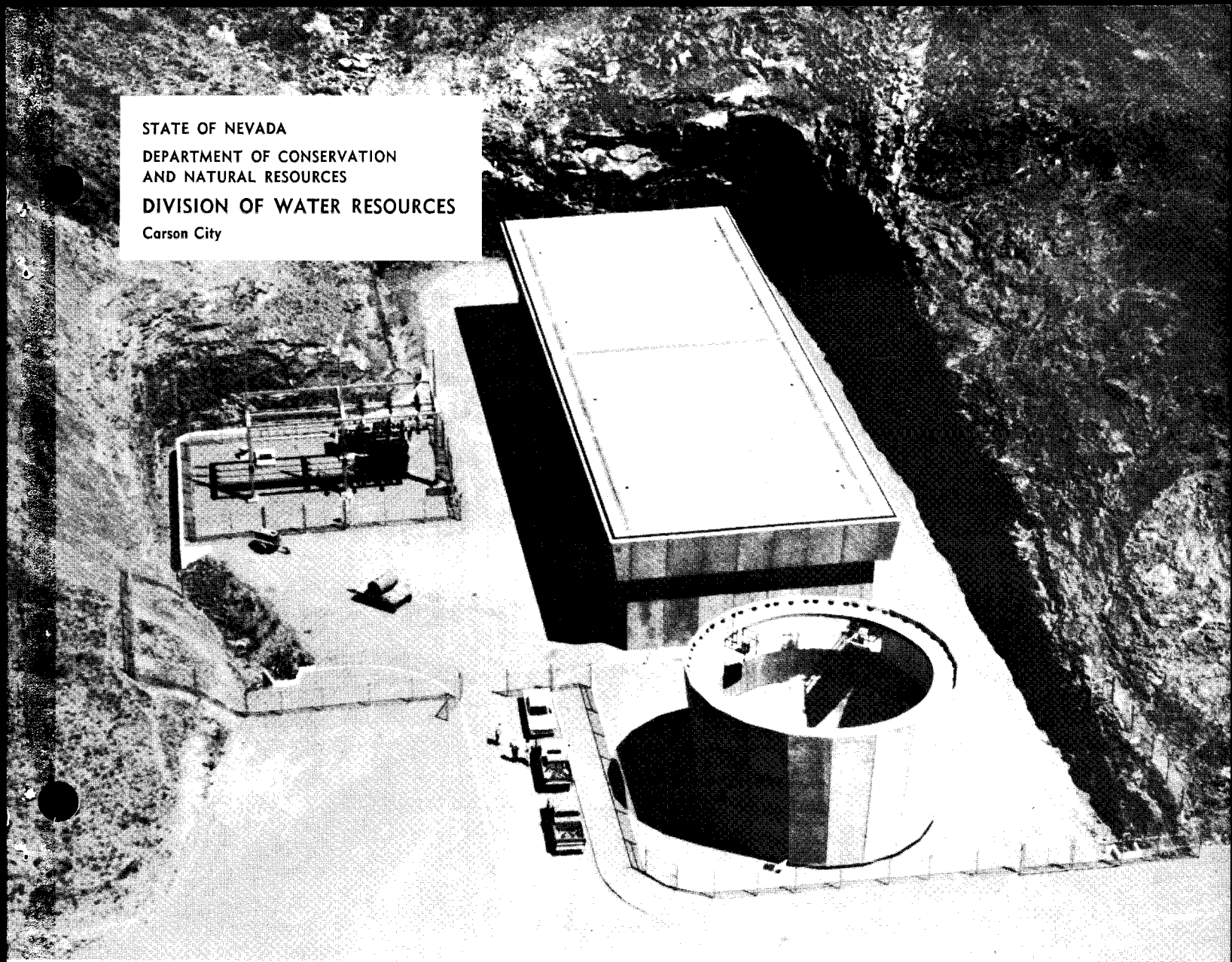
STATE OF NEVADA
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES
Carson City



Pumping Plant No. 1 on Southern Nevada Water Project, Lake Mead, Nevada, courtesy of U.S. Bureau of Reclamation, Boulder City, Nevada.

WATER RESOURCES–INFORMATION SERIES

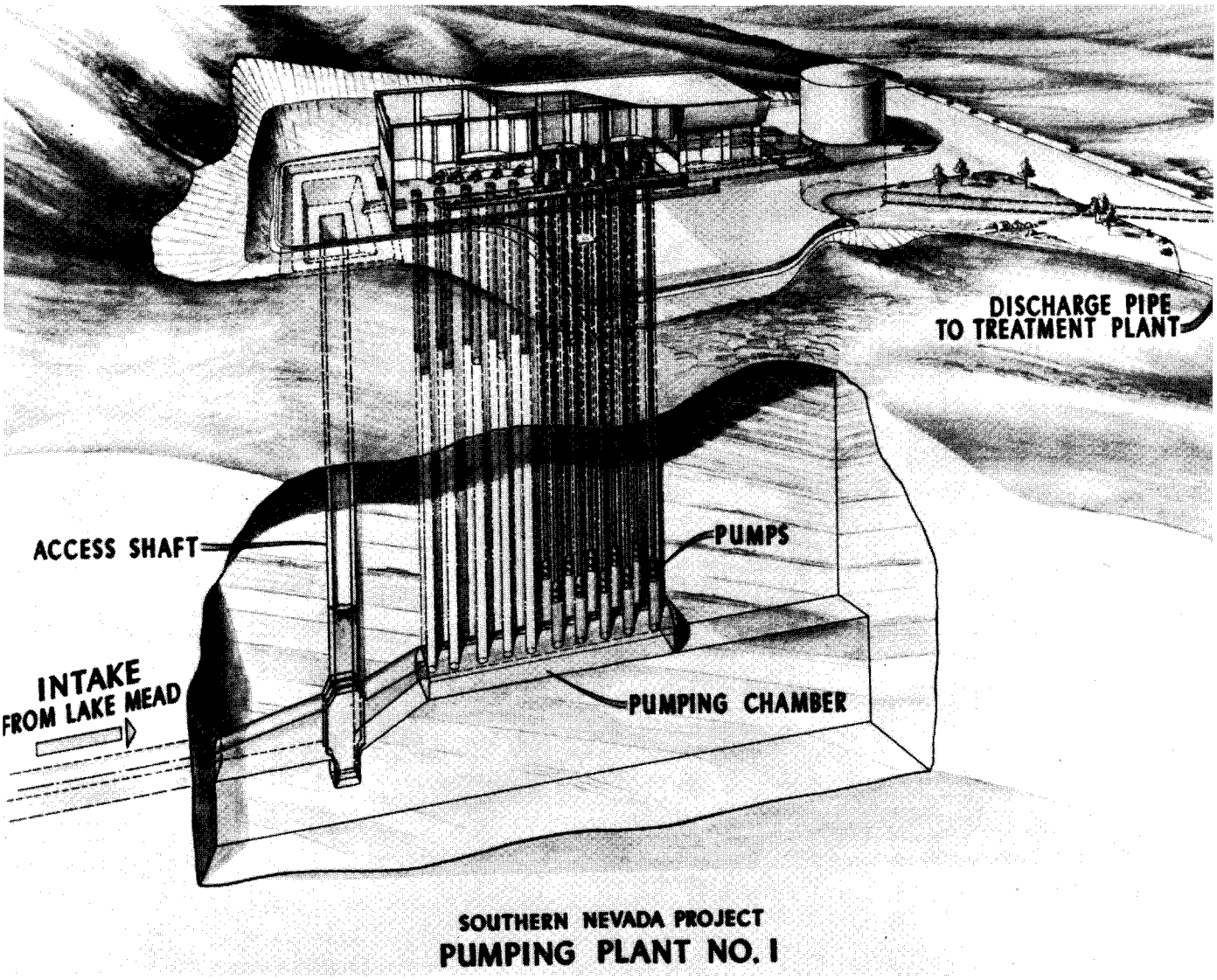
REPORT 27

WATER–LEVEL CHANGES ASSOCIATED WITH GROUND–WATER DEVELOPMENT IN LAS VEGAS VALLEY, NEVADA, MARCH 1976 TO MARCH 1977

By
Terry Katzer

Prepared cooperatively by the
Geological Survey, U.S. Department of the Interior

1977



Cross-Sectional view of Pumping Plant No. 1, Southern Nevada Water Project, Lake Mead, Nevada, courtesy of U.S. Bureau of Reclamation, Boulder City, Nevada.

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PHOTOGRAPHS

Cover photograph - Pumping Plant No. 1, Southern Nevada Water Project, Lake Mead, Nev. Courtesy of U.S. Bureau of Reclamation, Boulder City, Nev.

Inside front cover - Cross-sectional view of Pumping Plant No. 1, Southern Nevada Water Project, Lake Mead, Nev. Courtesy of U.S. Bureau of Reclamation, Boulder City, Nev.

ERRATA

WATER-LEVEL CHANGES ASSOCIATED WITH GROUND-WATER DEVELOPMENT IN LAS VEGAS VALLEY, NEVADA, MARCH 1976 TO MARCH 1977

By Terry Katzer

Nevada Division of Water Resources, Water Resources-Information Series Report 27, 1977

Reference figure 2, page 25.

The block in the explanation that indicates more than 50 acre-feet should be light gray.

Reference figure 9, page 32.

Well number should be 212 S21 E61 3 abb2.

Reference figure 10, page 33.

Well number should be 212 S21 E61 22ccc1

February 1978

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METRIC UNITS

For those readers who may prefer to use metric units rather than English units, the conversion factors for the terms used in this report are listed below:

Multiply English unit	By	To obtain metric unit
feet (ft)	0.3048	meters (m)
miles (mi)	1.609	kilometers (km)
acre-feet (acre-ft)	0.001233	cubic hectometers (hm^3)

WATER-LEVEL CHANGES ASSOCIATED WITH GROUND-WATER DEVELOPMENT IN LAS VEGAS VALLEY, NEVADA, MARCH 1976 TO MARCH 1977

By Terry Katzer

ABSTRACT

Ground-water data collected in Las Vegas Valley between March 1976 and March 1977 are summarized. Ground-water pumpage during 1976 was about 70,000 acre-feet, about 3,000 acre-feet less than was pumped in 1975. This reduction is a result of (1) increased importation of water from Lake Mead, about 3 percent over 1975 imports; and (2) a change in water use among the users of the Southern Nevada Water Project.

Water levels in deep wells generally declined. The greatest declines were on the west side of the valley. Water levels in shallow wells throughout the valley generally rose slightly. Shallow wells in peripheral parts of the valley generally declined.

GENERAL STATEMENT

This report has been prepared by the U.S. Geological Survey in cooperation with the Nevada Department of Conservation and Natural Resources. The purpose of this study is to monitor ground-water conditions in Las Vegas Valley so that current information will be available to those involved in management and evaluation of the valley's water resources. This report summarizes ground-water data collected between March 1976 and March 1977. Information for the preceding period 1971-76 has been summarized in previously published reports (Harrill, 1976a, b, c, and 1974). Information for the report was collected and prepared by the Water Resources Division of the U.S. Geological Survey.

The report contains a tabulation of water-level measurements made primarily during the springs of 1973-77 (table 1, grouped with other tables and illustrations at the end of the report). A multiyear period is used when possible in table 1, to permit evaluation of water-level trends in individual wells. In addition to water levels measured by the U.S. Geological Survey, the tabulation includes measurements by the Las Vegas Valley Water District, the State Division of Water Resources, the Desert Research Institute, and personnel at Nellis Air Force Base. Well locations are shown on a large index map (pl. 1). A tabulation summarizing available records of ground-water pumpage since 1955 is also included (table 2). Water imports from Lake Mead are summarized in table 3. The relations among ground-water pumpage, imports of Lake Mead water, and surface-water outflow from Las Vegas Valley via Las Vegas Wash are shown in figure 1. The outflow from the valley is indicated by the flows of the two gaging stations; one located near Henderson, shown

on plate 1, and the other located about 5 miles further downstream at Northshore Road near Boulder City, not shown on plate 1. The Henderson gage has been in operation since 1958; however, flows from the Henderson area enter the wash downstream from the gage and are unmeasured. The Boulder City gage was installed in 1970 and measures the approximate valley outflow. Additional components of flow not apparent at the two gaging stations are: (1) inflow to the wash from rainstorms and from the ground-water system; and (2) losses from the wash by evapotranspiration and recharge to the ground-water system. The areal distribution of pumping in 1976 is shown in figure 2.

To facilitate analysis of data, two maps were prepared: One map shows water-level changes in heavily pumped artesian zones of the valley-fill reservoir (fig. 3). This map includes information from wells that penetrate part or all of the shallow, middle, and deep zones of aquifers as defined by Maxey and Jameson (1948, p. 81 and 82). Most wells penetrate more than one aquifer zone, and water levels in them are composites of heads in the aquifers tapped. Depths of these wells range between 200 and generally less than 1,100 ft, and most penetrate more than 100 ft of saturated valley fill. In this report, the three zones of aquifers are grouped together and referred to as the "principal aquifers." Water-level declines in the principal aquifers in excess of 5 ft, as shown in figure 3, may be due in part to a variation in the seasonal distribution of pumping.

The other map shows water-level changes in shallower zone of saturated valley fill (fig. 4). Water in these zones occurs under both water-table and artesian conditions. This unit has been called the near-surface zone of aquifers, or the near-surface reservoir by Malmberg (1965, p. 24). The term "near-surface reservoir" is used in this report. The reservoir is not well defined in areal extent or depth, and, except where it comprises the semiconfining deposit above the shallow artesian aquifers, it is difficult to delineate because it is not a distinct lithologic or hydrologic unit (Malmberg, 1965, p. 24). In this report, wells that penetrate 100 ft or less of saturated valley fill are considered to indicate conditions in the near-surface reservoir. Maps of the near-surface reservoir may not adequately describe water-table conditions beneath areas where lawn irrigation water infiltrates the soil and percolates down to a shallow water table, or where a large vertical head difference between zones is caused by pumping.

Hydrographs of seven selected observation wells are also included to show the rate of water-level change during the period 1957-77 (figs. 5 through 11; no 1977 data available for fig. 11).

NUMBERING SYSTEM FOR WELLS AND SPRINGS

The numbering system used in this report is based on an index of hydrographic areas in Nevada (Rush, 1968) and on the rectangular subdivision of the public lands referenced to the Mount Diablo base line and meridian. Each number consists of five units separated by spaces: The first unit is the hydrographic area number; the second unit is the township, preceded by an N or S to indicate location north or south of the base line. The third unit, preceded by an E, is the range east of the meridian. The fourth unit consists of the section number. Quarter sections are designated in the fifth segment counterclockwise "a" through "d", beginning with "a" for the northeast quarter section. Where field maps are sufficiently accurate, additional letters "a" through "d" are also assigned in counterclockwise sequence to further subdivide the quarter sections into 40- or 10-acre tracts. The letters are followed by a number indicating the order in which the well was recorded in that particular tract. For example, well 212 S19 E60 4dab1 is in Las Vegas Valley (hydrographic area 212). It is the first well recorded in the NW¼ of the NE¼ of the SE¼ of section 4, Township 19 South, Range 60 East, Mount Diablo base line and meridian.

Because of limitation of space, wells are identified on plates by quarter-section letters and sequence numbers only.

Table 1.--Water levels and other data for wells

[All sites in Las Vegas Valley, hydrographic area 212. All depths are from land surface except those for DRI observation wells, which are from measuring points. Abbreviations used are explained in footnotes on last page of table.]

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S19 E60 4dab1	Nevada Division of Forestry	2,454	780	--	2-25-72	2.45	USGS obs. well; pumping during 1972 may have cleaned out clogged perforations.
					2-20-73	39.70	
					3- 4-74	55.11	
					3-18-76	54.76	
					3- 5-77	60.42	
5abd1	Ken Dowdy	2,570	265	185	2-21-73	165.07	
					3-13-75	177.80	
					3- 3-76	183.75	
					3- 5-77	186.15	
9bcc1	P. J. Goumond	2,510	830	190	2-20-73	122.63	DWR obs. well. (recorder)
					2-25-74	136.90	
					2-25-75	137.48	
					3- 1-76	139.40	
					3- 7-77	144.88	
12db1	Elmer Laub	2,350	240	80	2-21-73	103.37	
					3- 4-74	103.90	
					3-12-75	110.88	
					3- 2-76	103.19	
					3- 5-77	105.00	Pumped recently.
24cbb1	Bob & Emily Burkes	2,320	250	--	2-21-73	73.0	
					3-12-75	71.75	
					3- 2-76	70.43	
					3- 5-77	72.59	
25ccc1	W. J. Sprianger	2,300	300	60	2-21-73	117.37	
					3- 4-74	121.34	
					3-12-75	121.53	
					3- 2-76	124.38	
					3- 5-77	127.97	
26dcb1	Eugene Manzi	2,310	250	100	4- -69	78 R	
					2-21-73	81.33	
					3- 4-74	84.28	
					3-12-75	90.00	
					3- 9-77	101.30	
27bdc1	--	2,360	905	--	2-20-73	43.00	DWR obs. well.
					3- 4-74	52.58	
					2-24-75	54.16	
					3-29-76	57.36	
					2-28-77	62.60	
32aca1	Ernest Fisher	2,465	350	230	8- -70	130 R	
					2-26-72	119.38	
					3- 4-74	129.22	
					3-11-77	139.16	
32aca2	Dominic Magnetti	2,465	400	--	3-11-77	141.52	
33ddd1	W. S. Milliken	2,360	325	--	2-24-72	136.00	
					2-20-73	139.51	
					3- 4-75	151.03	
					3- 3-76	150.78	
					3- 9-77	155.30	
36cbb1	SNMRE	2,290	--	--	2-21-73	134.99	
					3- 4-74	138.79	
					3-12-75	142.46	
					3- 2-76	145.03	
					3- 5-77	148.12	
S19 E61 21ddb1	City of North Las Vegas	2,160	1,300	50	4-24-73	27.75	
					3- 4-74	28.26	
					3-12-75	28.48	
					3- 1-76	28.23	
					3- 1-77	28.30	
29dcc1	Lynn Ruesh	2,165	200	80	3- 5-74	79.00	
					3- 9-77	81.14	
31ada1	Bill Knecht	2,185	100	--	2-15-72	77.10	DWR obs. well.
					3-13-74	87.32	
					3-11-75	87.49	
					4- 1-76	86.74	
					2-17-77	87.52	
31dda1	--	2,190	165	--	2-21-73	79.64	
					3- 5-74	84.08	
					3-12-75	99.61	
					3- 4-76	102.46	
					3- 2-77	101.65	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S19 E62 29ddb1	Lee Yoffe	1,975	300	150	3-10-77	107.42	
33ddd1	Standard Oil Co. of California	1,897	300	120	2-20-73	99.14	
					3- 5-74	98.47	
					3- 4-75	99.56	
					3- 2-76	99.47	
					3- 1-77	98.45	
35dcd1	U.S. Air Force (Lake Mead well 5)	1,867	838	370	2-24-72	139.05	
					3- 6-74	133.62	
					2-27-75	137.45	
					3- 2-76	122.38	
					2-28-77	114.80	
36ccb1	U.S. Air Force (Lake Mead well 4)	1,874	880	96	2-24-72	157.8	
					3- 6-74	149.40	
					2-27-75	143.32	
					3- 2-76	128.49	
					2-28-77	136.49	
36dbb1	U.S. Air Force (Lake Mead well 2)	1,895	1,434	288	2-20-73	130.23	
					2-27-75	195.09	
					3- 2-76	186.98	
					2-28-77	145.28	
S20 E60 1adc1	Ann Jones	2,215	148	--	3- 4-74	97.3	
					2-26-75	103.61	
					3- 7-76	104.57	
					3- 4-77	107.74	
1dad1	--	2,218	93	--	2-20-73	71.27	
					3- 4-74	86.54	
					2-26-75	74.60	
					3- 4-76	75.34	
					3- 2-77	77.56	
2bda1	Quick Stop Market	2,310	--	--	4-24-73	137.0	
					3- 4-74	156.38	
					2-26-75	172.92	
					3- 4-76	175.81	
					3- 2-77	179.50	
2bdd1	--	2,305	275	--	2-21-73	137.20	
					3- 7-74	142.93	
					2-26-75	148.84	
					3- 4-76	150.22	
					3- 8-77	156.11	
2ddd1	Arthur E. Gray	2,270	707	--	2-20-73	228.83	USGS obs. well
					3- 7-74	233.24	
					2-26-75	245.33	
					3- 4-76	250.32	
					3- 2-77	257.17	
9dcc1	--	2,400	450	300	4-27-73	336.3	
					3- 7-74	340.74	
					3- 4-75	351.09	
					3- 6-76	363.49	
					3- 5-77	364.00	
10cab1	J. Johnston	2,335	500+	--	4-24-73	277.10	
					3- 6-74	282.58	
					3- 3-76	312.30	
					3- 5-77	342.50	
10cdb1	--	2,340	--	--	2-21-73	289.16	
					3- 6-74	289.49	
					3- -75	299.74	
					3- 2-76	303.00	
					3- 9-77	310.09	
11caa1	Las Vegas Valley Water District (well 28)	2,287	1,003	307	3- 5-75	246 A	
					2-15-77	257 A	
11cba1	Las Vegas Valley Water District (well 29)	2,295	1,000	177	2-15-73	261 A	Pump off 5 min.
					2-25-74	264 A	
					3- 5-75	324 A	
					2- 7-76	277 A	
					2-15-77	281 A	
11cbb1	Las Vegas Valley Water District (well 33)	2,300	1,000	265	3- 5-75	308 PLA	
					2- 9-76	272	
					2-15-77	350 PLA	
11daa1	Robert Ball	2,271	180	90	2-21-73	110.53	
					3- 6-74	102.73	
					2-26-75	109.99	
					3- 4-76	117.08	
					3- 2-77	116.00	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S20 E60 13dcc1	--	2,224	--	--	2-21-73	69.29	
					3- 6-74	60.94	
					2-26-75	61.33	
					3- 5-76	56.89	
					3- 2-77	61.60	
23aab1	Las Vegas Valley Water District (Smoke Ranch #2, well 51)	2,270	900	330	2-15-73	248 A	
					2-25-74	252 A	
					3- 5-75	296 A	
					2- 5-76	273 A	
					2-15-77	310 PLA	
24bbb1	Las Vegas Valley Water District (Smoke Ranch #1, well 52)	2,257	900	200	2-15-73	228.8	
					2-25-74	230 A	
					3- 5-75	275 A	
					2- 4-76	250 A	
					2-15-77	259 A	
24caa1	Carl Hilton	2,234	195	--	2-21-73	166.1	
					3- 6-74	164.12	
					2-26-75	162.34	
					3- 5-76	159.35	
					3- 2-77	151.58	
26dcc1	Las Vegas Valley Water District (well 24)	2,335	960	400	2-15-73	322 PLA	Pumps continually.
					2-25-74	321	
					3- 5-75	341 A	
					2- 5-76	348 A	
					2-15-77	350 A	
34ccb1	Las Vegas Valley Water District (well 19)	2,510	1,002	500	2-25-72	496 R	
					2- 5-76	488 A	
					2-15-77	519 A	
36bdd1	Las Vegas Valley Water District (well 50, Old Charleston Heights)	2,255	830	251	2-25-74	252 A	
					3- 5-75	265	
					2- 5-76	271 A	
					2-15-77	286 A	
36ccc1	--	2,288	175	--	3- 4-76	59.75	
					3- 9-77	59.35	
S20 E61 1cba1	--	1,913	250	--	3-19-73	52.60	DWR obs. well.
					3- 4-74	52.92	
					3-12-75	54.58	
					3- 1-76	53.97	
					2-17-77	54.28	
2dbb1	Hartwell & Lowe Co.	1,938	785	90	2-20-73	41.47	USGS obs. well.
					3- 4-74	38.72	
					3- 4-75	38.17	
					3- 2-76	36.44	
					3- 1-77	32.91	
3adc1	U.S. Air Force (Nellis well 4)	1,990	423	203	2-15-73	93 R	
					3- 6-74	68.98	
					2-26-75	83.49	
					3- 2-76	70.38	
					3- 1-77	65.04	
3dad1	U.S. Air Force (Nellis well 2)	1,982	291	--	2-15-73	85 R	
					2-26-75	63.98	
					3- 2-76	60.89	
					3- 1-77	64.38	
3dad2	U.S. Air Force (Nellis well 8)	1,973	913	150	2-15-73	68 R	
					3- 6-74	56.04	
					2-26-75	52.97	
					3- 2-76	49.94	
					3- 1-77	39.50	
4bdc1	--	2,104	270	--	3- 4-76	75.70	
					3- 2-77	77.09	
4cdd1	Marvin Lee	2,107	300	115	2-21-73	130.5	
					3- 5-74	147	Pumped recently.
					2-26-75	149.69	
					3- 4-76	146.57	
					3- 2-77	146.50	
6cbd1	City of North Las Vegas (Desert Aire well)	2,211	1,000	758	7- -68	69 R	
					2-18-73	217 PL	
					2-27-75	186.74	
					3- 4-77	193.76	
7ccb1	Rogers Rocking Chair Ranch	2,228	102 (300)?	--	3-19-73	58.37	
					3- 5-74	61.22	
					3-12-75	57.90	
					3- 4-76	65.20	
					3- 9-77	66.27	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Water-level measurement 1/ Depth (feet)	Remarks 2/
S20 E61 8acal	--	2,179	--	--	2-21-73	137.25	
					3- 5-74	140.75	
					2-26-75	146.20	
					3- 5-76	149.09	
					3- 2-77	152.07	
12bcal	Dennis Grover	1,891	160	--	3- 5-71	60.81	
					2-22-72	52.20	
					2-21-73	50.90	
					3- 6-75	47.81	
					3- 9-77	42.84	
12ccal	--	1,877	155	--	3- 6-74	60.48	
					3- 4-75	58.74	
					3- 2-76	49.52	
					3- 1-77	45.62	
13abdl	City of North Las Vegas (Diana Terrace)	1,857	1,230	102	2-14-73	82.15	
					3- 4-74	76.11	
					2-28-75	69.87	
					3- 2-76	58.92	
					3- 1-77	55.40	
13acdl	Vandemeer Apts.	1,847	560	480	3-19-73	71.90	DWR obs. well.
					3-13-74	82.22	
					3-12-75	55.50	
					3-30-76	52.12	
					2-17-77	71.86	
15bdbl	City of North Las Vegas (Gallucci)	2,035	730	226	2-14-73	87.17	
					3- 4-74	84.74	
					2-28-75	91.00	
					3- 1-76	75.49	
					3- 1-77	74.51	
17cadl	--	2,138	150	--	2-21-73	62.20	
					3- 4-74	63.87	
					2-26-75	66.12	
					3- 5-76	66.98	
					3- 2-77	63.74	
17cdbl	Las Vegas Valley Water District (well 57, Vegas Heights #2)	2,145	655	430	2-22-72	123.97	
					2-21-73	119.28	
					3- 4-74	124.39	
					3- 5-76	140.03	
					3- 4-77	147.33	
18abb2	City of North Las Vegas (West Cheyenne 2)	2,198	1,000	506	3- 1-76	185 D	
					3- 1-77	191.86	
21aadl	--	2,043	--	--	2-21-73	41.97	
					3- 7-74	45.21	
					2-26-75	43.72	
					3- 5-76	45.28	
					3- 2-77	41.96	
21baal	City of North Las Vegas (Highland School)	2,064	397	200	2-14-73	48.58	
					3- 4-74	52.58	
					3- 3-75	56.93	
					3- 1-76	57.90	
					3- 1-77	60.16	
21babl	--	2,064	400	148	2-21-73	52.17	
					3- 4-74	56.12	
					2-26-75	59.63	
					3- 1-76	60.48	
					3- 2-77	63.61	
22bcdl	City of North Las Vegas (Valley View)	2,019	1,000	500	2-20-73	54.01	
					3- 5-74	55.35	
					2-28-75	59.48	
					3- 1-76	56.36	
					3- 1-77	58.52	
22dacl	City of North Las Vegas (Tonopah)	1,911	1,105	249	2-20-73	30.66	
					3- 5-74	29.84	
					2-28-75	30.78	
					3- 1-76	25.95	
					3- 1-77	20.92	
22dbdl	--	1,919	24	--	2-20-73	14.98	
					3- 5-74	16.33	
					2-26-75	19.68	
					3- 1-76	15.02	
					3- 3-77	15.07	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Water-level measurement 1/ Depth (feet)	Remarks 2/
S20 E61 24adb1	City of North Las Vegas (E. Vegas #1)	1,827	405	90	2-14-73	53.45	
					3- 5-74	49.92	
					3- 1-76	42.50	
					3- 1-77	41.50	
24cbb1	City of North Las Vegas (College Park #1)	1,845	450	150	2-14-73	16.80	
					3- 5-74	15.28	
					2-28-75	12.97	
					3- 1-76	9.69	
					3- 1-77	7.92	
24cca1	City of North Las Vegas (College Park #2)	1,840	500	186	2-14-73	18.34	
					3- 5-74	16.86	
					2-28-75	15.53	
					3- 1-76	12.53	
					3- 1-77	9.89	
26cad1	City of Las Vegas	1,880	352	--	4-27-73	+19.1	
					3- 7-74	+17.5	
					3- 4-75	+17.6	
					3- 3-76	+17.9	
					3- 2-77	+17.4	
27adb1	State Highway Dept.	1,960	195	--	3-19-73	20.00	DWR obs. well.
					3-13-74	22.94	
					3-12-75	23.00	
					3-31-76	23.65	
					2-17-77	23.11	
28db1	--	2,047	--	--	3-31-76	42.15	DWR obs. well.
					2-17-77	43.24	
29ccc2	Las Vegas Valley Water District (well 34)	2,110	1,000	550	2-15-73	88.5	
					2-25-74	91 A	
					3- 5-75	147 PLA	
					2- 5-76	128 A	
					2-15-77	132 A	
29dab1	--	2,079	73	--	2-20-73	20.05	
					3- 4-74	19.37	
					2-26-75	20.49	
					3- 8-76	19.98	
					3- 2-77	21.04	
30cda1	Las Vegas Valley Water Distriet (well 17)	2,174	1,002	250	2-15-73	154 A	
					2-25-74	158 A	
					3- 5-75	237 PLA	
					2- 5-76	185 A	
					2-15-77	242 PLA	
30cdb1	Las Vegas Valley Water District (well 27)	2,188	1,005	205	2-12-73	176 A	
					2-25-74	173 A	
					3- 5-75	225 PLA	
					2- 5-76	205 A	
					2-15-77	214 A	
30cdc1	Las Vegas Valley Water District (well 26)	2,187	1,005	208	1-25-74	184	
					3- 5-75	260 PLA	
					2- 5-76	196 A	
					2-15-77	205 A	
30cdd1	Las Vegas Valley Water District (well 16)	2,168	1,050	500	1- -73	152 A	
					2-25-74	149 A	
					3- 5-75	185 A	
					2- 5-76	184 A	
					2-15-77	205 A	
31aab1	Las Vegas Valley Water District (well 14)	2,149	1,014	510	2-15-73	131 A	
					2-25-74	128 A	
					3- 5-75	156 A	
					2- 5-76	170 A	
					2-15-77	173 A	
31aad1	Las Vegas Valley Water District (well 6)	2,137	500	277	2-25-74	122 A	
					2- -75	190 PLA	
					2- 5-76	150 A	
					2-15-77	159 A	
31add2	Las Vegas Valley Water District (well 7A)	2,121	932	548	1- 8-74	117 RD	
					2- -76	142 A	
					2-15-77	149 A	
31dab1	Las Vegas Valley Water District (well 8)	2,129	766	513	2-25-72	224 R	
					2-25-74	118 A	
					3- 5-75	145 A	
					2- 5-76	143 A	
					2-15-77	147 A	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S20 E61 31dad1	Las Vegas Valley Water District (well 12)	2,132	1,200	--	2-25-74	112 A	
					3- 5-75	143 A	
					2- 5-76	151 A	
					2-15-77	146 A	
31ddb1	Las Vegas Valley Water District (well 9)	2,133	468	277	2-15-73	112.21	
					2-25-74	112 A	
					3- 5-75	137 A	
					2- 5-76	146 A	
					2-15-77	150 A	
32cdc2	Kenneth Searles	2,100	665	570	2-20-73	75.78	USGS obs. well until plugged in 1969. Cleaned out in 1973.
					3- 6-74	77.78	
					2-26-75	88.04	
					3- 8-76	65.89	
					3- 2-77	64.26	
33cbc2	--	2,063	47	--	2-21-73	9.87	
					3- 6-74	11.15	
					2-27-75	12.79	
					3- 8-76	12.49	
					3- 2-77	12.42	
33cbc3	--	2,063	60	--	2-21-73	20.63	
					3- 6-74	25.09	
					2-27-75	30.27	
					3- 8-76	30.43	
					3- 2-77	32.14	
34bcb1	Union Pacific Railroad (well 1)	2,034	780	280	2-22-72	47.53	
					2-23-73	46.55	
					3-11-74	53.90	
					2-27-75	53.26	
					3- 7-77	58.45	
35add1	DRI (well LG 100)	1,840	11	11	3-29-73	7.98	DRI obs. well.
					1-10-74	6.30	
					3- 4-76	7.74	
					3- 7-77	8.03	
36bcb1	--	1,838	--	--	4-25-73	+20.0	
					3- 7-74	+20.2	
					3-10-75	+20	
					3- 3-76	+20	
					3- 2-77	+20	
36bcd1	T. Bossart	1,824	300	250±	2-17-73	6.5	
					3- 7-74	6.91	
					3- 2-77	6.92	
S20 E62 1bbc1	U.S. Air Force (Lake Mead well 3)	1,865	1,026	96	2-20-73	125.63	
					3- 6-74	127.46	
					2-27-75	149.99	
					3- 2-76	137.38	
					2-28-77	134.43	
4add1	U.S. Air Force (Nellis well 1)	1,871	500	90	2-15-73	80 R	
					3- 6-74	69.89	
					2-26-75	73.88	
					3- 2-76	81.88	Pumped in morning.
					3- 1-77	73.50	
4bdc1	Pago Pago	1,872	200	--	2-20-73	66.74	
					3- 5-74	70.54	
					3- 4-75	65.10	
					3- 2-76	69.54	Pumped recently.
					3- 1-77	65.79	
4cbc1	Central Telephone	1,865	250	100	2-21-72	79.14	
					2-20-73	66.8	
					3- 4-75	72.17	
					3- 2-76	77.55	
					3- 1-77	73.94	
5caa1	City of North Las Vegas (Wilshire well)	1,869	1,000	500	2-13-73	117.97	
					3- 4-74	113.79	
					2-28-75	111.37	
					3- 1-76	107.95	
					3- 1-77	104.63	
7cdc1	Maintenance, Inc.	1,849	300	205	2-21-72	100.13	
					3- 4-75	91.72	
					3- 2-76	87.64	
					3- 1-77	83.65	
7dbc1	Bobs Transportation City	1,857	235	--	3- 5-74	99.10	
					3- 4-75	106.59	
					3- 2-76	98.02	
					3- 1-77	97.24	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S20 E62 8babl	Nevada Drive In	1,860	200	--	2-20-73	83.22	
					3- 5-74	84.48	
					3- 4-75	84.29	
					3- 2-76	84.23	
					3- 1-77	83.95	
9abcl	U.S. Air Force (Nellis well 6)	1,840	850	144	2-15-73	135 R	
					3- 6-74	121.49	
					2-26-75	124.02	
					3- 2-76	113.68	
					2-28-77	116.63	
9bccl	U.S. Air Force (Nellis well 7)	1,837	760	150	2-15-73	107 R	
					2-28-75	95.35	
					3- 2-76	91.09	
					2-28-77	97.04	
9cccl	U.S. Air Force (Nellis well 14)	1,827	650	290	2-15-73	138 R	
					3- 6-74	104.86	
					3-26-75	107.44	
					3- 2-76	100.01	
					2-28-77	112.42	
9dcdl	U.S. Air Force (Nellis well 11)	1,818	802	--	2-15-73	128 R	
					3- 2-76	105.13	
					3- 1-77	113.18	
15bbal	U.S. Air Force (Nellis well 12)	1,816	1,000	320	2-15-73	117 R	
					3- 6-74	119.23	
					3- 2-76	98.20	
					3- 1-77	107.68	
16accl	U.S. Air Force (Nellis well 13)	1,812	694	274	2-15-73	117 R	
					3- 6-74	128	Pumped recently.
					2-26-75	112.84	
					3- 2-76	104.73	
					3- 1-77	110.28	
16bcdl	Gerry Sylvester	1,825	180	--	2-17-73	110.64	
					3- 5-74	112.54	
					3- 9-77	110.77	
16ccdl	--	1,798	220	--	3- 5-74	89.24	
					3- 6-75	91.10	
					3- 3-76	90.55	
					3- 1-77	91.05	
17aaal	Evans	1,826	250	82	3- 4-71	83.5	
					2-21-72	96.0	
					2-17-73	86.16	
					3- 6-74	85.49	
					3- 9-77	84.79	
17bccl	--	1,827	142	--	2-17-73	90.48	
					3- 5-74	90.53	
					3- 3-75	93.74	
					3- 2-76	89.12	
					3- 1-77	88.73	
18babl	City of North Las Vegas (Gowan well 2)	1,845	450	80	2-13-73	94.84	
					3- 5-74	95.90	
					2-28-75	87.40	
					3- 1-76	83.65	
					3- 1-77	81.35	
18bbdl	City of North Las Vegas (Gowan well 1)	1,847	700	350	3- 6-74	92.51	
					3- 3-75	88.40	
					3- 1-76	80.40	
					3- 1-77	78.14	
19acbl	Guernsey	1,815	200	--	2-17-73	82.15	
					3- 6-74	79.84	
					3- 4-75	77.27	
					3- 2-76	69.67	
					3- 1-77	66.87	
19bbdl	William Cook	1,822	205	--	2-17-73	56.64	
					3- 6-74	51.74	
					3- 4-75	41.56	
					3- 2-76	36.95	
					3- 1-77	30.91	
19dcdl	Tom Leno	1,795	65	--	2-19-73	57.07	
					3- 7-74	54.10	
					5-18-77	43.60	
20adal	--	1,790	155	--	2-19-73	76.49	USGS obs. well.
					3- 5-74	77.84	
					3- 6-75	79.71	
					3- 2-76	78.90	
					3- 1-77	79.44	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S20 E62 21cab1	Charles Ross	1,782	357	80	2-20-73	83.88	DWR obs. well.
					3- 4-74	84.39	
					2-24-75	84.96	
					3-29-76	86.12	
					2-28-77	86.00	
21dba1	--	1,784	150	--	2-17-73	84.58	
					3- 6-74	87.05	
					3- 6-75	88.86	
					3- 2-76	88.85	
					3- 1-77	88.99	
21dbb1	L. M. Souregard	1,782	110	--	2-17-73	81.15	
					3- 6-74	83.83	
					3- 6-75	85.23	
					3- 2-76	85.47	
					3- 1-77	85.72	Pumping.
22cca2	Charles Hunt	1,792	150	--	2-21-72	91.92	
					3- 7-74	96.78	
					3- 2-76	99.60	
					3- 1-77	99.31	
26bbc1	Purdy & Bedetto	1,900	330	160	2-22-72	143.54	
					2-17-73	145.24	
					3- 4-74	147.18	
					3- 6-75	146.36	
					3- 1-77	145.16	
28bcd1	--	1,765	110	--	2-19-73	78.27	
					3- 7-74	70.63	
					3- 6-75	72.45	
					3- 3-76	71.16	
					3- 1-77	70.36	
29abb1	--	1,781	83	--	3- 2-71	77.5	
					3- 7-74	D	
					3- 1-77	80.60	
29dca1	--	1,766	98	--	2-19-73	65.34	
					3- 7-74	66.31	
					3- 6-75	68.64	
					3- 3-76	66.10	
					3- 1-77	64.07	
32bbb1	E. B. Grubb	1,770	500	--	2-20-73	49.11	USGS obs. well.
					3- 7-74	47.61	
					3- 7-75	47.57	
					3- 3-76	42.81	
					3- 1-77	39.73	
34cab1	--	1,740	100	--	2-19-73	49.34	
					3- 7-74	50.00	
					3- 7-75	53.45	
					3- 3-76	53.43	
					3- 1-77	52.89	
S21 E60 1cad1	--	2,262	155	--	2-20-73	111.71	
					3- 8-74	111.89	
					2-27-75	111.76	
					3- 8-76	109.47	
					3- 2-77	105.60	
1dac1	--	2,239	175	--	2-15-73	98.4	
					3- 4-74	93.91	
					2-27-75	92.45	
					3- 8-76	90.74	
					3- 2-77	87.20	
1dbb1	--	2,261	190	--	3- 8-74	147.99	
					2-27-75	148.16	
					3- 8-76	148.03	
					3- 2-77	143.83	
10adb1	George Heyer	2,410	450	260	2-20-73	382.19	
					3- 8-74	396.32	
					2-27-75	394.68	
					3- 8-76	400.33	
					3- 3-77	405.74	
11abc1	Roy Flippen	2,328	700±	--	2-20-73	302.77	
					3- 8-74	311.06	
					2-27-75	317.18	
					3- 8-76	322.52	
					3- 3-77	327.5	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Water-level measurement 1/ Depth (feet)	Remarks 2/
S21 E60 12abd1	--	2,238	154	--	2-21-72	109.54	
					3- 8-74	104.51	
					2-27-75	101.50	
					3- 8-76	97.39	
					3- 2-77	94.26	
12add1	--	2,222	150	--	3- 8-74	83.37	
					2-27-75	81.87	
					3- 8-76	78.86	
					3- 2-77	75.03	
12bab1	--	2,270	165	--	2-15-73	145.60	
					3- 8-74	145.09	
					2-27-75	150.21	
					3- 8-76	154.32	
					3- 2-77	153.96	
13aad1	L. A. Griffis	2,228	200	140	2-20-73	132.83	
					3- 8-74	131.94	
					2-27-75	141.59	
					3- 8-76	133.93	
					3- 2-77	131.79	
15ada1	Wells Cargo	2,375	600	300	2-23-73	320.7	
					4- 8-74	324.74	
					2-27-75	329.87	
					3- 3-76	335.08	
					3- 3-77	340.30	
16bdd1	Clear Gravel, Inc.	2,545	750	405	3- 8-74	443.05	
					3- 4-75	447.91	
					3- 3-76	452.68	
					3- 5-77	457.78	
23daa1	Steve Hill	2,304	325	--	2-21-72	233.0	
					3- 9-74	236.34	
					2-28-75	243.73	
					3- 9-76	245.82	
					3- 4-77	250.28	
35ada1	Frank Kim	2,359	300	230	2-20-73	267.19	
					3- 8-74	271.14	
					2-28-75	276.30	
					3- 9-76	286.75	
					3- 4-77	282.73	
36abc1	Thomas	2,319	250	200	2-27-73	232.0	USGS obs. well.
					3- 8-74	236.54	
					2-28-75	238.90	
					3- 9-76	249.77	
					3- 4-77	D	
S21 E61 1aba1	KLAS	1,830	300	115	3-26-73	3.10	DWR obs. well.
					3- 7-74	3.41	
					3-12-75	8.10	
					3-30-76	9.18	
					2-17-77	4.00	
1bba1	--	1,858	90	--	2-23-73	.09	
					3- 7-74	.98	
					3-10-75	.48	
					3- 3-76	+	
					3- 2-77	+	
2bca1	DRI (well LG 102)	1,980	19	17	3-29-73	5.30	DRI obs. well.
					1-10-74	5.80	
					3- 4-76	5.20	
					3- 7-77	1.44	
3abb2	--	2,014	807	--	2-21-73	36.82	USGS obs. well.
					3-11-74	35.93	
					2-27-75	39.94	
					3- 9-76	38.02	
					3- 3-77	42.24	
4aad1	Home Lumber	2,039	793	338	2-21-73	39.82	USGS obs. well.
					3-14-74	37.32	
					2-27-75	47.10	
					3- 8-76	47.25	
					3- 3-77	53.82	
4baa1	--	2,055	--	--	2-20-73	45.95	
					3- 8-74	41.45	
					2-27-75	51.07	
					3- 9-76	43.72	
					3- 3-77	55.60	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S21 E61 4bbb1	Burnett	2,069	50	12	3-21-73	12.11	DWR obs. well.
					3-13-74	13.90	
					3-12-75	13.90	
					3-31-76	14.10	
					2-18-77	14.28	
4ddb1	Boulder Dam, Inc.	2,042	500	--	2-20-73	28.95	DWR obs. well.
					3-11-74	19.51	
					2-27-75	20.06	
					3-29-76	20.09	
					2-14-77	19.84	
6acc1	J. D. Porter	2,178	394	--	2-14-72	159.25	DWR obs. well.
					3-21-73	143.40	
					3-13-74	157.00	
					3-12-75	157.91	
					2-17-77	157.10	
7ddc1	--	2,162	167	--	2-21-72	60.75	
					2-20-73	61.00	
					3- 8-74	61.43	
					3- 8-76	60.57	
					3- 3-77	59.38	
8dab1	Wilgar Bros. Glass	2,093	150	70	2-21-73	30.92	
					3-11-74	28.68	
					3-27-75	27.78	
					3- 8-76	25.19	
					3- 3-77	26.88	
10cda1	Las Vegas Int. Country Club (well 3)	2,029	270	--	2-21-73	52.49	
					3-11-74	71.44	
					2-27-75	75.91	
					3- 8-76	57.60	
					3- 3-77	63.42	
13cbc1	--	1,935	200	--	3-26-73	16.40	DWR obs. well.
					3-13-74	21.15	
					3-11-75	19.70	
					3-31-76	21.10	
					2-18-77	17.00	
16bac1	Jack Doyle (Country Club Estate)	2,070	846	520	2-15-72	93.63	DWR obs. well.
					3-26-73	85.00	
					3-12-75	88.40	
					3-31-76	95.80	
					2-18-77	97.82	
16bbd1	Hughes Tool Co.	2,081	972	--	2-15-72	75.35	DWR obs. well.
					3-21-73	75.39	
					3-11-75	88.49	
					3-30-76	90.10	
					2-18-77	91.76	
19cba1	KENO	2,215	300	210	3- -72	180 R	
					2-28-75	187.37	
					3- 9-76	190.39	
					3- 4-77	194.70	
22cba1	Paul Toddey	2,050	690	--	3-21-73	34.20	DWR obs. well.
					3-12-74	41.22	
					3-11-75	40.90	
					4- 1-76	47.35	
					2-18-77	43.23	
22ccc1	A. P. Baker	2,070	500	--	2-20-73	30.16	USGS obs. well.
					3- 8-74	35.97	
					2-28-75	41.57	
					12- 5-75	46.34	
					3- 3-77	44.86	
23cbc1	--	2,010	--	--	2-21-72	52.87	
					2-20-73	37.84	
					3- 6-74	36.97	
					3- 4-76	22.93	
					3- 3-77	29.49	
26cbc1	DRI (well LG 107)	2,041	30	30	3-29-73	13.52	DRI obs. well.
					1-10-74	13.45	
					3- 4-76	13.22	
					3- 7-77	14.12	
27cdd1	--	2,072	175	--	2-20-73	16.95	
					3- 8-74	18.15	
					2-28-75	19.29	
					3- 4-76	19.81	
					3- 3-77	20.46	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S21 E61 28cab1	--	2,129	120	--	2-20-73	40.00	DWR obs. well.
					3-11-74	40.06	
					2-24-75	39.72	
					3-29-76	38.68	
					2-28-77	37.10	
29aac1	Morris Wollman	2,140	540	--	2-12-73	62.36	DWR obs. well.
					3- 4-74	67.28	
					2-24-75	73.90	
					3-29-76	79.12	
					2-28-77	84.39	
30dab1	S. J. Hall	2,225	304	--	3-21-73	124.00	DWR obs. well.
					3-13-74	136.93	
					3-11-75	134.25	
					4- 1-76	134.98	
					2-18-77	145.25	
33cca1	--	2,189	105	--	2-20-73	17.41	
					3- 9-74	15.16	
					3- 4-75	18.22	
					3-17-76	20.92	
					3- 3-77	23.14	
33dcb1	--	2,159	--	--	2-20-73	72.72	
					3- 9-74	74.84	
					3- 4-75	78.68	
					3- 4-76	79.02	
					3- 3-77	83.28	
35cbb1	--	2,060	115	--	2-28-73	17.80	
					3- 9-74	18.90	
					2-28-75	19.95	
					3- 4-76	20.80	
					3- 3-77	21.63	
35ccb1	M. McCann	2,065	490	--	3-26-73	26.46	DWR obs. well.
					3-13-74	26.74	
					3-11-75	31.00	
					3-31-76	32.10	
					2-18-77	30.85	
S21 E62 3bbb2	Winterwood Ranch	1,730	200	30	2-20-73	47.29	
					3- 3-76	45.38	
					3- 1-77	44.62	
4abb1	Winterwood Ranch	1,738	215	30	2-20-73	57.77	
					3- 7-74	49.45	
					3- 7-75	47.98	
					3- 3-76	47.92	
					3- 1-77	46.77	
7ddc1	KORK	1,810	100	--	3-21-73	12.77	DWR obs. well.
					3-13-74	13.28	
					3-11-75	12.90	
					3-30-76	12.28	
					2-17-77	12.10	
8dbd2	Ron Okelly	1,731	200	--	2-20-73	14.14	
					3-11-74	14.57	
					3- 3-76	12.85	
					3- 2-77	13.02	Nearby well pumping.
10aca1	Nevada Power Co., Sunrise Station	1,705	715	50	2-20-73	15.23	USGS obs. well.
					3- 7-74	14.81	
					3- 7-75	14.43	
					3- 3-76	13.36	
					3- 2-77	13.64	
10acd1	Nevada Power Co., Sunrise Station	1,695	30	--	2-20-73	6.99	USGS obs. well.
					3- 7-74	7.20	
					3- 7-75	7.72	
					3- 3-76	6.74	
					3- 2-77	6.91	
15bcd1	LDS Farm	1,685	205	--	2-22-73	8.58	
					3- 7-74	5.62	
					3- 4-75	6.77	
					3-16-76	5.15	
					3- 2-77	5.61	
18aab1	--	1,812	100	--	2-20-73	9.98	
					3-11-74	9.62	
					4-10-75	7.82	
					3- 3-76	8.85	
					3- 2-77	8.84	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S21 E62 18aacl	C. V. Patrick	1,817	115	--	2-22-72	9.16	
					2-20-73	7.74	
					3- 3-76	6.19	
					3- 2-77	5.85	
18cdal	--	1,867	--	--	3-21-73	16.94	DWR obs. well.
					3-13-74	22.25	
					3-11-75	17.40	
					3-31-76	19.40	
					2-18-77	15.90	
22bdal	DRI (well LG 036)	1,668	50	44	3- 2-72	6.84	DRI obs. well.
					3- 5-73	6.87	
					3- 4-76	3.95	
					3-21-77	12.53	
26dbal	DRI (well LG 029)	1,597	101	95	3- 2-72	+	DRI obs. well.
					3- 5-73	+	
					3- 4-76	+	
					3- 7-77	+	
26dba2	DRI (well LG 030)	1,597	30	27	3- 5-73	5.45	DRI obs. well.
					3- 4-76	5.53	
					3- 7-77	5.30	
27cccl	--	1,665	360	--	3-21-73	19.60	
					3-13-74	20.00	
					3-12-75	20.00	
					4- 1-76	20.08	
					2-18-77	20.86	
29badl	--	1,765	--	--	2-20-73	14.58	
					3-11-74	14.98	
					3- 4-75	14.35	
					3-16-76	14.10	
					3- 2-77	12.71	
30cccl	--	1,939	166	--	2-20-73	>+1.5	
					3-12-74	4.20	
					3- 4-75	1.18	
					3-16-76	1.63	
					3- 2-77	1.39	
S21 E63 28acal	DRI (well LG 007)	1,485	135	90	2- 1-72	9.13	DRI obs. well.
					3- 5-73	9.91	
					3- 4-76	27.46	
					3- 7-77	30.83	
29ccb2	DRI (well LG 010)	1,530	42	36	2- 1-72	3.42	DRI obs. well.
					3- 5-73	3.46	
					3- 4-76	3.40	
					3- 7-77	2.43	
30cbcl	DRI (well LG 015)	1,558	26	23	2- 1-72	4.87	DRI obs. well.
					3- 5-73	4.84	
					3- 4-76	4.30	
					3- 7-77	1.40	
31babl	DRI (well LG 019)	1,553	68	63	3- 2-72	+	DRI obs. well.
					3- 5-73	+	
					3- 4-76	+	
					3- 7-77	+	
31bab2	DRI (well LG 020)	1,553	18	14	3- 2-72	5.68	DRI obs. well.
					3- 5-73	5.02	
					3- 4-76	5.68	
					3- 7-77	5.80	
31ccal	DRI (well LG 021)	1,614	40	37	3- 2-72	28.43	DRI obs. well.
					3- 5-73	20.67	
					3- 4-76	19.60	
					3- 7-77	15.35	
S22 E60 1dddl	Las Vegas Valley Water District (well 18)	2,363	1,071	250	12- -70	260 R	
					2-25-72	253.5 R	
					2-15-73	263.01	
					3-11-74	265.28	
					3- 8-77	272.66	
14cdbl	Hayes Turney	2,531	500	400	2-24-72	378.8	
					2-21-73	380.75	
					3- 9-74	383.00	
					3-16-76	387.0	
					3- 4-77	388.82	
16aacl	Dannie Myers	2,670	610	545	6-14-69	520 R	
					2-23-73	529.4	
					3- 5-77	542.59	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S22 E60 20bdc1	Red Star Oil Co.	2,805	3,767	>924	4-26-73	597	May be plugged; measurements questionable.
					3-13-74	594.85	
					3- 5-77	593.88	
20cdb1	Moffatt & Lillis	2,810	710	610	4-28-73	479.8	
					3- 9-74	481.46	
					3- 3-75	482.30	
					3- 3-76	482.35	
					3- 5-77	483.47	
23bbd1	Ron MacQuarrie	2,545	500	410	3-12-74	401.98	
					3-10-75	403.86	
					3-16-76	405.5	
					3- 4-77	407.82	
24aad1	Francis Rogan	2,382	350	--	3-13-74	270	Pumped recently.
					3-10-75	249.35	
					3- 9-76	254	
					3- 4-77	256	
24add1	--	2,383	400	350	2-21-73	241.52	
					3-13-74	243.5	
					3-10-75	245.39	
					3- 9-76	247.30	
					3- 4-77	249.32	
S22 E61 2acc1	--	2,046	102	--	2-20-73	32.16	
					3-11-74	35.61	
					3- 4-75	38.31	
					3- 4-76	40.07	
					3- 3-77	40.19	
2bbd1	DRI (well LG 106)	2,075	45	45	1-10-74	30.7	DRI obs. well.
					3- 4-76	37.2	
					3- 7-77	39.58	
2ccc1	--	2,071	90±	--	2-20-73	16.29	
					3-12-74	21.52	
					3- 4-75	26.68	
					3-17-76	28.58	
					5-18-77	31.08	
2cdc1	Wallenzien	2,060	655	120	2-15-72	20.09	DWR obs. well.
					3-21-73	23.90	
					3-13-74	29.85	
					3-11-75	32.51	
					3- 3-77	54.03	
3ccb1	George Crockett	2,150	675	120	2-25-72	87.16	USGS obs. well.
					2-20-73	98.14	
					2-13-74	70.20	
					3- 4-75	98.72	Nearby well pumping.
					3- 3-77	54.03	
3dca1	--	2,080	--	--	2-20-73	18.44	
					3-12-74	18.91	
					3- 4-75	19.31	
					3-17-76	19.66	
					3- 3-77	19.78	
4aba1	--	2,159	113	--	2-20-73	71.73	
					3-11-74	73.92	
					3- 4-75	79.78	
					3- 4-76	77.63	
					3- 3-77	79.46	
4bcb1	Fitzpatrick	2,215	355	--	2-20-73	133.35	DWR obs. well. (recorder)
					2-25-74	135.26	
					2-25-75	138.46	
					3-29-76	141.88	
					3- 7-77	144.38	
4dcb1	--	2,190	245	--	2-20-73	89.40	
					3-12-74	91.01	
					3-10-75	93.19	
					3- 4-76	94.95	
					3- 3-77	97.75	
5dad1	--	2,225	190	--	2-20-73	130.64	
					3- 9-74	133.56	
					3-10-75	137.80	
					3- 4-76	140.65	
					3- 3-77	143.64	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S22 E61 6bcd1	Las Vegas Valley Water District (well 25)	2,332	1,003	328	11- -69	235 R	
					2-25-72	228 R	
					2-15-73	238.04	
					3-11-74	240.45	
					3- 8-77	259.05	
6cba1	Las Vegas Valley Water District (well 23)	2,343	1,002	250	2-25-72	232 R	
					2-15-73	241.0	
					3-11-74	246.26	
					3- 8-77	250.69	
6ccb1	Las Vegas Valley Water District (well 22)	2,348	968	300	2-25-72	241 R	
					2-15-73	251.04	
					3-11-74	257.34	
					3- 4-76	283.60	Measurement questionable.
					3- 8-77	277.22	
6cdc1	Ollie Cameron	2,348	305	--	2-20-73	257.20	
					3- 9-74	249.38	
					3-10-75	252.00	
					3-16-76	254.97	
					3- 4-77	257.46	
9dca1	--	2,194	--	--	2-20-73	102.80	
					3-12-74	105.90	
					3-10-75	109.12	
					3- 4-76	111.27	
					3- 4-77	113.51	
10bda1	Warm Spring Ranch	2,115	160	--	2-20-73	31.22	
					3-12-74	32.82	
					3- 4-75	38.47	
					3- 4-76	37.64	
					3- 4-77	40.91	
11bbc1	--	2,069	250	--	2-20-73	26.65	
					3-12-74	31.69	
					3- 4-75	34.08	
					3- 4-76	35.32	
					3- 4-77	35.22	
11bbd1	--	2,065	30±	--	2-20-73	16.90	
					3-12-74	22.54	
					3- 4-75	28.78	
					3-17-76	29.70	
					3- 4-77	29.42	
12abc1	Bill Jones	2,022	--	--	2-20-73	12.60	
					3-12-74	20.99	
					3- 4-75	21.94	
					3-16-76	25.83	
					3- 2-77	28.81	Pumping.
14aba1	Barnum	2,110	163	--	2-21-72	46.36	
					2-20-73	49.48	
					3-12-74	52.74	
					3-15-76	56.42	
					3- 2-77	55.70	
16cdb2	--	2,224	--	--	3-12-74	120.08	
					3- 4-76	125.10	
					3- 4-77	128.20	
18cac1	James Knez	2,355	360	--	2-24-72	228.3	
					2-21-73	230.24	
					3-10-75	234.57	
					3-17-76	236.79	
					3- 4-77	243.09	
20bad1	--	2,287	210	--	3-13-74	178.40	
					3-10-75	181.62	
					3- 4-76	183.55	
					3- 4-77	179.39	
21bbd1	"Hot well"	2,232	150	--	2-23-73	121.51	
					3-12-74	124.38	
					3-10-75	131.15	
					3- 4-76	129.27	
					3- 4-77	131.98	
24cdd1	Raymond Smith	2,220	200	100	3-10-74	154.10	
					3- 4-75	156.94	
					3-16-76	157.83	
					3- 3-77	156.97	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Depth (feet)	Remarks 2/
S22 E61 28bbal	Joe Dailey	2,243	200	--	2-21-73	122.40	DWR obs. well.
					3-13-74	125.30	
					3-11-75	126.40	
					4- 1-76	125.85	
					2-18-77	132.00	
30dacl	W. M. Nelson	2,315	300	--	2-23-73	150.64	
					3-13-74	151.91	
					3-10-75	153.22	
					3-17-76	154.80	
					3- 4-77	156.16	
33cbal	Groce	2,330	207	--	3-21-73	159.73	DWR obs. well.
					3-13-74	163.75	
					3-11-75	152.50	
					4- 1-76	148.20	
					2-18-77	169.45	
S22 E62 1cbcl	Ray Plummer	1,681	1,135	--	2-20-73	+64.2	USGS obs. well.
					3-12-74	+63.0	
					3- 4-75	+66.1	
					3- 4-76	+66.1	
					3- 4-77	+68.2	
3cccl	City of Henderson (well 1)	1,778	1,000	430	2-22-73	+10.5	
					3-10-74	+11.2	
					3- 4-75	+11.4	
					3- 4-76	+11.2	
					3- 2-77	+11.1	
4bcb1	DRI (well LG 038)	1,740	93	90	3- 2-72	+	DRI obs. well.
					3- 5-73	+	
					3- 4-76	0.20	
					3- 7-77	+	
4bcb2	DRI (well LG 039)	1,777	40	36	2- 1-72	7.37	DRI obs. well.
					1- 9-73	7.38	
					3- 4-76	9.59	
					3- 7-77	8.17	
4bcb3	DRI (well LG 040)	1,777	101	98	2- 1-72	19.08	DRI obs. well.
					1- 9-73	18.90	
					3- 4-76	19.20	
					3- 7-77	19.32	
4dccl	City of Henderson (well 2)	1,798	655	455	2-23-72	+2.5	
					3-10-74	+3.6	
					3- 4-75	+4.0	
					3- 4-76	+4.4	
					3- 2-77	+5.0	
7cbal	Danielson	2,042	148	--	2-15-72	111.89	DWR obs. well.
					3-13-74	114.24	
					3-11-75	114.50	
					4- 1-76	114.02	
					2-18-77	116.60	
8cbdl	Paradise Valley Country Club (well 2)	1,982	712	565	3-12-74	96.95	
					3- 4-75	95.71	
					3-16-76	96.90	
					3- 3-77	97.24	
11cbbl	DRI (well LG 031)	1,780	63	47	2- 9-73	36.10	DRI obs. well.
					3- 4-76	36.10	
					3- 7-77	36.12	
S22 E63 5cbbl	DRI (well LG 013)	1,707	244	241	2- 1-72	49.71	DRI obs. well.
					3- 5-73	38.54	
					3- 4-76	29.82	
					3- 7-77	48.26	
7bcbl	DRI (well LG 025)	1,739	24	19	3- 2-72	11.41	DRI obs. well.
					3- 5-73	6.57	
					3- 4-76	9.59	
					3- 7-77	9.92	
7bcb2	DRI (well LG 026)	1,739	91	87	3- 2-72	11.80	DRI obs. well.
					3- 5-73	7.10	
					3- 4-76	10.55	
					3- 7-77	11.63	
20abcl	City of Henderson (well 4)	2,030	750	460	2-20-73	330.36	
					3- 7-74	329.07	
					3- 4-75	328.42	
					3- 4-76	326.99	
					3- 3-77	326.23	

Table 1.--Water levels and other data for wells--Continued

Location	Owner (well name and (or) number in parentheses)	Land-surface altitude (feet)	Well depth (feet)	Depth to first perforation (feet)	Water-level measurement 1/ Date	Water-level measurement 1/ Depth (feet)	Remarks 2/
S23 E61 3bcc1	Sky Harbor Airport	2,375	650	220	2-22-72	193.3	
					3- 7-74	195.1	
					3- 4-75	197.89	
					3- 4-76	196.69	
					3- 5-77	197.75	
8dab1	Heinz Rettig	2,510	502	240	3-14-74	320.5	
					3- 4-75	320.63	
					3- 4-76	323.08	
					3- 5-77	360.95	
16aaa1	Vegas Vista Mobile-Home Park	2,490	400	360	2-20-73	318.0	
					3-14-74	298.35	
					3- 4-75	298.18	
					3- 4-76	297.90	
					3- 5-77	300.74	

1. Abbreviations:

R - reported measurement.
A - reported airline measurement.
PLA - reported airline measurement of pumping level.
AC - reported airline measurement corrected to correspond with tape measurement.
+ - well flows, distance water would stand above land surface indicated by number if determined.
D - dry.

2. Abbreviations:

DRI obs. well - water-level measurement made by Desert Research Institute.
DWR obs. well - water-level measurement made by Nevada Department of Conservation and Natural Resources, Division of Water Resources.
USGS obs. well - water-level measurements made quarterly by U.S. Geological Survey.

Table 2.--Estimated ground-water pmpage, 1955-76

(From pumpage inventories by the Nevada State Engineer; rounded to the nearest 1,000 acre-feet)

Year	Pumpage (acre-feet per year)	Year	Pumpage (acre-feet per year)
1955	40,000	1965	73,000
1956	43,000	1966	78,000
1957	44,000	1967	81,000
1958	43,000	1968	88,000
1959	46,000	1969	87,000
1960	48,000	1970	86,000
1961	52,000	1971	85,000
1962	a 54,000	1972	70,000
1963	a 59,000	1973	70,000
1964	a 69,000	1974	78,000
		1975	73,000
		1976	70,000

a. Revised from previously published estimates (Harrill, 1974, table 2).

Table 3.--Summary of imports from Lake Mead, 1955-76

(From records of the Colorado River Commission)

Year	IMPORTS (in acre-feet per year)						
	Southern Nevada Water Project 1/						
	Las Vegas Valley Water District	City of Henderson and BMI	Las Vegas Valley Water District	Nellis Air Force Base	City of North Las Vegas	City of Henderson	Total, Las Vegas Valley
1955	428	16,255	0	0	0	0	16,683
1956	1,589	21,175	0	0	0	0	22,764
1957	1,247	16,778	0	0	0	0	18,025
1958	2,202	15,581	0	0	0	0	17,783
1959	1,079	15,450	0	0	0	0	16,529
1960	2,146	15,898	0	0	0	0	18,044
1961	3,334	15,773	0	0	0	0	19,107
1962	4,887	16,473	0	0	0	0	21,360
1963	6,407	18,084	0	0	0	0	24,491
1964	5,879	16,423	0	0	0	0	22,302
1965	3,596	16,298	0	0	0	0	19,894
1966	5,334	18,079	0	0	0	0	23,413
1967	4,651	18,794	0	0	0	0	23,445
1968	6,920	22,951	0	0	0	0	29,871
1969	9,558	24,021	0	0	0	0	33,579
1970	13,350	20,897	0	0	0	0	34,247
1971	6,120	19,687	14,544	284	454	0	41,089
1972	0 a	19,683	42,038	1,445	1,324	4	a 64,494
1973	0	19,345	48,674	1,276	2,341	1,735	73,371
1974	0	19,268	49,290	1,504	3,394	1,939	75,395
1975	0 a	16,832	54,735	1,885	6,302	1,545	a 81,299
1976	0	14,081	59,349	2,158	6,466	1,895	83,949

1. First water delivered on June 16, 1971.

2. Revised from previously published figures.

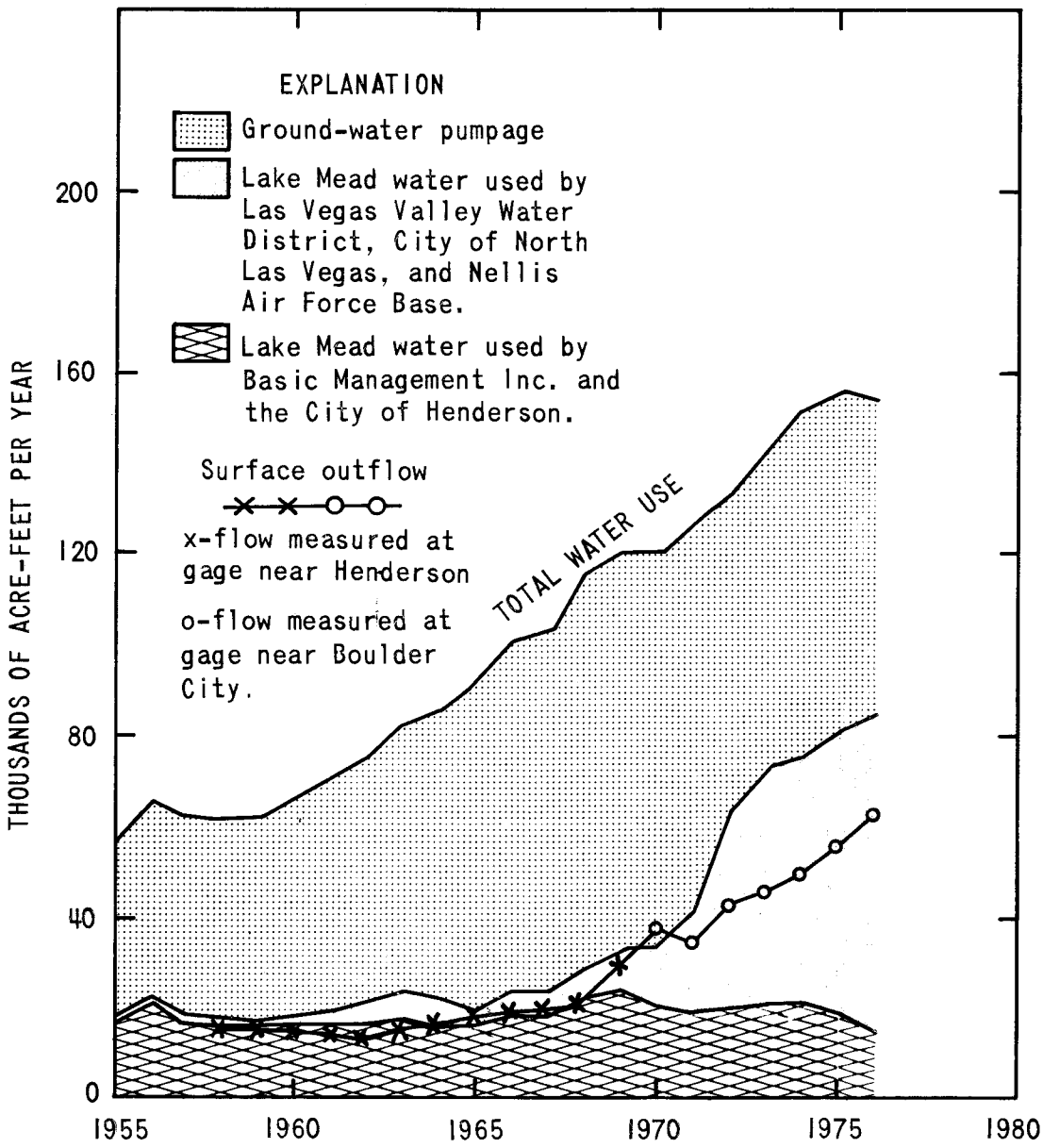

Figure 1.--Relation between ground-water and imports of Lake Mead water, 1955-1976, and measured at the Las Vegas wash gaging stations near Henderson, 1958-1969, and near Boulder City, 1970-1976.

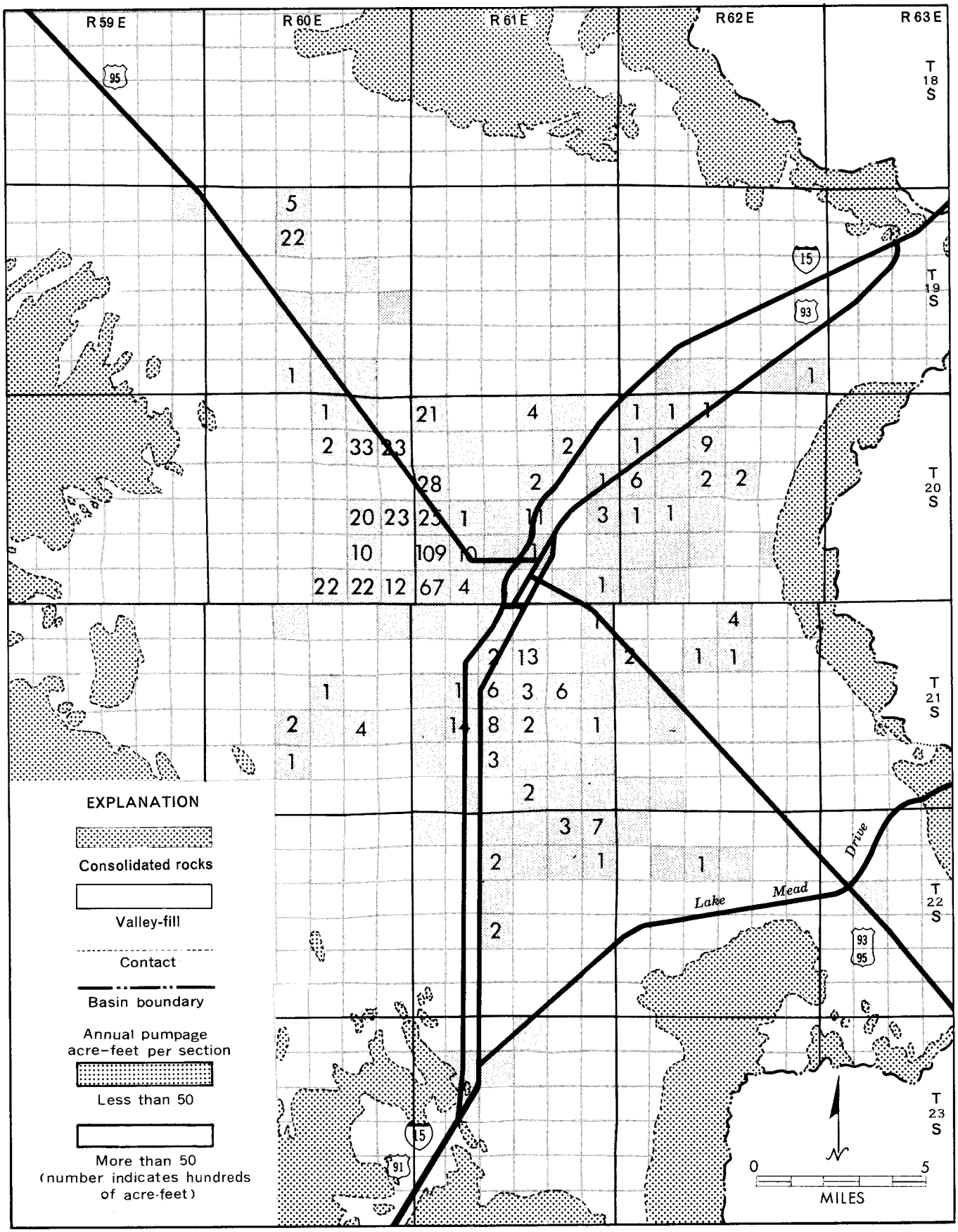

Figure 2.--Distribution of pumpage in 1976.

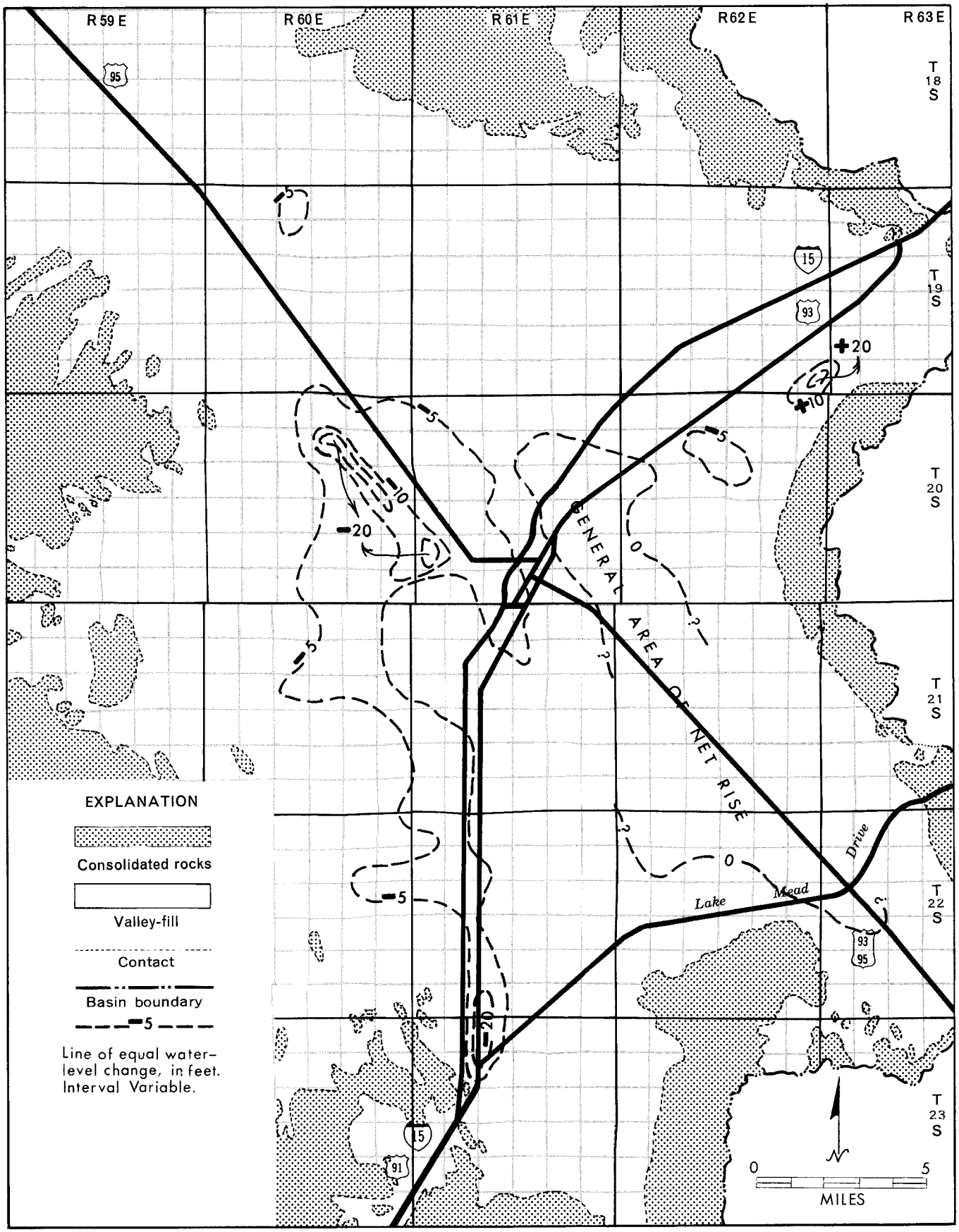

Figure 3.--Approximate net change in water levels in wells that penetrate the principal aquifers, March 1976-March 1977.

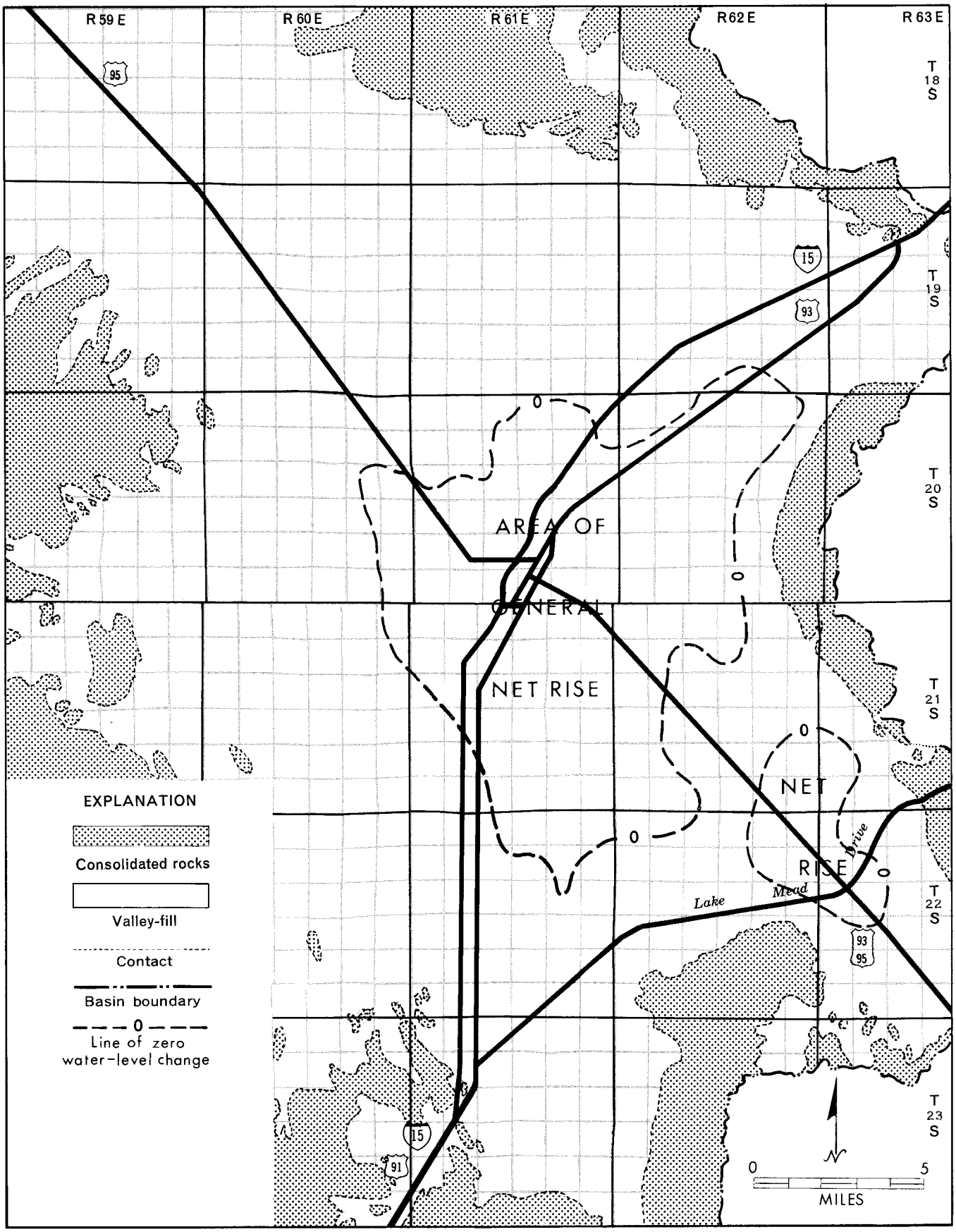

Figure 4.--Approximate area of net rise in water levels in wells that penetrate the near-surface reservoir, March 1976-March 1977.

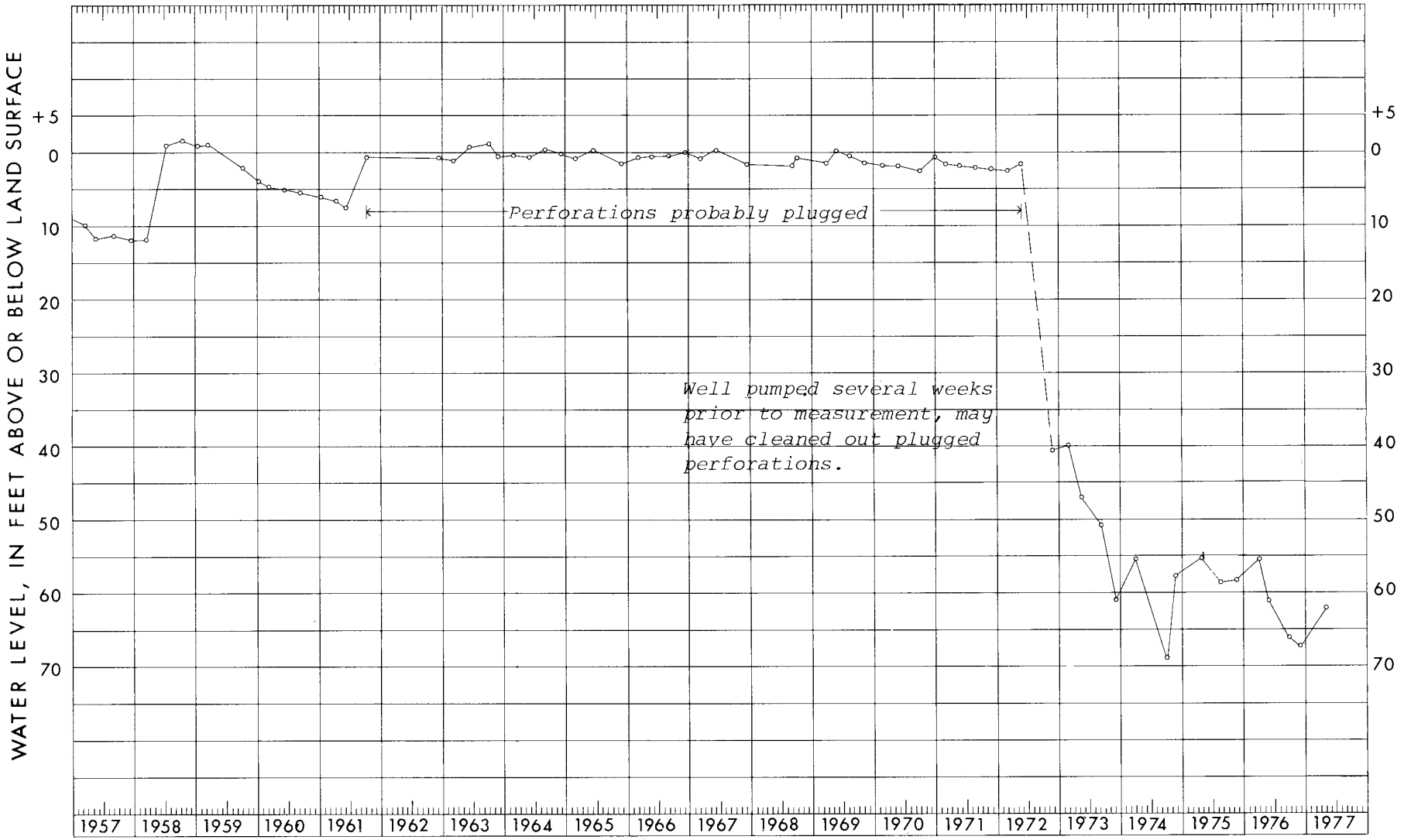

Figure 5.--Water-level changes in well 212 S19 E60 4dab1

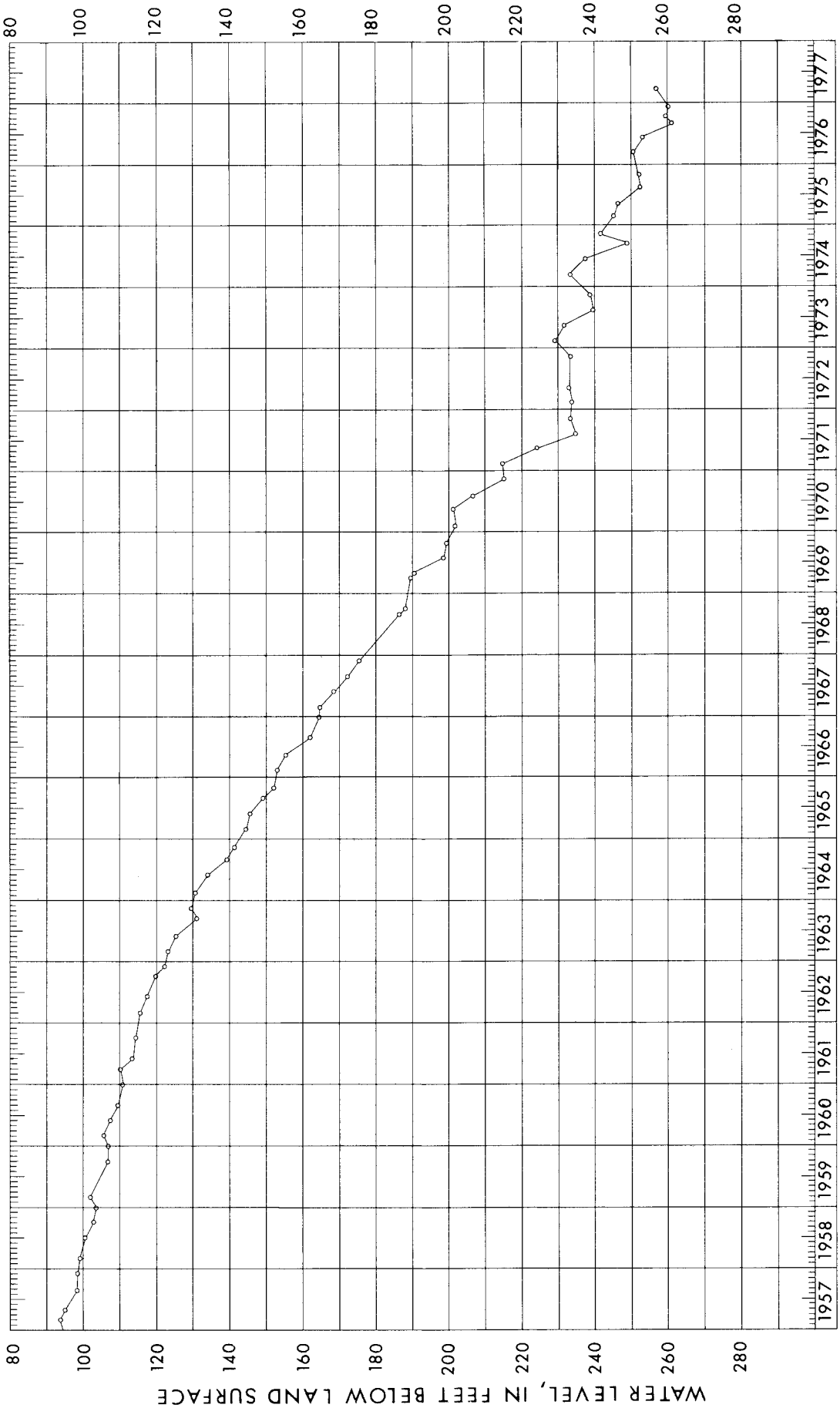

Figure 6.--Water-level changes in well 212 S20 E60 2dddl.

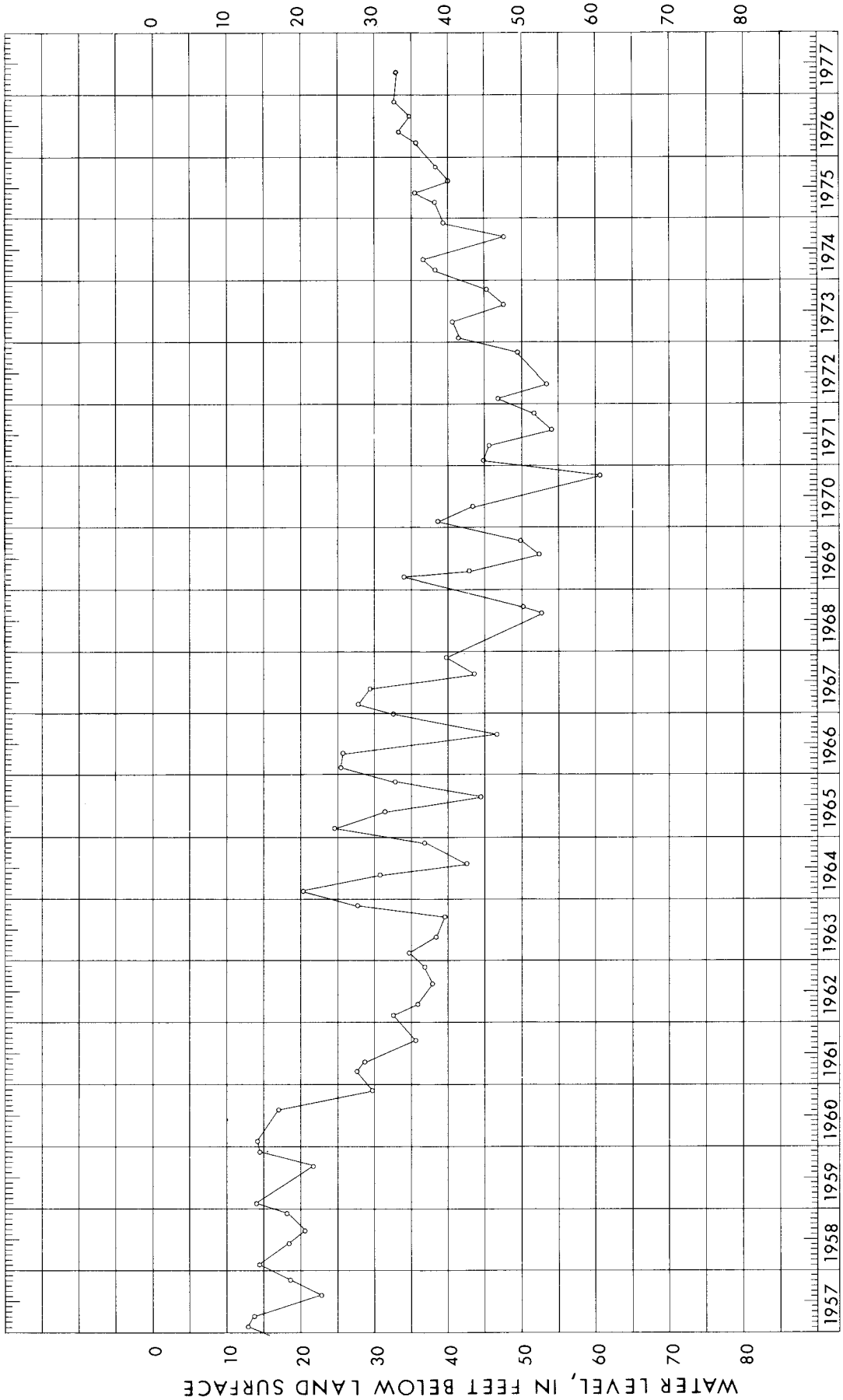

Figure 7.--Water-level changes in well 212 S20 E61 2dbb1.

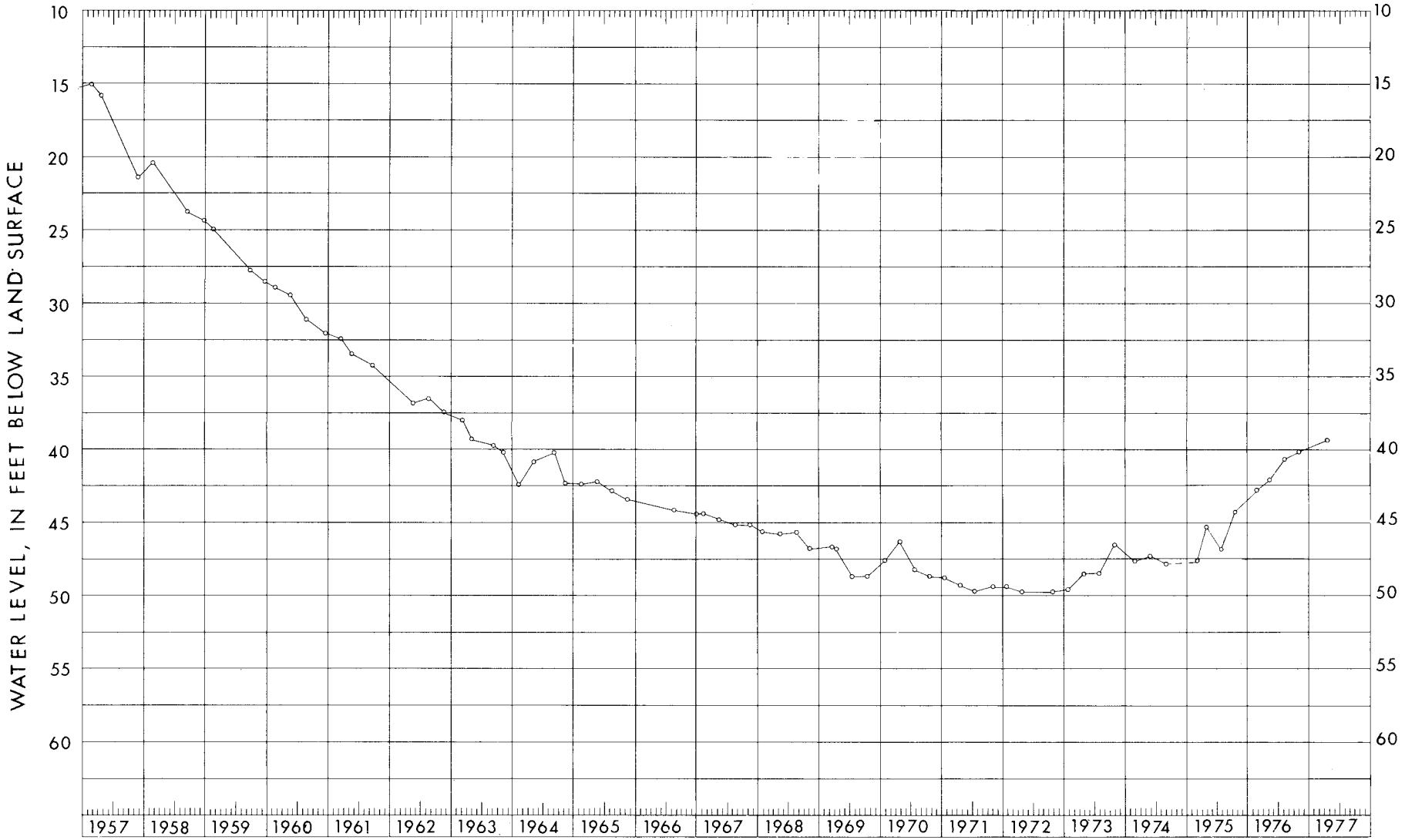

Figure 8.--Water-level changes in well 212 S20 E62 32bbb1.

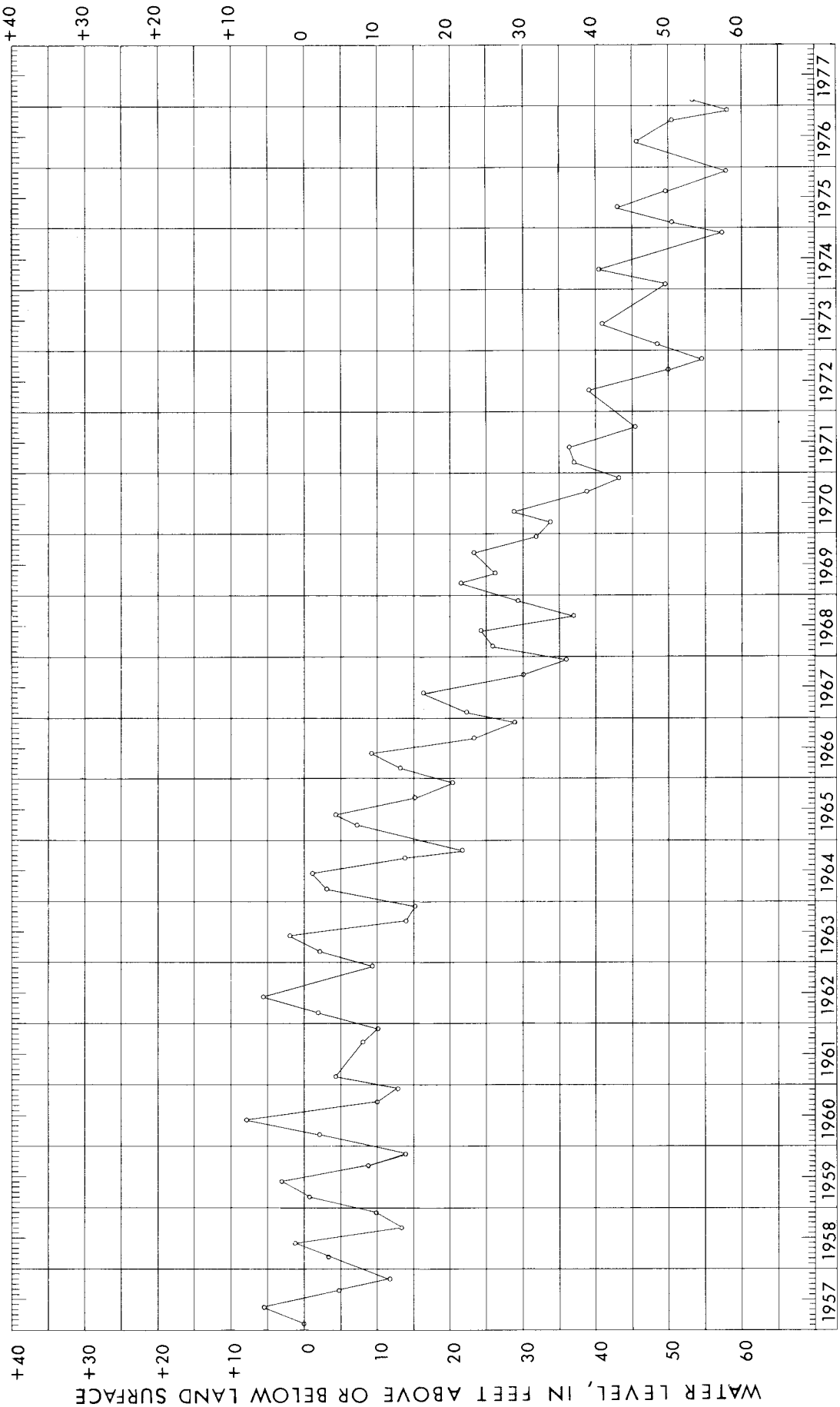

Figure 9.--Water-level changes in well 212 S21 E61 3abb1.

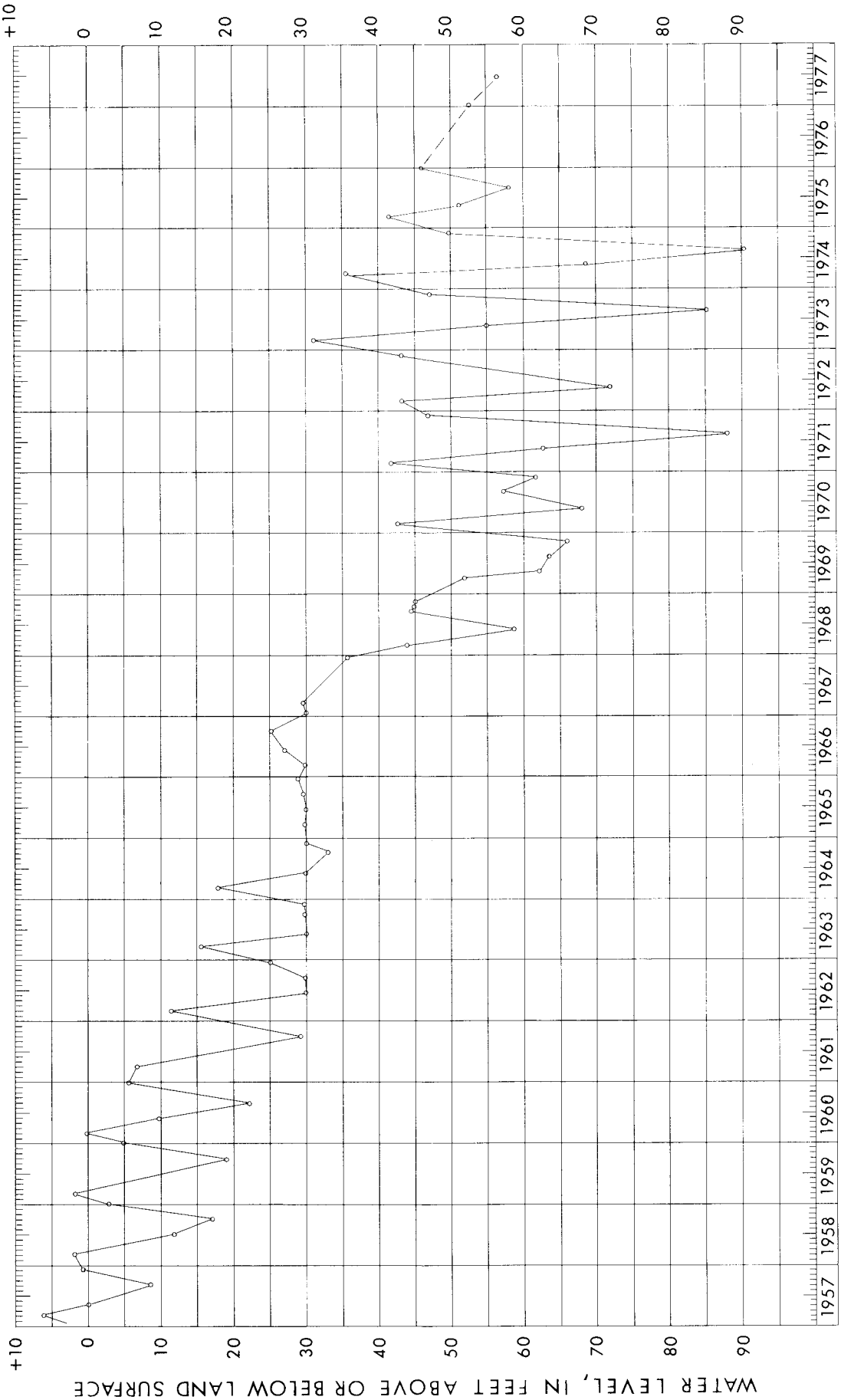

Figure 10.--Water-level changes in well 212 S21 E61 3abb1.

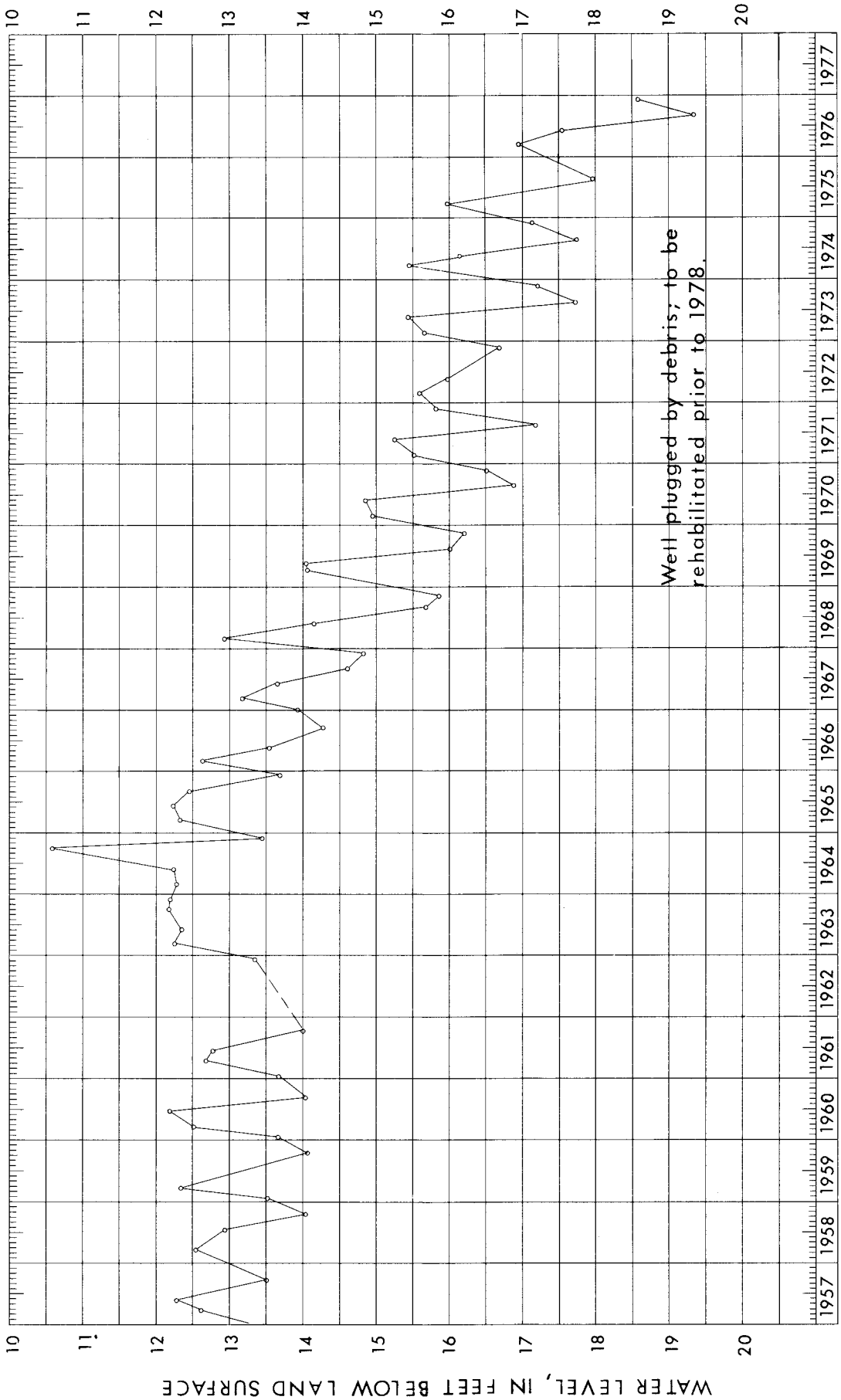

Figure 11.--Water-level changes in well 212 S21 E61 36adc2.

REFERENCES

Harrill, J. R., 1976a, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1971-75; fourth progress report--summary of data: Nevada Div. Water Resources Inf. Ser. Rept. 22, 46 p.

_____1976b, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, March 1975 to March 1976: Nevada Div. Water Resources Inf. Ser. Rept. 26, 31 p.

____1976c, Pumping and depletion of ground-water storage in Las Vegas Valley, Nevada, 1955-74: Nevada Div. Water Resources Bull. 44, 70 p.

____1974, Water-level changes associated with ground-water development in Las Vegas Valley, Nevada, 1973-74, Third progress report: U.S. Geol. Survey open-file report, 36 p.

Malmberg, G. T., 1965, Available water supply of the Las Vegas ground-water basin, Nevada: U.S. Geol. Survey Water-Supply Paper 1780, 116 p.

Maxey, G. B., and Jameson, C. H., 1948, Geology and water resources of Las Vegas, Pahrump, and Indian Spring Valleys, Clark and Nye Counties, Nevada: Nevada State Engineer, Water Resources Bull. 5, 121 p. App. 1, 128 p., App. 2, 43 p.

Rush, F. E., 1968, Index of hydrographic areas in Nevada: Nevada Div. Water Resources Inf. Ser. Rept. 6, 38 p.

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WATER RESOURCES—INFORMATION SERIES REPORT 26
PLATE 1

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PLATE 1.— WELL LOCATIONS, LAS VEGAS VALLEY, NEVADA, 1977.

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