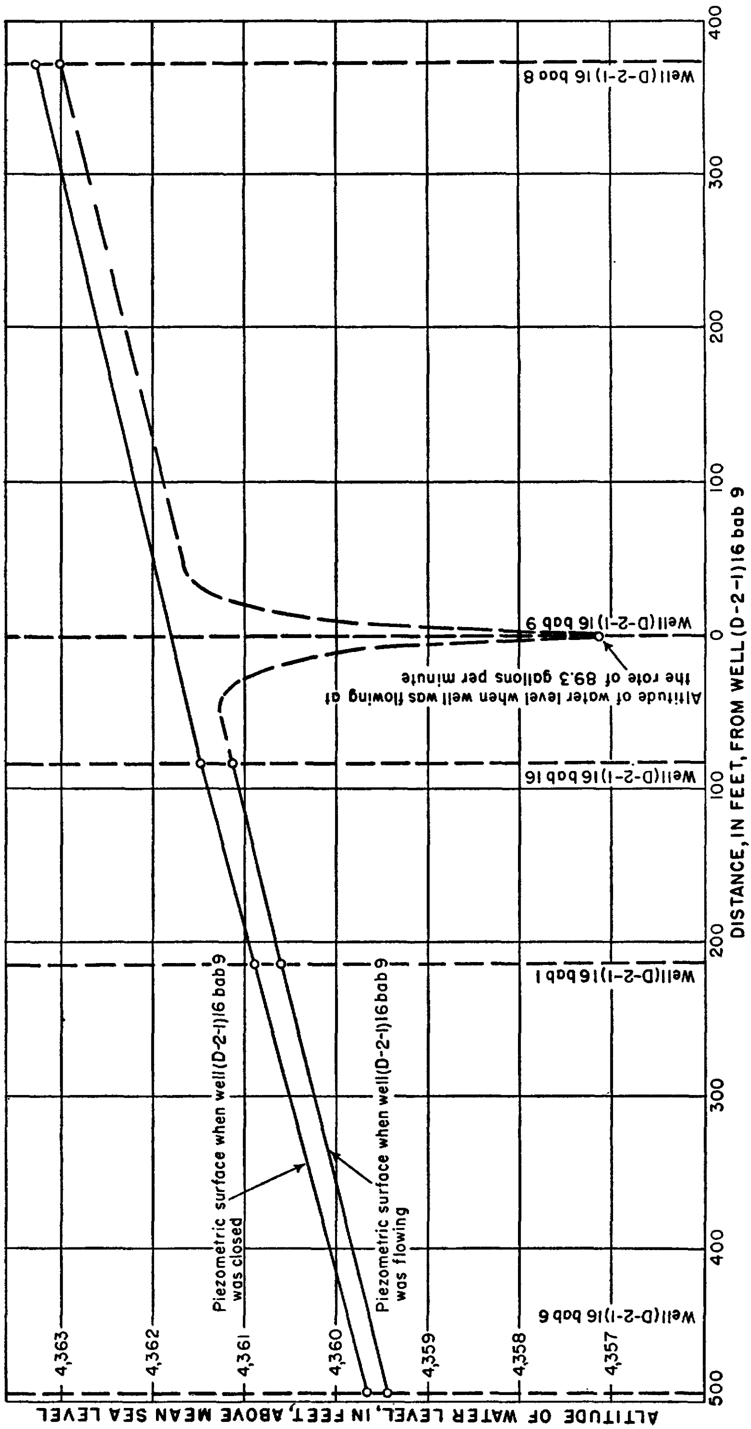

FIGURE 26.—Recovery of the piezometric surface when a flowing well is closed.

SUMMARY OF INTERFERENCE TESTS 1 TO 8

The interference tests prove conclusively that the relatively small and supposedly separate artesian basins are in reality connected across not only one but several topographic ridges and that in many places this connection results in a very delicate and easily disturbed balance in the artesian pressure or water level. The results from test 1 indicate a more intimate association of the ground water in the flowing-well area south than north of 45th South Street, but they are not conclusive proof that there is no connection between the ground water of the two areas. If automatic recorders had been used on the manually measured wells a positive reaction would probably have been observed on some of the wells on which the results are doubtful. Also, the relative amount of water and pressure represented by the operation of the single well in test 1 is very small in comparison with that represented by the large number of wells in the immediate vicinity. The operation of a larger number of wells, representing a larger flow, or of wells drawing water from other aquifers, probably would give more positive results over the entire area included in test 1.

The remainder of the tests gave very positive evidence of a connection between wells of nearly the same depth, the interconnection being traced over an area of 2 to 3 square miles in a part of the most highly developed artesian area. The effects of operating groups of wells were observed to extend a maximum distance of 1.3 miles from the wells operated, and the actual unobserved effects probably extended some distance farther.

At one location the pressure head in wells that ranged in depth from 70 to 218 feet reacted to the operation of wells of an intermediate depth. The reaction in the pressure head of a well caused by the operation of a well of different depth can be due either to the transmission of pressure around and over lenticular bodies of impervious materials, or to the transmission of pressure through a continuous relatively impermeable confining bed owing to the elasticity and compressibility of the aquifer and the confining bed. At another location a reaction on a well 177 feet deep was observed as being caused by the operation of a group of wells ranging in depth from 55 to 64 feet. At yet another location changes in the pressure head of a 90-foot well were caused by the operation of wells of approximately the same depth and of wells about 180 to 200 feet deep. The operation of adjacent wells about 148 feet deep did not show any reaction in the 90-foot well.

Data were obtained by the tests just described which concern the length of time that elapsed, after a well or group of wells was closed or opened, before the resulting change in pressure head produced any noticeable effect on the head in other wells at various distances from the operated wells. The time scale on the recorders that were in use during the tests was too small to obtain accurate records of time intervals, with the exception of one recorder, which had a time scale of 0.1 foot equals 2 hours. The time interval can be scaled from this recorder to within about 2 minutes and estimated to within about 1 minute. The following table shows a summary of the time-interval data obtained from this recorder. The recorder installation was moved from one well to another, being operated on three different wells to obtain the data shown in the following table. The data are summarized in the same sequence as those presented in detail in the preceding pages.

Summary of rates of transmission of pressure through artesian aquifers

Well No.	Depth (feet)	Operation	Well affected and on which a recording gage was in operation	Depth (feet)	Distance between wells (feet)	Time elapsed until first effect (minutes)	Rate of travel (feet per minute)
(D-2-1)5daa1	100 to 200	Opened	(D-2-1)8ada3	90	4,200±	24	175
5daa1	100 to 200	Closed	8ada3	90	4,200±	25	175
6 wells	178 to 198.5	do	8ada3	90	250±	(1)	
6 wells	178 to 198.5	Opened	8ada3	90	250±	(1)	
2 wells	147 to 148.5	Closed	8ada3	90	250±	(2)	
2 wells	147 to 148.5	Opened	8ada3	90	250±	(2)	
2 wells	70 to 75	Closed	8ada3	90	250±	(1)	
2 wells	70 to 75	Opened	8ada3	90	250±	(1)	
(D-2-1)16bab6	62	Closed	16bbd9	58	1,053	2	525
16baa3	83.5	do	16bbd9	58	1,600	(1)	
16bab12	66.7	do	16bbd9	58	1,348	(1)	
16bab3	68.5	do	16bbd9	58	1,278	(1)	
16bab7	139.5	do	16bbd9	58	1,280	(2)	
16bab9	57.5	Opened	16bbd9	58	1,320	1	1,320
16bab9	57.5	Closed	16bbd9	58	1,320	4	330
23 wells	55 to 126	do	16bbd9	58	5,280±	5	1,060
6 wells	77 to 126	Opened	16bbd9	58	5,280±	46	115
5 wells	150	Closed	16bbd9	58	5,280±	(2)	
24 wells	55 to 150	Opened	16bbd9	58	5,280±	133	40
(D-2-1)16baa9	55.5	do	16bbd9	58	1,630	(1)	
16bab13	177.5	Closed	16bab10	177	290	(1)	
16bbd14	175	do	16bab10	177	1,090	(1)	
16bbd13	55	do	16bab10	177	1,090	(1)	
16bbd13	55	Opened	16bab10	177	1,090	(1)	
16bbd14	175	do	16bab10	177	1,090	9	121
16bab13	177.5	do	16bab10	177	290	1	290

[1] The effect was immediate. [2] No effect.

The preceding table shows that the greatest distance over which the pressure was transmitted immediately through the aquifer was 1,630 feet. The indicated rate of travel of the pressure effects ranged from an immediate effect to about 40 feet a minute over distances of about 290 to 5,280 feet. The rate of travel is apparently greater when a well is closed than when it is opened.

The records from the recorders with slower time scale agreed roughly with the results shown above. In one place an immediate effect was indicated over a distance of about 6,450 feet when a group of 150-foot wells was closed.

The specific capacity of each of two wells about 58 feet deep was determined to be about 19 gallons a minute for each foot of draw-down. These two wells are considered good flowing wells in this vicinity, although more adequate well construction and development would probably greatly increase the specific capacities of the wells. Two wells about 177 feet deep gave specific capacities of 2.3 and 8.3 gallons a minute for each foot of drawdown. This difference in specific capacity is apparently due to the lack of development of the smaller well, as the two wells are only about 300 feet apart. Proper construction and development would doubtless materially increase the yield. Another well, 175 feet deep and 865 and 1,090 feet distant from the two wells just mentioned, had a specific capacity of about 7.7 gallons a minute for each foot of drawdown.

WELL-DRILLING METHODS

By far the greater part of the ground water used in the Jordan Valley is derived from jetted flowing wells, although in the region outside the flowing-well area small quantities of water are withdrawn by pumping. Most of the wells are 2 or 3 inches in diameter, a smaller number are 4 inches, and only a few are larger. The wells are drilled with a "wash rod" or jetting tool, by which the water is pumped down through the drill rod and jetted through small holes in the bit against the material in which the drill is working. The drill rod is moved up and down with a short stroke, the bit functioning as a percussion tool, and the well casing or pipe is driven as the drilling progresses. The water introduced under pressure at the bottom of the hole flows to the top of the casing and carries with it most of the material that is jetted and cut loose by the drill bit. The coarser material tends to settle to the bottom of the hole, but some is too large to pass through the space between the drill rod and the well casing. Most of the coarser material is broken up by the bit and brought to the surface, although some of it may be forced aside as the drill descends. Because of this method of drilling it is believed that an erroneous conception exists as to the coarseness of the water-bearing materials encountered in the Jordan Valley.

Most of the wells are finished with casings having open ends through which the water enters. The intake areas of some wells are increased by drilling holes, usually $\frac{3}{16}$ inch in diameter, into the lowest few feet of the casing. These holes are often not of a size best suited to the texture of the water-bearing material, because the casing is perforated and put into the well before the nature of the water-bearing material is known. Few well screens of modern design with a high percentage of intake-opening area have been used in the Jordan Valley. Moreover, in only a few wells have definite attempts been made to develop adequately the water-bearing formation. Generally there is no development other than the limited amount that takes place when the well is cleaned by the initial pumping or natural flow.

When water is withdrawn from a well either by natural flow or by pumping, a difference in head is produced between the water inside the well and the water in the formation outside the well. The pressure surface in the vicinity of a well that is discharging water has the form of an inverted cone, the apex of which is at the well and the slope of which becomes less the greater the distance from the well. This is known as the cone of depression and is necessarily present around any well that is discharging water. In water-table conditions, the water-bearing material within the cone of depression is unwatered, and the vertical distance between the static water level and the apex of the cone of depression is the draw-down of the well for that particular pumping rate. In artesian conditions the cone of depression is an imaginary cone in the piezometric surface. The apex of the cone of depression in a well that is flowing is near the point of discharge of the well, the draw-down being about equal to the distance from the point of discharge to the static water level before the flow started. In both water-table and artesian conditions the slope of the cone of depression depends on the permeability of the water-bearing material, the thickness of the water-bearing bed, and the rate at which water is being withdrawn from the well.

In the Jordan Valley it was formerly believed that very little water could be obtained from a well unless it flowed at the surface. It is apparent that this conception is erroneous, because the quantity of water that can be withdrawn from a well depends on the permeability of water-bearing material and not on the position of the static water level with respect to the land surface. It is now known that nonflowing wells on the Provo or Bonneville benches generally yield considerably more water than wells in the flowing-well area farther from the mountains. This is doubtless because the material near the base of the mountains is coarser and more permeable than the material nearer the center of the valley. Flowing wells are, of course, desirable if the water yielded by natural flow can be utilized without additional pumping. However, where water must be supplied under pressure it may be more economical under certain conditions to pump from nonflowing wells that end in highly permeable material than to utilize water from flowing wells. Such a condition appears to exist in the Jordan Valley. The water level is higher above sea level near the foot of the mountains than in the center of the valley; therefore the total pumping lift to produce a required pressure in low parts of the valley will be less if the water is obtained from nonflowing wells on the higher bench lands than if it is obtained from flowing wells in the lower areas and repumped to produce the required pressure. This may not hold true, however, if loss of head due to friction in conducting the water to the low-lying areas exceeds the greater static head that exists at the higher elevation.

Larger quantities of water can be withdrawn from wells in the Jordan Valley with less trouble due to sand if wells of large diameter are drilled, efficient screens are used, and effective methods are applied in developing the wells. In general, wells of small diameter are inefficient where large quantities of water are required. The velocity of water moving toward a well increases as the well is approached because the water is moving through a continuously decreasing cross-sectional area. The maximum water velocity is therefore attained at the periphery of the well casing, and this is where loss of head due to friction is great. It is obvious, therefore, that for a given quantity of water discharged by a well the losses from friction are less at the periphery of a well of large diameter than at the periphery of a well of small diameter.

Other things being equal, the greater the area of intake opening of a well, the greater the amount of water that can be withdrawn from it with a given draw-down. It is therefore desirable to increase the area of intake opening of a well in such a manner that the velocity of the water entering the well will be held to a minimum. The intake area of most wells in the Jordan Valley is limited to the area of the open end of the casing, and many wells therefore continuously yield large quantities of fine sand or muddy water and often fill up with sand that moves through the open end of the casing.

The intake opening of a well is sometimes increased by perforating the lower end of the casing with holes or slots; but unless the lower end of the casing is closed, sand or fine material is likely to move up through the open end and plug the part of the casing that is perforated. In other parts of the country many wells are constructed with a specially manufactured screen placed below the end of the casing in contact with the water-bearing material. The end of the screen is closed so that all the water entering the well must pass through the screen. A mechanical analysis is generally made of the water-bearing material that will be in contact with the screen in order to determine the largest practicable size of intake opening that will give maximum yield of water with minimum trouble from sand. The openings in well screens are often made large enough to allow from 50 to 70 percent of the finer water-bearing material to pass through them, thus leaving only coarse material around the outside of the screen and making access of water to the screen easier. Well screens are made in which as much as 20 percent of the screen area is intake opening. The following table shows the approximate area of intake opening of open-end casings, perforated casings, and well screens:

Approximate area of intake opening of open-end casings, perforated casings, and well screens

Diameter of casing (inches)	Intake area of open-end casing (square inches)	Intake area of 5-foot length of perforated casing and well screen, closed end (square inches)		
		Casing perforated with ¼-inch holes on 3-inch centers	Well screen	
			Intake area, 10 percent of screen area	Intake area, 20 percent of screen area
12	113	14	226	452
6	28	7	113	226
4	13	5	76	151
2	3	2	38	75

To obtain a large yield a well is generally subjected to a period of development after the screen has been placed. This development may consist in pumping the well at a high rate, preferably by means of an air lift; in "surging" by means of plungers or by changing the rate of pumping; or in applying compressed air or otherwise making back pressure into the well. All these methods of development are for the purpose of removing fine material from the water-bearing formation in the vicinity of the well. The removal of the fine material increases the permeability for a short distance around the intake of the well and tends to prevent future trouble with sand. The well is usually developed to yield water at a rate in excess of that contemplated when it is later put into operation; in other words, after the well is put into service it should be pumped at a rate less rapid than the maximum rate during the period of development. The period of development is usually at least 24 hours and in some wells a number of days. If the size of screen openings has been designed to permit the removal of a large percentage of the fine material from the adjacent water-bearing formation, the period of development should be longer than otherwise.

EMERGENCY WELL DRILLING BY SALT LAKE CITY CORPORATION DURING 1934

After the minor drought in the summer of 1931 the Salt Lake City Corporation purchased a number of flowing wells in the Jordan Valley to supplement the city's surface-water supplies, and the investigation leading to this report was begun. Then occurred 2 years of higher precipitation, during which the ground-water levels in the most highly developed ground-water area remained about stationary or, in some localities, rose slightly. During the exceptionally dry winter of 1933–34 the snowfall in the mountains tributary to the valley, as well as the precipitation in the valley, was extremely small. These conditions and the experiences during the drought of 1931 caused serious concern about the adequacy of the municipal water supply for the approaching summer of 1934.

Preliminary work on the cooperative ground-water investigation during 1931 and 1932 led to the issuance of a preliminary report on the investigation.[30] This report gave briefly the early findings concerning the ground-water conditions and recommended that test wells be drilled on the Provo and Bonneville benches on the east side of the valley, where conditions were believed to be most favorable for further ground-water developments with the least disturbance to existing developments in lower parts of the valley.

Prior to 1934 no action had been taken on the recommendation made, but in February 1934 Mr. George D. Keyser, Water Commissioner of Salt Lake City, in anticipation of a probable water shortage, put down the first well near Little Cottonwood Creek. By May 1, 1934, it had become certain that the supply from the previously developed sources would be inadequate during the summer. Although numerous plans were discussed, it was decided that the only way to obtain enough water in time to prevent a critical situation was to develop the ground water. It was believed that if 15 second-feet of water could be obtained within 6 weeks the emergency could be met. As this decision left no time for test drilling, full-sized wells were immediately begun with six drilling rigs. By July 1, the needed 15 second-feet of water was being delivered from newly developed wells into the city's mains, and other wells were being drilled. The completion of one well, which yielded over 10 second-feet with about 40 feet of draw-down, gave impetus to the work. When the program was completed it was found that of 17 wells drilled, 14 were producing wells that yielded a total of 46 second-feet (about 30,000,000 gallons a day).

The total cost of the development was about $250,000 which is somewhat less than $8,500 per million gallons per day, or $5,500 per second-foot. The cost of the completed wells, ready for the final pump installation, averaged about $3,250 per second-foot.

During the summer of 1934, as much as 59 percent of the total supply of the city came from the wells. These wells are expected to be utilized only during periods when the surface water supplies are inadequate or during periods of heavy demand, as normally the surface-water supplies have been sufficient. Henceforth, the wells will probably be used only during the summer of some years.

The location of the wells drilled by Salt Lake City Corporation during 1934 is shown on plate 2, and the pertinent data concerning the wells are given in the table that follows.

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[30] Leggette, R. M., and Taylor, G. H., Ground-water supplies in the vicinity of Salt Lake City, Utah: U. S. Dept. Interior Press Mem. 64395, July 23, 1932.

Summary of data on emergency well drilling in Salt Lake City, 1934[1]

PRODUCING WELLS

Well No.	Location	Depth (feet)	Yield (second-feet)	Original depth to water (feet below land surface)	Draw-down (feet)	Date completed, 1934	Costs: Finished well, ready for pump installation	Costs: Total, including pump and connections	Costs: Total per second-foot developed
(A-1-1)31cca1	City Creek	186	2.3	112	23	June 22	$4,665	$13,345	$5,802
(D-1-1)4cac1	15th East Street Reservoir	385	1.2	190	75	July 3	4,406	9,264	7,720
5aaa1	South Temple and U Streets	440	1.2	114	27	do	4,777	8,378	6,982
9aca1	Sunnyside Avenue	502	1.0	149	70	July 19	3,248	[2] 4,245	
10cac1	Bonneville	240	.4	152	80	May 18	2,908	6,706	16,765
16caa1	Blaine Avenue	502	2.0	64	110	Aug. 13	6,202	[2] 7,426	
20ddd1	27th South and 13th East Streets	500	8.0	37		June 26	24,427	36,837	[3] 9,209
21ddd1	27th South and 19th East Streets	535	10.2	125	37	June 18	31,432	62,146	6,093
34bab1	Lower Mill Creek	241	2.8	179	32	Mar. 29	5,378	10,747	3,838
(D-2-1)6ddb1	47th South and 6th East Streets	433	.5	Flow		May 7	4,762	6,673	13,345
8adb26	48th South and 12th East Streets	168	2.0	Flow		July 9	2,535	3,813	1,906
9add1	Big Ditch	500	2.5	Flow		July 18	6,624	8,451	3,380
22bba1	60th South Street	500	9.4	71	58	Aug. 7	29,450	38,465	4,092
34acb1	Little Cottonwood Creek	447	2.5	244	56	Feb. 26	7,351	15,926	6,370
NON-PRODUCING WELLS									
(D-1-1)5aad1	13th East Street Reservoir	153		104		June	$3,150	[2] $4,233	
23cc	Parleys Creek	534		135		June 12	4,557	[2] 4,557	
36b	Upper Mill Creek	230				June 23	3,226	[2] 3,226	
			46.0				149,098	244,438	

[1] See also well logs, pp. 118 to 134.
[2] Final pump installation notmade.
[3] Based on original installation of a pump with a capacity of 4 second-feet.

WELL LOGS

Well (A-1-1)31cca1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)
Top soil	5	5
Boulders and clay	10	15
Boulders, gravel, and clay	10	25
Boulders and gravel	10	35
Boulders, gravel, and clay	24	59
Sand and fine gravel	4	63
Gravel and clay	2	65
Boulders and gravel	5	70
Gravel and clay	20	90
Gravel, sand, and clay	20	110
Boulders and gravel	5	115
Gravel, sand, and clay, yellow	15	130
Gravel, rock, and a little clay (struck first water at 135 feet; rose to 124 feet; just enough water for drilling)	5	135
Gravel and water	5	140
Gravel and clay	5	145
Gravel and water (depth to water, 113 feet)	1	146
Sand, coarse	2	148
Gravel, coarse	4	152
Sand and coarse gravel	2	154
Gravel (at 164 feet, depth to water was 113 feet; at 180 feet, 111 feet)	26	180
Clay	1	181
Gravel and fine sand	5	186

NOTE.—145 feet of 15½-inch casing; 12½-inch casing, preslotted, from 140 to 186 feet.

Well (B-1-3)34bd, Morton Salt Co.

[Authority, driller]

	Thickness (feet)	Depth (feet)
Sand, beach (oolites)	6	6
Sodium (sulfate)	4	10
Sand	4	14
Sodium (sulfate)	2	16
Sand, beach (oolites)	54	70
Mud, marsh	10	80
Clay and sand, mixed, light-colored	120	200
Sand, hard, cemented	12	212
Sand and clay, light colored	18	230
Clay, marsh, soft, blue	40	270
Sand, hard, cemented	3	273
Quicksand, heavy, micaceous	4	277
Clay, grayish, sticky	48	325
Quicksand, heaving, 40-percent mica	5	330
Clay, gray, compact, tough, and sticky	35	365
Clay and sand, alternating strata	10	375
Sand, heaving, fine, micaceous	31	406
Sand and clay, thin alternating strata	15	421
Sand, very fine	11	432
Clay, tough, compact, light-gray	13	445
Sand and gravel, coarse, oolitic	10	455
Clay, sticky, light-colored	73	528
Sand and clay, mixture, fine; water	7	535
Clay, brown	60	595
Clay, sandy; possibly fresh water	10	605
Clay, brown, sticky	30	635
Clay, green, gumbo	37	672
Sand, fine; water	10	682
Clay, red	12	694
Sand, fine; water	6	700
Clay, yellow	15	715
Clay, brown	28	743
Sand, fine; water	5	748
Clay, brown	30	778
Clay, yellow	36	814
Clay, pale-green	21	835
Sand	2	837
Clay, yellow	19	856
Sand and clay, mixed	6	862
Clay, gray	18	880
Clay and sand, mixed, brown	4	884

NOTE.—Casing: 8-inch to 170 feet; 6-inch to 860 feet. Perforations: 1½-inch by ⅜-inch slots, 6 perforations each 9 inches, 672 to 872 feet. Development: Pumped 10 days at 300 to 350 gallons a minute; natural flow then reported as 125 gallons a minute.

Measurements by U. S. Geological Survey, February 28, 1936: Found flowing 160 gallons a minute from 4-inch outlet, 1.7 feet below top of 6-inch discharge pipe. Pressure head above top of 6-inch discharge pipe, 3.5 feet above surface; 19.0 feet after closing 10 minutes; head increased 2.5 feet during 10 minutes after closing, 3.2 feet during 15 minutes after closing. Temperature of water, 79° F.

Well (C-1-1)1acc, Nelson & Ricks Creamery Co.

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Surface loam	8	8	Sand, coarse, and fine gravel with water, from bailer test, of about 25 gallons a minute	3	192
Gravel, coarse	10	18	Clay, sandy, brown, tough, very fine	8	200
Loam sediments, black; some marsh gas	45	63	Clay, brown, with broken rock fragments	12	212
Marsh sediments, black, heavy; much gas	9	72	Clay, brown, sticky, with black marshy nodules; slightly gaseous	43	255
Marsh sediments, black, with small broken rock fragments	8	80	Sand, pack, very fine; some water	6	261
Marshy sediments, black, with some fine pack sand	24	104	Clay, brown, sticky, unusually tough	11	272
Clay, black, sticky, with some marsh gas	23	127	Clay, yellow, impervious, tough	2	274
Clay, dark, sticky, and gravel	8	135	Sand, water, very fine, with small oolitic gravel fragments	12	286
Clay, bluish, rubbery, very tough	9	144			
Clay, sandy, brown; little gas	20	164			
Clay, blue and brown; small alternating strata	25	189			

Well (C-1-1)1bcd1, Salt Lake Ice & Storage Co.

[Authority, owner]

	Thickness		Depth			Thickness		Depth	
	Ft.	*In.*	*Ft.*	*In.*		*Ft.*	*In.*	*Ft.*	*In.*
Clay, yellow	10	0	10	0	Clay	6	0	504	0
Sand	3	0	13	0	Gravel	3	0	507	0
Clay, blue	65	5	78	5	Clay, gumbo	21	11	528	11
Sand	3	0	81	5	Sand	4	0	532	11
Clay, blue	32	7	114	0	Clay, gumbo	11	8	544	7
Gravel and sand	8	0	122	0	Quicksand	4	0	548	7
Clay, blue	12	0	134	0	Clay, light-blue	12	0	560	7
Sand and gravel	2	0	136	0	Sand	2	0	562	7
Clay, yellow	2	0	138	0	Clay, light-blue	6	0	568	7
Sand, gray	8	0	146	0	Sand, red	4	0	572	7
Gravel	4	0	150	0	Clay	2	0	574	7
Sand, gray	20	0	170	0	Sand and gravel, red	4	0	578	7
Gravel	1	0	171	0	Sand, granite	2	5	581	0
Clay	4	0	175	0	Sand and gravel	6	0	587	0
Clay, white	8	0	183	0	Clay, white, tough	14	7	601	7
Sand, gray	10	0	193	0	Clay, light-blue	12	0	613	7
Gravel, coarse	2	0	195	0	Sand, gray	4	0	617	7
Clay	4	0	199	0	Clay, light-blue	4	0	621	7
Sand, gray	16	0	215	0	Gravel	1	0	622	7
Gravel	1	3	216	3	Sand, coarse	9	0	631	7
Clay, blue	6	0	222	3	Sand	3	0	634	7
Sand, gray	8	0	230	3	Gravel, coarse	7	0	641	7
Gravel (small flow)	2	0	232	3	Sand, white; thin layers	12	0	653	7
Quicksand	19	0	251	3	Gravel	2	0	655	7
Clay and sand	12	0	263	3	Sand, white	5	7	661	2
Gravel, coarse	7	0	270	3	Sand, light-gray	4	0	665	2
Clay	2	5	272	8	Gravel	2	0	667	2
Clay, white	6	0	278	8	Sand, light-gray	7	0	674	2
Gravel	4	0	282	8	Gravel and sand, fine	8	10	683	0
Clay, white	4	0	286	8	Clay, blue, gravel, and sand	19	4	702	4
Gravel	4	0	290	8	Sand and clay, red	32	9	735	1
Clay and sand	2	8	293	4	Clay, blue	6	0	741	1
Clay and sand, blue	20	10	314	2	Clay, blue	11	4	752	5
Clay and sand, gray	19	9	333	11	Sand, red and gray	8	0	760	5
Clay, blue	8	0	341	11	Sand and clay, yellow	17	8	778	1
Sand, red	12	4	354	3	Gravel	4	0	782	1
Sand, red and gray	14	0	368	3	Sand and clay	5	1	787	2
Clay, blue	6	11	375	2	Clay, blue, sand and gravel	38	9	825	11
Clay, white, tough	15	0	390	2	Sand	6	0	831	11
Sand	10	0	400	2	Gravel (23 gallons a minute of water)	4	0	835	11
Clay	20	0	420	2	Gravel	13	0	848	11
Clay, white	19	4	439	6	Sand, gray	6	0	854	11
Quicksand	5	0	444	6	Hardpan	8	1	863	0
Clay, white	3	0	447	6	Sand, white	6	0	869	0
Gravel, coarse	18	11	466	5	Sand, gray	11	5	880	5
Sand and gravel, red	10	0	476	5	Sand, red	6	0	886	5
Clay, white and gray	21	7	498	0					

Well (C-1-1)1bcd1, Salt Lake Ice & Storage Co.—Continued

[Authority, owner]

	Thickness Ft.	Thickness In.	Depth Ft.	Depth In.		Thickness Ft.	Thickness In.	Depth Ft.	Depth In.
Sand, coarse	11	4	897	9	Clay, blue	4	3	1,043	11
Clay, blue, and sand	35	2	932	11	Clay, blue, and sand	39	6	1,083	5
Sand, gray	8	0	940	11	Clay, blue	10	0	1,093	5
Clay, white	5	0	945	11	Sand, fine	4	0	1,097	5
Sand, gray	7	6	953	5	Sand, granite	6	3	1,103	8
Sand and gray clay	9	11	963	4	Sand, gray	8	0	1,111	8
Clay, blue, and sand	19	8	983	0	Clay	2	0	1,113	8
Sand, gray	8	0	991	0	Sand, red	6	0	1,119	8
Clay, blue	6	0	997	0	Clay	2	0	1,121	8
Sand, gray, coarse	6	7	1,003	7	Sand, gray	2	0	1,123	8
Sand, gray	2	0	1,005	7	Clay, gumbo	15	6	1,139	2
Clay, blue	28	1	1,033	8	Sand, red	3	0	1,142	2
Quicksand	6	0	1,039	8					

NOTE.—Flow of 100 gallons a minute. Casing was sunk to a total depth of 1,420 feet.

Well (C-1-2)25ccc1, Hans Peterson

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay, layers of hardpan (flowing water at 40 feet)	40	40	Clay, 1- to 6-inch layers of hardpan	75	140
Sand, fine, red	5	45	Sand	20	160
Clay (flowing water at 60 feet)	15	60	Hardpan	15	175
Sand, fine, red	5	65	Sand and soft clay	15	190
			Sand, hard, consolidated	15	205

NOTE.—Pulled well casing back to 60 feet.

Well (C-1-3)15bdc1, Garfield Water Co.

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil	1	1	Gravel (to 6 inches); clay	8	423
Clay, gray	5	6	Gravel (to 6 inches)	6	429
Clay, blue	5	11	Clay, gray	2	431
Gravel (to 2 inches)	2	13	Gravel, small boulders	27	458
Clay, blue	353	366	Clay, brown	12	470
Sand, gravel (to 6 inches)	16	382	Gravel (to 8 inches), cemented	37	507
Gravel, hard, cemented	7	389	Gravel (to 4 inches)	5	512
Gravel, cemented, and small boulders	26	415	Gravel (to 4 inches), cemented	12	524

Well (C-1-3)15cdb1, Garfield Water Co.

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil	7	7	Clay, yellow	7	100
Clay, blue	2	9	Clay, blue	54	154
Clay and gravel	2	11	Gravel to 4 inches in diameter; clay	4	158
Silt, blue	7	18	Gravel to 4 inches in diameter	10	168
Clay, blue	63	81	Gravel and boulders; some clay	17	185
Clay, gray	12	93	Limestone (bedrock)	8	193

NOTE.—Casing perforated from 154 to 183 feet, ⅜-inch by 1¾-inch Moss perforations; 12 holes to every 4 inches.

Well (C-1-3)15dbb1, Garfield Water Co.

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil	2	2	Gravel, small boulders	8	388
Clay	292	294	Cement, hard	3	391
Clay; gravel (to 8 inches)	4	298	Gravel and boulders, cemented	6	397
Clay, brown	4	302	Gravel (to 6 inches); clay	11	408
Clay; gravel (to 4 inches)	18	320	Gravel and small boulders, cemented	6	414
Clay, blue	10	330	Gravel, small boulders, and clay	11	425
Clay, gravel, small boulders, with streaks of mud and sand	20	350	Gravel, small boulders, and cemented streaks	75	500
Gravel, small boulders	14	364	Gravel and small boulders	5	505
Clay, brown	11	375	Gravel; boulders (to 6 inches)	15	520
Gravel, hard, cemented	5	380			

Well (C-1-3)15dbd1, Garfield Water Co.

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil	2	2	Gravel to 4 inches	18	253
Clay, brown with streaks of cemented gravel	5	7	Clay, gray	15	268
Clay, brown	4	11	Gravel, cemented; boulders	5	273
Clay, blue	71	82	Gravel and small boulders	49	322
Clay, brown	21	103	Clay, brown	5	327
Clay, blue	27	130	Gravel, cemented; boulders	6	333
Clay, brown	10	140	Gravel and small boulders	47	380
Clay, blue	14	154	Gravel, hard, cemented; boulders	6	386
Clay, brown	38	192	Clay, brown	8	394
Clay, gray	11	203	Clay, gravel, boulders	7	401
Clay, blue	7	210	Clay, brown	17	418
Clay, gravel to 10 inches	5	215	Gravel to 4 inches, cemented	4	422
Clay, gray	4	219	Gravel and small boulders	8	430
Gravel to 10 inches; clay	16	235	Congolomerate, hard, cemented	3	433
			Limestone, bedrock	4	437

NOTE.—Casing perforated from 226 to 253 feet and 268 to 386 feet (12 holes in each 4 inches), and from 386 to 418 feet (12 holes in each 8 inches); ⅜-inch by 1¾-inch Moss perforations.

Well (C-2-1)34bcd1, Utah-Idaho Sugar Co.

[Authority, owner]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay, dark	25	25	Sand	3	595
Gravel	25	50	Clay, blue	27	622
Clay, yellow	23	73	Sand, fine	8	630
Gravel, coarse	12	85	Clay, blue	22	652
Clay, yellow	20	105	Sand, coarse (8 perforations)	6	658
Gravel, coarse	3	108	Clay, blue	19	677
Clay, yellow	2	110	Sand	3	680
Gravel, coarse (15 perforations)	15	125	Clay, blue	10	690
Clay and gravel	43	168	Sand, fine (5 perforations)	10	700
Clay, yellow	11	179	Clay, red	15	715
Gravel, coarse (7 perforations)	6	185	Sand, fine	4	719
Clay, yellow	16	201	Clay, red	3	722
Gravel, coarse (25 perforations)	19	220	Clay, blue	13	735
Gravel and clay	10	230	Sand, fine (6 perforations)	7	742
Gravel, fine (4 perforations)	14	244	Clay, red	8	750
Clay, yellow	6	250	Clay, gray	19	769
Clay and gravel	23	273	Sand	3	772
Clay	43	316	Clay, mixed, red and blue	63	835
Gravel (10 perforations)	19	335	Clay, red	15	850
Clay, yellow	65	400	Clay, mixed, red and blue	43	893
Clay, blue	6	406	Sand, fine (6 perforations)	5	898
Clay, yellow	71	477	Clay, mixed, red and blue	19	917
Sand, fine	3	480	Gravel	2	919
Clay, yellow	36	516	Clay, red	229	1,148
Sand	4	520	Clay, blue	17	1,165
Clay, blue	28	548	Clay, red	35	1,200
Clay, red	5	553	Clay, blue	12	1,212
Sand	5	558	Clay, red	62	1,274
Clay, red	12	570	Clay, white	14	1,288
			Clay, red	8	1,296
Sand and fine gravel (4 perforations)	7	577	Clay, white	4	1,300
Clay, blue	15	592	Clay, red	97	1,397

NOTE.—12-inch casing from surface to 353 feet 7 inches; 10-inch casing from 346 feet to 1,397 feet.

Well (C-2-2)8adb1, Hercules Powder Co.

[Authority, owner]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil	4	4	Cement	4	94
Gravel and sand	4	8	Clay, gray	80	174
Clay, sandy	8	16	Clay; cement streaks	149	323
Gravel and sand	8	24	Clay, blue	177	500
Clay, gray	66	90			

NOTE.—Water struck at 88 feet, and level remained at that depth.

Well (C-2-2)9bca1, Hercules Powder Co.

[Authority, driller]

	Thickness (feet)	Depth (feet)
Soil	4	4
Lime, sandy	10	14
Clay, yellow	31	45
Sand; some water (180 gallons an hour)	5	50
Clay, yellow	40	90
Lime, sandy, white (600 gallons an hour of water from all strata)	5	95
Clay, yellow	10	105
Clay, red	5	110
Clay, yellow	25	135
Lime, sandy (540 gallons an hour of water from all strata)	5	140
Clay, yellow	30	170
Gravel and sand (2,160 gallons an hour from all strata)	10	180
Clay, yellow	15	195
Clay, red	15	210
Sand and clay, yellow	25	235
Clay, yellow	42	277
Gravel and sand (35 gallons a minute from this stratum)	11	288
Clay, yellow	49	337
Gravel (20 gallons a minute of water from this stratum)	3	340
Clay, yellow	18	358
Gravel and light-yellow clay; a little water	4	362
Clay, sandy, reddish	13	375
Clay, sandy, yellow (from 400 feet darker color and about one-half sand)	36	411
Gravel (20 gallons a minute of water from this stratum)	10	421
Sand and clay, yellow	6	427
Clay, gray and yellow	4	431
Clay, yellow	7	438
Clay, sandy, yellow	7	445
Sand (water)	5	450
Clay, gray	35	485
Sand, dark	41.5	526.5

NOTE.—Casing perforated at each sand and gravel below 90 feet; slots 3 inches by ¼ inch, 5 slots per horizontal plane, planes 1 inch apart. Water stood about 75 feet below surface before perforating.

Well (D-1-1)4cac1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)
Soil	4	4
Gravel, coarse, and boulders	41	45
Clay and gravel, cemented	15	60
Boulders, clay, and gravel	20	80
Clay and gravel	45	125
Gravel, coarse, and boulders	25	150
Clay and gravel	35	185
Clay, gravel, and boulders	10	195
Clay, red, and gravel	25	220
Clay, gravel, and water (first water from 225 to 230 feet)	10	230
Sand and gravel	5	235
Clay and gravel (water rising in hole at 260 feet)	25	260
Gravel	15	275
Clay and gravel	15	290
Gravel	25	315
Sand and gravel	15	330
Gravel, coarse	15	345
Clay, red, and gravel (depth to water, 205 feet at 355 feet)	13	358
Sand, red, and clay	2	360
Gravel (water; depth to water 190 feet)	25	385

NOTE.—Bailed about 5-foot hole under casing and then bailed about 45 gallons a minute, with small drawdown.

Well (D-1-1)4cca1, University of Utah

[Authority, claim for underground water]

	Thickness (feet)	Depth (feet)
Clay	8	8
Clay, gravel, and fairly large boulders	67	75
Clay, brown	4	79
Clay, gravel, and boulders, tight	29	108
Boulders	8	116
Clay, gravel, and boulders, 1 to 6 inches, tight (first water at 138 feet)	22	138
Conglomerate	2	140
Clay, gravel, and boulders, 1 to 6 inches, tight	12	152
Clay, brown, gravel, and boulders	8	160
Clay, gravel, boulders, and cemented streaks	26	186
Clay, brown, and boulders	24	210
Cemented rock and conglomerate	20	230
Clay, yellow	6	236
Gravel and conglomerate, cemented	16	252
Clay, gravel, and boulders, cemented	16	268
Cement, gravel, and conglomerate	10	278
Clay and some gravel	6	284
Clay and gravel	6	290
Clay, gravel, and boulders, cemented	14	304
Gravel and boulders, 2 to 6 inches, clay, soft	14	318
Clay, gravel, and boulders, hard	18	336
Conglomerate	6	342
Clay, gravel, and boulders, cemented	12	354
Clay, brown, some gravel, hard	44	398
Clay, gravel, and conglomerate	29	427
Clay, brown, some gravel	7	434
Clay and gravel, cemented	30	464
Clay, gravel, and boulders, cemented	36	500

NOTE.—Perforations, Moss ½ inch by 2½ inches:

138 to 154 feet, 16 perforations every 4 feet.
154 to 210 feet, 56 perforations every 8 feet.
210 to 230 feet, 20 perforations every 4 feet.
238 to 254 feet, 16 perforations every 4 feet.
254 to 278 feet, 24 perforations every 8 feet.
290 to 302 feet, 12 perforations every 8 feet.
302 to 318 feet, 16 perforations every 4 feet.
318 to 354 feet, 36 perforations every 8 feet.
400 to 428 feet, 28 perforations every 8 feet.
434 to 464 feet, 30 perforations every 8 feet.
464 to 484 feet, 20 perforations every 4 feet.

Well (D-1-1)5aaa1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)
Gravel and clay (a little water at 45 feet; at 140 feet, depth to water was 135 feet)	140	140
Gravel	12	152
Gravel and clay, soft (at 180 feet, depth to water was 117 feet)	53	205
Gravel and boulders (at 212 feet, depth to water was 117 feet)	7	212
Gravel and clay, yellow (at 253 feet, depth to water was 130 feet; at 280 feet, 117 feet)	103	315
Clay and rocks, yellow (at 325 feet, depth to water was 120 feet)	20	335
Clay, yellow (at 345 feet. depth to water was 140 feet)	15	350
Clay and gravel, yellow (at 374 feet, depth to water was 117 feet; at 391 feet, 117 feet; at 415 feet, 135 feet)	90	440

NOTE.—15½-inch casing from surface to 344 feet; 12½-inch casing from 324 to 437 feet. Perforated 15½-inch casing with 90 holes between 134 and 152 feet; bailed 87 gallons a minute, with 1-inch draw-down; depth to water 117 feet. At 440 feet, with 45 feet of perforated casing in bottom of hole, bailed 87 gallons a minute, draw-down 11 feet.

Well (D-1-1)5aad1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)
Gravel and clay (water at 125 feet)	130	130
Gravel	23	153

NOTE.—June 21, 1934: Depth to water (by wire), 103.9 feet below top of casing at surface at 7:00 a. m.; depth to water (by tape), 103.75 feet below top of casing at surface at 1:15 p. m.
June 22, 1934: Pump first started.
June 25, 1934: Depth to water, 104.8 feet below top of casing at 8:15 a. m. (not pumping).
July 7, 1934: Depth to water, 122.0 feet below top of casing at 9:10 a. m. (pumping).
July 12, 1934: Pumping ceased permanently.

Well (D-1-1)6ccd1, Royal Laundry

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay, yellow, sandy	27	27	Clay, red	8	378
Clay, blue	68	95	Clay, blue	7	385
Gravel and boulders	15	110	Sand, sulfur	5	390
Clay, red	20	130	Clay, blue, sandy	38	428
Clay, blue	15	145	Clay, red, sandy	12	440
Gravel, coarse	10	155	Sand	4	444
Clay, red, sandy	41	196	Clay, blue	16	460
Sand	4	200	Clay, blue, sandy	20	480
Gravel	6	206	Clay, blue	15	495
Clay, dark-blue	37	243	Clay, red, sandy	8	503
Gravel, coarse	6	249	Sand and gravel	5	508
Clay, gray	41	290	Clay, red	11	519
Clay, red	30	320	Sand and gravel	3	522
Sand and gravel	6	326	Clay, red	23	545
Clay, red	35	361	Clay, blue	15	560
Sand	4	365	Clay, red	5	565
Gravel	5	370	Clay, blue	15	580

NOTE.—Casing perforations, slots ½ inch wide and 2 feet long:

145 to 155 feet, 3 slots.
176 to 208 feet, 9 slots.
243 to 249 feet, 5 slots.
320 to 326 feet, 3 slots.
361 to 370 feet, 4 slots.
440 to 450 feet, 3 slots.
494 to 508 feet, 7 slots.
519 to 522 feet, 2 slots.
530 to 545 feet, 7 slots.

Well (D-1-1)7bba, Clover Leaf-Harris Dairy

[Authority, owner]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Fill	10	10	Sand, gravel, clay; alternating beds	32	417
Loam and soil sediments	6	16	Clay, red, cemented; some sand	26	443
Gravel, with soil mixture	1	17	Clay, bluish-green, gumbo	37	480
Clay, black, sticky	8	25	Sand and gravel	10	490
Clay, black	10	35	Clay, light-gray	22	512
Clay, yellow	15	50	Clay, green	23	535
Clay, black	10	60	Sand, water-bearing	10	545
Clay, brown	15	75	Clay, dark-blue	27	572
Clay, light-green	20	95	Sand, red, cemented	18	590
Clay, brown	13	108	Clay, red, sticky	42	632
Gravel	2	110	Sand, fine	7	639
Clay, green; some marsh gas	35	145	Sand and clay; thin strata	3	642
Gravel	4	149	Sand and clay, strata, with about 2 feet of gravel at base (ran 40-minute bailing test of about 1,200 gallons; water drew down but showed considerable strength)	16	658
Clay, brown	36	185	Clay, brown, sticky	12	670
Gravel, fine, embedded in yellow clay	10	195	Sand, medium coarse	5	675
Clay, brown	53	248	Clay, light-brown, sticky	10	685
Clay, green, very sticky	47	295	Clay, gray, sticky	38	723
Clay, brown	5	300	Sand and gravel, water-bearing	18	741
Clay, very dark blue; marsh gas and pungent odor	60	360	Shale, brown, impervious	9	750
Clay, brown, impervious, tough	10	370			
Gravel, water-bearing	2	372			
Sand, water-bearing	3	375			
Clay, light-brown	10	385			

NOTE.—10-inch casing, surface to 670 feet; 8-inch, 670 to 750 feet; perforated, 480 to 490 and 535 to 545 feet.

Well (D–1–1)9aca1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay, hard	9	9	Gravel and boulders to 4 inches	14	261
Sand	4	13	Clay	25	286
Clay, hard	7	20	Gravel and boulders to 4 inches, cemented	14	300
Sand, gravel, boulders to 10 inches	10	30	Clay	10	310
Clay	6	36	Gravel, cemented	19	329
Sand, gravel, boulders to 10 inches	11	47	Clay; a little gravel	5	334
Clay and gravel	23	70	Clay, cemented streaks (depth to water, 149 feet)	22	356
Clay	6	76	Clay	6	362
Clay and gravel	13	89	Gravel, cemented	16	378
Gravel, cemented	2	91	Conglomerate (depth to water, 149 feet)	10	388
Gravel and boulders to 10 inches; little gravel	23	114	Gravel, cemented, streaks of clay	15	403
Clay	4	118	Gravel, cemented (depth to water, 149 feet)	22	425
Clay, gravel, and boulders to 8 inches	18	136	Clay and gravel	15	440
Gravel, cemented	12	148	Gravel, cemented (no change in water level)	62	502
Streaks of cemented clay	56	204			
Clay, sticky	24	228			
Gravel and boulders to 3 inches	8	236			
Clay	11	247			

NOTE.—Surface to 502 feet, 20-inch California stovepipe casing. Preforations, 3/8 inch by 1 5/8 inches, made by Moss patented hydraulic perforator; 9 holes every 4 inches, 180 to 485 feet.

Well (D–1–1)10cac1, Salt Lake City Corporation

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil and gravel	15	15	Clay, gravel, and boulders	19	152
Clay, yellow, and gravel	44	59	Clay, yellow, and gravel	12	164
Clay, yellow, gravel, and boulders	23	82	Clay, yellow, and hard gravel; stands up (small seep of water at 180 feet; at 195 feet, depth to water was 160 feet; at 235 feet, 152 feet)	76	240
Clay, red, and gravel	15	97			
Clay, yellow, and gravel	6	103			
Clay, yellow	8	111			
Clay and boulders	4	115			
Clay, yellow, and gravel	18	133			

NOTE.—Surface to 159 feet, 15½-inch oil-well casing; 156 to 238 feet, 12½-inch preslotted oil-well casing.

Well (D–1–1)16caa1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay, gray, streaks of gravel	18	18	Gravel and boulders to 5 inches, some clay, and cemented streaks	16	220
Clay, red	2	20	Clay, red	10	230
Gravel, coarse, boulders to 10 inches	16	36	Gravel and boulders to 8 inches, clay	20	250
Clay, sandy	4	40	Clay (at 254 feet, depth to water was 94 feet)	22	272
Gravel, boulders to 4 inches, clay	46	86	Gravel, tight, cemented streaks	10	282
Clay	4	90	Clay	77	359
Gravel, boulders to 8 inches in clay	28	118	Gravel and boulders to 6 inches in clay	11	370
Clay	24	142	Clay, red	13	383
Clay, blue, tough	10	152	Gravel and boulders to 4 inches in clay	15	398
Clay, brown	16	168	Clay, red (at 430 feet, depth to water was 64 feet)	82	480
Clay, blue	8	176	Cement, hard	6	486
Clay; some gravel	9	185	Clay, red (depth to water is 66 feet)	16	502
Sand, gravel, and boulders to 6 inches	5	190			
Gravel and boulders to 8 inches, tight	10	200			
Clay, red	4	204			

NOTE.—Surface to 502 feet, 20-inch California stovepipe casing; 3/8-inch by 1 5/8-inch perforations by Moss patented hydraulic perforator. Report to city gives 12 holes per 4 inches from 90 to 282 feet and 359 to 370 feet; and 12 holes per 8 inches from 282 to 359 feet and 370 to 486 feet. Driller's daily report to city stated perforations in gravels as 19 holes per 4 inches and in clays as 6 holes per 8 inches. Moss's report to city states water first found at 90 feet; before and after perforating water level stood at 64 feet. Driller's daily report to city states water rose from 94 to 64 feet very slowly, and pumping shows it is a false head.

Well (D-1-1)20abb2, Hygeia Ice Co.

[Authority, driller]

	Thickness (feet)	Depth (feet)
Boulders	14	14
Clay	10	24
Boulders	6	30
Gravel, fine, water	5	35
Gravel, fine	25	60
Mud, yellow	20	80
Gravel, coarse, water; depth to water 12 feet	20	100
Gravel and mud	10	110
Gravel, coarse	15	125
Boulders	5	130
Clay, yellow	35	165
Shale, light	35	200
Mud, red	65	265
Gravel; flow of water of about 50 gallons a minute, which decreased to about 25 gallons a minute	13	278
Clay, red	17	295
Sand and gravel	17	312

NOTE.—Casing: 255 feet of 10-inch, 40-pound, 10-thread; 78 feet of 8-inch, 25-pound, 8-thread (235 to 312 feet). Perforations: 10-inch casing, 80 to 130 feet, 70 slots ⅝ inch by 4 inches; 8-inch casing, 265 to 278 feet, 10 slots ⅝ inch by 2 to 8 feet; 8-inch casing, 295 to 312 feet, 7 slots ⅝ inch by 4 feet.

Well (D-1-1)20ddd1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)
Clay, hard	4	4
Gravel, 2 to 4 inches, and cemented clay	15	19
Clay, brown	15	34
Clay, brown, and gravel and boulders 2 to 4 inches	17	51
Clay, yellow; some gravel (struck water at 80 feet, which rose to 47 feet)	29	80
Boulders, 2 to 8 inches, gravel, and clay (water)	45	125
Clay, brown	7	132
Boulders, gravel, and clay (water), cemented streaks	10	142
Clay, gray	22	164
Boulders, 2 to 4 inches, gravel, clay, and some conglomerate (water)	25	189
Clay, blue, tough	36	225
Boulders, 2 to 4 inches, gravel, and clay (water)	22	247
Clay, brown	6	253
Boulders, clay, and gravel	21	274
Clay, red, a little gravel	20	294
Boulders, 4 to 8 inches, gravel, and clay	6	300
Clay, yellow, and some gravel (at 315 feet, depth to water was 44 feet)	28	328
Conglomerate	1	329
Clay, yellow, and some gravel	31	360
Clay, yellow, some gravel, cemented	14	374
Boulders, 1 to 6 inches, gravel, and clay (water)	22	396
Clay, brown; some gravel and boulders	84	480
Boulders, gravel, and hard clay (depth to water is 34 feet)	20	500

NOTE.—Surface to 458 feet, 20-inch, 8-pound or gage California stove pipe casing. Perforated with Moss patented 6-blade hydraulic perforator; ¼-inch by 1¼-inch slots; 9 holes, each 8 inches, from 124 to 164, 248 to 296, 302 to 374, and 398 to 438 feet; 9 holes, each 4 inches, from 80 to 124, 164 to 248, 296 to 302, 374 to 398 feet. Water first encountered at 80 feet; before and after perforating, it stood at 28 feet. Static level 40 feet, while drilling. After surging the water level comes back to 40 feet in 1 minute.

Well (D-1-1)21acc1, Utah State Prison

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil, sandy	6	6	Clay, brown	20	300
Clay, red, sandy	24	30	Clay, blue	20	320
Gravel	10	40	Gravel and clay	40	360
Clay, red, sandy	35	75	Sand	10	370
Gravel (some water)	65	140	Gravel and sand (water)	15	385
Sand, dry	5	145	Clay, red	45	430
Gravel and boulders	15	160	Gravel	10	440
Clay, red, sandy	10	170	Clay, red; little water	5	445
Gravel and boulders	30	200	Gravel	5	450
Clay, red	15	215	Clay, red	12	462
Gravel and boulders	65	280	Gravel	5	467

Well (D-1-1)21ddd1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Gravel, cemented	4	4	Clay, gray	7	237
Clay, yellow, hard streaks	23	27	Gravel, cemented	8	245
Gravel, loose, and ¼- to 4-inch boulders	44	71	Gravel, cemented, boulders, and clay	13	258
Clay, yellow, soft	5	76	Clay, yellow, hard	22	280
Rock, cemented, very hard	1	77	Clay, gray, hard	24	304
Gravel and 4- to 6-inch boulders	26	103	Gravel, cemented	22	326
Gravel and 4- to 6-inch boulders; some clay	35	138	Clay and 2- to 6-inch boulders (water)	28	354
Gravel, cemented, boulders, and clay	13	151	Clay, hard; some gravel	78	432
Clay, yellow	2	153	Clay, hard	6	438
Gravel, cemented, boulders, and clay	11	164	Gravel, cemented, hard	10	448
Clay, gravel, and 2- to 8-inch boulders	55	219	Gravel, 4- to 6-inch boulders, clay, and cemented layers	32	480
Clay, brown	4	223	Clay, brown	20	500
Gravel and clay	7	230	Cemented clay layers, hard, gravel, and 4- to 6-inch boulders (depth to water, 125 feet)	35	535

NOTES BY DRILLER.—Surface to 518 feet, 20-inch California stovepipe casing, 8-pound or gage. Perforated with Moss patented perforator; ¼- by 1⅜-inch perforations; 9 cuts every 4 inches from 326 to 354 feet: 9 cuts every 8 inches from 126 to 326 and 354 to 502 feet. Depth to water was 125 feet before and after perforating. Insufficient water in well for drilling purposes until depth of 326 feet.

NOTES BY G. H. TAYLOR.—June 20, 1934: pump started at 4:30 p. m.; stopped at 11:30 p. m.

June 21, 1934: Depth to water was 124.70 feet below top of casing, about 1 foot above ground surface. The only pumping to date was on June 20. Air gage read 127.5 feet. Length of air line was 318 feet.

June 22, 1934: Could not measure depth to water with steel tape. Depth to water by rubber-tube method was 138.5 feet at 3:30 p. m. with pump wide open. Pressure gage on outlet pipe (discharge head) was 13 feet (4 feet above top of casing).

Well (D–1–1)23cc, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil	5	5	Clay and boulders (at 217 feet, depth to water was 121 feet)	27	232
Sand and clay	5	10	Clay, yellow, and gravel (depth to water, 150 feet)	18	250
Clay, yellow, and gravel	40	50	Clay and boulders (at 265 feet, depth to water was 157 feet; at 285 feet, complete water shut-off)	35	285
Clay, yellow, gravel, and boulders	12	62	Gravel and clay, yellow	6	291
Clay, yellow, and gravel	20	82	Clay, yellow (depth to water, 150 feet)	7	298
Clay, red, and gravel	13	95	Clay, yellow, and boulders (at depth of 315 feet, depth to water was 218 feet)	42	340
Clay, yellow, and gravel (depth to water, 87 feet)	5	100	Clay	3	343
Gravel (water)	4	104	Sand and gravel (water; depth to water, 115 feet)	2	345
Sand	1	105	Gravel and clay, gray	10	355
Gravel	3	108	Sandy clay, gray	10	365
Rock, red, and clay	2	110	Gravel and clay (at 380 feet, depth to water was 160 feet)	30	395
Gravel	8	118	Sand, coarse, black, and clay	2	397
Rock and clay, red	3	121	Clay and gravel (depth to water, 186 feet; at 400 feet, depth to water was 168 feet)	13	410
Rock and clay, red (depth to water, 108 feet)	7	128	Boulders, clay, and a little gravel (at 420 feet, depth to water was 186 feet; at 438 feet, 245 feet; at 465 feet, 225 feet)	80	490
Boulders and clay	9	137	Rock, hard (at 500 feet, depth to water was 226 feet)	29	519
Gravel	3	140	Boulders and clay	15	534
Boulders and clay	6	146			
Clay, yellow	5	151			
Clay, yellow, and boulders (at 155 feet, depth to water was 93 feet)	21	172			
Gravel	3	175			
Gravel and clay	5	180			
Rock and clay, red (at 182 feet, depth to water was 119 feet; at 190 feet, 97.5 feet)	10	190			
Gravel	5	195			
Gravel and boulders	5	200			
Gravel and clay (depth to water, 143 feet)	5	205			

NOTE BY DRILLER.—342 feet of 15½-inch casing and 406 feet of 8¼-inch casing set. After bailing, well was abandoned as yielding insufficient water.

NOTE BY G. H. TAYLOR.—July 27, 1934: Depth to water in outside, or 15½-inch casing, at 4:00 p. m. was 116.75 feet below top of casing, 2.0 feet above surface. Depth to water in inside, or 8¼-inch casing, at 4:50 p. m. was 134.15 feet below top of outside casing.

Well (D–1–1)34bab1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay, yellow	15	15	Sand, gravel, and some clay (depth to water, 177 feet)	4	203
Gravel and boulders	5	20	Gravel and clay, mixed	2	205
Gravel, coarse, and clay	30	50	Sand, fine	7	212
Gravel, coarse; boulders and yellow clay	15	65	Sand, medium	1	213
Gravel and yellow clay	6	71	Sand and gravel	3	216
Gravel, coarse, and clay	20	91	Clay and gravel (depth to water, 177 feet)	6	222
Gravel, clay, and boulders	9	100	Sand, medium	1	223
Gravel, coarse (no water)	7	107	Clay and gravel	1	224
Gravel and clay	18	125	Gravel and coarse sand	6	230
Gravel and yellow clay (water sand at 190 feet; depth to water, 177 feet)	65	190	Gravel and medium sand	5	235
Sand	1	191	Gravel, coarse	2	237
Sand, coarse gravel, and small rocks	6	197	Gravel, coarse, and clay (depth to water, 180 feet)	2	239
Clay	2	199	Clay, sandy, and gravel	2	241

NOTE.—Set 14 feet of Johnson screen with bottom at 237½ feet.

Well (D–2–1)5caa2, Albert C. Boyle

[Authority, owner]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay	18	18	Gravel, coarse	5	300
Sand, silica, and coarse limestone	94	112	Sand and angular gravel	28	328
Sand, silica, and fine limestone	26	138	Clay and sand	42	370
Clay	12	150	Sand, yellow, fine	7	377
Sand, grayish-yellow (no granite)	20	170	Sand and angular gravel	17	394
Gravel	8	178	Sand and clay	11	405
Gravel, coarse	5	183	Clay, silty, fine, bluish	35	440
Clay and gravel	5	188	Sand, limestone, and silica	16	456
Clay	12	200	Clay and silt	47	503
Sand and coarse gravel	48	248	Gravel, coarse, white and blue	1	504
Gravel, cemented	12	260	Sand	8	512
Gravel	7	267	Sand, coarse	5	517
Gravel, cemented	3	270	Gravel, uniform, about ½ inch in diameter	10	527
Sand	3	273	Clay, varying in color but lighter than above	123	650
Clay, gray	9	282			
Sand, bluish limestone	4	286			
Clay, gray	9	295			

Well (D–2–1)5daa1, Florence L. Burmingham

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay	58	58	Clay, sandy, pink	3	118
Sand, very fine	2	60	Sand, pink	9	127
Clay	19	79	Clay, sandy, pink	20	147
Sand, fine	5	84	Clay, white	28	175
Sand	2	86	Clay, fine, sandy	20	195
Gravel, fine	19	105	Gravel (water)	11	206
Sand	10	115			

Well (D–2–1)5daa2, Willard Pugh

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay and dirt	80	80	Clay and streaks of sand and gravel	30	180
Gravel	1	81	Sand and streaks of clay and gravel	15	195
Clay	39	120	No record	122	317
Gravel and sand, interlain with streaks of clay	30	150			

Well (D–2–1)6dbd1, W. S. and Flora E. Turner

[Authority, driller; from driller's memory a few weeks after drilling.]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Clay and dirt	80	80	Clay, blue	40	390
Gravel	80	160	Sand and gravel	35	425
Clay and streaks of sand	40	200	Clay and fine sand, half-and-half	93	518
Gravel, coarse	50	250	Gravel (water, no flow)	76	594
Clay, some sand	70	320	Clay and sand	86	680
Gravel, coarse	30	350			

NOTE.—No flow; put in shot of dynamite at 340 feet to obtain flow.

Well (D-2-1)6ddb1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Soil	2	2	Sand (water from 123 to 156 feet)	11	156
Gravel	5	7	Clay, blue	16	172
Clay, black	18	25	Gravel and sand	8	180
Clay, blue	25	50	Gravel, sand, and clay	34	214
Clay, blue, a little grit (flow of about 80 gallons a minute; bailed 170 gallons a minute with 20-foot draw-down)	9	59	Clay, blue	6	220
Gravel, sand (water)	9	68	Sand and some clay	7	227
Gravel, fine, and clay	12	80	Clay, yellow	6	233
Sand, coarse, some water (small flow of water at 85 feet)	8	88	Clay, black	3	236
Gravel, coarse, some yellow clay	30	118	Clay, blue, and sand	12	248
Sand and small gravel	2	120	Clay, yellow, and sand	12	260
Sand (small flow of water from 118 to 123 feet)	3	123	Gravel, coarse, and yellow clay	13	273
Gravel and yellow clay	22	145	Clay, yellow, and sand	37	310
			Clay, yellow	5	315
			Clay, yellow, and sand	25	340
			Clay, yellow	12	352
			Clay, blue	78	430
			Gravel	3	433

NOTE.—Casing perforated, ½-inch by 3-inch holes, from 55 to 88 feet (103 perforations); 118 to 125 feet (32 perforations).

Well (D-2-1)7cbd2, American Smelting & Refining Co.

[Authority, H. F. Yeager, driller, U. S. Geol. Survey Water-Supply Paper 157, p. 46, 1906]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Sand and gravel	5	5	Gravel (small flow at 165 feet)	11	169
Mud	3	8	Hardpan, very hard	8	177
Sand and gravel	4	12	Clay, blue	6	183
Clay, blue	6	18	Quicksand (20 gallons a minute at 203 feet)	20	203
Quicksand	10	28	Quicksand	16	219
Clay, blue	8	36	Clay, blue	4	223
Sand and gravel, loose (small flow and good pump well at 42 feet)	16	52	Quicksand	7	230
Clay, blue	8	60	Clay, blue	8	238
Quicksand (15 gallons a minute at 63 feet)	6	66	Quicksand	18	256
Clay, blue	18	84	Clay, blue, and quicksand in layers 2 feet thick	22	278
Clay, yellow	6	90	Quicksand	8	286
Sand and gravel, loose (300 gallons a minute at 95 feet)	15	105	Clay, blue, very hard	12	298
Clay, yellow	3	108	Sand, river	9	307
Gravel, coarse, and rock (250 gallons a minute at 112 feet; at this point well at office stopped flowing)	8	116	Gravel, cemented	12	319
Gravel, coarse, and rock	6	122	Clay, yellow	7	326
Quicksand	20	142	Gravel, cemented	17	343
Clay, very hard	10	152	Gravel, loose	23	366
Quicksand	6	158	Clay, yellow	2	368
			Gravel	7	375
			Gravel, cemented	12	387
			Gravel, loose	12	399

Well (D-2-1)7ddd3, W. B. Baker

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Top soil and clay	20	20	Sand	10	75
Gravel	5	25	Gravel	13	88
Clay	40	65			

Well (D–2–1)8adb26, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)
Mud, blue	8	8
Sand, yellow	2	10
Mud, blue, and round boulders	12	22
Clay, blue	11	33
Mud and rocks, loose	3	36
Clay, blue	12	48
Sand, yellow	8	56
Clay, blue (bed of rocks and blue mud; struck water at 63 feet)	7	63
Gravel, coarse, and mud	5	68
Clay, blue	7	75
Gravel, loose, boulders (water)	7	82
Clay, yellow, and gravel (water at 86 feet)	7	89
Gravel, granite, coarse (water)	5	94
Gravel and rock cemented with yellow clay	28	122
Clay, blue, and sand (struck water at 139 feet; flow over top of casing estimated 1 sec.-ft.)	17	139
Gravel, coarse, mud and heavy sand	2	141
Sand, coarse and fine (water)	21	162
Clay, yellow	3	165
Clay, yellow, rocks, and gravel	3	168

NOTE.—Surface to 48 feet, 26-inch stovepipe casing; surface to 163 feet, 15½-inch oil-well casing. All preperforated with torch.

Well (D–2–1)9add1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)
Gravel (water at 6.5 feet)	13	13
Clay, blue (water flowed over casing at surface)	32	45
Boulders, 2 to 6 inches, gravel, and clay (water)	27	72
Clay, yellow and gray, a little gravel	33	105
Clay and gravel, cemented (depth to water 18 feet)	7	112
Clay, blue	35	147
Gravel and 1- to 4-inch boulders (water)	11	158
Clay, gray	12	170
Clay, brown, and gravel (water)	35	205
Clay, hard, brown	5	210
Gravel, 1- to 4-inch boulders, and clay in layers (water; at 248 feet, depth to water was 42 feet)	65	275
Gravel and clay	46	321
Clay, hard, yellow	12	333
Clay, hard, blue	27	360
Clay, sandy, brown	15	375
Clay, yellow, and 1-inch gravel, cemented (water; at 415 feet, depth to water was 5 feet)	56	431
Clay, blue	69	500

NOTES BY DRILLER.—Surface to 500 feet, 20-inch, 8-gage California stovepipe casing; ¼-inch by 1¼-inch perforations by Moss hydraulic perforator. Driller's daily report shows following perforation: 9 cuts every 8 inches from 170 to 202, 276 to 320, and 378 to 430 feet; 9 cuts every 4 inches from 102 to 110, 146 to 158, and 210 to 276 feet. Moss Co. report to Salt Lake City Corporation shows same perforations except as follows: 9 cuts every 8 inches from 210 to 276 feet; 9 cuts every 4 inches from 170 to 202 and 276 to 320 feet. Water first encountered at 6.5 feet; stood at 5 feet before and after perforating. Driller reported pumping test of 2⅕ second-feet with draw-down reduced from 135 to 55 feet at end of test.

NOTES BY G. H. TAYLOR.—Aug. 2, 1934: Discharge of pump, 1.8 second-feet; draw-down is 140 feet below ground surface; water very muddy. Aug. 9, 1934: Pumping 2.09 second-feet clear water into lower canal; pumping level about 60 feet below ground surface.

Well (D-2-1)16bbd14, D. G. Lunn

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Gravel, loose; two streaks of hardpan	20	20	Gravel, cemented	40	115
Sand, fine to medium	15	35	Seams of hardpan, quicksand, and fine sand	40	155
Sand, fine, with clay streaks	15	50	Clay, reddish-brown	15	170
Gravel, coarse	25	75	Gravel, coarse	5	175

Well (D-2-1)22bba1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Gravel and boulders	11	11	Gravel and boulders, ½ to 6 inches, tight (water)	25	275
Clay, yellow	5	16	Gravel and boulders, ½ to 6 inches, cemented clay (water)	15	290
Clay, yellow, hard; 1- to 4-inch gravel	16	32	Gravel, and boulders, ½ to 6 inches (water)	23	313
Gravel and boulders, 2 to 6 inches	8	40	Clay, brown, hard	7	320
Clay, sandy, brown, and a little gravel; hard	20	60	Boulders, 1 to 6 inches, gravel; a little clay (water); alternate tight and loose layers (depth to water 75 feet at 328 feet)	18	338
Gravel and boulders, ¼ to 4 inches, tight	38	98	Boulders, 1 to 6 inches, gravel, clay, cemented	15	353
Gravel and boulders, ¼ to 4 inches, and clay, cemented (a little water from 60 to 126 feet)	28	126	Clay, brown	18	371
Clay, brown, sandy	11	137	Gravel, 1- to 6-inch boulders, clay (water); alternate tight and loose layers (at 390 feet, depth to water was 75 feet)	97	468
Clay, brown, hard	11	148	Clay, gray and yellow, very hard	32	500
Clay, brown, sandy	22	170			
Clay, yellow; a little gravel	30	200			
Clay, yellow, very hard	15	215			
Clay, hard, yellow; gravel and boulders, ½ to 4 inches (at 235 feet, depth to water was 36 feet)	35	250			

NOTE.—First water encountered at 11 feet; no change in water level during drilling; level stood at 70 feet before and after perforating casing. Surface to 486 feet, 20-inch, 8-gage California stovepipe casing ¼-inch by 1¼-inch perforations by Moss hydraulic perforator; 9 cuts, each 4 inches, from 100 to 124, 313 to 317, 320 to 354, and 368 to 468 feet.

Well (D-2-1)23dbb1, Herbert S. Auerbach

[Authority, owner]

	Thickness (feet)	Depth (feet)		Thickness (feet)	Depth (feet)
Boulders and gravel	36	36	Sand and gravel	37	108
Gravel and sand	5	41	Gravel, coarse, and clay	11	119
Sand, fine	3	44	Boulders	12	131
Sand, gravel, and clay (water at 62 feet)	27	71	Gravel, fine	5	136
			Boulders, gravel, and sand	65	201

NOTE.—Small amount of clay mixed with all strata except from 52 to 62 feet. Casing: Surface to 175 feet, 12½-inch, 50-pound, 8-thread. Perforations: 36 perforations from 48 to 65 feet; 10 from 65 to 108 feet; 20 from 105 to 120 feet. Large flow of water from 44 to 62 feet; small flow from 103 to 108 feet; dry formation from 175 to 201 feet.

Well (D-2-1)34acb1, Salt Lake City Corporation

[Authority, driller]

	Thickness (feet)	Depth (feet)
Sand	5	5
Boulders (small seep of water)	5	10
Sand, coarse, dry	77	87
Clay and sand, yellowish-brown	8	95
Sand, coarse	7	102
Clay and silt	10	112
Gravel, coarse (water, 1 gallon a minute)	4	116
Clay, yellow (depth to water, 105 feet)	4	120
Clay, blue	6	126
Clay, yellow (depth to water, 105 feet; amount estimated as 20 gallons a minute)	17	143
Gravel, coarse (water; estimated as 132 gallons a minute)	9	152
Clay, yellow	14	166
Clay, yellow, and gravel	20	186
Clay, yellow	2	188
Clay, yellow; dry sand	22	210
Sand, fine, dry; some coarse gravel	5	215
Sand, dry	28	243
Gravel	35	278
Sand and quartz, hard	2	280
Gravel, fine (depth to water, 244 feet)	1	281
Clay	.5	281.5
Sand, fine (water)	8.5	290
Sand, coarse (water)	12	302
Sand, fine (depth to water, 259 feet)	3	305
Sand, coarse (depth to water, 259 feet)	19	324
Boulders, clay, and gravel (depth to water, 259 feet)	9	333
Gravel, coarse and silt (depth to water, 285 feet)	12	345
Gravel, coarse, and sand (depth to water, 285 feet)	9	354
Gravel, coarse, and silt (depth to water, 276 feet)	6	360
Gravel, coarse	5	365
Clay, yellow, gravel, and boulders (depth to water, 280 feet)	30	395
Clay, yellow, sand, and coarse gravel (depth to water, 285 feet)	30	425
Clay, yellow and fine gravel (depth to water, 273 feet)	22	447

NOTE.—Surface to 208 feet, 15½-inch oil-well casing; surface to 426 feet, 12½-inch oil-well casing; plugged well with rock from 326 feet to 447 feet; cut 12½-inch casing at 308-foot collar; put two joints of 10-inch pipe (17 feet 10 inches) on end of Johnson screen (20 feet 4 inches) and set on top of rocks in 12½-inch casing; jacked 12½-inch casing back 19 feet 6 inches. Installed 308 feet of air line.

RECORDS OF STREAM FLOW

CITY CREEK NEAR SALT LAKE CITY, UTAH

LOCATION.—From 1928 to 1933, inclusive, the flow was measured through a flowmeter in the New High line in the SE¼ sec. 16, T. 1 N., R. 1 E., a flowmeter in the Pleasant Valley pipe line in the NE¼ sec. 20, T. 1 N., R. 1 E., an adjustable submerged orifice in the 20th Ward pipe line in the NE¼ sec. 30, T. 1 N., R. 1 E., and a 9-foot rating flume at mouth of canyon in the SW¼ sec. 30, T. 1 N., R. 1 E. From 1924 to 1927, inclusive, the flow was measured by an adjustable submerged orifice and a 2-foot rectangular weir in the New High line; a 5-foot Cippoletti weir in the Pleasant Valley line; a submerged orifice in the 20th Ward line; and a rating flume at mouth of canyon. Prior to 1924 the flow was measured above all diversions over two 5-foot Cippoletti weirs in the southeast corner of the SE¼ sec. 16, T. 1 N., R. 1 E., and the estimated inflow between the weirs and the mouth of canyon added.

DRAINAGE AREA.—19.2 square miles.

RECORDS AVAILABLE.—December 1898 to September 1933.

REMARKS.—No regulation. All water diverted for city water supply except during high-water periods. Records furnished by the city engineer of Salt Lake City, Utah.

Monthly discharge of City Creek near Salt Lake City, Utah, 1913–33

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1913-14				
October	7.89	6.97	7.37	453
November	6.97	6.67	6.83	406
December	6.67	6.09	6.19	381
January	8.52	6.09	6.24	384
February	7.88	5.81	6.22	345
March	17.6	6.67	12.2	750
April	41.5	11.2	27.1	1,610
May	75.9	33.2	62.7	3,860
June	57.0	23.6	37.7	2,240
July	24.1	14.9	19.3	1,190
August	14.9	10.8	12.5	769
September	10.8	8.84	9.53	567
The year	75.9	5.81	17.9	13,000
1914–15				
October	9.16	7.88	8.44	519
November	7.88	6.97	7.42	442
December	6.97	6.38	6.62	407
January	6.38	5.81	6.14	378
February	8.97	7.81	7.99	444
March	11.5	6.61	8.50	523
April	28.0	11.0	20.8	1,240
May	36.5	21.6	28.1	1,730
June	32.8	12.9	27.3	1,620
July	20.2	8.87	16.2	996
August	13.1	7.70	10.6	652
September	11.5	7.42	9.01	536
The year	36.5	5.81	13.1	9,490
1915–16				
October	9.18	7.42	8.41	517
November	9.05	6.75	7.79	464
December	8.44	6.55	7.70	473
January	7.33	5.89	7.10	437
February	10.6	7.06	8.19	471
March	29.8	7.92	18.4	1,130
April	53.9	22.0	29.7	1,770
May	69.5	37.0	50.0	3,070
June	43.0	22.8	34.7	2,060
July	23.1	14.2	18.3	1,130
August	15.4	10.1	13.0	799
September	10.8	8.88	9.65	574
The year	69.5	5.89	17.8	12,900
1916–17				
October	12.0	9.16	10.0	615
November	9.45	8.27	8.86	527
December	7.57	5.89	7.25	446
January	7.60	5.10	6.81	419
February	7.28	4.08	6.53	363
March	12.6	6.44	7.65	470
April	46.5	9.37	23.1	1,370
May	96.9	31.6	61.2	3,760
June	105	54.4	79.8	4,750
July	51.0	23.2	33.1	2,040
August	21.6	15.4	18.2	1,120
September	15.6	11.9	13.2	786
The year	105	4.08	23.0	16,700
1917–18				
October	11.6	10.2	11.0	676
November	10.2	8.32	9.15	544
December	9.32	7.54	8.62	530
January	8.27	3.79	8.08	497
February	8.11	6.97	7.61	423
March	18.4	7.25	12.4	762
April	24.2	14.1	18.6	1,110
May	49.0	28.0	37.4	2,300
June	31.4	18.1	25.7	1,530
July	17.3	11.6	14.7	904
August	12.5	8.65	10.3	633
September	9.81	7.15	8.81	524
The year	49.0	3.79	14.4	10,400
1918–19				
October	8.75	7.81	8.22	505
November	8.20	7.29	7.81	465
December	7.59	7.03	7.24	445
January	6.93	6.37	6.53	402
February	7.30	6.01	6.43	357
March	14.3	6.00	8.65	532
April	40.2	13.7	22.7	1,350
May	57.8	38.2	48.3	2,970
June	40.2	20.2	28.6	1,700
July	21.8	11.1	17.3	1,060
August	13.4	9.30	11.0	676
September	11.8	7.46	9.59	571
The year	57.8	6.00	15.2	11,000
1919–20				
October	10.6	8.81	9.68	595
November	10.6	8.43	9.42	561
December	6.38	5.53	6.10	375
January	8.10	4.20	6.57	404
February	7.80	7.00	7.66	441
March	11.2	5.90	7.70	473
April	28.0	10.9	20.2	1,200
May	95.2	32.7	51.2	3,150
June	65.1	27.0	43.2	2,570
July	26.0	16.4	20.3	1,250
August	16.4	12.0	13.8	848
September	11.5	9.50	10.7	637
The year	95.2	4.20	17.2	12,500
1920–21				
October	10.8	8.90	9.38	577
November	8.90	8.90	8.90	530
December	8.90	8.30	8.73	537
January	8.60	8.30	8.55	526
February	18.3	8.20	10.7	594
March	29.6	19.2	23.5	1,440
April	41.8	23.2	35.4	2,110
May	163	45.5	97.2	5.980
June	81.3	47.4	65.0	3,870
July	45.2	21.2	30.2	1,860
August	21.2	15.2	17.9	1,100
September	15.9	11.5	13.0	774
The year	163	8.2	27.5	19,900

Monthly discharge of City Creek near Salt Lake City, Utah, 1913–33—Continued

Month	Discharge in second-feet: Maximum	Discharge in second-feet: Minimum	Discharge in second-feet: Mean	Runoff in acre-feet
1921–22				
October	12.0	10.7	11.3	695
November	10.7	10.3	10.4	619
December	10.2	9.20	9.55	587
January	9.50	8.30	8.75	538
February	8.90	4.50	8.05	447
March	23.0	8.20	11.2	689
April	72.0	14.0	29.8	1,770
May	118	54.5	82.5	5,070
June	104	39.3	70.4	4,190
July	37.2	19.5	25.8	1,590
August	19.6	13.8	16.2	996
September	13.4	9.56	10.9	649
The year	118	4.50	24.6	17,800
1922–23				
October	10.8	8.85	9.75	600
November	10.9	8.51	9.73	579
December	9.06	7.09	8.48	521
January	8.60	7.70	8.07	496
February	8.90	7.70	7.99	444
March	16.3	7.70	8.78	540
April	38.3	14.9	25.6	1,520
May	96.8	29.8	69.7	4,290
June	66.3	32.2	48.3	2,870
July	31.2	17.9	23.2	1,430
August	18.6	13.7	16.3	1,000
September	15.3	11.3	12.8	762
The year	96.8	7.09	20.8	15,100
1923–24				
October	13.4	9.00	11.6	713
November	11.7	9.10	10.7	637
December	10.8	9.10	9.92	610
January	9.70	9.10	9.36	576
February	10.2	8.90	9.40	541
March	10.3	9.10	9.62	592
April	23.2	9.90	18.8	1,120
May	38.6	24.4	32.9	2,020
June	28.7	13.6	17.8	1,060
July	13.8	9.70	11.8	726
August	11.8	7.40	8.58	528
September	8.00	6.90	7.34	437
The year	38.6	6.90	13.2	9.560
1924–25				
October	8.00	6.40	7.20	443
November	8.40	7.10	7.70	458
December	7.70	3.50	7.02	432
January	7.20	6.70	6.95	427
February	9.50	7.10	8.24	458
March	14.0	8.50	11.1	682
April	34.2	16.0	24.2	1,440
May	53.1	31.2	43.9	2,700
June	35.2	20.4	26.7	1,590
July	18.9	11.0	15.0	922
August	12.3	9.00	10.5	646
September	10.9	8.00	8.84	526
The year	53.1	3.50	14.8	10,700

Month	Discharge in second-feet: Maximum	Discharge in second-feet: Minimum	Discharge in second-feet: Mean	Runoff in acre-feet
1925–26				
October	8.60	7.30	7.86	483
November	8.10	7.00	7.27	433
December	7.50	6.90	7.06	434
January	6.90	6.40	6.75	415
February	7.20	6.30	6.84	380
March	12.6	7.80	10.5	646
April	52.6	10.6	31.0	1,840
May	54.0	30.7	42.7	2,630
June	30.7	17.1	22.3	1,330
July	16.8	12.0	14.3	879
August	11.9	8.80	10.5	646
September	9.90	8.80	9.32	555
The year	54.0	6.30	14.7	10,700
1926–27				
October	11.5	9.00	9.70	596
November	9.80	8.90	9.38	558
December	9.90	7.20	8.60	529
January	8.10	6.30	7.27	447
February	8.30	6.80	7.30	405
March	14.9	7.90	9.93	611
April	39.8	14.1	19.2	1,140
May	79.3	34.2	49.4	3,040
June	63.2	29.3	46.8	2,780
July	28.4	19.0	22.3	1,370
August	17.9	15.2	16.3	1,000
September	15.2	13.1	14.1	839
The year	79.3	6.30	18.4	13,300
1927–28				
October	14.5	11.5	12.6	775
November	10.2	9.10	9.61	572
December	9.10	8.10	8.54	525
January	9.00	8.00	8.35	513
February	9.30	8.00	8.40	483
March	22.1	8.10	13.3	818
April	35.5	17.6	21.0	1,250
May	121	53.1	70.4	4,330
June	50.1	18.4	29.3	1,740
July	21.0	12.1	15.6	959
August	13.7	10.1	11.4	701
September	10.0	8.40	9.17	546
The year	121	8.00	18.2	13,200
1928–29				
October	11.6	7.40	8.68	534
November	9.50	6.80	8.26	492
December	8.80	7.10	7.97	490
January	7.80	7.30	7.55	464
February	7.90	6.60	7.30	405
March	17.6	7.10	10.6	652
April	31.7	13.1	22.0	1,310
May	100	28.4	63.4	3,900
June	63.9	34.4	49.8	2,960
July	33.4	19.1	24.5	1,510
August	19.4	15.3	17.8	1,090
September	14.5	12.9	13.9	827
The year	100	6.60	20.2	14,600

Monthly discharge of City Creek near Salt Lake City, Utah, 1913–33—Continued

Month	Discharge in second-feet			Runoff in acre-feet	Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean			Maximum	Minimum	Mean	
1929–30					**1931–32**				
October	15.0	12.4	13.1	806	October	6.6	6.3	6.38	392
November	13.0	8.90	12.1	720	November	6.4	5.8	6.09	362
December	8.80	8.40	8.57	527	December	6.1	5.8	5.92	364
January	8.50	7.20	8.01	493	January	6.0	5.2	5.72	352
February	9.10	7.70	8.12	451	February	9.3	5.3	6.22	358
March	9.50	8.00	8.70	535	March	12.1	6.5	8.05	495
April	21.1	8.60	14.0	833	April	32.8	9.8	20.4	1,210
May	26.5	17.7	22.4	1,380	May	78.8	24.0	53.9	3,310
June	22.6	12.3	16.2	964	June	54.9	27.9	38.6	2,300
July	14.5	9.30	10.9	670	July	27.8	12.9	17.6	1,080
August	10.3	8.30	9.10	560	August	13.7	8.9	11.1	682
September	11.4	8.40	8.99	535	September	9.5	7.3	8.51	506
The year	26.5	7.20	11.7	8,470	The year	78.8	5.2	15.7	11,400
1930–31					**1932–33**				
October	8.40	7.80	8.02	493	October	9.2	4.0	7.9	486
November	8.20	6.80	7.26	432	November	8.5	7.1	7.66	456
December	7.10	6.40	6.78	417	December	8.2	5.8	7.31	449
January	7.0	6.5	6.76	416	January	7.8	6.5	7.20	443
February	7.0	6.3	6.65	369	February	7.7	6.0	6.93	385
March	7.2	6.1	6.58	405	March	11.9	6.5	8.25	507
April	11.8	7.8	9.85	586	April	18.9	8.7	12.5	744
May	21.2	12.2	17.6	1,080	May	62.3	16.7	28.9	1,780
June	15.1	10.2	12.3	732	June	80.7	23.2	47.6	2,830
July	10.0	8.1	8.87	545	July	25.6	13.0	16.3	1,000
August	8.0	6.9	7.18	441	August	13.5	10.1	11.2	689
September	6.9	6.3	6.51	387	September	12.2	8.0	9.17	546
The year	21.2	6.1	8.71	6,300	The year	80.7	4.0	14.2	10,300

EMIGRATION CREEK NEAR SALT LAKE CITY, UTAH

Location.—In the SW¼NW¼ sec. 11, T. 1 S., R. 1 E., 4 miles southeast of Salt Lake City. From 1927 to 1933 an automatic water-stage recorder used with an 8-foot concrete rating flume. Prior to 1927 a staff gage was used with a 2.5-foot and a 5-foot Cippoletti weir.

Drainage area.—29 square miles.

Records available.—June 1900 to September 1933.

Remarks.—No regulation. The city obtains a part of its water supply from a spring above the gaging station. The water from this spring, ranging in flow between 1 second-foot and 2 second-feet, is taken out through a pipe line and is not included in the total runoff record. The city owns a part of the stream flow from Emigration Creek, all of which is used for irrigation. Records furnished by the city engineer of Salt Lake City, Utah.

Monthly discharge of Emigration Creek near Salt Lake City, Utah, 1912–33

Month	Discharge in second-feet			Runoff in acre-feet	Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean			Maximum	Minimum	Mean	
1912–13					**1912–13—Con.**				
October	4.57	3.16	3.61	222	June	14.8	7.62	11.2	666
November	4.15	3.54	3.72	221	July	10.9	6.39	7.40	455
December	3.16	2.26	2.84	175	August	6.39	2.26	3.86	237
January	2.26	.80	.97	60	September	5.91	2.60	4.04	240
February	4.15	.80	2.64	147					
March	16.1	3.54	5.25	323					
April	34.2	16.4	31.2	1,860	The year	34.2	.80	7.91	5,740
May	25.2	12.3	18.3	1,130					

Monthly discharge of Emigration Creek near Salt Lake City, Utah, 1912–33—Con.

Month	Discharge in second-feet Maximum	Minimum	Mean	Runoff in acre-feet
1913–14				
October	5.23	2.60	2.97	183
November	3.15	2.43	2.70	161
December	2.78	1.47	1.86	114
January	3.74	1.47	2.19	135
February	4.15	1.05	2.60	144
March	24.1	4.36	14.1	867
April	22.3	11.7	16.8	1,000
May	23.8	16.4	19.3	1,190
June	19.1	5.92	12.3	732
July	7.62	3.16	4.58	282
August	6.15	2.09	2.77	170
September	2.79	1.77	2.16	129
The year	24.1	1.05	7.00	5,110
1914–15				
October	5.23	1.93	2.83	174
November	1.93	1.11	1.57	93
December	2.43	1.47	1.78	109
January	1.62	.92	1.26	77
February	2.60	1.18	2.16	120
March	7.62	2.09	3.86	237
April	11.7	6.63	8.90	530
May	7.37	4.79	5.89	362
June	6.87	3.54	5.63	335
July	3.94	1.77	2.69	165
August	1.62	.68	1.09	67
September	1.46	.68	1.20	71
The year	11.7	.68	3.24	2,340
1915–16				
October	1.32	.92	1.20	74
November	2.09	.92	1.37	82
December	2.09	.80	1.26	77
January	2.43	.92	1.56	96
February	3.54	1.77	2.58	148
March	25.2	2.43	9.19	565
April	17.7	8.93	13.3	791
May	22.3	11.2	16.6	1,020
June	12.0	5.68	9.90	589
July	6.87	2.09	3.57	220
August	3.16	1.18	2.03	125
September	5.23	1.47	2.03	121
The year	25.2	.80	5.38	3,910
1916–17				
October	2.43	1.18	1.74	107
November	1.93	1.18	1.53	91
December	1.77	.92	1.44	89
January	1.62	1.32	1.50	92
February	1.71	.68	1.24	69
March	1.12	.57	.78	48
April	64.1	1.47	20.0	1,190
May	46.4	30.6	37.1	2,280
June	36.1	15.1	23.9	1,420
July	14.8	7.37	10.0	615
August	7.88	4.15	5.64	347
September	5.80	3.16	4.36	259
The year	64.1	.57	9.13	6,610
1917–18				
October	4.79	2.09	2.88	177
November	3.54	1.93	2.62	156
December	3.15	1.77	2.36	145
January	3.15	1.61	1.92	118
February	2.43	1.61	2.01	112
March	24.0	1.93	9.89	608
April	25.2	11.2	14.7	875
May	12.3	7.88	10.1	621
June	9.47	3.54	5.78	344
July	6.87	1.93	3.77	232
August	3.15	1.61	2.06	127
September	4.78	1.18	2.31	137
The year	25.2	1.18	5.04	3,650
1918–19				
October	3.54	1.61	2.22	136
November	2.79	1.62	2.05	122
December	2.26	1.32	1.81	111
January	1.62	1.05	1.40	86
February	3.16	.80	1.32	73
March	15.1	.68	4.48	275
April	22.6	11.2	16.4	976
May	16.4	6.87	10.5	646
June	8.93	3.35	4.99	297
July	4.79	1.05	2.62	161
August	3.54	.68	1.13	69
September	7.88	.68	1.70	101
The year	22.6	.68	4.22	3,050
1919–20				
October	3.94	1.62	2.57	158
November	2.09	.68	1.63	97
December	1.77	.92	1.33	82
January	1.93	1.18	1.30	80
February	2.61	1.18	1.87	108
March	6.87	1.93	3.89	239
April	45.7	5.80	26.5	1,580
May	54.8	31.4	41.8	2,570
June	12.3	9.20	10.8	643
July	8.93	3.16	5.98	368
August	7.12	2.97	3.94	242
September	5.23	1.32	3.07	183
The year	54.8	.68	8.74	6,350
1920–21				
October	3.35	1.62	2.48	152
November	3.16	.92	2.03	121
December	2.61	.92	1.82	112
January	2.43	1.32	1.59	98
February	23.6	2.09	4.77	265
March	53.3	14.8	33.1	2,040
April	52.5	33.1	45.8	2,730
May	69.7	35.8	51.6	3,170
June	40.8	25.2	32.5	1,930
July	17.0	9.70	12.2	750
August	48.6	6.40	10.1	621
September	6.39	5.23	5.81	346
The year	69.7	.92	17.0	12,300

Monthly discharge of Emigration Creek near Salt Lake City, Utah, 1912–33—Con.

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1921–22				
October	5.23	4.79	4.99	307
November	5.01	4.42	4.81	286
December	7.12	3.94	5.01	308
January	5.45	3.16	4.02	247
February	4.15	.80	2.49	138
March	15.8	.80	6.75	415
April	110	14.8	41.4	2,460
May	99.0	38.5	74.4	4,570
June	38.0	18.1	26.5	1,580
July	17.7	7.12	11.6	713
August	6.87	4.15	4.85	298
September	4.15	1.93	2.79	166
The year	110	.80	15.9	11,500
1922–23				
October	2.26	1.77	2.04	125
November	2.26	1.93	2.12	126
December	2.97	1.93	2.37	146
January	2.40	1.90	2.14	132
February	1.90	1.50	1.61	89
March	21.6	1.60	4.98	306
April	35.9	15.4	27.0	1,610
May	48.4	19.1	32.1	1,970
June	19.8	8.70	12.6	750
July	8.70	3.50	5.50	338
August	3.70	2.60	3.29	202
September	5.20	2.10	3.85	229
The year	48.4	1.50	8.32	6,020
1923–24				
October	5.20	2.30	3.26	200
November	2.30	1.60	2.14	127
December	1.60	1.00	1.54	95
January	1.80	1.60	1.64	101
February	2.80	1.50	2.02	116
March	3.00	1.90	2.25	138
April	14.8	2.80	10.2	607
May	9.50	5.70	8.11	499
June	5.20	3.50	4.19	249
July	4.20	.80	1.56	96
August	.80	.50	.60	37
September	.60	.50	.54	32
The year	14.8	.50	3.16	2,300
1924–25				
October	1.20	.60	1.00	61
November	1.30	1.20	1.28	76
December	1.30	1.00	1.12	69
January	3.10	3.10	3.10	191
February	4.40	3.10	3.55	197
March	17.0	4.70	10.1	621
April	17.3	15.5	16.6	988
May	16.0	11.3	14.1	867
June	11.0	7.00	9.48	564
July	7.00	5.10	6.16	379
August	4.80	3.70	4.23	260
September	3.70	3.60	3.63	216
The year	17.3	.60	6.20	4,490

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1925–26				
October	3.70	3.50	3.64	224
November	3.60	3.50	3.56	212
December	4.90	2.60	3.32	204
January	1.80	1.30	1.47	90
February	1.60	1.00	1.50	83
March	8.90	2.10	5.56	342
April	50.1	7.10	22.9	1,360
May	15.4	8.90	12.5	769
June	8.70	3.70	5.20	309
July	3.70	2.30	3.03	186
August	1.90	1.30	1.50	92
September	1.30	.80	1.14	68
The year	50.1	.80	5.44	3,940
1926–27				
October	1.60	.80	1.39	85
November	1.60	1.60	1.60	95
December	1.60	1.10	1.48	91
January	2.60	2.60	2.60	160
February	3.40	2.60	2.77	154
March	15.7	3.60	7.78	478
April	27.8	14.7	18.9	1,120
May	28.2	15.9	22.8	1,400
June	18.2	8.70	13.4	797
July	8.70	4.80	6.68	411
August	5.40	4.40	4.77	293
September	4.40	3.70	4.00	238
The year	28.2	.80	7.36	5,320
1927–28				
October	3.90	3.70	3.73	229
November	4.50	4.30	4.39	261
December	4.40	3.20	4.28	263
January	2.70	2.50	2.63	162
February	2.70	2.60	2.68	154
March	35.8	4.30	13.2	812
April	35.1	15.5	20.7	1,230
May	33.5	14.4	20.3	1,250
June	13.5	9.10	11.3	672
July	8.30	4.10	5.98	368
August	4.40	2.90	3.46	213
September	3.10	2.80	2.92	174
The year	35.8	2.50	7.97	5,790
1928–29				
October	3.70	3.10	3.33	205
November	4.10	3.10	3.46	206
December	3.70	2.90	3.10	191
January	2.90	2.90	2.90	178
February	3.20	2.20	2.84	158
March	18.4	2.80	8.15	501
April	58.1	13.7	29.2	1,740
May	55.2	11.8	33.6	2,070
June	20.1	12.7	16.4	976
July	11.5	8.00	9.44	580
August	8.60	6.20	7.59	467
September	9.80	6.10	7.45	443
The year	58.1	2.20	10.6	7,720

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Monthly discharge of Emigration Creek near Salt Lake City, Utah, 1912–33—Con.

Month	Discharge in second-feet			Runoff in acre-feet	Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean			Maximum	Minimum	Mean	
1929–30					1931–32				
October	7.50	5.60	6.10	375	October	1.6	1.6	1.6	98
November	6.50	4.80	5.30	315	November	1.9	1.6	1.79	107
December	5.30	4.30	4.90	301	December	1.8	1.6	1.68	103
January	4.30	3.90	4.13	254	January	1.9	1.6	1.74	107
February	5.60	3.90	4.45	247	February	1.9	1.7	1.81	104
March	5.80	3.10	4.58	282	March	14.6	1.9	4.59	282
April	11.3	5.10	7.30	434	April	36.0	16.6	24.3	1,450
May	6.40	5.00	5.61	345	May	27.6	15.6	21.1	1,300
June	4.80	3.00	3.87	230	June	16.4	6.0	9.95	592
July	4.80	2.30	2.69	165	July	6.0	4.5	5.43	334
August	2.90	2.10	2.34	144	August	4.6	3.1	3.67	226
September	7.20	2.00	2.81	167	September	3.8	2.8	3.00	179
The year	11.3	2.00	4.50	3,260	The year	36.0	1.6	6.71	4,880
1930–31					1932–33				
October	3.70	3.10	3.34	205	October	3.5	2.6	2.79	172
November	3.60	2.80	3.21	191	November	2.9	2.7	2.82	168
December	2.80	2.30	2.61	160	December	2.8	2.2	2.43	149
January	2.6	2.3	2.49	153	January	2.5	2.1	2.33	143
February	3.0	2.6	2.79	155	February	2.5	2.4	2.45	136
March	3.9	3.0	3.47	213	March	11.7	2.4	3.78	232
April	8.2	4.3	5.02	299	April	24.5	8.4	14.5	863
May	6.0	4.5	4.87	299	May	34.3	18.8	24.3	1,490
June	4.4	2.1	3.31	197	June	21.0	7.8	12.9	768
July	2.3	1.9	2.00	123	July	8.1	4.4	6.03	371
August	2.0	1.6	1.85	114	August	4.4	3.2	3.62	223
September	1.8	1.6	1.66	99	September	3.2	2.7	2.87	171
The year	8.20	1.6	3.05	2,210	The year	34.3	2.1	6.75	4,890

PARLEYS CREEK NEAR SALT LAKE CITY, UTAH

LOCATION.—A 10-foot concrete rating flume and water-stage recorder in SW¼ sec. 24, T. 1 S., R. 1 E., and a 5-foot Cippoletti weir and water-stage recorder at the intake of Parleys High line conduit, corrected for storage at Mountain Dell Reservoir. Prior to 1931, a hook gage and 10-foot Cippoletti weir in the northwest corner of sec. 25, T. 1 S., R. 1 E., at mouth of canyon above city waterworks intake and 6 miles southeast of Salt Lake City.

DRAINAGE AREA.—50.1 square miles.

RECORDS AVAILABLE.—August 1898 to September 1933.

REMARKS.—Since 1917, flow regulated by Mountain Dell Reservoir, owned by Salt Lake City Corporation. Parleys surplus ditch diverts water about 1 mile above the weir, and its flow is included in the records. Prior to 1921 the flow was not corrected for storage in Mountain Dell Reservoir. Records furnished by the city engineer of Salt Lake City, Utah.

Monthly discharge of Parleys Creek near Salt Lake City, Utah, 1913–33

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1913–14				
October	20.0	13.1	15.0	922
November	13.4	10.4	12.4	738
December	11.9	7.76	10.7	658
January	16.4	5.14	12.1	744
February	17.7	6.48	12.6	700
March	50.9	13.9	31.2	1,920
April	110	36.1	77.6	4,620
May	139	65.3	100	6,150
June	81.9	31.7	59.3	3,530
July	31.3	23.8	27.0	1,660
August	26.0	14.5	17.5	1,080
September	15.8	12.8	14.0	833
The year	139	5.14	32.5	23,600
1914–15				
October	21.0	12.8	14.9	916
November	15.8	6.95	11.8	702
December	16.4	4.30	10.3	633
January	12.6	6.53	10.5	646
February	12.2	9.22	10.7	594
March	30.1	9.22	14.8	910
April	61.6	23.7	44.5	2,650
May	37.5	27.4	31.6	1,940
June	42.8	22.4	31.6	1,880
July	22.4	13.6	16.9	1,040
August	14.2	10.2	12.0	738
September	15.5	9.98	12.3	732
The year	61.6	4.30	18.5	13,400
1915–16				
October	11.1	9.97	10.5	646
November	12.5	7.69	10.2	607
December	12.2	3.64	8.97	552
January	11.1	7.14	9.18	564
February	13.9	9.20	11.3	650
March	77.4	13.8	39.7	2,440
April	118	46.2	69.0	4,110
May	129	58.0	82.6	5,080
June	67.1	34.6	45.3	2,700
July	29.0	16.7	22.3	1,370
August	22.0	11.9	15.8	972
September	13.0	11.1	11.9	708
The year	129	3.64	28.1	20,400
1916–17				
October	16.7	11.6	12.9	793
November	12.2	4.08	10.8	643
December	11.3	4.74	9.08	558
January	11.4	3.00	8.54	525
February	13.7	7.14	9.86	548
March	24.9	7.86	11.1	682
April	230	15.2	60.9	3,620
May	242	78.5	150	9,220
June	193	55.0	129	7,680
July	53.2	29.0	37.2	2,290
August	27.8	16.1	21.3	1,310
September	16.4	14.6	15.7	934
The year	242	3.00	39.8	28,800
1917–18				
October	15.7	11.5	13.6	836
November	12.1	9.34	10.8	643
December	11.8	11.1	11.2	689
January	11.1	11.1	11.1	682
February	14.6	5.68	11.4	633
March	47.1	11.3	24.1	1,480
April	74.6	33.9	45.1	2,680
May	55.4	29.4	43.3	2,660
June	35.8	22.1	27.2	1,620
July	26.8	13.8	18.3	1,130
August	14.6	8.87	11.4	701
September	18.4	7.67	12.1	720
The year	74.6	5.68	20.0	14,500
1918–19				
October	13.9	10.1	11.4	701
November	13.5	6.48	10.1	601
December	11.4	6.49	9.07	558
January	7.11	4.14	5.49	338
February	6.84	4.57	6.05	336
March	29.1	5.42	12.8	778
April	86.9	21.5	48.6	2,890
May	55.6	30.0	38.2	2,350
June	36.9	18.3	26.7	1,590
July	21.7	12.8	17.3	1,060
August	18.3	9.40	14.5	892
September	17.6	8.40	13.0	774
The year	86.9	4.14	17.8	12,900
1919–20				
October	14.5	6.00	8.59	528
November	18.0	6.02	9.63	573
December	21.7	8.90	12.8	787
January	13.4	7.40	9.52	585
February	13.0	7.90	10.6	610
March	24.8	10.2	16.1	990
April	133	18.1	66.4	3,950
May	213	136	172	10,600
June	143	39.3	83.6	4,970
July	39.4	20.5	29.1	1,790
August	29.7	16.7	22.0	1,350
September	18.8	15.5	17.4	1,040
The year	213	6.00	38.2	27,800
1920–21				
October	16.5	16.5	16.5	1,010
November	16.2	16.2	16.2	964
December	14.1	14.1	14.1	867
January	14.1	14.1	14.1	867
February	24.8	13.4	19.2	1,070
March	82.6	54.3	68.4	4,210
April	114	89.4	106	6,310
May	230	179	203	12,500
June	166	67.1	116	6,900
July	47.3	33.1	39.3	2,420
August	36.8	19.5	25.3	1,560
September	20.7	17.4	19.3	1,150
The year	230	13.4	55.0	39,800

Monthly discharge of Parleys Creek near Salt Lake City, Utah, 1913–33—Con.

Month	Discharge in second-feet			Runoff in acre-feet	Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean			Maximum	Minimum	Mean	
1921–22					1924–25				
October	17.9	15.7	16.8	1,030	October	8.20	6.20	7.51	462
November	15.9	14.8	15.5	922	November	8.50	7.00	7.88	469
December	19.6	12.2	15.3	941	December	11.7	6.70	8.36	514
January	17.6	3.99	12.9	793	January	8.30	7.60	7.85	483
February	17.7	7.73	13.3	739	February	10.4	7.20	8.90	494
March	39.8	12.2	22.5	1,380	March	44.6	10.0	20.8	1,280
April	216	39.4	87.3	5,190	April	52.4	29.8	39.3	2,340
May	317	166	234	14,400	May	64.7	38.8	52.8	3,250
June	171	49.8	105	6,250	June	50.0	12.6	32.9	1,960
July	41.8	29.0	37.1	2,280	July	21.9	14.3	17.1	1,050
August	31.5	17.8	24.2	1,490	August	15.6	9.70	13.0	799
September	24.9	11.8	17.5	1,040	September	9.30	7.10	8.54	508
The year	317	3.99	50.4	36,500	The year	64.7	6.20	18.8	13,600
1922–23					1925–26				
October	25.7	13.4	17.5	1,080	October	10.0	8.80	9.21	566
November	16.1	12.8	14.8	881	November	10.3	7.50	8.27	492
December	15.8	12.0	13.8	848	December	11.2	5.30	7.31	449
January	16.4	13.4	14.1	867	January	7.00	5.50	6.17	379
February	13.1	11.0	12.1	672	February	9.00	7.00	7.82	434
March	25.3	14.2	17.3	1,060	March	22.1	10.1	15.5	953
April	109	28.1	68.2	4,060	April	74.7	16.5	52.6	3,130
May	245	107	153	9,410	May	65.0	25.7	43.9	2,700
June	112	35.3	68.8	4,090	June	23.5	13.7	19.2	1,140
July	31.3	21.1	26.3	1,620	July	18.2	9.40	13.2	812
August	31.2	12.8	19.2	1,180	August	10.3	5.40	7.77	478
September	23.8	9.90	14.3	851	September	15.2	7.00	8.43	502
The year	245	9.90	36.7	26,600	The year	74.7	5.30	16.6	12,000
1923–24					1926–27				
October	16.7	11.8	14.0	861	October	11.1	7.40	8.39	516
November	11.8	10.4	11.1	660	November	13.9	7.40	8.79	523
December	10.9	8.80	9.98	614	December	9.50	5.70	7.26	446
January	9.10	7.90	8.62	530	January	8.70	6.30	7.62	469
February	11.8	10.0	10.7	616	February	10.0	6.40	8.49	472
March	11.2	9.70	10.3	633	March	37.0	11.1	17.2	1,060
April	51.8	12.2	32.6	1,940	April	129	22.0	56.3	3,350
May	57.1	21.6	32.4	1,990	May	124	61.6	90.8	5,580
June	21.7	11.6	14.8	881	June	70.5	35.1	51.8	3,080
July	15.5	5.60	10.2	627	July	33.7	16.5	24.0	1,480
August	8.90	5.50	7.44	457	August	17.3	13.0	15.7	965
September	7.60	5.30	6.57	391	September	13.8	12.6	13.2	786
The year	57.1	5.30	14.0	10,200	The year	129	5.70	25.8	18,700

Monthly discharge of Parleys Creek near Salt Lake City, Utah, 1913–33—Con.

Month	Discharge in second-feet			Runoff in acre-feet	Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean			Maximum	Minimum	Mean	
1927–28					1930–31				
October	13.1	13.0	13.0	799	October	10.2	8.60	9.20	566
November	12.8	12.7	12.7	756	November	9.80	5.40	7.70	458
December	10.5	10.4	10.5	646	December	7.70	5.70	6.62	407
January	10.9	9.10	10.2	627	January	8.2	6.2	6.93	426
February	10.9	9.40	10.2	587	February	9.6	6.2	7.24	402
March	59.1	10.4	29.6	1,820	March	11.7	6.3	8.87	545
April	128	37.3	59.1	3,520	April	23.6	10.5	16.4	976
May	129	57.5	92.8	5,710	May	33.5	13.7	22.5	1,380
June	50.9	17.0	29.1	1,730	June	15.4	8.2	11.2	666
July	22.8	17.1	20.1	1,240	July	11.8	8.0	8.39	516
August	13.3	10.4	12.2	750	August	8.4	5.2	5.81	357
September	11.8	10.3	10.8	643	September	7.4	4.4	5.01	298
The year	129	9.10	25.9	18.800	The year	33.5	4.40	9.67	7,000
1928–29					1931–32				
October	11.7	10.6	11.2	689	October	6.2	5.2	5.63	346
November	9.90	9.00	9.55	568	November	7.7	3.2	5.25	312
December	9.60	8.40	9.03	555	December	6.7	5.0	6.05	372
January	8.50	7.60	8.05	495	January	5.9	3.8	5.47	336
February	9.60	1.50	7.82	434	February	7.1	6.0	6.41	369
March	39.5	9.40	19.2	1,180	March	17.2	7.2	12.1	744
April	133	33.2	74.5	4.430	April	101	25.3	60.7	3,610
May	156	74.6	120	7.380	May	147	52.0	99.6	6,120
June	80.3	36.3	56.8	3,380	June	62.8	26.6	43.7	2,600
July	32.2	17.2	25.8	1,590	July	26.0	14.0	18.0	1,110
August	21.8	17.3	18.6	1,140	August	14.3	12.0	12.7	781
September	20.5	13.9	17.6	1,050	September	11.3	10.0	10.6	631
The year	156	1.50	31.6	22,900	The year	147	3.2	23.9	17,300
1929–30					1932–33				
October	18.9	11.4	15.5	953	October	10.5	10.4	10.4	640
November	12.8	9.20	10.9	649	November	9.8	8.2	9.03	537
December	11.9	5.30	9.10	560	December	8.1	6.3	6.98	429
January	9.00	8.00	8.45	520	January	5.8	4.3	4.85	298
February	10.9	9.50	10.1	561	February	7.9	4.2	6.54	363
March	17.4	9.90	12.6	775	March	13.4	8.7	11.3	695
April	41.4	9.00	28.3	1,680	April	61.2	19.3	31.4	1,870
May	28.7	16.6	22.6	1,390	May	122	46.6	79.2	4,870
June	19.6	7.20	14.0	833	June	114	25.2	56.3	3,350
July	20.0	9.40	12.2	750	July	26.5	10.9	17.4	1,070
August	13.1	8.60	10.4	640	August	10.4	9.2	9.97	613
September	15.0	7.30	10.1	601	September	10.3	8.4	9.44	562
The year	41.4	5.30	13.7	9,910	The year	122	4.2	21.1	15,300

MILL CREEK NEAR SALT LAKE CITY, UTAH

LOCATION.—Near mouth of canyon, a 9-foot rating flume a quarter of a mile above lower power plant in SW¼NW¼ sec. 31, T. 1 S., R. 2 E., and a 10-foot suppressed weir in power-plant tailrace in SE¼NE¼ sec. 36, T. 1 S., R. 1 E. From 1915 to 1928, inclusive, a 10-foot rectangular weir in creek below power plant and a 5-foot rectangular weir in power-plant tailrace. Prior to 1915, a 12-foot Cippoletti weir in creek. A carpenter's rule used to obtain gage heights in creek prior to 1930 and a hook gage in tailrace prior to 1931, after which water-stage recorders were used.

DRAINAGE AREA.—21.3 square miles.

RECORDS AVAILABLE.—November 1898 to September 1933.

REMARKS.—No regulation. Records include flow through power plant and give total runoff for drainage area. Records furnished by the City Engineer of Salt Lake City, Utah.

Monthly discharge of Mill Creek near Salt Lake City, Utah, 1913–33

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1913–14				
October	15.0	13.3	13.9	855
November	13.6	12.3	13.2	786
December	13.2	12.0	12.9	793
January	13.0	11.8	12.7	781
February	12.7	11.9	12.2	678
March	21.3	12.7	17.0	1,050
April	40.5	18.9	29.3	1,740
May	73.6	33.8	54.6	3,360
June	59.7	27.3	41.0	2,440
July	28.6	21.6	24.7	1,520
August	24.4	17.8	19.4	1,190
September	19.6	17.8	18.4	1,090
The year	73.6	11.8	22.5	16,300
1914–15				
October	18.4	11.6	14.3	879
November	14.0	12.4	13.2	786
December	13.2	9.67	11.8	726
January	10.3	7.14	9.00	553
February	10.3	8.05	9.03	502
March	11.0	8.36	9.76	600
April	24.8	10.3	16.2	964
May	32.2	19.6	24.7	1,520
June	29.3	19.6	24.8	1,480
July	20.5	14.5	17.4	1,070
August	14.5	12.0	13.5	830
September	14.5	11.6	12.6	750
The year	32.2	7.14	14.7	10,700
1915–16				
October	11.6	10.3	11.0	676
November	11.0	9.63	10.3	613
December	10.3	9.63	10.0	615
January	9.63	8.35	8.73	537
February	10.3	8.35	9.41	541
March	16.8	9.96	13.8	848
April	28.8	16.8	19.7	1,170
May	43.2	22.2	35.2	2,160
June	38.6	22.2	32.0	1,900
July	22.2	16.8	19.0	1,170
August	18.0	14.5	15.6	959
September	14.9	12.0	12.9	768
The year	43.3	8.35	16.5	12,000

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1916–17				
October	12.4	11.3	12.1	744
November	12.4	7.74	10.0	595
December	10.3	8.00	9.16	563
January	8.35	6.84	7.75	477
February	8.35	7.74	7.09	394
March	6.84	3.65	5.84	359
April	34.6	6.27	15.2	904
May	45.4	21.3	35.2	2,160
June	53.6	36.6	45.0	2,680
July	32.6	23.0	26.2	1,610
August	23.0	16.8	19.5	1,200
September	16.8	14.5	15.2	904
The year	53.6	3.65	17.4	12,600
1917–18				
October	13.8	11.0	12.2	750
November	11.7	10.6	11.0	655
December	10.6	10.3	10.3	633
January	10.3	5.99	8.55	526
February	9.63	8.35	8.68	482
March	16.6	10.0	12.9	793
April	16.0	11.6	14.4	857
May	34.6	16.0	25.7	1,580
June	36.6	19.2	26.7	1,590
July	18.8	13.1	16.3	1,000
August	13.1	11.6	12.4	762
September	18.0	11.0	11.6	690
The year	36.6	5.99	14.2	10,300
1918–19				
October	11.3	8.98	9.91	609
November	9.31	5.44	8.31	494
December	9.31	7.74	8.40	516
January	7.14	5.99	6.36	391
February	6.56	2.53	5.93	329
March	8.99	5.44	6.37	392
April	24.8	9.63	15.2	904
May	45.4	28.4	27.5	1,690
June	30.2	17.2	22.6	1,340
July	16.8	13.4	14.9	916
August	13.4	11.0	12.3	756
September	12.4	11.0	11.1	660
The year	45.4	2.53	12.4	9,000

Monthly discharge of Mill Creek near Salt Lake City, Utah, 1913–33—Continued

Month	Discharge in second-feet			Runoff in acre-feet	Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean			Maximum	Minimum	Mean	
1919–20					1923–24				
October	11.3	9.31	10.4	640	October	17.2	11.0	13.0	799
November	9.45	5.99	8.90	530	November	11.0	9.00	9.66	575
December	8.99	5.71	7.10	437	December	9.30	8.00	8.73	537
January	5.71	4.91	5.35	329	January	8.40	7.40	7.96	489
February	7.74	5.44	6.47	372	February	10.3	7.70	8.94	514
March	8.05	4.14	6.92	425	March	9.60	8.00	8.47	521
April	27.9	5.99	15.2	904	April	11.7	8.40	10.1	601
May	66.4	27.9	42.1	2,590	May	32.6	11.7	24.5	1,510
June	34.6	30.7	33.2	1,980	June	27.9	11.7	16.3	970
July	27.5	19.2	22.8	1,400	July	12.4	9.60	11.4	701
August	19.6	14.9	17.5	1,080	August	9.60	8.70	9.00	553
September	14.9	11.7	13.3	791	September	9.00	8.70	8.87	528
The year	66.4	4.14	15.8	11,500	The year	32.6	7.40	11.4	8.300
1920–21					1924–25				
October	12.0	11.0	11.2	689	October	9.00	7.10	8.52	524
November	11.3	9.63	10.4	619	November	8.70	7.10	7.64	455
December	9.63	6.56	7.79	479	December	7.40	6.80	7.01	431
January	7.40	6.30	6.88	423	January	6.80	6.00	6.35	390
February	11.7	5.40	8.08	449	February	7.10	6.00	6.55	364
March	21.3	16.1	18.6	1,140	March	10.6	6.60	8.28	509
April	27.0	21.3	23.3	1,390	April	16.8	10.3	12.2	726
May	95.0	28.4	60.5	3,720	May	35.3	16.8	28.3	1,740
June	104	38.6	68.6	4,080	June	34.1	20.1	27.1	1,610
July	35.1	24.3	29.1	1,790	July	20.1	12.7	15.6	959
August	24.8	20.0	22.7	1,400	August	12.7	10.3	11.2	689
September	21.3	16.8	18.7	1,110	September	10.6	9.00	9.54	568
The year	104	5.40	23.9	17,300	The year	35.3	6.00	12.4	8,960
1921–22					1925–26				
October	16.8	13.1	14.5	892	October	9.00	8.40	8.88	546
November	12.4	11.7	12.2	726	November	9.00	7.10	7.92	471
December	12.4	7.40	11.4	701	December	7.10	6.30	6.73	414
January	11.0	8.05	9.09	559	January	6.30	5.70	5.97	367
February	11.0	8.36	9.45	525	February	6.00	5.70	5.86	325
March	15.3	6.85	11.0	676	March	7.10	6.00	6.47	398
April	43.2	13.1	20.7	1,230	April	20.9	6.60	10.2	607
May	91.8	42.2	66.4	4,080	May	34.6	22.2	28.3	1,740
June	91.8	34.6	59.8	3,560	June	21.7	13.8	17.0	1,010
July	33.6	23.9	27.3	1,680	July	12.7	7.40	9.92	610
August	24.3	18.4	21.4	1,320	August	8.40	7.10	7.75	477
September	19.2	18.0	18.5	1,100	September	7.70	6.80	7.11	423
The year	91.8	6.85	23.5	17,000	The year	34.6	5.70	10.2	7,390
1922–23					1926–27				
October	17.2	11.7	13.6	836	October	7.70	6.60	7.25	446
November	15.3	11.3	12.5	744	November	7.90	5.70	6.66	396
December	15.3	13.1	14.1	867	December	5.70	4.10	5.01	308
January	13.4	10.6	11.9	732	January	5.70	1.20	4.45	274
February	11.3	8.70	10.3	572	February	7.90	3.40	5.70	317
March	11.0	9.60	10.3	633	March	10.1	5.50	7.32	450
April	23.4	13.8	17.5	1,040	April	29.2	9.70	15.6	928
May	--------	18.4	--------	--------	May	46.3	27.6	38.3	2,360
June	--------	32.2	--------	--------	June	59.6	36.4	45.8	2,730
July	32.2	21.3	24.9	1,530	July	36.8	21.1	26.3	1,620
August	21.7	20.0	20.4	1,250	August	20.6	15.7	18.3	1,130
September	20.0	17.2	18.4	1,090	September	15.7	12.4	14.0	833
The year	--------	8.70	--------	--------	The year	59.6	1.20	16.3	11,800

Monthly discharge of Mill Creek near Salt Lake City, Utah, 1913–33—Continued

Month	Discharge in second-feet			Runoff in acre-feet	Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean			Maximum	Minimum	Mean	
1927–28					1930–31				
October	14.0	12.4	13.2	812	October	11.9	9.80	11.1	682
November	14.4	13.2	13.8	821	November	10.5	7.60	9.55	568
December	12.4	7.20	9.17	564	December	12.1	6.80	9.01	554
January	8.90	7.90	8.49	522	January	9.7	9.1	9.60	590
February	8.80	7.90	8.49	488	February	10.3	8.5	9.72	540
March	16.6	8.20	10.6	652	March	10.6	8.0	9.75	600
April	25.7	9.90	14.7	875	April	13.9	8.6	12.1	720
May	66.6	25.7	48.0	2,950	May	23.2	10.7	15.4	947
June	41.4	20.3	28.4	1,690	June	12.1	7.9	9.91	590
July	23.1	16.1	19.0	1,170	July	9.8	8.2	8.99	553
August	17.9	13.2	15.4	947	August	8.4	6.4	7.13	438
September	13.6	12.3	12.9	768	September	7.1	6.2	6.67	397
The year	66.6	7.20	16.9	12,300	The year	23.2	6.2	9.92	7,180
1928–29					1931–32				
October	12.5	11.8	12.2	750	October	7.4	6.1	6.71	413
November	12.3	10.3	11.8	702	November	6.3	4.2	5.5	327
December	10.3	6.80	8.38	515	December	5.9	4.5	4.89	301
January	8.60	6.60	7.55	464	January	5.2	4.5	4.81	296
February	7.10	5.50	6.01	334	February	5.5	4.2	5.0	288
March	11.8	6.20	8.65	532	March	9.2	5.3	7.26	446
April	27.2	8.60	15.8	940	April	19.2	9.7	15.2	904
May	68.0	27.0	43.6	2,680	May	55.0	16.2	36.4	2,240
June	54.4	30.6	43.2	2,570	June	36.2	20.0	27.3	1,620
July	30.1	19.3	24.0	1,480	July	19.7	13.6	16.8	1,030
August	19.5	14.5	16.6	1,020	August	13.8	10.9	12.3	756
September	17.0	13.7	14.6	869	September	12.0	9.4	10.5	625
The year	68.0	5.50	17.8	12,900	The year	55.0	4.2	12.7	9,250
1929–30					1932–33				
October	11.7	7.20	9.74	599	October	9.8	7.8	9.09	559
November	11.2	8.40	9.81	584	November	9.2	7.8	8.52	507
December	11.7	6.30	9.88	608	December	8.6	6.6	7.24	445
January	7.90	5.60	6.63	408	January	7.4	7.0	7.29	448
February	9.10	5.90	7.12	395	February	7.3	6.5	7.09	394
March	11.3	8.40	10.0	615	March	8.8	6.7	7.38	454
April	19.4	9.90	14.2	845	April	15.2	8.2	10.4	619
May	24.0	15.2	19.0	1,170	May	41.7	14.3	20.3	1,250
June	22.2	11.8	15.8	940	June	57.1	20.3	36.7	2,180
July	12.0	10.1	10.6	652	July	19.8	14.0	16.9	1,040
August	12.2	9.10	10.2	627	August	14.0	11.5	12.6	775
September	12.3	8.50	10.2	607	September	10.9	9.9	10.1	601
The year	24.0	5.60	11.1	8,050	The year	57.1	6.5	12.8	9,270

BIG COTTONWOOD CREEK NEAR SALT LAKE CITY, UTAH

LOCATION.—At mouth of canyon in SW¼NE¼ sec. 25, T. 2 S., R. 1 E., 12 miles southeast of Salt Lake City, two adjustable 15-foot Cippoletti weirs and a water-stage recorder. Prior to 1908, a vertical graduated glass tube on lower side of dam used for gage heights.

DRAINAGE AREA.—48.5 square miles.

RECORDS AVAILABLE.—November 1898 to September 1933.

REMARKS.—Regulated during low water by Utah Power & Light Co.'s plant about a quarter of a mile above weirs. The Butler ditch, entitled to about 2 second-feet, diverts from left bank about three-quarters of a mile above weir and is not included in records. Records furnished by the city engineer of Salt Lake City, Utah.

Monthly discharge of Big Cottonwood Creek near Salt Lake City, Utah, 1912–33 [1]

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1912–13				
October	72.6	40.6	50.7	3,120
November	51.7	34.6	42.4	2,520
December	36.8	26.5	31.4	1,930
January	31.5	12.6	27.6	1,700
February	34.8	26.0	28.4	1,580
March	61.8	26.6	32.8	2,020
April	196	59.2	109	6,490
May	376	117	225	13,800
June	275	129	191	11,400
July	160	59.1	92.0	5,660
August	59.1	37.9	45.5	2,800
September	49.9	34.6	40.0	2,380
The year	376	12.6	76.6	55,500
1913–14				
October	52.9	36.2	43.2	2,660
November	38.4	19.7	30.5	1,810
December	31.0	21.4	27.4	1,680
January	29.5	20.0	25.7	1,580
February	31.5	20.0	22.8	1,270
March	70.9	25.6	45.5	2,800
April	167	46.9	107	6,370
May	438	102	295	18,100
June	423	181	276	16,400
July	216	97.8	130	7,990
August	79.4	39.8	55.5	3,410
September	48.1	31.5	42.9	2,550
The year	438	19.7	92.1	66,600
1914–15				
October	54.2	36.8	44.6	2,740
November	41.2	29.5	36.2	2,150
December	40.1	18.3	26.1	1,600
January	24.6	17.4	23.0	1,410
February	26.0	22.7	24.2	1,340
March	56.0	23.7	32.6	2,000
April	181	46.4	111	6,600
May	219	82.7	143	8,790
June	261	134	190	11,300
July	124	45.5	76.6	4,710
August	46.4	33.6	40.5	2,490
September	44.0	32.6	36.5	2,170
The year	261	17.4	65.3	47,300
1915–16				
October	38.7	28.2	32.0	1,970
November	36.8	27.5	30.5	1,810
December	39.2	20.5	26.5	1,630
January	31.5	17.0	26.3	1,620
February	34.6	19.6	29.3	1,690
March	123	30.0	60.9	3,740
April	203	68.3	107	6,370
May	288	141	195	12,000
June	330	171	251	14,900
July	173	63.0	106	6,520
August	89.1	49.3	58.3	3,580
September	59.2	44.6	49.2	2,930
The year	330	17.0	81.0	58,800

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1916–17				
October	77.8	39.0	55.7	3,420
November	37.9	31.5	34.4	2,050
December	32.5	19.2	29.6	1,820
January	45.8	18.0	30.3	1,860
February	31.5	24.8	28.6	1,590
March	51.7	23.7	29.5	1,810
April	204	33.6	76.0	4,520
May	375	89.1	206	12,700
June	499	224	375	22,300
July	308	95.0	182	11,200
August	88.4	62.4	73.4	4,510
September	64.3	53.5	57.9	3,450
The year	499	18.0	98.4	71,200
1917–18				
October	52.3	38.4	46.4	2,850
November	39.0	33.6	35.9	2,140
December	34.6	30.5	32.0	1,970
January	32.5	25.5	29.3	1,800
February	36.8	26.5	29.9	1,660
March	79.1	30.5	49.2	3,030
April	110	55.4	80.8	4,810
May	264	129	187	11,500
June	394	109	259	15,400
July	103	52.2	74.6	4,590
August	53.4	35.6	42.7	2,630
September	58.1	32.9	38.1	2,270
The year	394	25.5	75.4	54,100
1918–19				
October	59.1	34.6	41.1	2,530
November	41.2	30.5	34.0	2,020
December	30.5	22.7	28.3	1,740
January	31.7	22.1	25.9	1,590
February	26.0	24.4	24.9	1,380
March	69.5	23.6	34.1	2,100
April	186	55.4	103	6,130
May	325	187	251	15,400
June	180	76.4	130	7,740
July	75.0	46.9	55.2	3,390
August	50.4	39.0	43.4	2,670
September	45.8	35.7	40.3	2,400
The year	325	22.1	67.8	49,100
1919–20				
October	49.3	37.9	44.0	2,710
November	51.7	31.6	42.4	2,520
December	34.6	20.0	31.4	1,930
January	32.5	20.0	29.6	1,820
February	29.5	25.6	27.8	1,600
March	42.3	27.5	34.6	2,130
April	125	33.6	66.8	3,970
May	522	130	322	19,800
June	468	191	321	19,100
July	183	66.6	106	6,520
August	65.4	47.4	55.6	3,420
September	56.2	41.3	45.9	2,730
The year	522	20.0	94.0	68,200

[1] The tabulation for the water year 1912–13, as shown in Water-Supply Paper 517 for Cottonwood Creek is a duplicate of Little Cottonwood Creek and is in erorr.

Monthly discharge of Big Cottonwood Creek near Salt Lake City, Utah, 1912–33[1]—Continued

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1920–21				
October	54.9	37.8	45.4	2,790
November	48.1	40.1	43.7	2,600
December	40.1	29.5	34.5	2,120
January	36.8	32.5	34.6	2,130
February	59.2	31.5	39.5	2,190
March	106	56.6	69.5	4,270
April	116	75.0	91.2	5,430
May	562	130	323	19,900
June	694	303	484	28,800
July	341	98.2	182	11,200
August	128	59.4	77.6	4,770
September	73.2	47.9	54.8	3,260
The year	694	29.5	123	89,500
1921–22				
October	57.4	41.2	44.9	2,760
November	43.2	36.8	38.8	2,310
December	44.6	32.5	38.6	2,370
January	41.2	18.4	33.2	2,040
February	33.5	27.5	30.4	1,690
March	66.9	24.4	37.9	2,330
April	162	42.3	76.1	4,530
May	510	151	304	18,700
June	531	242	407	24,200
July	220	75.2	129	7,930
August	112	52.1	68.0	4,180
September	60.4	41.3	46.4	2,760
The year	531	18.4	105	75,800
1922–23				
October	41.3	33.9	37.8	2,320
November	40.1	32.5	36.6	2,180
December	35.7	31.5	33.3	2,050
January	35.7	31.5	32.9	2,020
February	36.8	21.8	30.9	1,720
March	66.9	33.6	37.6	2,310
April	115	56.6	81.2	4,830
May	499	105	285	17,500
June	468	215	306	18,200
July	263	79.2	160	9,840
August	76.4	47.1	60.1	3,700
September	61.2	42.5	47.7	2,840
The year	499	21.8	96.0	69,500

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1923–24				
October	67.4	41.1	48.6	2,990
November	41.4	33.6	36.6	2,180
December	33.6	25.6	31.2	1,920
January	29.5	26.0	27.7	1,700
February	28.8	27.4	28.0	1,610
March	30.2	26.7	28.8	1,770
April	116	28.8	71.7	4,270
May	276	130	202	12,400
June	174	74.0	116	6,900
July	72.4	33.9	51.0	3,140
August	33.6	26.6	30.3	1,860
September	30.1	26.4	27.4	1,630
The year	276	25.6	58.4	42,400
1924–25				
October	28.1	25.2	26.6	1,640
November	30.9	22.3	27.3	1,620
December	28.1	9.70	21.1	1,300
January	27.5	23.0	25.3	1,560
February	35.1	26.8	30.9	1,720
March	70.1	30.2	46.4	2,850
April	158	65.8	95.3	5,670
May	336	119	238	14,600
June	248	147	183	10,900
July	204	46.6	89.0	5,470
August	66.0	37.2	44.9	2,760
September	66.8	38.8	42.3	2,520
The year	336	9.70	72.7	52,600
1925–26				
October	43.6	30.0	35.0	2,150
November	32.8	26.7	29.1	1,730
December	29.3	24.1	26.0	1,600
January	24.1	21.1	23.1	1,420
February	26.2	22.4	24.4	1,360
March	46.5	27.5	37.5	2,310
April	191	34.6	106	6,310
May	352	162	226	13,900
June	211	75.1	135	8,030
July	73.4	37.4	50.4	3,100
August	54.6	24.9	36.7	2,260
September	42.8	24.9	27.8	1,650
The year	352	21.1	63.3	45,800

[1] The tabulation for the water year 1912–13, as shown in Water-Supply Paper 517 for Cottonwood Creek is a duplicate of Little Cottonwood Creek and is in error.

Monthly discharge of Big Cottonwood Creek near Salt Lake City, Utah, 1912–33 [1]—Continued

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1926–27				
October	40.7	26.1	31.9	1,960
November	37.3	22.3	28.7	1,710
December	36.6	22.4	29.3	1,800
January	27.5	19.9	25.6	1,570
February	27.5	20.5	25.2	1,400
March	51.9	26.1	35.2	2,160
April	210	44.6	79.7	4,740
May	491	149	234	14,400
June	392	180	310	18,400
July	206	61.1	111	6,820
August	59.6	43.1	49.4	3,040
September	52.8	37.7	42.9	2,550
The year	491	19.9	83.4	60,600
1927–28				
October	48.9	34.4	40.4	2,480
November	49.6	39.5	42.9	2,550
December	40.3	31.5	34.7	2,130
January	35.1	30.1	32.5	2,000
February	31.5	29.5	30.5	1,750
March	86.2	29.5	47.2	2,900
April	202	48.1	75.4	4,490
May	402	189	284	17,500
June	280	101	159	9,460
July	99.5	45.0	65.5	4,030
August	47.4	34.5	38.0	2,340
September	34.6	28.5	31.6	1,880
The year	402	28.5	73.7	53,500
1928–29				
October	35.1	28.0	30.4	1,870
November	30.9	28.8	29.8	1,770
December	29.5	20.5	25.9	1,590
January	24.9	21.8	24.1	1,480
February	26.2	13.2	23.4	1,300
March	46.1	24.2	34.3	2,110
April	123	45.3	72.2	4,300
May	414	89.1	226	13,900
June	397	216	273	16,200
July	212	69.0	114	7,010
August	64.8	39.2	51.2	3,150
September	61.2	36.4	47.4	2,820
The year	414	20.5	79.4	57,500
1929–30				
October	42.3	28.3	36.7	2,260
November	31.6	26.2	28.3	1,680
December	26.8	24.2	26.1	1,600
January	25.5	17.6	22.7	1,400
February	26.2	22.4	24.2	1,340
March	35.1	24.2	29.2	1,800
April	203	42.4	101	6,010
1929–30—Con.				
May	236	84.5	140	8,610
June	212	68.5	139	8,270
July	61.7	32.7	44.9	2,760
August	48.7	30.0	35.7	2,200
September	53.3	27.2	35.1	2,090
The year	236	17.6	55.3	40,000
1930–31				
October	57.1	31.6	41.9	2,580
November	30.9	25.5	27.8	1,650
December	26.8	20.5	24.1	1,480
January	23.0	21.1	21.9	1,350
February	23.0	20.5	22.2	1,230
March	28.9	21.8	24.6	1,510
April	99.2	34.1	64.5	3,840
May	213	86.0	135	8,300
June	113	39.3	69.9	4,160
July	38.9	19.9	26.6	1,640
August	30.3	14.9	21.1	1,300
September	23.7	17.1	20.3	1,210
The year	213	14.9	41.8	30,200
1931–32				
October	21.7	19.3	20.5	1,260
November	22.3	15.3	19.5	1,160
December	20.5	14.2	18.7	1,150
January	19.3	10.3	16.9	1,040
February	28.6	16.3	19.3	1,110
March	42.5	21.7	26.8	1,650
April	121	35.8	75.2	4,470
May	414	87.8	247	15,200
June	313	157	231	13,700
July	159	46.5	83.5	5,130
August	54.2	30.6	37.0	2,280
September	41.1	27.2	31.5	1,870
The year	414	10.3	69.0	50,000
1932–33				
October	30.0	24.7	27.6	1,700
November	27.8	23.0	24.8	1,480
December	25.0	10.2	20.5	1,260
January	21.7	20.0	20.7	1,270
February	22.3	10.0	18.7	1,040
March	44.4	18.4	27.9	1,720
April	105	34.0	56.2	3,340
May	375	57.1	140	8,610
June	467	126	313	18,600
July	115	39.1	69.1	4,250
August	41.7	26.5	32.4	1,990
September	31.6	19.6	25.3	1,510
The year	466	10.0	64.6	46,800

[1] The tabulation for the water year 1912–13, as shown in Water-Supply Paper 517 for Cottonwood Creek is a duplicate of Little Cottonwood Creek and is in error.

LITTLE COTTONWOOD CREEK NEAR SALT LAKE CITY, UTAH

Location.—In sec. 8, T. 3 S., R. 2 E., about one-half mile below Wasatch resort a 30-foot concrete control flume and water-stage recorder, plus the flow over a 5-foot Lyman weir in the tailrace of the Murray city power plant, plus the flow from Beaver Pond springs over a 2.5-foot Cippoletti weir, plus the flow in the Sandy ditch over a 7-foot suppressed weir, which is the flow in creek channel below flume. From 1924 to 1930, all flow was measured through the concrete control flume. From 1920 to 1923, inclusive, the flow was measured as the sum of all diversions from the creek. Prior to 1920, a carpenter's rule and two 15-foot Cippoletti weirs in sec. 2, T. 3 S., R. 1 E., half a mile below Flagstaff smelting works and 1½ miles above Armstrong Creek.

Drainage area.—27.7 square miles.

Records available.—November 1898 to September 1933.

Remarks.—No regulation. The two Despain ditches divert water about 1½ miles above weir for one small farm, and their flow is not included in the record. The concrete control flume, installed in 1923, was above all diversions until the Murray city power plant intake was moved above the flume in 1931. Records furnished by the city engineer of Salt Lake City, Utah.

Monthly discharge of Little Cottonwood Creek near Salt Lake City, 1913–33

Month	Discharge in second-feet			Runoff in acre-feet	Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean			Maximum	Minimum	Mean	
1913–14					1915–16				
October	35.7	20.9	26.3	1,620	October	22.1	10.4	15.0	922
November	25.6	19.1	22.5	1,340	November	13.5	10.6	12.0	714
December					December	13.3	10.6	11.9	732
January	17.2	9.47	13.0	799	January	12.6	9.89	11.4	701
February	16.0	12.5	14.1	783	February	12.1	10.2	11.2	644
March	39.5	12.5	23.8	1,460	March	54.2	12.8	28.4	1,750
April	101	34.1	67.3	4,000	April	190	42.1	79.4	4,720
May	372	74.2	219	13,500	May	228	113	163	10,000
June			295	17,600	June	322	203	266	15,800
July			195	12,000	July	279	115	166	10,200
August	63.0	15.2	33.6	2,070	August	84.1	27.9	47.0	2,890
September			27.4	1,630	September	27.9	21.2	23.8	1,420
The year					The year	322	9.89	69.6	50,500
1914–15					1916–17				
October	34.0	15.2	22.5	1,380	October	114	33.2	59.5	3,660
November	19.0	10.9	14.4	857	November	29.6	19.6	22.7	1,350
December	15.9	8.41	12.9	793	December	22.7	14.2	17.6	1,080
January	13.0	10.2	11.2	689	January	17.5	11.9	13.5	830
February	11.6	10.2	11.2	622	February	19.4	12.6	14.4	800
March	20.0	10.2	13.2	812	March	21.1	10.2	15.4	947
April	124	20.8	62.2	3,700	April	89.9	18.5	30.6	1,820
May	216	95.5	148	9,100	May	285	61.9	159	9,780
June	329	126	233	13,900	June	250	250	250	14,900
July	177	37.8	90.2	5,550	July	153	153	153	9,410
August	34.5	14.1	23.1	1,420	August	72.7	19.7	43.1	2,650
September	73.8	12.6	21.6	1,290	September	26.3	14.1	19.7	1,170
The year	329	8.41	55.4	40,100	The year	285	10.2	66.8	48,400

Monthly discharge of Little Cottonwood Creek near Salt Lake City, 1913–33—Con.

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1917–18				
October	19.6	19.6	19.6	1,210
November	14.9	14.9	14.9	887
December	18.2	11.8	14.5	892
January	16.5	12.7	14.3	879
February	16.9	11.3	13.7	761
March	26.7	15.3	18.6	1,140
April	84.0	26.7	45.9	2,730
May	293	105	174	10,700
June	281	281	281	16,700
July	77.1	77.1	77.1	4,740
August	37.3	19.9	26.7	1,640
September	51.5	15.4	23.0	1,370
The year	293	11.3	60.2	43,600
1918–19				
October	46.4	18.0	26.4	1,620
November	24.1	12.0	17.6	1,050
December	16.6	12.0	14.6	898
January	13.6	9.40	11.3	695
February	12.4	9.68	11.3	628
March	19.0	10.4	12.6	775
April	118	22.8	45.6	2,710
May	208	208	208	12,800
June	163	163	163	9,700
July	39.9	39.9	39.9	2,450
August	28.7	14.0	21.3	1,310
September	29.1	17.0	20.8	1,240
The year	208	9.40	49.4	35,900
1919–20				
October	28.5	20.5	24.1	1,480
November	24.7	18.0	20.3	1,210
December	21.0	19.5	20.4	1,250
January	18.3	16.1	17.2	1,060
February	16.5	12.7	15.0	863
March	18.1	13.1	15.3	941
April	45.4	18.1	23.5	1,400
May	273	45.4	139	8,550
June	291	200	246	14,600
July	200	54.3	103	6,330
August	59.5	31.7	43.7	2,690
September	31.7	19.4	24.6	1,460
The year	291	12.7	57.7	41,800
1920–21				
October	27.7	24.8	26.1	1,600
November	23.8	22.0	22.9	1,360
December	22.5	20.9	21.6	1,330
January	21.9	19.8	20.3	1,250
February	20.3	17.9	19.2	1,070
March	35.0	20.3	27.1	1,670
April	48.2	35.9	40.4	2,400
May	332	45.5	157	9,650
June	762	306	491	29,200
July	269	106	201	12,400
August	91.8	41.0	64.2	3,950
September	66.2	17.7	36.7	2,180
The year	762	17.7	94.0	68,100

Month	Discharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1921–22				
October	26.0	15.8	18.8	1,160
November	20.0	15.5	17.3	1,030
December	32.0	15.5	20.1	1,240
January	18.6	13.6	15.9	978
February	16.1	14.1	15.4	855
March	24.7	15.2	17.5	1,080
April	56.4	22.1	30.4	1,810
May	305	57.6	115	7,070
June	663	217	422	25,100
July	210	63.7	120	7,380
August	73.0	37.9	55.6	3,420
September	40.6	21.4	27.6	1,640
The year	663	14.1	72.9	52,800
1922–23				
October	22.2	18.4	19.4	1,190
November	22.3	15.5	19.6	1,170
December	18.0	15.2	16.3	1,000
January	15.4	14.8	15.1	928
February	16.7	14.3	14.8	822
March	26.3	[1] 19.2	21.9	1,350
April	56.6	26.6	41.1	2,450
May	298	[1] 58.6	186	11,400
June	458	[1] 167	271	16,100
July	224	75.0	157	9,650
August	68.8	30.7	44.9	2,760
September	[1] 30.2	19.1	23.2	1,380
The year	458	14.3	69.4	50,200
1923–24				
October	21.0	19.0	20.0	1,230
November	[1] 19.1	12.8	14.9	887
December	12.6	11.0	11.8	726
January	13.7	[1] 11.3	12.6	775
February	14.5	11.6	13.2	759
March	14.0	12.2	13.0	799
April	43.4	13.4	21.1	1,260
May	246	[1] 60.6	175	10,800
June	163	71.6	112	6,660
July	[1] 66.1	24.9	38.4	2,360
August	[1] 24.4	16.8	20.8	1,280
September	18.4	14.9	16.1	958
The year	246	11.3	39.2	28,500
1924–25				
October	16.5	11.9	14.1	867
November	[1] 16.3	10.5	13.1	780
December	14.6	[1] 10.9	12.5	769
January	14.9	14.4	14.6	898
February	16.4	12.9	14.6	811
March	[1] 28.8	15.2	19.6	1,210
April	102	23.5	58.5	3,480
May	309	[1] 90.2	189	11,600
June	233	152	187	11,100
July	200	[1] 50.9	108	6,640
August	55.5	33.2	44.4	2,730
September	[1] 47.4	32.9	37.8	2,250
The year	309	10.5	59.6	43,100

[1] Estimated.

Monthly discharge of Little Cottonwood Creek near Salt Lake City, 1913–33—Con.

Month	D scharge in second-feet			Runoff in acre-feet
	Maximum	Minimum	Mean	
1925–26				
October	48.3	26.7	36.9	2,270
November	28.3	[1] 16.7	21.0	1,250
December	19.6	15.3	17.4	1,070
January	[1] 19.3	14.0	16.0	984
February	24.5	15.0	18.9	1,050
March	34.6	[1] 20.0	25.5	1,570
April	[1] 133	28.3	73.6	4,380
May	239	113	189	11,600
June	230	[1] 79.9	157	9,340
July	92.0	38.0	53.6	3,300
August	63.0	17.0	30.7	1,890
September	31.0	13.5	15.4	916
The year	239	13.5	54.7	39,600
1926–27				
October	20.0	13.5	17.2	1,060
November	[1] 14.8	[1] 11.4	12.5	744
December	[1] 17.0	[1] 9.70	12.5	769
January	13.8	6.30	12.2	750
February	16.7	10.9	13.8	766
March	20.8	13.7	15.4	947
April	204	21.0	45.1	2,680
May	475	98.0	198	12,200
June	586	166	408	24,300
July	355	64.2	172	10,600
August	64.2	27.9	39.2	2,410
September	27.4	18.6	23.1	1,370
The year	586	6.30	80.8	58,600
1927–28				
October	25.0	20.2	21.7	1,330
November	25.8	18.6	20.8	1,240
December	19.5	18.3	18.8	1,160
January	19.2	16.8	17.8	1,090
February	18.0	17.4	17.4	1,000
March	27.4	16.8	19.6	1,210
April	97.5	21.3	30.1	1,790
May	574	116	299	18,400
June	375	110	214	12,700
July	140	36.0	74.0	4,550
August	41.6	17.2	25.8	1,590
September	17.2	12.4	14.1	839
The year	574	12.4	64.6	46,900
1928–29				
October	12.4	10.6	11.7	719
November	11.7	11.2	11.5	684
December	11.2	8.60	10.2	627
January	10.1	8.60	9.13	561
February	8.60	6.00	7.21	400
March	14.2	8.60	11.8	726
April	37.2	19.0	26.5	1,580
May	382	40.0	167	10,300
June	636	215	324	19,300
July	332	78.0	151	9,280
August	69.2	26.5	44.9	2,760
September	45.0	19.4	31.1	1,850
The year	636	6.00	67.3	48,800
1929–30				
October	32.4	16.8	22.9	1,410
November	16.8	12.7	13.8	821
December	11.5	6.80	9.65	593
January	11.7	8.00	9.82	604
February	12.6	10.0	11.0	611
March	15.3	11.3	13.2	812
April	230	16.0	77.4	4,610
May	272	64.1	133	8,180
June	269	81.4	175	10,400
July	78.0	27.7	46.5	2,860
August	39.4	18.4	26.7	1,640
September	36.7	16.0	19.7	1,170
The year	272	6.80	46.5	33,700
1930–31				
October	39.4	16.8	27.9	1,720
November	17.6	12.3	14.6	869
December	16.0	13.0	15.0	922
January	12.3	7.2	10.1	621
February	12.3	9.4	10.3	572
March	18.4	10.8	13.4	824
April	68.5	16.0	35.2	2,090
May	362	68.5	157	9,650
June	185	40.3	96.4	5,740
July	36.7	17.6	24.7	1,520
August	25.0	10.8	16.9	1,040
September	12.2	8.7	9.58	570
The year	362	7.2	36.1	26,100
1931–32				
October	9.3	8.1	8.72	536
November	9.3	7.6	8.50	506
December	10.8	8.0	9.95	612
January	12.5	9.2	11.0	676
February	13.1	10.8	12.1	696
March	17.7	11.5	14.4	885
April	73.2	16.7	39.6	2,360
May	348	42.5	206	12,700
June	405	145	290	17,300
July	279	51.8	131	8,060
August	49.1	27.5	37.7	2,320
September	35.7	15.0	20.2	1,200
The year	405	7.6	65.8	47,900
1932–33				
October	17.4	14.8	15.7	965
November	20.7	14.8	15.6	928
December	15.3	15.1	15.2	935
January	13.9	13.8	13.9	855
February	14.1	13.3	13.8	766
March	13.0	12.6	12.8	787
April	65.4	18.8	27.4	1,630
May	301	33.8	101	6,210
June	343	100	247	14,700
July	109	38.5	67.8	4,170
August	38.7	22.9	30.6	1,880
September	23.0	13.4	17.3	1,030
The year	343	12.6	48.2	34,900

[1] Estimated.

LITTLE COTTONWOOD CREEK AT 2D WEST STREET, NEAR MURRAY, UTAH

LOCATION.—In the NW¼NE¼ sec. 12, T. 2 S., R. 1 W., at the 2d West Street Bridge over Little Cottonwood Creek. A recording gage station, rated with a current meter, installed Aug. 4, 1933; removed Sept. 29, 1934.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—Aug. 4, 1933, to Sept. 29, 1934. After Sept. 29, 1934, miscellaneous gage readings and current-meter measurements made by Salt Lake City Corporation.

REMARKS.—The flow at this station is water picked up between the station and the foot of the Wasatch Mountains except during flood periods, when diversion structures at the foot of the mountains cannot carry all the flow of the stream. This pick-up water consists of spring water, flowing-well water, and return and waste irrigation water. A small irrigation ditch diverts water from the stream about a quarter of a mile above the gaging station during most of the irrigation season; the flow in this ditch was 5.9 second-feet on October 20, 1933. The records obtained from the gaging station are fair. A flow of 161 second-feet was measured on June 17, 1933.

Daily discharge, in second-feet, of Little Cottonwood Creek at 2d West Street, near Murray, Utah, August and September 1933

Day	Aug.	Sept.	Day	Aug.	Sept.
1 [1]	1.7	0.8	20	1.4	0.9
2 [1]	1.7	.8	21	1.4	.7
3 [1]	1.7	.8	22	.9	.8
4	1.7	1.0	23	.9	.8
5	1.3	1.0	24	1.0	.8
6	2.0	.9	25	1.1	1.1
7	1.1	.9	26	.9	1.6
8	.9	.9	27	.9	1.3
9	1.2	1.0	28	.9	1.6
10	1.6	1.0	29	.9	1.2
11	1.3	1.0	30	.8	1.0
12	1.4	.9	31	.8	
13	1.1	.9			
14	.9	.8	Mean	1.18	.95
15	.9	.8	Acre-feet	72.8	56.4
16	.9	.8			
17	1.0	.7	The period:		
18	1.1	.8	Mean		1.08
19	1.3	.8	Acre-feet		129

[1] Estimated.

Daily discharge, in second-feet, of Little Cottonwood Creek at 2d West Street, near Murray, Utah, for the year ending September 30, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	5.6	7.8	8.0	6.2	7.4	2.8	1.8	2.6	0.5	0.1	0.4
2	1.7	[1]6.0	7.4	8.0	6.2	7.4	3.2	2.0	2.2	.5	.1	.4
3	1.1	[1]6.5	7.4	8.3	6.2	7.4	3.4	2.0	1.9	.5	.1	.3
4	1.1	[1]7.0	7.8	8.3	6.4	7.2	3.0	1.8	1.9	.5	.2	.3
5	1.0	[1]7.0	7.6	7.8	6.4	7.6	2.8	2.0	2.0	.6	.2	.4
6	.9	[1]7.0	7.6	7.8	6.0	7.2	2.6	2.8	3.6	.5	.1	.4
7	.9	[1]7.0	8.3	7.6	6.2	7.2	2.2	1.9	5.2	.3	.1	.4
8	1.0	[1]7.0	7.8	7.2	6.4	7.2	2.0	1.6	4.2	.1	.1	.5
9	1.0	[1]7.0	7.8	7.2	7.6	7.2	5.6	1.7	4.2	.1	.1	.6
10	.9	7.8	7.6	7.2	6.8	7.2	2.0	3.2	4.4	.1	.1	.3
11	1.1	7.8	7.6	6.8	6.4	7.0	1.7	4.0	3.6	.1	.1	.2
12	1.0	7.6	7.6	6.2	6.6	7.2	2.0	2.4	2.8	.1	.2	.2
13	1.3	[1]7.7	7.4	6.6	6.4	7.4	2.2	5.0	2.0	.1	.1	.2
14	1.4	[1]7.7	8.0	6.8	6.4	7.6	2.2	5.0	.8	.1	.1	[1].2
15	1.3	[1]7.7	8.0	6.6	6.4	7.2	1.7	1.8	.9	.1	.2	[1].2
16	1.7	[1]7.7	7.8	6.4	6.6	7.0	1.7	2.2	.8	.1	2	[1].2
17	1.5	[1]7.7	7.6	6.4	6.6	6.8	1.7	3.4	.8	.1	.1	[1].2
18	1.4	8.3	7.6	6.2	6.8	7.0	1.8	2.0	.9	.1	.1	[1].2
19	1.2	8.3	7.6	6.6	7.0	6.8	1.8	4.0	.8	.1	.2	[1].2
20	1.4	8.0	7.8	6.4	8.9	6.8	1.5	3.6	.9	.1	.2	.2
21	1.2	7.8	7.8	6.6	10.7	6.8	1.5	2.8	1.1	.2	.2	.2
22	1.3	7.8	7.4	6.6	7.8	7.2	1.5	1.5	1.0	.5	.2	.2
23	1.5	7.8	7.2	6.6	7.6	7.4	1.8	.9	.9	.2	.3	.2
24	1.2	8.0	7.4	7.8	8.0	7.2	1.5	1.4	1.9	.1	.3	.6
25	1.4	8.0	7.8	7.0	8.0	6.8	1.5	1.6	2.4	.1	.3	1.0
26	1.6	7.8	8.0	6.8	7.8	8.0	1.7	3.6	.6	.1	.3	1.0
27	1.6	8.3	7.8	6.6	7.6	6.0	1.9	1.2	.6	.1	.4	.9
28	1.8	8.6	7.6	6.6	7.6	4.0	1.5	1.0	.6	.1	.3	.8
29	1.8	8.3	7.6	6.8	-------	3.8	1.5	1.4	.6	.1	.3	[1].9
30	2.4	8.3	7.8	6.8	-------	3.0	1.6	1.7	.6	.1	.4	[1].9
31	5.4	-------	8.0	6.4	-------	3.6	-------	2.6	-------	.1	.4	-------
Mean	1.46	7.57	7.70	7.00	7.05	6.69	2.12	2.38	1.89	.21	.20	.42
Acre-feet	89.8	451	474	431	392	411	126	147	113	12.7	12.1	25.2

The year:
Mean ---------- 3.71
Acre-feet ---------- 2,685

[1] Estimated.

Miscellaneous discharge records, Little Cottonwood Creek at 2d West Street, near Murray, Utah, November 1934 to July 1935

Date	Discharge (second-feet)	Date	Discharge (second-feet)	Date	Discharge (second-feet)
1934		1935—Continued		1935—Continued	
Nov. 15	8	Feb. 28	6	May 9	3
22	10	Mar. 6	7	23	13
Dec. 13	10	14	8	27	62
20	12	21	7	29	64
27	10	28	7	31	26
		29	6	June 6 (10 a. m.)	77
1935		30	6	6 (3:52 p. m.)	25
		Apr. 3	6	12	92
Jan. 3	9	4	6	13	350
10	9	6	6	27	12
17	9	10	8	July 11	2
24	6	11	8	16	4
31	6	18	6	18	2
Feb. 7	6	19	6	20	1
14	7	25	6	25	2
16	7	May 2	6		
21	7	4	8		

BIG COTTONWOOD CREEK AT 9TH EAST AND 48TH SOUTH STREETS, NEAR MURRAY, UTAH.

In conjunction with the stream-gaging station on Spring Run a staff gage was installed on Big Cottonwood Creek just above its junction with Spring Run. Numerous staff-gage readings were made here, and several stream flow measurements were made. The resulting stream flow data are shown in the table that follows:

LOCATION.—In the NE¼NW¼ sec. 8, T. 2 S., R. 1 E., at the 9th East Street Bridge over Big Cottonwood Creek. Staff gage installed Aug. 7, 1933.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—Some miscellaneous current-meter measurements by Salt Lake City Corporation prior to Aug. 7, 1933. Miscellaneous staff-gage readings. Station rated with a current meter, Aug. 7, 1933, to Sept. 30, 1935. Rating, poor. Station continued by Salt Lake City Corporation after Sept. 30, 1935.

REMARKS.—The flow past this station represents primarily spring inflow in the creek channel between the station and the Wasatch Mountains except during flood periods, when the diversions at the foot of the Wasatch Mountains do not divert all the water. It includes some artesian-well water and waste irrigation water.

Discharge, in second-feet, of Big Cottonwood Creek at 9th East and 48th South Streets, near Murray, Utah

[June 1931 to March 1933 from current-meter measurements by Salt Lake City Corporation. August 1933 to September 1935 determined from staff-gage readings made by Salt Lake City Corporation]

1931–33

Date	Discharge	Date	Discharge	Date	Discharge
1931		1932		1932—Continued	
June 23	4.3	Feb. 19	3.2	Dec. 14	2.4
July 13	2.0	Mar. 29	2.9		
Aug. 13	2.1	Apr. 29	9.6	1933	
Sept. 1	1.8	May 23	11.5		
17	2.2	June 28	33.8	Jan. 10	2.4
Oct. 1	1.6	July 22	4.4	Mar. 16	5.5
20	2.4	Aug. 18	5.4		
Nov. 3	2.4	Sept. 21	2.4		
30	2.3	Oct. 25	1.3		

1933

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	--------	2.5	12	3.1	2.5	22	4.5	3.7
2	--------	--------	13	--------	2.5	23	2.0	--------
3	--------	2.5	14	2.8	2.5	24	2.3	--------
4	--------	2.5	15	5.7	3.7	25	--------	2.8
5	--------	2.0	16	--------	3.4	26	2.0	3.4
6	--------	3.4	17	--------	--------	27	--------	2.8
7	7.9	3.4	18	2.5	2.5	28	3.1	2.5
8	6.5	4.2	19	2.2	3.4	29	5.7	2.3
9	4.5	4.9	20	--------	2.8	30	3.4	--------
10	3.2	4.2	21	--------	5.7	31	2.5	--------
11	3.2	--------						

1933–34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		2.8		6.1		4.2			
2	2.3	2.5	3.9						
3	1.7	1.7						3.9	
4	2.5		4.5						
5	2.8						6.9		
6	3.1	1.7		6.5					
7	3.9	2.0	4.9						6.1
8		1.7			3.0				
9	1.5	1.7	9.9			3.1			
10	1.5							3.1	
11	1.6	1.7	5.7						
12	1.5						2.4		
13	1.6	3.7							
14	1.5	3.4	7.3						9.0
15			7.3	5.7		3.1			
16	1.7		7.3						
17	1.6	3.7						11	
18	1.6								
19	1.6		7.7				1.6		
20	1.6	4.2							
21									
22		4.2			4.2	4.2			
23	1.7								
24								12	
25	1.6	3.4							
26	1.7		6.9				1.7		
27	1.7								
28			6.1						
29	1.5					4.2			
30									
31								11	

1934–35

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								73	5.3		
2					4.5		4.9				
3						3.9					
4							4.2	30			3.9
5					5.3			33			3.4
6				4.2		5.7		47	6.1	2.8	
7							5.3	62			
8								81			
9					4.9						
10	14					5.3		(1)			1.7
11							6.9	(1)	6.1		
12	11				4.5			(1)	4.9		
13								(1)			
14				4.2				(1)			
15							6.1	(1)			
16	11			3.7	4.9				7.3	3.9	
17											2.5
18							8.5	50			
19						4.5		43			
20				3.6	5.7			29	9.4		4.2
21				3.6	6.1			29		14	10
22	10							23			
23					5.7	11	12			4.2	
24	9										
25							4.5	4.2			2.8
26						5.3		4.2		6.2	7.3
27		8			7.7		66				
28			4.5	4.5	6.9		94			3.9	2.0
29			4.0				78	13		4.9	
30					7.3					7.3	
31			4.0						8.1		

[1] Discharge was more than 100 second-feet.

SPRING RUN AT 9TH EAST AND 48TH SOUTH STREETS, NEAR MURRAY, UTAH

Spring Run enters Big Cottonwood Creek at a point near 9th East Street between the point where Big Cottonwood Creek begins to gain water and its junction with the Jordan River. The flow from Spring Run represents both pick-up water and water contributed by flowing wells and constitutes a large part of the water discharged by Big Cottonwood Creek into the Jordan River. Most of the flowing-well water contributed to Spring Run is first used in fish hatcheries, but the proportion of flowing-well water contributed has not been determined. During the late summer of 1933 a staff gage was installed on Spring Run just above its junction with Big Cottonwood Creek, and daily gage-height readings and a number of current-meter measurements were obtained. A water-stage recorder was installed for temporary use on October 27, 1933. The data gathered from this station on Spring Run are given in the tables that follow.

LOCATION.—In the NE¼NW¼ sec. 8, T. 2 S., R. 1 E., at the 9th East Street Bridge over Spring Run. Water-stage recorder operated at station Oct. 28, 1933, to July 4, 1934: reinstalled Nov. 30, 1934. Staff-gage readings from Aug. 1 to Oct. 27, 1933, and from July 6 to Nov. 27, 1934. Station rated with a current meter.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—Aug. 1, 1933, to Sept. 30, 1935. Station maintained by Salt Lake City Corporation after Sept. 30, 1935. Some miscellaneous measurements made prior to August 1933.

REMARKS.—The flow at this station represents spring inflow, artesian-well water, and waste irrigation water, the spring inflow probably constituting the greatest part during most seasons.

Spring Run at 9th East and 48th South Streets, near Murray, Itah, prior to August 1933

[Miscellaneous measurements made by Salt Lake City Corporation]

Date	Discharge (second-feet)	Date	Discharge (second-feet)	Date	Discharge (second-feet)
1923		1931—Con.		1932—Con.	
Jan. 16	22.1	Sept. 1	18.9	June 28	29.2
		17	10.7	July 22	32.2
1930		Oct. 1	8.5	Aug. 22	27.0
		20	9.8	Sept. 21	22.6
May 12	29.0	Nov. 3	9.6	Oct. 27	15.5
July 22	30.9	30	9.6	Nov. 2	15.5
				Dec. 14	14.4
1931		1932			
Feb. 18	22.9	Feb. 19	9.2	1933	
June 23	27.7	Mar. 29	7.5	Jan. 10	14.2
July 16	23.5	Apr. 29	14.6	Mar. 15	11.6
Aug. 13	17.3	May 23	50.7	May 4	15.2

Discharge, in second-feet, of Spring Run at 9th East and 48th South Streets, near Murray, Utah, August 1, 1933, to November 27, 1934

[Determined from staff-gage readings made by Salt Lake City Corporation]

Day	1933			1934				
	Aug.	Sept.	Oct.	July	Aug.	Sept.	Oct.	Nov.
1	29	20	----------	----------	4.6	----------	8.1	14.5
2	----------	----------	17.2	----------	4.2	----------	----------	11
3	----------	20	18.8	----------	4.2	----------	7.8	----------
4	27	18	16	----------	----------	7.8	7.8	----------
5	26	20	20	----------	----------	6.3	8.8	9.6
6	26	19	17	6.6	5.1	7.2	8.5	8.8
7	24.5	18	17	----------	4.4	----------	----------	8.8
8	24.5	16	----------	----------	5.1	6.0	8.8	9.2
9	26	15.5	24	6.6	5.4	----------	8.8	9.2
10	24.5	15	18	8.8	4.6	6.6	9.2	8.8
11	24.5	19	18	----------	4.4	6.3	8.5	----------
12	26	----------	17	5.4	----------	6.3	8.1	9.2
13	----------	18	17	----------	5.1	----------	----------	----------
14	24.5	17	17	----------	----------	8.1	----------	10.7
15	25	14.5	----------	----------	5.4	6.6	9.9	----------
16	22	17	16	6.0	5.4	----------	10.5	8.8
17	----------	----------	17	4.9	5.1	8.8	9.6	9.2
18	23.5	17	16	----------	5.7	7.8	8.8	----------
19	25	18	16	----------	----------	9.2	11.5	----------
20	----------	17	15	----------	6.6	----------	----------	----------
21	25	----------	----------	----------	4.2	9.2	----------	10.3
22	21	20.5	14.5	----------	9.6	8.8	8.8	----------
23	23	17	----------	----------	5.4	----------	9.6	----------
24	23.5	----------	----------	----------	5.4	10.5	9.2	9.6
25	----------	19.5	15	3.0	6.0	9.6	8.8	----------
26	22	19.5	15	6.0	----------	9.9	8.8	9.6
27	----------	19.5	14.5	4.9	5.7	9.6	----------	9.9
28	21	18	----------	----------	----------	9.9	----------	----------
29	23	20.5	----------	----------	6.0	9.9	----------	----------
30	22	----------	----------	5.1	----------	----------	8.5	----------
31	19	----------	----------	----------	6.3	----------	8.5	----------

Daily discharge, in second-feet, of Spring Run at 9th East and 48th South Streets, near Murray, Utah, October 28, 1933, to July 4, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1	--------	16	11.5	8.1	8.5	9.2	8.1	6.9	14.5	8.8
2	--------	14	11	7.8	8.5	[1]8	8.1	7.5	12	8.1
3	--------	13.5	11	7.8	8.5	[1]8	9.2	7.2	12.5	8.1
4	--------	14.5	11	9.9	8.5	[1]8	8.5	7.2	13.5	8.1
5	--------	13.5	11	8.1	8.5	[1]8	8.1	6.6	13.5	--------
6	--------	13.5	11	7.8	8.1	[1]8	8.1	6.9	12.5	--------
7	--------	13.5	10.5	7.5	8.1	[1]8	7.5	8.1	14	--------
8	--------	13.0	10.5	7.5	8.5	[1]8	7.5	9.2	16.5	--------
9	--------	13.0	10.5	7.5	10.5	7.5	7.2	9.2	12.5	--------
10	--------	13.0	10.5	7.2	9.6	7.5	6.9	10.5	11.5	--------
11	--------	13.0	11	6.9	8.8	7.5	6.6	12	12	--------
12	--------	13.0	9.9	6.6	8.5	7.5	6.6	10.5	10.5	--------
13	--------	13.0	10.5	6.9	8.5	7.2	6.6	12	9.9	--------
14	--------	13.0	11	6.9	8.5	7.2	6.0	12	10.5	--------
15	--------	13.5	10.5	7.2	8.5	6.9	6.6	15	11.5	--------
16	--------	12.0	9.9	7.5	8.5	7.2	6.6	14	11.5	--------
17	--------	12.5	9.6	6.9	8.8	7.2	7.2	10.5	11	--------
18	--------	12	9.6	6.9	8.5	7.2	6.3	11.5	9.6	--------
19	--------	12	9.2	6.9	8.5	7.5	6.9	12	8.8	--------
20	--------	12	9.2	6.9	12.5	7.2	6.9	14.5	11.5	--------
21	--------	12	9.2	7.5	12	7.2	6.3	15.5	11	--------
22	--------	12	8.8	7.5	[1]9	7.5	5.7	15.5	9.9	--------
23	--------	11.5	8.8	7.5	[1]9	7.2	5.7	16	9.6	--------
24	--------	12	8.8	8.5	[1]9	7.5	5.7	16	10.5	--------
25	--------	12	8.5	7.8	[1]9	7.2	6.3	14.5	12	--------
26	--------	12	8.5	7.8	[1]9	7.5	6.9	14	9.6	--------
27	--------	12	8.1	7.8	[1]9	7.5	6.9	13.5	10.5	--------
28	13.5	12.5	8.5	7.8	[1]9	6.9	6.9	13	10.5	--------
29	13.5	12	8.1	8.1	[1]9	7.2	7.5	12	8.5	--------
30	14	11.5	8.1	8.1	--------	7.2	7.5	15	8.1	--------
31	16	--------	8.1	8.5	--------	8.8	--------	15	--------	--------
Mean	14.2	12.8	9.8	7.6	9.3	7.6	7.0	11.7	11.3	8.3
Acre-feet	110	760	600	470	520	470	420	720	680	66

The year:	
Mean	9.7
Acre-feet	4,800

[1] Estimated.

Daily discharge, in second-feet, of Spring Run at 9th East and 48th South Streets, near Murray, Utah, November 30, 1934, to September 30, 1935

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	12	14	10.5	11	11.5	14.5	30.0	24	24	14
2	-------	12	14.5	10.5	11	11	12	28	21	23	12.5
3	-------	12.5	14	10.5	12.5	9.9	11.5	28	22	22	13.5
4	-------	12	15	10.5	12	11.5	10.5	26	24	24	14
5	-------	12.5	16	10.5	12	11.5	10.5	26	25	26	14
6	-------	13	16	10.5	12	11.5	10.5	28	24	25	15
7	-------	12.5	16	10.5	11.5	10.5	10.5	31	22	24	15
8	-------	12.5	17	10.5	11.5	10.5	10.5	29	21	22	17
9	-------	13	17	10.5	11	9.2	10.5	25	20	21	16
10	-------	12.5	18	10.5	11	12	11.5	25	21	19.5	14.5
11	-------	13	18	10.5	11.5	11	12	27	24	18	14.5
12	-------	12	18	10.5	12	11	16	26	21	18	14.5
13	-------	12	17	10.5	12	10.5	15.5	29	19	17	14.5
14	-------	16.5	17	10.5	11	10.5	13.5	35	20	18	12.5
15	-------	18	17	12	11.5	9.6	12.5	30	20	19.5	12
16	-------	16	17	11	11	9.2	12	29	19.5	18	12
17	-------	15	17	11	11.5	10.7	16	28	20	20	13.5
18	-------	13.5	17	11	11.5	9.6	17	20	21	17	13
19	-------	13	18	11.5	12	7.8	20	25	20	15.5	13.5
20	-------	19	18	11.5	12.5	8.5	27	30	18	15	12.5
21	-------	16.5	17	11	12	9.2	24	26	22	15.5	10.5
22	-------	14	14.5	11.5	12.5	9.2	22	26	19.5	14.5	11
23	-------	14	10.5	11	11.5	9.9	21	27	18	14.5	12
24	-------	14	10.5	11	11.5	10.5	21	28	18	18	16
25	-------	14	9.9	11	11.5	9.6	20	24	18	17	16
26	-------	14	10.5	11	11	9.2	17	22	18	17	13
27	-------	14.5	9.9	11	11	8.8	20	25	18	17	12
28	-------	15	10.5	11	10.5	9.2	30	25	19	19	12
29	-------	15.5	9.9	-------	8.1	9.2	29	24	21	16	11
30	11.5	15	10.5	-------	10.5	9.9	44	25	21	15	11
31	-------	15.5	10.5	-------	11	-------	29	-------	22	13.5	-------
Mean	11.5	14.0	14.7	10.8	11.4	10.1	17.8	26.9	20.6	18.8	13.4
Acre-feet	23	860	905	600	700	600	1,090	1,600	1,270	1,160	800

The year:	
Mean	15.9
Acre-feet	9,600

BIG COTTONWOOD CREEK AT 2D WEST STREET, NEAR MURRAY, UTAH

LOCATION.—In the NW¼NE¼ sec. 1, T. 2 S., R. 1 W., at the 2d West Street Bridge over Big Cottonwood Creek. Water-stage recorder installed July 27, 1933. Station rated with a current meter.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 27, 1933, to Sept. 30, 1935. Station maintained by Salt Lake City Corporation after Sept. 30, 1935.

REMARKS.—The flow at this station represents spring inflow, artesian-well water, and waste irrigation water between the station and the foot of the Wasatch Mountains, except during periods of high water, when the diversion structures at the foot of the mountains cannot divert all the flow. Water from Spring Run enters Big Cottonwood Creek at 9th East and 48th South Streets, and a small stream enters the creek about 4th East and 46th South Streets. Stopping the wastage of water from a number of artesian wells by the Salt Lake City Corporation during the fall of 1934 reduced the flow past this station by 10 to 12 second-feet. A flow of 216 second-feet was measured at this station on June 17, 1933.

Daily discharge, in second-feet, of Big Cottonwood Creek at 2d West Street Bridge, Murray, Utah, July 28 to September 30, 1933

Day	Aug.	Sept.	Day	July	Aug.	Sept.
1	64	28	19	-------	49	25
2	66	28	20	-------	47	24
3	56	28	21	-------	58	24
4	48	28	22	-------	49	24
5	48	27	23	-------	42	24
6	46	25	24	-------	39	24
7	46	24	25	-------	39	28
8	48	24	26	-------	31	29
9	50	26	27	-------	30	30
10	47	30	28	44	28	28
11	47	27	29	47	28	28
12	47	25	30	54	26	28
13	47	22	31	57	27	-------
14	46	22				
15	37	22	Mean	50.5	43.7	25.9
16	40	25	Acre-feet	400	2,690	1,540
17	38	25				
18	42	24				

The period:
Mean 35.9
Acre-feet 4,630

Daily discharge, in second-feet, of Big Cottonwood Creek at 2d West Street Bridge, Murray, Utah, for the year ending September 30, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	46	35	35	32	38	38	28	27	12.4	2.3	6.0
2	27	40	35	35	34	38	40	33	22	12.8	2.3	3.9
3	25	41	35	36	35	38	35	23	31	12	2.1	3.5
4	25	41	37	41	34	38	35	20	24	10.8	2.2	3.5
5	25	39	36	35	34	38	33	19	24	9.4	2.2	4.5
6	25	38	36	36	33	38	31	25	21	9.4	2.7	4.8
7	26	39	33	34	35	36	29	23	30	10	2.3	4.8
8	24	39	38	29	32	36	28	25	38	11.6	2.3	4.3
9	24	39	38	28	38	35	27	25	29	11.6	2.4	4.1
10	23	40	34	30	29	35	27	24	22	11.2	2.4	4.5
11	22	38	31	29	32	35	25	26	20	12.4	2.4	6.2
12	22	38	34	28	30	35	27	29	17	10.8	2.4	4.3
13	27	39	34	33	31	35	28	36	15	9.7	2.7	4.1
14	25	37	38	33	32	34	27	25	15	7.0	2.9	4.3
15	25	32	37	34	32	29	22	28	16	2.9	3.1	4.3
16	23	32	35	33	32	42	20	28	17	2.3	2.9	4.5
17	25	36	33	35	34	39	18	25	15	2.2	2.9	5.0
18	28	37	33	35	33	38	18	25	16	2.4	2.9	5.2
19	29	36	31	34	34	39	17	27	12.8	3.5	2.7	5.0
20	32	30	33	34	46	36	19	33	14	2.3	3.3	5.0
21	38	35	33	34	59	34	23	32	15	3.1	2.7	5.7
22	38	36	30	35	43	35	21	29	13.2	3.5	2.9	9.1
23	35	36	34	36	42	35	20	28	14	2.9	3.5	7.9
24	30	37	35	40	47	33	17	28	16	2.5	3.5	14
25	30	37	35	35	43	33	21	27	22	2.9	3.5	21
26	31	35	35	30	42	35	25	25	18	2.7	6.0	21
27	30	36	35	32	41	34	25	22	14	2.4	7.9	21
28	27	38	31	35	40	27	25	21	14	2.3	3.9	21
29	28	38	32	31	-------	32	28	19	11.6	2.5	3.9	21
30	29	37	32	31	-------	32	27	29	11.2	2.1	7.6	20
31	42	-------	35	30	-------	38	-------	30	-------	2.1	5.0	-------
Mean	27.9	37.4	34.3	33.4	36.8	35.5	25.9	26.3	19.2	6.3	3.3	8.5
Acre-feet	1,720	2,220	2,110	2,060	2,040	2,180	1,540	1,620	1,140	390	200	500

The year:
Mean 21.4
Acre-feet 17,700

Daily discharge, in second-feet, of Big Cottonwood Creek at 2d West Street Bridge, Murray, Utah, for the year ending September 30, 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	30	29	24	25	22	20	40	109	46	20	12.8
2	16	33	28	27	25	22	19	28	101	41	17	13.2
3	14	31	28	25	25	28	18	24	87	36	14	14
4	14	33	28	26	24	28	22	24	81	46	18	12.8
5	18	30	27	28	24	26	22	22	81	35	24	12.4
6	16	29	26	26	25	25	24	26	93	30	21	15
7	14	27	26	25	26	24	22	24	108	30	18	16
8	16	27	24	25	30	24	21	25	128	27	18	16
9	18	27	23	25	30	24	21	28	154	24	17	15
10	19	27	23	24	27	23	30	30	182	24	15	14
11	18	27	23	24	26	23	25	36	183	26	14	15
12	14	27	23	27	26	22	24	48	183	26	17	14
13	14	25	24	25	27	22	22	62	211	24	18	14
14	20	27	33	25	28	22	21	50	212	27	16	14
15	23	28	49	24	28	22	22	46	184	26	20	13.2
16	24	29	41	24	26	22	24	47	155	24	23	15
17	24	29	35	24	25	22	39	62	101	20	25	16
18	25	35	31	23	27	21	33	59	75	21	24	16
19	33	38	29	24	27	22	27	60	64	22	22	16
20	32	36	39	24	26	25	27	59	60	22	20	16
21	28	33	43	27	26	25	27	47	56	26	19	13.6
22	27	33	36	22	25	24	31	41	46	25	20	13.2
23	28	32	32	24	25	21	38	54	54	21	24	16
24	28	32	32	25	24	21	44	57	46	21	24	13.6
25	26	30	31	25	22	22	35	67	42	20	22	14
26	22	31	28	26	22	24	29	74	36	18	24	15
27	21	33	26	26	22	22	25	111	37	16	21	14
28	20	29	27	26	22	24	22	136	35	18	22	13.6
29	20	28	27	27	-------	20	22	125	35	21	18	13.6
30	25	28	26	26	-------	19	25	137	38	22	15	12.4
31	25	-------	26	26	-------	20	-------	119	-------	20	13.6	-------
Mean	21.3	30.1	29.8	25.1	25.5	22.9	26.0	57.0	99.2	25.9	19.5	14.3
Acre-feet	1,310	1,790	1,830	1,540	1,420	1,410	1,550	3,500	5,900	1,590	1,200	850

The year:
Mean 33.0
Acre-feet 24,000

MILL CREEK NEAR MOUTH

Mill Creek contributes a considerable amount of pick-up water to the Jordan River, but on account of the flat gradient and small diversion dams a satisfactory location for a stream-gaging station could not be found within a reasonable distance of the confluence of Mill Creek with the Jordan River. Thus, although no continuous records of the contribution of Mill Creek to the Jordan River were made, several individual measurements of its flow were made, both by members of the Geological Survey and by the Engineering Department of Salt Lake City. These measurements are given in the following table:

Discharge, in second-feet, of Mill Creek near mouth, July 1931 to August 1933

[Measurements by Salt Lake City Engineering Department, except those of November 4, 1932, and August 7, 1933, which were made by G. H. Taylor]

Date	At 3d East Street	About 500 feet above junction with Jordan River	Date	At 3d East Street	About 500 feet above junction with Jordan River
1931			1932		
July 15	20.7		July 26	22.6	[1] 15.6
Aug. 13	20.5		Aug. 24	23.7	[1] 15.6
Sept. 1	21.0		Sept. 21	30.3	[1] 24.6
18	18.3		Oct. 28	25.0	24.6
Oct. 1	18.9		Nov. 4	22.2	19.0
19	18.5		Dec. 14	17.9	18.7
Nov. 3	18.1				
30	21.4		1933		
Feb. 19	20.4		Jan. 10	20.7	20.7
Mar. 26	17.0		Mar. 15	26.1	29.7
Apr. 29	23.5		June 5	29.9	30.4
May 18	23.3	[1] 10.2	Aug. 7	22.2	
June 28	32.5	[1] 16.5			

[1] Irrigation diversion between 3d East Street and point of measurement.

MISCELLANEOUS STREAM-FLOW MEASUREMENTS

During the course of this investigation various miscellaneous stream-flow measurements were made on creeks, canals, and springs. These measurements follow:

Miscellaneous stream-flow measurements, Jordan Valley, Utah

Date	Stream	Location	Discharge (second-feet)	Made by—
1932				
July 2	Little Cottonwood Creek	SE¼ sec. 2, T. 2 S., R. 1 E., at bridge below old Murray power plant.	116	Purton and Taylor.
	do	NE¼ sec. 34, T. 2 S., R. 1 E., at gaging station near second bridge below old Murray power plant.	106	Do.
July 14	Big Cottonwood Creek	NE¼ sec. 25, T. 2 S., R. 1 E., 100 feet above diversion weirs at mouth of canyon.	87.1	Purton and McDonald.
	do	Near center of sec. 23, T. 2 S., R. 1 E., half a mile East of Knudsen's corner.	55.7	Do.
July 21	Discharge from Salt Lake City artesian wells.	At wasteway flume and head house at corner of 9th East and 48th South Streets.	10.7	A. B. Purton.
July 25	Little Cottonwood Creek	SE¼ sec. 2, T. 2 S., R. 1 .E, at bridge below old Murray power plant.	27.1	G. H. Taylor.
	do	NE¼ sec. 34, T. 2 S., R. 1 E., at gaging station near second bridge below old Murray power plant.	22.3	Do.
Aug. 1	do	SE¼ sec. 2, T. 2 S., R. 1 E., at bridge below old Murray power plant.	13.8	Taylor and Tanner.
	do	NE¼ sec. 34, T. 2 S., R. 1 E., at gaging station near second bridge below old Murray power plant.	11.4	Do.
Nov. 4	Big Cottonwood Creek	NW¼ sec. 1, T. 2 S., R. 1 W., about ¼ mile above mouth at 4th West Street.	44.7	G. H. Taylor.
Nov. 8	do	NW¼ sec. 8, T. 2 S., R. 1 E., at 9th East and 48th South Streets.	2.88	Do.
	Spring Run	do	14.5	Do.
	Big Cottonwood Creek	NW¼ sec. 6, T. 2 S., R. 1 E., just below Murray laundry.	37.9	Do.
	do	NE¼ sec. 1, T. 2 S., R. 1 W. about ¼ mile above mouth at 4th West Street.	38.1	Do.

Miscellaneous stream-flow measurements, Jordan Valley, Utah—Continued

Date	Stream	Location	Discharge (second-feet)	Made by—
1932 Nov. 11	Springs emerging from bed of Parleys Creek.	NW¼ sec. 21, T. 1 S., R. 1 E., at Sugarhouse.	1.31	G. H. Taylor.
	Little Cottonwood Creek	NE¼ sec. 12, T. 2 S., R. 1 W., at 2d West Street, Murray.	9.31	Do.
Nov. 12	North Jordan Canal	Sec. 23, T. 2 S., R. 1 W., at 64th South Street.	6.18	Taylor and Northrup.
	Jordan River	do	104	Do.
Nov. 14	do	At 2d South Street Bridge, Salt Lake City.	192	G. H. Taylor.
	Surplus Canal	NE¼ sec. 15, T. 1 S., R. 1 W., just above Redwood Road.	47.2	Do.
	Drainage canal from Deckers Lake.	SE¼ sec. 22, T. 1 S., R. 1 W., at Redwood Road.	6.23	Do.
Nov. 15	Jordan River	SW¼ sec. 26, T. 1 S., R. 1 W., at 33d South Street Bridge.	207	Taylor and Northrup.
1933 Oct. 20	Diversion ditch from Little Cottonwood Creek.	NE¼ sec. 12, T. 2 S., R. 1 W., on 2d West Street, just south of 48th South Street.	5.9	G. H. Taylor.

WELL RECORDS

During this survey about 1,750 wells were located in the Jordan Valley. The total number of wells in the valley, as estimated in various ways, is probably between 5,500 and 6,500. As no information was available for many of these wells, the tables of well records and measurements include only those upon which actual measurements were made or for which fairly reliable data could be obtained. The method of selecting wells for study and estimates of total discharge are given in the section of the report relating to discharge from wells, page 44. The system of numbering is explained on page 5 and is illustrated in figure 1.

The wells are very closely spaced in some parts of the valley. About 210 wells were found in an area about the size of a quarter section (160 acres) between State and 3d East Streets and 21st and 27th South Streets. The concentration in some smaller areas is still greater, some tracts of 10 acres containing more than 25 wells.

DIAMETER OF WELLS

Most of the wells in the highly developed areas are controlled by valves and are used for domestic purposes and for watering lawns and small gardens. The greatest number of wells are 2 or 3 inches in diameter, but some of the older wells are only 1 inch. There are relatively few 4- and 6-inch wells and even fewer wells that are more than 6 inches in diameter. Most of the large ones are pumped wells of recent construction in the higher parts of the ground-water basin.

DEPTH OF WELLS

Only a few wells in the valley were measured during this survey. The reported depths of many of the wells cannot be accepted as accurate because of the tendency of people to forget and because many of the depths were reported by people who received their information at second or third hand. The measured or reported depth of 1,138 wells was between 40 and 1,486 feet, the average being 222 feet. A few shallow wells are 10 feet or less in depth, but most of these were dug only to the shallow ground-water body or penetrated perched water strata. A summary of the depth of wells, tabulated by township and range, is given in the following table.

Summary of depth of wells in the Jordan Valley, Salt Lake County, Utah

Location		Number of wells	Depth (feet)		
Township	Range		Maximum	Minimum	Average
2 N	1 W	3	240	141	180
1 N	1 E	2	470	365	418
1 N	1 W	20	1, 050	75	397
1 N	2 W	6	520	223	405
1 S	1 E	383	600	50	262
1 S	1 W	139	1, 486	40	303
1 S	2 W	73	660	53	130
1 S	3 W	3	880	360	620
2 S	1 E	366	640	40	146
2 S	1 W	77	1, 397	80	213
2 S	2 W	14	390	40	209
3 S	1 E	13	155	53	63
3 S	1 W	32	494	75	174
3 S	2 W	1	157	157	157
4 S	1 W	6	185	112	133
Total and average		1, 138	1, 486	40	222

WATER LEVEL IN WELLS

Two methods of making measurements of the water level were employed during this investigation. Where the water level stood below the land surface or below the top of the well casing, the depth to the water level was measured with a steel tape graduated to hundredths of feet, to the end of which a lead weight was attached. Where the pressure head was sufficient to raise the water level in the well about 6 feet or less above the land surface, the pressure head was obtained by attaching a short piece of garden hose; then after all other discharge was stopped the piece of hose was raised or lowered until the water would just reach the end of the hose but not flow out. The distance from the measuring point up to the end of the hose was then measured. If the pressure head was greater than about 6 feet, all flow from the well was stopped and a pressure gage was attached to the well. As it was necessary frequently to calibrate the pressure gage by the use of a mercury manometer, an apparatus was developed which embodied the principle of the mercury manometer in the gage itself. This gage was put into use during the later part of 1932, and thereafter the pressure head, if less than about 4 feet, was obtained directly in a glass tube; if greater than about 4 feet, it was obtained directly in feet by a sliding scale that measured the difference in level of the mercury in the two arms of a U-tube filled with mercury.

Continuous records of the fluctuations of water level in several wells were obtained by the use of automatic water-stage and pressure recorders. (See pl. 14.) Daily records from these recorders are included in the table of well records and well measurements.

A point, as nearly permanent as possible and to which all measurements of water level were referred, was established at each of the wells in which periodic measurements were made. The altitude of this point, in feet above mean sea level, was established by instrumental leveling for nearly all the observation wells. Most of the altitudes given in this report were established by the United States Geological Survey or by the Salt Lake City Corporation from existing bench marks of the Geological Survey; a few were established by the State Engineer.

ARTESIAN FLOW

The quantity of water flowing from some of the artesian wells was measured during the investigation, but no effort was made to obtain systematic or periodic measurements of the flow, as the variations of pressure head are considered to be a more accurate index of the status of the ground-water reservoir. Most of the records of flow from the wells were obtained volumetrically. A summary of the flow from 776 wells in the valley is given in the following table:

Artesian flow from wells in the Jordan River Valley, Salt Lake County, Utah

Location		Number of wells	Flow (gallons a minute)		
Township	Range		Maximum	Minimum	Average
2 N	2 W	2	9.2	1.5	5.4
1 N	1 E	1	24.4	24.4	24.4
1 N	1 W	27	100	.2	11.2
1 N	2 W	19	30	.5	10.4
1 S	1 E	141	150	.1	10.4
1 S	1 W	95	60	.1	8.4
1 S	2 W	54	107.9	2	23.7
1 S	3 W	2	20	69	13.4
2 S	1 E	346	168	.5	28.5
2 S	1 W	80	60	.1	12.9
3 S	1 W	8	21.8	.2	7.3
4 S	1 W	1	1.9	1.9	1.9
Total and average [1]		776	168	.1	19.4

[1] These figures represent the full flow from the wells at the time of measurement but do not represent the average yearly rate of flow of all wells, which is much lower because many wells are allowed to flow only a part of their possible yield and others are controlled and allowed to flow only a part of each year.

The town of Garfield is supplied with water from about 57 municipal wells in sec. 21, T. 1 S., R. 2 W., Salt Lake base and meridian. The following table gives measurements of the discharge; these measurements were made and furnished by the Garfield Water Co. These wells, which range in depth from about 55 to 165 feet, discharged between 798 and 1,386 gallons a minute over the period 1921 to 1937, inclusive. It is probable that a few properly located wells constructed and developed according to the best modern methods would yield as much water as all the present 57 wells of small diameter.

Discharge, in gallons a minute, from municipal wells of Garfield, Salt Lake County, Utah

[Furnished by the Garfield Water Co.]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1921	1,154	1,154	1,116	1,079	1,116	1,154	1,269	1,349	1,309	1,309	1,269	1,269
1922	1,269	1,192	1,078	1,078	1,116	1,229	1,269	1,349	1,349	1,349	1,349	1,349
1923	1,229	1,192	1,192	1,192	1,192	1,269	1,269	1,349	1,386	1,349	1,349	1,309
1924	1,269	1,192	1,154	1,116	1,154	1,269	1,269	1,386	1,386	1,386	1,386	1,386
1925	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386
1926	1,229	1,386	1,386	1,386	1,386	1,192	1,229	1,229	1,229	1,229	1,229	1,229
1927	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229
1928	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229
1929	1,192	1,192	1,154	1,116	1,154	1,229	1,269	1,269	1,269	1,269	1,269	1,229
1930	1,192	1,192	1,116	1,116	1,154	1,192	1,229	1,229	1,229	1,229	1,192	1,116
1931	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,079	1,079
1932	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079	1,079
1933	1,079	1,079	1,079	1,079	972	972	972	972	972	1,007	1,007	1,007
1934	1,007	972	972	936	832	832	832	832	832	832	832	832
1935	832	832	832	832	832	798	798	832	832	832	867	867
1936	887	900	900	900	[1] 1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,078
1937	1,078	1,078	1,078	1,078	1,078	1,229	1,229	1,229	1,269	1,269	1,269	1,269

[1] 7 new wells, total flow of about 230 gallons a minute, drilled during May 1936.

FILLING BY SAND

Many wells have become more or less filled with sand, as a result of the method of well construction prevalent in the Jordan River Valley. This reduces the amount of flow from the wells and may cause some wells to stop flowing. The amount of sanding was determined for a number of wells that have been purchased by the Salt Lake City Corporation. The reported depth and from one to three actual measurements of the depth of these wells are given in the following table:

Measurements of the depth of artesian wells, showing the filling of wells by sand rising from the bottom of the well

Well No.	Depth as reported (feet)	Depth measured when cleaned during 1931 (feet)	Depth measured Oct. 4, and 5, 1932 (feet) [1]	Depth measured July 13 to 22, 1933 (feet) [2]
(D-2-1)5cdc1				77.5
8aac1	86			83
8aac2	86			84.5
8aac3	66			55
8aac4	66			63
8aac5	66			64
8abd1				173
8abd2				79
8abd3				68.5
8abd4				73
8abd5				62.5
8abd6				82.5
8abd7				81
8abd8				67
8abd9				146.5
8aca1				80.5
8aca2				174.5
8aca3				79
8aca4				81.5
8aca5				81.5
8aca6				69
8aca7	155			151
8aca8	85			81
8aca9	80			70
8aca10				67.5
8aca11	85			71
8aca12	70			68
8aca13				63.5
8aca14	67			66
8aca15		81		78.5
8aca16		74		74
8adb1			62	62
8adb2		150		148.5
8adb3			184.5	184.5
8adb4		148	147.5	147
8adb6		87	72	75
8adb7			122	121.5
8adb8	150		190	188
8adb9			72	70
8adb10	156		179	179
8adb11			159	158.5
8adb12			77	77.5
8adb13		99.5	98	94.5
(D-2-1)8adb14		75	63	62.5
8adb15		83		78.5
8adb17			74	74
8adb18	212		198.6	198.5
8adb19			137	136.5
8adb20	120			172.5
8adb21	178		178	178
8adb22	173			185.5
8baa1		75		
8bab1		83		79
8bad1	80			119.2
8cca1	87			89.5
8cca2	80.5			82.5
8cca3	82			82
8cca4	88	87		80
8cca6				89.5
8cca7	84			84
8cca8	100.5			81.5
8cca9	90			84.5
8cca10	98.5	98		
8cca11	183			181.5
8cca12	150			
8ccd1		90		
8ccd2	126			
8ccd3	106	107		104.5
8ccd4			82.5	82.5
8ccd5			81	81
8ccd6			82.5	82.5
8ccd8			84.5	86
8ccd9		90	77	77.5
8ccd10		80		104
8ccd11		97		73
8ccd12		87		78
8ccd13		88		82.5
8ccd14	150	148.5		
8ccd16		115		96.5
8ccd17		96		83
8ccd18	87	91		84.5
8ccd20	70	70		66
16bab13	176			177.5
16bab14	178			178
16bab15	175			172.7
16bab16	55			64.2

[1] Measured by T. F. McDonald.
[2] Measured by G. H. Taylor and T. F. McDonald.

The difference between the reported depth of the wells and the depth as measured in 1931–33 varies greatly. The large differences, some of which indicate a greater depth in 1933, are probably due to inaccuracies of the reported depth. Most of the smaller differences indicate a lesser depth in 1933. Differences less than 1 foot are not conclusive.

A comparison of the measurements made on 20 wells in 1931 with measurements of 1933 shows a decrease in depth in all but 2 wells; of these, one remained the same, and the increase in depth indicated for the other was so great as to seem an error. The filling indicated between 1931 and 1933 ranged from 1 foot to 24 feet and averaged about 7½ feet.

RECORDS OF INDIVIDUAL WELLS, INCLUDING RECORDS OF WATER LEVEL

The well records that follow include all pertinent data obtained by the Geological Survey during this cooperative investigation. Many of the measurements were made by the Salt Lake City Corporation; later work has been done in cooperation with the State Engineer of Utah. Measurements of water level in the Jordan Valley have been published by the Geological Survey in its reports "Water levels and artesian pressure" for 1935 and later years.[31]

The wells are listed in order according to the numbering system explained in the introduction. (See p. 5 and fig. 1.) The number of the well is followed by the name of the well owner, the name of the town or community nearest to the well, and if the well is outside of Salt Lake County, the name of the county. The number of the State underground-water claim or application is given for those wells for which the number was available when the table was prepared. The diameter and depth of the well are then given, followed by the description and altitude of the measuring point. The flow in gallons per minute is abbreviated as g. p. m.

In the columns headed "water level" the minus sign indicates depth to water, and the plus sign indicates the artesian pressure head, both with reference to the measuring point. The pressure head of a flowing artesian well was taken when an approximate equilibrium of pressure was reached, as soon as possible after closing the well, the maximum elapsed time allowed being 10 minutes.

(A-1-1)31acb1. Latter-Day Saints Hospital, Salt Lake City. State claim No. 1479. Diameter, 12 to 8 inches; depth, 470 feet. Measuring point, top of northeast corner of concrete foundation 1± foot above land surface and 4,621.72 feet above sea level; measured by Utah State Engineer. Depth to water was reported by driller as 361 feet in spring of 1932. Analysis, by M. D. Foster, of water sample taken in 1932 gave 0.3 p. p. m. fluoride.

(A-1-1)31cca1. Salt Lake City Corporation, Salt Lake City. State claim No. 4837. Diameter, 15½ to 12½ inches; depth, 186 feet. Measuring point, land surface. Completed drilling on June 22, 1934, when depth to water was 112.3 feet. On June 23, 1934, depth to water was 112.3 feet; July 7, 1934, 112.8 feet; July 10, 1934, 112.5 feet. The following measurements made by Salt Lake City Corporation. Prior to Feb. 1, 1935, measurements made by an altitude gage and air line, air page probably about 2 feet above land surface; after Feb. 1, 1935,

[31] U. S. Geol. Survey Water-Supply Papers 777, 817, 840, 845, 886, 910, 940, 948, 990, and 1020.

measurements made from top of a 2-inch measuring pipe, 1.5 feet above land surface, except while pumping, when altitude gage was used.

Date	Water level (feet)	Date	Water level (feet)	Date	Water level (feet)
1934		1934—Continued		1935—Continued	
Sept. 4	[1] −139.5				
10	[1] −144.5	Dec. 4	−117.5	Mar. 25	[4] −140.5
11	[1] −142.5	14	−117.5		[4] −128.5
12	[1] −137.5	19	−117.5		[5] −121.5
18	[1] −140.5	28	−117.5		[6] −120.78
22	[1] −143.5			26	−120.33
Oct. 1	[1] −136.5	1935		Apr. 2	−118.95
6	[1] −141.5	Jan. 3	−117.5	3	−118.87
8	[1] −141.5	16	−117.5	4	−119.06
15	[1] −141.5	25	−117.0	10	−119.07
19	−122.0	28	−117.0	17	−118.83
22	−121.5	Feb. 1	[2] −120.0	23	−118.59
29	−119.5	5	−119.79	29	−118.33
30	−119.5	11	−119.71	May 8	−118.13
31	−119.5	19	−119.62	14	−117.90
Nov. 2	−119.5	26	−119.57	21	−117.76
3	−119.5	Mar. 5	−119.46	29	−117.38
7	−118.9	11	−119.32	June 5	−117.06
10	−118.5	15	−119.36	12	−116.71
16	−118.3	20	−119.23	19	−116.43
19	−118.0	23	−119.27	26	−116.27
28	−118.0	23	[3] −143.5		

[1] Pumping.
[2] Measuring point changed to top of 2-inch measuring pipe, 4,375 feet above sea level. Measurements by steel tape.
[3] A simultaneous altitude gage reading gave a depth to water of 116.2 feet.
[4] Pumping 3.0 second-feet.
[5] Pumping 1.7 second-feet.
[6] Pumping 0.9 second-foot.

(B–1–1)5ddd3. Chas. F. and Edward Gillmore, Salt Lake City. State claim No. 13479. Diameter, 6 inches; depth, 1,000 feet. Drilled about 1896. Discharges methane gas. Temperature of water, 83° F. Analysis, by M. D. Foster, of water sample taken in 1932 showed 1.3 p. p. m. fluoride.

(B–1–1)6bbd1. North Point Fur & Reclamation Co., Salt Lake City. State claim No. 8502. Diameter, 2 inches; depth, 385 feet. Measuring point, top of elbow, 2.5 feet above land surface. Drilled in 1916. Discharges methane gas. Temperature of water, 67° F. Flow Sept. 27, 1932, estimated as 20 g. p. m. Pressure head, Sept. 27, 1932, 10.82 feet immediately after closing; 12.48 feet, 5 minutes after closing; 13.27 feet, 10 minutes after closing; and 13.70 feet, 15 minutes after closing.

(B–1–1)6bbd2. North Point Fur & Reclamation Co., Salt Lake City. State claim No. 8503. Diameter, 2 inches; depth, 383 feet. Measuring point, top of ell, 1.9 feet above land surface and 4,217.39 feet above sea level; measured by Utah State engineer. Drilled, spring of 1930. Discharges methane gas. Temperature of water, 68° F. Pressure head: Aug. 13, 1934, 9.30 feet immediately after closing; 11.83 feet 5 minutes after closing; 12.63 feet 10 minutes after closing. Oct. 2, 1935, 10.15 feet immediately after closing; 11.55 feet 5 minutes after closing; and 12.00 feet 10 minutes after closing.

(B–1–1)6cca1. Rudy Gun Club, Salt Lake City. State claim No. 747. Diameter, 2 inches; depth, 315 feet. Measuring point, top of ell, 2.5 feet above land surface and 4,212.96 feet above sea level. Drilled May 1913. Discharges methane gas. Temperature of water, 71° F. Flow, Sept. 28, 1931, 16 g. p. m.; Feb. 28, 1936, 12 g. p. m.: Dec. 7, 1936, 12 g. p. m. For measurements after Oct. 29, 1934, see U. S. Geol. Survey Water-Supply Paper 817, p. 363.

A. WATER-STAGE RECORDER INSTALLATION.

10-inch galvanized iron casing installed over a 3-inch well to a height to stop flow.

B. TEMPORARY PRESSURE-RECORDING GAGE INSTALLATION.

RECORDING-GAGE INSTALLATIONS ON FLOWING WELLS IN THE JORDAN VALLEY, UTAH.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 28		[1] +17.30	Sept. 13	12:14 p. m	[2] +11.32
Oct. 10	1:56 p. m	[2] +11.11		12:19	+15.15
	1:58½	+13.85		12:24	+15.87
	2:01	+15.00	Oct. 6	12:20	[2] +12.05
	2:07½	+16.01		12:25	+15.66
	2:13½	+16.51		12:30	+16.01
	2:17½	+16.66	Nov. 3	11:39 a. m	[2] +12.69
	2:21	+16.73		11:44	+15.58
Nov. 13	2:14	[2] +11.54		11:49	+16.29
	2:17	+15.00	Dec. 10	1:07 p. m	[2] +11.83
	2:19	+15.73		1:12	+15.00
	2:24	+16.29		1:17	+16.29
Dec. 15	1:51	[2] +10.38	1933		
	1:56	+15.15			
	2:01	+16.29	Jan. 11	2:45 p. m	[2] +11.39
1932				2:50	+15.29
				2:55	+16.01
Jan. 11	1:02 p. m	[2] +10.38	Mar. 20	12:52	[2] +11.25
	1:07	+15.29		12:57	+15.00
	1:12	+16.29		1:02	+15.87
Feb. 5	10:33 a. m	[2] +12.56	May 19	1:12	[2] +11.39
	10:38	+15.44		1:17	+15.15
	10:43	+16.29		1:22	+16.15
Mar. 7	12:44 p. m	[2] +11.97	June 20	6:25	[2] +11.54
	12:49	+15.73		6:30	+15.58
	12:54	+16.58		6:35	+16.29
Apr. 11	12:11	[2] +11.83	Nov. 13	12:31	[2] +10.96
	12:16	+15.24		12:36	+15.15
	12:21	+16.29		12:41	+15.87
May 11	12:32	[2] +11.68		12:56	+16.73
	12:37	+15.73	1934		
	12:42	+16.58			
June 9	12:41	[2] +12.41	Aug. 13	2:30 p. m	[2] +11.32
	12:46	+16.15		2:35	+15.58
	12:51	+17.10		2:40	+16.51
July 8	11:57 a. m	[2] +12.41	Oct. 29	12:40	[2] +14.20
	12:02 p. m	+15.73		12:45	+15.20
	12:07	+16.51		12:50	+15.90
Aug. 12	11:07 a. m	[2] +12.12			
	11:12	+15.73			
	11:17	+16.51			

[1] After well had been closed 40 minutes.
[2] Immediately after well was closed.

(B-1-1)7cdd1. Rudy Gun Club, Salt Lake City. Diameter, 2 inches. Estimated flow Sept. 27, 1932, 1 g. p. m. Discharges methane gas. Temperature of water, 60° F.

(B-1-1)9aba1. E. J. Jeremy, Salt Lake City. Diameter, 2 inches; depth 300 feet±. Measuring point, top of concrete curb, 2.0 feet above land surface and 4,218.78 feet above sea level. Flow, August 7, 1931, 15 g. p. m. Discharges methane gas. Temperature of water, 67° F. All measurements after Oct. 9, 1931, made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Oct. 9	4:55 p. m	[1] +4.47	Jan. 11	1:30 p. m	+5.60
	5:00	+5.34	Feb. 5	11:55 a. m	+5.63
	5:05	+5.70	Mar. 7	12:20 p. m	+5.70
	5:10	+5.77	Apr. 11	11:55 a. m	+5.59
Nov. 13	11:30 a. m	+5.40	May 11	12:15 p. m	+5.58
Dec. 15	2:22 p. m	+5.48	June 9	12:28	+5.52

[1] Immediately after well was closed.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932—Con.			1933—Con.		
July 8	11:43 a. m	+5.56	May 19	12:50	+5.63
Aug. 12	10:47	+5.51	Oct. 9	8:55 a. m	+5.30
Sept. 12	12:00 m	+5.41	1934		
Oct. 6	11:55 a. m	+5.27			
Nov. 3	11:25	+5.32	Aug. 13		+5.38
Dec. 10	12:50 p. m	+5.34	Oct. 29	12:20 p. m	+4.46
1933			1935		
Jan. 11	2:20 p. m	+5.29	Oct. 2	10:59 a. m	+5.30
Mar. 20	12:35	+5.52			

(B–1–1)9aba2. E. J. Jeremy, Salt Lake City. Diameter 2 inches, depth 300 feet±. Measuring point, top of concrete curb, 0.5 foot above land surface and 4,215.92 feet above sea level. Flow, Oct. 9, 1931, 4.4 g. p. m. Discharges methane gas. Temperature of water, 63° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 9		+7.21	Sept. 12	11:39 a. m	[1] +6.28
Nov. 13	11:27 a. m	[1] +7.35		11:44	+7.21
	11:42	+7.64		11:49	+7.28
	11:47	+7.79	Oct. 6	11:30	[1] +6.64
Dec. 15	2:38 p. m	[1] +6.64		11:35	+6.99
	2:43	+7.06		11:40	+7.21
	2:48	+7.35	Nov. 3	11:03	[1] +7.06
				11:08	+7.35
1932				11:13	+7.50
			Dec. 10	12:21 p. m	[1] +6.50
Jan. 11	1:42 p. m	[1] +6.78		12:26	+7.06
	1:47	+7.79		12:31	+7.35
	1:52	+7.93			
Feb. 5	11:24 a. m	[1] +6.50	1933		
	11:29	+7.06			
	11:34	+7.35	Jan. 11	1:55 p. m	[1] +6.35
Mar. 7	11:45	[1] +6.64		2:00	+6.92
	11:50	+7.35		2:05	+7.06
	11:55	+7.35	Mar. 20	12:09	[1] +6.50
Apr. 11	11:27	[1] +6.50		12:14	+7.21
	11:32	+7.35		12:19	+7.35
	11:37	+7.50	May 19	12:28	[1] +6.50
May 11	11:34	[1] +6.64		12:33	+7.50
	11:39	+7.35		12:38	+7.64
	11:44	+7.43			
June 9	12:00 m	[1] +6.71	1934		
	12:05 p. m	+7.28			
	12:10	+7.43	Aug. 13	2:00 p. m	(1)
July 8	11:18 a. m	[1] +6.71		2:05	+6.94
	11:23	+7.14		2:10	+7.02
	11:28	+7.43			
Aug. 12	10:32	[1] +6.06			
	10:37	+7.14			
	10:42	+7.21			

[1] Immediately after well was closed.

(B–1–1)9dab2. E. W. Ernst, Salt Lake City. Diameter 2½ inches, measuring point, top of 2½-inch coupling, 1.0 foot above land surface and 4,217.1 feet above sea level; by Utah State Engineer. Flow, 2.5 g. p. m., Apr. 13, 1936. Discharges methane gas. Temperature of water, 75° F. Pressure, 10 minutes after closing well, Apr. 13, 1936, 20.0 feet; June 6, 1936, 19.6 feet.

(B–1–1)11caa. Wm. Morrow, Salt Lake City. Diameter, 1¼ inches; depth 75 feet. Measuring point, top of ell, 0.5 feet above land surface. Drilled in 1887. Flow 1 g. p. m., Oct. 6, 1931. Temperature of water, 54° F. All measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 10		+0.55	Nov. 3	10:10 a. m.	+1.56
Nov. 13	10:30 a. m.	+.38	Dec. 10	11:15	+1.64
Dec. 15	3:50 p. m.	+.79	1933		
1932			Mar. 20	11:05 a. m.	+1.82
Jan. 11	2:45 p. m.	+1.04	May 19	11:15	+1.82
Feb. 6	11:10 a. m.	+1.06			
Mar. 7	10:45	+1.46	1934		
Apr. 11	10:45	+1.57			
May 11	9:40	+1.62	Mar. 29	3:25 p. m.	+1.75
June 9	11:20	+1.62			
July 8	10:30	+1.25	1935		
Aug. 12	9:30	+1.46			
Sept. 12	11:05	+1.51			
Oct. 6	10:35	+1.52	Aug. 14	11:55 a. m.	+.35

(B–1–1)15bbc1. S. A. Thomas, Salt Lake City. Diameter, 2 inches; depth, 170 feet. Flow estimated as 8 g. p. m., Sept. 27, 1932. Discharges methane gas. Temperature of water 56° F.

(B–1–1)19baa3. E. J. Jeremy, Salt Lake City. Diameter, 2 inches; depth, 490 feet. Measuring point, top of outlet pipe, 1.5 feet above land surface and 4,220.85 feet above sea level. Flow, Oct. 10, 1931, 8 g. p. m. Discharges methane gas. Temperature of water, 66° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 10	3:30 p. m.	[1] +3.61	Sept. 12	1:06 p. m.	[1] +3.18
	3:35	+5.34		1:11	+5.56
	3:40	+6.50		1:16	+6.92
	3:45	+6.92	Oct. 6	2:30	[1] +3.18
Nov. 13	12:53	[1] +4.33		2:35	+5.49
	12:58	+5.92		2:40	+6.64
	1:03	+7.06	Nov. 3	1:55	[1] +3.75
Dec. 3	2:56½	[1] +4.04		2:00	+5.92
	2:59	+5.63		2:05	+6.85
	3:01½	+6.35	Dec. 13	11:19 a. m.	[1] +3.46
	3:04	+6.92		11:24	+5.27
	3:06½	+7.50		11:29	+6.43
1932			1933		
Jan. 11	11:47 a. m.	[1] +3.61	Jan. 11	3:36 p. m.	[1] +3.61
	11:52	+5.92		3:41	+5.49
	11:57	+6.92		3:46	+6.50
Feb. 5	12:49 p. m.	[1] +3.75	Mar. 20	2:43	[1] +3.61
	12:54	+5.92		2:48	+5.42
	12:59	+7.35		2:53	+6.36
Mar. 3	4:00	[1] +3.46	May 19	2:23	[1] +3.54
	4:05	+5.92		2:28	+5.85
	4:10	+6.92		2:33	+6.78
Apr. 11	1:23	[1] +3.46	Nov. 13	11:10 a. m.	[1] +2.89
	1:28	+5.92		11:15	+4.91
	1:33	+7.06		11:20	+6.06
May 3	1:06	[1] +4.91	1934		
	1:11	+6.43	Aug. 13	3:31 p. m.	[1] +4.11
	1:16	+7.43		3:36	+6.06
June 9	2:18	[1] +3.39		3:41	+7.13
	2:23	+5.42	Oct. 29	1:20	[1] +4.00
	2:28	+6.71		1:25	+5.00
July 8	2:09	[1] +3.18		1:30	+5.20
	2:14	+5.56	1935		
	2:19	+6 67			
Aug. 11	12:18	[1] +3.32	Oct. 2	12:35 p. m.	[1] +3.25
	12:23	+5.49		12:40	+4.80
	12:28	+6.64		12:45	+5.50

[1] Immediately after well was closed.

(B-1-1)19baa5. E. J. Jeremy, Salt Lake City. Diameter, 2 inches; depth, 645± feet. Measuring point, top of outlet pipe, 1.0 foot above land surface and 4,220.76 feet above sea level. Flow, Oct. 10, 1931, 16.3 g. p. m.; May 3, 1932, 17.0 g. p. m. Discharges methane gas. Temperature of water, 73°F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 10	3:50 p. m.	[1] +15.87	Sept. 12	1:21 p. m.	[1] +15.80
	3:55	+17.17		1:26	+17.30
	4:00	+17.88		1:31	+17.74
	4:05	+18.03	Oct. 6	2:18	[1] +16.29
	4:10	+18.24		2:23	+18.39
Nov. 13	1:09	[1] +16.58		2:28	+18.60
	1:14	+18.03	Nov. 3	1:42	[1] +16.15
	1:19	+18.60		1:47	+17.74
Dec. 3	2:34½	[1] +19.90		1:52	+18.03
	2:37	+21.35	Dec. 13	11:40 a. m.	[1] +15.58
	2:39½	+22.07		11:45	+17.45
	2:42½	+22.21		11:50	+17.88
	2:44½	+22.36	1933		
	2:55	+22.50			
1932			Jan. 11	3:49 p. m.	[1] +15.73
				3:54	+17.30
Jan. 11	12:01 p. m.	[1] +21.35		3:59	+17.59
	12:06	+23.08	Mar. 20	2:30	[1] +16.44
Feb. 5	1:15	[1] +21.6		2:35	+17.88
	1:20	+22.8		2:40	+18.17
	1:25	+23.0	May 19	2:08	[1] +16.58
Mar. 7	2:06	[1] +20.0		2:13	+17.74
	2:11	+22.0		2:18	+18.03
	2:16	+22.6	Nov. 13	11:24 a. m.	[1] +14.72
Apr. 11	1:48	[1] +20.0		11:29	+16.87
	1:53	+22.3		11:34	+17.17
	1:58	+23.0	1934		
May 3	12:04	[1] +17.0			
	12:09	+18.5	Aug. 13	3:50 p. m.	[1] +14.87
	12:14	+19.0		3:55	+17.24
	12:21	+18.39		4:00	+17.66
	12:26	+19.41	Oct. 29	1:50	[1] +15.40
	12:31	+19.61		1:55	+16.70
June 9	2:02	[1] +16.58		2:00	+17.10
	2:07	+18.31	1935		
	2:12	+18.60			
July 8	1:54	[1] +16.44	Aug. 2	2:07 p. m.	[1] +15.05
	1:59	+18.46		2:12	+15.75
	2:04	+18.60		2:17	+15.95
Aug. 12	12:35	[1] +17.02			
	12:40	+18.31			
	12:45	+18.53			

[1] Immediately after well was closed.

(B-1-1)19bab1. E. J. Jeremy, Salt Lake City. Diameter, 2½ inches; depth, 645± feet. Measuring point, top of outlet pipe, 1.0 foot above land surface and

4,221.15 feet above sea level. Flow, Oct. 10, 1931, 56.6 g. p. m.; May 3, 1932, 58.5 g. p. m. Discharges methane gas. Temperature of water, 74° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 10	4:15 p. m.	[1] +19.48	Nov. 3	1:19 p. m.	[1] +19.33
	4:20	+19.90		1:24	+19.90
	4:25	+20.19		1:29	+20.19
	4:30	+20.41	Dec. 13	11:58 a. m.	[1] +19.33
Nov. 13	1:38	[1] +20.34		12:03	+19.83
	1:43	+20.91		12:08	+20.12
	1:48	+21.06	1933		
	2:07	+21.20			
1932			Jan. 11	4:04 p. m.	[1] +19.04
				4:09	+19.69
May 3	10:40 a. m.	[1] +21.06		4:14	+20.05
	10:45	+21.57	Mar. 20	2:14	[1] +19.04
	10:50	+21.92		2:19	+19.98
	10:55	+22.14		2:24	+20.12
June 9	1:45 p. m.	[1] +19.98	May 19	1:53	[1] +18.89
	1:50	+20.48		1:58	+19.90
	1:55	+20.77		2:03	+20.05
July 8	1:39	[1] +19.83	Nov. 13	11:54 a. m.	[1] +18.75
	1:44	+20.19		11:59	+19.04
	1:49	+20.48		12:04 p. m.	+19.48
Aug. 12	12:55	[1] +19.61	1934		
	1:00	+20.19			
	1:05	+20.34	Aug. 13	4:30 p. m.	[2] +20.77
Sept. 12	1:35	[1] +19.11	Oct. 29	2:36	[1] +20.10
	1:40	+19.83		2:41	+19.80
	1:45	+20.12		2:46	+19.90
Oct. 6	2:00	[1] +19.26			
	2:05	+19.76			
	2:10	+20.05			

[1] Immediately after well was closed.
[2] After well had been closed 10 minutes.

A recording pressure gage was maintained on well (B–1–1)19bab1 from Nov. 20, 1931, to Apr. 15, 1932. Measuring point was center of recorder connection, 4,222.65 feet above sea level.

Mean daily pressure head (feet), 1931–32

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
1	------	23.8	25.8	26.3	26.4	26.1	16	------	------	26.0	26.4	25.9	------
2	------	23.9	25.8	26.3	25.7	26.1	17	------	------	26.0	26.4	25.8	------
3	------	24.2	25.7	26.2	25.5	25.8	18	------	------	26.0	26.4	25.9	------
4	------	24.3	25.8	26.1	25.6	25.8	19	------	------	26.0	26.4	26.0	------
5	------	24.3	25.8	26.2	25.7	25.8	20	------	------	26.1	26.4	25.8	------
6	------	24.4	25.8	26.3	25.8	25.7	21	22.1	------	26.1	26.4	25.7	------
7	------	24.4	25.8	26.3	25.8	25.9	22	22.6	------	26.1	26.3	25.7	------
8	------	24.6	25.9	26.3	25.8	25.9	23	22.9	------	26.0	26.3	25.8	------
9	------	24.8	25.9	26.4	25.8	25.8	24	23.0	------	26.0	26.3	25.8	------
10	------	24.8	25.9	26.5	25.8	25.8	25	23.2	------	26.0	26.4	25.8	------
11	------	24.8	26.1	26.4	25.7	25.9	26	23.7	------	26.0	26.4	25.8	------
12	------	24.8	26.0	26.5	25.6	26.0	27	23.8	------	26.2	26.5	25.9	------
13	------	24.8	25.9	26.5	25.6	26.0	28	23.8	------	26.2	26.5	26.1	------
14	------	------	26.0	26.5	25.7	25.9	29	23.8	------	26.2	26.5	25.9	------
15	------	------	26.0	26.4	25.9	------	30	23.8	------	26.3	------	25.9	------
							31	------	25.8	26.3	------	26.0	------

(B-1-1)19daa1. Henry DeJal, Salt Lake City. Diameter, 2½ inches; depth, 487 feet. Measuring point, center line of tee, 2.2 feet above land surface and 4,218.78 feet above sea level. Flow, Sept. 26, 1931, 15 g. p. m. Discharges methane gas. Temperature of water, 69° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 26		+8.07	June 9	2:37 p. m.	[1]+8.58
Oct. 9	2:00 p. m.	[1]+7.06		2:42	+10.46
	2:05	+8.07		2:47	+10.82
	2:10	+8.80	July 8	12:50	[1]+6.64
	2:15	+9.23		12:55	+8.87
	2:20	+9.23		1:00	+9.37
Nov. 13	2:25	[1]+7.79	Aug. 12	11:35 a. m.	[1]+7.21
	2:30	+9.37		11:40	+9.30
	2:35	+9.66		11:45	+9.88
Dec. 15	12:55	[1]+5.77	Sept. 13	1:58 p. m.	[1]+6.85
	1:00	+8.36		2:03	+8.51
1932				2:08	+9.16
			Oct. 6	2:52	[1]+7.64
Jan. 11	11:11 a. m.	[1]+6.64		2:57	+9.37
	11:16	+9.08		3:02	+10.10
	11:21	+9.66	Nov. 3	2:17	[1]+6.92
Feb. 5	1:50 p. m.	[1]+7.21		2:22	+9.23
	1:55	+9.23		2:27	+9.52
	2:00	+9.81	1933		
Mar. 7	2:41	[1]+7.21			
	2:46	+9.23	Jan. 11	4:39 p. m.	[1]+7.50
	2:51	+9.81		4:44	+9.23
Apr. 7	3:50	[1]+7.50		4:49	+9.66
	3:55	+9.23	Mar. 20	3:11	[1]+8.07
	4:00	+9.81		3:16	+10.10
May 3	1:36	[1]+6.92		3:21	+10.53
	1:41	+9.23			
	1:46	+9.88			

[1] Immediately after well was closed.

(B-1-1)19dad1. E. J. Jeremy, Salt Lake City. Diameter 1½ inches; depth, 160± feet. Measuring point, top of outlet pipe, 2.0 feet above land surface and 4,218.75 feet above sea level. Flow, Oct. 9, 1931, 0.6 g. p. m. Discharges methane gas. Temperature of water, 59° F. All measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 9		+1.85	Nov. 3	2:45 p. m.	+0.28
Nov. 13	2:50 p. m.	+ .50	Dec. 13	12:40	+.81
Dec. 15	12:45	+1.87	1933		
1932					
			Jan. 11	5:10 p. m.	+1.53
Jan. 11	11:35 a. m.	+1.55	Mar. 20	3:35	+1.78
Feb. 5	2:15 p. m.	+2.03	May 19	3:00	+.47
Mar. 7	3:05	+2.04	Nov. 13	11:00 a. m.	+.76
Apr. 11	2:30	+2.05			
May 3	2:25	+2.23	1934		
June 9	3:30	+1.50			
July 8	1:26	+1.82	Aug. 13	4:55 p. m.	+1.05
Aug. 12	12:00 m.	+1.74			
Sept. 12	2:20 p. m.	+.46	1935		
Oct. 6	3:20	+.61	Oct. 2	2:44 p. m.	+.87

(B-1-1)20aad1. Hermann Roberts, Salt Lake City. Diameter, 2 inches; depth, 215 feet. Drilled in 1929. Flow, Sept. 27, 1932, estimated 1 quart per minute. Temperature of water, 65° F.

(B–1–1)20daa1. Utah National Building & Loan Association, Salt Lake City. Flow, Sept. 27, 1932, estimated 1 g. p. m. Temperature of water, 59° F.

(B–1–1)21aaa1. A. E. Baldwin, Salt Lake City. State claim No. 9232. Diameter, 2 inches; depth, 264 feet. Measuring point, top of concrete sump, 0.5 foot above land surface. Flow, Sept. 27, 1932, estimated as 3 g. p. m.; pressure, 0.63 foot; temperature of water, 58° F.

(B–1–1)21dba1. Ada B. Nebeker, Salt Lake City. State claim No. 7028. Diameter, 2 inches; depth, 300 feet. Measuring point, top of tee outlet, 1.0 foot above land surface and 4,217.62 feet above sea level. Discharges methane gas. Aug. 7, 1931, flow estimated as 15 g. p. m.; Temperature of water, 60° F. All measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 9		+1.23	May 11	1:13 p. m.	+1.80
Nov. 13	3:15 p. m.	+1.15	June 9	1:25	+1.11
Dec. 15	1:25	+.94	July 8	12:27	+1.12
1932			Aug. 12	1:30	+.45
			Sept. 12	12:50	+.71
Jan. 11	12:30 p. m.	+.62	Oct. 6	1:20	+1.06
Feb. 5	12:25	+.97			[1] +2.66
Mar. 7	1:45	+.96	1934		
Apr. 11	1:00	+1.15	Aug. 13	12:40 p. m.	+2.35

[1] This measurement made after closing 2 previously unknown valves leading from well. These valves were open during all previous measurements.

(B–1–1)27cdd3. State of Utah (School District), Salt Lake City. Diameter, 2 inches; depth, 500± feet. Measuring point, top of casing, 1.2 feet above land surface and 4,215.47 feet above sea level. Drilled, 1900. Temperature of water, 60° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 12		+12.10	Oct. 28	11:30 a. m.	[1] +11.25
Nov. 4	9:35 a. m.	+13.42		11:35	+11.61
Dec. 5	11:25	[1] +13.13		11:40	+11.68
	11:30	+13.42	Dec. 6	2:00 p. m.	[1] +11.54
	11:37	+13.42		2:05	+11.97
1932				2:10	+12.04
Jan. 4	4:28 p. m.	[1] +13.85	1933		
	4:33	+14.28	Jan. 11	12:37 p. m.	[1] +11.39
	4:38	+14.28		12:42	+12.12
Feb. 1	11:25 a. m.	[1] +13.56		12:47	+12.12
	11:30	+13.85	Mar. 13	11:54 a. m.	[1] +11.54
	11:35	+13.85		11:59	+12.05
Mar. 1	11:00	[1] +13.56		12:04	+12.19
	11:05	+13.85	May 9	11:14	[1] +12.26
	11:10	+13.99		11:19	+12.56
Apr. 8	1:15 p. m.	[1] +11.25		11:24	+12.77
	1:20	+11.97	Nov. 13	10:00	[1] +12.93
	1:25	+12.26		10:11	+13.36
May 2	3:15	[1] +12.26		10:16	+13.51
	3:20	+12.69	1934		
	3:25	+12.69			
June 1	11:58 a. m.	[1] +11.54	Aug. 13	11:43 a. m.	[1] +11.54
	12:03 p. m.	+11.97		11:48	+12.56
	12:08	+12.12		11:53	+12.76
July 5	3:36	[1] +13.13	Oct. 29	11:39	[1] +9.10
	3:41	+13.27		11:44	+9.20
	3:46	+13.27		11:49	+9.30
Aug. 5	2:55	[1] +11.39	1935		
	3:00	+11.97			
	3:05	+12.56	Oct. 2	9:47 a. m.	[1] +5.50
Sept. 30	11:18 a. m.	[1] +11.39		9:52	+5.90
	11:23	+11.61		9:57	+5.95
	11:28	+11.97			

[1] Immediately after well was closed.

(B-1-1)27cdd4. State of Utah (School District), Salt Lake City. Diameter, 1½ inches. Measuring point, top of tee, 1.9 feet above land surface and 4,216.15 feet above sea level. Drilled in 1900. All measurements after well was closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 12		+1.90	July 5	4:00 p. m.	+0.85
Nov. 4	9:25 a. m.	+1.85	Aug. 5	3:20	+.19
Dec. 5	11:35	+.60	Sept. 30	11:40 a. m.	+.29
			Oct. 28	11:55	+.46
1932			Dec. 6	2:25 p. m.	+1.70
Jan. 4	4:05 p. m.	+1.11	1933		
Feb. 1	11:45 a. m.	+1.60			
Mar. 1	11:20	+1.91	Jan. 11	1:00 p. m.	+.64
Apr. 8	1:35 p. m.	+1.25	Mar. 13	12:10	+1.36
May 2	3:40	+1.03	May 9	11:35 a. m.	+1.28
June 1	12:20	+.95			

(B-1-1)27dcb2. Anna D. Miller, Salt Lake City. State claim No. 9180. Diameter, 2 inches; depth, 234 feet. Measuring point top of tee, 1.8 feet above land surface and 4,217.04 feet above sea level. Drilled in 1927. Flow, Oct. 12, 1931, 3.7 g. p. m.; Nov. 4, 1931, 3.5 g. p. m. Temperature of water, 56° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 5		+3.45	Oct. 28	11:10 a. m.	+4.01
12		+3.16	Dec. 6	3:20 p. m.	+3.74
Nov. 4	10:00 a. m.	+3.75	1933		
Dec. 5	12:20 p. m.	+3.99			
1932			Jan. 11	1:35 p. m.	+3.84
			Mar. 13	11:00 a. m.	+3.88
Jan. 4	5:05 p. m.	+4.10	May 9	11:00	+4.14
Feb. 1	11:05 a. m.	+4.22			
Mar. 1	10:15	+4.11	1934		
Apr. 8	12:45 p. m.	+4.07	Aug. 13	12:10 p. m.	+3.85
May 2	3:05	+4.08	Oct. 29	11:55 a. m.	+3.92
June 1	11:40 a. m.	+3.96			
July 5	3:15 p. m.	+3.60	1935		
Aug. 5	2:25	+3.54			
Sept. 30	11:05 a. m.	+3.97	Oct. 2	10:35 a. m.	+3.68

(B-1-1)29dad1. Steve Douligaris, Salt Lake City. State claim No. 10988. Diameter, 2 inches; depth, 265 feet. Measuring point, top of tee, 1.2 feet above land surface and 4,219.88 feet above sea level. Drilled, May 1922. Flow, Sept.

26, 1931, 4.0 g. p. m. Temperature of water, 60° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Oct. 8	10:45 a. m.	+1.30	Jan. 10	4:55 p. m.	+2.00
Nov. 13	3:35 p. m.	+2.04	Mar. 20	4:35	+1.98
Dec. 15	10:35 a. m.	+2.08	May 19	5:20	+2.01
			Nov. 13	10:40 a. m.	+1.84
1932			1934		
Jan. 11	10:50 a. m.	+2.17			
Feb. 5	3:15 p. m.	+2.22	Aug. 13	5:15 p. m.	+1.65
Mar. 7	5:15	+2.23	Oct. 29	3:25	+1.59
Apr. 9	4:35	+2.21			
May 3	4:05	+2.29	1935		
June 9	5:15	+2.21			
July 8	3:15	+1.86	May 6	11:00 a. m.	[1] +1.87
Aug. 12	1:45	+1.87	Oct. 2	12:16 p. m.	+1.49
Sept. 13	3:08	+1.60			
Oct. 6	4:30	+1.93			
Nov. 3	12:55	+1.87			
Dec. 13	11:00 a. m.	+1.90			

[1] By Salt Lake City Corporation.

(B-1-1)30ada1. Ralph Jacketta, Salt Lake City. Diameter, 2 inches. Discharges methane gas. Flow, Sept. 28, 1932, 2.5 g. p. m. Temperature of water, 65° F.

(B-1-1)30ada2. Dora T. Jacketta, Salt Lake City. Discharges methane gas. Flow, Sept. 28, 1932, estimated as 2 g. p. m. Temperature of water, 62° F.

(B-1-1)30dda1. Elizabeth M. Adams, Salt Lake City. Diameter, 1¼ inches. Flow, Sept. 28, 1932, estimated as 0.5 g. p. m. Temperature of water, 59° F.

(B-1-1)31dda1. Albert Meuller, Salt Lake City. Diameter, 2 inches. Flow Sept. 28, 1932, estimated as 0.5 g. p. m. Temperature of water, 60° F.

(B-1-1)31ddb1. Albert Meuller, Salt Lake City. Diameter 2 inches. Flow, Sept. 28, 1932, estimated as 0.5 g. p. m. Temperature of water, 60° F.

(B-1-1)32aac1. Salt Lake City Corporation, Salt Lake City. State claim No. 8868. Diameter, 2 inches; depth, 106 feet. Measuring point, top of coupling on casing, 1.75 feet above land surface and 4,217.13 feet above sea level. Flow, Dec. 16, 1935, 7.0 g. p. m. measured by Salt Lake City Corporation. For pressure measurements, see U. S. Goel. Survey Water Supply Paper 817, p. 363, incorrectly numbered (B-1-1)32ad.

(B-1-1)32cda1. Springman and Gattring, Salt Lake City. State claim No. 9483. Diameter, 1⅜ inches; depth, 75 feet. Drilled in 1876. Flow, Sept. 28, 1932, estimated as 3 g. p. m. Temperature of water, 58° F.

(B-1-1)33cda1. Salt Lake City Corporation, Salt Lake City. State claim No. 8867. Diameter, 2 inches; depth, 650 feet. Measuring point, top of the tee on casing, 0.5 foot below land surface and 4,220.19 feet above sea level. Drilled, May 1908. Flow, Dec. 16, 1935, 16 g. p. m. Temperature of water, 55½° F. Measured by Salt Lake City Corporation. For pressure measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 363.

(B-1-1)35cbd1. State Fair Grounds, Salt Lake City. Diameter, 3 inches; depth, 1,050(?) feet. Measuring point, flow line of tee, 0.4 foot above land surface and 4,222.12 feet above sea level. Drilled, Aug. 1922.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 5		0	Apr. 8	11:20 a. m	0
Nov. 4	11:30 a. m	+.01	May 2	2:30 p. m	0
Dec. 5	10:30	-.01	June 1	11:07 a. m	0
			July 5	2:45 p. m	+.01
1932			Aug. 5	1:20	+.01
			Aug. 26	11:35 a. m	[1] 0
Jan. 4	5:25 p. m	-.02	Sept. 12	10:42	[1] 0
Feb 1	10:30 a. m	-.01	Oct. 17	3:20 p. m	[1] 0
Mar. 1	9:30	0			

[1] By Salt Lake City Corporation.

(B-1-1)35ccb2. Robert Hill, 1250 W. N. Temple Street, Salt Lake City. Diameter, 2 inches; Depth, 300± feet. Measuring point, top of ell, 1.0 foot above land surface. Drilled about 1888. Temperature of water, 54° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Oct. 17	3:30 p. m	[1] +2.33	Mar. 21	4:30 p. m	[1] +2.6
			Apr. 24	4:07	[1] +2.88
1933			28		+2.86
Jan. 4	3:10 p. m	[1] +2.60			

[1] By Salt Lake City Corporation.

(B-1-1)36abc1.—Utah Oil Co., 549 N. 2d West St., Salt Lake City. Diameter, 2 inches. Measuring point, top of ell, 0.4 foot above land surface and 4,237.32 feet above sea level. Flow, Oct. 6, 1931, 4 g. p. m. Temperature of water, 55° F. Measurements after Aug. 5, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Oct. 6		+1.65	Jan. 4		+6.21
10		+1.90	20	3:25 p. m	+6.06
Nov. 4	9:00 a. m	+7.21	Feb. 28	1:40	+5.05
			Mar. 21	4:30	+7.64
1932			Apr. 21	3:40	+10.30
			May 6	11:00 a. m	+7.15
Jan. 4	10:15 a. m	+3.15	July 6	3:55 p. m	+6.55
Feb. 1	10:05	+3.73	Aug. 11	2:41	+5.10
Mar. 1	9:15	+3.62	Sept. 12	5:20	+3.32
Apr. 8	11:00	+7.06	Oct. 18	3:45	+3.55
May 2	2:15 p. m	+4.19	Nov. 24	12:00 m	+3.00
June 1	10:55 a. m	+3.14			
July 5	2:20 p. m	+4.28	1934		
Aug. 5	1:10	+4.13			
26	11:20 a. m	+4.19	Feb. 8	3:00 p. m	+6.33
Sept. 12	10:28	+3.40	May 8	2:50	+4.72
Oct. 17	2:00 p. m	+2.45	May 25	4:35	+2.43
Nov. 21		+7.93	June 6	2:55	+1.50

Date	Hour	Water level (feet)
1934—Con.		
June 8	1:05 p. m.	+1.33
11	4:05	+1.08
13	1:10	+1.03
15	4:35	+.94
18	10:25 a. m	+.79
20	5:20 p. m	+.59
23	1:40	+.42
25	4:40	+.44
29	9:05 a. m	+.23
July 3	9:00	0
6	8:55	[1] +.83
9	8:35	+.75
11	8:35	+.50
13	9:05	+.44
16	8:55	+.34
18	8:50	+.27
20	9:05	+.16
23	8:50	+.60
26	9:05	0
28	8:30	−.16
30	8:35	−.50
Aug. 2	9:30	−.70
4	8:40	−.80
7	8:45	−.92
9	9:20	−.95
11	8:50	−1.10
14	7:50	−1.25
16	7:50	−1.40
18	7:45	−1.50
21	7:45	−1.60
22	8:50	−1.75
25	7:45	−1.87
28	7:45	−2.00
30	7:50	−2.10
Sept. 1	7:50	−2.15
5	7:50	−2.23
7	7:45	−2.30
Oct. 27	8:55	−1.70
30	4:45 p. m	−1.60
Nov. 8	8:50 a. m	−1.60
15	8:40	−1.19
20	8:50	−1.14
26	8:30	−1.10
Dec. 3	9:12	−.95
10	1:18 p. m	−1.03
17	9:52 a. m	−1.09
24	9:25	−1.05
31	9:05	−1.00
1935		
Jan. 7	9:10 a. m	−.88
21	9:22	−.84
28	9:35	−.80
Feb. 4	8:45	−.62
11	8:50	−.57
18	9:30	−.60
25	2:30 p. m	−.38
Mar. 4	9:10 a. m	−.33
11	9:40	−.34
18	8:58	−.20
23	8:35	−.20
25	8:24	−.25
Apr. 1	9:25	−.28
8	8:30	+.15
16	9:00	−.20
22	9:08	−.26
29	9:50	−.29
May 6	8:50	−.31
1935—Con.		
May 13	8:46 a. m.	−0.35
20	9:00	−.41
27	9:25	−.42
June 3	9:30	−.52
10	9:00	−.80
18	9:15	−1.10
24	10:45	−1.25
July 1	8:50	−1.43
10	8:40	−1.85
15	8:48	−1.72
20	12:06 p. m	−1.86
29	9:05 a. m	−2.14
Aug. 5	9:05	−2.60
13	9:12	−3.16
19	3:36 p. m	−3.40
26	1:46	−3.80
Sept. 3	8:45 a. m	−4.10
9	8:55	−4.49
16	9:35	−5.00
24	8:52	−4.65
30	8:50	−4.93
Oct. 3	8:31	−4.93
7	8:47	−4.94
15	2:27 p. m	−4.76
21	10:40 a. m	−4.51
28	9:55	−3.97
Nov. 4	9:55	−3.64
13	8:32	−3.19
18	9:30	−3.20
25	9:15	−2.95
Dec. 2	9:14	−2.80
9	9:00	−2.68
16	9:05	−2.37
23	9:30	−2.18
31	9:15	−2.09
1936		
Jan. 6	10:00 a. m	−2.06
13	9:45	−1.96
20	10:40	−1.28
27	10:15	−1.62
Feb. 4	9:30	−1.54
10	9:10	−1.56
17	9:37	−1.43
24	9:35	−1.38
Mar. 3	9:00	−1.29
9	9:10	−1.26
16	9:30	−1.94
24	1:10 p. m	−1.94
31	10:50 a. m	−1.93
Apr. 6	9:35	−1.75
13	10:10	−2.20
27	9:38	−2.36
May 11	8:38	−2.95
25	8:41	−3.36
June 8	8:50	−3.09
22	8:45	−2.94
July 6	8:43	−3.11
20	8:58	−3.20
Aug. 3	9:08	−3.55
24	9:46	−3.90
Sept. 8	10:48	−4.07
21	8:28	−4.11
Oct. 6	10:00	−4.36
21	8:32	−3.50
Nov. 18	9:17	−2.73
30	10:14	−2.48
Dec. 14	10:07	−2.10

[1] Measuring point changed to top of casing, altitude, 4,236.36 feet.

(B-1-2)8aac1. C. F. and E. L. Gillmor, Salt Lake City. State claim No. 13481. Diameter, 2 inches; depth, 300 feet. Measuring point, top of ell, 1.0 foot above land surface. Drilled, 1920. Flow, Sept. 26, 1932, estimated as 8 g. p. m. Discharges methane gas. Temperature of water, 67° F. Pressure, Sept. 26, 1932, 10.10 feet at 11:08 a. m. immediately after closing; 11.68 feet at 11:13 a. m.; 12.26 feet at 11:18 a. m.; 12.41 feet at 11:23 a. m.; May 6, 1935, 11.30 feet, 10 minutes after closing. (By Salt Lake City Corporation.)

(B-1-2)13aad1. Central Duck Club, Salt Lake City. Diameter, 2 inches. Measuring point, top of coupling, 1.0 foot above land surface. Flow, Sept. 27, 1932, estimated as 8 g. p. m. Discharges methane gas. Temperature of water, 61° F. Pressure, Sept. 27, 1932, 6.50 feet immediately after closing at 1:42 p. m.; 7.50 feet at 1:47 p. m.; 7.79 feet at 1:52 p. m.; 7.79 feet at 1:57 p. m.

(B-1-2)15bcb2. C. F. and E. L. Gilmor, Salt Lake City. State claim No. 13482. Diameter, 2 inches; depth, 300 feet. Measuring point, top of ell, 1.0 foot above land surface. Drilled, 1920. Flow, Sept. 24, 1932, estimated as 5 g. p. m. Temperature of water, 67° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1934—Con.		
Sept. 24	10:44 a. m.	[1] +13.56	Oct. 29	3:55 p. m.	[1] +13.40
	10:49	+14.14		4:00	+13.80
	10:54	+14.14		4:05	+13.80
1933			1935		
May 19		[2] +13.43	May 6	2:20 p. m.	[2] [3] +13.50
Oct. 9	9:46 a. m.	[1] +13.85	June 10	2:00	[2] [3] +13.55
	9:51	+13.99	July 15	1:00	[2] [3] +13.80
	9:56	+14.14	Oct. 2	3:10	[1] +12.90
1934				3:15	+13.15
Aug. 7	4:45 p. m.	[1] +13.20		3:20	+13.30
	4:50	+13.20			
	4:55	+13.20			

[1] Immediately after well was closed.
[2] After well had been closed 5 minutes.
[3] By Salt Lake City Corporation.

(B-1-2)19dac1. E. J. Jeremy, Salt Lake City. Diameter, 2 inches. Flow, Sept. 22, 1932, estimated as 20 g. p. m. Temperature of water, 64° F.

(B-1-2)21bbb1. Hogle and Bothwell, Salt Lake City. State claim No. 9297. Diameter, 2 inches; depth, 230 feet. Drilled, 1930. Flow, Sept. 22, 1932, estimated as 0.5 g. p. m. Temperature of water, 60° F.

(B-1-2)21cac1. Hogle and Bothwell, Salt Lake City. State claim No. 9296. Diameter, 2 inches; depth, 250 feet. Drilled, 1930. Temperature of water, 62° F.

(B-1-2)22cca1. James Winter, Salt Lake City. Diameter, 1½ inches. Measuring point, top of ell, at land surface. Flow, Sept. 22, 1932, estimated as 10 g. p. m. Temperature of water, 62° F. Pressure, Sept. 22, 1932, 6.4 feet, after well had been closed 5 minutes.

(B-1-2)23cbd1. Jacob Dorr, Salt Lake City. State claim No. 2768. Diameter, 2 inches; depth, 200 feet. Drilled, 1896. Temperature of water, 62° F.

(B-1-2)25cad1. C. F. and E. L. Gillmor, Salt Lake City. Diameter, 1½ inches. About 100 feet southwest of Lone Tree bench mark. Temperature of water, 73° F.

(B-1-2)26bad1. Bailey & Sons, Salt Lake City. Diameter, 1½ inches. Flow, Sept. 21, 1932, estimated as 2 g. p. m. Temperature of water, 60° F.

(B-1-2)26cdc1. Joseph Baumgarten, Salt Lake City. Flow, Sept. 21, 1932, estimated as 5 g. p. m. Temperature of water, 64° F.

(B-1-2)27acb1. Hogle and Bothwell, Salt Lake City. Diameter, 2½ inches. Measuring point, top of discharge pipe, 1.0 foot above land surface and 4,221.71 feet above sea level. Flow, Sept. 24, 1932, estimated as 5 g. p. m. Temperature of water, 63° F. Pressure, Sept. 24, 1932, 5.45 feet after well had been closed 5 minutes.

(B–1–2)27bdd1. Hogle and Bothwell, Salt Lake City. Diameter, 1½ inches. Flow, Sept. 24, 1932, estimated as 4 g. p. m. Temperature of water, 63° F.

(B–1–2)29daa1. Hogle and Bothwell, Salt Lake City. State claim No. 9295. Diameter, 3 inches; depth, 420 feet. Drilled, 1920. Flow, Sept. 22, 1932, reported as 10 g. p. m. Temperature of water, 68° F.

(B–1–2)29daa2. Hogle and Bothwell, Salt Lake City. State claim No. 9294. Diameter, 3 inches; depth, 420 feet. Drilled, 1920. Flow, Sept. 22, 1932, estimated as 4 g. p. m. Temperature of water, 67° F.

(B–1–2)30abc1. E. J. Jeremy, Salt Lake City. Diameter, 2 inches. Measuring point, top of concrete curb, 3.0 feet above land surface. Flow, Sept. 22, 1932, estimated as 15 to 20 g. p. m. Temperature of water, 62° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1935		
Aug. 7	4:07 p. m.	[1]+7.50	May 6	4:20 p. m.	[2]+10.80
	4:12	+10.60	Oct. 2	4:31	[1]+7.65
	4:17	+11.18		4:36	+9.65
	4:22	+11.54		4:41	+10.30
Oct. 30	11:22 a. m.	[1]+7.60			
	11:27	+10.55			
	11:32	+11.35			

[1] Immediately after well was closed.
[2] By Salt Lake City Corporation, 10 minutes after well had been closed.

(B–1–2)31aad1. E. J. Jeremy, Salt Lake City. State claim No. 3226. Diameter, 2 inches; depth, 400 feet. Measuring point, top of southwest corner of concrete curb, 2.5 feet above land surface and 4,217.75 feet above sea level. Drilled, 1920. Flow, Nov. 13, 1931, 22.8 g. p. m. Temperature of water, 63° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Nov. 13	5:00 p. m.	[1]+9.95	Nov. 3	4:00 p. m.	[1]+8.51
	5:05	+11.11		4:05	+9.66
	5:10	+11.54		4:10	+10.03
Dec. 15	12:06	[1]+9.23	Dec. 13	1:33	[1]+8.36
	12:11	+10.53		1:38	+9.45
	12:16	+11.11		1:43	+9.95
1932			1933		
Jan. 9	2:56 p. m.	[1]+8.94			
	3:01	+10.67	Jan. 10	3:29 p. m.	[1]+8.36
	3:06	+11.11		3:34	+9.37
Feb. 9	3:29	+9.81		3:39	+9.66
	3:34	+10.67	Mar. 21	4:49	[1]+8.36
	3:39	+11.65		4:54	+9.37
Mar. 9	12:23	[1]+9.37		4:59	+9.66
	12:28	+10.67	May 16	4:50	[1]+8.36
	12:33	+11.25		4:55	+9.23
Apr. 11	4:10	[1]+9.23		5:00	+9.81
	4:15	+10.53	Nov. 13	1:27	[1]+7.79
	4:20	+11.11		1:32	+9.08
May 12	4:43	[1]+9.52		1:37	+9.52
	4:48	+10.53	1934		
	4:53	+11.11			
June 9	4:09	[1]+8.73	Aug. 7	3:48 p. m.	[1]+8.80
	4:14	+9.88		3:53	+10.10
	4:19	+10.53		3:58	+10.53
July 7	7:48	[1]+8.65	Oct. 30	11:02 a. m.	[1]+8.10
	7:53	+9.66		11:07	+9.10
	7:58	+10.67		11:12	+9.50
Aug. 11	2:30	[1]+8.58	1935		
	2:35	+9.81	Oct. 2	4:54 p. m.	[1]+7.75
	2:40	+10.31		4:59	+8.60
Oct. 5	3:53	[1]+8.65		5:04	+8.90
	3:58	+9.66			
	4:03	+10.03			

[1] Immediately after well was closed.

(B-1-2)32bcb1. KSL Radio Station. Salt Lake City. State claim No. 9424. Diameter, 3 inches; depth, 520 feet. Measuring point, center line of outlet pipe, 0.75 foot above land surface. Drilled, 1932. Flow, when drilled, estimated by driller, 30 g. p. m. Pressure, June 16, 1932, 14.72 feet immediately after well was closed at 11:52 a. m.; 15.00 feet at 11:54 a. m.; 15.44 feet at 11:57 a. m.; 15.58 feet at 11:58 a. m.; 15.73 feet at 12 noon.

(B-1-2)33baa1. Hogle and Bothwell, Salt Lake City. Diameter, 3 inches. Measuring point, top of tee, 3.2 feet above land surface and 4,222.67 feet above sea level. Flow, Nov. 13, 1931, 10.2 g. p. m. Temperature, 63° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1931—Con.		
Nov. 13	5:45 p. m.	[1]+3.15	Mar. 7	4:40 p. m.	[1]+3.01
	5:50	+3.30	Apr. 11	4:00	[1]+2.96
Feb. 5	5:05	[1]+3.01	May 19	4:25	[1]+2.94

[1] After well had been closed 5 minutes.

(B-1-2)35cda1. Salt Lake City. West well on north side of highway. Diameter, 2 inches. Flow, Sept. 28, 1932, estimated as 5 g. p. m. Temperature of water, 72° F.

(B-1-2)35cda2. Salt Lake City. East well on north side of highway. Diameter, 2 inches. Flow, Sept. 28, 1932, estimated as 5 g. p. m. Temperature of water, 73° F.

(B-1-2)36baa1. E. J. Jeremy, Salt Lake City. Diameter, 2 inches; depth, 464 feet. Measuring point, top of outlet pipe, 2.0 feet above land surface and 4,225.57 feet above sea level. Flow, Oct. 9, 1931, 29.1 g. p. m. Temperature of water, 84° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 9	10:50 a. m.	[1]+11.25	July 8	2:38 p. m.	[1]+11.18
	11:05	+11.90		2:43	+11.97
Nov. 12	3:01 p. m.	[1]+11.54		2:48	+12.12
	3:06	+12.56	Aug. 12	3:32	[1]+10.82
	3:11	+12.56		3:37	+11.54
	3:19	+12.84		3:42	+11.83
Dec. 15	10:52 a. m.	[1]+10.82	Sept. 14	2:35	[1]+10.89
	10:57	+11.68		2:40	+11.61
	11:02	+11.97		2:45	+11.68
1932			Oct. 6	3:26	[1]+11.25
				3:31	+11.83
Jan. 9	3:56 p. m.	[1]+10.96		3:36	+11.97
	4:01	+11.97	Nov. 3	2:55	[1]+10.60
	4:06	+12.26		3:00	+11.39
22	11:41 a. m.	[1]+11.11		3:05	+11.54
	11:46	+11.83	Dec. 13	1:03	[1]+10.82
	11:51	+12.12		1:08	+11.47
Feb. 5	3:50 p. m.	[1]+12.12		1:13	+11.61
	3:55	+12.62	1933		
	4:00	+12.84			
Mar. 7	3:30	[1]+11.75	Jan. 10	4:06 p. m.	[1]+10.67
	3:35	+11.97		4:11	+11.32
	3:40	+12.26		4:16	+11.47
Apr. 11	2:50	[1]+11.54	Mar. 20	3:54	[1]+8.94
	2:55	+11.97		3:59	+10.24
	3:00	+12.41		4:04	+10.67
May 3	3:10	[1]+11.11			
	3:15	+11.83			
	3:20	+11.97			
June 9	3:44	[1]+11.18			
	3:49	+11.90			
	3:54	+12.19			

[1] Immediately after well was closed.

(B-2-1)35dad. D. E. Howard, Woods Cross, Davis County. Diameter, 2 inches, depth, 160 feet. Measuring point, top of casing, at land surface. Pressure, Sept. 28, 1931, 0.5 foot. Could not be found in 1936; probably destroyed.

(B-2-1)36cbc1. Farmers State Bank, Woods Cross, Davis County. State claim No. 12610. Diameter, 2 inches; depth, 205 feet. Measuring point, top of casing, 1.0 foot above land surface and 4,278.63 feet above sea level. Drilled, 1901. Flow, Mar. 9, 1936, 6.3 g. p. m. Temperature of water, 57° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 28		−3.45	Nov. 3	10:35 a. m.	+1.42
Oct. 10	11:15 a. m.	−2.95	Dec. 10	11:35	+2.21
Nov. 13	10:50	−1.49			
Dec. 15	3:20 p. m.	−1.37	1933		
1932			Jan. 12	3:55 p. m.	+2.08
			Mar. 20	11:25 a. m.	+1.59
Jan. 11	2:20 p. m.	−.72	May 19	11:35	+.63
Feb. 6	10:05 a. m.	−.95	Dec. 27	4:00 p. m.	+1.45
Mar. 7	9:45	−1.00			
Apr. 11	9:25	−1.15	1934		
May 11	10:00	−.66			
June 9	11:35	−.35	Mar. 29	3:40 p. m.	+.35
July 8	10:40	−.74			
Aug. 12	10:00	−.63	1935		
Sept. 13	11:10	−.09			
Oct. 6	11:05	+.65	Aug. 14	12:05 p. m.	−2.99

(B-2-1)36ccb1. Farmers State Bank, Woods Cross, Davis County. Diameter, 1½ inches; depth, 240 feet. Measuring point, top of casing, 2.0 feet above land surface and 4,285.17 feet above sea level. For water level measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 380.

(B-2-2)35cdc1. Lakefront Gun Club, Salt Lake City. Diameter, 2 inches. Measuring point, top of ell, 1.0 foot above land surface. Flow, Oct. 9, 1933, 9.2 g. p. m. Temperature of water, 72° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1934		
Sept. 21	4:03 p. m.	[1] +13.73	Aug. 7	5:16 p. m.	[1] +13.56
	4:08	+17.37		5:21	+16.15
	4:13	+18.31		5:26	+17.95
	4:18	+18.96		5:31	+18.46
	4:23	+19.48	Oct. 29	4:40	[1] +14.60
1933				4:45	+17.50
				4:50	+18.60
May 19		[2] +17.10	1935		
Oct. 9	10:56 a. m.	[1] +12.12			
	11:01	+18.46	May 6	1:50 p. m.	[3] +18.00
	11:06	+18.46	June 10	1:25	[3] +18.90
	11:11	+18.96	July 15	12:55	[3] +17.90
			Oct. 2	3:39	[1] +14.10
				3:44	+17.15
				3:49	+17.95

[1] Immediately after well was closed.
[2] After well had been closed 5 minutes.
[3] By Salt Lake City Corporation, 10 minutes after well had been closed.

(B-2-2)35cdc2. Lakefront Gun Club, Salt Lake City. Diameter, 2 inches. Measuring point, top of ell, 1.0 foot above land surface. West one of two wells. Flow, Oct. 9, 1933, 1.5 g. p. m. Temperature of water, 61° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1934—Con.		
Sept. 21		[1] +4.72	Oct. 29	3:57 p. m.	[2]
				4:02	+4.02
1933				4:07	+4.03
			1935		
Oct. 9	10:40 a. m.	[2] +3.46			
	10:45	+4.62	May 6	1:35 p. m.	[1, 3] +4.03
	10:50	+4.76	June 10	1:15	[1, 3] +4.20
	10:55	+4.76	July 15	12:45	[1, 3] +3.99
1934			Oct. 2	3:51	[2] +3.15
				3:56	+4.20
Aug. 7	5:32 p. m.	[2] +3.75		4:01	+4.25
	5:37	+4.04			
	5:42	+4.19			

[1] After well had been closed 10 minutes.
[2] Immediately after well was closed.
[3] By Salt Lake City Corporation.

(C-1-1)1bcd1. Salt Lake Ice & Storage Co., Salt Lake City. Diameter, 3 to 4 inches; depth 1,486 feet. Flow, Oct. 5, 1931, 2.2 g. p. m. Temperature of water, 64° F.

(C-1-1)2cda1. J. D. Brown, 520 Bothwell St., Salt Lake City. Diameter, 2 inches; depth, 115 feet. Measuring point, top of tee, 1.5 feet above land surface and 4,224.62 feet above sea level. After June 1, 1932, measuring point is top of tee, 4,223.98 feet above sea level. Flow, Oct. 3, 1931, 1.5 g. p. m.; Aug. 26, 1932, 1.8 g. p. m.; Sept. 12, 1932, 1.25 g. p. m.; Oct. 17, 1932, 1.5 g. p. m.; Nov. 26, 1932, 1.4 g. p. m.; Jan. 4, 1933, 1.2 g. p. m.; Jan. 20, 1933, 2.3 g. p. m.; Feb. 28, 1933, 1.25 g. p. m. Temperature of water, 54° F. All pressure measurements taken after well had been closed 5 minutes. Measurements after Aug. 5, 1932 by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Oct. 3		+2.20	Feb. 28	2:40 p. m.	+2.45
12	10:15 a. m.	+1.35	Mar. 21	3:53	+2.20
Nov. 4	11:55	+1.80	Apr. 21	4:27	+2.03
Dec. 4	4:40 p. m.	+2.03	June 6	12:15	+2.10
			July 6	3:12	+1.60
1932			Aug. 11	1:50	+1.57
			Sept. 12	4:15	+1.60
Jan. 4	3:05 p. m.	+2.04	Oct. 18	4:50	+1.83
Feb. 1	2:45	+2.17	Nov. 24	11:10	+1.69
Mar. 1	1:45	+2.21	1934		
Apr. 8	2:55	+2.23			
May 2	4:50	+2.04	Jan. 8	1:00 p. m.	+1.75
June 1	1:43	+1.50	Feb. 8	2:20	+1.96
July 5	5:16	+.67	May 8	1:16 p. m.	+1.50
Aug. 5	4:40	+1.46	25	3:24	+1.56
26	11:45 a. m.	+1.45	July 19	4:30	+1.39
Sept. 12	11:03	+1.66	Sept. 5	4:01	+1.58
Oct. 17	4:00 p. m.	+2.17	Oct. 18	1:30	+1.56
Nov. 26		+2.30	Nov. 20	12:05	+2.03
			Dec. 14	3:15	+2.09
1933			1935		
Jan. 4		+2.39	Jan. 24	2:00 p. m.	+2.25
20	4:08 p. m.	+2.30	Feb. 20	10:15 a. m.	+2.33

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1936—Con.		
Mar. 30	11:54	+2.37	Feb. 19	4:26 p. m.	+2.25
May 10	5:04 p. m.	+2.30	Mar. 19	5:15	+2.70
June 20	4:40	+1.56	Apr. 29	3:49	+2.37
July 19	3:40	+.65	May 27	2:00	+2.00
Aug. 11	1:50	+1.57	June 24	2:50	+1.46
22	2:35	+1.39	July 15	3:20	+1.97
Oct. 4	1:25	+1.50	Sept. 10	1:45	+1.36
Nov. 5	3:06	+1.02	23	3:35	+2.20
1936			Oct. 7	4:15	+2.20
			Nov. 24	12:30	+2.96
Jan. 22	3:15 p. m.	+2.47	Dec. 19	1:30	+2.93

(C-1-1)3bca1. Anna Kunkle, 152 Orange St., Salt Lake City. Diameter, 2 inches. Measuring point, top of casing, 0.2 foot above land surface and 4,229.24 feet above sea level. Drilled, 1906. Temperature of water, 60° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 12		+4.20	May 2	4:30 p. m.	+4.97
Nov. 4	11:20 a. m.	+4.15	June 1	1:20	+4.45
Dec. 5	1:05 p. m.	+4.45	July 5	4:50	+3.34
			Aug. 5	3:55	+4.22
1932			Sept. 30	1:20	+4.54
			Oct. 28	1:30	+4.64
Jan. 4	3:40 p. m.	+4.58	Dec. 6	1:30	+4.62
Feb. 1	1:15	+4.87			
Mar. 1	12:30	+4.86	1933		
Apr. 8	2:35	+4.91			
			Jan. 11	9:20 a. m.	+4.72

(C-1-1)3bdb1. Maggie Wilcox Est., 1832 West 2d South Street, Salt Lake City. Diameter 2 inches; depth, 550 feet. Measuring point center line of coupling, 0.8 foot above land surface and 4,230.41 feet above sea level. Flow, Sept. 30, 1931, 6 g. p. m. Temperature of water, 56° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 30		+2.90	Sept. 30	1:10 p. m.	+4.51
Oct. 12		+2.80	Oct. 28	1:15	+4.89
Nov. 4	10:25 a. m.	+4.33	Dec. 6	1:10	+5.10
	10:30	+4.62			
Dec. 5	12:45 p. m.	+3.55	1933		
1932					
			Jan. 11	9:50 a. m.	+5.08
			Mar. 21	5:00 p. m.	+5.15
Jan. 4	3:25 p. m.	+5.45	May 9	11:55 a. m.	+5.70
Feb. 1	12:45	+3.95	Oct. 9	11:45	+4.50
Mar. 1	1:15	+4.35			
Apr. 8	2:15	+4.77	1934		
May 2	4:10	+4.76			
June 1	1:00	+3.99			
July 5	4:20	+2.83	Aug. 13	11:30 a. m.	+2.40
Aug. 5	3:40	+3.94	Oct. 29	11:25	+2.82

827626—49——13

(C-1-1)8aca1. Elizabeth Quick, Buena Vista, State claim No. 9663. Diameter, 2 inches; depth, 157 feet. Measuring point, top of tee, 1.0 foot above land surface and 4,233.01 feet above sea level. Drilled, 1929. Flow, Sept. 25, 1931, 4.6 g. p. m. Temperature of water, 59° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 9	10:00 a. m.	+2.16	Nov. 4	9:50 a. m.	+3.05
Nov. 12	1:00 p. m.	+2.74	Dec. 6	3:55 p. m.	+3.06
Dec. 14	2:55	+2.88	1933		
1932			Jan. 11	10:40 a. m.	+3.06
Jan. 9	4:40 p. m.	+2.99	Mar. 24	12:20 p. m.	+3.07
Feb. 6	12:45	+2.96	May 9	12:40	+3.04
Mar. 8	1:20	+2.93	Oct. 9	12:05	+2.83
Apr. 9	3:45	+2.97	1934		
May 11	2:18	+2.88	Aug. 7	11:35 a. m.	+2.42
June 10	11:03 a. m.	+2.80	1935		
July 8	4:00 p. m.	+2.69	May 13	9:30 a. m.	[1] +2.24
Aug. 11	4:30	+2.72	Oct. 24	11:40	+1.75
Sept. 10	4:15	+2.80			
Oct. 6	5:00	+2.97			

[1] By Salt Lake City Corporation.

(C-1-1)8aca2. Herman Winkelkatter, Buena Vista. Diameter, 2 inches; depth, 420 feet. Measuring point, top of ell, 3.0 feet above land surface and 4,234.63 feet above sea level. Drilled, November 1926. Flow, Sept. 25, 1931, 4.6 g. p. m. Temperature of water, 60° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Oct. 9	10:15 a. m.	+3.90	Jan. 11	10:30 a. m.	+3.60
Nov. 12	1:05 p. m.	+3.66	Mar. 24	12:10 p. m.	+3.81
Dec. 14	3:05	+3.63	May 9	12:30	+3.78
1932			Oct. 9	12:15	+3.87
Jan. 9	5:00 p. m.	+3.87	1934		
Feb. 6	12:30	+3.68	Aug. 7	11:55 a. m.	+3.40
Mar. 8	1:10	+3.61	1935		
Apr. 9	3:30	+3.65	May 13	10:00 a. m.	[1] +3.54
May 11	1:58	+3.57	June 10	10:30	[1] +3.50
June 10	10:50 a. m.	+3.78	July 15	10:55	[1] +4.38
July 8	3:47 p. m.	+3.57	Oct. 24	11:55	+3.08
Aug. 11	4:20	+3.71			
Sept. 10	4:25	+3.93			
Oct. 6	4:50	+4.07			
Nov. 4	9:45 a. m.	+3.78			
Dec. 6	3:45 p. m.	+3.63			

[1] By Salt Lake City Corporation.

(C-1-1) 12cdc2. O. P. Tillery, 423 West 13th South St., Salt Lake City. State claim No. 3558. Diameter 2 inches; depth, 185 feet. Measuring point, top of ell 1.0 foot above land surface and 4,226.44 feet above sea level. Drilled, 1916. Flow, Sept. 30, 1931, 6.3 g. p. m.; Aug. 26, 1932, 6.8 g. p. m.; Sept. 12, 1932, 7.0 g. p. m.; Oct. 19, 1932, 8.8 g. p. m.; Nov. 29, 1932, 8.8 g. p. m.; Jan. 4, 1933, 8.3 g. p. m.; Feb. 28, 1933, 8.4 g. p. m. Temperature of water, 54° F. All pressure measurements made after well was closed 5 minutes. Measurements after Aug. 6, 1932 by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1931		
Oct. 12		+2.60
Nov. 4	1:00 p. m.	+3.10
Dec. 4	2:40	+3.46
1932		
Jan. 4	2:20 p. m.	+3.52
Feb. 3	10:45 a. m.	+3.59
Mar. 2	12:00 m.	+3.78
Apr. 8	4:05 p. m.	+4.04
May 3	4:20	+3.85
June 1	3:20	+3.24
July 5	5:40	+2.97
Aug. 6	11:00 a. m.	+2.94
26	1:25 p. m.	+2.95
Sept. 12	11:48 a. m.	+3.08
Oct. 19	3:00 p. m.	+3.75
Nov. 29		+4.33
1933		
Jan. 4		+4.04
10	4:28 p. m.	+4.06
Feb. 28	3:30	+4.18
Apr. 5	2:55	+4.60
May 3	1:40	+4.30
June 8	2:50	+3.65
Sept. 12	2:45	+3.00
Oct. 17	5:10	+3.19
Nov. 23	2:35	+3.70
1934		
Jan. 6	11:30 a. m.	+3.62
1934—Con.		
Feb. 8	1:54 p. m.	+3.70
Apr. 24	4:20	+2.96
May 25	2:54	+2.71
July 19	4:05	+.85
Sept. 5	3:00	+2.35
Oct. 18	2:30	+2.83
Nov. 20	11:30 a. m.	+2.97
Dec. 14	3:45 p. m.	+3.25
1935		
Jan. 24	2:40 p. m.	+3.35
Mar. 30	12:20	+2.58
May 13	5:00	+1.16
July 19	3:15	+2.45
Aug. 30	4:30	+2.70
Oct. 4	2:00	+2.80
Nov. 5	3:25	+3.20
1936		
Jan. 28	11:25 a. m.	+4.30
Feb. 19	4:06 p. m.	+4.35
Mar. 19	5:00	+2.90
Apr. 29	4:30	+2.50
May 27	2:48	+2.60
June 22	5:30	+3.05
July 31	3:40	+3.15
Aug. 26	4:31	+3.17
Sept. 23	4:10	+3.20
Oct. 8	11:20 a. m.	+3.58
Nov. 24	3:00 p. m.	+3.50
Dec. 19	2:10	+4.50

(C-1-1)13adc1. Salt Lake City Corporation, corner of 17th South and West Temple Streets, Salt Lake City. State claim No. 7215. Diameter, 3 inches; depth, 500 feet. Measuring point, top of 3-inch casing, 1.8 feet above land surface and 4,240.64 feet above sea level. Drilled, 1900. Flow, Oct. 3, 1931, 6 g. p. m. Temperature of water, 60° F. Well was not allowed to flow after Dec. 22, 1931. All manual measurements after Apr. 28, 1933, made by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1931		
Oct. 3		+11.10
12	1:45 p. m.	+11.75
Nov. 4	1:07	[1] +12.41
	1:12	+13.13
	1:17	+13.27
Dec. 4	3:04	[1] +12.98
	3:09	+13.70
	3:14	+13.85
1933		
Apr. 28	1:05 p. m.	+17.88
1934		
June 6	2:30 p. m.	+12.50
8	2:50	+12.40
11	2:00	+12.75
13	3:25	+12.65
15	2:30	+12.65
18	11:55 a. m.	+13.30
20	3:25 p. m.	+12.75
25	2:35	+12.40
29	9:25 a. m.	+12.30
July 3	9:20	+12.25
6	9:20	+12.10
9	8:50	+11.90
11	8:50	+11.85
13	9:25	+12.00
16	9:15	+11.70
18	9:05	+11.65
20	9:20	+11.55
23	9:05	+11.55
26	9:20	+11.50
28	8:45	+11.55
31	8:40	+11.55
Aug. 2	9:45	+11.45
4	9:30	+11.30
7	9:00	+11 30
9	9:40	+11.15
10	9:10	+11.15
14	10:15	+11.20
16	10:55	+11.20
21	10:00	+10.90
23	10:20	+10.75
25	10:35	+10.80
28	10:55	+10.70
30	10:45	+10.60
1934—Con.		
Sept. 1	9:30 a. m.	+10.75
5	10:00	+10.80
7	10:00	+10.85
11	9:15	+11.05
15	9:15	+11.00
18	9:25	+11.00
20	3:20 p. m.	+11.15
25	9:30 a. m.	+11.35
27	10:00	+11.40
Oct. 4	9:30	+11.80
6	9:25	+11.95
11	10:40	+12.00
18	9:50	+12.55
23	9:55	+12.85
25	9:30	+12.95
29	9:55	+13.15
Nov. 3	8:30	+13.50
6	9:45	+13.65
8	10:00	+13.80
13	3:40 p. m.	+14.05
15	11:15 a. m.	+14.05
20	10:25	+14.50
26	11:50	+14.60
Dec. 3	1:18 p. m.	+14.65
10	3:31	+14.80
24	12:22	+15.10
31	12:04	+15.10
1935		
Jan. 7	12:05 p. m.	+15.20
14	12:08	+15.35
Oct. 2	9:05 a. m.	+14.00
10	8:33	+13.90
Nov. 19	9:42	+15.70
25	11:20	+15.70
27	9:50	+15.70
Dec. 6	8:55	+15.80
10	9:03	+15.90
17	9:34	+15.85
24	9:21	+15.80
1936		
Jan. 8 [2]	11:32 a. m.	+15.85

[1] Immediately after well was closed.
[2] After Jan. 8, 1936, record was continued by Salt Lake City Corporation.

A pressure-recording gage was maintained on this well during various periods. (See tables following.) Measuring point for pressure-recording gage was center of recorder connection, 4,242.84 feet above sea level prior to Jan. 1, 1935, and was top of 3-inch casing, 4,240.64 feet above sea level after Jan. 1, 1935.

Mean daily pressure head (feet), December 1931

Day	Pressure head	Day	Pressure head	Day	Pressure head
23	13.7	26	14.0	29	14.2
24	13.9	27	14.1	30	14.1
25	14.0	28	14.1	31	14.2

Mean daily pressure head (feet), 1932

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	14.2	------	14.2	14.5	14.8	13.8	13.5	12.7	12.5	13.4	14.3	15.2
2	------	------	14.2	14.7	14.9	13.9	13.5	12.6	12.7	13.4	14.3	15.2
3	------	------	14.2	14.5	14.9	13.9	13.4	12.6	12.8	13.6	14.3	15.3
4	------	------	14.3	14.6	14.8	13.8	13.3	12.5	12.8	13.7	14.3	15.3
5	14.1	------	14.3	14.6	14.8	13.8	13.2	12.6	12.9	13.7	14.3	------
6	14.2	------	14.3	14.6	14.8	13.7	13.2	12.7	13.0	13.8	14.5	------
7	14.2	------	14.3	14.5	14.8	13.7	13.2	12.6	13.0	13.9	14.5	------
8	14.1	14.3	14.3	14.6	14.8	13.8	13.2	12.6	13.0	13.9	14.5	------
9	14.2	14.3	14.3	14.8	14.8	13.8	13.2	12.6	13.0	13.8	14.5	------
10	14.1	14.3	14.3	14.7	14.8	13.9	13.0	12.5	13.0	13.8	14.5	------
11	14.1	14.3	14.3	14.7	14.7	13.9	13.0	12.5	13.0	13.9	14.6	------
12	14.1	14.4	14.3	14.8	14.7	13.9	13.0	12.5	13.1	14.0	14.6	------
13	14.0	14.3	14.4	14.8	14.7	13.9	13.0	12.5	13.1	14.1	15.0	------
14	------	14.2	14.4	14.7	14.5	13.9	13.0	12.4	13.1	14.1	15.1	------
15	------	14.2	14.3	14.7	14.4	13.9	13.0	12.4	13.1	14.2	15.0	------
16	------	14.1	14.2	14.8	14.4	14.9	13.0	12.4	13.2	14.3	14.9	------
17	------	14.1	14.2	14.8	14.4	13.9	13.0	12.3	13.2	14.3	14.9	------
18	------	14.1	14.2	14.7	14.3	13.8	13.0	12.3	13.3	14.2	14.9	------
19	------	14.1	14.2	14.7	14.2	13.9	13.0	12.3	13.3	14.1	14.9	------
20	------	14.1	14.2	14.7	14.2	13.9	12.9	12.3	13.3	14.0	14.9	------
21	------	14.1	14.1	14.7	14.2	14.0	13.0	12.3	13.3	14.0	14.9	------
22	------	14.1	14.1	14.5	14.0	13.9	12.9	12.3	13.3	14.1	14.9	------
23	14.0	14.1	14.1	14.5	14.0	14.0	12.9	12.3	13.3	14.1	14.9	------
24	14.0	14.1	14.2	14.6	14.0	13.9	12.9	12.3	13.3	14.0	15.0	------
25	14.1	14.1	14.2	14.8	14.0	13.9	12.9	12.2	13.3	------	15.0	------
26	14.1	14.2	14.2	14.8	14.0	13.8	12.9	12.2	13.3	14.1	15.0	------
27	14.2	14.2	14.3	14.7	14.0	13.8	12.8	12.2	13.3	14.2	15.1	------
28	14.2	14.2	14.4	14.6	14.0	13.8	12.8	12.2	13.3	14.2	15.1	------
29	------	14.2	14.4	14.6	14.0	13.7	12.8	12.3	13.3	14.2	15.1	------
30	------	------	14.3	14.7	14.0	13.6	12.8	12.3	13.3	14.1	15.2	------
31	------	------	14.4	------	13.9	------	12.7	12.4	------	------	------	------

Mean daily pressure head (feet), 1933

Day	June	July	Aug.	Day	June	July	Aug.	Day	June	July	Aug.
1	------	14.2	13.0	12	15.7	13.7	12.9	23	14.8	13.4	12.9
2	------	14.0	13.0	13	15.4	13.8	12.9	24	14.7	13.3	13.0
3	16.4	14.0	13.1	14	15.3	13.8	12.9	25	14.6	13.3	13.0
4	16.3	14.0	13.1	15	15.3	13.7	12.9				
5	16.2	14.0	13.0					26	14.5	13.2	13.0
				16	15.2	13.6	12.8	27	14.4	13.3	13.0
6	16.1	13.9	13.0	17	15.1	13.6	12.9	28	14.3	13.3	13.0
7	16.0	13.9	13.0	18	15.0	13.6	12.8	29	14.3	13.2	------
8	15.8	13.9	13.0	19	15.0	13.6	12.8	30	14.2	13.1	------
9	15.8	13.8	13.0	20	14.9	13.5	12.8	31	------	13.0	------
10	15.8	13.8	13.0	21	14.9	13.5	12.8				
11	15.7	13.8	13.0	22	14.8	13.5	12.9				

Pressure head (feet) at 12 noon, 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1	------	16.4	16.5	16.6	16.4	16.1	17	------	16.2	------	16.4	16.5	15.4
2	------	16.3	16.5	16.6	16.5	16.1	18	------	16.3	------	16.4	16.4	15.3
3	------	16.3	16.3	16.6	16.5	16.2	19	16.5	16.4	------	16.5	16.3	15.2
4	------	16.3	16.4	16.5	16.5	16.3	20	16.4	16.3	------	16.6	16.3	15.1
5	------	16.3	16.5	16.6	16.5	16.2	21	16.5	16.3	16.4	16.6	16.3	15.2
6	------	16.3	16.4	16.5	16.6	16.2	22	16.5	16.4	16.5	16.4	16.3	15.1
7	------	16.4	16.4	16.5	16.6	------	23	16.4	16.3	16.5	16.4	16.4	15.0
8	------	16.4	16.5	16.6	16.5	------	24	16.4	16.3	16.5	16.3	16.4	15.0
9	------	16.3	16.4	16.7	16.5	------	25	16.4	16.3	16.5	16.3	16.3	14.8
10	------	16.3	16.3	16.5	16.5	------	26	16.4	16.3	16.5	16.5	16.3	14.8
11	------	16.3	16.4	16.5	16.5	------	27	16.3	16.2	16.5	16.4	16.2	14.7
12	------	16.4	16.4	16.6	16.3	------	28	16.3	16.3	16.4	16.4	16.2	14.7
13	------	16.3	16.4	16.5	16.4	15.9	29	16.4	------	16.7	16.5	16.2	14.6
14	------	16.3	16.5	16.5	16.4	15.8	30	16.3	------	16.6	16.5	16.2	14.5
15	------	16.3	------	16.6	16.5	15.5	31	------	------	16.6	------	16.3	------
16	------	16.2	------	16.5	16.5	15.5							

(C–1–1)13dac1. Utah Poultry Producers, 1800 South West Temple St., Salt Lake City. State claim No. 2733. Diameter, 3 to 2 inches; depth, 864 feet. Measuring point, top of 3-inch tee, 1.5 feet above land surface. Drilled, August 1931. Flow, reported by driller as 25 g. p. m. Pressure, Mar. 30, 1932, 10.10 feet immediately after closing well at 1:13 p. m.; 13.56 feet at 1:18 p. m.; 15.00 feet at 1:23 p. m.

(C–1–1)14aaa1. Zion's Security Corporation, Salt Lake City. Diameter, 1 inch. Discharges methane gas. Flow, June 16, 1932, 3.3 g. p. m.

(C–1–1)14add. Lucy W. Smith, 1620 South 6th West St., Salt Lake City. Diameter, 2 inches; depth, 115 feet. Flow, June 16, 1932, ⅛ g. p. m. Temperature of water, 48° F.

(C–1–1)14add1. Lucy W. Smith, 1620 South 6th West St., Salt Lake City. Depth, 500+ feet. Drilled, 1911. Flow, June 16, 1932, 4.1 g. p. m. Temperature of water, 52° F.

(C–1–1)14bdc1. G. Back, 1055 West 17th South St., Salt Lake City. State claim No. 15826. Diameter, 2 inches; depth, 260 feet. Drilled, 1916. Flow, June 16, 1932, 4.5 g. p. m. Temperature of water, 51° F.

(C–1–1)14bdd1. P. Endres, 1015 West 17th South St., Salt Lake City. Diameter, 2 inches. Flow, June 16, 1932, 8.7 g. p. m. Temperature of water, 50° F.

(C–1–1)14cca1. Chas F. Adams, Salt Lake City. Diameter, 2 inches. Flow, June 16, 1932, 7.0 g. p. m. Temperature of water, 48° F.

(C–1–1)14cda1. John Lindeman, 1943 South 9th West St., Salt Lake City. State claim No. 8448. Diameter, 2 inches; depth, 82 feet. Drilled, 1929. Flow, June 16, 1932, 3.2 g. p. m. Temperature of water, 49° F.

(C–1–1)14cdc1. Chas. F. Adams, Salt Lake City. Diameter, 2 inches. Flow, June 16, 1932, 12.6 g. p. m. Temperature of water, 49° F.

(C–1–1)14cdd1. Peter Bock, 1030 West 21st South St., Salt Lake City. Diameter, 2 inches; depth, 100 feet. Drilled, 1929. Flow, June 16, 1932, 9.6 g. p. m. Temperature of water, 49° F.

(C–1–1)14daa1. John Rueckert, 1726 South 6th West St., Salt Lake City. State claim No. 1398. Diameter, 2 inches; depth, 147 feet. Drilled, 1932. Flow, June 16, 1932, 6.6 g. p. m. Temperature of water, 48° F.

(C–1–1)14dab1. Earnest Speirs, 1726 South 8th West St., Salt Lake City. State claim No. 9701. Diameter 1½ inches. Drilled, 1908. Flow, June 16, 1932, 0.4 g. p. m.

(C–1–1)14dca1. Marguerete Kohler, 1933 South 8th West St., Salt Lake City. State claim No. 9184. Diameter, 2 inches; depth, 200 feet. Drilled, 1915. Flow, June 16, 1932, 3.8 g. p. m. Temperature of water, 49° F.

(C-1-1)14dcb1. Mrs. L. L. May, 945 Jewel Ave., Salt Lake City. State claim No. 7422. Diameter, 2 inches; depth, 171 feet. Drilled, 1918. Flow, June 16, 1932, 1.7 g. p. m. Temperature of water, 50° F.

(C-1-1)14dcb2. Malcolm Marshall, 939 Jewel Ave., Salt Lake City. Diameter, 2 inches; depth 175 feet. Drilled, 1921. Flow, June 16, 1932, 3.3 g. p. m. Temperature of water, 49° F.

(C-1-1)14dcc1. J. L. Rackley, 1952 South State St., Salt Lake City. Diameter, 3 inches; depth, 380 feet. Drilled, 1921. Flow, June 16, 1932, 0.3 g. p. m. Temperature of water, 51° F.

(C-1-1)14dcd2. Clava Gygi, 1950 South 8th West St., Salt Lake City. State claim No. 9367. Diameter, 2 inches; depth, 160 feet. Drilled, 1916. Flow, June 16, 1932, 0.8 g. p. m. Temperature of water, 50° F.

(C-1-1)14dcd3. Antonia DeVisser, 1973 South 8th West St., Salt Lake City. State claim No. 9532. Diameter, 2 inches; depth, 170 feet. Drilled, 1926. Flow, June 16, 1932, 5.3 g. p. m. Temperature of water, 49° F.

(C-1-1)14dcd4. A. Blaine, 1947 South 8th West St., Salt Lake City. Diameter, 2 inches; depth, 200 feet. Flow, June 16, 1932, 4.0 g. p. m. Temperature of water, 49° F.

(C-1-1)14dcd6. Antonia DeVisser, 1973 South 8th West St., Salt Lake City. Diameter, 2 inches. Flow, June 16, 1932, 1.4 g. p. m. Temperature of water, 50° F.

(C-1-1)14ddd1. K. D. Hardy, Salt Lake City. State claim No. 4086. Diameter, 3 inches; depth, 200 feet. Drilled, 1915. Flow, June 16, 1932, 2.1 g. p. m. Temperature of water, 47° F.

(C-1-1)15abb2. Eva May Davis, Salt Lake City. State claim No. 9172. Diameter, 2 inches; depth, 138 feet. Measuring point, top of tee, 0.8 foot above land surface and 4,230.01 feet above sea level. Flow, Sept. 30, 1932, 8.0 g. p. m.; Nov. 4, 1932, 8.8 g. p. m.; Feb. 28, 1936, 5.3 g. p. m. (from 2-inch pipe, 1.0 foot above measuring point). Temperature of water, 56° F. For pressure measurements, see U. S. Geol. Survey, Water-Supply Paper 817, pp. 393, 394 (C-1-1)15ab, Wm. Davis.

(C-1-1)18bba1. Elizabeth C. Porter, Salt Lake City. State claim No. 15668. Diameter, 2½ inches; depth, 315 feet. Drilled, 1895. Temperature of water, 68° F.

(C-1-1)19cbb1. Utah Copper Co., Magna. State claim No. 5844. Diameter, 3 inches; depth, 356 feet. Drilled, December 1918. Flow, Nov. 7, 1932, 16 g. p. m. Temperature of water, 72° F.

(C-1-1)20baa1. Mrs. Geo. Rueckert, Magna. State claim No. 6026. Diameter, 2 inches; depth, 530 feet. Drilled, 1903. Flow, Nov. 7, 1932, 5.2 g. p. m. Temperature of water, 62° F.

(C-1-1)20dcd1. C. Bendixson, Magna. Diameter, 2 inches. Flow, Nov. 7, 1932, 4.1 g. p. m. Temperature of water, 60° F.

(C-1-1)21dbb1. O. K. Kimball, Salt Lake City. State claim No. 8438. Diameter, 1½ inches; depth, 365 feet. Drilled, 1905. Flow, Nov. 7, 1932, 3.3 g. p. m. Temperature of water, 62° F.

(C-1-1)22bda1. Wm. Gedge, 2340 South Redwood Road, Salt Lake City. State claim No. 2199. Diameter, 2 inches; depth, 325 feet. Measuring point, top of ell, 2.0 feet above land surface and 4,238.96 feet above sea level. Flow reported as 30 to 35 g. p. m. Temperature of water, 58° F. For pressure measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 394.

(C-1-1)22bdd2. Herbert Gedge, 2400 South Redwood Road, Salt Lake City. State claim No. 2204. Diameter, 2 inches; depth, 535 feet. Drilled, 1920. Flow reported as 60 g. p. m. Temperature of water, 62° F.

(C-1-1)23bab1. E. H. Lindsay, Salt Lake City. State claim No. 10198. Diameter, 2 inches; depth, 200 feet. Measuring point, top of flange of tee at land surface and 4,229.80 feet above sea level. Drilled, 1906. Temperature of water, 53° F. Flow, Aug. 26, 1932, 13.5 g. p. m.; Sept. 12, 1932, 15.4 g. p. m.; Nov. 29, 1932, 16.9 g. p. m.; Jan. 4, 1933, 18.0 g. p. m.; Mar. 3, 1933, 15.9 g. p. m. All pressure measurements made after well had been closed 5 minutes. Measurements after Aug. 6, 1932, by Salt Lake City Corporation except Oct. 24, 1935.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Nov. 4	4:45 p. m.	+5.34	Aug. 11	1:00 p. m.	+5.20
	4:50	+6.06	Sept. 12	3:30	+6.00
Dec. 4	2:45	+5.61	Oct. 17	4:15	+5.75
1932			Nov. 23	2:15	+5.80
Jan. 4	12:53 p. m.	+5.43	1934		
Feb. 1	4:50	+5.36	Jan. 6	11:00 a. m.	+6.30
Mar. 1	3:30	+5.64	Feb. 7	3:45 p. m.	+6.40
Apr. 9	2:10	+5.80	Apr. 24	4:00	+6.05
May 3	2:30	+5.68	May 25	3:45	+5.75
June 1	2:46	+4.98	Sept. 5	2:25	+5.57
July 6	8:35 a. m.	+5.00	Oct. 18	2:50	+5.73
Aug. 6	11:50	+5.40	Nov. 20	11:08 a. m.	+6.00
26	1:55 p. m.	+3.97	Dec. 14	4:15 p. m.	+6.05
Sept. 12	1:40	+4.75	1935		
Oct. 19	2:30	+5.49	Jan. 24	3:20 p. m.	+5.84
Nov. 29		+6.78	Feb. 20	11:50 a. m.	+6.00
1933			Mar. 30	1:03 p. m.	+5.90
Jan. 4		+4.95	May 13	5:30	+6.10
27	12:30 p. m.	+5.48	June 20	4:15	+5.10
Mar. 3	12:35	+5.91	July 19	2:50	+5.45
	12:40	+6.27	Aug. 30	5:00	+5.50
Apr. 5	3:23	+6.25	Oct. 4	2:30	+5.70
May 2	2:55	+5.95	24	10:20 a. m.	+5.75
June 8	2:10	+4.35	Nov. 14	4:20 p. m.	+5.10
July 6	2:25	+4.20			

(C-1-1)23bab2. E. H. Lindsay, Salt Lake City. State claim No. 10197. Diameter, 1½ inches; depth, 200 feet. Measuring point, top of elbow, 0.8 foot above land surface and 4,230.31 feet above sea level. Drilled, 1906. Temperature of water, 53° F. Flow, Aug. 26, 1932, 4 g. p. m.; Nov. 29, 1932, 5 g. p. m.; Jan. 4, 1933, 6 g. p. m. All pressure measurements made after well had been closed 5 minutes. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Nov. 4	4:30 p. m.	+4.55	Nov. 29		+4.63
Dec. 4	2:35	+4.80	1933		
1932			Jan. 4		+4.00
Jan. 4	12:43 p. m.	+4.58	27	12:25 p. m.	+4.04
Feb. 1	4:15	+4.91	Mar. 3	12:22	+5.65
Mar. 1	3:10	+4.91	Apr. 5	3:35	+3.95
Apr. 9	1:35	+4.89	May 2	3:10	+5.10
May 4	2:20	+4.89	June 8	2:00	+3.20
June 1	2:30	+4.11	July 6	2:45	+3.40
July 6	8:25 a. m.	+3.72	1935		
Aug. 6	11:30	+4.67	Feb. 20	12:01 p. m.	+5.05
26	2:05 p. m.	+3.10			
Sept. 12	1:52	+3.50			
Oct. 19	2:40	+4.62			

(C-1-1)24acc1. Zion's Security Corporation, Salt Lake City. State claim No. 9892. Diameter, 2 inches; depth, 250 feet. Measuring point, center line of elbow, 1.5 feet above land surface and 4,235.02 feet above sea level. Drilled, 1930. Temperature of water, 56° F. Flow, Sept. 30, 1931, 17.0 g. p. m.; Nov. 4, 1931, 17.6 g. p. m.; Aug. 26, 1932, 13.8 g. p. m.; Jan. 27, 1933, 15.0 g. p. m. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 30		+14.15	Aug. 6	12:12 p. m.	+15.22
Oct. 12		[1] +13.85	26	1:40	+13.14
		[2] +15.00	Sept. 12	2:27	[1] +15.32
Nov. 4	1:41 p. m.	[1] +15.15		2:32	+15.45
	1:46	+16.15		2:37	+15.59
	1:51	+16.58	Oct. 19	1:55	[1] +17.02
	1:56	+16.73		2:00	+17.59
	2:01	+17.02		2:05	+18.03
Dec. 4	1:53	[1] +14.28	Nov. 29	1:10	[3] +20.91
	1:58	+15.15		1:15	+20.91
	2:03	+15.44	1933		
1932					
			Jan. 27	12:00 m.	[4] +17.23
Jan. 4	11:54 a. m.	[1] +14.57	Feb. 28	4:05 p. m.	+19.04
	12:01 p. m.	+15.44	Apr. 5	3:50	+20.45
	12:06	+15.58	May 3	2:00	+20.15
Feb. 3	11:30 a. m.	[1] +14.72	June 8	1:18	+15.00
	11:35	+15.44	July 6	1:50	+12.25
	11:40	+15.58	Aug. 11	12:23	+11.90
Mar. 1	4:00 p. m.	[1] +15.87	Sept. 5	4:20	+11.60
	4:05	+16.58	Oct. 17	3:55	+14.95
	4:10	+16.73	Nov. 23	1:27	+17.20
Apr. 9	1:05	[1] +16.58			
	1:10	+17.74	1934		
	1:15	+18.17			
May 3	4:48	[1] +19.55	Jan. 6	10:30 a. m.	+17.25
	4:53	+19.61	Feb. 7	3:15 p. m.	+17.20
	4:58	+19.61	May 25	2:10	+12.90
June 3	12:12	[1] +16.44	June 6	2:10	+13.34
	12:17	+16.44	8	3:45	+14.40
	12:22	+16.58	11	1:39	+13.45
July 6	8:50 a. m.	[1] +12.84	13	3:40	+12.85
	8:55	+13.13	15	2:10	+12.70
	9:00	+13.42	18	12:05	+12.90
Aug. 6	12:02 p. m.	[1] +14.72	20	3:25	+13.90
	12:07	+15.15	July 19	3:20 [5]	+11.90

[1] Immediately after well was closed.
[2] Well had been completely closed for 15 minutes.
[3] Well had been completely closed for some time.
[4] New measuring point; altitude 4,235.02 feet.
[5] Record discontinued.

(C-1-1)24baa1. Hurd & Hurd, Salt Lake City. Diameter, 2 inches. Flow, June 16, 1932, 5.3 g. p. m. Temperature of water, 51° F.

(C-1-1)24bbb4. Denver & Rio Grande Western R. R. Co., Salt Lake City. State claim No. 11615. Diameter, 3 inches; depth, 660 feet. Measuring point, top of tee, at land surface. Drilled, November 1929. Temperature of water, 62° F. Pressure, Apr. 29, 1933, 49.25 feet.

(C-1-1)24bbc2. Denver & Rio Grande Western R. R. Co., Salt Lake City. State claim No. 11625. Diameter, 1½ inches; depth, 365 feet. Drilled, 1906. Flow, June 17, 1932, 1.9 g. p. m. Temperature of water, 48° F.

(C-1-1)24bca1. Archie McFarland, Salt Lake City. Diameter, 3 inches; depth, 500 feet. Drilled, 1931. Flow, June 16, 1932, 18.2 g. p. m. Temperature of water, 53° F.

(C-1-1)24bcd2. Archie McFarland, Salt Lake City. Diameter, 1½ inches; depth, 440 feet. Flow, June 16, 1932, 6.9 g. p. m. Temperature of water, 53° F.

(C-1-1)24cad1. Zion's Securities Corporation, Salt Lake City. State Claim No. 9890. Diameter, 2½ inches; depth, 250 feet. Drilled, 1920. Flow, June 16, 1932, 3.6 g. p. m. Temperature of water, 51° F.

(C-1-1)24cdc1. Zion's Securities Corporation, Salt Lake City. State claim No. 9895. Diameter, 2 inches; depth, 210 feet. Measuring point, top of elbow, 3.0 feet above land surface and 4,239.15 feet above sea level. Aug. 6, 1932, measuring point was top of well pipe, 1.2 feet above ground; altitude 4,237.61 feet. Temperature of water, 54° F. All measurements made after well had been closed 5 minutes. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Nov. 2		+2.50	Jan. 27	11:30 a. m.	+3.61
Dec. 4	12:45 p. m.	+2.60	Mar. 3	12:00 m.	+2.81
			Apr. 5	4:38 p. m.	+2.50
1932			May 3	2:35	+4.65
			June 7	3:50	+4.15
Jan. 4	11:40 a. m.	+2.58	July 6	1:00	+5.30
Feb. 3	12:20 p. m.	+2.55	Aug. 11	12:00 m.	+5.00
Mar. 1	4:45	+2.66	Sept. 5	3:40 p. m.	+4.85
Apr. 9	12:30	+2.76	Oct. 17	3:00	+5.15
May 3	5:20	+2.81	Nov. 23	1:20	+3.35
June 3	12:42	+2.56			
July 6	9:15 a. m.	+2.45	1934		
Aug. 6	12:35 p. m.	+2.37			
Sept. 12	2:55	+1.70	Jan. 6	10:00 a. m.	+4.77
Oct. 19	3:35	[1]+2.74	Feb. 7	2:45 p. m.	+5.66
Nov. 29		[1]+2.74	Apr. 24	3:30	+5.33
			May 25	1:45	+4.20
1933			July 19	3:00	+4.70
			Nov. 14 [2]	4:20	+3.02
Jan. 5		[1]+2.70			

[1] After well had been closed 15 minutes.
[2] Record discontinued.

(C-1-1)24cdc2. Zion's Securities Corporation, Salt Lake City. State claim No. 9896. Diameter, 2 inches; depth, 400+ feet. Measuring point, top of tee, 3.4 feet above land surface and 4,239.37 feet above sea level. Drilled, 1930. Temperature of water, 58° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Nov. 2		[1]+16.15	Apr. 9	12:34 p. m.	[1]+19.18
		[2]+18.89		12:39	+21.64
Dec. 4	12:24 p. m.	[1]+14.57		12:44	+21.92
	12:26½	+18.03	May 3	5:20	[1]+19.48
	12:29	+18.46		5:25	+21.06
	12:34	+19.18		5:30	+21.28
	12:39	+19.48	June 3	12:47	[1]+16.58
1932				12:52	+19.48
				12:57	+19.76
Jan. 4	11:19 a. m.	[1]+15.87	July 6	9:24 a. m.	[1]+18.03
	11:24	+19.90		9:29	+19.18
	11:29	+19.90		9:34	+19.18
Feb. 3	12:37 p. m.	[1]+15.44	Aug. 6	12:40 p. m.	[1]+17.02
	12:42	+17.02		12:45	+18.24
	12:47	+18.60		12:50	+18.38
Mar. 1	4:55	[1]+16.58			
	5:00	+19.04			
	5:05	+19.33			

[1] Immediately after well was closed.
[2] After well had been closed 10 minutes.

(C-1-1)24ddc1. Frank Bocco, 2736 Southwest Temple St., Salt Lake City. State claim No. 4375. Diameter, 2 inches; depth, 287 feet. Drilled, 1920. Flow, June 27, 1932, 1.2 g. p. m. Temperature of water, 56° F.

(C-1-1)25aab1. Albert F. Johanson, 2797 Southwest Temple St., Salt Lake City. State claim No. 3715. Diameter, 2 inches. Drilled, 1918. Flow, June 27, 1932, 1.1 g. p. m. Temperature of water, 56° F.

(C-1-1)25abb. K. Matsuda, 2815 South 2d West St., Salt Lake City. Diameter, 2 inches. Flow, June 23, 1932, 2.4 g. p. m. Temperature of water, 52° F.

(C-1-1)25abc2. Chubei Iwata, 2915 South 2d West St., Salt Lake City. Diameter, 2 inches. Flow, June 23, 1932, 1.3 g. p. m. Temperature of water, 48° F.

(C-1-1)25aca1. Albert Bosley, 3002 South 1st West St., Salt Lake City. State claim No. 8846. Diameter, 2 inches. Drilled, 1914. Flow, June 25, 1932, 2.1 g. p. m. Temperature of water, 58° F.

(C-1-1)25adb1. State Land Board, 2960 Southwest Temple St., Salt Lake City. State claim No. 13796. Diameter, 2 inches; depth, 300 feet. Drilled, 1920. Flow, June 27, 1932, 6.1 g. p. m. Temperature of water, 56° F.

(C-1-1)25adc1. W. T. Shell, 3006 Southwest Temple St., Salt Lake City. State claim No. 4063. Diameter, 2 inches; depth, 287 feet. Drilled, February, 1931. Flow, June 27, 1932, 2.0 g. p. m. Temperature of water, 58° F.

(C-1-1)25add11. A. L. Hanson, 57 West Gregson St., Salt Lake City. State claim No. 8972. Diameter, 2½ inches; depth, 310 feet. Drilled, 1917. Flow, June 27, 1932, 0.6 g. p. m. Temperature of water, 59° F.

(C-1-1)25dda16. S. E. Jackson, Salt Lake City. State claim No. 6555. Diameter, 2 inches; depth, 304 feet. Drilled, 1915. Flow, June 24, 1932, 2.5 g. p. m. Temperature of water, 58° F.

(C-1-1)26cdb1. Ben Harmon, Salt Lake City. State claim No. 9511. Diameter, 2 inches; depth, 125 feet. Drilled, 1865. Flow, June 23, 1932, 2.4 g. p. m. Temperature of water, 50° F.

(C-1-1)26cdb2. Delbert Harmon, 1080 West 33d South St., Salt Lake City. State claim No. 9512 (?). Diameter, 1½ inches; depth, 300 feet. Drilled, 1860. Flow, June 23, 1932, 4.2 g. p. m. Temperature of water, 54° F.

(C-1-1)27cdd1. Frank Erath, Salt Lake City. State claim No. 9400. Diameter, 2 inches; depth, 296 feet. Drilled, 1928. Temperature of water, 59° F.

(C-1-1)27dda1. Neil Olson, Salt Lake City. Diameter, 2 inches; depth, 40 feet. Measuring point, top of coupling at land surface and 4,241.29 feet above sea level. Drilled, 1926. Flow, Oct. 8, 1931, 20 g. p. m. Temperature of water, 54° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 8		+5.05	Nov. 4	11:00 a. m	+3.78
Nov. 12	10:50 a. m	+4.04	Dec. 12	3:00 p. m	+3.56
Dec. 14	10:35	+3.75	1933		
1932			Jan. 9	3:15 p. m	+3.57
Jan. 9	9:15 a. m	+3.81	Mar. 21	10:30 a. m	+3.71
Feb. 8	3:30 p. m	+3.76	May 16	2:10 p. m	+3.57
Mar. 8	3:00	+3.74	Oct. 9	1:35	+3.79
Apr. 12	12:20	+3.56	1934		
May 11	3:38	+3.44	Aug. 6	11:05 a. m	+2.07
June 10	12:20	+3.90	Oct. 29	10:40	+2.50
July 9	9:30 a. m	+3.88	1935		
Aug. 10	9:40	+3.92			
Sept. 10	2:35 p. m	+3.96	May 13	4:25 p. m	[1] +1.77
Oct. 5	11:40 a. m	+3.94	Oct. 25	9:40 a. m	+2.35

[1] By Salt Lake City Corporation.

(C-1-1)27dda2. Neil Olson, Salt Lake City. Diameter, 2 inches; depth 115 feet. Measuring point, top of tee, 0.6 foot above land surface and 4,241.75 feet above sea level. Drilled, 1926. Flow, Oct. 8, 1931, 27 g. p. m. Temperature of water, 57° F. All pressure measurements made 5 minutes after well had been closed.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 8		+10.15	Nov. 4	11:10 a. m	+10.31
Nov. 12	11:00 a. m	+10.67	Dec. 12	3:08 p. m	+9.37
Dec. 14	10:40	+9.95	1933		
1932			Jan. 9	3:25 p. m	+9.08
Jan. 9	9:05 a. m	+10.38	Mar. 21	10:50 a. m	+9.37
Feb. 8	3:45 p. m	+10.38	May 16	2:20 p. m	+9.59
Mar. 8	3:15	+10.24	Oct. 9	1:45	+9.81
Apr. 12	12:30	+10.38	1934		
May 11	3:55	+9.59	Aug. 6	10:55 a. m	+8.44
June 10	12:32	+10.46	Oct. 29	10:35	+8.44
July 9	9:45 a. m	+9.95	1935		
Aug. 10	10:00	+9.95			
Sept. 10	2:50 p. m	+10.60	May 13	4:30 p. m	[1] +7.75
Oct. 5	11:50 a. m	+10.53	Oct. 25	9:30 a. m	+8.40

[1] By Salt Lake City Corporation.

(C-1-1)28acd1. W. R. Kendrick, Salt Lake City. State claim No. 8667. Diameter, 2½ inches; depth, 257 feet. Drilled, 1926. Temperature of water, 58° F. Flow, Nov. 7, 1932, about 0.5 g. p. m.

(C-1-1)28cdd1. Edna May Hill, Salt Lake City. State claim No. 7548. Diameter, 2 inches; depth, 303 feet. Measuring point, top of tee, 2.5 feet above land surface and 4,254.21 feet above sea level. Drilled, 1926. Flow, Aug. 19, 1931, 14.8 g. p. m. Temperature of water, 57° F. For pressure measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 394.

(C-1-1)29add1. Lloyd Batton, Salt Lake City. Diameter, 2 inches; depth, 375 feet. Drilled, 1917. Flow, Nov. 7, 1932, estimated as 0.25 g. p. m. Temperature of water, 56° F.

(C-1-1)29bdc1. J. E. Smith, Salt Lake City. Diameter, 2 inches; depth, 400 feet. Drilled, 1900. Temperature of water, 56° F.

(C-1-1)30ddc1. S. W. Bawden, Salt Lake City. State claim No. 3133. Diameter, 2 inches; depth, 55 feet. Measuring point, center line of tee, 0.8 foot above land surface and 4,265.58 feet above sea level. Drilled, 1923. Flow, Sept. 16, 1931, 13 g. p. m. Temperature of water, 54° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 8		+2.32	Nov. 4	1:05 p. m	+1.05
Nov. 12	10:20 a. m	+1.84	Dec. 12	4:00	+1.27
Dec. 14	11:35	+1.42	1933		
1932			Jan. 9	4:30 p. m	+.45
Jan. 9	10:30 a. m	+1.31	Mar. 21	11:55 a. m	+.97
Feb. 8	4:35 p. m	+.95	May 16	2:50 p. m	+.65
Mar. 8	3:50	+.28	Oct. 9	2:20	+1.52
Apr. 12	1:00	+.07	1934		
May 13	11:43 a. m	+.82	Aug. 6	3:25 p. m	−.05
June 10	1:10 p. m	+1.38	Oct. 29	3:50	[1] +.06
July 9	10:25 a. m	+1.82	1935		
Aug. 10	4:45 p. m	+1.58			
Sept. 7	3:40	+1.46	May 15	10:15 a. m	[2] +.03
Oct. 5	12:45	+1.67	Oct. 25	10:30	+.10

[1] Measuring point changed to top of coupling, 4,265.0 feet above sea level.
[2] By Salt Lake City Corporation.

(C-1-1)33abb1. W. D. Hill, Salt Lake City. State claim No. 7547. Diameter, 2 inches; depth, 425 feet. Measuring point, top of tee, 2.0 feet above land surface and 4,252.67 feet above sea level. Drilled, 1925. For pressure measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 395.

(C-1-1)34dbc1. Eugene Mackay, Murray. Diameter, 1 inch; depth, 300 feet. Measuring point, top of 2-inch casing, 1.2 feet above land surface and 4,262.35 feet above sea level. Drilled, 1900. Flow, Sept. 16, 1931, about ⅛ g. p. m. Temperature of water, 54° F. (?).

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 8	1:45 p. m.	+6.70	Feb. 13	10:50 a. m.	[1] +3.77
Nov. 10	12:15	+6.78	Mar. 11	1:55 p. m.	[2] +3.17
Dec. 11	1:40	+5.05	Apr. 13	10:40 a. m.	[2] +3.04
			May 14	11:33	[2] +2.12
1932			June 11	2:20 p. m.	[2] +2.63
Jan. 9	9:45 a. m.	+3.25			

[1] After well had been closed 15 minutes.
[2] After well had been closed 10 minutes.

(C-1-1)35aaa4. F. E. Hitchens, 3493 South 6th West St., Murray. Diameter, 1½ inches; depth, 381 feet. Measuring point, center line of outlet, 2.0 feet above land surface, concrete floor, and 4,250.74 feet above sea level. Drilled, 1898. Flow, Sept. 29, 1931, 0.2 g. p. m. Temperature of water, 55° F. All pressure measurements made 5 minutes after well was closed. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Sept. 29		+10.95	July 6	12:15 p. m.	+10.40
Oct. 13	12:10 p. m.	+12.40	Aug. 4	2:15	+10.20
Nov. 5	3:15	+13.13	Sept. 4	5:47	+10.85
Dec. 8	9:40 a. m.	+12.84	Oct. 17	2:10	+10.90
1932			Nov. 16	4:10	+13.60
Jan. 5	1:40 p. m.	+12.98	1934		
Feb. 10	4:15	+13.13	Jan. 3	1:30 p. m.	+13.30
Mar. 4	11:00 a. m.	+14.28	Feb. 7	1:15	+14.05
Apr. 16	10:25	+14.50	May 22	3:18	+11.40
May 4	4:00 p. m.	+14.50	July 19	1:47	+9.90
June 3	2:15	+13.27	Sept. 5	1:04	+9.10
July 6	10:35 a. m.	+11.11	Oct. 16	12:15	+11.25
Aug. 6	1:48 p. m.	+10.89	Nov. 14	3:07	+14.30
26	3:25	+9.24	Dec. 15	11:25 a. m.	+13.90
Sept. 16	9:25 a. m.	+11.12	1935		
Oct. 19	11:50	+12.12	Jan. 24	5:20 p. m.	+14.40
Nov. 28		+13.70	Feb. 21	10:45 a. m.	+14.50
1933			Apr. 2	4:20 p. m.	+14.20
Jan. 5		+15.44	May 15	5:50	+14.30
27	10:55 a. m.	+9.23	June 20	1:47	+11.00
Mar. 9	4:15 p. m.	+13.33	July 12	3:37	+9.90
Apr. 10	3:49	+14.60	Aug. 27	4:54	+9.85
May 1	3:15	+12.00	Oct. 8	4:56	+11.25
June 7	4:23	+12.50	Nov. 14	3:48	+13.90

(C-1-1)35aaa5. F. E. Hitchens, 3493 South 6th West St., Murray. Diameter, 2 inches; depth, 330 feet. Measuring point, center line of tee, 1.5 feet above land surface and 4,250.62 feet above sea level. Drilled, July 1931. Flow, Sept. 29, 1931, 6.0 g. p. m. Temperature of water, 56° F. All pressure measurements made 5 minutes after well was closed. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1931		
Sept. 29		+6.70
Oct. 13	11:45 a. m.	+6.70
Nov. 5	3:10 p. m.	+7.79
Dec. 8	9:25 a. m.	+6.78
1932		
Jan. 5	1:35 p. m.	+7.21
Feb. 10	4:00	+7.64
Mar. 4	10:50 a. m.	+7.93
Apr. 16	10:15	+8.80
May 4	3:50 p. m.	+8.94
June 3	2:05	+7.06
July 6	10:30 a. m.	[1] +4.47
	10:30	[2] +4.54
Aug. 6	1:40 p. m.	+5.42
27	3:20	+6.35
Sept. 16	9:35 a. m.	+6.59
Oct. 19	11:30	+8.22
Nov. 28		+8.80
1933		
Jan. 5		+7.79
27	10:55 a. m.	+7.86
Mar. 9	4:10 p. m.	+8.07
Apr. 10	3:40	+8.70
May 1	3:10	+8.35
June 7	4:10	+6.50
1933—Con.		
July 6	12:00 m.	+5.00
Aug. 4	2:00 p. m.	+4.20
Sept. 12	11:35 a. m.	+5.10
Oct. 17	1:40 p. m.	+6.48
Nov. 16	4:00	+8.00
1934		
Jan. 3	1:30 p. m.	+8.00
Feb. 7	12:54	+8.05
Apr. 23	4:58	+6.80
May 22	2:58	+4.70
July 19	1:35	+4.10
Sept. 5	12:40	+4.90
Oct. 16	12:00 m.	+7.40
Nov. 14	3:00 p. m.	+8.50
Dec. 15	11:15 a. m.	+9.35
1935		
Jan. 24	5:10 p. m.	+8.80
Feb. 21	10:35 a. m.	+9.10
Apr. 2	4:26 p. m.	+11.35(?)
May 15	5:40	+9.35
June 20	1:40	+6.60
July 12	3:30	+5.00
Aug. 27	4:45	+5.90
Oct. 8	4:50	+7.0
Nov. 14	3:40	+9.6

[1] By indicating pressure gage.
[2] By rubber hose.

(C-1-1)35dda1. Alfred Carlisle, 4016 South 6th West St., Murray. State claim No. 6991. Diameter, 2 inches; depth, 400 feet. Drilled, 1914. Flow, June 26, 1931, 0.04 g. p. m.; Aug. 27, 1931, 0.6 g. p. m.; Oct. 15, 1931, 1.1 g. p. m., July 12, 1932, 0.5 g. p. m. First three measurements of flow by Salt Lake City Corporation. Temperature of water, 56° F.

(C-1-1)36abb2. Felix Denero, 3480 South 2d West St., Murray. Diameter, 2 inches. Flow, June 30, 1932, 1.5 g. p. m. Temperature of water, 58° F.

(C-1-1)36bba1. H. M. Goodfellow, 3490 South 4th West St., Murray. State claim No. 6904. Diameter, 2 inches. Drilled, 1910. Flow, June 30, 1932, 6.0 g. p. m.

(C-1-1)36cbc2. Rulon Carlisle, 648 West 39th South St., Murray. State claim No. 4829. Diameter, 2 inches; depth, 426 feet. Drilled, May 1932. Flow, June 30, 1932, 2.0 g. p. m. Temperature of water, 58° F.

(C-1-1)36dac1. L. S. Nester, 27 West 39th South St., Murray. State claim No. 3107. Diameter, 2½ inches; depth, 394 feet. Drilled, 1926. Flow, June 23, 1931, 24.0 g. p. m.; Aug. 27, 1931, 25.5 g. p. m.; Oct. 14, 1931, 30.0 g. p. m. Temperature of water, 54° F. Measurements of flow and of temperature by Salt Lake City Corporation. Pressure head, Oct. 24, 1933, 15.00 feet above top of casing at land surface.

(C-1-1)36dbd1. Arthur Busse, 215 West 39th South St., Murray. Diameter, 2 inches; depth, 200+ feet. Drilled, 1905. Temperature of water, 54° F.

Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)
1931		1932		1932—Con.	
June 25	0.5	Feb. 1	5.1	June 13	3.8
Aug. 27	2.5	Mar. 8	5.9	Aug. 15	1.3
Oct. 15	5.8	Apr. 28	6.0	Sept. 8	2.5
Nov. 28	6.0	May 31	3.1		
Dec. 2	6.0				

[1] By Salt Lake C Corporation.

(C-1-1)36dcc. E. Piper, 4041 South 2d West St., Murray. Diameter, 2 inches. Temperature of water, 55° F.

Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)
1931		1932		1932—Con.	
June 25	13.5	Feb. 1	15.6	June 15	15.0
Aug. 27	13.5	Mar. 8	16.2	Aug. 16	13.5
Oct. 14	16.8	Apr. 28	17.3	Sept. 8	14.5
Nov. 28	16.6	May 31	15.6		

[1] By Salt Lake City Corporation.

(C-1-1)36ddd3. Benj. A. McBride, 4081 Southwest Temple St., Murray. State claim No. 3250. Diameter, 2 inches; depth, 262.5 feet. Drilled, 1910. Temperature of water, 55° F. Flow, June 5, 1931, 4.3 g. p. m.; Aug. 26, 1931, 4.4 g. p. m.; Oct. 13, 1931, 4.5 g. p. m. Measurements by Salt Lake City Corporation.

(C-1-1)36ddd7. Mary L. Park, 62 West Central Ave., Murray. State claim No. 7121. Diameter, 2 inches; depth, 165 feet. Drilled, July 1927. Temperature of water, 55° F. Flow, June 4, 1931, 4.8 g. p. m.; Aug. 26, 1931, 2.8 g. p. m.; Oct. 13, 1931, 3.2 g. p. m. Measurements by Salt Lake City Corporation.

(C-1-2)2bba1. Salt Lake City. Diameter, 2 inches. Measuring point, top of casing, 1.25 feet above land surface. Flow, Sept. 28, 1932, estimated as 2 g. p. m. Temperature of water, 62° F. Pressure, Sept. 28, 1932, 1.35 feet.

(C-1-2)2ddd2. KSL Broadcasting Station, Salt Lake City. State claim No. 9423. Diameter, 3 inches; depth, 339 feet. Measuring point, top of casing, at land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1935		
Aug. 7	1:15 p. m.	[1] +8.15	May 13	11:20 a. m.	[2,3] +6.00
	1:20	+8.45	Oct. 24	12:35 p. m.	[3] +8.00
	1:25	+8.45			

[1] Immediately after well was closed.
[2] By Salt Lake City Corporation.
[3] After well had been closed 10 minutes.

(C-1-2)5bbb1. Morton Salt Co., Salt Lake City. State claim No. 13403. Diameter, 3 inches; depth, 660 feet. Measuring point, top of outlet pipe, 1.0 foot above land surface and 4,210.19 feet above sea level. Drilled, 1929. Flow, Sept. 25, 1931, 48 g. p. m. Temperature of water, 64° F. Depth measured as

601 feet by Morton Salt Co. on Dec. 26, 1935. For pressure measurements, see U. S. Geol. Survey Water-Supply Paper 817, p 395.

(C-1-2)5bbb2. Morton Salt Co., Salt Lake City. State claim No. 13404. Diameter, 3 inches; depth, 552 feet. Drilled, 1929. Flow, Dec. 26, 1935, reported by owner as 16.6 g. p. m. Temperature of water, 66° F. as reported by owner. Pressure, Dec. 26, 1935, reported by owner as 5.8 feet above land surface.

(C-1-2)5bbb3. Morton Salt Co., Salt Lake City. State claim No. 13405. Diameter, 4 inches; depth, 595 feet. Measuring point, top of 4-inch ell, 0.5 foot above land surface. Flow, Dec. 26, 1935, reported by owner as 59.8 g. p. m. Temperature, 63° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933		
Oct. 5	4:30 p. m.	[1] +11.68	Apr. 27	6:10 p. m.	[1] +11.47
	4:35	+14.94		6:15	+14.87
	4:40	+16.08		6:20	+15.73

[1] Immediately after well was closed.

(C-1-2)6bbb1. Morton Salt Co., Salt Lake City. State claim No. 13402. A 2-inch casing driven 360 feet; an inner 1¼-inch casing driven 620 feet. Drilled, 1915.

(C-1-2)8ddd1. Magna. State claim No. 5839. Diameter, 3 inches; depth, 120 feet. Measuring point, top of casing, 2.0 feet above land surface. Drilled, 1915. Flow, Nov. 8, 1932, 7.2 g. p. m. Temperature of water, 60° F. Pressure, Nov. 8, 1932, 9.81 feet immediately after closing at 1:05 p. m.; 10.31 feet at 1:10 p. m.; 10.67 feet at 1.15 p. m.

(C-1-2)9ddc1. Magna. Diameter, 2 inches; depth, 400(?) feet. Measuring point, top of casing, at land surface. Flow, Nov. 8, 1932, 6.2 g. p. m. Temperature, 57° F. Pressure, Nov. 8, 1932, 8.65 feet.

(C-1-2)12daa1. Lawrence Fox, Salt Lake City. State claim No. 11549. Diameter, 2 inches; depth, 411 feet. Measuring point, top of pipe, south side of pumphouse, 1.5 feet above land surface and 4,239.83 feet above sea level. Drilled, 1910. Flow Oct. 8, 1931, 21.3 g. p. m. Temperature of water, 71° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 8	4:30 p. m.	+8.07	Aug. 11	5:08 p. m.	+6.35
	4:45	+8.51	Sept. 10	3:45	+10.38
Nov. 12	1:54	+8.65	Oct. 6	5:25	+10.17
Dec. 14	1:50	+8.51	Nov. 4	10:20 a. m.	+10.82
			Dec. 6	4:25 p. m.	+8.94
1932			1933		
Jan. 11	10:10 a. m.	+8.94			
Feb. 6	1:30 p. m.	+9.23	Mar. 24	1:00 p. m.	+9.16
Mar. 8	2:10	+9.95	May 19	6:00	+7.64
Apr. 9	3:05	+9.37			
May 11	2:54	+9.45	1934		
June 10	11:30 a. m.	+9.88			
July 8	6:00 p. m.	+5.41	Aug. 7	12:25 p. m.	+7.57

(C-1-2)12dda1. Lawrence Fox, Salt Lake City. State claim No. 11548. Diameter, 2 inches; depth, 360 feet. Drilled 1894. Temperature of water, 78° F.

(C-1-2)16bbb1. Magna. Diameter, 2 inches. Measuring point, top of casing, at land surface. Flow, Nov. 7, 1932, 2.2 g. p. m. Temperature of water, 58° F. Pressure, Nov. 7, 1932, 2.74 feet immediately after closing well at 1:31 p. m.; 303 feet at 1:36 p. m.; 3.03 feet at 1:41 p. m.

(C-1-2)19dad1. Utah Copper Co., Magna. State claim No. 5829. Diameter 2 inches; depth 175 (166) feet. Measuring point, top of ell, 1.4 feet above land surface and 4,237.91 feet above sea level. Drilled, July 1931. Flow, Sept. 24, 1931, 13.5 g. p. m. Temperature of water, 56° F. For pressure measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 395.

(C-1-2)19dca1. Utah Copper Co., Magna. State claim No. 5827. Diameter, 2 inches; depth, 208 feet. Measuring point, top of outlet pipe at land surface and 4,244.79 feet above sea level. Drilled, July 1931. Flow, Oct. 7, 1931, 3.5 g. p. m. Temperature of water, 58° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Oct. 7		+1.27	Jan. 9	1:20 p. m.	(1)
Nov. 10	5:10 p. m.	+.81	Feb. 9	1:25	−0.66
Dec. 11	3:30	0	Mar. 9	4:00	−1.09
			Apr. 12	3:40	−1.44

1 Dry at −0.25.

(C-1-2)20bcd1. Utah Copper Co., Magna. State claim No. 5841. Diameter, 2½ inches; depth, 126.5 feet. Measuring point, top of ell, 1.0 foot above land surface and 4,235.16 feet above sea level. Drilled, August 1931. Flow, Sept. 23, 1931, 18 g. p. m. Temperature of water, 55° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 23		+13.00	Sept. 8	2:40 p. m.	[1] +10.38
Oct. 7	5:00 p. m.	[1] +13.85		2:45	+12.26
Nov. 10	4:05	[1] +11.54		2:50	+12.49
	4:10	+12.98	Oct. 5	2:23	[1] +10.67
	4:15	+13.27		2:28	+12.19
	4:20	+13.42		2:33	+12.34
Dec. 11	4:02	[1] +10.67	Nov. 4	1:46	[1] +10.38
	4:07	+11.97		1:51	+12.12
	4:12	+12.12		1:56	+12.26
1932			Dec. 13	2:45	[1] +9.66
				2:50	+11.25
Jan. 9	12:35 p. m.	[1] +9.66		2:55	+11.46
	12:40	+11.39	1933		
	12:45	+11.68			
Feb. 9	12:02	[1] +9.52	Jan. 10	12:45 p. m.	[1] +9.37
	12:07	+11.11		12:50	+10.53
	12:12	+11.25		12:55	+10.82
Mar. 9	2:44	[1] +9.52	Mar. 21	2:54	[1] +8.65
	2:49	+11.11		2:59	+9.74
	2:54	+11.25		3:04	+9.95
Apr. 12	4:24	[1] +9.23	May 13	12:25	[1] +8.07
	4:29	+10.96		12:30	+9.45
	4:34	+11.11		12:35	+9.52
May 13	3:00	[1] +8.51	June 20	3:10	[1 2] +7.79
	3:05	+9.52		3:15	+8.80
	3:10	+9.66		3:20	+9.30
June 10	2:32	[1] +8.15	1934		
	2:37	+9.23			
	2:42	+9.45	Aug. 6	4:34 p. m.	[1] +5.77
July 9	12:11	[1] +8.87		4:39	+7.57
	12:16	+10.17		4:44	+7.57
	12:21	+10.31	Oct. 30	12:39	[1] +6.90
Aug. 11	12:24	[1] +9.52		12:44	+7.85
	12:29	+11.54		12:49	+7.95
	12:34	+11.83			

1 Immediately after well was closed.
2 New measuring point, top of ell, 4,235.76 feet above sea level.

(C-1-2)21addl. Esther (Leo P.) Beagley, Magna. Diameter, 2 inches, depth, 56 feet. Measuring point, center of ell, 2.0 feet above land surface and 4,233.55 feet above sea level. Flow, Sept. 24, 1931, 6.0 g. p. m. Temperature of water, 60° F. For pressure measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 396.

(C-1-2)22bacl. Louis Sampson, Magna. State claim No. 8007. Diameter, 2 inches; depth, 80 feet. Drilled, 1910. Flow, Sept. 24, 1931, 6.0 g. p. m.

(C-1-2)22cbbl. Franklin E. Fowler, Magna. Diameter 2 inches; depth 110 feet. Measuring point, top of casing, 2.0 feet above land surface and 4,233.61 feet above sea level. Flow, Oct. 7, 1931, estimated as 25 g. p. m. Temperature of water, 61° F. For pressure measurements see U. S. Geol. Survey Water-Supply Paper 817, p. 396.

(C-1-2)23cad. David Madill, Magna. Diameter, 2 inches. Temperature of water, 60° F.

(C-1-2)24bdcl. Frieda Condas, Magna. State claim No. 1184. Diameter, 2 inches; depth, 280 feet. Drilled, 1897. Flow, Nov. 7, 1932, 16 g. p. m. Temperature of water, 66° F.

(C-1-2)25cccl. Hans Peterson, Magna. State claim No. 6439. Diameter, 3 inches; depth 40 and 60 feet. Drilled, 1932. On Oct. 25, 1935, pressure was 0.45 foot above top of pipe, which is about 1.0 foot above land surface. Temperature of water, 56° F. Owner reports pressure of about 2.8 feet in June 1932.

(C-1-2)30abbl. Pleasant Green Water Co., Magna. Diameter, 48 inches; depth, 120 feet. Dug, 1914. Depth to water, Mar. 24, 1933, 110 feet below land surface.

(C-1-2)35abb. J. H. Vaughan, Magna. Diameter, 3 inches; depth, 55 feet. Measuring point, top of casing, 1.4 feet above land surface and 4,308.88 feet above sea level. Drilled, 1911.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 24		−48.64	July 9	10:45 p. m.	−51.30
Oct. 7	2:15 p. m.	−48.80	Aug. 11	10:55 a. m.	−50.02
Nov. 10	3:00	−49.45	Sept. 7	3:20 p.m.	−49.27
Dec. 14	11:50 a. m.	−50.18	Oct. 5	1:10	−49.38
			Nov. 3	2:45	−49.67
1932			Dec. 13	4:00	−50.31
Jan. 9	11:05 a. m.	−50.56	1933		
Feb. 8	5:00 p. m.	−50.73			
Mar. 8	4:15	−51.51	Jan. 9	4:50 p. m.	−50.65
Apr. 12	1:20	−51.52	Mar. 21	12:15	(2)
May 13	11:55 a. m.	(1)	May 13	2:55	(2)
June 10	1:25 p. m.	−51.59			

1 Dry at −52.4.
2 Dry.

(C-1-2)36cccl. A. Hayden, Magna. Diameter, 36 inches; depth, 30 feet. Measuring point, top of concrete platform, 1.35 feet above land surface and 4,450.09 feet above sea level. This dug well has a 6-inch drilled well, (C-1-2)36ccc2, inside it. Depth to water, Oct. 7, 1931, 27.4 feet.

(C-1-2)36ccc2. A. Hayden, Magna. Diameter, 6 inches; depth, 121 feet. Measuring point, top of concrete platform, 1.35 feet above land surface and 4,450.09 feet above sea level. Drilled inside of dug well (C-1-2)36ccc1.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 7		−66.00	Mar. 11	12:00 m.	−71.82
Nov. 10	2:35 p. m.	−66.95	Apr. 13	2:05 p. m.	−73.00
Dec. 14	12:30	−68.6±	May 13	1:58	−74.01
			June 11	1:53	−74.79
1932			July 9	2:10	−74.98
			Aug. 11	10:30 a. m.	−74.15
Jan. 9	10:55 a. m.	−69.15	Sept. 7	2:05 p. m.	−73.25
Feb. 12	1:20 p. m.	−70.73			

(C-1-3)3add1. Morton Salt Co., Garfield. State claim No. 13400. Diameter, 2 inches; depth, 345 feet. Measuring point, top of ell, 1.0 foot above land surface and 4,216.29 feet above sea level. Drilled, 1915. Flow, Oct. 9, 1931, 6.9 g. p. m. Temperature of water, 65° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 9	1:00 p. m.	[1] +2.60	Oct. 5	3:25 p. m.	[2] +3.57
	1:05	+3.25		3:30	+3.81
	1:10	+3.39	Nov. 3	4:51	[2] +3.49
Nov. 12	5:12	[2] +3.45		4:56	+3.72
	5:17	+3.70	Dec. 8	3:10	[2] +3.48
Dec. 14	4:15	[2] +3.55		3:15	+3.72
	4:20	+3.84	1933		
1932					
			Jan. 10	2:33 p. m.	[1] +3.38
Jan. 9	2:00 p. m.	[2] +3.60		2:38	+3.71
	2:05	+3.86		2:43	+3.91
Feb. 9	2:36	[2] +3.66	Mar. 21	3:53	[1] +3.33
	2:41	+3.93		3:58	+3.68
	2:46	+4.13		4:03	+3.88
Mar. 9	1:49	[2] +3.59	May 16	3:25	[1] +3.25
	1:54	+3.84		3:30	+3.69
	1:59	+4.02		3:35	+3.90
Apr. 12	4:40	[2] +3.56	Nov. 13	2:06	[2] +3.38
	4:45	+3.81		2:11	+3.62
	4:50	+4.00	1934		
May 5	3:55	[2] +3.58			
	4:00	+3.84	Aug. 6	3:13 p. m.	[2] +3.20
	4:05	+4.04		3:18	+3.30
June 2	4:05	[2] +3.64	Oct. 30	11:54 a. m.	[2] +3.11
	4:10	+3.89		11:59	+3.28
July 7	7:25	[2] +3.58	1935		
	7:30	+3.87			
Aug. 11	2:08	[2] +3.57	May 10	3:50 p. m.	[3,4] +3.31
	2:13	+3.83	Oct. 24	3:10	[4] +2.95
Sept. 8	3:55	[2] +3.52			
	4:00	+3.79			

[1] Immediately after well was closed.
[2] After well had been closed 5 minutes.
[3] By Salt Lake City Corporation.
[4] After well had been closed 10 minutes.

(C-1-3)3add2. Morton Salt Co., Garfield. State claim No. 13401. Diameter, 2 inches; depth 689 (880) feet. Measuring point, top of concrete block around well, 1.5 feet above land surface and 4,216.13 feet above sea level. Drilled, 1915.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Oct. 9	12:45 p. m.	[1] +8.22	Jan. 9	2:12 p. m.	[1] +5.77
	12:55	+10.24		2:17	+8.65
Nov. 12	4:27	[1] +8.07		2:22	+9.52
	4:30	+9.52	Feb. 9	2:23	[1] +7.35
	4:33	+10.10		2:28	+9.37
	4:36	+10.53		2:33	+10.10
	4:40	+10.96	Mar. 9	1:25	[1] +6.78
	4:44	+11.39		1:30	+8.80
	4:49	+11.68		1:35	+9.81
	4:54	+11.97	Apr. 12	4:16	[1] +6.35
	4:57	+12.12		4:21	+9.08
Dec. 14	3:54	[1] +5.34		4:26	+10.24
	3:59	+8.36			
	4:04	+9.37			

[1] Immediately after well was closed.

A pressure-recording gage was maintained on this well from Apr. 27, 1932, to May 31, 1933, during which time the measuring point was the center of recorder connection, 4,218.43 feet above sea level.

Mean daily pressure head (feet), 1932

Day	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		19.3	22.2	23.1	23.0	22.6	22.4		23.9
2		19.8	22.5	23.1	23.0	22.7	22.4		23.8
3		20.1	22.7	23.1	23.0	22.6	22.4		23.7
4		20.3	22.7	23.0	23.0	22.6	22.3		
5		20.6	22.6	23.0	23.0	22.6	22.3	(1)	
6		20.9	22.4	23.0	23.0	22.6	22.4	23.8	
7		21.0	22.4	23.1	23.0	22.6	22.5	23.8	
8		21.1	22.5	23.1	23.1	22.6	22.4	23.7	
9		21.0	22.7	23.0	23.2	22.7	22.2	23.8	
10		20.7	22.7	22.9	23.1	22.6	22.2	23.8	
11		20.8	22.8	22.9	23.0	22.6	22.3		
12		20.9	22.9	22.8	23.0	22.5	22.3		
13		21.0	22.9	22.8	22.9	22.5	22.3		
14		21.0	22.9	23.0	22.9	22.5	22.3		
15		21.0	23.0	23.0	23.1	22.5	22.3		
16		21.2	23.0	23.0	23.0	22.6	22.3		
17		21.4	22.8	23.0	22.8	22.6	22.3	23.8	
18		21.6	22.8	23.0	22.8	22.5	22.2	23.7	
19		21.8	22.9	22.9	22.9	22.5	22.1	23.8	
20		21.8	22.9	22.8	22.8	22.4	22.1	23.7	
21		21.9	23.0	23.0	22.7	22.4	22.2	23.7	
22		21.8	23.1	23.0	22.6	22.4	22.2	23.8	
23		21.8	23.1	23.0	22.6	22.4	22.2		
24		21.9	23.2	23.0	22.6	22.4	22.2	23.8	
25		21.9	23.2	23.0	22.6	22.4	22.2	23.8	
26		22.0	23.1	23.0	22.5	22.4	22.2	23.8	
27	14.0	22.0	23.1	22.9	22.4	22.4	22.2	23.8	23.7
28	16.2	22.3	23.1	23.0	22.4	22.3	22.3	23.8	23.5
29	17.5	22.3	23.1	23.0	22.4	22.4	22.2	23.8	
30	18.6	22.2	23.2	22.9	22.3	22.5	22.2	24.0	
31		22.2		22.9	22.4				

[1] Kerosene added to protect against freezing.

Mean daily pressure head (feet), 1933

Day	Jan.	Feb.	Mar.	Apr.	May	Day	Jan.	Feb.	Mar.	Apr.	May
1	......	23.5	......	23.7	23.4	16	23.5	......	23.6	23.9	23.7
2	......	23.5	......	23.7	23.4	17	23.4	......	23.8	24.1	23.7
3	......	23.8	23.5	23.8	23.4	18	23.4	......	23.8	23.8	23.7
4	......	23.8	23.5	23.8	23.5	19	23.4	......	23.8	23.5	23.7
5	......	......	23.4	23.7	23.6	20	23.5	......	23.8	23.6	23.7
6	23.6	23.7	23.5	23.9	23.6	21	23.5	......	23.7	23.7	23.8
7	23.5	23.7	23.5	23.8	23.5	22	23.5	......	23.7	23.7	23.7
8	23.3	23.8	23.5	23.6	23.3	23	23.5	......	23.7	23.7	23.6
9	23.4	23.5	23.6	23.4	23.3	24	23.4	......	23.8	23.7	23.6
10	23.2	......	23.6	23.4	23.4	25	23.4	......	23.8	23.7	23.7
11	23.3	......	23.6	23.5	23.4	26	23.5	......	23.8	23.5	23.8
12	23.3	......	23.7	23.5	23.4	27	23.8	......	23.8	23.6	23.7
13	23.5	......	23.3	23.5	23.5	28	23.7	......	23.9	23.8	23.6
14	23.5	......	23.3	23.5	23.5	29	23.6	......	23.8	23.7	23.7
15	......	......	23.4	23.7	23.6	30	23.6	......	23.8	23.4	23.8
						31	23.5	......	23.8	......	23.9

(C–2–1)1aaa2. Eric Hubner, 4162 South Main St., Murray. State claim No. 3223. Diameter, 2 inches; depth, 260 feet. Drilled, 1912. Temperature of water, 53° F. Flow, June 3, 1931, 13.8 g. p. m.; Aug. 26, 1931, 12.0 g. p. m.; Oct. 13, 1931, 13.0 g. p. m. Measurements of flow by Salt Lake City Corporation.

(C–2–1)1add1. Selma O'Neill, 57 West Fireclay Ave., Murray. Diameter, 2 inches; depth, 444 feet. Drilled, July 1921. Temperature of water, 60° F.

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
July 9	[1] 9.5	Feb. 2	[1] 10.5	June 13	[1] 9.2
Sept. 4	[1] 9.3	Mar. 11	[1] 10.9	July 14	7.8
Oct. 20	[1] 10.5	Apr. 28	[1] 11.0	Aug. 16	[1] 7.5
		May 28	[1] 9.5	Sept. 7	[1] 8.3

[1] By Salt Lake City Corporation.

(C–2–1)1bab2. C. S. Walters, 4119 South 4th West St., Murray. State claim No. 4058. Diameter, 2 inches; depth, 198 feet. Measuring point, center of outlet, 2.4 feet above land surface and 4,251.02 feet above sea level. Drilled before 1915. Temperature of water, 55° F. See also U. S. Geol. Survey Water-Supply Paper 817, pp. 396–397, numbered (C–2–1)1ab, John L. Barr. Following measurements by Salt Lake City Corporation except Feb. 27, 1936.

Date	Water level (feet)	Date	Water level (feet)	Date	Water level (feet)
1931		1932		1932—Con.	
June 26	+13.85	Mar. 8	+12.98	June 14	+13.56
Oct. 15	+12.69	Apr. 28	+15.29	July 20	+12.84
Dec. 2	+15.58	May 31	+12.98	Aug. 15	+11.68

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
June 26	11.2	Feb. 2	10.5	Aug. 15	11.0
Aug. 27	10.8	Mar. 8	13.0	Sept. 8	11.3
Oct. 15	11.5	Apr. 28	12.5	Oct. 13	11.3
Dec. 2	12.0	May 31	11.5	1936	
		June 14	11.7		
		July 20	11.8	Feb. 27	11.3

(C-2-1)1cac2. Sarah M. Fechser, 4586 Cherry St., Murray. State claim No. 2184. Diameter, 2 inches; depth, 110 feet. Drilled, 1894. Temperature of water, 56° F. Flow, July 2, 1931, 1.5 g. p. m.; Aug. 31, 1931, 1.5 g. p. m.; Oct. 16, 1931, 1.5 g. p. m.; July 15, 1932, 1.4 g. p. m. First three measurements of flow made by Salt Lake City Corporation.

(C-2-1)1cad2. Linea Allen, 405 Jensen Lane, Murray. Diameter, 1½ inches; depth, 125 feet. Flow, July 2, 1931, 0.66 g. p. m.; Aug. 29, 1931, 0.60 g. p. m.; Oct. 16, 1931, 0.65 g. p. m.; July 15, 1932, 1.1 g. p. m. First three measurements of flow made by Salt Lake City Corporation.

(C-2-1)1cad4. Elizabeth Mackay, 333 Jensen Lane, Murray. State claim No. 4506. Diameter, 4 (3?) inches; depth, 150 feet. Drilled, 1906. Temperature of water, 57° F. Flow, July 2, 1931, 1.8 g. p. m.; Aug. 29, 1931, 1.8 g. p. m.; Oct. 16, 1931, 2.0 g. p. m.; July 15, 1932, 1.8 g. p. m. First three measurements of flow made by Salt Lake City Corporation.

(C-2-1)1cad5. R. J. Wale, 334 Jensen Lane, Murray. State claim No. 5107. Diameter, 2 inches; depth, 150 feet. Drilled, 1906. Temperature of water, 56° F. Flow, July 2, 1931, 3.8 g. p. m.; Aug. 29, 1931, 3.8 g. p. m.; Oct. 16, 1931, 3.6 g. p. m.; July 15, 1932, 2.7 g. p. m. First three measurements of flow made by Salt Lake City Corporation.

(C-2-1)1cdc3. C. C. Jewell, 4736 Cherry St., Murray. State claim No. 2369. Diameter, 2½ inches; depth, 108 feet. Drilled, 1907. Temperature of water, 55° F. Flow, July 3, 1931, 14.0 g. p. m.; Aug. 31, 1931, 14.6 g. p. m.; Oct. 16, 1931, 16.4 g. p. m.; July 15, 1932, 14.0 g. p. m. First three measurements of flow made by Salt Lake City Corporation.

(C-2-1)1cdc6. Elkins and Caldwell, 4709 Cherry St., Murray. State claim No. 8815. Diameter, 2 inches; depth, 150 feet. Drilled, 1911. Temperature of water, 55° F. Flow, July 3, 1931, 7.1 g. p. m.; Aug. 31, 1931, 7.1 g. p. m.; Oct. 16, 1931, 7.0 g. p. m. Measurements of flow by Salt Lake City Corporation.

(C-2-1)1cdd8. Jos. Lindberg, 4741 South Plum St., Murray. Diameter, 1¼ inches; depth, 120 feet. Drilled, 1896. Temperature of water, 56° F. Flow, July 6, 1931, 1.5 g. p. m.; Sept. 1, 1931, 1.6 g. p. m.; Oct. 26, 1931, 2.1 g. p. m.; July 15, 1932, 1.9 g. p. m. First three measurements of flow made by Salt Lake City Corporation.

(C-2-1)1dcb6. Fred Hansen, 4632 South 2d West St., Murray. State claim No. 3800. Diameter, 2 inches; depth, 149 feet. Drilled, 1904. Temperature of water, 56° F. Flow, July 6, 1931, 6.0 g. p. m.; Sept. 1, 1931, 6.0 g. p. m.; Oct. 26, 1931, 6.5 g. p. m.; July 14, 1932, 5.0 g. p. m. First three measurements of flow by Salt Lake City Corporation.

(C-2-1)1dcb12. C. Lisonbee, 4680 South 2d West St., Murray. Diameter, 2 inches. Flow, July 6, 1931, 1.5 g. p. m.; Sept. 1, 1931, 1.8 g. p. m.; Oct. 26, 1931, 1.4 g. p. m.; July 14, 1932, 1.2 g. p. m. First three measurements of flow by Salt Lake City Corporation.

(C-2-1)2aaa1. J. B. Carlisle, 4159 South 6th West St., Murray. Diameter, 2 inches; depth, 200 feet. Measuring point, top of tee, 1.0 foot above land surface. Flow, Oct. 13, 1931, 13.2 g. p. m. Pressure, Oct. 13, 1931, +17.17 feet.

(C-2-1)2aaa2. J. B. Carlisle, 4159 South 6th West St., Murray. Diameter, 2 inches; depth, 200 feet. Measuring point, center line of outlet, 1.25 feet above land surface and 4,244.44 feet above sea level. Temperature of water, 56° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
June 26		[1] +19.61	Mar. 4	11:30 a. m.	+19.33
Sept. 23		+17.95	8		[1] +19.18
Oct. 13	1:00 p. m.	+18.45	Apr. 16	10:50 a. m.	+19.90
15		[1] +15.00	May 4	3:40 p. m.	+19.61
Nov. 5	3:25	+19.18	31		[1] +19.18
28		[1] +19.04	June 3	2:30	+18.46
Dec. 8	9:50 a. m.	+18.60	13		[1] +19.33
			July 6	10:50 a. m.	+17.45
1932			20		[1] +18.03
			Aug. 6	2:15 p. m.	+17.38
Jan. 5	1:55 p. m.	+18.75	Sept. 8		[1] +18.60
Feb. 10	4:50	+18.89	Oct. 13		[1] +19.48

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
June 26	[1] 7.9	Feb. 2	[1] 6.0	Sept. 8	[1] 5.4
Aug. 28	[1] 7.5	Mar. 8	[1] 6.8	Oct. 13	[1] 5.4
Oct. 13	7.6	Apr. 29	[1] 6.5	Nov. 28	[1] 5.3
15	[1] 8.0	May 31	[1] 6.2		
Nov. 28	[1] 7.2	June 13	[1] 6.2	1933	
		July 20	[1] 5.5		
		Aug. 15	[1] 5.3	Jan. 5	[1] 5.1
				Feb. 2	[1] 4.8

[1] By Salt Lake City Corporation.

(C-2-1)5abb1. R. Coats, Murray. Diameter, 30 inches; depth, 28 feet. Measuring point, top of platform, at land surface and 4,331.80 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Nov. 10	12:30 p. m.	−25.14	Nov. 3	3:05 p. m.	−27.25
Dec. 11	2:05	−27.5	Dec. 6	11:10 a. m.	(2)
1932			1933		
Jan. 9		(1)	May 13	4:50 p. m.	(2)
Sept. 7	1:50 p. m.	−26.61			
Oct. 5	11:15 a. m.	−26.18			

[1] Dry from Jan. 9, 1932, to Aug. 11, 1932, inclusive.
[2] Dry at −28.0.

Mean daily depth to water, Sept. 10–Oct. 2, 1931 [1]

Date	Water level (feet)	Date	Water level (feet)	Date	Water level (feet)
Sept. 10	21.10	Sept. 18	21.77	Sept. 26	22.41
11	21.22	19	21.92	27	22.47
12	21.25	20	22.08	28	22.53
13	21.35	21	22.14	29	22.71
14	21.42	22	22.20	30	22.81
15	21.54	23	22.29	Oct. 1	22.80
16	21.65	24	22.35	2	22.82
17	21.71	25	22.39		

[1] Records from water-stage recording gage.

(C–2–1)5caa2. A. F. Eldridge, 4410 South 36th West St., Murray. State claim No. 9441. Diameter 36 inches; depth, 50 feet. Depth to water, Sept. 14, 1931, 19.2 feet below ground surface.

(C–2–1)10abc1. Emma B. Lindsay, Taylorsville. Diameter, 2½ inches; depth, 175 feet. Measuring point, top of casing, 0.2 foot above land surface and 4,298.19 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 21		−6.60	Jan. 9	2:50 p. m.	−13.52
Oct. 7	11:00 a. m.	−7.25	Mar. 6	1:15	−15.82
Nov. 10	11:30	−8.69	Apr. 13	2:50	−17.18
Dec. 11	10:35	−10.22	May 16	1:50	−17.89
			June 20	2:00	−17.72
1932			Oct. 9	4:00	−13.35
Jan. 8	4:40 p. m.	−11.75	1934		
Feb. 12	3:10	−13.32			
Mar. 11	2:05	−14.51	Aug. 6	11:35 a. m.	−20.62
Apr. 13	3:15	−15.76	Oct. 29	10:15	−21.35
May 14	12:08	−16.83			
June 11	1:30	−16.19	1935		
Aug. 10	4:00	−13.35			
Sept. 7	1:20	−11.44	May 8	11:10	[1] Over −24.5
Oct. 5	10:10 a. m.	−10.95			
Nov. 3	3:15 p. m.	−11.08	Oct. 25		Over −22.5
Dec. 6	11:00 a. m.	−12.14			

[1] By Salt Lake City Corporation.

(C–2–1)10abd. D. T. Thomander, 1630 West 48th South St., Taylorsville. State claim No. 4029. Diameter, 4 inches; depth, 180 feet. Measuring point, top of casing, 0.5 foot above land surface. Drilled, 1895. Temperature of water, 53° F. Depth to water, Mar. 6, 1933, 13.62 feet.

(C–2–1)11aaa2. Geo. M. Spencer, Murray. State claim No. 7004. Diameter, 2 inches; depth, 220 feet. Measuring point, center line of ell, 1.0 foot above land surface and 4,259.33 feet above sea level. Drilled, September 1907. Temperature of water, 57° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 21		+2.65	Jan. 9	2:35 p. m	+4.12
Oct. 7	11:00 a. m	+2.95	Mar. 17	4:45	+4.22
Nov. 10	11:45	+3.94	May 16	1:45	+3.32
Dec. 11	10:20	+4.06	Oct. 9	5:15	+3.54
1932			1934		
Jan. 8	4:50 p. m	+4.18	Jan. 11	10:20 a. m	+3.88
Feb. 12	3:30	+4.30	May 24	2:50 p. m	+2.20
Mar. 14	5:05	+4.26	Aug. 6	11:55 a. m	+2.60
Apr. 13	3:05	+4.18	Oct. 29	10:10	+3.42
May 19	11:10 a. m	+3.46			
June 11	2:35 p. m	+4.47	1935		
July 9	3:03	+3.82			
Aug. 10	3:45	+3.73	May 24	11:30 a. m	[1] +2.35
Sept. 7	1:35	+4.20			
Oct. 5	10:00 a. m	+4.36			
Nov. 4	11:35	+4.51			
Dec. 9	4:30 p. m	+4.36			

[1] By Salt Lake City Corporation.

(C-2-1)12aab1. F. T. Duval, 192 West 5th Ave., Murray. Diameter, 2 inches. Temperature of water, 58° F. Flow, July 8, 1931, 2.0 g. p. m.; Sept. 3, 1931, 2.0 g. p. m.; Oct. 19, 1931, 1.2 g. p. m.; July 16, 1932, 1.7 g. p. m. First three measurements of flow by Salt Lake City Corporation.

(C-2-1)12aad2. Rocky Mountain Packing Corporation, Murray. State claim No. 5040. Diameter, 3 inches; depth, 140 feet. Drilled, 1912. Temperature of water, 55° F.; measured by Salt Lake City Corporation.

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
July 9	[1] 6.5	Jan. 27	[1] 5.0	June 9	[1] 4.6
Sept. 9	[1] 7.0	Feb. 25	[1] 4.6	July 16	3.6
Oct. 26	[1] 6.9	Apr. 8	[1] 4.5	Aug. 12	[1] 3.9
Dec. 2	[1] 5.2	May 13	[1] 4.3	Sept. 8	[1] 4.0

[1] By Salt Lake City Corporation.

(C-2-1)12aad3. Rocky Mountain Packing Corporation, Murray. State claim No. 5039. Diameter, 2 inches; depth, 180 feet. Drilled, 1912. Temperature of water, 54° F.; measured by Salt Lake City Corporation.

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
July 9	[1] 4.4	Jan. 25	[1] 6.5	July 16	8.1
Sept. 9	[1] 5.0	Apr. 25	[1] 8.5	Aug. 12	[1] 5.5
Oct. 26	[1] 6.5	May 13	[1] 7.7	Sept. 8	[1] 7.3
Dec. 2	[1] 9.0	June 9	[1] 8.5		

[1] By Salt Lake City Corporation.

(C-2-1)12aad4. Rocky Mountain Packing Corporation, Murray. State claim No. 5037. Diameter, 2 inches; depth 160 (366) feet. Drilled, 1912. Temperature of water, 57° F.; measured by Salt Lake City Corporation.

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
July 9	[1] 18.0	Jan. 26	[1] 18.5	June 9	[1] 18.6
Sept. 9	[1] 16.5	Feb. 25	[1] 19.0	July 16	18.7
Oct. 26	[1] 19.2	Apr. 8	[1] 20.0	Aug. 12	[1] 18.0
Dec. 2	[1] 18.0	May 13	[1] 18.8	Sept. 8	[1] 17.5

[1] By Salt Lake City Corporation.

(C-2-1)12aad5. Rocky Mountain Packing Corporation, Murray. State claim No. 5038. Diameter, 2 inches; depth, 380 feet. Temperature of water, 58° F.; measured by Salt Lake City Corporation.

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
Sept. 9	[1] 2.0	Jan. 27	[1] 2.0	June 9	[1] 0.6
Oct. 26	[1] 1.2	Feb. 25	[1] 0.7	July 16	0.5
Dec. 2	[1] 2.0	Apr. 8	[1] 1.2	Aug. 12	[1] 0.5
		May 13	[1] 0.5	Sept. 8	[1] 0.4

[1] By Salt Lake City Corporation.

(C-2-1)12aad7. American Smelting & Refining Co., Murray. Diameter, 2 inches. Temperature of water, 53° F.; measured by Salt Lake City Corporation.

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
June 30	[1] 18.0	Jan. 29	[1] 15.8	Apr. 1	[1] 16.2
Aug. 28	[1] 17.0	Feb. 27	[1] 16.2	15	[1] 16.7
Oct. 30	[1] 18.4	Mar. 18	[1] 16.2	29	[1] 16.7
				July 15	16.7

[1] By Salt Lake City Corporation.

(C-2-1)12aba1. Margaret Erickson, 248 West 5th Ave., Murray. State claim No. 8462. Diameter, 1½ inches. Drilled, 1900. Temperature of water, 55° F. Flow, July 8, 1931, 7.8 g. p. m.; Sept. 3, 1931, 8.1 g. p. m.; Oct. 26, 1931, 5.6 g. p. m.; July 16, 1932, 7.3 g. p. m. First three measurements of flow by Salt Lake City Corporation.

(C-2-1)12aba2. ——— Brown, 248 West 5th Ave., Murray. Diameter, 1½ inches. Temperature of water, 56° F. Flow, July 8, 1931, 7.8 g. p. m.; Sept. 3, 1931, 8.1 g. p. m.; Oct. 26, 1931, 8.0 g. p. m.; July 16, 1932, 8.2 g. p. m. First three measurements of flow by Salt Lake City Corporation.

(C-2-1)12aba3. G. A. Berger, 200 West 5th Ave., Murray. Diameter, 2½ inches; depth, 432 feet. Temperature of water, 56° F. Flow, July 16, 1932, 0.3 g. p. m.

(C–2–1)12abb2. Albert Wood, 4870 South 2d West St., Murray. State claim No. 4352. Diameter, 2 inches; depth, 356 feet. Measuring point, center line of outlet, 2.7 feet above land surface and 4,263.84 feet above sea level. Drilled 1925. Measurements after Aug. 8, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Sept. 23		+14.35	June 2	5:30 p. m.	+13.75
Oct. 13	2:25 p. m.	+14.35	July 18	1:55	+13.80
19		[1] +10.38	Aug. 7	11:00 a. m.	+13.60
Nov. 5	4:15 p. m.	+14.87	Sept. 22	11:05	+13.70
Dec. 2		[1] +13.27	Nov. 16	12:25 p. m.	+13.98
7	4:20 p. m.	+14.43			
			1934		
1932					
			Jan. 2	1:45 p. m.	+13.85
Jan. 6	10:55 a. m.	+14.57	Feb. 6	1:00	+13.80
Feb. 13	11:55	+15.58	Apr. 23	2:00	+13.65
Mar. 5	10:00	+15.73	May 21	4:00	+13.25
8		[1] +10.96	July 10	3:15	+12.40
Apr. 16	11:20	+15.00	Aug. 24	12:35	+8.90
29		[1] +14.57	Oct. 5	3:25	+11.75
May 6	3:25 p. m.	+15.58	Nov. 17	10:15 a. m.	+12.05
June 1		[1] +13.99	Dec. 17	11:45	+11.20
15		[1] +13.70			
July 6	5:45 p. m.	+14.87	1935		
20		[1] +13.56			
Aug. 8	11:30 a. m.	+14.43	Jan. 22	3:05 p. m.	+11.50
16		+12.84	Feb. 26	2:40	+12.10
Sept. 8		+13.13	Mar. 29	3:11	+12.10
Oct. 13		+12.98	May 15	3:22	+11.95
Nov. 28		+14.56	June 18	2:39	+12.00
			July 11	3:23	+11.75
1933			Aug. 24	1:55	+11.10
			Oct. 2	9:54	+11.05
Jan. 6		+14.50	Nov. 12 [2]	2:18	+11.60
Feb. 1	11:15 a. m.	+14.34			
Mar. 8	2:57 p. m.	+14.13			
Apr. 7	3:30	+14.15			
28	11:49 a. m.	+13.90			

[1] By Salt Lake City Corporation.
[2] Continued after this date by Salt Lake City Corporation.

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
July 6	15.6	Feb. 3	15.1	June 15	15.0
Sept. 3	16.0	Mar. 8	15.8	July 20	15.8
Oct. 19	18.0	Apr. 29	15.0	Aug. 16	15.0
Dec. 2	15.0	June 1	15.6		

All measurements, except for July 20, by Salt Lake City Corporation.

(C–2–1)12abb3. Albert Wood, 4870 South 2d West St., Murray. State claim No. 4353. Diameter, 1½ inches; depth, 130 feet. Measuring point, top of ell, 2.0 feet above land surface and 4,263.78 feet above sea level. Flow, Aug. 16, 1932, 0.8 g. p. m.; Sept. 8, 1932, 1.8 g. p. m.; Oct. 3, 1932, 2.9 g. p. m.; Nov. 28, 1932, 3.2 g. p. m.; Jan. 6, 1933, 2.8 g. p. m.; Feb. 1, 1933, 2.8 g. p. m.; Mar. 8, 1933, 2.9 g. p. m. All pressure measurements taken after well had been closed 5 minutes. Measurements after Aug. 8, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Oct. 13		+0.88	July 8	1:45 p. m.	+0.06
Nov. 5	4:25 p. m.	+1.06	Aug. 7	11:10 a. m.	+.50
Dec. 7	4:25	+1.58	Sept. 22	11:20	+.37
			Nov. 16	12:55 p. m.	+1.29
1932			1934		
Jan. 6	11:10 a. m.	+1.41			
Feb. 13	12:10 p. m.	+1.53	Jan. 2	2:00 p. m.	+1.54
Mar. 5	10:10 a. m.	+1.52	Feb. 6	1:20	+1.65
Apr. 16	11:40	+1.61	Apr. 23	2:20	+.80
May 6	3:41 p. m.	+.93	May 21	4:15	+.92
June 4	11:05 a. m.	+1.24	July 10	3:20	−.23
July 6	5:50 p. m.	+.95	Aug. 24	12:50	−1.05
Aug. 8	11:40 a. m.	+.30	Oct. 5	3:30	−.13
Sept. 8		+.75	Nov. 17	10:23 a. m.	−.54
Oct. 13		+1.42	Dec. 17	11:50	+1.12
Nov. 28		+1.88	1935		
1933			Jan. 22	3:20 p. m.	+1.33
Jan. 6		+1.45	Mar. 29	3:16	+1.33
Feb. 1	11:35 a. m.	+1.50	May 15	3:15	+1.50
Mar. 8	3:05 p. m.	+1.55	June 18	2:50	−.25
Apr. 7		+1.80	July 8	3:05	−.63
28	11:15 a. m.	+.72	Aug. 24	2:05	+.60
June 2	5:45 p. m.	+.72	Oct. 2		+.35
			Nov. 12 [1]	2:25	+1.80

[1] Continued after this date by Salt Lake City Corporation.

(C-2-1)**12abd5.** Margaret Erickson, 248 West 5th Ave., Murray. Diameter, 1½ inches. Drilled, 1900. Temperature of water, 56° F. Flow, Sept. 3, 1931, 2.0 g. p. m.; Oct. 26, 1931, 1.7 g. p. m.; July 16, 1932, 1.6 g. p. m. First two measurements of flow by Salt Lake City Corporation.

(C-2-1)**12baa2.** Thomas Birch, 360 West 48th South St., Murray. State claim No. 2169. Diameter, 2 inches; depth, 129 feet. Drilled, 1904. Temperature of water, 56° F. Flow, July 6, 1931, 12.8 g. p. m.; Sept. 1, 1931, 13.5 g. p. m.; Oct. 26, 1931, 14.2 g. p. m.; July 14, 1932, 13.2 g. p. m. First three measurements of flow by Salt Lake City Corporation.

(C-2-1)**12bbb1.** Olga Davis, 500 West 48th South St., Murray. State claim No. 4179. Diameter, 1½ inches; depth, 130 feet. Drilled, 1901. Temperature of water, 55° F. Flow, July 3, 1931, 11.4 g. p. m.; Aug. 31, 1931, 12.0 g. p. m.; Oct. 16, 1931, 12.4 g. p. m.; July 14, 1932, 11.3 g. p. m. First three measurements of flow by Salt Lake City Corporation.

(C-2-1)**12dab1.** American Smelting & Refining Co., Murray. State claim No. 1536. Diameter, 2 inches; depth, 143 feet. Drilled, 1900. Temperature of water, 54° F.

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932		1932—Con.	
June 30	[1] 2.2	Jan. 29		Apr. 1	[1] 1.6
Aug. 28	[1] 2.4	Feb. 27	[1] 1.7	15	[1] 1.5
Oct. 30	[1] 2.1	Mar. 18	[1] 1.7	29	[1] 1.6
			[1] 1.5	July 15	2.3

[1] By Salt Lake City Corporation.

(C–2–1)**13cbd1.** Frank Demke, Murray. Diameter, 3 inches; depth, 87 feet. Measuring point, top of casing, 0.2 foot above land surface and 4,318.23 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Nov. 2		−43.02	Jan. 7	10:50 a. m.	−43.20
Dec. 7	4:05 p. m.	−43.21	Mar. 15	10:45	−43.08
			May 8	1:30 p. m.	−43.24
1932			June 20	11:20 a. m.	−42.36
			Nov. 17	3:40 p. m.	−43.37
Jan. 6	2:00 p. m.	−43.22			
Feb. 13	12:50	−42.95	1934		
Mar. 5	11:50 a. m.	−43.31			
Apr. 18	1:35 p. m.	−43.54	May 15	2:30 p. m.	−42.68
May 7	11:33 a. m.	−43.40			
June 7	12:35 p. m.	−42.61	1935		
July 6	5:30	−42.64			
Aug. 8	2:25	−42.70	Oct. 29	3:40 p. m.	−44.06
Oct. 13	1:15	−42.74			
Nov. 1	12:10	−42.85			
Dec. 9	10:15 a. m.	−43.08			

(C–2–1)**15abb1.** J. D. Gordon, Taylorsville. Diameter, 3 inches; depth, 163 feet. Measuring point, top of casing, 0.2 foot below land surface and 4,331.58 feet above sea level. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 397.

(C–2–1)**19bba1.** ——— James, Taylorsville. Diameter, 48 inches; depth, 143 feet. Measuring point, top of concrete curb, 0.2 foot above land surface and 4,622.12 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1934		
Sept. 22		−111.00	Aug. 6	12:55 p. m.	−108.35
Oct. 7	1:00 p. m.	−110.90	Oct. 30	4:35	−108.09
1932			1935		
Sept. 1	11:45 a. m.	−110.20	May 13	3:20 p. m.	[1] −107.80
10	1:20 p. m.	−109.98	June 17	12:20	[1] −107.89
Dec. 3	11:40 a. m.	−109.70	Oct. 7	1:15	[1] −107.71
			25		−107.80
1933					
May 13	4:00 p. m.	−109.42			
Oct. 9	4:20	−108.75			

[1] By Salt Lake City Corporation.

A water-stage recording gage was maintained on this well from Oct. 23, 1931, to Nov. 2, 1932. Measuring point for gage was top of recorder platform, 4,622.25 feet above sea level.

Mean daily depth to water (feet), October–December 1931

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1	-------	111.07	111.15	12	-------	111.05	110.93	22	-------	-------	-------
2	-------	111.09	111.04	13	-------	110.94	-------	23	111.00	111.20	-------
3	-------	111.12	110.92	14	-------	110.72	-------	24	111.20	111.29	110.95
4	-------	111.07	-------	15	-------	110.66	-------	25	110.95	110.95	110.76
5	-------	111.02	111.02								
				16	-------	110.89	-------	26	111.08	110.85	110.88
6	-------	111.03	110.98	17	-------	110.92	111.00	27	111.24	110.97	110.75
7	-------	110.94	110.70	18	-------	111.06	-------	28	111.23	-------	110.50
8	-------	110.80	110.60	19	-------	111.06	-------	29	111.22	-------	-------
9	-------	111.00	-------	20	-------	110.76	-------	30	111.10	-------	-------
10	-------	110.80	110.65	21	-------	110.84	-------	31	111.06	-------	110.84
11	-------	110.86	110.71								

Mean daily depth to water (feet), 1932

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1	110.76	-------	110.53	110.45	110.30	110.28	-------	110.10	110.20	109.86	109.69
2	110.73	-------	110.35	110.24	110.22	110.20	-------	110.12	-------	109.82	109.53
3	-------	-------	110.48	110.44	110.23	110.08	-------	110.11	-------	109.76	-------
4	-------	110.90	110.68	110.34	110.24	110.14	-------	110.09	-------	109.95	-------
5	110.96	110.80	110.55	110.34	110.30	110.12	-------	110.03	-------	109.95	-------
6	-------	110.64	110.41	110.63	110.30	110.29	-------	109.97	-------	109.64	-------
7	111.00	110.57	110.47	110.57	110.42	110.41	-------	109.94	-------	109.52	-------
8	110.98	110.52	110.55	110.47	110.56	110.39	-------	109.86	-------	109.68	-------
9	110.74	110.47	110.52	110.57	110.52	110.33	-------	109.83	-------	109.87	-------
10	110.82	110.54	110.52	110.54	110.38	110.33	-------	109.84	109.98	110.03	-------
11	110.55	110.70	110.62	110.44	110.39	110.28	110.08	109.95	-------	109.89	-------
12	110.20	110.72	110.84	110.30	110.42	110.23	110.14	109.95	-------	109.75	-------
13	-------	110.44	110.65	110.31	110.39	110.26	110.10	109.98	109.99	109.74	-------
14	-------	110.58	110.32	110.40	110.30	110.06	110.19	109.95	-------	109.76	-------
15	-------	110.54	110.35	110.46	110.41	109.97	110.20	109.95	109.91	109.79	-------
16	-------	110.68	110.54	110.24	110.39	110.15	110.16	110.00	109.91	109.54	-------
17	-------	110.82	110.60	110.33	110.36	110.22	110.07	110.04	109.80	109.50	-------
18	111.04	110.76	110.54	110.40	110.21	110.27	109.96	110.03	109.70	109.62	-------
19	110.65	110.70	110.30	110.10	110.21	110.22	110.04	109.94	109.85	110.00	-------
20	110.65	110.73	110.32	109.91	110.20	110.29	110.24	109.88	109.87	110.06	-------
21	110.92	110.87	110.70	110.11	110.04	110.22	110.15	109.91	109.88	109.84	-------
22	110.90	110.91	110.67	110.38	110.37	110.14	110.07	109.95	109.93	109.66	-------
23	111.01	110.85	110.60	110.51	110.51	110.10	110.00	109.98	109.94	109.79	-------
24	110.96	110.75	110.55	110.48	110.29	110.08	109.98	109.97	109.87	109.91	-------
25	110.75	110.80	110.56	110.32	110.28	110.01	109.95	109.90	109.68	109.99	-------
26	110.63	110.86	110.69	110.24	110.32	-------	110.00	-------	109.77	109.93	-------
27	110.48	110.75	110.65	110.33	110.20	-------	110.04	-------	109.91	109.74	-------
28	110.42	110.42	110.26	110.38	110.06	-------	110.01	-------	109.92	109.67	-------
29	110.36	110.32	110.38	110.49	110.10	-------	109.97	-------	109.80	109.64	-------
30	110.16	-------	110.68	110.50	110.21	-------	109.96	-------	109.79	109.77	-------
31	-------	-------	110.68	-------	110.23	-------	110.00	-------	-------	109.83	-------

(C–2–1)22bd. Walter A. Diamond, West Jordan. Diameter, 3 inches; depth, 324 feet. Measuring point, top of casing, 0.6 foot below land surface and 4,435.2 feet above sea level. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 777, p. 245, and Water-Supply Paper 817, p. 397.

(C-2-1)23daa1. U. S. Smelter, Murray. Diameter, 36 inches; depth, 13.5 feet. Measuring point, top of wooden platform, 1.75 feet above land surface. Depth to water, Aug. 20, 1931, 8.80 feet.

(C-2-1)24adc1. J. D. Blain, 93 West 64th South St., Murray. Diameter, 2 inches; depth, 160 feet. Measuring point, top of casing, 0.5 foot above land surface and 4,344.35 feet above sea level. For depth-to-water measurements see U. S. Geol. Survey Water-Supply Paper 817, pp. 397, 398.

(C-2-1)24ccc2. Louise Moore, Midvale. Diameter, 3 inches; depth, 153 feet. Measuring point, top of casing, 0.75 foot above land surface and 4,287.68 feet above sea level. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 398 (incorrectly given as owned by Mrs. Anna Larson).

(C-2-1)27dcd1. A. Sholeson, Midvale. State claim No. 7079. Diameter, 3 inches; depth, 200 feet. Measuring point, center line of discharge pipe, 2.9 feet above land surface and 4,361.74 feet above sea level. Drilled, 1903 (1910?). Temperature of water, 55° F.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Oct. 7	11:45 a. m.	+5.20	Jan. 9	2:00 p. m.	+0.85
Nov. 10	11:05	+4.50	May 16		(1)
Dec. 11	11:50	+2.65	Oct. 10	3:30	+1.15
1932			1934		
Jan. 8	4:05 p. m.	+2.05	Aug. 6	3:00 p. m.	−4.25
Feb. 12	4:35	+1.10	Oct. 31	10:00 a. m.	−4.23
Mar. 11	2:45	+.41			
Apr. 13	4:35	−.39	1935		
May 14	12:35	−1.40			
June 11	1:10	+1.16	May 15	11:45 a. m.	[2] −6.2
July 11	9:35 a. m.	+3.00	Oct. 25	2:45 p. m.	−7.5
Aug. 9	10:35	+4.16			
Sept. 7	1:00 p. m.	+4.25			
Oct. 4	5:10	+3.99			
Nov. 4	12:05	+3.02			
Dec. 9	4:00	+1.77			

[1] Not flowing.
[2] By Salt Lake City Corporation.

(C-2-1)27ddc1. Daniel R. Bateman, Midvale. State claim No. 6342. Diameter, 2 inches; depth, 235 feet. Drilled, 1911. Temperature of water, 57° F. Pressure head, Mar. 6, 1933, 5.1 feet above land surface.

(C-2-1)34bcd1. Utah-Idaho Sugar Co., West Jordan. State claim No. 13202. Diameter, 12 to 10 inches; depth, 1,397 feet. Drilled, September 1933. 12-inch casing from surface to 353 feet 7 inches; 10-inch casing from 346 feet to 1,397 feet. Depth to water when drilled reported as 27 feet below land surface. Drawdown reported as 133 feet with a yield of 0.52 cubic foot per second.

(C-2-1)34cba1. Wm. Benett, West Jordan. Depth, 1,000 feet. Drilled, about 1902. Depth to water, Aug. 18, 1931, 9.12 feet below top of casing.

(C–2–1)**34dbc1.** H. P. Jensen, West Jordan. Diameter, 3 inches; depth, 265 feet. Measuring point, top of casing, 0.5 foot above land surface and 4,368.99 feet above sea level. Drilled November 1905.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 17		−1.26	Jan. 9	12:20 p. m	−0.89
21		−1.28	Mar. 17	2:00	−1.08
Oct. 16	4:05 p. m	−1.47	May 16	12:20	−.85
Nov. 10	10:50 a. m	−.69	June 20	1:40	−1.06
Dec. 11		(1)	1934		
1932					
Jan. 8		(1)	May 29	4:05 p. m	−.57
Feb. 20		(1)	Oct. 31	10:10 a. m	−1.30
Mar. 11		(1)	1935		
Apr. 23	1:15 p. m	−2.82			
May 14	2:25	−2.79	May 15	2:15 p. m	[2] −1.68
June 11	12:18	−.62	Oct. 7	10:00 a. m	[2] −1.80
July 11	9:45 a. m	−.71	25	2:50 p. m	−1.87
Aug. 10	11:30	−.84			
Sept. 10	11:25	−.89			
Oct. 4	4:05 p. m	−.39			
Nov. 2	5:00	−.81			
Dec. 6	1:15	−.95			

[1] Dry at −2.20. Well partly plugged at this depth. [2] By Salt Lake City Corporation.

(C–2–1)**36aba1.** Mrs. Robert Jenkins, 157 South Pioneer St., Midvale. Diameter, 3 inches; depth, 192 feet. Measuring point, top of casing, 0.5 foot above land surface and 4,375.93 feet above sea level. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 398 (Agnes B. Jenkins).

(C–2–2)**1abb1.** Arthur Rushton, Taylorsville. Diameter, 3 inches; depth, 40 feet. Drilled, 1930. Depth to water, Sept. 23, 1931, 19.5 feet below top of casing, 1.0 foot above land surface.

(C–2–2)**8adb1.** Hercules Powder Co., Bacchus. State claim No. 2938. Diameter, 16 inches; depth, 500 feet. Measuring point, top of casing, 1.0 foot above land surface. Drilled, October 1934. Depth to water, June 6, 1936, 110.25 feet.

(C–2–2)**8baa3.** Hercules Powder Co., Bacchus. Diameter, 6 inches; depth, 295 feet. Measuring point, top of casing, 1.5 feet above land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Nov. 2		−69.3	Jan. 10	11:55 a. m	−68.27
Dec. 11	2:50 p. m	−69.15	Mar. 21	1:55 p. m	−68.10
1932			May 13	1:50	−66.33
			Nov. 13	2:40	−67.71
Jan. 9	11:30 a. m	−68.95			
Feb. 12	2:10 p. m	−68.38	1934		
Mar. 9	4:50	−68.39			
Apr. 13	11:50 a. m	−68.10	May 24	3:00 p. m	−69.75
May 13	5:08 p. m	−67.31	Oct. 29	2:20	−67.52
June 10	3:40	−65.76			
July 9	1:30	−66.80	1935		
Aug. 11	12:00 m	−68.20			
Sept. 7	2:30 p. m	−68.18	May 13	1:55 p. m	[1] −66.64
Oct. 5	2:05	−68.09	June 17	11:15 a. m	[1] −66.00
Nov. 4	2:40	−68.02	July 15	3:45 p. m	[1] −68.18
Dec. 13	3:45	−68.13	Oct. 7	3:20	[1] −67.21
			24	5:10	−67.10
			1936		
			June 6	1:25 p. m	−67.62

[1] By Salt Lake City Corporation.

(C-2-2)9bca1. Hercules Powder Co., Bacchus. State claim No. 11946. Diameter, 10 inches; depth, 526 feet. Measuring point, top of casing, 1.0 foot above land surface. Drilled, May 1936. Depth to water, June 6, 1936, 106–120 feet. Driller reported a draw-down of 160± feet after pumping 430 g. p. m. for 3 hours.

(C-2-2)12cbc1. Lawrence Bawden, Bacchus. State claim No. 2208. Diameter, 3 inches; depth, 150 feet. Measuring point, joint in pump head, 3.2 feet above land surface and 4,724.53 feet above sea level. Drilled, 1895.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 7	2:00 p. m.	−138.06	Sept. 15	4:10 p. m.	−138.35
Nov. 10	2:20	−137.9±	Oct. 5	11:00 a. m.	−138.52
			Nov. 3	2:35 p. m.	−138.84
1932			Dec. 6	12:10	−138.45
Apr. 13	2:00 p. m.	−138.95	1933		
May 13	1:30	−138.87			
June 10	4:15	−138.29	Mar. 25	12:35 p. m.	−137.97
Aug. 11	1:40	[1] −141.1±	May 13	3:15	−139.83

[1] Windmill pumping.

(C-2-2)13bcb1. O. Warr, Taylorsville. Diameter, 3 inches. Dry at 160 feet below land surface, Sept. 22, 1931.

(C-2-2)14dcd1. Martin Rasmussen, Bacchus. State claim No. 184. Diameter, 42 inches; depth, 50 feet. Measuring point, top of 2- by 12-inch well cover. 1.0 foot above land surface and 4,839.37 feet above sea level. Dug, 1928.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931					
			1933		
Oct. 7	1:25 p. m.	−48.50			
Nov. 10	1:40	−48.55	Mar. 25	1:00 p. m.	−48.60
			May 13	3:25	−47.41
1932			Oct. 9	4:35	−48.58
Mar. 11	1:00 p. m.	−48.64	1934		
Apr. 13	1:30	−48.49			
May 13	1:15	−47.84	Aug. 6		−48.75
June 10	4:35	−48.29	Oct. 30	4:50 p. m.	−48.77
July 7	1:15	−48.41			
Aug. 11	12:55	−48.68	1935		
Sept. 10	1:35	−48.52			
Oct. 5	10:45 a. m.	−48.51	May 13	2:40 p. m.	[1] −46.95
Nov. 3	2:15 p. m.	−48.55	Oct. 7	1:25	[1] −47.87
Dec. 6	11:50 a. m.	−48.58	25	1:35	−48.10

[1] By Salt Lake City Corporation.

(C-2-2)14dcd2. Ray Woods, Bacchus. Diameter, 48 inches; depth, 49 feet. Measuring point, top of well curbing, 0.3 foot above land surface and 4,839.42 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Sept. 22		−48.10	Mar. 11	12:50 p. m.	−48.20
Oct. 7	1:15 p. m.	−48.55	Apr. 13	1:20	−48.51
Nov. 10	1:40	−48.60	May 13	1:00	−47.89
			June 10	4:30	−48.40

(C-2-2)24aaa1. Otto Peterson, Welby. Diameter, 36 inches; depth, 112 feet. Measuring point, top of concrete curb, 1.2 feet above land surface and 4,644.76 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Sept. 22		−96.55	Nov. 3	1:25 p. m.	−95.99
Oct. 7	12:45 p. m.	−97.25	Dec. 6	12:25	−95.86
Nov. 10	1:20	−96.93			
Dec. 10	1:50	−96.75	1933		
1932			Mar. 25	1:05 p. m.	−95.53
			May 13	3:35	−95.63
Jan. 7	1:15 p. m.	−97.02	Oct. 9	4:25	−95.00
Feb. 4	3:10	−96.87			
Mar. 10	2:30	−96.61	1934		
Apr. 7	2:25	−97.02			
May 19	1:05	−96.86	Aug. 6	1:00 p. m.	−94.90
June 10	4:48	−96.50	Oct. 30	4:55	−94.12
July 7	1:00	−97.40			
Aug. 11	12:45	−96.22	1935		
Sept. 10	1:10	−96.62			
Oct. 5	10:35 a. m.	−96.20	Oct. 25	1:50 p. m.	−93.62

(C-2-2)25dda1. Nick Nelson, Taylorsville. Diameter, 48 inches; depth, 65 feet. Measuring point, top of 2- by 4-inch platform, 0.5 foot above land surface and 4,684.02 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 19		−57.77	Mar. 17	3:15 p. m.	−57.69
Oct. 7		−57.90	May 16	1:00	−57.53
Nov. 10	1:25 p. m.	−57.85			
Dec. 11	1:00	−57.90	1934		
1932			Aug. 6	1:30 p. m.	−57.70
			Oct. 30	5:05	−57.73
Jan. 7	1:30 p. m.	−58.00			
Mar. 11	3:30	−57.79	1935		
Apr. 13	3:55	−57.64			
May 14	1:15	−57.66	May 13	3:05 p. m.	[1]−57.62
June 11	12:52	−57.66	June 17	12:40	[1]−57.77
July 7	1:50	−57.60	Oct. 7	1:00	[1]−57.58
Aug. 10	10:50 a. m.	−57.56	25	2:10	−57.80
Sept. 10	1:00 p. m.	−57.58			
Oct. 4	4:40	−57.65			
Nov. 2	1:15	−57.72			
Dec. 6	12:45	−57.68			

[1] By Salt Lake City Corporation.

(C-3-1)bdb1. C. Arlo Dumas, Sandy. State claim No. 6521. Diameter, 3 inches; depth, 264 feet. Measuring point, joint in pump head, 2.0 feet above land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Nov. 2		−45.40	Jan. 7	11:40 a. m.	−45.92
Dec. 9	9:50 a. m.	−45.61	Mar. 14	3:10 p. m.	−46.01
			May 15	1:00	−46.09
1932			1934		
Jan. 6	5:00 p. m.	−45.75	May 15	3:35 p. m.	−45.78
Feb. 17	1:15	−45.88	Oct. 31	4:25	−46.32
Mar. 15	12:00 m.	−45.96	1935		
Apr. 18	5:05 p. m.	−45.77	May 10	2:30 p. m.	[1] −45.53
May 7	4:10	−46.16	Oct. 29	1:15	−46.80
June 8	11:30 a. m.	−45.46			
July 20	5:52 p. m.	−45.14			
Aug. 9	12:45	−45.21			
Sept. 6	5:35	−45.30			
Oct. 4	10:30 a. m.	−45.29			
Nov. 1	10:05 a. m.	−45.45			
Dec. 9	1:15 p. m.	−45.64			

[1] By Salt Lake City Corporation.

(C-3-1)3cdc1. ——— Diamond, West Jordan. Diameter, 3 inches. Measuring point, top of casing, 0.5 foot above land surface and 4,440.52 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 18		−44.45	Jan. 9	12:10 p. m.	−49.49
Oct. 16	4:00 p. m.	−44.50	Mar. 17	1:40	−51.45
Nov. 10	10:45 a. m.	−45.32	May 16	12:15	−52.30
Dec. 9	4:55 p. m.	−46.54	June 20	1:30	−49.95
			Oct. 10	2:45	−49.58
1932			1934		
Jan. 8		−47.58	Oct. 31	10:35 a. m.	−54.97
Mar. 11	4:50 p. m.	−49.23	1935		
Apr. 23	1:30	−50.55	May 15	1:50 p. m.	[1] −58.84
May 14	2:35	−50.89	June 17	3:00	[1] −57.78
June 11	12:10	−49.41	Oct. 7	10:25 a. m.	[1] −58.84
July 11	10:00 a. m.	−47.81	25	3:00 p. m.	−59.30
Aug. 10	11:45	−47.00			
Sept. 10	11:40	−46.96			
Oct. 4	3:40 p. m.	−47.25			
Nov. 2	4:45	−47.41			
Dec. 6		−48.82			

[1] By Salt Lake City Corporation.

(C-3-1)6dbc1. Denver & Rio Grande Western R. R. Co., Welby. State claim No. 11620. Diameter, 10 inches; depth, 120 feet. Measuring point, top of concrete block, 3.5 feet below land surface. The second well from the south of 4 wells. Depth to water reported as 62 feet below the land surface when drilled in 1909.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Nov. 2		−50.70	Jan. 9	1:20 p. m.	−50.74
Dec. 11	12:20 p. m.	−50.73	Mar. 17	2:35	−50.52
			May 16	12:40	−50.38
1932			1934		
Jan. 7	1:50 p. m.	−50.90			
Feb. 19	11:00 a. m.	−50.99	Aug. 6	2:00 p. m.	−51.07
Mar. 11	3:55 p. m.	−50.88	Oct. 30	5:20	−51.08
Apr. 23	12:50	−50.73			
May 14	1:58	−50.60	1935		
June 11	12:35	−50.84			
July 7	2:05	−50.80	May 15	2:45 p. m.	[1] −53.73
Aug. 10	11:10 a. m.	−50.85	June 17	1:00	[1] −53.95
Sept. 10	12:35 p. m.	−50.94	Oct. 7	12:45	[1] −54.27
Oct. 4	4:30	−51.03	25	2:20	−52.57
Nov. 3	12:50	−51.01			
Dec. 6	1:10	−50.99			

[1] By Salt Lake City Corporation.

(C-3-1)6dbc2. Denver & Rio Grande Western R. R. Co., Welby. State claim No. 11621. Diameter, 10 inches; depth, 120 feet. Measuring point, top of concrete block around casing, 3.0 feet below land surface. Depth to water reported as 62 feet below land surface when drilled in 1909.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Nov. 2		−49.45	Jan. 9	1:10 p. m.	−49.37
Dec. 11	12:20 p. m.	−49.46	Mar. 17	2:30	−49.20
			May 16	12:35	−49.06
1932			Nov. 13	3:30	−49.38
Jan. 7	1:55 p. m.	−49.63	1934		
Feb. 19	11:05 a. m.	−49.64			
Mar. 11	3:50 p. m.	−49.60	Aug. 6	2:05 p. m.	−49.70
Apr. 23	12:45	−49.45	Oct. 30	4:25	−49.77
May 14	1:48	−49.37			
June 11	12:30	−49.48	1935		
July 7	2:05	−49.46			
Aug. 10	11:15 a. m.	−49.54	May 15	2:00 p. m.	[1] −49.50
Sept. 10	12:40 p. m.	−49.64	June 17	1:05	[1] −49.54
Oct. 4	4:20	−49.73	Oct. 25	2:25	−49.78
Nov. 3	1:00	−49.70			
Dec. 6	1:05	−49.69			

[1] By Salt Lake City Corporation.

(C-3-1)6dbc3. Denver & Rio Grande Western R. R. Co., Welby. Diameter, 8 inches; depth, 494 feet. Measuring point, top of concrete platform at land surface. Depth to water reported as 90 feet below land surface when drilled in 1907.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Nov. 2		−30.10	Jan. 9	1:25 p. m.	−28.24
Dec. 11	12:15 p. m.	−27.20	Mar. 17	2:45	−28.45
			May 16	12:42	−28.65
1932			Nov. 3	3:25	−29.24
Jan. 7	1:45 p. m.	−27.20	1934		
Feb. 19	11:20 a. m.	−27.39			
Mar. 11	4:00 p. m.	−27.50	Aug. 6	1:55 p. m.	−29.75
Apr. 23	12:55	−27.64	Oct. 30	5:15	−29.83
May 14	2:05	−27.70			
June 11	12:38	−27.81	1935		
July 7	2:00	−27.85			
Aug. 10	11:05 a. m.	−28.04	May 15	2:40 p. m.	[1] −30.14
Sept. 10	12:45 p. m.	−27.89	Oct. 25 [2]		
Oct. 4	4:30	−28.00			
Nov. 3	12:56	−28.06			
Dec. 6	1:00	−28.14			

[1] By Salt Lake City Corporation.
[2] Well plugged with rubbish.

(C-3-1)11aaa1. Victor Mumford, Sandy. Diameter, 3 inches; depth, 165 feet. Measuring point, top of casing, at land surface. Located in yard a few feet north of residence.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Aug. 24		−55.60	Jan. 9	10:10 a. m.	−56.24
Sept. 11		−55.60	Mar. 14	3:30 p. m.	−56.26
Oct. 15	3:05 p. m.	−55.80	May 15	1:15	−56.38
Nov. 6	3:45	−55.93	June 15	3:05	−55.87
Dec. 8	4:05	−56.03	Aug. 17	3:25	−55.69
			Dec. 21	1:30	−56.41
1932					
			1934		
Jan. 9	9:35 a. m.	−56.12			
Mar. 15	12:30 p. m.	−56.24	May 15	3:45 p. m.	−56.03
Apr. 19	2:55	−56.23	Oct. 31	3:30	−56.49
May 9	12:30	−56.40			
June 8	11:45 a. m.	−55.69	1935		
July 20	5:10 p. m.	−55.39			
Aug. 9	1:00	−55.59	May 10	2:58 p. m.	[1] −56.93
Sept. 6	4:55	−55.77	June 24	1:50	[1] −56.37
Oct. 4	10:45 a. m.	−55.76	Aug. 24	9:45 a. m.	[1] −57.30
Nov. 2	10:30	−55.99	Oct. 10	2:26 p. m.	[1] −56.85
Dec. 9	1:35 p. m.	−56.12	29	1:00	−56.90

[1] By Salt Lake City Corporation.

(C-3-1)11aab1. Victor Mumford, Sandy. State claim No. 6775. Diameter, 3 inches; depth, 160 feet. Measuring point, top of ell, 1.9 feet above land surface. Discharge of well, Aug. 20, 1931, 1.0 g. p. m. Drilled, 1910. Temperature of water, 68° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 11		+5.13	Dec. 9	1:50 p. m	+6.38
Oct. 15	3:10 p. m	+5.20	1933		
Nov. 6	4:10	+5.02	Jan. 9	10:25 a. m	+6.26
Dec. 8	4:15	+3.83	Mar. 14	3:55 p. m	+6.37
1932			May 15	1:30	+6.71
Jan. 8	9:50 a. m	+5.07	1934		
Feb. 16	4:35 p. m	+4.22	May 15	4:15 p. m	+7.06
Mar. 15	1:20	+5.16	Oct. 31	3:44	+7.64
Apr. 19	3:30	+5.49	1935		
May 9	12:40	+5.51	May 10	3:15 p. m	[1] +7.20
June 8	12:15	+5.53	Oct. 29	12:45	+7.25
July 20	5:30	+5.17			
Aug. 9	1:20	+5.83			
Sept. 6	5:20	+5.10			
Oct. 4	11:00 a. m	+6.61			
Nov. 2	10:50	+5.94			

[1] By Salt Lake City Corporation.

(C-3-1)12bbc1. Henry Parmlee Estate, Sandy. State claim No. 8562. Diameter, 4 inches; depth, 380 feet. Measuring point, top of casing, 0.5 foot above land surface. Drilled, 1904. Depth to water, Aug. 20, 1931, 61.10 feet.

(C-3-1)12ccb1. A. W. Harrison, Sandy. Diameter, 3 inches; depth, 118 feet. Measuring point, center line of ell, 3.3 feet above land surface. Drilled, 1900. Flow from well, Aug. 20, 1931, 2.4 g. p. m.; Sept. 11, 1931, 2.3 g. p. m. Temperature of water, 69.5° F. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 11		+7.35	Dec. 9	2:12 p. m	+20.84
Oct. 15	3:30 p. m	+6.35	1933		
Nov. 5	4:25	+6.35	Jan. 6	12:10 p. m	+19.48
Dec. 9	10:10 a. m	+6.21	Mar. 14	4:35	+16.87
1932			May 15	1:55	+15.00
Jan. 8	10:10 a. m	+6.06	Oct. 10	12:30	+22.5
Feb. 16	5:10 p. m	+6.14	1934		
Mar. 15	3:35	+6.50	May 29	11:35 a. m	+23.15
Apr. 19	4:50	+6.21	Oct. 31	4:07 p. m	+22.79
May 9	2:25	+6.06	1935		
June 8	12:50	+6.35	May 17	2:00 p. m	[2] +21.40
July 20	4:40	+7.14			
Aug. 9	1:35	+7.35			
Sept. 9	12:30	[1] +22.20			
Oct. 3	5:10	+21.86			
Nov. 2	11:15 a. m	+21.49			

[1] Well cleaned out since last measurement (deepened?).
[2] By Salt Lake City Corporation.

(C-3-1)13cdb1. Ed. Fairbourn, Sandy. Diameter, 3 inches; depth, 226 feet. Measuring point, center line of outlet pipe, 3.5 feet above land surface. Drilled, 1914. Temperature of water, 65° F. Flow from well, 1914, reported as 38 g. p. m.; Aug. 14, 1931, 21.8 g. p. m.; Sept. 11, 1931, 18.5 g. p. m. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 11		+7.95	July 20	2:15 p. m.	+7.57
Oct. 16	10:40 a. m.	+7.50	Aug. 9	2:45	+7.64
Nov. 5	4:45 p. m.	+7.50	Sept. 9	1:00	+7.64
Dec. 9	11:15 a. m.	+7.21	Oct. 3	4:40	+7.64
1932			Nov. 1	12:30	+7.50
			Dec. 9	3:10	+7.06
Jan. 8	10:45 a. m.	+7.06			
Feb. 17	3:30 p. m.	+7.06	1933		
Mar. 14	3:40	+7.06			
Apr. 23	2:40	+6.64	Jan. 7	12:50 p. m.	+6.92
May 9	3:34	+6.43	Mar. 15	12:30	+6.43
June 8	1:55	+6.92	May 15	2:30	+6.21

(C-3-1)13dcc1. L. A. Wellington, Sandy. Diameter, 3 inches; depth, 185 feet. Measuring point, top of casing, 0.5 foot above land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 12		−36.45	Jan. 6	1:05 p. m.	−37.93
Oct. 16	10:30 a. m.	−36.75	Mar. 15	12:00 m.	−38.39
Nov. 5	4:35 p. m.	−36.85	May 15	2:07 p. m.	−38.79
Dec. 9	10:55 a. m.	−37.03	June 15	3:25	−38.46
1932			Oct. 10	12:50	−38.07
			1934		
Jan. 8	10:30 a. m.	−37.46			
Feb. 17	3:05 p. m.	−37.74	Jan. 4	3:10 p. m.	−33.78
Mar. 14	3:10	−37.88	May 29	12:10	−39.25
Apr. 20	3:45	−38.15	Oct. 31	2:25	−39.82
May 9	3:10	−38.51			
June 8	1:15	−37.95	1935		
July 20	2:30	−37.28			
Aug. 9	2:50	−37.13	May 17	2:35 p. m.	[1]−40.72
Sept. 9	1:10	−37.10	Oct. 29	11:20 a. m.	−41.10
Oct. 3	4:20	−37.11			
Nov. 2	12:05	−37.23			
Dec. 9	2:50	−37.53			

[1] By Salt Lake City Corporation.

(C-3-1)14acc1. W. R. Soffe, Riverton. State claim No. 7622. Diameter, 3 inches; depth, 217 feet. Measuring point, bottom of orange painted line on north side of pit, at land surface and 4,390.57 feet above sea level. Drilled, 1908.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 12		−25.00	Nov. 2	4:20 p. m.	−27.63
21		−26.24	Dec. 6	2:15	−28.13
Oct. 16	3:20 p. m.	−26.59	1933		
Nov. 9	5:45	−26.83	Jan. 9	11:30 a. m.	−28.58
Dec. 9	4:30	−27.22	Mar. 7	1:15 p. m.	−29.44
1932			May 16	10:35 a. m.	−30.04
Jan. 8	3:15 p. m.	−27.79	June 15	4:35 p. m.	−29.74
Feb. 19	12:30	−28.36	1934		
Mar. 14	10:20 a. m.	−28.70	May 29	3:05 p. m.	−30.80
Apr. 22	4:40 p. m.	−29.20	Oct. 31	11:05 a. m.	−31.62
May 17	5:20	−29.38	1935		
June 11	11:25 a. m.	−28.98	May 15	1:25 p. m.	[1]−33.34
July 11	10:32	−28.44	Oct. 7	10:55 a. m.	[1]−33.43
Aug. 10	12:05 p. m.	−27.80	25	3:30 p. m.	−33.60
Sept. 10	12:05	−27.64			
Oct. 4	3:20	−27.64			

[1] By Salt Lake City Corporation.

(C-3-1)14bdc1. B. H. Beckstead, Riverton. State claim No. 9501. Diameter, 3 inches; depth, 175 (225?) feet. Measuring point, top of casing, 0.5 foot above land surface and 4,401.61 feet above sea level. Drilled, 1905. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 401.

(C-3-1)15bdd1. Catherine Holt, Riverton. State claim No. 3269. Diameter, 3 inches; depth, 250 feet. Measuring point, top of casing, 0.3 foot above land surface and 4,461.04 feet above sea level. Drilled, 1900. Depth to water reported as 75 feet below land surface when drilled. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 401.

(C-3-1)15ddd1. B. H. Beckstead, Riverton. State claim No. 9500. Diameter, 3 inches; depth, 185 feet. Measuring point, center line of outlet to milk cooler, 2.0 feet above land surface and 4,392.73 feet above sea level. Drilled, 1900. Temperature of water, 58° F. Water level, 16 feet below land surface in 1900. Well began to flow about 1916–17. All pressure measurements made after well was closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 21		+11.7	Aug. 10	12:30 p. m.	+9.37
Oct. 16	3:10 p. m.	+11.25	Sept. 10	12:20	+9.08
Nov. 9	5:30	+8.94	Oct. 4	3:07	+10.10
Dec. 9	4:15	+8.51	Nov. 2	4:05	+8.80
1932			Dec. 7	5:00	+9.37
Jan. 8	3:00 p. m.	+8.07	1933		
Feb. 19	1:15	+8.07	Jan. 9	11:10 a. m.	+7.57
Mar. 14	11:00 a. m.	+8.22	Mar. 17	12:25 p. m.	+6.06
May 17	4:45 p. m.	+7.93	May 16	11:15 a. m.	+5.20
June 11	11:40 a. m.	+7.93			
July 11	10:45 a. m.	+7.86			

(C-3-1)20acd1. C. A. Jensen, Riverton. Diameter, 3 inches. Measuring point, top of casing, 1.0 foot above land surface and 4,605.13 feet above sea level. Drilled, 1922.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 18		−179.65	June 11	11:05 a. m.	−187.54
Oct. 16	2:50 p. m.	−180.10	July 11	11:08	−186.80
Nov. 9	5:00	−180.86	Aug. 10	1:00 p. m.	−185.82
Dec. 9	3:40	−181.68	Sept. 9	5:25	−184.34
			Oct. 4	2:35	−184.02
1932			Nov. 2	3:45	−183.59
			Dec. 6	2:40	−184.49
Jan. 8	2:30 p. m.	−183.06			
Feb. 19	2:40	−184.43	1933		
Mar. 12	1:55	−185.33			
Apr. 22	2:45	−186.61	Mar. 17	11:00 a. m.	−187.48
May 17	3:57	−187.21			

(C-3-1)20cdb1. Henrietta Landsky, Riverton. Diameter, 36 inches; depth 35.5 feet. Measuring point, top of concrete curb, 2.0 feet above land surface and 4,619.95 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept 18		−28.72	Nov. 2	3:35 p. m.	−28.38
21		−28.75	Dec. 6	2:45	−28.55
Oct. 16	2:45 p. m.	−28.95			
Nov. 9	4:45	−29.00	1933		
Dec. 9	3:20	−29.05			
			Jan. 7	4:15 p. m.	−28.64
1932			Mar. 15	4:30	−28.73
			May 16	11:47 a. m.	−28.40
Jan. 8	2:15 p. m.	−29.13			
Feb. 19	3:00	−29.08	1934		
Mar. 12	1:30	−29.08			
Apr. 22	2:15	−29.08	Oct. 31	11:30 a. m.	−28.88
May 17	3:37	−28.89			
June 11	10:30 a. m.	−28.29	1935		
July 11	1:20 p. m.	−28.00			
Aug. 10	2:45	−27.86	May 20	2:00 p. m.	[1]−28.88
Sept. 9	5:15	−28.17	June 17	1:40	[1]−29.82
Oct. 4	2:15	−28.27	Oct. 7	12:20	−29.94

[1] By Salt Lake City Corporation.

(C-3-1)23dba1. Joe Danyanovitch, Sandy. Diameter, 2½ inches; depth, 75±feet. Drilled about 1910. Temperature of water, 56° F. Flow from well, Aug. 20, 1931, 20 g. pm.

(C-3-1)24dcc1. E. R. Brown, Sandy. Diameter, 36 inches; depth, 33.5 feet. Measuring point, top of brick curb at land surface. Temperature of water, 58° F. Depth to water, Aug. 24, 1931, 17.65 feet; Sept. 11, 1931, 18.35 feet.

(C-3-1)25aa. Sproul Bros., Sandy. Diameter, 3 inches; depth, 135 feet. Measuring point, top of casing, 0.5 foot above land surface. Drilled about 1901. For depth-to water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 402.

(C-3-1)26cad1. Frank Bagley, Riverton. Diameter, 3 inches. Measuring point, top of coupling, 3.0 feet above land surface and 4,336.24 feet above sea level. Temperature of water, 57° F. Flow from well, Aug. 24, 1931, 5.2 g. p. m.;

Sept. 11, 1931, 5.1 g. p. m. For pressure measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 402; erroneously numbered (C-3-1)26db, Clover Leaf Dairy.

(C-3-1)26cad2. Frank Bagley, Riverton. Diameter, 2½ inches. Measuring point, top of pipe, 2.8 feet above land surface and 4,335.23 feet above sea level. Temperature of water, 57° F. Flow from well, Aug. 24, 1931, 5.0 g. p. m.; Sept. 11, 1931, 4.8 g. p. m. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 11		+20.20	July 11	4:05 p. m.	+19.61
Oct. 16	11:50 a. m.	+19.60	Aug. 9	4:30	+19.76
Nov. 9	2:00 p. m.	+20.05	Sept. 9	2:55	+19.98
Dec. 9	1:50	+19.18	Oct. 4	11:40 a. m.	+20.19
			Nov. 2	1:25 p. m.	+19.83
1932			Dec. 7	4:05	+19.33
Jan. 8	11:20 a. m.	+18.89	1933		
Feb. 18	1:55 p. m.	+18.89			
Mar. 14	1:05	+18.75	Jan. 6	4:35 p. m.	+19.04
Apr. 20	1:00	+18.31	Mar. 7	1:10	+18.46
May 9	5:10	+17.96	May 15	2:56	+18.17
June 8	3:20	+18.89			

(C-3-1)26cdb1. Evelyn Nielsen, Riverton. Diameter, 3 inches. Measuring point, center line of outlet, 2.8 feet above land surface and 4,338.06 feet above sea level. Temperature of water, 57° F. Flow from well, Aug. 24, 1931, 2.6 g. p. m.; Sept. 11, 1931, 2.5 g. p. m. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 11		+14.70	Apr. 22	12:30 p. m.	+10.24
Oct. 16	12:20 p. m.	+13.20	May 17	1:00	+10.38
Nov. 9	2:20	+13.27	June 8	3:45	+10.67
Dec. 9	1:05	+12.12	July 11	3:30	+12.26
			Aug. 9	4:40	+12.84
1932			Sept. 9	3:20	+13.13
			Oct. 4	11:55 a. m.	+12.77
Jan. 8	11:50 a. m.	+11.54	Nov. 2	1:48 p. m.	+11.83
Feb. 18	2:25 p. m.	+10.96	Dec. 7	4:20	+11.11
Mar. 14	12:00 m.	+10.96			

(C-3-1)27bba1. Nellie Madsen, Riverton. Diameter, 3 inches; depth, 112 feet. Measuring point, top of platform at land surface and 4,449.81 feet above sea level Drilled 1904.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Sept. 17		−33.23	Jan. 8	2:45 p. m.	−39.17
21		−33.53			
Nov. 7	5:15 p. m.	−36.25			
Dec. 9	3:55	−37.82			

(C-3-1)27cdd1. J. R. Dansie, et al., Riverton. Diameter, 3 inches; depth, 220 feet. Measuring point, top of casing, 1.0 foot above land surface and 4,435.24 feet above sea level. Drilled about 1921. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 402.

(C-3-1)29acc1. Lancelot Bills, Riverton. State claim No. 7704. Diameter, 5 inches; depth, 80 feet. Drilled, 1917. Flow from well, Sept. 17, 1931, 0.25 g. p. m.

(C-3-1)30dda1. ——— Butterfield, Herriman. State claim No. 6799. Diameter, 3 inches; depth, 134 feet. Measuring point, top of casing, 0.7 foot above land surface and 4,653.72 feet above sea level. Drilled, 1925.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 21		−73.30	Jan. 7	3:45 p. m.	−73.49
Oct. 16	2:35 p. m.	−74.07	Mar. 15	4:00	−74.48
Nov. 9	4:30	−74.37	Apr. 20	3:15	−74.24
Dec. 9	3:10	−74.69	May 15	4:45	−73.77
			June 20	12:53	−71.60
1932			July 6	4:00	−70.08
Jan. 8	2:00 p. m.	−74.86	1934		
Feb. 19	4:30	−74.88			
Mar. 12	1:15	−74.86	May 29	2:35 p. m.	−74.12
Apr. 22	1:05	−74.62	Oct. 31	11:45 a. m.	−75.10
May 17	3:15	−72.89			
June 11	10:05 a. m.	−70.57	1935		
July 11	1:03 p. m.	−69.78			
Aug. 10	2:45	−69.89	Oct. 7	12:05 p. m.	[1] −74.50
Sept. 9	4:50	−71.02	25	4:30	−74.80
Oct. 4	2:00	−72.04			
Nov. 2	3:25	−72.85			
Dec. 6	3:00	−72.72			

[1] By Salt Lake City Corporation.

(C-3-1)32abb1. F. H. Peterson, Riverton. State claim No. 7843. Diameter, 3 inches; depth, 144 feet. Measuring point, top of casing, 4.5 feet below land surface and 4,595.47 feet above sea level. Drilled, Oct. 1930.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 21		−7.17	Mar. 17	10:25 a. m.	−7.79
Oct. 16	2:25 p. m.	−7.67	Apr. 20	2:55 p. m.	−7.42
Nov. 9	4:20	−7.89	May 15	4:35	−7.01
Dec. 9	2:50	−8.10	June 20	12:40	−5.65
1932			1934		
Jan. 8	1:50 p. m.	−8.23	May 29	2:25 p. m.	−9.30
Feb. 19	3:50	−8.15	Oct. 31	11:50 a. m.	−8.35
Mar. 12	11:25 a. m.	−8.20			
Apr. 22	1:15 p. m.	−8.04	1935		
May 17	2:36	−6.72			
June 11	9:45 a. m.	−4.50	May 20	1:30 p. m.	[1] −8.01
July 11	11:55	−3.95	Oct. 7	11:50 a. m.	[1] −8.23
Aug. 10	1:55 p. m.	−4.26	25	4:10 p. m.	−8.14
Sept. 9	4:40	−5.20			
Oct. 4	1:45	−6.10			
Nov. 2	2:40	−6.49			
Dec. 6	3:05	−6.71			

[1] By Salt Lake City Corporation.

(C-3-1)32cad2. Elmer A. Seal, Riverton. Diameter, 4 inches; depth, 218 feet. Measuring point, top of casing, 0.5 foot above land surface and 4,600.54 feet above sea level. Drilled, June 1921.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 21		−156.85	Jan. 7	2:45 p.m.	−158.42
Oct. 16	2:20 p.m.	−156.90	Mar. 15	3:15	−160.42
Nov. 9	4:15	−157.32	Apr. 20	3:00	−161.81
Dec. 9	2:40	−158.10	May 15	4:25	−162.59
			Nov. 13	4:00	−161.40
1932			1934		
Jan. 8	1:45 p.m.	−158.98			
Feb. 20	12:15	−160.40	Oct. 31	11:55 a.m.	−168.14
Mar. 12	10:30 a.m.	−161.10			
Apr. 22	1:30 p.m.	−162.43	1935		
May 17	1:45	−163.08			
June 8	5:15	−162.67	May 20	1:10 p.m.	[1] −171.20
July 11	12:15	−163.42	June 17	2:15	[1] −171.48
Aug. 10	2:10	−161.67	Oct. 7	11:45 a.m.	−170.23
Sept. 9	4:30	−159.81			
Oct. 4	1:35	−158.70			
Nov. 2	2:50	−157.72			
Dec. 6	3:10	−157.87			

[1] By Salt Lake City Corporation.

(C-3-1)34cda1. Geo. Thaxton, Riverton. State claim No. 9419. Diameter, 3 inches; depth, 280 feet. Measuring point, top of casing, 6.2 feet below land surface and 4,445.41 feet above sea level. Drilled, 1905.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 15		−33.00	Jan. 7	1:50 p.m.	−41.73
21		−33.30	May 15	3:30	−45.96
Oct. 16	1:20 p.m.	−35.05	June 20	12:25	−43.86
Nov. 9	3:20	−36.59			
Dec. 9	1:40	−38.37	1934		
1932			May 29	1:40 p.m.	−46.95
			Oct. 31	12:30	−48.36
Jan. 8	12:20 p.m.	−40.04			
Feb. 20	1:45	−40.26	1935		
Apr. 22	3:15	−44.20			
May 17	1:30	−44.98	May 15	12:45 p.m.	[1] −52.75
June 8	4:25	−43.01	Oct. 7	11:25 a.m.	[1] −51.86
July 11	2:47	−39.49	25	4:00 p.m.	−52.35
Aug. 9	5:15	−37.05			
Sept. 9	3:40	−36.15			
Oct. 4	12:40	−37.10			
Nov. 2	2:15	−37.75			
Dec. 6	3:45	−40.15			

[1] By Salt Lake City Corporation.

(C-3-1)35bbb1. N. H. Silcox, Riverton. Diameter, 3 inches; depth, 200 feet. Measuring point, top of concrete curb. Drilled, April 1904. Depth to water, 1904, 24.5 feet; began to flow in 1912; Sept. 15, 1931, 0.02 foot; Sept. 21, 1931, 0.52 foot.

(C-3-1)35bbb2. N. H. Silcox, Riverton. Diameter, 24 inches; depth, 35 feet. Measuring point, land surface. Dug, 1892. Depth to water, Sept. 15, 1931, 4.15 feet; Sept. 21, 1931, 3.52 feet.

(C-3-2)3bbd1. Olson Bros., Riverton. Diameter, 3 inches; depth, 157 feet. Measuring point, land surface. Dry at 157 feet below land surface, Sept. 22, 1931.

(C-4-1)2aaa1. Federal Land Bank of Berkeley, Draper. Depth, 150 feet. Flow from well, Sept. 14, 1931, 1.9 g. p. m.

(C-4-1)3dbb1. C. J. Keplen, Riverton. Diameter, 3 inches; depth, 112 feet. Measuring point, top of casing, 6.3 feet below land surface and 4,449.46 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Oct. 14		−52.0	Jan. 8	12:40 p. m.	−55.45
Nov. 9	3:45 p. m.	−53.10			
Dec. 9	1:55	−54.36			

(C-4-1)5ccb1. Federal Land Bank of Berkeley, Herriman. Diameter 6 inches; depth, 185 feet. Measuring point, top of casing, 2.5 feet above land surface and 4,662.43 feet above sea level. After Sept. 19, 1932, measuring point is top of casing, 4,660.65 feet above sea level. Ross Hardy, tenant.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 21		−139.82	Nov. 2	3:00 p. m.	−134.59
Oct. 16	2:15 p. m.	−139.85	Dec. 6	3:20	−134.63
Nov. 9	4:05	−140.00			
Dec. 9	2:30	−140.19	1933		
1932			Mar. 15	3:35 p. m.	−136.15
			May 15	3:55	−137.48
Jan. 8	1:35 p. m.	−140.57	Nov. 13	4:10	−137.20
Feb. 20	12:45	−141.04			
Mar. 12	11:00 a. m.	−141.32	1934		
Apr. 22	1:45	−141.81			
May 17	2:11 p. m.	−142.07	Oct. 31	12:10 p. m.	−142.74
June 8	4:53	−142.28			
July 11	12:45	−141.43	1935		
Aug. 10	2:25	−139.98			
Sept. 9	4:10	−138.28	May 20		(1)
Oct. 4	1:10	−135.38			

1 Obstruction at −110.

(C-4-1)10bdd1. Merl Lewis, Bluffdale. State claim No. 8565. Diameter, 60 inches; depth, 50 feet. Measuring point, top of brick curb, at land surface and 4,426.05 feet above sea level. Dug, 1920.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 15		−33.87	June 8	4:35 p. m.	−33.94
21		−31.90	July 11	3:00	−32.86
Oct. 16	1:30 p. m.	−32.75	Aug. 9	5:00	−32.31
Nov. 9	3:55	−33.30	Sept. 9	3:50	−32.94
Dec. 9	2:10	−34.00	Oct. 4	12:50	−33.15
1932			Nov. 2	2:25	−33.81
			Dec. 6	3:40	−34.85
Jan. 8	1:10 p. m.	−34.55	1933		
Feb. 20	2:45	−35.20			
Mar. 12	2:15	−35.52	Jan. 7	2:10 p. m.	−35.26
Apr. 22	3:30	−36.08	Mar. 15	2:25	−36.39
May 17	1:18	−35.64	May 15	3:35	−36.64

(D-1-1)4cac1. Salt Lake City Corporation, Salt Lake City. State claim No. 4839. Diameter, 15½ to 12½ inches; depth, 385 feet. Measuring point, top of 2-inch measuring pipe, 2.0 feet above land surface and 4,672.65 feet above sea level. Drilled, July 1934. Altitude and measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1934—Con.		
Sept. 15	11:15 a. m.	−203.03	Oct. 25	5:20 p. m.	−203.49
25	9:45	−202.43		5:40	−203.50
26	10:35	−201.41	27	10:00 a. m.	−203.31
29	12:10 p. m.	−201.57	30	10:35	−202.09
Oct. 15	4:15	−203.75		1:30 p. m.	−202.02
16	11:10 a. m.	−203.16	31	9:57 a. m.	−202.18
17	11:15	−202.86		12:00 m.	−202.23
18	4:45 p. m.	−202.60		2:45 p. m.	−202.17
19	3:30	−202.54	Nov. 2	10:31 a. m.	−202.16
20	9:30 a. m.	−202.49		3:50 p. m.	−202.20
22	10:00	−202.34	3	9:58 a. m.	−201.94
	3:55 p. m.	−202.31	7	3:40 p. m.	−202.37
23	9:05 a. m.	−202.32	10	11:05 a. m.	−202.24
	10:15	−202.32	16	9:30	−202.50
	10:55	−202.26	19	10:05	−202.12
	1:20 p. m.	−202.32		1:20 p. m.	−202.12
	1:30	−202.28	28	4:10	−201.80
	1:43	−202.28	Dec. 5	10:40 a. m.	−201.68
	1:55	−202.29	13	3:15 p. m.	−201.02
	2:05	−202.30	19	2:30	−201.62
	2:17	[1] −202.32	28	4:00	−201.56
	2:24	−202.33			
	2:30	−202.34	1935		
	2:40	−202.34			
	2:50	−202.33	Jan. 1	4:15 p. m.	−201.55
	3:00	−202.37	16	4:30	−201.50
	3:20	−202.37	21	2:05	−201.52
	3:35	−202.37	Feb. 1	4:10	−201.44
	3:45	−202.37	11	2:10	−201.29
	4:00	−202.37	19	2:20	−201.35
	4:15	−202.38	26	3:45	−201.36
	4:35	−202.40	Mar. 5	2:40	−201.35
	5:05	−202.41	15	2:56	−201.40
	8:10	−202.49	20	2:25	−201.32
24	6:45 a. m.	[2] −202.77	26	2:45	−201.37
	8:50	−202.83	Apr. 5	3:00	−201.38
	10:15	−202.85	10	2:30	−201.44
	11:50	−202.87	17	2:10	−201.35
	1:15 p. m.	[3] −202.89	22	4:40	−201.11
	3:05	−202.90	29	2:35	−201.20
	4:35	−202.95	May 3	4:00	[4] −276
25	8:40 a. m.	−203.28	8	1:55	−201.02
	11:30	−203.32	14	10:00 a. m.	−200.78
	1:10 p. m.	−203.33	21	4:15 p. m.	−200.66
	2:15	−203.35	29	3:45	−200.53
	4:45	−203.40	June 5	1:35	−200.49
	8:45 a. m.	−203.57	11	4:45	−200.33
	12:10 p. m.	−203.56	19	3:45	−200.20
	2:15	−203.57	26 [5]	4:20	−199.71
	4:35	−203.51			

[1] Started pumping well (D-1-1)4cca1 at 2:15 p. m.
[2] Surging well (D-1-1)4cca1 every 45 minutes.
[3] Surging well (D-1-1)4cca1 every 20 minutes.
[4] Pumping 1.14 second-feet.
[5] Record continued by Salt Lake City Corporation.

(D-1-1)4cca1. University of Utah, Salt Lake City. State claims No. 45 and 8226. Diameter, 20 inches; depth, 500 feet. Measuring point, top of casing, 0.7 foot above land surface and 4,607.04 feet above sea level. Drilled, October 1934. Temperature of water, 52.5° F. Altitude and measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1935—Con.		
Oct. 15		−130.10	Feb. 11		−136.73
23	10:40 a. m.	−130.10	19		−136.76
24	10:40	[1] −159.10	26		−136.80
26	4:50 p. m.	−139.03	Mar. 4		−136.78
29	3:55	−138.95	15		−136.84
30	10:23 a. m	−138.53	20		−136.78
	1:00 p. m.	−138.10	26		−136.83
31	12:20	−138.55	Apr. 5		−136.86
Nov. 2	11:25 a. m.	−138.36	10		−136.91
3	10:20	−137.90	17		−136.81
7	3:50 p. m.	−137.62	23		−136.55
10	11:25 a. m.	−137.53	29		−136.29
16	9:10	−137.30	May 8		−136.08
Dec. 10		−137.05	14		−135.91
19		−136.99	21		−135.89
1935			29		−135.66
			June 5		−135.57
Jan. 3		−136.90	12		−135.44
16		−136.85	19		−135.34
Feb. 1		−136.82	26 [2]		−134.83

[1] Pumping. During development, from 2.5 to 3.0 second-feet was pumped from this well.
[2] Record continued by Salt Lake City Corporation.

(D–1–1)5aaa1. Salt Lake City Corporation, 13th East and South Temple Sts., Salt Lake City. State Claim No. 4843. Diameter, 15½ to 12½ inches; depth, 440 feet. Measuring point, top of casing, 0.5 foot above land surface and 4584.12 feet above sea level. Measuring point after Nov. 28, 1934, top of casing, 4583.62 feet above sea level. Drilled, July 1934. Pump first installed, July 17, 1934. Altitude and measurements after July, 1934, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1934—Con.		
July 7	9:00 a. m.	−115.70	Dec. 5	10:05 a. m.	[3] −119.31
16	2:00 p. m.	−114.20	10	10:45	[2] −132.62
19	11:45 a. m.	[1] −118.45	13	3:30 p. m.	−122.71
27	12:30 p. m.	[2] −146.60	14	3:30	−122.23
Sept. 11	10:40 a. m.	[2] −150.77	19	1:45	−120.85
15	10:15	[2] −151.44	28	4:25	−119.55
	11:35	−132.40			
	12:10 p. m.	−132.10	1935		
	1:20	−131.77			
	2:50	−131.44	Jan. 3	3:45 p. m.	−119.06
20	4:15	[2] −151.69	16	4:00	−118.40
Oct. 1	10:30 a. m.	−128.54	21	2:20	−118.41
4		[2] −147.70	Feb. 1	4:50	−118.02
6	10:00	[2] −154.30	11	11:35 a. m.	−117.33
8	4:00 p. m.	[2] −158.30	19	3:05 p. m.	−117.61
15	3:45	−132.22	26	4:15	−117.63
17	4:22	−127.63	Mar. 4	3:25	−117.54
22	9:30 a. m.	−126.20	11	3:15	−117.58
23	12:55 p. m.	−125.87	15	3:17	−117.55
24	10:55 a. m.	−125.58	20	3:05	−117.38
25	1:35 p. m.	−125.17	26	3:25	−117.48
26	1:55	−124.91	Apr. 2	3:25	−117.30
27	9:15 a. m.	−124.74	10	3:20	−117.58
30	9:50	−124.53	17	2:55	−117.41
31	9:15	−123.83	23	3:25	−117.33
Nov. 2	11:42	−123.03	29	2:00	−117.20
3	10:35	−122.00	May 8	2:25	−117.37
7	4:05 p. m.	−122.68	14	9:15 a. m.	−117.25
10	11:55 a. m.	−122.24	21 [4]	3:40 p. m.	−117.23
16	8:50	−121.37			
20	1:30 p. m.	−120.91			
28	4:30	−120.42			

[1] 1 hour 45 minutes after stopping pump.
[2] Pumping 1.25± second-feet.
[3] Change of measuring point.
[4] Record continued by Salt Lake City Corporation.

(D-1-1)5aad1. Salt Lake City Corporation, 13th East and 1st South Sts., Salt Lake City. State claim No. 4838. Diameter, 15½ inches; depth, 153 feet. Measuring point, top of casing, at land surface and 4,572.60 feet above sea level. Drilled, June, 1934. Temperature of water, 56° F. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 439, erroneously numbered (D-1-1)4 bb.

(D-1-1)6ccd1. Royal Laundry, 6th South and State Sts., Salt Lake City. Diameter, 10 inches; depth, 580 feet. Measuring point, top of casing, 4.5 feet above land surface and 4,250.90 feet above sea level. Drilled, 1932. For depth-to-water measurements, see U. S. Geol. Survey Water-Supply Paper 817, p. 440.

(D-1-1)7abd6. Salt Lake City Corporation, 8th South and 5th East, Sts., Salt Lake City. State claim No. 7216. Diameter, 2 inches; depth, 130 feet. Measuring point, top of southwest corner of concrete trough, 0.9 foot above land surface and 4,259.81 feet above sea level. Unless otherwise noted, all pressure measurements were made after well had been closed 5 minutes.

Date	Hour	Water level (feet)
1931		
Oct. 2		+4.45
13	8:45 a. m.	+5.05
Nov. 4	8:35	[1] +6.21
Dec. 4	9:05	[1] +5.92
1932		
Jan. 4	8:40 a. m.	[1] +5.75
Feb. 2	5:15 p. m.	[1] +6.07
25	9:10 a. m.	[1] +6.70
Mar. 3	9:15	[1] +6.69
10	9:10	[1] +6.61
17	9:05	[1] +6.63
24	9:15	[1] +6.94
31	9:10	[1] +7.17
Apr. 7	9:15	[2] +6.92
	9:20	+7.14
14	9:25	[2] +6.92
	9:30	+7.14
21	9:00	[2] +6.35
	9:05	+6.64
28	9:15	[1] +6.76
May 5	9:25	[1] +6.54
12	10:38	[1] +6.02
19	9:56	[1] +5.42
26	11:25	[1] +6.47
June 2	9:45	[1] +6.06
9	9:50	[1] +6.11
16	9:35	+5.34
23	9:46	+4.83
30	8:25	+4.76
July 7	11:10	+5.25
14	11:45	+5.47
21	9:40	+5.24
28	6:50	+5.12
1934		
June 13	1:55 p. m.	[3] +3.50
18	10:40 a. m.	+3.54
23	2:00 p. m.	+3.38
30	8:30 a. m.	+3.62
July 3	8:30	+3.46
6	8:30	+3.75
9	8:20	+3.12
11	8:15	+3.21
13	8:35	+3.03
16	8:30	+2.91
18	8:20	+2.79
20	8:30	+3.02
1934—Con.		
July 27	8:30 a. m.	+3.00
31	8:25	+2.61
Aug. 2	8:50	+2:71
4	8:05	+2.54
7	8:15	+3.29
9	8:30	+3.05
11	8:25	+2.69
14	8:30	+3.12
16	8:20	+2.75
18	8:20	+2.75
21	8:20	+2.63
23	8:20	+2.71
25	8:20	+2.59
28	8:20	+2.62
30	8:20	+2.89
Sept. 1	8:15	+2.78
5	8:20	+2.92
7	8:20	+3.25
11	8:25	+3.15
15	8:20	+3.53
18	8:15	+3.40
20	1:40 p. m.	+3.18
25	8:20 a. m.	+3.89
27	8:25	+3.95
Oct. 4	8:20	+4.08
6	8:30	+4.20
9	9:40	+4.23
11	10:05	+4.25
18	8:50	+4.46
23	8:55	+4.40
25	8:35	+4.55
30	8:30	+4.51
Nov. 1	9:40	+4.63
6	8:30	+4.93
8	9:15	+4.90
15	9:35	+5.10
20	8:37	+5.15
26	9:49	+5.30
Dec. 3	10:17	+5.05
10	2:04 p. m.	+5.10
17	10:33 a. m.	+5.15
24	10:13	+5.25
31	9:35	+5.20
1935		
Jan. 7	9:49 a. m.	+5.20
14	9:28	+5.25
21	1:26 p. m.	+5.20
28	10:07 a. m.	+5.15

[1] After well had been closed 3 minutes.
[2] Immediately after well was closed.
[3] Measuring point changed to top of concrete ring around well, 4,260.89 feet above sea level. This and all succeeding measurements made by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1935—Con.		
Feb. 4	9:12 a. m.	+5.15	Nov. 13	9:16 a. m.	+5.30
11	9:29	+5.20	18	10:00	+5.50
18	9:00	+5.10	25	9:43	+5.15
25	3:10 p. m.	+5.20	27	10:17	+5.10
Mar. 4	9:40 a. m.	+5.20	Dec. 9	10:12	+5.05
11	10:14	+5.15	16	9:58	+4.95
18	9:30	+5.10	23	10:13	+5.00
Apr. 1	9:58	+5.15	30	10:18	+5.15
8	9:02	+5.10			
16	9:32	+4.50	1936		
22	9:41	+4.40			
29	11:20	+4.20	Jan. 14	8:40 a. m.	+5.75
May 6	9:26	+4.55	Feb. 4	10:14	+5.60
13	9:02	+4.80	10	9:38	+5.70
20	9:25	+5.05	17	10:13	+5.85
27	9:45	+3.72	24	10:06	+6.00
June 3	9:48	+4.90	Mar. 3	9:27	+6.30
10	9:20	+3.37	9	9:39	+6.30
18	9:42	+3.15	16	10:02	+6.30
24	11:07	+3.17	31	11:17	+5.50
July 1	9:12	+3.68	Apr. 6	10:07	+5.35
10	9:20	+3.35	13	10:24	+5.85
15	9:11	+3.30	27	9:57	+5.05
29	9:45	+3.75	May 11	9:00	+4.65
Aug. 5	9:33	+3.80	25	9:06	+3.75
13	9:30	+3.67	June 8	9:13	+4.95
20	8:54	+4.01	22	9:04	+3.96
27	8:26	+3.56	July 20	9:16	+3.80
Sept. 3	9:32	+3.53	Aug. 3	9:25	+3.82
9	10:11	+4.36	24	10:02	+3.55
16	9:52	+3.56	Sept. 8	11:14	+3.78
24	9:20	+4.36	Oct. 6	10:20	+4.16
30	9:16	+4.11	21	8:56	+5.20
Oct. 7	9:06	+4.12	Nov. 3	11:00	+6.04
21	11:30	+4.20	18	9:38	+5.90
28	10:43	+4.65	30	10:35	+6.00
Nov. 4	10:41	+5.20	Dec. 4	10:28	+6.00

(D-1-1)8bba1. Will Siddoway, in vacant lot just east of 723 East 7th South St., Salt Lake City. Diameter, 1¼ inches. Measuring point, top of ell, 2.1 feet above land surface and 4,289.36 feet above sea level. Flow from well, Jan. 4, 1933, 1.0 g. p. m.; Jan. 27, 1933, 0.9 g. p m.; Feb. 28, 1933, 0.9 g. p. m.; Jan. 6, 1934, 0.5 g. p. m. All pressure measurements made after well had been closed 5 minutes. Measurements by Salt Lake City Corporation except Sept. 14, 1932 and July 13, 1933.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Sept. 14		+1.87	July 13	9:15 a. m.	+1.45
Oct. 17	12:45 p. m.	+1.95	Aug. 1	5:30 p. m.	+1.12
Nov. 26		+2.04	15	3:25	+1.16
			Sept. 20	2:50	+1.26
1933			Oct. 18	2:50	+1.44
			Nov. 23	3:10	+1.41
Jan. 4	1:20 p. m.	+1.75			
27	2:10	+1.94	1934		
Feb. 28	4:15	+2.15			
Mar. 25	11:50 a. m.	+1.95	Jan. 6	12:00 m.	+1.00
May 3	12:08 p. m.	+2.15	Feb. 8	12:50 p. m.	+1.08
June 6	1:30	+1.71	June 8	12:30	+.23

(D-1-1)8bbb3. E. B. Thorup, 737 East 7th South St., Salt Lake City. Diameter, 1½ (?) inches; depth, 100+ feet. Measuring point, top of outside pipe, 2.15 feet above land surface and 4,289.97 feet above sea level. All measurements except Sept. 14, 1932, made by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1932		
Sept. 14		+1.65
Oct. 17	1:00 p. m.	+1.67
Nov. 26		+1.71
1933		
Jan. 4		+1.70
27	2:15 p. m.	+1.80
Feb. 28	4:25	+1.90
Mar. 25	11:15 a. m.	+1.75
May 3	12:11 p. m.	+1.95
June 6	1:35	+1.56
Aug. 1	5:45	+1.17
15	3:45	+1.21
Sept. 20	3:00	+1.18
Oct. 18	3:05	+1.37
Nov. 23	3:20	+1.27
1934		
Jan. 6	12:35 p. m.	+1.35
Feb. 8	1:05	+.37
May 8	12:35	+.85
28	7:00	+.96
June 6	3:16	+.85
8	1:45	+.70
11	3:35	+.62
13	2:10	+.63
15	4:00	+.71
18	10:55 a. m.	+.64
20	5:05 p. m.	+.50
23	2:10	+.64
25	4:25	+.98
27	4:40	+.90
29	8:25 a. m.	+.88
July 3	8:40	+.79
6	4:40 p. m.	+.73
13	8:45 a. m.	+.69
16	8:40	+.67
18	8:30	+.65
20	8:45	+.65
23	8:30	+.71
26	8:30	+.81
28	8:15	+.65
30	8:15	+.53
Aug. 2	9:00	+.47
4	8:20	+.50
7	8:25	+.45
9	8:40	+.59
11	8:35	+.51
14	8:40	+.59
16	8:50	+.40
18	8:30	+.45
21	8:30	+.31
22	8:30	+.40
25	8:30	+.54
28	8:35	+.48
30	8:30	+.48
Sept. 5	8:30	+.49
7	8:30	+.40
11	8:35	+.63
15	8:35	[2] +1.77
18	8:30	+1.80
20	2:00 p. m.	+1.75
25	8:40 a. m.	+1.89
27	8:40	+1.88
Oct. 4	8:30	+1.84
6	8:40	+1.87
9	9:30	+1.79
11	9:50	+1.79
18	8:40	+1.76
1934—Con.		
Oct. 23	8:45 a. m.	+1.85
25	8:25	+1.76
30	8:20	+1.71
Nov. 1	9:30	+1.65
6	8:20	+1.73
8	9:10	+1.70
15	9:25	+1.72
20	8:27	+1.84
26	9:21	+1.69
Dec. 3	9:58	+1.67
10	1:47 p. m.	+1.61
17	10:26 a. m.	+1.74
24	9:58	+1.74
31	9:51	+1.61
1935		
Jan. 7	10:06 a. m.	+1.59
14	9:46	+1.56
21	1:43 p. m.	+1.53
28	10:27 a. m.	+1.50
Feb. 4	9:30	+1.50
11	9:44	+1.56
18	9:15	+1.48
25	2:55 p. m.	+1.47
Mar. 4	9:28 a. m.	+1.53
11	10:02	+1.40
18	9:15	+1.50
25	9:28	+1.50
Apr. 1	9:47	+1.46
8	8:53	+1.49
16	9:21	+1.51
22	9:30	+1.46
29	11:28	+1.60
May 6	9:32	+1.60
13	9:12	+1.60
20	9:35	+1.53
27	9:54	+1.35
June 3	10:00	+1.61
10	9:31	+1.21
18	10:00	+1.21
24	11:15	+1.14
July 1	9:22	+1.23
10	9:40	+1.11
15	9:20	+1.22
29	9:55	+.81
Aug. 5	9:40	+1.20
13	9:38	+1.13
20	9:02	+1.31
27	8:40	+1.35
Sept. 3	9:45	+1.13
9	10:18	+1.21
16	9:58	+1.11
24	9:31	+1.15
30	9:27	+1.16
Oct. 7	9:13	+1.13
21	11:15	+1.12
28	10:23	+1.13
Nov. 4	10:25	+1.05
13	9:03	+1.04
18	10:08	+1.01
25	9:50	+.93
Dec. 2	9:38	+.92
9	9:51	+.51
16	9:43	+.44
23	9:51	+.51
30	10:31	+.55
1936		
Jan. 6 [3]	10:55 a. m.	+.85

[1] Measuring point changed to top of ell, 4,289.59 feet above sea level.
[2] Measuring point changed to top of ell, 4,288.29 feet above sea level.
[3] Continued by Salt Lake City Corporation.

(D-1-1)8ccc1. Salt Lake City Corporation, 100 feet east and 30 feet south from corner of 13th South and 7th East Sts. State Claim No. 7211. Diameter, 8 inches; depth, 140 feet. Measuring point, top of pipe, 1.9 feet below land surface and 4,268.29 feet above sea level. Drilled, 1890. All pressure measurements made by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1932		
Aug. 29	9:45 a. m.	+1.39
Sept. 12	10:25	[1] +1.25
	10:30	+1.29
	10:35	+1.29
Oct. 17	12:00 m.	+.60
1933		
Jan. 4		+.57
Feb. 28	3:05 p. m.	+.60
Mar. 25	9:50 a. m.	+.72
25	10:30	+.75
May 2	11:30	+.85
June 6	2:30 p. m.	+.87
Aug. 1	5:00	+1.52
18	5:15	+1.42
Sept. 20	2:30	+1.10
Oct. 18	1:25	+.92
Nov. 23	3:10	+1.02
1934		
Jan. 8	1:45 p. m.	+.69
Feb. 8	12:10	+.57
June 8	2:05	+1.00
11	2:20	+.96
13	2:25	+.86
15	2:50	+.88
18	11:10 a. m.	+.81
20	4:50	+.84
July 11	4:00	+.76
18	1:55	+.45
30	3:30	+.36
Aug. 2	12:30	+.29
3	12:25	+.27
7	2:55	+.32
9	2:55	+.26
14	9:25	+.34
16	10:05	+.29
21	9:25	+.29
25	9:20	+.29
28	9:10	+.29
Sept. 1	8:55	+.25
7	9:20	+.30
10	8:50	+.40
14	8:50	+.40
17	9:00	+.50
19	8:35	+.40
26	8:50	+.40
28	8:45	+.40
Oct. 1	8:55	+.35
5	9:40	+.20
8	9:00	+.20
12	9:15	+.15

Date	Hour	Water level (feet)
1934—Con.		
Oct. 16	9:10 a. m.	+.20
19	8:40	+.18
22	8:35	+.15
26	8:45	+.17
31	8:55	+.15
Nov. 2	9:05	+.13
5	9:10	+.15
7	9:25	+.10
15	10:05	+.12
20	9:22	+.15
26	10:35	+.15
Dec. 3	11:12	+.12
10	2:42 p. m.	+.12
17	10:15 a. m.	+.20
24	10:45	+.21
31	10:36	+.16
1935		
Jan. 7	10:43 a.m	+.17
14	10:27	+.17
21	2:27 p. m.	+.13
28	10:59 a. m.	+.15
Feb. 4	10:35	+.12
11	10:24	+.16
18	11:40	+.15
25	3:30 p. m.	+.14
Mar. 4	10:09 a. m.	+.13
11	10:40	+.12
18	10:08	+.10
Apr. 22	10:15	+.15
29	1:20 p. m.	+.15
May 6	10:08 a. m.	+.16
13	9:50	+.11
20	10:30	+.13
27	1:20 p. m.	+.14
June 3	10:42 a. m.	+.14
10	10:02	+.20
18	10:35	+.34
24	11:47	+.45
July 1	10:10	+.50
10	10:08	+.51
15	9:52	+.57
29	1:00 p. m.	+.75
Aug. 5	11:20 a. m.	+.91
27	9:15	+.90
Sept. 3	10:12	+.82
9	10:45	+.93
24	10:02	+.78
Oct. 7	9:41 a. m.	+.60
Nov. 18	10:40	+.45
27 [2]	11:45	+.37

[1] Immediately after well was closed.
[2] Continued by Salt Lake City Corporation.

(D-1-1)9aca1. Salt Lake City Corporation, Sunnyside Ave. and Red Butte Creek, Salt Lake City. State claim No. 4836. Diameter, 20 inches; depth, 502 feet. Measuring point, top of casing, 1.3 feet above land surface and 4,660.69 feet above sea level. Drilled, July 1934. Temperature of water, 54° F. First pumping, July 26, 1934; pumped about 1.0 second foot with a 50- to 70-foot drawdown. Depth to water, Aug. 2, 1934, 158.72 feet. Altitude and following depth-to-water records by Salt Lake City Corporation. Water-stage recorder operated by Salt Lake City Corporation during various periods (see following table for record).

Depth to water (feet) at 12 noon, 1934

Day	Sept.	Oct.	Nov.	Dec.	Day	Sept.	Oct.	Nov.	Dec.
1	------	156.93	------	------	17	156.81	------	------	157.53
2	------	156.93	[1] 156.83	------	18	156.79	------	------	157.51
3	------	157.01	[1] 156.83	------	19	156.79	[1] 157.03	------	157.52
4	------	157.01	------	------	20	156.87	------	157.20	157.55
5	------	157.04	------	157.39					
6	------	157.02	------	------	21	156.81	------	------	157.51
7	------	157.00	[1] 157.05	------	22	156.83	[1] 156.97	------	157.56
8	156.64	157.10	------	------	23	156.84	[1] 157.01	------	157.53
9	156.69	157.08	------	------	24	156.91	[1] 156.99	------	157.52
10	156.66	157.06	[1] 157.13	------	25	156.92	[1] 157.01	------	157.56
11	156.67	------	------	------	26	156.94	[1] 157.01	------	157.50
12	156.70	------	------	------	27	156.91	[1] 157.05	------	157.57
13	156.74	------	------	------	28	156.92	------	[1] 157.29	157.64
14	156.75	------	------	157.45	29	156.97	[1] 156.73	------	157.70
15	156.73	[1] 157.02	------	157.51	30	156.94	[1] 156.01	------	157.66
16	156.75	------	157.15	157.50	31	------	[1] 156.01	------	157.75

[1] Manual measurements.

Depth to water (feet) at 12 noon, 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	157.66	------	------	------	------	157.01
2	157.68	------	------	------	------	157.01
3	157.70	------	------	[1] 158.62	------	156.98
4	157.68	------	------	------	------	156.93
5	157.74	------	[1] 158.41	------	------	156.88
6	157.76	------	------	------	------	156.84
7	157.76	------	------	------	157.73	156.89
8	157.78	------	------	------	157.70	156.86
9	157.78	------	------	------	157.56	156.83
10	157.80	------	------	[1] 158.88	157.54	156.81
11	157.74	[1] 158.01	------	------	157.50	156.77
12	157.86	------	------	------	157.45	156.73
13	157.84	------	------	------	157.48	156.72
14	157.82	------	------	------	157.36	156.74
15	157.76	------	[1] 158.55	------	157.32	156.73
16	157.88	------	------	------	157.28	156.69
17	157.85	------	------	[1] 158.90	157.26	156.70
18	157.83	[1] 158.18	------	------	157.27	156.68
19	157.88	------	------	------	157.23	156.64
20	158.06	------	158.52	------	157.21	156.66
21	157.94	------	------	------	157.13	156.63
22	------	------	------	[1] 158.73	157.10	156.60
23	------	------	------	------	157.10	156.58
24	------	------	------	------	157.10	156.66
25	------	------	------	------	157.09	156.60
26	------	[1] 158.31	[1] 158.66	------	157.04	156.55
27	------	------	------	------	157.06	156.55
28	------	------	------	------	157.08	156.50
29	------	------	------	------	157.02	(2)
30	[1] 158.04	------	------	------	157.03	------
31	------	------	------	------	157.03	------

[1] Manual measurements.
[2] Records continued by Salt Lake City Corporation.

(D-1-1)10cac1. Salt Lake City Corporation, about 21st East and 11th South Sts., Salt Lake City. State claim No. 4835. Diameter, 15½ to 12½ inches; depth, 240 feet. Measuring point, top of casing, at land surface and 4,694.94 feet above sea level. Drilled, May 1934. Altitude and depth-to-water measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1935		
Oct. 1	11:30 a. m.	−154.98	Jan. 21	1:45 p. m.	−154.30
8	2:35 p. m.	−154.38	30	4:00	−154.26
17	2:40	−153.88	Feb. 11	1:35	−154.03
19	3:00	−154.00	18	3:40	−154.19
22	11:00 a. m.	−153.77	26	3:15	−154.17
23	12:00 m.	−153.80	Mar. 5	2:05	−154.16
24	9:35 a. m.	−153.81	11	4:50	−154.13
	2:40 p. m.	−153.76	20	1:50	−154.96
25	10:05 a. m.	−153.79	25	3:45	−153.84
26	3:10 p. m.	−153.73	Apr. 5	2:01	−153.90
27	10:35 a. m.	−153.79	10	2:00	−154.00
30	11:20	−153.64	17	1:40	−154.69
31	10:40	−154.01	22	4:15	−154.01
Nov. 2	11:01	−153.83	29	2:55	−153.60
3	9:35	−153.89	May 12	1:25	−153.66
7	3:10 p. m.	−153.56	14	10:30 a. m.	−153.45
10	10:20 a. m.	−153.70	21	4:30 p. m.	−153.27
16	10:15	−153.58	28	3:50	−153.30
20	2:48 p. m.	−153.59	June 5	1:20	−153.00
28	2:40	−153.89	11	4:05	−152.57
Dec. 5	11:30 a. m.	−153.24	19	3:30	−152.41
14	2:45 p. m.	−153.75	26 [1]	4:35	−152.15
19	2:45	−154.25			
28	3:20	−154.32			

[1] Continued by Salt Lake City Corporation.

(D-1-1)15bda1. Chas. J. Calobeer, 1500 South 23d East St., Salt Lake City. State claim No. 1600. Diameter, 48 inches; depth, 102 feet. Measuring point, top of wooden platform, 1.0 foot above land surface and 4,694.89 feet above sea level. Dug, 1902. All depth-to-water measurements after Aug. 22, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Oct. 1		−95.30	Jan. 4		−95.70
12	5:00 p. m.	−95.70	Feb. 4	1:00 p. m.	−84.60
Nov. 4	3:30	−96.40	Mar. 14	11:25 a. m.	−85.00
Dec. 4	9:50 a. m.	−97.17	Apr. 12	3:40 p. m.	−84.10
			May 10	3:30	−84.10
1932			June 22		−80.42
			July 5	6:20 p. m.	−81.50
Jan. 4	9:40 a. m.	−97.52	Aug. 15	4:45	−84.65
Feb. 2	12:45 p. m.	−97.15	Sept. 20	4:20	−86.67
Mar. 2	1:45	−96.19	Oct. 13	4:30	−86.50
Apr. 9	9:50 a. m.	−93.64	Dec. 8	10:55 a. m.	−87.50
May 4	12:10 p. m.	−88.37			
June 1	4:48	−83.99	1934		
July 5	11:45 a. m.	−83.97			
Aug. 6	8:55	−85.42	Jan. 8	2:55 p. m.	−86.40
Aug. 22	5:00 p. m.	−85.45	Feb. 8	11:45 a. m.	−86.02
25	10:45 a. m.	−85.30	May 8	3:45 p. m.	−90.6
Sept. 12	9:45 a. m.	−86.00	28	6:00	−90.3
Oct. 17		−86.70	June 6	3:45	−91.44
Nov. 16		−88.70	8	2:25	−90.86

Date	Hour	Water level (feet)
1934—Con.		
June 11	3:15	−93.85
13	2:45	−92.86
15	3:40	−92.20
18	11:15 a. m.	−94.37
20	4:35 p. m.	−94.08
23	2:30	−93.20
25	3:20	−92.72
27	3:55	−93.96
29	3:40	−93.45
July 3	3:15	−92.82
6	3:20	−94.25
9	4:15	−93.75
13	3:30	−95.30
16	3:30	−96.18
18	3:35	−95.97
20	3:45	−95.77
23	3:25	−96.30
26	4:00	−96.87
28	4:15	−96.66
30	3:55	−96.42
Aug. 2	3:35	−97.00
7	3:50	−98.62
9	4:00	−98.35
11	2:10	−98.10
14	4:10	−97.78
16	4:20	−97.57
18	3:45	−97.75
21	4:10	−97.77
23	3:50	−97.32
25	2:00	−97.50
28	3:55	−97.25
30	3:55	−97.18
Sept. 5	4:00	−96.90
7	3:55	−96.82
10	3:40	−96.75
11	3:40	−96.73
12	4:15	−96.68
17	3:20	−96.58
18	3:30	−96.57
21	3:50	−96.53
Oct. 8	2:20	−96.40
17	2:50	−96.37
19	1:40	−96.21
22	11:25 a. m.	−96.34
25	10:25	−96.33
26	3:25 p. m.	−96.30
27	10:50 a. m.	−96.30
Nov. 3	9:55	−96.10
8	3:45 p. m.	−96.12
16	10:30 a. m.	−95.93
19	9:55	−95.84
28	2:25 p. m.	−95.40
Dec. 10	4:55	−94.65
17	4:40	−94.25
26	9:58 a. m.	−93.78
31	1:51 p. m.	−93.31

Date	Hour	Water level (feet)
1935		
Jan. 7	2:21 p. m.	−88.37
14	1:55	−81.57
21	11:45 a. m.	−81.98
28	2:21 p. m.	−83.35
Feb. 4	2:20	−84.65
11	1:55	−84.07
18	10:20 a. m.	−82.33
26	9:25	−82.24
Mar. 4	12:46 p. m.	−82.87
11	1:15	−83.70
18	1:00	−84.06
26	1:24	−83.75
Apr. 1	2:14	−84.22
8	1:20	−84.88
18	9:10 a. m.	−85.08
22	1:31 p. m.	−85.12
30	9:52 a. m.	−84.98
May 6	1:51 p. m.	−84.81
13	1:43	−84.76
20	1:50	−84.48
27	3:14	−83.89
June 3	2:00	−84.10
11	10:01 a. m.	−83.90
17	1:40 p. m.	−83.84
25	10:32 a. m.	−83.47
July 1	1:48 p. m.	−83.51
9	3:24	−83.63
15	2:32	−83.54
22	4:00	−84.46
29	3:15	−88.18
Aug. 5	2:05	−85.27
13	1:50	−86.00
20	12:20	−87.65
26	2:33	−92.45
Sept. 3	2:40	−90.68
9	2:17	−90.75
16	2:00	−89.87
23	1:53	−90.12
30	1:46	−90.70
Oct. 7	1:35	−91.40
14	3:01	−92.00
23	3:50	−92.31
28	11:18 a. m.	−92.08
Nov. 9	10:32	−90.70
19	10:20	−88.20
25	2:00 p. m.	−84.90
Dec. 2	1:38	−82.87
10	9:50 a. m.	−82.61
31	11:20	−84.90
1936		
Jan. 8[1]	10:07 a. m.	−82.97

[1] Continued by Salt Lake City Corporation.

(D–1–1)15bdc1. Mrs. R. Kiser, 2178 East 17th South St., Salt Lake City. Diameter, 8 inches; depth, 200 feet. Drilled, 1915. Temperature of water, 53° F. Bedrock reported at 200 feet. Depth to water, reported October 1930, about 45 feet below land surface; Aug. 1931, about 70 feet below land surface.

(D–1–1)16acd1. W. B. White, 1776 East 17th South St., Salt Lake City. Diameter, 48 inches; depth, 52 feet. Measuring point, top of brick curb, at land surface and 4,554.95 feet above sea level. All measurements after Oct. 10, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1932		
Sept. 14		−45.55
Oct. 10		−45.67
17		−45.45
Nov. 16		−45.85
1933		
Jan. 4	11:10 a. m.	−46.00
Feb. 4	2:15 p. m.	−46.25
28	2:35	−46.52
Apr. 12	3:05	−46.2
May 10	3:00	−45.7
June 8	3:45	−45.25
22		−44.50
July 5	6:10 p. m.	−44.67
Aug. 15	5:00	−44.92
Sept. 20	4:43	−44.85
Oct. 13	4:50	−45.35
Nov. 24	1:00	−45.50
1934		
Jan. 8	3:02 p. m.	−45.60
Feb. 7	11:32 a. m.	−45.90
May 8	4:00 p. m.	−44.97
28	5:45	−45.04
June 6	3:50	−46.15
8	2:35	−46.23
11	3:05	−46.18
13	2:50	−46.16
15	3:20	−46.30
18	11:25 a. m.	−46.20
20	4:25 p. m.	−46.18
23	2:42	−46.36
25	3:10	−46.33
27	4:05	−46.31
29	3:55	−46.52
July 3	3:30	
6	3:30	−46.48
9	4:25	−46.64
13	3:40	−47.04
16	3:45	−46.60
18	3:45	−46.70
20	3:55	−46.65
23	3:35	−46.89
26	4:10	−46.67
28	4:25	−46.80
31	4:10	−46.78
Aug. 2	4:10	−46.80
7	4:10	−46.91
9	4:15	−46.90
11	2:20	−47.25
14	4:20	−46.95
16	4:45	−46.85
18	4:00	−46.99
21	4:25	−47.05
23	4:00	−46.98
25	2:10	−47.23
28	4:10	−47.08
30	4:10	−47.14
Sept. 5	4:15	−47.21
7	4:15	−47.15
10	3:45	−47.17
11	3:45	−47.20
12	4:20	−47.23
17	3:30	−47.23
18	3:40	−47.26
21	3:55	−47.34
Oct. 1	11:45 a. m.	−47.69
8	2:50 p. m.	−47.55
17	3:00	−47.71
1934—Con.		
Oct. 19	11:40 a. m.	−47.76
22	11:35	−47.72
25	10:50	−47.70
26	3:40	−48.00
27	10:57	−47.85
Nov. 3	9:45	−47.59
8	3:50 p. m.	−47.58
16	10:45 a. m.	−47.95
19	9:34	−47.70
28	2:55 p. m.	−47.74
Dec. 10	4:39	−47.86
17	4:25	−47.88
26	9:48 a. m.	−47.91
31	11:41	−48.06
1935		
Jan. 7	2:04 p. m.	−48.01
14	1:33	−48.05
21	11:28 a. m.	−48.01
28	2:01 p. m.	−48.10
Feb. 4	1:50	−48.19
11	1:42	−48.19
18	10:40 a. m.	−48.44
26	9:35	−48.23
Mar. 4	12:55 p. m.	−48.20
11	1:23	−48.24
18	1:10	−48.26
26	1:32	−48.29
Apr. 1	2:05	−48.32
8	1:24	−48.31
18	9:00 a. m.	−48.36
22	1:24 p. m.	−48.33
30	9:40 a. m.	−48.23
May 6	1:45 p. m.	−48.16
13	1:35	−47.91
20	1:50	−47.78
27	3:24	−47.68
June 3	1:53	−47.73
11	9:56 a. m.	−47.10
17	1:32 p. m.	−46.90
25	10:47 a. m.	−46.77
July 1	1:38 p. m.	−46.55
9	3:16	−46.68
15	3:22	−46.67
22	4:10	−46.64
29	3:03	−46.65
Aug. 5	1:55	−46.63
13	1:38	−46.68
20	12:12	−46.70
26	2:24	−46.70
Sept. 3	2:38	−46.75
9	2:05	−46.75
16	1:50	−46.81
23	1:45	−46.76
30	1:39	−46.85
Oct. 7	1:27	−47.01
14	2:50	−47.10
22	10:58	−47.02
28	11:11 a. m.	−47.04
Nov. 9	10:24	−47.06
19	10:13	−47.18
25	1:45 p. m.	−47.43
Dec. 2	1:30	−47.26
10	9:41 a. m.	−47.46
17	10:15	−47.36
31	9:34	−47.40
1936		
Jan. 8 [1]	9:56 a. m.	−47.46

[1] Continued by Salt Lake City Corporation.

(D-1-1)16caa1. Salt Lake City Corporation, 18th South and 16th East Sts., Salt Lake City. State claim No. 4847. Diameter, 20 inches; depth, 502 feet. Measuring point, top of casing, 1.0 foot above land surface and 4,489.56 feet above sea level. Drilled, August 1934. Altitude and depth-to-water measurements by Salt Lake City Corporation. Pumped for development only, a maximum of about 3.0 second-feet.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1935		
Sept. 7	2:00 p. m.	−64.68	Jan. 4	11:55 a. m.	−69.36
10	4:05	−65.64	21	2:35 p. m.	−69.57
14	5:30	[1] −80.10	30	1:45	−69.66
	5:40	−79.92	Feb. 11	1:20	−69.73
15	9:45 a. m.	−71.18	26	3:00	−69.90
19	2:45 p. m.	−74.62	28	3:20	−69.83
21	4:10	−72.65	Mar. 4	2:30	−69.95
Oct. 1	11:50 a. m.	−67.70	11	4:15	−69.94
8	3:00 p. m.	−67.76	15	1:43	−70.10
15	4:45	−68.09	20	1:25	−70.12
17	12:55	−68.08	25	3:25	−70.20
22	12:05	−68.13	Apr. 2	4:40	−70.32
25	11:00 a. m.	−68.17	10	1:40	−70.44
26	3:50 p. m.	−68.20	17	1:25	−70.51
27	11:15 a. m.	−68.22	22	4:00	−70.57
29	1:57 p. m.	−68.30	29	3:15	−70.65
30	12:30	−68.30	May 8	1:15	−70.57
31	11:32 a. m.	−68.26	14	11:05 a. m.	−70.06
Nov. 2	9:05	−68.28	21	11:55	−69.60
3	9:07	−68.33	28	3:25 p. m.	−69.41
8	4:15 p. m.	−68.49	June 4	11:55 a. m.	−68.98
10	10:45 a. m.	−68.53	11	3:35 p. m.	−68.58
16	11:15	−68.63	19	3:00	−68.45
19	10:14	−68.69	26 [3]	2:15	−68.37
28	3:20 p. m.	−68.84			
Dec. 13	4:20	−69.02			
19	3:00	−69.10			
28	3:00	[2] −69.30			

[1] Probably pumping during this and the 4 succeeding measurements.
[2] Measuring point changed to top of 2-inch measuring pipe, 4,489.69 feet above sea level.
[3] Continued by Salt Lake City Corporation.

(D-1-1)16caa2. R. S. Hill, 1830 East 17th South St., Salt Lake City. State claim No. 9415. Diameter, 3 inches; depth, 70 feet. Measuring point, top of casing, at land surface and 4,561.90 feet above sea level. Drilled, 1927.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933		
Sept. 14		−50.50	Jan. 4	11:20 a. m.	[1] −51.10
Oct. 10		−50.80	Feb. 4	3:30 p. m.	[1] −51.20
17		[1] −50.60			
Nov. 16		[1] −51.20			

[1] By Salt Lake City Corporation.

(D-1-1)16dbd1. Annie G. Hurd, 1809 South 17th East St., Salt Lake City. Diameter, 36 inches; depth, 64.5 feet. Sept. 14, 1932, well was dry.

(D-1-1)18aaa3. Zion's Securities Corporation, 1356 South 6th East St., Salt Lake City. State claim No. 15888. Diameter, 1¼(2?) inches; depth, 300 feet. Measuring point, center line of valve outlet, 2.0 feet above land surface and 4,265.32 feet above sea level. Drilled, 1900. Flow from well, Sept. 30, 1931, 3.0 g. p. m. Temperature of water, 55° F. All measurements made by Salt Lake City Corporation after Aug. 6, 1932.

Date	Hour	Water level (feet)
1931		
Sept. 30		+15.30
Oct. 12	4:00 a. m.	[1] +13.00
	4:15	+17.00
Nov. 4	2:49	[1] +9.08
	2:51	+13.13
	2:54	+15.00
	2:59	+16.01
	3:04	+16.58
	3:09	+17.02
	3:14	+17.17
Dec. 4	9:18 a. m.	[1] +4.62
	9:21	+12.12
	9:23	+13.27
	9:28	+14.43
1932		
Jan. 4	9:10 a. m.	[1] +6.21
	9:15	+8.07
	9:20	+8.80
Feb. 2	4:36 p. m.	[1] +9.52
	4:41	+14.28
	4:46	+15.58
Mar. 2	11:00 a. m.	[1] +7.93
	11:05	+14.72
	11:10	+16.44
Apr. 9	9:10	[1] +14.43
	9:15	+16.15
	9:20	+17.88
May 4	9:05	[1] +10.24
	9:10	+16.15
	9:15	+18.17
June 1	3:30 p. m.	[1] +10.53
	3:35	+15.44
	3:40	+17.17
July 5	12:00 m.	[1] +7.35
	12. 05 p. m.	+13.42
	12:10	+14.57
Aug. 6	10:19 a. m.	[1] +15.15
	10:24	+16.29
	10:29	+16.58
25	11:05	[1] +11.11
	11:10	+13.72
	11:15	+14.70
1932—Con.		
Sept. 12	10:46 a. m.	[1] +9.26
	10:51	+12.85
	10:56	+14.60
Oct. 17	12:25 p. m.	[1] +10.10
	12:30	+14.57
	12:35	+15.73
Nov. 26	10:30 a. m.	[1] +5.34
	10:35	+13.99
	10:40	+16.58
1933		
Jan. 4	12:40 p. m.	[1] +7.93
	12:45	+16.15
	12:50	+17.45
	12:55	+18.17
27	2:44	[1] +7.93
	2:48	+15.57
	2:53	+17.80
	2:58	+18.32
Feb. 28	3:19	[1] +8.51
	3:24	+15.86
	3:29	+17.30
	3:34	+18.02
Mar. 25	10:07 a. m.	[1] +8.51
	10:13	+16.10
	10:18	+17.37
	10:23	+18.17
May 3	11:40	[1] +11.45
	11:45	+15.70
	11:50	+18.05
	11:55	+18.50
June 6	1:53 p. m.	[1] +17.20
	1:58	+18.00
	2:03	+18.20
	2:08	+18.40
1934		
Feb. 8	12:30 p. m.	[2] +16.00
May 7	7:10	[2] +14.40

[1] Immediately after well was closed.
[2] After well had been closed 10 minutes.

(D-1-1)19aba2. W. W. Taggard, 443 East 21st South St., Salt Lake City. Measuring point, top of ell, 1.0 foot above land surface and 4,278.60 feet above sea level. Drilled, about 1907. Altitude and measurements by Salt Lake City Corporation. Flow from well, Oct. 19, 1932, 3.6 g. p. m.; Nov. 21, 1932, 3.8

g. p. m.; Jan. 4, 1933, 3.5 g. p. m.; Jan. 27, 1933, 3.8 g. p. m.; Jan. 8, 1934, 3.3 g. p. m.

Date	Hour	Water level (feet)
1932		
Aug. 29		+2.9
Sept. 13		+2.7
Oct. 19	3:30 p. m.	+2.77
Nov. 21		+2.80
1933		
Jan. 4	10:40 a. m.	+2.65
27	3:15 p. m.	+2.81
Feb. 28	1:40	+3.05
Mar. 21	2:58	+3.20
May 2	2:30	+3.00
June 5	6:00	+3.08
July 5	5:25	+3.30
Aug. 11	4:50	+3.30
Sept. 6	5:50	+3.11
Oct. 17	5:30	+2.84
Nov. 24	1:26	+2.92
1934		
Jan. 8	3:20 p. m.	+2.83
Feb. 7	4:10	+2.70
Apr. 24	5:05	+2.25
May 28	5:15	+2.83
June 6	1:45	+2.72
8	3:10	+2.84
11	1:25	+2.80
13	4:00	+2.75
15	1:35	+2.75
18	12:30	+2.79
	2:35	+2.75
20	3:00	+2.79
23	2:55	+2.70
25	2:05	+2.71
27	1:40	+2.75
29	9:55 a. m.	+2.81
July 3	9:10	+2.65
6	10:25	+2.69
9	9:20	+2.75
11	9:15	+2.62
13	9:45	+2.46
16	9:40	+2.38
18	9:30	+2.14
20	9:45	+2.13
23	9:30	+2.15
26	9:55	+2.09
28	9:10	+2.04
31	9:10	+2.00
Aug. 2	10:05	+2.00
4	9:50	+1.96
7	9:20	+1.98
9	10:05	+1.94
11	9:35	+1.94
14	10:35	+2.03
16	11:20	+1.98
18	10:15	+2.00
21	10:30	+1.97
23	10:45	+2.02
25	10:00	+1.96
28	11:20	+1.92
30	10:30	+1.93
Sept. 1	9:55	+1.95
5	10:30	+1.96
7	10:45	+1.96
11	8:50	+1.93
15	8:45	+2.05
18	9:00	+1.95
20	2:45 p. m.	+1.95
25	9:00 a. m.	+1.96
27	9:25	+2.00
Oct. 4	9:00	+1.90
6	9:00	+1.88
1934—Con.		
Oct. 9	9:50 a. m.	+1.87
11	10:15	+1.85
18	9:20	+1.84
23	9:30	+1.84
25	9:00	+1.84
30	9:00	+1.83
Nov. 6	9:25	+1.80
8	9:40	+1.81
15	10:55	+1.80
20	9:55	+1.83
26	1:15 p. m.	+1.82
Dec. 3	2:50	+1.79
10	4:07	+1.81
17	1:50	+1.85
24	11:33 a. m.	+1.91
31	11:29	+1.92
1935		
Jan. 7	11:29 a. m.	+1.91
14	11:28	+1.91
21	3:22 p. m.	+1.89
28	11:53 a. m.	+1.91
Feb. 4	11:31	+1.93
11	11:23	+1.95
18	1:35 p. m.	+1.94
25	4:20	+1.89
Mar. 4	10:45 a. m.	+1.86
11	11:18	+1.86
18	10:48	+1.84
25	10:35	+1.84
Apr. 1	1:07 p. m.	+1.88
8	10:24 a. m.	+1.87
16	10:35	+1.88
22	11:00	+1.91
29	2:16 p. m.	+1.96
May 6	11:20 a. m.	+2.01
13	10:26	+2.11
20	11:25	+2.27
27	1:46 p. m.	+2.29
June 3	11:15 a. m.	+2.48
10	10:37	+2.30
18	11:02	+2.39
24	2:25 p. m.	+2.54
July 1	10:50 a. m.	+2.66
9	2:25 p. m.	+2.68
15	10:30 a. m.	+2.72
29	1:30 p. m.	+2.69
Aug. 5	11:31 a. m.	+2.74
13	10:36	+2.65
20	9:51	+2.61
27	9:50	+2.66
Sept. 3	10:50	+2.61
9	11:30	+2.65
16	11:02	+2.64
24	10:36	+2.58
30	10:40	+2.54
Oct. 7	10:10	+2.43
21	2:13 p. m.	+2.31
28	11:46 a. m.	+2.28
Nov. 4	11:53	+2.20
13	10:18	+2.03
18	11:18	+2.20
25	11:01	+2.06
Dec. 2	10:40	+1.98
9	11:15	+1.98
16	10:53	+1.93
23	11:08	+1.90
30	11:10	+2.06
1936		
Jan. 6 [1]	11:57 a. m.	+2.03

[1] Continued by Salt Lake City Corporation.

(D-1-1)19abc. S. Nakamura, 2213 South 4th East St., Salt Lake City. Diameter, 3 inches; depth, 150 feet. Flow from well, June 20, 1932, 1.9 g. p. m. Temperature of water, 45° F. (?).

(D-1-1)19bab1. Geo. Hoehnes, 173 Commonwealth Ave., Salt Lake City. State claim No. 1857. Diameter, 2 inches; depth, 265 feet. Drilled, 1910. Flow from well, June 21, 1932, 0.9 g. p. m.

(D-1-1)19bab2. Nova Christensen, 160 East 21st South St., Salt Lake City. State claim No. 1121. Diameter, 2 inches; depth, 386 feet. Drilled, 1915. Temperature of water, 49° F.

(D-1-1)19bba. Salt Lake County Hospital, 21st South and State Sts., Salt Lake City. Diameter, 3 inches. Measuring point, top of tee, 1.0 foot above land surface and 4,251.56 feet above sea level. Altitude and measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1934—Con.		
July 2	9:30 a. m.	+8.4	Oct. 9	10:05 a. m.	+10.8
4	10:30	+8.5	11	10:25	+10.75
6	10:35	+8.4	18	9:35	+11.95
7	9:35	+8.5	23	9:40	+12.9
9	9:30	+8.25	25	9:15	+12.9
10	8:25	+8.5	29	10:05	+12.95
11	9:55	+9.35	Nov. 3	8:40	+13.5
12	10:25	+8.45	6	9:35	+13.7
	3:00 p. m.	+7.8	8	9:50	+13.7
14	8:30 a. m.	+8.25	13	3:15 p. m.	+14.2
16	9:55	+8.0	15	11:05 a. m.	+14.25
17	8:25	+7.9	20	10:15	+14.65
18	9:40	+7.6	26	1:41 p. m.	+14.55
19	8:40	+7.6	Dec. 3	3:08	+14.0
20	10:00	+8.0	11	9:53 a. m.	+13.7
21	8:25	+8.7	24	11:45	+14.2
23	9:40	+9.95	31	11:42	+14.05
25	8:35	+9.8			
26	10:05	+8.8	1935		
27	8:50	+8.4			
28	9:20	+8.1	Jan. 7	11:40 a. m.	+14.05
30	8:55	+7.8	14	11:52	+14.15
31	9:20	+7.2	21	3:35 p. m.	+13.7
Aug. 1	8:10	+8.05	28	12:04	+13.6
2	10:15	+7.8	Feb. 4	11:46 a. m.	+14.05
3	8:15	+7.95	11	11:37	+14.2
6	8:30	+9.05	18	1:45 p. m.	+13.95
7	9:30	+8.65	26	10:05 a. m.	+14.1
8	8:30	+8.3	Mar. 4	10:53	+14.6
9	10:15	+8.5	11	11:28	+14.5
10	8:55	+8.5	18	11:00	+14.5
11	9:45	+8.2	25	10:43	+14.35
13	8:20	+8.4	Apr. 1	1:15 p. m.	+14.55
14	10:45	+8.05	8	10:30 a. m.	+14.7
15	8:25	+8.55	16	10:47	+14.0
16	11:30	+7.95	22	11:08	+14.0
17	8:40	+8.3	29	2:26 p. m.	+13.35
18	10:30	+7.9	May 6	11:28 a. m.	+13.3
20	8:47	+8.45	13	10:33	+13.7
22	9:15	+8.3	20	11:36	+13.9
24	8:25	+8.35	27	1:57 p. m.	+11.3
25	10:20	+7.9	June 3	11:23 a. m.	+13.8
27	8:25	+8.25	10	10:46	+10.1
29	8:30	+8.5	18	11:12	+8.8
31	8:15	+9.0	24	2:32 p. m.	+8.35
Sept. 4	8:25	+8.75	July 1	11:02 a. m.	+8.3
6	8:20	+9.15	9	2:15 p. m.	+7.7
8	8:40	+8.65	15	10:50 a. m.	+7.75
11	9:00	+9.0	29	1:40 p. m.	+8.4
15	9:00	+9.4	Aug. 5	11:40 a. m.	+8.6
18	9:15	+9.05	13	10:43	+7.8
20	4:45 p. m.	+8.65	20	10:00	+8.75
25	9:15 a. m.	+10.7	27	10:01	+9.5
27	9:40	+11.7	Sept. 3	11:00	+8.8
Oct. 4	9:15	+11.2	9	11:40	+9.85
6	9:15	+11.2	16	11:12	+8.1

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1936—Con.		
Sept. 24	10:45	+10.1	Apr. 13	11:30 a. m.	+14.75
30	10:48	+10.6	20	1:12 p. m.	+13.45
Oct. 7	10:26	+10.25	27	11:14 a. m.	+11.80
21	2:25 p. m.	+11.8	May 4	10:50	+12.00
30	11:48 a. m.	+12.65	11	10:10	+11.20
Nov. 4	4:20 p. m.	+12.45	18	11:48	+9.95
13	4:20	+13.5	25	10:33	+9.40
18	11:25 a. m.	+13.85	June 1	1:02 p. m.	+10.85
25	11:11	+14.20	8	10:37 a. m.	+11.70
Dec. 2	10:58	+14.50	15	11:56	+8.70
9	12:05 p. m.	+14.50	22	10:07	+8.05
16	11:50 a. m.	+14.25	30	11:36	+9.30
23	4:35 p. m.	+14.00	July 6	10:11	+8.65
31	1:03	+14.00	14	8:58	+10.80
			20	10:48	+9.35
1936			29	8:40	+9.20
			Aug. 4	9:00	+8.30
Jan. 6	12:05 p. m.	+14.10	10	2:30 p. m.	+7.70
14	11:58 a. m.	+14.25	19	4:40	+10.65
21	8:50	+14.15	Oct. 7	11:15 a. m.	+11.80
Feb. 17	12:05 p. m.	+14.40	17	10:03	+12.25
24	11:53 a. m.	+15.00	21	10:22	+13.35
Mar. 2	11:55	+15.05	Nov. 3	11:59	+14.05
10	4:40 p. m.	+15.20	18	11:00	+14.70
16	1:15	+15.15	30	11:52	+15.05
Apr. 6	11:50 a. m.	+15.10	Dec. 4	11:45	+15.15

(D–1–1)19bbd16. Arthur Oakes, 2209 South State St., Salt Lake City. Diameter, 1½ inches; depth, 225 feet. Flow from well, June 20, 1932, estimated as 1.0 g. p. m.

(D–1–1)19bca2. Associated Oil & Gas Co., 2257 South State St., Salt Lake City. State claim No. 1399. Diameter, 2 inches; depth, 260 feet. Drilled, 1929. Temperature of water, 52° F. Flow from well, June 20, 1932, 5.5 g. p. m.

(D–1–1)19bdc6. Elbert O. Shafer, 175 East 24th South St., Salt Lake City. State claim No. 3328. Diameter, 2½ inches; depth, 200 feet. Drilled, 1912. Temperature of water, 49° F. Flow from well, June 22, 1932, 1.1 g. p. m.

(D–1–1)19bdc. F. L. MacDonald, 157 Truman Ave., Salt Lake City. State claim No. 10653(?). Diameter, 2 inches; depth, 100 feet. Temperature of water, 50° F. Flow from well, 0.5 g. p. m., June 21, 1932.

(D–1–1)19bdc14. Rodney B. Hunger, 169 East 24th South St., Salt Lake City. State claim No. 15279. Diameter, 2½ inches; depth, 60 feet. Drilled, 1911. Temperature of water, 52° F. Flow from well, June 22, 1932, 0.8 g. p. m.

(D–1–1)19bdd4. Abbie K. Burrows, 2389 South 3d East St., Salt Lake City. State claim No. 6932. Diameter, 2 inches; depth, 125 feet. Drilled, 1905. Temperature of water, 48° F. Flow from well, June 17, 1932, 0.5 g. p. m.

(D–1–1)19bdd5. Otis Corbett, 2384 South 3d East St., Salt Lake City. State claim No. 7716. Diameter, 2 inches; depth, 135 feet. Drilled, 1919. Temperature of water, 48° F. Flow from well, June 17, 1932, 1.8 g. p. m.

(D–1–1)19bdd6. A. J. Thorson, 2340 South 3d East St., Salt Lake City. State claim No. 8033. Diameter, 2 inches; depth, 135 feet. Drilled, 1927. Temperature of water, 49° F. Flow from well, June 17, 1932, 10.5 g. p. m.

(D–1–1)19caa. V. W. Mackay, 325 Robert Ave., Salt Lake City. Diameter, 2 inches; depth, 140± feet. Drilled, 1922. Temperature of water, 49° F. Flow from well, June 17, 1932, 2.1 g. p. m.

(D–1–1)19caa2. Wm. Matson, 2423 South 3d East St., Salt Lake City. State claim No. 2754. Diameter, 2 inches; depth, 316 feet. Drilled, 1913. Temperature of water, 49° F. Flow from well, June 17, 1932, 0.3 g. p. m.

(D-1-1)19caa6. Geo. Polychronis, 2440 South 3d East St., Salt Lake City. Diameter, 3 inches; depth, 475 feet. Drilled, 1910. Temperature of water, 52° F.

(D-1-1)19cac4. J. L. Bradford, 184 Beryl Ave., Salt Lake City. State claim No. 7432. Diameter, 2 inches; depth, 255 feet. Drilled, 1918.

(D-1-1)19cad. K. Okupo, 2495 South 3d East St., Salt Lake City. Diameter, 2 inches. Temperature of water, 51° F. Flow from well, June 17, 1932, estimated as 2 g. p. m.

(D-1-1)19cad6. H. E. Record, 2519 South 3d East St., Salt Lake City. State claim No. 8820. Diameter, 2 inches; depth, 260 feet. Temperature of water, 50° F.

(D-1-1)19cad7. Latter-Day Saints, Central Park Ward, 2499 South 3d East St., Salt Lake City. State claim No. 8818. Diameter, 2 inches; depth, 80 feet. Drilled, 1914. Temperature of water, 48° F. Flow from well, June 17, 1932, 6.6 g. p. m.

(D-1-1)19cad10. Frank H. Fox, 2538 South 3d East St., Salt Lake City. State claim No. 9209. Diameter, 2 inches; depth, 487 feet. Drilled, 1925. Temperature of water, 54° F. Flow from well, June 17, 1932, 2.8 g. p. m.

(D-1-1)19cda2. Mrs. Eliza Hartle, 2595 South 3d East St., Salt Lake City. State claim No. 7396. Diameter, 2 inches; depth, 230 feet. Drilled, 1922. Flow from well, June 17, 1932, 5.1 g. p. m.

(D-1-1)19cbd4. Vego Larsen, 2547 South State St., Salt Lake City. State claim No. 7120. Diameter, 2 inches; depth, 510 feet. Drilled, 1917 (1927?). Flow from well, June 20, 1932, 1.3 g. p. m.

(D-1-1)19cbd. B. H. Young, 2519 South State St., Salt Lake City. Flow from well, June 20, 1932, 0.7 g. p. m.

(D-1-1)19cca1. John F. Nydegger, 2611 South State St., Salt Lake City. State claim No. 3348. Diameter, 2 inches; depth, 280 feet. Drilled, 1911.

(D-1-1)19cda. Karl Nitsch, 2617 South 3d East St., Salt Lake City. Diameter, 2 inches. Temperature of water, 51° F. Flow from well, June 17, 1932, 0.7 g. p. m.

(D-1-1)19cda. Karl Nitsch, 2617 South 3d East St., Salt Lake City. Diameter, 2 inches. Temperature of water, 48° F. Flow from well, June 17, 1932, estimated as 2.5 g. p. m.

(D-1-1)19cdb. F. L. Johnson, 239 East Vides Ave., Salt Lake City. Diameter, 2 inches; depth, 300± feet. Flow from well, June 23, 1932, 0.9 g. p. m.

(D-1-1)19daa1. L. Simms, 2421 South 7th East St., Salt Lake City. Diameter, 2 inches. Measuring point, center line of tee, 1.5 feet above land surface and 4,282.31 feet above sea level. Temperature of water, 54° F. Flow from well, Sept. 30, 1931, 3.5 g. p. m. All pressure measurements made after well had been closed 5 minutes.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 30		+0.30	Feb. 20	9:10 a. m.	+0.46
Oct. 12	3:15 p. m.	+.55	Mar. 2	5:15 p. m.	+.42
Nov. 4	2:25	+.67	Apr. 9	11:20 a. m.	+.73
Dec. 4	12:00 m.	+.73	May 3	1:30 p. m.	+.55
			June 3	11:40 a. m.	+.81
1932			July 5	12:40 p. m.	+.55
			Aug. 6	9:45 a. m.	+.56
Jan. 4	11:00 a. m.	+.69			

(D-1-1)19daa2. E. H. Shill, 2425 South 7th East St., Salt Lake City. Diameter, 2 inches. Measuring point, top of ell, 1.1 feet above land surface and 4,280.33 feet above sea level. Temperature of water, 55½° F. Flow from well, Sept. 30, 1931, 4.0 g. p. m. All pressure measurements made after well had been closed 5 minutes. After Aug. 6, 1932, pressure measurements made by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 30		+1.31	Aug. 26	3:10 p. m.	+2.45
Oct. 12	3:15 p. m.	+2.36	Sept. 13	11:13 a. m.	+2.80
Nov. 4	2:35	+2.61	Oct. 19	3:35 p. m.	+3.04
Dec. 4	11:40 a. m.	+2.71	Dec. 1		+3.05
1932			1933		
Jan. 4	10:50 a. m.	+2.69	Jan. 19	11:37 a. m.	+2.66
Feb. 3	1:55 p. m.	+1.95	27	3:25 p. m.	+2.60
Mar. 2	5:05	+2.35	Feb. 28	1:20	+3.10
Apr. 9	11:40 a. m.	+2.69	Mar. 21	2:58	+3.20
May 4	1:50 p. m.	+2.86	May 2	2:27	+2.50
June 3	11:58 a. m.	+3.21	June 7	3:25	+3.79
July 5	12:50 p. m.	+2.47	July 5	5:10	+2.10
Aug. 6	10:00 a. m.	+2.56	Aug. 11	1:07	+1.20

(D-1-1)19dba1. J. F. Rasmussen, 2480 South 5th East St., Salt Lake City. State claim No. 7069. Diameter, 2½ inches; depth, 100 (325?) feet. Drilled 1918. Temperature of water, 52° F. Flow from well, June 20, 1932, 0.5 g. p. m.

(D-1-1)19dba2. Earl J. Love, 470 Robert Ave., Salt Lake City. State claim No. 9250. Diameter, 2 inches; depth, 100 feet. Drilled, 1932.

(D-1-1)19dbd1. T. H. Moray, 2484 South 5th East St., Salt Lake City. Diameter, 4 inches; depth, 82 feet. Drilled, 1922. Temperature of water, 49° F. Flow from well, June 20, 1932, 30 g. p. m.

(D-1-1)19dcc2. W. C. Winder, 403 East 27th South St., Salt Lake City. State claim No. 4109. Diameter, 2 inches; depth, 240 feet. Drilled, 1926. Temperature of water, 52° F. Flow from well, June 17, 1932, 1.7 g. p. m.

(D-1-1)20ccc5. Salt Lake City Corporation, Nibley Park, Salt Lake City. Diameter, 2 inches. Temperature of water, 56° F. Flow from well, June 28, 1932, 1.9 g. p. m.

(D-1-1)20cdc3. W. H. Nishonger, 873 East 27th South St., Salt Lake City. Diameter, 2 inches; depth, 89 (174 ?) feet. Measured depth, Sept. 1932, 78.5 feet. Measuring point, top of casing at land surface and 4,299.39 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Sept. 14		−11.70	Feb. 28	12:45 p. m.	[1] −7.94
Nov. 21		[1] −9.17	Mar. 21	2:30	[1] −0.08
			May 2	2:05	[1] 0
1933					
Jan. 4		[1] −4.52			
27	4:20 p. m.	[1] −2.01			

[1] By Salt Lake City Corporation.

(D-1-1)20cdc4. Louis Lund, 803 East 27th South St., Salt Lake City. Diameter, 2½ inches; depth, 129 feet. Measuring point, top of southeast corner of concrete sump at land surface and 4,292.44 feet above sea level. Flow from well, Sept. 14, 1932, 2.0 g. p. m. All pressure measurements made by Salt Lake City Corporation, except Sept. 14, 1932.

Date	Hour	Water level (feet)
1932		
Sept. 14		+2.00
Oct. 19		+2.75
Nov. 21		+3.10
1933		
Jan. 4		+2.58
27	4:12 p. m	+2.70
Feb. 28	1:00	+3.70
Mar. 21	2:35	+3.03
May 2	2:10	+2.00
June 5	5:45	+2.20
July 5	5:00	+1.85
Aug. 3	10:45 a. m	+2.00
Sept. 6	4:45 p. m	+1.50
Oct. 16	11:10 a. m	+2.15
Nov. 21	2:35 p. m	+2.58
1934		
Jan. 6	1:25 p. m	+2.75
Feb. 7	4:31	+2.45
May 6	6:00 a. m	+.65
28	4:58 p. m	+.33
June 6	1:35	+.30
8	3:25	+.67
11	2:00	+.35
13	4:20	+.13
15	1:15	+.04
18	12:45	+.06
	3:20	−.50
23	1:05	+1.05
25	1:30	+.65
26	4:05	+.65
27	2:20	+.64
28	4:20	+.30
29	1:55	+.33
July 3	2:15	−.07
4	10:45 a. m	−.00
	3:40 p. m	−.05
5	4:55	−.13
6	2:40	.00
7	2:30	−.19
9	3:25	−.29
10	4:50	.00
11	12:05	+.08
	2:55	+.08
	5:45	+.08
12	10:05 a. m	+.01
	4:10 p. m	−.11
13	1:30	−.20
14	11:40 a. m	−.10
17	11:10	−.29
18	1:00 p. m	−.25
19	3:30	−.34
20	2:25	−.32
23	2:00	+.27
25	4:10	−.13
26	2:20	−.04
27	4:35	−.23
28	2:50	−.36
30	4:30	−.50
31	2:25	−.39
Aug. 1	4:45	−.42
2	2:15	−.40
3	4:45	−.60
4	2:55	−.48
6	4:50	−.25
7	2:30	−.35
8	4:00	−.42
1934—Con.		
Aug. 9	2:20 p. m	−0.38
10	4:25	−.38
11	12:15	−.48
13	4:35	−.50
14	2:15	−.44
15	4:20	−.50
16	2:30	−.40
17	4:25	−.40
18	1:35	−.40
20	4:30	−.35
21	2:45	−.43
22	4:15	−.50
23	2:15	−.42
24	4:40	−.42
27	4:45	−.50
29	1:30	−.30
30	2:15	−.27
Sept. 1	2:40	−.32
5	2:15	−.32
6	4:40	−.22
7	2:20	−.15
10	3:30	−.22
12	4:30	−.28
14	3:30	−.38
17	4:20	−.13
19	4:00	−.20
21	4:25	−.20
24	2:35	.00
26	2:20	+.44
	2:15	+.60
Oct. 1	4:00	+.53
3	3:25	+.43
5	4:30	+.40
8	4:25	+.26
10	4:15	+.35
12	4:15	+.35
15	3:20	+.56
17	4:00	+.57
19	3:45	+.54
20	12:05	+.71
22	2:10	+.71
23	1:45	+.77
25	2:25	+.77
26	4:00	+.80
29	12:35	+.74
31	1:50	+.73
Nov. 2	1:40	+.87
3	11:45 a. m	+.95
5	3:35 p. m	+.99
7	1:55	+.99
9	2:30	+.90
13	10:55 a. m	+.98
15	2:20 p. m	+1.05
20	11:00 a. m	+1.14
23	4:10 p. m	+1.18
26	2:32	+1.09
Dec. 3	4:13	+1.18
11	10:42 a. m	+.98
17	3:02 p. m	+1.39
26	11:17 a. m	+1.44
31	3:02 p. m	+1.34
1935		
Jan. 7	3:25 p. m	+1.37
14	3:00	+1.47
21	10:17 a. m	+1.22
28	3:36 p. m	+1.31
Feb. 4	3:51	+1.41
11	3:10	+1.48

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1936		
Feb. 18	2:45 p. m.	+1.25	Jan. 7	9:20 a. m.	+1.53
26	10:40 a. m.	+1.22	13	11:30	+1.60
Mar. 4	4:12 p. m.	+1.42	21	9:25	+1.59
11	4:35	+1.40	28	9:16	+1.59
18	4:28	+1.40	Feb. 4	1:50 p. m.	+1.58
25	11:30 a. m.	+1.36	10	11:35 a. m.	+1.51
Apr. 8	11:35	+1.43	18	9:46	+1.77
16	4:15 p. m.	+1.22	25	9:03	+1.95
22	2:50	+1.16	Mar. 2	11:15	+1.97
29	3:22	+1.05	9	11:53	+2.02
May 6	4:15	+1.00	16	1:30 p. m.	+2.09
13	11:32 a. m.	+1.10	24	2:58	+2.00
22	8:31	+1.08	31	1:54	+2.08
25	11:30	+.57	Apr. 13	3:48	+1.80
27	12:20 p. m.	+.36	20	1:40	+1.30
28	9:45 a. m.	+.62	27	3:45	+.80
31	12:22 p. m.	+1.28	May 4	4:28	+1.05
June 3	1:22	+1.38	11	11:13 a. m.	+.90
11	9:24 a. m.	+.10	18	2:40 p. m.	+.85
18	1:20 p. m.	−.17	25	11:36 a. m.	+1.00
24	4:20	−.20	June 1	2:04 p. m.	+1.70
July 1	4:32	−.25	8	11:19 a. m.	+2.30
9	11:40 a. m.	−.34	15	11:36	+1.40
15	2:02 p. m.	−.33	22	4:28 p. m.	+.96
30	9:40 a. m.	−.14	30	10:20 a. m.	+1.36
Aug. 5	4:30 p. m.	−.40	July 7	10:04	+1.15
13	11:34 a. m.	−.40	13	11:48	+2.10
19	5:01 p. m.	+.15	20	4:38	+1.18
27	11:30 a. m.	.00	28	10:48	+1.30
Sept. 3	12:15 p. m.	−.20	Aug. 3	11:23	+1.15
9	4:26	.00	10	3:45 p. m.	+.75
16	4:10	−.24	25	1:21	+1.05
23	4:33	−.14	Sept. 1	12:02	+1.20
30	4:10	.00	9	11:43 a. m.	+1.27
Oct. 2	10:18 a. m.	+.06	15	10:42	+1.36
3	10:00	+.02	21	11:42	+1.38
4	8:41 p. m.	+.01	28	1:12 p. m.	+1.75
7	11:54 a. m.	−.11	Oct. 6	11:48 a. m.	+1.76
15	3:58 p. m.	+.20	17	9:32	+1.94
22	11:35 a. m.	+.53	21	11:40	+2.30
28	2:17 p. m.	+.73	30	11:50	+2.57
Nov. 4	1:50	+1.00	Nov. 4	10:12	+2.53
18	1:33	+1.32	10	11:20	+2.67
30	9:25 a. m.	+1.64	25	11:56	+2.81
Dec. 2	11:48	+1.62	Dec. 1	1:00 p. m.	+2.85
9	11:36	+1.62	8	4:20	+2.85
16	11:04	+1.54	14	3:30	+2.82
23	11:20	+1.49	23	11:52 a. m.	+2.88
30	11:50	+1.47	29	4:12 p. m.	+3.06

(D–1–1)20ddd1. Salt Lake City Corporation, 27th South and 13th East Sts., Salt Lake City. State claim No. 4842. Diameter, 20 inches; depth, 500 feet. Measuring point, top of casing, at land surface and 4,417.74 feet above sea level. Altitude and measurements by Salt Lake City Corporation except as noted. First pumping, July 3, 1934.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1934—Con.		
July 4	8:50 a. m.	[1,2] −75.5	Aug. 9	4:20 p. m.	[1,2] −57.85
6	12:00 m.	[1,2] −66.9	Sept. 8	10:25 a. m.	−43.35
10	7:00 p. m.	[1] −38.04	10	2:00 p. m.	−43.92
11	7:55 a. m.	[1] −37.68	11	1:40	−43.97
12	12:28 p. m.	[2] −58.50	12	3:40	−44.04
	6:40	[1,2] −57.1	15	9:40 a. m.	−44.15
19	12:10	[1,2] −56.3	17	2:35 p. m.	−43.02
20	2:45	[2] −62.45	18	2:20	−43.73
	3:45	[2] −56.22	19	2:30	−43.69
	4:20	[2] −62.45	21	2:10	[2] −63.00
27	4:10	[1,2] −58.4	22	11:40 a. m.	−44.40
Aug. 6	10:15 a. m.	[1,2] −59.95			

Date	Hour	Water level (feet)
1934—Con.		
Oct. 1	2:00 p. m.	[2] −61.60
5	2:15	−44.47
8	12:25	−44.78
13	10:55 a. m.	−45.07
Oct. 16	2:30 p. m.	−45.21
19	10:57 a. m.	−45.39
22	1:20 p. m.	−45.07
23	12:45	−44.65
24	4:20	−44.37
25	2:50	−44.22
	3:25	−44.21
26	1:50	−44.10
	4:05	−44.07
27	9:45 a. m.	−44.02
29	2:00 p. m.	−44.14
Oct. 30	2:15 p. m.	−44.51
31	2:20	−44.68
Nov. 1	2:00	−44.82
2	2:15	−44.97
3	11:00 a. m.	−44.79
5	4:10 p. m.	−44.10
7	2:30	−43.80
9	2:50	−43.64
14	1:55	−43.11
15	2:55	−43.02
19	10:35 a. m.	−42.74
23	3:30 p. m.	−42.49
28	2:00	−42.24
Dec. 3	4:05	−42.01
4		

[1] By U. S. Geological Survey.
[2] Pumping 3 to 4.5 second-feet.

Depth to water (feet) at 12 noon, 1934-35

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		40.74	39.93	39.31	39.76		
2		40.67	39.90	39.30	39.78		
3		40.63	39.84	39.26	39.79		
4	[1] 42.26	40.53	39.78	39.28	39.81		[2] 30.67
5	42.26	40.51	39.76	39.33	39.82		
6	42.23	40.48	39.72	39.33	39.89		
7	42.19	40.45	39.72	39.27	39.80		
8	42.13	40.39	39.71	39.23	39.77		
9	42.07	40.38	39.71	39.29	39.89		
10	42.03	40.36	36.69	39.44	40.01		
11	41.98	40.24	39.63	39.48	40.01		[2] 29.82
12	41.91	40.24	39.60	39.47	39.99		
13	41.81	40.24	39.59	39.47	39.97		
14	41.78	40.19	39.59	39.41	40.03	[2] 31.06	
15	41.75	40.10	39.69		39.98		
16	41.73	40.14	39.67		40.03		
17	41.61	40.11	39.61		40.08		
18	41.62	40.05	39.57		40.11		[2] 29.30
19	41.47	39.98	39.54		40.11		
20	41.42	40.18	39.49		40.08		
21	41.39	40.18	39.55	39.48	40.06	[2] 31.39	
22	41.32	40.10	39.48	39.59	40.14		
23	41.24	40.06	39.35	39.54	40.10	(3)	
24	41.18	40.07	39.41	39.56		[2] 31.20	
25	41.14	40.03	39.47	39.59		31.10	[2] 29.26
26	41.00	40.00	39.44	39.65			
27	40.95	40.00	39.39	39.68		[2] 31.94	
28	40.91	39.99	39.35	39.69		[2] 32.02	
29	40.89	39.97		39.67		[2, 4] 110.5	
30	40.80	39.97		39.68			
31	40.83	39.96		39.69		[2, 4] 110.5	

[1] Water-stage recorder installed.
[2] Manual measurements below top of lower edge of 1¼-inch pipe, 4,409.70 feet above sea level.
[3] Water-stage recorder removed.
[4] Pumping.

(D-1-1)21abb1. Sadie B. Bennett, 1675 East 21st South St., Salt Lake City. Diameter, 48 inches; depth, 48 feet. Measuring point, top of platform, 0.2 foot above cement curb, 0.5 foot above land surface and 4,476.45 feet above sea level. Measurements after Aug. 6, 1932, made by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Oct. 1		−44.80	Jan. 4		−39.75
12	5:10 p. m.	−44.50	Feb. 4	2:20 p. m.	−40.28
Nov. 4	3:45	−45.30	28	2:22	−40.50
Dec. 4	10:10 a. m.	−45.86	Apr. 12	3:00	(1)
			May 10	2:50	(1)
1932			June 8	4:00	−42
			22		−40.58
Jan. 4	9:55 a. m.	−43.75	July 5	6:00	−39.20
Feb. 2	1:30 p. m.	−44.16	Aug. 15	5:20	−37.58
Mar. 2	2:30	−44.81	Sept. 20	5:00	−38.40
Apr. 9	10:15 a. m.	−45.60	Oct. 13	4:40	−39.50
May 4	12:30 p. m.	−46.21	Nov. 24	1:15	−39.62
June 1	4:25	−44.58			
July 5	11:35 a. m.	−40.00	1934		
Aug. 6	9:10	−38.48			
25	10:30	−38.79	Jan. 8	3:10 p. m.	−42.25(?)
Sept. 12	9:30	−43.30			
Oct. 17		−40.70			
Nov. 16		−34.60			

[1] Dry at −42.

(D-1-1)21acc1. Utah State Prison, Parkway Ave. and Imperial Sts., Salt Lake City. State claim No. 33. Diameter, 12 inches; depth, 467 feet. Drilled, 1931. Temperature of water, 54° F. Analysis by M. D. Foster, U. S. Geological Survey, showed 0.4 p. p. m. of fluoride in 1932. Reported as well (D-1-1)21bd in U. S. Geological Survey Water-Supply Paper 817, pp. 440-441. Measuring point until Sept. 18, 1931, inclusive, was top of air-line inlet, 1.75 feet above ground, and 4,464.76 feet above sea level; Oct. 12, 1931, to Nov. 2, 1932, inclusive, top of concrete pump base, 4,463.54 feet above sea level; Feb. 3, 1932, to Apr. 9, 1932, inclusive, top of casing, 4,458.5 feet above sea level; May 6, 1932, ground surface, 4,463 feet above sea level; May 13, 1932, to May 14, 1932, inclusive, top of casing, 4,465 feet above sea level; after May 31, 1932, top of casing, 4,464.89 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1931—Con.		
Sept. 17	9:05 a. m.[1]	−79.10	Oct. 30	9:46 a. m.	−80.73(?)
	9:20	−79.61		9:55 [7]	−79.27
	9:52	−79.67		10:25	−79.71
	10:19	−79.68		11:55 [8 9]	−79.63
	6:30 p. m.[2]	−79.72	Nov. 2	10:04 [10]	−77.81
18	8:20 a. m.	−79.12		10:56	−79.82
Oct. 12	5:20 p. m.[3]	−78.07		11:26	−79.23
29	12:10	−77.84	1932		
	4:01 [4]	−77.84			
	4:26	−79.43	Feb. 3	3:05 p. m.	−75.03
	4:33	−79.15	Mar. 2	3:15	−75.60
	4:38	−79.97	Apr. 9	10:45 a. m.	−72.98
	4:45	−80.61(?)	May 6	11:00	−76.46
	4:52 [5]	−79.28	13	10:30	−76.96
	5:15	−78.02	14	10:30	−76.87
30	8:39 a. m.	−77.88	June 1	9:00 [11]	−75.10
	9:42 [6]	−79.21		10:55	−84.18

See footnotes at end of table.

Date	Hour	Water level (feet)
1932—Con.		
June 1	11:15 a. m.	−84.39
	3:55 p. m.	−84.00
	4:15	−84.10
	4:18	−76.55
	4:19½	−76.35
	4:22	−76.25
	4:24½	−76.16
	4:31	−76.01
	4:39	−75.91
	4:49	−75.81
9	5:15	−74.65
16	4:25	−74.25
23	10:05 a. m.	−74.68
30	8:50	−74.91
July 7	11:55	−75.08
21	10:35	−74.57
28	7:30	−74.81
Aug. 4	10:20	−74.28
11	10:20	−74.50
18	11:00	−80.70
25	9:50 [12]	−81.32
Sept. 1	8:25	−74.56
8	10:35	−74.48
15	10:10	−74.77
22	9:45	−74.94
29	11:05	−74.71
Oct. 6	10:45	−74.91
13	10:25	−74.68
20	11:05	−74.63
27	11:15	−74.93
Nov. 2	10:09	−75.39
10	10:45	−75.74
17	11:20	−75.92
Dec. 1	1:40 p. m.	−76.00
8	4:30	−76.01
15	1:50	−76.17
22		−76.26
29	12:10	−76.15
1933		
Jan. 12	10:35 a. m.	−74.93
26	10:50	−73.16
Feb. 9	11:50	−72.69
23	10:50	−72.48
Mar. 9	11:30	−73.72
23	10:55	−73.34
Apr. 6	9:55	−73.07
20	10:45	−73.22
May 4	11:30	−71.97
25	11:35	−71.49
June 8	10:55	−70.96
22	11:00	−71.40
July 6	11:05	−71.27
20	9:00	−70.10
Aug. 3	10:50	−71.10
17	11:45	−71.90
Oct. 7	11:10	−73.70
Nov. 2	4:35 p. m.	−74.50
Dec. 7	12:00 m.	−73.92
1934		
Jan. 18	11:00 a. m.	−75.44
Feb. 8	9:15	−76.02
Mar. 8	4:10 p. m.	−76.80
29	2:30	−77.18
Apr. 26	3:30	−78.00
May 26	8:30 a. m.	[13]−79.80
	8:50	[14]−84.43
	3:50 p. m.	−85.50
	4:05	[15]−80.80
31	8:25 a. m.	−80.00
June 4	8:00	−80.22
7	8:00	−80.29
11	8:00	−80.43
14	9:20	[12, 16]−85.70
21	7:40	−80.83
	10:00	[17]−80.77

Date	Hour	Water level (feet)
1934—Con.		
June 21	11:00 a. m.	−80.75
	11:35	−80.75
	12:10 p. m.	−80.73
	1:10	−80.72
	2:00	−80.77
	3:25	[12]−85.11
	4:15	[12]−85.85
	5:05	[12]−86.00
	11:00	[18]−81.15
	11:45	−80.97
22	12:20 a. m.	−80.95
	1:05	−80.92
	2:15	−80.87
	3:30	−80.84
	4:10	−80.83
	4:55	−80.81
	5:45	−80.79
	6:40	−80.77
	7:25	−80.73
	9:45	−80.70
	11:50	−80.66
	1:00 p. m.	−80.65
	1:50	−80.65
	2:30	−80.64
	3:25	−80.62
	3:40	[12]−85.31
	4:35	[12]−85.79
	5:00	[12]−85.70
23	6:10 a. m.	[12]−85.59
	6:50	[12]−85.79
	7:50	[12]−86.00
	8:45	[12]−86.18
	12:30 p. m.	[12]−86.55
	3:50	[12]−86.40
26	5:10	[12]−86.65
27	3:35	[12]−86.78
28	4:55	[12]−86.44
29	3:10	[12]−86.80
July 3	2:50	[12]−88.12
5	5:00	[12, 19]−88.05
6	3:10	[12]−87.60
7	3:10	[12]−88.18
9	4:00	[12]−89.55
10	9:50 a. m.	[12, 19]−88.95
11	3:00 p. m.	[12]−89.15
12	4:35	[12]−89.50
	4:45	−83.90
13	5:10	[12]−90.22
17	3:50	[12]−90.15
18	3:25	[12]−91.40
21	3:45	[12]−91.40
23	3:20	[12]−92.35
25	4:40	[12]−90.83
28	4:00	[12]−91.30
31	3:30	[12]−91.10
Aug. 2	3:15	[12]−91.20
7	3:20	[12]−90.60
9	3:35	[12]−91.77
13	4:20	[12]−91.15
14	3:45	[12]−91.95
15	4:10	[12]−91.81
16	4:05	[12]−91.10
17	4:10	[12]−91.37
18	3:25	[12]−91.40
21	3:45	[12]−91.40
23	3:20	[12]−92.35
24	4:25	[12]−91.40
25	2:45	[12]−93.12
27	4:15	[12]−91.40
	4:20	[12]−90.45
	4:25	[12]−91.40
	4:30	[12]−91.40
	4:35	[12]−90.45
28	3:15	[12]−90.45
	3:20	[12]−90.43
	3:25	[12]−90.43
	3:30	[12]−90.43
29	4:30	[12]−90.45
	4:35	[12]−90.45

See footnotes at end of table.

Date	Hour	Water level (feet)
1934—Con.		
Aug. 29	4:50 p. m.	−88.27
30	3:25	[12]−91.26
	3:30	[12]−91.35
	3:35	[12]−91.35
Sept. 1	3:50	[12]−91.20
	4:00	[12]−91.40
	4:10	[12]−91.40
5	3:30	[12]−91.17
	3:35	[12]−91.05
	3:40	[12]−90.92
	3:45	[12]−90.60
7	3:30	[12]−90.40
	3:35	[12]−90.80
10	4:30	[12]−90.80
	4:35	[12]−91.40
12	3:45	[12]−90.37
	3:50	[12]−90.40
14	2:45	[12]−90.43
	2:50	[12]−90.43
28	4:00	−88.43
Oct. 3	4:30	−88.33
5	4:00	−88.26
8	3:40	−88.38
20	10:45 a. m.	−88.98
23	12:35 p. m.	−88.82
24	4:00	−88.68
25	3:00	−88.56
26	2:00	−88.42
27	10:05 a. m.	−88.33
29	2:10 p. m.	−88.08
30	2:30	−88.06
31	2:45	−88.07
Nov. 1	2:25	−88.14
2	2:30	−88.21
3	10:10 a. m.	−88.24
5	4:30 p. m.	−88.17
8	3:30	−88.00
15	4:25	−87.16
20	11:47 a. m.	−86.65
Dec. 8	9:00	−84.86
12	9:12	−84.12
17	3:52 p. m.	−83.02
31	2:20	−80.74
1935		
Jan. 7	2:43 p. m.	−80.63
14	2:21	−80.64
21	11:02 a. m.	−81.07
28	2:46 p. m.	−81.21
Feb. 4	3:00	−80.57
11	2:40	−79.06
23	12:30	−79.40
26	11:20 a. m.	−79.44
Mar. 4	1:32 p. m.	−79.77
11	2:40	−80.10
18	2:07	−80.58
26	2:25	−81.68
Apr. 1	2:25	−82.25
8	2:05	−82.65
16	3:40	−83.26
22	1:42	−83.44
30	10:20 a. m.	−83.30
May 6	2:05 p. m.	−82.78
13	2:20	−80.99
22	8:45 a. m.	−79.52
25	11:12	−78.90
27	10:35	−78.77
28	10:10	−78.66
31	2:15 p. m.	−78.85
June 3	3:25	−79.14
11	10:25 a. m.	−79.58
17	2:15 p. m.	−79.35
20	4:25	−79.08
25	10:02 a. m.	−79.18
1935—Con.		
July 1	2:30 p. m.	−79.07
9	4:00	−79.09
15	3:15	−79.09
22	3:35	[12]−85.10
Aug. 5	3:15	−80.40
13	2:10 a. m.	[12]−86.62
20	1:30 p. m.	−81.15
26	3:10	[12]−87.00
Sept. 3	3:00	−81.65
9	3:00	−81.67
16	2:30	−81.92
23	2:15	−82.59
30	2:35	−82.83
Oct. 2	9:47 a. m.	−82.85
3	10:20	−82.84
4	10:12	−82.81
7	1:52 p. m.	−82.59
11	11:35 a. m.	−82.24
14	3:20 p. m.	−82.00
23	4:20	−81.57
28	11:00 a. m.	−81.21
Nov. 9	10:40	−80.42
13	11:25	−80.17
19	10:45	−79.84
25	2:22 p. m.	−79.33
Dec. 2	2:09	−79.06
10	10:15 a. m.	−78.86
17	10:50	−79.10
31	11:57	−79.74
1936		
Jan. 8	10:50 a. m.	−80.02
14	10:20	−80.02
21	10:42	−79.31
22	1:41 p. m.	−79.06
23	2:06	−78.82
24	4:18	−78.36
25	12:15	−78.39
27	10:20 a. m.	−78.26
28	10:21	−78.11
29	11:10	−78.00
31	11:22	−77.70
Feb. 1	10:22	−77.80
3	4:11 p. m.	−77.75
4	11:24 a. m.	−77.65
5	9:57	−77.54
7	4:10 p. m.	−77.21
8	12:26	−77.02
10	11:12 a. m.	−76.82
13	4:15 p. m.	−76.33
14	3:10	−75.97
15	9:30 a. m.	−75.80
17	10:20	−75.26
18	10:29	−74.88
19	10:38	−74.73
20	3:55 p. m.	−74.90
21	10:23 a. m.	−75.13
24	10:35	−75.87
25	10:00	−76.13
26	10:55	−76.31
27	3:40 p. m.	−76.48
28	3:06	−76.68
29	11:19 a. m.	−76.82
Mar. 2	10:27	−77.14
3	10:47	−77.21
4	10:44	−77.36
11	5:05 p. m.	−78.04
13	4:40	−78.05
14	11:51 a. m.	−78.12
18	10:15	−77.89
20	4:25 p. m.	−77.60
24	11:35 a. m.	−77.45
28	9:00	−77.71
31	10:50	−78.08

See footnotes at end of table.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1936—Con.			1936—Con.		
Apr. 4	8:30 a. m.	−78.45	Aug. 8	9:28 a. m.	−71.38
6	1:26 p. m.	−78.65	12	3:20 p. m.	−71.38
10	10:00 a. m.	−78.87	25	11:04 a. m.	−71.82
13	2:25 p. m.	−78.85	27	4:00 p. m.	−71.96
18	8:38 a. m.	−78.11	28	10:51 a. m.	−72.04
20	9:23	−77.27	31	10:07	−72.37
25	9:23	−75.80	Sept. 2	10:27	−72.36
27	2:00 p. m.	−74.27	8	3:13 p. m.	−72.73
May 2	6:50 a. m.	−73.87	9	3:23	−72.77
4	1:20 p. m.	−73.57	10	3:30	−72.82
9	9:14 a. m.	−73.64	12	10:24 a. m.	−73.00
11	2:15 p. m.	−73.57	15	2:07 p. m.	−73.29
16	8:55 a. m.	−72.83	17	3:37	−73.35
18	3:28 p. m.	−72.62	19	10:25 a. m.	−73.56
23	8:52 a. m.	−72.00	22	2:40 p. m.	−73.74
25	3:15 p. m.	−71.77	24	9:25 a. m.	−73.80
29	3:28	−71.63	26	10:43	−73.82
June 1	10:52 a. m.	−71.74	29	2:35 p. m.	−73.84
5	3:36 p. m.	−70.79	Oct. 3	10:35 a. m.	−73.87
8	3:28	−70.59	6	1:50 p. m.	−73.87
13	11:16 a. m.	−70.32	17	8:22 a. m.	−73.55
15	10:40	−70.71	21	2:00 p. m.	−73.04
20	8:40	−71.32	24	9:30 a. m.	−72.41
22	1:54 p. m.	−71.24	27	4:19 p. m.	−72.35
27	8:40 a. m.	−70.56	31	9:38 a. m.	−72.40
29	10:00	−70.38	Nov. 3	3:00 p. m.	−72.36
July 3	3:41 p. m.	−70.32	7	11:39 a. m.	−72.15
6	4:02	−70.84	10	2:13 p. m.	−72.16
11	8:52 a. m.	−70.44	18	2:12	−71.93
14	9:55	−70.05	25	2:30	−71.74
18	10:45	−70.20	Dec. 1	2:05	−71.53
22	1:40 p. m.	−70.74	8	2:02	−70.82
27	10:54 a. m.	−71.09	14	2:11	−70.52
Aug. 1	12:02 p. m.	−71.10	23	9:21 a. m.	−70.30
4	10:48 a. m.	−71.20	29	2:51 p. m.	−70.44

[1] Pump started at 9:07 a. m.
[2] Pump stopped at 8:00 p. m.
[3] No pumping since Sept. 17, 1931.
[4] Pump started at 4:25 p. m., ran 2 minutes; started again at 4:32 p. m.
[5] Pump stopped at 4:55 p. m. Discharge of 803 g. p. m. at 4.50 p. m.
[6] Pump started at 9:39 a. m.
[7] Pump stopped 1 minute at 10:00 a. m. and 10:15 a. m.
[8] Pump stopped at 12 noon.
[9] Pump discharge was 826 g. p. m. at 9:56 a. m.; 848 g. p. m. at 10:25 a. m.
[10] No pumping since Oct. 30. Pump started at 10:40 a. m. Pump discharge, 777 g. p. m. at 10:58 a. m. Pump stopped 1 minute and adjusted at 10:59 a. m. Pump discharge 875 g. p. m. at 11:23 a. m.
[11] Pump started at 9:15 a. m. Pump discharge, 848 g. p. m. at 10:35 a. m.; 951 g. p. m. at 10:50 a. m.; 937 g. p. m. at 11:15 a. m.; 924 g. p. m. at 3:55 p. m. and 4:15 p. m. Pump stopped at 4:16 p. m.
[12] Pumping.
[13] Pumping 8 hours per day since May 4, 1934.
[14] Pump started at 8:30 a. m.
[15] Pump stopped at 3:55 p. m.
[16] By Salt Lake City Corporation.
[17] All succeeding measurements by Salt Lake City Corporation, unless otherwise noted.
[18] Pumping ceased about 8:00 p. m.
[19] By U. S. Geological Survey.

(D-1-1)21dddl. Salt Lake City Corporation, 19th East and 27th South Sts., Salt Lake City. State claim No. 4840. Diameter, 20 inches; depth, 535 feet. Measuring point, top of 1-inch measuring pipe in pump base, 12.0 feet below land surface and 4,508.17 feet above sea level. Drilled, June 1934. First pumped from 4:30 p. m. to 11:30 p. m., June 20, 1934. Altitude and depth-to-water measurements by Salt Lake City Corporation, unless noted.

Date	Hour	Water level (feet)
1934		
June 21		[1] −114.23
22		[1,2] −128.0
23		[1] −114.4
25	8:55 a. m.	[1,2] −126.9
		[3] −115.3
July 3	6:45 p. m.	−114.9
4	11:55 a. m.	−115.4
	3:50 p. m.	−115.4
12	12:35	−118.6
Aug. 6	9:45 a. m.	[1] −117.5
14		[1,4] −160.0
Sept. 11	2:45 p. m.	[5,6] −163
12	3:50	[5,6] −164
17	2:50	[5,6] −162
18	2:30	[5,6] −162.5
19	2:10	[5,6] −163
21	2:55	[5,6] −163
Oct. 1	2:30	[6] −129
2	11:10 a. m.	[6] −127.5
3	1:55 p. m.	[6] −126.5
5	2:30	[5,6] −163
8	12:35	[5,6] −164
16	2:40	[5,6] −164
19	10:45 a. m.	[5,6] −165
22	1:35 p. m.	[6] −128.5
23	12:25	[6] −128
24	3:45	[6] −127.8
25	3:15	[6] −127
	3:50	[6] −127
26	2:20	[6] −127
	4:15	[6] −127
27	10:15 a. m.	[6] −127
29	12:45 p. m.	[5,6] −161
30	11:45 a. m.	[5,6] −163
31	3:00 p. m.	[5,6] −164
Nov. 1	2:40	[5,6] −164.5
2	8:30 a. m.	[5,6] −166
3	8:41	[5,6] −165.5
5	4:20 p. m.	[6] −127
7	2:55	[6] −126.7
9	3:20	[6] −125.5
14	2:00	[6] −126
15	3:50	[6] −126
19	10:50 a. m.	[6] −125.5
1934—Con.		
Nov. 23	3:50 p. m.	[6] −125
28	2:15	[6] −125
Dec. 3	4:20	[6] −124.5
5	3:10	[6] −124.5
12	2:30	[6] −124.0
14	11:00 a. m.	[6] −124.0
18	11:20	[6] −123.5
19	11:20	[6] −123.5
	4:15 p. m.	−122.32
20	3:45	−122.28
28	11:00 a. m.	−121.88
1935		
Jan. 4	1:40 p. m.	−121.49
10	2:25	−121.38
16	2:50	−121.16
21	1:15	−121.31
30	1:30	−121.07
Feb. 11	2:45	−120.64
18	3:00	−120.66
26	2:40	−120.54
Mar. 3	2:10	−120.43
15	1:05	−120.70
19	2:30	−120.58
25	2:55	−120.79
Apr. 2	4:30	−120.91
9	2:00	−121.15
16	11:40 a. m.	−121.27
22	3:25 p. m.	−121.38
29	3:30	−121.19
May 6	4:00	−121.18
14	1:45	−120.80
21	11:15 a. m.	−120.53
25	8:02	−120.44
31	3:05 p. m.	−122.82(?)
June 5	10:55 a. m.	−120.55
11	2:15 p. m.	−119.79
18	3:20	−119.21
20	4:45	−119.94
25 [7]	2:00	−118.72

[1] By U. S. Geological Survey.
[2] Pumping about 4.0 second-feet.
[3] After pump had been stopped about 15 minutes.
[4] Pumping about 10 second-feet; draw-down about 36 feet.
[5] Pumping.
[6] Measurement by air gage.
[7] Continued by Salt Lake City Corporation.

(D-1-1)23cc. Salt Lake City Corporation, Parleys Canyon, Salt Lake City. Diameter, 15½ to 8¼ inches; depth, 534 feet. 15½-inch casing set at 342 feet; 8¼-inch casing set at 406 feet. Measuring point, top of 15½-inch casing, 2.0 feet above land surface and 4,595.09 feet above sea level. Drilled, June 1934. Abandoned. Altitude and measurements by Salt Lake City Corporation, except as noted.

Water level in 8¼-inch casing, 1934

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1934—Con.		
July 27	4:50 p. m.	[1] −134.15	Oct. 2	11:35 a. m.	−137.37
Aug. 24	3:30	−135.37	8	1:00 p. m.	−137.34
Sept. 11	3:20	−136.54	16	11:45 a. m.	−137.61
18	3:00	−136.84	20	10:55	−137.81
21	3:15	−136.91	Dec. 28	11:40	−135.25

[1] By U. S. Geological Survey.

Depth to water (feet) in 8¼-inch casing at 12 noon, 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June
1		134.80	134.48	134.64		133.15
2	135.16	134.80	134.47	134.65		133.06
3	135.15	134.79	134.46	134.65		132.97
4	135.12	134.75	134.44	134.66		132.87
5	135.07	134.70	134.43	134.68		132.74
6	135.04	134.66	134 43	134.69		132.59
7	135.02	134.62	134.43	134.70		132.42
8	134.99	134.61	134.42	134.70		132.26
9	134.98	134.60	134.42	134.70	134.78	132.10
10	134.97	134.60	134.42	134.70	134.75	132.97
11	134.95	134.60	134.44	134.73	134.72	132.83
12	134.95	134.57	134.46	134.75	134.67	
13	134 92	134.55	134.48	134.76	134.59	
14	134.91	134.53	134 49	134.77	134.51	131.35
15	134.88	134.55	134.50	134.78	134.30	131.22
16	134.85	134.59	134.50	134.78	134.30	131.11
17	134.84	134.62	134.50	134.79	134.19	131.01
18	134.83	134.64	134.50	134.79	134.08	130.91
19	134.79	134.64	134.50		134.00	130.80
20	134.80	134.62	134.50		133.93	130.75
21	134.85	134.60	134.50		133.85	130.63
22	134.90		134.51		133.75	130.56
23	134.91		134.52		133.64	130.46
24	134.92		134.53		133.58	130.28
25	134.92	134.44	134.55		133.50	130.23
26	134.90	134.45	134.56		133.43	130.17
27	134.87	134.45	134.58		133.39	129.95
28	134.85	134.45	134.61		133.32	129.86
29	134.84		134.63		133.29	129.77
30	134.83		134.63		133.26	129.69
31	134.83		134.64		133.21	

Water level in 15½-inch casing, 1934–35

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1935—Con.		
July 27	4:40 p. m.	[1] −116.75	Feb. 6	3:20 p. m.	−117.29
Aug. 24	3:45	−117.46	14	4:10	−117.41
Sept. 11	3:25	−118.38	20	2:15	−117.46
18	3:05	−118.47	28	2:35	−117.47
21	3:20	−118.58	Mar. 7		−117.55
Oct. 2	11:40 a. m.	−118.95	14		−117.75
8	1:05 p. m.	−119.12	21		−117.71
16	11:50 a. m.	−119.14	28		−118.01
20	10:45	−119.2	Apr. 4		−118.03
22	1:54 p. m.	−119.35	11		−118.31
25	4:20	−119.32	18		−118.35
Nov. 20	3:12	−118.25	25		−118.49
Dec. 28	11:45 a. m.	−117.38	May 2		−118.29
			9		−118.04
1935			16		−117.32
			23		−116.63
Jan. 2	4:00 p. m.	−117.46	27		−116.24
4	2:10	−117.32	31		−115.90
10	2:50	−117.33	June 6		−115.19
17	3:20	−117.39	13		−114.21
24	4:20	−117.41	20		−113.87
31	3:35	−117.35	27[2]		−113.53

[1] By U. S. Geological Survey.
[2] Continued by Salt Lake City Corporation.

(D–1–1)27dda1. C. P. Rank, 2650 East 33d South St., Salt Lake City. Diameter, 48 inches; depth, 15 feet. Measuring point, top of platform, 0.5 foot above land surface and 4,683.20 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 29		−11.60	Feb. 15	4:30 p. m.	−10.59
Oct. 13		−13.00	Mar. 2	3:30	−9.93
Nov. 5	11:30 a. m.	−14.40	Apr. 15	2:50	−11.76
Dec. 7	9:15	−15.15	May 26	12:25	−4.95
			June 3	4:35	−5.59
1932			July 6	12:25	−7.25
			Aug. 6	4:00	−11.27
Jan.		[1]			

[1] Dry at −15.2.

(D–1–1)28caa. W. B. Skoville, Salt Lake City. Diameter, 20 to 10 inches; depth, 880(?) feet. First measuring point, top of inside casing, 1.0 foot above land surface and 4,467.28 feet above sea level. Drilled, 1928(?). This is an abandoned oil-well test hole with three casings, in each of which the water stood at different levels. The well was destroyed and the casings were pulled in 1937.

Water was introduced into the middle and outside casings between Mar. 26 and Apr. 1, 1935. It was found that free circulation existed in the middle casing but that the outside casing was plugged to such an extent that circulation was very sluggish; therefore, no measurements are given for the water level in the outside casing after June 21, 1934.

INSIDE CASING

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 13		−65.10	Feb. 25	10:00 a. m.	−67.63
Nov. 5	11:45 a. m.	−65.50	Mar. 3	10:15	−67.77
Dec. 4	11:15	−66.02	10	10:30	−67.88
21	9:35	−66.32	17	10:10	−68.01
1932			1933		
Jan. 4	10:25 a. m.	−66.60	Aug. 17		[1]
Feb. 2	3:15 p. m.	−66.94			

MIDDLE CASING

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Oct. 13		[1] −72.77	Jan. 5	11:55 a. m.	−72.33
Nov. 5	11:45 a. m.	−73.28	12	11:00	−72.32
Dec. 4	11:15	−73.93	19	11:10	−72.19
21	9:35	−74.21	26	11:15	−72.33
			Feb. 2	12:50 p. m.	−72.26
1932			9	12:15	−72.26
			16	10:15 a. m.	−71.98
Jan. 4	10:25 a. m.	−74.76	23	11:25	−71.96
Feb. 2	3:15 p. m.	−75.52	Mar. 2	10:50	−72.12
25	10:05 a. m.	−76.05	9	11:45	−72.18
Mar. 3	10:15	−76.11	23	11:15	−72.32
10	10:25	−76.09	Apr. 6	10:10	−72.56
17	10:15	−75.76	20	11:05	−72.93
24	11:40	−75.89	May 4	12:00 m.	−72.88
31	10:15	−75.68	25	11:53 a. m.	−72.83
Apr. 7	10:35	−75.49	June 1	11:25	−72.46
14	10:45	−75.41	8	11:15	−71.99
21	10:50	−75.02	22	11:15	−70.45
28	11:05 a. m.	−74.76	July 6	11:15	−68.88
May 5	11:15	−74.51	20	11:10	−68.03
12	12:00 m.	−74.18	Aug. 3	11:10	−67.66
19	10:20 a. m.	−73.74	17	12:05 p. m.	−67.51
26	11:55	−73.27	Oct. 7	11:30 a. m.	[3] −65.66
June 2	10:30	−75.86			
9	5:10 p. m.	−75.11	1934		
16	4:05	−74.26			
23	10:15	−73.46	Jan. 18	10:40 a. m.	−68.65
30	9:00 a. m.	−72.80	Feb. 8	9:35	−69.41
July 7	12:10 p. m.	−72.16	Mar. 8	3:40 p. m.	−70.63
14	11:10 a. m.	−71.76	29	2:35	−71.50
21	11:00	−71.38	Apr. 26	2:45	−72.50
28	7:40	−71.12	June 13	2:30	[4] −73.80
Aug. 4	10:40	−70.96	21	10:17 a. m.	[5] −60.62
11	10:40	−70.86		11:20	−60.65
18	11:12	−70.78		11:55	−60.65
25	10:35	−70.72		12:40 p. m.	−60.66
Sept. 1	8:45	−70.81		1:45	−60.64
8	10:55	−70.75		3:05	−60.63
15	12:00 m.	−70.83		3:55	−60.62
22	10:05 a. m.	−70.85		4:45	−60.61
29	11:30	−70.85		11:25	−60.86
Oct. 6	11:05	−70.82		12:00 m.	−60.86
13	10:50	−70.98	22	12:15 a. m.	−60.93
20	11:25	−71.14		1:30	−61.71
27	11:35	−71.15		2:55	−61.00
Nov. 3	10:35	−71.36		3:45	−60.98
10	11:00	−71.51		4:30	−61.04
17	11:40	−71.59		5:15	−61.09
Dec. 1	2:00 p. m.	−71.82		6:15	−61.11
8	4:52	−71.82		6:40	−61.10
15	2:10	−72.11		9:20	−61.14
22	11:10 a. m.	−72.20		10:50	−61.17
28	12:45	−72.20		12:10 p. m.	−61.16

See footnotes at end of table.

MIDDLE CASING—Continued

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934—Con.			1934—Con.		
June 22	1:25 p. m	−61.17	Oct. 8	3:25 p. m	−72.95
	2:00	−61.16	10	3:05	−73.02
	2:50	−61.17	12	3:20	−73.19
	4:20	−61.15	15	2:25	−73.45
23	6:35 a. m	−60.84	16	10:10 a. m	−73.57
	7:15	−60.87	17	3:10 p. m	−73.57
	8:15	−60.86	20	11:05 a. m	−73.77
	12:12 p. m	−60.82	23	12:10 p. m	−72.22
	2:35	−60.80	24	3:35	−71.80
	3:30	−60.74	25	3:35	−71.57
25	3:40	−61.58	26	2:40	−71.44
26	4:50	−61.20	27	10:35 a. m	−71.36
27	3:10	−61.10	29	2:35 p. m	−72.02
28	4:30	−61.20	30	2:55	−72.76
29	3:25	−61.28	31	3:40	−73.00
July 3	2:35	−61.40	Nov. 2	2:50	−73.26
6	2:55	−62.40	3	10:25 a. m	−72.95
7	2:50	−62.53	5	3:10 p. m	−71.66
9	9:30 a. m	−62.75	7	2:45	−71.29
	3:50 p. m	−62.69	9	3:45	−71.14
10	5:10	−62.56	15	3:30	−70.52
11	12:40	−62.47	20	11:19 a. m	−70.33
	4:45	−62.40	26	3:40 p. m	−70.03
12	11:50 a. m	−62.75	Dec. 3	4:50	−69.66
	4:25 p. m	−62.69	11	11:21 a. m	−69.27
13	4:40	−62.86	18	9:16	−68.97
14	12:10	−62.94	26	11:57	−68.38
16	4:25	−63.15	31	4:17 p. m	−68.41
17	3:35	−63.25			
18	3:00	−63.29	1935		
19	4:15	−63.35			
20	3:15	−63.40	Jan. 7	4:27 p. m	−67.96
23	2:45	−63.59	14	4:11	−67.76
25	4:30	−63.77	22	9:08 a. m	−67.72
26	3:00	−63.83	28	4:39 p. m	−67.59
28	3:45	−64.07	Feb. 4	4:35	−67.29
31	3:05	−64.25	11	4:57	−67.12
Aug. 2	3:00	−64.27	18	3:25	−67.17
7	3:05	−64.65	28	9:35 a. m	−66.95
9	3:20	−64.77	Mar. 4	1:55 p. m	−66.95
11	1:05	−66.12	11	3:04	−67.20
	1:55	−66.01	18	2:24	−67.16
	2:50	−66.05	26	2:45	−67.36
13	4:10	−66.84	Apr. 1	2:55	−67.38
14	3:10	−67.40	8	2:30	−67.32
15	3:55	−67.77	16	3:25	−67.60
16	3:35	−67.66	22	2:15	−67.74
17	3:50	−67.78	30	10:55 a. m	−67.63
18	2:50	−68.21	May 6	2:24 p. m	−67.59
20	4:15	−66.82	13	2:45	−67.30
21	3:30	−66.53	22	9:15 a. m	−66.93
22	3:50	−67.60	25	11:03	−67.45
23	10:40 a. m	−67.98	27	10:55	−68.81
24	4:15 p. m	−68.60	28	10:30	−68.90
25	12:50	−68.95	31	2:35	−69.38
27	3:55	−69.10	June 3	3:50 p. m	−67.46
28	3:05	−69.39	11	10:48 a. m	−66.39
29	4:20	−69.51	17	2:40 p. m	−65.85
30	3:05	−69.70	20	4:18	−66.95
31	2:40	−69.82	25	9:42 a. m	−65.23
Sept. 1	3:05	−69.97	July 1	3:00 p. m	−64.54
4	2:30	−70.25	9	4:25 a. m	−64.78
5	3:10	−70.15	12	4:10 p. m	−65.15
6	4:25	−70.10	15	3:35	−65.95
7	3:30	−70.25	22	3:25	−63.62
10	4:15	−70.63	29	4:15	−63.25
12	3:25	−70.88	Aug. 5	3:45	−65.57
14	2:30	−71.08	13	2:30	−66.15
17	3:15	−71.05	20	2:05	−66.50
19	2:40	−71.45	26	3:35	−66.78
21	3:35	−71.65	Sept. 3	3:25	−67.13
26	3:20	−72.26	9	3:25	−67.45
28	3:35	−72.36	16	2:50	−69.90
Oct. 1	4:50	−72.07	23	2:37	−68.07
3	2:50	−70.83	30	3:04	−68.46
5	3:25	−72.40	Oct. 2	10:03 a. m	−66.80

See footnotes at end of table.

MIDDLE CASING—Continued

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1935—Con.		
Oct. 3	10:32 a. m.	−66.46	Nov. 25	2:48 p. m.	−64.80
4	10:22	−66.30	Dec. 2	2:21	−64.70
7	2:12 p. m.	−66.00	10	10:35 a. m.	−64.63
11	11:18 a. m.	−65.77	16	11:18	−64.67
14	3:38 p. m.	−65.52	23	11:25	−64.57
21	5:00	−65.50	30	12:05 p. m.	−64.54
28	3:12	−65.10			
Nov. 4	2:10	−65.78	1936		
13	11:25 a. m.	−65.01			
19	11:00	−65.00	Jan. 7	9:40 a. m.[6]	−64.50

OUTSIDE CASING

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 13		−77.07	Dec. 1	2:00 p. m.	−82.41
Nov. 5	11:45 a. m.	−77.09	8	4:55	−82.40
Dec. 4	11:15	−77.30	15	2:15	−82.43
21	9:35	−77.46	22	11:10 a. m.	−82.44
1932			28	12:45 p. m.	−82.48
Jan. 4	10:25 a. m.	−77.60	1933		
Feb. 2	3:25 p. m.	−77.36	Jan. 5	11:55 a. m.	−82.50
25	10:05 a. m.	−78.16	12	11:10	−82.51
Mar. 3	10:25	−78.25	19	11:15	−82.55
10	10:20	−78.32	26	11:25	−82.55
17	10:25	−78.40	Feb. 2	12:55 p. m.	−82.58
24	11:45	−78.49	9	12:20	−82.59
31	10:25	−78.58	16	10:20 a. m.	−82.64
Apr. 7	10:40	−78.64	23	11:30	−82.66
14	10:45	−78.73	Mar. 2	11:00	−82.68
21	10:55	−78.80	9	11:50	−82.65
28	11:10	−78.86	23	11:20	−82.42
May 5	11:20	−78.91	Apr. 6	10:15	−82.40
12	12:10 p. m.	−78.96	20	11:10	−82.42
19	10:25 a. m.	−79.00	May 4	12:05 p. m.	−82.41
26	12:10 p. m.	−79.03	25	12:00 m	−82.37
June 2	10:35 a. m.	[2] −82.29	June 1	11:30 a. m.	−82.36
9	5:10 p. m.	−82.29	8	11:20	−82.35
16	4:05	−82.30	22	11:16	−82.32
23	10:20 a. m.	−82.31	July 6	11:30	−82.26
30	9:00	−82.30	20	11:10	−82.15
July 7	12:10 p. m.	−82.32	Aug. 3	11:10	−82.08
14	11:15 a. m.	−82.34	17	12:10 p. m.	−81.99
21	11:10	−82.33	Oct. 7	11:35 a. m.	[3] −78.55
28	7:40	−82.36	1934		
Aug. 4	10:40	−82.33	Jan. 18	10:45 a. m.	−78.44
11	10:40	−82.33	Feb. 8	9:35	−78.50
18	11:15	−82.33	Mar. 8	3:45 p. m.	−78.56
25	10:35	−82.31	29	2:38	−78.63
Sept. 1	8:45	−82.31	Apr. 26	2:50	[4] −78.89
8	11:00	−82.29	June 13	2:25	−78.80
15	12:00 m	−82.28	21	10:15 a. m.	[5] −65.70
22	10:05 a. m.	−82.31		11:15	−65.68
29	11:35	−82.29		11:52	−65 68
Oct. 6	11:05	−82.28		12:33 p. m.	−65.68
13	10:40	−82.29		1:40	−65.70
20	11:30	−82.30		3:00	−65.70
27	11:40	−82.29		3:50	−65.69
Nov. 3	10:30	−82.32		4:37	−65.70
10	11:05	−82.34		11:30 a. m.	−65.79
17	11:45	−82.35			

[1] Inside casing plugged and dry at 59.8 feet, Aug. 17, 1933.
[2] Measuring point changed to top of platform, 4,470.50 feet above sea level.
[3] Measuring point changed to top of inner casing, 4,467.28 feet above sea level.
[4] All succeeding measurements by Salt Lake City Corporation.
[5] Measuring point changed to top of middle casing, 4,453.76 feet above sea level.
[6] Continued by Salt Lake City Corporation.

(D-1-1)29bab1. V. P. Green, 2864 South 9th East St., Salt Lake City. Diameter, 3 inches. Measuring point, top of casing, 4,312.76 feet above sea level. Drilled about 1907. Depth to water, Sept. 13, 1932, 9.95 feet. Data by Salt Lake City Corporation.

(D-1-1)29bac. John Sherman, Salt Lake City. Diameter 2 inches; depth, 300± feet. Temperature of water, 60° F. Flow from well, June 30, 1932, 2.2 g. p. m.

(D-1-1)29bbb. Salt Lake City Corporation, Nibley Park, Salt Lake City. Diameter, 2 inches. Flow from well, June 28, 1932, 0.8 g. p. m.

(D-1-1)29bbc. ——— Mulder, 2905 South 7th East St., Salt Lake City. Diameter, 2 inches. Drilled before 1900. Temperature of water, 54° F. Flow from well, June 29, 1932, 3.1 g. p. m.

(D-1-1)29bbd. C. W. Jensen, 752 East Parkers Lane, Salt Lake City. Diameter, 2 inches; depth, 120 feet. Drilled, 1910. Flow from well, June 29, 1932, 2.9 g. p. m.

(D-1-1)29bcb13. ——— Donahue, 2965 South 7th East St., Salt Lake City. State claim No. 6792. Diameter, 2 inches; depth, 400 feet. Drilled, 1894. Temperature of water, 54° F. Flow from well, June 29, 1932, 2.0 g. p. m.

(D-1-1)29bcc. Johanna Richter, 3049 South 7th East St., Salt Lake City. Diameter, 3 inches. Drilled before 1900. Flow from well, June 29, 1932, 1.0 g. p. m.

(D-1-1)29bcc11. Mary M. L. Allermond, 3080 South 7th East St., Salt Lake City. State claim No. 8048. Diameter, 2 inches; depth, 150 feet. Drilled, 1895. Temperature of water, 53° F. Flow from well, June 29, 1932, 3.3 g. p. m.

(D-1-1)29bcc1. Marie C. Glassett, 3055 South 7th East St., Salt Lake City. State claim No. 2117. Diameter, 2 inches. Drilled, 1900. Temperature of water, 53° F. Flow from well, June 29, 1932, 9.6 g. p. m.

(D-1-1)29bdc. J. H. Robinson, 3150 South 9th East St., Salt Lake City. Diameter, 2 inches. Measuring point, top of pump valve, 1.0 foot above land surface and 4,310.79 feet above sea level. Data and measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1934—Con.		
Sept. 13	1:30 p. m.	−13.19	June 15	1:00 p. m.	−15.10
Oct. 19	4:20	−12.67	18	1:00	−15.23
Nov. 21		−12.53	21	4:00	−15.19
			23	3:25	−15.25
1933			25	1:15	−14.85
			27	1:05	−14.95
Jan. 4	10:00 a. m.	−13.00	29	1:40	−15.11
27	4:40 p. m.	−12.83	July 3	2:00	−15.44
Feb. 28	12:10	−12.90	6	2:20	−15.20
Mar. 21	12:15	−12.61	9	3:05	−15.60
May 2	1:43	−12.85	10	5:00	−15.45
June 5	5:15	−13.12	11	1:50	−15.42
Aug. 3	10:20 a. m.	−13.17	12	1:41	−15.55
Sept. 6	4:00 p. m.	−13.67	13	4:30	−15.62
Oct. 16	10:30 a. m.	−13.37	14	11:59 a. m.	−15.59
Nov. 21	2:50 p. m.	−13.12	16	3:45 p. m.	−15.65
			17	11:50 a. m.	−15.58
1934			18	12:50 p. m.	−15.64
			20	2:05	−15.70
Jan. 6	1:35 p. m.	−13.06	23	1:50	−15.27
Feb. 8	10:15 a. m.	−13.14	25	4:00	−15.34
May 6	5:20 p. m.	−14.20	27	4:25	−15.62
28	4:26	−15.00	31	2:15	−15.76
June 6	12:37	−15.02	Aug. 2	1:55	−15.81
8	12:10	−14.68	7	2:15	−15.82
11	12:48	−15.00	9	1:55	−15.75
13	11:50 a. m.	−15.14	11	12:05	−15.87

Date	Hour	Water level (feet)
1934—Con.		
Aug. 14	1:55 p. m.	−15.85
16	2:20	−15.84
18	1:15	−15.83
21	2:25	−15.87
23	1:55	−15.92
25	12:15	−15.95
28	1:40	−15.97
30	2:25	−15.79
Sept. 1	1:00	−15.90
5	1:45	−15.88
7	2:10	−15.80
10	3:15	−15.82
12	3:00	−15.86
14	2:00	−15.96
17	2:50	−15.88
21	3:10	−15.85
26	2:30	−15.51
28	2:25	−15.37
Oct. 1	3:45	−15.38
3	3:15	−15.44
5	2:40	−15.50
8	2:30	−15.59
10	2:30	−15.53
12	2:55	−15.58
15	1:15	−15.41
17	2:45	−15.45
19	3:55	−15.48
22	2:20	−15.35
23	2:00	−15.32
24	2:15	−15.31
26	3:45	−15.31
30	12:45	−15.36
Nov. 5	3:25	−15.22
7	1:45	−15.22
Nov. 13	10:45 a. m.	−15.21
15	2:00 p. m.	−15.14
20	11:06 a. m.	−15.10
26	4:30 p. m.	−15.11
Dec. 3	5:02	−15.11
11	11:33 a. m.	−15.04
18	8:57	−15.03
26	12:10 p. m.	−14.98
31	3:28	−15.23
1935		
Jan. 7	3:50 p. m.	−15.17
14	3:38	−15.19
22	8:43 a. m.	−15.52
28	3:57 p. m.	−15.49
Feb. 4	4:17	−15.39
11	3:48	−15.30
20	8:30 a. m.	−15.29
1935—Con.		
Feb. 26	11:40 a. m.	−15.33
Mar. 4	3:36 p. m.	−15.19
11	4:15	−15.22
18	3:52	−15.19
26	3:25	−15.20
Apr. 1	4:25	−15.19
8	4:25	−15.11
18	9:25 a. m.	−15.18
22	3:00 p. m.	−15.31
30	11:48 a. m.	−15.39
May 6	3:58 p. m.	−15.41
13	3:00	−15.34
22	9:22 a. m.	−15.31
25	11:55	−15.57
27	12:12 p. m.	−15.69
28	10:45 a. m.	−15.50
31	12:12 p. m.	−15.08
June 4	9:40 a. m.	−15.05
11	9:11	−15.79
19	9:02	−15.90
20	4:10 p. m.	−15.93
24	4:14	−15.93
July 1	4:10	−15.91
9	11:16 a. m.	−16.00
15	1:30 p. m.	−16.10
29	4:45	−15.98
Aug. 5	4:00	−16.00
13	11:42 a. m.	−16.18
19	4:52 p. m.	−15.74
27	2:00	−15.85
Sept. 4	9:12 a. m.	−16.12
9	4:15 p. m.	−15.85
16	3:46	−16.10
23	3:30	−16.00
30	3:50	−15.88
Oct. 2	10:26 a. m.	−15.90
7	3:01 p. m.	−15.97
15	4:15	−15.79
23	10:42 a. m.	−15.53
28	3:50 p. m.	−15.38
Nov. 4	2:23	−15.16
13	11:45 a. m.	−15.04
18	1:40 p. m.	−15.03
26	1:15	−14.78
Dec. 3	4:20	−14.70
10	10:20 a. m.	−14.62
16	11:33	−14.72
23	11:50	−14.78
30	12:20 p. m.	−14.79
1936		
Jan. 7[1]	9:55 a. m.	−14.76

[1] Continued by Salt Lake City Corporation.

(D–1–1)29cba1. J. L. Lisonbee, 3121 South 7th East St., Salt Lake City. State claim No. 9565. Diameter, 2 inches; depth, 285 feet. Drilled, 1896. Temperature of water, 53° F. Flow from well, June 29, 1932, 3.1 g. p. m.

(D–1–1)29cbb6. Herbert VanDam, Jr., 3123 South 7th East St., Salt Lake City. State claim No. 8915. Diameter, 2 inches; depth, 300 feet. Drilled, 1903. Temperature of water, 58° F. Flow from well, June 29, 1932, 4.2 g. p. m.

(D–1–1)29ccb5. Mrs. A. J. Carlson, 707 East 33d South St., Salt Lake City. State claim No. 9505. Diameter, 2 inches; depth, 174 feet. Drilled, 1895. Temperature of water, 56° F. Flow from well, June 30, 1932, 3.5 g. p. m.

(D–1–1)30aaa. Salt Lake City Corporation, Nibley Park., Salt Lake City. Diameter, 2 inches. Temperature of water, 56° F. Flow from well, June 28, 1932, 5.8 g. p. m.

(D-1-1)30aaa. Salt Lake City Corporation, Nibley Park, Salt Lake City. Diameter, 2 inches. Temperature of water, 56° F. Flow from well, June 28, 1932, 1.8 g. p. m.

(D-1-1)30adc12. O. C. Adams, 2991 South 5th East St., Salt Lake City. Diameter, 3½ inches; depth, 96 feet. Temperature of water, 54° F. Flow from well, June 28, 1932, 4.0 g. p. m.

(D-1-1)30adc14. Robert Christensen, 3019 South 5th East St., Salt Lake City. State claim No. 4820. Diameter, 2½ inches; depth, 230 feet. Drilled, 1924. Temperature of water, 56° F. Flow from well, June 28, 1932, 2.4 g. p. m.

(D-1-1)30add6. Ernest Cox, 656 Leland Ave., Salt Lake City. Diameter, 3 inches; depth, 150 feet. Drilled, 1915. Flow from well, June 28, 1932, 2.0 g. p. m.

(D-1-1)30bbc1. Frank Youngreen, 63 Louise Ave., Salt Lake City. State claim No. 3114. Diameter, 2 inches; depth, 324 feet. Measuring point, center line of outlet tap, 0.9 foot above land surface and 4,248.19 feet above sea level. Drilled, August 1931. Temperature of water, 54° F. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 29		+15.60	Jan. 5		+17.88
Oct 12		+17.50	27	3:40 p. m	+17.95
Nov. 5	9:10 a. m	+18.60	Mar. 2	11:25 a. m	+17.81
Dec. 7	4:45 p. m	+16.44	21	3:20 p. m	+16.68
			May 1	2:25	+18.60
1932			June 6	3:15	+13.30
			Aug. 1	1:25	+11.60
Jan. 5	1:10 p. m	+16.44	11	11:35 a. m	+10.75
Feb. 10	1:35	+17.59	Sept. 5	3:00 p. m	+11.60
Mar. 4	9:30 a. m	+18.31	Oct. 16	11:50 a. m	+15.65
Apr. 15	5:05 p. m	+18.75	Nov. 21	2:15 p. m	+18.40
May 4	3:00	+18.31			
June 3	1:23	+13.70	1934		
July 5	9:50 a. m	+11.25			
Aug. 6	1:10 p. m	+12.12	Jan. 6	9:55 a. m	+18.45
26	2:05	+12.94	Feb. 7	2:35 p. m	+18.50
Sept. 13	10:48 a. m	+14.73	Apr. 24	3:00	+13.50
Oct. 19	12:30 p. m	+18.89	May 25	1:38	+11.10
Dec. 2		+20.05			

(D-1-1)30bbc9. Leonard W. Aamodt, 74 Louise Ave., Salt Lake City. Diameter, 2 inches; depth, 285 feet. Measuring point, top of ell, 1.8 feet above land surface and 4,251.68 feet above sea level. Temperature of water, 53° F. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 12		+10.65	June 3	1:38 p. m	+9.08
Nov. 5	9:20 a. m	+12.12	July 6	10:10 a. m	+6.35
Dec. 7	5:00 p. m	+9.95	Aug. 6	1:20 p. m	+5.34
			26	2:15	+6.70
1932			Sept. 13	10:35 a. m	+7.72
			Oct. 19	12:20 p. m	+12.69
Jan. 5	1:20 p. m	+9.95	Dec. 1		+14.87
Feb. 10	1:25	+11.54			
Mar. 4	9:50 a. m	+11.97	1933		
Apr. 15	4:55 p. m	+12.69			
May 4	3:08	+12.69	Jan. 5		+11.25

Date	Hour	Water level (feet)
1933—Con.		
Jan. 27	3:35 p. m.	+11.82
Mar. 2	11:15 a. m.	+12.33
21	3:15 p. m.	+13.70
May 1	2:35	+12.55
June 6	3:30	+7.00
Aug. 1	1:35	+4.80
11	11:13 a. m.	+4.50
Sept. 5	2:55 p. m.	+5.10
Oct. 16	11:30 a. m.	+9.10
Nov. 21	2:05 p. m.	+11.90
1934		
Jan. 6	9:45 a. m.	+12.00
Feb. 7	2:20 p. m.	+12.05
Apr. 24	2:40	+6.72
May 25	1:20	+6.40
June 8	4:15	+7.65
13	4:45	+4.15
15	1:50	+4.70
18	12:15	+4.80
20	3:10	+5.25
25	2:20	+7.80
27	1:30	+6.90
29	10:10 a. m.	+5.40
July 3	10:00	+4.55
6	11:00	+4.00
9	10:10	+4.10
11	10:25	+5.65
12	10:45	+4.40
13	10:05	+4.15
16	10:30	+3.95
18	10:30	+3.40
20	10:55	+4.00
23	10:35	+6.85
26	10:35	+5.50
28	10:00	+4.05
31	9:40	+3.80
Aug. 2	10:30	+3.50
4	10:10	+3.95
7	9:50	+4.90
9	10:35	+4.70
11	10:20	+5.05
14	11:15	+4.55
18	11:05	+4.20
21	11:25	+4.45
23	11:30	+4.40
25	11:10	+4.60
28	11:30	+4.45
30	11:05	+5.70
Sept. 1	10:30	+4.90
5	10:45	+5.25
	1:35 p. m.	+5.00
7	11:30 a. m.	+5.10
11	9:40	+6.00
15	9:40	+6.00
18	9:55	+5.85
20	3:40	+5.50
25	10:00	+8.70
27	10:30	+9.75
Oct. 4	10:00	+9.40
6	9:40	+9.15
9	10:20	+9.00
11	10:55	+9.00
16	10:30	+10.25
18	10:05	+10.20
23	10:10	+11.30
25	9:45	+11.45
29	10:35	+10.95
Nov. 6	10:00	+11.95
8	10:10	+11.90
13	10:00	+12.15
15	11:35	+12.15
20	10:45	+12.60
26	4:46 p. m.	+12.55
Dec. 3	3:40	+11.75
11	10:00 a. m.	+11.40
15	10:55	+10.65
17	2:30 p. m.	+11.90
24	12:03	+12.05
31	4:38	+11.85
1935		
Jan. 7	4:50 p. m.	+12.00
14	4:28	+12.20
21	4:00	+11.00
28	4:57	+11.30
Feb. 5	4:30	+12.10
13	4:44	+12.55
18	2:10	+12.05
21	10:10 a. m.	+12.45
25	4:35 p. m.	+12.10
Mar. 4	4:35	+12.95
13	8:57 a. m.	+12.60
18	11:28	+12.60
25	11:08	+12.90
Apr. 2	5:15 p. m.	+13.05
4	9:30 a. m.	+13.30
8	10:58	+13.60
16	11:20	+12.60
24	8:35	+13.30
29	2:55 p. m.	+12.10
May 7	9:09 a. m.	+12.05
13	11:20	+12.50
22	9:30	+11.55
27	2:25 p. m.	+9.60
June 3	11:50 a. m.	+12.60
10	11:12	+7.15
18	11:28	+5.50
24	2:52 p. m.	+4.45
July 1	11:26 a. m.	+4.40
9	1:48 p. m.	+3.70
12	4:25	+2.50
15	11:26 a. m.	+3.25
25	2:10 p. m.	+4.60
Aug. 5	12:05	+4.50
13	11:09 a. m.	+3.43
20	10:40	+5.10
27	10:22	+5.30
28	6:20 p. m.	+4.40
Sept. 3	11:20 a. m.	+4.85
9	12:00 m.	+7.30
16	11:56 a. m.	+5.20
24	11:09	+7.60
30	11:09	+7.70
Oct. 3	9:30	+7.20
4	3:20 p. m.	+6.75
7	10:41 a. m.	+7.00
15	3:11 p. m.	+8.75
23	9:31 a. m.	+10.00
30	12:10 p. m.	+10.85
Nov. 4	4:08	+11.20
13	4:07	+11.20
14	4:55	+12.00
18	11:42 a. m.	+12.20
25	11:35	+12.25
Dec. 2	11:16	+12.35
10	9:22	+12.90
17	12:10 p. m.	+12.30
23	4:22	+11.90
31	12:50	+11.90
1936		
Jan. 7	12:00 m.	+11.80
14	11:45 a. m.	+12.05
28	11:10	+12.65
Feb. 14	4:20 p. m.	+12.25
18	12:07	+12.70
20	10:30 a. m.	+13.35
25	11:52	+13.00
Mar. 3	11:30	+13.50
9	1:10 p. m.	+14.00
16	12:16	+14.15
18	9:00 a. m.	+14.15
Apr. 1	10:20	+13.95
6	1:10 p. m.	+14.10
13	11:51 a. m.	+13.25
20	1:21 p. m.	+12.05
27	11:30 a. m.	+9.80
May 4	11:15	+10.45
11	10:29	+8.85
18	1:01 p. m.	+6.90
25	10:51 a. m.	+6.35

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1936—Con.			1936—Con.		
June 1	1:20 p. m.	+8.50	Sept. 8	1:46 p. m.	+6.55
8	10:58 a. m.	+9.80	15	10:03 a. m.	+7.15
17	9:12	+5.50	21	10:40	+7.85
22	10:25	+4.45	28	11:42	+8.65
30	11:19	+6.00	Oct. 6	11:23	+9.20
July 6	10:28	+4.85	17	10:25	+9.60
14	9:20	+8.05	30	10:40	+12.60
20	11:19	+4.70	Nov. 4	2:03 p. m.	+11.85
29	8:59	+5.20	18	11:15 a. m.	+13.00
Aug. 10	3:00 p. m.	+3.90	25	10:49	+13.15
19	4:25	+8.90	Dec. 8	10:51	+13.25
24	11:11 a. m.	+5.40	14	11:54	+13.15
Sept. 2	1:14 p. m.	+6.85	23	1:13 p. m.	+13.65

(D-1-1)30bbd2. Louise Harris, 2864 South State St., Salt Lake City. State claim No. 5544. Diameter, 2 inches; depth, 294 feet. Drilled, 1916. Temperature of water, 51° F. Flow from well, June 23, 1932, 0.8 g. p. m.

(D-1-1)30bcb2. Colorado Milling & Elevator Co., 2944 South State St., Salt Lake City. State claim No. 8760. Diameter, 2 inches; depth, 300 feet. Drilled, 1912. Temperature of water, 55° F. Flow from well, June 24, 1932, 0.8 g. p. m.

(D-1-1)30bdc7. Eleanor T. Miller, 3039 South State St., Salt Lake City. State claim No. 9134. Diameter, 2 inches; depth, 365 feet. Drilled, 1911. When drilled, flow from well was about 70 g. p. m., and the pressure was about 21 feet above land surface. On Aug. 29, 1932, the flow from well was 24.4 g. p. m. and the pressure head was 8.95 feet above measuring point. On Sept. 13, 1932, the flow from well was 31.5 g. p. m., and the pressure head was 10.5 feet above measuring point. On Dec. 1, 1932, pressure head was 17.88 feet above measuring point. Measuring point, top of ell, about 0.9 feet above land surface and 4,252.82 feet above sea level. Data by Salt Lake City Corporation.

(D-1-1)30cca1. John C. Cutler Ass'n., 3242 South State St., Salt Lake City. State claim No. 9256. Diameter, 4½ inches; depth, 535 feet. Drilled, 1900. Temperature of water, 60° F. Flow from well, June 24, 1932, 2.6 g. p. m.

(D-1-1)30ccd9. Eliza Pinchin, 3391 South State St., Salt Lake City. State claim No. 5675. Diameter, 2 inches; depth 233 feet. Drilled, 1896. Temperature of water, 56° F. Flow from well, July 5, 1932, 2.9 g. p. m.

(D-1-1)30daa. J. A. Francom, 602 East Mansfield Ave., Salt Lake City. Diameter, 2 inches; depth, 200+ feet. Temperature of water, 54° F. Flow from well, June 28, 1932, 0.8 g. p. m.

(D-1-1)30daa2. T. M. Rees, 565 Mansfield Ave., Salt Lake City. State claim No. 2195. Diameter, 3 inches; depth, 170 feet. Drilled, 1906. Temperature of water, 54° F. Flow from well, June 28, 1932, 48 g. p. m.

(D-1-1)30daa3. T. M. Rees, 565 Mansfield Ave., Salt Lake City. State claim No. 2194. Diameter, 3 inches; depth 170 feet. Drilled, 1906. Temperature of water, 54° F. Flow from well, June 28, 1932, 27 g. p. m.

(D-1-1)30daa4. T. M. Rees, 565 Mansfield Ave., Salt Lake City. State claim No. 7312. Diameter, 3 inches; depth, 250 feet. Drilled, 1908. Temperature of water, 54° F. Flow from well, June 28, 1932, 1.8 g. p. m.

(D-1-1)30dab2. John Rees, 563 Mansfield Ave., Salt Lake City. State claim No. 6113. Diameter, 1½ inches. Drilled, 1885. Temperature of water 54° F. Flow from well, June 28, 1932, 2.8 g. p. m.

(D-1-1)30dab4. Norman Nelson, 533 Mansfield Ave., Salt Lake City. State claim No. 5411. Diameter, 3 inches; depth, 250 feet. Drilled, 1926. Flow from well, June 28, 1932, 28 g. p. m.

(D-1-1)31aba6. Geo. Moore, 3454 South 5th East St., Murray. Diameter, 2 inches; depth, 100 feet. Drilled, September 1931. Temperature of water, 56° F. Flow from well, July 1, 1932, 5.3 g. p. m.

(D-1-1)31abd3. A. J. Peck, 425 Penny Ave., Murray. State claim No. 5366. Diameter, 2 inches; depth, 296 feet. Drilled, 1931. Temperature of water, 56° F. Flow from well July 1, 1932, 10.7 g. p. m.

(D-1-1)31abd5. J. M. Kammeyer, 406 East Penny Ave., Murray. State claim No. 15423. Diameter, 2 inches; depth, 360 feet. Drilled, March 1930.

(D-1-1)31bbc2. L. M. and J. J. Venjornora, 3501 South State St., Murray. State claim No. 4704. Diameter, 2 inches; depth, 330 feet. Drilled, 1914. Temperature of water, 56° F. Flow from well, July 2, 1932, 2.0 g. p. m.

(D-1-1)31bbd. J. and M. Stilinovitch, 3567 South State St., Murray. Flow from well, July 2, 1932, 1.8 g. p. m.

(D-1-1)31bbd2. J. and M. Stilinovitch, 3567 South State St., Murray. State claim No. 9001. Diameter, 2 inches; depth, 200 (400?) feet. Drilled, 1911. Temperature of water, 59° F. Flow from well, July 2, 1932, 20 g. p. m.

(D-1-1)31bca7. L. I. Hogan, 3679 South State St., Murray. State claim No. 9183. Diameter, 2 inches; depth, 220 feet. Drilled, 1923. Temperature of water, 53° F. Flow from well, July 2, 1932, 2.5 g. p. m.

(D-1-1)31bdb. ——— ———, 2d East and Helm Sts., Murray. Diameter, 2 inches. Temperature of water, 54° F. Flow from well, July 5, 1932, 13.0 g. p. m.

(D-1-1)31caa2. Wm. Sorenson, 305 East 39th South St., Murray. State claim No. 4120. Diameter, 3 inches; depth, 320 feet. Measuring point, top of ell by side of steam boiler, 3.0 feet above land surface and 4,271.31 feet above sea level. Drilled, 1888. Temperature of water, 55° F. Measurements after Aug. 6, 1932, made by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1934—Con.		
Nov. 2		+11.11	May 22	4:44 p. m.	+7.05
Dec. 8	10:25 a. m.	+10.53	Sept. 22	10:50 a. m.	+6.70
1932			Nov. 14	2:08 p. m.	+9.80
Jan. 5	2:20 p. m.		Dec. 15	10:20 a. m.	+9.50
Feb. 10	3:30	+11.11	1935		
Mar. 4	12:50	+11.83	Jan. 22	5:26 p. m.	+10.00
Apr. 15	4:40	+11.68	Feb. 27	3:30	+10.40
May 4	5:15	+11.83	May 13	6:25	+10.25
June 3	3:30	+10.10	June 20	12:23	+7.00
July 6	11:15 a. m.	+9.08	July 12	5:36	+5.50
Aug. 6	3:23 p. m.	+9.37	Aug. 28	6:50	+6.00
27	2:36	+10.54	Oct. 8	5:36	+7.35
Sept. 13	2:20	+8.81	Nov. 14	5:15	+10.15
Nov. 21		+11.97	1936		
1933			Jan. 28	10:15 a. m.	+10.90
Jan. 5		+10.55	Feb. 20	11:30	+11.25
Feb. 2	11:25 a. m.	+10.52	Mar. 20	4:06 p. m.	+11.65
28	12:00 m.	+10.38	May 5	2:26	+9.60
Apr. 5	11:10 a. m.	+11.70	June 17	4:26	+6.20
May 2	12:25 p. m.	+9.62	July 5	12:46	+8.60
June 5	3:45	+8.30	Aug. 7	12:36	+6.85
July 5	2:45	+7.20	Sept. 14	12:10	+8.25
1934			28	3:56	+8.60
Feb. 7	12:05 p. m.	+10.90	Nov. 19	4:52	+11.60
Apr. 24	2:04	+8.20	Dec. 4	3:12	+12.10

(D-1-1)31caa4. Geo. Elkins, 3803 South 3d East St., Murray. Diameter, 2 inches; depth, 100 feet. Drilled, 1906. Temperature of water, 54° F. Flow from well, July 5, 1932, 0.4 g. p. m.

(D-1-1)caa5. Wm. Sorenson, 305 East 39th South St., Murray. Diameter, 1½ inches; depth, 120 feet. Temperature of water, 53° F.

(D-1-1)31cad4. Wm. Sorenson, 305 East 39th South St., Murray. State claim No. 4121. Diameter, 2½ inches; depth, 220 feet. Measuring point, top of ell, 0.5 foot above land surface and 4,269.65 feet above sea level. Drilled, 1890. Temperature of water, 54° F. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1934—Con.		
Nov. 2		+9.81	Feb. 7	11:50 a. m.	+9.30
Dec. 8	10:10 a. m.	+7.64	Apr. 24	1:55 p. m.	+7.65
1932			May 22	4:30	+6.40
Jan. 5		+7.93	Sept. 22	10:40 a. m.	+5.70
Feb. 10	3:25 p. m.	+8.07	Oct. 19	11:10	+8.10
Mar. 4	12:45	+8.80	Nov. 14	2:00 p. m.	+9.20
Apr. 15	4:35	+9.66	Dec. 15	10:28 a. m.	+10.30
May 4	5:10	+9.23	1935		
June 3	3:40	+7.64	Jan. 22	5:18 p. m.	+9.15
July 6	11:25 a. m.	+6.78	Feb. 27	3:18	+9.70
Aug. 6	3:15 p. m.	+6.78	Apr. 2	5:33	+9.90
27	2:40	+8.52	May 13	6:15	+9.15
Sept. 13	2:10	+8.23	June 20	12:15	+6.50
Nov. 21		+10.24	July 12	5:30	+5.00
1933			Aug. 28	6:40	+4.90
Jan. 5		+8.51	Oct. 8	5:29	+7.35
Feb. 2	11:15 a. m.	+8.51	Nov. 14	5:10	+9.40
28	11:45	+8.36	1936		
Apr. 5	11:05	+10.00	Feb. 20	11:36 a. m.	+9.85
May 2	12:30 p. m.	+10.85	Mar. 20	4:00 p. m.	+10.75
June 5	3:30	+7.95	May 5	2:20	+9.35
July 5	2:50	+7.35	June 17	4:20	+7.00
Aug. 10	1:13	+6.40	July 15	12:40	+8.30
Sept. 6	3:20	+9.18	Aug. 7	12:31	+6.60
Oct. 16	9:59 a. m.	+8.20	Sept. 4	11:59 a. m.	+6.50
Nov. 21	1:05 p. m.	+9.65	28	3:50 p. m.	+7.85
1934			Nov. 19	4:50	+11.10
Jan. 3	2:45 p. m.	+9.25	Dec. 14	3:06	+11.45

(D-1-1)31dab2. W. H. Love, 3824 South 5th East St., Murray. State claim No. 8746. Diameter, 2 inches; depth, 220 feet. Drilled, 1910. Temperature of water, 54° F. Flow from well, July 1, 1932, 1.3 g. p. m.

(D-1-1)32bab3. Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7351. Diameter, 3 inches; depth, 147 feet. Measuring point, top of ell, 2.0 feet above land surface. Drilled, 1910. Temperature of water, 56° F. Nov. 5, 1931; flow from well, 25.2 g. p. m.; pressure head, 4.04 feet. By Salt Lake City Corporation.

(D-1-1)32bab4. Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7350. Diameter, 3 inches; depth, 156 feet. Measuring point, top of ell, 1.0 foot above land surface. Drilled, 1910. Temperature of water, 56.5° F. Nov. 5, 1931; flow from well, 23.0 g. p. m.; pressure head 5.2 feet. By Salt Lake City Corporation.

(D-1-1)32bab5. Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7360. Diameter, 3 inches; depth, 287 feet. Measuring point, top of ell, 4.0 feet above land surface. Drilled, 1910. Temperature of water, 56° F. Aug. 3, 1932; flow from well, 27.5 g. p. m.; pressure head 6.5 feet. By Salt Lake City Corporation.

(D-1-1)**32bab6.** Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7359. Diameter, 3 inches; depth, 201(?) feet. Measuring point, top of ell, 4.0 feet above land surface. Drilled, 1910. Temperature of water, 58½° F. Aug. 3, 1932; flow from well, 8.8 g. p. m.; pressure head 13.13 feet. By Salt Lake City Corporation.

(D-1-1)**32bab7.** Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7358. Diameter, 3 inches; depth, 303 feet. Measuring point, top of ell, 4.0 feet above land surface. Drilled, 1910. Temperature of water, 58½° F. Nov. 5, 1931; flow from well, 46.9 g. p. m.; pressure head, 14.43 feet. By Salt Lake City Corporation.

(D-1-1)**32bab11.** Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7353. Diameter, 3 inches; depth, 130(?) feet. Measuring point, top of ell, 2.5 feet above land surface. Drilled, 1910. Temperature of water, 58° F. Aug. 3, 1932; flow from well, 9.1 g. p. m.; pressure head, 11.25 feet. By Salt Lake City Corporation.

(D-1-1)**32bab12.** Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7352. Diameter, 3 inches; depth, 150(?) feet. Measuring point, top of ell, 2.0 feet above land surface. Drilled, 1910. Temperature of water, 57° F. Nov. 5, 1931; flow from well, 36.6 g. p. m.; pressure head, 4.62 feet. By Salt Lake City Corporation.

(D-1-1)**32bab13.** Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7349. Diameter, 3 inches; depth, 180 feet. Measuring point, top of ell, 1.0 foot above land surface. Drilled, 1910. Temperature of water, 57° F. Nov. 5, 1931; flow from well, 20.4 g. p. m.; pressure head, 4.04 feet. By Salt Lake City Corporation.

(D-1-1)**32bab14.** Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7347. Diameter, 3 inches; depth, 134 feet. Measuring point, top of ell, 1.0 foot above land surface. Drilled, 1910. Temperature of water, 55½° F. Nov. 5, 1931; flow from well, 31.2 g. p. m.; pressure head, 3.75 feet. By Salt Lake City Corporation.

(D-1-1)**32bab15.** Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7346. Diameter, 3 inches; depth, 356 feet. Measuring point, top of ell, 1.3 feet above land surface. Drilled, 1910. Temperature of water, 59° F. Nov. 5, 1931; flow from well, 5.0 g. p. m.; pressure head, 17.30 feet. By Salt Lake City Corporation.

(D-1-1)**32bab16.** Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7345. Diameter, 3 inches; depth, 298 feet. Measuring point, center line of outlet pipe, 1.0 foot above land surface and 4,286.22 feet above sea level. Drilled, 1910. Temperature of water, 59.5° F. Flow from well, Sept. 29, 1931, 40.8 g. p. m.; Sept. 13, 1932, 41.0 g. p. m.; Dec. 1, 1932, 39.5 g. p. m.; Jan. 5, 1933, 41.0 g. p. m.; Feb. 2, 1933, 42.0 g. p. m.; Mar. 2, 1933, 44.4 g. p. m. All measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Sept. 29		+13.25	Jan. 5	2:35 p. m.	+13.42
Oct. 13	11:15 a. m.	+13.25	Feb. 10	2:30	+13.70
Nov. 5	9:40	+13.70	Mar. 2	4:15	+13.85
Dec. 7	11:35	+13.70	Apr. 15	4:20	+13.70
21	10:30	+13.27	May 6	12:05	+13.63

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932—Con.			1933—Con.		
June 3	4:05 p. m.	+13.24	Feb. 2	12:00 m.	+14.42
July 6	11:45	+12.98	Mar. 2	2:15 p. m.	+14.56
Aug. 6	3:35	+13.27	Apr. 5	11:37 a. m.	+14.85
29	11:05 a. m.	+14.29	May 3	11:04	+14.25
Sept. 13	1:50 p. m.	+13.86	June 5	4:25 p. m.	+13.70
Oct. 19	4:30	+12.26	July 5	3:50	+13.70
Dec. 1		+14.87	Aug. 10	2:15	+11.50
1933			22	5:00	+12.15
Jan. 5		+14.27	Oct. 18	11:40 a. m.	+12.60

(D-1-1)32bab20. Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7348. Diameter, 3 inches; depth, 299 feet. Measuring point, top of ell, 3.5 feet above land surface. Drilled, 1910. Temperature of water, 59° F. Nov. 5, 1931; flow from well, 42.3 g. p. m.; pressure head, 13.85 feet. By Salt Lake City Corporation.

(D-1-1)32bab21. Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7357. Diameter, 3 inches; depth, 360 feet. Measuring point, top of ell, 4.0 feet above land surface. Drilled, 1910. Temperature of water 59° F. Nov. 5, 1931; flow from well, 21.0 g. p. m.; pressure head, 13.85 feet. By Salt Lake City Corporation.

(D-1-1)32bba5. Salt Lake County Fish & Game Ass'n., Salt Lake City. State claim No. 7361. Diameter, 3 inches; depth, 201 feet. Measured depth, May 10, 1934, 229 feet. Measuring point, top of instrument platform, 9.0 feet above land surface and 4,290.04 feet above sea level. Drilled, 1910. Temperature of water, 56° F. Water-stage recorder operated on this well from May 10 to Dec. 4, 1934.

Depth to water (feet) at 12 noon, 1934

Day	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		8.00	8.22	8.82	8.96	7.12	6.35	6.19
2		8.02	8.46	8.80	8.72	7.04		6.17
3		7.92	8.53	9.18	8.95			6.14
4		7.90	8.50	9.17	8.87	7.09		6.12
5		8.06	8.38	8.88		7.09		
6		7.82	8.64	8.79	8.63	7.17		
7		7.33	8.66	9.00	8.67	7.22		
8		7.11	8.65	8.97	8.68	7.23		
9		7.46	8.70	8.85	8.65	7.19		
10	7.76	7.44	8.60		8.51	7.24		
11	7.68	7.80	8.44		8.50	7.22		
12	7.76	8.14	8.65		8.55	7.40		
13	7.79				8.71	7.29		
14	7.78	8.45			8.56	7.12		
15	7.80	8.23			8.59	7.06		
16	7.92	8.50		8.88	8.54	6.84		
17	7.94	8.34			8.38			
18	8.19	8.46			8.41	6.82		
19	8.11	8.43	9.01		8.67	6.77		
20	7.95	7.98	8.80		8.60	6.62		
21	8.03	8.25	8.60	9.08	8.39	6.56		
22	7.93	8.66	7.92	9.10	8.39	6.51	6.05	
23	8.11	8.60	7.78	8.99	8.20	6.49	5.97	
24	8.14	8.13	7.80	9.08	8.07	6.46	5.95	
25	8.27	7.49	7.97	8.98		6.48	5.97	
26	8.08	7.37	8.31	8.97		6.39	5.06	
27	8.07	7.48	8.73	9.26	7.21	6.62	6.05	
28	8.17	7.72	8.86	9.08	7.13	6.48		
29	8.14	8.00	9.00	8.91	7.26	6.42	6.11	
30	8.02	8.20	9.15	8.97	7.18	6.44	6.00	
31	8.00		8.94			6.39		

(D-1-1)32cac1. Mrs. A. Bateman, 905 East 39th South St., Salt Lake City. Diameter, 3 inches; depth, 300 feet. Drilled, 1900. Temperature of water, 55° F. Flow from well, 1.3 g. p. m.

(D-1-1)32cdc. L. L. Hambleton, 800 Scott Ave., Salt Lake City. Diameter, 2 inches. Measuring point, top of ell, 1.0 foot above land surface. Temperature of water, 58° F. Nov. 5, 1931; flow from well, 40.8 g. p. m.; pressure head 17.3 feet. By Salt Lake City Corporation.

(D-1-1)32cdc1. L. L. Hambleton, 800 Scott Ave., Salt Lake City. State claim No. 9264. Diameter, 4 inches; depth, 185 feet. Measuring point, top of ell, 2.5 feet above land surface. Drilled, 1910. Temperature of water, 54° F. Nov. 5, 1931; flow from well, 67.2 g. p. m.; pressure head, 9.81 feet. By Salt Lake City Corporation.

(D-1-1)32cdc2. L. L. Hambleton 800 Scott Ave., Salt Lake City. State claim No. 9265. Diameter, 4 inches; depth, 185 feet. Measuring point, orange paint line, 0.2 foot below under side of ell, 2.5 feet above land surface and 4,280.97 feet above sea level. Drilled, 1909. Temperature of water, 55° F. Flow from well, Sept. 29, 1931, 68.0 g. p. m. Measurements after Aug. 6, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 29		+9.75	Jan. 5		+9.95
Oct. 13	11:00 a. m.	+9.65	Feb. 2	11:50 a. m.	+10.09
Nov. 5	9:45	+10.10	Mar. 2	2:06 p. m.	+10.24
Dec. 7	11:50	+8.22	Apr. 5	11:50 a. m.	+10.55
			May 3	10:45	+9.90
1932			June 5	4:55 p. m.	+9.70
			Aug. 22	4:32	+8.57
Jan. 5	2:50 p. m.	+9.66	Sept. 20	1:00	+8.60
Feb. 10	3:00	+10.10	Oct. 18	12:30	+8.75
Mar. 2	4:20	+10.24	Dec. 30	12:00 m.	+8.40
Apr. 15	4:00	+10.38			
May 6	12:20	+10.10	1934		
June 3	4:13	+9.95			
July 6	12:00 m.	+8.65	Jan. 10	10:30 a. m.	+9.20
Aug. 6	3:45 p. m.	+9.74	Feb. 8	10:35	+9.32
29	11:14 a. m.	+9.96			
Sept. 13	1:40 p. m.	+9.82			
Oct. 19	4:40	+10.53			
Dec. 1		+10.82			

(D-1-1)32cdc3. L. L. Hambleton, 800 Scott Ave., Salt Lake City. State claim No. 9266. Diameter, 3 inches; depth, 185 feet. Measuring point, top of ell, 2.5 feet above land surface. Drilled, 1910. Temperature of water, 54° F. Nov. 5, 1931; flow from well, 47.5 g. p. m.; pressure head 9.23 feet. By Salt Lake City Corporation.

(D-1-1)32cdc4. L. L. Hambleton, 800 Scott Ave., Salt Lake City. State claim No. 9267. Diameter, 3 inches; depth, 185 feet. Measuring point, top of ell, 1.5 feet above land surface. Drilled, 1908. Temperature of water, 53½° F. Nov. 5, 1931; flow from well, 32.4 g. p. m.; pressure head, 9.23 feet. By Salt Lake City Corporation.

(D-1-1)32cdc5. L. L. Hambleton, 800 Scott Ave., Salt Lake City. State claim No. 9268. Diameter, 3 inches; depth, 185 feet. Measuring point, top of ell, 3.0 feet above land surface. Drilled, 1910. Temperature of water, 53½° F. Nov. 5, 1931; flow from well, 22.5 g. p. m.; pressure head, 7.5 feet. By Salt Lake City Corporation.

(D-1-1)32cdc6. L. L. Hambleton, 800 Scott Ave., Salt Lake City. State claim No. 9270. Diameter, 3 inches; depth, 185 feet. Measuring point, top of ell, at land surface. Drilled, 1910. Temperature of water, 55° F. Nov. 5, 1931; flow from well, 47 g. p. m.; pressure head, 9.81 feet. By Salt Lake City Corporation.

(D-1-1)32dbc3. Joe Sutherland, 1039 East 39th South St., Salt Lake City. Diameter, 2(?) inches; depth, 180 feet. Measuring point, top of casing, 4,308.76 feet above sea level. Drilled, 1910 (1890?).

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Sept. 16		[1] −12.83	Dec. 3	10:20 a. m.	−12.06
Oct. 15		−12.26			[1] −12.03
Nov. 30	11:25 a. m.	−11.94	5	10:20 a. m.	−12.03
	3:05 p. m.	−11.96	6	10:00	−12.10
Dec. 1	10:10 a. m.	−12.00	7	11:20	−12.12
	12:45 p. m.	−11.99	8	10:07	−12.13
	3:15	−11.96	9		[1] −12.15
2	9:45 a. m.	−12.04			

[1] By Salt Lake City Corporation.

(D-1-1)33caa1. Edwin Hudson, 3800 Highland Dr., Salt Lake City. Diameter, 7 inches; depth, 385 feet. Measuring point, top of ¾-inch ell over well, 0.5 foot above land surface and 4,381.87 feet above sea level. Drilled, 1900. Temperature of water, 60° F. Measurements by Salt Lake City Corporation, except from Nov. 30 to Dec. 19, 1932, inclusive.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1934—Con.		
Sept. 16		+17.45	May 11	9:55 a. m.	+12.70
Nov. 21		+16.87	12	10:10	+12.70
30	11:00 a. m.	+17.30	14	9:40	+12.50
	2:55 p. m.	+17.74	15	9:20	+12.65
Dec. 1	10:50 a. m.	+17.30	16	9:40	+12.65
	2:50 p. m.	+17.30	17	9:15	+12.55
2	10:55 a. m.	+17.17	18	9:15	+12.65
3	10:20	+17.17	21	9:15	+12.50
5	10:45	+17.17	24	9:45	+12.40
6	12:10 p. m.	+17.17	26	9:30	+12.30
7	11:30 a. m.	+17.02	28	9:46	+12.10
8	11:00	+17.02	31	11:05	+12.20
19	2:15 p. m.	+17.02	June 2	9:10	+12.10
			4	11:05	+12.10
1933			7	9:25	+12.10
			9	10:40	+12.05
Jan. 26	12:25 a. m.	+16.65	12	10:30	+12.00
Feb. 23	10:45	+17.01	14	5:45 p. m.	+11.95
Mar. 28	10:30	+16.45	16	9:45 a. m.	+11.75
Apr. 24	2:13 p. m.	+15.80	20	1:00 p. m.	+11.85
May 24	3:50	+15.70	23	3:00	+11.50
July 5	2:05	+17.35	26	2:15	+11.10
12	5:20	+20.15	July 2	4:20	+10.90
Aug. 9	2:15	+21.40	5	3:55	+10.40
Sept. 28	1:00	+21.20	10	4:30	+10.00
Oct. 19	4:10	+19.85	17	3:20	+9.45
Nov. 24	1:55	+18.40	25	3:40	+8.95
			27	4:00	+8.80
1934			30	4:00	+8.65
			Aug. 3	3:55	+8.35
Jan. 8	4:03 p. m.	+17.06	6	4:40	+8.15
Mar. 22	11:00 a. m.	+14.40	8	3:40	+8.00
May 10	10:00	+12.20	10	4:00	+7.90

Date	Hour	Water level (feet)
1934—Con.		
Aug. 13	3:55 p. m.	+8.00
15	3:30	+6.45
17	3:30	+6.10
20	3:30	+6.40
22	3:35	+6.10
24	3:45	+5.50
27	3:35	+4.90
29	2:55	+3.04
31	3:00	+4.25
Sept. 4	2:45	+3.80
6	4:10	+3.70
8	3:50	+3.40
10	1:20	+3.12
12	2:25	+2.86
14	1:25	+2.67
17	1:50	+2.37
19	1:15	+2.22
21	2:40	+2.02
26	12:50	+1.43
28	2:55	+1.30
Oct. 1	3:20	+1.13
3	1:25	+1.65
5	2:00	+1.10
8	2:10	+.65
10	2:00	+.56
12	2:30	+.41
15	10:40 a. m.	+.17
16	9:50	+.05
17	2:15 p. m.	.0
19	4:20	−.20
22	3:00	+.10
23	11:40 a. m.	+.35
	4:03 p. m.	+.56
24	1:05	+.61
25	3:50	+.81
26	3:15	+.90
27	10:50 a. m.	+.96
29	3:25 p. m.	+.90
30	3:10	+.55
31	4:20	+.40
Nov. 1	3:00	+.24
2	12:05	.0
3	10:40 a. m.	+.10
5	2:15 p. m.	+.73
7	1:10	+.98
9	1:30	+1.12
12	4:20	+1.41
13	11:30 a. m.	+1.43
14	12:10 p. m.	+1.50
	3:40	+1.54
16	4:40	+1.71
21	4:27	+1.83
27	10:11 a. m.	+2.19
30	11:15	+2.36
Dec. 4	9:45	+2.46
11	2:04 p. m.	+2.77
18	9:39 a. m.	+2.99
26	2:18 p. m.	+3.55
1935		
Jan. 2	10:00 a. m.	+3.70
8	9:28	+3.97
1935—Con.		
Jan. 15	10:22 a. m.	+4.25
22	9:30	+4.21
29	4:40 p. m.	+4.38
Feb. 5	9:12	+4.62
13	9:50	+4.71
20	9:23	+4.83
26	9:00	+4.82
Mar. 5	2:10 p. m.	+4.88
12	1:20	+4.86
19	1:20	+4.96
28	9:45 a. m.	+4.75
Apr. 2	1:10 p. m.	+4.70
9	1:20	+4.65
18	1:50	+4.50
24	9:00 a. m.	+4.45
May 1	10:04	+4.45
7	2:15 p. m.	+4.70
14	2:30	+5.00
22	1:50	+5.15
25	10:25 a. m.	+5.05
27	11:30	+4.40
28	11:15	+4.10
31	12:02 p. m.	+3.90
June 4	2:17	+4.85
11	11:26 a. m.	+5.60
19	10:16	+6.50
20	3:28 p. m.	+6.05
26	1:29	+7.05
July 2	1:33	+7.60
10	10:40 a. m.	+8.05
16	1:25 p. m.	+7.80
17	3:52	+8.05
18	8:50 a. m.	+8.35
30	2:55 p. m.	+9.10
Aug. 6	11:53 a. m.	+8.35
14	12:20 p. m.	+8.05
20	2:16	+7.80
27	2:45	+7.40
Sept. 4	11:32 a. m.	+7.00
5	2:05 p. m.	+6.87
10	2:15	+6.80
17	2:09	+6.50
25	3:21	+6.15
Oct. 2	11:32 a. m.	+6.15
3	11:02	+6.35
7	3:30 p. m.	+6.60
11	10:58 a. m.	+6.85
16	3:00 p. m.	+6.80
23	11:30 a. m.	+7.10
30	4:50 p. m.	+7.10
Nov. 6	2:40	+7.15
14	8:50 a. m.	+7.30
19	2:30 p. m.	+7.45
26	1:26	+7.55
Dec. 2	3:48	+7.75
10	11:06 a. m.	+7.15
17	11:29	+7.45
23	1:47 p. m.	+7.70
30	2:26	+7.65
1936		
Jan. 7[1]	10:29 a. m.	+7.65

[1] Continued by Salt Lake City Corporation.

(D-1-1)33cba1. Belle Owen, 4012 Highland Dr., Holliday. State claim No. 3259. Diameter, 3 inches; depth, 320 feet. Measuring point, top of casing in concrete pit, 7.5 feet below land surface and 4,350.80 feet above sea level. Drilled, 1922.

Date	Hour	Water level (feet)
1931		
Sept. 17		−19.50
Oct. 15	9:45 a.m.	−19.40
Nov. 5	11:59	−19.33
Dec. 5	12:10 p.m.	−19.52
1932		
Jan. 5	4:35 p.m.	−19.83
Feb. 15	2:30	−20.13
Mar. 4	2:00	−20.21
Apr. 15	3:15	−20.25
May 6	11:20 a.m.	−20.10
June 8	10:30	−19.75
July 6	12:45 p.m.	−19.72
Aug. 6	4:25	−19.41
Sept. 3		[1] −18.69
10		[1] −18.77
17		[1] −18.75
24		[1] −18.83
Oct. 1		[1] −18.96
8		[1] −18.42
15		[1] −18.49
22		[1] −18.33
29		[1] −18.17
Nov. 4		[1] −18.42
12		[1] −18.46
19		[1] −18.41
26		[1] −18.42
30	11:40 a.m.	−18.39
	3:15 p.m.	−18.38
Dec. 1	10:18 a.m.	−18.42
	12:50 p.m.	−18.41
	3:25	−18.42
2	9:50 a.m.	−18.48
3	10:25	−18.49
5	10:30	−18.43
6	10:10	−18.52
7	11:25	−18.47
8	10:15	−18.49
9		[2] −18.44
16		−18.75
24		−18.80
1933		
Jan. 3		−18.89
9		−18.92
10	11:00 a.m.	−18.92
14	11:35	−18.92
23	9:45	−18.83
31	10:35	−18.99
Feb. 4	10:35	−19.10
11	3:10 p.m.	−19.14
16	3:20	−19.19
25	12:10	−19.28
Mar. 4	10:30 a.m.	−19.26
11	11:26	−19.18
20	9:10	−19.10
25	11:15	−19.10
Apr. 1	11:20	−19.27
8	10:15	−19.08
17	10:55	−19.21
22	10:40	−19.32
29	2:08 p.m.	−19.60
May 9	2:40	−19.20
13	10:15 a.m.	−19.25
24	5:30 p.m.	−19.29
June 3	11:20 a.m.	−19.60
13	1:55 p.m.	−19.60
19	5:00	−19.55
July 12	4:50	−19.10
Aug. 3	11:15 a.m.	−18.83
14	5:02 p.m.	−19.21
31	9:45 a.m.	−19.19
Sept. 18	11:35	−19.15
Oct. 7	4:08 p.m.	−19.02
21	1:25	−19.00
Nov. 7	12:15	−18.94
20	12:35	−18.83
Dec. 16	1:00	−19.12

[1] By Salt Lake City Corporation.
[2] All measurements after Dec. 8, 1932, by Salt Lake City Corporation.

(D 1-1)34bab1. Salt Lake City Corporation, 22d East and Evergreen Sts., Salt Lake City. State claim No. 4833. Diameter, 15½ inches; depth, 241 feet. Drilled, 1934. Temperature of water, 56° F. Mar. 22, 1934, depth to water, 177.2 feet below land surface. Apr. 5, 1934, depth to water, 177.2 feet below land surface. July 7, 1934, pumping 3.0 second-feet with 48 feet draw down.

(D-1-1)36b. Salt Lake City Corporation, East Mill Creek. Diameter, 15½ to 12½ inches; depth, 230 feet. Drilled, 1934. No water found. Well abandoned and filled.

(D-2-1)4abb1. J. L. Christensen, 4123 Highland Dr., Holliday. State claim No. 9105. Diameter, 3 inches; depth, 120 feet. Measuring point, top of pump base, 4.75 feet above land surface and 4,396.94 feet above sea level. Drilled, 1920.

Reported to have ceased flowing in spring of 1931. All measurements after Aug. 6, 1932, by Salt Lake City Corporation, except as noted.

Date	Hour	Water level (feet)
1931		
Sept. 17		−9.75
Oct. 15	9:35 a. m.	−10.38
Nov. 5	12:05 p. m.	−10.81
Dec. 7	12:20	−11.37
1932		
Jan. 5	4:25 p. m.	−11.95
Feb. 15	3:05	−12.71
Mar. 4	1:45	−13.01
Apr. 15	3:35	−12.96
May 6	11:40 a. m.	−12.58
June 7	10:35	−10.82
July 6	1:05 p. m.	−8.35
Sept. 24		−6.22
Oct. 1		−6.25
8		−6.10
15		−6.17
22		−6.21
29		−6.35
Nov. 4		−6.53
12		−6.75
19		−6.83
26		−7.42
30	11:55 a. m.	[1] −6.99
	3:25 p. m.	[1] −6.97
Dec. 1	10:30 a. m.	[1] −7.02
	1:10 p. m.	[1] −7.02
	3:20	[1] −7.05
2	10:00 a. m.	[1] −7.11
3	10:35	[1] −7.16
5	10:40	[1] −7.11
6	10:25	[1] −7.21
7	11:35	[1] −7.16
8	10:25	[1] −7.13
9		−7.16
16		−7.42
1933		
Jan. 3		−7.71
9		−7.79
10		−7.79
14	11:40 a. m.	−7.80
23	9:35	−7.86
31	10:50	−8.02
Feb. 4	11:00	−8.12
11	3:05 p. m.	−8.14
16	3:10	−8.15
25	11:05 a. m.	−8.28
Mar. 4	10:20	−8.34
11	11:20	−8.33
20	9:15	−8.43
25	11:00	−8.50
Apr. 1	11:10	−8.64
8	10:05	−8.69
18	10:45	−8.81
22	10:30	−8.98
29	2:20 p. m.	−9.04
May 9	2:50	−9.08
13	10:00 a. m.	−9.21
23	5:45 p. m.	−9.01
June 3	11:10 a. m.	−8.12
19	5:15 p. m.	−7.60
July 12	5:10	−5.54
Aug. 3	11:35 a. m.	−4.50
31	10:05	−4.23
Sept. 20	5:15 p. m.	−4.42
Oct. 7	4:00	−4.90
21	1:17	−5.40
Nov. 7	12:00 m.	−5.92
20	12:42 p. m.	−7.29
Dec. 16	1:05	−7.04
27	12:55	−7.20
1934		
Jan. 15	12:35 p. m.	−7.60
Feb. 1	9:58 a. m.	−8.68
	3:15 p. m.	−8.05
Mar. 19	4:55	−9.42
Apr. 5	9:43 a. m.	−10.16
16	11:27	−10.50
June 12	4:50 p. m.	−11.71
18	11:15 a. m.	−11.87
27	2:55 p. m.	−12.24
July 10	4:10	−12.85
12	3:35	−12.92
17	3:05	−13.18
19	3:00	−13.29
July 25	3:20	−13.66
27	3:40	−13.90
30	3:40	−14.05
Aug. 1	4:25	−14.13
3	3:45	−14.31
6	4:20	−14.76
8	3:15	−14.93
10	3:40	−14.95
13	3:35	−14.80
15	3:10	−14.90
17	3:10	−15.10
20	3:30	−15.28
22	3:15	−15.42
24	3:25	−15.65
27	3:45	−15.90
29	3:50	−16.14
31	3:20	−16.31
Sept. 4	3:00	−16.65
6	3:50	−16.81
8	3:30	−16.88
10	12:45	−17.10
12	2:00	−17.20
14	1:15	−17.40
17	1:20	−17.57
19	12:50	−17.65
21	2:20	−17.83
24	2:06	−18.04
26	12:30	−18.16
28	12:40	−18.25
Oct. 1	3:10	−18.40
3	12:50	−18.43
5	1:45	−18.50
8	1:50	−18.65
10	1:40	−18.73
12	2:10	−18.83
15	10:30 a. m.	−19.05
16	9:40	−19.09
17	1:55 p. m.	−19.08
19	4:30	−19.16
22	3:20	−19.28
24	12:55	−19.30
26	3:25	−19.26
30	3:30	−19.16
Nov. 2	11:50 a. m.	−19.26
5	1:55 p. m.	−19.34
7	12:55	−19.30
12	4:10	−19.12
14	12:10	−19.09
	3:30	−19.05
16	4:35	−18.98
21	3:44	−18.94
27	10:35	−18.76
30	11:25 a. m.	−18.60
Dec. 4	10:09	−18.54
11	2:23 p. m.	−18.32
18	10:00 a. m.	−18.19
26	2:31 p. m.	−17.90
1935		
Jan. 2	10:20 a. m.	−17.62
8	9:47	−17.67

[1] By U. S. Geological Survey.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934—Con.			1934—Con.		
Jan. 15	10:49 a. m	−17.50	July 16	1:45 p. m	−14.23
22	9:45	−17.56	18	9:03 a. m	−14.13
29	9:30	−17.49	30	3:15 p. m	−13.57
Feb. 5	10:11	−17.33	Aug. 6	1:35	−13.70
13	9:47	−17.24	14	12:02 p. m	−14.00
20	9:20	−17.37	21	9:25 a. m	−14.11
27	2:20 p. m	−17.20	28	10:40	−14.34
Mar. 5	1:32	−17.17	Sept. 4	11:54	−14.52
12	1:36	−17.20	10	2:30 p. m	−14.70
19	1:33	−17.08	17	2:24	−14.87
28	10:11 a. m	−17.27	25	3:20	−15.11
Apr. 2	1:25 p. m	−17.28	Oct. 2	11:48 a. m	−15.30
9	1:34	−17.35	8	1:30 p. m	−15.26
18	1:30	−17.44	16	3:20	−15.25
24	9:15 a. m	−17.46	23	11:50 a. m	−14.92
May 1	10:47	−17.39	30	4:32 p. m	−12.56
7	2:34 p. m	−71.36	Nov. 6	2:25	−11.88
14	2:45	−17.18	14	9:03 a. m	−11.99
22	1:30	−16.98	19	2:46 p. m	−12.08
27	4:01	−16.89	26	1:41	−11.25
28	11:30 a. m	−16.91	Dec. 3	2:33	−11.19
31	11:46	−16.97	9	11:08 a. m	−11.08
June 4	2:00 p. m	−16.88	16	11:42	−11.00
12	3:00	−16.40	23	2:02 p. m	−9.81
19	10:33 a. m	−15.94	30	2:40	−9.53
26	1:47 p. m	−15.43			
July 2	1:50	−15.00	1936		
10	11:00 a. m	−14.44			
12	3:40 p. m	−14.35	Jan. 7 [2]	10:58 a. m	−9.41

[2] Continued by Salt Lake City Corporation.

(D–2–1)4acc1. Daisy M. Wickman, 4362 Highland Dr., Holliday. State claim No. 2523. Diameter, 3 inches; depth, 87 feet. Measuring point, top of tee, 0.5 foot above land surface and 4,374.06 feet above sea level. All measurements by Salt Lake City Corporation. Flow, Aug. 10, 1932, 39.0 g. p. m.; Sept. 6, 1932, 44.8 g. p. m.; Oct. 10, 1932, 55.0 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Aug. 10		+2.58	Dec. 2	10:45 a. m	+2.38
Sept. 6		+3.25	3	10:10	+2.30
Oct. 10		+3.42	5	10:20	+2.55
Nov. 30	10:50 a. m	+2.65	6	12:00 m	+2.57
	2:45 p. m	+2.80	7	11:25 a. m	+2.50
Dec. 1	10:35 a. m	+2.73	8	11:05 a. m	+2.42
	2:40 p. m	+2.78			

(D–2–1)4acc3. L. S. Dunford, 4374 Highland Dr., Holliday. State claim No. 15727. Diameter, 2 inches; depth, 98 feet. Drilled, 1901. Flow from well, Nov. 29, 1931, 18.0 g. p. m.

(D–2–1)4acc4. L. S. Dunford, 4374 Highland Dr., Holliday. State claim No. 15728. Diameter, 2 inches; depth, 98 feet. Drilled, 1901. Flow from well, Sept. 29, 1931, 10.5 g. p. m.

(D–2–1)4acc5. L. S. Dunford, 4374 Highland Dr., Holliday. State claim No. 15729. Diameter, 3 inches; depth, 98 feet. Drilled, 1901. Flow from well, Sept. 29, 1931, 33.0 g. p. m.

(D-2-1)4bcd1. Clyde E. Jensen, 1477 East 45th South St., Holliday. State claim No. 9660. Diameter, 2 inches; depth, 183 feet. Drilled, 1900. Flow from well, Aug. 6, 1931, 0.95 g. p. m.

(D-2-1)4bda1. A. A. Fuller, 4282 Highland Dr., Holliday. State claim No. 2112. Diameter, 2 inches; depth, 335 feet. Measuring point, top of tee, 2.6 feet above land surface and 4,382.72 feet above sea level. Drilled, 1896. All measurements by Salt Lake City Corporation. Flow on Aug. 10, 1932, 4.8 g. p. m.; Sept. 6, 1932, 4.8 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Aug. 10		+12.5	Dec. 1	10:45 a. m	+4.76
Sept. 6		+9.65	2	2:45 p. m	+4.91
Nov. 30	10:53 a. m	+4.76	3	10:50 a. m	+4.62
	2:50 p. m	+4.91	5	10:15	+4.62
				10:25	+4.19

(D-2-1)4caa2. E. G. Bowler, 1673 East 45th South St., Holliday. State claim No. 4653. Diameter, 2 inches; depth, 100± feet. Drilled, 1900. Flow July 6, 1932, 17.5 g. p. m. Following measurements by Salt Lake City Corporation: Nov. 27, 1931, flow, 18.0 g. p. m.; pressure head, 6.4 feet.

(D-2-1)4caa3. Victor Le Cheminant, 1559 East 48th South St., Holliday. State claim No. 9120. Diameter, 3 inches; depth, 170 feet. Measuring point, top of ell, 2.0 feet above land surface and 4,338.73 feet above sea level. Drilled, May 1931. All measurements by Salt Lake City Corporation. Flow Aug. 10, 1932, 83.5 g. p. m.; Sept. 6, 1932, 87.5 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Aug. 10		+14.4	Dec. 2	10:30 a. m	+14.87
Sept. 6		+16.6	3	10:07	+14.57
Nov. 30	10:40 a. m	+15.00	5	10:15	+14.57
	2:35 p. m	+15.00	6	11:45	+14.87
Dec. 1	10:25 a. m	+15.15	7	11:15	+14.72
	2:28 p. m	+15.15	8	10:48	+14.72

(D-2-1)4cab. ——— Sutherland, 45th South St. and Highland Dr., Holliday. Diameter, 2 inches. Measuring point, top of outlet pipe, 1.0 foot above land surface and 4,372.90 feet above sea level. Flow from well, Aug. 10, 1932, 14.9 g. p. m., Sept. 6, 1932, 15.0 g. p. m. Measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Aug. 10		+10.8	Dec. 2	11:00 a. m	+9.66
Sept. 6		+10.5	3	10:20	+9.66
Nov. 30	11:10 a. m	+9.81	5	10:50	+9.66
	3:00 p. m	+10.24	6	1:00 p. m	+9.81
Dec. 1	10:55 a. m	+9.95	7	11:50 a. m	+9.66
	3:00 p. m	+9.81	8	11:10	+9.52

(D-2-1)4cab2. Owen Sutherland, 1549 East 45th South St., Holliday. State claim No. 777. Diameter, 2½ inches; depth, 179 feet. Measuring point, top of outlet pipe, 1.5 feet above land surface and 4,336.70 feet above sea level. Drilled, 1932. Flow from well, Dec. 7, 1932, 15.6 g. p. m. All measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	10:35 a. m.	+15.29	Dec. 3	10:00 a. m.	+15.58
	2:30 p. m.	+15.87	5	10:10	+15.44
Dec. 1	10:15 a. m.	+16.01	6	11:40	+15.44
	2:30 p. m.	+15.87	7	11:00	+15.58
2	10:25 a. m.	+15.73			

(D-2-1)4cba1. Henry Erickson, Holliday. State claim No. 2371. Diameter, 3 inches; depth, 180 feet. Drilled, 1930 (April 1931?). Measurements by Salt Lake City Corporation. Flow from well, Nov. 28, 1931, 45.0 g. p. m.; pressure head, Nov. 28, 1931, 21.9 feet. Temperature of water, 52½° F.

(D-2-1)4ccd. Hans Jeppson, 14th East and 48th South Sts., Holliday. Diameter, 3 inches; depth, 225 feet. Measuring point, top of 2-inch pipe out of ell, 1.8 feet above land surface and 4,338.43 feet above sea level. Drilled, November 1931. Measurements by Salt Lake City Corporation. Flow from well, Nov. 13, 1931, 28.5 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	9:00 a. m.	+14.87	Dec. 3	11:25 a. m.	+14.72
	11:35	+14.87	5	11:25	+14.43
Dec. 1	9:00	+14.87	6	1:40 p. m.	+14.28
	3:20 p. m.	+15.00	7	12:36	+14.43
2	11:35 a. m.	+14.72	8	12:30	+14.14

(D-2-1)4dbb2. Phillip Taylor, 4460 Highland Dr., Holliday. State claim No. 8781. Diameter, 2 inches; depth, 80 feet. Drilled, 1920. By Salt Lake City Corporation. Flow, May 23, 1931, 13.8 g. p. m.

(D-2-1)4dbd4. Eugene Templeman, 4575 Highland Dr., Holliday. Diameter, 3 inches; depth, 310 feet. Measuring point, top of casing, at land surface and 4,384.13 feet above sea level. See U. S. Geological Survey Water-Supply Paper 777, p. 246, (D-2-1)4dc, Matt Templeman, and U. S. Geological Survey Water-Supply Paper 817, p. 442, (D-2-1)4db, Matt Templeman.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 26		[1]+0.10	Dec. 3	10:40 a. m.	−0.06
30	12:10 p. m.	+.11	5	10:45	−.02
	3:40	+.12	6	10:30	−.09
Dec. 1	10:40 a. m.	+.18	7	11:45	−.05
	1:20 p. m.	+.18	8	10:30	−.10
	4:15	+.16	9		−.10
2	10:15 a. m.	.0	16		−.36

[1] By Salt Lake City Corporation.

(D–2–1)4dbd5. Eugene Templeman, 4575 Highland Dr., Holliday. Diameter, 2 inches; depth, 118 feet. Measuring point, top of casing. Drilled, 1908. Pressure head, Sept. 16, 1931, 2.50 feet.

(D–2–1)4dca1. A. J. Wagstaff, 4711 Highland Dr., Holliday. State claim No. 6593. Diameter, 3 inches; depth, 125 feet. Measuring point, top of ell, 0.75 foot above land surface and 4,378.72 feet above sea level. All measurements by Salt Lake City Corporation. Flow Aug. 10, 1932, 12.5 g. p. m.; Sept. 6, 1932, 14.0 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Aug. 10		+4.92	Dec. 2	11:05 a. m.	+5.05
Sept. 6		+5.92	3	10:35	+5.05
Nov. 30	11:15 a. m.	+5.05	5	11:05	+5.34
	3:10 p. m.	+5.34	6	1:05 p. m.	+5.34
Dec. 1	11:00 a. m.	+5.05	7	11:55 a. m.	+5.34
	3:10 p. m.	+5.34	8	11:20	+5.20

(D–2–1)5aaa1. May L. Davis, 4166 South 13th East St., Murray. State claim No. 6685. Diameter, 3 inches; depth, 390 feet. Measuring point, top of casing, 1.0 foot above land surface and 4,323.12 feet above sea level. Drilled, 1915. Temperature of water, 54° F. Flow reported to have first stopped about July 18, 1931. Measurements after Aug. 6, 1932, except Nov. 30 to Dec. 8, inclusive, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 24		[1] −0.54	Mar. 4	1:10 p. m.	−.92
Sept. 12		[1] −.81	5		[1] −.94
16		−.79	12		[1] −.96
19		[1] −.81	19		[1] −1.00
21		[1] −.67	26		[1] −.87
25		[1] −.46	Apr. 2		[1] −.71
Oct. 2		[1] −.34	9		[1] −.84
12		[1] −.50	16	1:35 p. m.	−.85
15	9:50 a. m.	−.50	23		[1] −.80
17		[1] −.62	30		[1] −.64
21		[1] −.46	May 6	12:45 p. m.	−.80
22		[1] −.40	7		[1] −.80
27		[1] −.42	14		[1] −1.23
Nov. 2		[1] −.44	June 3	4:45 p. m.	−1.18
5	11:15 a. m.	−.32	4		[1] −1.17
9		[1] −.35	17		[1] −1.00
16		[1] −.21	25		[1] −.94
27		[1] −.33	July 2		[1] −1.25
Dec. 5		[1] −.56	6	12:25 p. m.	−1.25
7	12:05 p. m.	−.45	9		[1] −1.20
12		[1] −.52	16		[1] −.94
19		[1] −.67	23		[1] −.87
26		[1] −.62	30		[1] −.95
			Aug. 5		[1] −.94
1932			6	5:00 p. m.	−.91
			13		−1.02
Jan. 2		[1] −.67	20		−1.00
5	4:10 p. m.	−.90	27		−.88
9		[1] −.71	Sept. 3		−.25
15		[1] −.75	10		−.46
21		[1] −1.00	17		−.44
30		[1] −.96	24		−.50
Feb. 6		[1] −1.06	Oct. 1		−.50
13		[1] −.95	8		−.29
15	3:50 p. m.	−.94	15		−.08
20		[1] −1.06	22		+.12
27		[1] −1.25	29		+.10

See footnotes at end of table.

Date	Hour	Water level (feet)
1932—Con.		
Nov. 4		+.07
12		+.04
19		+.08
26		+.12
30	11:05 a. m.	+.11
	2:55 p. m.	+.15
Dec. 1	10:05 a. m.	+.12
	12:35 p. m.	+.12
	3:10	+.11
2	9:40 a. m.	+.06
3	10:10	+.04
5	10:10	+.11
6	9:55	+.04
7	11:10	+.06
8	10:00	+.05
9		+.05
16		−.35
24		−.33
1933		
Jan. 2		−.42
9		−.47
10		−.47
14	11:25 a. m.	−.47
23	9:15	−.39
31	10:10	−.50
Feb. 14		−.77
19	2:30 p. m.	−.81
24	12:25	−.88
Mar. 11	11:35 a. m.	−.71
20	8:55	−.53
25	11:25	−.53
Apr. 1	11:25	−.58
8	4:58 p. m.	−.60
15		−.60
22	10:55 a. m.	−.69
29	11:35	−.83
May 9	11:40	−.51
13	10:23	−.53
20	11:50	−.60
June 1	5:30 p. m.	−1.04
3	12:05	−1.15
10	6:51 a. m.	−1.25
19	3:03 p. m.	−1.30
July 2	7:25 a. m.	−1.25
17	2:45 p. m.	−1.03
Aug. 3	11:00 a. m.	−.94
14	3:45 p. m.	−1.18
31	10:40 a. m.	−1.10
Sept. 11	4:36 p. m.	−1.04
18	11:40 a. m.	−.96
Oct. 7	11:30	−.80
24	1:00 p. m.	−.61
Nov. 7	12:40	−.43
20	12:40	−.31
Dec. 16	12:30	−.55
27	1:15	−.68
1934		
Jan. 15	12:50 p. m.	−.67
31	3:50	−.75
Feb. 19	9:30 a. m.	−.79
Mar. 19	5:20 p. m.	−.92
Apr. 5	9:13 a. m.	−1.02
17	7:02	−1.42
30	3:50 p. m.	−2.21
May 2	1:25	−2.25
3	2:25	−2.27
4	11:55 a. m.	−2.31
5	11:10	−2.41
7	10:50	−2.46
8	11:55	−2.66
9	10:00	−2.57
10	11:40	−2.66
1934—Con.		
May 11	9:40 a. m.	−2.67
12	10:00	−2.59
14	9:30	−2.61
15	9:05	−2.62
16	9:30	−2.63
17	9:05	−2.65
18	9:05	−2.57
21	9:00	−2.71
24	9:40	−2.78
26	9:25	−2.70
28	9:40	−2.83
31	10:55	−2.73
June 2	9:03	−2.75
4	11:15	−2.74
7	9:17	−2.71
9	10:30	−2.56
12	10:20	−2.70
14	6:11 p. m.	−1.83
16	9:35 a. m.	−2.87
18	12:15 p. m.	−3.00
21	4:08	−3.02
23	11:10 a. m.	−3.10
26	2:00 p. m.	−3.90
28	3:30	−2.92
July 2	4:30	−3.20
5	4:05	−3.38
10	4:40	[2] −4.15
13	11:45 a. m.	−4.30
19	3:10 p. m.	−4.55
25	3:50	−4.15
27	4:10	−4.45
30	4:10	−4.75
Aug. 1	4:35	−4.83
3	4:10	−4.95
8	3:05	−5.45
10	4:10	−5.53
14	12:40	−5.08
16	1:15	−5.06
18	12:30	−5.05
21	1:15	−5.08
23	1:05	−5.19
25	11:30 a. m.	−5.29
28	12:40 p. m.	−5.41
Sept. 1	12:20	−5.47
5	12:30	−5.52
7	1:35	−5.48
11	3:45	−5.41
14	1:35	−5.55
18	2:35	−5.43
22	11:10 a. m.	−5.46
25	2:40 p. m.	−5.31
27	2:30	−5.14
Oct. 4	2:00	−4.79
6	12:10	−4.85
9	1:40	−4.80
11	2:30	−4.70
16	2:20	−4.67
18	2:15	−4.58
23	2:50	−4.39
25	12:45	−4.40
30	12:15	−4.33
Nov. 1	3:15	−4.23
6	1:20	−4.24
8	1:50	−4.12
12	11:45 a. m.	−3.97
13	10:12	−3.95
	3:41 p. m.	−3.93
14	10:20 a. m.	−3.89
	3:40 p. m.	−3.85
20	3:47	−3.80
27	9:58 a. m.	−3.83
30	12:15 p. m.	−3.30
Dec. 4	4:15	−3.01
11	1:53	−2.63
18	2:05	−2.43
26	1:58	−2.44

See footnotes at end of table.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935			1935—Con.		
Jan. 2	9:42 a. m.	[3] −1.98	Dec. 9	10:45 a. m.	−1.95
8	9:04	−1.96	16	11:25	−1.92
15	10:08	−1.99	23	1:35 p. m.	−2.19
22	3:10 p. m.	−2.58	30	2:10	−2.10
29	9:00 a. m.	−2.66			
Feb. 5	9:38	−2.53	1936		
13	9:11	−2.34	Jan. 7	10:15 a. m.	−1.92
21	9:15	−2.45	14	9:40	−1.94
27	2:00 p. m.	−2.40	21	10:53	−1.99
Mar. 5	11:45 a. m.	−2.32	28	10:45	−1.97
12	11:14	−2.51	Feb. 4	2:50 p. m.	−2.08
19	11:07	−2.39	13	9:41 a. m.	−1.96
27	10:50	−2.55	18	10:40	−1.89
Apr. 2	11:50	−2.60	25	9:58	−1.79
9	11:30	−2.45	Mar. 4	9:17	−1.82
18	11:37	−2.54	9	1:50 p. m.	−1.76
23	3:40 p. m.	−2.51	16	2:16	−1.74
30	4:20	−2.55	24	3:50	−1.57
May 7	1:33	−2.56	Apr. 2	10:46 a. m.	−1.60
14	11:42 a. m.	−2.58	6	1:49 p. m.	−1.76
22	11:45	−2.48	14	2:42	−1.88
28	3:03 p. m.	−2.73	20	3:21	−2.39
June 4	12:01	−2.30	28	3:26	−2.93
12	2:30	−2.90	May 4	3:26	−2.27
18	3:37	−3.39	12	11:31 a. m.	−2.46
25	3:13	−3.50	19	11:20	−3.10
July 2	11:26 a. m.	−3.75	26	10:47	−2.86
11	11:20	−4.10	June 2	10:44	−2.42
16	11:12	−4.15	9	3:14 p. m.	−1.67
30	2:08 p. m.	−4.18	15	3:36	−2.20
Aug. 6	11:08 a. m.	−3.82	23	10:57 a. m.	−2.60
13	4:01 p. m.	−4.87	July 6	11:11	−2.21
20	2:30	−4.23	13	10:58	−1.32
27	2:50	−4.37	Aug. 3	10:40	−1.75
Sept. 4	11:22 a. m.	−4.60	11	3:53 p. m.	−1.83
11	9:02	−4.50	21	10:31 a. m.	−1.15
17	2:00 p. m.	−4.66	25	3:02 p. m.	−1.92
24	3:45	−4.61	Sept. 2	2:27	−2.00
Oct. 2	11:21 a. m.	−4.40	9	10:42 a. m.	−2.10
8	12:14 p. m.	−4.50	16	1:09 p. m.	−2.29
23	11:18 a. m.	−3.58	28	2:22	−1.53
28	4:15 p. m.	−3.37	Oct. 7	2:10	−1.05
29	4:10	[4] −3.41	21	4:00	−.43
Nov. 4	3:00	−2.94	30	11:28 a. m.	−.23
13	3:19	−2.41	Nov. 20	11:06	−.24
18	1:58 a. m.	−2.23	Dec. 8	3:35 p. m.	−.35
26	11:03	−2.03	15	3:20	−.05
Dec. 3	2:05 p. m.	−1.96	23	11:04 a. m.	+.23

[1] By Salt Lake City Corporation.
[2] Measuring point changed to top of tee, 4,323.47 feet above sea level.
[3] Measuring point changed to top of casing, 4,323.12 feet above sea level.
[4] By U. S. Geological Survey.

(D-2-1)5aad. J. H. Thorn, 4263 South 13th East St., Murray. Diameter, 2 inches; depth, 200 feet. Measuring point, top of ell, 2.6 feet above land surface and 4,328.70 feet above sea level. Flow from well, Aug. 10, 1932, 9.5 g. p. m., Sept. 6, 1932, 10.1 g. p. m.; both measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Aug. 10		[1] +4.50	Dec. 2	9:25 a. m.	+5.08
Sept. 6		[1] +4.75	3	10:05	+5.04
Nov. 30	11:20 a. m.	+5.14	5	10:03	+5.03
	2:45 p. m.	+5.20	6	9:45	+4.96
Dec. 1	10:50 a. m.	+5.18	7	11:05	+4.98
	12:25 p. m.	+5.16	8	9:50	+5.03
	2:55	+5.20			

[1] By Salt Lake City Corporation.

(D-2-1)5caa3. A. C. Boyle, 906 East 45th South St., Murray. Diameter, 3 inches; depth, 680 feet. Measuring point, top of casing, 0.3 foot above land surface and 4,316.12 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	2:15 p. m.	−19.81	Dec. 3	9:50 a. m.	−19.93
	5:00	−19.70	5	9:50	−19.82
Dec. 1	12:10	−19.83	6	9:25	−19.88
	2:40	−19.83	7	10:55	−19.83
	4:58	−19.83	8	9:30	−19.82
2	9:10 a. m.	−19.90			

(D-2-1)5cdc1. Salt Lake City Corporation, Murray. State claim No. 836. Diameter, 4 inches; depth, 77.5 feet. Drilled before 1900. Flow Aug. 11, 1931, 100 g. p. m.

(D-2-1)5daa1. Florence L. Burningham, 1307 East 45th South St., Murray. State claim No. 6054. Diameter, 2 inches; depth, 206 feet. Measuring point, top of reducer, 1.0 foot above land surface and 4,307.23 feet above sea level. Drilled, June 1932. Flow from well, June 22, 1932, 129.3 g. p. m., Dec. 5, 1932, 116.2 g. p. m.; both measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
June 22		[1] +14.25	Dec. 1		[1] +18.46
July 6		+18.03	5	12:45 p. m.	[1] +14.27
		[1] +19.20	6	12:00 m.	+18.40

[1] By Salt Lake City Corporation.

Pressure head (feet) at 12 noon, 1934

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		16.1	16.1	16.0	16.2	17.6	16	16.5	15.7	15.8	15.9	15.8	
2		16.2	16.0	16.0	16.1	16.3	17	16.4	16.0	15.9	16.0	15.6	
3		16.3	15.8	16.0	16.1	18.9	18	16.3	16.0	15.9	16.0	15.7	18.5
4		16.2	15.7	15.9	16.1	18.0	19	16.4	15.9	15.9	16.0	15.7	18.7
5		16.1	15.7	16.0	16.0	18.4	20	16.3	16.0	15.9	16.0	15.6	18.7
6		16.1	15.8	16.0	16.0	19.7	21	16.3	16.0	15.9	16.1	15.4	18.9
7		16.2	15.8	16.1	16.1	19.1	22	16.3	16.0	15.9	16.1	15.4	18.9
8		16.2	15.7	15.9	16.1	18.3	23	16.5	15.9	15.8	16.1	15.5	18.8
9		16.1	15.8	15.9	16.2	18.3	24	16.5	16.0	15.6	16.1	15.4	18.9
10		16.0	15.8	16.1	16.1	18.4	25	16.5	16.0	15.6	16.1	15.4	18.9
11		16.0	15.9	16.1	16.1	18.1	26	16.7	16.0	15.7	16.2	15.6	18.9
12		16.0	15.9	16.2	16.0	18.2	27	16.5	16.0	15.7	16.1	16.2	19.6
13	[1] 16.7	16.0	15.8	16.1	16.0	18.1	28	16.6	15.9	15.9	16.1	16.0	19.3
14	16.7	15.9	15.9	16.0	18.0	14.1	29	16.5	15.8	15.9	16.1	18.1	19.9
15	16.5	15.8	15.9	16.0	16.0	13.6	30	16.5	15.8	15.9	16.1	18.2	19.2
							31	16.1	16.0		16.1		19.3

[1] Pressure-recording gage installed.

Pressure head (feet) at 12 noon, 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June	July
1	20.3	19.0	19.4	19.2	18.8	20.2	18.8
2	18.7	19.0	19.3	19.2	19.1	20.2	18.1
3	16.7	19.0	19.1	19.2	18.9	21.0	18.1
4	14.3	18.8	19.0	18.6	19.0	20.9	18.0
5	18.9	19.4	19.0	18.8	19.2	20.9	18.2
6	18.9	19.8	18.9	18.6	19.2	21.6	17.9
7	19.1	19.1	19.0	18.8	19.3	20.9	18.0
8	19.1	18.9	19.0	19.1	19.2	21.0	18.1
9	19.0	18.9	19.0	17.9	19.4	20.7	17.9
10	19.0	18.9	18.9	18.1	19.3	20.6	17.3
11	19.3	19.2		18.6	19.3	20.5	
12	18.9	18.7		19.1	19.1	20.1	17.9
13	18.3	18.8		19.4	19.2	19.5	17.7
14	18.5	19.0		19.2	19.4	19.9	18.0
15	18.7	19.1	18.9	19.3	19.6	19.4	17.7
16	18.8	19.1	18.9	19.1	19.8	19.4	17.5
17	18.3	19.1	18.9	18.7	19.4	20.1	17.3
18	18.9	19.1	19.0	18.9	19.4	19.9	17.4
19	18.8	19.1		19.2	19.3	19.7	17.4
20	18.4	19.0	19.1	19.2	19.9	19.7	(1)
21		19.1	19.3	19.3	19.9	19.9	
22		19.2	18.3	19.1	20.1	19.9	
23		19.0	19.1	19.0	20.1	20.2	
24		18.8	19.1	18.9	20.1	20.2	
25		18.9	19.2	19.1	20.0	19.6	
26	18.7	19.2	18.8	19.2	19.9	19.5	
27	18.6	19.2	18.9	19.2	19.7	19.7	
28	18.7	19.6	18.1	19.1	19.5	19.4	
29	18.7		16.1	19.6	19.4	19.4	
30	18.5		18.6	19.2	19.6	19.4	
31	18.7		18.8		20.2		

[1] Pressure-recording gage removed.

(D-2-1)5daa3. Leslie P. Bawden, 1302 East 45th South St., Murray. State claim No. 9461. Diameter, 2 inches; depth, 130 feet. Measuring point, top of ell, 0.5 foot above land surface and 4,322.84 feet above sea level. Drilled, 1885. Measurements by Salt Lake City Corporation. Flow from well, Jan. 5, 1934, 1.0 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Dec. 5	10:00 a. m.	+0.83	Dec. 7	10:52 a. m.	+1.20
6	11:30	+1.00	8	11:33	+2.15

(D-2-1)5dab1. B. R. Pugh, 1201 East 45th South St., Murray. State claim No. 6134. Diameter, 2 inches; depth, 128 feet. Measuring point, top of casing, 0.25 feet above land surface and 4,320.66 feet above sea level. Drilled, 1906. All measurements after Aug. 6, 1932, except Nov. 30 to Dec. 8, 1932, inclusive, by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1931		
July 17		[1]−0.17
Aug. 1		[1]−.83
12		[1]−1.00
28	12:10 p. m.	−1.00
Sept. 12		[1]−1.23
16		−1.22
19		[1]−1.19
21		[1]−1.15
25		[1]−1.17
Oct. 2		[1]−1.10
12		[1]−1.23
15	9:55 a. m.	−1.27
17		[1]−1.19
21		[1]−1.22
22		[1]−1.17
27		[1]−1.15
Nov. 5	11:10 a. m.	−1.33
9		[1]−1.48
16		[1]−1.58
27		[1]−1.62
Dec. 5		[1]−1.69
7	12:00 p. m.	−1.62
12		[1]−1.69
19		[1]−1.81
26		[1]−1.83
1932		
Jan. 2		[1]−1.69
5	4:15 p. m.	−1.77
9		[1]−1.69
15		[1]−1.79
21		[1]−1.83
30		[1]−1.83
Feb. 6		[1]−1.88
13		[1]−1.83
15	3:35 p. m.	−1.69
20		[1]−1.96
27		[1]−1.88
Mar. 4	1:25 p. m.	−2.03
5		[1]−1.90
12		[1]−1.94
19		[1]−1.84
26		[1]−1.77
Apr. 2		[1]−1.73
9		[1]−1.79
16	1:25 p. m.	−1.89
23		[1]−1.67
30		[1]−1.64
May 6	12:40 p. m.	−1.63
7		[1]−1.54
14		[1]−1.37
21		[1]−1.21
28		[1]−.81
June 3	5:05 p. m.	−.81
11		[1]−.35
17		[1]−.29
25		−.12
July 6	2:05 p. m.	+.07
7		[1].00
9		[1]+.12
16		[1]+.30
23		[1]+.33
30		[1]+.33
Aug. 5		[1]+.10
6	4:55 p. m.	+.12
1932—Con.		
Aug. 13		+.08
20		.00
27		+.21
Sept. 3		+.35
10		+.29
17		+.18
24		+.31
Oct. 1		+.33
8		+.17
15		+.23
22		−.20
29		−.17
Nov. 4		−.21
12		−.33
19		−.33
26		−.37
30	10:45 a. m.	−.31
	2:35 p. m.	−.31
Dec. 1	9:40 a. m.	−.46
	12:15 p. m.	−1.10
	2:45	−1.24
2	9:15 a. m.	−1.38
3	9:55	−1.42
5	9:55	−1.43
6	9:35	−.42
24		−.64
1933		
Jan. 2		−.77
9		−.85
10		−.85
14	12:25 p. m.	−.79
23	9:25 a. m.	−.65
31	9:55	−.88
Feb. 4	10:10	−1.00
14		−1.12
19	2:20 p. m.	−1.13
25	12:30	−1.35
Mar. 11	10:30 a. m.	−1.31
20	8:50	−1.31
25	11:35	−1.31
Apr. 1	11:30	−1.25
8	5:05 p. m.	−1.28
15		−1.22
22	11:00 a. m.	−1.23
29	11:39	−1.32
May 9	11:30	−.93
13	10:25	−.95
20	11:54	−.98
June 3	12:45 p. m.	−.54
10	6:30 a. m.	−.33
19	2:58 p. m.	−.30
July 3	7:15 a. m.	+.37
18	4:03 p. m.	+.52
Aug. 3	12:00 m.	+.41
14	4:05 p. m.	+.10
Sept. 1	2:45	+.11
11	4:18	+.36
18	11:46 a. m.	−.04
Oct. 7	11:45	+.02
26	12:50 p. m.	−.04
Nov. 7	12:40	−.21
17	11:14 a. m.	−.27
Dec. 16	12:23 p. m.	−.67
27	1:20	−.77

[1] By Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1935—Con.		
Jan. 15	12:59 p. m.	−.83	Mar. 22	3:03 p. m.	+.35
31	3:40	−.92	23	9:20 a. m.	+1.06
Feb. 19	9:22 a. m.	−.92	25	3:51 p. m.	+1.13
Mar. 19		−1.28	26	10:32 a. m.	+.80
Apr. 5	9:07 a. m.	−1.45	27	10:42	+1.04
17	7:01	−1.60	Apr. 2	11:30	+1.41
29	1:30 p. m.	−1.75	9	10:58	+.10
30	4:50	−1.83	18	11:20	+1.26
May 16	2:18	−1.90	24	9:30	+1.35
June 14	6:11	−1.83	30	4:11 p. m.	+1.50
26	12:23	−1.58	May 7	1:42	+1.52
July 2	1:30	−2.02	14	11:15 a. m.	+1.73
9	4:10	−2.40	22	11:38	+2.00
Aug. 2	4:00	−2.69	28	2:43 p. m.	+2.10
8	4:35	−3.88	June 4	11:52 a. m.	+2.45
16	2:00	−2.93	12	9:42	+2.08
28	12:30	−3.00	18	3:31 p. m.	+1.70
Sept. 15	1:24	−2.99	25	3:05	−.53
22	7:40 a. m.	−2.83	July 2	11:10 a. m.	−.50
27	11:00	−2.67	11	11:12	−1.00
Oct. 4	3:41 p. m.	−2.76	16	10:52	−1.17
11	1:20	−2.54	Aug. 13	3:27 p. m.	−1.75
23	12:07	−2.39	20	2:50	−1.72
Nov. 13	10:07 a. m.	−2.46	27	3:40	−1.82
	3:31 p. m.	−.95	Sept. 4	10:57 a. m.	−1.61
14	10:53 a. m.	−.19	17	1:32 p. m	−2.05
20	3:70 p. m.	−2.79	24	3:38	+.98
27	3:02	−2.79	Oct. 2	11:00 a. m.	−1.53
Dec. 1	10:17 a. m.	−.15	8	11:45	−1.91
8	12:47 p. m.	+.40	Nov. 6	1:52 p. m.	+1.65
29	10:10 a. m.	+.96	13	3:12	+1.70
			18	2:22	+1.77
1935			26	10:40 a. m.	+1.80
			Dec. 3	2:57 p. m.	+2.03
Jan. 5	10:25 a. m.	+.52	9	10:22 a. m.	+2.06
8	4:02 p. m.	+.66	16	11:00	+2.23
15	4:30	+.57	23	10:43	−.38
22	3:23	+.58	30	10:40	+2.10
30	10:51 a. m.	+.54	1936		
Feb. 5	3:32 p. m.	+.79			
13	3:34	+1.03	Jan. 7[2]	10:18 a. m.	0.0

[2] Continued by Salt Lake City Corporation.

(D-2-1)5dad4. Leslie P. Bawden, 1302 East 45th South St., Murray. State claim No. 8847. Diameter, 2½ inches; depth, 227 feet. Measuring point, top of tee, 1.0 foot above land surface and 4,323.76 feet above sea level. Drilled, 1932. Measurements by Salt Lake City Corporation. Flow from well, Aug. 10, 1932, 25.0 g. p. m.; Sept. 6, 1932, 25.8 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Aug. 10		+13.4	Dec. 2	10:10 a. m.	+14.72
Sept. 6		+14.4	3	9:50	+14.43
Nov. 30	10:30 a. m.	+14.57	5	10:00	+14.57
	2:30 p. m.	+15.15	6	11:25	+15.58
Dec. 1	10:10 a. m.	+14.87	7	10:52	+14.72
	2:20 p. m.	+14.87	8	11:34	+14.72

(D-2-1)5ddd3. E. W. Smith, 4730 South 13th East St., Murray. State claim No. 3483. Diameter, 2 inches; depth, 200 feet. Measuring point, top of ell, 1.0 foot above land surface and 4,330.73 feet above sea level. All measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	10:20 a. m.	+12.69	Dec. 3	9:40 a. m.	+12.12
	2:15 p. m.	+12.56	5	9:50	+11.39
Dec. 1	10:00 a. m.	+12.56	6	11:10	+12.12
	2:10 p. m.	+12.56	7	10:20	+12.12
2	10:10 a. m.	+12.12	8	10:25	+12.12

(D-2-1)6aaa7. Fuller B. Bailey, 4218 South 7th East St., Murray. State claim No. 15790. Diameter, 2½ inches; depth, 350 feet. Drilled, fall of 1924. Temperature of water, 56° F. Flow July 6, 1932, 1.7 g. p. m.

(D-2-1)6bcd2. W. J. Brown, 4373 South State St., Murray. State claim No. 4298. Diameter, 2 inches; depth, 115 feet. Measuring point, top of tee, 4,274.70 feet above sea level. Drilled, 1923. Temperature of water, 54° F. Measurements after Aug. 6, 1932, by Salt Lake City Corporation. Flow from well, Aug. 26, 1931, 8.5 g. p. m.; Sept. 7, 1932, 2.4 g. p. m.; Oct. 13, 1932, 4.0 g. p. m.; Nov. 28, 1932, 2.0 g. p. m.; Jan. 6, 1933, 1.9 g. p. m.; Feb. 1, 1933, 1.9 g. p. m.; Mar. 6, 1933, 2.0 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Oct. 13	2:10 p. m.	+8.05	Sept. 25	1:50 p. m.	+4.70
Nov. 5	4:00	+8.80	Nov. 3	4:00	+4.75
Dec. 8	11:30 a. m.	+8.07	21	11:40 a. m.	+6.70
1932			1934		
Jan. 6	10:30 a. m.	+8.65	Jan. 3	4:20 p. m.	+6.91
Feb. 10	5:25 p. m.	+8.80	Feb. 7	9:33 a. m.	+8.60
Mar. 4	12:05	+9.08	Apr. 24	12:34 p. m.	+5.00
Apr. 16	12:05	+9.08	May 25	11:02 a. m.	+6.40
May 6	4:20	+7.64	July 13	3:00 p. m.	+5.50
June 3	3:15	+7.57	Sept. 11	4:54	+5.20
July 6	6:20	+6.21	Oct. 8	4:59	+8.00
Aug. 6	3:00	+7.28	Nov. 17	12:40	+8.80
Sept. 7		+8.94	Dec. 15	9:20 a. m.	+9.25
Oct. 13		+7.50			
Nov. 28		+8.22	1935		
1933			Jan. 25	11:15 a. m.	+9.30
			Feb. 26	10:45	+9.90
Jan. 6		+8.22	Apr. 4	4:50 p. m.	+9.20
Feb. 1	2:45 p. m.	+6.78	May 16	4:50	+8.50
Mar. 6	11:45 a. m.	+7.21	June 19	4:55	+5.60
Apr. 10	10:42	+8.45	July 31	3:30	+1.50
May 1	12:05 p. m.	+7.20	Aug. 27	3:40	+4.20
June 5	1:55	+4.05	Oct. 2	12:01	+4.85
July 18	2:51	+4.95	Nov. 14	2:55	+6.40
Aug. 5	1:25	+5.80			

(D-2-1)6bcd11. W. D. Harkness, 4369 South State St., Murray. Diameter, 2 inches; depth, 225 feet. Measuring point, center line of faucet outlet, 1.0 foot above land surface and 4,280.23 feet above sea level. Drilled, 1929. Temperature of water, 60° F. (?). Pressure head, Aug. 26, 1931, 2.90 feet, Oct. 13, 1931, 5.90 feet, Nov. 5, 1931, 8.51 feet.

(D-2-1)6cbd2. Christine Pallotta, 4551 South State St., Murray. State claim No. 6093. Diameter, 2 inches; depth, 180 feet. Drilled, 1917. Temperature of water, 54° F. Flow from well, Mar. 1, 1932, 13.8 g. p. m.; pressure head 10.1 feet. Measurements by Salt Lake City Corporation.

(D-2-1)6daa3. Clive Park, 4637 South 6th East St., Murray. Diameter, 2 inches; depth, 380 feet. Measuring point, top of tee, 2.1 feet above land surface and 4,306.55 feet above sea level. Drilled, 1929. Measurements by Salt Lake City Corporation. Flow from well, Aug. 10, 1932, 5.5 g. p. m.; Sept. 6, 1932, 6.25 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Aug. 10		+1.96	Dec. 2	9:47 a. m	+3.56
Sept. 6		+2.58	3	9:30	+3.18
Nov. 30	10:15 a. m	+3.61	5	9:45	+2.60
	1:50 p. m	+3.61	6	11:00	+3.46
Dec. 1	9:47 a. m	+3.61	7	10:25	+3.03
	2:00 p. m	+3.46	8	3:15 p. m	+3.46

(D-2-1)6dbd. Ernest Turner, 468 East 45th South St., Murray. Diameter, 3 inches; depth, 640 feet. Drilled, Aug. 1931. Temperature of water, 55° F. Flow from well, 4.25 g. p. m.; pressure, 3.83 feet. Measurements by Salt Lake City Corporation.

(D-2-1)6dcd1. Felix Denero, 441 East 48th South St., Murray. State claim No. 2357. Diameter, 2 inches; depth, 90 feet. Drilled, 1912. Temperature of water, 52° F. Flow from well, Nov. 4, 1931, 13.6 g. p. m.; pressure head, 8.1 feet. Measurements by Salt Lake City Corporation.

(D-2-1)6ddb1. Salt Lake City Corporation, Murray. State claim No. 4845. Diameter, 15½ inches; depth, 433 feet. Drilled, May 1934.

(D-2-1)7aad2. W. B. White, Murray. State claim No. 8055. Diameter, 2 inches; depth, 226 feet. Measuring point, top of casing, 1.75 feet below land surface and 4,313.76 feet above sea level. Drilled, 1915. Temperature of water, 53° F. Measurements after Aug. 8, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water leve (feet)
1931			1932—Con.		
Oct. 15		+1.63	Sept. 9		+1.50
Nov. 5	4:40 p. m	+1.92	Oct. 11		+1.90
Dec. 7	1:40	+1.20	Nov. 21		+2.10
			Dec. 21		+1.75
1932			1933		
Jan. 6	10:18 a. m	+.95			
Feb. 13	3:05 p. m	+1.55	Jan. 26	10:15 a. m	+1.62
Mar. 4	4:20	+1.46	Mar. 14	10:22	+1.75
Apr. 16	12:20	+1.49	Apr. 5	10:30	+1.80
May 6	3:15	+.96	24	4:20 p. m	+1.66
June 4	12:18	+1.15	May 25	1:20	+1.79
July 6	3:40	+1.10	Aug. 10	2:45	+1.36
Aug. 8	10:50 a. m	+1.37			

(D-2-1)7aba1. Felix Denero, 441 East 48th South St., Murray. State claim No. 2352. Diameter, 2 inches; depth, 200 feet. Drilled, 1923. Temperature, 52° F. Flow from well, Mar. 11, 1932, 29.0 g. p. m.; pressure head, 8.8 feet. Measurements by Salt Lake City Corporation.

(D-2-1)7bbc. James Kenylois, West 4th Ave., Murray. Diameter, 2 inches. Temperature of water, 54° F. Flow from well, Oct. 26, 1931, 1.85 g. p. m.; pressure head, 1.7 feet. Measurements by Salt Lake City Corporation.

(D-2-1)7bca. Gasar Service Station, 5026 South State St., Murray. Temperature of water, 56° F. Flow from well, Oct. 26, 1931, 2.8 g. p. m.; pressure head, 9.2 feet. Measurements by Salt Lake City Corporation.

(D-2-1)7bcb. American Smelting & Refining Co., Murray. Diameter, 2 inches. Temperature of water, 55° F. Flow from well, Apr. 29, 1932, 4.7 g. p. m.; pressure head, 8.5 feet. Measurements by Salt Lake City Corporation.

(D-2-1)7bcb1. American Smelting & Refining Co., Murray. State claim No. 1531. Diameter, 2½ inches; depth, 82 feet. Drilled, 1912. Temperature of water, 55° F. Flow from well, April 29, 1932, 3.0 g. p. m.; pressure head, 2.6 feet. Measurements by Salt Lake City Corporation.

(D-2-1)7bcd1. American Smelting & Refining Co., Murray. State claim No. 1530. Diameter, 2 inches; depth, 184 feet. Measuring point, top of cap, 0.5 foot above land surface and 4,274.23 feet above sea level. Drilled, 1912. Temperature of water, 54½° F. Recording pressure gage maintained on this well. See U. S. Geological Survey Water-Supply Paper 817, p. 442.

(D-2-1)7cba4. American Smelting & Refining Co., Murray. State claim No. 1532. Diameter, 2½ inches; depth, 259 feet. Measuring point, top of tee, 1.5 feet above land surface and 4,278.92 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1933			1933—Con.		
Jan. 12	2:30 p. m.	[1] +15.28	Jan. 16	1:30 p. m.	+15.43
13	10:20 a. m.	+15.14	17	9:50 a. m.	[1] +15.43
	1:10 p. m.	+15.14		2:40 p. m.	+15.43
14	10:55 a. m.	+15.28	18	10:12 a. m.	+15.43
	2:40 p. m.	+15.43		1:40 p. m.	+15.43
15	9:20 a. m.	+15.43	19	11:35 a. m.	[1] +15.43
	1:40 p. m.	+15.58	20	10:30	[1] +15.28
16	10:20 a. m.	+15.58	21	8:55	+15.14

[1] By Salt Lake City Corporation.

(D-2-1)7cbb. American Smelting & Refining Co., Murray. Diameter, 2 inches. Flow from well, Apr. 29, 1932, 0.7 g. p. m. Measurements by Salt Lake City Corporation.

(D-2-1)7cbc. American Smelting & Refining Co., Murray. Diameter, 2 inches. Temperature of water, 54° F. Flow from well, Apr. 29, 1932, 2.2 g. p. m.; pressure head, 4.9 feet. Measurements by Salt Lake City Corporation.

(D-2-1)7cbd1. American Smelting & Refining Co., Murray. State claim No. 1538. Diameter, 8 inches; depth, 64 feet. Measuring point, top of horizontal pipe, 1.5 feet above land surface and 4,285.15 feet above sea level. Drilled, 1902. Temperature of water, 53½° F. Measurements after June 20, 1933, by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1931		
Oct. 14		+9.52
Dec. 8	11:50 a. m.	+8.94
1932		
Jan. 6	12:10 p. m.	+9.23
Feb. 15	11:15 a. m.	+9.37
Mar. 5	11:10	+9.66
Apr. 22	10:50	+9.73
May 9	11:05	+9.88
June 4	11:50	+10.38
July 7	2:30 p. m.	+10.67
Oct. 4	10:05 a. m.	+10.17
Nov. 1	11:30	+10.53
Dec. 7	1:32 p. m.	+9.88
1933		
Jan. 7	10:23 a. m.	+9.88
Mar. 15	10:15	+9.66
May 15	11:45	+10.24
June 20	11:00	+10.67
1934		
Nov. 16	10:30 a. m.	+10.02
23	1:30 p. m.	+8.85
26	2:21	+10.10
Dec. 3	1:30	+10.20
17	1:33	+10.40
31	1:32	+10.30
1935		
Jan. 14	1:36 p. m.	+9.90
21	1:30	+10.25

Date	Hour	Water level (feet)
1935—Con.		
Jan. 28	1:48 p. m.	+10.30
Feb. 4	2:46	+10.20
13	1:30	+10.45
18	1:08	+9.60
25	1:40	+10.30
Mar. 4	2:35	+9.90
11	1:20	+10.00
18	1:26	+9.75
19		+9.81
25	1:46	+10.75
Apr. 16	1:28	+10.55
22	1:34	+10.20
May 6	1:35	+10.40
13	2:23	+10.20
20	1:30	+10.15
27	1:30	+10.20
June 3	1:32	+10.20
17	1:35	+11.50
25	1:36	+11.20
July 5	1:40	+10.40
8	1:36	+9.30
15	1:37	+10.70
Aug. 1	12:01	+10.50
12	1:27	+10.20
19	1:35	+10.55
26	1:35	+10.30
Sept. 3	1:17	+10.40
9	1:55	+10.30
14	1:30	+10.20
16	1:32	+10.20
23	12:36	+10.10
30	1:26	+10.45

(D-2-1)7cbd2. American Smelting & Refining Co., Murray. State claim No. 1539. Diameter, 4 inches; depth, 399 feet. Measuring point, top of flange, 1.0 foot above land surface and 4,286.57 feet above sea level. Drilled, 1902. Temperature of water, 54° F. Measurements after June 20, 1933, by Salt Lake City Corporation. See U. S. Geological Survey Water-Supply Paper 157, p. 46.

Date	Hour	Water level (feet)
1931		
Oct. 14		+19.55
Dec. 8	12:00 m.	+19.33
1932		
Jan. 6	12:10 p. m.	+19.76
Feb. 15	11:30 a. m.	+20.05
Mar. 5	11:30	+19.90
Apr. 22	11:10	+19.97
May 9	11:20	+19.76
June 4	11:55	+20.19
July 7	2:30 p. m.	+20.34
Oct. 4	10:15 a. m.	+19.83
Nov. 1	11:35	+19.76
Dec. 7	1:35 p. m.	+19.61
1933		
Jan. 7	10:28 a. m.	+19.55
Mar. 15	10:20	+18.89
May 15	11:55	+19.76
June 20	11:05	+19.90

Date	Hour	Water level (feet)
1934		
May 1	1:45 p. m.	+20.65
	2:00	+21.00
4	1:05	+19.65
5	1:15	+19.70
7	1:15	+19.60
8	1:10	+19.70
9	1:10	+19.60
10	1:10	+19.65
11	1:00	+19.50
12	1:15	+19.65
14	1:15	+19.75
15	1:20	+19.65
18	1:20	+19.85
21	1:20	+19.65
24	1:15	+19.65
26	1:25	+19.35
28	1:25	+19.20
June 2	1:30	+20.00
7	1:15	+19.80
9	1:10	+19.75
14	1:15	+19.75
23	1:00	+19.80

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934—Con.			1934—Con.		
June 28	12:10 p. m.	+19.70	Dec. 3	1:20 p. m.	+19.40
30	1:15	+19.45	17	1:31	+19.50
July 2	1:15	+19.40	31	1:20	+19.40
17	1:05	+19.60			
19	1:15	+19.40	1935		
25	1:00	+19.50	Jan. 14	1:30 p. m.	+19.30
27	1:15	+19.25	21	1:20	+19.60
Aug. 1	1:10	+19.15	28	1:45	+19.45
3	1:05	+19.25	Feb. 4	2:35	+19.30
6	1:00	+19.20	13	1:20	+19.70
10	1:00	+19.15	18	1:15	+19.60
13	1:00	+19.15	25	1:35	+19.35
15	12:55	+19.10	Mar. 1		+20.19
17	1:00	+19.20	4	2:25	+19.60
20	1:10	+19.10	11	1:14	+19.40
22	1:05	+19.10	18	1:17	+19.50
27	12:55	+19.00	25	1:35	+19.20
29	1:00	+19.00	Apr. 16	1:20	+19.30
31	1:20	+18.95	22	1:25	+19.30
Sept. 7	1:00	+19.10	May 6	1:30	+19.40
11	1:00	+19.15	13	2:15	+19.40
14	1:08	+19.35	20	1:20	+19.50
17	1:10	+19.60	27	1:20	+19.45
21	1:30	+19.50	June 3	1:23	+19.60
24	1:15	+19.40	17	1:30	+20.00
27	1:30	+19.50	25	1:30	+19.85
Oct. 1	1:22	+19.35	July 5	1:50	+19.50
5	2:04	+19.30	8	1:30	+19.50
8	1:30	+19.20	15	1:30	+19.00
16	1:15	+19.60	Aug. 1	12:55	+20.10
23	1:30	+19.65	12	1:20	+20.15
26	1:15	+19.35	19	1:28	+20.40
Nov. 2	4:50	+19.18	26	1:23	+20.25
5	1:15	+19.47	Sept. 3	1:12	+20.25
9	1:20	+19.50	9	1:45	+19.80
12	1:40	+20.15	14	1:20	+20.15
16	10:37 a. m.	+19.20	16	1:25	+20.15
23	1:23 p. m.	+19.60	23	12:30	+20.25
26	2:15	+19.20	30	1:16	+20.10

(D-2-1)7dab9. Roxie Jewell, 541 Benbow St., Murray. Diameter, 2 inches; depth, 90 feet. Measuring point, top of tee, 0.75 foot above land surface and 4,316.24 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Dec. 12	2:10 p. m.	−3.72	Jan. 16	10:35 a. m.	−2.99
1933				1:35 p. m.	−2.88
			17	9:50 a. m.	−2.89
				2:55 p. m.	−3.10
Jan. 12	2:45 p. m.	−3.90	18	10:25 a. m.	−3.43
13	10:35 a. m.	−3.89		1:50 p. m.	−3.44
	1:25 p. m.	−3.89	19	11:55 a. m.	[1]−3.45
14	11:05 a. m.	−3.86	20	2:45 p. m.	−3.45
	2:50 p. m.	−3.61	21	10:10 a. m.	[1]−3.29
15	9:30 a. m.	−3.01			
	2:05 p. m.	−2.99			

[1] By Salt Lake City Corporation.

(D-2-1)7dab11. Fred Peters, 557 Virginia St., Murray. State claim No. 5195. Diameter, 2 inches; depth, 114 feet. Drilled, 1908. Temperature of water, 51° F. Flow from well, May 2, 1931, 7.9 g. p. m.; July 21, 1931, 0.2 g. p. m.; Sept. 22, 1931, 0.0 g. p. m.; Nov. 23, 1931, 2.0 g. p. m. Measurements by Salt Lake City Corporation.

(D-2-1)7dac6. Lenora K. Bringhurst, 545 Vine St., Murray. State claim No. 5262. Diameter, 2 inches; depth, 441 feet. Drilled, 1915. Temperature of water, 59° F. Flow from well, June 10, 1932, 18.0 g. p. m.; pressure head, 40.1 feet. Measurements by Salt Lake City Corporation.

(D-2-1)7ddc. Salt Lake City Corporation, Murray. Diameter, 3 inches; depth 80 feet. Originally Gilbert Austin, west one of two wells. Temperature of water, 52° F. Flow from well, Sept. 15, 1931, 29.0 g. p. m.

(D-2-1)7ddc. Salt Lake City Corporation, Murray. Diameter, 3 inches; depth, 60 feet. Measuring point, center of recorder connection, 4,303.32 feet above sea level. Originally Gilbert Austin, east one of two wells. Temperature of water, 52° F. Flow from well, Sept. 15, 1931, 29.6 g. p. m. Recording pressure gage maintained on this well from Jan. 6, 1933, to Nov. 2, 1933.

Mean daily pressure head (feet), 1933

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1		15.0	15.1	14.8	14.6	15.0	14.5	14.2	15.3	15.4	15.7
2		15.1	14.9	14.8	14.6	15.0	14.4	14.1	15.2	15.4	
3		15.0	14.8	14.9	14.6	14.9	14.5	14.9	15.2	15.4	
4		14.9	14.7	14.8	14.7	14.8	15.0		15.2	15.4	
5		14.8	14.7	14.8	14.7	14.8	15.0		15.2	15.5	
6	15.3	14.8	14.7	14.8	14.7	14.9	14.7		15.1	15.6	
7	15.1		14.7	14.8	14.7	14.7	14.4		15.2	15.6	
8	15.0		14.7	14.8	14.6	14.6	14.5		15.5	15.6	
9		14.8	14.8	14.7		14.8	14.5		16.0	15.6	
10	15.2		14.9	14.7		14.8	14.5		18.2	15.6	
11	15.1		15.3	14.7		14.6	14.5	14.5	18.2	15.6	
12	15.0		15.2	14.7	14.6	14.6	14.6	14.5	17.7	15.6	
13	14.9		14.9	14.7	14.6	14.9	14.7	14.3	17.2	15.6	
14	16.0		14.8	14.7	14.7		14.6	14.4	15.9	15.6	
15	16.2		14.7	14.8	14.7			14.8	15.8	15.7	
16	16.5		14.6	14.9	14.8	15.0			15.8	15.7	
17	16.1	14.8	14.5	14.9	14.9	14.9			15.9	15.8	
18	15.7	14.8	14.6	14.7	14.9	14.7			15.6	15.7	
19	15.7	14.8	14.7	14.6	14.8				15.3	15.5	
20	15.8	14.8	14.6	14.5	14.9				15.3	15.3	
21	15.6	14.8		14.7	15.0		14.6		15.2	15.2	
22	15.2	14.8		14.7	14.8		14.6		15.2	15.2	
23	15.0	14.9	14.8	14.7		14.9	14.4		15.2	15.3	
24		15.2	14.8	14.8					15.3	15.5	
25		15.5	15.0	14.9	15.0				15.4	15.8	
26		15.6	14.8	14.8	14.9				15.4	15.8	
27		15.4	14.7	14.7	14.9				15.5	15.7	
28		15.0	14.7	14.8			14.6		15.5	15.7	
29			14.6	15.0			14.6	16.1	15.4	16.0	
30	15.1		14.6	14.7		14.7	14.5	15.3	15.4	15.8	
31	15.0		14.8				14.3	15.4		15.8	

(D-2-1)7ddd1. W. K. Baker, Murray. State claim No. 4237. Diameter, 3½ inches; depth, 90 feet. Measuring point, top of casing, 0.6 foot above land surface. Drilled, Sept. 17, 1931. Temperature of water, 51° F. Flow from well, Sept. 18, 1931, 113 g. p. m. Pressure head, Sept. 18, 1931, 12.05 feet.

(D-2-1)7ddd2. W. K. Baker, Murray. State claim No. 4239. Diameter, 3 inches; depth, 90 feet. Measuring point, center line of outlet pipe, 1.9 feet above land surface and 4,311.14 feet above sea level. Drilled, 1926. Temperature of water, 52° F. Flow from well, Sept. 18, 1931, 49 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 18		+9.30	Oct. 13	12:10 p. m	+7.43
Oct. 13		+8.80	Nov. 1	11:50 a. m	+7.50
Nov. 6	11:35 a. m	+9.23	Dec. 7	1:10 p. m	+7.64
Dec. 7	2:40 p. m	+9.08	1933		
1932			Jan. 7	9:50 a. m	+7.64
Jan. 6	12:30 p. m	+8.94	Mar. 14	10:40	+7.50
Feb. 13	2:30	+9.23	Apr. 13	11:20	+7.86
Mar. 5	12:40	+8.94	May 8	12:45 p. m	+7.50
Apr. 18	12:15	+8.22	June 20	10:40 a. m	+7.79
May 6	4:38	+7.93	July 13	11:40	+8.07
June 7	11:20 a. m	+9.23	Aug. 21	1:35 p. m	+9.23
July 6	4:50 p. m	+9.23	Nov. 16	3:49	+7.64
Aug. 8	12:20	+7.50			

(D-2-1)7ddd3. W. K. Baker, Murray. State claim No. 4240. Diameter, 3½ inches; depth 93 feet. Measuring point, top of casing, 2.0 feet above land surface. Drilled, September 1931. Temperature of water, 52° F. Flow from well, Sept. 15, 1931, 83 g. p. m. Pressure head, Sept. 15, 1931, 9.3 feet.

(D-2-1)7ddd4. W. K. Baker, Murray. State claim No. 4241. Diameter, 3 inches; depth, 90 feet. Measuring point, center line of outlet pipe, at land surface and 4,309.22 feet above sea level. Drilled, 1926. Temperature of water, 51° F. Flow from well, Sept. 18, 1931, 100 g. p. m.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Sept. 18		+11.55	July 13	11:45 a. m	+10.24
Oct. 13		+11.20	Aug. 21	1:40 p. m	+10.38
Nov. 6	11:40 a. m	+11.39	Nov. 16	3:55	+10.10

(D-2-1)7ddd5. W. K. Baker, Murray. State claim No. 4242. Diameter, 3½ inches; depth, 95 feet. Measuring point, center line of valve, 2.25 feet above land surface. Drilled, Mar. 14, 1932. Pressure head, July 6, 1932, 8.36 feet.

(D-2-1)7ddd6. W. K. Baker, Murray. State claim No. 4243. Diameter, 3½ inches; depth, 110 feet. Measuring point, center line of outlet, 1.5 feet above land surface. Drilled, Mar. 7, 1932. Pressure head, July 6, 1932, 9.23 feet.

(D-2-1)8aac1. Salt Lake City Corporation, Murray. State claim No. 817. Diameter, 3 inches; depth, 83 feet; measured July 14, 1933. Measuring point top of valve, 4,308.24 feet above sea level. Drilled before 1915. Flow from well, July 14, 1933, 21.0 g. p. m.; pressure head, 4.05 feet.

(D-2-1)8aac2. Salt Lake City Corporation, Murray. State claim No. 818. Diameter, 3 inches; depth, 84.5 feet; measured July 14, 1933. Measuring point, top of valve, 4,307.19 feet above sea level. Drilled before 1915. Flow from well, July 14, 1933, 49.0 g. p. m.; pressure head, 5.60 feet.

(D–2–1)8aac3. Salt Lake City Corporation, Murray. State claim No. 819. Diameter, 3 inches; depth, 55 feet; measured July 14, 1933. Measuring point, top of valve, 4,305.17 feet above sea level. Drilled before 1915. Flow from well, July 14, 1933, 33.8 g. p. m.; pressure head, 9.35 feet.

(D–2–1)8aac4. Salt Lake City Corporation, Murray. State claim No. 820. Diameter, 3 inches; depth, 63 feet; measured July 14, 1933. Measuring point, top of valve, 4,307.46 feet above sea level. Drilled before 1915. Flow from well, July 14, 1933, 33.0 g. p. m.; pressure head, 7.10 feet.

(D–2–1)8aac5. Salt Lake City Corporation, Murray. State claim No. 821. Diameter, 3 inches; depth, 64 feet; measured July 14, 1933. Measuring point, top of valve, 4,307.96 feet above sea level. Drilled before 1915. Flow from well, July 14, 1933, 38.8 g. p. m.; pressure head, 6.70 feet.

(D–2–1)8abd1. Salt Lake City Corporation, Murray. State claim No. 132. Diameter, 3 inches; depth, 173 feet; measured July 14, 1933. Measuring point, top of valve, 4,308.94 feet above sea level. Drilled, July 1929. Flow from well, July 14, 1933, 63 g. p. m.; pressure head, 18.00 feet.

(D–2–1)8abd2. Salt Lake City Corporation, Murray. State claim No. 133. Diameter, 3 inches; depth, 79 feet; measured July 14, 1933. Measuring point, top of valve, 4,308.85 feet above sea level. Drilled before 1922. Flow from well, July 14, 1933, 24.8 g. p. m.; pressure head, 2.30 feet.

(D–2–1)8abd3. Salt Lake City Corporation, Murray. State claim No. 134. Diameter, 3 inches; depth, 68.5 feet; measured July 14, 1933. Measuring point, top of valve, 4,308.23 feet above sea level. Drilled before 1924. Flow from well, July 14, 1933, 34.0 g. p. m.; pressure head, 2.70 feet.

(D–2–1)8abd4. Salt Lake City Corporation, Murray. State claim No. 135. Diameter, 3 inches; depth, 73 feet; measured July 14, 1933. Measuring point, top of valve, 4,308.33 feet above sea level. Drilled before 1924. Flow from well, July 14, 1933, 28.2 g. p. m.; pressure head, 2.45 feet.

(D–2–1)8abd5. Salt Lake City Corporation, Murray. State claim No. 826. Diameter, 3 inches; depth, 62.5 feet; measured July 15, 1933. Measuring point, top of valve, 4,302.27 feet above sea level. Drilled, 1929. Flow from well, July 15, 1933, 75.0 g. p. m.; pressure head, 7.8 feet.

(D–2–1)8abd6. Salt Lake City Corporation, Murray. State claim No. 830. Diameter, 6 inches; depth, 82.5 feet; measured July 15, 1933. Measuring point, top of valve, 4,305.10 feet above sea level. Drilled, 1929. Flow from well, July 15, 1933, 106 g. p. m.; pressure head, 5.1 feet.

(D–2–1)8abd7. Salt Lake City Corporation, Murray. State claim No. 828. Diameter, 3 inches; depth, 81 feet; measured July 15, 1933. Measuring point, top of valve, 4,303.18 feet above sea level. Drilled, 1929. Flow from well, July 15, 1933, 72.6 feet; pressure head, 6.55 feet.

(D–2–1)8abd8. Salt Lake City Corporation, Murray. State claim No. 829. Diameter, 3 inches; depth, 67 feet; measured July 15, 1933. Measuring point, top of valve, 4,302.51 feet above sea level. Drilled, 1929. Temperature of water, 52° F. Flow from well, July 15, 1933, 45 g. p. m.; pressure head, 7.3 feet. Dec. 19, 1931; pressure, 5.50 feet.

(D–2–1)8abd9. Salt Lake City Corporation, Murray. State claim No. 827. Diameter, 3 inches; depth, 146.5 feet; measured July 15, 1933. Measuring point, top of valve, 4,304.35 feet above sea level. Drilled, 1929. Flow from well, July 15, 1933, 27.8 g. p. m.; pressure head, 22.28 feet.

(D–2–1)8abd11. Heber C. Reynolds, 1080 East 48th South St., Murray. State claim No. 4193. Diameter, 2 inches; depth, 212 feet. Measuring point, valve flange in cooling room, 4,316.27 feet above sea level. Drilled, 1929. Flow from well, Sept. 9, 1932, 13.5 g. p. m. Measurements by Salt Lake City Corporation, except July 20, 1933.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	12:20 p. m.	+9.23	Dec. 6	2:20 p. m.	+9.81
	4:30	+10.24	7	1:17	+9.81
Dec. 1	12:00 m.	+9.95	8	12:40	+9.81
	4:15 p. m.	+9.95			
2	12:15	+9.95	1933		
3	12:10	+9.66			
5	12:00 m.	+9.66	July 20	3:55 p. m.	+9.50

(D-2-1)8aca1. Salt Lake City Corporation, Murray. State claim No. 136. Diameter, 3 inches; depth, 80.5 feet; measured July 14, 1933. Measuring point, top of valve, 4,309.61 feet above sea level. Drilled before 1922. Flow from well, July 14, 1933, 12.2 g. p. m.; pressure head, 1.85 feet.

(D-2-1)8aca2. Salt Lake City Corporation, Murray. State claim No. 137. Diameter, 3 inches; depth, 174.5 feet; measured July 14, 1933. Measuring point, top of valve, 4,309.72 feet above sea level. Drilled before 1922. Flow from well, July 14, 1933, 33.6 g. p. m.; pressure head, 16.03 feet.

(D-2-1)8aca3. Salt Lake City Corporation, Murray. State claim No. 138. Diameter, 3 inches; depth, 79.0 feet; measured July 14, 1933. Measuring point, top of valve, 4,309.64 feet above sea level. Drilled before 1922. Flow from well, July 14, 1933, 9.4 g. p. m.; presssure head, 1.35 feet.

(D-2-1)8aca4. Salt Lake City Corporation, Murray. State claim No. 139. Diameter, 3 inches; depth, 81.5 feet; measured July 14, 1933. Measuring point, top of valve, 4,309.50 feet above sea level. Drilled before 1922. Flow from well, July 14, 1933, 21.8 g. p. m.; pressure head, 2.85 feet.

(D-2-1)8aca5. Salt Lake City Corporation, Murray. State claim No. 140. Diameter, 3 inches; depth, 81.5 feet; measured July 14, 1933. Measuring point, top of valve, 4,310.33 feet above sea level. Drilled before 1922. Flow from well, July 14, 1933, 17.2 g. p. m.; pressure head, 3.05 feet.

(D-2-1)8aca6. Salt Lake City Corporation, Murray. State claim No. 141. Diameter, 3 inches; depth, 69 feet; measured July 14, 1933. Measuring point, top of valve, 4,310.71 feet above sea level. Drilled before 1922. Flow from well, July 14, 1933, 72 g. p. m.; pressure head, 3.15 feet.

(D-2-1)8aca7. Salt Lake City Corporation, Murray. State claim No. 142. Diameter, 3 inches; depth 151 feet; measured July 15, 1933. Measuring point, top of valve, 4,306.98 feet above sea level. Drilled, 1929. Flow from well, July 15, 1933, 23.0 g. p. m.; pressure head, 21.20 feet.

(D-2-1)8aca8. Salt Lake City Corporation, Murray. State claim No. 143. Diameter, 3 inches; depth, 81 feet; measured July 20, 1933. Measuring point, top of valve, 4,307.38 feet above sea level. Drilled before 1925. Flow from well, July 20, 1933, 34.5 g. p. m.; pressure head, 5.35 feet.

(D-2-1)8aca9. Salt Lake City Corporation, Murray. State claim No. 144. Diameter, 3 inches; depth, 70 feet; measured July 20, 1933. Measuring point, top of valve, 4,304.50 feet above sea level. Drilled before 1925. Flow from well, July 20, 1933, 22 g. p. m.; pressure head, 4.95 feet.

(D-2-1)8aca10. Salt Lake City Corporation, Murray. State claim No. 145. Diameter, 2 inches; depth, 67.5 feet; measured July 15, 1933. Measuring point, top of valve, 4,304.90 feet above sea level. Drilled before 1903. Flow from well, July 15, 1933, 6.5 g. p. m.; pressure head, 5.95 feet.

(D–2–1)8aca11. Salt Lake City Corporation, Murray. State claim No. 822. Diameter, 3 inches; depth, 71 feet; measured July 15, 1933. Measuring point, top of valve, 4,307.36 feet above sea level. Drilled, 1929. Flow from well, July 15, 1933, 56 g. p. m.; pressure head, 4.90 feet.

(D–2–1)8aca12. Salt Lake City Corporation, Murray. State claim No. 823. Diameter, 3 inches; depth, 68 feet; measured July 15, 1933. Measuring point, top of valve, 4,305.50 feet above sea level. Flow from well, July 15, 1933, 30.6 g. p. m.; pressure head, 5.50 feet.

(D–2–1)8aca13. Salt Lake City Corporation, Murray. State claim No. 824. Diameter, 3 inches; depth, 63.5 feet; measured, July 15, 1933. Measuring point, top of valve, 4,305.22 feet above sea level. Drilled, 1930. Flow from well, July 15, 1933, 54.8 g. p. m.; pressure head, 5.50 feet.

(D–2–1)8aca14. Salt Lake City Corporation, Murray. State claim No. 825. Diameter, 3½ inches; depth, 66 feet; measured, July 15, 1933. Measuring point, top of valve, 4,304.64 feet above sea level. Drilled, 1930. Flow from well, July 15, 1933, 51 g. p. m.; pressure head, 5.65 feet.

(D–2–1)8aca15. Salt Lake City Corporation, Murray. State claim No. 832. Diameter, 6 inches; depth, 78.5 feet; measured July 20, 1933. Measuring point, top of valve, 4,309.42 feet above sea level. Drilled before 1892. Flow from well, July 20, 1933, 5.0 g. p. m.; pressure head, 0.75 feet.

(D–2–1)8aca16. Salt Lake City Corporation, Murray. State claim No. 831. Diameter, 6 inches; depth, 74 feet; measured July 20, 1933. Measuring point, top of valve, 4,309.10 feet above sea level. Drilled before 1892. Flow from well, July 20, 1933, 17.0 g. p. m.; pressure head, 1.05 feet.

(D–2–1)8acd1. Salt Lake City Corporation, Murray. Diameter, 3 inches. Measuring point, lower point in broken hole in tee, at land surface and 4,329.27 feet above sea level. All measurements by Salt Lake City Corporation, except as noted.

Date	Hour	Water level (feet)
1931		
Sept. 16		[1]−0.42
21		−.42
25		−.44
Oct. 2		−.40
12		−.60
17		−.50
21		−.33
22	8:30 a. m.	−.46
27		−.55
Nov. 2		−.58
9		−.40
16		−.62
27		−.62
Dec. 5		−.67
1932		
Jan. 15		−1.40
21		−1.75
30		−1.75
Feb. 6		−1.71
13		−1.71
20		−1.71
27		−1.71
Mar. 5		−1.54
12		−1.71
1932—Con.		
Mar. 19		−1.71
26		−1.29
Apr. 2		−1.29
9		−1.29
16		−1.29
23		−1.12
30		−1.17
May 14		−1.19
21		−1.33
28		−1.13
June 17		−1.12
23	3:00 p. m.	−1.12
July 9		−.83
16		−.98
23		−1.00
30		−.83
Aug. 5		−.83
20		−.84
27		−.77
Sept. 3		−.52
5		−.52
10		−.69
17		−.65
24		−.56
Oct. 1		−.54
8		−.46

[1] By U. S. Geological Survey.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932—Con.			1933		
Oct. 15	12:00 m	−0.39			
22		−.37	Jan. 16	11:45 a. m	[1] −0.45
29		−.37		3:05 p. m	[1] −.45
Nov. 21		−.44	17	10:45 a. m	[1] −.43
30	1:45 p. m	[1] −.29		3:45 p. m	[1] −.42
	4:30	[1] −.29	18	12:30	−.41
Dec. 1	11:40 a. m	[1] −.37		3:10	[1] −.48
	2:20 p. m	[1] −.38	19	11:05 a. m	[1] −.45
	2:30	[1] −.39	20	3:40 p. m	[1] −.51
	4:40	[1] −.40	21	11:15 a. m	[1] −.46
2	11:10 a. m	[1] −.49	31	11:15	−.71
3	11:35	[1] −.53	Feb. 14		−.81
5	11:50	[1] −.47	19	3:00 p. m	−.93
6	11:35	[1] −.51	25	1:10	−.87
7	12:45 p. m	[1] −.48	Mar. 4	9:09 a. m	−1.00
8	11:30 a. m	[1] −.49	11	10:00 a. m	−.78
9		−.42	20	8:20	−.85
12	11:30 a. m	[1] −.53	25	12:15 p. m	−.79
16	12:30 p. m	−.71	Apr. 1	12:00 m	−.83
			8	2:00 p. m	−.77
1933			22	11:25 a. m	−.90
			29	10:25	−.89
Jan. 9	3:17 p. m	−.60	May 20	3:50 p. m	−.72
12	3:40	−.71	June 2	12:10	−.82
13	11:40 a. m	[1] −.76	10	11:30 a. m	−.82
	2:45 p. m	[1] −.73	19	6:00 p. m	−.73
14	11:52 a. m	[1] −.68			
	3:40 p. m	[1] −.66	1935		
15	10:30 a. m	[1] −.51			
	2:25 p. m	−.49	Oct. 26	11:00 a. m	−.30

[1] By U. S. Geological Survey.

(D-2-1)8ada1. Chester Cahoon, Murray. State claim No. 9755. Diameter, 3 inches; depth, 90 feet. Measuring point, top of coupling, at land surface and 4,330.19 feet above sea level. Temperature of water, 54° F. Well nearest road on old mountain trout fish hatchery grounds. All measurements after Dec. 8, 1932, by Salt Lake City Corporation, except as noted.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932		
Aug. 24		[1] −0.40	Jan. 15		[1] −1.21
Sept. 12		[1] −.28	30		[1] −1.33
16	10:40 a. m	−.07	Feb. 6		[1] −1.34
19		[1] −.08	13		[1] −1.23
21		[1] −.09	15	12:00 m	−1.19
23		(2)	20		[1] −1.21
25		[1] −.08	27		[1] −1.08
Oct. 2		[1] −.04	Mar. 4	3:30 p. m	−1.02
11	11:15 a. m	−.40	5		[1] −1.04
12		[1] −.21	12		[1] −.98
17		[1] −.13	19		[1] −.42
21		[1] −.09	26		[1] −.31
22		[1] −.04	Apr. 2		[1] −.26
27		[1] −.13	9		[1] −.31
Nov. 2		[1] −.15	16	12:40 p. m	−.29
5	4:50 p. m	−.11	23		[1] −.12
9		[1] −.06	30		[1] −.08
16		[1] −.17	May 6	2:00 p. m	−.06
27		[1] −.25	7		[1] −.09
Dec. 5		[1] −.25	14		[1] −.10
26		[1] −.38	21		[1] −.15

[1] By Salt Lake City Corporation.
[2] Flowing.

Date	Hour	Water level (feet)
1932—Con.		
June 4	12:43 p. m.	+0.16
11		[1]+.42
17		[1]+.38
25		[1]+.17
July 2		[1]+.27
6	3:20 p. m.	+.04
9		[1]+.25
16		[1].0
23		[1]+.08
30		[1]+.21
Aug. 5		[1]+.17
8		+.21
13		+.17
20		+.23
27		[1]+.31
Sept. 3		[1]+.46
10		[1]+.33
17		[1]+.37
24		[1]+.50
Oct. 1		[1]+.40
8		[1]+.45
15		[1]+.50
22		[1]+.55
29		[1]+.55
Nov. 4		[1]+.46
12		[1]+.44
19		[1]+.37
26		[1]+.40
30	10:30 a. m.	+.57
	2:30 p. m.	+.55
Dec. 1	11:30 a. m.	+.49
	2:12 p. m.	+.48
	4:50	+.49
2	11:05 a. m.	+.40
3	11:25	+.36
5	11:40	+.42
6	11:15	+.38
7	10:00	+.38
8	11:20	+.39
9		+.38
16		+.19
24		+.34
1933		
Jan. 2		+.25
9		+.21
14	12:20 p. m.	+.17
30	4:45	+.17
Feb. 14		+.04
19	2:10 p. m.	Frozen
Mar. 11	10:35 a. m.	+.02
27	4:55 p. m.	+.06
Apr. 4	8:30 a. m.	+.12
20		+.03
22	11:05 a. m.	+.01
May 9	11:10	+.12
13	4:40 p. m.	+.06
20	3:40	+.08
29	2:35	+.05
June 19	5:20	+.13
July 3	6:15	+.35
18	4:50	+.45
Aug. 2	5:30	+.69
14	11:00 a. m.	+.55
Sept. 1	2:20 p. m.	+.58
11	6:15	+.85
18	11:56 a. m.	+.69
Oct. 7	12:10 p. m.	+.73
24	10:30 a. m.	+.67
Nov. 7	12:45 p. m.	+.92
17	11:25 a. m.	+.73
Dec. 7	3:15 p. m.	+.38
27	1:25	+.33
1934		
Jan. 15	10:55 a. m.	+0.44
Feb. 1	12:10 p. m.	+.35
19	11:30 a. m.	−.29
Mar. 27	4:21 p. m.	−.17
Apr. 10	5:00	−.10
16	4:55	−.10
May 16	1:41	−.20
June 13	10:45 a. m.	+.17
July 21	11:05	−2.17
Aug. 1	2:15 p. m.	−2.43
2	10:55 a. m.	−2.35
	2:05 p. m.	−2.48
3	11:20 a. m.	−2.45
4	10:05	−2.52
6	5:03 p. m.	−2.62
7	11:15 a. m.	−2.66
8	12:45 p. m.	−2.74
9	4:35	−2.63
10	11:00 a. m.	−2.71
11	10:45 p. m.	−2.58
	2:45	−2.60
13	1:45	−2.52
14	2:25	−2.50
15	11:05 a. m.	−2.48
16	1:25 p. m.	−2.50
17	1:15	−2.45
	2:55	−2.44
18	9:50 a. m.	−2.95
20	11:05	−2.49
21	9:45	−2.48
22	9:45	−2.58
23	11:10	−2.63
24	8:50	−2.63
25	8:55	−2.73
27	11:30	−2.87
29	12:00 m.	−3.01
Sept. 4	10:40 a. m.	−2.93
5	9:25	−3.02
8	12:35	−2.74
13	12:14	−3.02
17	12:51 p. m.	−2.95
27	11:10 a. m.	−2.82
Oct. 1	12:15 p. m.	−2.84
9	5:16	−2.58
17	10:48 a. m.	−2.47
20	11:07	−2.54
23	5:21 p. m.	−2.37
30	4:57	−2.36
Nov. 3	9:15 a. m.	−2.33
6	3:00 p. m.	−2.23
8	3:07	−1.63
12	12:53	−1.65
13	9:38 a. m.	−1.68
	2:43 p. m.	−.11
	4:38	+.01
14	10:00 a. m.	+.18
	10:58	−.70
15	1:21 p. m.	−1.76
23		−1.78
27	3:50	+1.65
30	10:02 a. m.	+4.00
Dec. 6	10:55	+6.15
12	10:20	+6.85
18	2:42 p. m.	+6.90
1935		
Jan. 3	1:07 p. m.	+6.40
9	2:31	+6.90
17	2:04	+6.20
24	2:29	+2.46
Feb. 1	2:50	+2.37
4	1:20	+2.86
6	1:21	+2.55
20	12:10	+2.75

[1] By Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1935—Con.		
Feb. 27	4:35 p. m.	+2.79	Aug. 21	10:34 a. m.	−2.19
Mar. 5	3:01	+2.82	28	4:09 p. m.	−2.46
12	3:20	+2.77	Sept. 4	3:10	−2.39
20	3:30	+2.89	5	4:06	−2.29
25	3:01	+2.85	17	3:45	−2.40
26	9:51 a. m.	+2.36	26	9:52 a. m.	−1.09
27	11:17	+2.71	28	10:12	−1.82
29	2:27 p. m.	−2.11	Oct. 2	1:26 p. m.	−2.12
30	10:00 a. m.	+2.73	8	2:30	−2.33
Apr. 2	4:02 p. m.	+3.24	18	1:12	−1.85
5	3:08	−1.20	19	1:07	−1.78
18	4:30	+2.90	21	1:17	−1.60
24	11:11 a. m.	+3.10	22	1:13	+2.50
May 1	2:22 p. m.	+3.20	23	1:22	+2.91
7	3:46	+3.16	29	4:00	−1.48
14	4:20	+3.31	30	3:47	−1.37
22	3:30	+3.42	Nov. 6	1:12	+3.19
29	11:20 a. m.	+3.53	13	2:38	+3.36
June 4	3:35 p. m.	+3.68	26	3:30	+3.61
5	10:26 a. m.	+1.90	Dec. 5	10:21	+3.67
19	2:26 p. m.	+2.92	10	11:30 a. m.	+4.06
25	3:30	−1.23	17	10:58	−.31
July 2	3:52	−1.76	30	11:10	+3.85
10	3:30	−1.80			
16	3:46	−2.00	1936		
Aug. 6	2:50	−1.97			
14	3:29	−2.56	Jan. 9	4:20 p.m.	+3.86

(D–2–1)8ada2. Chester Cahoon, Murray. State claim No. 9756. Diameter, 3 inches; depth, 157.5 feet. Measuring point, top of casing, 2.0 feet below land surface and 4,325.06 feet above sea level. Temperature of water, 52° F. Flow, Sept. 16, 1931, estimated, 20 g. p. m. The second well from road on old mountain trout fish hatchery used to operate hydraulic ram.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 16		+4.50	Feb. 15	12:20 p. m.	+4.55
Oct. 15	11:30 a. m.	+4.20	Mar. 4	3:45	+4.53
Nov. 5	4:55 p. m.	+4.87	Apr. 16	1:00	+5.03
Dec. 7	1:20	+4.66	May 6	2:20	+5.17
			June 4	1:15	+5.23
1932			July 6	3:20	+5.05
			Aug. 8	10:20 a. m.	+5.19
Jan. 6	10:00 a. m.	+4.61			

(D–2–1)8ada3. Chester Cahoon, Murray. State claim No. 9757. Diameter, 3 inches; depth, 90 feet. Measuring point, top of casing, at land surface and 4,324.28 feet above sea level. Temperature of water, 52° F. Third well from road on property of old mountain trout fish hatchery.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 16		−0.02	Jan. 30		−0.87
21		−.16	Feb. 6		−.79
25		−.15	13		−.79
Oct. 2		−.10	15	12:00 m.	−.80
12		−.23	27		−.79
15	11:15 a. m.	−.22	Mar. 4	3:25 p. m.	−.82
17		−.19	5		−.81
21		−.22	12		−.83
22		−.17	19		−.56
27		−.27	26		−.56
Nov. 2		−.29	Apr. 2		−.48
5	4:55 p. m.	−.28	9		−.53
9		−.29	16	12:45 p. m.	−.52
16		−.42	23		−.40
27		−.46	30		−.33
Dec. 5		−.46	May 6	1:55	−.25
26		−.59	7		−.25
			14		−.11
1932			21		.0
			June 4	12:53	+.32
Jan. 15		−1.31	11		+.44
21		−1.33			

Depth to water (feet) at 12 noon, 1932

Day	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		5.30	5.09	5.05	5.22	5.40	5.56
2		5.28	5.15	5.06	5.21	5.41	5.66
3		5.26	5.13	5.07	5.18	5.43	5.69
4		5.22	5.15	5.05	5.18	5.45	5.68
5		5.16	5.13	5.06	5.18	5.46	5.60
6		5.15	5.10	5.03	5.15	5.47	5.54
7			5.05	5.05	5.14	5.47	5.54
8		4.94	5.08	5.10	5.18	5.44	5.55
9		4.95	5.09	5.11	5.19	5.44	5.55
10		4.93	5.08	5.11	5.17	5.49	5.55
11		4.92	5.06	5.10	5.13	5.51	5.58
12		4.91	5.12		5.11	5.51	5.62
13		4.96	5.17	5.12	5.10	5.49	5.64
14		5.05	5.16	5.13	5.10	5.52	5.65
15	[1] 5.56	5.08	5.13	5.12	5.11	5.56	5.67
16	5.50	5.03	5.15	5.13	5.12	5.58	5.67
17	5.52	5.02	5.14	5.13	5.13	5.60	5.67
18	5.37	5.03	5.15	5.09	5.19	5.58	5.68
19	5.19	5.05	5.15	5.11	5.27	5.49	5.67
20	5.08	5.02	5.16	5.06	5.29	5.49	5.68
21	5.26	4.99	5.16	5.10	5.27	5.48	5.66
22	5.34	5.05	5.13	5.13	5.26	5.49	5.70
23		5.07	5.13	5.15	5.29	5.49	5.68
24	5.53	5.06	5.15	5.15	5.31	5.48	5.66
25	5.57	5.06	5.14	5.17		5.50	5.72
26	5.50	5.09	5.10	5.19		5.50	5.71
27	5.48	5.13	5.06	5.22	5.35	5.50	5.71
28	5.33	5.06	5.02	5.21	5.38	5.51	5.71
29	5.29	5.07	5.02	5.19	5.40	5.51	5.71
30	5.30	5.05	5.03	5.20	5.41	5.46	5.74
31		5.04	5.05		5.42		5.74

[1] Recorder installed. Measuring point, top of instrument shelf, 5.9 feet above land surface and 4,330.20 feet above sea level.

Depth to water (feet) at 12 noon, 1933

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.74	5.90	6.13	6.09	6.00	------	4.93	4.95	5.00	5.15	5.13	5.38
2	5.74	5.90	6.19	6.07	5.95	------	4.92	4.93	5.00	5.15	5.11	5.32
3	5.75	5.92	6.18	6.04	5.94	------	4.96	4.90	5.02	5.16	5.10	5.44
4	5.77	5.93	6.21	6.03	5.93	------	4.99	4.87	5.00	5.16	5.14	5.45
5	5.78	5.92	6.22	6.05	5.92	------	4.98	4.86	4.98	5.15	5.20	5.46
6	5.79	5.87	6.20	6.04	5.91	------	------	4.85	4.87	5.15	5.18	5.47
7	5.81	5.92	6.19	6.04	5.89	------	------	4.88	4.87	5.15	5.18	5.48
8	5.81	5.91	6.19	6.06	5.85	5.33	------	4.90	4.90	5.16	5.18	5.50
9	5.80	5.95	6.20	6.07	5.83	5.33	------	4.88	4.88	5.17	5.19	5.51
10	5.81	5.95	6.21	6.09	5.83	5.32	------	4.86	4.69	5.19	5.22	5.51
11	5.84	5.93	6.17	6.08	5.82	5.32	------	4.87	4.67	5.19	5.25	5.50
12	5.83	5.93	6.18	6.06	5.83	5.32	------	4.92	4.74	5.20	5.25	5.47
13	5.84	5.92	6.20	6.07	5.82	5.27	4.81	4.98	4.79	5.20	5.24	5.50
14	5.79	5.96	6.21	6.07	5.80	5.27	4.82	5.00	4.90	5.19	5.23	------
15	5.70	5.95	6.22	6.03	5.75	5.25	4.87	4.99	5.09	5.20	5.23	------
16	5.70	5.95	------	6.01	5.73	5.23	4.89	4.99	5.07	5.21	5.19	------
17	5.71	5.96	------	6.02	5.75	5.21	4.85	5.02	5.06	5.13	5.19	------
18	5.76	5.97	------	6.04	5.77	5.18	4.82	5.04	5.12	5.01	5.22	------
19	5.76	6.00	------	6.05	5.75	5.18	4.87	5.01	5.11	5.01	5.21	------
20	5.73	6.01	------	6.04	5.73	5.16	4.90	5.01	5.12	5.00	5.24	------
21	5.64	6.00	------	6.04	5.68	5.11	4.91	5.02	------	5.05	5.23	------
22	5.67	6.07	------	6.04	5.67	5.16	4.93	4.97	5.20	5.07	5.28	5.58
23	5.76	6.15	6.20	6.03	5.67	5.13	4.89	4.96	5.14	5.09	5.29	5.58
24	5.82	6.14	6.23	6.02	5.63	5.08	4.89	4.95	5.12	5.08	5.30	5.62
25	5.82	6.13	6.19	6.01	5.60	4.96	4.95	4.94	5.12	5.05	5.30	5.62
26	5.84	6.12	6.19	6.02	5.60	4.99	4.96	4.93	5.14	5.07	5.30	5.62
27	5.81	6.15	6.20	6.03	5.60	4.99	4.94	4.98	5.13	5.08	5.31	5.63
28	5.82	6.12	6.19	6.03	5.59	4.99	4.94	5.02	5.13	5.10	5.34	5.64
29	5.85	------	6.19	6.00	5.55	4.99	4.97	5.09	5.13	5.10	5.29	5.63
30	5.85	------	6.19	6.01	5.47	4.99	4.98	5.01	5.16	5.10	5.40	5.62
31	5.87	------	6.15	------	5.47	------	4.98	5.02	------	5.08	------	5.63

Depth to water (feet) at 12 noon, 1934

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.63	5.76	5.98	6.11	6.16	5.97	6.03	7.25	------	7.32	7.13	------
2	5.67	5.76	5.98	6.11	6.17	5.95	------	7.24	------	7.30	7.14	------
3	5.68	5.78	5.98	6.14	6.17	5.90	6.86	7.21	------	7.30	7.14	------
4	5.67	5.81	5.98	6.14	6.23	5.94	6.93	7.20	------	7.32	7.15	------
5	5.67	5.84	5.98	6.16	6.22	5.90	6.98	7.18	------	------	7.18	------
6	5.70	5.86	6.00	6.17	6.18	5.95	6.91	7.19	7.45	------	7.14	------
7	5.72	5.89	6.02	6.17	6.22	5.89	6.95	7.18	7.45	------	7.13	------
8	5.72	5.88	6.03	6.16	6.29	5.86	6.95	7.19	7.44	------	7.15	------
9	5.72	5.87	6.04	6.18	6.34	5.85	7.05	7.22	7.45	------	7.17	------
10	5.70	5.88	6.03	6.20	6.30	5.88	7.11	------	7.41	------	------	------
11	------	5.85	6.02	6.22	6.15	5.91	7.04	------	7.34	------	7.18	------
12	------	5.86	6.01	6.20	6.21	5.94	7.03	------	7.37	7.23	7.13	(2)
13	------	5.84	6.03	6.18	6.15	6.06	7.07	7.32	7.35	7.22	5.00(?)	6.19
14	------	5.83	6.05	6.17	6.16	6.06	7.09	7.32	------	7.21	------	------
15	------	5.86	6.04	6.17	6.14	5.99	7.10	7.30	------	7.20	7.18	------
16	------	5.88	5.99	6.20	6.12	6.01	7.10	7.31	------	7.21	------	------
17	------	5.91	6.03	6.21	6.11	6.01	7 12	------	------	7.20	------	------
18	------	5.92	6.00	6.26	6.11	5.99	------	------	------	7.17	------	------
19	5.70	5.90	6.01	6.32	6.12	6.02	------	------	------	7.16	7.26	------
20	5.70	5.89	6.05	6.28	6.10	5.99	7.14	------	------	7.19	(1)	------
21	5.71	5.91	------	6.19	6.10	5.92	7.12	------	7.40	7.21	------	6.46
22	5.71	5.90	------	6.22	6.10	5.97	7.02	------	7.39	7.18	------	6.41
23	5.71	5.89	6.07	6.25	6.02	6.00	7.01	------	7.37	7.18	------	6.35
24	5.71	5.91	6.08	6.20	6.08	6.00	7.03	7.27	7.39	7.17	------	6.32
25	5.73	5.94	6.05	6.27	6.02	5.95	7.03	7.31	7.41	7.16	------	------
26	5.73	5.96	6.05	6.33	6.02	5.96	7.06	7.29	7.35	7.17	------	------
27	5.73	5.98	6.11	6.28	5.99	5.95	7.11	7.30	------	7.16	------	------
28	5.73	5.99	6.15	6.20	5.95	5.98	7.12	7.36	7.32	7.12	------	5.96
29	5.75	------	------	6.18	5.94	5.99	7.12	------	7.33	7.13	------	5.80
30	5.74	------	6.14	6.18	5.90	5.98	7.17	7.42	7.33	7.12	------	5.75
31	5.75	------	6.14	------	5.96	------	7.32	------	------	7.11	------	5.73

[1] Recorder removed.
[2] Recorder reinstalled. Measuring point raised to 10.0 feet above land surface and 4,334.36 feet above sea level.

Depth to water (feet) at 12 noon, 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June	Nov.	Dec.
1	5.73	6.55	5.92	--------	5.36	4.71	--------	5.22
2	5.78	6.50	5.90	--------	5.37	4.71	5.55	5.22
3	6.18	6.40	5.87	--------	5.38	4.70	5.35	5.22
4	6.10	6.35	5.89	--------	5.37	4.65	5.30	5.22
5	6.21	6.35	5.91	5.57	5.34	4.60	5.32	5.22
6	5.90	6.30	5.92	5.60	5.31	4.55	5.31	5.25
7	5.95	6.25	5.90	5.59	5.31	4.62	5.35	5.31
8	5.82	6.15	5.88	5.58	--------	4.55	5.35	5.30
9	5.87	6.10	5.90	--------	5.33	4.58	5.30	5.30
10	5.65	6.05	5.90	--------	5.31	4.70	5.32	4.80
11	5.88	6.05	5.90	5.60	5.30	--------	5.32	4.80
12	6.58	6.02	5.90	5.57	5.24	--------	5.30	4.75
13	6.78	6.00	5.89	5.52	5.20	--------	5.31	--------
14	6.77	6.03	5.86	5.54	5.18	--------	5.35	--------
15	6.06	6.09	5.87	5.52	5.13	--------	5.35	--------
16	6.60	6.11	5.91	5.51	5.10	--------	5.30	--------
17	7.00	6.08	5.88	5.50	5.07	--------	5.30	--------
18	6.25	6.08	5.86	5.54	5.05	--------	5.30	--------
19	6.15	6.06	5.86	5.52	5.03	--------	5.30	--------
20	6.15	6.02	5.84	5.50	5.00	--------	5.30	--------
21	6.35	5.96	6.15	5.45	5.00	--------	5.28	--------
22	6.50	5.95	7.00	5.46	5.00	--------	--------	--------
23	6.80	5.89	5.90	5.45	5.00	--------	--------	--------
24	6.90	5.90	5.85	5.47	5.00	--------	--------	--------
25	6.85	5.93	5.90	5.45	5.00	--------	--------	--------
26	6.80	5.95	6.15	5.45	5.00	--------	--------	[1]
27	6.73	5.93	5.91	5.45	5.00	--------	5.22	3.20
28	6.65	5.91	11.4	5.42	4.85	--------	5.25	3.18
29	6.60	--------	11.8	5.37	4.84	--------	5.30	3.18
30	6.55	--------	--------	5.35	4.75	--------	5.21	3.15
31	6.55	--------	--------	--------	4.71	--------	--------	--------

[1] Measuring point lowered 1.36 feet, to 4,333.00 feet above sea level.

Depth to water (feet) at 12 noon, 1936

Day	Jan.	Feb.	Mar.	Apr.	Oct.	Nov.	Dec.
1	3.18	3.21	--------	--------	--------	2.05	2.24
2	3.00	3.25	--------	9.35	2.45	--------	2.20
3	3.18	--------	--------	--------	2.28	--------	2.22
4	3.10	--------	--------	--------	2.22	--------	--------
5	3.14	--------	--------	3.04	2.18	--------	--------
6	3.18	--------	--------	--------	2.20	2.23	--------
7	3.15	--------	--------	--------	--------	2.24	--------
8	--------	--------	--------	--------	--------	2.28	--------
9	3.10	--------	--------	2.68	2.40	2.24	--------
10	3.22	--------	--------	2.70	2.40	2.30	2.27
11	3.09	--------	--------	2.65	2.18	--------	--------
12	3.16	--------	--------	2.68	2.15	2.40	--------
13	3.12	--------	3.06	2.66	2.20	2.40	--------
14	3.10	--------	--------	--------	2.10	2.40	--------
15	3.12	--------	--------	--------	2.15	2.33	--------
16	3.10	--------	--------	2.65	2.18	2.35	--------
17	--------	--------	--------	--------	2.18	2.35	--------
18	3.20	--------	--------	--------	2.12	--------	--------
19	3.06	--------	--------	--------	2.05	2.35	--------
20	3.00	--------	--------	--------	2.10	2.32	--------
21	--------	--------	--------	--------	2.12	2.25	--------
22	--------	--------	--------	--------	2.14	2.25	1.75
23	--------	--------	2.88	--------	--------	2.26	1.76
24	5.57 (?)	--------	2.80	--------	--------	2.20	1.76
25	4.88 (?)	--------	2.80	--------	--------	2.23	1.60
26	4.56 (?)	--------	2.89	--------	2.12	2.20	1.63
27	4.40 (?)	--------	3.13	--------	2.12	2.20	1.66
28	4.37 (?)	--------	--------	--------	2.12	2.22	1.66
29	--------	--------	--------	--------	2.12	2.26	1.65
30	3.27	--------	--------	--------	2.10	2.25	1.70
31	3.21	--------	--------	--------	2.10	--------	--------

High and low water levels (feet), 1935

Day	June		July		August		September		October		November	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1			4.48	11.15		11.0	5.38	11.10	5.78	11.40	5.50	11.25
2			5.05	11.1		11.18	5.45	11.20	5.75	11.40		
3			5.00	11.1		10.95	5.55	11.32	5.75	11.52		
4			5.00	10.95	5.58	10.90	5.65	11.25	5.87	11.48		
5			4.70	11.05		10.95	5.74	11.45	5.98	11.48		
6			5.06	11.05	5.10	10.90	5.90	11.40	5.92	11.52		
7						10.95	5.80	11.35	5.90	11.51		
8					5.75	11.0	5.25		5.94	11.55		
9						11.12	5.20	11.35	6.0	11.56		
10				11.0	5.50	11.25	5.70	11.30	5.98	11.53		
11	4.56	11.0	5.10	11.05	5.50	11.20	5.70	11.42	5.92	11.53		
12	4.57	11.0	5.05	11.20	5.35	11.20	5.80	11.50	5.90	11.50		
13	4.67	11.2	5.08	11.03		11.18	5.85		5.90	11.51		
14	4.70	11.0	5.05	11.10		11.20	5.95		5.85	11.52		
15	4.72	11.0	5.13	11.12	5.00		5.90	11.60	5.85	11.55		
16	4.55		5.20	11.04	4.90	11.10	5.90	11.60	6.0	11.62		
17	4.54	11.0	5.20	11.22	4.90		6.00	11.60	6.14	11.60		
18	4.81	11.0	5.20	11.12	4.82		6.05	11.80	5.98	11.58		
19	5.04	11.0	5.18	11.14	4.80	11.14	6.05	11.42	5.95	11.51		
20	4.90	11.0	5.15	11.14	4.80	11.25	5.78	11.51	5.85	11.50		
21	4.05	11.0	5.09	11.04	4.80	11.30	5.95	11.48	5.85	11.42		
22			5.03	11.00	4.80	11.20	5.85	11.46	5.54			
23			5.18	11.05	5.30	11.25	5.95	11.50	5.45			
24			5.35	11.0	5.05		5.45		5.40	11.49		
25			5.40	11.1	5.42	11.92	5.35		5.60	11.51		
26			5.5	11.12	5.35	11.25	5.30	11.35	5.75	11.50		
27	4.80	10.80	5.5	11.20		11.30	5.60	11.35	5.75	11.50		
28	4.95	11.15	5.6	11.05		11.40	5.78	11.40	5.70	11.45		
29	4.95	11.15	5.6	11.15		11.35	5.75	11.45	5.75	11.40		
30	4.55		5.6	11.25		11.35	5.78	11.45	5.60	11.40		
31			5.71	11.20		11.20			5.62	11.30		

High and low water levels (feet), 1936

Day	Apr.		May		June		July		Aug.		Sept.	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1			2.78		2.55		2.40	8.20	2.20	8.00	2.60	8.20
2			2.66		2.50		2.56	8.35	2.08		2.60	
3			2.62		2.40		2.95	8.70	2.02	8.40	2.80	
4			2.64		2.33		2.60		2.25	8.10	2.75	8.30
5			2.70		2.29		2.50		2.40	8.35	2.90	8.10
6			2.55		2.22		2.48	8.55	2.42		2.50	
7			2.30		2.21		3.00	8.60	2.50	8.40	2.25	
8			2.32		2.21		2.35		2.60	8.55	2.20	8.60
9			2.32		2.25		2.10		2.20		2.80	8.65
10			2.30		2.21	8.50	1.95		2.30	8.55	3.20	
11			2.25	7.85	2.39	8.45	1.81		2.00			
12			2.35		2.57	8.40	1.58		1.85			
13			2.30		2.57	8.45	1.65		1.75			
14			2.75	9.35	2.57	8.30	1.65		1.72			
15				9.25	2.32	8.20	1.65	8.35	1.68			
16			3.55	9.02	2.58	8.30	1.85		1.62			
17			3.45		2.61	8.30	1.75		1.62	4.90		
18			3.40	9.32	2.80	8.80	1.75	8.25	1.65			
19			3.78	9.30	3.05	8.85	2.05		1.65	7.80		
20			3.55	8.95	2.75	8.25	2.02	8.65	2.10	8.25		
21			3.53	9.10	2.15		6.85	8.45	2.60	8.45		
22			3.53	9.05	2.10	8.10	2.90	8.60	2.60	8.60		
23		9.50	3.62	8.90	2.30	8.10	2.70	8.30	2.35			
24	3.25	9.52	3.25		2.60	8.60	2.70		2.30	8.55		8.80
25	3.18	9.42	3.25	9.00	2.12		2.05		2.90	8.60	3.10	8.70
26	3.15	9.45	3.45	8.75	2.05	8.20	2.18		3.10	8.70	2.45	
27	3.00	9.46	3.15	8.20	2.60	8.30	2.20	7.25	3.00	8.75	2.35	
28	3.18	9.50	2.86	8.60	2.30		2.25		3.10	8.80	2.32	
29	2.92		2.94	8.75	2.22		2.25	8.00	3.20	8.75	2.25	
30	2.79		2.95	8.63	2.05	8.05	2.50	8.55	2.65		2.25	8.40
31			2.69				2.20	8.00	2.60	8.20		

(D-2-1)8adb1. Salt Lake City Corporation, Murray. State claim No. 128. Diameter, 4 inches; depth, 62 feet, July 14, 1933. Measuring point, top of valve at 4,312.08 feet above sea level. Drilled before 1895. Flow, 48.4 g. p. m. Pressure head, 3.85 feet. Measurements of flow and pressure head made July 14, 1933.

(D-2-1)8adb2. Salt Lake City Corporation, Murray. State claim No. 116. Diameter, 3 inches; depth, 148.5 feet, July 13, 1933. Measuring point, top of valve, 0.3 foot below land surface and 4,314.77 feet above sea level. Drilled before 1910. Flow, 24.0 g. p. m. Pressure head, 12.40 feet. Measurements of flow and pressure head made July 13, 1933.

(D-2-1)8adb3. Salt Lake City Corporation, Murray. State claim No. 117. Diameter, 3 inches; depth, 184.5 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,315.12 feet above sea level. Drilled before 1910. Flow, 43.6 g. p. m. Pressure head, 9.35 feet. Measurements of flow and pressure head made July 13, 1933.

(D-2-1)8adb4. Salt Lake City Corporation, Murray. State claim No. 118. Diameter, 3 inches; depth, 147 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,315.06 feet above sea level. Drilled before 1910. Flow, 7.5 g. p. m. Pressure head, 11.75 feet. Measurements of flow and pressure head made July 13, 1933.

(D-2-1)8adb5. Salt Lake City Corporation, Murray. State claim No. 119. Diameter, 2 inches. Measuring point, top of valve, at land surface and 4,316.28 feet above sea level. Drilled before 1910. Flow, 13.8 g. p. m. Pressure head, 9.80 feet. Measurements of flow and pressure head made July 13, 1933.

(D-2-1)8adb6. Salt Lake City Corporation, Murray. State claim No. 120. Diameter, 3 inches; depth, 75 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,315.61 feet above sea level. Drilled before 1910. Flow 29.0 g. p. m. Pressure head, 3.10 feet. Measurements of flow and pressure head made July 13, 1933.

(D-2-1)8adb7. Salt Lake City Corporation, Murray. State claim No. 121. Diameter, 3 inches; depth, 121.5 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,315.26 feet above sea level. Drilled before 1910. Flow, 10.1 g. p. m. Pressure head, 5.50 feet. Measurements of flow and pressure head made July 13, 1933.

(D-2-1)8adb8. Salt Lake City Corporation, Murray. State claim No. 122. Diameter, 4 inches; depth, 188 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,315.61 feet above sea level. Drilled before 1910. Flow, 61.2 g. p. m. Pressure head, 11.10 feet. Measurements of flow and pressure head made July 13, 1933.

(D-2-1)8adb9. Salt Lake City Corporation, Murray. State claim No. 123. Diameter, 3 inches; depth, 70 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,314.67 feet above sea level. Drilled before 1910. Flow, 42 g. p. m. Pressure head, 4.00 feet. Measurements of flow and pressure head made July 13, 1933.

(D-2-1)8adb10. Salt Lake City Corporation, Murray. State claim No. 124. Diameter, 3 inches; depth, 179 feet, July 14, 1933. Measuring point, top of valve, at land surface and 4,312.30 feet above sea level. Drilled before 1931. Flow, 63 g. p. m., July 14, 1933. Pressure head; Dec. 19, 1931, 14.00 feet; July 14, 1933, 15.45 feet. Temperature of water, 52° F.

(D-2-1)8adb11. Salt Lake City Corporation, Murray. State claim No. 125. Diameter, 3 inches; depth, 158.5 feet, July 14, 1933. Measuring point, top of valve, at land surface and 4,313.25 feet above sea level. Drilled before 1931.

Flow, 52 g. p. m. Pressure head, 14.00 feet. Measurements of flow and pressure head made July 14, 1933.

(D-2-1)8adb12. Salt Lake City Corporation, Murray. State claim No. 126. Diameter, 3 inches; depth, 77.5 feet, July 14, 1933. Measuring point, top of valve, at land surface and 4,312.24 feet above sea level. Drilled before 1910. Flow, 8.4 g. p. m. Pressure head, 1.20 feet. Measurements of flow and pressure head made July 14, 1933.

(D-2-1)8adb13. Salt Lake City Corporation, Murray. State claim No. 127. Diameter, 3 inches; depth, 95.4 feet, July 14, 1933. Measuring point, top of valve, at land surface and 4,312.55 feet above sea level. Drilled before 1910. Flow, 16.8 g. p. m. Pressure head, 3.60 feet. Measurements of flow and pressure head made July 14, 1933.

(D-2-1)8adb14. Salt Lake City Corporation, Murray. State claim No. 129. Diameter, 4 inches; depth, 62.5 feet, July 14, 1933. Measuring point, top of valve, at land surface and 4,312.22 feet above sea level. Drilled before 1895. Flow, 19.5 g. p. m. Pressure head, 2.60 feet. Measurements of flow and pressure head made July 14, 1933.

(D-2-1)8adb15. Salt Lake City Corporation, Murray. State claim No. 130. Diameter, 3 inches, depth, 78.5 feet, July 14, 1933. Measuring point, top of valve, at land surface and 4,311.93 feet above sea level. Drilled before 1929. Flow, 26.3 g. p. m. Pressure head, 4.20 feet. Measurements of flow and pressure head made July 14, 1933.

(D-2-1)8adb17. Salt Lake City Corporation, Murray. State claim No. 816. Diameter, 3 inches; depth, 74.0 feet, July 14, 1933. Measuring point, top of valve, at land surface and 4,312.02 feet above sea level. Drilled, 1927. Flow, 19.8 g. p. m. Pressure head, 1.90 feet. Measurements of flow and pressure head made July 14, 1933.

(D-2-1)8adb18. Salt Lake City Corporation, Murray. State claim No. 815. Diameter, 3 inches; depth 198.5 feet, July 14, 1933. Measuring point, top of valve, at land surface and 4,314.20 feet above sea level. Drilled before 1931. Flow, 69 g. p. m. Pressure head, 12.85 feet. Measurements of flow and pressure head made July 14, 1933.

Depth to water (feet) at 12 noon, 1934

Day	May	June	July	Aug.	Sept.	Oct.	Nov.
1	----------	4.05	4.35	5.85	6.32	6.17	5.76
2	----------	4.07	4.44	5.80	6.53	5.99	5.76
3	----------	3.98	4.59	5.88	6.41	5.98	5.76
4	[1] 4.51	4.00	4.67	5.96	6.40	5.98	5.78
5	4.17	3.87	4.67	6.05	6.40	6.00	5.81
6	3.98	4.02	5.10	6.06	6.40	6.03	5.83
7	4.10	3.98	5.50	6.09	6.32	5.98	5.23
8	4.13	3.96	5.47	6.13	6.19	6.00	5.12
9	4.20	3.96	5.56	6.09	6.40	5.96	5.07
10	4.23	4.03	5.70	6.15	6.40	5.91	5.09
11	4.15	4.01	5.74	6.06	6.24	5.89	5.09
12	4.16	4.09	5.55	5.95	6.26	5.92	5.10
13	4.13	4.13	5.73	5.97	6.40	5.94	5.14
14	4.15	4.12	5.67	5.93	6.40	6.04	----------
15	4.02	4.12	5.68	5.95	6.33	6.05	5.23
16	4.15	4.20	5.76	5.93	6.36	5.92	5.27
17	4.09	4.21	5.76	5.93	6.34	5.86	5.28
18	4.14	4.33	5.76	5.95	6.32	5.79	5.22
19	4.10	4.26	5.75	6.01	6.30	5.80	5.20
20	4.00	4.22	5.71	5.95	6.40	5.82	5.24

[1] Water-stage recorder installed. Measuring point, top of instrument platform, 16.0 feet above land surface and 4,331.15 feet above sea level.

Depth to water (feet) at 12 noon, 1934—Continued

Day	May	June	July	Aug.	Sept.	Oct.	Nov.
21	4.00	4.15	5.66	5.96	6.38	5.77	5.25
22	4.09	4.00	5.51	6.06	6.31	5.74	5.26
23	4.13	4.20	5.46	6.14	6.31	5.79	5.28
24	4.07	4.18	5.48	6.14	6.33	5.80	5.28
25	4.07	4.05	5.51	6.20	6.30	5.83	5.27
26	3.99	4.03	5.55	6.22	6.28	5.84	5.24
27	4.05	4.06	5.66	6.30	6.18	5.83	5.24
28	4.06	4.11	5.72	6.43	6.16	5.82	(2)
29	4.11	4.15	5.94	6.44	6.19	5.79	----------
30	3.97	4.21	5.78	6.42	6.24	5.77	----------
31	3.97	----------	5.82	6.38	----------	5.75	----------

[2] Water overflowing casing at −1.0. A general rise in artesian pressure in this vicinity caused by the closing of a number of wells when not in use.

Pressure head (feet) at 12 noon, 1935

Day	Jan.	Feb.	Mar.	Apr.	May	Day	Jan.	Feb.	Mar.	Apr.	May
1	-------	16.6	17.0	17.4	17.0	17	21.7	16.7	-------	16.8	17.0
2	-------	16.4	17.0	17.5	17.1	18	22.4	16.8	-------	17.2	17.0
3	-------	16.5	16.7	14.5	17.0	19	18.5	16.9	-------	17.4	17.0
4	-------	16.5	16.8	17.0	17.0	20	17.0	16.8	-------	17.3	17.0
5	-------	16.5	16.9	17.0	17.3	21	13.0	16.9	17.1	17.2	17.1
6	-------	16.5	16.8	17.0	17.2	22	16.0	17.3	15.5	17.2	17.2
7	-------	16.8	16.8	17.0	17.2	23	16.3	17.0	16.9	16.8	17.3
8	-------	16.8	17.8	17.0	17.1	24	16.5	16.7	16.8	16.9	17.4
9	-------	16.7	16.7	12.8	17.2	25	16.6	16.8	16.9	17.0	17.4
10	-------	16.7	16.8	16.6	17.2	26	16.6	17.0	16.2	17.4	17.4
11	-------	16.6	16.9	17.0	17.3	27	16.5	-------	16.6	17.3	17.1
12	[1] 22.3	16.7	16.8	17.3	16.9	28	16.4	-------	12.8	17.2	17.0
13	21.8	16.8	17.0	17.4	-------	29	16.5	-------	11.7	17.3	17.2
14	21.9	16.8	16.9	17.2	-------	30	16.4	-------	16.7	17.2	17.2
15	22.3	16.8	-------	17.3	-------	31	16.4	-------	17.1	-------	[2] 17.3
16	22.4	16.8	-------	17.0	17.3						

[1] Pressure-recording gage installed. Measuring point, top of valve flange, 4,314.20 feet above sea level.
[2] Continued by Salt Lake City Corporation.

(D–2–1)8adb19. Salt Lake City Corporation, Murray. State claim No. 814. Diameter, 3 inches; depth, 136.5 feet, July 13, 1933. Measuring point, top of valve at land surface and 4,315.29 feet above sea level. Drilled before 1929. Flow, 56 g. p. m. Pressure head, 8.45 feet. Measurements of flow and pressure head made July 13, 1933.

(D–2–1)8adb20. Salt Lake City Corporation, Murray. State claim No. 813. Diameter, 4 inches; depth, 172.5 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,316.06 feet above sea level. Drilled before 1929. Pressure head, 4.90 feet.

(D–2–1)8adb21. Salt Lake City Corporation, Murray. State claim No. 811. Diameter, 3½ inches; depth, 178 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,316.25 feet above sea level. Drilled before 1929. Flow, 56.0 g. p. m. Pressure head, 10.60 feet. Measurements of flow and pressure head made July 13, 1933.

(D–2–1)8adb22. Salt Lake City Corporation, Murray. State claim No. 812. Diameter, 4 inches; depth, 185.5 feet, July 13, 1933. Measuring point, top of valve, at land surface and 4,315.28 feet above sea level. Drilled before 1929. Flow, 101.4 g. p. m., July 13, 1933. Pressure head, 11.30 feet.

(D–2–1)8adb26. Salt Lake City Corporation, Murray. State claim No. 4844. Diameter, 26 to 15½ inches; depth, 168 feet. Drilled, 1934. Flowing well, no measurements made.

(D-2-1)8baa1. Murray. State claim No. 834. Diameter, 6 inches; depth, 75 feet. Drilled before 1892. Temperature of water, 51° F., by Salt Lake City Corporation.

Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)
1931		1931—Con.		1931—Con.	
Feb. 9	234	Mar. 23	172	July 14	130
Mar. 2	180	Apr. 22	158	Aug. 11	94

[1] By Salt Lake City Corporation.

(D-2-1)8bab1. Salt Lake City Corporation, Murray. State claim No. 835. Diameter, 6 inches; depth, 83 feet. Drilled before 1892. Temperature of water, 52° F., by Salt Lake City Corporation.

Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)
1931		1931—Con.		1931—Con.	
Feb. 9	172	Apr. 22	126	Aug. 11	172
Mar. 2	147	July 4	170	Sept. 24	[2] 108
23	142				

[1] By Salt Lake City Corporation.
[2] Estimate, 60 g. p. m. leaking around outside of well casing.

(D-2-1)8bad1. Salt Lake City Corporation, Murray. State claim No. 833. Diameter, 6 inches; depth, 119.2 feet, July 15, 1933. Measuring point, top of valve at land surface and 4,296.23 feet above sea level. Drilledbe fore 1892. Flow, 100 g. p. m. Pressure head, 11.80 feet. Measurements of flow and pressure head made July 15, 1933.

(D-2-1)8bbb1. A. R. & T. E. Hogge, 716 East 48th South St., Murray. Diameter, 2 inches; depth, 300 feet. Measuring point, top of tee, 1.4 feet above land surface and 4,322.89 feet above sea level. See U. S. Geological Survey Water-Supply Paper 817, p. 443.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Nov. 30	2:05 p. m.	−5.11	Jan. 9		[1] −5.67
	4:40	−5.11	12	3:50 p. m.	[1] −5.71
Dec. 1	12:00 m.	−5.19	13	12:00 m.	−5.70
	2:33 p. m.	−5.20		3:05 p. m.	−5.69
	2:46	−5.21	14	12:10	−5.64
	4:39	−5.22		4:00	−5.62
2	11:25 a. m.	−5.33	15	10:45 a. m.	−5.45
3	12:10 p. m.	−5.37		1:07 p. m.	−5.44
5	12:10	−5.37	16	12:08	−5.43
6	12 m.	−5.36		3:27	−5.40
7	10:45 a. m.	−5.36	17	11:05 a. m.	−5.35
8	11:52	−5.36		4:05 p. m.	−5.34
9		[1] −5.35	18	11:50 a. m.	[1] −5.42
12	10:55 a. m.	−5.43		3:35	−5.43
16		[1] −5.63	19	11:25	[1] −5.44
24		[1] −5.46	20	4:00 p. m.	−5.48
1933			21	11:40 a. m.	[1] −5.42
			29	12:05 p. m.	[1] −5.71
Jan. 2		[1] −5.57			

[1] By Salt Lake City Corporation.

(D-2-1)8bbd. R. G. Watson, 787 East 48th South St., Holliday. Diameter, 2 inches. Measuring point, top of casing, 1.3 feet above land surface and 4,326.02 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Nov. 30	2:00 p. m.	−6.81	Jan. 13	11:50 a. m.	−7.41
	4:35	−6.79		3:00 p. m.	−7.41
Dec. 1	11:55 a. m.	−6.84	14	12:05	−7.35
	2:30 p. m.	−6.87		3:55	−7.32
	2:43	−6.85	15	10:43 a. m.	−7.20
	4:37	−6.87		1:04 p. m.	−7.17
2	11:22 a. m.	−7.00	16	12:05	−7.16
3	12:08 p. m.	−7.04		3:25	−7.14
5	12:08	−7.01	17	11:00 a. m.	−7.11
6	11:55 a. m.	−7.02		4:00 p. m.	−7.09
7	10:50	−7.00	18	11:55 a. m.	[1]−7.10
8	11:50	−7.01		3:32 p. m.	−7.15
9		[1]−6.96	19	11:20 a. m.	[1]−7.15
12	11:15 a. m.	−7.10	20	3:55 p. m.	−7.19
			21	11:35 a. m.	[1]−7.13
1933					
Jan. 12	3:45 p. m.	−7.42			

[1] By Salt Lake City Corporation.

(D-2-1)8cca1. Salt Lake City Corporation, Murray. State claim No. 842. Diameter, 3 inches; depth, 89.5 feet, July 22, 1933. Measuring point, top of valve, at land surface and 4,312.92 feet above sea level. Flow, 37 g. p. m. Pressure head, 4.65 feet. Measurements of flow and pressure head made July 22, 1933.

(D-2-1)8cca2. Salt Lake City Corporation, Murray. State claim No. 843. Diameter, 3 inches; depth, 82.5 feet, July 22, 1933. Measuring point, top of valve, at land surface and 4,317.02 feet above sea level. Flow, 19 g. p. m. Pressure head, 0.85 feet. Measurements of flow and pressure head made July 22, 1933.

(D-2-1)8cca3. Salt Lake City Corporation, Murray. State claim No. 844. Diameter, 3 inches; depth, 82.0 feet, measured July 22, 1933. Measuring point, top of valve, at land surface and 4,313.36 feet above sea level. Flow, 53 g. p. m. Pressure head, 5.25 feet. Measurements of flow and pressure head made July 22, 1933.

(D-2-1)8cca4. Salt Lake City Corporation, Murray. State claim No. 845. Diameter, 3 inches; depth, 80.0 feet. Measured July 22, 1933. Measuring point, top of valve, at land surface and 4,313.40 feet above sea level. Flow, 26.5 g. p. m. Pressure head, 3.25 feet. Measurements of flow and pressure head made July 22, 1933.

(D-2-1)8cca5. Salt Lake City Corporation, Murray. State claim No. 846. Diameter, 3 inches. Flow, 6 g. p. m. Measured July 22, 1933.

(D-2-1)8cca6. Salt Lake City Corporation, Murray. State claim No. 847. Diameter, 3 inches; depth, 89.5 feet. Measured July 22, 1933. Measuring point, top of valve, at land surface and 4,313.74 feet above sea level. Flow, 35 g. p. m. Pressure head, 3.75 feet. Measurements of flow and pressure head made July 22, 1933.

(D-2-1)8cca7. Salt Lake City Corporation, Murray. State claim No. 848. Diameter, 3 inches; depth, 84.0 feet. Measured July 22, 1933. Flow, 16.6 g. p. m., July 22, 1933.

(D-2-1)8cca8. Salt Lake City Corporation, Murray. State claim No. 837. Diameter, 3 inches; depth, 81.5 feet. Measured July 21, 1933. Measuring point, top of valve, at land surface and 4,312.75 feet above sea level. Flow, 56 g. p. m. Pressure head, 5.10 g. p. m. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8cca9. Salt Lake City Corporation, Murray. State claim No. 838. Diameter, 3 inches; depth, 84.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,312.91 feet above sea level. Drilled, 1921. Flow, 37 g. p. m. Pressure head, 4.50 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8cca10. Salt Lake City Corporation, Murray. State claim No. 840. Diameter, 3 inches; depth, 98 feet. Measuring point, top of valve, at land surface and 4,313.62 feet above sea level. Drilled, 1909. Flow, 21 g. p. m. Pressure head, 3.80 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8cca11. Salt Lake City Corporation, Murray. State claim No. 839. Diameter, 3 inches; depth, 181.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,312.95 feet above sea level. Drilled, 1922. Flow, 37 g. p. m. Pressure head, 18.9 feet; Dec. 19, 1931, 17.30 feet. Measurements of flow and pressure head made July 21, 1933. Temperature of water, 51° F.

(D-2-1)8cca12. Salt Lake City Corporation, Murray. State claim No. 841. Diameter, 3 inches; depth, 150 feet. Measuring point, top of valve, at land surface and 4,311.28 feet above sea level. Drilled, 1922. Flow, 110 g. p. m. Pressure head, 20.15 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8cca14. J. M. Dunster, 5301 South 9th East St., Murray. Diameter, 1½ inches; depth, 90 feet. Measuring point, top of pipe, 0.8 foot above land surface and 4,338.11 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Nov. 28		−11.83	Jan. 14	11:40 a. m.	−12.05
Dec. 3	12:00 m.	−11.94		3:25 p. m.	−10.95
5	12:05 p. m.	−11.79	15	10:10 a. m.	−10.61
6	11:50 a. m.	−11.89		2:40 p. m.	[1]−10.54
7	1:00 p. m.	−11.90	16	11:20 a. m.	−10.61
8	11:45 a. m.	−11.89		2:45 p. m.	−10.43
9		[1]−11.88	17	10:30 a. m.	−10.52
12	11:55 a. m.	−11.81		3:30 p. m.	−11.29
			18	12:15	[1]−11.46
1933				2:40	−11.51
			19	10:45 a. m.	[1]−11.50
Jan. 12	3:22 p. m.	−12.04	20	3:25 p. m.	−11.35
13	11:20 a. m.	[1]−12.07	21	10:55 a. m.	[1]−11.46
	2:15 p. m.	−12.06			

[1] By Salt Lake City Corporation.

(D-2-1)8ccd1. Salt Lake City Corporation, Murray. State claim No. 849 Diameter, 3 inches; depth, 90 feet. Measuring point, top of instrument platform, 10 feet above land surface and 4,326.22 feet above sea level.

Mean daily depth to water (feet), November–December 1932

Day	Nov.	Dec.	Day	Nov.	Dec	Day	Nov.	Dec
1	-------	5.51	11	-------	5.68	21	-------	5.91
2	-------	5.86	12	-------	5.79	22	(1)	5.92
3	-------	5.90	13	-------	5.85	23	4.83	5.25
4	-------	5.93	14	-------	5.80	24	5.67	4.61
5	-------	5.73	15	-------	-------	25	5.91	5.49
6	-------	5.84	16	-------	5.90	26	5.90	5.92
7	-------	5.94	17	-------	5.89	27	5.90	5.90
8	-------	5.91	18	-------	5.91	28	5.77	5.77
9	-------	5.86	19	-------	5.90	29	5.20	5.75
10	-------	5.71	20	-------	5.91	30	4.55	5.95
						31	-------	5.95

1 Water-stage recording gage installed.

Mean daily depth to water (feet), 1933

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.95	6.04	-------	5.98	5.94	5.47	5.19	5.38	5.10	4.24	-------	-------
2	5.93	5.98	-------	5.97	5.88	5.46	5.33	5.44	5.23	4.74	-------	-------
3	5.92	6.00	-------	5.95	5.88	5.53	5.17	5.30	5.36	4.46	-------	-------
4	5.94	6.09	-------	5.95	5.88	5.72	4.62	4.56	5.45	4.44	-------	-------
5	5.94	6.07	-------	5.96	5.88	5.65	4.78	4.89	5.42	4.29	-------	-------
6	5.94	5.79	-------	5.95	5.88	5.56	5.12	5.23	5.41	4.33	-------	-------
7	5.89	(1)	-------	5.93	5.87	5.53	5.42	5.43	4.60	4.31	-------	(2)
8	5.93	-------	-------	5.94	5.87	5.56	5.47	5.37	4.07	4.30	-------	5.11
9	5.59	-------	-------	5.96	5.86	5.53	5.44	5.41	(3)	4.45	-------	5.38
10	5.35	-------	-------	5.98	5.86	5.44	5.42	5.38	(3)	4.47	-------	5.51
11	5.88	-------	4.44	5.98	5.85	5.56	5.43	5.20	(4)	4.47	-------	5.13
12	5.94	-------	4.69	5.97	5.85	5.58	5.27	5.30	.71	4.31	-------	4.41
13	5.94	-------	5.05	5.94	5.85	5.07	5.13	5.41	3.55	4.47	-------	4.73
14	4.73	-------	5.66	6.01	5.85	5.41	5.44	5.10	4.11	4.34	-------	4.26
15	3.04	-------	5.96	5.88	5.83	5.37	5.40	4.01	3.80	3.86	-------	4.25
16	2.91	-------	5.98	5.83	5.83	5.11	5.41	4.42	3.83	3.91	-------	3.95
17	3.59	-------	5.98	5.82	5.45	5.31	5.34	4.89	3.81	3.91	-------	4.35
18	4.62	-------	5.99	5.94	5.25	5.25	5.19	5.19	4.65	4.14	-------	4.91
19	4.63	-------	5.99	5.81	5.16	5.52	4.93	5.39	4.73	4.63	-------	4.78
20	4.55	-------	5.97	5.94	5.24	5.30	4.72	5.44	5.05	5.20	-------	3.90
21	4.66	-------	5.96	5.96	5.18	5.15	5.09	5.42	4.96	5.62	-------	4.12
22	5.38	-------	5.96	5.95	5.74	4.83	5.10	5.41	5.04	5.31	-------	4.64
23	5.70	-------	5.92	5.96	5.49	4.66	5.29	5.40	5.94	4.78	-------	4.93
24	5.95	-------	5.62	5.68	5.29	4.85	5.29	4.61	5.53	4.30	-------	5.38
25	5.93	-------	5.59	5.46	5.53	4.62	5.28	4.27	5.15	3.80	-------	5.57
26	6.00	-------	6.08	5.80	5.80	4.85	5.58	3.55	5.62	4.05	-------	5.46
27	6.05	-------	6.10	5.91	5.70	4.69	4.37	3.59	5.01	4.37	-------	5.46
28	6.03	-------	6.06	5.63	5.76	5.09	4.50	3.68	4.56	(4)	-------	4.54
29	5.89	-------	6.00	5.37	5.65	5.30	4.33	4.22	4.73	-------	-------	4.35
30	5.71	-------	5.99	5.82	5.55	5.31	4.65	4.94	4.65	-------	-------	4.17
31	5.84	-------	5.99	-------	5.50	-------	5.13	5.02	-------	-------	-------	4.18

1 Frozen.
2 Recorder reinstalled.
3 Water flowing over well casing at about −0.2 foot.
4 Recorder removed.

Mean daily depth to water (feet), 1934

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1	4.42	------	5.34	3.90	4.30	------	4.70	5.35	------	4.70	4.65
2	4.87	4.23	5.32	3.84	4.26	------	5.00	5.40	------	5.00	4.55
3	5.21	4.49	5.33	4.13	------	------	5.05	5.45	------	5.10	4.60
4	5.48	4.92	5.32	4.29	------	------	4.75	5.30	------	5.10	4.70
5	5.38	5.24	5.32	4.20	------	------	4.70	5.40	------	5.20	4.90
6	5.48	5.44	5.33	4.23	------	------	4.80	5.30	------	5.15	5.20
7	5.43	5.46	5.36	4.52	------	------	5.00	5.40	------	4.95	5.25
8	5.20	5.43	5.35	4.53	------	------	5.40	5.15	------	5.25	5.20
9	4.98	5.27	5.36	4.47	------	------	5.40	5.40	------	5.55	5.25
10	4.95	4.87	5.36	5.61	------	4.50	5.30	5.40	------	5.35	5.25
11	5.30	3.98	5.35	5.00	------	5.00	5.10	5.40	------	4.75	5.25
12	4.35	4.16	5.29	4.50	------	4.90	5.35	5.30	------	4.95	5.20
13	4.09	4.22	5.46	4.50	------	4.45	5.40	5.20	------	5.00	3.53
14	4.22	4.38	5.50	4.05	------	4.55	5.30	5.40	5.30	4.50	5.40
15	4.41	4.82	5.34	3.97	------	4.40	5.40	5.50	5.35	4.60	5.48
16	4.79	5.11	5.47	4.78	------	4.70	5.35	5.45	5.10	4.45	5.40
17	5.15	5.30	4.58	4.82	------	4.60	5.35	5.20	5.30	4.40	5.35
18	5.35	5.53	3.87	4.75	4.30	4.70	5.50	5.40	5.40	4.45	5.35
19	5.59	5.47	3.85	4.97	4.65	4.85	5.35	5.10	5.35	4.50	5.35
20	5.58	5.40	3.84	4.90	4.50	4.55	5.30	5.30	5.45	4.65	5.35
21	5.50	5.30	3.85	4.25	4.70	4.20	5.45	5.40	5.25	4.75	4.88
22	5.46	5.29	3.88	4.15	4.75	4.20	4.80	5.40	5.35	4.90	(1)
23	5.38	5.27	3.90	4.40	------	4.55	5.30	5.52	5.25	5.10	------
24	5.42	5.27	3.93	4.42	------	4.55	5.30	5.25	------	5.15	------
25	4.92	5.29	3.97	4.04	4.85	4.20	5.10	5.10	------	5.20	------
26	------	5.31	4.04	4.00	4.75	4.65	5.30	4.75	------	5.00	------
27	------	5.35	4.08	4.01	4.70	4.40	5.40	5.25	------	4.95	------
28	------	5.35	4.56	4.08	4.60	4.55	5.30	5.50	4.60	4.80	------
29	------	------	4.22	4.21	4.90	4.55	5.30	5.40	4.75	4.70	------
30	------	------	4.10	4.40	3.90	4.55	5.15	------	4.80	4.50	------
31	------	------	4.98	------	------	------	5.30	------	------	4.50	------

1 Water began overflowing well casing about −0.2 foot.

Pressure head (feet) at 12 noon, 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1	------	14.7	14.8	11.6	11.0	11.5	17	14.5	14.5	------	10.9	11.3	------
2	------	14.6	14.7	11.7	11.0	11.4	18	14.8	14.6	------	10.9	11.3	------
3	------	14.7	14.5	4.8	11.0	11.5	19	[3] 14.8	14.6	------	10.9	11.3	------
4	------	14.7	14.5	11.3	11.0	11.6	20	14.6	14.4	------	11.0	11.2	------
5	------	14.7	14.7	11.0	11.0	11.7	21	2.8	14.6	14.5	11.0	11.3	------
6	------	14.6	14.6	10.9	11.1	11.7	22	14.7	14.7	14.3	11.0	11.4	------
7	------	14.6	14.4	10.9	11.1	11.7	23	14.9	14.5	14.5	11.0	11.4	------
8	------	14.7	14.3	11.0	11.2	11.7	24	14.9	14.3	14.4	11.0	11.4	------
9	------	14.7	14.3	3.1	11.1	11.8	25	15.0	14.6	14.6	10.9	11.4	------
10	------	14.5	14.5	11.0	11.2	11.6	26	14.9	14.6	9.3	11.0	11.3	------
11	------	14.5	14.5	10.9	11.3	(1)	27	14.9	14.6	14.5	11.0	11.3	------
12	------	14.5	14.5	10.9	11.1	------	28	15.0	14.8	3.8	11.0	11.2	------
13	------	14.7	13.9	10.9	11.2	------	29	15.0	------	3.8	11.0	11.3	------
14	(2)	14.6	14.3	10.9	11.3	------	30	14.7	------	11.4	11.0	11.3	------
15	15.0	14.6	------	11.0	11.3	------	31	------	------	11.6	------	11.4	------
16	15.3	14.4	------	11.0	11.3	------							

1 Records continued by Salt Lake City Corporation.
2 Pressure-recording gage installed. Measuring point, top of valve flange, 4,316.07 feet above sea level.
3 Kerosene added to well to prevent freezing.

(D-2-1)8ccd2. Salt Lake City Corporation, Murray. State claim No. 850. Diameter, 3 inches. Measuring point, top of valve, at land surface and 4,315.78 feet above sea level. Flow, 78 g. p. m. Pressure head, 10.85 feet. Measurements of flow and pressure head made July 20, 1933.

(D-2-1)8ccd3. Salt Lake City Corporation, Murray. State claim No. 851. Diameter, 3 inches; depth, 104.5 feet, July 20, 1933. Measuring point, top of valve, at land surface and 4,317.62 feet above sea level. Flow, 16 g. p. m. Pressure head, 4.05 feet. Measurement of flow and pressure head made July 20, 1933.

(D-2-1)8ccd4. Salt Lake City Corporation, Murray. State claim No. 852. Diameter, 3 inches; depth, 82.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,314.29 feet above sea level. Flow, 52 g. p. m. Pressure head, 7.15 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd5. Salt Lake City Corporation, Murray. State claim No. 853. Diameter, 3 inches; depth, 81.0 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,314.16 feet above sea level. Flow, 56 g. p. m., July 21, 1933. Pressure head, 8.80 feet.

(D-2-1)8ccd6. Salt Lake City Corporation, Murray. State claim No. 854. Diameter, 3 inches; depth, 82.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,315.23 feet above sea level. Flow, 56.6 g. p. m. Pressure head, 7.45 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd7. Salt Lake City Corporation, Murray. State claim No. 855. Diameter, 3 inches; depth, 150 feet. Measuring point, top of valve, at land surface and 4,314.82 feet above sea level. Flow, 100 g. p. m. Pressure head, 14.60 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd8. Salt Lake City Corporation, Murray. State claim No. 856. Diameter, 3 inches; depth, 86.0 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,316.02 feet above sea level. Flow, 58 g. p. m. Pressure head, 5.90 feet; Dec. 19, 1931, 5.35 feet. Measurements of flow and pressure head made July 21, 1933. Temperature of water 50° F.

(D-2-1)8ccd9. Salt Lake City Corporation, Murray. State claim No. 857. Diameter, 3 inches; depth, 77.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,314.72 feet above sea level. Flow, 20 g. p. m. Pressure head, 6.60 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd10. Salt Lake City Corporation, Murray. State claim No. 858. Diameter, 3 inches; depth, 104 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,315.58 feet above sea level. Flow, 22 g. p. m. Pressure head, 6.60 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd11. Salt Lake City Corporation, Murray. State claim No. 859. Diameter, 3 inches; depth 73 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,316.00 feet above sea level. Flow, 16.4 g. p. m. Pressure head, 3.25 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd12. Salt Lake City Corporation, Murray. State claim No. 860. Diameter, 3 inches; depth 78 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,316.22 feet above sea level. Flow, 23.4 g. p. m. Pressure head, 3.90 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd13. Salt Lake City Corporation, Murray. State claim No. 861. Diameter, 3 inches; depth, 82.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,316.86 feet above sea level. Flow, 12 g. p. m., July 21, 1933. Pressure head, 3.40 feet.

(D-2-1)8ccd14. Salt Lake City Corporation, Murray. State claim No. 862. Diameter, 3 inches. Measuring point, top of valve, at land surface and 4,316.10 feet above sea level. Flow, 34 g. p. m. Pressure head, 12.85 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd15. Salt Lake City Corporation, Murray. State claim No. 863. Diameter, 3 inches; depth, 180 feet. Measuring point, center of recorder connection 1.0 foot above land surface and 4,320.29 feet above sea level.

Mean daily pressure head (feet), 1931

Day	Nov.	Dec.	Day	Nov.	Dec.	Day	Nov.	Dec
1	-------	15.9	11	-------	16.5	21	18.1	15.9
2	-------	16.0	12	-------	16.3	22	17.9	15.9
3	-------	15.8	13	-------	16.1	23	17.7	15.9
4	-------	16.0	14	-------	16.2	24	17.6	16.0
5	-------	16.1	15	-------	16.1	25	17.0	16.0
6	-------	15.6	16	-------	16.0	26	16.5	15.9
7	-------	15.9	17	-------	16.1	27	16.3	15.9
8	-------	16.2	18	(1)	16.3	28	16.1	16.0
9	-------	16.1	19	18.2	16.1	29	15.8	16.1
10	-------	16.2	20	18.5	15.9	30	15.8	16.0
						31	-------	15.8

[1] Pressure-recording gage installed.

Mean daily pressure head (feet), 1932

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	15.8	15.8	16.0	15.9	15.8	16.0	16.5	15.8	15.9	15.8	15.7	15.8
2	15.8	15.7	16.0	16.0	15.8	16.1	16.6	15.9	15.9	15.8	15.8	15.5
3	15.8	15.7	16.0	15.9	15.8	16.1	16.6	15.9	15.9	16.0	15.8	15.4
4	15.7	15.6	15.7	15.9	15.8	16.1	16.4	15.9	15.9	16.1	15.6	15.3
5	15.7	15.7	15.7	15.8	15.8	16.1	16.4	15.9	16.0	16.1	15.6	15.4
6	15.8	15.7	15.7	15.8	15.8	16.2	16.7	16.1	16.2	16.2	15.6	15.3
7	15.8	15.7	15.7	15.9	15.8	16.5	16.9	16.3	16.1	16.1	15.8	15.3
8	15.8	15.7	15.7	15.8	15.7	16.5	17.0	16.1	15.9	15.8	16.0	15.4
9	15.8	15.7	15.7	15.7	15.7	16.3	16.9	16.0	15.8	15.8	15.8	15.4
10	15.8	15.7	15.7	15.7	15.7	16.3	16.8	16.0	15.8	15.8	15.8	15.4
11	15.8	15.7	15.6	15.8	15.8	16.3	16.7	16.3	15.8	15.8	15.7	15.3
12	15.9	15.7	15.5	15.8	16.0	16.3	16.6	16.2	15.8	15.8	15.5	-------
13	15.8	15.7	15.4	15.8	16.2	16.2	16.8	15.9	15.8	15.9	15.6	-------
14	15.8	15.7	15.5	15.8	16.3	16.2	16.7	15.8	15.8	15.9	15.6	-------
15	15.8	15.7	15.6	15.7	16.1	16.4	16.6	15.8	15.8	15.8	15.5	-------
16	15.7	15.7	15.6	15.7	16.0	16.7	16.7	15.9	15.8	15.8	15.5	-------
17	15.7	15.7	15.6	15.8	15.9	16.3	16.6	16.0	15.9	15.8	15.5	-------
18	15.6	15.7	15.7	15.8	15.9	16.4	16.6	16.2	15.9	15.7	15.4	-------
19	15.6	15.7	15.7	15.9	15.9	16.6	16.6	16.0	15.9	15.7	15.5	-------
20	15.7	15.7	15.6	16.1	16.0	16.5	16.8	16.0	16.0	16.7	15.5	-------
21	15.7	15.8	15.5	15.9	15.9	16.8	16.9	15.9	16.0	15.7	15.4	-------
22	15.7	15.8	15.9	16.0	15.8	17.0	16.7	15.8	15.9	15.7	15.7	-------
23	15.6	15.9	16.2	16.0	15.8	16.7	16.7	15.8	15.8	15.7	15.9	15.5
24	15.5	15.8	15.9	15.9	15.9	16.4	16.6	15.8	15.8	15.7	15.7	15.7
25	15.6	15.7	15.5	15.8	15.9	16.3	16.7	15.8	15.8	15.7	15.6	15.4
26	15.7	15.9	15.5	15.8	15.9	16.3	16.7	15.7	15.8	15.7	15.6	15.2
27	15.8	16.0	15.5	15.7	16.0	16.4	16.8	15.9	15.8	15.8	15.5	15.2
28	15.8	16.0	15.5	15.6	16.3	16.7	16.6	16.0	15.8	15.8	15.6	15.2
29	15.8	16.0	15.6	15.6	16.4	16.8	15.8	15.8	15.8	15.7	15.8	15.1
30	15.8	-------	15.7	15.7	16.1	16.7	15.8	15.8	15.8	15.7	16.1	15.1
31	15.8	-------	15.8	-------	16.0	-------	15.8	15.8	-------	15.7	-------	15.1

Mean daily pressure head (feet), 1933

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	15.1	15.0	14.9	14.9	14.8	15.2	15.6	15.7	15.7	15.9	16.1	15.2
2	15.1	14.9	14.9	14.8	14.8	15.2	15.4	15.7	15.6	15.9	16.1	15.1
3	15.1	14.9	14.85	14.9	14.8	15.2	15.6	15.8	15.7	15.9	16.0	15.2
4	15.1	14.9	14.8	15.0	14.8	15.1	15.8	16.0	15.7	15.9	15.8	15.2
5	15.1	------	14.8	14.9	14.8	15.1	15.8	15.9	15.7	16.1	15.4	------
6	15.05	------	14.8	15.0	14.8	15.2	15.7	15.7	15.8	16.1	15.3	------
7	15.05	------	14.8	15.0	14.8	15.2	15.6	15.7	15.8	16.0	15.3	------
8	15.0	------	14.9	14.9	14.8	15.2	15.6	15.6	16.1	16.0	15.3	15.2
9	15.05	14.9	14.9	14.8	14.9	15.3	15.6	15.6	16.0	16.0	15.3	15.1
10	15.2	------	15.1	14.8	15.0	15.2	15.6	15.7	16.2	16.0	15.3	15.0
11	15.05	------	15.4	14.8	15.0	15.2	15.7	15.7	16.3	15.9	15.2	15.1
12	15.05	------	15.3	14.8	14.9	15.2	15.7	15.7	18.2	15.9	15.2	15.5
13	15.05	------	15.2	14.8	14.9	15.4	15.7	15.6	18.3	16.0	15.2	15.4
14	15.15	------	14.9	14.8	14.9	15.3	15.7	15.7	16.4	16.0	15.2	15.2
15	15.4	------	14.9	14.9	14.9	15.3	15.7	16.1	16.3	16.1	15.5	15.1
16	15.5	14.9	15.0	15.0	15.0	15.5	15.6	16.0	16.2	16.1	15.8	15.3
17	15.7	14.9	15.0	15.0	15.2	15.4	15.6	15.8	16.2	16.1	15.5	------
18	15.7	14.9	14.9	15.0	15.2	15.5	15.6	15.7	16.0	16.0	15.3	------
19	15.7	14.8	14.8	14.9	15.3	15.3	15.7	15.7	15.9	16.0	15.2	------
20	15.7	14.8	14.8	14.9	15.2	15.3	15.9	15.7	15.9	15.8	15.3	------
21	15.7	14.8	14.9	14.9	15.2	15.4	15.8	15.7	15.8	15.4	15.6	------
22	15.4	14.8	14.9	14.9	15.0	15.7	15.7	15.7	15.8	15.5	15.4	------
23	15.1	14.9	15.0	14.9	15.1	15.7	15.6	15.7	15.7	15.7	15.2	------
24	15.1	15.1	15.1	15.0	15.1	15.8	15.6	16.0	15.8	15.9	15.2	------
25	15.1	15.3	------	15.1	15.1	15.7	15.6	16.2	15.9	16.1	15.2	------
26	15.1	15.2	------	15.0	15.2	15.7	15.8	16.5	15.8	16.1	15.2	------
27	15.1	15.1	------	15.0	15.2	15.8	16.0	16.6	15.8	16.0	15.3	------
28	15.1	14.9	------	14.9	15.2	15.7	16.0	16.6	15.9	16.0	15.4	------
29	15.0	------	------	15.0	15.1	15.7	16.0	16.3	15.9	16.3	15.5	15.8
30	15.0	------	14.9	14.9	15.0	15.6	15.9	15.9	15.9	16.2	15.3	15.8
31	15.0	------	14.9	------	15.1	------	15.7	15.8	------	16.1	------	15.9

Mean daily pressure head (feet), 1934

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	15.8	15.6	14.9	15.4	15.3	15.3	14.9	13.8	13.0	13.2	13.6	19.8
2	15.6	15.6	15.0	15.5	15.3	15.3	14.8	13.8	12.9	13.5	13.5	19.8
3	15.4	15.5	14.9	15.3	15.2	15.4	14.7	13.8	13.0	13.4	13.5	19.9
4	15.3	15.4	14.9	15.3	15.0	15.3	14.8	13.7	13.0	13.4	13.4	19.9
5	15.3	15.3	14.9	15.3	15.1	15.4	14.8	13.6	13.0	13.2	13.2	20.0
6	15.2	15.2	14.9	15.3	15.2	15.3	14.8	13.6	13.0	13.2	14.5	20.1
7	15.1	15.1	14.8	15.3	15.1	15.4	14.5	13.5	13.1	13.3	17.5	20.1
8	15.2	15.2	14.9	15.2	15.1	15.4	14.3	13.5	13.1	13.2	18.6	20.5
9	15.3	15.1	14.9	15.2	15.0	15.2	14.2	13.5	13.0	13.1	18.6	21.4
10	15.4	15.3	14.9	15.2	15.0	15.1	14.2	13.5	13.0	13.2	18.6	21.3
11	15.5	15.7	14.9	15.2	15.1	15.1	14.1	13.6	13.1	13.4	18.7	21.6
12	15.7	15.7	15.0	15.2	15.1	15.0	14.2	13.7	13.0	13.5	18.7	21.6
13	15.8	15.7	15.0	15.3	15.2	15.1	14.2	13.6	12.9	13.4	18.9	21.8
14	15.8	15.7	14.9	15.4	15.1	15.1	14.2	13.7	12.9	13.4	19.1	21.9
15	15.7	15.5	15.2	15.4	15.2	15.1	14.0	13.7	12.8	13.3	18.8	21.8
16	15.5	15.4	15.4	15.1	15.2	15.0	14.0	13.6	12.9	13.5	18.5	21.8
17	15.3	15.3	15.3	15.0	15.4	15.0	14.0	13.7	12.9	13.6	18.5	21.8
18	15.2	15.1	15.6	15.0	15.5	15.1	14.0	13.7	12.9	13.7	18.4	21.7
19	15.2	15.0	15.7	14.9	15.3	15.0	14.0	13.7	13.0	13.7	18.4	21.6
20	15.2	15.0	15.8	14.9	15.2	15.0	14.0	13.7	12.9	13.5	18.3	21.0
21	15.2	15.2	15.7	15.1	15.2	15.1	13.9	13.6	12.9	13.5	18.3	20.5
22	15.2	15.0	15.7	15.2	15.2	15.2	14.2	13.5	13.0	13.6	18.3	20.4
23	15.3	14.9	15.7	15.2	15.2	15.1	14.2	13.4	12.9	13.4	18.3	20.4
24	15.2	15.0	15.6	15.2	15.2	15.0	14.2	13.4	12.9	13.4	18.2	20.5
25	15.2	14.9	15.6	15.2	15.2	15.1	14.2	13.3	12.9	13.4	18.2	20.4
26	15.5	14.8	15.6	15.2	15.2	15.1	14.1	13.3	13.0	13.4	18.2	20.7
27	15.6	14.8	15.5	15.3	15.2	15.1	14.0	13.2	13.1	13.5	19.2	21.3
28	15.7	14.8	13.3	15.4	15.2	15.1	13.9	13.0	13.2	13.5	19.5	21.5
29	15.5	------	15.3	15.4	15.1	15.0	13.9	12.9	13.1	13.5	19.7	21.7
30	15.6	------	15.4	15.3	15.5	15.0	13.9	12.9	13.1	13.6	19.8	21.8
31	15.6	------	15.4	------	15.4	------	13.8	13.0	------	13.6	------	21.9

Mean daily pressure head (feet), 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	21.8	20.8	21.0	20.8	20.2	20.8	19.9	18.5	18.0	23.2	23.6	25.0
2	21.3	20.7	20.9	20.8	20.3	20.8	19.3	18.2	17.8	23.2	24.2	25.0
3	20.4	20.8	20.9	20.2	20.3	20.8	19.4	18.2	17.8	23.2	24.4	25.0
4	20.6	20.9	20.9	20.2	20.3	20.8	19.4	18.2	17.8	23.2	24.6	24.6
5	20.7	20.9	20.3	20.3	-------	20.9	19.6	18.3	18.0	23.0	-------	24.6
6	21.6	20.9	20.2	20.2	-------	21.0	19.2	18.8	17.9	22.9	-------	25.2
7	21.8	21.0	20.9	20.3	-------	20.9	19.3	18.3	17.8	22.8	24.5	25.0
8	21.9	21.0	20.4	20.6	-------	20.9	19.6	18.2	18.1	22.8	24.8	25.0
9	21.8	20.9	19.8	20.0	-------	20.9	19.3	18.1	18.0	22.7	24.8	25.1
10	21.6	20.8	20.9	20.1	20.2	20.8	19.2	18.1	17.7	22.7	24.7	25.2
11	21.4	21.0	20.5	20.2	20.2	20.8	19.2	18.1	17.9	22.9	24.8	25.1
12	21.0	20.9	20.8	20.2	20.2	20.6	19.1	18.0	18.0	22.5	24.8	25.3
13	20.4	20.9	20.8	20.2	20.2	20.2	18.9	18.0	17.8	22.9	24.7	25.2
14	20.6	21.0	20.9	20.3	20.2	20.0	19.2	18.0	17.8	22.9	24.6	25.1
15	21.5	20.9	20.9	20.2	20.2	19.8	19.1	18.8	17.9	22.6	24.7	25.1
16	21.7	20.7	20.9	20.1	20.4	19.8	19.0	18.5	17.6	22.6	24.7	25.1
17	21.7	20.8	21.4	20.2	20.5	20.2	19.0	18.9	17.6	22.8	24.7	24.3
18	21.9	20.9	21.5	20.2	20.4	20.0	19.1	19.5	17.6	23.2	24.7	24.0
19	21.7	20.8	21.5	20.2	20.4	20.0	19.0	-------	17.7	23.2	24.7	24.0
20	20.9	20.9	21.4	20.2	20.5	20.0	19.0	-------	17.6	23.2	24.6	23.8
21	20.1	21.0	21.5	20.2	20.5	20.1	19.0	-------	17.6	23.0	24.6	23.8
22	20.3	21.0	21.0	20.2	20.5	20.1	19.1	-------	17.8	24.0	24.9	24.6
23	20.7	21.1	21.0	20.1	20.6	20.2	19.1	17.5	[1] 23.2	24.3	24.9	24.3
24	20.9	21.1	21.1	20.2	20.6	20.5	19.0	19.0	23.4	24.3	24.9	24.0
25	20.9	21.0	21.0	20.2	20.5	20.0	19.1	18.8	24.2	24.1	24.9	22.7
26	20.8	21.0	20.0	20.2	20.5	19.9	18.9	18.2	24.0	24.2	24.9	22.5
27	20.8	21.0	20.7	20.2	20.4	20.2	18.8	-------	23.2	24.3	24.8	24.4
28	20.8	21.0	19.8	20.2	20.4	20.2	18.9	-------	23.2	24.3	24.8	24.7
29	20.8	-------	18.8	20.2	20.4	20.1	19.1	18.0	23.2	23.5	24.9	24.8
30	20.8	-------	19.9	20.2	20.6	20.0	19.0	18.0	23.2	23.8	25.0	24.8
31	20.8	-------	20.4	-------	20.8	-------	18.8	18.0	-------	23.6	-------	[2] 24.6

[1] Recorder replaced; old recorder reading was found to be approximately 2.0 feet too low. New measuring point is top of valve flange, elevation 4,316.77 feet. Pressures after Sept. 22, 1935, are at noon daily.
[2] Continued by Salt Lake City Corporation.

(D–2–1)8ccd16. Salt Lake City Corporation, Murray. State claim No. 864. Diameter, 3 inches; depth, 96 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,314.48 feet above sea level. Drilled, 1910. Flow, 19.5 g. p. m. Pressure head, 5.55 feet. Measurements of flow and pressure head made July 21, 1933.

(D–2–1)8ccd17. Salt Lake City Corporation, Murray. State claim No. 865. Diameter, 3 inches; depth, 83 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,315.69 feet above sea level. Drilled, 1910. Flow, 45 g. p. m. Pressure head, 4.80 feet. Measurements of flow and pressure head made July 21, 1933.

(D–2–1)8ccd18. Salt Lake City Corporation, Murray. State claim No. 866. Diameter, 3 inches; depth, 84.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,317.17 feet above sea level. Drilled, 1920. Flow, 12.4 g. p. m. Pressure head, 3.60 feet. Measurements of flow and pressure head made July 21, 1933.

(D–2–1)8ccd19. Salt Lake City Corporation, Murray. State claim No. 867. Diameter, 3 inches; depth, 440 feet. Measuring point, top of valve, at land surface and 4,317.52 feet above sea level. Flow, 26.5 g. p. m. Pressure head, 47.2 feet. Measurements of flow and pressure head made July 21, 1933. Fluoride content, 1.0 part per million, 1932 (analysis by M. D. Foster, U. S. Geological Survey).

(D-2-1)8ccd20. Salt Lake City Corporation, Murray. State claim No. 868. Diameter, 3 inches; depth, 66 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,317.21 feet above sea level. Flow, 7.1 g. p. m. Pressure head, 3.75 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd21. Salt Lake City Corporation, Murray. State claim No. 869. Diameter, 4 inches; depth, 215 feet. Measuring point, top of valve, at land surface and 4,319.64 feet above sea level. Drilled, 1929. Flow, 165 g. p. m. Pressure head, 17.20 feet. Measurements of flow and pressure head made July 21, 1933. Flouride content, 0.7 part per million (1932), (analysis by M. D. Foster, U. S. Geological Survey).

(D-2-1)8ccd22. Salt Lake City Corporation, Murray. State claim No. 870. Diameter, 4 inches. Measuring point, top of valve, at land surface and 4,319.71 feet above sea level. Drilled, 1929. Flow, 163 g. p. m. Pressure head, 13.40 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd23. Salt Lake City Corporation, Murray. State claim No. 871. Diameter, 4 inches; depth, 93.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,317.48 feet above sea level. Drilled, 1930. Flow, 55 g. p. m. Pressure head, 4.05 feet. Measurements of flow and pressure head made July 21, 1933. Flouride content, 1.0 part per million, 1932.

(D-2-1)8ccd24. Salt Lake City Corporation, Murray. State claim No. 872. Diameter, 4 inches; depth, 88.5 feet, July 21, 1933. Measuring point, top of valve, at land surface and 4,318.06 feet above sea level. Drilled, 1930. Flow, 74 g. p. m. Pressure head, 4.00 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8ccd25. Salt Lake City Corporation, Murray. State claim No. 873. Diameter, 4 inches. Measuring point, top of valve, at land surface and 4,319.24 feet above sea level. Drilled, 1930. Flow, 39 g. p. m. Pressure head, 2.55 feet. Measurements of flow and pressure head made July 21, 1933.

(D-2-1)8dba1. Ray E. Huffaker, Murray. State claim No. 4510. Diameter, 3 inches; depth, 285 feet. Measuring point, top of casing, 0.5 foot above land surface and 4,347.40 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Nov. 26		[1] −10.00	Jan. 14	11:45 a. m.	−10.33
Dec. 2		[1] −10.10		3:30 p. m.	−10.29
3	11:55 a. m.	−10.13	15	10:15 a. m.	−10.11
5	12 m.	−10.08		2:30 p. m.	[1] −10.08
6	11:40 a. m.	−10.10	16	11:30 a. m.	−10.07
7	12:52 p. m.	−10.09		2:55 p. m.	−10.04
8	11:40 a. m.	−10.09	17	10:35 a. m.	−10.03
9		[1] −10.04		3:40 p. m.	−9.99
12	11:45	−10.17	18	12:45	[1] −10.04
				3:00	−10.07
1933			19	11:00 a. m.	[1] −10.08
			20	3:30 p. m.	−10.12
Jan. 12	3:30 p. m.	−10.40	21	11:05 a. m.	[1] −10.07
13	11:30 a. m.	−10.38			
	2:35 p. m.	−10.38			

[1] By Salt Lake City Corporation.

(D-2-1)8dda2. State of Utah, Murray. Diameter, 2 inches; depth 72¾ feet, Aug. 30, 1933. Measuring point, center of recorder, 0.65 foot below top of ell and 2.0 feet above land surface.

Pressure head (feet) at 12 noon, 1933

Day	Aug.	Sept.	Oct.	Day	Aug.	Sept.	Oct.	Day	Aug.	Sept.	Oct.
1		8.1	7.8	11		9.2	7.8	21			
2		8.1	7.8	12		9.0	7.9	22		7.9	
3		8.0	7.8	13		9.0	7.9	23		8.0	
4		8.0	7.8	14		8.7	7.9	24		7.9	
5		8.0	7.9	15		8.0	7.8	25		7.8	
6		8.3	7.9	16			[2] 7.9	26		7.8	
7		8.4	7.9	17				27		7.8	
8		8.6	7.9	18				28		7.9	
9		8.5	7.9	19				29		8.0	
10		9.1	7.8	20				30	[1] 8.0	7.9	
								31	8.0		

[1] Pressure-recording gage installed.
[2] Pressure-recording gage removed.

(D-2-1)8ddd2. State of Utah, Murray. State claim No. 13800. Diameter, 3 inches; depth, 80 feet. Drilled 1915. Temperature of water, 52° F.

Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)
1931		1932		1932—Con.	
July 29	52.5	Jan. 29	31.5	June 9	38.0
Sept. 30	45.0	Feb. 27	29.0	Aug. 11	47.2
Nov. 4	40.5	May 10	30.0	Sept. 7	49.4

[1] By Salt Lake City Corporation.

(D-2-1)9aab3. Joe S. McDonald, 4695 Highland Dr., Holliday. Diameter, 2 inches. Measuring point, top of tee, 1.0 foot above land surface and 4,369.20 feet above sea level. Flow, Aug. 24, 1932, 7.5 g. p. m.; Sept. 6, 1932, 7.6 g. p. m.; Oct. 10, 1932, 8.0 g. p. m. All measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	11:20 a. m.	+8.65	Dec. 3	11:10 a. m.	+8.22
	3:15 p. m.	+8.51	5	11:15	+8.07
Dec. 1	11:10 a. m.	+8.51	6	1:10 p. m.	+8.07
	3:12 p. m.	+8.51	7	12:15	+8.07
2	11:20 a. m.	+8.36	8	11:38 a. m.	+8.15

(D-2-1)9abc1. Mrs. Caroline Scott, 1680 East 48th South St., Holliday. Diameter, 2 inches; depth, 96 feet. Drilled, 1901. Temperature of water, 52° F. Flow, July 19, 1932, 12.0 g. p. m.

(D-2-1)9abc2. J. R. Nichol, 1710 East 48th South St., Holliday. Diameter, 3 inches; depth, 96 feet. Measuring point, top of tee, 1.8 feet above land surface and 4,345.65 feet above sea level. Drilled, 1920. Temperature of water, 52° F.

Flow, Sept. 8, 1931, 42.5 g. p. m.; Aug. 18, 1932, 50.0 g. p. m.; Sept. 6, 1932, 53.1 g. p. m. Measurements of flow by Salt Lake City Corporation. All measurements after Aug. 8, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Sept. 8		+5.95	Aug. 16	2:50 p. m.	+8.80
Nov. 5	12:25 p. m.	+5.05	Sept. 26	3:15	+8.35
Dec. 7	1:00	+4.90	Oct. 1	11:20 a. m.	+7.30
21	10:00 a. m.	+4.70	Dec. 2	11:35	+5.95
1932			1934		
Jan. 5	5:23 p. m.	+4.46	Jan. 11	1:30 p. m.	+5.95
Feb. 15	1:40	+3.92	Apr. 9	3:00	+4.50
Mar. 4	3:05	+3.76	20	2:55	+4.25
Apr. 16	2:50	+4.02	July 6	5:00	+4.48
May 6	1:40	+4.71	31	11:03 a. m.	+3.60
June 4	3:30	+6.78	Aug. 4	4:30 p. m.	+3.60
July 6	1:45	+8.51	11	3:05	+3.60
Aug. 8	10:00 a. m.	+8.87	24	4:30	+3.33
Sept. 6		+8.80	Sept. 14	4:55	+3.18
Oct. 10		+8.14	27	12:48	+3.04
Nov. 21		+7.21	Oct. 6	12:20	+3.01
30	11:25 a. m.	+7.06	11	11:16 a. m.	+3.14
	3:20 p. m.	+7.06	20	9:54	+3.88
Dec. 1	11:20 a. m.	+7.06	Nov. 15	4:24 p. m.	+3.35
	3:16 p. m.	+7.06	Dec. 19	4:30	+4.67
2	11:25 a. m.	+6.92			
3	11:20	+6.78	1935		
5	11:20	+6.78			
6	1:15 p. m.	+6.78	Jan. 29	5:00 p. m.	+4.48
7	12:53	+6.78	Feb. 27	4:45	+4.70
8	11:45 a. m.	+6.78	Mar. 12	5:10	+4.53
21		+6.50	May 23	5:30	+5.91
			June 17	5:15	+6.32
1933			July 17	2:15	+6.40
			25	12:57	+6.53
Jan. 26	3:05 p. m.	+5.63	26	3:37	+6.38
Feb. 23	1:00	+5.19	Sept. 11	5:00	+5.14
Apr. 6	4:07	+4.83	25	2:00	+6.23
24	4:00	+4.80	Nov. 26	4:00	+6.00
May 25	2:12	+6.30			

(D-2-1)9aca1. Clarence Vance, Holliday. State claim No. 5370. Diameter, 2 inches; depth, 98 feet. Measuring point, center line of outlet, 2.5 feet above land surface and 4,350.36 feet above sea level. Drilled, 1902. Temperature of water, 54°F.

Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)	Date	Flow [1] (g. p. m.)
1931		1932—Con.		1932—Con.	
Mar. 27	2.4	Mar. 29	3.6	Oct. 10	9.5
Aug. 5	4.8	May 9	5.3	Nov. 17	7.2
Sept. 29	2.4	June 8	9.0	Dec. 21	3.6
Nov. 6	3.2	22	10.5		
		July 7	10.8	1933	
1932		Aug. 10	11.2		
		Sept. 6	10.9	Jan. 26	5.0
Jan. 21	2.9			Feb. 23	3.6
Feb. 29	2.4			Mar. 28	2.8

[1] By Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Sept. 16		+3.70	Nov. 17		[1] +5.77
Oct. 15	11:40 a. m.	+3.75	Nov. 30	12:35 p. m.	+5.18
Nov. 4	1:20 p. m.	+3.25		3:50	+5.14
6		[1] +3.46	Dec. 1	10:56 a. m.	+5.11
Dec. 7	12:35 p. m.	+2.90		1:32 p. m.	+5.04
				4:25	+5.00
1932			2	10:25 a. m.	+4.94
			3	10:55	+4.90
Jan. 4	4:55 p. m.	+2.40	5	11:10	+4.91
21		[1] +2.00	6	10:43	+4.96
Feb. 15	12:55 p. m.	+1.84	7	11:55	+4.98
29		[1] +2.31	8	10:45	+4.96
Mar. 4	2:30 p. m.	+1.64	21		[1] +4.47
29		[1] +2.02			
Apr. 16	1:55 p. m.	+1.92	1933		
May 6	1:00	+2.71			
9		[1] +2.60	Jan. 26	2:40 p. m.	[1] +3.50
June 8		[1] +5.49	Feb. 23	12:30	[1] +2.74
11	8:30 a. m.	+5.65	Mar. 28	12:27	[1] +2.20
22		[1] +6.50	Apr. 24	3:35	[1] +2.35
July 6	1:20 p. m.	+6.92	May 25	2:55	[1] +3.00
7		[1] +6.92			
Aug. 8	9:30 a. m.	+7.57	1934		
10		[1] +7.21			
Sept. 6		[1] +7.06	June 14	2:30 p. m.	+9.55
Oct. 10		[1] +7.50			

[1] By Salt Lake City Corporation.

(D-2-1)9aca2. F. D. Brinton estate, Holliday. State claim No. 5404. Diameter, 3 inches; depth, 200 feet. Measuring point, center line of outlet, 2.75 feet above land surface and 4,358.94 feet above sea level. Drilled, 1912. Temperature of water, 55° F. Flow, Sept. 16, 1931, 10.0 g. p. m. All measurements after Aug. 8, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1934		
Sept. 16		+11.50	Jan. 11	2:00 p. m.	+11.70
Oct. 15	11:45 a. m.	+10.70	Apr. 9	3:30	+9.90
Nov. 4	1:45 p. m.	+10.10	July 31	1:02	+7.40
Dec. 7	12:45	+9.37	Aug. 4	5:10	+7.00
			8	11:40 a. m.	+6.80
1932			11	12:54 p. m.	+6.90
			16	1:12	+7.35
Jan. 5	5:10 p. m.	+9.95	22	11:17 a. m.	+7.20
Feb. 15	1:20	+9.95	27	11:25	+7.10
Mar. 4	2:45	+9.08	Sept. 4	12:34 p. m.	+6.60
Apr. 16	2:15	+8.80	8	12:02	+6.70
May 6	1:15	+9.66	10	2:59	+6.35
June 11	8:00 a. m.	+10.82	19	2:45	+6.75
July 6	1:30 p. m.	+12.26	Oct. 8	4:13	+6.65
Aug. 8	9:40 a. m.	+13.85	23	4:15	+6.60
Sept. 6		+13.56	Dec. 19	4:04	+7.20
Oct. 10		+13.85			
Nov. 17		+13.27	1935		
Dec. 21		+12.69			
			Feb. 27	4:30 p. m.	+7.20
1933			Apr. 8	4:45	+7.50
			21	2:25	+7.90
Jan. 26	2:50 p. m.	+12.18	June 25	3:43	+8.35
Feb. 23	12:40	+11.10	July 16	5:05	+8.90
Mar. 28	12:30	+10.80	25	2:50	+9.00
Apr. 24	3:50	+10.60	26	2:52	+8.95
May 25	3:20	+10.30	29	1:25	+8.90
July 12	2:25	+13.00	30	1:25	+8.85
Aug. 16	3:25	+13.00	31	9:25 a. m.	+8.55
Sept. 26	2:40	+13.50	Aug. 1	9:14	+8.25
Oct. 26	1:00	+12.70	2	10:18	+7.90
Dec. 2	11:53 a. m.	+12.10	3	9:50	+7.75

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1935—Con.		
Aug. 5	10:25 a. m.	+7.75	Oct. 1	10:13 a. m.	+7.10
6	11:48	+8.12	2	5:00 p. m.	+7.23
7	9:58	+8.10	3	9:04 a. m.	+7.10
8	10:51	+8.00	5	9:55	+7.00
9	11:42	+7.80	7	10:02	+6.90
10	11:33	+7.70	8	10:27	+7.10
12	2:35 p. m.	+7.74	9	10:17	+6.95
13	10:30 a. m.	+7.70	11	9:57 a. m.	+6.83
14	9:56	+7.60	14	2:25 p. m.	+7.25
15	9:44	+7.40	15	2:20	+7.00
16	9:48	+7.95	16	2:20	+7.10
17	9:53	+7.80	17	2:20	+7.30
19	10:03	+8.00	18	2:26	+7.50
20	9:58	+7.75	19	2:20	+7.70
21	10:00	+7.90	21	2:20	+7.85
22	9:51 a. m.	+7.62	22	12:02	+7.80
23	9:45	+7.60	23	2:20	+7.95
24	10:00	+7.65	24	4:05	+8.05
26	10:05	+7.70	25	9:20 a. m.	+7.95
27	9:16	+7.47	26	9:20	+7.85
28	9:41	+7.65	28	9:20	+7.85
29	9:38	+7.50	29	9:22	+8.10
30	10:00	+7.45	30	9:20	+8.05
31	12:15 p. m.	+7.45	31	9:20	+7.92
Sept. 3	10:05 a. m.	+7.40	Nov. 1	9:20	+7.95
4	9:45	+7.30	2	9:20	+8.10
5	10:15	+7.45	4	9:25	+8.20
6	9:54	+7.20	5	10:20	+8.30
7	9:28	+7.35	7	10:20	+8.30
9	9:36	+7.45	9	9:20	+8.45
10	9:11	+7.25	12	10:20	+7.80
11	10:24	+7.48	14	10:20	+8.30
12	9:40	+7.40	16	10:20	+8.50
13	9:33	+7.45	18	10:20	+8.85
16	9:44	+7.30	22	10:20	+8.25
17	10:27	+7.30	25	10:00	+8.30
18	9:44	+7.25	29	9:45	+8.22
19	10:00	+6.90	Dec. 2	9:45	+8.43
21	9:28	+7.15	6	3:00 p. m.	+8.40
23	10:10	+7.20	9	9:45 a. m.	+8.50
24	9:56	+7.13	11	10:33	+8.35
25	9:40	+8.20	18	10:10	+8.10
26	10:10	+7.60			
27	9:45	+7.05	1936		
28	10:01	+7.30			
30	10:00	+7.25	Jan. 6	11:06 a. m.	+8.20

(D-2-1)9aca3. F. D. Brinton estate, Holliday. State claim No. 5405. Diameter, 2 inches; depth, 90 to 100 feet. Measuring point, top of ell, 1.25 feet above land surface and 4,357.79 feet above sea level. Drilled, 1886. All measurements after Dec. 8, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1931—Con.		
Aug. 12	1:00 p. m.	[1]—3.00	Oct. 27		[1]—3.85
Sept. 16		—3.32	Nov. 2		[1]—3.88
19		[1]—3.00	4	1:25 p. m.	—3.94
21		[1]—3.15	9		[1]—3.98
25		[1]—3.50	16		[1]—4.04
Oct. 2		[1]—3.31	27		[1]—4.29
12		[1]—3.60	Dec. 5		[1]—4.35
15	11:45 a. m.	—3.65	7	12:40 p. m.	[1]—4.46
17		[1]—3.58	12		[1]—4.48
21		[1]—3.51	19		[1]—4.58
22	7:30 a. m.	[1]—3.69	26		[1]—4.75

Date	Hour	Water level (feet)
1932		
Jan. 2		[1]−4.93
5	5:00 p. m.	−4.98
9		[1]−5.02
15		[1]−5.04
21		[1]−5.29
30		[1]−5.29
Feb. 6		[1]−5.45
13		[1]−5.45
15	1:25 p. m.	−5.53
20		[1]−5.63
27		[1]−5.67
Mar. 4	2:45 p. m.	−5.72
5		[1]−5.67
12		[1]−5.75
19		[1]−5.58
26		[1]−5.54
Apr. 2		[1]−5.56
9		[1]−5.40
16	2:20 p. m.	−5.43
23		[1]−5.20
30		[1]−4.94
May 6	1:20 p. m.	−4.66
7		[1]−4.67
9		[1]−4.67
14		[1]−4.19
21		[1]−3.52
28		[1]−2.96
June 6		[1]−2.29
11	8:40 a. m.	−1.79
17		[1]−1.37
25		[1]−.92
July 2		[1]−.52
6	1:25 p. m.	+.22
9		[1]−.29
16		[1]−.17
23		[1]−.12
30		[1]−.08
Aug. 5		[1]−.33
8	9:50 a. m.	−.08
13		[1]−.38
20		[1]−.38
27		[1]−.40
Sept. 3		[1]−.25
10		[1]−.49
17		[1]−.49
24		[1]−.58
Oct. 1		[1]−.87
8		[1]−.83
15		[1]−.86
22		[1]−1.23
29		[1]−1.52
Nov. 4		[1]−1.75
12		[1]−1.92
19		[1]−2.08
26		[1]−2.09
30	12:35 p. m.	−2.23
30	3:55	−2.24
Dec. 1	11:00 a. m.	−2.28
	1:35 p. m.	−2.34
	2:55	−2.38
2	10:32 a. m.	−2.47
3	10:56	−2.50
5		−2.47
6		−2.43
7		−2.42
8		−2.44
9		−2.50
16		−2.75
24		−2.87
1933		
Jan. 2		−3.08
9		−3.25
14	11:55 a. m.	−3.25
23	10:40	−3.40
29	1:10 p. m.	−3.60
1933—Con.		
Feb. 4	9:15 a. m.	−3.79
11	2:45 p. m.	−4.05
16	2:50	−4.23
24	11:45 a. m.	−4.50
Mar. 4	10:00	−4.62
11	11:10	−4.68
17	4:10 p. m.	−4.79
25	10:48 a. m.	−4.89
Apr. 1	10:50	−4.87
8	9:50	−4.71
17	6:10 p. m.	−4.71
22	10:15 a. m.	−4.73
29	10:05	−4.61
May 6	12:20 p. m.	−4.25
13	9:34 a. m.	−3.73
22	5:10 p. m.	−3.25
29	12:35	−2.62
June 3	10:56 a. m.	−2.10
10	12:00 m.	−1.60
19	12:50 p. m.	−1.00
July 1	5:58	−.42
18	4:20	+.05
Aug. 2	4:50	+.10
16	3:00	−.24
31	6:16	−.25
Sept. 9	12:00 m.	−.14
14	8:30 a. m.	−.20
18	11:15	−.75
27	4:15 p. m.	−.85
Oct. 7	3:30	−1.02
21	12:56	−1.35
Nov. 7	11:15 a. m.	−1.83
20	11:58	−2.09
Dec. 13	4:30 p. m.	−2.70
27	12:08	−3.02
1934		
Jan. 15	12:15 p. m.	−3.39
Feb. 1	2:50	−3.83
19	10:22 a. m.	−4.21
Mar. 17	1:25 p. m.	−4.79
Apr. 5	10:07 a. m.	−5.02
16	11:41	−5.08
May 2	9:00	−5.98
3	11:15	−4.99
4	9:10	−4.96
5	9:03	−4.96
7	4:05 p. m.	−5.04
8	10:50 a. m.	−4.94
9	10:30	−5.07
10	11:30	−4.98
11	11:05	−4.92
12	11:15	−4.98
14	11:10	−4.92
15	10:40	−4.94
16	10:45	−4.84
	1:50 p. m.	−4.80
17	10:20 a. m.	−4.90
18	10:20	−4.90
21	10:25	−4.77
24	11:10	−4.70
26	10:35	−4.67
28	11:10	−4.64
31	4:15 p. m.	−4.49
June 2	10:40 a. m.	−4.56
4	12:10 p. m.	−4.51
7	11:50 a. m.	−4.47
9	11:45	−4.35
12	12:50 p. m.	−4.44
14	2:20	−4.56
16	11:10 a. m.	−4.58
18	1:30 p. m.	−4.59
23	11:50 a. m.	−4.57
26	3:50 p. m.	−4.60
28	1:35	−4.61
July 2	2:40	−4.70

[1] By Salt Lake City Corporation.

Date	Hour	Water level (feet)
1934—Con.		
July 5	2:10 p. m.	−5.00
10	2:50	−5.04
12	2:30	−5.14
17	1:55	−5.37
19	1:55	−5.48
27	2:40	−5.50
30	2:30	−5.60
Aug. 1	2:25	−5.75
2	3:05	−5.72
3	2:05	−5.75
6	12:55	−5.79
	2:30	−5.83
	5:36	−5.83
7	11:00 a. m.	−5.95
8	1:30 p. m.	−5.82
9	11:35 a. m.	−5.85
10	1:45 p. m.	−5.83
11	12:20	−5.94
13	1:50	−5.92
14	3:35	−5.93
15	1:55	−5.90
16	1:17	−5.98
17	1:45	−5.93
	2:05	−5.87
20	2:00	−5.95
22	11:15 a. m.	−6.10
	2:00 p. m.	−6.00
23	11:56 a. m.	−6.08
24	2:05 p.m.	−6.12
25	1:35	−6.14
27	11:22 a. m.	−6.04
	2:15 p. m.	−6.01
29	11:05 a. m.	−6.09
	3:10 p. m.	−6.12
31	4:30	−6.18
Sept. 4	12:35	−6.22
	4:20	−6.21
6	2:00	−6.23
	4:20	−6.25
7	1:00	−6.25
8	12:00 m.	−6.25
	1:40 p. m.	−6.24
10	10:55 a. m.	−6.24
	2:55 p. m.	−6.24
12	11:10 a. m.	−6.21
14	10:50	−6.28
17	10:40	−6.32
19	11:20	−6.42
21	12:25 p. m.	−6.40
24	12:45	−6.50
26	11:00 a. m.	−6.50
28	10:50	−6.45
Oct. 1	12:05 p. m.	−6.50
3	10:40 a. m.	−6.51
5	11:30	−6.50
8	11:00	−6.48
	4:10 p. m.	−6.48
10	11:15 a. m.	−6.44
12	11:50	−6.39
15	9:10	−6.39
16	8:50	−6.45
17	12:30 p. m.	−6.46
19	10:25 a. m.	−6.42
22	4:50 p. m.	−6.35
24	11:55 a. m.	−6.36
26	10:40	−6.35
30	4:20 p. m.	−6.23
Nov. 2	10:35 a. m.	−6.20
5	12:20 p. m.	−6.38
9	12:20	−6.40
12	2:45	−6.27
13	9:53 a. m.	−6.26
	3:16 p. m.	−5.92
14	11:10 a. m.	−5.62
15	3:47 p. m.	−6.85
16	2:35	−6.27
21	11:23 a. m.	−6.41
1934—Con.		
Nov. 27		−6.47
30	11:45 a. m.	−5.60
Dec. 4	12:20 p. m.	−5.53
11	4:45	−5.19
18	12:10	−5.17
26	4:15	−5.15
1935		
Jan. 2	12:21 p. m.	−5.04
8	12:07	−5.21
15	11:34 a. m.	−5.35
22	10:43	−5.37
29	10:27	−5.34
Feb. 5	11:12	−5.15
13	10:31	−5.08
20	11:10	−5.02
27	3:45 p. m.	−5.10
Mar. 5	2:05	−5.19
12	2:00	−5.27
19	1:58	−5.17
25	2:39	−5.15
26	9:30 a. m.	−5.32
27	11:46	−5.20
Apr. 2	2:55 p. m.	−5.00
9	2:20	−6.10
18	3:35	−4.99
24	10:30 a. m.	−4.88
May 1	1:25 p. m.	−4.80
7	3:15	−4.65
14	3:32	−4.25
22	2:36	−3.90
29	10:45 a. m.	−3.37
June 4	3:02 p. m.	−2.97
13	9:58 a. m.	−2.53
19	11:28	−2.58
26	2:45 p. m.	−2.97
July 2	2:57	−2.99
10	2:14	−2.89
16	2:44	−2.71
18	9:20 a. m.	−2.45
19	1:36 p. m.	−2.78
22	11:51 a. m.	−2.52
25	12:52 p. m.	−2.55
26	12:52	−2.60
29	11:27 a. m.	−2.18
30	11:27	−2.59
31	9:27	−2.39
Aug. 1	9:16	−2.47
2	10:20	−2.69
3	9:52	−2.60
5	1:44 p. m.	−2.91
6	11:50 a. m.	−2.82
7	10:00	−2.62
8	10:53	−2.75
9	11:44	−3.16
10	11:35	−3.11
12	2:37 p. m.	−3.20
13	10:32 a. m.	−2.87
14	9:58	−3.05
15	9:46	−2.30
16	9:51	−2.75
17	9:55	−2.25
19	10:05	−3.00
20	10:00	−3.12
21	10:02	−3.20
22	9:53	−3.25
23	9:47	−3.51
24	10:02	−2.55
26	10:07	−3.37
27	9:18	−3.32
28	9:43	−2.57
29	9:40	−3.48
30	10:02	−3.55
31	12:17 p. m.	−3.80
Sept. 3	10:07 a. m.	−3.60
4	9:49	−3.60

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1935—Con.		
Sept. 5	10:17 a. m.	−3.79	Oct. 18	12:01 p. m.	−4.58
6	9:56	−3.80	19	12:02	−4.47
7	9:30	−3.70	21	12:02	−4.51
9	9:38	−3.47	22	12:03	−3.73
10	9:13	−3.46	23	11:56 a. m.	−3.57
11	10:26	−3.67	24	9:22	−3.83
12	9:42	−3.70	25	9:22	−3.85
13	9:34	−3.66	26	9:22	−4.10
14	9:57	−3.76	28	9:22	−3.90
16	9:46	−3.92	29	9:22	−3.80
17	10:30	−3.91	30	9:22	−3.75
18	9:46	−3.88	31	9:22	−3.91
19	10:02	−4.02	Nov. 1	9:22	−3.85
21	9:26	−3.97	2	9:22	−3.57
23	10:12	−4.06	4	9:27	−3.50
24	9:58	−3.50	5	10:22	−3.32
25	9:46	−3.25	7	10:22	−3.45
26	10:12	−3.75	9	9:22	−3.36
27	9:47	−3.84	12	10:22	−3.41
28	10:03	−4.00	14	10:22	−3.61
30	10:03	−4.01	16	10:22	−3.45
Oct. 1	10:15	−4.02	18	10:22	−3.46
2	5:03 p. m.	−4.45	22	10:22	−3.48
3	9:06 a. m.	−3.78	25	10:02	−3.54
5	9:57	−4.12	29	9:47	−3.58
7	10:04	−4.15	Dec. 2	9:47 a. m.	−3.52
8	10:29	−4.10	6	3:02 p. m.	−3.55
9	10:19	−4.31	9	9:47 a. m.	−3.55
11	9:59	−4.23	11	10:30	−3.45
14	2:27 p. m.	−4.62	18	10:11	−4.18
15	12:01	−4.55	1936		
16	12:01	−4.64			
17	12:05	−4.57	Jan. 6	11:10 a. m.	−3.85

(D-2-1)9acd1. Frank E. Bagley, Holliday. State claim No. 5429. Diameter 2½ inches; depth, 110 feet. Measuring point, top of casing, 0.3 foot above land surface and 4,316.88 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	12:45 p. m.	−1.99	Dec. 3	11:00 a. m.	−2.26
	3:55	−2.01	5	11:20	−2.20
Dec. 1	11:10 a. m.	−2.06	6	10:50	−2.23
	1:40 p. m.	−2.14	7	12:05 p. m.	−2.21
	3:00	−2.15	8	10:53 a. m.	−2.23
2	10:40 a. m.	−2.23	9		[1]−2.29

[1] By Salt Lake City Corporation.

(D-2-1)9add1. Salt Lake City Corporation, Holliday. State claim No. 4841 Diameter, 20 inches; depth, 500 feet. Measuring point, top of instrument platform, 7.7 feet above land surface and 4,376.55 feet above sea level. Drilled, 1934. Recording gage operated by Salt Lake City Corporation.

Depth to water (feet) at 12 noon, 1934

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov	Dec.
1	------	4.71	4.26	11	[1]4.73	4.77	4.10	21	4.83	4.67	3.92
2	------	4.70	4.34	12	4.78	4.73	4.05	22	4.74	4.72	3.90
3	------	4.74	4.40	13	4.76	4.70	3.92	23	4.81	4.66	3.92
4	------	4.80	4.36	14	5.40	4.64	3.88	24	4.83	4.65	3.93
5	------	------	4.32	15	5.49	4.62	3.86	25	4.86	4.72	3.92
6	------	------	4.30	16	4.99	4.60	3.95	26	4.90	4.66	3.87
7	------	------	[2]4.25	17	4.87	4.56	3.93	27	4.94	4.71	3.79
8	------	------	4.20	18	4.85	4.56	4.00	28	4.92	4.60	3.78
9	------	4.76	4.13	19	------	4.52	3.92	29	4.87	4.50	3.82
10	------	4.78	4.12	20	------	4.57	3.87	30	4.83	4.42	3.83
								31	4.80	------	3.95

[1] Water-stage recorder installed. [2] Oil added to protect against freezing.

Depth to water (feet) at 12 noon, 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1	3.99	4.33	4.02	4.26	4.30	3.94	16	3.78	4.29	------	4.32	4.21	3.68
2	3.92	4.32	3.98	4.27	4.37	3.99	17	3.81	4.31	------	4.35	4.17	3.63
3	3.92	4.25	3.89	4.27	4.44	4.02	18	3.77	4.28	------	4.43	4.19	3.66
4	3.85	4.15	3.91	4.30	4.51	4.00	19	3.65	4.23	------	4.42	4.21	3.62
5	3.82	4.05	4.01	4.31	4.48	3.89	20	4.00	4.11	------	4.38	4.25	3.59
6	3.83	4.00	4.10	4.31	4.38	3.75	21	4.23	4.13	4.07	4.29	4.26	3.56
7	3.81	3.98	4.06	4.39	4.36	3.72	22	4.34	4.13	4.23	4.33	4.20	3.46
8	3.75	3.99	3.98	4.30	4.41	3.69	23	4.30	3.96	4.23	4.27	4.13	3.37
9	3.78	4.05	4.06	4.14	4.40	3.69	24	4.30	3.90	4.22	4.37	4.12	3.34
10	3.85	4.08	4.17	4.16	4.34	3.70	25	4.28	4.07	4.22	4.44	4.10	3.35
11	3.90	4.06	4.18	4.40	4.35	3.67	26	4.22	4.14	4.24	4.45	4.08	3.38
12	3.86	3.98	4.30	4.49	4.30	3.65	27	4.21	4.15	4.33	4.42	4.05	3.32
13	3.91	3.93	4.30	4.46	4.31	3.70	28	4.21	4.09	4.34	4.41	4.01	3.25
14	3.90	3.98	4.19	4.38	4.30	3.70	29	4.22	------	4.45	4.37	4.00	3.21
15	3.80	4.18	------	4.40	4.27	3.75	30	4.24	------	4.45	4.26	3.88	3.15
							31	4.28	------	4.28	------	3.91	([1])

[1] Continued by Salt Lake City Corporation.

(D-2-1)9bab1. Fielding Investment Co. (G. C. Smith), 1533 East 48th South St., Holliday. State claim No. 8715. Diameter, 3 inches. Measuring point, top of tee, 2.0 feet above land surface and 4,341.55 feet above sea level. Drilled, 1917. Temperature of water, 52½° F. Flow, Nov. 13, 1931, 4.2 g. p. m.; by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	1:35 p. m.	+1.88	Dec. 3	11:10 a. m.	+1.47
	4:15	+1.85	5	11:30	+1.50
Dec. 1	11:20 a. m.	+1.76	6	11:07	+1.72
	2:03 p. m.	+1.60	7	12:35 p. m.	+1.73
	4:38	+1.58	8	11:08 a. m.	+1.74
2	10:50 a. m.	+1.53			

(D-2-1)9bab2. Herman L. Woundenberg (Wasatch Dairy), Holliday. State claim No. 9634. Diameter, 4 inches; depth, 90 feet. Drilled, 1910. Temperature of water, 56° F. Flow, Apr. 2, 1931, 42.5 g. p. m.; by Salt Lake City Corporation.

(D-2-1)9bca2. J. C. Walker, Reynolds Lane, Holliday. State claim No. 8095. Diameter, 2 inches; depth, 109 feet. Measuring point, top of tee, 2.25 feet above land surface and 4,326.20 feet above sea level. Drilled, 1907. Temperature of water, 52° F. Flow, July 20, 1932, 12.7 g. p. m. Pressure-head measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	11:45 a. m.	+20.34	Dec. 3	11:40 a. m.	+20.19
	3:40 p. m.	+20.48	5	11:40	+20.19
Dec. 1	11:30 a. m.	+20.48	6	2:00 p. m.	+20.26
	3:30 p. m.	+20.48	7	12:45	+20.34
2	11:40 a. m.	+20.19	8	12:20	+20.19

(D-2-1)bcd2. Wm. Smith, 1400 East Dahls Lane, Holliday. State claim No. 5935. Diameter, 1½ inches; depth, 130 feet. Measuring point, top of ell, 2.0 feet above land surface and 4,341.76 feet above sea level. Drilled, 1890. Temperature of water, 52° F. Flow, July 20, 1932, 10.5 g. p. m. All pressure measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	12:00 m.	+7.64	Dec. 3	11:50 a. m.	+7.35
	4:00 p. m.	+7.64	5	11:35	+7.35
Dec. 1	11:55 a. m.	+7.64	6	1:50 p. m.	+7.50
	3:50 p. m.	+7.50	7	1:08	+7.35
2	12:10	+7.21	8	11:05 a. m.	+7.06

(D-2-1)9bda1. Delores S. Cannon (Wasatch Dairy Farms), Holliday. State claim No. 9632. Diameter, 3 inches; depth, 90 feet. Measuring point, top of casing, 0.75 foot above land surface and 4,345.43 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	11:50 a. m.	+5.20	Dec. 3	11:45 a. m.	+4.75
	3:50 p. m.	+5.10	5	11:50	+4.90
Dec. 1	11:40 a. m.	+5.00	6	2:10 p. m.	+4.90
	3:35 p. m.	+4.90	7	12:55	+4.92
2	12:10	+4.75	8	12:05	+4.90

(D-2-1)9cad1. J. T. Barrett. Dahls Lane, Holliday. State claim No. 9688. Diameter, 3 inches; depth, 240 feet. Drilled, 1904. Temperature of water, 52° F. Flow, July 19, 1932, 9.0 g. p. m.

(D-2-1)9ccc1. State of Utah (H. M. Jennings), Holliday. State claim No. 13798. Diameter, 3 inches; depth, 175 feet. Drilled, 1931. Temperature of water, 52° F. Flow, July 20, 1932, 17 g. p. m.

(D-2-1)9cdb1. Harriett D. Bagley, Holliday. State claim No. 10177. Diameter, 3 inches; depth, 125 feet. Drilled, 1902. Temperature of water, 51° F. Flow, July 19, 1932, 17 g. p. m.

(D-2-1)9cdb2. Harriett D. Bagley, Holliday. State claim No. 10178. Diameter, 3 inches; depth, 75 feet. Drilled, 1902. Temperature of water, 50° F. Flow, July 19, 1932, 13.5 g. p. m.

(D-2-1)9dba1. Frank E. Bagley, Holliday. State claim No. 5430. Diameter, 2½ inches; depth, 110 feet. Measuring point, top of casing, 1.0 foot above land surface and 4,363.52 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1932—Con.		
Nov. 30	12:50 p. m.	−1.37	Dec. 1	3:03 p. m.	−1.53
	4:00	−1.39	6	10:55 a. m.	−1.66
Dec. 1	1:45	−1.52	9		[1] −1.79

[1] By Salt Lake Corporation.

(D-2-1)9dcd1. Betsy C. Mower, Holliday. State claim No. 5962. Diameter, 3 inches; depth, 250 feet. Drilled, 1929. Temperature of water, 53° F. Flow, Feb. 27, 1932, 10.6 g. p. m.; by Salt Lake City Corporation.

(D-2-1)9dcd3. Betsy C. Mower, Holliday. State claim No. 5964. Diameter, 3 inches; depth, 470 feet. Drilled, 1931. Temperature of water, 54° F. Flow, Jan. 20, 1932, 7.0 g. p. m.; Feb. 27, 1932, 3.8 g. p. m.; July 19, 1932, 8.0 g. p. m. First two measurements of flow by Salt Lake City Corporation.

(D-2-1)15acc. Malcom A. Keyser, Holliday. Diameter, 4 inches. Measuring point, top of casing, 0.5 foot above land surface and 4,450.47 feet above sea level. All measurements by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1934—Con.		
July 14	12:00 m.	−75.55	Aug. 27	5:00 p. m.	−77.99
18	12:05 p. m.	−75.85	29	5:10	−78.80
21	11:35 a. m.	−76.10	31	5:02	−78.34
28	11:30	−76.50	Sept. 4	2:30	−78.58
Aug. 1	4:30 p. m.	−76.64	5	11:20	−78.70
2	2:50	−76.65	8	10:55 a. m.	−78.66
3	11:59 a. m.	−76.80	10	3:50 p. m.	−78.80
4	11:00	−76.99	12	3:25	−78.77
7	12:10 p. m.	−77.08	14	4:07	−79.20
9	4:00	−77.19	17	4:20	−79.27
10	11:55 a. m.	−77.28	19	3:30	−79.27
11	3:45 p. m.	−77.25	20	3:15	−79.90
13	3:00	−77.27	29	5:30	−79.98
14	3:50	−77.44	Oct. 3	4:25	−79.90
15	1:20	−77.50	6	1:20	−79.89
16	3:20	−77.51	9	3:55	−79.61
17	12:35	−77.57	13	1:35	−79.55
18	11:35 a. m.	−77.58	15	2:30	−79.56
20	3:20 p. m.	−77.61	16	4:15	−79.62
21	12:20	−77.69	20	9:30 a. m.	−79.67
22	12:05	−77.69	23	3:21 p. m.	−79.60
23	12:40	−77.85	26	11:00 a. m.	−79.50
24	10:45 a. m.	−77.87	30	3:44 p. m.	−79.28
25	10:30	−77.99	Nov. 2	11:23 a. m.	−79.31

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934—Con.			1935—Con.		
Nov. 6	12:38 p. m.	−79.32	Sept. 3	10:28 a. m.	−73.25
8	11:22 a. m.	−79.32	5	10:55	−73.40
12	10:32	−79.33	10	9:36	−73.87
13	10:37	−79.38	16	10:50	−74.40
14	11:30	−79.34	21	9:46	−74.70
30	11:22	−79.54	27	10:05	−75.10
Dec. 5	4:17 p. m.	−79.63	Oct. 1	11:30	−75.16
13	2:20	−79.43	7	10:35	−75.68
19	10:59 a. m.	−79.51	17	12:25 p. m.	−76.47
28	4:20 p. m.	−79.66	28	9:45 a. m.	−76.56
			Nov. 5	1:00 p. m.	−75.70
1935			7	4:20	−75.68
			14	9:30 a. m.	−75.94
Jan. 3	2:33 p. m.	−79.64	22	11:38	−75.95
9	11:32 a. m.	−79.75	30	11:26	−76.22
16	4:25 p. m.	−79.74	Dec. 5	10:41	−76.32
24	10:53 a. m.	−79.52	13	3:35 p. m.	−76.57
30	3:15 p. m.	−79.59	19	4:18	−76.82
Feb. 6	11:00 a. m.	−79.38	24	11:10 a. m.	−76.83
14	11:20	−79.64	30	3:20 p. m.	−77.23
21	12:15 p. m.	−79.65			
28	12:05	−79.30	1936		
Mar. 7	11:41 a. m.	−79.20			
13	1:10 p. m.	−79.30	Jan. 9	2:43 p. m.	−77.42
20	10:05 a. m.	−79.39	15	11:00 a. m.	−77.68
28	12:40 p. m.	−79.48	22	11:50	−78.05
Apr. 3	12:30	−79.43	29	10:40	−78.29
10	11:25 a. m.	−79.90	Feb. 6	11:03	−78.34
19	12:26 p. m.	−79.56	13	4:20 p. m.	−78.52
25	10:24 a. m.	−79.59	19	10:40 a. m.	−78.56
May 2	3:20 p. m.	−79.36	26	11:05	−78.96
8	1:40	−79.15	Mar. 4	10:07	−78.72
15	11:50 a. m.	−78.60	9	3:05 p. m.	−78.50
23	1:41 p. m.	−77.79	17	3:15	−77.95
29	3:30	−77.14	28	9:46 a. m.	−77.55
June 5	1:36	−76.14	Apr. 1	3:25 p. m.	−77.67
12	10:12 a. m.	−75.03	7	11:10 a. m.	−77.18
21	12:02 p. m.	−73.60	16	3:34 p. m.	−76.61
27	2:32	−72.25	24	1:23	−76.44
July 3	3:00	−71.25	29	2:58	−76.06
12	9:45 a. m.	−70.10	May 5	2:28	−75.18
17	2:46 p. m.	−69.54	13	11:13 a. m.	−74.18
22	9:54 a. m.	−69.35	19	3:28 p. m.	−72.65
25	9:45	−69.29	27	2:22	−70.80
26	9:45	−69.32	June 3	11:38 a. m.	−68.97
29	8:30	−69.39	10	2:51 p. m.	−67.10
30	10:30	−69.37	17	2:13	−65.71
31	8:30	−69.41	24	1:50	−64.84
Aug. 1	9:50	−69.70	July 1	11:28 a. m.	−64.14
2	9:45	−69.83	8	1:48 p. m.	−63.62
3	1:50 p. m.	−69.90	14	3:32	−63.25
5	1:50	−70.20	22	11:06 a. m.	−63.38
6	9:10 a. m.	−70.21	29	3:32 p. m.	−63.58
8	11:15	−70.47	Aug. 5	3:29	−63.83
10	11:57	−70.74	Oct 5	3:24	−68.42
12	3:05 p. m.	−71.00	17	11:18 a. m.	−68.77
14	11:00 a. m.	−71.02	21	5:35 p. m.	−68.80
16	10:14	−71.42	31	11:28 a. m.	−68.90
19	10:25	−71.57	Nov. 9	11:36	−69.56
21	10:30	−72.00	20	3:12 p. m.	−70.03
23	10:11	−72.17	28	10:43 a. m.	−70.27
26	2:10 p. m.	−72.52	Dec. 9	2:28 p. m.	−70.33
28	10:13 a. m.	−72.65	18	11:11 a. m.	−70.60
30	10:30	−72.87	30	11:47	−71.12

(D-2-1)16baa1. Salt Lake City Corporation, Holliday. State claim No. 3904. Diameter, 3 inches; depth, 55.5 feet, Aug. 14, 1933. Measuring point, top of coupling, 3.0 feet below land surface and 4,359.60 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.45 feet; Oct. 10, 1933, 1.44 feet. Flow, Oct. 10, 1934, 33.6 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16baa2. Salt Lake City Corporation, Holliday. State claim No. 3905. Diameter, 3 inches; depth 65 (16.5) feet, Aug. 16, 1933. Measuring point, top of casing, 3.5 feet below land surface and 4,359.40 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.10 feet; Oct. 10, 1933, 1.35 feet. Flow, Oct. 10, 1933, 10.6 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16baa3. Salt Lake City Corporation, Holliday. State claim No. 3906. Diameter, 3 inches; depth, 83.5 feet, Aug. 14, 1933. Measuring point, top of casing, 3.0 feet below land surface and 4,359.40 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.60 feet; Oct. 10, 1933, 1.83 feet. Depth to water, Feb. 22, 1934, 0.88 feet (by Salt Lake City Corporation). Flow: Oct. 10, 1933, 14.2 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16baa4. Salt Lake City Corporation, Holliday. State claim No. 3907. Diameter, 3 inches; depth 65 (9.5) feet, Aug. 14, 1933. Measuring point, top of casing, 3.0 feet below land surface and 4,359.35 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.20 feet; Oct. 10, 1933, 1.54 feet. Flow, Oct. 10, 1933, 13.4 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16baa5. Salt Lake City Corporation, Holliday. State claim No. 3908. Diameter, 3 inches; depth, 59.5 feet, Aug. 16, 1933. Measuring point, top of casing, 3.5 feet below land surface and 4,359.30 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.09 feet; Oct. 10, 1933, 1.62 feet. Flow, Oct. 10, 1933, 17.5 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16baa6. Salt Lake City Corporation, Holliday. State claim No. 3909. Diameter, 3 inches; depth, 54.5 feet, Aug. 16, 1933. Measuring point, top of casing, 3.0 feet below land surface and 4,359.35 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.19 feet; Oct. 10, 1933, 1.52 feet. Flow, Oct. 10, 1933, 21.0 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16baa7. Salt Lake City Corporation, Holliday. State claim No. 3910. Diameter, 3 inches; depth, 55.75 feet, Aug. 16, 1933. Measuring point, top of casing, 3.0 feet below land surface and 4,359.35 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.08 feet; Oct. 10, 1933, 1.61 feet. Flow, Oct. 10, 1933, 20.8 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16baa8. Salt Lake City Corporation, Holliday. State claim No. 3911. Diameter, 3 inches; depth (?) feet. Measuring point, top of casing, 3.0 feet below land surface and 4,359.45 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.03 feet; Oct. 10, 1933, 1.45 feet. Depth to water, Feb. 22, 1933, 1.69 feet (by Salt Lake City Corporation). Flow, Oct. 10, 1933, 15.8 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

A water-stage recorder was maintained on well (D-2-1)16baa8 from Aug. 29, 1933, to Nov. 16, 1933. Measuring point was top of recorder platform, about 7.4 feet above top of casing.

Mean daily depth to water (feet), 1933

Day	Aug.	Sept.	Oct.	Nov.	Day	Aug.	Sept.	Oct.	Nov.
1		5.53			16		5.86		
2		5.55			17				
3		5.58	6.1+	6.65	18			6.35	
4		5.58	6.1+		19			6.34	
5		5.01	6.1+		20			6.32	
6		3.92	6.1+		21			6.41	
7		3.78			22			6.47	
8		3.95	6.16		23			6.49	
9		3.81	6.17		24			6.49	
10		3.71	6.2+	6.80	25			6.49	
11		3.70	6.24	6.82	26			6.52	
12		3.78	6.25	6.84	27			6.52	
13		3.81	6.26	6.85	28		6.0+	6.54	
14		4.74	6.26	6.84	29				
15		5.78		6.84	30	5.53			
					31	5.55			

(D-2-1)16baa9. Sale Lake City Corporation, Holliday. State claim No. 3912. Diameter, 3 inches; depth, (?) feet. Measuring point, top of casing, 3.0 feet below land surface and 4,359.20 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 1.96 feet; Oct. 10, 1933, 1.29 feet. Depth to water, Feb. 22, 1934, 0.90 foot. Flow, Oct. 10, 1933, 13.8 g. p. m. Measurement of flow, depth to water, and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16bab1. Sale Lake City Corporation, Holliday. State claim No. 3913. Diameter, 3 inches; depth, 60.5 feet, Aug. 14, 1933. Measuring point, top of casing, at land surface and 4,356.75 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 2.58 feet; Oct. 11, 1933, 0.92 foot. Flow, Oct. 11, 1933, 29 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16bab2. Salt Lake City Corporation, Holliday. State claim No. 3914. Diameter, 3 inches; depth, 62.5 feet, Aug. 14, 1933. Measuring point, top of casing, at land surface and 4,357.35 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 1.96 feet; Oct. 11, 1933, 1.23 feet. Flow, Oct. 11, 1933, 35.3 g. p. m. Measurement of flow and last measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16bab3. Salt Lake City Corporation, Holliday. State claim No. 3915. Diameter, 3 inches; depth, 68.5 feet, Aug. 16, 1933. Measuring point, top of casing, 1.0 foot below land surface and 4,354.70 feet above sea level. Drilled before 1915. Oct. 11, 1933, pressure head, 3.00 feet; flow, 38 g. p. m. Measurements by Salt Lake City Corporation.

(D-2-1)16bab4. Salt Lake City Corporation, Holliday. State claim No. 3916. Diameter, 3 inches. Measuring point, top of casing, 1.5 feet above land surface and 4,356.75 feet above sea level. Drilled before 1915. Oct. 11, 1933: pressure head, 0.75 foot; flow, 24 g. p. m. Measurements by Salt Lake City Corporation.

(D-2-1)16bab5. Salt Lake City Corporation, Holliday. State claim No. 3917. Diameter, 3 inches; dept, 61.5 feet, Aug. 14, 1933. Measuring point, top of casing, at land surface and 4,354.40 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1932, 2.92 feet; Sept. 15, 1932, 2.75 feet; Aug. 16, 1933, 3.90 feet; Oct. 11, 1933, 3.31 feet. Flow: Aug. 16, 1932, 64 g. p. m.; Sept. 15, 1932, 64.5 g. p. m.; Oct. 11, 1933, 72.5 g. p. m. Measurements of flow and all but the third measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16bab6. Salt Lake City Corporation, Holliday. State claim No. 3918. Diameter, 3 inches; depth, 62 feet, Aug. 14, 1933. Measuring point, top of casing, 0.5 foot above land surface and 4,355.15 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 3.01 feet; Oct. 11, 1933, 2.35 feet. Flow, Oct. 11, 1933, 34 g. p. m. Measurement of flow and second measurement of pressure head by Salt Lake City Corporation.

Water-stage recorder installed May 10, 1934, operated by Salt Lake City Corporation. Measuring point, top of instrument platform, 4,364.14 feet above sea level.

Depth to water (feet) at 12 noon, 1934

Day	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	--------	8.24	8.26	8.96	9.28	9.57	9.26	9.10
2	--------	8.22	8.26	9.00	9.34	9.62	9.27	9.17
3	--------	8.18	8.32	9.02	9.34	9.62	9.27	9.17
4	--------	8.20	8.34	9.14	9.39	9.60	9.33	9.10
5	--------	8.17	8.37	9.15	9.57	9.59	9.36	--------
6	--------	8.18	8.36	9.21	9.49	9.48	9.34	--------
7	--------	8.14	8.43	9.14	9.41	9.42	9.32	[1] 9.15
8	--------	8.11	8.45	9.08	9.33	9.47	9.36	9.15
9	--------	8.10	8.55	9.13	9.38	9.58	9.37	8.97
10	8.63	8.13	8.56	9.09	9.41	9.67	9.39	8.96
11	8.52	8.13	8.52	9.15	9.40	9.40	9.37	8.96
12	8.56	9.12	8.60	9.15	9.41	9.43	9.35	8.94
13	8.57	8.23	8.70	9.15	9.46	9.44	9.39	8.89
14	8.55	8.24	8.62	9.20	9.44	--------	9.13	8.89
15	8.50	8.23	8.77	9.13	9.44	--------	9.37	8.90
16	8.45	8.25	8.72	9.17	9.45	--------	9.36	8.95
17	8.45	8.27	8.81	9.09	9.43	--------	9.37	8.92
18	8.45	8.24	8.77	9.22	9.46	9.37	9.39	8.96
19	8.52	8.27	8.84	9.27	9.46	9.37	9.39	8.91
20	8.50	8.19	8.86	9.25	9.48	9.38	9.41	8.91
21	8.47	8.18	8.75	9.37	9.49	9.34	9.47	9.13
22	8.45	8.19	8.74	9.22	9.50	9.32	9.45	9.13
23	8.42	8.19	8.73	9.35	9.53	9.37	9.43	9.12
24	8.41	8.21	8.74	9.31	9.58	9.32	9.46	9.14
25	8.36	8.19	8.75	9.34	9.59	9.31	9.49	--------
26	8.33	8.23	8.78	9.22	9.60	9.32	9.49	--------
27	8.31	8.21	8.87	9.25	9.57	9.32	9.49	9.00
28	8.31	8.23	8.90	9.41	9.56	9.29	9.36	9.02
29	8.27	8.24	8.88	9.37	9.60	9.28	9.16	8.99
30	8.22	8.23	8.88	9.34	9.60	9.28	9.13	8.97
31	8.23	--------	9.02	9.30	--------	9.27	--------	9.04

[1] Oil added to prevent freezing.

Depth to water (feet), at 12 noon 1935

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1	9.04	9.28	9.14	9.20	9.03	8.03	16	9.21	9.28	------	9.22	8.65	7.49
2	9.01	9.27	9.15	9.24	9.02	8.01	17	9.37	9.24	------	9.22	8.60	7.42
3	9.26	9.20	9.10	9.25	9.04	7.99	18	9.22	9.21	------	9.25	8.59	7.50
4	9.21	9.15	9.15	9.31	9.04	7.92	19	9.16	9.19	------	9.23	8.53	7.50
5	9.25	9.15	9.19	9.29	8.97	7.83	20	9.33	9.15	------	9.19	8.52	7.46
6	9.13	9.14	9.19	9.31	8.92	7.76	21	9.55	9.22	9.16	9.15	8.48	7.38
7	9.13	9.16	9.14	9.21	8.92	7.77	22	9.33	9.20	9.41	9.20	8.42	7.30
8	9.12	9.16	9.13	9.17	8.93	7.72	23	9.27	9.11	9.20	9.12	8.38	7.26
9	9.14	9.18	9.17	------	8.90	[1] 7.59	24	9.26	9.15	9.21	9.16	8.36	7.21
10	9.21	9.18	9.21	9.38	8.84	7.56	25	9.25	9.25	9.20	9.16	8.34	7.30
11	9.14	9.15	9.20	9.34	8.83	7.52	26	9.20	9.24	9.44	9.12	8.32	7.30
12	9.23	9.14	9.19	------	8.77	7.54	27	9.20	9.20	9.26	9.10	8.26	7.09
13	9.45	9.14	9.13	------	8.75	7.70	28	9.20	9.16	9.70	9.09	8.21	7.30
14	9.43	9.17	------	------	8.71	7.70	29	9.20	------	9.99	9.04	8.14	7.17
15	9.21	9.28	------	9.20	8.69	7.55	30	9.22	------	9.27	9.01	8.04	6.99
							31	9.25	------	9.19	------	8.03	(2)

[1] Oil removed from well.
[2] Record continued by Salt Lake City Corporation.

(D-2-1)16bab7. Salt Lake City Corporation, Holliday. State claim No. 3919. Diameter, 3 inches; depth, (?) feet. Measuring point, top of casing, at land surface and 4,357.45 feet above sea level. Drilled before 1915. Pressure head, Oct. 11, 1933, 0.90 feet. Flow, Oct. 11, 1933, 1.3 g. p. m. Measurement of flow and of pressure head by Salt Lake City Corporation.

(D-2-1)16bab8. Salt Lake City Corporation, Holliday. State claim No. 3920. Diameter, 3 inches; depth, 60 feet. Measuring point, top of casing. Drilled before 1915. Pressure head, Oct. 11, 1933, 2.33 feet, by Salt Lake City Corporation. Flow, Oct. 11, 1933, 8 g. p. m.

(D-2-1)16bab9. Salt Lake City Corporation, Holliday. State claim No. 3921. Diameter, 3 inches; depth, 57.5 feet, Aug. 16, 1933. Measuring point, top of casing, 1.0 foot below land surface and 4,356.65 feet above sea level. Drilled before 1915. Pressure head, Aug. 16, 1933, 4.02 feet; Oct. 10, 1933, 3.19 feet. Flow, Oct. 10, 1933, 72.5 g. p. m. Measurement of flow and second measurement of pressure head by Salt Lake City Corporation.

(D-2-1)16bab10. Salt Lake City Corporation, Holliday. State claim No. 3922. Diameter, 3 inches; depth, 177 feet Aug. 14, 1933. Measuring point, top of casing, 1.0 foot above land surface and 4,358.65 feet above sea level. Drilled before 1915.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1933			1933—Con.		
Aug. 16	3:30 p. m.	+5.63	Aug. 21	4:29 p. m.	+6.85
21	4:07	+6.64		4:31	+6.78
	4:18	+7.06	Oct. 10	3:14	[1] +6.67
	4:25	+7.21			

[1] By Salt Lake City Corporation.

Water-stage recorder maintained on this well from Aug. 25, 1933, to Nov. 3, 1933. Measuring point, top of recorder platform, 4,368.7 feet above sea level.

Depth to water (feet) at 12 noon, 1933

Day	Aug.	Sept.	Oct.	Nov.	Day	Aug.	Sept.	Oct.	Nov.
1		3.32	3.46	2.86	16		3.28	3.57	
2		3.31	3.50	2.97	17		3.26	3.58	
3		3.32	3.48	3.50	18		3.30	3.53	
4		3.33	3.40		19		3.41	3.49	
5		3.30	3.20		20		3.38	3.55	
6		3.26	3.38		21		3.41	3.60	
7		3.26	3.42		22		3.53	3.60	
8		3.24	3.40		23		3.39		
9		3.20	3.37		24		3.30	[1] 9.79	
10		3.24	3.41		25	3.20	3.33	[1] 9.75	
11		3.14	3.42		26	3.18	3.37	3.59	
12		3.17	3.51		27	3.19	3.40	2.94	
13		2.96	3.51		28	3.21	3.41	2.74	
14		3.12	3.48		29	3.20	3.37	2.52	
15		3.21	3.48		30	3.25	3.41	2.63	
					31	3.33		2.73	

[1] Well flowing.

(D–2–1)16bab11. Salt Lake City Corporation, Holliday. State claim No. 3923. Diameter, 3 inches; depth, 58.5 feet, Aug. 14, 1933. Measuring point, top of casing, 1.0 foot above land surface and 4,356.60 feet above sea level. Drilled, 1931. Oct. 10, 1933: Pressure head, 2.37 feet; flow, 21 g. p. m. Measurement of flow and of pressure head by Salt Lake City Corporation.

(D–2–1)16bab12. Salt Lake City Corporation, Holliday. State claim No. 3924. Diameter, 3 inches; depth, 66.7 feet, Sept. 6, 1933. Measuring point, top of casing, 1.8 feet above land surface and 4,356.10 feet above sea level. Drilled, 1931. Oct. 11, 1933; pressure head, 1.28 feet; flow, 58 g. p. m. Measurement of flow and of pressure head by Salt Lake City Corporation.

(D–2–1)16bab13. Salt Lake City Corporation, Holliday. State claim No. 3925. Diameter, 3 inches; depth, 177.5 feet, Aug. 16, 1933. Measuring point, top of tee, 2.9 feet above land surface and 4,357.85 feet above sea level. Drilled, 1931. Pressure head, Aug. 16, 1933, 4.90 feet; Oct. 11, 1933, 6.35 feet. Flow: Oct. 11, 1933, 51 g. p. m. Measurements of flow and of pressure head, Oct. 11, 1933, by Salt Lake City Corporation.

(D–2–1)16bab14. Salt Lake City Corporation, Holliday. State claim No. 3926. Diameter, 3 inches; depth, 178 feet, Aug. 14, 1933. Measuring point, top of tee, 1.25 feet above land surface and 4,357.40 feet above sea level. Drilled, 1931. Oct. 11, 1931; pressure head, 5.58 feet; flow, 43.5 g. p. m. Measurement of flow and of pressure head by Salt Lake City Corporation.

(D–2–1)16bab15. Salt Lake City Corporation, Holliday. State claim No. 3927. Diameter, 3 inches; depth, 172.7 feet, Sept. 6, 1933. Measuring point, top of casing, 0.6 feet above land surface and 4,355.55 feet above sea level. Drilled, 1931. Pressure head, Aug. 16, 1933, 7.06 feet; Oct. 11, 1933, 7.39 feet. Flow, Oct. 11, 1933, 22.2 g. p. m. Measurements of Oct. 11, 1933, by Salt Lake City Corporation.

(D–2–1)16bab16. Salt Lake City Corporation, Holliday. State claim No. 3928. Diameter, 3 inches; depth, 64.25 feet, Aug. 16, 1933. Measuring point, top of casing, 1.0 foot above land surface and 4,358.40 feet above sea level. Drilled, 1931. Pressure head, Aug. 16, 1933, 3.55 feet; Oct. 10, 1933, 2.81 feet. Flow, Oct. 10, 1933, 21.3 g. p. m. Measurement of flow and second measurement of pressure head by Salt Lake City Corporation.

(D–2–1)16bac1. Lakewood Farm (Alice Moyle), Holliday. State claim No. 6700. Diameter, 3 inches; depth, 60 feet. Measuring point, top of casing, at land surface and 4,361.47 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Dec. 12	12:20 p. m.	−1.26	Jan. 16	11:10 a. m.	−1.81
				2:12 p. m.	−1.81
1933			17	10:20 a. m.	−1.77
				3:20 p. m.	−1.75
Jan. 12	3:12 p. m.	−1.79	18	10:55 a. m.	−1.87
13	11:10 a. m.	−1.83		2:30 p. m.	−1.88
	2:00 p. m.	−1.82	19	10:20 a. m.	−1.86
14	11:35 a. m.	−1.77	20	3:13 p. m.	−1.89
	3:20 p. m.	−1.73	21	10:45 a. m.	−1.90
15	10:00 a. m.	−1.68			
	2:40 p. m.	−1.69			

[1] By Salt Lake City Corporation.

(D–2–1)16bac3. Lakewood Farm (Alice Moyle), Holliday. State claim No. 6707. Diameter, 3 inches; depth, 60 feet. Measuring point, top of casing, at land surface and 4,361.85 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Dec. 12	12:25 a. m.	−1.70	Jan. 16	11:05 a. m.	−2.24
				2:07 p. m.	−2.23
1933			17	10:15 a. m.	−2.19
				3:17 p. m.	−2.17
Jan. 12	3:10 p. m.	−2.22	18	10:50 a. m.	−2.29
13	11:05 a. m.	−2.24		2:25 p. m.	−2.30
	1:55 p. m.	−2.23	19	10:15 a. m.	[1] −2.28
14	11:30 a. m.	−2.19	20	3:09 p. m.	−2.31
	3:15 p. m.	−2.14	21	10:43 a. m.	[1] −2.29
15	9:55 a. m.	−2.10			
	2:42 p. m.	−2.12			

[1] By Salt Lake City Corporation.

(D-2-1)16bac4. Lakewood Farm (Alice Moyle), Holliday. State claim No. 6708. Diameter, 3 inches; depth, 60 feet. Measuring point, top of casing, 1.0 foot above land surface and 4,362.84 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Dec. 12	12:22 p. m.	−2.70	Jan. 16	11:07 a. m.	−3.22
				2:10 p. m.	−3.21
1933			17	10:17 a. m.	−3.18
				3:19 p. m.	−3.15
Jan. 12	3:11 p. m.	−3.21	18	10:53 a. m.	−3.28
13	11:07 a. m.	−3.24		2:27 p. m.	−3.29
	1:57 p. m.	−3.23	19	10:17 a. m.	[1] −3.27
14	11:32 a. m.	−3.18	20	3:11 p. m.	−3.29
	3:17 p. m.	−3.13	21	10:45 a. m.	[1] −3.28
15	9:57 a. m.	−3.09			
	2:41 p. m.	−3.11			

[1] By Salt Lake City Corporation.

(D-2-1)16bbd2. D. G. Lunn, Holliday. State claim No. 9067. Diameter, 3 inches; depth, 160 feet. Measuring point, center line of outlet, 0.5 foot above land surface. Drilled, 1928. Temperature of water, 52° F. Pressure head, Sept. 15, 1931, 3.32 feet; flow, Sept. 30, 1931, 75 g. p. m. Measurement of flow by Salt Lake City Corporation.

(D-2-1)16bbd8. D. G. Lunn, Holliday. State claim No. 9075. Diameter, 3 inches; depth, 160 feet. Measuring point, center line of faucet, 1.5 feet above land surface. Drilled, 1932. Temperature of water, 52° F. Pressure head, Sept. 15, 1931, 14.00 feet. Flow, Sept. 30, 1931, 54.4 g. p. m. Measurement of flow by Salt Lake City Corporation.

(D-2-1)16bbd9. D. G. Lunn, Holliday. State claim No. 9076. Diameter, 3 inches; depth, 55 feet. Drilled, 1933. Flow, Mar. 9, 1933, 76.9 g. p. m. Measurement of flow by Salt Lake City Corporation.

A water-stage recorder was maintained on this well from Sept. 2, 1933, to Oct. 23, 1933. Measuring point was top of instrument platform, 10.95 feet above top of casing at land surface.

Depth to water (feet) at 12 noon, 1933

Day	Sept.	Oct.	Day	Sept.	Oct.	Day	Sept.	Oct.
1		5.24	11	4.10	5.40	21	5.12	5.40
2	4.79	5.26	12	4.20	5.37	22	5.09	[1] 10.30
3	4.84	5.26	13	4.21	5.37	23	5.10	
4	4.85	5.25	14	4.58	5.38	24	5.08	
5	4.80	5.36	15	5.00		25	5.14	
6	4.39	5.33	16	5.02	(1)	26	5.16	
7	4.24	5.41	17	5.01	10.20	27	5.16	
8	4.36	5.35	18	5.08	10.30	28	5.20	
9	4.29	5.36	19	5.08		29	5.21	
10	4.12	5.38	20	5.05	[2] 5.31	30	5.23	
						31		

[1] Well flowing. [2] Well closed.

(D-2-1)16bbd13. D. G. Lunn, Holliday. State claim No. 9083. Diameter, 3 inches; depth, 55 feet. Drilled, 1934(?). Temperature of water, 51.5° F. Flow, Aug. 16, 1932, 31.5 g. p. m.; Sept. 7, 1932, 37.5 g. p. m.; Jan. 25, 1933, 30 g. p. m. Measurements of flow and temperature by Salt Lake City Corporation.

(D-2-1)16bbd14. D. G. Lunn, Holliday. State claim No. 9084. Diameter, 3 inches; depth, 175 feet. Measuring point, top of outlet pipe, 0.1 foot above land surface and 4,356.59 feet above sea level. Drilled, 1931. Measurements after Aug. 8, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1935		
Oct. 13		+6.50	Jan. 3	3:43 p. m.	+4.21
Nov. 6	11:15 a. m.	+6.92	9	3:43	+4.54
Dec. 7	3:25 p. m.	+5.77	16	3:28	+4.50
			18	3:38	+4.51
1932			24	3:49	+3.75
			30	4:30	+3.78
Jan. 6	1:20 p. m.	+6.28	Feb. 6	2:49	+3.98
Feb. 20	10:00 a. m.	+5.63	14	2:35	+3.99
Mar. 5	1:30 p. m.	+5.49	20	4:05	+3.90
Apr. 18	10:30 a. m.	+5.49	28	2:09	+3.92
May 7	10:15	+5.56	Mar. 6	3:11	+3.87
June 7	9:45	+6.14	13	2:37	+3.72
July 6	4:05 p. m.	+6.64	20	11:22 a. m.	+3.92
Aug. 8	1:10	+7.50	23	3:52 p. m.	+3.79
Sept. 7		+7.35	27	2:30	+3.63
Oct. 10		+7.21	Apr. 1	3:55	+3.77
Nov. 23		+6.92	3	1:05	+3.58
Dec. 21		+6.63	10	2:12	+3.50
			19	2:12	+3.60
1933			25	11:11 a. m.	+3.58
			May 1	3:30 p. m.	+3.74
Jan. 25	10:50 a. m.	+6.35	8	2:50	+3.62
Mar. 6	2:30 p. m.	+5.91	14	5:30	+3.75
9	10:23 a. m.	+5.91	15	3:20	+3.73
Apr. 6	10:15	+6.00	23	3:35	+3.87
25	4:06 p. m.	+5.70	29	3:02	+4.00
May 26	2:45	+5.80	June 5	3:36	+4.00
July 18	3:35	+6.80	13	11:52 a. m.	+3.86
Aug. 19	1:10	+7.20	19	4:32 p. m.	+3.92
Oct. 3	5:10 a. m.	+7.10	27	4:10	+4.14
30	4:15 p. m.	+6.90	July 3	4:15	+3.85
Dec. 5	11:40 a. m.	+6.35	12	11:00 a. m.	+3.97
			16	3:19 p. m.	+3.90
1934			17	4:00	+3.93
			18	11:11 a. m.	+4.08
Jan. 12	2:25 p. m.	+6.08	25	3:10 p. m.	+4.02
Feb. 10	12:19	+5.73	26	2:58	+3.71
Apr. 17	4:42	+5.30	Aug. 2	3:51	+2.47
July 6	2:27	+4.50	7	1:15	+2.70
Aug. 21	3:02	+3.35	21	4:36	+2.25
22	2:02	+3.15	28	4:02	+2.14
31	3:35	+1.80	Sept. 4	12:12	+2.15
Sept. 3	1:54	+2.00	5	2:12	+2.11
6	5:00	+2.35	11	3:52	+2.06
10	4:00	+1.78	18	2:09	+1.93
12	2:24	+1.90	26	2:14	+2.25
15	2:48	+1.90	Oct. 2	3:51	+1.82
17	5:30	+1.83	7	3:21	+1.70
19	5:55	+1.85	8	3:26	+1.69
20	1:17	+1.75	18	2:57	+2.73
24	5:10	+1.73	24	12:00 m.	+3.43
Oct. 3	4:55	+2.57	30	3:30 p. m.	+3.40
9	2:45	+2.56	Nov. 6	3:30	+3.89
13	11:50 a. m.	+2.55	14	11:37 a. m.	+3.98
20	12:08 p. m.	+2.67	19	3:58 p. m.	+3.79
26	10:10 a. m.	+2.67	26	3:00	+4.05
30	3:34 p. m.	+2.78	Dec. 5	11:01 a. m.	+3.95
Nov. 2	3:40	+2.48	13	4:17 p. m.	+3.90
6	1:37	+2.66	19	4:45	+3.37
8	1:41	+3.20	30	2:34	+3.97
12	11:28 a. m.	+3.24			
22	4:20 p. m.	+3.17	1936		
30	2:35	+3.90			
Dec. 6	3:05	+4.06	Jan. 9	3:36 p. m.	+3.81
13	1:24	+4.58			
19	2:41	+4.64			
27	3:15	+4.48			
31	11:35 a. m.	+4.42			

Date	Flow (g.p.m.)	Date	Flow (g.p.m.)	Date	Flow (g.p.m.)
1931		1932—Continued		1933	
Oct. 13	83	Oct. 10	[1] 67	Jan. 25	[1] 51
1932		Nov. 23	[1] 59	Mar. 6	[1] 48
Aug. 11	[1] 69	Dec. 21	[1] 60	9	[1] 53
Sept. 7	[1] 70				

[1] By Salt Lake City Corporation.

(D-2-1)16bbd17. D. G. Lunn, Holiday. State Claim No. 9070. Diameter, 4 inches; depth, 60 feet. Measuring point, center line of outlet, 1.0 foot above land surface and 4,356.53 feet above sea level. Drilled, Sept. 1931. Temperature of water, 52° F. All measurements after Aug. 8, 1932, except Dec. 12, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1934—Con.		
Sept. 15		+2.75	Aug. 16	2:36	+0.12
Oct. 13	5:00 p. m	+2.45	21	2:06	+.17
Nov. 6	11:00 a. m	+1.97	22	1:38	+.26
Dec. 7	3:20 p. m	+1.36	31	3:30	+.05
1932			Sept. 3	11:38 a. m	+.05
			6	5:15 p. m	+.14
			8	1:15	+.10
			10	4:15	+.09
Jan. 6	1:10 p. m	+1.01	12	2:33	+.05
Feb. 4	12:00 m	+.68	17	5:02	.00
Mar. 5	1:15 p. m	+.53	20	12:40	+.10
Apr. 18	10:45	+.74	22	3:22	+.05
May 7	10:00 a. m	+1.28	27	3:46	−.10
June 7	10:05	+2.68	Oct. 1	2:19	−.13
July 6	4:00 p. m	+4.05	3	5:02	−.15
Aug. 8	1:03	+4.32	6	2:05	−.01
Sept. 7		+3.61	9	2:53	−.20
Oct. 10		+3.70	13	11:56 a. m	+.01
Nov. 21		+2.74	16	5:16 p. m	+.11
Dec. 12	12:55 p. m	+2.29	20	11:32 a. m	+.10
21		+2.45	23	2:42 p. m	+.17
			26	10:24 a. m	+.23
1933			30	3:00 p. m	+.25
			Nov. 2	2:20	+.23
Jan. 25	10:35 a. m	+1.70	6	1:25	+.18
Mar. 6	2:12 p. m	+.90	8	1:20	+.15
9	11:50 a. m	+.76	12	11:15 a. m	+.15
Apr. 6	9:58	+.75	13	3:36 p. m	+.24
25	3:52 p. m	+.85	22	2:35	+.08
May 26	2:12	+1.63	30	2:23	+.26
July 18	3:15	+4.08	Dec. 6	2:54	+.24
Aug. 19	12:45	+3.81	19	2:28	+.39
Oct. 3	4:50	+3.35	27	3:02	+.40
30	3:55	+2.83			
Dec. 5	11:40 a. m	+2.14	1935		
			Jan. 3	3:31 p. m	+.26
1934			9	3:27	+.35
			16	3:27	+.33
Jan. 12	2:00 p. m	+1.56	24	3:40	+.29
Feb. 10	11:50 a. m	+1.15	26	10:23 a. m	+.31
Apr. 17	4:54 p. m	+.59	30	4:17 p. m	+.29
July 6	2:05	+1.20	Feb. 6	2:40	+.36
26	3:05	+.73	8	10:12 a. m	+.29

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1935—Con.			1935—Con.		
Feb. 14	2:25 p. m.	+.31	July 25	8:53 a. m.	+3.18
16	11:30 a. m.	+.21	26	8:55	+3.18
20	4:00 p. m.	+.34		4:53 p. m.	+2.76
28	1:20	+.33	Aug. 2	3:45	+2.47
Mar. 6	3:20	+.29	7	12:57	+2.65
13	2:28	+.28	21	4:03	+2.43
23	10:43 a. m.	[1]+.60	28	3:35	+2.27
26	9:15	.0	Sept. 4	11:50 a. m.	+2.15
29	6:00 p. m.	−.38	5	2:30 p. m.	+2.13
Apr. 1	2:35	+.50	11	3:24	+2.12
25	11:22 a. m.	+.55	18	2:20	+1.97
27	10:20	+.62	25	4:46	+2.20
May 1	3:39 p. m.	+.65	26	2:22	+1.86
8	2:10	+.73	Oct. 2	4:08	+1.60
15	2:50	+1.02	8	3:37	+1.60
23	3:06	+1.33	18	3:09	+1.10
29	2:30	+1.62	Nov. 1	11:15 a. m.	+1.77
June 5	3:06	+1.92	19	3:32 p. m.	+1.92
13	11:22 a. m.	+2.07	26	2:33	+1.91
19	3:45 p. m.	+2.30	Dec. 2	3:00	+1.93
27	3:30	+2.90	18	11:45 a. m.	+1.42
July 3	3:32	+2.60	30	2:46 p. m.	+1.60
12	10:19 a. m.	+2.95			
17	3:15 p. m.	+3.03	1936		
18	11:20 a. m.	+3.03			
22	8:05	+3.23	Jan. 9	3:22 p. m.	+1.54

[1] Measuring point changed to top of casting, 4,356.17 feet above sea level

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932—Continued		1933	
Sept. 15	43	Oct. 10	[1] 76	Jan. 25	[1] 45
		Nov. 23	[1] 65	Mar. 6	[1] 31
1932		Dec. 21	[1] 57	9	[1] 28
				Apr. 6	[1] 28
Aug. 16	[1] 69				
Sept. 7	[1] 86				

[1] By Salt Lake City Corporation

(D-2-1)16bbd19. D. G. Lunn, Holliday. State claim No. 9068. Diameter, 4 inches; depth, 60 feet. Measuring point, center line of outlet, 0.5 foot above land surface. Drilled, September 1931. Temperature of water, 52° F. Flow, Sept. 15, 1931, 68 g. p. m. Pressure head, Sept. 15, 1931, 3.38 feet; Oct. 13, 1931, 4.00 feet.

(D-2-1)17baa1. J. B. Erekson, 5419 South 9th East St., Holliday. State claim No. 5387. Diameter, 2 inches; depth, 90 feet. Drilled, 1896. Temperature of water, 53° F. Flow, July 20, 1932, 4.5 g. p. m.

(D-2-1)17bab1. J. B. Erekson, 5419 South 9th East St., Holliday. State claim No. 5385. Diameter, 2 inches; depth, 90 feet. Drilled, 1896. Temperature of water, 52° F. Flow, July 20, 1932, 7.5 g. p. m.

(D-2-1)17bba1. Little Cottonwood—Brown Ditch Co., Murray. State claim No. 6575. Diameter, 2 inches; depth, 80 feet. Measuring point, center line of outlet, 1.5 feet above land surface and 4,324.69 feet above sea level. Drilled, 1890 (1901?). All measurements after Aug. 8, 1932, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Sept. 14		+7.65	Apr. 28	2:45 p. m	+7.05
Oct. 13	4:00 p. m	+7.35	May 29	3:40	+7.40
Nov. 5	11:25 a. m	+7.93	Aug. 21	5:10	+8.07
Dec. 7	3:00 p. m	+7.50	Sept. 27	11:20 a. m	+7.95
			Nov. 1	11:55	+7.30
1932			Dec. 5	10:45	+7.70
Jan. 6	12:55 p. m	+7.21	1934		
Feb. 13	2:10	+7.64			
Mar. 10	1:00	+7.35	Jan. 16	4:30 p. m	+7.80
Apr. 18	11:15 a. m	+7.06	Mar. 24	11:40 a. m	+8.00
May 6	5:12 p. m	+6.99	June 29	11:56	+7.75
June 7	11:00 a. m	+8.36	July 30	1:05 p. m	+7.25
July 6	4:35 p. m	+9.08	Dec. 26	11:45 a. m	+7.8
Aug. 8	12:50	+8.22			
Sept. 9		+7.79	1935		
Oct. 12		+7.79			
Nov. 25		+7.50	Jan. 31	3:25 p. m	+12.20
			Feb. 28	12:48	+12.20
1933			Apr. 8	3:40	+10.90
			May 21	2:05	+11.10
Jan. 6		+7.50	June 6	3:05	+7.80
30	2:55 p. m	+7.35	Sept. 9	11:40 a. m	+7.65
Feb. 23	3:25	+7.35	Oct. 9	5:51 p. m	+6.90
Apr. 7	2:09	+7.15	Nov. 23	11:25 a. m	+11.30

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932—Continued	
Sept. 14	18.0	Nov. 25	[1] 18.8
1932		1933	
Aug. 16	[1] 17.2	Jan. 6	[1] 17.0
Sept. 9	[1] 18.0	30	[1] 18.0
Oct. 12	[1] 19.6	Feb. 23	[1] 17.4

[1] By Salt Lake City Corporation.

(D-2-1)17bbd2. Green Meadow Dairy Farm, Murray. State claim No. 9473. Diameter, 2 inches; depth, 212 feet. Measuring point, center line of faucet outlet over well. Drilled, 1900. Flow, Sept. 29, 1931, 3.5 g. p. m., by Salt Lake City Corporation. Pressure head, Sept. 14, 1931, 0.6 foot.

(D-2-1)17bbd3. Green Meadows Dairy Farm (C. W. Olson), Murray. State claim No. 9474. Diameter, 2 inches; depth, 75 feet. Measuring point, top of casing, at land surface and 4,340.40 feet above sea level. Drilled, 1900. All measurements after Jan. 19, 1933, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1931—Con.		
Aug. 24		[1]−3.50	Oct. 13		−4.13
Sept. 12		[1]−4.21	17		[1]−3.96
14		−3.95	21		[1]−3.99
19		[1]−3.94	22		[1]−3.78
21		[1]−3.98	27		[1]−4.29
25		[1]−3.96	Nov. 2		[1]−4.35
Oct. 2		[1]−3.86	6	11:30 a. m	−4.27
12		[1]−4.15	9		[1]−3.71

[1] By Salt Lake City Corporation.

Date	Hour	Water level (feet)
1931—Con.		
Nov. 19		[1]−4.29
25		[1]−3.94
27		[1]−4.25
Dec. 5		[1]−4.52
7	2:55 p. m.	−4.04
12		[1]−4.17
19		[1]−4.38
26		[1]−4.58
1932		
Jan. 2		[1]−4.60
6	12:45 p. m.	−4.63
9		[1]−4.69
15		[1]−4.59
21		[1]−4.71
30		[1]−4.62
Feb. 4	11:45 a. m.	−4.72
6		[1]−4.75
13		[1]−4.67
20		[1]−4.67
25	12:20 p. m.	−4.79
27		[1]−4.62
Mar. 5		[1]−4.73
10	12:00 m.	−4.98
17	11:45 a. m.	−5.06
24	1:05 p. m.	−4.80
31	12:10	−4.71
Apr. 7	12:40	−4.88
14	11:55 a. m.	−5.05
21	12:05	−4.91
28	12:15	−4.97
May 5	12:20	−4.96
12	12:50	−4.97
19	11:45	−4.86
26	1:23 p. m.	−4.64
June 2	11:55 a. m.	−4.45
9	4:45 p. m.	−4.25
16	3:25	−3.85
23	11:25 a. m.	−4.15
30	10:25	−3.87
July 6	4:40 p. m.	−3.84
14	12:33	−3.81
21	12:10	−3.54
28	8:20 a. m.	−3.57
Aug. 4	11:55	−3.87
11	11:10	−3.52
18	12:05 p. m.	−3.68
25	11:18 a. m.	−3.98
27		[1]−3.83
Sept. 3		[1]−3.86
10		[1]−3.58
17		[1]−3.95
24		[1]−3.94
Oct. 1		[1]−4.08
8		[1]−4.04
15		[1]−4.00
22		[1]−4.09
29		[1]−4.20
Nov. 4		[1]−4.24
12		[1]−4.21
19		[1]−4.33
26		[1]−4.38
Dec. 2		[1]−4.46
9		[1]−4.40
12	1:50 p. m.	−4.41
16		[1]−4.48
24		[1]−4.10
1933		
Jan. 2		[1]−4.58
9		[1]−4.58
12	2:50 p. m.	[1]−4.63
13	10:40 a. m.	−4.64
	1:35 p. m.	−4.64
14	11:10 a. m.	−4.60
	3:00 p. m.	−4.09
1933—Con.		
Jan. 15	9:35 a. m.	−3.74
	2:30 p. m.	−3.72
16	10:40 a. m.	−3.80
	1:45 p. m.	−3.61
17	9:55	−3.71
	3:00	−4.02
18	10:30 a. m.	−4.20
	2:00 p. m.	−4.22
19	9:50 a. m.	−4.23
20	2:50 p. m.	−4.16
21	10:20 a. m.	−4.46
29	11:35	−4.73
Feb. 6	8:15	−4.83
11	11:25	−4.88
16	4:00 p. m.	−4.84
24	2:25	−4.45
Mar. 6	1:55	−4.93
9	9:07 a. m.	−4.95
10	2:15 p. m.	−4.92
11	8:45 a. m.	−4.37
20	9:40	−4.91
25	1:10 p. m.	−4.74
Apr. 1	1:00	−4.92
8	1:40	−4.87
17	3:40	−4.87
22	12:40	−4.98
29	10:35	−4.73
May 6	12:55	−4.87
13	7:50 a. m.	−4.77
20	7:33	−4.60
27	8:40	−4.68
June 3	6:33	−4.42
10	11:45	−4.88
19	10:15	−4.20
July 1	1:30 p. m.	−3.96
17	11:10 a. m.	−3.71
Aug. 2	12:35 p. m.	−3.71
12	11:52 a. m.	−3.73
31	3:19 p. m.	−3.77
Sept. 9	12:45	−3.62
10	2:03	−1.29
13	10:05 a. m.	−2.02
16	1:35 p. m.	−3.54
18	10:09 a. m.	−3.87
Oct. 7	1:20 p. m.	−4.02
21	11:18 a. m.	−4.17
Nov. 7	9:55	−3.96
14	3:30 p. m.	−4.25
17	12:00 m.	−3.98
Dec. 7	3:50 p. m.	−4.02
27	10:47 a. m.	−4.40
1934		
Jan. 15	10:04 a. m.	−4.09
Feb. 1	1:40 p. m.	−4.44
19	5:35	−4.60
Mar. 12	1:36	−4.66
Apr. 4	3:55	−4.64
16	4:06	−4.94
May 16	2:55	−4.50
June 16	12:12	−4.29
27	1:20	−4.21
July 9	2:40	−4.88
21	10:28 a. m.	−4.88
Aug. 2	4:25 p. m.	−5.04
8	2:07	−5.21
5	1:05	−5.17
16	1:40	−5.23
17	9:55 a. m.	−5.08
	3:10 p. m.	−5.20
18	10:00 a. m.	−5.24
20	11:15	−5.28
21	9:55	−5.36
22	10:00	−5.21
24	9:10	−5.29
25	9:05	−5.25
27	11:55	−5.36

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934—Con.			1935—Con.		
Aug. 28	1:24 p. m.	−5.45	Feb. 20	2:35 p. m.	−1.24
31	2:00	−5.28	28	11:05 a. m.	−1.20
Sept. 4	10:50 a. m.	−5.35	Mar. 6	4:20 p. m.	−1.21
5	10:40	−5.34	13	11:05 a. m.	−1.23
8	12:30 p. m.	−5.24	20	1:52 p. m.	−1.13
10	5:30	−5.19	22	2:00	−1.39
12	1:35	−5.37	23	12:05	−1.19
15	3:09	−5.28	25	3:04	−1.20
17	11:45 a. m.	−5.31	26	10:24 a. m.	−4.87
19	11:49	−5.35	27	1:30 p. m.	−1.29
22	12:12 p. m.	−5.38	Apr. 3	10:18 a. m.	−2.35
24	11:45 a. m.	−5.24	10	9:55	−2.50
27	2:33 p. m.	−4.96	19	10:37	−2.56
Oct. 1	1:45	−4.96	24	2:58 p. m.	−2.41
3	2:20	−5.23	May 2	10:38	−2.41
6	2:31	−5.16	8	10:20	−2.40
8	3:25	−5.21	15	10:20	−2.19
9	1:42	−5.24	23	10:31	−2.05
13	11:12 a. m.	−5.20	31	10:25	−1.85
16	2:16 p. m.	−4.74	June 5	10:34	−1.79
20	12:34	−4.76	13	2:40 p. m.	−4.23
23	2:50	−4.92	21	10:29 a. m.	−1.62
26	8:30 a. m.	−4.96	27	10:41	−1.61
29	3:50 p. m.	−4.44	July 3	10:24	−3.86
30	9:46 a. m.	−4.79	11	2:45 p. m.	−4.18
Nov. 2	9:26	−4.79	17	10:45 a. m.	−3.95
6	9:40	−5.03	31	2:20 p. m.	−4.15
8	9:40	−4.86	Aug. 6	4:10	−4.47
9	10:28	−4.75	14	3:52	−4.50
	3:05 p. m.	−4.84	21	11:29 a. m.	−4.34
10	10:12 a. m.	−4.80	28	3:00 p. m.	−4.45
12	9:02	−4.78	Sept. 5	10:16 a. m.	−4.34
13	9:18	−4.77	11	11:47	−4.36
	3:00 p. m.	−3.75	18	10:29	−4.45
14	9:36 a. m.	−3.86	26	11:10	−4.11
17	9:46	−3.92	Oct. 3	11:28	−4.60
23	8:58	−4.89	9	10:24	−4.61
28	3:49 p. m.	−4.77	18	4:30 p. m.	−4.94
30	1:23	−4.48	24	9:15 a. m.	−3.63
Dec. 6	2:02	−4.39	29	1:45 p. m.	−4.35
12	3:05	−1.00	Nov. 6	5:07	−1.80
19	9:37 a. m.	−.98	14	2:27	−1.82
27	1:25 p. m.	−2.46	22	10:15 a. m.	−1.70
1935			Dec. 5	2:16 p. m.	−1.66
			11	11:05 a. m.	−1.50
Jan. 3	10:02 a. m.	−4.43	18	10:31	−3.91
9	9:59	−.83	24	9:52	−3.78
16	9:27	−1.00	30	3:30 p. m.	−1.56
24	9:40	−1.08			
30	1:45 p. m.	−1.16	1936		
Feb. 6	9:58 a. m.	−1.13			
14	9:32	−1.16	Jan. 8	9:37 a. m.	−3.72

(D-2-1)17bcb1. Jessie H. Wheeler estate, Holliday. State claim No. 3468. Diameter, 3 inches; depth, 107 feet. Measuring point, top of casing, 1.2 feet above land surface and 4,341.62 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Dec. 12	1:45 p. m.	−5.45	Jan. 16	10:45 a. m.	−4.93
				1:50 p. m.	−4.78
1933			17	10:00 a. m.	−4.85
				3:05 p. m.	−5.10
Jan. 12	2:53 p. m.	−5.67	18	10:35 a. m.	−5.24
13	10:45 a. m.	−5.66		2:05 p. m.	−5.28
	1:40 p. m.	−5.66	19	9:45 a. m.	[1] −5.26
14	11:15 a. m.	−5.63	20	2:55 p. m.	−5.25
	3:05 p. m.	−5.25	21	10:25 a. m.	[1] −5.29
15	9:40 a. m.	−4.89			
	2:27 p. m.	−4.87			

[1] By Salt Lake City Corporation.

(D-2-1)17cda. Mrs. A. D. Ballard, 955 East Vine St., Murray. Diameter, 1¼ inches; depth, 50 feet. Temperature of water, 51° F. Flow, Aug. 3, 1931, 5.7 g. p. m.; Sept. 23, 1931, 4.1 g. p. m.; Nov. 16, 1931, 1.60 g. p. m.; July 20, 1932, 1.5 g. p. m. First three measurements of flow by Salt Lake City Corporation.

(D-2-1)17cdb. J. F. Erekson, Murray. Diameter, 3 inches. Measuring point, center line of outlet at foot of bluff at land surface and 4,353.72 feet above sea level. Temperature of water, 51° F. Measurements after Aug. 8, 1932, by Salt Lake City Corporation. Part of flow from well operates a hydraulic ram.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1934		
Sept. 14		+3.60	Jan. 12	12:38 p. m.	+2.56
Oct. 13	4:15 p. m.	+3.60	Mar. 20	3:55	+2.08
Nov. 6	12:05	+3.60	Apr. 20	11:17 a. m.	+1.80
Dec. 7	3:50	+3.35	June 21	5:25 p. m.	+2.70
			July 26	2:05	+2.20
1932			Aug. 16	11:55 a. m.	+2.12
			20	3:40 p. m.	+1.80
Jan. 6	1:45 p. m.	+3.02	Oct. 5	9:20 a. m.	+1.66
Feb. 13	1:30	+2.94	Dec. 26	11:00	+1.44
Mar. 5	12:30	+2.74			
Apr. 18	11:45 a. m.	+2.62	1935		
May 7	10:50	+2.75			
June 7	11:40	+4.19	Jan. 31	5:00 p. m.	+1.79
July 6	4:25 p. m.	+4.90	Feb. 28	12:11	+1.66
Aug. 8	2:00	+4.76	Apr. 8	3:05	+1.37
Sept. 7		+4.58	May 20	3:30	+1.60
Oct. 12		+4.00	June 24	5:10	+3.13
Nov. 25		+3.61	July 10	4:15	+2.55
Dec. 12		+3.00	Aug. 30	1:30	+2.75
			Oct. 9	3:45	+2.20
1933			Nov. 23	11:00 a. m.	+2.51
Jan. 6		+2.88	1936		
Mar. 2	12:30 p. m.	+2.09			
Mar. 28	4:10	+2.31	Jan. 23	1:30 p. m.	+2.10
Apr. 26	3:25	+1.98	Feb. 18	11:40 a. m.	+2.00
May 29	5:30	+2.50	Mar. 17	10:20	+2.00
July 11	2:15	+4.40	Apr. 18	9:26	+1.68
Aug. 21	3:40	+4.23	May 13	3:46 p. m.	+2.06
Sept. 28	3:35	+3.80	July 13	4:46	+5.46
Nov. 1	12:55	+3.61	Sept. 4	2:58	+4.20
Dec. 1	3:00	+2.95	Oct. 2	1:35	+4.12
			15	9:15 a. m.	+4.35
			Dec. 16	12:10 p. m.	+3.60

Date	Flow (g. p. m.)	Date	Flow (g. p. m.)
1931		1932—Continued	
Sept. 14	43	Oct. 12	[1] 46
1932		Nov. 25	[1] 45
Aug. 12	[1] 57	1933	
Sept. 7	[1] 55	Jan. 6	[1] 36

[1] By Salt Lake City Corporation.

(D-2-1)17dca2. Ole Engebretsen, 1135 East Vine St., Holliday. Diameter, 2 inches; depth, 50 feet. Measuring point, top of casing, 1.0 foot above land surface and 4,369.43 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1932			1933—Con.		
Dec. 12	1:05 p. m.	−4.94	Jan. 16	10:53 a. m.	−5.53
				1:55 p. m.	−5.55
1933			17	10:05 a. m.	−5.50
				3:10 p. m.	−5.50
Jan. 12	3:00 p. m.	−5.60	18	10:40 a. m.	−5.63
13	10:05 a. m.	−5.64		2:15 p. m.	−5.64
	1:45 p. m.	−5.64	19	9:40 a. m.	[1] −5.56
14	11:20 a. m.	−5.59	20	3:00 p. m.	−5.66
	3:10 p. m.	−5.50	21	10:30 a. m.	[1] −5.64
15	9:15 a. m.	−5.41			
	2:33 p. m.	−5.40			

[1] By Salt Lake City Corporation.

(D-2-1)18bba5. A. T. Saunders, 5451 South State St., Union. Diameter, 3 inches; depth, 70 feet. Measuring point, top of tee 1.3 feet above land surface and 4,298.60 feet above sea level. Drilled, 1931. Flow, Aug. 12, 1932, 84 g. p. m., by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1933			1933—Con.		
Jan. 12	2:20 p. m.	+15.72	Jan. 16	1:20 p. m.	+16.00
13	10:00 a. m.	+15.73	17	10:00 a. m.	[1] +16.00
	1:00 p. m.	+15.73		2:30 p. m.	+15.86
14	10:45 a. m.	+15.72	18	10:07 a. m.	+15.86
	2:30 p. m.	+15.86		1:30 p. m.	+15.86
15	9:10 a. m.	+15.86	19	10:20 a. m.	[1] +15.86
	1:50 p. m.	+15.94	20	10:20	[1] +15.86
16	10:05 a. m.	+16.00	21	9:05	[1] +15.86

[1] By Salt Lake City Corporation.

(D-2-1)19acb1. D. J. Amundsen, 343 East 64th South St., Union. Diameter, 36 inches; depth, 14.6 feet. Measuring point, top of 2- by 4-inch curbing, 2.2 feet above land surface. Depth to water, Aug. 18, 1931, 8.25 feet.

(D-2-1)19adc2. Clifford L. Tame, Union. Diameter, 14 inches; depth, 21 feet. Measuring point, top of tile casing, 0.5 foot above land surface and 4,392.42 feet above sea level. Measurements after Dec. 21, 1932, by Salt Lake City Corporation, except Oct. 29, 1935.

Date	Hour	Water level (feet)
1931		
Aug. 19		−11.50
Sept. 11		−12.60
Oct. 15	2:05 p. m.	−14.20
Nov. 5	1:25	−15.10
Dec. 7	1:10	−16.43
1932		
Jan. 6	3:30 p. m.	−17.35
Feb. 16	10:30 a. m.	−18.08
Mar. 5	2:50 p. m.	−18.34
Apr. 18	2:00	−18.78
May 7	12:15	−17.89
June 7	11:56 a. m.	−13.10
23	1:15 p. m.	−10.79
July 7	3:10	−8.06
Aug. 8	2:50	−7.66
Sept. 6	1:00	−9.23
15	3:00	−9.48
Oct. 3	12:15	−10.65
Nov. 1	12:35	−12.60
Dec. 7	1:55	−14.56
1933		
Jan. 6	11:30 a. m.	−16.01
Mar. 14	12:00	−17.65
Apr. 13	1:30 p. m.	−18.19
May 8	1:45	−17.64
June 15	1:55	−11.34
Aug. 17	2:50	−8.78
Oct. 7	1:30	−12.70
Dec. 21	12:55	−16.66
1934		
Mar. 6	1:45 p. m.	−18.50
19	12:02	−16.90
28	12:30	−18.53
Apr. 4	8:55 a. m.	−18.56
11	2:55 p. m.	−17.85
18	12:25	−18.20
25	2:39	−17.25
May 14	5:50	−15.35
June 5	12:55 p. m.	−13.90
July 3	11:35 a. m.	−12.60
27	11:43	−13.96
Aug. 10	5:20 p. m.	−14.90
22	4:20	−14.96
Sept. 13	1:35	−15.38
17	1:50	−17.12
29	1:23	−15.79
Oct. 10	5:09	−15.54
19	1:38	−15.86
29	9:35 a. m.	−16.27
Nov. 5	9:03	−16.64
14	1:42 p. m.	−16.98
22	10:20 a. m.	−17.29
28	9:02	−17.53
1934—Con.		
Dec. 5	9:07 a. m.	−17.79
14	1:08 p. m.	−18.16
20	11:45 a. m.	−18.32
28	9:40	−18.64
1935		
Jan. 4	9:02 a. m.	−18.78
10	12:53 p. m.	−18.99
17	10:00 a. m.	−19.04
25	9:21	−19.30
Feb. 1	1:17 p. m.	−19.51
7	8:57 a. m.	−19.62
15	9:45	−19.92
23	9:05	−20.24
Mar. 1		[1]
Apr. 20	9:15	−19.46
26	9:15	−19.42
May 3	9:47	−19.14
9	10:28	−18.72
16	10:12	−18.10
24	10:06	−16.72
June 1	9:14	−16.03
6	9:41	−15.47
14	9:10	−14.51
21	2:11 p. m.	−13.13
28	9:40 a. m.	−11.28
July 8	9:42	−10.60
18	2:20 p. m.	−10.50
Aug. 1	10:33 a. m.	−10.04
7	3:38 p. m.	−10.30
17	9:31 a. m.	−10.40
23	10:58	−10.94
29	1:40 p. m.	−10.66
Sept. 6	9:25 a. m.	−11.03
14	9:00	−11.71
21	9:02	−11.95
27	9:22	−12.58
Oct. 5	9:22	−13.26
10	9:42	−13.63
25	9:55	−14.64
29	2:20 p. m.	[2] −15.12
31	10:05 a. m.	−15.19
Nov. 7	9:10	−15.71
15	10:15	−16.17
19	10:35	−18.98
26	10:00	−16.55
Dec. 6	9:18	−17.33
13	9:50	−17.72
19	9:30	−18.04
28	9:05	−18.42
1936		
Jan. 2	9:40 a. m.	−18.70
9	9:40	−19.06

[1] Well dry until Apr. 20.
[2] By U. S. Geological Survey.

(D-2-1)19add3. Emona James, Union. Diameter, 3 inches; depth, 100 feet. Measuring point, top of casing, 0.3 foot above land surface and 4,394.21 feet above sea level. Drilled about 1911. All measurements after May 8, 1933, by Salt Lake City Corporation.

Date	Hour	Water level (feet)
1931		
Aug. 19		−11.70
Sept. 11		−13.10
Oct. 15	2:00 p. m.	−14.42
Nov. 6	1:20	−15.26
Dec. 8	1:25	−16.80
1932		
Jan. 6	3:35 p. m.	−18.05
Feb. 16	10:25 a. m.	−19.38
Mar. 5	2:45 p. m.	−19.79
Apr. 18	2:15	−20.08
May 7	12:50	−18.36
June 7	11:53 a. m.	−11.73
July 7	3:35 p. m.	−8.13
Aug. 8	3:00	−8.28
Sept. 6	1:10	−9.72
Oct. 3	12:25	−10.98
Nov. 1	12:50	−12.99
Dec. 9	10:45 a. m.	−15.12
1933		
Jan. 6	11:40 a. m.	−16.85
Mar. 14	12:20 p. m.	−19.60
May 8	1:55	−18.22
1934		
Mar. 6	1:50 p. m.	−20.08
28	12:35	−20.10
Apr. 4	9:01 a. m.	(1)
11	2:35 p. m.	(1)
18	12:32	−19.40
25	2:42	−18.55
May 14	5:55	−15.52
June 3	12:45	−13.52
July 3	12:40	−13.90
27	11:35 a. m.	−15.40
Aug. 10	5:15 p. m.	−16.90
13	1:30	−18.62
17	2:03	−15.37
1934—Con.		
Aug. 22	4:25 p. m.	−16.42
29	12:18	−17.50
Oct. 10	5:12	−16.37
19	1:44	−17.00
29	9:45 a. m.	−17.74
Nov. 5	9:20	−18.16
14	1:54 p. m.	−18.82
22	10:31 a. m.	−19.31
28	9:07	−19.64
Dec. 5	9:20	−20.02
1935		
May 24	10:10 a. m.	−18.60
June 1	9:16	−15.78
6	9:44	−15.38
14	9:12	−14.55
21	2:14 p. m.	−13.17
28	9:46 a. m.	−11.40
July 8	9:45	−10.10
18	2:26 p .m.	−12.18
Aug. 1	10:40 a. m.	−11.27
7	3:32 p. m.	−11.17
17	9:40 a. m.	−12.48
23	11:04	−12.87
29	1:48 p. m.	−12.90
Sept. 6	9:30 a. m.	−13.57
14	9:08	−13.75
21	9:07	−14.36
27	9:27	−15.00
Oct. 5	9:26	−15.64
10	9:46	−16.17
25	10:20	−17.23
31	10:12	−17.66
Nov. 7	9:15	−18.22
15	10:20	−18.81
19	10:30	−16.77
26	10:10	−19.46
Dec. 6	9:30	−20.27
13		(1)

[1] Obstruction in well; depth to water greater than 20.1 feet.

(D-2-1)19bba3. Richard Kemp, 6103 South State St., Murray. Diameter, 3 inches; depth, 58 feet. Measuring point, top of casing, at land surface and 4,344.56 feet above sea level. Drilled, 1910.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 27		−5.50	Sept. 6	12:45 p. m	−4.73
Sept. 11		−6.00	Oct. 3	12:10	−4.94
Oct. 15	2:10 p. m	−6.40	Nov. 1	12:30	−5.64
Nov. 6	1:30	−6.92	Dec. 9	10:35 a. m	−6.51
Dec. 8	1:05	−7.18	1933		
1932			Jan. 6	11:10 a. m	−7.23
Jan. 6	2:25 p. m	−7.09	Mar. 14	11:30	−6.80
Feb. 16	9:45 a. m	−6.89	Apr. 13	1:40 p. m	−7.86
Mar. 15	9:30	−7.75	May 8	1:40	−7.35
Apr. 18	1:55 p. m	−8.35	June 15	2:05	−4.98
May 7	12:20	−7.72			
June 7	12:05	−3.66	1934		
July 7	2:45	−4.27			
Aug. 8	2:45	−4.40	May 15		(1)

[1] Dry at −9.55 feet; could not pass pump cylinder with tape.

(D-2-1)21dcd3. M. McCarthy, Union. Diameter, 72 inches; depth, 12 feet. Measuring point, top of concrete curb, 3.0 feet above land surface and 4,499.00 feet above sea level. Dug, 1924.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1933			1933—Con.		
Mar. 30		−9.96	June 8	2:20 p. m	−8.65
May 11	1:10 p. m	−10.67	15	1:20	−7.66
18	4:15	−11.00	29	2:00	−6.39
25	2:40	−10.65	July 6	2:00	−6.43
June 1	2:45	−9.35			

(D-2-1)22aab1. Georgine B. Jensen, Union. State claim No. 8835. Diameter, 36 inches; depth, 10.5 feet. Measuring point, top of wooden platform, at land surface and 4,537.66 feet above sea level. Dug, 1922.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1933			1933—Con.		
Mar. 30		−8.6	July 6	12:37 p. m	−3.75
May 11		−8.29	Aug. 3	1:15	−7.17
18		−8.85	17	2:10	−7.38
25	1:25 p. m	−6.08	Oct. 7	12:30	−8.79
June 1	1:00	−3.78	Nov. 13	5:15	−8.90
15	12:05	−1.97	Dec. 21	12:05	−9.35
29	1:00	−3.70			

(D-2-1)22bba1. Salt Lake City Corporation, Union. State claim No. 4846. Diameter, 20 inches; depth, 500 feet. Measuring point, top of casing, 1.0 foot above land surface and 4,448.86 feet above sea level. Drilled, 1934. Measurements after Aug. 16, 1934, by Salt Lake City Corporation. Measurements by air gage from Sept. 12 to Oct. 15, 1934, inclusive.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1934			1934—Con.		
Aug. 16		[1]—65.85	Nov. 14	11:40 a. m.	—70.50
Sept. 12	4:12 p. m.	[2]—148	17	10:21	—70.34
14	3:40	[3]—152	23	9.38	—70.54
15	2:00	[3]—138	30	3:15 p. m.	—70.46
17	3:48	[3]—132	Dec. 5	2:35	—70.61
19	4:15	[3]—132	8		[4]
20	2:30	[3]—132			
22	2:00	[3]—132	1935		
Oct. 1	3:45	—72			
4	11:36 a. m.	—74	Apr. 3	3:35 p. m.	—71.25
13	11:50	[3]—96	11	4:30	—71.72
15	2:15 p. m.	—75	18	2:05	—71.63
18	3:40	—70.63	25	2:45	—71.67
20	11:45 a. m.	—70.70	May 2	2:30	—71.53
22	10:29	—70.54	9	11:30 a. m.	—71.45
26	10:45	—70.64	16	2:25 p. m.	—71.17
31	3:05 p. m.	—70.37	23	11:45 a. m.	—71.03
Nov. 2	10:10 a. m.	—70.41	31	10:10	—70.77
6	10:49	—70.62	June 6	11:10	—70.25
8	10:25	—70.53	13	10:55	—70.01
12	9:43	—70.52	27	4:10 p. m.	—68.80

1 Below top of casing, 1.0 foot above land surface, before any pumping from well.
2 Pumping 10.0 cubic feet per second.
3 Pumping from 6.1 to 8.1 cubic feet per second.
4 Water-stage recorder installed Dec. 8, 1934; removed Mar. 30, 1935.

Water-stage recorder operated by Salt Lake City Corporation from Dec. 8, 1934, to Mar. 29, 1935. Measuring point was top of instrument platform, 4,449.98 feet above sea level.

Depth to water (feet) at 12 noon, 1934–35

Day	Dec.	Jan.	Feb.	Mar.	Day	Dec.	Jan.	Feb.	Mar.
1		71.88	72.19	71.89	16	71.65	71.68	72.34	
2		71.73	72.17	71.86	17	71.58	71.71	72.29	
3		71.73	72.02	71.71	18	71.75	71.60	72.21	
4		71.60	71.87	71.82	19	71.54	71.43	72.13	
5		71.60	71.77	72.00	20	71.51	72.07	71.95	
6		71.64	71.71	72.10	21	71.66	72.25	72.10	72.02
7		71.65	71.75	71.96	22	71.60	72.20	72.08	72.29
8	71.71	71.58	71.87	71.83	23	71.59	72.06	71.72	72.19
9	71.64	71.66	71.95	72.00	24	71.62	72.12	71.76	72.19
10	71.67	71.75	71.97	72.20	25	71.65	72.06	72.14	72.21
11	71.67	71.65	71.91	72.32	26	71.50	71.98	72.19	72.28
12	71.60	71.69	71.81	72.31	27	71.43	71.98	72.13	72.38
13	71.40	71.81	71.80	72.29	28	71.50	71.98	72.01	72.38
14	71.37	71.78	71.91	72.04	29	71.65	72.02		72.35
15	71.46	71.58	72.28		30	71.61	72.07		
					31	71.90	72.13		

(D-2-1)22dcb1. Decker Bros., 7875 South 23d East St., Union. Diameter, 72 inches; depth, 32 feet. Measuring point, top of concrete curb, 1.25 feet above land surface and 4,574.85 feet above sea level. Dug, 1931. Measurements after Nov. 13, 1933, by Salt Lake City Corporation, except as noted.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1934—Con.		
Aug. 18		−28.35	Aug. 20	4:45 p. m.	−30.35
Sept. 9		−27.90	22	4:10	−30.40
Oct. 15	12:45 p. m.	−28.68	25	3:00	−30.48
Nov. 6	12:20	−29.09	28	2:30	−30.42
Dec. 8	2:35	−29.68	Sept. 4	4:10	[1]
1932			1935		
Jan. 7	2:40 p. m.	−30.41	June 21	11:22 a. m.	−30.51
Feb. 18	12:30	−31.77	28	2:50 p. m.	−26.47
Mar. 5	1:50	−30.95	July 8	1:40	−24.44
Apr. 18	2:30	−31.41	19	9:24 a. m.	−23.28
May 7	2:25	−31.39	Aug. 2	4:50 p. m.	−22.65
June 8	6:05	−26.93	7	11:50 a. m.	−22.30
23	12:40	−23.99	16	2:44 p. m.	−22.25
July 7	4:00	−19.15	23	2:06	−22.10
Aug. 8	3:25	−18.54	29	10:11 a. m.	−21.95
Sept. 6	1:30	−19.53	Sept. 5	3:00 p. m.	−21.92
Oct. 3	12:35	−20.91	13	2:46	−22.47
Nov. 1	1:05	−22.59	18	2:56	−22.48
Dec. 7	2:05	−23.82	26	3:18	−22.73
			Oct. 3	3:45	−22.87
1933			9	1:46	−23.27
			24	4:22	−23.70
Jan. 5	2:50 p. m.	−24.65	29	2:40	[2]−24.21
Mar. 14	12:30	−26.90	31	3:52	−24.46
Apr. 13	12:35	−27.14	Nov. 7	3:25	−24.44
May 8	2:08	−27.34	14	3:56	−25.12
June 15	12:55	−19.44	19	3:10	−25.25
Aug. 17	2:20	−17.43	26	1:40	−25.52
Nov. 13	5:10	−22.92	Dec. 5	3:40	−25.83
			13	3:20	−26.18
1934			19	3:40	−26.27
			28	11:35 a. m.	−26.76
Aug. 14	1:00 p. m	−30.42			
15	10:35 a. m.	−30.37	1936		
16	3:45 p. m.	−30.36			
17	11:54 a. m.	−30.30	Jan. 2	3:28 p. m.	−26.98
	1:22 p. m.	−30.36	9	2:25	−27.03

[1] Dry at 30.50 feet until June 21, 1935.
[2] By U. S. Geological Survey.

(D-2-1)23bb. James L. Newman, Union. Diameter, 36± inches; depth, 14.5± feet. Measuring point, top of wooden curb, 1.0 foot above land surface and 4,563.51 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1933			1933—Con.		
Mar. 30		[1]	June 15	12:10 p. m.	−5.32
May 11	12:35 p. m.	−12.69	29	1:10	−5.87
18	3:38	−12.74	July 6	12:41	−9.43
25	1:30	−12.07	Aug. 3	1:10	−13.07
June 1	1:05	−10.55	17	1:50	−14.00
8	12:55	−6.45	Oct. 7	12:40	[1]

[1] Dry.

(D-2-1)23dbb1. Herbert S. Auerbach, Holliday. Diameter, 15 inches; depth, 201 feet. See U. S. Geological Survey Water-Supply Paper 817, p. 444.

(D-2-1)27bbb2. Perry Boyce, Union. State claim No. 7386. Diameter, 36 inches; depth, 22 feet. Measuring point, top of wooden platform, at land surface and 4,545.47 feet above sea level. Dug, 1906.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Aug. 18		−17.45	Oct. 7	1:25 p. m.	−17.25
25		−17.50	Nov. 13	5:05	−18.27
1932			1934		
Dec. 1	10:20 a. m.	−17.44	Apr. 18	5:23 p. m.	(1 2)
8	1:30 p. m.	−17.51	June 5	5:30	(1 2)
15	3:55	−17.57	1935		
22	1:10	−17.67	June 13	3:25 p. m.	2 −13.40
29	3:15	−17.77	Oct. 29		(1)
1933					
Aug. 17	2:30 p. m.	−16.00			

1 Dry at −20.7 feet.
2 By Salt Lake City Corporation.

Water-stage recording gage operated on this well from Sept. 17, 1931, to Nov. 22, 1932, and from Jan. 5, 1933, to Aug. 3, 1933.

Mean daily depth to water (feet), 1931

Day	Sept.	Oct.	Nov.	Dec.	Day	Sept.	Oct.	Nov.	Dec.
1		21.11	21.15	21.22	16		21.03	20.95	21.32
2		20.97	21.16	21.21	17	21.02	20.99	20.97	21.32
3		20.98	21.17	21.20	18	21.03	20.97	20.99	21.32
4		21.11	21.18	21.21	19	21.03	21.00	21.02	21.33
5		21.12	21.18	21.23	20	21.03	21.02	20.98	21.31
6		21.14	21.19	21.24	21	21.01	21.03	20.99	21.28
7		21.15	21.19	21.21	22	20.99	21.04	21.02	21.30
8		21.17	21.18	21.20	23	21.01	21.07	21.08	21.33
9		21.16	21.19	21.21	24	21.04	21.13	21.13	21.35
10		21.16	21.15	21.24	25	21.05	21.12	21.11	21.33
11		21.17	21.13	21.26	26	21.06	21.13	21.08	21.33
12		21.15	21.14	21.28	27	21.07	21.16	21.13	21.33
13		21.11	21.08	21.30	28	21.04	21.15	21.15	21.29
14		21.06	21.00	21.31	29	21.07	21.15	21.18	21.30
15		21.05	20.96	21.32	30	21.13	21.14	21.20	21.37
					31		21.13		21.36

Mean daily depth to water (feet), 1932

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1	21.34	21.54	21.38	21.60	21.60	11.50	9.28	13.63	15.78	16.70	17.30
2	21.35	21.55	21.36	21.58	21.58	11.61	9.45	13.73	15.69	16.72	17.32
3	21.38	21.58	21.38	21.61	21.59	11.73	9.62	13.82	15.61	16.75	17.22
4	21.40	21.59	21.42	21.62	21.59	11.81	9.74	13.92	15.70	16.78	17.01
5	21.40	21.58	21.41	21.62	21.59	11.85	9.68	14.01	15.76	16.79	17.06
6	21.39	21.56	21.39	21.65	21.57	11.91	9.86	14.11	15.81	16.81	17.12
7	21.41	21.55	21.40	21.64	21.56	11.99	10.07	14.15	15.86	16.84	17.21
8	21.42	21.56	21.42	21.64	21.54	12.06	10.26	14.15	15.31	16.87	17.26
9	21.40	21.55	21.43	21.66	21.52	12.01	10.45	14.28	15.31	16.89	17.29
10	21.41	21.54	21.44	21.66	21.43	11.76	10.63	14.39	15.58	16.91	17.32
11	21.39	21.52	21.46	21.66	20.91	11.79	10.80	14.50	15.76	16.92	17.33
12	21.30	21.47	21.51	21.65	19.30	11.90	10.96	14.60	15.89	16.94	17.31
13	21.39	21.39	21.50	21.66	18.73	11.99	11.11	14.66	15.98	16.98	17.28
14	21.46	21.38	21.45	21.66	18.62	12.05	11.27	14.74	16.04	17.00	17.26
15	21.46	21.35	21.46	21.65	17.40	12.11	11.42	14.83	16.11	17.02	17.26
16	21.46	21.34	21.51	21.62	15.95	11.86	11.57	14.92	16.18	17.04	17.25
17	21.49	21.36	21.54	21.62	15.04	11.61	11.71	15.01	16.22	17.07	17.24
18	21.49	21.35	21.54	21.64	14.89	11.43	11.85	15.08	16.26	17.09	17.25
19	21.43	21.35	21.52	21.61	14.78	11.30	12.00	15.17	16.31	17.12	17.26
20	21.44	21.35	21.50	21.54	14.72	11.21	12.15	15.25	16.35	17.14	17.27
21	21.49	21.38	21.57	21.56	14.43	11.17	12.27	15.33	16.39	17.14	17.29
22	21.50	21.40	21.58	21.61	13.55	11.15	12.40	15.41	16.43	17.15	17.32
23	21.51	21.41	21.57	21.64	12.95	10.23	12.53	15.39	16.45	17.18	------
24	21.51	21.40	21.58	21.63	12.67	9.43	12.67	15.36	16.48	17.20	------
25	21.49	21.41	21.58	21.61	12.47	9.33	12.80	15.48	16.51	17.21	------
26	21.48	21.42	21.59	21.58	12.42	9.34	12.95	15.54	16.55	17.22	------
27	21.48	21.41	21.60	21.59	12.34	9.47	13.08	15.61	16.59	17.23	------
28	21.52	21.37	21.56	21.61	11.95	9.39	13.19	15.56	16.62	17.24	------
29	21.53	21.34	21.57	21.63	11.56	9.21	13.30	15.47	16.66	17.25	------
30	21.52	------	21.62	21.63	11.41	9.21	13.42	15.63	16.67	17.28	------
31	21.54	------	21.63	------	11.41	------	13.53	15.71	------	17.29	------

Mean daily depth to water (feet), 1933

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1	------	19.52	20.58	18.97	20.56	15.27	13.02	15.27
2	------	19.60	20.59	19.08	20.56	15.30	13.08	15.33
3	------	19.65	20.59	19.18	20.55	15.37	12.52	------
4	------	19.73	20.59	19.26	20.55	15.40	12.86	------
5	17.92	19.77	20.60	19.38	20.55	15.45	13.28	------
6	17.95	19.79	20.60	19.47	20.53	15.36	13.55	------
7	18.00	19.83	20.61	19.56	20.51	15.30	13.74	------
8	18.04	19.89	20.61	19.65	20.48	15.30	13.75	------
9	18.07	19.94	20.61	19.75	20.44	15.30	13.90	------
10	18.13	19.98	20.61	19.86	20.40	15.31	14.03	------
11	18.22	20.03	20.61	19.96	20.36	14.91	14.14	------
12	18.28	20.06	20.60	20.02	20.35	14.38	14.22	------
13	18.34	20.10	20.60	20.09	20.33	14.25	13.79	------
14	18.39	20.16	20.60	20.14	20.30	14.22	13.70	------
15	18.40	20.23	20.59	20.19	20.25	14.25	14.06	------
16	18.48	20.26	20.56	20.21	20.21	14.11	14.28	------
17	18.54	20.29	20.49	20.24	20.00	13.51	14.43	------
18	18.62	20.31	20.45	20.29	18.25	13.19	14.34	------
19	18.70	20.36	20.35	20.35	16.37	12.99	14.29	------
20	18.76	20.40	20.19	20.37	15.30	12.99	14.48	------
21	18.83	20.42	19.95	20.41	11.74	12.30	14.62	------
22	18.87	20.45	19.73	20.44	------	11.52	14.76	------
23	19.03	20.48	19.51	20.46	------	11.53	14.86	------
24	19.07	20.49	19.33	20.47	------	11.72	14.82	------
25	19.11	20.53	19.17	20.50	14.30	11.96	14.94	------
26	------	20.54	19.02	20.51	13.92	12.20	15.04	------
27	19.22	20.54	18.93	20.53	13.89	11.92	15.12	------
28	19.24	20.56	18.87	20.54	14.24	12.15	15.13	------
29	19.31	------	------	20.55	14.56	12.46	14.77	------
30	19.38	------	18.83	20.56	14.83	12.76	15.00	------
31	19.45	------	18.87	------	15.08	------	15.16	------

(D-2-1)29abc. J. Walker, Union. Diameter, 36 inches; depth, 8.6 feet. Measuring point, top of brick curb, at land surface. Depth to water, Aug. 18, 1931, 7.55 feet.

(D-2-1)29acb4. Lucy G. Green, Union. State claim No. 8574. Diameter, 36 inches; depth, 11.4 feet. Measuring point, top of brick curb, at land surface and 4,463.28 feet above sea level. Dug, 1880. Measurements after June 15, 1933, by Salt Lake City Corporation, except Oct. 29, 1935.

Date	Hour	Water level (feet)
1931		
Sept. 11		−8.10
Oct. 15	1:00 p. m.	−9.85
Nov. 6	12:30	−9.50
Dec. 8	2:30	−10.63
1932		
Jan. 6	3:45 p. m.	−10.55
Feb. 16	11:20 a. m.	−9.01
Mar. 5	2:05 p. m.	−9.45
Apr. 18	2:50	−7.67
May 7	2:45	−6.24
June 7	1:55	−2.46
July 7	4:20	−2.11
Aug. 8	3:45	−1.96
Sept. 6	1:45	−2.98
Oct. 3	12:45	−3.93
Nov. 1	1:20	−5.61
Dec. 7	2:15	−7.28
1933		
Jan. 5	3:15 p. m.	−9.19
Mar. 13	3:45	−8.22
Apr. 13	1:10	−7.97
May 8	2:20	−6.05
June 15	1:25	−2.34
1934		
Mar. 7	9:00 a. m.	−10.35
18	1:00 p. m.	−10.55
28	3:50	−10.87
Apr. 4	11:00 a. m.	−10.70
11	3:45 p. m.	−10.40
18	2:18	−9.50
25	3:50	−7.00
May 14	5:04	−4.90
June 15	1:36	−4.00
July 3	1:45	−6.01
27	12:10	−10.04
Aug. 10	4:25	−11.25
29	2:10	(1)
1935		
May 9	10:07 a. m.	−11.02
1935—Con.		
May 16	10:50 a. m.	−9.74
24	10:47	−8.29
June 1	9:44	−7.29
6	10:15	−7.04
14	9:43	−5.11
21	2:47 p. m.	−4.25
28	10:30 a. m.	−3.10
July 8	10:14	−2.22
19	10:35	−1.43
Aug. 1	11:32	−2.90
8	9:12	−3.34
17	10:13	−3.15
23	11:38	−3.26
29	2:40 p. m.	−3.72
Sept. 6	10:22 a. m.	−3.69
7	9:30	−4.24
9	9:48	−4.98
10	9:40	−5.48
11	10:10	−5.95
13	9:26	−6.38
14	10:12	−6.42
16	9:08	−6.48
20	9:39	−7.30
21	9:51	−7.18
27	10:12	−7.81
Oct. 5	10:08	−8.82
10	10:30	−9.04
23	10:23	−9.51
25	11:30	−10.10
29	2:50 p. m.	−10.11
31	11:35 a. m.	−9.95
Nov. 7	11:05	−9.95
15	11:41	−10.12
19	11:20	−10.16
26	11:02	−10.28
Dec. 6	10:15	−10.66
13	11:15	−10.82
19	10:25	−10.94
28	9:52	−11.16
1936		
Jan. 2	10:55 a. m.	−11.27
9		(2)

[1] Well dry until May 9, 1935.
[2] Well dry.

(D-2-1)29dcd. ——— Welch, Union. Diameter, 30 inches; depth, 15 feet. Measuring point, top of 2- by 6-inch curb, at land surface and 4,499.57 feet above sea level. Dug, 1927. Measurements after July 6, 1933, by Salt Lake City Corporation.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Sept. 11		−12.65	Mar. 30	2:55 p. m.	−11.84
Oct. 15	1:00 p. m.	−13.45	May 8	2:55	−11.39
Nov. 5		(1)	June 15	1:30	−5.88
Dec. 8		(1)	July 6	2:05	−4.32
1932			1935		
Feb. 16	1:35 p. m.	(1)	May 10	1:48 p. m.	[4] −18.60
Mar. 15	11:15 a. m.	(2)	Sept. 6	11:01 a. m.	−15.82
Apr. 18	4:15 p. m.	(2)	7	9:37	−15.86
May 7	3:06	(2)	9	9:42	−16.23
June 7	2:10	−8.17	10	9:44	−16.00
July 20	6:30	−3.97	11	10:02	−16.03
Aug. 8	5:20	−6.31	13	9:19	−16.18
Sept. 6	3:05	−7.64	14	10:22	−16.23
Oct. 3	1:50	−10.14	16	9:01	−16.32
Nov. 1	2:40	−11.12	20	9:30	−16.58
Dec. 7	2:25	−12.34	21	9:43	−16.56
			27	10:00	−16.70
1933			Oct. 5	10:00	−16.97
			10	10:22	−17.32
Jan. 5	3:45 p. m.	−13.23	23	10:12	−17.21
Feb. 20		[3] −13.8	29	2:48 p. m.	−16.98
Mar. 13	4:30 p. m.	−9.69			

[1] Dry at −13.5 feet.
[2] Dry at −16.5 feet.
[3] Reported.
[4] Well deepened to 20.5 feet.

(D-2-1)30abc3. Ray Ahlstrom, Union. State claim No. 4572. Drilled, 1909. Temperature of water, 50° F. Reported depth to water, 6.0 feet when drilled. Depth to water, Mar. 13, 1933, greater than 25 feet.

(D-2-1)30adb. James Oborn, Union. Diameter, 6 inches; depth, 100 feet. Measuring point, top of casing, 0.5 foot above land surface. Drilled, 1933. Depth to water, Oct. 19, 1933, 7.1 feet (casing perforated entire depth).

(D-2-1)30adb1. Jacob H. Griffith, Union. State claim No. 3629. Diameter, 3 inches; depth, 210 feet. Measuring point, top of casing, 0.9 foot above land surface and 4,417.51 feet above sea level. Drilled, 1896. Measurements after Dec. 21, 1933, by Salt Lake City Corporation, except Oct. 29, 1935.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 18		−36.00	June 7	1:45 p. m.	−38.46
Sept. 11		−37.20	July 7	4:25	−35.95
Oct. 15	1:50 p. m.	−38.60	Aug. 8	4:00	−35.39
Nov. 6	12:40	−39.00	Sept. 6	2:00	−36.23
Dec. 8	2:15	−40.03	Oct. 3	1:00	−36.81
			Nov. 1	1:20	−38.18
1932			Dec. 9	11:05 a. m.	−39.67
Jan. 6	4:00 p. m.	−41.03	1933		
Feb. 16	11:45 a. m.	−42.01			
Mar. 5	2:20 p. m.	−42.32	Jan. 5	3:30 p. m.	−41.02
Apr. 18	3:00	−42.91	Mar. 13	2:30	−42.89
May 7	3:05	−42.53	Apr. 13	1:20	−43.39

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1933—Con.			1935—Con.		
May 8	2:27 p. m.	−42.98	Mar. 1	10:20 a. m.	−47.18
June 15	1:45	−39.16	8	10:33	−47.25
Aug. 17	2:45	−36.71	14	10:17	−47.57
Dec. 21	1:05	−42.06	21	11:03	−47.62
			29	10:09	−47.86
1934			Apr. 4	10:21	−47.98
			11	10:50	−48.30
Mar. 14	1:35 p. m.	−44.00	20	9:36	−48.06
28	3:26	−44.30	26	9:38	−48.16
Apr. 4	10:50 a. m.	−44.18	May 3	10:26	−48.10
11	3:20 p. m.	−44.50	9	10:45	−47.85
25	3:28	−43.70	16	10:32	−47.30
May 14	5:15	−42.15	24	10:30	−46.78
June 5	1:16	−40.55	June 1	9:30	−46.09
July 3	1:15	−41.30	6	9:58	−45.84
27	2:15	−42.55	14	9:31	−45.01
Aug. 10	4:05	−43.28	21	2:29 p. m.	−44.10
Sept. 3	2:20	−43.83	28	10:06	−43.25
29	1:44	−44.50	July 8	10:00	−42.20
Oct. 15	1:35	−43.50	19	10:18	−41.80
19	2:14	−43.82	Aug. 1	11:00 a. m.	−42.40
29	10:25 a. m.	−44.15	7	3:55 p. m.	−42.20
Nov. 5	10:00	−44.47	17	10:00 a. m.	−42.70
14	2:37 p. m.	−44.64	29	2:26 p. m.	−43.14
22	10:58 a. m.	−44.96	Sept. 6	9:49 a. m.	−43.37
28	9:44	−45.11	14	9:21	−43.90
Dec. 5	9:42	−45.38	21	9:22	−44.00
14	1:33 p. m.	−45.38	27	9:40	−44.30
20	1:30	−45.61	Oct. 5	9:40	−44.80
24	10:30 a. m.	−45.73	10	10:00	−45.10
			25	10:55	−45.26
1935			29	3:20 p. m.	−45.27
			31	10:57 a. m.	−45.52
Jan. 4	9:39 a. m.	−45.94	Nov. 7	9:50	−45.79
10	1:22 p. m.	−46.10	Dec. 28	9:26	−47.16
17	10:35 a. m.	−46.23			
25	9:50	−46.61	1936		
Feb. 1	1:40 p. m.	−46.82			
7	9:37 a. m.	−46.61	Jan. 2	10:10 a. m.	−47.30
15	10:15	−47.19	9	10:00	−47.48

(D-2-1)31bcb1. L. Jacobsen, Sandy. State claim No. 1615. Diameter, 4 inches; depth, 210 feet. Drilled 1915. Reported depth in water, Aug. 27, 1931, 80 feet below land surface.

(D-2-1)31bda1. W. J. Allred, Sandy. Diamter, 3 inches; depth, 95–113 feet. Measuring point, top of concrete curb, 0.5 foot above land surface and 4,425.16 feet above sea level. Drilled, 1913.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 27		−53.10	Aug. 8	5:05 p. m.	−55.70
Sept. 11		−53.40	Sept. 6	2:55	−54.97
Oct. 15	2:50 p. m.	−54.45	Oct. 3	1:40	−54.52
Nov. 5	2:05	−54.90	Nov. 1	2:25	−54.83
Dec. 8	2:00	−55.62	Dec. 9	12:05	−56.03
1932			1933		
Jan. 3	4:35 p. m.	−56.33	Jan. 6	12:25 p. m	−57.37
Feb. 16	1:20	−58.48	Mar. 13	5:00	[1]
Mar. 15	11:00 a. m.	[1]	May 8	2:45	[1]
Apr. 18	4:05 p. m.	[1]	June 15	2:50	[1]
May 9	12:08	[1]	Oct. 7	1:50	−56.70
June 7	2:37	−58.08			
July 21	1:10	−56.88	1935		
			May 10	1:30 p. m.	[1]

[1] Dry about 58 to 58.5 feet (pump cylinder).

(D-2-1)33addl. Ira and Bert Proctor, Sandy. State claim No. 2126. Diameter, 4 inches: depth, 254 feet. Drilled, 1916. Temperature of water, 51° F.

(D-2-1)33cdcl. ——— Pixton (Bob Holt), Sandy. Diameter, 36 inches; depth, 109 feet. Measuring point, top of curb, 0.9 foot above land surface and 4,699.38 feet above sea level.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 19		−106.8	July 20	6:15 p. m.	−111.88
Oct. 15	1:35 p. m.	−108.1	Aug. 9	11:45 a. m.	−110.26
Nov. 5	2:55	−108.3	Sept. 6	3:25 p. m.	−109.37
Dec. 8	3:00	−108.8	Oct. 3	2:20	−107.83
1932			Nov. 1	3:20	−107.74
			Dec. 9	11:45 a. m.	−108.00
Jan. 7	3:00 p. m.	(1)	1933		
Feb. 16	1:50	(1)			
Mar. 15	11:30 a. m.	(1)	Jan. 5	4:05 p. m.	−106.48
Apr. 18	4:25 p. m.	(1)	1935		
May 7	3:40	(1)			
June 7	3:15	−112.0	May 17		(1)

1 Dry at −109 feet.

(D-2-1)34acbl. Salt Lake City Corporation, Union. State claim No. 4834. Diameter, 15½ to 12½ inches; depth, 447 feet. Measuring point, 3-inch hole in pump, 3.58 feet above top of casing, 2.3 feet above land surface and 4,640.93 feet above sea level. Drilled, 1934. Well plugged back and drawing water from 288 to 308 feet. Depth to water by Salt Lake City Corporation: Jan. 28, 1937, 249.52 feet; Jan. 20, 1938, 247.23 feet.

(D-3-1)5cdcl. Sam Jones, Sandy. Diameter, 35 inches; depth, 19.5 feet. Measuring point, top of concrete curb, 0.5 foot above land surface. See U. S. Geological Survey Water-Supply Paper 817, p. 444.

(D-3-1)7bdal. Joe Mace, Sandy. Diameter, 36 inches; depth, 60 feet. Measuring point, top of curb, 3.0 feet above land surface. Dug, 1914. Depth to water, Aug. 27, 1931, 54.05 feet.

(D-3-1)7caal. Tom Monahan, Sandy. Diameter, 36 inches; depth, 53 feet. Measuring point, top of wood curb, 2.5 feet above land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933—Con.		
Sept. 14		−53.05	May 8	3:45	−53.78
Oct. 15	4:10 p. m.	−53.25	Oct. 10	11:15 a. m.	−52.20
Nov. 5	3:30	−53.32			
Dec. 8	3:40	−53.48	1934		
1932					
			May 15	4:50 p. m.	−54.00
Jan. 6	5:55 p. m.	−53.72	Oct. 31	3:00	−54.74
Feb. 16	3:10	−54.14			
Mar. 15	2:45	−54.70	1935		
Apr. 19	4:15	−55.19	May 17	10:58 a. m.	1 −54.89
May 9	1:25	−55.68	July 13	9:36	1 −55.55
June 7	5:12	−55.76	Aug. 24	10:15	1 −54.40
July 20	4:03	−53.52	Oct. 10	2:12 p. m.	1 −54.10
Aug. 9	12:30	−52.87	29	12:05	−53.82
Sept. 6	4:00	−52.10	Dec. 13	11:20 a. m.	1 −53.75
Oct. 3	3:05	−52.18			
Nov. 1	3:50	−52.41	1936		
Dec. 7	2:45	−52.68	Feb. 11	3:15 p. m.	1 −54.14
1933			Mar. 16	2:20	1 −54.65
			Apr. 10	2:00	1 −54.73
Jan. 6	1:55 p. m.	−52.93	13	11:10 a. m.	−54.97
Mar. 7	3:35 p. m.	−53.64	June 6	3:55 p. m.	−55.05

1 By Salt Lake City Corporation.

(D–3–1)7caa2. Geo. Smith, Sandy. Diameter, 3 inches. Measuring point, top of casing, 0.5 foot above land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 27		−102.20	Aug. 9	12:25 p. m.	−104.65
Sept. 14		−102.15	Sept. 6	3:55	−104.95
Oct. 15	4:05 p. m.	−102.60	Oct. 3	3:00	−105.04
Nov. 5	3:25	−102.67	Nov. 1	3:45	−104.94
Dec. 8	3:35	−102.45	1933		
1932			Jan. 6	2:30 p. m.	−105.66
Jan. 6	5:50 p. m.	−103.15	Mar. 7	3:25	−105.97
Feb. 16	3:00	−103.52	May 8	3:40	−106.66
Mar. 15	2:15	−103.59	Oct. 10	11:10 a. m.	−107.15
Apr. 19	4:05	−103.74	1934		
May 9	1:15	−104.72			
June 7	5:05	−104.78			
July 20	3:45	−104.94	May 15	4:40 p. m.	−108.4

(D–3–1)8bbb1. A. E. Cox, Sandy. Diameter, 36 inches; depth, 11.5 feet. Measuring point, bottom of 2½-inch timber over well, at land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 19		−2.20	Oct. 3	2:35	−2.24
Sept. 14		−2.35	Nov. 1	3:40	−2.36
Oct. 15	3:40 p. m.	−2.45	Dec. 7	2:40	−2.49
Nov. 5	3:20	−2.53	1933		
Dec. 8	3:15	−2.65			
1932			Jan. 6	1:30 p. m.	−2.58
			May 8	3:25	−2.45
Jan. 3	5:15 p. m.	−2.70			
Feb. 16	2:35	−2.76	1934		
Mar. 15	1:50	−2.78			
Apr. 18	3:50	−2.82	May 29	10:40 a. m.	−2.46
May 9	1:00	−2.83	Oct. 31	3:10 p. m.	−3.30
June 7	3:30	−2.30			
July 20	4:30	−2.20	1935		
Aug. 9	12:10	−2.19			
Sept. 6	3:40 p. m.	−1.68	May 17	10:20 a. m.	[1] −2.50

[1] By Salt Lake City Corporation.

(D-3-1)17bdd1. Intermountain Building & Loan Ass'n, Sandy. State claim No. 15335. Diameter, 48 inches; depth, 104 feet. Measuring point, top of wood curb, 1.0 foot above land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Oct. 15		−98.3	Dec. 7	3:00 p. m.	−96.26
Nov. 9		−98.85			
Dec. 9		−99.2	1933		
1932			Jan. 6	2:55 p. m.	−96.31
			Mar. 7	2:30	−96.34
Jan. 7	4:05 p. m.	−99.4	May 8	3:55	−96.92
Feb. 17	2:35	−99.73	Oct. 10	11:35 a. m.	−96.06
Mar. 14	4:10	−99.45			
Apr. 20	3:00	−99.79	1934		
May 9	1:40	−99.98			
June 7	4:35	−100.13	Jan. 4	2:20 p. m.	−95.20
July 20	3:00	−99.67	May 29	11:10 a. m.	−96.65
Aug. 9	2:05	−98.53	Oct. 31	2:45 p. m.	−98.00
Sept. 6	4:10	−97.71			
Oct. 3	3:30	−97.11	1935		
Nov. 1	4:20	−96.73	May 17	11:35 a. m.	[1] −99.89
			Oct. 29	11:50	−94.70

[1] By Salt Lake City Corporation.

(D-3-1)17caa1. Mildred L. Jones, Sandy. State claim No. 13656. Diameter, 48 inches; depth, 71 feet.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 27		−68.75	Nov. 1	4:00 p. m.	−68.08
Sept. 14		−68.70	Dec. 7	3:10	−68.29
Oct. 15	4:20 p. m.	−69.07			
Nov. 9	11:45 a. m.	−69.30	1933		
Dec. 9	10:30	−69.65			
			Jan. 6	3:00 p. m.	−68.61
1932			Mar. 7	2:50	−69.05
			May 8	4:05	−69.57
Jan. 7	3:55 p. m.	−69.98	Oct. 9	11:30 a. m.	−67.92
Feb. 17	1:55	−70.51			
Mar. 14	4:25	−70.58	1934		
Apr. 20	3:30	−70.87			
May 9	1:50	−71.00	Jan. 4	2:10 p. m.	−68.3
June 7		(1)	May 29	11:00 a. m.	−69.3
July 20	3:20	−69.97	Oct. 31	2:40 p. m.	−69.1
Aug. 9	2:15	−68.53	1935		
Sept. 6	4:25	−67.70			
Oct. 3	3:35	−67.88	May 17	11:20 a. m.	[2] −70.39
			Oct. 29	11:40	−66.82

[1] Dry.
[2] By Salt Lake City Corporation.

(D-3-1)19acc1. A. H. Dewey, Draper. State claim No. 7134. Diameter, 3 inches; depth, 154 feet. Measuring point, top of casing, 1.0 foot above land surface. Drilled, 1914. Depth to water: Aug. 25, 1931, 88.1 feet.

(D-3-1)29cac1. Soren Thompson, Draper. Diameter, 36 inches; depth, 16.5 feet. Measuring point, top of wood curb, 2.9 feet above land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 25		−16.50	July 20	11:00 a. m.	−6.68
Sept. 14		−11.85	Aug. 9	3:30 p. m.	−8.71
Oct. 16	11:10 a. m.	−13.05	Sept. 9	1:55	−9.06
Nov. 9	12:25 p. m.	−13.09	Oct. 3	3:40	−10.65
Dec. 9	11:45 a. m.	−13.61	Nov. 1	4:40	−12.09
			Dec. 7	3:20	−12.99
1932					
			1933		
Jan. 7	4:15 p. m.	−12.95			
Feb. 17	4:30	−12.06	Jan. 6	3:20 p. m.	−13.63
Mar. 14	2:05	−12.86	Mar. 6	4:00	−13.31
Apr. 20	1:50	−13.34	May 8	4:15	−11.55
May 9	3:50	−12.49	July 6	2:40	−7.55
June 8	2:30	−8.61			

(D-3-1)29dcb1. L. F. Bayer, Draper. Diameter, 48 inches; depth, 16.4 feet. Measuring point, top of curb, 0.5 foot above land surface. Depth to water: Aug. 25, 1931, 15.4 feet; Sept. 14, 1931, 15.9 feet; Nov. 9, 1931, dry.

(D-3-1)30dcb. Samuel Day, Draper. Diameter, 36 inches; depth, 10.4 feet. Measuring point, top of curb, 1.9 feet above land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1932—Con.		
Aug. 25		−6.25	Dec. 7	3:40 p. m.	−6.21
Sept. 14		−7.20			
Oct. 16	11:00 a. m.	−7.17	1933		
Nov. 9	1:00 p. m.	−5.60			
Dec. 9	11:40	−5.97	Jan. 6	4:00 p. m.	−6.44
			Mar. 6	4:50	−5.00
1932			May 8	4:35	−4.89
Jan. 7	4:20 p. m.	−5.05	1934		
Feb. 17	4:40	−4.35			
Mar. 14	2:15	−5.01	May 29	12:25 p. m.	−5.97
Apr. 20	2:00	−5.57	Oct. 31	2:10	−5.85
May 9	3:58	−5.84			
June 8	2:20	−4.61	1935		
July 20	12:30	−4.99			
Aug. 9	3:20	−5.42	May 17	3:40 p. m.	[1] −6.05
Sept. 9	1:35	−5.42	July 13	10:50 a. m.	[1] −5.98
Oct. 3	4:00	−5.80	Aug. 24	11:12	[1] −8.20
Nov. 2	12:55	−5.67	Oct. 10	3:42	[1] −10.32
			Nov. 13	3:30 p. m.	[1] −10.50

[1] By Salt Lake City Corporation.

(D-4-1)6abd. Louis McGuire, Draper. Diameter, 42 inches; depth, 9.8 feet. Measuring point, top of platform, at land surface.

Date	Hour	Water level (feet)	Date	Hour	Water level (feet)
1931			1933		
Aug. 25		−3.70	Jan. 6	3:40 p. m	−4.83
Sept. 14		−3.75	Mar. 6	4:20	−4.48
Oct. 16	11:15 a. m	−4.05	May 8	4:30	−3.64
Nov. 9	1:15 p. m	−4.20	July 6	2:55	−3.60
Dec. 9	12:00 m	−4.50	Oct. 10	1:55	−4.55
1932			1934		
Jan. 7	4:35 p. m	−4.56	Jan. 4	2:35 p. m	−5.04
Feb. 17	5:05	−4.46	May 29	1:00	−4.45
Mar. 14	1:35	−4.78	Oct. 31	2:00	−4.54
Apr. 20	4:20	−4.92			
May 9	4:25	−5.02	1935		
June 8	2:45	−3.77			
July 20	10:30 a. m	−3.59	May 17	4:10 p. m	[1] −3.70
Aug. 9	3:50 p. m	−3.78	July 13	11:12 a. m	[1] −4.27
Sept. 9	2:15	−4.13	Aug. 24	11:28	[1] −4.92
Oct. 3	3:50	−3.96	Oct. 10	3:28 p. m	[1] −6.02
Nov. 1	5:05	−4.32	Nov. 13	3:43	[1] −6.27
Dec. 7	3:25	−4.64			

[1] By Salt Lake City Corporation.

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