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GROUND-WATER INVENTORY FOR 1961, EDWARDS AIR FORCE BASE, CALIFORNIA

By

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Prepared in cooperation with the
Department of the Air Force

OPEN-FILE REPORT

Long Beach, California
1962

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SUMMARY AND CONCLUSIONS

This report presents the results of the continuing inventory of ground-water resources at Edwards Air Force Base for 1961, giving tabulated lists of pumpage for the 1961 calendar year and the water-level decline between March 1961 and March 1962.

1. Ground-water pumpage.--The total ground-water pumpage by the Base for all uses during 1961 was about 5,520 acre-feet, most of which was pumped from the Main Base, East Camp, and North Base wells.

2. Water-level fluctuations.--In the Main Base, East Camp, Rosamond, and North Muroc storage units water levels have declined an average of 0.5 to 2 feet during 1961. Water levels have risen considerably in irrigated areas owing to pumping decreases. A slight decrease in pumping from the Main Base well field caused a slight rise in water level on the southeast side of the well field, as shown by measurements in well 9/10-24G1.

3. Ground water in storage.--Ground water in storage beneath and adjacent to the Base in the saturated deposits to a depth of 200 feet below the 1952 water levels was estimated to be 1,500,000 acre-feet (Dutcher, 1958, p. 40). Depletion of ground water in storage during the period from March 1961 to March 1962 was about 8,500 acre-feet. The total depletion of ground water in storage during 1952-62 has been estimated to be about 93,100 acre-feet.

4. Quality of water.--Chemical analyses of water collected from Base wells annually indicate no appreciable deterioration of chemical quality. A series of analyses of water samples from North Base well 2 (10/9-7A2) collected during 5 hours of pumping showed a decrease in chloride content from more than 700 ppm to about 400 ppm during the initial 3 hours of pumping.

The decrease in chloride content in well 10/9-7A2 during the initial period of pumping after a nonpumping period suggests that the higher chloride content is derived by leakage downward from a shallower saturated zone with high chloride content and higher water level than the zone opposite the perforations. This leakage may be down the outside of the casing or through a hole in the casing opposite the shallower zone. Use of this well should be discontinued, and measures undertaken to determine the source and avenue of leakage, followed by remedial work to stop further leakage of saline water into the main water body at North Base.

PURPOSE AND SCOPE OF THE CONTINUING INVENTORY

This report, covering the period March 1961 through March 1962, is the fifth periodic appraisal of ground-water conditions at Edwards Air Force Base, Los Angeles, Kern, and San Bernardino Counties, Calif. It was prepared by the U.S. Geological Survey in cooperation with the Air Force.

These periodic (generally annual) reports extend the collection and analysis of basic data for the period 1950-54, which were presented in an appraisal report on the geology and ground-water resources of the Base (Dutcher and Hiltgen, 1954 and 1955; Dutcher and Worts, 1958). The first continuing-inventory report was prepared for the period 1954-57 (Dutcher, 1958), the second for 1958 (Dutcher, 1959), and the third and fourth for 1959 and 1960 (Moyle, 1960 and 1961). The purpose of the continuing program is to collect the geologic and hydrologic data needed to keep the Air Force advised as to the current water-supply conditions on the Base. The area of the investigation is shown on figure 1.

Figure 1. Map of part of southern California showing area described in this report.

The scope of the program requested by the Air Force is as follows: (1) Continue periodic water-level measurements in key observation wells on the base in order to estimate the status of ground water in storage; (2) continue to interpret chemical analyses of water from base wells to detect any changes in quality of ground water, and, in particular, to detect any deterioration of quality due to return of sewage effluent, downward movement of water of inferior quality from the shallow water bodies, or migration of water of poor quality from local areas near the margins of the basins toward the base wells; and, as funds permit, to collect water samples periodically from key wells to supplement the base sampling program; (3) continue as technical adviser on water-supply problems at Edwards Air Force Base; and (4) prepare a brief annual report incorporating the findings made during the continuing inventory, including a summary of ground-water pumpage, an estimate of ground water in storage, hydrographs and tabulations of water-level measurements, chemical analyses, and other basic data.

The work has been carried on by the Geological Survey, U.S. Department of the Interior, under the immediate supervision of G. M. Hogenson, geologist in charge, Long Beach subdistrict office, and under the general supervision of H. D. Wilson, Jr., and Fred Kunkel, successive district engineer and district geologist in charge of ground-water investigations in California.

A description of the well-numbering system is included in the Tables of Basic Data for Wells at Edwards Air Force Base, Appendix A (Dutcher and Hiltgen, 1955, p. 6) and the subsequent periodic reports.

For convenience of reference, table 1 presents a cross index relating the well numbers used by Edwards Air Force Base with those used by the Geological Survey.

Table 1.--Cross index of Base and Geological Survey well numbers

Base number or name	Abbreviated Base number [1]	USGS number	Basin and ground-water storage unit	Use
			Lancaster basin	
Main Base well 1	MB- 1	9/9 - 6L1	Main Base (adjacent)	a
3	MB- 3	9/9 - 6E1	Main Base (adjacent)	b
5	MB- 5	9/9 - 6A1	Main Base (adjacent)	a
6	MB- 6	9/10-12R1	Main Base (adjacent)	c
6A	MB- 6A	9/10-24F1	Main Base	a
7	MB- 7	9/9 -18C1	Main Base	a
8	MB- 8	9/10-24G1	Main Base	a
9	MB- 9	9/10-24C1	Main Base	a
11	MB-11	9/10-24E1	Main Base	a
Telemeter Station well 10	TS-10	9/10- 8P1	--	a
South Track well A	ST-A	8/10- 2F1	Main Base	a
D	ST-D	8/10- 2N2	Main Base	a
E	ST-E	8/10- 1C1	Main Base	b
East Camp well 1	EC-1	9/8 - 6H2	East Camp	a
2	EC-2	9/8 - 6H1	East Camp	a
3	EC-3	9/8 - 6J1	East Camp	b
			North Muroc basin	
North Base well 1	NB-1	10/9- 7A1	North Muroc	a
2	NB-2	10/9- 7A2	North Muroc	a
3	NB-3	11/9-32Q1	North Muroc	a
4	NB-4	10/9- 4D2	North Muroc	a
Test well 4	TW-4	10/9- 4D1	North Muroc	b
Graham Ranch well		9/10-16P1		d
		9/10-34P3		d
Red Barn well		9/10-34Q1		d
		9/10-34Q2		d

1. Symbol shown in text.
a. Supply well.
b. Unused well.
c. Recorder well.
d. Recreational well.

SUMMARY OF TECHNICAL ASSISTANCE TO THE BASE

The U.S. Geological Survey gave technical aid and advice to Air Force military and civilian personnel concerning water supply at Edwards Air Force Base during the period April 1, 1961, to April 1, 1962, as follows:

1. A conference was held at Edwards Air Force Base on June 26, 1961, to discuss the new well (9/8-6J1) at East Camp. A need for additional water in excess of the 750 gpm (gallons per minute) yield of the new well was expressed. Increasing the capacity of the pump on one of the old wells was recommended by the U.S. Army, Corps of Engineers, and it was agreed that this might be feasible if controlled pumping tests show that one of the old wells has sufficient capacity for increased pumping.

2. The drilling and testing of the new well (8/10-1C1) at the South Track was observed closely. The drill cuttings were logged, and suggestions were made for depth settings of perforated casing and rates of pumping for testing. A letter to the Base dated August 25, 1961, summarized the drilling and testing of the new well, and a more detailed summary is contained herein.

3. A conference was held February 28, 1962, wherein problems of high chloride content in water from North Base well 2 and high fluoride content in water from East Camp well 2 were discussed. A suggestion was made for discontinuing the use of North Base well 2 (see section on quality of water) and further study as to the source of high chloride in the water at North Base was planned. Plans were made to monitor the high fluoride at East Camp well 2 quarterly; and the analysis showing 5.5 ppm (parts per million) fluoride, the highest of record, in water collected from the well in August 1960, was tentatively attributed to a contaminated sample bottle.

4. Informal conferences were held at various times during the year and several letters (primarily those dated January 29, March 7, March 8, and April 4, 1962) resulted from requests made at some of the conferences.

GROUND-WATER PUMPAGE

The metered pumpage for the Base during 1961 totaled slightly more than 4,750 acre-feet, and the monthly pumpage ranged from a January low of 54,997,000 gallons (169 acre-feet) to a July high of 215,729,000 gallons (662 acre-feet). Pumpage for all uses by the Base during 1961, including both metered and estimated pumpage from the various ground-water basins and Base storage units is shown in table 2 and on figure 2. Pumpage records for irrigation

Figure 2. Pumpage from wells at Edwards Air Force Base.

and other uses outside the Base during 1961 are not available.

Table 2.--Pumpage from Base wells, 1961

Basin and well field	1961[1]	
	1,000 gallons	acre-feet[2]
Lancaster basin		
Main Base wells 6, 7, 8, 9, and 11	954,000	2,930
Main Base wells 1 and 5	60,600	186
East Camp wells 1 and 2	228,000	700
Recreation wells[3]	250,000	767
Telemeter Station well 10	296	0.9
South Track well A	4,460	13.7
Subtotal	1,500,000	4,600
North Muroc basin		
North Base wells 1 and 2	235	0.7
North Base wells 3 and 4	303,000	930
Total	1,800,000	5,520

1. All values rounded to three significant figures, or the nearest 0.1 acre-foot.

2. One acre-foot equals 325,851 gallons.

3. Pumpage is estimated; the water is not used for Base supply and the pumpage is not shown on figure 2.

WATER-LEVEL FLUCTUATIONS

The water-level contour map (fig. 3) shows three principal

Figure 3. Map of Edwards Air Force Base and vicinity, California, showing geology, location of wells, ground-water storage units, and water-level contours for March 1962.

pumping depressions in the vicinity of Edwards Air Force Base. The largest is centered southeast of Rosamond Lake near the corner of 60th and "F" Streets, the second depression is centered near well 9/10-24E1 in the Main Base well field, and the third is centered in the vicinity of South Track, secs. 1 and 2, T. 8 N., R. 10 W. Less obvious pumping depressions are centered around well 11/9-24B1 in the North Muroc basin, near North Base well 3 (11/9-32Q1), and in the vicinity of wells 9/8-6H1 and 6H2 in the East Camp storage unit.

The water level on the Base starts to decline in the early spring and continues to decline until about September, when it begins to recover, as shown by the hydrographs on figure 4. In general, each

Figure 4. Hydrographs of wells 10/9-12R1 and 9/10-34H1.

succeeding year, for the period of record, the highest annual water level has been lower than the high for the previous year. Similarly, the lowest annual water level also has been lower each succeeding year.

Rains during the winter of 1961-62 caused decreases in pumping in irrigated areas and the resulting rise in water levels was exceptionally large. The best example of this unusually large rise in water level is near the center of the pumping depression at 60th and "F" Streets, where March 1962 water levels in wells 8/11-27R2, 8/11-34D2, and 8/11-34P2 were 10 to 25 feet higher than March 1961.

The decline in water level during the period of this report in the North Muroc storage unit generally ranged between 0.2 to 2 feet as indicated by water levels in wells 10/9-24A2 and 11/9-24B1 (see table 3). Water level in well 11/9-34A1 rose 1.1 feet during the year, indicating a decrease in pumping from well 11/9-25L1. The pumping of wells 11/9-24B2 and 11/9-24Q1 caused the largest net decline in the North Muroc storage unit. In the East Camp area, net declines ranged from 1.7 to 3.8 feet; in the Main Base storage unit, the net declines ranged from 0.5 to 5.9 feet except well 9/10-24G1, which showed a rise for the year of 0.8 foot in that part of the main well field; and in and near the Rosamond storage unit the net declines ranged from 0.3 to 5.0 feet, except for wells 8/11-14R2 and 8/11-15Q1 where the water levels have risen 8.6 and 2.2 feet, respectively, since March 1961. The large net water-level rise in the south-central part of the Rosamond storage unit is attributed to less pumping in the area southeast of Rosamond Lake.

GROUND WATER IN STORAGE, 1961 AND 1962

The quantity of ground water in storage in 1952 in the ground-water storage units of Edwards Air Force Base (fig. 3) was estimated in the appraisal report by Dutcher and Worts (1958, p. 201). Dutcher (1959, p. 47) estimated the depletion of ground water in storage during the period 1952-58. Moyle (1960, p. 26 and 1961, p. 38) estimated the depletion of ground water in storage during the period March 1959 through March 1961. Table 4 shows the estimate of depletion by years for the period 1952 to March 1962.

Table 4.--Status of ground water in storage, Edwards Air Force Base, 1952-62

Basin and storage unit[1]	Estimated ground water in storage in 1952[1] (acre-feet)	Estimated ground-water depletion, in acre-feet[2]						
		1952-57[3]	1957-58[4]	1958-59[5]	1959-60[5]	1960-61[5]	1961-62	Total 1952-62
Lancaster basin:								
East Camp	310,000	11,000	2,600	2,200	4,300	4,100	3,200	27,400
Main Base	440,000	17,000	2,400	4,100	3,600	4,000	2,600	33,700
Rosamond	340,000	11,000	1,900	1,900	4,000	2,500	1,700	23,000
Subtotal	1,100,000	b39,000	6,900	8,200	11,900	10,600	7,500	b84,100
North Muroc basin:								
North Muroc	a450,000	1,000	1,000	1,000	1,000	4,000	1,000	9,000
Total	1,500,000	40,000	7,900	9,200	12,900	14,600	8,500	93,100

1. Storage units and estimates of ground water in storage from Dutcher and Worts (1958, pl. 12 and table 10).

2. Estimates were made from water-level measurements obtained in the spring of the year.

3. Estimate of depletion from Dutcher (1958, p. 40).

4. Estimate of depletion from Dutcher (1959, p. 47).

5. Estimates of depletion from Moyle (1961, p. 38).

a. Approximately 70 percent within base.

b. See point plot on figure 5.

The estimated depletion of ground water, between March 1961 and March 1962, is about 8,500 acre-feet (table 4) in the East Camp, Main Base, Rosamond, and North Muroc storage units. As shown, the quantity of depletion during 1961-62 for the East Camp and Main Base storage units was about 2,300 acre-feet less than for the 1960-61 depletion. For the Rosamond and Main Base storage units, depletion was only slightly more than during the 1957-58 period. In the North Muroc storage unit, depletion was 1,000 acre-feet during 1961-62 compared to a depletion of 4,000 acre-feet in the 1960-61 period.

The total depletion for 1952-62, as shown by table 4, is about 93,100 acre-feet. Depletion in all storage units except North Muroc for the same period was 84,100 acre-feet (fig. 5) and is reflected by

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Figure 5. Estimated total depletion of ground water in storage in East Camp, Main Base, and Rosamond storage units.

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an average water-level decline of about 24 feet for the 10-year period.

QUALITY OF WATER

Water samples have been collected annually from base wells for chemical analysis (table 5). Except in the vicinity of well 10/9-7A2 (NB-2), the analyses provide no indication of changes in the quality of water that might be the result of treated sewage effluent returning to the ground water, downward movement of water of inferior quality from shallow water bodies, or migration of water of inferior quality from adjacent local areas. The quality of the water from well 10/9-7A2 has improved somewhat during the period of this report (fig. 6); however, contamination continued.

Records of chemical analyses made prior to 1962 are tabulated in reports by Dutcher and Hiltgen (1954, table 5B, p. 106-115, and 1955, table 5A, p. 71-84), Dutcher and Worts (1958, table 9, p. 189), Dutcher (1959, table 8, p. 52-56), and Moyle (1960, table 6, p. 29-31, and 1961, table 5, p. 40-42).

Samples of water from North Base well 2 (10/9-7A2) were collected, primarily to detect changes in chloride content in this water. Analyses of the samples indicate an increase of 164 ppm of chloride between September 14, 1961, and January 26, 1962 (table 5 and fig. 6).

Figure 6. Graph showing chloride content of well waters.

To determine changes in chemical quality of the water with continuous pumping from well 10/9-7A2, 11 samples were taken during a 5-hour period of pumping at a rate of 65 gpm on March 15, 1962. Laboratory determinations of chloride content in these samples were as follows:

Pumping time		Chloride (ppm)
	10 minutes	719
	20 minutes	650
	28 minutes	615
	34 minutes	582
	41 minutes	570
1 hour		520
1 hour	41 minutes	480
3 hours		385
3 hours	30 minutes	390
4 hours	30 minutes	381
5 hours		380

The chloride content decreased steadily during the first 3 hours of pumping, as shown in the above tabulation. Also, field determinations of electrical conductance of the water showed a decrease from 2,880 to 1,910 micromhos. The volume of the well casing below the nonpumping water level is 540 gallons; therefore, at 65 gpm about 8 minutes is required to remove water standing in the well. During the final 2 hours of pumping only small changes in the chloride content and conductance of the discharge occurred.

The source of the high-chloride water probably is a sandy water-bearing lens at shallow depth, which has a higher water level than the zone pumped. Water from such a zone could enter through a break in the casing and move out through the perforations or leak down outside the casing into the zone tapped by the well. After the well is idle for long periods, analyses show a progressive chloride increase. When the well is pumped again and the cone of depression spreads, the contaminated water is gradually withdrawn. A very long pumping period probably would be required to discharge all contaminated water from the main water body near the well.

High concentrations of chloride probably are not yet widespread in the main water body at North Base, as indicated by the 250 ppm chloride, or less, in water from nearby well 10/9-7A1. However, leakage of salty water into the main water body near well 10/9-7A2 should be arrested. Water from North Base well 2 (10/9-7A2) should not be used for drinking because the lowest chloride content recently determined is 380 ppm. This is higher than the maximum of 250 ppm recommended for drinking purposes by the U.S. Public Health Service (1962, p. 2154).

No other notable changes in the chemical quality of water from Base wells were observed. The fluoride concentration in East Camp well 2 (9/8-6H1) was 2.4 ppm on February 27, 1962, and has averaged about 2.6 ppm for the period of record. The 5.5 ppm fluoride reported in an analysis of water from this well in 1960 may be erroneously high, possibly because of a contaminated sample bottle.

DESCRIPTION OF SUPPLY WELL 8/10-1C1

A new supply well (8/10-1C1), 500 feet deep, was constructed just north of the experimental track in August 1961. The new well is about 500 feet east of the red-and-white elevated water storage tank at the experimental track.

The well penetrated a shallow water-bearing zone at 23 feet which was sealed off from the well by 60 feet of 24-inch surface casing cemented in place. Dense swelling clay with interbedded silt layers was encountered between 23 and 203 feet in depth. The main water-bearing zone, consisting mostly of sand, was penetrated from 203 feet to the bottom of the well. Details of geology and well construction are presented in the following descriptive log:

Geologic description of drill-cutting samples from the new supply well at the experimental track, Edwards Air Force Base, Calif.

8N/10W-1C1 (EAFB South Track, well E). Altitude about 2,300 ft. Drilled by Evans Bros. Drilling Co. in 1961. 14-inch casing perforated 200-500 ft. with 1/8-inch x 2-inch louvre slots. Gravel packed with 3/16-3/8 inch material.

Material	Thickness (feet)	Dep (fe
Sand, light gray to tan, silty; and gravel, light gray; arkosic; soft	2	2
Gravel, tan to gray, granules and few pebbles, subrounded to well-rounded, sandy and clayey; soft; water-bearing near base	21	23
Clay, medium brown, silty and sandy; soft	2	25
Silt, medium yellowish brown, clayey and sandy; soft	18	43
Silt, bluish gray, clayey, micaceous; soft; apparently montmorillonitic as it swells into hole when dampened	22	65
Clay, medium yellowish brown, slightly sandy, soft	2	67
Clay, dark bluish gray, silty, slightly sandy; montmorillonitic (?); soft	48	115
Clay, light greenish gray, slightly silty and sandy; bentonitic(?); soft	20	135
Clay, medium yellowish brown, slightly sandy, soft	10	145

Material	Thickness (feet)	Depth (feet)
Clay, light bluish gray, slightly sandy and silty; thin sandstone layers interbedded; soft	30	175
Silt, yellowish tan, sandy; and sandstone, light gray, slightly conglomeratic, occurs in thin layers; some light red silt near base; soft	20	195
Clay, light gray, silty and sandy; soft	8	203
Sand, grayish pink, fine to very coarse, subrounded to subangular, clayey, quartzose in upper part and arkosic in lower part; soft; water-bearing	42	245
Sand, grayish pink, medium to very coarse, subangular to subrounded, slightly silty and conglomeratic, clayey near base; soft; water-bearing	60	305
Clay, light brown, sandy; soft	20	325
Sand, pinkish gray, medium to very coarse, subrounded to subangular, clayey and silty in parts, arkosic; soft; water-bearing	30	355
Clay, medium brown, sandy, slightly silty in parts; soft	20	375
Sand, grayish pink, medium to coarse, subrounded to subangular, slightly clayey and silty at top and base, arkosic; soft; water-bearing	120	495

(NOTE: Well deepened to 500 ft when it was reamed to 24-inch diameter.)

Existing wells near well 8N/10W-1C1 are all 200 feet, or less, in depth. Comparison of the logs of these wells (Dutcher and Hiltgen, 1955, p. 50-51) with the upper 200 feet of the log of well 8N/10W-1C1 shows no definite correlation of materials, indicating that considerable lateral change occurs in the shallow interval in the vicinity of the South Track.

After the annulus was gravel packed, a turbine pump was installed in the well to a depth of 200 feet and the well was developed by pumping and surging for 24 hours, at which time the discharge was clear and relatively free of sand, and development was considered complete.

Immediately after developmental pumping, a step-pumping test was made to determine specific capacity and optimum performance for the well (fig. 7). Optimum performance for a well is the point at

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Figure 7. Graph of results from pumping tests on well 8N/10W-1C1, August 16-18, 1961.

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which the drawdown versus discharge plot (fig. 7, graph B) is flattened toward greater increments of drawdown for increased discharge rates. Pumping rates for each of four 3-hour steps were 500, 1,025, 1,500, and 2,000 gpm (gallons per minute) for which drawdown increments were about 25, 25, 23, and 32 feet, respectively (fig. 7, graph A). Increased rate of drawdown in the final step showed that the point of optimum performance was less than 2,000 gpm and apparently more than 1,500 gpm.

A final constant-discharge test was run at a rate of 1,700 gpm for 12 hours, beginning after a 5-hour recovery period following the step test. Drawdown during this test amounted to about 86 feet after 3 hours pumping. This point falls on the flatter part of the curve on graph B of figure 7, indicating that 1,700 gpm is slightly greater than the optimum performance. It was determined, thusly, that the optimum performance for well 8N/10W-1C1 is about 1,500 gpm. Curves and graphs on figure 7 can be extrapolated to determine approximate water levels and capacities after longer periods of pumping.

The nonpumping water level prior to the constant-discharge test was 75.10 feet below the land surface. After 12 hours pumping at a rate of 1,700 gpm, the water level in the well was 168 feet below the land surface. Therefore, drawdown at the end of testing was 92.90 feet and specific capacity of the well was 18.3 gpm per foot of drawdown.

An approximate value for the coefficient of transmissibility (T)[/]

[/]. The coefficient of transmissibility is defined as the rate of flow, in gallons per day, through each vertical strip of saturated aquifer 1 foot wide extending the full thickness of the zone of saturation, under a gradient of unity.

was determined from the equation

$$T = \frac{264Q}{\Delta s'} \log_{10} t/t'.$$

This was done by plotting residual drawdown (s') during water-level recovery after pumping for the constant-discharge test against the logarithm of the quotient of time, in minutes, since pumping began (t) divided by time, in minutes, since pumping stopped (t'). The transmissibility, thus derived, is about 34,500 gallons per day per foot (fig. 8).

Figure 8. Semilogarithmic graph of water-level recovery in well 8N/10W-1C1 following 12 hours of pumping at 1,700 gpm, August 17-18, 1961.

Water from well 8N/10W-1C1 is of very good quality, as shown by chemical analysis (table 5).

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Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity

Records by U.S. Geological Survey. For uniformity in reference, footnotes are the same as those used in appendixes for the comprehensive report (Dutcher and Hiltgen, 1954 and 1955). Water levels are in feet below land-surface datum; depth of well and altitude are with reference to land-surface datum.

7/9-17N2.[DWR] Depth 303.0 ft. Altitude about 2,492 ft. Records available: 1959-62.

Date	Water level	Date	Water level	Date	Water level
Mar. 1, 1960	192.35	Feb. 27, 1961	201.53	Feb. 26, 1962	202.55
Nov. 15	203.34	Oct. 26	210.94		

7/10-2E1.[DWR] Depth 403 ft. Altitude about 2,412 ft. Records available: 1951-54, 1956-62.

Mar. 1, 1960	179.70	Feb. 28, 1961	188.35	Feb. 28, 1962	194.05
Nov. 16	188.10	Oct. 26	196.10		

7/10-5F1.[DWR] Depth 384 ft. Altitude about 2,392 ft. Records available: 1956-62. Mar. 1, 1960, 171.18; Nov. 16, 179.93; Oct. 26, 1961, 194.55; Feb. 28, 1962, 173.26.

7/10-5N3.[DWR] Depth 980 ft. Altitude about 2,398 ft. Records available: 1945-47, 1951-53, 1956-60, 1962. Mar. 12, 1959, 187.34; Mar. 1, 1960, 194.35; Nov. 16, 204.20; Feb. 28, 1962, 190.37.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

7/10-14Q1.[DWR] Depth 350 ft. Altitude about 2,464 ft. Records available: 1950, 1959-62.

Date	Water level	Date	Water level	Date	Water level
Dec. 8, 1959	236.20	Nov. 15, 1960	250.00	Oct. 26, 1961	267.37
Mar. 1, 1960	241.38	Feb. 27, 1961	245.62	Feb. 26, 1962	250.86

7/10-17R1.[DWR] Depth 400 ft. Altitude about 2,453 ft. Records available: 1957-62.

Mar. 1, 1960	229.54	Feb. 28, 1961	238.22	Feb. 28, 1962	240.47
Nov. 16	239.05	Oct. 26	246.33		

7/10-31M1.[DWR] Depth 365 ft. Altitude 2,505.3 ft. Records available: 1951-52, 1954, 1956-62.

Mar. 1, 1960	298.93	Feb. 27, 1961	295.32	Feb. 28, 1962	296.51
Nov. 16	290.96	Oct. 26	300.19		

7/10-34B1.[DWR] Depth 333.0 ft. Altitude about 2,520 ft. Records available: 1960-62. Nov. 11, 1960, 299.05; Feb. 27, 1961, 299.13; Oct. 26 304.04; Feb. 28, 1962, 304.77.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

7/11-1Q1.[DWR] Depth unknown. Altitude about 2,385 ft. Records available: 1958-60, 1961-62. Mar. 1, 1960, 179.55; Nov. 16, 186.98; Oct. 26, 1961, 209.76; Feb. 28, 1962, 180.33.

7/11-6A1.[DWR] Depth 130 ft. Altitude about 2,351 ft. Records available: 1951-53, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Mar. 1, 1960	77.81	Feb. 28, 1961	78.80	Feb. 28, 1962	80.15
Nov. 11	78.32	Oct. 24	79.70		

7/11-13Q1.[DWR] Depth 570 ft. Altitude about 2,434 ft. Records available: 1956-62. Dec. 8, 1959, 218.88; Nov. 16, 1960, 224.96; Oct. 26, 1961, c242.23; Feb. 28, 1962, 224.87.

7/11-17E1.[DWR] Depth 510 ft. Altitude about 2,396 ft. Records available: 1961-62. Oct. 24, 1961, 202.73; Feb. 28, 1962, 176.15.

7/11-19Q1.[DWR] Depth 401 ft. Altitude about 2,418 ft. Records available: 1951-52, 1956-62.

Mar. 1, 1960	178.72	Feb. 27, 1961	201.17	Feb. 28, 1962	195.84
Nov. 11	198.75	Oct. 24	207.37		

See footnotes at end of table.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

7/11-33N1. Depth unknown. Altitude about 2,473 ft. Records available: 1951, 1954, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Mar. 10, 1958	234.80	Dec. 9, 1959	251.96	Feb. 28, 1962	260.12
Nov. 4	250.20	Nov. 16, 1960	262.46		
Mar. 12, 1959	244.70	Feb. 27, 1961	258.24		

7/12-13F1. DWR Depth 552 ft. Altitude about 2,382 ft. Records available: 1958-62.

Mar. 11, 1958	125.96	Dec. 9, 1959	136.74	Feb. 28, 1961	142.10
Nov. 6	134.80	Mar. 1, 1960	134.85	Oct. 24	149.87
Mar. 9, 1959	132.28	Nov. 11	142.20	Feb. 28, 1962	141.15

7/12-15F2. DWR Depth 599.7 ft. Altitude about 2,354 ft. Records available: 1954, 1957-62.

Mar. 10, 1958	105.46	Dec. 2, 1959	118.76	Oct. 24, 1961	127.42
Nov. 4	118.58	Mar. 1, 1960	108.52	Feb. 28, 1962	115.24
Mar. 9, 1959	121.00	Feb. 28, 1961	120.78		

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

7/12-25M1.[DWR] Depth unknown. Altitude about 2,455 ft. Records available: 1951-52, 1957-62.

Date	Water level	Date	Water level	Date	Water level
Mar. 4, 1952	177.64	Dec. 2, 1959	210.03	Feb. 27, 1961	214.76
Nov. 6, 1958	200.75	Mar. 1, 1960	209.60	Oct. 24	219.32
Mar. 9, 1959	205.60	Nov. 11	214.60	Feb. 28, 1962	219.14

7/12-28F1.[DWR] Depth 407 ft. Altitude about 2,447 ft. Records available: 1954, 1956-62.

Mar. 8, 1957	186.81	Nov. 6, 1958	199.17	Nov. 11, 1960	205.80
Nov. 12,	194.58	Dec. 2, 1959	203.10	Oct. 24, 1961	212.33
Mar. 11, 1958	190.24	Mar. 1, 1960	200.00	Feb. 28, 1962	208.58

8/9-6D1.[DWR] Depth about 700 ft. Altitude about 2,293 ft. Records available: 1959-62. Mar. 1, 1961, 29.91; Feb. 27, 1962, 31.83.

8/9-6F1.[DWR] Depth 27 ft. Altitude 2,293.5 ft. Records available: 1948, 1950-52, 1959-62. Mar. 11, 1959, 15.19; Mar. 3, 1960, 16.2; Mar. 1, 1961, 16.65; Feb. 27, 1962, 15.66.

8/10-1C1.[DWR] Depth 500 ft. Altitude about 2,300 ft. Records available: 1961. Aug. 17, 1961, c75.10.

8/10-1F1.[DWR] Depth 144 ft. Altitude about 2,303 ft. Records available: 1951-52, 1959, 1962. Mar. 12, 1959, 17.58; Apr. 9, 17.60; Feb. 27, 1962, 18.1

See footnotes at end of table.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

8/10-2P1. D-R Depth 234.9 ft. Altitude about 2,310 ft. Records available: 1941-54, 1956-62. Nov. 16, 1960, 52.96; Mar. 1, 1961, 47.17; Oct. 26, 1961, 56.44; Feb. 27, 1962, 53.08.

8/10-4G1. D-R Depth 91.4 ft. Altitude about 2,300 ft. Records available: 1950-54, 1956-62. Nov. 16, 1960, 65.43; Mar. 1, 1961, 59.99; Oct. 26, 69.31; Feb. 27, 1962, 62.52.

8/10-8J1. D-R Depth 567.5 ft. Altitude about 2,315 ft. Records available: 1951-52, 1960-62.

Date	Water level	Date	Water level	Date	Water level
Nov. 16, 1951	63.83	Mar. 21, 1960	77.49	Feb. 27, 1962	83.65
Nov. 6, 1952	70.15	Nov. 24, 1961	92.26		

8/10-8N2. D-R Depth 240 ft. Altitude about 2,316 ft. Records available: 1951-54; 1956-62. Nov. 16, 1960, 58.49; Mar. 1, 1961, 59.11; Oct. 26, 60.29; Feb. 27, 1962, 59.76.

8/10-8R3. D-R Depth 230 ft. Altitude about 2,318 ft. Records available: 1947-49, 1951, 1954, 1956-62.

Jan. 9, 1961	55.84	June 20, 1961	57.16	Nov. 24, 1961	57.74
Feb. 14	56.16	July 20	57.42	Dec. 26	57.75
Mar. 13	56.33	Aug. 16	57.57	Jan. 26, 1962	57.89
Apr. 17	56.76	Sept. 21	57.82	Feb. 27	57.78
May 19	57.03	Oct. 26	57.79		

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

8/10-9P1. D-R Depth 250 ft. Altitude about 2,321 ft. Records available: 1951-54, 1956-62. Nov. 16, 1960, 50.15; Mar. 1, 1961, 50.60; Oct. 26, 51.92; Feb. 27, 1962, 52.33.

8/10-14E1. D-R Depth 250 ft. Altitude about 2,333 ft. Records available: 1956-62.

Date	Water level	Date	Water level	Date	Water level
Mar. 4, 1960	55.14	Feb. 28, 1961	56.92	Feb. 27, 1962	58.28
Nov. 16	56.87	Oct. 26	58.12		

8/10-19N4. D-R Depth 198.4 ft. Altitude about 2,338 ft. Records available: 1951-54, 1956-62.

Dec. 8, 1959	111.99	Nov. 16, 1960	116.49	Oct. 26, 1961	120.66
Mar. 4, 1960	118.25	Feb. 28, 1961	117.56	Feb. 28, 1962	110.77

8/10-19Q1. D-R Depth 690 ft. Altitude about 2,342 ft. Records available: 1939-42, 1944-48, 1950-54, 1958-62.

Dec. 8, 1959	102.49	Nov. 15, 1960	106.43	Oct. 26, 1961	108.51
Mar. 4, 1960	101.77	Feb. 28, 1961	102.97	Feb. 28, 1962	103.17

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

8/10-23F1. DWR Depth 250 ft. Altitude about 2,350 ft. Records available: 1951-54, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Mar. 4, 1960	81.60	Feb. 28, 1961	84.68	Feb. 27, 1962	87.69
Nov. 16	84.15	Oct. 26	88.28		

8/10-28B1. DWR Depth 245 ft. Altitude about 2,358 ft. Records available: 1951-54, 1956-62.

Dec. 8, 1959	102.86	Nov. 16, 1960	106.62	Oct. 26, 1961	113.73
Mar. 4, 1960	103.45	Feb. 28, 1961	107.87	Feb. 27, 1962	112.37

8/10-29P2. Depth 500 ft. Altitude about 2,364 ft. Records available: 1959-62. Nov. 15, 1960, 106.38; Mar. 1, 1961, 90.25; Oct. 26, 90.20; Feb. 28, 1962, 91.70.

8/11-13F2. DWR Depth 156.8 ft. Altitude about 2,313 ft. Records available: 1958-62. Feb. 28, 1961, 70.45; Feb. 27, 1962, 70.76.

8/11-14N1. DWR Depth 337.7 ft. Altitude about 2,312 ft. Records available: 1951-54, 1956-62.

Dec. 8, 1959	68.61	Nov. 16, 1960	69.24	Oct. 26, 1961	69.41
Mar. 4, 1960	70.78	Feb. 28, 1961	69.12	Feb. 27, 1962	68.76

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

8/11-14R2. DWR Depth 205 ft. Altitude about 2,317 ft. Records available: 1952-54, 1956-62. Nov. 16, 1960, 97.30; Feb. 28, 1961, 98.05; Oct. 26, 93.97; Feb. 27, 1962, 90.69.

8/11-15Q1. DWR Depth 179.2 ft. Altitude about 2,307 ft. Records available: 1952, 1954, 1958-62. Feb. 28, 1961, 90.85; Feb. 27, 1962, 88.62.

8/11-18L1. DWR Depth 200+ ft. Altitude about 2,297 ft. Records available: 1951-52, 1958-62. Mar. 9, 1959, 3.19; Mar. 9, 1960, 4.27; Feb. 28, 1961, 5.29; Feb. 28, 1962, 6.43.

8/11-18Q1. DWR Depth 268.2 ft. Altitude about 2,298 ft. Records available: 1951-52, 1958-62. Feb. 28, 1961, 66.42; Feb. 28, 1962, 71.45.

8/11-22N3. ? Depth 144.2 ft. Altitude about 2,317 ft. Records available: 1937, 1939-54, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Dec. 8, 1959	a107.90	Nov. 16, 1960	109.73	Oct. 26, 1961	121.14
Mar. 4, 1960	a106.68	Feb. 28, 1961	108.64	Feb. 27, 1962	111.34

8/11-23R2. R1-DWR Depth 293.2 ft. Altitude about 2,331 ft. Records available: 1951-54, 1956-62. Nov. 16, 1960, 127.57; Feb. 28, 1961, 134.51; Oct. 26, 131.94; Feb. 28, 1962, 116.34.

See footnotes at end of table.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

8/11-27R2. DWR Depth unknown. Altitude about 2,341 ft. Records available: 1951, 1960-62. Nov. 16, 1960, 162.08; Feb. 28, 1961, a175.09; Oct. 26, a174.32; Feb. 27, 1962, 150.57.

8/11-32E1. DWR Depth 200 ft. Altitude about 2,340 ft. Records available: 1951-52, 1962. May 4, 1951, 59.88; Nov. 6, 1951, 61.88; Mar. 4, 1952, 61.71; Feb. 28, 1962, 84.23.

8/11-34D2. DWR Depth 250.5 ft. Altitude about 2,340 ft. Records available. 1951-53, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Dec. 8, 1959	148.77	Nov. 16, 1960	c153.10	Oct. 26, 1961	158.09
Mar. 3, 1960	a153.65	Feb. 28, 1961	151.56	Feb. 27, 1962	141.80

8/11-34R2. DWR Depth unknown. Altitude about 2,358 ft. Records available: 1951-52, 1956-62.

Dec. 8, 1959	171.05	Nov. 16, 1960	173.19	Oct. 26, 1961	188.40
Mar. 4, 1960	175.27	Feb. 28, 1961	178.19	Feb. 27, 1962	164.13

8/12-2Q1. DWR Depth 260 ft. Altitude about 2,283 ft. Records available: 1951-54, 1956-62. Nov. 17, 1960, 24.26; Feb. 28, 1961, 18.99; Oct. 24, 27.04; Mar. 1, 1962, 20.24.

See footnotes at end of table.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

8/12-14R1. DWR Depth 187.7 ft. Altitude about 2,291 ft. Records available: 1951-52, 1958-62. Feb. 28, 1961, 37.58; Mar. 1, 1962, 39.57.

8/12-20B2. DWR Depth 287.2 ft. Altitude 2,317.5 ft. Records available: 1951-53, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Nov. 18, 1957	52.69	Mar. 9, 1959	42.48	Feb. 28, 1961	48.11
Mar. 10, 1958	41.27	Mar. 9, 1960	44.30	Oct. 24	61.89
Nov. 4	55.32	Nov. 17	59.23	Mar. 1, 1962	48.77

8/12-22M1. DWR Depth 298.5 ft. Altitude about 2,302 ft. Records available: 1943-54, 1956-62.

Dec. 3, 1959	30.98	Nov. 17, 1960	37.52	Oct. 24, 1961	38.48
Mar. 9, 1960	23.00	Feb. 28, 1961	26.23	Mar. 1, 1962	28.89

8/12-30K1. DWR Depth unknown. Altitude about 2,324 ft. Records available: 1951, 1956-62.

Mar. 8, 1957	52.76	Mar. 9, 1959	57.62	Feb. 28, 1961	67.67
Nov. 12	67.51	Dec. 9	71.78	Oct. 24	86.45
Mar. 10, 1958	55.18	Mar. 1, 1960	61.69	Mar. 1, 1962	69.20
Nov. 4	71.24	Nov. 17	76.94		

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

9/8-6H1 (EC-2). Depth 467 ft. Altitude about 2,387 ft. Records available: 1951-54, 1956-62. Nov. 16, 1960, 131.85; Mar. 1, 1961, 131.06; Oct. 25, 136.65; Mar. 1, 1962, 134.90.

9/9-2Q1. DWR Depth 122.8 ft. Altitude 2,274.8 ft. Records available: 1948, 1951-53, 1956-62. Nov. 16, 1960, 25.28; Mar. 1, 1961, 25.35; Oct. 26, 29.23; Mar. 1, 1962, 27.43.

9/9-6E1 DWR (MB-3). Depth 103.7 ft. Altitude 2,290.2 ft. Records available: 1948, 1951-53, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Dec. 3, 1959	43.26	Nov. 17, 1960	43.03	Oct. 24, 1961	44.06
Mar. 3, 1960	43.03	Mar. 1, 1961	43.52	Feb. 27, 1962	44.02

9/9-10R1. DWR Depth 106.0 ft. Altitude about 2,280 ft. Records available: 1951-53, 1958-62. Feb. 28, 1961, 33.55; Mar. 1, 1962, 35.83.

9/9-12F1. DWR Depth unknown. Altitude 2,288.8 ft. Records available: 1951-53, 1958-62. Feb. 28, 1961, 36.04; Mar. 1, 1962, 38.14.

9/9-14H1 (formerly 9/9-14-1). Depth unknown. Altitude 2,330.0 ft. Records available: 1958-62. Feb. 28, 1961, 80.39; Mar. 1, 1962, 82.08.

9/9-18C1.(MB-7). Depth 360 ft. Altitude 2,280.3 ft. Records available: 1948, 1952, 1956-58, 1962. Mar. 12, 1958, 29.85; Feb. 26, 1962, 41.85.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

9/9-26F1. Depth unknown. Altitude 2,353.3 ft. Records available: 1958-62. Nov. 16, 1960, 100.48; Feb. 28, 1961, 100.93; Mar. 1, 1962, 103.25.

9/9-27H2. Depth 200 ft. Altitude about 2,280 ft. Records available: 1957-62. Mar. 1, 1961, 30.10; Oct. 26, 32.34; Mar. 1, 1962, 32.3

9/10-12R1 (MB-6). Depth 186.6 ft. Altitude 2,280.0 ft. Records available: 1948, 1951-54, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Jan. 9, 1961	38.31	June 20, 1961	45.12	Nov. 24, 1961	44.47
Feb. 14	38.45	July 20	46.38	Dec. 26	42.66
Mar. 13	40.57	Aug. 16	46.41	Jan. 26, 1962	42.47
Apr. 17	42.71	Sept.21	46.81	Feb. 27	41.27
May 19	44.51	Oct. 24	47.26		

9/10-16C1. Depth 130.2 ft. Altitude about 2,333 ft. Records available: 1952-54, 1957-62.

Mar. 3, 1960	59.23	Nov. 17, 1960	60.16	Oct. 25, 1961	61.52
Oct. 13	60.02	Mar. 1, 1961	60.62	Feb. 27, 1962	62.09

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

9/10-16C2. DWR Depth 206.4 ft. Altitude about 2,328 ft. Records available: 1951-54, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Mar. 3, 1960	82.21	Nov. 17, 1960	85.45	Oct. 25, 1961	83.08
Oct. 13	82.05	Mar. 1, 1961	82.55	Feb. 27, 1962	83.60

9/10-16M1. DWR Depth 140.7 ft. Altitude about 2,325 ft. Records available: 1951-54, 1956-62.

Dec. 3, 1959	87.76	Nov. 17, 1960	89.05	Oct. 25, 1961	89.84
Mar. 3, 1960	87.59	Mar. 1, 1961	88.88	Feb. 27, 1962	89.80

9/10-16P1. DWR Depth about 532 ft. Altitude about 2,322 ft. Records available: 1952-54, 1956-62.

Dec. 3, 1959	82.56	Nov. 17, 1960	85.12	Oct. 25, 1961	88.41
Mar. 3, 1960	87.35	Mar. 1, 1961	83.18	Feb. 27, 1962	84.90

9/10-22J2. DWR Depth 109.0 ft. Altitude about 2,285 ft. Records available: 1959-62. Feb. 28, 1961, 48.35; Oct. 25, 53.47; Feb. 27, 1962, 51.73.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

9/10-24C1.(MB-9). Depth 750 ft. Altitude about 2,285 ft. Records available: 1952-53, 1958, 1960, 1962. Nov. 17, 1960, 69.88; Feb. 26, 1962, 72.80.

9/10-24E1 (MB-11). Depth 700.0 ft. Altitude about 2,280 ft. Records available: 1958-62.

Date	Water level	Date	Water level	Date	Water level
May 15, 1958	b81.20	Dec. 15, 1959	50.25	Mar. 1, 1961	a56.78
Nov. 5	40.82	Nov. 17, 1960	82.93	Feb. 26, 1962	59.83

9/10-24F1 (MB-6A). Depth 530 ft. Altitude 2,281.2 ft. Records available: 1951-52, 1956-60. Dec. 15, 1959, 49.69; Nov. 17, 1960, b58.20.

9/10-24G1 (MB-8). Depth 750 ft. Altitude about 2,280 ft. Records available: 1951-52, 1956-59, 1961-62. Mar. 1, 1961, 49.54; Sept. 21, 1961, b90-58; Feb. 27, 1962, 48.67.

9/10-24N1. DWR Depth 127.4 ft. Altitude about 2,273 ft. Records available: 1951-52, 1956-62. Mar. 1, 1961, 40.34; Oct. 25, 48.76; Feb. 26, 1962, 40.82.

9/10-28F2. Depth 140.8 ft. Altitude about 2,300 ft. Records available: 1957-62. Nov. 17, 1960, 53.70; Feb. 28, 1961, 53.92; Oct. 24, 54.61; Feb. 27, 1962, 55.00.

See footnotes at end of table.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

9/10-32H1. DWR Depth 54.1 ft. Altitude about 2,290 ft. Records available: 1958-62. Feb. 28, 1961, 54.43; Feb. 27, 1962, 56.41.

9/10-34D1. DWR Depth 268 ft. Altitude about 2,285 ft. Records available: 1952, 1956-62. Nov. 17, 1960, 51.91; Feb. 28, 1961, 48.38; Oct. 25, 56.71; Feb. 27, 1962, 51.21.

9/10-34H1. DWR Depth 192 ft. Altitude about 2,285 ft. Records available: 1951-52, 1957-62.

Date	Water level	Date	Water level	Date	Water level
Jan. 9, 1961	33.61	June 20, 1961	39.24	Nov. 24, 1961	40.38
Feb. 14	32.88	July 20	40.16	Dec. 26	37.28
Mar. 13	32.66	Aug. 16	42.00	Jan. 26, 1962	35.98
Apr. 17	35.69	Sept.21	43.46	Feb. 27	34.92
May 19	37.32	Oct. 24	42.37		

9/11-36L1. DWR Depth unknown. Altitude about 2,290 ft. Records available: 1951-54, 1956-62. Nov. 17, 1960, 53.03; Feb. 28, 1961, 51.63; Oct. 25, 57.33; Feb. 27, 1962, 55.07.

9/12-18N2. DWR Depth about 187. Altitude about 2,385 ft. Records available: 1951, 1961-62. Apr. 17, 1951, 99.35; Nov. 8, 1961, 150.15; Mar. 1, 1962, 142.97.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

9/12-21D3. DWR Depth 107.2 ft. Altitude about 2,350 ft. Records available: 1951-54, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Dec. 3, 1959	76.58	Nov. 10, 1960	80.20	Oct. 24, 1961	82.38
Mar. 2, 1960	75.71	Feb. 28, 1961	79.66	Mar. 1, 1962	80.38

9/12-23N1. DWR Depth 266.7 ft. Altitude about 2,294 ft. Records available: 1951-54, 1956-62.

Dec. 3, 1959	29.99	Nov. 17, 1960	32.00	Oct. 24, 1961	34.34
Mar. 3, 1960	28.17	Feb. 28, 1961	30.64	Mar. 1, 1962	32.62

9/12-27J1. DWR Depth 150 ft. Altitude about 2,298 ft. Records available: 1951, 1958-62. Nov. 16, 1960, 26.44; Feb. 28, 1961, 25.65; Oct. 24, 28.47; Mar. 1, 1962, 27.06.

9/12-31N1. DWR Depth 300 ft. Altitude about 2,347 ft. Records available: 1951-54, 1956-62.

Mar. 10, 1958	78.30	Dec. 3, 1959	99.77	Feb. 28, 1961	94.37
Nov. 4	100.19	Mar. 2, 1960	88.25	Oct. 25	111.22
Mar. 9, 1959	84.18	Nov. 17	104.47	Mar. 1, 1962	91.85

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

9/12-35N1. Depth 171.5 ft. Altitude about 2,295 ft. Records available: 1954, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Dec. 3, 1959	20.69	Nov. 17, 1960	22.32	Oct. 24, 1961	23.79
Mar. 1, 1960	20.38	Feb. 28, 1961	22.08	Mar. 1, 1962	23.27

10/9-4D1. Depth 500.0 ft. Altitude 2,307 ft. Records available: 1957-62.

Jan. 9, 1961	98.37	June 20, 1961	102.05	Nov. 24, 1961	101.81
Feb. 14	98.48	July 20	103.68	Dec. 26	98.49
Mar. 13	100.17	Aug. 16	a103.53	Jan. 26, 1962	98.11
Apr. 17	100.66	Sept. 21	a102.33	Feb. 26	97.80
May 19	100.78	Oct. 25	99.59		

10/9-7A2 (NB-2). Depth about 200 ft. Altitude about 2,276.9 ft. Records available: 1948, 1951-52, 1956-62.

Dec. 4, 1959	67.13	Nov. 17, 1960	66.69	Oct. 25, 1961	67.62
Mar. 3, 1960	66.20	Mar. 1, 1961	66.95	Feb. 26, 1962	67.71

See footnotes at end of table.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

10/9-24A2. Depth unknown. Altitude about 2,292 ft. Records available: 1954, 1956-62.

Date	Water level	Date	Water level	Date	Water level
Dec. 4, 1959	72.74	Nov. 16, 1960	72.82	Oct. 25, 1961	72.86
Mar. 3, 1960	72.74	Mar. 1, 1961	72.90	Feb. 26, 1962	73.14

10/9-31C1. Depth 146.8 ft. Altitude about 2,280 ft. Records available: 1951-52, 1957-62.

Dec. 9, 1959	38.96	Nov. 17, 1960	39.98	Oct. 25, 1961	39.92
Mar. 3, 1960	39.90	Mar. 1, 1961	39.93	Feb. 26, 1962	39.84

10/9-36G1. Depth 93.5 ft. Altitude 2,282.4 ft. Records available: 1951-54, 1956-62. Nov. 16, 1960, 39.21; Mar. 1, 1961, 39.73; Oct. 25, 40.48; Mar. 1, 1962, 40.99.

11/8-20H1. D. W. Swanson. Depth 213.9 ft. Altitude about 2,380 ft. Records available: 1951-53, 1958-62. Mar. 1, 1961, 167.27; Feb. 26, 1962, 167.81.

11/8-29K1. U.S. Borax and Chemical Corp., well 41. Depth 495 ft. Altitude 2,355 ft. Records available: 1958-62. Mar. 1, 1961, 140.61; Feb. 26, 1962, 141.36.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

11/8-32G1. Depth 156.0 ft. Altitude about 2,340 ft. Records available: 1951-54, 1956-62. Oct. 25, 1961, 129.70; Feb. 26, 1962, 129.81.

11/9-17N1. (formerly 17M1). Depth 184.6 ft. Altitude about 2,324 ft. Records available: 1951-62. Oct. 25, 1961, 132.52; Mar. 1, 1962, 132.76.

11/9-24B1. U.S. Borax and Chemical Corp. Depth 150.4 ft. Altitude 2,343.6 ft. Records available: 1952-53, 1958-62. Feb. 26, 1962, 141.89.

11/9-28C1. Harry Levy. Depth 186.9 ft. Altitude about 2,305 ft. Records available: 1958-62. Mar. 1, 1962, 89.35

11/9-30H1. W. MacClanaghan. Depth 270 ft. Altitude about 2,310 ft. Records available: 1958-62. Mar. 1, 1962, 94.83.

11/9-30N1 (formerly 31D1). Depth 200 ft. Altitude about 2,328 ft. Records available: 1951-52, 1956-62. Oct. 25, 1961, 117.30; Mar. 1, 1962, 117.52.

11/9-34A1. Depth 193.5 ft. Altitude about 2,303 ft. Records available 1951-52, 1955-62. Oct. 25, 1961, 105.93; Mar. 1, 1962, 103.83.

11/9-36A1. U.S. Borax and Chemical Corp., well 28. Depth 610 ft. Altitude 2.323.6 ft. Records available: 1956, 1959-62. Mar. 1, 1962, 115.27.

See footnotes at end of table.

Table 3.--Records of water levels in wells,

Edwards Air Force Base and vicinity--Continued

11/9-36R1. Depth 298 ft. Altitude about 2,315 ft. Records available: 1954, 1956/1958-62. Feb. 26, 1962, 99.51

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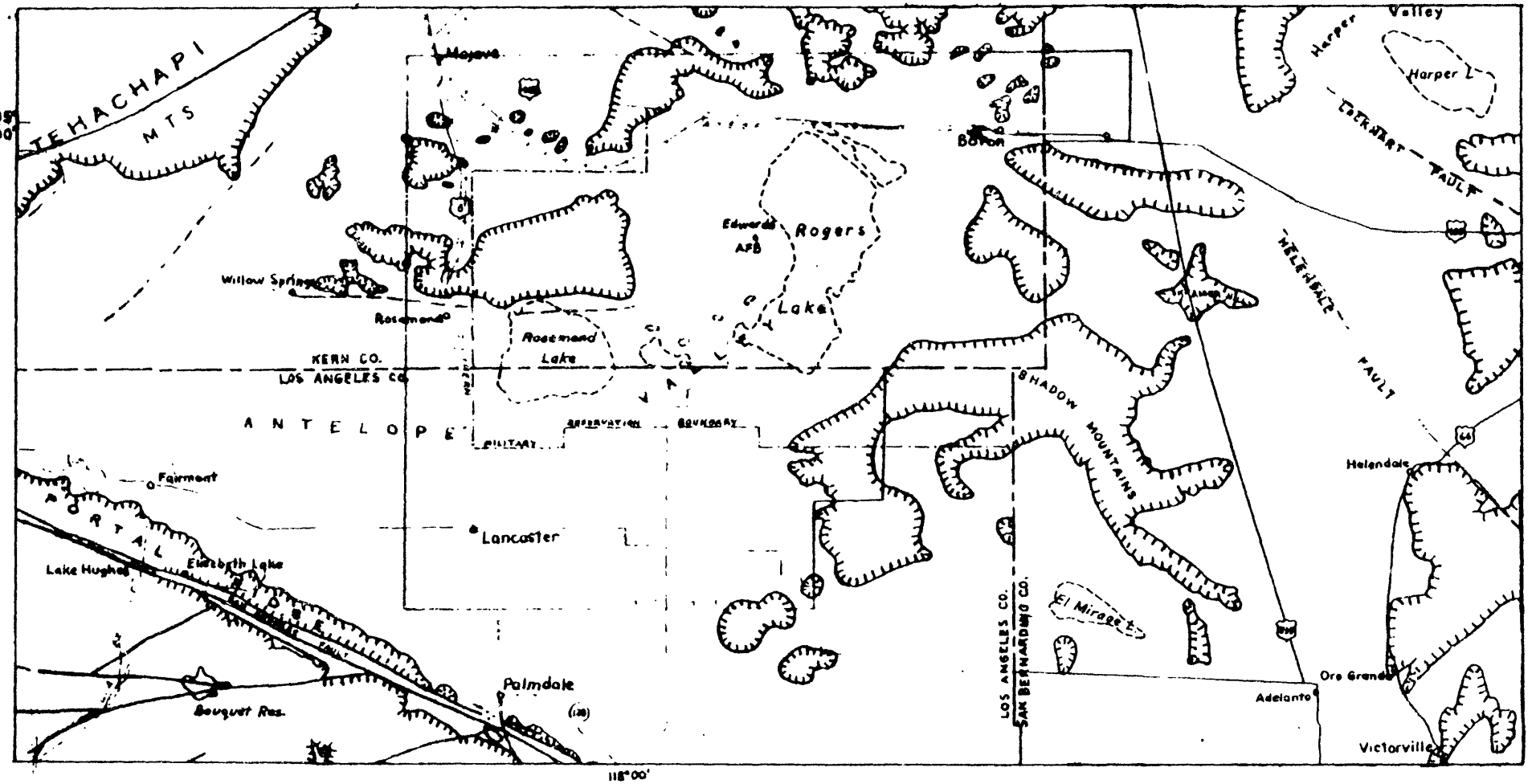
a. Nearby well being pumped.

b. Well being pumped.

c. Well pumped recently.



MAP OF PART OF SOUTHERN CALIFORNIA SHOWING AREA DESCRIBED IN THIS REPORT

Base map and fault pattern largely after geologic map of California (Jenkins, 1938)

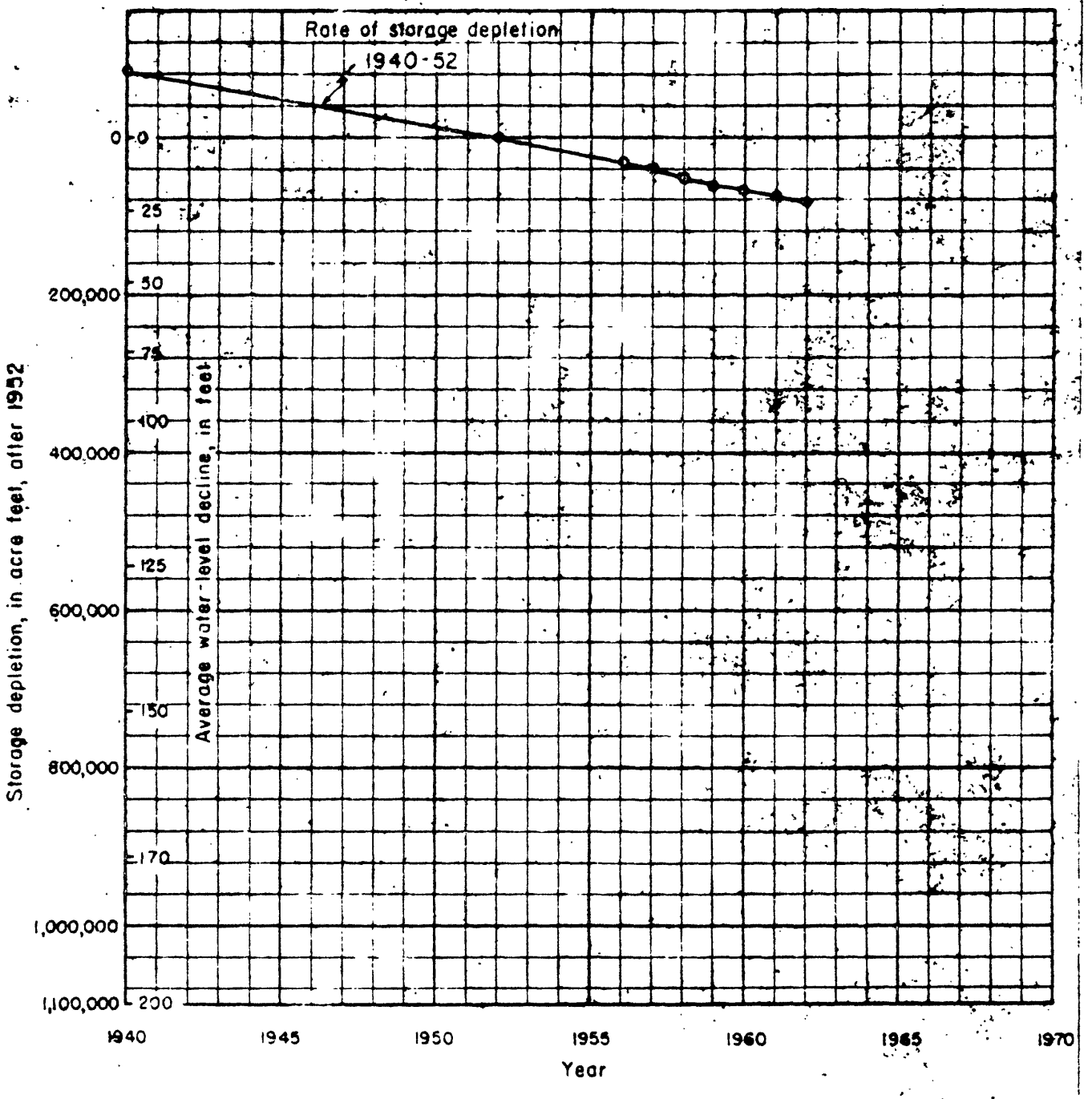
0 8 16 miles
Scale 1 inch = 8 miles

Valley area

Mountain area

Fault
Dashed where inferred

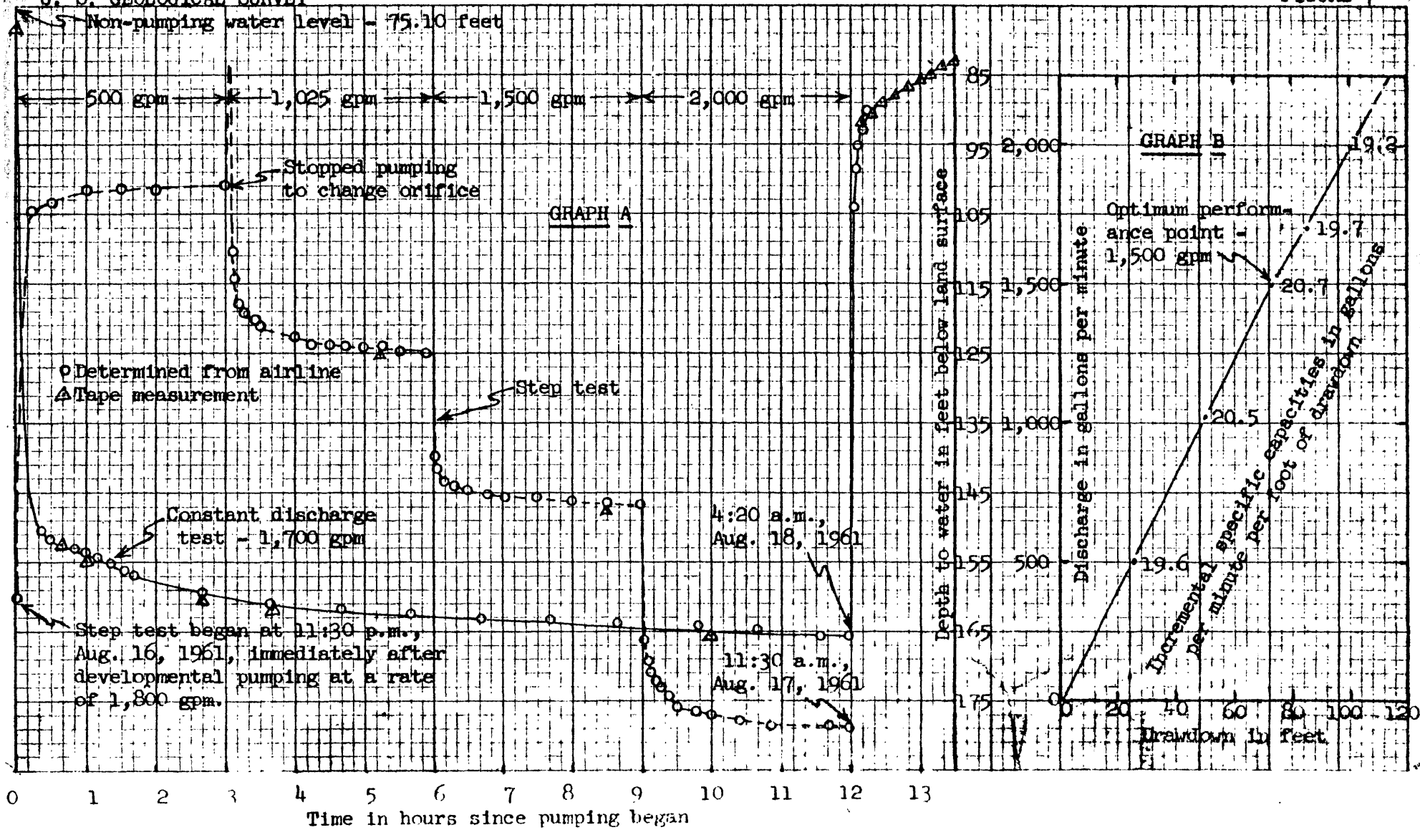
FIGURE 1



ESTIMATED TOTAL DEPLETION OF GROUND WATER IN STORAGE IN EAST CAMP, MAIN BASE, AND ROSAMOND STORAGE UNITS

U. S. GEOLOGICAL SURVEY

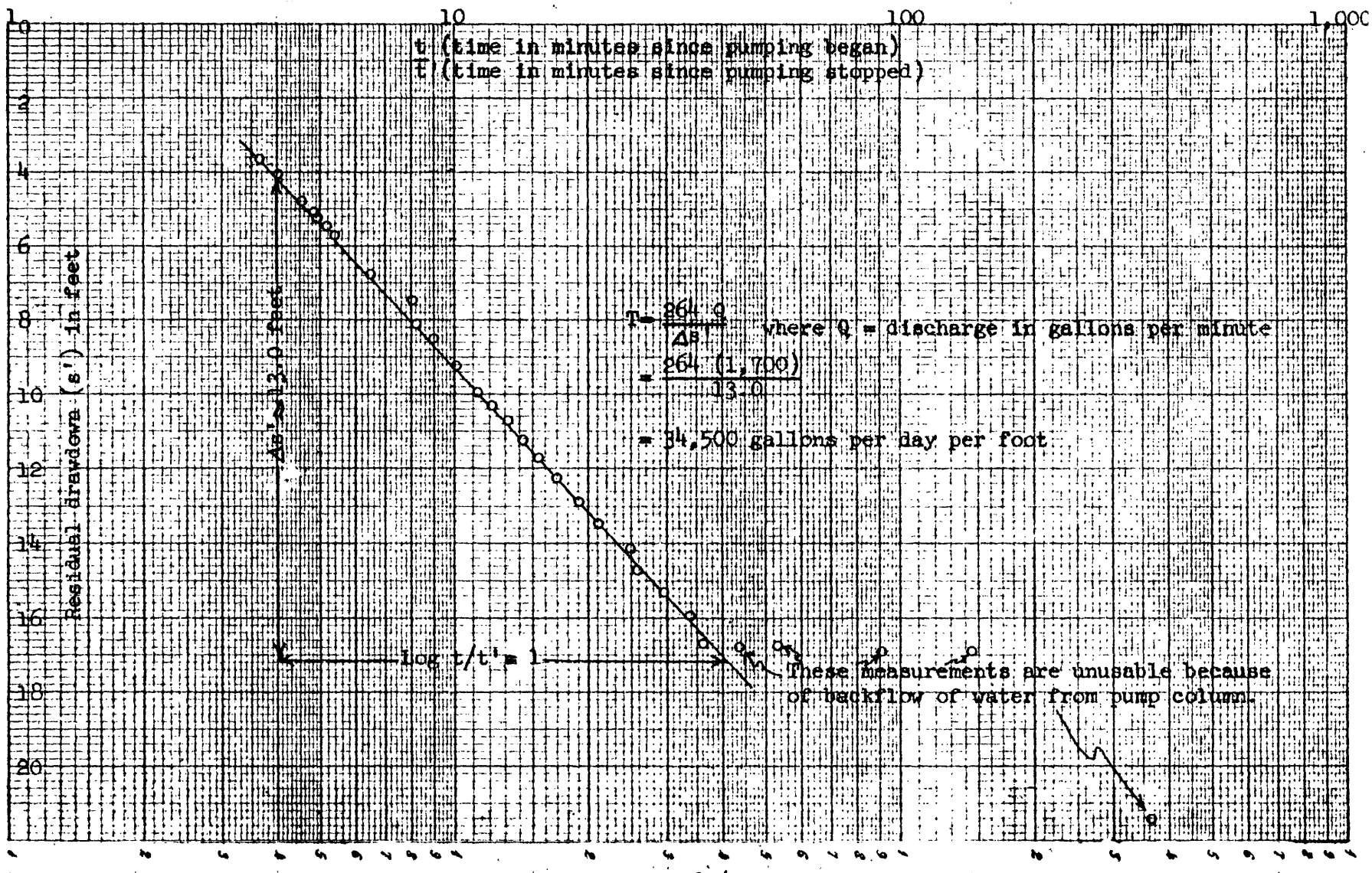
FIGURE 7



GRAPHS OF RESULTS FROM PUMPING TESTS ON WELL 8N/10 W-1C1, AUGUST 16-18, 1961

U. S. GEOLOGICAL SURVEY

FIGURE 8



SEMILOGARITHMIC GRAPH OF WATER-LEVEL RECOVERY IN WELL 6N/10W-1C1 FOLLOWING 12 HOURS OF PUMPING AT 1,700 GPM, AUGUST 17-18, 1961