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BASIC GROUND-WATER DATA FOR WESTERN PINAL COUNTY, ARIZONA

BY

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BASIC GROUND-WATER DATA FOR WESTERN PINAL COUNTY, ARIZONA

By W. F. Hardt, L. R. Kister, and R. E. Cattany

Introduction

In 1958 the U. S. Geological Survey, in cooperation with the Arizona State Land Department, began an investigation of the ground-water resources of western Pinal County. The study area (fig. 1) consists of valley floors of low relief surrounded by mountains. It includes about 2,000 square miles in the lower Santa Cruz basin and adjacent areas along the Gila River and has been subdivided into the Eloy, Casa Grande-Florence, Stanfield-Maricopa, and Gila River areas (fig. 2). This detailed investigation of the second largest agricultural area in the State consisted of evaluating and analyzing by various methods the basic data collected mainly from 1940 to 1963.

The purpose of this report is to make available selected well records, drillers' logs, and quality-of-water information, which will be useful in developing the water resources of western Pinal County, and to supplement the more comprehensive discussions in two forthcoming reports. The first of these reports will contain a description and analysis of the geohydrologic system, including the subdivision of the permeable deposits, a definition of the impermeable boundaries of the basin, a discussion of the effects of ground-water withdrawal, and a determination of the amount of ground water in storage. The second report will contain a description and analysis of the quality-of-water data.

Acknowledgments

The cooperation of many people in western Pinal County materially aided the investigation. Farmers, ranchers, landowners, well drillers, business people, and public and private companies graciously furnished data used in this report. Special thanks are given to the Arizona Public Service Co., Casa Grande; Arizona Water Co., Phoenix; Electrical Power Districts 2, 4, and 5, Coolidge and Eloy; Hanson Pump Co., Casa Grande; San Carlos Irrigation District and Project, Coolidge—particularly Carl Anderson, Marvin Young, Bud Iles, Cap Hanson, and A. S. Cobb; Southwest Gas Corp., Coolidge; Western Pump Co., Casa Grande; and Samuel F. Turner, consulting engineer, Phoenix.

Personnel

Work on this report was begun under the supervision of J. W. Harshbarger, former district geologist, and continued under the supervision of P. Eldon Dennis, former district geologist, and H. M. Babcock, present district chief of the Water Resources Division in Arizona. Most of the basic data were collected by personnel of the Arizona district—particularly E. K. Morse, C. S. English, J. T. Hollander, T. W. O'Brien, R. L. Thompson, and the late M. B. Booher.

Explanation of Tables

Included in this report are well records, drillers' logs, and quality-of-water analyses. The records are arranged in numerical order by township, range, and section under the well-numbering system used in Arizona (fig. 3). For the most part, the well data were obtained from well-registration forms of the Arizona State Land Department and from visits to the wells by a Geological Survey representative. The division of the subsurface materials into five geohydrologic units and the descriptions of the lithologic characteristics and water-bearing properties (fig. 4) are based primarily on the interpretation of drillers' logs.

Table 1.--The 304 wells in this table are considered representative of the 1,500 irrigation wells in western Pinal County. The table includes the well-location number, the date the well was drilled or deepened by the driller to the depth shown, the casing diameter, and the perforated interval in the casing or the amount of open hole. The land-surface altitude was obtained from topographic maps or was estimated where adequate maps were not available. The water-level and discharge data, for the most part, were reported by the drillers or were measured by a representative of the Geological Survey; however, some data also were obtained from the Bureau of Indian Affairs and the Bureau of Reclamation.

Table 2.--Table 2 includes 107 representative drillers' logs. The driller's terminology has been retained and is reproduced as originally submitted to the State Land Department or the Geological Survey. The drillers' logs have been analyzed and interpreted, and the subsurface material has been subdivided into five basic geohydrologic units based primarily on particle size and permeability (fig. 4).

Tables 3 and 4.--Table 3 contains 388 quality-of-water analyses from 213 wells. Most of the analyses were made in the laboratory. Some wells were sampled more than once to determine the change in chemical quality of the water with time. Table 4 contains field determinations of specific conductance and temperature of the water from 653 wells tested in the summer of 1960. The specific conductance is a measure of the ability of the water to conduct an electric current. The conductance varies with the concentration of the ions in solution and is a rough measure of the dissolved-solids content of the water.

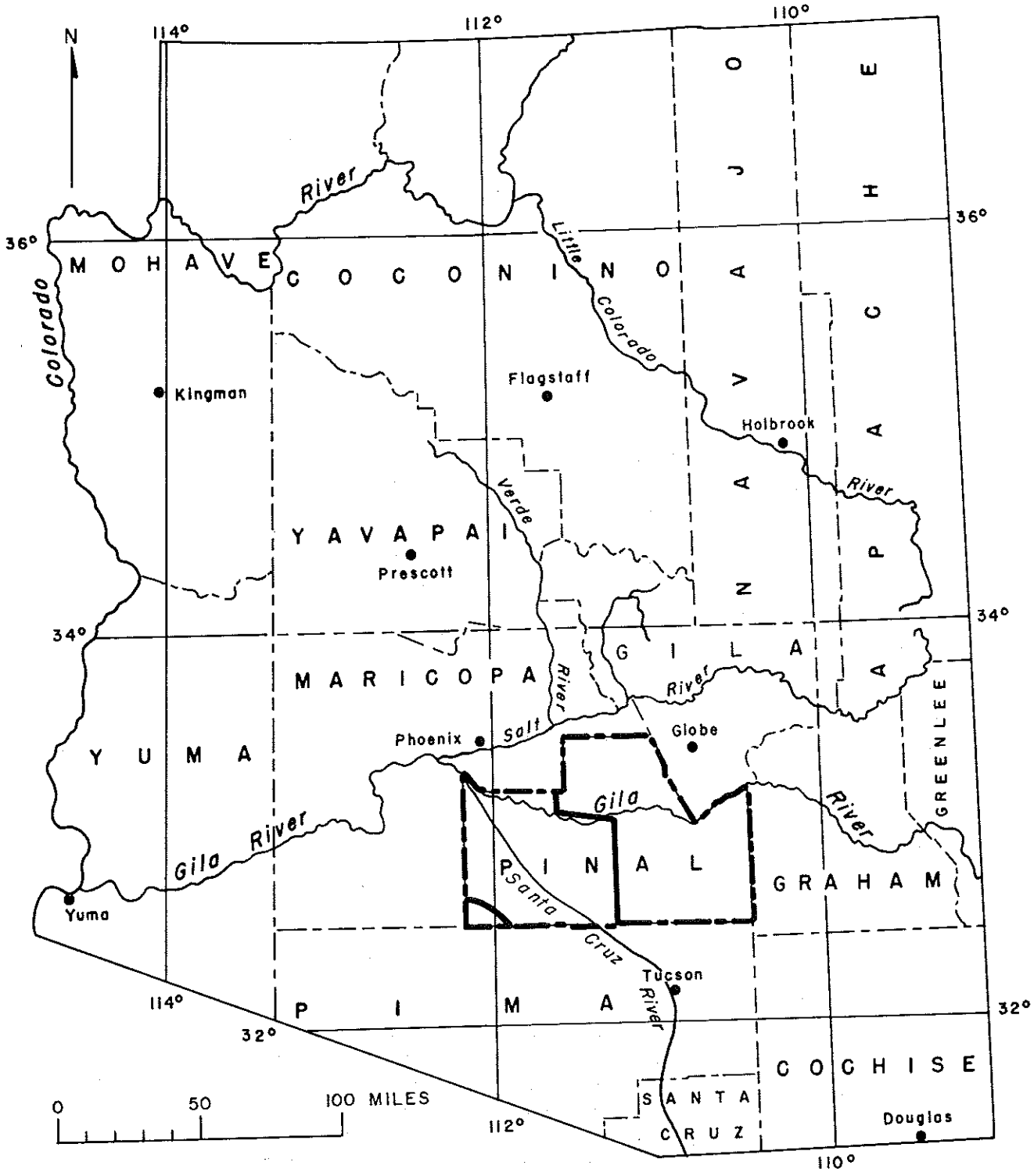


Figure 1.--Map of Arizona showing area of report.

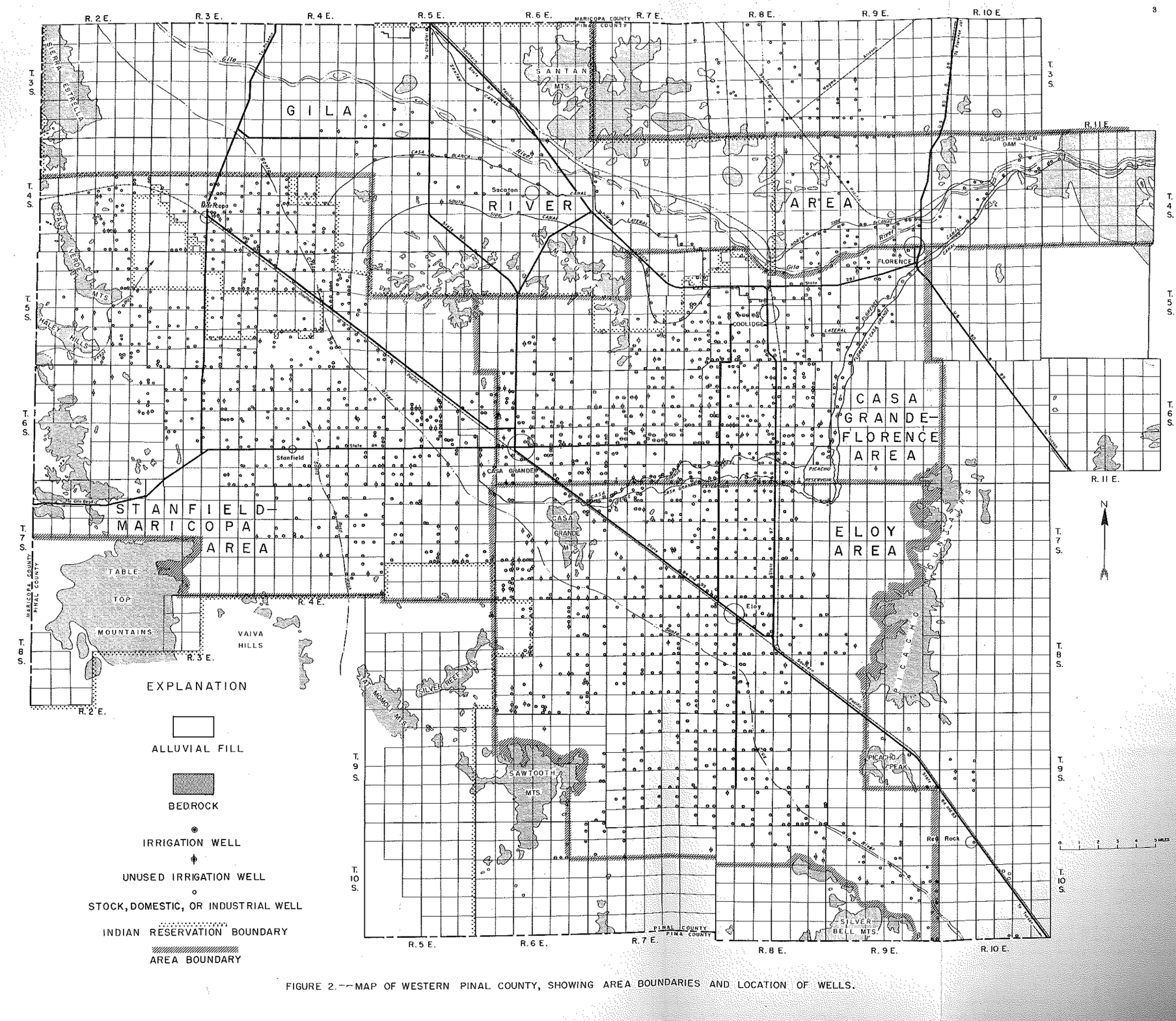
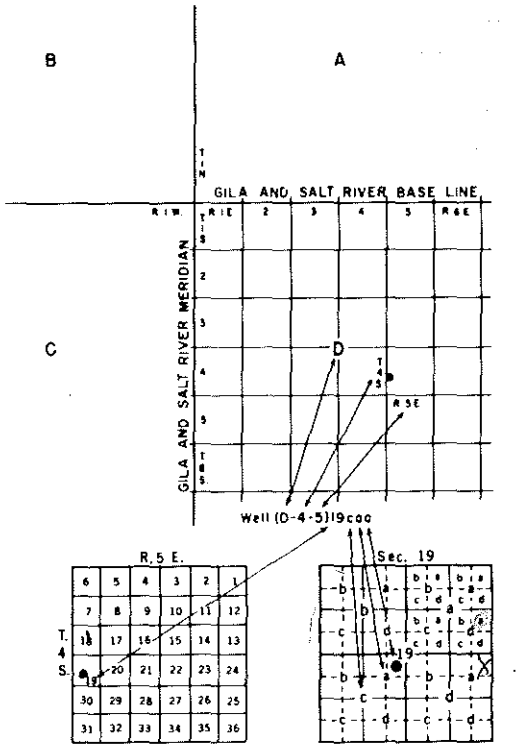


FIGURE 2.--MAP OF WESTERN PINAL COUNTY, SHOWING AREA BOUNDARIES AND LOCATION OF WELLS.



The well numbers used by the Geological Survey in Arizona are in accordance with the Bureau of Land Management's system of land subdivision. The land survey in Arizona is based on the Gila and Salt River meridian and base line, which divide the State into four quadrants. These quadrants are designated counterclockwise by the capital letters A, B, C, and D. All land north and east of the point of origin is in A quadrant, that north and west in B quadrant, that south and west in C quadrant, and that south and east in D quadrant. The first digit of a well number indicates the township, the second the range, and the third the section in which the well is situated. The lowercase letters a, b, c, and d after the section number indicate the well location within the section. The first letter denotes a particular 160-acre tract, the second the 40-acre tract, and the third the 10-acre tract. These letters also are assigned in a counterclockwise direction, beginning in the northeast quarter. If the location is known within the 10-acre tract, three lowercase letters are shown in the well number. In the example shown, well number (D-4-5)19caa designates the well as being in the $NE\frac{1}{4}NE\frac{1}{4}SW\frac{1}{4}$ sec. 19, T. 4 S., R. 5 E. Where there is more than one well within a 10-acre tract, consecutive numbers beginning with 1 are added as suffixes.

Where a section is more than a mile long in either direction, the designation $S\frac{1}{2}$, $N\frac{1}{2}$, $E\frac{1}{2}$, or $W\frac{1}{2}$ is added to indicate the part of the section in which the well is located.

Figure 3.--Well-numbering system in Arizona.

Geohydrologic unit	Thickness (feet)	General description	Water-bearing properties
Upper sand and gravel unit	0-600	Fluviatile deposits, predominantly sand and gravel with some clay; poorly sorted; generally 300 to 400 feet thick.	Has the highest average permeability of the geohydrologic units and is the most productive source of ground water. In the 1940's wells yielded as much as 4,000 gpm; in 1962 well yields ranged from 500 to 2,000 gpm. The water is of good chemical quality.
Silt and clay unit	0-2,000	Fluviatile and lacustrine deposits of fine sand, silt, and clay; contains thin lenses of highly permeable sand and gravel. The thickest parts of the unit are generally in the center of the western and eastern parts of the lower Santa Cruz basin. May contain gypsiferous and calcareous beds locally.	Generally has low permeability. Yields small to moderate amounts of water to wells, mainly from the sand and gravel lenses. Long-term yield of the unit could be appreciable if the large volume of saturated sediments is drained. Locally contains poor-quality water from gypsiferous beds.
Lower sand and gravel unit	0-500	Fluviatile deposits, predominantly sand and gravel with some clay; usually more cemented than the upper sand and gravel unit. Unit has much fine-grained material in some areas. Where the silt and clay unit is absent, the upper and lower sand and gravel units may be undifferentiated.	Generally has good to fair permeability; locally, poor permeability. Where it is overlain by the silt and clay unit, the water may be under artesian pressure. This essentially untapped aquifer probably can yield 1,000 to 2,000 gpm of fair- to good-quality water, although the water temperature may be more than 100°F.
Local gravel unit	0-1,000	Fan deposits of gravel with some sand, silt, and clay. Generally more cemented and consolidated than the sand and gravel units. Occurs only in the Stanfield-Maricopa area. This deposit may be a lateral equivalent of the lower sand and gravel unit.	Generally has good permeability. Yields as much as 1,500 gpm of good-quality water to wells; specific capacities are generally above average. Locally, it yields small amounts of poor-quality water where it is cemented or where it contains much silt and clay. This unit and the upper sand and gravel unit form a joint aquifer system near Stanfield.
Hydrologic bedrock	?	Cemented conglomerate, consolidated sand and gravel, hard rock, and crystalline rock. The upper surface of this unit defines the shape of the basin that is filled with permeable alluvium. North-trending ridge of hydrologic bedrock 5 miles west of Casa Grande is within 200 feet of the land surface and divides the lower Santa Cruz basin into two parts.	Has extremely low permeability. Generally not water bearing. May yield small to moderate amounts of water to wells where the rocks are fractured.

Figure 4.--Geohydrologic units of the alluvium in western Pinal County, Arizona.

T A B L E S

Table 1. --Records of selected wells, western Pinal County, Arizona
(Irrigation wells except as noted)

Well no.: See fig. 3 for description of well-numbering system.
Driller: BIA, Bureau of Indian Affairs.
Perforated interval: OH, open hole.
Land surface altitude: E, estimated.

Water level: R, reported; BR, Bureau of Reclamation data.
Yield: R, reported.
Remarks: BIA, Bureau of Indian Affairs San Carlos Project.

Well no.	Year completed (19-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-3-5)1aaa	'63	Crouch Drillers	1,240	20-12	160-520 560-640 680-760 780-820 OH 1,014-1,240	1,255	110 R	9/63	3,600R	----------	----------	
4aad	'39	BIA	230	20	60-160 OH 180-230	1,214	128.53	1/64	2,780R	35	/39	BIA well 94
24abd	'35	Roscoe Moss Co.	202	20	45-190	1,235	45 R	1/46	1,525R	20	/35	BIA well 69
	'59	do.	648	16	20-616 OH 620-648		86 R	11/59	---------	----------	----------	
28cbb	'34	do.	164	20	50-116 136-150	1,203	27 R	1/46	1,350R	69	/34	BIA well 53
	'47	do.	246	16	OH 164-246		82.32	1/64	---------	----------	----------	
(D-3-6)6baa	'63	Crouch Drillers	1,140	20	377-1,110 OH 1,111-1,140	1,259	---------	---------	---------	----------	----------	
(D-4-2)13bcc	'48	S. L. D. Drilling Co.	275	20	60-229 OH 229-275	1,170	72.47	1/63	---------	----------	----------	Recorder well
13ccc	'51	William Patterson	416	20	200-416	1,175	101 R (BR)	1/64	---------	----------	----------	
14cad	'55	Jim Gile	692	20-16	180-625 OH 628-692	1,187	77 R	6/55	935	----------	6/60	First water at 85 feet, second water at 200-220 feet, third water at 646-659 feet
15ddb	'58	Wininger Drilling Co.	520	20	207-490 OH 497-520	1,210	207 R	1/58	---------	----------	----------	
27add	'55	Clyde Drilling Co.	611	16-12	200-580 OH 580-611	1,195	210 R	9/55	---------	----------	----------	
33ddc	'61	Maricopa Drilling Co.	697	22	250-690	1,260	265 R	5/61	---------	----------	----------	Driller reports "salty water at 65 feet, sealed off"
35bcd	'51	R. J. Johnson	570	20	85-555	1,210	67.50	3/51	2,600R 890	180 ----------	3/51 6/60	
(D-4-3)4add	'58	Weber Drilling Co.	500	12-10	90-495	1,125	130	2/61	70R	103	10/58	Pump set at 230 feet
14add	'51	R. M. Holmes	219	12	----------	1,165	154 R	5/51	---------	----------	----------	
	'54	Aubrey Lyon	400	20	65-385		57 R	6/54	2,800R 1,280	160 ----------	6/54 8/61	
20ddb	'44	W. J. Crouch	300	20	----------	1,160	115 R (BR)	1/64	2,500R	50-60	/44	
22ddd	'47	Carl Ballard	735	20	----------	1,175	139.96	1/64	2,800R 1,230	135 ----------	/47 7/64	
25ddd	'56	Carl Taylor	1,005	16	550-958 OH 967-1,005	1,195	137 R	12/56	745 2,210	---------- ----------	7/62 7/64	

Table 1. --Records of selected wells, western Pinal County, Arizona—Continued

Well no.	Year completed (D-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-4-3)32dcc	'56	C. W. Freelove	504	20	250-500	1,190	93 R	2/56	---	---	---	
32ddd	---	BIA	150	---	---	1,190	138.14	1/61	---	---	---	Drilled before 1942; reported dry 7/61
33bad	'51	Glenn Carter	266	20	62-256	1,180	135.3 R (BR)	1/64	1,800R	12	/51	
36bca	'46	Apex Drilling Co.	312	20	90-312	1,195	63 R	10/50	2,860R	112	/46	
36ddd	'58	Carl Taylor	1,205	18-16	260-1,190	1,207	250 R	7/58	1,305	---	6/60	
(D-4-4)1ccc	'48	Roscoe Moss Co.	440	20	60-400	1,195	43 R 132 R	12/48 1/62	1,100	To 194	6/62	BIA well 123
16ddd	'41	do.	600	20	65-428	1,195	51 R	11/43	1,900R 1,463	146 ---	/41 7/62	
19ddd	'51	M. Bentley	753	20-16	120-753	1,185	162 R (BR)	1/64	2,900R 773	90 ---	4/52 7/62	
20bdd	'41	---	464	20	---	1,190	102.73	1/64	530	---	9/41	
27cdd	---	W. G. Rogers	600	20	100-600	1,235	88 R	2/47	4,000R 1,252	130 ---	/47 7/62	
(D-4-5)14dbb	'53	A. V. Koenik	394	18	138-385 OH 390-394	1,310	133.9 R (BR)	1/64	---	---	---	
(D-4-6)7daa	'35 '50	Roscoe Moss Co. do.	248 400	20 16	32-232 250-390	1,250	--- 73 R (BR)	--- 1/64	1,880R 1,158	33 ---	/35 7/64	BIA well 56
(D-4-7)19cdc	'31	E. N. Brown	200	20	---	1,318	79.85	1/64	---	---	---	BIA well 44
28aaa	'58	BIA	459	20	65-420 OH 420-459	1,340E	65 R	11/58	1,500	To 249	6/62	BIA well 21A(86)
34bad	'34 '47	Roscoe Moss Co. do.	218 368	20 16	45-206 218-368	1,360	25 R 115 R (BR)	8/34 1/64	1,840R ---	32 ---	/34 ---	BIA well 38
36caa	'34	do.	220	20	60-135 180-200	1,375	119 R (BR)	1/64	1,210R	10	/34	BIA well 39
(D-4-8)1aaa	'40	Gus Tschuor	472	20	178-460	1,526	149.83	6/41	2,500R	12	4/40	
32ccd	'58	BIA	634	20	100-510 OH 520-634	1,365	80 R	10/58	1,700	To 160	3/62	BIA well 130A(132)
35daa	'57	Chester Carter	323	16	100-318	1,440E	95 R	6/57	895	---	8/57	
(D-4-9)25bcc	---	---	250	8	---	1,495E	149.74	1/62	---	---	---	
25bcd	'42	W. W. Powell	300	20	---	1,485	56 R	3/44	1,200R	10	2/42	
27ddd	'62	Dale Blakeman	600	20-16	70-590	1,480E	136 R	3/62	1,724	---	7/64	
28dad	'34	Roscoe Moss Co.	259	20	107-247	1,472	173.7 R (BR)	1/64	2,430R	30	4/34	BIA well 10
32dda	'47 '57	J. Brashear Glenn Carter	200 583	20 16	50-200 197-512	1,420E	51 R 98 R	2/47 12/57	--- ---	--- ---	--- ---	

Table 1. --Records of selected wells, western Pinal County, Arizona—Continued

Well no.	Year completed (19-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-4-10)12ddd	'35	Roscoe Moss Co.	309	20	24-80 OH 165-309	1,554	32 R	1/62	2,020R	25	9/35	BIA well 7A
13aaa	'60	Glenn Carter	110	16-12	20-100	1,600E	11.5 R	7/60	---	---	---	
28bdc	'52	Roscoe Moss Co.	402	20	140-380	1,575E	150 R	1/52	2,400R 1,323	30 ---	1/52 8/62	
29daa	'62	BIA	622	20-16	170-524 535-618	1,550E	168 R	1/62	---	---	---	BIA well 2 (new); first water at 180 feet
31abb	'34	Roscoe Moss Co.	350	20	90-334	1,495	131 R	1/62	1,800R	15	4/34	BIA well 5
(D-5-2)2add	'46	W. R. Wiley	407	20	90-407	1,230	329.28	1/62	2,500R 932	25 ---	1/46 7/62	
11ddd	'58	Maricopa Drilling Co.	720	20	490-710	1,280	300 R	1/58	1,610	---	7/62	
13dcc	'51	Al Godfrey	702	18	250-702	1,285	429.45	1/64	3,000R 1,320	18 ---	4/51 7/62	
21bbb	'45 '51	Roscoe Moss Co. W. G. Rogers	400 505	20 16	--- 200-495	1,339	220 333.00	8/45 1/63	2,000R 735	40 ---	8/45 7/62	
21bdd	'47	Roscoe Moss Co.	---	---	---	1,330	334.45	1/63	---	---	---	
25ccc	'49	J. W. Johnston	602	20	15-602	1,328	425.40	1/63	3,800R 1,375	18 ---	3/49 7/62	
26ccc	'50	W. G. Rogers	600	20	250-536	1,350	207.33	3/51	1,000R	110	1/50	
(D-5-3)12cdd	'52	Carl Taylor	374	20	110-365	1,220	199.8 R (BR)	1/64	3,000R	30	12/52	
13baa	'25	Thorn	587	20	---	1,220	66.40	3/42	1,840	32	9/41	
17ccc	'48	J. O. Barnes	586	20	140-586	1,247	105 R	2/48	3,000R	40	2/48	
23add	'56	Belew Drilling Co.	1,185	22-18	300-1,180	1,230	165 R	4/56	---	---	---	
25add	'46	Roscoe Moss Co.	550	20	115-535	1,238	241.05	1/63	765	---	7/64	
28bcc	'51 '62	Thompson Bros. Cecil Noel	600 1,005	20 16-14	200-600 400-1,005	1,240	200 191.58	3/51 1/63	--- ---	--- ---	--- ---	
28ccc	'48	Thompson Bros.	600	20	169-589 OH 589-600	1,250	95 R	6/48	2,200R 1,360	40 ---	6/48 8/63	
30acc	'57	Punk Young	704	20	475-704	1,280	432 R (BR)	1/64	1,530	---	7/62	
34ddd	'55	Belew Drilling Co.	1,250	20	250-1,240	1,245	260 R	10/55	730	---	8/61	
36cdd	'45 '51	C. W. Freelove Roscoe Moss Co.	534 1,212	20 16	126-520 580-1,190	1,260	110 R 280 R (BR)	3/45 1/64	1,100 ---	80 ---	3/45 ---	
(D-5-4)4cdd	'50	---	1,100	20-16	---	1,225	---	---	1,500R	To 420	/61	
8dcc	'62	Pixler and Son	1,305	20	400-710 OH 721-1,305	1,230	241 R	4/62	1,380	---	7/62	

Table 1. --Records of selected wells, western Pinal County, Arizona—Continued

Well no	Year completed (Y-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-5-4)10ddd	'44	Bill Crouch	450	20	150-260 OH 268-450	1,270	93.05	7/44	2,900R	45	7/44	
	'53	Carl Taylor	650	18	----------		----------	----------	755	----------	8/61	
21bdd	'57	do.	605	20	175-590	1,245	207.30	1/63	----------	----------	----------	
23aaa	'50	W. J. Crouch	520	20	200-500	1,305	402 R (BR)	1/64	2,300R	60	4/50	
28ddd	'56	Pixler and Son	1,050	20-16	400-1,040	1,260	210 R	12/56	1,560	----------	8/63	
29acd	'52	W. J. Crouch	688	20	250-675	1,245	160 R	/52	2,000R	100	/52	
35ccb	'41 '55	C. W. Freelove Dusty's Welding and Machine Co.	300 920	20 16	100-300 300-900	1,275	95 R 180 R	8/46 2/55	1,760 2,200R	To 98 260	9/41 2/55	
(D-5-5)31aad	'52	M. Bentley	505	20-18	120-505	1,325	398 R (BR)	1/64	2,100R 1,090	72 ----------	1/52 4/52	
31acc	'56	Gordon Cameron	1,000	18	200-597 OH 597-1,000	1,305	240 R	12/56	410	----------	7/62	
(D-5-6)29ddc	'57	M. Wininger	350	12	150-350	1,450	115 R	11/57	----------	----------	----------	
(D-5-7)9adb	'56	A. V. Koenik	415	20	125-400	1,390	115.50	11/56	1,000R	225	11/56	BIA well 41R
12E½ddd	----------	----------	357	20	----------	1,385	----------	----------	----------	----------	----------	
	'57	Pixler and Son	1,005	16	385-1,005		126 R	10/57	----------	----------	----------	
22add	'35 '60	Roscoe Moss Co. ----------	210 745	20 20-16	62-180 35-730 OH 743-745	1,385	59 R 158.36	1/46 1/63	2,060R ----------	21 ----------	---------- ----------	BIA well 70
22bdc	'34	Roscoe Moss Co.	230	20	91-93 139-192	1,385	24 R	5/34	3,740R	21	5/34	BIA well 98
	'58	BIA	903	16	230-890 OH 898-903		134 R 146 R	9/58 1/62	2,000	To 172	3/62	
25W½add	'40	Roscoe Moss Co.	228	20	146-214	1,400	182.74	1/62	1,800R	40	/40	
25E½add	'57	Clyde	1,940	20-12	----------	1,400	167.00	9/57	----------	----------	----------	Salty water; reported temperature 130°F; well to be abandoned
28dcc	'58	M. E. Henery Well Drilling Co.	389	16	200-377	1,410	175 R	8/58	----------	----------	----------	
34acd	'63	John N. Lard	1,205	20-16	1,050-1,185	1,440	270 R	8/63	1,270R	----------	8/63	First water at 1,100 feet, rose to 270 feet; temperature 107°F; water level higher than in nearby wells
36E½daa	'57	A. V. Koenik	535	20-16	238-532	1,410	164 R	11/57	----------	----------	----------	
(D-5-8)11cdc	'52	Roscoe Moss Co.	650	20	85-635	1,425	75 R	7/52	1,800R	90	7/52	
13bca	'51	Pixler and Son	418	20	107-400	1,450	107 R	7/51	1,500R	140	7/51	
14cad	'56	A. V. Koenik	730	20	140-696 OH 704-730	1,445	133.99 148.82	1/58 1/64	---------- 600	---------- ----------	---------- 7/64	BIA well 21
16dda	'34	Roscoe Moss Co.	200	20	65-135	1,425	130.70	1/62	2,110R	28	6/34	BIA well 29; recorder well
17baa	'34	do.	421	20	60-230 OH 404-421	1,410	150.72	1/64	1,210R	30	6/34	BIA well 31

Table 1. --Records of selected wells, western Pinal County, Arizona—Continued

Well no.	Year completed (19-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-5-8)20add	'55	Roscoe Moss Co.	802	20	140-785	1,410	133 R	4/55	--------	----------	----------	
	'57	do.	1,405	16	800-1,340		142 R	4/57	--------	----------	----------	
					OH 1,385-1,405							
25bbc	'34	do.	406	20	98-392	1,450	136 R	1/62	1,570R	23	6/34	BIA well 26
32cda	'51	Chester Carter	400	20	120-380	1,415	115 R	10/51	2,000R	20	10/51	
(D-5-8)6aac	'40	Roscoe Moss Co.	504	20	120-504	1,425E	118 R	7/40	1,600R	34	/50	
11cdc	'61	BIA	845	20-16	210-825	1,525E	206 R	3/61	2,500R	7	11/61	BIA well 80 (new)
					OH 831-845							
22adc	'48	Roscoe Moss Co.	580	20	170-568	1,550E	168 R	2/48	2,000R	10	2/48	
29ada	'35	D. Paul	616	16	134-266	1,521	204.45	1/64	--------	----------	----------	
					336-440							
32dbd	'45	Roscoe Moss Co.	554	20	122-554	1,530E	122 R	2/45	2,500R	32	2/45	
									1,753	----------	7/64	
(D-6-2)1E½ccc	'49	J. W. Johnston	551	20	150-551	1,333	489.24	1/64	3,500R	20	11/49	
3ccc	'51	J. O. Barnes	891	20	244-412	1,406	296.05	1/64	1,000R	350	12/51	
					OH 412-891							
12E½bcc	'47	Johnson Drilling Co.	635	20	150-635	1,350	176 R	3/47	2,800R	24	3/47	
									525	----------	8/63	
13E½bbb	'62	Damon Mashore	1,007	20	470-778	1,350	470 R	6/62	--------	----------	----------	
					OH 778-1,007							
(D-6-3)2ddd	'55	Roscoe Moss Co.	1,130	20	285-1,115	1,270	210 R	2/55	--------	----------	----------	
3ddd	'40	do.	500	20	102-486	1,265	91 R	2/40	1,000R	----------	2/40	
	'51	do.	1,114	16	390-1,041		131 R	4/51	1,000R	----------	4/51	
	'53	Chester Carter	1,270	20-16	500-1,250		140 R	3/53	1,505	----------	5/57	
8bcc	'54	J. O. Barnes	1,200	20-18	350-1,200	1,310	241 R	12/54	1,480	----------	7/62	
9bbb	'41	W. W. Powell	547	20	150-547	1,259	155 R	/50	2,200R	100	1/41	
15bcc	'56	Belew Drilling Co.	1,151	22-20	400-1,145	1,305	205 R	3/56	1,950	----------	8/63	
17acc	'51	Roscoe Moss Co.	592	20	200-580	1,335	187 R	3/51	3,000R	125	3/51	
	'58	D. B. Graham	1,200	16-12	600-1,200		370 R	12/58	--------	----------	----------	
23ccc	'46	Aubrey Lyon	502	20	170-490	1,330	437.76	1/63	2,500R	----------	7/46	
									1,775	----------	7/62	
25dcc	'48	A. and E. Drilling Co.	465	20	200-450	1,325	270 R	7/58	3,200R	55	/48	
	'58	Pixler and Son	1,215	16	457-1,210		340 R	11/58	1,630	----------	8/63	
35ddd	'62	Belew Drilling Co.	1,500	20	500-1,485	1,367	455 R	4/62	1,990	----------	7/62	
(D-6-4)3cdd	'45	----------	360	20	----------	1,290	157.10	1/64	3,200R	----------	/45	
									1,270	----------	7/62	
6ddd	'51	H. A. Pixler	740	20	200-725	1,280	155 R	9/51	1,800R	230	/51	
	'57	Pixler and Son	1,207	20-16	740-1,207		226.26	1/63	--------	----------	----------	
9ddd	'42	Walter Findley	410	20	85-410	1,290	183.53	1/63	2,700R	165	2/42	

Table 1. --Records of selected wells, western Pinal County, Arizona—Continued

Well no	Year completed (D-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-6-4)13add	'42	Walter Findley	320	20	100-320	1,320	290.85	1/62	2,500R 1,220	25 ----------	/42 7/62	
17dcd	'51	Roscoe Moss Co.	1,294	20	175-450 OH 470-1,294	1,295	165 R	10/51	1,805	----------	8/63	
19cdd	'45	Chester Carter	446	20	134-430	1,305	129 R	11/45	2,200R 1,420	---------- ----------	/45 8/63	
22dda	'45	W. J. Schnaufer	606	20	90-520	1,315	141 R	5/45	2,200R	55	5/45	
25add	'51 '55	C. R. Clyde Belew Drilling Co.	396 1,003	18 18-16	204-396 250-750 OH 756-1,003	1,340	168 R 226 R	4/51 1/55	---------- 1,460	---------- ----------	---------- 7/62	
27ddd	'52 '57	R. and C. Drilling Co. Pixler and Son	570 1,035	18 18-14	186-570 560-1,030	1,325	165 R 280.50	2/51 1/58	---------- 1,055	---------- ----------	---------- 7/60	
31ccc	'60	Dusty's Welding and Machine Co.	1,400	20-16	400-1,400	1,339	445.04	1/64	2,320	----------	7/62	
33add	'44 '56	Chester Carter Belew Drilling Co.	400 1,000	20 16	150-400 380-995	1,320	135 R 392.6 R (BR)	1/44 1/64	2,000R ----------	---------- ----------	1/44 ----------	
34ddd	'46	Chester Carter	406	20	112-385	1,335	279.5	1/58	2,200R 1,865	40	2/46 7/62	
36ddd	'41 '56	W. J. Schnaufer Pixler and Son	650 1,240	20	106-630 OH 630-1,240	1,350	102 R 236 R	1/41 1/56	2,400R 3,000R 1,235	23 ---------- ----------	/41 4/56 7/62	
(D-6-5)14bcc	'51	W. G. Rogers	240	18	60-240	1,355	43 R	10/51	1,000R	90	10/51	
16add	'40	----------	200	20	65-161	1,345	63.86	1/64	----------	----------	----------	
18ddd	'53	V. Owens	900	20-18-16	270-880	1,328	250 R	6/58	360	----------	8/61	
21add	'51	James Johnston	400	20	120-365	1,355	----------	----------	365	----------	8/63	
22dbb	'60	Pixler and Son	200	20	75-155 OH 157-200	1,360	63 R	6/60	----------	----------	----------	
25ccc	'36	Roscoe Moss Co.	102	20	33-102	1,384	55.25	1/63	1,210R	14	5/36	BIA well 87; recorder well
27cdd	'51	J. W. Johnston	198	20	70-198	1,365	64.50	10/51	300R	----------	9/51	Abandoned
29add	'48	G. Van Horn	500	26	0-500	1,350	202.14	1/63	1,100R	20	2/48	
30ddd	'51 '54	---------- W. G. Rogers	278 1,010	20 16	135-278 278-1,010	1,349	---------- 369.9 R (BR)	---------- 1/64	---------- 1,600R 768	---------- ---------- ----------	---------- 4/54 7/62	
33cdd	'51	Pixler and Son	412	20-16	170-400	1,370	155 R	9/51	800R	250	9/51	
36aaa	'39	C. Higgins	114	20	32-111	1,390	41.10	3/41	----------	----------	----------	BIA well 105
(D-6-6)4aaa	'50	R. McCartney	385	16	100-380 OH 380-385	1,426	116.71	1/56	1,500R 550	25 ----------	3/50 7/64	
7aab	'26	Art Young	150	16	----------	1,391	136.30	1/63	900R	70	/26	

Table 1.--Records of selected wells, western Pinal County, Arizona—Continued

Well no.	Year completed (19-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-6-6)7dbc	'51	Eaton Bros. Drilling Co.	234	16	40-130 OH 130-234	1,375	32 R	5/51	1,400R	80	5/51	
9bbd	'59	Roscoe Moss Co.	506	16	125-494	1,390	114 R	3/59	---	---	---	
12bdb	'49	Pixler and Son	200	16	90-195	1,408	84 R	10/49	---	---	---	
	'60	do.	507	12	205-500		138.2 R (BR)	1/64	---	---	---	
13cdd	'40	Glenn Carter	250	16	50-240	1,421	117.17	1/63	1,100R 650	90 ---	/40 6/41	
15ddd	'50	Carter and Koenik	600	20-16	---	1,405	70 R	3/51	2,500R	90	/50	
	'57	Belew Drilling Co.	1,098	---	---		170.4 R (BR)	1/64	---	---	---	
16ddd	'40	W. W. Powell	353	20	60-340	1,400	45 R	8/40	2,000R	45	8/40	
	'52	A. V. Koenik	730	20-16	350-495 OH 500-730		157.2 R (BR)	1/64	2,000R	190	1/52	
17cca	'57	Roscoe Moss Co.	487	20-18	100-487	1,390	52 R	5/57	---	---	---	
23add	'56	Pixler and Son	976	20	300-976	1,420	76 R	3/56	1,692	196	3/56	
28cba	'60	do.	535	20-18	135-530	1,410	96 R	5/60	650	To 280	3/62	BIA well 93 (new)
28ddd	'34	Roscoe Moss Co.	310	20	70-220 OH 256-310	1,414	136 R	1/62	800R	35	5/34	BIA well 92
34cbb	'39	C. Higgins	234	20	65-220	1,425	43 R	7/39	---	---	---	BIA well 102
	'60	BIA	490	16	135-438		130 R	6/60	---	---	---	
35bdd	'45	M. N. Palmer	232	20	45-232	1,435	45 R	1/45	1,550R	44	1/45	
(D-6-7)1S½ddd	'36	Roscoe Moss Co.	450	20	230-430	1,440	161.07	1/62	1,250R	50	2/36	
4ccd	'55	W. G. Rogers	540	20	270-400	1,415	125 R	5/55	---	---	---	
10cdd	'48	H. A. Pixler	414	20	84-410	1,428	79 R	2/48	2,500R	---	2/48	
	'59	Dusty's Welding and Machine Co.	1,390	20-16	400-1,375		195 R	5/59	950	---	8/61	
11ddd	'59	Owenby Drilling Co.	406	16	150-315	1,432	231.7 R (BR)	1/64	---	---	---	
14ddd	'50	W. G. Rogers	700	20-16	150-700	1,441	85 R	3/50	2,200R 365	220 ---	3/50 8/61	
16ddd	'17	---	230	16	---	1,439	53.26	3/42	1,490	40	/17	
	'53	Fred Reed	600	16	305-590		161.70	1/58	1,500R	100	1/53	
18cdc	'45	Roscoe Moss Co.	370	20	70-356	1,426	60 R	11/45	980	---	8/48	
	'54	Fred Reed	758	16-12	367-752		108 R	11/54	---	---	---	
21cbc	'58	Dusty's Welding and Machine Co.	530	16	149-505 OH 508-530	1,435	140 R	8/58	---	---	---	
25cdd	'60	Pixler and Son	810	20-16	---	1,470	180 R	5/60	---	---	---	
27ddd	'59	Roscoe Moss Co.	1,385	20-14	150-1,366 OH 1,371-1,385	1,465	165 R	12/59	---	---	---	BIA well 85

Table 1.--Records of selected wells, western Pinal County, Arizona—Continued

Well no	Year completed (Dr)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-6-7)32aaa	'47 '58	Pixler and Son BIA	372 1,000	20 16	70-330 160-941 OH 941-1,000	1,450	52 R 171.53	5/47 1/62	--------- 1,850	---------- 174	---------- 8/58	BIA well 115
33dbd	'48	O. R. Reed	400	20	70-238 OH 350-400	1,465	196.5 R (BR)	1/64	1,800R	40	2/48	
35add	'57	Glenn Carter	424	20	220-410	1,475	220 R	12/57	1,650	----------	7/64	
(D-6-8)3N½aaa	'64	Crouch Drillers	2,305	18-14	440-520 1,900-2,305	1,430E	200 R	4/64	---------	----------	----------	
4S½add	'39	Glenn Carter	218	20	73-208	1,430	178.2 R (BR)	1/64	1,660	----------	9/41	
5S½ccd	'37	Roscoe Moss Co.	600	20	70-600	1,430	100 R	10/50	1,000R	210	/37	
8dcc	'36	W. W. Powell	252	20	56-236	1,445	42 R	1/36	2,000R 1,000	20 ----------	/36 6/60	
10add	'56	Chester Carter	806	20	126-804	1,450	126 R	8/56	---------	----------	----------	
17dbc	'52	Roscoe Moss Co.	501	20	140-482	1,450	151.10	8/52	1,800R	75	1/52	
18acc	'56	Joe Koenik	505	20	150-484	1,445	150 R	4/56	---------	----------	----------	
22ccb	'59	Carl Taylor	501	16	190-485	1,465	190 R	4/59	---------	----------	---------	
24bdd	'56	Pixler and Son	800	20	155-790	1,490	125 R	2/56	1,255 965	---------- ----------	8/57 7/64	
27ddd	'51	Roscoe Moss Co.	604	20	168-586	1,480	98 R	5/51	2,000R 875	160 ----------	5/51 7/64	
28dbb	'59	Blackwood	1,212	20-16	180-525 549-1,165 OH 1,165-1,212	1,480	---------	----------	900 705	---------- ----------	7/61 7/64	BIA well 81
(D-6-9)6dcd	'59	BIA	1,050	20-16	150-1,045	1,510E	130 R	8/59	1,600	To 320	6/62	BIA well 114R
7caa	'58	Joe Koenik	1,077	20	150-1,060	1,510E	100 R	2/58	---------	----------	----------	At well depth 900 feet, water level 165 feet; at well depth 1,075 feet, water level 110 feet; after well perforated, water level 96 feet
18bda	'59	David Graham	1,402	20	250-1,400	1,500E	150 R	9/59	---------	----------	----------	
33bad	'48	Thompson Bros.	1,100	20-16	250-1,090	1,600E	214.80	1/64	500R	150	6/48	
(D-7-4)2dcc	'57	Douglas Chenowth	1,000	20	210-970	1,340	300 R	5/57	---------	----------	----------	
4ddd	'47 '55	Chester Carter do.	400 910	20 16	134-390 400-900	1,332	193.96 186.15	2/51 1/64	2,800R ---------	50 ----------	/47 ----------	
11cac	'48 '60	Floyd and Rush Dusty's Welding and Machine Co.	502 1,000	20 16	140-485 485-1,000	1,340	165.54 295 R	2/52 4/60	2,700R ---------	260 ----------	1/48 ----------	
12E½dda	'49	Chester Carter	930	20	----------	1,360	214.82	2/54	2,300R	25	/49	
13W½aad	'41 '55	Lyon Bros. Travis Mosley	482 820	20	---------- 412-764	1,355	111.48 333.50	3/42 2/62	2,060 1,100	---------- ----------	9/41 9/61	

Table 1.--Records of selected wells, western Pinal County, Arizona--Continued

Well no.	Year completed (19-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-7-4)17cdd	'62	Belew Drilling Co.	1,490	20	500-1,155 OH 1,205-1,490	1,410	468 R	3/62	----------	----------	----------	
22ddd	'51	C. E. Williams	808	20	180-400 OH 400-808	1,360	300.70	1/64	1,400R	202	6/51	
24W½ddd	'41	Roscoe Moss Co.	505	20	----------	1,370	277.96	1/61	3,160R 2,180	30-40 ----------	/41 9/61	
25E½add	'51	W. G. Rogers	600	20	180-570	1,380	217.99	1/55	2,300R	33	2/51	
(D-7-5)5ddd	'41 '54	Roscoe Moss Co. Chester Carter	450 695	20	---------- OH 366-695	1,374	---------- 338.86	---------- 1/64	---------- 2,200R	---------- 100	---------- 5/54	
9ccd	'51	Pixler and Son	524	20	200-512	1,380	174 R	12/51	2,200R	90	12/51	
18dcc	'58	Belew Drilling Co.	1,397	20	400-830 OH 838-1,397	1,380	275 R	2/58	----------	----------	----------	
21dcd	'51 '52	L. G. Adams M. Rayburn	396 610	18 16	175-383 OH 383-610	1,400	---------- 160 R	---------- 4/52	---------- 1,400R	---------- 220	---------- 4/52	
(D-7-6)1ddb	'58	BIA	893	20-16	170-893	1,450	135 R	6/58	1,780	190	8/58	BIA well 91
6dcd	'55	----------	505	20-16	70-220 OH 220-505	1,410	65.84	10/56	----------	----------	----------	Measured well depth, 275 feet (1955)
6ddd	'50	W. Findley	273	20	55-81 OH 90-273	1,415	69 R	9/50	540R	34	4/50	
12ccd	'37	Roscoe Moss Co.	424	20	68-411	1,465	61.15	8/41	1,000R	70	2/37	
20dcd	'52	R. and C. Drilling Co.	554	20-16	344-554	1,450	106 R	10/52	1,250R	160	10/52	
20ddd	'55	W. E. Dunigan	400	20	165-400	1,451	----------	----------	----------	----------	----------	
27dda	----------	----------	210	16	----------	1,480	163 R (BR)	1/64	----------	----------	----------	
28ddd	'46	Isom and Howk	468	20	150-468	1,465	135.32	1/64	5,600R 2,240	25 ----------	/46 6/57	
29add	'57	Cecil Noel	535	20	115-265 OH 283-535	1,455	110 R	2/57	490	----------	6/59	
31aad	'49	W. G. Rogers	522	20	90-200 OH 200-522	1,450	90 R	8/49	700R	90	8/49	
31ccc	'55	Cecil Noel	640	20	125-288 OH 296-640	1,453	102 R	5/55	----------	----------	----------	Water encountered at 120 feet, rose to 102 feet; water temperature 104°F at 400-405 feet
36ddd	'62	O. and R. Drilling Co.	1,020	20	875-930 OH 940-1,020	1,505	----------	----------	1,395	----------	7/64	
(D-7-7)1bcd	'18 '53	---------- Fred Reed	200 600	20 16	---------- 200-590	1,485	---------- 160 R	---------- 3/53	2,000R 800R	100 200	/18 3/53	
1dcc	'54	C. T. Henderson	1,791	20-16	700-1,791	1,493	----------	----------	----------	----------	----------	
3ddd	'44	Roscoe Moss Co.	420	20	90-405	1,485	238 R (BR)	1/64	1,500R	100	9/44	

Table 1. Records of selected wells, western Pinal County, Arizona—Continued

Well no	Year completed (19--)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-7-7)8ddd	'46	Aubrey Lyon	600	20	100-590	1,490	21[illegible].04	1/63	1,400R	100	4/46	
11cdd	'41	----------	600	20	----------	1,495	214 R (BR)	1/64	1,870 820	---------- ----------	9/41 6/57	
22ddd	'57	Owenby Drilling Co.	800	16	200-800	1,520	236.69	1/63	245	----------	7/62	
32cdd	'48	Roscoe Moss Co.	1,432	20	340-1,000	1,516	216.90	1/63	1,330	----------	7/64	
33add	'48	W. Findley	612	20	135-600	1,525	217.22	1/63	1,600R	216	5/48	
35dcc	'58	John McMahon	550	16	247-545	1,540	245 R	4/58	--------	----------	----------	
(D-7-8)1dcd	'52	D. D. Paul	400	20	90-380	1,510E	122.94	1/56	1,800R	90	4/52	Reported destroyed (1957)
3ada	'61	Chester Carter	628	20	180-626	1,500	160 R	8/61	--------	----------	----------	
5dcc	'36	Roscoe Moss Co.	408	20	120-395	1,503	238 R (BR)	1/64	2,200R 1,440	26 ----------	/36 9/41	
[illegible]ddd	'45	do.	500	20	100-485	1,521	243 R (BR)	1/64	2,000R	150	3/45	
16ddd	'62	Dale Blakeman	1,260	20	250-1,150	1,535	230 R	5/62	990	----------	7/64	Driller reports "salt showing from 1,145 to 1,260"
19cdd	'57	Owenby Drilling Co.	602	20	220-595	1,530	208 R	12/57	--------	----------	----------	
19dad	'51	Fred Reed	600	20	170-590	1,530	174 R	8/51	2,200R	100	8/51	
23ccd	'46	----------	550	20	----------	1,540E	256.70	1/62	2,100R 715	---------- ----------	/46 9/61	
28cdd	'46	N. T. Olson	674	20	146-640	1,555	298 R (BR)	1/64	2,000R 2,480	245 ----------	7/46 8/48	
32cdc	'58	Owenby Drilling Co.	1,000	20	310-990	1,560	323 R	9/58	--------	----------	----------	
34cdd	'46 '55	Roscoe Moss Co. D. B. Graham	540 1,025	20 16	160-520 515-1,016	1,570	132 R 228 R	10/46 3/55	2,260 1,320	---------- ----------	8/48 7/62	
36ddd	'47	C. Lindsey	500	20	134-486	1,580E	235.05	1/57	3,000R 1,170	8 ----------	/47 9/61	
(D-8-6)3add	'46	Thompson Bros.	800	18	200-800	1,485	198.[illegible]	1/58	3,200R 2,450	15 ----------	/46 7/48	
5ddd	'53	Roscoe Moss Co.	430	20	----------	1,475	187.6[illegible]	1/63	1,600R	126	9/53	Chuichu well 9
11ddc	'62	Pixler and Son	1,100	20-16	400-1,090	1,510	325 R	5/62	--------	----------	----------	
26ddd	'58	Hillis and Crouch	1,505	16	700-780 OH 780-1,505	1,539	182.30	1/58	--------	----------	----------	
27ddd	'47	Aubrey Lyon	533	20	165-526	1,530	168.57	1/58	2,500R 1,360	40 ----------	7/47 7/48	
29ddd	'41 '56	Roscoe Moss Co. Dusty's Welding and Machine Co.	358 750	20 14	78-326 300-600 OH 636-750	1,509	66 R 227.63	1/41 1/63	1,020 112	---------- ----------	9/41 7/61	

Table 1.--Records of selected wells, western Pinal County, Arizona—Continued

Well no.	Year completed (19--)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-8-6)31ccb	'51	----------	600	20	130-300 OH 312-600	1,523	156.00	1/58	----------	----------	----------	
33dbb	'55	Dusty's Welding and Machine Co.	500	20-16	*180-495	1,520	231.18	1/63	----------	----------	----------	
35ddd	'46	Aubrey Lyon	770	20	170-650	1,545	166.45	1/64	----------	----------	----------	
(D-8-7)1aad	'46	Roscoe Moss Co.	620	20	160-600	1,555	150 R	3/46	1,200R	300	3/46	
3add	'49	Pixler and Son	512	20	200-490	1,545	258 R (BR)	1/64	1,800R 575	63 ----------	3/49 7/63	
5cdd	'50	J. W. Johnston	726	20	180-726	1,525	118 R	3/50	1,970R	122	3/50	
9add1	'39	W. W. Powell	418	20	110-418	1,544	284.52	1/64	970	----------	9/41	
9add2	'58	Owenby Drilling Co.	1,507	16	1,000-1,495	1,544	305 R	11/58	250	----------	3/59	
11ddc	'60	O. and R. Drilling Co.	1,217	20-16	690-1,215	1,570	320 R	8/60	----------	----------	----------	
15dad	'37 '50	Roscoe Moss Co. W. G. Rogers	350 652	20 20-16-14	---------- ----------	1,565	---------- ----------	---------- ----------	---------- 1,400R	---------- 280	---------- 6/50	
20dda	'51	Roscoe Moss Co.	1,094	20	400-1,070 OH 1,082-1,094	1,560	195 R	4/51	1,200R	125	4/51	
21ddd	'48	Robinson and Mason	1,697	20-14-12	143-1,697	1,570	250.95	1/62	2,300R 510	55 ----------	/48 7/64	
26ddd	'62	O. and R. Drilling Co.	1,000	20	270-995	1,605	270 R	4/62	495	----------	8/62	
30acc	'60	do.	1,200	16	500-960 OH 965-1,200	1,552	205 R	7/60	----------	----------	----------	
34add	'46	Roscoe Moss Co.	992	20	250-980	1,595	117 R	5/46	2,500R 1,600	300 ----------	5/46 7/52	
35dad	'62	O. and R. Drilling Co.	1,215	16-12	250-1,210	1,610	250 R	4/62	----------	----------	----------	
(D-8-8)4cda	'52	D. D. Paul	550	20	100-545	1,570	102 R	3/52	1,900R	79	3/52	
8bbb	'61	O. and R. Drilling Co.	1,200	16	370-1,195	1,570	370 R	8/61	800R	20-30	9/61	
9bdd	'62	Pixler and Son	1,278	20-16	425-1,278	1,585	270 R	2/62	----------	----------	----------	
12dcc	'48	Thompson Bros.	1,010	20-16	193-1,010	1,615	265.57	1/57	2,500R 2,120	20 ----------	2/48 8/48	
20ddd	'58	Owenby Drilling Co.	2,508	16	400-2,500	1,612	240 R	10/58	2,755	----------	7/63	
22cdd	'51	C. F. Walters	1,002	16	230-982	1,625	214 R	11/51	2,200R	227	11/51	
27ddd	'60	O. and R. Drilling Co.	1,000	20	475-995	1,640	320 R	12/60	1,630	----------	7/63	
29bcc1	'36 '52	W. W. Powell Roscoe Moss Co.	350 410	20 16	150-350 345-404	1,615	170 R 230 R	3/45 12/52	3,000R 2,500R	15 100	3/36 12/52	

Table 1. --Records of selected wells, western Pinal County, Arizona —Continued

Well no	Year completed (I.-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-8-8)29bcc2	'47	Chester Carter	1,386	20	1,100-1,386	1,615	112 R	7/47	2,000R	92	7/47	
	'51	Roscoe Moss Co.	1,685	12	1,385-1,675		160 R	1/51	---	---	---	
31add	'40	do.	660	20	120-660	1,630	350 R (BR)	1/64	360	---	7/64	
33add	'51	D. Graham	1,296	20	250-1,296	1,640	344 R (BR)	1/64	2,600R	100	2/51	
									2,300	---	7/52	
(D-8-9)18cdc	'58	A. V. Koenik	1,160	20	300-1,140 OH 1,152-1,160	1,645	305 R	3/58	---	---	---	
(D-9-6)13E½add	'50	Roscoe Moss Co.	930	20	125-912	1,570	244 R (BR)	1/64	1,090	---	7/64	
24E½ddd	'47	Thompson Bros.	1,200	20	110-1,100 OH 1,100-1,200	1,580	99.30	2/49	2,800R	90	4/47	
									1,780	---	6/59	
(D-9-7)2cdd	'40	Aubrey Lyon	562	20	146-562	1,615	120 R	3/40	1,900R	16	/40	
									1,530	---	7/52	
13daa	'61	O. and R. Drilling Co.	1,130	16	485-1,080 OH 1,085-1,130	1,645	355 R	11/61	---	---	---	
15ddd	'40	Aubrey Lyon	600	20	165-420	1,622	244 R (BR)	1/64	2,500R	40	7/40	
									1,540	---	7/48	
18add	'52	D. Graham	1,200	20	400-1,180	1,580	265.79	1/63	2,100R	272	12/52	
									1,370	---	6/60	
23ddd	'42	Roscoe Moss Co.	570	20	135-520	1,643	256 R (BR)	1/64	1,200	---	8/44	
25ddd	'61	Thomas Wheat	1,125	16-10	580-1,100 OH 1,100-1,125	1,660	---	---	---	---	---	
27add	'41	Roscoe Moss Co.	670	20	---	1,630	235.75	1/63	2,000R	14	8/46	
									1,540	---	7/48	
29ddd	'51	do.	1,242	20	400-1,226	1,602	182.69	1/63	3,150R	50	4/51	
36add	'40	do.	550	20	150-530	1,660	129 R	2/40	2,800R	40	/40	
(D-9-8)3aaa	'59	A. V. Koenik	600	10	300-600	1,655	300 R	6/59	---	---	---	
5dcc	'59	Owenby Drilling Co.	1,200	16	270-1,150	1,645	280 R	4/59	---	---	---	
9cdd	'40	Roscoe Moss Co.	710	20	156-698	1,664	104 R	2/40	2,500	---	9/41	
	'60	David Graham	910	16	700-900		315 R	12/60	---	---	---	
9ddd	'52	Walter Bros.	803	20	210-803	1,670	220 R	5/52	2,700R	80	5/52	
									1,615	---	7/63	
17cdd	'37	W. Snoffner	600	20	---	1,665	343.92	1/64	1,220	---	7/48	
19ddd	'51	Roscoe Moss Co.	1,450	20	400-1,364 OH 1,364-1,450	1,673	200 R	6/51	3,050R	50	6/51	
									1,175	---	7/63	
21dba	'51	David Graham	1,300	20	222-1,243 OH 1,265-1,300	1,685	190 R	3/51	---	---	---	Water rose from 206 to 190 feet at depth of 1,198-1,209 feet

Table 1.--Records of selected wells, western Pinal County, Arizona—Continued

Well no.	Year completed (19-)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-9-8)22ddd	'40	----------	600	20	----------	1,697	336 R (BR)	1/64	2,000R 1,450	240 ----------	/40 7/48	
25ddd	'58	Forrest Aikins	890	20	255-890	1,730	260 R	2/58	----------	----------	----------	
32dad	'60	O. and R. Drilling Co.	925	---------	300-845 OH 852-925	1,695	300 R	12/60	----------	----------	----------	
35baa	'62	Roscoe Moss Co.	850	20-18	600-700	1,705	226.24	1/63	1,840R	----------	/62	Pump set at 540 feet
35ddd	'41	Aubrey Lyon	620	20	----------	1,730	333.10	1/63	1,860 1,950	---------- ----------	8/41 7/48	
(D-9-9)24ddc	'51	W. Aldridge	566	20	170-550	1,805	150 R	10/51	1,900R 1,005	235 ----------	10/51 9/61	
34ddd	'40	----------	600	20	111-527 OH 527-600	1,787	184.48	2/53	2,400R 950	10 ----------	9/51 6/59	
(D-9-10)17add	'62	O. and R. Drilling Co.	1,365	20	420-1,275 OH 1,281-1,365	1,880	227 R	2/62	----------	----------	----------	
19add	'53	E. Dotter	865	20-6	250-810 OH 822-865	1,835	197 R	4/53	1,650R 905	385 ----------	4/53 7/63	
20daa	'62	O. and R. Drilling Co.	1,365	20	420-1,275 OH 1,281-1,365	1,875	227 R	2/62	1,445	----------	7/63	
29aaa	'52	Western Drilling Co.	660	20	250-660	1,870	203 R	7/52	2,500R	75	7/52	
	'60	O. and R. Drilling Co.	1,410	16-12	840-1,405		240 R	8/60	1,635	----------	9/61	
(D-10-6)11ada	'61	do.	600	16	315-545 OH 553-600	1,575	315 R	11/61	----------	----------	----------	
(D-10-8)10aaa	'51	Walter Bros.	490	18	195-485	1,720	219 R	4/51	2,140R	52	4/51	
10aad	'58	Owenby Drilling Co.	715	16	350-525 OH 535-715	1,725	350 R	10/58	845	----------	7/63	
12bdd	'48	Thompson Bros.	505	20	160-482 OH 482-505	1,740	347.45	1/64	----------	----------	----------	
12dad	'38	W. S. Young	404	20	----------	1,749	306.81	2/62	1,800R 1,690	30 ----------	/38 7/48	
(D-10-9)5ccb	'48	Thompson Bros.	600	20	175-550 OH 550-600	1,755	247.70	1/57	2,220 2,440	---------- ----------	8/48 5/52	
6add	'40	----------	570	20	154-570	1,750	197.60	8/48	2,370R 1,720	To 191 ----------	9/42 7/51	
8daa	'62	O. and R. Drilling Co.	480	16	315-415 OH 420-480	1,770	315 R	7/62	----------	----------	----------	
13daa	'62	Pixler and Son	542	20	250-535	1,835	190 R	4/62	1,680	----------	7/63	
13ddd	'50	M. Brashear	401	20	164-400	1,835	165 R	12/50	2,300R	20	12/50	
16aab	'52	A. A. McDaniel	299	18	165-295	1,783	238.25	1/62	1,500R	220	5/52	
25dda	'60	do.	500	20	200-497	1,850	199 R	10/60	----------	----------	----------	

Table 1.--Records of selected wells, western Pinal County, Arizona—Continued

Well no.	Year completed (19--)	Driller	Reported depth (feet)	Casing diameter (inches)	Perforated interval (feet below land surface)	Land-surface altitude (feet above mean sea level)	Water level		Pumping data			Remarks
							Depth below land surface (feet)	Date measured (mo/yr)	Yield (gpm)	Drawdown (feet)	Date measured (mo/yr)	
(D-10-8)36ddd	'58	A. A. McDaniel	600	20	180-570 OH 572-600	1,860	175 R	3/58	---	---	---	
(D-10-10)5dda	'48	Pixler and Son	480	20	---	1,858	212.30	1/64	---	---	---	
15add	'52	Roscoe Moss Co.	2,509	14	400-680 1,540-1,640 1,650-1,690 1,757-1,763 OH 1,788-1,950 No data 1,950-2,509	1,920	255.02	1/58				Test 1—well perforated 1,757-1,763 feet, OH 1,788-1,950 feet; yield 365 gpm, drawdown 184 feet, 11/1/52 Test 2—well perforated 1,540-1,640, 1,650-1,690, 1,757-1,763 feet, OH 1,788-1,950 feet; yield 840 gpm, drawdown 215 feet, 11/14/52 Test 3—well perforated 400-680, 1,540-1,640, 1,650-1,690, 1,757-1,763 feet, OH 1,788-1,950 feet; yield 1,675 gpm, drawdown 126 feet, 11/20/52
35ccd	'62	O. and R. Drilling Co.	500	16	200-495	1,900	200 R	1/62	---	---	---	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
0. (D-2-2)8ada 1,035 feet			
Fine sand, few streaks of clay (poor water quality)	360	360	Upper sand and gravel
Sand, sandy clay, clay (little water at 467 feet)	190	550	
Fine sand (quicksand)	2	552	Silt and clay
Clay	348	900	
Coarse granite, gravel, some clay	23	923	Lower sand and gravel
Solid rock	2	925	Hydrologic bedrock
TOTAL DEPTH		925	
1. (D-3-6)31aba 1,240 feet			
Soil	9	9	
Fine sand	3	12	
Sand, gravel and boulders to 8 inches	74	86	
Sand, gravel and boulders with some hard clay	34	120	
Sand, gravel, clay	4	124	
Sand, gravel and boulders to 6 inches, tight	20	144	
Sand, gravel	14	158	
Clay and gravel	2	160	
Sand and gravel	38	198	
Clay	4	202	Upper sand and gravel
Sand and gravel	23	225	
Sand and gravel, tight	1	226	
Cemented gravel	7	233	
Cemented conglomerate	20	253	
Sand gravel to 3 inches	11	264	
Sand and gravel with streaks of clay	114	378	
Cemented boulders to 6 inches	23	401	
Sand and gravel with streaks of clay	19	420	
Boulders to 5 inches	26	446	
Sand and gravel	58	504	
Malpais	14	518	
Hard rock	87	605	Hydrologic bedrock
TOTAL DEPTH		605	
2. (D-4-2)14cad 1,187 feet			
Top soil	10	10	
Clay	45	55	
Clay and gravel	15	70	
Sand and gravel, very soft, not loose	26	96	Upper sand and gravel
Gravel and clay	46	142	
Clay	52	194	
Sand and gravel, very soft, not loose	26	220	
Hard clay	175	395	Silt and clay
Gravel and sand, hard packed	50	445	Lower sand and gravel
Mountain rock	201	646	
Gravel and sand, very soft—water shows up in this strata	13	659	Hydrologic bedrock
Hard packed sand and gravel	33	692	
TOTAL DEPTH		692	
3. (D-4-3)4add 1,125 feet			
Top soil	10	10	
Layers of sand, gravel with clay binder	20	30	
Hard sand and gravel and clay binder	10	40	Upper sand and gravel
Clay and hardpan	30	70	
Sand and boulders	5	75	
Gravel and clay	15	90	
Clay	45	135	
Sticky clay	30	165	
Clay	85	250	
Sticky clay	160	410	Silt and clay
Sandy clay	5	415	
Hard clay	20	435	
Sticky clay	65	500	
TOTAL DEPTH		500	
4. (D-4-3)32dcc 1,190 feet			
Top soil and silt	30	30	
Sand	10	40	
Sandy clay	25	65	Upper sand and gravel
Sand, gravel and clay	15	80	
Sand, gravel and boulders	80	160	
Sandy clay	70	230	
4. (D-4-3)32dcc—Continued			
Red sticky clay	30	260	
Sand, gravel and boulders	20	280	
Sticky clay	25	305	
Sand and gravel	10	315	
Sticky clay	45	360	
Sand, gravel and boulders	10	370	
Sticky clay	30	400	
Clay with hard ribs	50	450	Silt and clay
Very sticky clay	54	504	
TOTAL DEPTH		504	
5. (D-4-3)36dab 1,200 feet			
Soil	26	26	
Sand gravel	41	67	
Sandy clay	15	82	
Clay	33	115	Upper sand and gravel
Sand gravel	20	135	
Sandy clay	40	175	
Caliche with gravel	110	285	
Sand gravel	15	300	
Sandy clay	85	385	
Clay	50	435	Silt and clay
Sandy clay	25	460	
Clay	305	765	
Sandy clay with gravel	405	1,170	Lower sand and gravel
Conglomerate	165	1,335	Hydrologic bedrock
TOTAL DEPTH		1,335	
6. (D-4-4)1ccc 1,195 feet			
Caliche	40	40	
Sand and boulders	40	80	
Hard caliche and clay	40	120	
Soft clay	18	138	
Cemented sand	22	160	Upper sand and gravel
Tight sand	15	175	
Hard caliche and clay	70	245	
Cemented sand	15	260	
Caliche clay with cemented streaks	125	385	
Decomposed granite	55	440	Hydrologic bedrock
TOTAL DEPTH		440	
7. (D-4-4)17bdd 1,182 feet			
Top soil	2	2	
Caliche	8	10	
Sand	10	20	
Caliche	15	35	Upper sand and gravel
Sand and gravel	15	50	
Sandy clay and gravel	25	75	
Sand and sandy clay	50	125	
Sandy clay	145	270	
Clay	100	370	
Sandy clay	85	455	Silt and clay
Cemented sand and gravel	5	460	
Clay with silty streaks	215	675	
Decomposed granite	10	685	
Tight sand and gravel	15	700	Lower sand and gravel
Decomposed granite	40	740	
Decomposed conglomerate	150	890	Hydrologic bedrock
Granite	5	895	
TOTAL DEPTH		895	
8. (D-4-4)27cda 1,230 feet			
Top soil, clay and gravel, water at 115 feet	115	115	
Water sand and clay	85	200	
Clay and gravel	25	225	
Sand and gravel	40	265	
Gravel	25	290	
Gravel and clay	35	325	Upper sand and gravel
Clay and sand	35	360	
Clay, sand and gravel, some granite wash	50	410	
Granite wash and gravel	190	600	
Some clay and gravel granite wash	235	835	
Gravel traveling water	25	860	
Granite rock, broken, with hard ledges	40	900	Hydrologic bedrock
Conglomerate, hard	105	1,005	
TOTAL DEPTH		1,005	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona--Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
9. (D-4-5)3ccc 1,235 feet			
Soil	4	4	
Coarse sand	4	8	
Clay and caliche	45	53	
Clay, coarse sand, gravel	174	227	
Hard clay and sharp gravel	45	272	
Brown rock	15	287	
Sand and gravel	9	296	
Sand and gravel with hard streaks of sandstone	18	314	Upper sand and gravel
Brown rock	34	348	
Sandy red clay	6	354	
Red rock	11	365	
Brown rock	21	386	
Clay and sandstone	8	394	
Brown rock	12	406	
Clay and rock	54	460	
Sandstone and brown rock	100	560	
Sandstone and decomposed granite	30	590	
Decomposed granite and broken quartz	30	620	Hydrologic bedrock
Decomposed granite and quartz	85	705	
TOTAL DEPTH		705	
10. (D-4-5)14dbb 1,310 feet			
Clay and sandy clay, soft	60	60	
Decomposed granite, hard	16	76	
Hard sand	2	78	
Decomposed granite, hard	6	84	
Hard cemented sand	16	100	
Decomposed granite, hard	39	139	
Decomposed granite, hard (water)	7	146	
Hard decomposed granite	14	160	
Hard decomposed granite	10	170	
Hard decomposed granite, fine	20	190	Upper sand and gravel
Hard decomposed granite, coarse	23	213	
Hard decomposed granite, fine	18	231	
Hard decomposed granite, coarse	11	242	
Hard decomposed granite, fine	28	270	
Hard decomposed granite, coarse	48	318	
Hard decomposed granite, fine	62	380	
Extremely hard granite	14	394	Hydrologic bedrock
TOTAL DEPTH		394	
11. (D-4-7)28aaa 1,340 feet, estimated			
Silt	10	10	
Sand	15	25	
Gravel	45	70	
Gravel and boulders	40	110	
Gravel	75	185	Upper sand and gravel
Gravel	23	208	
Conglomerate	142	350	
Boulders and sandy clay	30	380	
Sandy clay and large gravel	12	392	
Broken quartz	16	408	
Shale with hard and soft streaks, also traces of granite and brown clay	27	435	Hydrologic bedrock
Solid granite	24	459	
TOTAL DEPTH		459	
12. (D-4-8)1aaa 1,526 feet			
Soil	2	2	
Caliche	24	26	
Sandy clay	6	32	
Caliche	12	46	
Sandy clay	63	109	
Coarse sand, show of gravel	7	116	
Clay and sand	14	130	
Sand and show of gravel	8	138	Upper sand and gravel
Clay and sand (first water)	27	165	
Show of gravel	4	169	
Clay	9	178	
Gravel, heavy water pressure	18	196	
Clay	11	207	
Coarse gravel	26	233	
Clay	8	241	
Coarse sand	15	256	

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
12. (D-4-8)1aaa--Continued			
Clay	24	280	
Conglomerate	28	308	
Gravel	11	319	
Tough clay	4	323	
Gravel	37	360	
Conglomerate, shells, gravel	32	392	
Gravel	22	414	
Clay	3	417	
Gravel and sand	43	460	
Conglomerate, dry and hard	12	472	Hydrologic bedrock
TOTAL DEPTH		472	
13. (D-4-8)32ccd 1,365 feet			
Silt	15	15	
Sand	17	32	
Gravel	8	40	
Boulders	45	85	Upper sand and gravel
Sandy clay	43	128	
Sand and gravel	42	170	
Sandy clay and gravel	18	188	
Red clay	18	206	
Hard gray clay and gravel	14	220	
Red clay	40	260	Silt and clay
Red clay and gravel	30	290	
Tough and hard red clay	45	335	
Broken quartz with traces of decomposed granite	65	400	
Cemented sand	75	475	Lower sand and gravel
Gravel	15	490	
Conglomerate	28	518	
Hard sandy shale with streaks of quartz	40	558	
Broken quartz and conglomerate	50	608	Hydrologic bedrock
Hard quartz	26	634	
TOTAL DEPTH		634	
14. (D-4-9)18ada 1,505 feet			
Soil	4	4	
Caliche	76	80	
Clay	89	169	Upper sand and gravel
Gravel, bearing water 170 feet	16	185	
Sandy clay with gravel	200	385	
Cemented granite boulders	41	426	Hydrologic bedrock
TOTAL DEPTH		426	
15. (D-4-9)31bba 1,450 feet, estimated			
Clay	9	9	
Sand and gravel	126	135	
Clay	77	212	Upper sand and gravel
Sand and gravel, 4 inches	10	222	
Cemented sand	2	224	
Clay, streaks of sand	60	284	
Conglomerate	46	330	
Conglomerate	15	345	Hydrologic bedrock
Malpais	23	368	
Granite	14	382	
TOTAL DEPTH		382	
16. (D-4-9)35aaa 1,460 feet, estimated			
Soil	4	4	
Boulders, sand, gravel	64	68	
Coarse gravel, sand	46	114	
Sand, clay	17	131	
Sand, fine gravel	8	139	Upper sand and gravel
Sand, large gravel	13	152	
Sand, clay	13	165	
Sand	29	194	
Sand, clay (soft)	15	209	
Hard conglomerate	81	290	Hydrologic bedrock
TOTAL DEPTH		290	
17. (D-4-10)21adc 1,550 feet, estimated			
Sandy formation	20	20	
Gravel	5	25	
Boulders	5	30	
Boulders	25	55	
Sandstone shell	5	60	Upper sand and gravel
Sandy clay, first show of water at 135 feet	75	135	
Hard rock formation	70	205	
Sand	5	210	

Table 2. --Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona--Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
17. (D-4-10)21adc--Continued			
Boulders	5	215	
Gravel	80	295	
Shale	15	310	
Hard abrasive rock	80	390	
Shale	10	400	Hydrologic bedrock
Rock	35	435	
Decomposed granite	15	450	
TOTAL DEPTH		450	
18. (D-5-2)2ddd 1,240 feet			
Sandy loam soil	12	12	
Gravel and sand	73	85	
Caliche and rock	5	90	
Sand and gravel, struck water at 127 feet	125	215	Upper sand and gravel, lower sand and gravel, undifferentiated
Sandy clay	30	245	
Sand and gravel	55	300	
Sandy clay with gravel	35	335	
Sand gravel	192	527	
Cemented gravel with granite shells	28	555	Hydrologic bedrock
TOTAL DEPTH		555	
19. (D-5-2)35bdd 1,350 feet			
Surface soil	8	8	
Caliche gravel	32	40	
Gravel, boulders	50	90	
Sandy clay	85	175	
Sand gravel	45	220	
Clay, sand, streaks coarse sand	50	270	Upper sand and gravel
Sand, gravel streaks	60	330	
Sandy clay	60	390	
Sand, very coarse	30	420	
Sand gravel	80	500	
Sand, boulders	60	560	
Boulders, solid formation	100	660	Hydrologic bedrock
TOTAL DEPTH		660	
20. (D-5-3)17dcc 1,230 feet			
Top soil	10	10	
Caliche	10	20	
Sand and gravel	60	80	Upper sand and gravel
Gravel	86	166	
Clay with some gravel	89	255	
Clay, boulders	20	275	
Clay	50	325	Silt and clay
Clay with trace of sand	85	410	
Clay	150	560	
Gravel	95	655	
Gravel and clay	80	735	Lower sand and gravel
Gravel and sandy clay	115	850	
Gravel, boulders	54	904	
TOTAL DEPTH		904	
21. (D-5-3)34ccc 1,245 feet			
Surface	25	25	
Clay	15	40	
Clay and gravel	10	50	
Sand and gravel	5	55	
Caliche	20	75	
Sand and gravel	8	83	
Hard clay	27	110	Upper sand and gravel
Sandy clay	6	116	
Clay	9	125	
Clay and gravel	12	137	
Clay	18	155	
Sand with water	10	165	
Clay and sand	183	348	
Clay, sticky	80	428	
Clay and sand	22	450	
Clay, sticky	67	517	
Clay	251	768	
Clay, sticky	8	776	Silt and clay
Clay	184	960	
Clay, sticky	102	1,062	
Clay and gravel	31	1,093	
Clay, sticky	317	1,410	
Sand and clay	110	1,520	
Clay	4	1,524	Lower sand and gravel
TOTAL DEPTH		1,524	

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
22. (D-5-4)6cdd 1,220 feet			
Soil	9	9	
Sandy clay	21	30	
Sand	20	50	
Sandy clay	35	85	Upper sand and gravel
Sand gravel	55	140	
Sandy clay	45	185	
Clay, red	15	200	
Sandy clay	115	315	
Clay	40	355	
Sandy clay	45	400	
Clay, red	275	675	
Sandy clay	25	700	
Clay, gray	100	800	Silt and clay
Sandy clay, red	85	885	
Clay	82	967	
Sandy clay, red	68	1,035	
Sandy clay, gray	65	1,100	
TOTAL DEPTH		1,100	
23. (D-5-4)10acc 1,250 feet			
Firm sandy clay	10	10	
Clay with caliche streaks	150	160	
Sand, first show of water	15	175	
Clay	41	216	Upper sand and gravel
Sand	14	230	
Clay	70	300	
Clay with hard shells	90	390	
Decomposed granite	295	685	Local gravel
Very hard and abrasive granite?	35	720	Hydrologic bedrock
TOTAL DEPTH		720	
24. (D-5-4)26ccd 1,270 feet			
Top soil	3	3	
Sandy clay	7	10	
Clay	15	25	
Sand gravel, dry	15	40	
Clay	8	48	
Cemented sand	12	60	
Sandy clay	10	70	
Sand and gravel, dry	8	78	Upper sand and gravel
Clay	6	84	
Cemented sand	12	96	
Sand and gravel, dry	7	103	
Sandy clay	32	135	
Sand, dry	9	144	
Sandy clay	76	220	
Clay	12	232	
Sand, water	11	243	
Clay	7	250	
Sandy clay	20	270	
Clay	21	291	Silt and clay
Sandy clay	9	300	
Clay	31	331	
Cemented sand	19	350	
Conglomerate	95	445	
Clay	20	465	
Sand and gravel	8	473	
Cemented sand	8	481	Local gravel
Sand and gravel	23	504	
Decomposed granite	109	613	
Sand	32	645	
Hard shells--streaks of sand.	35	680	
Rock	110	790	Hydrologic bedrock
TOTAL DEPTH		790	
25. (D-5-5)31daa 1,320 feet			
Surface	10	10	
Sand and gravel	80	90	
Clay and gravel	51	141	
Sand and gravel (having trouble keeping hole straight)	19	160	
Cemented sand and gravel	52	212	Upper sand and gravel
Gravel	13	225	
Cemented sand and gravel	34	259	
Hard rock	16	275	
Hard rock	31	306	
Sand and gravel	93	399	
Cemented sand and gravel	316	715	
Clay and gravel	7	722	
Cemented sand and gravel	160	882	
Sand	11	893	
Cemented sand and gravel	64	957	
Sand	27	984	Local gravel
Clay and sand	16	1,000	
Sand	15	1,015	
Cemented sand and gravel	40	1,055	
Sand	10	1,065	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona--Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
25. (D-5-5)31daa--Continued			
Clay	13	1,078	
Clay and sand	27	1,105	
Sand and gravel	58	1,163	
Hard sand	19	1,182	
Cemented sand and gravel	8	1,190	
Hard sand	5	1,195	
Sand and clay	17	1,212	
Cemented sand and gravel	51	1,263	
TOTAL DEPTH		1,263	
26. (D-5-7)1ddd 1,375 feet			
Silt	12	12	
Hard packed sand	15	27	
Sand and boulders	18	45	
Boulders	135	180	Upper sand and gravel
Sandy clay and sandstone streaks	35	215	
Boulders	15	230	
Sticky red clay	52	282	
Hard streaks, sandy clay	38	320	
Red clay	150	470	Silt and clay
Packed silt	60	530	
Hard rock	270	800	Hydrologic bedrock
TOTAL DEPTH		800	
27. (D-5-7)9adb 1,390 feet			
Surface	40	40	
Sand and gravel, 10 inches	40	80	
Clay and boulders, 12 inches	45	125	
Sand and gravel, 6 inches	55	180	Upper sand and gravel
Clay	10	190	
Sand	10	200	
Clay	105	305	Silt and clay
Sand and gravel, 5 inches	10	315	
Clay and boulders, 8 inches	50	365	
Sand and gravel, 4 inches	25	390	Lower sand and gravel
Clay and boulders, 6 inches	22	412	
Granite	3	415	Hydrologic bedrock
TOTAL DEPTH		415	
28. (D-5-7)22bdc 1,385 feet			
Hard clay	14	14	
Sand and gravel to ¾ inch	11	25	
Sandy clay	63	88	
Sand and gravel to 2 inches	4	92	
Sandy clay	47	139	Upper sand and gravel
Sand and gravel to 2 inches	5	144	
Clay	4	148	
Sand and gravel to 6 inches	44	192	
Clay	38	230	
Sandstone	11	241	
Clay	15	256	
Blue clay	9	265	
Red clay	187	452	
Blue clay	36	488	Silt and clay
Red clay with hard streaks of clay	23	511	
Sticky red clay	180	691	
Clay	39	730	
Soft sandy clay	89	819	
Sand, gravel and clay	64	883	Lower sand and gravel
Granite	20	903	Hydrologic bedrock
TOTAL DEPTH		903	
29. (D-5-8)14cad 1,445 feet			
Surface	30	30	
Sand	5	35	
Boulders	80	115	
Clay	10	125	Upper sand and gravel
Gravel, dry	5	130	
Sand, water	17	147	
Clay	93	240	
Clay with hard rock streaks	125	365	
Hard sand	10	375	
Sandy clay	20	395	
Clay	85	480	Silt and clay
Bentonite	20	500	
Clay	10	510	
Hard rock shell	6	516	
Clay	184	700	
Decomposed granite	25	725	
Granite	5	730	Hydrologic bedrock
TOTAL DEPTH		730	
30. (D-5-8)17add 1,415 feet			
Clay and caliche	8	8	
Sand and gravel to 1 inch	23	31	
Sand and gravel to 4 inches	14	45	
Clay and gravel to 4 inches	11	56	
Gravel to 8 inches	42	98	
Cement gravel to 6 inches	17	115	
Gravel to 8 inches	13	128	
Cement gravel to 8 inches	8	136	Upper sand and gravel
Clay, sand and gravel to 1½ inches	12	148	
Yellow clay	84	232	
Sand and gravel to 2 inches	6	238	
Yellow clay	15	253	
Sand and gravel to 2 inches	4	257	
Yellow clay	13	270	
Red clay	220	490	
Blue clay	5	495	
Red clay, sticky	25	520	
Red clay, tough	96	616	
Blue clay	4	620	
Sandy clay, fine	5	625	
Blue clay	6	631	
Sandy clay	11	642	Silt and clay
Red clay, sticky	14	656	
Sandy clay	5	661	
Red clay, sticky	5	666	
Sandy red clay, hard	24	690	
Red clay, hard streaks	20	710	
Sandy clay, light brown	188	898	
Sandy clay and silt	54	950	
Sandy clay with some small gravel	20	970	Lower sand and gravel
Broken quartz and granite, hard	140	1,110	Hydrologic bedrock
TOTAL DEPTH		1,110	
31. (D-5-8)20abd 1,410 feet			
Soil	2	2	
Caliche and clay	23	25	
Gravel and boulders, 6 inches	37	62	
Clay and gravel	8	70	
Gravel and boulders, 4 inches	76	146	
Clay and little gravel, ½ inch	19	165	
Clay and caliche	29	194	
Boulders	16	210	Upper sand and gravel
Clay and little sand	20	230	
Tight sand, little gravel, ½ inch	6	236	
Clay and caliche	24	260	
Tight sand and little gravel, ½ inch	5	265	
Tough clay	45	310	
Hard blue clay	8	318	
Tough brown clay	117	435	
Silt and clay	5	440	
Tough sticky clay	186	626	Silt and clay
Hard blue clay	17	643	
Hard brown clay	257	900	
Hard clay, little streaks of silt	100	1,000	
Cemented sand and clay	60	1,060	
Clay, cemented sand and little gravel, ½ inch	70	1,130	
Cemented sand and little gravel and clay	45	1,175	
Cemented clay and gravel, 2 inches	55	1,230	Lower sand and gravel
Tight sand, gravel and little clay	85	1,315	
Cemented clay and gravel, 4 inches	10	1,325	
TOTAL DEPTH		1,325	
32. (D-5-8)8aaa 1,440 feet, estimated			
Soil	42	42	
Gravel, boulders	18	60	
Gravel, water sand with very little water	4	64	
Gravel, boulders, water	44	108	
Sandy clay	5	113	
Yellow clay	30	143	Upper sand and gravel
Yellow clay	37	180	
Gravel, broken rock, water	45	225	
Sand, clay	28	253	
Cemented gravel	12	265	
Clay, sand, gravel	15	280	
Water sand, gravel	13	293	
Yellow clay	22	315	
Sandy clay	50	365	
Yellow clay	55	420	Silt and clay
Yellow clay	45	465	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona--Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
32. (D-5-9)8aaa2--Continued			
Cemented gravel, no water	35	500	
Cemented gravel	35	535	
Sand, gravel	25	560	Lower sand and gravel
Clay	25	585	
Decomposed granite, no water	36	621	Hydrologic bedrock
TOTAL DEPTH		621	
33. (D-5-9)22abb 1,500 feet, estimated			
Soil	10	10	
Clay	73	83	
Sandy clay and gravel	42	125	
Boulders, first water 140 feet	49	174	
Gravelly clay	26	200	
Gravel	8	208	Upper sand and gravel
Clay	12	220	
Sandy clay	65	285	
Gravelly clay	3	288	
Gravel	17	305	
Sandy clay and gravel	55	360	
Sand and boulders	68	428	
Sticky clay	4	432	
Gravel with thin strata of clay	166	598	Lower sand and gravel
Clay	2	600	
TOTAL DEPTH		600	
34. (D-5-9)31add 1,500 feet			
Caliche	8	8	
Red sand	4	12	
Clay	18	30	
Clay	7	37	
Sand	4	41	
Caliche and clay	24	65	Upper sand and gravel
Caliche and clay	6	71	
Sand	3	74	
Caliche and clay	21	95	
Clay	17	112	
Gravel and boulders	98	210	
Clay	15	225	
Tight gravel	15	240	
Clay and caliche	88	328	
Clay and gravel, 1 inch	6	334	
Hard clay	21	355	
Clay and caliche	77	432	Silt and clay
Clay and gravel, 1 inch	3	435	
Sticky clay	55	490	
Tough clay	30	520	
Tough clay, and silty streaks	36	556	
TOTAL DEPTH		556	
35. (D-6-2)1E½cdb 1,320 feet			
Top soil	4	4	
Sand gravel	160	164	
Sand gravel and clay	32	196	Upper sand and gravel, lower sand and gravel, undifferentiated
Gravel and clay	126	322	
Clay gravel and boulders	283	605	
Gravel sand, sandy clay, and boulders	213	818	
TOTAL DEPTH		818	
36. (D-6-3)2ddd 1,270 feet			
Silt	8	8	
Caliche	12	20	
Sandy and gravel	55	75	
Sandy clay	15	90	Upper sand and gravel
Sand and gravel	30	120	
Sandy clay and gravel	150	270	
Running sand	12	282	
Sticky clay	68	350	
Caliche and clay	175	525	
Cemented gravel	10	535	
Hard caliche and clay	55	590	
Sandy clay	80	670	
Sticky clay	40	710	Silt and clay
Sandy clay	30	740	
Caliche and clay	200	940	
Sandy clay and gravel	25	965	
Tight gravel and clay	50	1,015	
Caliche and clay	115	1,130	
TOTAL DEPTH		1,130	
37. (D-6-3)3daa 1,260 feet			
Clay	55	55	
Sand and gravel, to 6 inches	37	92	
Tight sand and gravel	7	99	Upper sand and gravel
Clay, soft sand streaks	125	224	
Hard clay	202	426	
Clay	22	448	
Clay mixed with cemented gravel	70	518	
Gravel about ½ inch	5	523	
Shale	17	540	
Clay mixed with gravel	45	585	
Red clay with very little gravel mixed with it	250	835	
Hard brown shale	15	850	Silt and clay
Clay mixed with very little gravel	70	920	
Clay	48	968	
Gravel	2	970	
Clay	20	990	
Clay with small streaks of clay	10	1,000	
Clay	10	1,010	
Clay and gravel mixed	30	1,040	
Cemented gravel	55	1,095	
Clay mixed with very little gravel	108	1,203	Lower sand and gravel
TOTAL DEPTH		1,203	
38. (D-6-3)25dcc 1,325 feet			
Sandy top soil and clay	12	12	
Sand	3	15	
Clay and gravel	150	165	
Sandy clay	15	180	
Clay	62	242	
Gravel, 1 inch	7	249	Upper sand and gravel
Clay	61	310	
Gravel, 1 inch	4	314	
Clay	68	382	
Gravel, 1 inch	5	387	
Clay and gravel (firm)	78	465	
Packed gravel, 1½ inches	750	1,215	Local gravel
TOTAL DEPTH		1,215	
39. (D-6-3)34dcc 1,400 feet			
Top soil	3	3	
Sand and gravel	17	20	
Clay	6	26	
Clay with sand and boulders, dry	394	420	Upper sand and gravel
Clay with sand and gravel, water	95	515	
Rock	100	615	Local gravel
TOTAL DEPTH		615	
40. (D-6-4)6ddd 1,280 feet			
Surface soil and sand	10	10	
Clay	50	60	
Gravel, 2 inches	20	80	
Clay	55	135	
Sandstone	10	145	
Gravel, 6 inches	20	165	Upper sand and gravel
Clay	25	190	
Gravel, ½ inch	15	205	
Clay	20	225	
Sandy clay and gravel	30	255	
Hard clay with layer of pack sand	405	660	
Soft sandy clay and gravel	15	675	Silt and clay
Hard clay and pack sand	65	740	
Fine packed gravel	280	1,020	
Coarse packed gravel	187	1,207	Local gravel
TOTAL DEPTH		1,207	
41. (D-6-4)17dcd 1,295 feet			
Top soil	5	5	
Clay	15	20	
Sand, gravel	30	50	
Sand, gravel	45	95	
Clay	15	110	
Sand, gravel	10	120	Upper sand and gravel
Clay	10	130	
Gravel	70	200	
Cemented gravel	10	210	
Clay	20	230	
Cemented gravel	40	270	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona—Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
41. (D-6-4)17dcd—Continued			
Clay with streaks cemented gravel	35	305	
Cemented gravel	15	320	
Hard shale	20	340	
Gravel	5	345	
Clay	5	350	
Hard shale	15	365	
Cemented gravel	5	370	
Clay with hard cemented gravel streaks	25	395	
Gravel	3	398	
Clay	12	410	
Cemented gravel	115	525	
Hard streaks of rock shale	7	532	
Conglomerate	343	875	
Conglomerate with streaks of shale	50	925	Local gravel
Hard conglomerate	15	940	
Conglomerate with streaks of gravel	95	1,035	
Sand rock	112	1,147	
Conglomerate almost granite	53	1,200	
Conglomerate mostly granite	8	1,208	Hydrologic bedrock
Sand rock, hard	86	1,294	
TOTAL DEPTH		1,294	
42. (D-6-4)26aaa 1,324 feet			
Soil	5	5	
Clay	65	70	
Sand	30	100	
Clay	105	205	
Sandy clay	5	210	Upper sand and gravel
Gravel	5	215	
Water and gravel	15	230	
Sandy clay	55	285	
Gravel	15	300	
Gravel clay	125	425	
Sandy gravel	80	505	
Sandy clay	5	510	
Gravel	95	605	
Sandy clay	100	705	
Cement gravel	10	715	
Sandy clay	90	805	Local gravel
Hard formation	20	825	
Sandy clay	30	855	
Gravel	55	910	
Sandy clay	5	915	
Gravel	25	940	
Malpais rock	135	1,075	Hydrologic bedrock
TOTAL DEPTH		1,075	
43. (D-6-4)31ccc 1,339 feet			
Gravel and clay	60	60	
Cemented gravel with streaks of clay	120	180	
Gravel and clay	60	240	
Sandy clay	45	285	Upper sand and gravel
Cemented gravel	25	310	
Sand and gravel	20	330	
Hard gravelly clay	70	400	
Gravel	5	405	
Cemented gravel	180	585	Local gravel
Cemented gravel	700	1,285	
Porous breaks and gravel, rock at 1,400 feet	115	1,400	Hydrologic bedrock
TOTAL DEPTH		1,400	
44. (D-6-5)12cca 1,360 feet			
Top soil	20	20	
Caliche	10	30	
Sand	10	40	Upper sand and gravel
Sand and gravel	30	70	
Quick sand	12	82	
Red rock	53	135	
Brown rock	7	142	
Sandstone	5	147	Hydrologic bedrock
Granite	3	150	
TOTAL DEPTH		150	
45. (D-6-5)18ddd 1,328 feet			
Top soil	5	5	
Caliche	12	17	
Gravel and boulders	21	38	
Gravel and clay	37	75	Upper sand and gravel
Hard ledges	12	87	
Clay with gravel streaks	51	138	
45. (D-6-5)18ddd—Continued			
Sand and gravel, water	10	148	
Clay	7	155	
Sand	10	165	
Sandy clay with streaks of sticky clay	70	235	
Cemented gravel	30	265	
Sandy clay	15	280	
Sand and gravel	5	285	
Cemented gravel	12	297	
Gravelly clay with granite boulders	13	310	
Cemented gravel	85	395	
Sandy clay	10	405	Local gravel
Cemented gravel	75	480	
Gravelly clay	5	485	
Cemented gravel with granite ledges	195	680	
Sandy clay	15	695	
Cemented gravel	30	725	
Sticky gravelly clay	175	900	
TOTAL DEPTH		900	
46. (D-6-5)25bcc 1,376 feet			
Soil	4	4	
Caliche	16	20	
Sand and gravel	20	40	
Clay and gravel	5	45	Upper sand and gravel
Clay	7	52	
Sand and gravel to 6 inches	58	110	
Granite	5	115	Hydrologic bedrock
TOTAL DEPTH		115	
47. (D-6-5)27cdd 1,365 feet			
Surface soil	5	5	
Sand and gravel	25	30	
Caliche	30	60	Upper sand and gravel
Sand and gravel	25	85	
Clay, packed sand, streaks	75	160	
Solid rock	38	198	Hydrologic bedrock
TOTAL DEPTH		198	
48. (D-6-5)31ddc 1,350 feet			
Sand and caliche	12	12	
Sand and gravel	23	35	
Gravel	11	46	
Sand and clay	16	62	
Gravel	14	76	Upper sand and gravel
Boulders, 3 to 5 inches	9	85	
Sand	5	90	
Sand, clay and gravel	110	200	
Pack sand and gravel	25	225	
Sand and gravel	100	325	
Pack gravel	200	525	
Cemented gravel	75	600	Local gravel
Pack gravel	80	680	
Packed gravel	598	1,278	
Cemented boulders	7	1,285	
Pack gravel and layers of cemented boulders	60	1,345	Hydrologic bedrock
Granite	1	1,346	
TOTAL DEPTH		1,346	
49. (D-6-6)8aab 1,415 feet			
Top soil	3	3	
Sand	12	15	
Caliche	31	46	
Sandy clay	34	80	
Sand, first water	6	86	
Jointed clay	20	106	Upper sand and gravel
Decomposed granite sand and boulders	77	183	
Decomposed granite sand and gravel with streaks of cemented sand	131	314	
Hard cemented sand with hard quartz shells. All sand of the decomposed granite variety, very sharp, abrasive, and heavy	132	446	Hydrologic bedrock
TOTAL DEPTH		446	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona—Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
50. (D-6-6)8ddd 1,385 feet			
Top soil	3	3	
Clay	51	54	
Sand	26	80	
Clay	84	164	
Sand	46	210	Upper sand and gravel
Clay	31	241	
Sand	11	252	
Conglomerate	14	266	
Sand	10	276	
Cemented conglomerate	521	797	
Granite	3	800	Hydrologic bedrock
TOTAL DEPTH		800	
51. (D-6-6)14dcc 1,410 feet			
Surface, sand, gravel, and caliche. Water at 68 feet.	68	68	
Sand	22	90	
Caliche	6	96	
Sand	8	104	
Clay	97	201	Upper sand and gravel
Sand	3	204	
Clay	34	238	
Sand	6	244	
Clay	160	404	Silt and clay
Hard ledge	6	410	
Hard sand and clay	26	436	
Hard ledge	8	444	Lower sand and gravel
Hard sand, muddy	18	462	
Rock-like formation	214	676	Hydrologic bedrock
TOTAL DEPTH		676	
52. (D-6-6)28add 1,415 feet			
Top soil	4	4	
Caliche	22	26	
Cemented gravel	6	32	
Sand and gravel	28	60	
Gravel clay	9	69	
Sand and gravel	20	89	Upper sand and gravel
Gravel clay	7	96	
Sand and gravel	11	107	
Sandy clay	11	118	
Quick sand	12	130	
Clay	151	281	Silt and clay
Gravel clay	59	340	
Clay with granite boulders	36	376	
Cemented gravel	224	600	Lower sand and gravel
Gravel clay	5	605	
Rock	70	675	Hydrologic bedrock
TOTAL DEPTH		675	
53. (D-6-7)10cdd 1,428 feet			
Top soil	2	2	
Caliche	28	30	
Sand and gravel to 2 inches	12	42	
Sandy clay	28	70	
Cemented sand	6	76	
Caliche	20	96	
Hard sandy clay	12	108	
Soft sandy clay	12	120	
Sand and gravel to 2½ inches	20	140	
Soft sandy clay	50	190	Upper sand and gravel
Caliche	12	202	
Fine sand	8	210	
Caliche	12	222	
Pack sand	6	228	
Sand and gravel to 1 inch	2	230	
Caliche	14	244	
Hard sandy clay	20	264	
Strata of sand gravel and clay	10	274	
Caliche	20	294	
Hard red clay	52	346	
Blue clay	6	352	
Brown brittle clay	10	362	
Hard red clay	52	414	
Sticky clay	656	1,070	
Soft silty clay	75	1,145	Silt and clay
Hard ledge	20	1,165	
Soft silty clay	30	1,195	
Cemented sand	5	1,200	
Silty clay	90	1,290	
Cemented gravel	10	1,300	
Sand	5	1,305	
Cemented sand	5	1,310	Lower sand and gravel
Silty clay	35	1,345	
Sandy clay	45	1,390	
TOTAL DEPTH		1,390	

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
54. (D-6-7)19add 1,435 feet			
Surface soil	4	4	
Gravel and clay	21	25	
Sand clay	70	95	
Clay with sand streaks (water)	20	115	Upper sand and gravel
Clay	75	190	
Cemented sand	20	210	
Clay and cemented layer of sand	30	240	
Hard sticky clay	175	415	
Coarse sand	15	430	Silt and clay
Clay and layer of shale	175	605	
Clay and gravel	20	625	
Clay	15	640	
Sandy clay	15	655	Lower sand and gravel
Packed gravel and sand	15	670	
Packed granite gravel	130	800	Hydrologic bedrock
TOTAL DEPTH		800	
55. (D-6-7)22acd 1,445 feet			
Caliche	10	10	
Sandy (clay?)	25	35	
Sand and gravel	10	45	
Caliche	15	60	
Sandy clay	140	200	Upper sand and gravel
Sand	10	210	
Sandy clay	80	290	
Sticky sandy clay	50	340	
Clay	30	370	
Blue clay	10	380	
Clay	610	990	
Clay with silty streaks	80	1,070	Silt and clay
Sandy clay, with silty streaks	90	1,160	
Cemented streaks	5	1,165	
Silty clay	5	1,170	
Conglomerate	40	1,210	
Silty clay	25	1,235	Lower sand and gravel
Conglomerate	65	1,300	
TOTAL DEPTH		1,300	
56. (D-6-7)27ddd 1,465 feet			
Top soil	10	10	
Caliche	6	16	
Clay and caliche	24	40	
Dry sand and gravel to 2 inches	13	53	
Sandy clay	16	69	
Sand with clay	21	90	Upper sand and gravel
Sandy clay and caliche	13	103	
Sandy clay and gravel—first water 170 feet	102	205	
Sandy clay and gravel to 1 inch	14	219	
Sandy clay	41	260	
Red clay	154	414	
Blue clay	10	424	
Red clay, sticky	39	463	
Red clay and shale	17	480	
Red clay	25	505	
Blue clay	8	513	Silt and clay
Red clay	261	774	
Red clay and shale	176	950	
Red clay with a little shale	202	1,152	
Silty clay	98	1,250	
Silty clay	135	1,385	
TOTAL DEPTH		1,385	
57. (D-6-7)32aaa 1,450 feet			
Surface soil	6	6	
Caliche	34	40	
Sand	1	41	
Caliche—water	29	70	
Sand and water	2	72	
Caliche and clay	13	85	
Sand with water	5	90	
Caliche	18	108	
Sand, rock	1	109	
Gravel and caliche	5	114	
Water	1	115	
Clay	7	122	
Sand, caliche and clay	18	140	Upper sand and gravel
Gravel to ¾ inch	14	154	
Soft clay and gravel	8	162	
Caliche	2	164	
Gravel to 1 inch	7	171	
Clay	7	178	
Gravel	10	188	
Clay	2	190	
Sand and clay	5	195	
Sand and gravel to ¾ inch	14	209	
Hard clay	1	210	
Pack sand	4	214	
Hard clay	2	216	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona—Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
57. (D-6-7)32asa—Continued			
Water gravel	14	230	
Clay	8	238	
Gravel	4	242	
Clay	4	246	
Gravel	5	251	
Clay	11	262	
Sand and gravel	6	268	
Fine sand	2	270	
Sand and gravel to ½ inch	14	284	
Hard clay	46	330	
Blue hard clay	12	342	
Sticky yellow clay	8	350	
Hard red clay	22	372	
Clay with hard streaks	46	418	Silt and clay
Sticky red clay	142	560	
Sandy clay	18	578	
Sticky clay	15	593	
Tough clay	177	770	
Sand	26	796	
Hard sandy clay with small gravel	44	840	
Hard sandy clay with small streaks of rock	35	875	Lower sand and gravel
River boulders and hard clay	27	902	
Cemented conglomerate and hard granite	98	1,000	Hydrologic bedrock
TOTAL DEPTH		1,000	
58. (D-6-8)3bdd 1,435 feet			
Soil	7	7	
Tight gravel	8	15	
Clay and caliche	50	65	
Sand and little gravel	20	85	
Tight gravel	7	92	
Sand and clay	6	98	
Coarse gravel	10	108	
Clay and gravel, 3 inches	28	136	
Hard clay	5	141	
Coarse gravel, 3 inches	7	148	
Clay and gravel	17	165	
Gravel and boulders, 6 inches	32	197	
Clay	11	208	Upper sand and gravel
Gravel and boulders, 6 inches	9	217	
Caliche and clay	18	235	
Cemented gravel, 2 inches	6	241	
Caliche and clay	23	264	
Cemented sand and gravel, 1½ inches	5	269	
Sticky clay	11	280	
Clay and caliche	27	307	
Cemented gravel, ½ inch	6	313	
Tough clay	15	328	
Cemented sand	10	338	
Tough sticky clay, brown	57	395	
Blue clay, tough	5	400	
Tough sticky clay, brown	690	1,090	
Tough clay and little silt	180	1,270	
Silt and clay, little gravel (pea)	230	1,500	Silt and clay
Hard clay and little silt streaks	250	1,750	
TOTAL DEPTH		1,750	
59. (D-6-8)6adc 1,420 feet			
Soil	5	5	
Caliche and little gravel	65	70	
Clay and caliche	10	80	
Clay and gravel	35	115	
Sandy clay and little gravel	43	158	
Gravel and boulders	64	222	
Clay	8	230	Upper sand and gravel
Hard cemented gravel, 2 inches	6	236	
Clay and little gravel, 1 inch	19	255	
Clay and caliche	35	290	
Cemented gravel, 2 inches	10	300	
Clay and gravel	45	345	
Tough clay	455	800	
Hard cemented clay	115	915	Silt and clay
Hard cemented clay	285	1,200	
TOTAL DEPTH		1,200	
60. (D-6-8)11adc 1,470 feet			
Sand and clay mix	113	113	
Gravel	2	115	
Quick sand, bearing water	9	124	
Clay	22	146	Upper sand and gravel
Quick sand	10	156	
Cement gravel	2	158	

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
60. (D-6-8)11adc—Continued			
Clay	22	180	
Soft clay	4	184	
Clay and shale	16	200	
Clay	85	285	
Pack sand	10	295	
Soft clay and sand	5	300	
Clay	12	312	
Pack sand	8	320	
Clay	2	322	
Pack sand	13	335	
Soft clay and sand	5	340	
Clay	8	348	
Pack sand	10	358	
Clay and shale	572	930	
Hard clay shale and sandstone	40	970	Silt and clay
Clay and shale	246	1,216	
TOTAL DEPTH		1,216	
61. (D-6-8)28dbb 1,480 feet			
Top soil	10	10	
Caliche	20	30	
Gravel	15	45	
Sandy clay	110	155	
Sand—first water at 160 feet.	5	160	
Sandy clay	20	180	Upper sand and gravel
Gravel	25	205	
Sandy clay	150	355	
Sand, tight	15	370	
Clay, tough	25	395	
Streaks of hard clay and sand	65	460	
Hard tough clay, red	75	535	
Tough clay, blue	20	555	
Red clay	130	685	
Red clay, tough	75	760	
Blue clay	8	768	
Red clay with hard and tough streaks	135	903	
Blue clay, tough	14	917	Silt and clay
Blue clay with tough streaks	8	925	
Red clay with tough streaks	130	1,055	
Sticky red clay	5	1,060	
Red clay	60	1,120	
Red clay, sticky, with a little water crystal	10	1,130	
Red clay, sticky	82	1,212	
TOTAL DEPTH		1,212	
62. (D-6-9)6dcd 1,510 feet, estimated			
Fill—decomposed granite	10	10	
Top soil	10	20	
Caliche, sand, some clay	50	70	
Sand, some gravel, clay	20	90	
Sandy clay, some gravel	30	120	
Sandy clay, sandstone, hard streaks—static water level 130 feet	15	135	
Decomposed granite quartz	5	140	
Sandy clay	10	150	Upper sand and gravel
Dark, fine sand	5	155	
Sandy clay with hard sandstone streaks	32	187	
Red clay, some sand	16	203	
Sandy clay, fine	19	222	
Red clay, gravel	33	255	
Broken quartz, caliche-hard.	4	259	
Red clay, some sand	33	292	
Red shale, hard	3	295	
Red clay	29	324	
Red shale	5	329	
Red clay	27	356	
Red shale, sandstone	4	360	
Red clay, hard streaks of clay shale	75	435	
Red clay shale, some sandstone	55	490	Silt and clay
Red clay	28	518	
Red clay shale, sandstone	57	575	
Silty clay	145	720	
Silty clay, sandstone	6	726	
Silty clay	52	778	
Brown clay shale	18	796	
Silty clay	78	874	
Silt, fine sand, clay	36	910	
Fine sand clay sandstone, broken quartz	34	944	
Clay	51	995	Lower sand and gravel
Sandy clay, hard streaks, some gravel, sandstone	55	1,050	
TOTAL DEPTH		1,050	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona--Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
63. (D-6-9)18bda 1,500 feet, estimated			
Sandy clay	47	47	
Coarse sand	16	63	
Sandy clay	42	105	
Coarse sand	10	115	
Sandy clay with small strata of sand	18	133	Upper sand and gravel
Gravel and boulders	11	144	
Cemented shell and jointed clay	26	170	
Clay	85	255	
Sand and gravel	8	263	
Silty clay	832	1,095	Silt and clay
Conglomerate of clay sand and gravel	307	1,402	Lower sand and gravel
TOTAL DEPTH		1,402	
64. (D-7-4)2dcc 1,340 feet			
Top soil	6	6	
Clay conglomerate	2	8	
Dry sand and streaks of conglomerate	204	212	
Clay	18	230	Upper sand and gravel
Dry sand, first water at 276 feet	46	276	
Sandy gray clay conglomerate	184	460	
Heavy sand. Water	4	464	
Hard gray conglomerate	316	780	
Soft red clay	6	786	
Fine sand. Water	14	800	Local gravel
Hard conglomerate	160	960	
Hard rock	26	986	
Brown rock	4	990	Hydrologic bedrock
Hard red rock	10	1,000	
TOTAL DEPTH		1,000	
65. (D-7-4)16ccc 1,392 feet			
Soil	8	8	
Clay	52	60	
Granite? shell, rock	22	82	
Decomposed granite and clay	173	255	
Sand, gravel	5	260	Upper sand and gravel
Granite shell, rock	23	283	
Clay sand	37	320	
Sand, gravel, clay	14	334	
Clay, gravel	46	380	
Granite shell, rock	20	400	
Gravel, sand and clay	25	425	
Granite shell, rock	31	456	
Sand, gravel, clay	28	484	
Rock	4	488	
Sand, gravel	37	525	
Rock	7	532	
Sandy clay	41	573	
Hard shell	5	578	
Cemented gravel	27	605	Local gravel
Caliche	29	634	
Sharp sand	12	646	
Hard shell	4	650	
Sand and clay	110	760	
Hard shell	6	766	
Sandy clay	41	807	
Hard shell	5	812	
Sand, gravel	68	880	
Hard shale	11	891	
Boulders	14	905	Hydrologic bedrock
TOTAL DEPTH		905	
66. (D-7-4)18dcc 1,440 feet			
Sandy clay	30	30	
Sandy gravel	4	34	
Caliche	11	45	
Clay	15	60	
Sand, gravel	13	73	
Clay, sandy	17	90	
Cemented sand, gravel	3	93	
Sandy clay	33	126	
Cemented sand, gravel	4	130	
Sand, gravel	12	142	
Cemented sand	6	148	Upper sand and gravel
Clay	12	160	
Sand, gravel	25	185	
Cemented sand, gravel	5	190	
Sandy clay	20	210	
Cemented sand, gravel	16	226	
Coarse gravel	4	230	
Gravelly clay	1	231	
Gravel	1	232	
Gravelly clay, hard	8	240	
66. (D-7-4)18dcc--Continued			
Sand, gravel	8	248	
Cemented sand	2	250	
Sand, gravel	28	278	
Cemented gravel	8	282	
Gravelly clay	20	302	
Clay, gravel, hard	6	308	
Gravel	4	312	
Clay, boulders	8	320	
Gravel, sand, clay	6	326	
Clay, gravel, boulders	4	330	
Gravel	3	333	
Conglomerate	25	358	
Sand, gravel	5	363	
Cemented sand	4	367	
Sand gravel	5	372	
Hard gravelly clay	16	388	
Sand, gravel	2	390	
Gravelly clay	4	394	
Sand, gravel, hard	2	396	
Sand, gravel with clay	4	400	
Sand, gravel	3	403	
Cemented sand, gravel	2	405	
Sand, gravel	2	407	
Clay, gravel	8	415	
Sand, gravelly clay	11	426	
Gravelly clay	12	438	
Sand, gravel	2	440	
Sand, gravelly clay	6	446	
Gravelly clay	11	457	
Sand, gravel	2	459	
Cemented sand, gravel	3	462	
Gravelly clay	19	481	
Sand, gravel	14	495	
Gravelly clay	5	500	
Gravelly clay	18	518	
Cemented gravel	6	524	
Gravelly clay	16	540	Local gravel
Sand and gravel with cemented streaks	4	544	
Sand and gravel	126	670	
Clay and gravel	25	695	
Cemented sand and gravel	20	715	
Clay	111	826	
Conglomerate	14	840	
Hard cemented sand and gravel	46	886	
Hard clay and gravel	55	941	
Hard cemented sand and gravel	38	979	
Hard clay	31	1,010	
Clay and sand	10	1,020	
Clay	14	1,034	
Sand and gravel	4	1,038	
Hard red sticky clay	22	1,060	
Granite	7	1,067	Hydrologic bedrock
TOTAL DEPTH		1,067	
67. (D-7-4)35W¼bbd 1,375 feet			
Soil	2	2	
Clay	8	10	
Sand	18	28	
Cemented gravel	16	44	
Clay and caliche	66	110	
Light water sand	4	114	
Clay and caliche	24	138	Upper sand and gravel
Water sand	7	145	
Clay and caliche	53	198	
Water sand	7	205	
Clay	40	245	
Cemented gravel	5	250	
Conglomerate, sand, gravel, boulders (decomposed granite, mountain wash formation)	664	914	Local gravel
TOTAL DEPTH		914	
68. (D-7-5)21bdc 1,395 feet			
Soil	15	15	
Sand	5	20	
Caliche	5	25	
Sand	10	35	
Clay	5	40	
Sand	5	45	
Cemented sand	5	50	
Sand	80	130	Upper sand and gravel
Clay	30	160	
Sand	35	195	
Sandy clay	135	330	
Sandy clay, hard	40	370	
Cemented sand	25	395	
Sandy clay	120	515	
Hard clay	43	558	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona—Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
68. (D-7-5)21bdc—Continued			
Sandy clay	17	575	
Clay and sand	5	580	
Hard cemented conglomerate	3	583	
Clay	2	585	
Broken clay and conglomerate	20	605	
Broken sand clay and conglomerate	45	650	Hydrologic bedrock
Conglomerate	10	660	
Conglomerate sand	85	745	
TOTAL DEPTH		745	
69. (D-7-6)1ddb 1,450 feet			
Soil	10	10	
Sandy clay	15	25	
Sandy clay and gravel	35	60	
Sandy clay	20	80	
Sandy clay and gravel	30	110	
Sandy clay	55	165	
Sand and gravel (water level 170 feet)	25	190	Upper sand and gravel
Clay, hard	8	198	
Fine sand	27	225	
Clay, tough	9	234	
Sand	20	254	
Clay, hard	26	280	
Clay, gummy	155	435	
Rock, hard	9	444	Silt and clay
Clay, hard	26	470	
Sandy clay and gravel	22	492	
Clay, hard	50	542	Lower sand and gravel
Cemented conglomerate	18	560	
Quartz rock, hard	70	630	
Quartz with streaks of bentonite	80	710	
Quartz with streaks of clay	75	785	Hydrologic bedrock
Broken quartz	83	868	
Sand and gravel	7	875	
Quartz, hard	18	893	
TOTAL DEPTH		893	
70. (D-7-6)6dcd 1,410 feet			
Surface soil	28	28	
Gravel	4	32	
Caliche	8	40	
Gravel	10	50	
Clay—first water 53.5 feet	4	54	
Boulders, water	8	62	
Gravel and clay	16	78	
Cemented conglomerate	2	80	
Clay balls and gravel	8	88	
Boulders	9	97	Upper sand and gravel
Conglomerate	13	110	
Gravel	2	112	
Clay	11	123	
Hard clay	1	124	
Loose boulders	8	132	
Red conglomerate	28	160	
Blue shale	14	174	
Sharp gravel, ¼ inch	8	182	
Blue shale	36	218	
Cemented conglomerate	10	228	
Hard red sandstone rock	277	505	Hydrologic bedrock
TOTAL DEPTH		505	
71. (D-7-6)12acd 1,465 feet			
Dirt	12	12	
Sand and boulders	22	34	
Cemented gravel	16	50	
Clay	4	54	
Sand and gravel	24	78	
Caliche clay	22	100	
Cemented sand	8	108	
Sand and gravel	32	140	
Clay and sand	6	146	Upper sand and gravel
Water sand and boulders	24	170	
Cement sand	4	174	
Clay	28	202	
Cement sand	21	223	
Clay	22	245	
Cement sand	10	255	
Clay	8	263	
Pack sand	4	267	
Clay	43	310	
Cement sand	4	314	Silt and clay
Clay	69	383	
Water sand and gravel	3	386	
Clay	2	388	
Cement sand	5	393	Lower sand and gravel
Water gravel	3	396	

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
71. (D-7-6)12acd—Continued			
Clay	59	455	
Cemented sand	3	458	
Pack sand	2	460	
Clay and gravel	7	467	
Cement sand	4	471	
Clay	5	476	
Pack sand	5	481	
Cement sand	6	487	
Granite—bottom of 20-inch hole	43	530	
Granite—drilled 6-inch open hole	135	665	Hydrologic bedrock
TOTAL DEPTH		665	
72. (D-7-6)26ddd 1,485 feet			
Top soil	5	5	
Caliche	4	9	
Sand	6	15	
Caliche and clay	55	70	
Sand and clay	15	85	
Sand and gravel	10	95	
Sand and clay	35	130	
Caliche and clay	40	170	
Clay and gravel, 1 inch	15	185	Upper sand and gravel
Clay	10	195	
Clay sand and gravel, 1 inch	20	215	
Hard caliche	10	225	
Clay and gravel, 1 inch	15	240	
Hard clay	20	260	
Tight gravel	6	266	
Tough sticky clay, ¼ inch	52	318	
Sand and gravel and clay	12	330	
Caliche and clay	80	410	
Clay and little gravel	20	430	
Tough clay	58	488	
Sand and gravel	2	490	Silt and clay
Tough clay	80	570	
Sticky clay and soft streaks	90	660	
Clay and silt	144	804	
TOTAL DEPTH		804	
73. (D-7-6)29add 1,455 feet			
Top soil	5	5	
Clay	5	10	
Sandy clay and gravel	65	75	
Clay	20	95	
Sandy clay	10	105	
Sand and gravel, first water	25	130	
Clay	20	150	Upper sand and gravel
Sandy clay	10	160	
Clay	10	170	
Sandy clay	10	180	
Sand and gravel	10	190	
Sandy clay and gravel	70	260	
Sand and gravel	20	280	
Rock and decomposed granite	170	450	
Gravelly clay	30	480	Hydrologic bedrock
Hard rock	55	535	
TOTAL DEPTH		535	
74. (D-7-6)30acd 1,440 feet			
Sandy clay	60	60	
Clay	35	95	
Sand, hard. First water, level 60 feet, bails to 80 feet	25	120	Upper sand and gravel
Clay	40	160	
Hard red formation	35	195	
Hard brown formation	55	250	Hydrologic bedrock
Hard red formation, abrasive	7	257	
TOTAL DEPTH		257	
75. (D-7-6)33dda 1,475 feet			
Top soil; caliche; shells	45	45	
Gravel	10	55	
Clay	55	110	
Sand and sandy clay; first water, level 135 feet	40	150	Upper sand and gravel
Clay	40	190	
Sand	30	220	
Clay	40	260	
Very hard and abrasive decomposed granite and some clay streaks	205	465	Hydrologic bedrock
TOTAL DEPTH		465	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona--Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
76. (D-7-7)1dcc 1,493 feet			
Top soil	12	12	
Sand and gravel, some clay	558	570	Upper sand and gravel
Soft clay	630	1,200	
Hard clay and rock	10	1,210	Silt and clay
Brittle clay	390	1,600	
Water quartz and clay	180	1,780	
Hard clay	11	1,791	Lower sand and gravel
TOTAL DEPTH		1,791	
77. (D-7-7)6cab 1,455 feet			
Soil	6	6	
Clay	44	50	
Sandy clay	30	80	
Loose boulders and sand	22	102	Upper sand and gravel
Hard packed sand	12	114	
Cement gravel and sand	56	170	
Loose sand	20	190	
Sandy clay with clay streaks, very soft	72	262	Silt and clay
Clay	173	435	
Clay and gravel	25	460	
Clay	30	490	
Sandy clay	17	507	Lower sand and gravel
Hard packed sand	5	512	
Cement rock	36	548	
Solid rock	60	608	Hydrologic bedrock
TOTAL DEPTH		608	
78. (D-7-7)31ddd 1,515 feet			
Soil	3	3	
Cemented caliche	14	17	
Sand	15	32	
Sand and gravel (4 inches)	16	48	
Caliche	21	69	
Clay and gravel (4 inches)	7	76	Upper sand and gravel
Clay and caliche	26	102	
Horn caliche	54	156	
Caliche	44	200	
Clay and gravel (1 inch)	7	207	
Clay	5	212	
Caliche	44	256	
Clay	96	352	
Hard clay	48	400	
Blue clay	18	418	
Sandy clay	22	440	Silt and clay
Hard tough clay	214	654	
Hard clay	106	760	
Hard sandy clay	15	775	
Tough clay	85	860	
Clay and silt	90	950	
Clay with streaks of sand	110	1,060	Lower sand and gravel
Conglomerate	140	1,200	Hydrologic bedrock
TOTAL DEPTH		1,200	
79. (D-7-7)32ddd 1,522 feet			
Soil	4	4	
Caliche	33	37	
Sandy clay	51	88	
Sand and gravel, 2 inches	10	98	Upper sand and gravel
Clay and gravel	45	143	
Clay with sand streaks	283	426	
Blue clay	9	435	
Clay with streaks of coarse sand	281	716	
Clay	114	830	Silt and clay
Clay with streaks of fine sand	130	960	
Clay	257	1,217	
Soft conglomerate	68	1,285	
Clay with cemented streaks	35	1,320	Lower sand and gravel
Cemented sand, clay	25	1,345	
Cemented clay and gravel or hill top	240	1,585	Hydrologic bedrock
TOTAL DEPTH		1,585	
80. (D-7-8)31ddd 1,555 feet			
Surface soil	3	3	
Caliche	12	15	
Clay	35	50	
Sand and gravel	30	80	
Clay	10	90	
Caliche	30	120	Upper sand and gravel
Clay	55	175	
Hard sandy clay	25	200	
Clay	30	230	
Sand	7	237	

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
80. (D-7-8)31ddd--Continued			
Clay	5	242	
Sand	4	246	
Clay	14	260	
Sand	12	272	
Clay	48	320	
Coarse sand	5	325	
Clay	15	340	
Coarse sand	3	343	
Clay	37	380	
Gravel	5	385	
Clay	75	460	
Gravel to ½ inch	18	478	
Clay	47	525	
Clay and gravel	10	535	
Clay	60	595	
Cemented gravel	5	600	
Clay	55	655	
Packed gravel	15	670	
Clay	70	740	
Hard sandy clay	10	750	Silt and clay
Clay with gravel streaks	70	820	
Clay and gravel	5	825	
Clay with gravel streaks	95	920	
Clay	54	974	
Sand	13	987	
Clay and gravel	3	990	
Hard clay	10	1,000	
TOTAL DEPTH		1,000	
81. (D-7-8)33add 1,565 feet			
Sandy clay	44	44	
Coarse sand and gravel	16	60	
Brown clay	15	75	
Clay and gravel	119	194	
Sand and gravel	36	230	
Sandy clay	44	274	Upper sand and gravel
Cemented sand	31	305	
Sand and gravel	13	318	
Clay and gravel, streaks of sand	154	472	
Sand and gravel, 1 inch	8	480	
Clay with streaks of sand and gravel	520	1,000	Silt and clay
TOTAL DEPTH		1,000	
82. (D-8-6)28ddd 1,539 feet			
Silt	141	141	
Silt	16	157	
Silty gravel	15	172	
Gravel	15	187	
Gravelly sand	15	202	
Gravel	15	217	
Silty gravel	18	235	Upper sand and gravel
Gravelly sand	15	250	
Sandy silt	15	265	
Sandy silt	15	280	
Sandy gravel	15	295	
Sandy gravel	15	310	
Sandy silt	15	325	
Silt	15	340	
Silt	300	640	Silt and clay
Sandy silt	25	665	
Sand and volcanic rock	15	680	
Sand and volcanic rock	10	690	Lower sand and gravel
Volcanic sand	185	875	
Volcanic flow	30	905	
Tuff	30	935	
Volcanic sand	45	980	
Andesite flow	30	1,010	
Volcanic sand	60	1,070	
Tuff	15	1,085	
Andesite volcanic flow	15	1,100	Hydrologic bedrock
Andesite volcanic flow	15	1,115	
Volcanic sand	135	1,250	
Volcanic flow	45	1,295	
Volcanic sand	60	1,355	
Volcanic tuffaceous sand	150	1,505	
TOTAL DEPTH		1,505	
83. (D-8-6)30ddd 1,508 feet			
Silt	24	24	
Clay and gravel	23	47	
Cemented caliche	23	70	Upper sand and gravel
Clay	159	229	
Broken black rock	56	285	
Red rock	60	345	
Gray shale	15	360	Hydrologic bedrock
Brown rock	11	371	
Gray shale	12	383	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona--Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
83. (D-8-6)30ddd--Continued			
Red rock	42	425	
Black rock	15	440	
TOTAL DEPTH		440	
84. (D-8-6)31ccb 1,515 feet			
Sand and clay	160	160	
Clay	20	180	
Clay	25	205	
Sandy clay	10	215	
Clay and gravel	5	220	
Sandy clay and gravel	28	248	Upper sand and gravel
Cemented gravel	7	255	
Clay	5	260	
Clay and gravel	16	276	
Sand	4	280	
Clay	5	285	
Rock and red bed	27	312	
Rock shells and red bed	6	318	
Sand and 3-inch gravel	4	322	
Rock shells and red bed	13	335	
Shale and black rock shells	13	348	
Cemented gravel	5	353	
Shale, shells	2	355	
Hard red clay	7	362	
Red rock	6	368	
Clay	3	371	
Rock	2	373	
Hard clay	2	375	Hydrologic bedrock
Rock	12	387	
Sand and red gravel	4	391	
Hard clay	2	393	
Brown rock	5	398	
Broken rock and clay	7	405	
Clay	3	408	
Rock	3	411	
Clay and rock	4	415	
Rock and red bed and malpais	185	600	
TOTAL DEPTH		600	
85. (D-8-6)35ddd 1,545 feet			
Clay	30	30	
Sand	15	45	
Clay	25	70	
Sand and gravel	20	90	
Clay	20	110	
Sand and gravel	15	125	Upper sand and gravel
Clay	35	160	
Sand	10	170	
Clay	41	211	
Gravel	30	241	
Clay	200	441	Silt and clay
Sandy clay	50	491	
Clay	9	500	
Gravel	4	504	
Sandy clay	39	543	Lower sand and gravel
Clay and gravel	57	600	
Clay	25	625	
Conglomerate	145	770	Hydrologic bedrock
TOTAL DEPTH		770	
86. (D-8-7)21ddd 1,570 feet			
Surface soil	20	20	
Fine sand	70	90	
Quick sand and some water	60	150	
Fine sand to a good looking water sand	40	190	
Sand and streaks of clay	6	196	
Fine water sand	24	220	
Cemented sand	45	265	Upper sand and gravel
Sand and clay	85	350	
Clay	10	360	
Sand and boulders	6	366	
Heavy water sand, good	44	410	
Sand and clay	5	415	
Clay	15	430	
Sand and clay	60	490	
Clay	100	590	
Sand streaks, mostly clay	175	765	
Clay	115	880	
Clay streaks of sand	65	945	Silt and clay
Clay	90	1,035	
Red to brown shale	349	1,384	
Clay and shale	241	1,625	
Clay of strata of gravel carrying water	72	1,697	Lower sand and gravel
TOTAL DEPTH		1,697	
87. (D-8-7)30acc 1,552 feet			
Top soil	4	4	
Caliche	17	21	
Caliche streaks of sand	129	150	
Sandy clay	53	203	
Sandy gravel, first water 230 feet	45	248	
Sand gravel and clay	87	335	Upper sand and gravel
Clay	22	357	
Sand and gravel	10	367	
Clay and gravel	19	386	
Coarse sand	31	417	
Clay and gravel	63	480	
Clay shale	130	610	
Clay and cemented sand layers	292	902	Silt and clay
Clay and fine sand	28	930	Lower sand and gravel
Conglomerate	270	1,200	Hydrologic bedrock
TOTAL DEPTH		1,200	
88. (D-8-7)35bdd 1,605 feet			
Top soil	12	12	
Clay	11	23	
Sand and gravel	62	85	
Sand and clay	10	95	
Clay and gravel	7	102	
Gravel	63	165	Upper sand and gravel
Sandy clay	91	256	
Sand and gravel	79	335	
Sandy clay	12	347	
Gravel	25	372	
Sandy clay	223	595	
Clay and streaks of sand	35	630	
Sandy clay	40	670	
Clay shale and fine sand	20	690	
Sandy clay	132	822	
Streaks of fine pack sand and clay	28	850	
Clay and streaks of gravel to 1 inch diameter	40	890	Silt and clay
Hard shell and strata of clay	50	940	
Cemented sand	5	945	
Clay shale	85	1,030	
Clay and gravel	66	1,096	
Fine pack sand	17	1,113	
Sandy clay	20	1,133	
Clay	82	1,215	
Clay shale	291	1,506	
TOTAL DEPTH		1,506	
89. (D-8-8)8bbb 1,570 feet			
Caliche	10	10	
Sand and gravel	41	51	
Sandy clay	69	120	
Sand and gravel	42	162	
Clay and gravel	26	188	
Gravel	108	296	
Sandy clay and gravel	12	308	
Sand and gravel	13	321	Upper sand and gravel
Pea gravel	34	355	
Clay and gravel	37	392	
Sandy clay and gravel	13	405	
Sandstone	18	423	
Sticky clay	32	455	
Cemented sand and gravel	23	478	
Sticky clay	106	584	
Sandy clay and gravel	21	605	
Gravel	102	707	
Clay and gravel	48	755	
Sticky clay	38	793	
Clay and gravel	23	816	
Sticky clay	57	873	
Joint clay	22	895	Silt and clay
Sand and gravel	19	914	
Clay and gravel	36	950	
Sandy clay and gravel	87	1,037	
Sand and gravel	17	1,054	
Sandy clay and gravel	49	1,103	
Sand	5	1,108	
Hard packed clay	92	1,200	
TOTAL DEPTH		1,200	
90. (D-8-8)20ddd 1,612 feet			
Top soil	4	4	
Clay	8	12	
Caliche	4	16	
Clay	58	74	Upper sand and gravel
Sand	19	93	
Clay and gravel	71	164	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona—Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
90. (D-8-8)20ddd—Continued			
Sand and gravel	9	173	
Clay and gravel	97	270	
Gravel and sand	6	276	
Clay	88	364	
Gravel and sand	8	372	
Clay	71	443	
Sand	6	449	
Clay	61	510	
Gravel	4	514	
Clay	6	520	
Gravel and sand	12	532	
Clay	9	541	
Cemented gravel	26	567	
Clay	121	688	
Cemented gravel	6	694	
Clay and gravel	4	698	
Clay	12	710	
Cemented sand	5	715	
Clay and gravel	27	742	
Cemented gravel	4	746	
Clay	9	755	
Cemented gravel	15	770	
Clay	50	820	
Conglomerate	10	830	
Clay	82	912	
Clay and gravel	73	985	
Clay	13	998	
Clay and gravel	17	1,015	
Clay	92	1,107	
Clay and gravel	25	1,132	
Clay	5	1,137	
Hard shell	2	1,139	
Clay	59	1,198	
Hard shell	4	1,202	
Clay	6	1,208	Silt and clay
Hard shell	2	1,210	
Clay	15	1,225	
Hard shell	3	1,228	
Clay	12	1,240	
Hard shell	3	1,243	
Clay	13	1,256	
Hard shell	4	1,260	
Clay	21	1,281	
Hard shell	4	1,285	
Clay	1	1,286	
Hard shell	3	1,289	
Clay	59	1,348	
Hard shell	3	1,351	
Clay	326	1,677	
Clay shale	120	1,797	
Clay	53	1,850	
Clay with mica	90	1,940	
Clay	267	2,207	
Clay shale	13	2,220	
Clay	130	2,350	
Clay and fine sand	60	2,410	
Clay	98	2,508	
TOTAL DEPTH		2,508	
91. (D-8-8)29bcc 1,615 feet			
Top fill	8	8	
Gravel and clay	6	14	
Sand and gravel	11	25	
Sandy clay	23	48	
Sand and gravel	10	58	
Clay	34	92	
Gravel	13	105	
Clay	13	118	
Caliche, gravel to ?, boulders	22	140	
Clay	76	216	
Boulders, 4 inches	34	250	
Clay	14	264	Upper sand and gravel
Clay and gravel	6	270	
Gravel, 1 inch	12	282	
Clay	72	354	
Gravel, light	6	360	
Sand lime	5	365	
Clay	17	382	
Sand, light	2	384	
Clay	18	402	
Sand, light	2	404	
Clay	110	514	
Gravel, 1 inch	5	519	
Clay	155	674	
Light sand	6	680	
Clay	42	722	
Pack sand	7	729	
Clay	5	734	
Pack sand	4	738	
Cement layer	1	739	Silt and clay
Clay	5	744	
Pack sand	3	747	
Clay	7	754	
Soft clay—sand	2	756	
Clay	16	772	

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
91. (D-8-8)29bcc—Continued			
Gravel, free, 5/8 inch	4	776	
Clay	8	784	
Sand, fine	3	787	
Clay	8	795	
Sand, 5/8 inch	2	797	
Clay	20	817	
Sand, fine	2	819	
Clay	33	852	
Sand, fine	7	859	
Clay	11	870	
Sand, fine	1	871	
Clay	9	880	
Sand, fine	2	882	
Clay	26	908	
Sandy fill—light, fine	16	924	
Clay	22	946	
Sand, ½ inch	5	951	
Clay	19	970	
Decomposed granite	5	975	
Clay	31	1,006	
Sand and gravel	8	1,014	
Sticky clay	4	1,018	
Caliche	10	1,028	
Gravel, ½ inch	4	1,032	
Clay	10	1,042	
Gravel, 1 inch	3	1,045	
Clay	6	1,051	
Gravel	2	1,053	
Clay	2	1,055	
Tough clay, gray with sand	1	1,056	
Clay, red	24	1,080	
Hard clay	6	1,086	
Clay	18	1,104	
Gravel	15	1,119	
Clay	13	1,132	
Sand, fine	2	1,134	
Clay	32	1,166	
Sand, fine	6	1,172	
Sand, fine	8	1,180	
Clay, soft	3	1,183	
Sand, fine	7	1,190	
Clay	10	1,200	
Sand, fine	2	1,202	
Clay	8	1,210	
Soft clay	6	1,216	
Clay	2	1,218	
Sand, fine	2	1,220	
Clay	7	1,227	
Sand, fine	4	1,231	
Clay	18	1,249	
Sand, fine	4	1,253	
Clay	7	1,260	
Sand, fine	2	1,262	
Clay	53	1,315	
Clay, silt	15	1,330	
Silt	4	1,334	
Clay	7	1,341	
Silt	4	1,345	
Clay	39	1,384	
Hard clay	101	1,485	
Hard clay and little sand	80	1,565	
Hard clay	120	1,685	
TOTAL DEPTH		1,685	
92. (D-8-9)18cdc 1,645			
Clay	75	75	
Cemented sand	5	80	
Clay	20	100	
Sand and boulders	95	195	
Sandy clay, first show of water at 285 feet	145	340	Upper sand and gravel
Cemented sand	20	360	
Clay	55	415	
Cemented sand; sand; sand and gravel	75	490	
Clay	50	540	
Sand	15	555	
Clay	25	580	
Sand	15	595	
Clay	25	620	
Sand	10	630	
Clay	135	765	
Hard sand	15	780	Silt and clay
Clay	20	800	
Sand	20	820	
Clay	165	985	
Sand	20	1,005	
Clay	25	1,030	
Clay with streaks of sand	130	1,160	
TOTAL DEPTH		1,160	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona—Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
93. (D-9-6)13E½add 1,570 feet			
Silt and sand	25	25	
Sand and some gravel	17	42	
Clay	8	50	
Sand and gravel	5	55	
Clay	25	80	
Coarse gravel and boulders	32	112	Upper sand and gravel
Sandy clay and little gravel, ½ inch	63	175	
Sticky clay	45	220	
Sandy clay and caliche	78	298	
Cemented gravel, ½ inch	10	308	
Clay and caliche	27	335	
Sandy clay	5	340	
Silty clay	90	430	
Sticky clay	55	485	
Silt and sandy clay	45	530	
Hard clay	57	587	
Tight gravel, ½ inch	3	590	
Tough clay	13	603	
Cemented clay and gravel, 1 inch	42	645	Silt and clay
Hard clay	25	670	
Clay and granite boulders, 6 inches	3	673	
Hard clay	67	740	
Clay and silt	40	780	
Hard clay	60	840	
Silt and clay	11	851	
Cemented gravel on hill top, 8 inches	34	885	Lower sand and gravel
Hill top	45	930	Hydrologic bedrock
TOTAL DEPTH		930	
94. (D-9-7)17cdd 1,590 feet			
Top soil	8	8	
Clay	10	18	
Sand	6	24	
Caliche	8	32	
Sand	8	40	
Caliche	12	52	
Sand and gravel	10	62	
Caliche and clay	22	84	
Caliche	8	92	
Sand and gravel	28	120	
Sandy clay	30	150	
Red clay	6	156	
Sandy clay	42	198	
Caliche	10	208	Upper sand and gravel
Sand and gravel	12	220	
Cemented sand	8	228	
Sandy clay	76	304	
Cemented sand	8	312	
Sandy clay	8	320	
Cemented sand	4	324	
Sandy clay, cemented streaks	16	340	
Sticky clay	48	388	
Clay and gravel	60	448	
Cemented sand	14	462	
Sandy clay	17	479	
Cemented sand	13	492	
Clay	170	662	
Clay and gravel	22	684	Silt and clay
Clay	470	1,154	
Conglomerate	12	1,166	
Mountain formation	77	1,243	Lower sand and gravel
TOTAL DEPTH		1,243	
95. (D-9-7)25dcc 1,655 feet			
Sandy clay	35	35	
Sand	40	75	
Clay, hard streaks	130	205	
Sandy clay fine gravel	15	220	
Clay caliche	110	330	Upper sand and gravel
Clay, ¼-inch gravel	25	355	
Tight clay	19	374	
Solid hard streaks	2	376	
One-inch gravel sand	4	380	
Clay, hard streaks	188	568	
Three-quarter-inch gravel sand	4	572	
Tight clay	218	790	
Soft clay, ¼-inch gravel	35	825	
Clay fine gravel streaks	145	970	Silt and clay
Tight clay	15	985	
Sandy clay	20	1,005	
Clay with sand streaks	150	1,155	
Clay sand hard gravel streaks	25	1,180	
Sticky clay with hard streaks	50	1,230	
Cemented gravel ½-inch sandstone, red in color	30	1,260	Lower sand and gravel
TOTAL DEPTH		1,260	
96. (D-9-7)29ddd 1,602 feet			
Sand	6	6	
Clay	64	70	
Sandy clay	80	150	
Clay, sandstone streaks	160	310	Upper sand and gravel
Sticky clay	20	330	
Fine sand	40	370	
Clay with hard streaks	295	665	
Clay and sharp gravel	85	750	
Sandy clay	55	805	Silt and clay
Sticky clay	360	1,165	
Cemented mountain wash	20	1,185	
Sand, 6- to 8-inch rock	40	1,225	
Mountain cemented rock	7	1,232	Lower sand and gravel
Solid mountain red granite	10	1,242	Hydrologic bedrock
TOTAL DEPTH		1,242	
97. (D-9-8)5dcc 1,645 feet			
Top soil	6	6	
Silt	4	10	
Caliche	25	35	
Cemented layers	77	112	
Sand and gravel	16	128	
Clay and gravel	26	154	
Sand	19	173	
Clay	7	180	
Sandy clay	62	242	Upper sand and gravel
Clay and gravel	21	263	
Sandy clay	9	272	
Sandy clay and gravel, first water	9	281	
Sand and gravel	11	292	
Clay and gravel	116	408	
Hard shell	14	422	
Sticky clay	114	536	
Cemented sand	16	552	
Sticky clay	59	611	
Cemented sand	8	619	
Clay	23	642	
Sandy clay	11	653	
Sticky clay	145	798	
Sand and gravel	21	819	
Clay	48	867	
Gravel	8	875	
Clay and gravel	68	943	Silt and clay
Sand and gravel	13	956	
Clay and gravel	9	965	
Gravel	8	973	
Clay and gravel	97	1,070	
Gravel	12	1,082	
Clay and gravel	14	1,096	
Sand and gravel	43	1,139	
Sticky clay	7	1,146	
Quick sand	37	1,183	
Sticky clay	17	1,200	
TOTAL DEPTH		1,200	
98. (D-9-8)21dba 1,685 feet			
Sandy soil	20	20	
Sand and gravel	140	160	
Clay	65	225	
Sandy clay	68	293	Upper sand and gravel
Gravel	10	303	
Clay	5	308	
Sand and gravel	4	312	
Clay	309	621	
Sand and gravel	16	637	
Cemented shell	4	641	
Clay	109	750	Silt and clay
Sand, gravel	12	762	
Clay	76	838	
Gravel	5	843	
Clay	15	858	
Gravel	2	860	
Clay	20	880	Upper sand and gravel
Sand and gravel with cemented shells	40	920	
Sticky clay	95	1,015	
Large gravel	4	1,019	Silt and clay
Sticky clay	66	1,085	
Sand and small gravel with strata of clay	58	1,143	
Gravel	32	1,175	
Clay	23	1,198	Lower sand and gravel
Sand and gravel	11	1,209	
Clay and gravel	21	1,230	
Cemented conglomerate	70	1,300	Hydrologic bedrock
TOTAL DEPTH		1,300	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona—Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
99. (D-9-8)34dcd 1,710 feet			
Top soil	30	30	
Fine sand	15	45	
Coarse gravel	115	160	Upper sand and gravel
Coarse sand	70	230	
Hard sand	170	400	
Clay	30	430	
Sand and clay	80	510	
Clay with sand streaks	140	650	Silt and clay
Cemented conglomerate	30	680	
Sand and gravel with some clay	70	750	Lower sand and gravel
Quartz, rock-hard	58	808	Hydrologic bedrock
TOTAL DEPTH		808	
100. (D-9-9)34ddd 1,787 feet			
Dry gravel	77	77	
Clay gravel	35	112	
Clay gravel	37	149	
Clay	16	165	Upper sand and gravel
Water gravel	25	190	
Sandy clay	38	228	
Water gravel	22	250	
Sticky clay	91	341	Silt and clay
Some gravel strata, very thin	32	373	
Clay	4	377	
Gravel	5	382	
Gravel	13	395	
Clay	66	461	Lower sand and gravel
Gravel	4	465	
Clay	5	470	
Gravel	21	491	
Very hard clay	7	498	
Conglomerate	19	517	
Rock	83	600	Hydrologic bedrock
TOTAL DEPTH		600	
101. (D-9-10)29aaa 1,870 feet			
Top soil	10	10	
Red clay	60	70	
Sand and gravel	15	85	
Red clay	40	125	
Sandy shale	96	221	
Sand, some water	3	224	
Sandy red clay	31	255	
Sand	2	257	
Sand clay	43	300	
Sand	11	311	
Sand and gravel	15	326	
Gray clay	18	344	
Sand	5	349	
Sticky gray clay	22	371	
Sand	4	375	
Very sticky yellow clay	10	385	
Very sticky red clay	29	414	
Sand	5	419	
Red clay	9	428	Upper sand and gravel
Sand clay	42	470	
Sand clay and gravel	10	480	
Clay and gravel	10	490	
Sand and gravel	5	495	
Sticky white clay	15	510	
Sand and gravel	2	512	
White large gravel	18	530	
Sticky clay	15	545	
Sand and clay streaks	5	550	
Clay and sharp gravel	5	555	
Clay	35	590	
Clay and small red gravel	15	605	
Sticky clay	5	610	
Sand	15	625	
Clay	5	630	
Sand	5	635	
Sand and gravel	13	648	
Clay	132	780	
Joint clay	360	1,140	Silt and clay
Sand	28	1,168	
Clay and gravel	74	1,242	Lower sand and gravel
Conglomerate	168	1,410	Hydrologic bedrock
TOTAL DEPTH		1,410	
102. (D-10-9)5ccb 1,755 feet			
Top soil	40	40	
Boulders and gravel sand, dry	30	70	
Gravel and sand	20	90	Upper sand and gravel
Rock	20	110	
Quicksand and boulders	20	130	
102. (D-10-9)5ccb—Continued			
Clay gravel	30	160	
Sand and gravel, water	70	230	
Clay gravel	70	300	
Sand	25	325	
Rock	15	340	
Clay gravel	25	365	
Cemented gravel	15	380	
Sand gravel	60	440	
Brown shale	25	465	
Gravel clay	25	490	
Rock	20	510	
Clay gravel	10	520	
Sand and gravel	30	550	
Hard brown clay	40	590	
Granite rock	10	600	Hydrologic bedrock
TOTAL DEPTH		600	
103. (D-10-9)16ccc 1,784 feet			
Silt	28	28	
Gravel	12	40	
Gravel and boulders	122	162	
Coarse gravel, 4 inches	22	184	
Clay and caliche	80	264	Upper sand and gravel
Sand and gravel, 3 inches	16	280	
Clay	44	324	
Hard sandstone	4	328	
Clay and gravel	52	380	
Hill top and decomposed granite	20	400	Hydrologic bedrock
TOTAL DEPTH		400	
104. (D-10-9)23add 1,830 feet			
Top soil	3	3	
Sandy clay	27	30	
Sand and gravel	144	174	
Sand and gravel, first water	42	216	
Sandy clay	36	252	
Sand	6	258	
Clay	68	326	
Sand	5	331	
Cemented sand	29	360	
Clay	13	373	Upper sand and gravel
Hard cemented sand	7	380	
Clay	6	386	
Sand	6	392	
Cemented sand	22	414	
Jointed clay	44	458	
Clay	18	476	
Jointed clay	36	512	
Sand	8	520	
Clay	2	522	
Hard cemented decomposed granite	12	534	Hydrologic bedrock
TOTAL DEPTH		534	
105. (D-10-9)36ddd 1,860 feet			
Soil	20	20	
Gravel	20	40	
Clay	13	53	
Gravel	12	65	
Clay	5	70	
Gravel	11	81	
Dirty gravel	24	105	
Sandy clay	83	188	
Clean gravel and water	22	210	
Clay	34	244	
Gravelly clay	31	275	
Gravel and water	5	280	
Gravel and clay	16	296	
Gravel and water	4	300	
Gravel and clay	15	315	
Gravel and water	5	320	
Gravel and clay	20	340	Upper sand and gravel
Sand and water	15	355	
Gravel and water	12	367	
Sandy clay	25	392	
Gravel and water	4	396	
Sand and water	29	425	
Sandy clay	20	445	
Gravelly clay	16	461	
Sticky clay	11	472	
Sand and water	3	475	
Clay	18	493	
Clay with layers of gravel and water	42	535	
Sticky clay	9	544	
Sand and water	4	548	
Clay	4	552	
Sandy clay	6	558	

Table 2.--Geohydrologic interpretations of selected drillers' logs, western Pinal County, Arizona—Continued

Well location, altitude of land surface, and description of material	Thickness (feet)	Depth (feet)	Geohydrologic unit
105. (D-10-9)36ddd—Continued			
Clayey gravel	7	565	
Tight conglomerate	35	600	Hydrologic bedrock
TOTAL DEPTH		600	
106. (D-10-10)15add 1,920 feet			
Silt	4	4	
Clay and gravel	46	50	
Sandy clay	8	58	
Clay and gravel	34	92	
Clay and little gravel	23	115	
Clay and caliche	25	140	
Sandy clay	21	161	
Gravel and clay	14	175	
Gravel and little clay	10	185	
Sandy clay, little gravel	15	200	
Clay and gravel	23	223	
Gravel, 1½ inches	5	228	
Clay and gravel, 1 inch	6	234	
Sand and gravel, 2 inches	7	241	Upper sand and gravel
Clay and gravel, 1 inch	7	248	
Sand and gravel, little clay, 2 inches	24	272	
Clay and gravel, 3 inches	14	286	
Sand and gravel, 3 inches	14	300	
Clay and gravel, 1 inch	28	328	
Sticky clay	32	360	
Hard sandy clay	10	370	
Clay and little gravel, ¼ inch	7	377	
Tight sandy clay, with hard streaks	15	392	
Clay and little gravel, ¼ inch	40	432	
Gravel with little clay, 1 inch	6	438	
Hard clay	17	455	
Clay and little silt and sand	41	496	
Tight sand and gravel, 1 inch	4	500	
Hard sand and clay	12	512	
Tough clay and streaks of sand	18	530	
Tight sand and little gravel, ½ inch	5	535	
Tough clay	11	546	
Sand and gravel, 1¼ inches	11	557	
Tough clay	11	568	
White clay	4	572	
Cemented clay	6	578	
Sand and gravel, 1 inch	14	592	
Clay and little gravel, 1 inch	24	616	
Tight gravel and clay, 1 inch	12	628	
Clay and gravel, ¼ inch	14	642	Silt and clay
Tight gravel and little clay, 2 inches	8	650	
Clay and gravel, 1½ inches	30	680	
Tough clay	25	705	
Clay and silt	100	805	
Tough clay	346	1,151	
Sand	6	1,157	
Clay, fine sand or silt	293	1,450	
Clay, sand and little gravel (pea)	45	1,495	Lower sand and gravel
Sand and little clay	120	1,615	
Tight clay and gravel, 3 inches	55	1,670	
Cemented sand and clay	40	1,710	
Cemented clay and gravel, 4 inches	240	1,950	Hydrologic bedrock
TOTAL DEPTH		1,950	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona

(Analytical results in parts per million except as indicated)

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-3-4)																							
25dcb	9/25/41	156	71	—	104	29	189		274	0	161	278	1.4	3.0	900	1.22	379	154	52	4.2	1,530	—	
(D-3-5)																							
28cbb	9/25/41	164	70	—	146	38	206		272	0	238	348	1.3	5.0	1,120	1.52	521	198	46	3.9	1,870	—	
29bcb	9/25/41	174	70	—	129	33	216		337	0	222	290	1.6	9.7	1,070	1.46	458	182	51	4.4	1,740	—	
31abc	9/25/41	186	71	—	—	—	—		292	0	—	352	—	—	—	—	—	—	—	—	1,840	—	
34bbb	9/25/41	158	71	—	136	35	182		261	0	199	325	—	—	1,010	1.37	483	269	45	3.6	1,720	—	
	6/21/49		72	44	169	31	247		309	0	249	400	1.0	9.0	1,300	1.77	549	296	49	4.6	2,120	—	
	8/23/50		72	—	—	—	—		309	0	—	406	—	—	—	—	—	—	—	—	2,200	—	
(D-3-6)																							
31aba	9/25/41	226	73	—	64	19	143		201	0	112	185	1.5	3.0	626	.85	238	73	57	4.0	1,070	—	
	1/ /59	605	—	—	—	—	—		186	0	—	74	—	—	—	—	50	0	—	—	653	7.6	
(D-4-2)																							
13ccc	4/14/59	416	71	52	921	390	3,930		347	0	3,330	6,160	4.2	—	15,000	20.4	3,900	3,620	69	27	21,000	7.1	
	3/30/61		74	48	677	307	3,190		337	0	3,510	4,130	5.1	158	12,200	16.6	2,950	2,670	70	26	17,500	6.8	Sampled at 125 feet
	3/30/61		71	54	656	290	3,240		341	0	3,530	4,130	5.3	146	12,200	16.6	2,860	2,580	71	26	17,100	7.2	Sampled at 400 feet
(D-4-3)																							
22caa	9/13/49	—	82	—	—	—	—		180	0	—	33	—	—	—	—	—	—	—	—	549	—	
34ddd	9/17/41	300	76	—	—	—	—		179	6.9	—	60	—	—	—	—	—	—	—	—	721	—	
36bcd	9/13/49	280	78	44	76	17	117		221	0	177	93	.7	18	652	.89	260	79	49	3.2	1,010	—	
	8/23/50		77	—	—	—	—		251	0	—	102	—	21	—	—	—	—	—	—	1,150	—	
(D-4-4)																							
16cdd	9/17/41	600	83	—	56	12	160		109	0	201	160	3.3	5.0	651	.89	189	100	65	5.1	1,110	—	
16ddd	9/13/49	600	84	30	35	6.0	134		151	0	144	84	3.1	3.5	514	.70	112	0	72	5.3	807	—	
17cdd	9/17/41	600	79	—	60	12	121		123	9.8	121	149	2.6	2.5	538	.73	199	99	57	3.7	922	—	
20bdd	9/17/41	464	78	—	260	60	326		230	0	669	510	—	—	1,940	2.64	896	707	44	4.7	2,970	—	
28daa	9/17/41	600	81	—	30	6.3	117		150	0	113	74	3.4	2.5	420	.57	101	0	72	5.1	715	—	
33bdd	9/13/49	600	86	—	—	—	—		151	0	—	48	—	—	—	—	—	—	—	—	584	—	
33ddd	9/17/41	305	80	—	40	10	124		144	0	155	85	1.5	9.8	496	.67	141	23	66	4.5	832	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-4-5)																							
3ccc	1/ /59	705	—	—	—	—	—		155	0	—	195	—	—	—	—	655	528	—	—	1,830	7.4	
6bcc	3/10/61	385	75	—	—	—	—		148	0	264	322	—	—	—	—	348	226	—	—	1,810	7.6	Sampled at 125 feet
	3/10/61		76	—	—	—	—		186	0	167	266	—	—	—	—	280	128	—	—	1,500	7.4	Sampled at 250 feet
12aaa	9/25/41	250	72	—	104	27	182		248	0	148	290	—	—	873	1.19	371	168	55	4.1	1,520	—	
(D-4-6)																							
3baa	1/10/57	153	71	42	208	56	404	7.4	305	0	323	720	1.8	7.2	1,920	2.61	750	500	54	6.4	3,200	7.6	Sampled at 129 feet
16adc	9/25/41	214	74	—	120	29	209		271	0	214	302	.7	—	1,010	1.37	419	197	52	4.4	1,730	—	
	6/21/49	460	79	42	33	7.1	61		179	0	48	29	1.1	3.6	313	.43	112	0	54	2.5	480	—	
	8/23/50		—	—	—	—	—		178	0	—	30	—	—	—	—	—	—	—	—	481	—	
(D-4-7)																							
28aaa	12/9 /58	459	—	—	—	—	—		75	0	—	225	—	—	—	—	33	0	—	—	1,120	8.0	
(D-4-8)																							
32ccd	12/ /58	634	—	—	—	—	—		261	0	—	302	—	—	—	—	174	0	—	—	1,560	6.9	
(D-4-9)																							
5aaa	7/7 /55	403	74	—	—	—	—		201	0	—	186	—	—	—	—	—	—	—	—	1,070	7.0	Well sampled annually
	7/18/56		74	—	—	—	—		199	0	—	184	—	—	—	—	248	85	—	—	1,060	8.0	
	7/12/57		75	—	—	—	—		157	22	—	186	—	—	—	—	212	47	—	—	1,050	8.7	
	7/17/58		74	—	—	—	—		189	6	—	181	—	—	—	—	220	55	—	—	1,060	8.4	
	8/11/59		75	—	—	—	—		192	0	—	191	—	—	—	—	236	79	—	—	1,090	7.3	
	9/1 /60		76	—	—	—	—		189	0	—	197	—	—	—	—	250	95	—	—	1,140	7.5	
6aaa	1/2 /51	463	76	33	63	14	118		194	0	68	174	1.2	6.8	574	.78	214	56	54	3.5	1,000	7.5	
25bcd	6/16/53	300	70	37	93	24	148		221	12	130	218	.9	7.8	779	1.06	330	130	49	3.5	1,310	7.8	
28cca	6/21/49	254	70	36	102	26	145		213	0	112	266	1.0	9.2	802	1.09	362	187	47	3.5	1,400	—	
	6/ /60		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,600	—	
(D-4-10)																							
32bad	9/24/41	212	70	—	92	23	160		236	0	136	228	1.0	17	773	1.05	324	130	52	3.9	1,350	—	Well sampled annually
	5/26/58	392	70	39	164	32	167		235	0	152	311	1.0	138	1,120	1.52	540	348	40	3.1	1,860	7.7	
	8/26/59		70	—	—	—	—		226	0	—	222	—	—	—	—	358	173	—	—	1,420	7.4	
	7/21/60		69	—	—	—	—		385	0	—	222	—	—	—	—	380	187	—	—	1,480	7.3	
(D-5-2)																							
22bbc	9/16/41	505	84	—	51	10	221		149	0	200	212	3.0	14	784	1.07	168	46	74	7.2	1,360	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-5-2) con.																							
23ccc	9/16/41	505	—	—	56	21	216		184	0	223	208	2.3	16	833	1.13	226	75	68	6.2	1,420	—	
25ccc	9/15/49	602	78	32	38	11	210		208	0	162	171	2.9	11	740	1.01	140	0	77	7.7	1,240	—	
(D-5-3)																							
12aad	9/13/49	375	78	—	—	—	—		190	0	—	49	—	—	—	—	—	—	—	—	638	—	
13baa	9/17/41	587	76	—	—	—	—		180	12	—	37	—	—	—	—	—	—	—	—	602	—	
28bcc	6/29/60	600	78	—	—	—	—		179	0	—	1,370	—	—	—	—	1,240	1,090	—	—	5,150	7.9	
34ccc	9/20/41	550	76	—	24	11	145		240	0	97	76	3.2	9.1	484	.66	105	0	75	6.1	817	—	
34ddd1	9/16/41	400	78	—	—	—	—		187	0	—	31	—	—	—	—	—	—	—	—	502	—	
36cdd	8/14/52	1,212	79	—	—	—	72		168	0	71	37	—	18	—	—	121	0	56	2.8	562	—	Well sampled annually
	7/20/53		78	39	55	12	77		181	0	103	52	.6	29	457	.62	186	38	47	2.5	707	—	
	8/10/55		80	37	25	10	65		154	0	60	30	1.4	13	317	.43	104	0	58	2.8	498	7.9	
	5/21/56		80	—	—	—	—		157	0	—	32	—	—	—	—	93	0	—	—	510	7.7	
	5/9 /57		79	—	—	—	—		185	0	—	40	—	—	—	—	160	8	—	—	627	7.4	
	5/26/58		79	—	—	—	—		180	0	—	42	—	—	—	—	130	0	—	—	596	7.9	
(D-5-6)																							
27ada	2/6 /57	500	79	25	4.8	.0	102	0.4	128	6	63	22	9.0	.7	296	.40	12	0	95	13	496	8.5	
(D-5-7)																							
9adb	1/12/57	415	74	43	22	2.9	67	2.4	134	0	50	31	1.0	4.4	290	.39	67	0	68	3.6	440	7.8	Sampled at 150 feet
	1/12/57		78	43	22	2.4	68	2.2	136	0	48	32	1.0	4.3	290	.39	65	0	68	3.7	437	7.9	Sampled at 370 feet
12E½bbb	1/10/57	212	71	31	176	44	318	7.0	302	0	387	480	1.4	2.7	1,600	2.18	620	372	52	5.6	2,570	7.6	Sampled at 140 feet
	1/10/57		—	29	176	43	324	7.2	298	0	382	480	1.2	1.9	1,590	2.16	616	372	53	5.7	2,580	7.6	Sampled at 190 feet
14add	6/12/60	466	77	—	—	—	—		173	0	—	1,480	—	—	—	—	1,470	1,330	—	—	6,260	7.6	
22add	3/9 /61	745	—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	6,500	—	Sampled at 200 feet
	3/9 /61		79	—	—	—	—		204	0	1,630	1,290	—	—	—	—	2,100	1,930	—	—	6,440	7.4	Sampled at 400 feet
	3/9 /61		79	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	6,520	—	Sampled at 525 feet
22bdc	1958	903	—	—	—	—	—		148	0	—	425	—	—	—	—	770	649	—	—	2,240	7.1	
25E¼add	8/10/57	1,940	130	40	374	16	2,920		91	0	3,660	2,440	4.3	1.3	9,500	12.9	999	924	86	40	17,700	7.0	
27dcc	8/27/41	175	77	—	144	26	82		220	0	288	108	1.5	9.2	767	1.04	466	286	28	1.6	1,180	—	
	6/21/49		78	41	82	16	67		186	0	148	71	.3	11	528	.72	271	118	35	1.8	808	—	
	8/17/50	250	76	67	253	26	193		320	0	515	238	.3	29	1,480	2.01	738	476	36	3.1	2,060	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-5-8)																							
2aaa	9/24/41	230	73	—	68	25	204		194	0	151	278	0.7	7.7	830	1.13	272	113	62	5.4	1,430	—	
7baa	10/20/59	645	—	—	—	—	—		107	0	—	415	—	—	—	—	320	232	—	—	1,820	7.8	
10cca	3/10/61	796	72	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,890	—	Sampled at 175 feet
	3/10/61		73	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,890	—	Sampled at 600 feet
	3/10/61		73	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,610	—	Sampled at 775 feet
14cad1	9/25/41	216	73	—	140	42	305		324	0	281	445	—	—	1,370	1.86	522	266	56	5.8	2,330	—	
14cad2	12/6/57	730	—	41	108	24	240		308	0	184	305	1.6	15	1,070	1.46	368	116	59	5.4	1,760	7.5	
	3/10/61		72	—	—	—	—		301	0	192	324	—	—	—	—	400	154	—	—	1,860	7.4	Sampled at 200 feet
	3/10/61		72	—	—	—	—		266	0	—	268	—	—	—	—	318	100	—	—	1,600	7.9	Sampled at 350 feet
	3/10/61		73	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,570	—	Sampled at 496 feet
17baa	9/24/41	421	74	—	—	—	—		181	0	—	308	—	—	—	—	—	—	—	—	1,620	—	
19add	9/2/41	320	77	—	46	9.2	149		160	0	97	168	1.4	4.0	553	.75	153	22	68	5.2	964	—	
19ccc	9/1/41	250	76	—	176	41	303		122	0	360	550	.8	18	1,510	2.05	608	508	52	5.3	2,530	—	
20add1	9/4/41	160	76	—	489	100	455		241	0	980	970	1.4	39	3,150	4.28	1,630	1,430	38	4.9	4,660	—	
20bdd	9/4/41	240	76	—	688	164	726		119	0	1,330	1,730	2.4	55	4,750	6.46	2,390	2,270	40	6.5	7,040	—	
25bbc	9/24/41	406	82	—	11	2.2	116		147	8.9	56	53	5.3	8.6	333	.45	36	0	87	8.4	564	—	
26bbc	9/24/41	256	76	—	324	68	259		193	0	681	555	.5	—	1,980	2.69	1,090	932	34	3.4	3,050	—	
	6/ /60		77	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,700	—	
28cdd	7/6/60	200	81	—	—	—	—		160	0	—	1,160	—	—	—	—	710	579	—	—	5,040	7.9	
30cdd	9/3/41	200	77	—	171	31	159		211	0	269	292	1.8	39	1,070	1.46	554	381	38	2.9	1,750	—	
31bdd	6/21/49	—	78	43	196	32	190		216	0	279	384	1.5	24	1,260	1.71	620	444	40	3.3	2,050	—	
	6/ /60		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,380	—	
31dcc	7/8/60	568	77	—	—	—	—		123	0	—	550	—	—	—	—	860	759	—	—	2,850	7.8	
36add	9/25/41	218	76	—	107	27	167		215	0	255	202	1.7	12	878	1.19	378	202	49	3.7	1,410	—	
	6/ /60	502	81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	750	—	
(D-5-9)																							
6cdd	9/17/41	320	70	—	136	31	205		297	0	180	342	—	—	1,040	1.41	467	223	49	4.1	1,810	—	
11cdc	3/28/61	845	72	—	—	—	—		218	0	179	156	—	—	—	—	302	124	—	—	1,180	7.0	Sampled at 250 feet
	3/28/61		71	—	—	—	—		216	0	180	154	—	—	—	—	304	127	—	—	1,180	7.0	Sampled at 400 feet
	3/28/61		71	—	—	—	—		154	0	167	154	—	—	—	—	252	126	—	—	1,080	7.6	Sampled at 800 feet
19ddd	3/9/61	300	73	33	345	82	222		240	0	699	502	.9	59	2,060	2.80	1,200	1,000	29	2.8	3,090	7.8	Sampled at 200 feet

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
(D-5-9) con.																							
19ddd	3/9/61	300	73	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	3,140	—	Sampled at 275 feet
30cbb	9/25/41	350	83	—	13	6.3	106		136	15	56	50	6.0	10	329	0.45	58	0	80	6.1	561	—	
(D-6-3)																							
1ddd	9/16/41	265	77	—	40	11	55		152	16	71	28	—	—	296	.40	145	20	45	2.0	484	—	
6ccc	9/15/49	620	80	30	18	9.2	183		235	0	117	106	2.9	11	593	.81	83	0	83	8.7	974	—	
	6/ /60		84	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,000	—	
9bcc	3/29/61	—	74	—	—	—	—		205	0	145	192	—	—	—	—	242	74	—	—	1,360	7.1	Sampled at 230 feet
	3/29/61		72	—	—	—	—		203	0	148	190	—	—	—	—	230	64	—	—	1,340	7.2	Sampled at 275 feet
10ccc	9/14/49	—	78	30	16	9.0	91		185	0	59	33	1.6	14	345	.47	77	0	72	4.5	541	—	
	6/ /60		81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	500	—	
24add	9/16/41	400	75	—	62	11	68		156	0	68	51	.9	93	431	.59	200	72	43	2.1	703	—	
29baa	4/25/46	252	79	—	31	15	203		233	0	146	160	2.7	6.6	679	.92	139	0	76	7.5	1,130	—	
(D-6-4)																							
13add	9/14/49	320	77	44	156	28	132		164	0	226	278	.9	34	980	1.33	504	370	36	2.6	1,610	—	
	6/ /60		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,400	—	
16ddd	9/23/41	525	78	—	34	10	59		171	0	67	26	1.0	6.5	288	.39	126	0	50	2.3	493	—	
	6/ /60		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	550	—	
17dcd	8/14/52	1,294	79	—	—	—	66		171	0	60	27	—	9.6	—	—	104	0	58	2.8	501	—	Well sampled annually
	8/4/53		73	—	—	—	—		175	0	—	28	—	—	—	—	—	—	—	—	498	—	
	5/21/56		76	—	—	—	—		185	0	—	40	—	—	—	—	145	0	—	—	574	7.5	
	5/26/58		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	504	—	
24bad	11/6/57	608	81	38	68	17	90	2.0	154	0	135	110	.5	11	547	.74	240	114	45	2.5	883	7.6	
27cdd	9/23/41	368	76	—	36	10	52		168	0	66	24	.7	2.5	274	.37	131	0	46	2.0	472	—	
	9/14/49		77	40	40	8.6	60		180	0	64	31	.6	9.6	342	.47	136	0	49	2.2	523	—	
	3/20/51		77	—	—	—	—		172	0	—	32	—	—	—	—	—	—	—	—	546	—	
36add	9/15/41	338	76	—	40	9.0	55		174	0	76	23	—	3.6	292	.40	137	0	47	2.0	496	—	
(D-6-5)																							
8dcc	6/19/41	220	77	—	722	133	593		196	0	1,120	1,490	1.7	250	4,410	6.00	2,350	2,190	35	5.3	6,500	—	
9dcc	6/19/41	106	—	—	248	93	759		57	0	994	1,110	.4	5.0	3,240	4.41	1,000	953	62	10	5,080	—	
12dad	9/11/41	77	81	—	24	5.5	155		153	16	163	63	1.8	5.6	509	.69	83	0	80	7.4	828	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-6-5) con.																							
16cdd	6/20/41	—	76	—	538	103	811		295	0	1,360	1,260	1.8	111	4,330	5.89	1,770	1,530	50	8.4	6,190	—	
17add	6/20/41	150	76	—	548	108	771		253	0	1,270	1,290	.9	175	4,280	5.82	1,810	1,600	48	7.9	6,190	—	
	6/21/49		75	67	422	95	896		293	0	1,580	1,030	.6	65	4,300	5.85	1,440	1,200	57	10	6,040	—	
	8/23/50		75	—	—	—	—		295	0	—	1,000	—	—	—	—	—	—	—	—	5,860	—	
	4/9 /51		75	52	307	52	814		355	0	1,200	830	1.2	45	3,480	4.73	980	689	64	11	5,000	—	
21add1	6/20/41	123	76	—	382	84	719		254	0	1,210	940	1.8	84	3,540	4.81	1,300	92	55	8.7	5,150	—	Well sampled annually
	6/21/49		75	42	376	84	781		352	0	1,310	910	.8	55	3,730	5.07	1,280	995	57	9.5	5,310	—	
	8/23/50		75	—	—	—	—		330	0	—	895	—	—	—	—	—	—	—	—	5,320	—	
	6/8 /51		75	—	—	—	—		367	0	—	835	—	—	—	—	—	—	—	—	5,030	—	
21add2	8/14/52	400	76	—	—	—	802		351	0	1,180	750	—	39	—	—	862	575	67	12	4,800	—	Well sampled annually
	7/20/53		75	—	—	—	—		355	0	—	765	—	—	—	—	—	—	—	—	4,710	—	
	8/ /54		82	61	—	—	—		349	0	—	775	1.4	45	—	—	—	—	—	—	4,710	—	
	8/9 /55		73	64	264	65	701		368	0	1,070	710	1.0	39	3,100	4.22	926	624	62	10	4,400	7.2	
	5/21/56		74	—	—	—	—		376	0	—	715	—	—	—	—	885	577	—	—	4,430	7.3	
	5/9 /57		75	—	—	—	—		382	0	—	635	—	—	—	—	750	437	—	—	4,120	7.3	
	5/26/58		74	—	—	—	—		366	0	—	640	—	—	—	—	720	420	—	—	4,040	7.8	
	8/25/59		75	—	—	—	—		364	0	—	600	—	—	—	—	620	322	—	—	3,900	7.2	
	6/21/60		74	—	—	—	—		382	0	—	540	—	—	—	—	290	0	—	—	3,740	7.4	
23ada	3/30/61	118	69	—	—	—	—		324	0	241	176	—	—	—	—	124	0	—	—	1,570	7.4	
23cda	4/ /60	—	—	—	—	—	—		196	0	—	420	—	—	—	—	485	324	—	—	2,770	—	
25bbb	6/19/41	100	74	—	304	96	511		81	6.9	1,130	700	1.3	23	2,810	3.82	1,150	1,080	49	6.5	4,120	—	Well sampled annually
	6/21/49		75	67	263	61	587		363	0	970	600	1.6	33	2,760	3.75	907	610	58	8.5	3,990	—	
	8/23/50		74	—	—	—	—		411	0	—	485	—	30	—	—	—	—	—	—	3,400	—	
	7/16/51		74	—	—	—	—		397	0	—	476	—	—	—	—	—	—	—	—	3,230	—	
36aaa	9/25/41	114	74	—	360	107	945		368	0	1,660	960	4.9	25	4,250	5.78	1,360	1,060	60	11	5,830	—	
(D-6-6)																							
7ddd	6/6 /60	218	75	—	—	—	—		174	0	—	570	—	—	—	—	1,210	1,070	—	—	3,400	7.8	
13cdd	6/18/41	250	76	—	49	20	70		95	11	159	64	.8	2.0	422	.57	204	126	43	2.1	712	—	
16ddd	6/16/41	353	77	—	28	8.3	62		125	13	72	24	.8	4.4	274	.37	104	1	56	2.6	448	—	
17ddd	8/27/41	256	75	—	246	52	128		152	0	418	342	1.1	7.7	1,340	1.82	828	703	25	1.9	2,070	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-6-6) con.																							
17ddd	6/ /60	256	75	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	3,000	—	
20ddd	6/16/41	150	75	—	183	39	157		190	0	375	270	0.8	37	1,160	1.58	617	461	36	2.7	1,850	—	
23ddd	6/16/41	302	75	—	65	15	71		174	0	134	61	1.0	8.4	441	.60	224	81	41	2.1	727	—	
24ddd	6/18/41	175	76	—	53	13	59		153	0	84	62	.2	16	363	.49	186	61	41	1.9	618	—	
31dcc	9/25/41	102	75	—	267	57	864		398	0	988	1,010	—	—	3,380	4.60	901	575	68	13	5,130	—	
	5/3 /51		75	42	232	40	640		390	0	776	675	2.3	60	2,660	3.62	744	424	65	10	4,000	—	
34cbb	9/25/41	234	81	—	186	37	277		212	0	579	302	2.1	12	1,500	2.04	616	442	49	4.8	2,220	—	
	7/16/51		78	42	480	80	466		384	0	1,190	675	.2	41	3,160	4.30	1,530	1,210	40	5.2	4,320	—	
	6/ /60	490	—	—	—	—	—		134	0	—	600	—	—	—	—	905	795	—	—	3,220	7.9	
(D-6-7)																							
7bdd	8/19/48	274	77	—	—	—	—		145	0	—	22	—	—	—	—	—	—	—	—	411	—	
9ddd	8/29/41	230	77	—	134	46	23		156	0	207	158	.8	7.8	653	.89	524	396	9	.4	1,110	—	
10dcd	9/9 /60	—	95	—	—	—	—		105	0	—	502	—	—	—	—	210	124	—	—	2,670	7.7	
16ddd	8/26/41	230	78	—	65	11	57		166	0	82	74	1.0	2.5	374	.51	207	71	37	1.7	646	—	
	6/ /60	600	—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	670	—	
18cdc	8/19/48	370	78	—	75	13	76		136	0	95	130	.7	11	468	.64	240	129	41	2.1	824	—	
22aad	8/25/48	498	78	—	—	—	—		171	0	—	252	—	—	—	—	—	—	—	—	1,730	—	
	2/6 /57		79	36	194	20	110	5.4	126	0	226	312	.1	24	990	1.35	566	462	29	2.0	1,600	7.6	
25cdd1	9/25/41	268	78	—	60	12	46		165	0	82	52	1.0	3.9	338	.46	199	64	33	1.4	582	—	
25cdd2	6/ /60	810	79	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	5,960	—	Pumping for several days
	6/1 /61		79	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	4,300	—	Pumping for 2 hours
	3/8 /61		75	—	—	—	—		—	—	—	—	—	—	—	—	404	—	—	—	1,480	—	Sampled at 300 feet
	3/8 /61		75	—	—	—	—		—	—	187	248	—	—	—	—	522	—	—	—	1,460	—	Sampled at 350 feet
	3/8 /61		77	—	—	—	—		—	—	528	6,580	—	—	—	—	1,610	—	—	—	19,300	—	Sampled at 375 feet
	3/8 /61		76	—	—	—	—		—	—	—	—	—	—	—	—	1,600	—	—	—	20,500	—	Sampled at 400 feet
	3/8 /61		80	—	—	—	—		—	—	817	10,400	—	—	—	—	2,230	—	—	—	29,400	—	Sampled at 550 feet
27ddd	1/18/60	1,385	—	—	—	—	—		122	0	—	358	—	—	—	—	320	220	—	—	1,630	7.7	
	3/3 /61		71	—	—	—	—		—	—	—	—	—	—	—	—	545	—	—	—	1,460	—	Sampled at 250 feet
	3/3 /61		77	—	—	—	—		—	—	1,140	2,950	—	—	—	—	1,770	—	—	—	10,400	—	Sampled at 500 feet
	3/3 /61		77	—	—	—	—		—	—	742	1,780	—	—	—	—	1,230	—	—	—	6,730	—	Sampled at 1,000 feet

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-6-7) con.																							
31aaa	8/19/48	420	76	—	400	61	163		189	0	576	585	0.1	29	1,910	2.60	1,250	1,090	22	2.0	2,950	—	
32aaa	6/1/61	1,000	78	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	856	—	Sample from discharge pipe
	3/9/61		76	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,450	—	Sampled at 200 feet
	3/9/61		76	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,020	—	Sampled at 350 feet
	3/9/61		77	—	—	—	—		—	—	81	194	—	—	—	—	274	—	—	—	1,010	—	Sampled at 500 feet
	3/9/61		78	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,030	—	Sampled at 940 feet
(D-6-8)																							
2bba	8/25/48	365	79	41	183	33	319		201	0	565	345	2.3	51	1,640	2.23	592	428	54	5.7	2,470	—	
2dda	9/17/41	250	78	—	—	—	—		106	0	—	388	—	—	—	—	—	—	—	—	2,000	—	
	6/ /60		84	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	2,300	—	
3aaa	8/25/48	400	79	—	—	—	—		210	0	—	350	—	—	—	—	—	—	—	—	2,270	—	
3dda	8/25/48	460	82	—	—	—	—		133	0	—	47	—	—	—	—	—	—	—	—	508	—	
	6/ /60		81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	710	—	
4adc	8/24/48	375	78	45	108	20	167		172	0	213	234	1.9	20	894	1.22	352	210	51	3.9	1,430	—	
8dcc	9/5/41	252	77	—	64	13	44		171	0	57	73	.4	6.0	342	.47	213	73	31	1.3	612	—	Well sampled annually
	6/21/49		80	33	39	6.3	70		160	0	53	58	1.6	4.7	344	.47	124	0	55	2.7	554	—	
	8/17/50		79	—	—	—	—		164	0	56	—	—	—	—	—	—	—	—	—	547	—	
	5/26/58		80	34	37	4.0	75		166	0	60	47	1.6	5.0	346	.47	109	0	60	3.1	547	7.1	
	9/3/59		82	—	—	—	—		154	0	—	42	—	—	—	—	66	0	—	—	481	7.4	
	6/23/60		82	—	—	—	—		135	24	—	44	—	—	—	—	44	0	—	—	536	8.8	
18ddd	8/23/48	394	78	—	—	—	—		178	0	—	156	—	—	—	—	—	—	—	—	1,040	—	
	9/16/49		79	34	160	28	69		178	0	163	228	.3	31	801	1.09	514	368	22	1.3	1,350	—	
25aaa	8/26/48	500	76	70	460	80	474		175	0	955	950	2.2	30	3,110	4.23	1,480	1,330	41	5.4	4,580	—	
28adc	8/18/48	218	77	52	104	23	74		162	0	97	194	.8	8.1	633	.86	354	222	31	1.7	1,060	—	
28cdc	8/18/48	200	78	—	—	—	—		172	0	—	69	—	—	—	—	—	—	—	—	579	—	
	6/ /60		81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	550	—	
32cad	8/17/48	320	—	35	34	5.5	44		177	0	33	13	.6	5.0	257	.35	108	0	47	1.8	385	—	
34acc	8/27/48	500	79	—	—	—	—		146	0	—	216	—	—	—	—	—	—	—	—	1,140	—	
(D-6-9)																							
6dcd	6/ /60	1,050	—	—	—	—	—		79	0	—	210	—	—	—	—	58	0	—	—	1,230	7.7	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-6-9) con.																							
7bbc	7/14/41	249	—	—	24	4.4	129		154	9.8	72	84	5.3	11	415	0.56	78	0	78	6.3	721	—	
7cdd	8/27/48	500	81	—	—	—	—		127	0	—	224	—	—	—	—	—	—	—	—	1,200	—	
19bbd	8/26/48	500	79	60	52	7.0	137		159	0	107	146	3.1	1.5	592	.81	158	28	65	4.7	985	—	
(D-7-4)																							
25W½add	9/15/41	400	78	—	32	7.2	80		176	0	72	39	1.7	5.3	324	.44	109	0	61	3.3	543	—	
26bb	9/15/41	900	79	—	23	16	286		311	12	172	190	3.4	17	872	1.19	123	0	83	11	1,470	—	
(D-7-5)																							
5ddd	9/12/41	450	78	—	44	12	52		178	0	84	26	—	3.7	309	.42	159	13	41	1.8	525	—	
	7/16/51		79	—	—	—	—		173	0	—	36	—	—	—	—	—	—	—	—	571	—	
18ddd	9/12/41	500	78	—	—	—	—		178	0	—	25	—	—	—	—	—	—	—	—	473	—	
(D-7-6)																							
1ddb	8/1/58	893	—	—	—	—	—		158	0	—	43	—	—	—	—	117	0	—	—	530	7.1	
2caa	3/30/61	—	75	—	—	—	—		260	0	426	258	—	—	—	—	740	527	—	—	1,930	7.5	Sampled at 200 feet
	3/30/61		75	—	—	—	—		302	0	435	260	—	—	—	—	780	532	—	—	2,010	6.9	Sampled at 325 feet
	3/30/61		76	—	—	—	—		166	0	426	258	—	—	—	—	650	514	—	—	1,840	7.5	Sampled at 525 feet
6dcd	1/18/57	505	76	34	246	24	163	2.8	181	0	551	218	1.5	21	1,350	1.84	712	564	33	2.7	1,920	7.8	Sampled at 110 feet
	1/18/57		80	41	223	16	115	1.8	168	0	497	140	1.7	9.0	1,130	1.54	622	485	29	2.0	1,590	7.5	Sampled at 260 feet
11acd	8/16/48	297	82	—	—	—	—		177	0	—	67	—	—	—	—	—	—	—	—	873	—	
20cdd	8/11/48	—	80	—	—	—	—		165	0	—	35	—	—	—	—	—	—	—	—	553	—	
28ddd	9/15/48	468	86	39	25	5.5	81		150	0	70	42	1.0	3.8	341	.46	85	0	67	3.8	518	—	
29ddd	8/11/48	260	79	—	39	6.9	63		183	0	72	22	1.0	4.7	299	.41	126	0	52	2.4	504	—	
31adc	8/11/48	186	—	—	130	22	123		170	0	195	230	.9	17	802	1.09	415	276	39	2.6	1,370	—	
31ddd	9/15/48	280	81	31	17	6.8	80		162	0	63	29	1.0	4.6	312	.42	70	0	71	4.2	482	—	
33ddd	8/13/48	600	87	30	9.3	2.2	88		145	0	56	28	1.0	5.1	291	.40	32	0	86	6.8	441	—	
	6/ /60		85	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	480	—	
34ddd	8/13/48	607	91	—	—	—	—		100	0	—	51	—	—	—	—	—	—	—	—	519	—	
	6/ /60		95	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	750	—	
35add	8/13/48	480	83	—	—	—	—		157	0	—	23	—	—	—	—	—	—	—	—	455	—	
	6/ /60		98	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	440	—	
36ddd	8/6/41	480	80	—	—	—	—		161	0	—	21	—	—	—	—	—	—	—	—	449	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-7-6) con.																							
36ddd	6/ /60	480	87	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	410	—	
(D-7-7)																							
1dcc	6/ /60	1,791	84	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,180	—	
1ddd	8/12/48	476	80	—	—	—	—		179	0	—	22	—	—	—	—	—	—	—	—	449	—	
	6/ /60		82	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	430	—	
2ddd	9/27/41	500	79	—	—	—	—		176	0	—	17	—	—	—	—	—	—	—	—	424	—	
	6/ /60		82	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	700	—	
3ddd	8/13/48	420	82	—	—	—	—		171	0	—	28	—	—	—	—	—	—	—	—	481	—	
	6/ /60		86	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	570	—	
5dcd	8/17/48	200	77	—	—	—	—		190	0	—	114	—	—	—	—	—	—	—	—	1,020	—	
	6/ /60		78	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	1,100	—	
6ddd	8/17/48	340	77	—	—	—	—		161	0	—	18	—	—	—	—	—	—	—	—	425	—	
12ccd	9/9 /41	450	78	—	45	9.8	39		184	0	53	19	0.8	2.0	259	0.35	153	2	36	1.4	436	—	
	8/12/48		82	—	40	6.0	48		168	0	52	24	.4	3.9	257	.35	124	0	46	1.9	450	—	
19dcd	7/28/41	200	78	—	54	10	47		155	16	74	31	.2	4.5	313	.43	176	49	37	1.5	528	—	
22ddd1	8/5 /48	800	79	—	—	—	—		184	0	—	17	—	—	—	—	—	—	—	—	456	—	
22ddd2	6/ /60	800	85	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	430	—	
26ddd	8/5 /48	800	80	—	—	—	—		168	0	—	25	—	—	—	—	—	—	—	—	472	—	
	6/ /60		85	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	400	—	
32cdd	9/17/48	1,432	84	34	26	4.7	90		147	0	88	45	1.2	3.4	365	.50	84	0	70	4.3	493	—	Well sampled annually
	8/14/52		85	—	—	—	77		142	0	79	28	—	3.8	—	—	73	0	70	3.9	498	—	
	8/6 /53		—	—	—	—	—		133	0	—	25	—	—	—	—	—	—	—	—	496	—	
	8/ /54		81	42	25	7.4	63		170	0	50	24	.8	2.3	298	.41	93	0	59	2.8	452	—	
	9/6 /55		79	—	—	—	—		159	0	—	22	—	—	—	—	—	—	—	—	437	7.1	
	6/17/57		80	—	—	—	—		158	0	—	23	—	—	—	—	81	0	—	—	447	7.6	
	5/27/58		84	—	—	—	—		148	0	—	26	—	—	—	—	70	0	—	—	463	7.5	
	6/ /60		85	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	430	—	
33add	8/18/48	612	79	—	—	—	—		168	0	—	22	—	—	—	—	—	—	—	—	445	—	
	6/ /60		79	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	410	—	
35add	8/3 /48	934	82	—	—	—	—		160	0	—	19	—	—	—	—	—	—	—	—	416	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
(D-7-7) con.																							
35add	6/ /60	934	86	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	340	—	
(D-7-8)																							
1ddd	8/27/48	320	76	—	—	—	—		220	0	—	1,040	—	—	—	—	—	—	—	—	4,440	—	
4ddc	9/9 /41	444	78	—	—	—	—		159	8.9	—	13	—	—	—	—	—	—	—	—	370	—	
	6/ /60		83	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	380	—	
8ddd	8/12/48	450	80	—	—	—	—		169	0	—	15	—	—	—	—	—	—	—	—	391	—	
	6/ /60		80	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	470	—	
10ddd	8/16/48	600	79	—	—	—	—		173	0	—	24	—	—	—	—	—	—	—	—	425	—	
	6/ /60		81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	450	—	
16cdd	8/5 /48	570	79	—	—	—	—		175	0	—	37	—	—	—	—	—	—	—	—	509	—	
	6/ /60		85	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	450	—	
17ddd	8/4 /48	—	80	—	—	—	—		185	0	—	18	—	—	—	—	—	—	—	—	422	—	
	6/ /60		86	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	470	—	
27cdd	8/3 /48	540	78	—	—	—	—		184	0	—	24	—	—	—	—	—	—	—	—	436	—	
	6/ /60		86	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	630	—	
28ddd	8/3 /48	600	78	—	—	—	—		185	0	—	10	—	—	—	—	—	—	—	—	379	—	
	6/ /60		86	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	750	—	
34cdd	8/3 /48	540	78	—	—	—	—		186	0	—	10	—	—	—	—	—	—	—	—	374	—	
	6/ /60	1,025	83	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	440	—	
(D-8-4)																							
23cdd	9/27/56	196	80	28	14	6.4	222		263	0	109	140	4.0	9.7	663	0.90	62	0	89	12	1,110	7.7	
(D-8-6)																							
2add	8/6 /48	600	87	—	15	1.5	72		123	11	35	24	2.2	4.1	225	.31	44	0	78	4.7	446	—	
3add	7/29/48	800	88	29	10	0	92		138	0	56	24	1.2	19	229	.41	25	0	89	8.0	416	—	
10add	8/6 /48	690	82	—	—	—	—		156	0	—	24	—	—	—	—	—	—	—	—	446	—	
12add	8/6 /48	800	82	—	—	—	—		155	0	—	23	—	—	—	—	—	—	—	—	442	—	
	6/ /60		81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	410	—	
14ddd	8/6 /48	750	83	—	—	—	—		149	0	—	22	—	—	—	—	—	—	—	—	424	—	
	6/ /60		84	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	425	—	
17dcb	12/13/50	104	—	—	—	—	—		193	0	—	31	—	—	—	—	—	—	—	—	580	—	Test well

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
(D-8-6) con.																							
17dcb	12/15/50	147	—	—	—	—	—		194	0	—	29	—	—	—	—	—	—	—	—	565	—	
	1/24/51	240	—	40	40	8.3	67		192	0	74	28	1.0	4.7	358	0.49	134	0	52	2.5	543	—	
26ddd1	7/30/48	835	80	—	—	—	—		166	0	—	28	—	—	—	—	—	—	—	—	474	—	
26ddd2	6/ /60	1,505	84	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	500	—	
32ccb	9/12/41	400	80	—	23	7.4	94		177	0	78	44	—	4.9	338	.46	88	0	70	4.4	567	—	
33abb	9/12/41	425	86	—	—	—	—		167	0	—	37	—	—	—	—	—	—	—	—	516	—	
	6/ /60		86	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	550	—	
35ddd	8/6 /48	770	78	—	—	—	—		170	0	—	21	—	—	—	—	—	—	—	—	447	—	
(D-8-7)																							
9add1	4/10/59	418	77	—	—	—	—		173	0	—	26	—	—	—	—	138	0	—	—	507	7.3	
9add2	4/3 /59	2,100	110	77	28	1.0	758		84	16	1,420	94	5.3	3.1	2,440	3.32	74	0	96	38	3,300	8.9	
9ddd	8/5 /46	380	77	—	—	—	—		174	0	—	—	—	—	—	—	—	—	—	—	471	—	
	6/ /60		80	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	425	—	
13ddd	9/8 /41	600	78	—	—	—	—		180	0	—	18	—	—	—	—	—	—	—	—	454	—	
	6/ /60		83	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	400	—	
17cdd	8/6 /48	800	80	—	—	—	—		173	0	—	22	—	—	—	—	—	—	—	—	461	—	
	9/10/54		84	30	31	6.6	67		151	0	62	39	1.4	4.1	315	.43	104	0	58	2.8	499	—	
21ddd	8/4 /48	1,697	79	—	—	—	—		181	0	—	22	—	—	—	—	—	—	—	—	484	—	Well sampled annually
	8/14/52		79	—	—	—	62		179	0	62	22	—	4.5	—	—	111	0	55	2.6	481	—	
	7/21/53		80	—	—	—	—		180	0	—	22	—	—	—	—	—	—	—	—	480	—	
	8/9 /54		80	—	—	—	—		172	12	—	25	—	—	—	—	—	—	—	—	506	—	
	9/6 /55		80	—	—	—	—		182	0	—	23	—	—	—	—	—	—	—	—	478	—	
	5/22/56		80	—	—	—	—		178	0	—	24	—	—	—	—	118	0	—	—	487	7.3	
	6/10/57		80	—	—	—	—		178	0	—	24	—	—	—	—	112	0	—	—	485	7.6	
	5/27/58		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	482	—	
35ddd	7/18/41	600	77	—	53	10	62		213	0	87	25	.2	7.8	350	.48	173	0	44	2.1	566	—	
	6/ /60		81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	450	—	
(D-8-8)																							
7cdd	6/17/57	500	82	—	—	—	—		162	0	102	71	—	—	—	—	188	55	—	—	698	7.2	
9dcd	7/29/48	500	78	—	82	14	50		160	0	94	91	.3	14	424	.58	262	131	29	1.3	752	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-8-8) con.																							
9dcd	6/ /60	500	82	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	470	—	
10cdd	7/29/48	500	79	—	—	—	—		179	0	—	10	—	—	—	—	—	—	—	—	367	—	
	6/ /60		81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	375	—	
14bbb	7/29/48	—	78	—	37	6.2	34		176	0	32	9.0	0.4	2.2	208	0.28	118	0	39	1.4	364	—	
	6/ /60		81	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	365	—	
15cdd	8/3 /48	—	78	35	36	4.7	39		171	0	30	14	.6	2.3	246	.33	110	0	44	1.6	357	—	
17cdd	8/14/52	1,328	85	—	—	—	66		148	0	52	35	—	3.7	—	—	85	0	63	3.1	469	—	Well sampled annually
	9/9 /53		85	—	—	—	—		153	8	—	38	—	—	—	—	—	—	—	—	501	—	
	8/9 /55		77	36	82	18	54		192	0	117	75	.2	12	488	.66	278	121	30	1.4	770	7.2	
	5/22/56		79	—	—	—	—		181	0	—	34	—	—	—	—	178	30	—	—	555	7.4	
	6/11/58		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	435	—	
18ddd	7/28/48	—	79	—	—	—	—		175	0	—	34	—	—	—	—	—	—	—	—	504	—	
	6/ /60		85	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	550	—	
29bcc1	9/10/48	350	79	—	54	10	47		198	0	67	26	.8	8.8	311	.42	176	14	37	1.5	541	—	
29bcc2	9/10/48	1,386	90	—	8.5	2.6	64		104	8.9	35	19	2.0	2.7	194	.26	26	0	82	5.5	342	—	
(D-8-10)																							
4bbb	7/12/48	—	—	23	15	9.4	153		184	0	48	142	.8	7.1	489	.67	76	0	81	7.6	854	—	Well sampled annually
	10/13/52		—	—	—	—	—		173	0	—	131	—	—	—	—	—	—	—	—	812	—	
	7/29/53		—	—	—	—	—		175	0	—	131	—	—	—	—	—	—	—	—	819	—	
	9/14/54		—	—	—	—	—		172	0	—	140	—	—	—	—	—	—	—	—	817	—	
	7/3 /56		78	—	—	—	—		158	0	—	104	—	—	—	—	66	0	—	—	807	—	
	5/10/57		77	—	—	—	—		174	0	—	126	—	—	—	—	70	0	—	—	808	7.5	
	5/27/58		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	817	—	
(D-9-6)																							
24E½ddd	7/29/48	1,200	81	—	10	2.1	72		130	0	47	20	1.2	3.5	220	.30	34	0	82	5.4	372	—	Well sampled annually
	8/14/52		80	—	—	—	78		127	0	52	28	—	5.0	—	—	33	0	84	5.9	421	—	
	8/6 /53		79	—	—	—	—		123	0	—	33	—	—	—	—	—	—	—	—	432	—	
	8/19/54		—	—	—	—	—		110	6	—	27	—	—	—	—	—	—	—	—	466	—	
	9/6 /55		80	40	26	8.1	80		139	0	76	48	1.0	11	358	.49	98	0	64	3.5	554	7.1	
	5/22/56		81	—	—	—	—		128	0	—	42	—	—	—	—	58	0	—	—	500	7.4	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-9-6) con.																							
24E½ddd	5/20/57	1,200	80	—	—	—	—		123	0	—	42	—	—	—	—	45	0	—	—	491	7.1	Well sampled annually
	6/11/58		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	527	—	
(D-9-7)																							
1ddd	9/5 /41	634	78	—	—	—	—		213	0	—	23	—	—	—	—	—	—	—	—	575	—	
	6/ /60		79	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	560	—	
7ddd	7/27/48	1,000	78	—	—	—	—		138	0	—	19	—	—	—	—	—	—	—	—	384	—	
14add	9/5 /41	600	78	—	—	—	—		206	0	—	22	—	—	—	—	—	—	—	—	542	—	
	6/ /60		80	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	500	—	
19ddd	7/17/41	600	76	—	15	4.8	58		104	14	47	15	1.0	2.0	208	0.28	57	0	69	3.3	369	—	Well sampled annually
	8/14/52		79	—	—	—	69		121	0	43	19	—	3.3	—	—	24	0	86	6.1	358	—	
	7/21/53		79	—	—	—	—		122	0	—	20	—	—	—	—	—	—	—	—	360	—	
	8/9 /54		—	—	12	3.1	71		130	0	46	24	1.0	6.1	256	.35	42	0	78	4.7	394	—	
	9/6 /55		—	—	—	—	—		120	0	—	26	—	—	—	—	—	—	—	—	380	7.3	
	5/22/56		78	—	—	—	—		119	0	—	27	—	—	—	—	39	0	—	—	394	7.5	
	5/20/57		77	—	—	—	—		101	0	—	30	—	—	—	—	49	0	—	—	421	7.4	
	6/11/58		78	—	—	—	—		120	0	—	32	—	—	—	—	44	0	—	—	421	7.4	
27add	7/17/41	670	78	—	40	8.3	52		164	11	55	23	.5	4.0	271	.37	134	0	46	2.0	455	—	
	6/ /60		82	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	450	—	
28ddd	7/20/48	600	82	31	26	3.8	67		167	0	55	20	.8	2.5	288	.39	80	0	64	3.3	435	—	
	6/ /60		82	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	400	—	
(D-9-8)																							
20add	7/29/41	500	77	—	56	10	61		220	0	90	24	.9	35	354	.48	181	1	42	2.0	498	—	
	7/21/48		81	—	—	—	—		201	0	—	23	—	—	—	—	—	—	—	—	522	—	
	8/21/50		80	—	—	—	—		195	0	—	27	—	—	—	—	—	—	—	—	550	—	
21dba	8/14/52	1,300	82	—	—	—	87		179	0	73	28	—	12	—	—	83	0	69	4.1	540	—	Well sampled annually
	7/21/53		82	31	35	4.7	63		170	0	63	22	.8	6.3	310	.42	107	0	53	2.6	479	—	
	8/10/54		82	—	—	—	—		190	0	—	28	—	8.3	—	—	—	—	—	—	526	—	
	8/9 /55		81	—	—	—	—		182	0	—	27	—	—	—	—	—	—	—	—	535	—	
	5/9 /57		80	—	—	—	—		194	0	—	27	—	—	—	—	122	0	—	—	525	—	
	5/27/58		—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	479	—	

Table 3.--Chemical analyses of ground water, western Pinal County, Arizona—Continued

Well location	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids		Hardness as $CaCO_3$		Percent sodium	Sodium-adsorption ratio (SAR)	Specific conductance (micromhos at 25°C)	pH	Remarks
															Parts per million	Tons per acre-foot	Calcium, magnesium	Noncarbonate					
(D-10-9)																							
6add	7/ 3 /41	570	79	—	34	10	63		133	14	89	24	0.3	3.5	303	0.41	126	17	52	2.4	451	—	
(D-10-10)																							
15acc	8/12/52	555	80	18	34	3.9	40		163	0	31	14	.6	1.2	223	.30	101	0	46	1.7	361	—	
	11/14/52	1,950	106	31	7.5	1.6	81		128	7	48	16	4.0	2.3	261	.35	25	0	88	7.0	392	—	

Table 4.--Field determinations of temperature and specific conductance of water from selected wells made during the summer of 1960, western Pinal County, Arizona

Well location	Temperature (°F)	Field specific conductance (micrombos at 25°C)	Well location	Temperature (°F)	Field specific conductance (micrombos at 25°C)
(D-3-4)25dcb	72	1,600	(D-4-8)36aad	76	750
(D-3-5)24aca	80	1,450	(D-4-9)26cbb	70	1,400
31abc	72	1,550	27dcb	70	1,650
34bbb	72	1,500	28ccb	70	1,600
(D-3-6)31abb	75	800	28ddd	70	1,600
(D-4-2)14cda	84	1,200	29cbc	73	1,300
26bbb	85	1,650	32cda	70	2,500
34ddc	84	2,200	(D-4-10)14aaa	83	960
35dcd	86	1,200	21aab	72	1,850
(D-4-3)13ddd	98	580	31baa	69	1,650
15dcc	81	830	32baa	70	2,000
17add	80	520	(D-4-11)7add	67	1,000
20dcd	75	2,050	(D-5-2)1cdc	88	550
22ddd	79	1,000	2add	87	1,200
23aaa	79	1,200	2cdc	87	1,300
24ddd	83	1,300	2ddd	86	1,180
25dda	81	1,030	11dcd	89	1,225
27dad	79	640	12ccc	92	1,100
32cdd	80	510	13cdd	89	1,025
33ada	78	600	14dcd	91	1,375
34ddd	78	770	24ccc	93	1,200
36ddd	80	1,030	25ccc	92	1,250
(D-4-4)1bbc	76	1,100	26cdd	90	1,200
1ccc	77	1,200	(D-5-3)1daa	78	1,425
16ddd	85	850	3bdd	77	1,280
17ddd	83	2,300	11cdd	77	620
19ddd	84	900	11ddd	77	600
20ddd	83	2,300	12ada	78	700
28ddd	87	1,100	12ddd	78	900
29ddd	87	850	13add	79	700
31ddd	79	880	13dad	78	570
32ddd	84	750	16ccc	77	1,500
33ddd	81	2,000	17ccc	85	560
34dcb	87	1,000	20cbc	83	500
(D-4-5)3cdc	80	1,200	22add	77	580
3ddd	77	1,200	22bdd	77	600
6bcc	76	1,400	23ada	78	550
7bbb	77	1,550	24ddd	79	550
10bbb	80	1,900	25add	79	510
22bcc	81	1,100	27ddd	76	560
(D-4-6)3ddd	74	1,500	28bcc	78	5,000
5bcc	72	1,900	30cbc	87	1,050
8cad	75	1,180	31ccc	90	1,200
8ddd	74	1,100	32ccc	82	600
16ada	75	1,200	34ccc	81	725
(D-4-7)18bcb	76	1,550	34ddd	77	700
18cca	79	1,700	35aaa	77	520
34baa	82	1,700	35ddd	79	550
35baa	89	1,450	36aad	79	520
36dcc	71	1,900	36ddd	79	550
(D-4-8)35add	76	1,025	(D-5-4)3ddd	84	880

Table 4.--Field determinations of temperature and specific conductance of water from selected wells made during the summer of 1960, western Pinal County, Arizona—Continued

Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)	Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)
(D-5-4)4ddd	82	1,050	(D-5-7)23dad	79	3,600
5ddd	80	680	24acd	77	4,100
6cda	86	900	24bdc	80	2,400
7add	79	1,080	24cdd	77	3,800
7dcd	84	630	24ddd	80	2,500
8add	80	700	25ccc	80	1,225
8ddd	80	700	25dcc	78	2,400
10add	86	850	25ddd	78	2,600
10cdd	86	600	26cdc	79	700
10ddd	87	800	26dcd	80	1,100
14add	83	810	27aad	79	810
14bba	85	1,500	27cdd	79	870
14dbb	85	700	28ccc	80	670
15ada	89	720	28cdd	80	560
15add	89	800	34acc	81	600
15dda	93	760	34dcc	83	500
21bdd	79	810	34ddd	81	600
21cdd	81	1,000	36acc	77	2,600
22ccc	86	460	36cdd	81	880
23aaa	85	810	36dac	79	2,450
23bdd	85	700	(D-5-8)2ada	75	1,800
23dba	83	780	5add	72	1,500
23ddd	81	700	11cdc	80	1,180
25baa	80	870	12ada	77	1,370
25bdd	80	820	12daa	83	940
26add	80	1,050	13bcc	82	1,000
27ddd	82	1,400	14acc	75	1,500
28ddd	82	1,600	16cca	76	1,300
32ddd	85	480	17bab	73	1,550
33add	80	980	17bbb	75	1,300
34baa	83	1,100	19add	78	2,900
35ddd	83	825	20abb	98	1,100
(D-5-5)30acc	83	910	20acc	75	5,000
30cdd	83	1,700	20bdd	99	1,170
31aad	81	1,480	23bcc	75	1,750
31add	84	950	25bbb	78	1,150
(D-5-6)11dbb	76	4,100	26bbc	77	1,700
27add	78	510	28cdd	81	4,500
28aac	77	600	29ddd	77	5,800
28add	78	710	30ccd	81	1,350
28ddd	80	710	30cdd	85	1,425
(D-5-7)1aac	72	2,900	31add	80	1,800
9aad	80	1,150	31bdd	81	1,380
12aaa	74	1,950	31cdd	77	2,500
12ddd	95	850	32bdc	83	650
13bdc	79	2,300	33cdd	81	1,150
13ccd	78	3,600	33dcc	78	2,900
13cda	81	1,525	34add	79	1,550
14add	77	5,400	34ccc	83	1,400
15bcd	86	1,050	34ddd	80	1,800
23aad	79	3,000	35add	78	1,600

Table 4.--Field determinations of temperature and specific conductance of water from selected wells made during the summer of 1960, western Pinal County, Arizona—Continued

Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)	Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)
(D-5-8)35dad	77	2,700	(D-6-4)11cdd	82	900
36add	81	750	11ddd	81	1,125
(D-5-9)10bcc	74	1,200	12bcd	82	1,800
10dba	75	1,100	12bdd	81	2,200
11adc	73	1,000	13add	81	1,400
11cdb	75	880	14cdd	83	700
15dad	77	850	14ddd	81	800
19aaa	78	1,200	15cdd	81	670
21add	79	900	15ddd	83	630
22bab	78	880	16add	84	580
22bcc	77	1,450	16ddd	85	550
22dcd	87	780	18acd	80	525
32aaa	84	600	18ccc	82	450
32dbc	81	960	21ddd	82	560
(D-6-2)13bdd	92	1,500	22dda	84	550
(D-6-3)1add	87	400	24add	81	850
1dda	83	400	24daa	80	900
2dda	81	530	24ddd	80	780
3ddd	79	550	25add	81	610
5bcc	82	525	27ddd	83	490
6ccc	84	1,000	29dcc	81	500
8bcc	83	680	29ddd	81	460
9bcc	80	560	30cdd	80	500
10ccc	81	500	31ddd	81	550
13aba	79	500	32bdc	80	510
15bcc	84	475	32ddd	80	500
16ccc	81	900	34ddd	83	470
18bbb	86	1,050	36add	79	525
18ccc	89	1,250			
23ccc	82	780	(D-6-5)7cdd	82	3,000
24ddd	82	460	8cad	74	5,500
25cdd	83	625	16daa	74	2,500
26cdc	83	1,050	16dad	73	2,100
34dcd	91	1,400	16ddd	75	3,300
35add	83	1,100	18ccc	81	1,600
35bcc	85	1,070	18ddd	86	2,700
(D-6-4)2ddd	82	2,100	19dab	83	960
3cdd	82	750	21add	74	3,500
3dcd	81	900	21dab	75	3,400
4ddd	83	750	25bbb	85	1,000
5dcc	84	450	30ddd	83	850
5ddd	79	900	31ddd	81	620
6ada	77	890	32dcc	82	1,425
6ddd	83	500	35baa	85	5,000?
7ccc	77	600	(D-6-6)5aaa	84	680
7cdd	78	720	7ddd	75	3,000
7dcd	78	560	8ddd	80	450
8bcd	83	470	9ddd	85	400
9add	81	710	12cdd	80	480
9cdd	80	810	13add	83	400
9ddd	84	660	13dda	85	390
10dad	83	680	14ddd	77	1,150

Table 4.--Field determinations of temperature and specific conductance of water from selected wells made during the summer of 1960, western Pinal County, Arizona—Continued

Well location	Temperature (°F)	Field specific conductance (micrombos at 25°C)	Well location	Temperature (°F)	Field specific conductance (micrombos at 25°C)
(D-6-6)15cdc	84	525	(D-6-7)36add	83	550
16cdd	77	1,650	36dbd	82	725
17ddd	75	3,000	(D-6-8)1aad	78	2,800
18bbc	82	1,800	1bbc	80	2,300
21ddd	80	740	2dda	84	2,300
22ddd	81	850	2ddd	83	830
23ddd	83	400	3aaa	80	2,000
24add	85	400	3ada	78	2,400
24dad	77	1,050	3add	79	1,550
25add	80	640	3ccc	79	1,500
25baa	77	900	3dda	81	710
28add	76	2,200	4ddd	80	1,000
35aad	85	510	5bbd	78	2,050
35acc	84	800	5cbc	81	800
36aaa	76	1,200	5ccd	83	1,200
36ddd	77	850	5dcd	81	650
(D-6-7)1aad	80	1,225	5ddd	81	700
1add	81	1,400	6aba	77	1,650
1cdd	82	600	6cdd	83	800
1ddd	83	1,000	6ddc	83	550
2add	81	790	7cdd	81	600
3cdd	81	600	7dda	82	490
4ccc	85	480	10add	78	1,700
4cdd	85	450	10dda	81	1,250
4ddd	83	520	10ddc	81	1,800
5bad	83	410	11cdd	82	460
7adc	84	550	12cdc	81	790
8ddc	80	440	12dcc	84	480
11add	80	630	13add	84	600
11cdd	82	520	15dcc	75	2,500
12aad	82	800	17dac	82	420
13cdd	83	590	18ccd	81	710
14add	82	810	19add	80	700
14cdd	82	600	22cdd	75	1,700
16cdd	80	560	23aaa	76	1,650
16ddd	80	646	23add	80	550
17ddd	79	430	23ddd	78	980
18add	79	450	24acc	80	800
19add	85	500	24dcc	82	1,200
20add	80	450	25aaa	80	540
20dda	79	440	27acc	78	1,000
21bcd	78	700	27bad	75	1,350
21dda	79	580	27dcc	79	790
22acc	88	625	28cdc	81	550
26cbc	82	960	31cdd	80	1,050
32aaa	87	525	32cdd	81	440
32dcd	77	810	33ccc	83	420
33cad	83	510	33cdd	83	420
33dba	79	490	34cdd	82	690
34bdd	80	450	34ddd	76	1,250
35add	83	560	35cdd	78	875

Table 4.--Field determinations of temperature and specific conductance of water from selected wells made during the summer of 1960, western Pinal County, Arizona—Continued

Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)	Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)
(D-6-9)6aaa	83	850	(D-7-7)10bcc	87	450
7acc	93	1,000	10ddd	85	480
7cdc	81	800	11cdd	86	460
29aad	79	1,100	22ddd	85	430
(D-7-4)2ddd	79	500	23ddd	82	490
4ddd	81	590	24cdd	80	550
5ccc	83	1,150	25cdd	81	500
6bcc	85	1,000	25ddd	83	470
9cdc	84	1,200	26ddd	85	400
11dda	80	540	27daa	86	460
12ddd	80	490	27ddd	81	500
13bad	81	480	30cdd	81	400
14ddd	82	960	31ddd	93	500
15bdd	87	1,250	32cdd	85	430
16ccc	85	1,000	32ddd	91	900
17ccc	93	1,100	33add	79	410
18dcd	90	1,100	33ddd	80	400
23ddd	82	1,300	34cdd	81	400
24bad	82	500	34ddd	81	380
24cdd	82	700	35add	86	340
25aad	79	550	35cdd	82	400
26ccc	84	950	35ddd	81	400
26ddd	81	1,200	36ddd	83	550
(D-7-5)5ddd	87	900	(D-7-8)3cdd	83	1,400
6ddd	80	530	3ddd	80	1,000
7ddd	80	480	4ddc	83	380
9ccd	83	530	5dcc	80	1,700
16add	80	560	7cdd	82	425
24dcd	78	2,000	7ddd	83	400
(D-7-6)1cdc	90	810	8cdd	84	870
6ddd	76	3,000	8ddc	80	470
13add	83	400	8ddd	85	550
20dcd	83	2,200	9cdd	85	430
29add	83	2,000	10ddd	81	450
29ddd	79	1,600	15cdc	84	480
31ada	80	1,200	15dcd	84	400
32ddd	84	480	16cdd	85	450
33ddd	85	480	17cdd	86	400
34add	91	600	17ddd	86	470
34ddd	95	750	18cdd	86	450
35add	98	440	18ddd	86	425
36ddd	87	410	19cdd	83	700
			19ddd	85	420
(D-7-7)1dcc	84	1,180	20cdd	86	400
1ddd	82	430	20ddd	84	450
2ddd	82	700	21cdd	85	400
3cdd	84	400	21ddd	83	450
3ddd	86	570	22add	85	500
5bdd	77	1,450	22cdd	83	410
5dcd	78	1,100	22ddc	86	400
6ccc	76	475	23ccc	87	950
9ddd	83	425	26cdd	84	400

Table 4.--Field determinations of temperature and specific conductance of water from selected wells made during the summer of 1960, western Pinal County, Arizona—Continued

Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)	Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)
(D-7-8)27cdd	86	630	(D-8-7)27ddd	80	450
27ddd	87	1,400	28cdd	81	410
28cdd	88	1,800	29cdd	81	470
28ddd	86	750	29ddd	84	425
29cdd	82	750	33cdd	92	500
29ddd	82	560	33ddd	79	475
30cdd	81	1,600	34add	81	440
30dcd	82	500	35add	80	500
31cdd	78	670	35ddd	81	450
31ddd	80	610	(D-8-8)1cdd	82	500
32ccd	84	460	1ddd	85	400
32cdd	81	600	4ddd	81	400
32ddd	80	950	5ddd	80	750
33cdd	81	600	9dcd	82	470
33ddd	84	370	10cdd	81	375
34cdd	83	440	14bbb	81	365
34ddd	82	400	15ccc	78	600
(D-8-6)2dcd	90	400	16cdd	78	575
3ddd	90	450	17dcd	80	460
5add	82	460	18ddd	85	550
8add	83	450	19ddd	78	800
12add	81	410	27cdd	80	400
13add	85	410	28cdd	81	450
14ddd	84	425	31add	80	550
23ddd	85	420	32cdd	81	510
26ddd	84	500	32ddd	81	450
32acd	82	650	(D-8-9)7ddd	82	380
33abb	86	550	18add	92	410
(D-8-7)2ddd	81	390	18ddd	90	430
3add	81	400	(D-9-6)13add	82	400
4ddd	81	390	24ddd	80	480
8ddd	80	440	(D-9-7)1ddd	79	560
9ddd	80	425	2ddd	80	575
10add	84	370	3add	79	450
11cdd	82	370	4add	78	500
11ddd	82	390	10add	80	440
12add	89	350	11ddd	80	490
12cdd	83	400	13dad	80	560
13add	79	500	14add	80	500
13ddd	83	400	14ddd	78	575
14ddd	80	425	16ddd	77	475
15ddd	80	425	18add	84	450
16ddd	80	450	21ddd	80	450
17ddd	79	425	22add	80	450
18add	80	400	26add	82	450
19add	80	425	26ddd	80	450
19ddd	79	440	27add	82	450
21ddd	80	470	27ddd	83	420
23add	80	600	28ddd	82	400
26add	79	600	30ddd	77	450
27cdd	80	450	32ddd	79	370

Table 4.--Field determinations of temperature and specific conductance of water from selected wells made during the summer of 1960, western Pinal County, Arizona--Continued

Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)	Well location	Temperature (°F)	Field specific conductance (micromhos at 25°C)
(D-9-8)5ddc	82	560	(D-9-8)34add	82	570
8add	83	420	35cdd	85	470
8ddd	80	520	35daa	85	480
9ddd	83	400	35dcc	85	460
10ddd	80	420	36ddd	82	530
15ccd	83	425	(D-9-9)31dcd	84	490
15ddd	84	400	(D-10-6)11ddd	84	1,000
17ddd	82	440	(D-10-7)6aaa	87	570
18add	79	760	(D-10-8)1daa	85	470
19ddd	85	440	3add	87	470
21dcd	82	450	(D-10-9)5ccc	84	500
22ddd	80	500	6add	84	500
23ddd	80	470	10add	78	625
25dda	81	420	10dbb	79	750
25ddd	82	470	13ccc	77	960
27aad	83	470	13ddd	77	450
29cdd	83	450	14caa	91	500
30ddd	85	450	15cdd	80	630
31ddd	85	460	23ddd	80	650
32aaa	82	480	24add	76	700
32ddd	99	460	24dda	79	550
33ddd	84	460			