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ARIZONA STATE LAND DEPARTMENT

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HYDROLOGIC DATA AND DRILLERS' LOGS, PAPAGO INDIAN RESERVATION, ARIZONA

By

L. A. Heindl and O. J. Cosner

with a section on chemical quality of the water

By

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United States
Department of the Interior
Geological Survey

Prepared in cooperation with the
Bureau of Indian Affairs

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Introduction

The tables in this report summarize the basic well data, drillers' logs, and chemical analyses of well water collected by the Geological Survey on the Papago Indian Reservation during an investigation of the geology and ground-water resources of the reservation. The investigation was made at the request of the Bureau of Indian Affairs as part of the general Papago rehabilitation program.

The tables were compiled to provide a ready reference to information about individual wells and specific locations not included in the general report on the ground-water conditions on the Papago Indian Reservation. These tables contain much of the basic data used in the preparation of the general report which will be issued at a later date as a Geological Survey water-supply paper. Information about other wells and those drilled after the completion of this study is available in the open files of the Geological Survey Ground Water Branch offices in Tucson and Phoenix, Ariz. The tables are issued separately because their bulk would make the general report awkward to handle and needlessly expensive to issue. Basic data from the smaller San Xavier and Gila Bend Indian Reservations (fig. 1), the other two of the three Papago reservations, are few and will be included with the general reports on those areas.

Location and Extent of Area

The Papago Indian Reservation is largely in Pima County, Ariz., with small areas in Maricopa and Pinal Counties (fig. 1). It contains about 4,300 square miles and includes most of the region

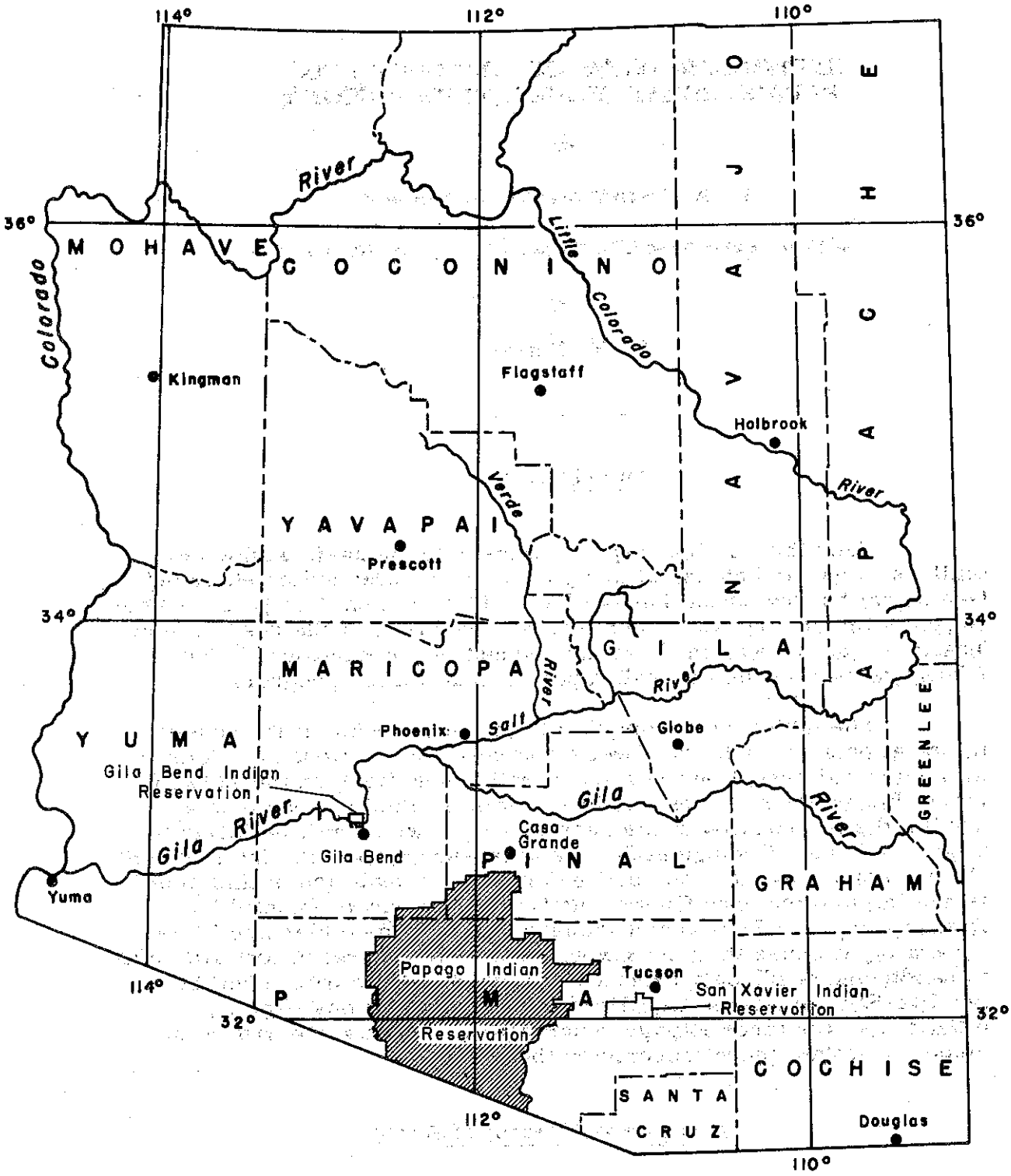

Figure 1. --Map of Arizona showing location of the Papago, San Xavier, and Gila Bend Indian Reservations. Data in tables are only from wells in the Papago Indian Reservations.

between Tucson and Ajo and south of Casa Grande to the international boundary with Mexico.

Sources of Information

Most of the information in these tables was collected and compiled by the Geological Survey between August 1954 and June 1958. Previously collected data were obtained from the files of the Bureau of Indian Affairs and the Geological Survey. Some additional data were obtained also from the U.S. Public Health Service.

Earlier published and unpublished compilations and reports, listed below in chronological order, also provided much pertinent information.

1915. Clotts, H. V., Papago nomadic survey: U.S. Indian Service unpublished folio (blueprinted), 23 maps, scale 1:48,000.

Preliminary topographic survey of the southern and western parts of the Papago Indian Reservation, including location and depths of wells and depths to water. Much of the information regarding the old wells on the reservation was obtained from these maps.

1925. Bryan, Kirk, The Papago country, Arizona, a geographic, geologic, and hydrologic reconnaissance with a guide to desert watering places: U.S. Geol. Survey Water-Supply Paper 499, 436 p.

Includes discussion and description of surface- and ground-water conditions, maps showing locations of wells, and records of wells, chemical analyses, and drillers' logs through 1918.

1934. Tenney, J. B., Economic geological reconnaissance of Casa Grande mining district, Pinal County, Arizona: Casa Grande Chamber of Commerce, 24 p.

Contains miscellaneous information regarding ground water in mining camps in the northern part of the Papago Indian Reservation.

1944. Hadley, J. B., Copper and zinc deposits in the Reward area, Casa Grande mining district, Pinal County, Arizona: U.S. Geol. Survey open-file report, 7 maps and brief text.

Maps show depth to water in some shafts on the east side of the Vekol Mountains.

1946. Denton, T. C., and Haury, P. S., Exploration of the Reward (Vekol) zinc deposit, Pinal County, Arizona: U.S. Bur. Mines Rept. Inv. 3975, 42 p.

Contains miscellaneous data regarding ground water on the east side of the Vekol Mountains.

1950. Romslo, T. M., Investigation of the Lake Shore copper deposits, Pinal County, Arizona: U.S. Bur. Mines, Rept. Inv. 4706, 24 p.

Contains miscellaneous data regarding ground water on the west side of the Slate Mountains.

1953. Yost, C. B., Jr., Geophysical and geological reconnaissance to determine ground-water resources of Chiu Chuischu area, Papago Indian Reservation, Arizona: U.S. Geol. Survey open-file report, 18 p.

Contains records of wells, drillers' logs, and chemical analyses of well water from the Chiu Chuischu area.

1954. Coates, D. R., Memorandum on ground-water investigations in the Sells area, Papago Indian Reservation, Pima County, Arizona: U.S. Geol. Survey open-file report, 6 p.

Contains records of wells and chemical analyses of well water from the Sells area.

Personnel

The data in these tables were collected and compiled under the direction of or by the authors. The investigation was made under the supervision of L. C. Halpenny and J. W. Harshbarger, successive supervisors of the Arizona district office of the Geological Survey Ground Water Branch. L. A. Heindl was project chief. Many well records and water samples were collected by Messrs. C. S. English and E. K. Morse, and Messrs. L. K. Thompson and J. M. Lieurance assisted in the compilation of the tables. The tables were typed by Mrs. Carol Jenkins and Mrs. Ruth L. Blubaugh. The water samples were analyzed by the Quality of Water Branch of the Geological Survey in Albuquerque, New Mexico, under the direction of Mr. J. M. Stow, district chemist. Mr. L. R. Kister, chemist, prepared the section

describing the significance of the chemical constituents listed in the table of water analyses.

The base map was compiled by Mrs. Ruth S. Allison.

Acknowledgments

The collection of the data was facilitated by the generous cooperation of many people working with the Bureau of Indian Affairs, particularly Messrs. M. B. Nolan and B. J. Loucks, successive chiefs of the Land Operations Branch, Papago Indian Agency, and with the U.S. Public Health Service, particularly Messrs. A. J. Moore, E. L. Dudley, and George Esquivel. The cooperation of well drillers in the collection of well cuttings and drillers' logs was of considerable value and we are grateful for the help given us by Messrs. C. J. Henderson, H. A. Pixler, A. V. Koenik, Carl Pistor, the late L. G. McCray, and the many drillers and drillers' helpers in their employ.

The protractions of unsurveyed township lines on the reservation were made in consultation with Mr. E. H. Kimmel, cadastral engineer with the U.S. Bureau of Land Management at Phoenix, and Mr. A. G. Kaetz, Arizona State Land Department.

Table 1.--Records of Wells

Accuracy of locations on map shown in figure 2

The general absence of maps and land surveys precludes pinpoint location of wells over much of the Papago Indian Reservation. Most of the locations shown on figure 2 (in pocket) are believed to be accurate to the nearest 10 acres. Figure 2 is a preliminary map. The surveyed and protracted township lines are reduced from the original base map with a scale of 1:95,040 and are accurate to within the limits of the map's scale and the nondimensionally stable materials used in its preparation. The bedrock outlines are generalized from a preliminary geologic reconnaissance and are subject to revision.

Topography and ground water

The Papago Indian Reservation is in the Basin and Range physiographic province and is composed of small mountain ranges and

broad valleys underlain by variable thicknesses of alluvium. The crests of most of the ranges are at altitudes of 3,000 to 5,000 feet and generally are about 1,000 to 2,000 feet above the adjacent valleys. In many instances the topography provides valuable clues to the occurrence of ground water, and consequently an abbreviated description of most well locations is given in the "Remarks" column. The descriptive terms are shown diagrammatically in figure 3 and are defined as follows:

Mountain area.--Wells in the higher parts of the ranges are either on a slope or in a narrow valley, wash, or ravine. They may be located directly on bedrock or on a thin veneer of coarse channel debris. Water is obtained from either fractured bedrock, the channel fill, or both. Only small amounts of water are obtained from most of these wells. Water levels fluctuate seasonally in response to rainfall and many go dry between periods of rainfall.

Mountain valley.--A valley in the mountains generally more than about 200 feet wide and underlain by a moderate thickness, up to a few tens of feet, of alluvium. Productivity characteristics of wells are similar to those in "mountain areas" but yields are slightly greater and less subject to "going dry."

Foothills.--Low hills between mountains and valley flats. Wells may be in either bedrock or alluvium, on hillsides, in valleys or washes. Water is obtained principally from shallow alluvium but may be obtained also from permeable bedrock, or both. These wells are generally permanent and yields are adequate for domestic and stock purposes.

Foothill valley.--A broad valley or basin largely surrounded by foothills. The alluvial cover may be thick or thin. Where it is thick, the water is obtained from the alluvium; where it is thin, the water may come in part from bedrock. The alluvial wells are permanent and locally yields may be adequate for small-scale irrigation. Wells penetrating bedrock vary considerably in their water-bearing characteristics.

Bajada.--The broad slope between foothills and valley flat. Generally, it is completely covered by alluvium, but locally small nubbins of bedrock stand above the slopes. Water-bearing characteristics depend principally on thickness of saturated alluvium. In general, the yield is adequate for small community, domestic, and stock purposes.

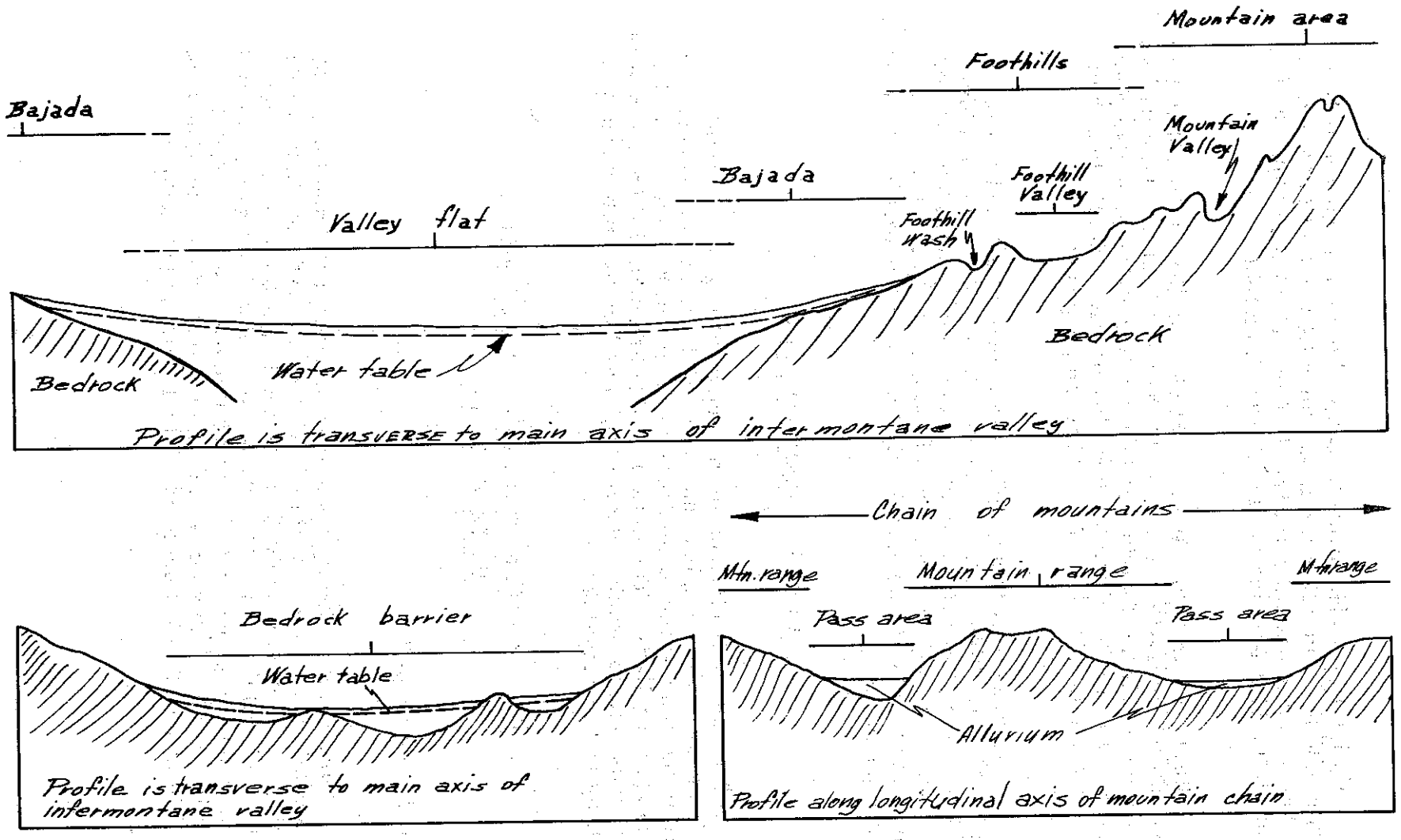

Figure 3.--Sketches showing terms applied to topographic settings of wells in table 1.

Valley flat.--The central parts of the large valleys between mountain chains. The alluvium is as much as 900 feet thick and may be thicker in some untested areas. In most areas it is capable of yielding water in quantities sufficient for irrigation.

Bedrock barrier.--Bedrock at or near the surface that acts as a partial or complete barrier to the movement of ground water between adjacent alluvial basins. Productivity depends principally on thickness of saturated alluvium above the barrier; locally may yield water in sufficient quantities for irrigation purposes.

Pass area.--A topographic low between successive ranges in a chain of mountains. May be underlain by bedrock or considerable thicknesses of alluvium, depending on local conditions. Productivity depends largely on thickness of saturated alluvium; in most instances the yields are adequate only for small community, domestic, and stock purposes.

Table 2.--Drillers' Logs

The rock descriptions in the drillers' logs are variable, partly because of the complex character of the materials penetrated and partly because of the differences in judgment and nomenclature of the several drillers. The drillers' logs are quoted from the available records, except where specifically noted or for minor changes in spelling and arrangement.

Table 3.--Chemical Quality of the Water

By L. R. Kister

Chemical constituents

Pure water probably does not occur naturally and the chemical composition of natural waters is variable. Even the purest form—rain water—contains dissolved gases and small amounts of sodium, chloride, and sulfate ions. The presence of dissolved gases, mainly carbon dioxide, helps water to dissolve mineral material from the rocks of the earth. The source and significance of various minerals often found in water are discussed in the following paragraphs.

Silica (SiO_2). --Silicon is usually found as silica in quartz or as silicates in feldspar and other minerals. Most of the silica in ordinary water is probably colloidal and does not affect the ionic balance in a water analysis. However, at high pH the silica may be present in the ionized state as calcium silicate. Colloidal silica is a good carrier of other material that may precipitate from solution. Waters high in silica form an exceedingly hard scale on porcelain fixtures, boilers, or other surfaces with which they may come in contact.

Iron (Fe). --Iron is available from practically all rocks and ground water may contain several parts per million. Upon exposure to air, the iron in water may settle out as a precipitate of insoluble ferric hydroxide as a result of oxidation. Excessive amounts of iron cause an objectionable taste in water and will stain porcelain fixtures and fabrics washed in the water.

Calcium (Ca) and magnesium (Mg). --Hardness of water is caused chiefly by calcium and magnesium. Calcium is found in all ground and surface waters and is commonly the major cation present. It is present in silicate minerals, nonsilicate minerals, and the cementing material of many sedimentary rocks, and the weathering of these calcium-bearing rocks yield calcium to water. Nonsilicate minerals such as gypsum, calcite, limestone, and dolomite also yield calcium to water.

Magnesium is abundant in the carbonate rocks and is a typical constituent of some of the silicate minerals such as olivine, pyroxenes, and micas. Magnesium usually is present in water in smaller amounts than calcium, but once in solution magnesium does not precipitate as readily as calcium.

The solubility of both calcium and magnesium is increased by the presence of carbon dioxide in the water.

Sodium (Na) and potassium (K). --All natural waters contain sodium and potassium which are derived from the weathering of feldspars and evaporites or from "base-exchange" reactions between basic ions in water and clay materials. If large amounts of both are dissolved in the water, sodium normally will be present in much greater quantities than potassium. Potassium usually is not present in large amounts in ground water. Sodium and potassium go easily into solution, but potassium is soon adsorbed by clays or used in the

formation of micalike minerals. High percentages of sodium give the water the property of "softness" which is desirable in domestic supplies but undesirable in irrigation waters.

Bicarbonate (HCO_3) and carbonate (CO_3). --Bicarbonate is the principal negative ion (anion) present in many natural waters. Waters that have come in contact with granitic rocks usually contain less than 50 ppm (parts per million) bicarbonate, whereas the waters in contact with carbonate rocks or calcareous material may contain as much as 500 ppm.

Carbonate is present in relatively few natural waters. Theoretically, carbonate may be present only in water with a pH of more than 8.2. Some ground waters contain carbonate and some waters that have been treated with lime also contain carbonate.

Alkalinity in water is caused primarily by the presence of bicarbonates and carbonates, although other ions may also cause alkalinity. The property of alkalinity in water is its ability to neutralize acid.

Sulfate (SO_4). --The sulfate ion is produced during the weathering process when sulfide minerals are oxidized and it is also freed by the weathering of minerals containing sulfate. Sulfate salts of calcium and magnesium in boiler water will cause the formation of hard scale in boilers. The presence of calcium sulfate (gypsum) in irrigation water is desirable because of the favorable reactions with the soil. In fact, gypsum is often added to the irrigation water or the soil to prevent formation of "black alkali" or to reclaim alkali lands. Magnesium salts of sulfate (epsom salts) are objectionable in public supplies because of the laxative effect.

Chloride (Cl). --Chloride is present in all natural water and is the most abundant of the halogen group of elements. Sedimentary rocks, especially evaporites, are an important source of chloride. Sodium is usually associated with large concentrations of chloride in water.

Fluoride (F). --Fluoride is second to chloride as the most abundant of all the halogens and is usually present in igneous rocks as fluorite. Fluorite is resistant to weathering, but its solubility increases in the presence of carbon dioxide. Fluoride is present in

evaporites, in clay and common soil minerals. Excessive concentrations of fluoride in drinking water are undesirable. According to the California State Water Pollution Control Board 1/, water containing less than 0.9 to 1.0 ppm of fluoride will seldom cause mottled enamel in children and concentrations of less than 3 or 4 ppm are not likely to cause endemic cumulative fluorosis and skeletal effects in adults.

Nitrate (NO_3).--Part of the nitrogen that is present in ground water and surface water is removed from rocks by weathering and part is of organic origin, the product of decay and oxidation. Nitrate nitrogen is the final oxidation product caused by the reaction of bacteria in the decay of plants and animals. The occurrence of nitrate in abundance in evaporites is rare. However, they may be formed by the action of micro-organisms and collect in separate beds in arid regions. The nitrate deposits of Chile are outstanding examples. The presence of large amounts of nitrate in drinking water may be the cause of methemoglobinemia in infants (blue babies). It is recommended that waters containing more than 10 to 20 ppm of nitrate, expressed as nitrogen, should not be used in infant feeding 2/. The presence of nitrate also may be an indication of pollution by sewage or by organic decomposition products. Ordinarily, waters do not contain more than a few parts per million of nitrate.

Boron (B).--Boron occurs in igneous rocks. It also occurs as borates in marine evaporites, evaporites in closed basins, and in evaporites connected with volcanic activity. Marine evaporites contain chiefly magnesium borate, while boron in evaporites in closed basins occurs as calcium borate. Volcanic sublimates contain boron as boric acid and various borates. Boron is necessary for normal plant growth, but the amount required is usually very small. Citrus shows definite injury when grown with 1 ppm boron in the irrigation water and 3 ppm boron in the irrigation water will kill the plant. On the other hand, alfalfa makes its best growth with 1 to 2 ppm of boron in the water and date palms seem to require about 5 ppm and will tolerate as much as 100 ppm.

Other properties

Dissolved solids.--The results reported as dissolved solids represent the total quantity of dissolved mineral matter in the water.

1/ California State Water Pollution Control Board, 1952, Water-quality criteria: Pub. 3, 512 p.

2/ Comly, H. H., 1945, Cyanosis in infants caused by nitrates in well water: Am. Med. Assoc. Jour., v. 129.

The terms "dissolved solids (D.S.)" and "residue on evaporation at 180°C" are used synonymously in describing the amount of dissolved material in a unit volume of water. Ground water usually contains more dissolved solids than surface water. Part of the material reported as dissolved solids in colored waters is organic matter, which is not shown in the analyses.

Hardness.--Hardness, sometimes called the soap-consuming property of water, is caused mainly by calcium and magnesium. The hardness caused by the calcium and magnesium, equivalent of the bicarbonate in water, is called carbonate or temporary hardness. This may be removed by boiling. Other salts of calcium and magnesium cause noncarbonate or permanent hardness. Hardness is a particularly troublesome property and large sums of money are spent in softening waters for domestic and industrial use.

Percent sodium.--The term "percent sodium" in water is the ratio of sodium to the total cations expressed as a percentage, all ion concentrations expressed in equivalents per million. Percent sodium is calculated as follows:

$$\text{Percent sodium} = \frac{Na^{+}}{Na^{+}+K^{+}+Ca^{++}+Mg^{++}} \times 100$$

In soils high concentrations of sodium tend to replace calcium and magnesium from the mineral and organic complexes, with the result that the physical properties of the soil are impaired and the soil becomes relatively impermeable.

Sodium-adsorption-ratio (SAR).--SAR is a ratio for soil extracts and irrigation waters used to express the relative activity of sodium ions in exchange reactions with the soil. It is used as an index of the sodium (alkali) hazard of an irrigation water. High SAR values indicate high sodium hazards.

Specific conductance.--The specific conductance of water is a measure of its capacity to conduct an electric current. The conductance varies with the concentration of the ions in solution and is a rough measure of the mineral content of the water.

pH.--The hydrogen-ion concentration of water is usually expressed in pH units. The pH denotes whether a water is basic or acidic. The pH of pure water is 7.0 and the pH of most natural waters varies from about 6.0 to slightly more than 8.0. Waters with pH values less than 7.0 are acidic and tend to be corrosive, whereas waters with pH values more than 7.0 are basic and may deposit scale in pipes or boilers.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona.

Location: See p. 5 for explanation of accuracy of locations.
Type of well: Dg, dug well; Dr, drilled well; TH, drilled (churn, rotary, air, or diamond drill) test hole; Mn, mine shaft; Sp, spring.
Total depth of well: All depths are reported or estimated.
Casing diameter: Size of dug wells not shown.
Type of finish: OH, open hole; P, perforated, method unknown; Pm, perforated by Mills knife, Ps, preslotted casing; Ts, casing slotted by acetylene torch.
Type of lift: B, bucket; C, cylinder; S, submersible; T, turbine; Bg, bottled gas; Bh, windlass; D, diesel; E, electric; G, gasoline; H, hand pump; N, none; W, windmill.
Surface altitude: In feet above mean sea-level datum, rounded to nearest foot if leveled and nearest 5 feet otherwise. Source of data: A, aneroid altimeter; B, Bureau of Indian Affairs spirit leveling; C, by interpolation from topographic map by H. V. Clotts, 1915; D, by interpolation from Geological Survey topographic maps or benchmarks; L, spirit leveling by Geological Survey or Bureau of Mines.
Water-level depth: Measured unless otherwise indicated; B, Bureau of Indian Affairs records; C, from topographic map by H. V. Clotts, 1915; E, estimated; K, Kirk Bryan (1925); R, reported.
Water-level altitude: To nearest foot above mean sea-level datum, based on surface altitude given in this table.
Yield: Reported or estimated yields; measured yields, indicated by (M), are rounded.
Use: A, abandoned or not completed; D, domestic; I, irrigation; In, mining or milling; N, not used; O, observation well; P, public supply; S, stock.
Log, well cuttings, and chemical analysis of water: X, on file at Arizona Bureau of Mines well-sample-cuttings library, University of Arizona, Tucson, Arizona; Y, driller's log or water analysis in tables 2 and 3.
Remarks: See p. 5 for explanation of topographic descriptions.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 10 S., R. 1 W.																						
Sec. 36																						
SE¼SW¼NE¼	Kaka		Dr	1938?	276													A				In foothill valley; well abandoned above water table in basalt.
SE¼SE¼NW¼	Kaka	Kaka Well	Dr	1960	692	8						S, E	2,255 D	644 R	4/60	1,611	13	D, S	Y	X	Y	In foothill valley; yield based on preliminary bailing test; volcanic rock reported at 150 feet.
T. 10 S., R. 2 W.																						
Sec. 7																						
SW¼SW¼NW¼	Chiulikam		Dg		18							B	2,020 D	6 C	/15	2,014		S				In foothill wash; alluvium to 8 feet, underlain by Tertiary(?) volcanic rocks; obtains water from alluvium and fractures in volcanic rocks.
														11.9	6/57	2,008						
Sec. 10																						
SW¼SE¼SE¼	Moi Vaya	W-16	Dg	1934	10							B	2,350 D	7.4	6/57	2,343		S			Y	In foothill wash; alluvium to 4 feet, underlain by Tertiary(?) andesite; obtains water from fractured volcanic rocks; reported never dry.
T. 11 S., R. 2 W.																						
Sec. 18																						
SE¼NE¼SE¼	2 SE of Stoa Pitk		Dr	1955	256				10-inch OH	0	256		2,400 C	Dry				A	Y	X		Penetrated basalt at 138 feet; hole abandoned above water table.
T. 12 S., R. 1 W.																						
Sec. 25																						
NW¼SW¼SE¼-1	Vaya Chin	DW-23	Dr		617	7-5/8						C, G	2,130 A	593	4/54	1,537		D, S, P			Y	Valley flat; 20± feet south of DW-23A; not shown on map.
NW¼SW¼SE¼-2	Vaya Chin	DW-23A	Dr	1954	803	8	0	803				C, G	2,130 A	564.8	10/57	1,565		D, S, P	Y	X	Y	Valley flat; water level measurement in this well more reliable than in DW-23; school well; no drawdown after 2-hour bailing test at 24 gpm.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Final Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 12 S., R. 2 W.																						
Sec. 21																						
SE¼NE¼SE¼	Hickiwan	DW-43	Dr	1937	673	6-1/4	0	626	Ts	582	626	C, G	2,200 B	535 B	/54	1,665	10	D, S	Y		Y	On valley flat near bedrock barrier; reported in various igneous rocks below 161 feet; specific capacity, 1/4 gpm per foot of drawdown; obtains water from volcanic or granitic rocks.
														582	12/59	1,618						
Sec. 29																						
NE¼SE¼NW¼	1 SW of Hickiwan	Periqua 1	Dr		900	10	0	600					2,230	435 R	1935?	1,795		A	Y			Reported in volcanic rock at 720 feet.
						7-5/8	600	900														
Sec. 30-1?	2 SW of Hickiwan	Periqua 2	Dr		220								2,230 ?	Dry				A	Y			Location approximate; reported in volcanic rock at 193 feet; not shown on map.
Sec. 30-2?	2 SW of Hickiwan	Periqua 3	Dr		233								2,230 ?	Dry				A	Y			Location approximate; reported in volcanic rock at 193 feet; not shown on map.
T. 12 S., R. 3 W.																						
Sec. 10																						
SW¼SW¼SE¼	5 NW of Hickiwan		Dg		200							N		Dry								Along large foothill wash.
T. 13 S., R. 2 W.																						
Sec. 34																						
SE¼NE¼NE¼	7 NW of Wahak Hotrontk	DW-68	Dr	1955	650	8	0	650				C, W	2,035 A	477	10/57	1,558	20	S	Y	X	Y	On valley flat; no drawdown after 2-hour bailing test at 20 gpm.
T. 13 S., R. 4 W.																						
Sec. 10																						
NW¼NE¼NW¼	Sikort Chuapo	W-44	Dg	1935	76							C, G, W	2,010 C	37 C	/15	1,973		S			Y	In large foothill valley.
														43.8	10/56	1,966						
T. 14 S., R. 1 W.																						
Sec. 3																						
SW¼NE¼NE¼	4 N of Wahak Hotrontk	DW-67	Dr	1955	590	8	0	590	Ts	440	590	C, W	1,990 C	408.2	10/57	1,582	13	S		X	Y	On valley flat; no drawdown after 2-hour bailing test at about 13 gpm.
Sec. 27																						
NW¼NW¼NW¼	Wahak Hotrontk	DW-19	Dr	1920	470	6-5/8	0	427	Ps	364	427	C, G, W	1,940 A	373	10/57	1,567		D, S	Y		Y	On valley flat near Tracy's Trading Post; casing perforated by drilling 3/8-inch holes on 3-inch centers.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 14 S., R. 4 W.																						
Sec. 9																						
NW¼NW¼SE¼	Schuchuli	Gunsight (Blair's Ranch) Well	Dg		115							C, G, W	1,950 C	35 C	/15	1,915	20	D, S			Y	Along large wash in pass area near bedrock; in Tertiary porphyritic andesite flows at 40 feet below shallow alluvium; obtains water from volcanic rocks; specific capacity in 1960 reported to be about 3 gpm per foot of drawdown.
														54 K	10/17	1,896						
														54 R	3/60	1,896						
Sec. 16																						
SW¼NW¼SE¼	1 S of Schuchuli	Gunsight Mine	Mn		500							N		Dry	5/58			N				In foothills; abandoned mine shaft in quartz monzonite(?).
Sec. 30																						
NW¼NE¼SE¼	4 SW of Schuchuli		Dg		202								2,015 C	197 C	/15	1,818		N				Along foothill wash.
Sec. 35																						
NE¼SE¼NE¼	5 SE of Schuchuli		Mn		200							N		Dry				N				In foothills; abandoned mine shaft in quartz diorite(?).
T. 15 S., R. 2 W.																						
Sec. 18																						
SW¼NE¼NE¼	5 NE of Gu Vo		Dr	1955	443				10-inch OH	0	436		2,140 C	Dry	4/55			A	Y	X		On valley flat near small hills; encountered granite at 427 feet.
T. 15 S., R. 4 W.																						
Sec. 10																						
SW¼NW¼NE¼	Kuakatch	Miller's Well	Dg		85							C, G, W	2,155 C	35.2	6/58	2,120		D, S				Along large wash near foothills; although fenced off from reservation, this well is within reservation boundaries; not shown on map.
SE¼NW¼NE¼	Kuakatch		Dg		38							N	2,130 D	29.4	6/58	2,101		N				Along large wash near foothills; not shown on map.
SW¼SE¼NE¼	Kuakatch	W-28 (Wall's Well)	Dg		45							C, G, W	2,130 D	4 C	/15	2,126	2	D, S			Y	Along large wash in foothills. Two other unlocated wells reported in this area by Clotts in 1915. This well is about 100 feet northwest of original Wall's Well, marked by 4-inch pipe stuck in a mound.
														30.7	10/56	2,099						
Sec. 27																						
SE¼SW¼NE¼	6 NW of Gu Vo	Barajita Well	Dg		24							B	2,440 C	18 C	/15	2,422		S				Along large wash in foothills.
Sec. 34																						
SW¼SE¼NW¼	6 W of Gu Vo		Dg		24							B	2,590 C	12 C	/15	2,578		S				Along large wash in foothills.
														10 E	6/58	2,580						

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 16 S., R. 2 W.																						
Sec. 6																						
SW¼SE¼NE¼	3 E of Gu Vo	DW-18	Dr	1920	623	6-5/8	0	622	Ps	561	622	C, G, W	2,055 A	491.3B	/54	1,564		S	Y		Y	On valley flat.
T. 16 S., R. 3 W.																						
Sec. 2																						
NE¼?	Near Gu Vo	Test Hole	Dr	1920	321								2,100 D	Dry B					Y			Approximate location only; penetrated basalt at 308 feet and abandoned above water table; not shown on map.
Sec. 5																						
NW¼NE¼SW¼	3 W of Gu Vo	DW-39	Dr		805	10	0	248	P	680	805	C, G	2,220 B	664 B	/54	1,556	24	D, P	Y		Y	On bajada; Kerwo School supply; obtains water from Tertiary-Quaternary alluvium.
T. 16 S., R. 4 W.																						
Sec. 3																						
SE¼NE¼NW¼	6 W of Gu Vo	W-54 (Tonoka Well)	Dg	1936	35							B	2,380 C	34.8	6/58	2,345		S			Y	In foothill valley.
T. 17 S., R. 1 W.																						
Sec. 11																						
NE¼SW¼NW¼	Kom Vo	DW-15	Dr	1920	361	6-5/8	0	361	Ps	301	361	C, G	1,770 A	220.6	10/57	1,549		D, S	Y		Y	On valley flat.
Sec. 33																						
SW¼NE¼NW¼	4 SW of Kom Vo	DW-32	Dr	1920	321	6	0	321				C, G	1,760 A	230	6/54	1,530		D, S	Y		Y	On bajada.
T. 17 S., R. 2 W.																						
Sec. 33																						
NW¼NE¼NE¼	8 SW of Kom Vo		Dg		40									Dry	2/58			N				In foothill wash.
T. 17 S., R. 3 W.																						
Sec. 6																						
NW¼SW¼SW¼	2 SW of Siovi Shuatak	W-11 (Cooncan or Cochibo Well)	Dg		30							B	2,400 C	11 K	11/17	2,389		S			Y	In foothill valley; obtains water from Tertiary agglomerate.
														18 E	5/58	2,382						

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 17 S., R. 3 W.--Continued																						
Sec. 9																						
SW¼NE¼NE¼	Siovi Shuatak	DW-56	Dr	1940	687	6-1/4	0	379	Ts	588	687	C, W	2,085 A	464 B	/54	1,621	7	D, S	Y		Y	In foothills; encounters basalt porphyry at 80 feet; obtains water from reported conglomerate (agglomerate?) below 600 feet.
						5-5/8	379	646														
						6-1/4	646	687														
Sec. 36																						
SE¼NE¼NW¼	2 S of Pia Oik	DW-38	Dr	1936	480	6-1/4	0	420	P	420	480	C, W	1,905 A	382.8	7/54	1,522	10	D, S	Y		Y	On valley flat near volcanic hills; encountered basalt at 302 feet; obtains water in reported vesicular lava.
						5	420	480														
T. 18 S., R. 1 W.																						
Sec. 28																						
SW¼SE¼NE¼	5 NW of Stan Shuatuk	DW-31	Dr	1918	312	5-5/8						C, G, W	1,705 A	165.4	1/58	1,540		S	Y			On valley flat near foothills; well put back in service in February 1958 after being unused for several years.
T. 18 S., R. 3 W.																						
Sec. 5																						
NW¼NE¼NE¼	4 NW of Ali Ak Chin		Dg									N		Dry	5/58							Hole appears to be in the process of being dug.
Sec. 35																						
NE¼NW¼SW¼	Ali Chuk	DW-58	Dr	1941		6-1/4						C, W	1,715 A	296.1	7/54	1,419		D, S			Y	In foothill valley.
T. 19 S., R. 1 W.																						
Sec. 4																						
NE¼NE¼SE¼	4 W of Stan Shuatuk	DW-30	Dr	1918	257	5-5/8						C, G, W	1,710 A	140 R	/18	1,570		D, S	Y		Y	On valley flat.
Sec. 5																						
SE¼SW¼NW¼	6 W of Stan Shuatuk		Dg		12							B	1,685 D	6.5	5/58	1,678		D, S			Y	On valley flat.
Sec. 12																						
NE¼NE¼SE¼	2 SW of Stan Shuatuk (Papago Farms)	PF-2	Dr	1957	952	20	0	950	Pm	300	950	T, D	1,735 A	192 R	12/57	1,543	3,200	I	Y	X		On valley flat.
T. 19 S., R. 2 W.																						
Sec. 2																						
SE¼SW¼NW¼	6 E of Ali Chuk	DW-53 (Salt Well)	Dr	1938	285	6-5/8	0	281	P	240	280	C, G, W	1,720 A	202.2	6/54	1,518	30	S	Y		Y	On valley flat
									OH	281	285											

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
						Diameter (inches)	Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)		From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 7 S., R. 5 E.																						
Sec. 29																						
NE¼SE¼SE¼	4 NW of Chuichu	Chuichu Test	TH	1953	575				12-inch OH	0	225		1,397 B	180.6	2/54	1,216	167	A	Y			On valley flat; test pump bowls stuck in well.
		(CT) 3							8-inch OH	225	575											
Sec. 30																						
SW¼NW¼SE¼	6 NW of Chuichu	Chuichu Test	TH	1953	350	12	0	86	10-inch OH	86	229		1,387 B	197.7	2/54	1,189		A	Y			
		(CT) 4							8-inch OH	229	350											
T. 8 S., R. 2 E.																						
Sec. 25																						
SW¼NE¼SW¼	6 N of Sif Vaya		Dg		12								2,195 D	Dry								In foothills; dug in granite.
T. 8 S., R. 4 E.																						
Sec. 23																						
SE¼SE¼SW¼	Vaiva Vo	DW-5	Dr	1915	196	10	0	174	P	150	174	C, W	1,432 B	150 K	3/15	1,282		D, S	Y		Y	On valley flat near bedrock outcrops; granite reported at 196 feet.
									OH	174	196			155.1	2/54	1,277						
														170.9	10/57	1,261						
T. 8 S., R. 5 E.																						
Sec. 1 (west half)																						
SW¼NE¼SE¼	Chuichu	Chuichu Explor.	TH	1950	103							N	1,445 D					A	Y			On valley flat near small volcanic hills; abandoned in red
		(CE) 1																				"sharp gravel" reported at 64 feet.
SE¼SE¼SE¼	Chuichu	CE-2 (Chuichu Village Well)	Dr	1950	230	20	0	230	Pm	72	220	N	1,453 B	91.9	2/54	1,361	300	A	Y	X		On valley flat near small volcanic hills; encountered red
																						"sharp gravel" at 135 feet.
Sec. 8																						
NW¼SE¼NW¼	5 W of Chuichu	Chuichu Test	TH	1953	286	10	0	30	OH	30	286		1,398 B	161.2	2/54	1,237		A	Y	X		On valley flat near small volcanic hills; granite at 192 feet.
		(CT) 5																				
Sec. 12 (east half)																						
SW¼NE¼NE¼	Chuichu	C-3	Dr	1953	252	20	0	248	Pm	95	236	T, E	1,460 B	93 R	7/53	1,367	2,025	I	Y	X		On valley flat near small volcanic hills; red basalt(?)
														106.9	2/54	1,353						reported at 225 feet; specific capacity in 1934 reported to
														145.9	10/57	1,314						range from about 28 to 32 gpm per foot of drawdown.
														135.5	1/58	1,324						

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Final Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 8 S., R. 5 E.																						
Sec. 12 (east half)— Continued																						
NE¼NW¼NE¼-1	Chuichu	C-2	Dr	1934	230	20	0	230	Pm	70	210	T, E	1,458 B	139.3	1/58	1,319	1,000	D, S, I	Y		Y	On valley flat near small volcanic hills; specific capacity in 1934 reported to range from about 55 to 160 gpm per foot of drawdown.
NE¼NW¼NE¼-2	Chuichu	Old Chuichu 2	Dr	1921	242	16	0	187	Pm	73	103		1,460 B	57 B	3/21	1,403	150	A	Y			Abandoned in 1934; "hard red rock" reported at 195 feet; not shown on map.
SE¼NW¼NE¼-1	Chuichu	C-1	Dr	1934	240	20	0	236	Pm	70	160	T, E	1,461 B	133.5	1/58	1,327	1,540	I	Y		Y	On valley floor near small volcanic hills; driller's log states "solid rock apparently" but material was interpreted to be boulders by R. J. Leonard, geologist; specific capacity in 1934 reported to range from about 4 to 60 gpm per foot of drawdown.
									Pm	180	222											
									OH	222	240											
SE¼NW¼NE¼-2	Chuichu	Old Chuichu 1	Dr	1915	228	16	0	84	P	70	95	N	1,460 B	57 K	2/15	1,403	1,100	A	Y		Y	Abandoned in 1934; granite reported at 228 feet; located 30 feet west of C-1; not shown on map.
						10	81	220	P	150	220											
									OH	220	228											
Sec. 19																						
NE¼SE¼NE¼	3 E of Vaiva Vo	Chuichu Test (CT) 2	TH	1953	601				8-inch OH	0	601	N	1,402 B	137	2/54	1,265		A	Y	X		On bajada near bedrock foothills; "hard rock" reported at 594 feet.
T. 8 S., R. 6 E.																						Note: All East Chuichu project wells are on a valley flat near foothill exposures.
Sec. 5																						
SE¼SE¼NE¼	East Chuichu irrig. proj.	C-10	Dr	1953	348	20	0	320	Pm	94	306	T, E	1,471 B	148.5	1/58	1,322	1,400	I	Y	X		Granite reported at 330 feet; specific capacity in 1953 reported to be 13 gpm per foot of drawdown.
									OH	320	348											
SE¼SE¼NW¼	East Chuichu irrig. proj.	C-12	Dr	1953	375	20	0	364	Pm	90	352	T, E	1,466 B	135 B	1/58	1,331	1,800	I	Y	X		"Red conglomerate" and "bedrock" reported below 308 feet; specific capacity in 1953 reported to be about 18 gpm per foot of drawdown.
SE¼SE¼SW¼	East Chuichu irrig. proj.	C-11	Dr	1953	400	20	0	398	Pm	92	385	T, E	1,471 B	155 B	1/58	1,316	1,500	I	Y	X		Specific capacity in 1953 reported to be about 12 gpm per foot of drawdown.
									OH	385	400											
SE¼SE¼SE¼	East Chuichu irrig. proj.	C-9	Dr	1953	430	20	0	338	Pm	90?	430	T, E	1,475 B	164.1	1/58	1,311	1,600	I	Y	X		Specific capacity in 1953 reported to be about 12 gpm per foot of drawdown.
						16	338	430														

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 8 S., R. 6 E.--Continued																						
Sec. 8																						
SE¼SE¼NE¼	East Chuichu irrig. proj.	C-8	Dr	1953	450	20	0	412	Pm	296	396	T, E	1,480 B	146.2	1/57	1,334	1,200	I	Y	X		Specific capacity in 1953 reported to be about 10 gpm per foot of drawdown.
									OH	394	450			162.8	10/57	1,317						
SE¼SE¼SE¼	East Chuichu irrig. proj.	C-7	Dr	1952	500	20	0	466	Pm	89	454	T, E	1,484 B	130	10/57	1,354		I	Y	X		Specific capacity in 1953 reported to be about 43 gpm per foot of drawdown.
									OH	466	500			137 B	1/58	1,347	900					
Sec. 17																						
SE¼SE¼NE¼	East Chuichu irrig. proj.	C-5	Dr	1951	475	20	0	475	Pm	63	475	T, E	1,490 B	110.5	1/56	1,379	900	I	Y	X		
NW¼SW¼SE¼	East Chuichu irrig. proj.	Chuichu Test (CT) 1	Dr	1951	305	6							1,484 B	114.6	1/58	1,369		O	Y	X	Y	Water-level recorder 12/55 to 5/57.
SW¼SW¼SE¼	East Chuichu irrig. proj.	C-6	Dr	1952	504	20			Pm	88	428	T, E	1,492 B	116.2	1/58	1,376	450	I	Y	X		Specific capacity in 1952 reported to be about 8 gpm per foot of drawdown.
SE¼SE¼SE¼	East Chuichu irrig. proj.	C-4	Dr	1951	610	20	0	444	Pm	90	435	T, E	1,494 B	129.1	1/58	1,365	700	I	Y	X		
						16	444	460														
T. 9 S., R. 2 E.																						
Sec. 25																						
SW¼SE¼NW¼	Sif Vaya	W-61	Dg		60							C, W	1,960 A	21 R	11/41	1,939		D, S			Y	Along wash in foothill valley; in Cretaceous-Tertiary volcanic agglomerate(?) below 10 feet of alluvium.
														15.7	6/57	1,944						
Sec. 34																						
NE¼SW¼NE¼	2 SW of Sif Vaya	Vekol Mine	Mn	1908	400								2,325 D	300 R	/34	2,025		A				In low mountains; abandoned mine shaft dug in Paleozoic limestone.
NW¼NE¼SE¼	2 SW of Sif Vaya	Vekol Mine Well	Mn		350								2,500 D	Dry	7/55			A				In mountains; well caved in to 350 feet; dug in Paleozoic limestone; originally provided sufficient water for mill 1/4 mile NW at Vekol Mine.
T. 9 S., R. 3 E.																						
Sec. 3																						
NW¼NW¼SE¼	7 SW of Vaiva Vo	Range Test (RT) 11	TH	1955	352	8							1,785 D	Dry	5/55			A	Y	X		On bajada; in diorite(?) and intruded Cretaceous-Tertiary sediments below 210 feet.
Sec. 14																						
NE¼NW¼NW¼	8 SW of Vaiva Vo	DW-72	Dr	1955	430	8	0	430				C, W	1,730 D	327.3	10/57	1,402	36	S	Y	X	Y	On bajada; 2-hour bailing test without drawdown.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Final Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 9 S., R. 3 E.—Continued																						
Sec. 33																						
SE¼SE¼NE¼	3 NW of Kohatk		Dg									N	1,765 D	46.5	6/54	1,718		A				Along large wash in foothills; obtains water from Cretaceous-Tertiary volcanic conglomerate below thin alluvial veneer.
SW¼SW¼NW¼	4 NW of Kohatk		Dg		10							N	1,825 D	Dry	8/55			A				On edge of large wash in foothills; in Cretaceous-Tertiary volcanic conglomerate below thin veneer of alluvium; caved in.
NE¼SE¼SE¼	3 NW of Kohatk	USBM-6	TH	1943	598							N	1,905 D	Dry?	/43			A				In foothills; all in bedrock (Denton and Haury, 1946); no water reported.
SE¼SE¼SE¼	3 NW of Kohatk	USBM-5	TH	1943	600							N	2,075 D	Dry?	/43			A				In foothills; all in bedrock (Denton and Haury, 1946); no water reported.
Sec. 34																						
NW¼NW¼NW¼	3 NW of Kohatk	Christmas Gift Shaft	Mn		200								1,800 D	Dry?				A				In foothills; all in Paleozoic limestone; no report of water in Tenney (1934).
NW¼NE¼SW¼-1	3 NW of Kohatk	George Shaft	Mn		400								1,775 D	335 R	/44	1,440		A				In foothills; all in Paleozoic rocks (Hadley, 1944; Denton and Haury, 1946); not shown on map.
														Dry	7/55							
NW¼NE¼SW¼-2	3 NW of Kohatk		TH		1,400								1,760 D					A				In foothills; in Paleozoic and Precambrian rocks (Denton and Haury, 1946).
NE¼NW¼SW¼-1	3 NW of Kohatk		Dr	1884	840	8						N	1,785	346.6	10/56	1,438		A				In foothills; in Paleozoic and Precambrian rocks (Hadley, 1944; Denton and Haury, 1946); "permanent water was encountered at a depth of 800 feet" (Tenney, 1934).
NE¼NW¼SW¼-2	3 NW of Kohatk	Reward Shaft	Mn		400								1,840	400 R	/34	1,440		A				In foothills; inclined 600-foot shaft; in Paleozoic and older(?) rocks; water levels reported by Tenney (1934) and Hadley (1944); not shown on map.
														390 R	/44	1,450						
T. 9 S., R. 4 E.																						
Sec. 4																						
SW¼NE¼NE¼	3 SW of Vaiva Vo	Chuichu Test (CT) 6	TH	1954	555	10	0	228	Ts	0	228		1,510 D	139.9	10/57	1,370	300 M	A	Y		Y	On bolson; granite at 535 feet; specific capacity in 1955 about 20 gpm per foot of drawdown.
									OH	228	555											
NW¼SW¼SE¼	4 SW of Vaiva Vo	Chuichu Test (CT) 7	TH	1954	210				10-inch OH	0	210		1,523 B	147.9	11/54	1,375		A	Y			On bolson; tools lost in hole.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 9 S., R. 4 E.—Continued																						
Sec. 15																						
NW¼NE¼SW¼	5 S of Vaiva Vo	Chuichu Test (CT) 11	TH	1956	350	6	0	150	Ts	130	150		1,504 B	118.2	4/56	1,386		A	Y	X	Y	On valley flat; observation well for pump tests on CT-8 and CT-9; well caved back to 295 feet.
									OH	150	350											
NE¼SW¼SW¼-1	5 S of Vaiva Vo	Chuichu Test (CT) 8	TH	1955	350	10	0	310	Pm	196	310		1,514 B	125.1	4/56	1,389	500 M	N	Y	X	Y	On valley flat; pumped and observation well for pumping test; water-level recorder from 11/56 to 8/57; specific capacity in 1955 ranged from 7 to 23 gpm per foot of drawdown.
									OH	310	350											
NE¼SW¼SW¼-2	5 S of Vaiva Vo	Chuichu Test (CT) 9	TH	1956	684	10	0	382					1,511 B	122.5	4/56	1,388	500 M	A	Y	X	Y	On valley flat; pumped and observation well for pumping test; well caved back to 672 feet; not shown on map.
						8	320	520	Ts	382	520											
									OH	520	684											
NW¼SE¼SW¼	5 S of Vaiva Vo	Chuichu Test (CT) 10	TH	1956	700	6	0	350	Ts	290	350		1,505 B	117.3	4/56	1,388		N	Y	X	Y	On valley flat; observation well for pump tests.
						4	0	700	Ts	380	700											
Sec. 25																						
SW¼NW¼NW¼	6 S of Vaiva Vo	Orizaba Shaft	Mn										1,575 D	75 R	/33	1,500		A				In foothills; in Paleozoic rocks.
Sec. 36																						
NE¼NE¼SE¼	2 E of Tat Momoli	Turning Point Mine	Mn										1,565 D	230 R	4/55	1,335	75					In foothills; inclined shaft in Paleozoic rocks; reported that shaft cannot be pumped dry at 75 gpm.
T. 9 S., R. 5 E.																						
Sec. 2																						
SW¼SW¼SE¼	4 NE of Tat Momoli		Dg									N	1,500 D					N				On valley flat near small volcanic hills.
Sec. 29																						
SW¼SE¼SW¼	Tat Momoli	DW-4	Dr	1915	123	10	0	110	Pm	80	106	C, W	1,530 D	73 K	4/15	1,457		D, S	Y		Y	On valley flat near small bedrock hills; quartzite reported at 123 feet.
									OH	110	123			82.5	10/57	1,447	9					
Sec. 31																						
SE¼NW¼NW¼	1 W of Tat Momoli	Jackrabbit Shaft	Mn	1908	400							N	1,555 D	160 E	/13	1,395	700	N				In foothills; in Paleozoic limestone; shaft pumped intermittently from 1913 to 1918 at 1,000,000 gpd; drainage from mine reportedly used for irrigation at Vaiva Vo.
T. 10 S., R. 2 E.																						
Sec. 6																						
NW¼NW¼SW¼	5 NW of Chiapuk		Mn		155								2,020 D	145 R	/15	1,875		A				On valley flat near foothills; location and water level reported by Clotts (1915).

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 10 S., R. 2 E.—Continued																						
Sec. 11																						
NW¼NW¼SE¼	3 N of Chiapuk	Copperosity Shaft	Mn		300								2,300 D	300 R	/15	2,000		N				In mountain area; in Paleozoic and Cretaceous-Tertiary(?) rocks; water level reported by Tenney (1934).
Sec. 22																						
SE¼NE¼SE¼	Chiapuk	W-50	Dg		53							A	1,900 D	47.4	6/55	1,853		D,S			Y	Along large wash in foothills; water-level recorder from 7/56 to 11/57.
														15.5	8/55	1,884						
														48.1	5/57	1,852						
														40.8	11/57	1,859						
Sec. 32																						
SE¼NE¼NE¼	3 SW of Chiapuk	Greenback Camp	Dr	1919	600							C,G	2,100 D	289 R	/19	1,811		D,In				In foothills; in intrusive andesite and diorite.
														380 R	/55	1,720	30					
T. 10 S., R. 3 E.																						
Sec. 4																						
NW¼NE¼NE¼	3 NW of Kohatk	Phonodoree Shaft	Mn		325								1,855 D	Dry	7/55							In foothills; in Cretaceous(?) and Paleozoic rocks (Hadley, 1944).
Sec. 12																						
NW¼NE¼NE¼	Kohatk	DW-8	Dr	1915	255	10	0	258	Pm	238	255	C, G,W	1,630 A	209.7K	11/15	1,420		D,S	Y		Y	On valley flat; specific capacity in 1915 reported to be about 5 gpm per foot of drawdown.
														208	10/57	1,422	26					
T. 10 S., R. 4 E.																						
Sec. 16																						
NE¼NW¼SE¼	3 SE of Kohatk	DW-33	Dr	1936	290	6-1/4	0	194	Pm	154	194	C,G	1,575 D	155	10/57	1,420	13	S	Y		Y	On valley flat; well backfilled to 194 feet; pumps down to bottom of tailpipe at 13 gpm.
Sec. 23																						
NW¼NE¼SE¼	3 NE of Gu Komelik		Dg										1,725 D	15.6	11/54	1,709		A				Along wash in foothills.
Sec. 25																						
NW¼SW¼SE¼	3 NE of Gu Komelik	Lakeshore Shaft	Mn										1,816 L	224	/42	1,592						In foothills; in Cretaceous(?) andesite, quartz monzonite, and Precambrian schist (Romslo, 1950).

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 10 S., R. 4 E.																						
Sec. 25—Continued																						
SW¼SW¼SE¼	3 NE of Gu Komelik	USBM-C-1	Dr	1949	590	12-10	0	382	OH	382	590	N	1,795 D	211 R	2/49	1,584		N	Y			In foothills; in schist and granite below 20 feet (Romslo, 1950); 8 other mineral exploration holes in vicinity—for details see Romslo, 1950.
Sec. 27																						
SE¼SW¼SW¼	1 N of Gu Komelik	Lakeshore Well	Dr	1957	251	10						T, G	1,610 D	171 R	12/59	1,439	200	In	Y			On bajada; quartzite(?) reported at 251 feet; specific capacity in 1959 reported to be about 10 gpm per foot of drawdown.
Sec. 33																						
SE¼SW¼SE¼	Gu Komelik	DW-7	Dr	1915	218	10	0	218	Pm	170	200	C, G	1,600 A	163.3K	10/15	1,437		D, S	Y		Y	On valley flat; specific capacity in 1915 reported to be about 20 gpm per foot of drawdown.
														161.7	10/57	1,438	25					
Sec. 35																						
SW¼NE¼NE¼	3 E of Gu Komelik	L-72	TH	1956	460				4-inch OH	0	460		1,710 D	157 R	6/56	1,553		A		X		On bajada; in bedrock or indurated alluvium below thin surface cover.
NW¼SE¼NE¼	3 E of Gu Komelik	L-73	TH	1956	375				4-inch OH	0	375		1,710 D	157 R	6/56	1,553		A				
Sec. 36																						
NW¼NW¼NE¼	3 E of Gu Komelik	USBM-C-3	TH	1949	671	10-6	0	641	OH	641	671		1,788 L	225	4/49	1,563		A	Y			On bajada near foothills; in granite, schist, and andesite below thin alluvial cover; not shown on map.
NW¼SE¼NE¼	3 E of Gu Komelik	WH-1	TH	1956	170	6							1,825 D	139.9	2/56	1,685		A	Y			On bajada; in quartzite and granite below thin alluvial cover; not shown on map.
SW¼SE¼NE¼	3 E of Gu Komelik	WH-2	TH	1956	190	6							1,820 D	140.5	2/56	1,679		A	Y			On bajada near foothills; in Paleozoic(?) rocks.
T. 10 S., R. 5 E.																						
Sec. 31																						
SW¼NW¼SE¼	4 E of Gu Komelik	Slate Shaft	Mn									B	1,885 D	59.2	11/54	1,826		N				Along wash in foothills; in Paleozoic(?) limestone.
T. 11 S., R. 1 E.																						
Sec. 14																						
NE¼NE¼SW¼	Ventana	DW-24	Dr		685	7-5/8						C, G	2,240 A	652 R	/54	1,588		D, S			Y	On valley flat
T. 11 S., R. 2 E.																						
Sec. 9																						
NE¼SE¼NE¼	5 NE of Ventana		Dg									C, W		17.2	5/55			A				Along wash in foothills; in Tertiary andesite.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 11 S., R. 2 E. Sec. 9—Continued																						
SE¼SW¼SW¼	4 E of Ventana		Dg		105	16			OH					12.6	5/55			A				In wash in foothills; in Cretaceous(?) schist.
Sec. 17																						
NW¼NE¼SE¼	3 E of Ventana		Mn											12	5/55			A				Along wash in foothills; in quartz monzonite.
Sec. 18																						
SW¼SE¼SW¼	2 E of Ventana	White's Well	Dg		104								2,360 C	96.4	5/55	2,264		A				On bajada near foothills; in Tertiary andesite.
Sec. 21																						
NE¼SW¼NW¼	4 E of Ventana	DW-25 (Isabel Mine Well)	Dr		634	7-5/8			C, W				2,350 A	402.5	4/54	1,947		D, S			Y	In foothills; in Cretaceous(?) schist.
T. 11 S., R. 3 E.																						
Sec. 4																						
SW¼SE¼NE¼	7 W of Gu Komelik	DW-70	Dr	1955	335	8	0	335	P	290	335	C, W	1,775 D	285.7	10/57	1,489	36	S	Y	X	Y	On bajada; 2-hour bailing test at 36 gpm showed no drawdown.
Sec. 30																						
NE¼SW¼SW¼	6 NW of Anegam		Dg		28							B		6.5	3/55			D, S				In large wash in foothills; in Cretaceous-Tertiary conglomerate below thin alluvial veneer.
T. 11 S., R. 4 E.																						
Sec. 20																						
SW¼SW¼SE¼	4 SW of Gu Komelik	DW-26	Dr		170	6-5/8						C, G	1,650 A	138	10/57	1,512		D, S			Y	On valley flat.
Sec. 34																						
NE¼SE¼NW¼	6 NE of Anegam	DW-27	Dr		200	6-5/8						C, G	1,650 A	144.1	10/57	1,506		S				On valley flat.
T. 11 S., R. 5 E.																						
Sec. 2																						
NE¼SE¼SW¼	8 E of Gu Komelik	DW-71	Dr	1955	225	8	0	225	P	181	225	C, W	1,770 D	186.2	10/57	1,584	36	S	Y	X	Y	On valley flat; 2-hour bailing test at 36 gpm showed no drawdown.
Sec. 31 (east half)																						
SE¼NW¼NE¼	6 SE of Gu Komelik		Mn											93	1/58			A				In foothills; in granite.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 12 S., R. 1 E.																						
Sec. 11																						
SW¼SE¼SE¼	5 S of Ventana	Ventana Cave Spring	Sp														<1				Y	In foothills; water from fractures in Tertiary andesitic flows.
T. 12 S., R. 2 E.																						
Sec. 32																						
NW¼NE¼NE¼	9 W of Gu Achi	DW-69	Dr	1955	553	8	0	553	Ts	403	553	C, W	2,055 A	218.3	10/57	1,837	30	S	Y	X	Y	On bolson; 2-hour bailing test at 30 gpm showed no drawdown.
T. 12 S., R. 3 E.																						
Sec. 23																						
NE¼SE¼NE¼	Anegam	DW-6	Dr	1915	265	10	0	258	Pm	238	258	C, W, G	1,760 A	238	8/15	1,522		D, S	Y		Y	On valley flat.
SE¼SE¼NW¼	Anegam		Dr	1955	350	8	0	350	OH	258	265			240.8	10/57	1,519	35					
									P	250	350		1,760 A	255 R	7/55		50	D, In	Y			On valley flat; drilled originally for road-construction project, for which it was pumped intermittently at 50 gpm; not on map.
T. 12 S., R. 6 E.																						
Sec. 25																						
NW¼SE¼NE¼	7 NE of Pipyak	DW-54	Dr	1939	550	6-1/4						C, W	1,905 A	393 B	11/41	1,512		S			Y	On valley flat.
														379 B	/54	1,526						
T. 12 S., R. 8 E.																						
Sec. 25																						
NW¼SE¼NE¼	6 NE of Skoksonok	Indiana-Arizona Shaft	Mn		300							N	2,750 D	290 R	/40	2,460		N				In mountains; in Paleozoic limestone.
T. 13 S., R. 1 E.																						
Sec. 27																						
NW¼NW¼SE¼	7 SE of Vaya Chin	DW-57	Dr	1941	268	6-1/4	0	268	P	54	64	C, G	2,350 D	47.8	8/55	2,302	3	S	Y		Y	Along large wash in foothills; reported in bedrock at 40 feet; reported to pump dry in 30 minutes.
									P	236	268											

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 13 S., R. 2 E.																						
Sec. 23																						
SW¼NW¼NW¼	Noipa Kam	W-74	Dg	1938								C, W		38.1	7/55			D, S			Y	Along wash in foothills; in altered Cretaceous-Tertiary sedimentary rocks.
Sec. 35																						
NW¼NW¼SW¼	2 SW of Noipa Kam		Mn									N		34.6	7/55			A				In foothills; in altered Cretaceous-Tertiary sedimentary rocks.
SW¼SW¼SE¼	2 S of Noipa Kam	Brownell Shaft	Mn									N		39.7	7/55			A				In foothills; in altered Cretaceous-Tertiary volcanic rocks; water level reported at 80 feet in 1912 and 25 feet in 1943.
T. 13 S., R. 3 E.																						
Sec. 2																						
NE¼NW¼NW¼	Gu Achi	DW-3	Dr	1915	391	10	0	378				T, E	1,800 A	274	/15	1,526		D, S	Y		Y	On valley flat
														272	1/54	1,528	33					
Sec. 10																						
SE¼NW¼SE¼	1 SE of Gu Achi	Santa Rosa Trading Post	Dr	1949	368	7						C, E	1,850 A	312.8	10/57	1,537		D			Y	On valley flat.
T. 13 S., R. 4 E.																						
Sec. 23																						
SW¼NE¼NW¼	6 SE of Gu Achi	DW-40	Dr	1937	365	6-1/4	0	365	Ts	325	365	C, G, W	1,875 B	323	10/57	1,552	15	D, S	Y		Y	On valley flat.
Sec. 30																						
SW¼SE¼NE¼	4 S of Gu Achi	DW-55	Dr	1939	420	6-1/4	0	420	Ts	372	414	C, G, W	1,885 B	354.8	10/57	1,530	20	D, S	Y		Y	On valley flat.
T. 13 S., R. 6 E.																						
Sec. 5																						
SE¼NW¼NW¼	2 NE of Pipyak	Pipyak Test Hole	TH	1955	305				10-inch OH	0	305		1,890 D	Dry	6/55			A	Y	X		On bajada; encountered basalt at 210 feet; abandoned above water-level table.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 13 S., R. 7 E.																						
Sec. 21																						
NE¼SW¼SE¼	Aguirre Vaya (new village site)	DW-35 (Queen's Well)	Dr		585	6-1/4						C, W	2,045 A	424 R	/54	1,621					Y	On valley flat.
Sec. 27																						
NW¼SE¼SE¼	Aguirre Vaya (old village site)		Dr		430									393 R	11/41			A				On valley flat.
T. 13 S., R. 8 E.																						
Sec. 1																						
NW¼NW¼NW¼	4 NE of Skoksonok		Mn									N		110	9/55			N				In foothills; in Cretaceous-Tertiary volcanic rocks.
Sec. 2																						
NE¼SE¼NE¼	3 NE of Skoksonok		Mn									N		40.5	9/55			N				In foothills; in Cretaceous-Tertiary volcanic conglomerate.
NW¼SE¼NW¼	3 NE of Skoksonok		Dg									N	2,350 D	34.9	9/55	2,315		A				On bajada at edge of foothills; in Cretaceous-Tertiary sedimentary rocks.
Sec. 11																						
SW¼SE¼NW¼	2 NE of Skoksonok	DW-61	Dr		100	6-1/4						C, W	2,290 A	64	9/55	2,226		S			Y	On bajada in pass area; dug in Cretaceous-Tertiary sedimentary rocks.
T. 14 S., R. 1 E.																						
Sec. 25																						
NE¼NE¼SW¼	5 W of Quijotoa	W-27 (Pozo Blanco Well)	Dg		53							B	2,385 C	30.8	11/17			S				Along large wash in foothills; in gneissic rock.
														25.6	9/55	2,359						
T. 14 S., R. 2 E.																						
Sec. 1																						
NE¼SW¼NW¼	3 S of Noipa Kam	W-73	Dg	1938	100							C, W		60.7	7/55		6	S	Y		Y	Along wash in foothills; in altered Cretaceous-Tertiary sedimentary rocks; water reported came in at 40 feet; pumped at 6 gpm for 18 hours in 1938 without report of drawdown.
Sec. 12																						
NW¼NE¼NE¼	3 S of Noipa Kam		Mn	1954										57.5	7/55			N				In foothills; in altered Cretaceous-Tertiary volcanic rock.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 14 S., R. 2 E.—Continued																						
Sec. 22																						
NE¼NW¼NE¼	3 NW of Quijotoa	Miami Copper Test 1	TH	1957	358				8-inch OH	0	358			260 R	4/57		20	A				Mountain valley; in rhyolite to 358 feet; driller estimates capacity at 20 gpm; tools lost at 358 feet.
Sec. 24																						
NW¼SE¼NE¼	2 NE of Quijotoa		Mn									N		63.4	8/55			A				In mountains; dug in monzonite.
Sec. 27																						
NE¼SW¼SE¼	1 NW of Quihotoa	W-22	Dg		49							C, W		31 K	11/17			D, S			Y	Along wash in foothills; in Tertiary andesite; easternmost of 3 dug wells within 100 feet of each other.
														25.9	5/57							
Sec. 29																						
SE¼NW¼NW¼	4 W of Quijotoa		Mn											37	9/55			A				Along wash in foothills; in diorite(?).
Sec. 30																						
NE¼NW¼NW¼	5 W of Quijotoa		Dg									B		20.1	9/55			A				Along wash in foothills; in altered Cretaceous-Tertiary quartzite.
Sec. 35																						
SW¼NE¼NE¼	Quijotoa	Covered Wells Trading Post	Dg									C, E						D				Along wash in foothills; sealed.
SW¼NW¼NW¼	Quijotoa	Knight Well	Dg		60							C, W		30 R	11/41			D				Along wash in foothills; in intruded Cretaceous(?) volcanic rock.
														33.4	5/57							
Sec. 36																						
NE¼SW¼NW¼	Quijotoa	New Community Well	Dg, Dr	1959	100	8	0	65	Ps	0	65	S, E		56 R	11/59		18	D, P				Along wash in foothills; in monzonite; about 200 feet north of W-36; specific capacity reported in 1959 to be about 20 gpm per foot of drawdown; not shown on map.
									OH	65	100											
SE¼SW¼NW¼	Quijotoa	W-36 (Sacred Heart Mission Well)	Dg	1935	60							C, G		43.1	5/57			D, S			Y	Near wash in foothills; in monzonite; southernmost of 2 wells at Sacred Heart Mission.
T. 14 S., R. 3 E.																						
Sec. 31																						
SE¼SE¼NW¼	2 E of Quijotoa	Cooley Well	Dr	1956	140	8	0	20	OH	20	140	C, G		119.7	2/57		3		Y		Y	Along large wash in foothills; in Cretaceous-Tertiary volcanic rocks; used for small leaching operation; reported bailed at 12 gpm for 1 hour without drawdown.

Table 1. --Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 14 S., R. 3 E.--Continued																						
Sec. 35																						
SW¼SE¼SW¼	3 N of Sikul Himatk	DW-36	Dr	1936	568	6-1/4	0	567	Ps	510	567	C, G, W	2,105 B	493.7	10/57	1,611	16	D, S	Y		Y	On valley flat.
T. 14 S., R. 4 E.																						
Sec. 22																						
SW¼SW¼NW¼	6 NW of Sand Wells		Dg		50								2,125 D	Dry	6/56			N				On bolson near basaltic hills.
Sec. 28																						
NW¼SW¼SE¼	5 NW of Sand Wells	DW-48	Dr	1937	720	6-1/4	0	720	P	680	720	C, W	2,205 D	640 R	12/37	1,565		S	Y		Y	On bolson near basaltic hills; reported in basaltic rocks at 355 feet.
														641.1	12/53	1,564	12					
T. 14 S., R. 5 E.																						
Sec. 12																						
SW¼NW¼NE¼	Sil Nakya		Dg									C, W	2,180 D					A				Along wash in foothills; not shown on map.
NW¼NW¼SE¼-1	Sil Nakya	W-19	Dg		15							C, W	2,205 D	10	12/41	2,195		D, S			Y	In foothills; specific capacity in 1960 reported to be 3 gpm per foot of drawdown; easternmost of 2 wells 20 feet apart; western well acts as recharge well from storage overflow and is not shown on map or this table.
														15.1	12/53	2,190	3					
														6 R	2/60	2,199						
NW¼NW¼SE¼-2	Sil Nakya		Dg									B, H	2,200 D	6.4	10/54	2,194		S				Along large wash in foothills; 100 feet south of W-19; not shown on map.
Sec. 27																						
SW¼NE¼NW¼	4 SW of Sil Nakya	W-21	Dg		20							B, H	2,390 D	15 R	11/41	2,375		N				In mountain valley; in Cretaceous(?) andesite.
														4.6	10/54	2,385						
														4.1	12/57	2,386						
NE¼NE¼SW¼	4 SW of Sil Nakya		Dg									N	2,465 D	4	12/57	2,461		N			Y	In mountain valley; in Cretaceous(?) andesite.
Sec. 34																						
NE¼NE¼SE¼	5 S of Sil Nakya		Dr									C, G	2,825 D	222.2	12/57	2,603		In, D				In mountains; in quartz monzonite.
T. 14 S., R. 6 E.																						
Sec. 20																						
SE¼NW¼NW¼	4 SW of Sil Nakya		Dg									B	2,325 D	45.3	6/56	2,280		N				Along large wash near foothills.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 14 S., R. 6 E.—Continued																						
Sec. 21																						
NW¼NW¼NW¼	4 SE of Sil Nakya	W-18	Dg									B	2,295 D	19.7	6/56	2,275		N				Along large wash near foothills; bottomed in Tertiary andesite.
T. 14 S., R. 7 E.																						
Sec. 7																						
NW¼NW¼NW¼	7 N of Schuchk	DW-65	Dr	1954	665	8						C, W	2,160 D	515 R	10/54	1,645	29	S	Y	X	Y	On valley flat; 2-hour bailing test in 1954 at 29 gpm showed no drawdown.
T. 14 S., R. 8 E.																						
Sec. 22																						
NE¼SW¼NE¼	5 NE of San Ignacio	DW-50	Dr	1938	505	6-1/4	0	505	P	470	505	C, W	2,320 D	451 R	4/38	1,869		S	Y			On valley flat; reported in "red porphyry" at 18 feet.
														473 R	11/41	1,847						
														446.4	6/51	1,874						
T. 14 S., R. 9 E.																						
Sec. 15																						
SE¼SE¼SE¼	9 NE of Viopuli		Sp										2,890 D		/41		2	S				In mountains; from fractures in Tertiary rhyolitic rocks; flow of 2 gpm reported in 1941; dry in 1956; spring 1/4 mile north, not shown on map, also dry in 1956.
															10/56		Dry					
T. 14 S., R. 10 E.																						
Sec. 20																						
SW¼SW¼SW¼	14 E of San Ignacio	W-12	Dg		65							C, G, W	2,560 D	60 R	11/41	2,500		S			Y	In foothills; in fault zone between Cretaceous-Tertiary sedimentary and Tertiary volcanic rocks; developed spring; heavy caliche deposits in vicinity.
														19.8	9/56	2,540						
Sec. 23																						
SE¼SE¼SW¼	17 E of San Ignacio		Dr		675	5-5/8	0	600	OH	600	675	N	2,325 D	252 B	12/45	2,073		A	Y	X		On bolson; well drilled to 302 feet in 1945, deepened to 675 feet in 1949; "rock" reported at 240 feet, quartz monzonite reported at 605 feet; seep reported at 290 feet; insufficient for domestic and stock purposes.
														332.1	1/53	1,993						

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 14 S., R. 10 E. Sec. 23—Continued																						
NE¼SW¼SE¼	17 E of San Ignacio		Dr	1950	400	8							2,315 D	326 R	1/50	1,989		D, S		X		On bolson.
														334.8	9/52	1,980						
														342.8	9/56	1,972						
T. 14 S., R. 11 E.																						
Sec. 9																						
SE¼NW¼SE¼	18 NE of Viopuli	DW-59	Dr	1941	325							C, W	2,260 D	262 B	5/41	1,998		S			Y	On valley flat.
														291.6	5/54	1,968						
														307.7	9/56	1,952						
Sec. 19																						
NE¼SE¼NW¼	19 NE of San Ignacio		Dr		410							C, G	2,295 D					S		X		On valley flat.
T. 15 S., R. 1 E.																						
Sec. 18																						
SE¼SE¼NW¼	6 N of Pisinimo	DW-45	Dr	1937	488	6-1/4	0	488	P	428	488	C, G	2,005 A	448	10/57	1,557	10	S	Y		Y	On bolson; reported in "basaltic lava" at 242 feet.
T. 15 S., R. 2 E.																						
Sec. 2																						
SW¼NE¼NE¼	1 S of Quijotoa	Copland Well	Dr	1958	400	12						S, E		200 R			7-25	D				Along wash in foothills; reported in "bedrock" below thin alluvial veneer; one of 4 closely spaced wells which produce 7 to 25 gpm.
Sec. 4																						
SW¼NE¼SW¼	3 SW of Quijotoa		Mn									N		75 E	10/55			A				In mountains; in quartz monzonite.
Sec. 5																						
SE¼SE¼NE¼	4 SW of Quijotoa		Sp												10/55		.1	N				In mountains; in quartz monzonite; undeveloped.
Sec. 11																						
SW¼SW¼SE¼-1	3 S of Quijotoa	Ballam's Well	Dg		60							C, E		36.7	8/55			D				Along wash in mountains; in quartz monzonite.
SW¼SW¼SE¼-2	3 S of Quijotoa	Old Horseshoe Well	Dr	1889	900	6			OH					50.4	8/55			N				Along wash in mountains; in quartz monzonite below shallow alluvium; originally supplied water for large mining camp; not shown on map.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 15 S., R. 2 E.—Continued																						
Sec. 22																						
NW¼NW¼SW¼	5 SW of Quijotoa	W-29	Dg	1935										15.9	10/55			A				In mountains; in shear zone in quartz monzonite; dug well 150 feet northeast not separately listed.
Sec. 32																						
NW¼SW¼SW¼	8 NE of Pisinimo		Dg		50								2,305 C	Dry	11/57			N				Along large wash in foothills; caved in to about 50 feet in 1957.
T. 15 S., R. 4 E.																						
Sec. 34																						
NW¼SE¼NW¼	San Luis	W-20	Dg									C, W, B	2,405 D	31.1	10/54	2,374		S				Along large wash in foothills.
Sec. 36																						
SE¼SE¼NW¼	2 W of Ko Vaya	W-57-1	Dg									C, W	2,580 D	47.5	10/54	2,532		D, S			Y	Along large wash in foothills.
NW¼NE¼SE¼	1 W of Ko Vaya	W-57-2	Dg									N	2,600 D	25.6	6/56	2,574		N				Along large wash in foothills; in granite.
T. 15 S., R. 5 E.																						
Sec. 5																						
NE¼SE¼SE¼	Sand Wells	W-10	Dg		25							C, G	2,705 D	6	11/41	2,699		D, S			Y	In foothills; in Cretaceous-Tertiary rhyolite.
														6.9	10/54	2,698						
														16.6	6/56	2,688						
Sec. 13																						
NW¼NE¼SW¼	4 SE of Sand Wells		Dg										3,475 D					S				In mountain valley.
SE¼SW¼SW¼	4 SE of Sand Wells		Dg									B	3,340 D	21.2	6/56	3,319		S				In mountain valley; in quartz monzonite.
Sec. 24																						
SE¼SW¼NE¼	5 SE of Sand Wells		Dg		78								3,380 D	24.3	6/56	3,356		S				In mountain valley; in quartz monzonite.
Sec. 31																						
SW¼NE¼SW¼	Ko Vaya	W-30-2	Dg		57								2,670 D	27 R	11/41	2,643		D, S				In valley in foothills; in granite.
SE¼NW¼SE¼-1	Ko Vaya	W-30-1	Dg		50							C, W	2,695 D	22.6	10/54	2,672		D, S			Y	Along large wash near foothills; in granite.
														32.6	6/56	2,662						
SE¼NW¼SE¼-2	Ko Vaya		Dg									B, H	2,695 D	10.1	10/54	2,685		S				Along large wash in foothills; 200 feet east of W-30-1; not shown on map.
Sec. 32																						
SE¼SE¼NE¼	1 E of Ko Vaya		Dg									N	2,780 D	12 R		2,768		A				Along large wash in foothills; caved in.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 15 S., R. 5½ E.																						
Sec. 12																						
NW¼NW¼NW¼	6 S of Sil Nakya		Sp										3,500 D	Dry	6/57			S				In mountains; in sheared quartz monzonite.
T. 15 S., R. 6 E.																						
Sec. 8																						
SE¼SW¼NW¼	5 W of Schuchk		Dg									N	2,890 D					A				In mountains; in quartz monzonite; caved.
Sec. 13																						
SE¼SE¼NE¼	Schuchk	DW-22 (Santa Rosa School Well)	Dr		614	7-5/8						C, G, W	2,521 B	561 B	11/41	1,960		D, S			Y	On bolson
														553 B	/54	1,968						
														561.6	11/55	1,959						
T. 15 S., R. 7 E.																						
Sec. 1																						
SE¼SE¼NE¼	San Ignacio	DW-28	Dr		565	7-5/8						C, W	2,395 D	513 B	11/41	1,882		D, S			Y	On bolson.
														524 B	/54	1,871						
T. 15 S., R. 8 E.																						
Sec. 25																						
SE¼SW¼SW¼	Viopuli	W-23	Dg									C, G, W	2,685 D	35	/53	2,650		D, S			Y	Along large wash near foothills.
														25.9	9/54	2,659						
T. 15 S., R. 9 E.																						
Sec. 8																						
NE¼NE¼NW¼	8 E of San Ignacio	W-4	Dr		186				OH	0	186		2,575 D	63	/39	2,512		A	Y			Along large wash in foothills; reported in "red porphyry" at 12 feet and to produce 40 gallons per hour.
Sec. 17																						
NW¼NE¼SW¼	3 NE of Viopuli		Mn										2,650 D	41.2	12/56	2,609		A				On bolson in foothills; dug in intruded Cretaceous-Tertiary sedimentary and volcanic rocks.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 16 S., R. 1 E.																						
Sec. 18																						
NE¼NW¼NW¼	Pisinimo	DW-16	Dr	1920	466	6-5/8	0	466	Ps	401	466	C, G, W	1,905 A	305 R	/20	1,600		D, S	Y		Y	On bolson.
														335.8	10/57	1,569						
Sec. 34																						
NE¼SW¼SE¼	5 SE of Pisinimo	DW-73	Dr	1955	380	8	0	380	P	300	380	C, W	1,890 A	299.8	10/57	1,590	36	S	Y	X	Y	On bolson.
T. 16 S., R. 2 E.																						
Sec. 6																						
NW¼NE¼NE¼	7 E of Pisinimo		Dg		110							B	2,290 C	50.5	11/57	2,239		N			Y	Along wash in foothills.
Sec. 10																						
NW¼SE¼SE¼	Piato Vaya	W-33	Dg		18							B	2,295 C	5.7	1/58	2,289		D, S				Along wash in foothills; in Cretaceous-Tertiary volcanic rocks.
Sec. 14																						
NW¼NW¼NW¼	Piato Vaya	W-24	Dg		40							B	2,250 C	10.4	1/58	2,240		D, S			Y	Along wash in foothills; in Cretaceous-Tertiary volcanic rocks.
SW¼SW¼NW¼	Piato Vaya	W-23	Dg		54							B	2,235 C	22	1/58	2,213		D, S				Along wash in foothills; in Cretaceous-Tertiary sedimentary rocks.
NE¼NW¼SW¼	Piato Vaya		Dg		61							N	2,230 C	30.3	1/58	2,200		N				Along wash in foothills; not shown on map.
T. 16 S., R. 3 E.																						
Sec. 9																						
NE¼SE¼NE¼	Vainom Kug	Old Iron Pipe Well	Dg	1880's	465								2,030 C					A				In large central wash in valley; water originally piped to mines in vicinity of Ben Nevis; now caved.
Sec. 10																						
NE¼NW¼SW¼	Vainom Kug	DW-42	Dr	1936	502	6-1/4	0	502	P	442	502	C, G, W	2,050 A	447.1	10/57	1,603		D, S	Y		Y	On valley flat.
T. 16 S., R. 4 E.																						
Sec. 5																						
SW¼SE¼NE¼	1 S of San Luis		Dg										2,445 D									Along wash in foothills.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 16 S., R. 4 E.—Continued																						
Sec. 9																						
SW¼NE¼NE¼	2 SE of San Luis	W-34	Dg									C, W	2,505 D	64.7	10/54	2,440		S			Y	Along channel in foothills; in Cretaceous(?) volcanic rocks below shallow alluvium.
														70.9	6/56	2,434						
SW¼NW¼NW¼	2 SE of San Luis	Picacho Shaft	Mn		600							T, G	2,480 D	70 R	/56	2,410	2	In				On bolson in foothills; all in Cretaceous(?) volcanic rocks; specific capacity estimated at 2 gpm per foot of drawdown in 1940's.
Sec. 14																						
NE¼SE¼SW¼-1	Santa Cruz	W-71-1	Dg		65							B, H	2,780 D	23 C	/15	2,757		S				Along large wash in mountains.
														25.1	10/54	2,755						
NE¼SE¼SW¼-2	Santa Cruz	W-71-2	Dg		30								2,780 D	1 C	/15	2,779						Along large wash in mountains; not shown on map.
NE¼SE¼SW¼-3	Santa Cruz	W-71-3	Dg									C, G	2,790 D	32.9	10/54	2,757		D, S				Along large wash in mountains; not shown on map.
														28.1	6/56	2,762						
Sec. 15																						
SW¼NW¼SE¼	1 W of Santa Cruz		Mn		150								2,675 D	48	6/56	2,727	<1	N				In foothills; in Cretaceous(?) volcanic rock; reported to make about 200 gpd.
Sec. 17																						
NE¼SE¼NE¼	Nolia		Dg		82							B, H	2,395 D	30 C	/15	2,365		S				Along large wash in foothills; reported in bedrock below shallow alluvium.
														17.8	10/54	2,377						
SE¼SE¼NW¼	Nolia	W-00	Dg									C, W	2,395 D	76.4	10/54	2,319		D, S			Y	In foothills; reported in bedrock below shallow alluvium.
Sec. 23																						
SW¼SW¼SW¼	2 S of Santa Cruz	Steppe Shaft 1	Mn		400								2,660 D	Dry	6/56							In foothills; reported to make about 500 gpd.
Sec. 24																						
NW¼NE¼NW¼	1 SE of Santa Cruz		Dg										3,000 D	33	6/56	2,967		N				In mountain valley; in granite below 12 feet of alluvium.
Sec. 26																						
NE¼NW¼NW¼	2 S of Santa Cruz	Steppe (Mary) Shaft 2	Mn		350								2,615 D	40.1	6/56	2,575	<1	N				In foothills; in intrusive rhyolite; inclined shaft; reported to make 200 gpd from fault zone 80 feet below surface.
NE¼SW¼NW¼	2 S of Santa Cruz		Dg		110								2,575 D	7.6	10/54	2,567		A				Along wash in foothills; not on map.
Sec. 27																						
SW¼NW¼SE¼	3 S of Santa Cruz		Dg										2,470 D	24.4	10/54	2,446		D, S			Y	In wash in foothills; in Cretaceous(?) basalt; 2 wells at this location.
														9.6	6/56	2,460						

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 16 S., R. 4 E.--Continued																						
Sec. 35																						
SW¼NE¼NE¼-1	3 S of Santa Cruz		Dg										2,760 D	10.6	6/56	2,749		D, S				Along wash in foothills; in granite; not shown on map.
SW¼NE¼NE¼-2	3 S of Santa Cruz		Dr			8							2,765 D	47.5	6/56	2,717		N				Along wash in foothills; 35 feet northeast of well 1; not shown on map.
SW¼NE¼NE¼-3	3 S of Santa Cruz		Dr		35	9							2,765 D	Dry	6/56			N				Along wash in foothills; 40 feet northeast of well 1; not shown on map.
SW¼NE¼NE¼-4	3 S of Santa Cruz		Dr		600	10							2,765 D	38	6/56	2,727		N				Along wash in foothills; 55 feet northeast of well 1; original source of water for Steppe mine, 1 mile north.
T. 16 S., R. 5 E.																						
Sec. 11																						
NW¼SW¼SW¼-1	1 SW of Comobabi	W-58-1	Dg									C, G	3,380 D	13.4	10/54	3,367		S				In mountain valley; in Cretaceous(?) volcanic rocks.
														18.7	6/56	3,361						
NW¼SW¼SW¼-2	1 SW of Comobabi	W-58-2	Dg									B, H	3,385 D	20.8	10/54	3,364		S				In mountain valley; in Cretaceous(?) volcanic rocks; 200 feet upstream of W-58-1; not shown on map.
														23.2	6/56	3,362						
Sec. 12																						
NE¼SW¼SE¼	1 SE of Comobabi	W-63	Dg									B, H	3,050 D	31	11/41	3,019		D			Y	In wash in foothills; in quartz monzonite(?) below 5 feet of alluvium.
														35.1	10/54	3,015						
Sec. 14																						
SW¼SW¼SE¼	2 S of Comobabi		Mn									B	3,525 D	2	10/54	3,523		S				In mountains; along intrusive contact between Cretaceous(?) sedimentary rocks and quartz monzonite porphyry.
Sec. 18																						
SW¼NE¼NW¼	3 SE of Ko Vaya		Mn										3,085 D	48.6	6/56	3,036		N				In mountains; in mineralized Cretaceous(?) basalt.
Sec. 21																						
NW¼NW¼NE¼	3 SW of Comobabi		Sp										3,510 D	1 E	6/56	3,509		N				In mountain wash; developed spring?
Sec. 31																						
NW¼NW¼NE¼	4 SE of Santa Cruz	W-62	Dg									N	3,060 D	38 E	6/56	3,022		N				In mountain valley; in diorite(?) below about 10 feet of alluvium.
Sec. 34																						
SW¼NE¼SE¼	5 S of Comobabi		Dr	1937	100								3,940 D				6	S	Y			On bajada in foothills; in epidotized rock below about 35 feet of alluvium.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 16 S., R. 6 E.																						
Sec. 27																						
NW¼NE¼NW¼	1 W of Havana Nakya	DW-44	Dr		785	7-5/8	0	390	P	700	785	C, G, W	2,795 B	707 B	/54	2,088		D, S	Y		Y	On valley flat.
						6	390	785						695	10/57	2,100	15					
T. 16 S., R. 7 E.																						
Sec. 8																						
NW¼SE¼NE¼	3 N of San Vicente	DW-62	Dr	1943	800	6	0	785				C, G	2,870 B	570 R	/43	2,300	25	D, S, P	Y		Y	On bajada; reported in 1943 to have encountered water at a depth of 724 feet.
Sec. 13																						
SW¼SW¼NW¼	3 NE of San Vicente		Mn		400								3,175 D	82.3	11/54	3,093		N				In foothills; in silicified and altered Cretaceous-Tertiary sedimentary rocks.
Sec. 22																						
SW¼NE¼SE¼	1 NE of San Vicente		Dr		296	8						N	3,205 D					A	Y			On bajada in foothills; reported in bedrock at 86 feet; caved in.
Sec. 28																						
NW¼NE¼NE¼	San Vicente		Dr			8						N	3,145 D	53 R	/43	3,092		N				On bajada in foothills.
Sec. 33																						
SW¼SW¼NE¼	1 S of San Vicente		Sp									N	3,575 D	Dry	11/54			N				In mountains.
Sec. 35																						
NE¼NW¼SW¼	2 SE of San Vicente		Dg									B	3,690 D	8.3	11/54	3,682		S				In mountain valley.
T. 16 S., R. 8 E.																						
Sec. 10																						
SE¼NW¼SW¼	3 SW of Viopuli	Dobbs or Roadside Well	Dg		62							N	2,930 D	48 K	11/17	2,882		N			Y	In wash in foothills; in Cretaceous-Tertiary volcanic conglomerate below 10 feet of alluvium.
														50 R	11/41	2,880						
														60	11/54	2,870						
Sec. 11																						
NE¼NW¼SW¼	3 SW of Viopuli	Roadside 5	Dr	1957	1,103	3-1/2 3/4	0	1,103				N	2,890 D	80 R	3/57	2,810		N	Y			In foothills; in Cretaceous-Tertiary rocks; diamond-drill hole.
NW¼NW¼SW¼	3 SW of Viopuli	Roadside Shaft	Mn	1924	800								2,910 D	100 R	6/56	2,810	8	N	Y		Y	In foothills; in Cretaceous-Tertiary rocks; yield reportedly increased from about 2 gpm to 8 gpm when shaft was lowered from 700 feet to 800 feet in 1924; not shown on map.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 16 S., R. 8 E.—Continued																						
Sec. 13																						
NE¼NE¼SW¼	Nawt Vaya	W-26 (Alamo Well)	Dg		42							C,H	2,920 D	40 K	12/17	2,880		D,S				On bajada; in "brecciated felsite" at 42 feet.
														50 R	11/41	2,870						
														32.5	10/55	2,888						
Sec. 20																						
SE¼NW¼SE¼	Pantak	W-9	Dg		40							B	3,435 D	30 R	11/41	3,405		D,S				In mountains; along fault zone; developed spring.
														17.8	11/54	3,417						
Sec. 23																						
SW¼NE¼NW¼	1 SW of Nawt Vaya	W-25	Dg									C,H	3,225 D	8 E	10/55	3,217		D,S				In mountain valley; in gneissic rocks near fault zone; 50 feet below site of Agua La Vara Spring (Bryan, 1925); dry in 1955.
Sec. 29																						
NE¼NW¼SE¼	1 SE of Pantak		Dg									B	3,515 D	17.3	11/54	3,498		D,S				In mountains; along fault zone; developed spring.
Sec. 32																						
NE¼SE¼SE¼	Uhs Kug	W-32	Dg										3,950 D	20 R	11/41	3,930		S				In mountains; along fault zone; developed spring.
T. 17 S., R. 2 E.																						
Sec. 32																						
SE¼NE¼SE¼	2 SE of Kupk		Dr	Old	350								1,850 C	Dry	/15			A				On valley flat; destroyed.
Sec. 33																						
NE¼SW¼SE¼	3 SE of Kupk	DW-66	Dr	1954	445	8	0	445	Ts	290	445	C,G	1,890 A	259.8	3/57	1,630	40	D,S	Y	X	Y	On valley flat; 2-hour bailing test at 40 gpm in 1954 showed no drawdown.
T. 17 S., R. 3 E.																						
Sec. 8																						
SE¼NE¼SW¼	4 NW of Gu Oidak	DW-20	Dr	1955	480	8	0	480	Ts	302	480	C, G,W	1,965 A	339 R	2/55	1,626	20	S	Y	X	Y	On valley flat; bailing-test data inconclusive regarding capacity.
Sec. 24																						
NW¼SE¼SE¼	2 NE of Gu Oidak	DW-17	Dr	1920	602	6-6/8	0	596	P	530	596	C,G	2,100 D	452.9	10/57	1,647	8	D,S	Y		Y	On valley flat.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 17 S., R. 4 E.																						
Sec. 11																						
NE¼SW¼SE¼	3 N of Sells	W-56	Dg									B	2,455 D	21.8	10/54	2,433		S			Y	On bajada near foothills.
Sec. 24																						
NW¼NE¼NE¼	2 N of Sells	Water-Table Test 3	TH	1952	102				OH	0	102		2,445 D	Dry				A	Y	X		On bajada in pass area; reported in "hard black rock" at 55 feet.
SW¼SE¼NE¼	1 N of Sells		Dr	1921	711	6							2,420 D				3	A	Y			On bajada in pass area; reported in "hard rock" at 35 feet; approximate location only; one of 2 wells drilled close to each other; not shown on map.
SW¼NE¼SE¼	1 N of Sells	Deep Test 1	TH		110								2,390 B	Dry				N		X		On bajada; encountered igneous rock at 85 feet.
Sec. 25																						
NW¼SE¼NE¼	1 N of Sells	DW-52C	Dr	1938	114	7-5/8	0	112	P	74	112	T, E	2,380 D	84.8	10/57	2,295	55	D	Y		Y	On bajada; encountered "gray porphyry" at 111 feet; no drawdown data available.
SW¼SE¼NE¼-1	1 N of Sells	DW-52B	Dr	1938	110				OH	0	110	N	2,380 D	60 R	/38	2,320	9	A	Y			On bajada; reported in "red malapais" at 103 feet; about 200 feet south of DW-52C; not shown on map.
SW¼SE¼NE¼-2	1 N of Sells	DW-52A	Dr	1938	117	7-5/8	0	114	P	76	114	T, E	2,380 D	82 R	6/50	2,298	82	D	Y		Y	On bajada; reported in "red malapais" at 107 feet; about 100 feet south of DW-52C; specific capacity reported to be 9 gpm per foot of drawdown in 1950; not shown on map.
NW¼SE¼NW¼	1 NW of Sells	State Highway 3	Dr	1945	111							C, E	2,360 D	81.3	6/57	2,279	25		Y		Y	On bajada.
														82.6	10/57	2,277						
SW¼SE¼NW¼-1	1 NW of Sells	State Highway 1	TH	1945	60							N	2,360 D	Dry	10/45			A	Y			On bajada; reported in "malapais" at 52 feet; about 600 feet south of State Highway 3 well; not shown on map.
SW¼SE¼NW¼-2	1 NW of Sells	State Highway 2	TH	1945	100							N	2,360 D					A	Y			On bajada; reported "hard malapais" at 96 feet; not shown on map.
SE¼SE¼SW¼	Sells	Menager's Well	Dg		71							C, E	2,355 D	57.7	6/57	2,297		N				Along large wash in pass area.
NE¼NE¼SE¼	Sells	DW-52D	Dr	1938	250	10	0	18	OH	18	250	C, W	2,380 D	71.6	6/57	2,308	21	D, S	Y		Y	Along large wash in pass area; reported in "porphyry" at 23 feet; no drawdown data available.
Sec. 26																						
NW¼SW¼NE¼	1 NW of Sells	Sells Hosp. Test 1	TH	1957	981	8	0	20	OH	20	981	N	2,335 D	96.6	6/57	2,238	15	A	Y	X	Y	On bolson; encountered fine-grained igneous rock at 152 feet; specific capacity, 1 pint per minute per foot of drawdown.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 17 S., R. 4 E.—Continued																						
Sec. 27																						
SE¼NE¼NW¼	2 NW of Sells	Corral Well	Dr	1956	370	10	0	194				C,G	2,295 B	166.1	6/57	2,129	9	S	Y	X	Y	On bolson; no drawdown data available.
						8	194	363						165.5	10/57	2,129						
Sec. 30																						
SW¼NW¼SW¼	5 W of Sells	Sells Hosp. 1	Dr	1958	700	12	0	620	Pm	530	616		2,175 D	516.2	3/58	1,659	200	P	Y	X	Y	On bajada; specific capacity, 3 gpm per foot of drawdown.
									OH	616	700											
Sec. 31																						
NW¼NW¼NW¼	5 W of Sells	Sells Hosp. 2	Dr	1959	700	16	0	700	P	530	695		2,180	506 R	11/59	1,674	250	P,S	Y	X	Y	On bajada; specific capacity reported to be about 2 gpm per foot of drawdown.
Sec. 34																						
SE¼NW¼NE¼	2 W of Sells	DW-41	Dr	1936	330	7-5/8	0	201	P	141	201	T,E	2,300 B	145.1	6/57	2,155	60	D,S	Y		Y	Along large wash on bajada; reported in bedrock(?) at 219 feet; specific capacity reported to be 6 gpm per foot of drawdown; backfilled to 201 feet.
														148.7	10/57	2,152						
Sec. 36																						
NE¼NW¼NE¼	Sells	W-42	Dg		38							B	2,370 D	36 C	/15	2,334					Y	Along large wash in foothills; in Tertiary volcanic rock below shallow alluvium; not shown on map.
T. 17 S., R. 5 E.																						
Sec. 2																						
SW¼NW¼SW¼			Dg										2,820 D					N				In wash in foothills; not shown on map.
Sec. 3																						
SE¼NE¼NE¼	6 NE of Sells	Jaeger Shaft	Dg									C,G	2,890 D	102.5	1/57	2,788		D,In				In foothills; in diorite intrusive into Cretaceous(?) rocks; old shaft used as well.
NE¼NW¼NW¼	6 NE of Sells	W-72											2,950 D					N				Along large wash in foothills.
SE¼NW¼SW¼	5 NE of Sells	W-55	Dg										2,925 D					N				Along large wash in foothills.
Sec. 6																						
NE¼SW¼SE¼	5 N of Sells	W-43	Dg									C,G	2,725 D	7.4	10/54	2,718		S				Along large wash in foothills; in Cretaceous(?) volcanic rock.
Sec. 19																						
NE¼SE¼NE¼	2 NE of Sells	Deep Test 6	TH	1953	215	8	0	140	OH	192	215	N	2,450 B	86	6/57	2,364	60	N	Y	X	Y	On bajada in pass; reported in "red rock" at 45 feet; reported 60 gpm with "very little drawdown."
						6	104	192														

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Final Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 17 S., R. 5 E. Sec. 19—Continued																						
NE¼NE¼SW¼	2 N of Sells	Water-Table Test 2	TH	1953	105				9-inch OH	0	105	N	2,425 D	Dry	/53			A	Y			On bajada; encountered diorite at 40 feet.
Sec. 20																						
SE¼SW¼NW¼	3 NE of Sells	Deep Test 7	TH	1954	256	8						N	2,453 B	80.7	2/54	2,372	30 M	N	Y		Y	On bajada; encountered basalt at 47 feet; specific capacity, about 2 gpm per foot of drawdown; not shown on map.
SE¼SE¼NW¼	3 NE of Sells	Deep Test 8	TH	1954	130	8	0	46	OH	46	130	N	2,462 B	88.4	3/54	2,373	36 M	N	Y		Y	On bajada; reported in "hard lava rock" at 110 feet; specific capacity, about 6 gpm per foot of drawdown; not shown on map.
NE¼NE¼SW¼	3 NE of Sells	Deep Test 2	TH	1952	450	6	0	167	Pm	88	167	N	2,460 B	84.1	4/52	2,376	103 M	N	Y	X	Y	On bajada; reported in "dark gray rock" at 165 feet; specific capacity reported to be about 2 gpm per foot of drawdown.
									OH	167	450			86.2	10/57	2,374						
SW¼NW¼SW¼	3 NE of Sells	Deep Test 4	TH	1952	65				OH	0	65	N	2,436 B	Dry				A	Y	X		On bajada; crooked hole; not shown on map.
NW¼SW¼SW¼	3 NE of Sells	Deep Test 5	TH	1952	152							N	2,436 B					A	Y			On bajada; well bailed dry in "very few minutes"; not shown on map.
SE¼NW¼SE¼	3 NE of Sells	Deep Test 3	TH	1952	102				OH	0	102	N	2,464 B	86.5	5/54	2,377		A	Y		Y	On bajada; reported in "red oxide, very hard" at 75 feet; not shown on map.
Sec. 24																						
SW¼SE¼SW¼	6 E of Sells	DW-34	Dr	1936	654	10	0	60	P				2,600 A	510.6B	2/58	2,089	35	D, S	Y		Y	On bajada; no data on drawdown available.
						8-5/8	0	654														
Sec. 30																						
NE¼NW¼NE¼	1 NE of Sells	Water-Table Test 1	TH	1953	142	9							2,410 B	85 B	/53	2,325	30		Y			On bajada; no drawdown data available; not shown on map.
SE¼SW¼SW¼	Sells		Dg	1917	71							B	2,385 D	19.6	10/54	2,365		D	Y			In foothills.
Sec. 31																						
NW¼NW¼NE¼	Sells	DW-60	Dr	1941	120	6-1/4	0	120	P	55	76	C, W	2,385 D	35 B	/41	2,350	7	D, S	Y		Y	Along large wash in foothills; reported in bedrock at 20 feet.
									P	98	120			69.1	6/54	2,316						
														64.6	10/57	2,320						
NE¼NW¼NW¼	Sells		Dg										2,350 D	26	10/54	2,324		N				In foothills; not shown on map.
														30.1	6/57	2,320						
Sec. 35																						
SW¼NE¼NE¼	Ali Chukson	Garcia Well	Dr		827	8	0	500	P			C, G	2,590 D	395.1	11/53	2,195		D, S			Y	On bajada near foothills.
						6	500	827														

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Final Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 17 S., R. 6 E.																						
Sec. 8																						
NE¼NE¼SW¼	3 N of Ali Molina	DW-1 (Fresnal Well)	Dr	1880's	700	6-5/8	0	484	P	521	700	C, G	2,680 B	595 R	6/19	2,085		S	Y		Y	On bajada; original well was 780 feet deep, abandoned in 1915, and cleaned out from 484 to 700 feet in 1919.
						6	484	700						600 R	/54	2,080						
Sec. 31																						
NE¼NE¼SE¼	Ali Molina	DW-14	Dr	1920	855	10	0	120	P			C, G	2,680 D	594.3	11/53	2,086	10 M	D, S	Y		Y	On bolson.
						6-1/4	68	673														
						5-5/8	673	855														
Sec. 35																						
NW¼SE¼NW¼	4 E of Ali Molina		Dg										2,995 D	Dry	/54							On bolson.
T. 17 S., R. 7 E.																						
Sec. 5																						
NW¼SE¼NW¼	4 SE of Havana Nakya	W-67	Dg									C, W	3,300 D	43.9	10/54	3,256		S			Y	In mountain valley; in rock below few feet of alluvium.
SW¼SW¼SE¼	3 N of San Juan Spring		Mn									C, H	3,505 D	19.2	10/54	3,486		S				In mountain valley.
Sec. 14																						
SE¼NE¼NW¼	3 W of Uhs Kug		Sp										5,550 D	Dry	11/54							In mountains; in gneissic granite.
Sec. 20																						
NW¼SW¼NW¼	1 NE of San Juan Spring	San Juan Spring	Sp										3,950 D									In mountains.
Sec. 25																						
NE¼NE¼NE¼	3 SW of Uhs Kug	W-75	Dg		22							C, W	3,980 D	18 R	11/41	3,962		S				Along large wash in foothills.
Sec. 32																						
NE¼NW¼NW¼	1 SE of San Juan Spring		Dg		30								3,425 D	Dry	11/54			A				In mountain valley; caved in.
NW¼NW¼NW¼	1 SE of San Juan Spring		Dr			6						C	3,450 D	104.2	9/54	3,346		D, S				Along wash in foothills.
Sec. 34																						
SE¼NE¼SW¼	3 SE of San Juan Spring		Sp										4,500 D									In mountain valley.
T. 17 S., R. 8 E.																						
Sec. 8																						
NE¼NE¼NE¼	Uhs Kug	W-31	Dg									C, H	4,190 D	25 R	11/41	4,165		D, S				In mountains; along fault zone; developed spring.
														24.1	10/54	4,166						

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 18 S., R. 1 E.																						
Sec. 7																						
NE¼SW¼NE¼	5 N of Stan Shuatuk	DW-46	Dr	1938	317	6-1/4	0	310	P	266	310	C, W	1,780 A	242.8	10/57	1,537	14	D, S	Y		Y	On bolson; reported in granite at 310 feet.
									OH	310	317											
T. 18 S., R. 2 E.																						
Sec. 29																						
SE¼SW¼NW¼	Kots Kug	Toro 1	Dr		300	10						C, G	1,865 A	249	11/57	1,616		D, S			Y	On valley flat; unused well 25 feet south of this well.
Sec. 31																						
SE¼NE¼NW¼	1 SW of Kots Kug	Toro 3	Dr		300	10						C, G	1,855 A	240	11/57	1,615		D, S			Y	On valley flat.
T. 18 S., R. 3 E.																						
Sec. 16																						
NW¼NE¼NE¼	2 E of Chuwut Murk	DW-74	Dr	1955	410	8	0	410	P	330	410	C, G, W	2,000 A	335 R	6/55	1,665	36	S	Y	X	Y	On valley flat; 2-hour bailing test at 36 gpm showed no drawdown.
T. 18 S., R. 4 E.																						
Sec. 14																						
NE¼NE¼SW¼	3 SW of Sells	W-41	Dg										2,350 D	40	7/57	2,310						Along wash in foothills; in metamorphosed Cretaceous-Tertiary sedimentary rocks below shallow alluvium.
T. 18 S., R. 5 E.																						
Sec. 1																						
SW¼NW¼NE¼	1 SW of Ali Molina		Dg		200								2,630 D	Dry C	/15							On bolson.
Sec. 7																						
NE¼NW¼NW¼	2 S of Sells	W-40	Dg										2,440 D								Y	Along wash in foothills; in granite below shallow alluvium.
Sec. 24																						
NW¼NW¼NW¼	4 S of Ali Molina	DW-63	Dr	1954	650	8	0	650	Ts	500	650	C, G	2,570 D	488.6	8/54	2,081		D, S	Y	X	Y	On bajada.
Sec. 32																						
NE¼SW¼SW¼	1 N of Topawa												2,400 D									Along wash in foothills.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 18 S., R. 6 E.																						
Sec. 1																						
NE¼SE¼SE¼	2 S of San Juan Spring	W-45	Dg									C, W	3,450 C	25.5	9/54	3,424		D, S				Along wash in foothills.
Sec. 25																						
NW¼NW¼NW¼	6 S of San Juan Spring	W-60	Dg									C, W	3,045 D	26.3	10/54	3,019		S				Along wash in foothills.
T. 18 S., R. 7 E.																						
Sec. 9																						
SW¼SE¼SW¼	3 N of Chuili Shaik	W-4	Dg										3,720 D	Dry C	/15							In foothills; in tilted conglomerate.
														Dry	10/54							
Sec. 26																						
SW¼SW¼NW¼	3 E of Chuili Shaik	W-37	Dg		13							C, G	3,525 D	8 C	/15	3,517		S			Y	In mountain valley.
														7.2	10/54	3,518						
Sec. 29																						
NW¼NW¼NW¼	1 N of Chuili Shaik	W-15 (Kohi Kug)	Dg									C, G	3,250 D	6	9/54	3,244		D, S			Y	Along wash in foothills.
Sec. 31																						
NW¼NE¼SE¼-1	1 SW of Chuili Shaik		Dg									C, G	3,125 D	41.9	10/54	3,083		D			Y	Along wash in foothills.
NW¼NE¼SE¼-2	1 SW of Chuili Shaik		Dg										3,125 D	42.5	10/54	3,082		N				Along wash in foothills; 20 feet northwest of well 1 in same 10-acre plot; not shown on map.
Sec. 32																						
NE¼NW¼NE¼-1	Chuili Shaik	W-3	Dg									N	3,200 D	9.4	10/54	3,191		N			Y	Along wash in foothills; 20 feet southwest of well 2; not shown on map.
NE¼NW¼NE¼-2	Chuili Shaik		Dr	1937	61							C, W	3,200 D	6.5 R	2/37	3,193	45	D, S	Y			Along wash in foothills; reported in "red porphyry" at 44 feet; specific capacity reported to be about 1 gpm per foot of drawdown.
SW¼NW¼NW¼	Chuili Shaik	W-5	Dg									C, W	3,125 D	28.6	10/54	3,096		D, S				In valley in foothills.
SE¼SE¼SE¼	1 SE of Chuili Shaik	W-65	Dg									C, W	3,300 D	20.6	10/54	3,279		D, S				Along wash in foothills; in Tertiary andesite below thin alluvium.
Sec. 33																						
NW¼NE¼NE¼	2 E of Chuili Shaik		Dr										3,425 D					A				Drilled in fill behind dam; sealed.
NW¼SW¼NE¼	2 E of Chuili Shaik	Allison Camp	Dg									N	3,300 D	6.9	10/54	3,293		N				Along wash in foothills.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 19 S., R. 1 E.																						
Sec. 5																						
NW¼NE¼SW¼	Stan Shuatuk	DW-2 (Serventi Well)	Dr		420							C, G	1,755 A	223.1	10/57	1,532		D, S			Y	On bajada near small hills.
Sec. 7																						
NW¼NW¼SE¼	1 SW of Stan Shuatuk	Papago Farms (PF) 1	Dr	1957	715	20	0	614	Pm	208	613	T, Bg	1,740 A	210.7	9/57	1,529	2,000	I	Y	X	Y	On bajada; specific capacity about 30 gpm per foot of drawdown, October 1957.
									OH	614	715											
SW¼NW¼SE¼	1 SW of Stan Shuatuk	Papago Farms (PF) 1A	TH	1957	718	5	0	250	Ts	250	700	N	1,740 A	206.4	9/57	1,534		N	Y	X		On bajada; observation well for pump tests in October 1957.
						3	250	700														
Sec. 8																						
NE¼NE¼SE¼	1 SE of Stan Shuatuk	Papago Farms (PF) 3	Dr	1958	975	20	0	502	P	300	502	T, D	1,760 A	227 R	1/58	1,533	2,400	I	Y	X	Y	On bajada; specific capacity reported to be about 23 gpm per foot of drawdown.
									OH	502	975											
NW¼NW¼SE¼	1 S of Stan Shuatuk	Papago Farms (PF) 7	Dr	1958	930	20						T, D	1,755 A				2,100					On bajada.
Sec. 17																						
NE¼NE¼NE¼	2 SE of Stan Shuatuk	Papago Farms (PF) 6	Dr	1958	560	20	0	560				T, D	1,765 A				500	I	Y	X	Y	On bajada near small hill; reported in "rock" at 550 feet.
Sec. 18																						
NE¼SE¼NE¼	2 S of Stan Shuatuk	Papago Farms (PF) 4	Dr	1958	952	20	0	500	Pm	300	500	T, D	1,765 A					I	Y			On bajada.
						16	464	952	Pm	464	952											
Sec. 19																						
NE¼NE¼NE¼	3 S of Stan Shuatuk	Papago Farms (PF) 5	Dr	1958	950	20	0	502	Pm	300	502	T, D	1,745 A					I	Y		Y	On bajada.
									OH	502	950											
T. 19 S., R. 2 E.																						
Sec. 31																						
NE¼NW¼NE¼	6 S of Kots Kug		Dg		180								2,010 C	54 C	/15	1,956		N			Y	Along wash in low hills.
														104.5	9/57	1,905						
T. 19 S., R. 3 E.																						
Sec. 29																						
NW¼SW¼SW¼	2 S of Chukut Kuk	DW-37	Dr	1936	540	6-1/4						C, W	2,095 A	438.5B	/54	1,656		D, S			Y	On bajada.
Sec. 35																						
SE¼SE¼SE¼	5 SE of Chukut Kuk	DW-21	Dr	1955	614	8	0	614	Ts	458	614		2,225	557 R	3/55	1,668	16	S	Y	X	Y	On bajada.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 19 S., R. 3½ E.																						
Sec. 1																						
NE¼NW¼NE¼	Cowlik	DW-12	Dr	1919	722	6-5/8	0	722	P			C, G	2,100 D	392 R	6/19	1,708		D, S	Y		Y	On bajada near small hill.
														395.1	11/53	1,705	12					
T. 19 S., R. 5 E.																						
Sec. 3																						
NW¼NE¼NW¼	2 E of Topawa	San Solano Mission Well	Dr		484	8						C, E	2,475 D	426.7	11/53	2,048		D			Y	On bajada.
														427.3	6/57	2,048						
SE¼NW¼SE¼	2 E of Topawa	DW-9	Dr	1915	602	10	0	592	OH	592	602	C, G	2,490 D	448.7	11/53	2,041	48	D, S	Y		Y	On bajada.
														450.8B	/54	2,039						
Sec. 5																						
NE¼SW¼NE¼	Topawa		Dr		505	6						C, E	2,395 D	350.9	11/53	2,044		D, S			Y	On bajada near foothills.
T. 19 S., R. 6 E.																						
Sec. 1																						
NE¼SW¼NE¼-1	Pitoikam		Dg									C, G	3,020 D	15.6	10/54	3,004		D, S				Along large wash near foothills; about 500 feet northeast of W-35; not shown on map.
NE¼SW¼NE¼-2	Pitoikam		Dg									C, G	3,020 D	15.5	10/54	3,004		D, S				Along large wash in foothills; about 200 feet northeast of well 1; not shown on map.
SW¼SW¼NE¼	Pitoikam	W-35	Dg									C, W	3,010 D	17.7	10/54	2,992		D, S				Along large wash near foothills.
Sec. 2																						
NW¼SW¼SE¼	1 W of Pitoikam	W-39	Dg									C, W	2,930 D	25.3	10/54	2,905		D, S				Along large wash near foothills.
Sec. 27																						
NW¼NE¼NW¼	4 SW of Pitoikam		TH	1954	980				10-inch OH	0	980		2,840 D					A	Y	X		On bajada; driller reported "hard red rock" at 705; seep at 790 feet; reported as insufficient to make a stock well.
T. 19 S., R. 7 E.																						
Sec. 4																						
SW¼NW¼SW¼	2 E of Pitoikam	W-38	Dg									C, W	3,375 D	17.6	10/54	3,357		D, S				Along large wash in foothills.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 19 S., R. 7 E.--Continued																						
Sec. 16																						
SW¼NE¼NW¼	3 SE of Pitoikam	W-2	Dg, Dr		76	6						C, W	3,475 D	48	/15	3,427		D, S				Along large wash in foothills.
														21.9	10/54	3,453						
Sec. 21																						
NW¼SE¼SE¼	4 SE of Pitoikam	W-46	Dg									C, G	3,680 D	24.1	10/54	3,656		S			Y	In wash in mountains; in granite.
Sec. 33																						
SE¼SE¼SW¼	1 NE of Chutum Vaya		Dg		8							C, H	3,975 D	1 E	4/59	3,974		S				In mountains; in altered Cretaceous-Tertiary rock.
Sec. 34																						
SE¼NE¼NW¼	2 NE of Chutum Vaya		Sp										4,750 D	Dry	4/59							In mountains; near contact of rhyolite dike and Cretaceous-Tertiary sedimentary rocks.
NW¼NW¼NW¼	2 NE of Chutum Vaya		Dg		7								4,100 D	2 E	4/59	4,098		S				In mountains; in altered Cretaceous-Tertiary sedimentary rock; developed spring.
T. 20 S., R. 2 E.																						
Sec. 2																						
SW¼NW¼NE¼	3 SE of Sivili Chuchg	DW-29	Dr	1955	490	8	0	490	Ts	310	490		2,115 C	304.5	3/55	1,810	20	D, S	Y	X	Y	On valley flat.
Sec. 7																						
SE¼NE¼NE¼	4 SW of Sivili Chuchg		Dg		35							N	2,030 C	Dry	2/55			A				Along wash in foothills; along fault between sedimentary and igneous rocks below about 5 feet of alluvium.
Sec. 11																						
NE¼NE¼NW¼	4 SE of Sivili Chuchg		Dg	1910?	120							N	2,145 C	Dry	4/55			A				On bajada.
Sec. 15																						
SW¼NE¼NE¼	5 S of Sivili Chuchg		Dg		20								2,190 C	13	2/55	2,177		S				In low hills on bajada; in Cretaceous(?) sedimentary rock.
T. 20 S., R. 3 E.																						
Sec. 13																						
SE¼NW¼NE¼	1 E of Itak	Toro Well	Dr	1922	720	6-1/4											16	A	Y			On bajada.
Sec. 22																						
NE¼SE¼SW¼	4 SW of Itak	Toro Deep Well	Dr	1938	815	8						C, G	2,310 C	725 R	/43	1,585		D, S	Y			On bajada; reported in "rock" at 500 feet; water reported coming from "rock."

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona--Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 20 S., R. 3 E.--Continued																						
Sec. 24 (approx.)	2? W of Itak	Toro Well	TH	1938	685									Dry	/38			A	Y			On bolson; reported about 2 miles southwest of Itak; could not locate.
T. 20 S., R. 4 E.																						
Sec. 2																						
NE¼SE¼NW¼	Vamori	DW-10	Dr	1916	608	6-5/8	0	608	Ps	513	608	C, G	2,245 D	500 R	5/16	1,745		D, S	Y		Y	On valley flat; reported in "decomposed granite schist" at 510 feet.
														493.2	11/53	1,752						
														496.5B	/54	1,748						
T. 20 S., R. 5 E.																						
Sec. 12																						
SE¼NW¼NE¼	2 N of Choulic	DW-13	Dr	1919	681	6-5/8	0	681	P			C, W	2,490 D	558.5R	11/19	1,932		D, S	Y		Y	On bajada.
														557.3	11/53	1,933						
														559 B	/54	1,931						
Sec. 15																						
NW¼NW¼SW¼	3 NW of Choulic	DW-64	Dr	1954	730	8	0	700	Ts	560	700	C, G	2,365 D	560 R	6/54	1,805		S	Y	X	Y	On bajada.
Sec. 24																						
SE¼SE¼SE¼	Choulic	DW-47	Dr	1936	674	8-5/8	0	242	P	593	674	C, W	2,475 D	570 B	/54	1,905		S	Y		Y	On bajada.
						6-5/8	242	674						568.8	9/56	1,906	24					
														569.1	6/57	1,906						
Sec. 28																						
NW¼SW¼NW¼	4 W of Choulic	DW-51	Dr	1938	660	6-1/4	0	660	P	642	660	C, G	2,380 D	604 R	5/38	1,776	18	D, S	Y		Y	On valley flat.
														590	11/53	1,790						
T. 20 S., R. 6 E.																						
Sec. 1																						
SE¼SW¼NE¼	2 W of Chutum Vaya		Sp											Dry	4/59			A				In wash in foothills.
NE¼NE¼SE¼	2 W of Chutum Vaya		Dg		35							N	3,240 D	Dry	4/59			A				Along wash in foothills; in granite.
Sec. 12																						
SW¼SW¼NE¼	2 SW of Chutum Vaya		Dg										3,140 D	29.6	4/59	3,110		S				Along wash in foothills; in metasediments.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 20 S., R. 6 E.—Continued																						
Sec. 13																						
SE¼NE¼SW¼	3 SW of Chutum Vaya		Dg		10							N	3,065 D	Dry	4/59			N				Along wash in foothills; in metasediments; 2 holes dug at this location.
Sec. 24																						
NE¼NE¼NE¼	3 SW of Chutum Vaya		Dg									B	3,270 D	26.3	10/54	3,244		D			Y	Along wash in foothills; in metasediments.
Sec. 25																						
SW¼SE¼NE¼	4 SW of Chutum Vaya	W-47	Dg									N	3,165 D	25	10/54	3,140		N				Along wash in foothills; in metasediments.
T. 20 S., R. 7 E.																						
Sec. 4																						
SW¼SW¼SW¼	Chutum Vaya		Dg									C, G	3,780 D	13.6	10/54	3,766		S			Y	In mountain valley; in granitic rock.
Sec. 5																						
SW¼NE¼SE¼	Chutum Vaya		Dg		29							N	3,730 D	20 C	/15	3,710		D, S				In mountain valley.
														20.8	4/59	3,709						
NW¼NW¼SE¼	Chutum Vaya	W-48	Dg		48							C, G, W	3,610 D	16.1	10/54	3,594		D, S				In mountain valley; in quartz monzonite(?); not shown on map.
Sec. 8																						
NE¼SE¼SE¼	1 S of Chutum Vaya		Dg									N	4,230 D	3 E	4/59	4,227		S				In mountains; in metasediments.
Sec. 9																						
NW¼SW¼SW¼	1 S of Chutum Vaya		Sp									N	4,500 D				<1	S				In mountains; along fault zone within metasediments; not shown on map.
Sec. 17																						
NE¼NW¼SW¼-1	2 S of Chutum Vaya	W-17-1	Dg		15							N	4,000 D	1 E	4/59	3,999		S				In mountains; in metasediments.
NE¼NW¼SW¼-2	2 S of Chutum Vaya	W-17-2	Dg		15							N	4,010 D	4 E	4/59	4,006		S				In mountains; in metasediments; not shown on map.
Sec. 29																						
NW¼NE¼NE¼	3 S of Chutum Vaya		Dg									N	4,000 D					S				In mountains; in metasediments.
NE¼SE¼NW¼	3 S of Chutum Vaya		Dg									N	3,640 D					S				In mountains; in metasediments; not shown on map.
Sec. 32																						
SW¼SW¼SE¼	6 E of San Miguel	W-64	Dg									C, W	4,330 D					S				In mountain valley; in granitic rock.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	Depth (feet) From	Depth (feet) To	Type	Depth (feet) From	Depth (feet) To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 21 S., R. 4 E.																						
Sec. 12																						
NW¼NW¼SW¼	7 W of San Miguel		Dg									N	3,010 D	27.3	4/59	2,983		S				In foothills; in brecciated rock along probable fault zone; dry hole 30 feet north of this well.
T. 21 S., R. 5 E.																						
Sec. 7																						
SE¼SE¼SW¼	5 W of San Miguel	W-68	Dg		80							C, W, B	2,830 D	9 C	/15	2,821		S				In foothills; in metasediments.
														28.1	4/59	2,802						
T. 21 S., R. 6 E.																						
Sec. 7																						
NW¼NW¼SW¼	San Miguel	DW-11	Dr	1924	712	7-5/8	0	706	Ps	603	706	C, W	2,480 D	567 R	7/24	1,913		D, S	Y		Y	On valley flat; located 20 feet east of abandoned 692-foot well.
									OH	706	712			569.8B	/54	1,910						
Sec. 12																						
SW¼SE¼NW¼	5 E of San Miguel		Dg									C, H	2,865 D	53.1	10/54	2,812		D, S				In foothill valley; in gneissic rock below thin alluvium.
Sec. 33																						
SW¼NE¼NW¼	4 SE of San Miguel	DW-49	Dr	1936	755	5-5/8	0	660	OH	660	755	C, W	2,650 D	700 R	10/36	1,950		S	Y		Y	On bolson; reported in rock at 620 feet.
														712.7	6/54	1,937	22					
T. 21 S., R. 7 E.																						
Sec. 7																						
NE¼NW¼SW¼-1	7 E of San Miguel	W-14	Dg		20								3,240 D	10 E	4/59	3,230		S				In mountains; developed spring in granite.
NE¼NW¼SW¼-2	7 E of San Miguel	W-51	Dg		20								3,250 D	10 E	4/59	3,240		S				In mountains; developed spring in granite; not shown on map.
NE¼SW¼SW¼	7 E of San Miguel	W-13	Dg									C, W	3,190 D	30.4	10/54	3,160		D, S			Y	In mountains; developed spring in granite.
														16.3	4/59	3,174						
Sec. 18																						
NW¼SW¼SE¼	6 N of Buenos Aires	W-6	Dg									C, W	3,300 D	13.3	4/59	3,287						In mountain valley; in granite below shallow alluvium.
NW¼SE¼SE¼	6 N of Buenos Aires		Dg									N	3,360 D	1	4/59	3,359						In mountains; in granite.
Sec. 19																						
NE¼NE¼NW¼	5 N of Buenos Aires		Dg									N	3,240 D	Dry	4/59			N				In mountains; filled in.

Table 1.--Records of wells and springs, Papago Indian Reservation, Maricopa, Pima, and Pinal Counties, Arizona—Continued.

LOCATION AND DESIGNATION			CONSTRUCTION DATA										HYDROLOGIC DATA					SUPPLEMENTARY DATA				
						Casing record			Finish					Water level								
							Depth (feet)			Depth (feet)												
Location	Location (distance in miles and general direction from nearest village or town)	BIA number, name, or other designation	Type	Date of completion (year)	Total depth (feet)	Diameter (inches)	From	To	Type	From	To	Type of lift	Surface altitude	Depth below land surface (feet)	Date measured (mo. yr.)	Water-level altitude	Yield (gpm)	Use	Log	Well cuttings	Chemical analysis of water	Remarks
T. 21 S., R. 7 E.—Continued																						
Sec. 32																						
NE¼NW¼SE¼	2 N of Buenos Aires		Dg									C, W	3,450 D					S				In mountain valley.
Sec. 35																						
SW¼NE¼SW¼	3 NE of Buenos Aires		Dg									C, G, W	3,780 D	10.7	4/59	3,769		S				In mountain valley; in granitic rock.
T. 22 S., R. 7 E.																						
Sec. 17																						
NW¼NE¼NE¼	Buenos Aires	W-49	Dg									C, W	3,105 D	27.5	10/54	3,077		D, S			Y	Along wash in foothills.
Sec. 18																						
NW¼NE¼NE¼	Buenos Aires	W-7	Dg									C, G, W	3,010 D	21.3	10/54	2,989		D, S				Along wash in foothills.
														19.8	4/59	2,990						

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 10 S., R. 1 W.		
Sec. 36 SE¼SE¼NW¼ Kaka Well 2,255 feet		
Surface	7	7
Clay	33	40
Boulders	8	48
Clay	7	55
Boulders, malpais	35	90
Red malpais, hard	8	98
Soft, claylike, lost water	8	106
Rock, very hard	4	110
Red, soft	14	124
Sandlike	12	136
Rock, lost water, wind pocket	14	150
Resembling limestone, lost water	55	205
Malpais, hard	5	210
Malpais, hard, fissure, lost water	18	228
Rusty brown, hard	12	240
Black malpais, hard	12	252
Brown rock	14	266
Black malpais, lost water	8	274
Black, very hard, fissure at 297 feet	23	297
Brown and black	17	314
Black rock, fissure, lost water	15	329
Black rock, very hard	7	336
Black with brown, lost water	19	355
Black rock, fissure	3	358
Brown rock	9	367
Hard rock	6	373
Black, soft, fast drilling	10	383
Hard, black	6	389
Black, very hard	19	408
Traces of brown rock, very hard	12	420
Malpais boulders	6	426
Black rock	4	430
Boulders	23	453
Black rock	11	464
Fissure, lessening of water	6	470
Brown rock	8	478
Black, very hard	19	497
Brown, some clay, small seep, rocks and mud were warm	8	505
Black rock, hard	3	508
Black, bluish cast	17	525
Fissure, lessening of water	8	533
Hard, black	2	535

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Fissure, fast drilling, lessening water ...	45	580
Black, very hard.	11	591
Brown rock.....	19	610
Black, hard	33	643
Rusty brown; hit water at 655, rose to about 644 feet.....	17	660
Black rock with black sand	18	678
Black rock	14	692
TOTAL DEPTH		692
T. 11 S., R. 2 W.		
Sec. 18 SE¼NE¼SE¼ 2 SE of Stoa Pitk 2,400 feet		
Sandy clay.....	105	105
Clay	25	130
Red sandy clay..	8	138
Rock (black malpais)	118	256
TOTAL DEPTH		256
T. 12 S., R. 1 W.		
Sec. 25 NW¼SW¼SE¼-2 Vaya Chin DW-23A 2,130 feet		
Clay with volcanic boulders (water)	575	575
Crushed broken volcanic rocks with clay, sand, and gravel	200	775
Fine sand and gravel, very loose (indications of more water)	10	785
Tight conglomerate	18	803
TOTAL DEPTH		803
T. 12 S., R. 2 W.		
Sec. 21 SE¼NE¼SE¼ Hickiwan DW-43 2,200 feet		
Sandy top soil...	5	5
Sand, gravel, and rocks	45	50
Clay and sand...	15	65
Gravel (caved badly)	44	109
Boulders, large and small	23	132
Gravel and sand, streaks of red clay	29	161
Red and gray porphyry.....	69	230
Hard red rhyolite.....	42	272
Hard gray rhyolite (coarse crystals).....	70	342
Very hard dense rhyolite (slight variations)	233	575
Rotten old porphyry (fractured)	9	584
Hard dense rhyolite.....	16	600

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Rotten igneous rocks (some water)	18	618
Rotten igneous rocks with thin hard streaks ...	34	652
TOTAL DEPTH		652
T. 12 S., R. 2 W.		
Sec. 29 NE¼SE¼NW¼ 1 SW of Hickiwan Periqua 1 2,230 feet		
Lava boulders and clay	11	11
Yellow clay	7	18
Igneous gravel and clay	127	145
Lava boulders ...	131	276
Igneous and porphyry gravel and clay	124	400
Dark-brown igneous gravel and clay; dribble of water	210	610
Yellow igneous gravel and clay	110	720
Solid lava rock	32	752
Red porphyry, gravel	11	763
Cemented gravel	137	900
TOTAL DEPTH		900
T. 12 S., R. 2 W.		
Sec. 30-1? 2 SW of Hickiwan Periqua 2 2,230 feet?		
Caliche	8	8
Igneous gravel and clay	185	193
Lava rock with crevice	27	220
TOTAL DEPTH		220
T. 12 S., R. 2 W.		
Sec. 30-2? 2 SW of Hickiwan Periqua 3 2,230 feet?		
Caliche	8	8
Igneous gravel and clay	185	193
Lava rock with crevice	40	233
TOTAL DEPTH		233
T. 13 S., R. 2 W.		
Sec. 34 SE¼NE¼NE¼ 7 NW of Wahak Hotrontk DW-68 2,035 feet		
Clay and gravel ..	490	490
Sand with water ..	5	495
Clay and gravel ..	155	650
TOTAL DEPTH		650

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 14 S., R. 1 W.		
Sec. 27		
NW¼NW¼NW¼		
Wahak Hotrontk		
DW-19		
1,940 feet		
Brown clay	65	65
Sandy clay	15	80
Sand and gravel, clay binder, did not cave much..	20	100
Light-brown clay	110	210
Brown clay.....	15	225
Boulders and coarse gravel..	13	238
Gravel and sand .	24	262
Brown shale	16	278
Brown clay or soft shale	87	365
Mostly fine sand (first water) ...	33	398
Fine sand.....	5	403
Blue clay, very sticky.....	9	412
Coarse gravel and sand (second water, rose 22 feet)...	12	424
Lime and rhyolite boulders; no sand	46	470
TOTAL DEPTH		470
T. 15 S., R. 2 W.		
Sec. 18		
SW¼NE¼NE¼		
5 NE of Gu Vo		
2,140 feet		
Clay	60	60
Clay	16	76
Clay and gravel..	84	160
Clay and gravel..	60	220
Hard clay and gravel.....	207	427
Rock (granite) ...	16	443
TOTAL DEPTH		443
T. 16 S., R. 2 W.		
Sec. 6		
SW¼SE¼NE¼		
3 E of Gu Vo		
DW-18		
2,055 feet		
Reddish clay and gravel.....	25	25
Caliche, some grit and gravel .	100	125
Red clay and gravel.....	50	175
Gravel and boulders with clay filling	100	275
Red clay with gravels, slight variations of each	125	400
Light-red clay with fewer gravels.....	25	425
Light-red clay with gravel, uniform	75	500
Water; sand and gravels	20	520
Sand, gravels, and clay (probably stratified and water bearing)	98	618
Sticky blue shale.	5	623
TOTAL DEPTH		623

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 16 S., R. 3 W.		
Sec. 2		
NE$\frac{1}{4}$?		
Near Gu Vo		
Test Hole		
2,100 feet		
Light-red clay with gravels and boulders (valley fill)	250	250
Boulders with some clay (hard drilling).....	50	300
Boulders (big and little ones).....	8	308
Malpais rock (9 hours, 3 feet)	13	321
TOTAL DEPTH		321
T. 16 S., R. 3 W.		
Sec. 5		
NW$\frac{1}{4}$NE$\frac{1}{4}$SW$\frac{1}{4}$		
3 W of Gu Vo		
DW-39		
2,220 feet		
Loose sand and gravel	240	240
Cemented gravel	440	680
Gravel; water, 5 gpm.....	2	682
Cemented gravel	18	700
Gravel; water, 24 gpm.....	55	755
Cemented gravel	50	805
TOTAL DEPTH		805
T. 17 S., R. 1 W.		
Sec. 11		
NE$\frac{1}{4}$SW$\frac{1}{4}$NW$\frac{1}{4}$		
Kom Vo		
DW-15		
1,770 feet		
Surface sand and soil	20	20
Red clay	210	230
Sand and gravel; water at 240 feet	10	240
Shale clay.....	56	296
Gravel, sand, and boulders ...	65	361
TOTAL DEPTH		361
T. 17 S., R. 1 W.		
Sec. 33		
SW$\frac{1}{4}$NE$\frac{1}{4}$NW$\frac{1}{4}$		
4 SW of Kom Vo		
DW-32		
1,760 feet		
Gravel, sand, and boulders ...	6	6
White-blue clay..	44	50
Light-red clay...	50	100
Sticky red clay...	100	200
Red clay and sand	48	248
Red clay (jointed formation)	42	290
Fine sand, no gravel; water ..	31	321
TOTAL DEPTH		321

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 17 S., R. 3 W.		
Sec. 9		
SW¼NE¼NE¼		
Siovi Shuatak		
DW-56		
2,085 feet		
Sand, silt, small boulders	80	80
Black basalt containing feldspar; shallow water	200	280
Red porphyry, fine-grained and hard; water	18	298
Red porphyry, broken and spongy; lost water	3	301
Black basalt, hard	24	325
Slate-gray basalt with gneiss boulders (broken)	10	335
Blue basalt, hard but creviced ...	35	370
Black basalt, hard, containing hornblende .	30	400
Dark-brown rock, probably andesite	50	450
Blue malpais with gneiss seams or boulders	60	510
Rhyolitic rocks, light-gray, pink, and red ..	20	530
Red porphyry, hard, slow drilling	70	600
Conglomerate formation, small boulders, blue, pink, and red ..	52	652
Conglomerate, water-bearing gravel, predominantly blue	35	687
TOTAL DEPTH		687
T. 17 S., R. 3 W.		
Sec. 36		
SE¼NE¼NW¼		
2 S of Pia Oik		
DW-38		
1,905 feet		
Sandy top soil ...	5	5
Gravel, caliche, and clay	36	41
Gravel with clay .	9	50
Soft light-yellow clay	20	70
Clay and gravel ..	28	98
Reddish sandstone	4	102
Soft clay and limited gravel	54	156
Consolidated gravel and sand	87	243
Yellow clay and fine sand	9	252
Gravel, streaked with clay	46	298
Light sandy clay .	4	302
Black basaltic lava	26	328
Burnt-red clay ...	10	338
Rotten gray rhyolite	14	352
Decomposed red porphyry	8	360

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Hard red lava ...	3	363
Red vesicular lava, fractured	117	480
TOTAL DEPTH		480
T. 18 S., R. 1 W.		
Sec. 28		
SW¼SE¼NE¼		
5 NW of		
Stan Shuatuk		
DW-31		
1,705 feet		
Red clay	25	25
Sandy red clay ..	50	75
Red clay, sticky.....	100	175
Sandy clay (little seep of water)..	25	200
Sandy clay	50	250
Fine sand and clay	62	312
TOTAL DEPTH		312
T. 19 S., R. 1 W.		
Sec. 4		
NE¼NE¼SE¼		
4 W of		
Stan Shuatuk		
DW-30		
1,710 feet		
Clay and sand ...	25	25
Red clay, sticky	25	50
Sandy red clay ..	25	75
Sand; water at 175 feet	100	175
Sandy clay	75	250
Sandy reddish clay	7	257
TOTAL DEPTH		257
T. 19 S., R. 1 W.		
Sec. 12		
NE¼NE¼SE¼		
2 SW of		
Stan Shuatuk		
PF-2		
1,735 feet		
Surface sand	70	70
Sandy clay and sand	26	96
Sand and boulders	99	195
Sand, clay, and boulders	120	315
Sand and clay ...	238	553
Sandy clay	142	695
Cinders, sand, and clay streaks	158	853
Hard sand	42	895
Cemented sand ..	15	910
Conglomerate ...	42	952
TOTAL DEPTH		952
T. 19 S., R. 2 W.		
Sec. 2		
SE¼SW¼NW¼		
6 E of Ali Chuk		
DW-53		
1,720 feet		
Sandy soil.....	20	20
Sticky clay	40	60
Sandy clay	24	84
Malpais	2	86
Sandy clay	68	154
Sticky clay	26	180

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Sandy clay	65	245
Fine sand; water	25	270
Clay	15	285
TOTAL DEPTH		285
T. 7 S., R. 5 E.		
Sec. 29		
NE¼SE¼SE¼		
4 NW of Chuichu		
CT-3		
1,397 feet		
Top soil and gumbo	22	22
Sand bed	3	25
Cemented rock, hard	7	32
Red clay	2	34
Cemented conglomerate	6	40
Clay and gravel .	3	43
Decomposed granite, hard ..	10	53
Cemented conglomerate, soft	7	60
Sand bed, raveling	2	62
Granite, hard ...	4	66
Sand bed, raveling bad	3	69
Decomposed granite, hard ..	19	88
Heavy red clay ..	3	91
Light clay, sand, and gravel	25	116
Decomposed granite, hard ..	8	124
Gray sand bed ...	6	130
Light clay and gravel fill	23	153
Cracked rock ...	3	156
Loose light clay and gravel	20	176
Granite, hard ...	6	182
Heavy clay	2	184
Granite, hard ...	6	190
Heavy clay	5	195
Loose gravel and sand; water	60	255
Boulders, gravel, and sand ...	15	270
Decomposed granite, fair drilling	30	300
Tight clay and gravel	12	312
Fill sand, gravel, and boulders	18	330
Clay and gravel ..	10	340
Cemented gravel or Gila conglomerate, hard	55	395
Clay and gravel ..	20	415
Cemented gravel .	20	435
Tight clay and gravel	30	465
Blue rock, hard .	10	475
Broken rock and shale	18	493
Blue rock, hard .	12	505
Granite rock, all colors	70	575
TOTAL DEPTH		575
T. 7 S., R. 5 E.		
Sec. 30		
SW¼NW¼SE¼		
6 NW of Chuichu		
CT-4		
1,387 feet		
Top soil and boulders	12	12

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Sand, gravel, and boulders ...	67	79
Clay, sand, and gravel	36	115
Fill, silt, and sand, caving badly	60	175
Very light clay, coarse gravel; some water	10	185
Heavy clay and gravel, dry ...	25	210
Clay, sand, and gravel	55	265
Tight clay and gravel, cemented, firm ..	35	300
Loose clay and gravel, heavy..	10	310
Decomposed granite formation, fairly hard	23	333
Heavy clay.....	5	338
Granite, hard ...	12	350
TOTAL DEPTH		350
T. 8 S., R. 4 E.		
Sec. 23 SE¼SE¼SW¼ Vaiva Vo DW-5 1,432 feet		
Silt and sand	20	20
Clay, indurated .	14	34
Sand and gravel .	6	40
Clay and gravel .	4	44
Cemented gravel and boulders ...	46	90
Yellow clay	12	102
Cemented gravel and boulders ...	38	140
Fine gravel; water at 150 feet	34	174
Cemented gravel	18	192
Granite gravel ...	4	196
Granite		196
TOTAL DEPTH		196
T. 8 S., R. 5 E.		
Sec. 1 (west half) SW¼NE¼SE¼ Chuichu Explor. CE-1 1,445 feet		
Surface soil and sandy loam	24	24
Gravel to 6 inches	36	60
Sandy clay	4	64
Sharp gravel, packed in 10-pound red iron oxide	6	70
Same material, only set hard ...	31	101
Same material, cemented	2	103
TOTAL DEPTH		103
T. 8 S., R. 5 E.		
Sec. 1 (west half) SE¼SE¼SE¼ Chuichu Village Well, CE-2 1,453 feet		
Surface soil	4	4
Gray sand and silt	21	25

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Gravel to 8 inches	35	60
Gravel to 8 inches with layer of clay ..	13	73
Clay and small sharp gravel mixes like barite	22	95
Not reported	40	135
Sharp gravel set in iron oxide ...	13	148
Sharp gravel and clay	7	155
Small gravel	3	158
Sharp gravel set in iron oxide ...	34	192
Sharp gravel cemented in red oxide	38	230
TOTAL DEPTH		230
T. 8 S., R. 5 E.		
Sec. 8		
NW¼SE¼NW¼		
5 W of Chuichu		
CT-5		
1,398 feet		
Loose sand	8	8
Heavy gumbo ...	2	10
Sand and gravel, caved badly, set pipe	19	29
Tight hard clay..	16	45
Red sand, rock..	3	48
Tight clay, heavy gravel	135	183
Pea gravel; water	9	192
Decomposed granite, medium hard	31	223
Granite, very hard in places ..	62	286
TOTAL DEPTH		286
T. 8 S., R. 5 E.		
Sec. 12 (east half)		
SW¼NE¼NE¼		
Chuichu		
C-3		
1,460 feet		
Top soil	15	15
Sandy clay	5	20
Sand and gravel..	30	50
Clay and gravel..	45	95
Gravel	10	105
Clay and gravel with hard streaks	120	225
Hard red rock ...	27	252
TOTAL DEPTH		252
T. 8 S., R. 5 E.		
Sec. 12 (east half)		
NE¼NW¼NE¼-1		
Chuichu		
C-2		
1,458 feet		
Surface silt	18	18
Coarse gravel ...	5	23
Coarse sand and gravel wash ...	5	28
Caliche and gravel, mixed	6	34
Caliche and fine gravel only, mixed	11	45
Caliche and gravel, mixed, with clay	2	47

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Sand, gravel, and rock, 1 to 6 inches, water-bearing, some fine sand with it	12	59
Sand, gravel, and coarse rock, water-bearing (first water encountered at 60 feet)	10	69
Coarse rock, sand, and gravel; good water gravel with plenty of water	29	98
Soft caliche and gravel, sand and rock water course ..	6	104
Red sediment, some clay	22	126
Caliche and water crystals	2	128
Red sand and clay, mixed ...	32	160
Fine sand and clay, mixed ...	20	180
Water-bearing cement gravel	23	203
Red clay and rock	12	215
Red clay, filled with boulders, very hard	15	230
TOTAL DEPTH		230
T. 8 S., R. 5 E. Sec. 12 (east half) NE¼NW¼NE¼-2 Chuichu Old 2 1,460 feet		
Clay, hard, yellow	12	12
Sand	14	26
Rock (mostly large boulders)	3½	29½
Gravel and small boulders	25	54½
Clay	15½	70
Caliche, water struck at this depth (73 feet), water raised 16 feet, stands at 57 feet	3	73
Gravel	30	103
Clay, red and sticky	37	140
Caliche	4	144
Clay, yellow	26	170
Clay, red and sticky, large boulders	25	195
Rock, hard bedrock	47	242
TOTAL DEPTH		242
T. 8 S., R. 5 E. Sec. 12 (east half) SE¼NW¼NE¼-1 Chuichu, C-1 1,461 feet		
Surface silt	22	22
Sand and gravel ..	3	25

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Caliche, soft....	22	47
Caliche.....	11	58
Caliche sediment.....	10	68
Caliche, small amount of water, first water showed at 74 feet.....	6	74
Gravel and rock, small amount of water.....	20	94
Soft clay.....	7	101
Clay, soft.....	21	122
Solid clay, mixed with gravel.....	33	155
Hard clay.....	24	179
Decomposed hard clay and rock.....	21	200
Coarse rock, cement, and gravel.....	13	213
Coarse rock, cement, and gravel.....	17	230
Solid rock, apparently (conference with Geologist Leonard showed this strata as streamflow boulders or brecciated boulders).....	10	240
TOTAL DEPTH		240

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 8 S., R. 5 E.		
Sec. 12 (east half)		
SE¼NW¼NE¼-2		
Chuichu		
Old 1		
1,460 feet		
Silt and sand.....	18	18
Sand.....	4	22
Coarse gravel...	26	48
Caliche; water at 70 feet came up to 57 feet.....	22	70
Coarse wash gravel and pebbles, no fine sand, gravel 1/2 inch to 6 inches in diameter, approximately 5 percent passed through 1/2-inch screen.....	18	88
Indurated clay...	2	90
Coarse gravel, same as that at 88-foot depth.....	4	94
Caliche.....	18	112
Soft, sandy clay.....	42	154
Granitic gravel with occasional strata of smooth wash gravel, 1/4 to 1/2 inch in diameter....	66	220
Decomposed granite.....	8	228
Granite.....		228
TOTAL DEPTH		228

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 8 S., R. 5 E.		
Sec. 19		
NE¼SE¼NE¼		
3 E of Vaiva Vo		
CT-2		
1,402 feet		
Top soil, silt ...	25	25
Clay, sand, and gravel	30	55
Rock and gravel, filled with clay.	29	84
Hard blue rock ..	12	96
Broken red and blue rock, drilled easy ...	7	103
Gravel, raveling	5	108
Hard blue rock ..	32	140
Sand and gravel, raveling; some water	5	145
Hard blue rock ..	11	156
Blue rock, gravel, and clay ...	52	208
Heavy clay	2	210
Broken rock, gravel, and clay	35	245
Heavy clay	3	248
Broken rock, gravel, and clay	12	260
Broken rock, sharp gravel, and clay.....	60	320
Caliche and gravel	15	335
Gravel and sand, caving	15	350
Clay and gravel	22	372
Fine sand and gravel, caving .	10	382
Broken rock, clay, and gravel	24	406
Sand and gravel ..	10	416
Red and blue heavy clay	4	420
Fine sand and gravel, caving ..	8	428
Clay, gravel, and sand	7	435
Gravel and sand, caving	5	440
Clay, sand, and heavy gravel ...	6	446
Clay, gravel, and boulders ...	24	470
Dark-red clay and gravel	22	492
Sandy shale, broken rock	30	522
Heavy red and blue clay	3	525
Sand and gravel ..	5	530
Clay	4	534
Sand and gravel ..	9	543
Sandy shale	19	562
Clay	2	564
Sandy shale, sharp	28	592
Sand	2	594
Hard rock (bedrock) (red oxide)	7	601
TOTAL DEPTH		601
T. 8 S., R. 6 E.		
Sec. 5		
SE¼SE¼NE¼		
East Chuichu irrig. proj., C-10		
1,471 feet		
Top soil	5	5
Clay	15	20

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Caliche	25	45
Sand and gravel, 1 inch	40	85
Sand and some small gravel, 1/2 inch	20	105
Sandy clay	77	182
Sand and gravel, 2 inches	18	200
Sandy clay and small gravel	35	235
Clay	75	310
Decomposed granite	20	330
Granite	18	348
TOTAL DEPTH		348
T. 8 S., R. 6 E. Sec. 5 SE¼SE¼NW¼ East Chuichu irrig. proj. C-12 1,466 feet		
Clay	10	10
Caliche	15	25
Sand	25	50
Loose sand and gravel, 2 inches	40	90
Gravelly clay	35	125
Sandy clay	93	218
Yellow sandy clay	68	286
Yellow conglomerate	22	308
Red conglomerate	61	369
Bedrock	6	375
TOTAL DEPTH		375
T. 8 S., R. 6 E. Sec. 5 SE¼SE¼SW¼ East Chuichu irrig. proj. C-11 1,471 feet		
Sandy soil	12	12
Caliche	8	20
Sandy clay	15	35
Sandy clay	50	85
Sandy clay	20	105
Sandy	40	145
Sand and sandy clay	35	180
Sandy clay	20	200
Clay	60	260
Sandy clay	60	320
Conglomerate and cemented sand	75	395
Cemented sand	5	400
TOTAL DEPTH		400
T. 8 S., R. 6 E. Sec. 5 SE¼SE¼SE¼ East Chuichu irrig. proj. C-9 1,475 feet		
Top soil	10	10
Sandy clay	45	55
Loose sand and gravel	35	90
Clay and gravel, 1 inch	15	105
Sand	10	115
Sandy clay and gravel, 1 inch	25	140
Sandy clay	88	228

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Cemented sand ..	16	244
Clay	32	276
Coarse sand	6	282
Clay	53	335
Clay and gravel, 1/2 to 1 inch...	5	340
Cemented sand ..	6	346
Sandy clay	8	354
Cemented sand ..	4	358
Conglomerate ...	72	430
TOTAL DEPTH		430
T. 8 S., R. 6 E.		
Sec. 8		
SE¼SE¼NE¼		
East Chuichu irrig. proj.		
C-8		
1,480 feet		
Silt	8	8
Caliche	12	20
Cemented sand ..	12	32
Sand	10	42
Sandstone	14	56
Clay	8	64
Boulders	8	72
Clay	23	95
Boulders	5	100
Sand	10	110
Sand and gravel	30	140
Clay	95	235
Sandstone	10	245
Sand	5	250
Clay	80	330
Cemented sand ..	5	335
Clay	15	350
Sand	10	360
Sandy clay	90	450
TOTAL DEPTH		450
T. 8 S., R. 6 E.		
Sec. 8		
SE¼SE¼SE¼		
East Chuichu irrig. proj.		
C-7		
1,484 feet		
Brown clay	15	15
Brown sandy clay	20	35
Sand	27	62
Brown sandy clay	56	118
Sand	3	121
Sand and gravel, 1/2 inch	4	125
Brown sandy clay	77	202
Sand and gravel, 3/4 inch	5	207
Brown sticky clay	21	228
Brown clay with gravel embedded	9	237
Conglomerate	15	252
Brown sticky clay with gravel embedded	218	470
Conglomerate	30	500
TOTAL DEPTH		500
T. 8 S., R. 6 E.		
Sec. 17		
SE¼SE¼NE¼		
East Chuichu irrig. proj.		
C-5		
1,490 feet		
Sandy loam	4	4

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Clay and gravel	81	85
Sand and gravel, 3 inches	35	120
Fine sand and clay	35	155
Clay and gravel, light-brown	85	240
Packed sand	5	245
Red clay and gravel	30	275
Clay, brown	30	305
Hard red clay and gravel	15	320
Gray clay	5	325
Red clay, hard	30	355
Hard sandy clay	30	385
Red hard-packed gravel	5	390
Sandy clay	5	395
Hard-packed gravel, sharp	19	414
Not reported	61	475
TOTAL DEPTH		475
T. 8 S., R. 6 E.		
Sec. 17 NW¼SW¼SE¼ East Chuichu irrig. proj. CT-1 1,484 feet		
Soil, clay	10	10
Clay, sticky	25	35
White clay	5	40
Clay and sand	24	64
Coarse gravel	1	65
Clay and gravel	5	70
Soft clay	10	80
Coarse gravel, caving of hole begins, casing put in, water, subrounded 1/2- to 2-inch igneous gravel	7	87
Fine sandy clay	17	104
Coarse gravel	43	147
Sand clay, caving of hole	28	175
Soft clay, sand	10	185
Clay and coarse gravel	5	190
Sticky clay and sand	40	230
Clay and fine sand	45	275
Fine sand, clay, easy drilling	15	290
Sticky clay and sand, slow drilling up to 297 feet	5	295
Hard clay and sand, slow drilling	5	300
Sticky clay and fine sand	5	305
TOTAL DEPTH		305
T. 8 S., R. 6 E.		
Sec. 17 SW¼SW¼SE¼ East Chuichu irrig. proj. C-6 1,492 feet		
Brown clay	24	24
Brown clay with 1/4-inch gravel embedded	64	88

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Fine sand	5	93
Coarse sand	32	125
Brown sandy clay	75	200
Brown clay with 1/2-inch gravel, streaks embedded	190	390
Brown clay	3	393
Tight gravel up to 4 inches	17	410
Conglomerate	65	475
Red clay with 1/4-inch gravel embedded	29	504
TOTAL DEPTH		504
T. 8 S., R. 6 E.		
Sec. 17		
SE¼SE¼SE¼		
East Chuichu irrig. proj.		
C-4		
1,494 feet		
Gravel and clay	60	60
Gravel (up to 2 inches); no water	15	75
Clay and gravel	10	85
Not reported	5	90
Sand and gravel, size 5 inches	25	115
Gravel and clay	60	175
Clay, gravel, and sandy clay	35	210
Clay, gravel, hard	90	300
Clay, gravel, and caliche	100	400
Decomposed granite	15	415
Sand boulders, size 9 inches	20	435
Cemented boulders	17	452
Gravel, loose	8	460
Cemented gravel	40	500
Sand, clay, gravel	15	515
Cemented gravel	50	565
Clay, gravel	10	575
Cemented sand, gravel	35	610
TOTAL DEPTH		610
T. 9 S., R. 3 E.		
Sec. 3		
NW¼NW¼SE¼		
7 SW of Vaiva Vo		
RT-11		
1,785 feet		
Decomposed granite and bentonite	45	45
Clay and gravel	165	210
Rock; dry	142	352
TOTAL DEPTH		352
T. 9 S., R. 3 E.		
Sec. 14		
NE¼NW¼NW¼		
8 SW of Vaiva Vo		
DW-72		
1,730 feet		
Sand	24	24
Clay and gravel	406	430
TOTAL DEPTH		430

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 9 S., R. 4 E.		
Sec. 4		
SW¼NE¼NE¼		
3 SW of Vaiva Vo		
CT-6		
1,510 feet		
Sand and gravel	5	5
Sandy clay and gravel	20	25
Clay, gravel, and boulders	58	83
Sand bed, loose	7	90
Loose sand, gravel, and clay	48	138
Loose sand and gravel	6	144
Sandy clay, tight	9	153
Coarse gravel and sand, loose, with water	93	246
Sand and clay, tight	24	270
Sandy clay and cracked granite	64	334
Loose sand bed	14	348
Hard baked clay and heavy gravel, medium-hard	12	360
Sand bed, loose	7	367
Fine sand, silt, and big boulders, tight	35	402
Sand and fine gravel, loose	13	415
Sandy shale and silt, tight	75	490
Broken rock and gravel	20	510
Light fine sand, caving badly	25	535
Granite bedrock	20	555
TOTAL DEPTH		555
T. 9 S., R. 4 E.		
Sec. 4		
NW¼SW¼SE¼		
4 SW of Vaiva Vo		
CT-7		
1,523 feet		
Sand, gravel, light silt, caving badly	30	30
Loose sand and gravel	50	80
Boulders	5	85
Sand, gravel, and boulders	57	142
Clay and gravel, tight; hit water at 166 feet	24	166
Pea gravel and light sand, very loose	44	210
TOTAL DEPTH		210
T. 9 S., R. 4 E.		
Sec. 15		
NW¼NE¼SW¼		
5 S of Vaiva Vo		
CT-11		
1,504 feet		
Sandy clay	125	125
Sand and gravel; trace of water	10	135
Red clay	25	160
Sand and gravel; water	20	180

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Red clay	26	206
Rock and gravel .	4	210
Red clay	6	216
Rock and gravel .	134	350
TOTAL DEPTH		350
T. 9 S., R. 4 E.		
Sec. 15		
NE¼SW¼SW¼-1		
5 S of Vaiva Vo		
CT-8		
1,514 feet		
Hardpan	10	10
Sandy clay	108	118
Sandy	4	122
Sandy clay	84	206
Sand	8	214
Sandy clay	20	234
Gravel and sand .	12	246
Sandy clay	16	262
Sand gravel	88	350
TOTAL DEPTH		350
T. 9 S., R. 4 E.		
Sec. 15		
NE¼SW¼SW¼-2		
5 S of Vaiva Vo		
CT-9		
1,511 feet		
Top soil	5	5
Sandy clay	20	25
Gup shell	5	30
Sandy clay	25	55
Gravel	20	75
Sandy clay	30	105
Broken rock	10	115
Sandy clay	5	120
Sand and gravel; water	10	130
Red sandy clay ..	95	225
Not reported	100	325
Cemented sand, gravel, and rock	10	335
Red clay and rocks	30	365
Loose sand and gravel	13	378
Red sandy clay ..	13	391
Hard sand	3	394
Sandy clay, red ..	3	397
Hard sand	3	400
Sandy clay	25	425
Rocks	5	430
Sandy clay	15	445
Sandy clay with rocks	15	460
Cemented rocks ..	12	472
Clay and rocks ...	8	480
Cemented rocks ..	10	490
Red clay and rocks	194	684
TOTAL DEPTH		684
T. 9 S., R. 4 E.		
Sec. 15		
NW¼SE¼SW¼		
5 S of Vaiva Vo		
CT-10		
1,505 feet		
Top soil	5	5
Red sandy clay ...	115	120
Sand and gravel; first water	8	128
Sandy clay, red ..	90	218
Sand and gravel ..	13	231
Sandy clay and gravel	12	243
Sandy clay and boulders	21	264
Coarse gravel and rocks	6	270

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Clay, gravel, and rock	40	310
Sandy clay	20	330
Clay and rock ...	40	370
Clay, sandy, and rock	25	395
Sandy clay	30	425
Red clay	15	440
Sandy clay and gravel	23	463
Clay, gravel, and rock	15	478
Sandy clay	12	490
Red clay	20	510
Sandy clay, red .	50	560
Sand rock, hard .	140	700
TOTAL DEPTH		700
T. 9 S., R. 5 E.		
Sec. 29 SW¼SE¼SW¼ Tat Momoli DW-4 1,530 feet		
Silt and sand	12	12
Clay	24	36
Caliche	29	65
Clay	25	90
Clay and gravel mixture; some water	12	102
Cemented gravel and boulders ...	8	110
Decomposed quartzite	13	123
Quartzite		123
TOTAL DEPTH		123
T. 10 S., R. 3 E.		
Sec. 12 NW¼NE¼NE¼ Kohatk DW-8 1,630 feet		
Light sandy soil ..	8	8
Sand, gravel, and boulders	17	25
Clay	4	29
Sand and gravel ..	36	65
Hard clay	100	165
Soft clay	42	207
Sand and gravel; water	10	217
Clay, sand, and gravel	14	231
Sand and gravel; water	16	247
Clay and gravel ..	8	255
TOTAL DEPTH		255
T. 10 S., R. 4 E.		
Sec. 16 NE¼NW¼SE¼ 3 SE of Kohatk DW-33 1,575 feet		
Sandy surface soil	3	3
Gravel with caliche binder	12	15
Light-brown clay with fine sand ..	15	30
Sticky brown clay	14	44
Harder brown clay with 50 percent gravel	27	71
Caliche and coarse sand	3	74

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Harder white caliche, more gravel	9	83
Clay and gravel, color changed to light yellow..	56	139
Light-red clay, very little gravel	56	195
Changed to bluish gray (gravel) and broken lime, marly.....	7	202
Light-yellow sandy clay.....	88	290
TOTAL DEPTH		290
T. 10 S., R. 4 E. Sec. 25 SW¼SW¼SE¼-1 3 NE of Gu Komelik USBM-C-1 1,795 feet		
Sand and gravel..	20	20
Granite, weathered	173	193
Schist	142	335
Quartzite and schist.....	25	360
Schist and granite contact.....	5	365
Schist and granite	20	385
Granite.....	165	550
Shear zone, clay	5	555
Granite.....	35	590
TOTAL DEPTH		590
T. 10 S., R. 4 E. Sec. 27 SE¼SW¼SW¼ 1 N of Gu Komelik Lakeshore Well 1,610 feet		
Alluvial debris...	100	100
Coarse sand	151	251
Hard bedrock, possibly quartzite; made 2 inches in 2 hours.....		251
TOTAL DEPTH		251
T. 10 S., R. 4 E. Sec. 33 SE¼SW¼SE¼ Gu Komelik DW-7 1,600 feet		
Top soil.....	12	12
Clay and gravel ..	8	20
Clay	125	145
Cemented gravel; water.....	14	159
Clay and gravel ..	8	167
Coarse gravel, very little sand; water.....	51	218
TOTAL DEPTH		218
T. 10 S., R. 4 E. Sec. 36 NW¼NW¼NE¼ 3 E of Gu Komelik USBM-C-3 1,788 feet		
Sand and gravel ..	10	10

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Weathered granite	115	125
Schist	395	520
Andesite	130	650
Granite and andesite	10	660
Granite	11	671
TOTAL DEPTH		671
T. 10 S., R. 4 E.		
Sec. 36		
NW¼SE¼NE¼		
3 E of Gu Komelik		
WH-1		
1,825 feet		
Alluvium	8	8
Quartzite, gray	82	90
Quartzite with iron mineralization	70	160
Red, oxidized, soft (fault)	10	170
Granite		170
TOTAL DEPTH		170
T. 10 S., R. 4 E.		
Sec. 36		
SW¼SE¼NE¼		
3 E of Gu Komelik		
WH-2		
1,820 feet		
Limestone; hit water at 166 feet	166	166
Fault zone	9	175
Black zone (wad?) (quartzite?)	15	190
TOTAL DEPTH		190
T. 11 S., R. 3 E.		
Sec. 4		
SW¼SE¼NE¼		
7 W of Gu Komelik		
DW-70		
1,775 feet		
Sand	2	2
Clay	16	18
Gravel	19	37
Clay and gravel	263	300
Gravel; water	20	320
Clay and gravel	10	330
Cemented gravel	5	335
TOTAL DEPTH		335
T. 11 S., R. 5 E.		
Sec. 2		
NE¼SE¼SW¼		
8 E of Gu Komelik		
DW-71		
1,770 feet		
Clay and gravel; hit water at 190 feet	190	190
Rock (36 hours drilling time)	35	225
TOTAL DEPTH		225
T. 12 S., R. 2 E.		
Sec. 32		
NW¼NE¼NE¼		
9 W of Gu Achi		
DW-69		
2,055 feet		
Surface soil	5	5
Small boulders	15	20
Gravel	32	52
Small boulders	26	78
Clay and gravel	177	255

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Sand and gravel; hit first water, 2 gpm	15	270
Clay and gravel	155	425
Sand and gravel (hard)	10	435
Sand and gravel (water)	25	460
Packed sand and gravel	93	553
TOTAL DEPTH		553
T. 12 S., R. 3 E. Sec. 23 NE¼SE¼NE¼ Anegam DW-6 1,760 feet		
Light sandy soil	8	8
Sand and gravel	12	20
Clay and gravel	18	38
Sand and gravel	2	40
Clay	70	110
Caliche	2	112
Clay and gravel	126	238
Coarse sand and gravel; water	27	265
TOTAL DEPTH		265
T. 12 S., R. 3 E. Sec. 23 SE¼SE¼NW¼ Anegam 1,760 feet		
Top soil	5	5
Sand and boulders	10	15
Sandy clay	20	35
Cemented sand and boulders	50	85
Sandy clay	80	165
Clay and boulders	55	220
Sand, red clay; struck water at 250 feet	45	265
Clay and boulders	85	350
TOTAL DEPTH		350
T. 13 S., R. 1 E. Sec. 27 NW¼NW¼SE¼ 7 SE of Vaya Chin DW-57 2,350 feet		
Dry gravel	25	25
Hard limestone	10	35
Water gravel; little water; water level, 25 feet	5	40
Black basalt	17	57
Brown basalt and water; water level, 24 feet	12	69
Green and blue conglomerate and quartz	9	78
Blue quartz	17	95
Brown basalt; water, 2 gpm; water level, 24 feet	18	113
Black basalt	47	160
Gray basalt	13	173
Black basalt	60	233
Brown basalt	35	268
TOTAL DEPTH		268

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 13 S., R. 3 E.		
Sec. 2		
NE¼NW¼NW¼		
Gu Achi		
DW-3		
1,800 feet		
Top soil	16	16
Clay and gravel	2	18
Clay; water at 283 feet, rose to 274 feet	265	283
Gravel	95	378
Cemented gravel	13	391
TOTAL DEPTH		391
T. 13 S., R. 4 E.		
Sec. 23		
SW¼NE¼NW¼		
6 SE of Gu Achi		
DW-40		
1,875 feet		
Yellow sandy top soil	3	3
Yellow clay and gravel, dry and hard	327	330
Gravel; water	10	340
Yellow clay and gravel	12	352
Sand and gravel; water	13	365
TOTAL DEPTH		365
T. 13 S., R. 4 E.		
Sec. 30		
SW¼SE¼NE¼		
4 S of Gu Achi		
DW-55		
1,885 feet		
Sandy loam	10	10
Broken miscellaneous rocks, boulders	38	48
Red sandy clay	4	52
Coarse conglomerate, gravel, and sand	307	359
Brown clay; water at 363 feet, rose to 354 feet	4	363
Coarse conglomerate, gravel, and quartz	51	414
Soft brown clay	6	420
TOTAL DEPTH		420
T. 13 S., R. 6 E.		
Sec. 5		
SE¼NW¼NW¼		
2 NE of Pipyak		
Pipyak Test Hole		
1,890 feet		
Clay and gravel	4	4
Gravel	6	10
Clay and gravel, hard-packed but not cemented	200	210
Crevice in broken rock	5	215
Rock	25	240

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Crevice in rock, lost mud		240
Rock	65	305
TOTAL DEPTH		305
T. 14 S., R. 2 E. Sec. 1 NE¼SW¼NW¼ 3 S of Noipa Kam W-73		
Sandy caliche, top soil	6	6
Stratified igneous seam resembling phonolite .	94	100
TOTAL DEPTH		100
T. 14 S., R. 3 E. Sec. 31 SE¼SE¼NW¼ 2 E of Quijotoa Cooley Well		
Overburden	16	16
Andesite flows ..	80	96
Rhyolite, hard ..	8	104
Andesite	6	110
Rhyolite, hard ..	4	114
Fractured andesite	3	117
Andesite	7	124
Coarse red sand and small gravel with rounded quartz granules; produced 200 gallons per hour on bailing test; no rise in water level reported	12	136
Rhyolite, blue, very hard	2	138
Quicksand, red-brown, with magnetite grains; water rose 26 feet above top of water sand; pumped sand and silt for about 8 hours, then cleared; bailed at 750 gallons per hour, about 12 gpm	2	140
TOTAL DEPTH		140
T. 14 S., R. 3 E. Sec. 35 SW¼SE¼SW¼ 3 N of Sikul Himatk DW-36 2,105 feet		
Yellow clay, top soil, and gravel	10	10
Rocks and yellow clay	148	158
Boulders and yellow clay	182	340
Rocks, gravel, clay; water at 524 feet	184	524
Water-bearing rocks, gravel, and coarse sand (water level on drill line 510 feet)	44	568
TOTAL DEPTH		568

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 14 S., R. 4 E.		
Sec. 28		
NW¼SW¼SE¼		
5 NW of		
Sand Wells		
DW-48		
2,205 feet		
Sand and top soil	3	3
Broken miscellaneous rocks; boulders and sand	35	38
Gravel, sandy clay, caliche, yellow clay streaks	317	355
Black lava scoria	13	368
Red and black vesicular porphyry (scoria)	47	415
Black volcanic	55	470
Conglomerate	50	520
Broken igneous rock, red formation	80	600
Black igneous rock	80	680
Black sand, red clay, water	40	720
TOTAL DEPTH		720
T. 14 S., R. 7 E.		
Sec. 7		
NW¼NW¼NW¼		
7 N of Schuchk		
DW-65		
2,160 feet		
Valley fill, sand, gravel, and silt	510	510
Coarse gravel and sand; water at 515 feet	140	650
Sand, gravel, and clay; tighter formation	15	665
TOTAL DEPTH		665
T. 14 S., R. 8 E.		
Sec. 22		
NE¼SW¼NE¼		
5 NE of		
San Ignacio		
DW-50		
2,320 feet		
Gravel	18	18
Red porphyry	454	472
Gravel (water)	7	479
Blue igneous rock, hard	2	481
Clay and gravel (probably additional water)	24	505
TOTAL DEPTH		505
T. 14 S., R. 10 E.		
Sec. 23		
SE¼SE¼SW¼		
17 E of		
San Ignacio		
2,325 feet		
Black soil	8	8
Hard clay	32	40
Cemented gravel	50	90
Clay, boulders	15	105
Cemented gravel and boulders	135	240
Hard gray rock with cleavages in it	38	278

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Hard red rock ...	2	280
Red talc	4	284
Gravel	5	289
Hard red rock or malpais	13	302
Not reported	10	312
Red rock	58	370
Hard gray rock ..	30	400
Brown rock	55	455
Hard brown rock.	15	470
Crevice, shot hole to straighten drill hole ...	5	475
Brown rock	45	520
Red rock	35	555
Clay and gravel, caved	20	575
Red rock; cased to 600 to shut off caving material at 575 feet	45	620
Brown rock	20	640
Red rock	20	660
Clay and gravel, caved	15	675
TOTAL DEPTH		675
T. 15 S., R. 1 E.		
Sec. 18		
SE¼SE¼NW¼		
6 N of Pisinimo		
DW-45		
2,005 feet		
Yellow sandy top soil	4	4
Gravel and caliche	238	242
Dark basaltic lava	22	264
Red vesicular lava	21	285
Same as above, with soft spots; found inclined crevice, crooked hole	75	360
Red porphyrytic lava, hard and full of crevices; water in crevice at 447 feet; water soft and warm, temperature about 90° ...	128	488
TOTAL DEPTH		488
T. 15 S., R. 9 E.		
Sec. 8		
NE¼NE¼NW¼		
8 E of San Ignacio		
W-4		
2,575 feet		
Top soil and conglomerate gravel	12	12
Broken red porphyry seams	48	60
Water in seams of porphyry (water level, 63 feet)	27	87
Hard green igneous rock, probably basalt	41	128
Broken igneous rock formation (brown)	58	186
TOTAL DEPTH		186

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 16 S., R. 1 E.		
Sec. 18		
NE¼NW¼NW¼		
Pisinimo		
DW-16		
1,905 feet		
Gravel, boulders, and clay	50	50
Reddish clay	150	200
Sand, gravel, and clay	100	300
Sandy clay; first water at 340 feet; water rose to 305 feet	40	340
Not reported	10	350
Reddish clay and sand	80	430
Reddish clay and quicksand, very sticky	36	466
TOTAL DEPTH		466
T. 16 S., R. 1 E.		
Sec. 34		
NE¼SW¼SE¼		
5 SE of Pisinimo		
DW-73		
1,890 feet		
Sand and gravel ..	3	3
Clay	4	7
Sand and gravel ..	3	10
Clay and gravel ..	33	43
Sand and gravel ..	9	52
Clay and gravel ..	26	78
Clay	92	170
Clay and gravel ..	210	380
TOTAL DEPTH		380
T. 16 S., R. 3 E.		
Sec. 10		
NE¼NW¼SW¼		
Vainom Kug		
DW-42		
2,050 feet		
Gravel and yellow clay, top soil	7	7
Clay and small gravel	30	37
Yellow clay with streaks of caliche and gravel .	123	160
Hard yellow clay and fine sand ...	225	385
Gravel filled with clay	13	398
Soft yellow clay with less gravel .	57	455
Water-bearing gravel and sand .	10	465
Soft yellow clay ..	25	490
Water-bearing gravel and sand .	5	495
Caliche and gravel	7	502
TOTAL DEPTH		502
T. 16 S., R. 5 E.		
Sec. 34		
SW¼NE¼SE¼		
5 S of Comobabi		
2,940 feet		
Sand, caliche, and boulders—red rock	35	35
Epidote with quartz streaks ..	65	100
TOTAL DEPTH		100

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 16 S., R. 6 E.		
Sec. 27		
NW¼NE¼NW¼		
1 W of		
Havana Nakya		
DW-44		
2,795 feet		
Brown cemented porphyry gravel	480	480
Red cemented porphyry gravel	83	563
Brown cemented gravel	61	624
Red cemented porphyry gravel (water at 715 feet)	161	785
TOTAL DEPTH		785
T. 16 S., R. 7 E.		
Sec. 8		
NW¼SE¼NE¼		
3 N of		
San Vicente		
DW-62		
2,870 feet		
Gray cemented porphyry	724	724
Gravel and sand (water at 724 feet)	31	755
Red clay	10	765
Gravel and sand (water)	35	800
TOTAL DEPTH		800
T. 16 S., R. 7 E.		
Sec. 22		
SW¼NE¼SE¼		
1 NE of		
San Vicente		
3,205 feet		
Soil and gravel	42	42
Yellow clay or gumbo	44	86
White lime	64	150
Blue lime	30	180
White lime	40	220
Blue lime	20	240
White lime	20	260
Blue lime	20	280
Broken granite	16	296
TOTAL DEPTH		296
T. 16 S., R. 8 E.		
Sec. 11		
NE¼NW¼SW¼		
3 SW of Viopuli		
Roadside 5		
(Condensed)		
2,890 feet		
Weathered coarse andesite breccia	62	62
Andesite breccia	224	286
Andesite porphyry breccia with copper	4	290
Gray fine-grained andesite, locally breccia	76	366
Gray andesite breccia, locally porphyritic	132	498
Gray andesite	48	546
Same as 290-366	90	636

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Fine-grained gray and reddish andesite, locally breccia.	129	765
Same as 636-765 with some disseminated pyrite and chalcopyrite ...	49	814
Gray and dark-gray andesite, locally breccia.	57	871
Shear zone, intensely altered and oxidized ...	33	904
Red and gray andesite, locally breccia; abundant chlorite; also calcite and hematite	109	1,013
Arkose and local thin shale bands; alteration weak at top; fresh and unaltered toward bottom ...	90	1,103
TOTAL DEPTH		1,103
T. 16 S., R. 8 E.		
Sec. 11 NW¼NW¼SW¼ 3 SW of Viopuli Roadside Shaft (Condensed) 2,910 feet		
Andesitic conglomerate, volcanic flows, and related rocks ..	628	628
Erosion surface with granitic boulders lying on channeled surface cut on arkose		628
Arkose and arkose sediments	162	790
Shale	10	800
TOTAL DEPTH		800
T. 17 S., R. 2 E.		
Sec. 33 NE¼SW¼SE¼ 3 SE of Kupk DW-66 1,890 feet		
Sandy clay	270	270
Conglomerate and granite boulders	25	295
Gravel, sand, and clay, with water 290-340 feet	45	340
Gravel and sand .	35	375
Cemented formation, tighter gravel and sand.	70	445
TOTAL DEPTH		445
T. 17 S., R. 3 E.		
Sec. 8 SE¼NE¼SW¼ 4 NW of Gu Oidak DW-20 1,965 feet		
Red clay and gravel	23	23

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Gray clay	11	34
Yellow clay	108	142
Packed sand	9	151
Hard-packed brown clay, sticky	207	358
First water; rose to 339 feet in less than 1 hour		358
Sandy yellow clay (water zone) ...	12	370
Hard-packed brown clay	55	425
Brown sandy clay, possibly some water	8	433
Hard-packed brown clay	36	469
Sand; some water; caved, as of 2/23/55, up to 457 feet	6	475
Not reported	5	480
TOTAL DEPTH		480
T. 17 S., R. 3 E. Sec. 24 NW¼SE¼SE¼ 2 NE of Gu Oidak DW-17 2,100 feet		
Top soil, sand, and gravel	25	25
Red clay	75	100
Red clay and gravel	250	350
Boulders, gravel, and sand; water at 475 feet, rose to 457 feet	150	500
Streaks of red clay	10	510
Boulders, gravel, and sand ...	20	530
Red clay, gravel, and boulders	45	575
Caliche and boulders	27	602
TOTAL DEPTH		602
T. 17 S., R. 4 E. Sec. 24 NW¼NE¼NE¼ 2 N of Sells Water-Table Test 3 2,445 feet		
Top soil	8	8
Cemented gravel.	21	29
Conglomerate ...	26	55
Hard black rock .	47	102
TOTAL DEPTH		102
T. 17 S., R. 4 E. Sec. 24 SW¼SE¼NE¼ 1 N of Sells 2,420 feet		
Top soil, reddish color, mixed with sand	10	10
Hard caliche, white	25	35
Hard rock resembling porphyry, reddish slush	115	150
Streak of red clay	10	160

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Hard red rock, not classified ..	20	180
Red clay.....	20	200
Hard red rock, fine-grained, not classified ..	165	365
Soft white material, resembling shale	15	380
Sticky material, resembling shale	20	400
Very hard rock, probably a basaltic rock	50	450
Soft material, looks like brown shale ...	10	460
Hard blue material, supposed to be siliceous shale	65	525
Hard rock, dark color, probably basaltic	105	630
Broken formation, sand and gravels; end of hole 1.....	5	635
Hard yellow rock, close-grained, not classified	14	649
Hard red rock, not classified ..	9	658
Hard rock, resembling quartzite (1 foot per shift).....	27	685
Rock resembling granite.....	26	711
TOTAL DEPTH		711

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 17 S., R. 4 E.		
Sec. 25		
NW¼SE¼NE¼		
1 N of Sells		
DW-52C		
2,380 feet		
Soil	6	6
Clay and gravel..	14	20
Gravel and boulders	8	28
Clay and gravel..	7	35
Boulders.....	6	41
Caliche	14	55
Dry gravel	3	58
Clay and gravel..	13	71
Boulders.....	5	76
Clay and gravel..	9	85
Fine sand with little water	2	87
Clay.....	7	94
Fine water sand .	5	99
Clay.....	7	106
Coarse water gravel.....	5	111
Gray porphyry...	2	113
Red malpais.....	1	114
TOTAL DEPTH		114
T. 17 S., R. 4 E.		
Sec. 25		
SW¼SE¼NE¼-1		
1 N of Sells		
DW-52B		
2,380 feet		
Soil	6	6
Sandy clay	17	23
Dry gravel	4	27
Clay and gravel..	18	45
Dry sand and gravel.....	3	48
Clay and gravel..	38	86

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Sand and gravel carrying water	6	92
Sandy clay	6	98
Fine sand	5	103
Malpais, red	7	110
TOTAL DEPTH		110
T. 17 S., R. 4 E.		
Sec. 25		
SW¼SE¼NE¼-2		
1 N of Sells		
DW-52A		
2,380 feet		
Soil	4	4
Clay and gravel	16	20
Boulders	4	24
Clay and gravel	16	40
Dry gravel	3	43
Caliche	7	50
Clay	12	62
Clay and gravel	29	91
Water gravel, coarse	6	97
Clay	6	103
Water sand, fine	4	107
Malpais, red	10	117
TOTAL DEPTH		117
T. 17 S., R. 4 E.		
Sec. 25		
NW¼SE¼NW¼		
1 NW of Sells		
State Highway 3		
2,360 feet		
Soil	7	7
Clay	13	20
Clay and boulders	16	36
Gravel and boulders	4	40
Clay	42	82
Clay and boulders	13	95
Water gravel	12	107
Red clay	4	111
TOTAL DEPTH		111
T. 17 S., R. 4 E.		
Sec. 25		
SW¼SE¼NW¼-1		
1 NW of Sells		
State Highway 1		
2,360 feet		
Soil	2	2
Hardpan	22	24
Dry gravel	4	28
Cemented gravel	24	52
Malpais	8	60
TOTAL DEPTH		60
T. 17 S., R. 4 E.		
Sec. 25		
SW¼SE¼NW¼-2		
1 NW of Sells		
State Highway 2		
2,360 feet		
Soil	3	3
Black adobe	17	20
Cemented boulders and gravel	25	45
Red clay	15	60
Red clay and gravel	27	87
Broken rock	9	96
Hard malpais	4	100
TOTAL DEPTH		100

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 17 S., R. 4 E.		
Sec. 25.		
NE¼NE¼SE¼		
Sells		
DW-52D		
2,380 feet		
Soil	6	6
Sand and gravel	17	23
Porphyry	37	60
Malpais, black, with little water under it, hard	3	63
Malpais, red	42	105
Water gravel	2	107
Malpais, red	16	123
Clay	2	125
Malpais, red	105	230
Malpais, black, with cavities	8	238
Malpais, red	12	250
TOTAL DEPTH		250
T. 17 S., R. 4 E.		
Sec. 26		
NW¼SW¼NE¼		
1 NW of Sells		
Sells Hosp.		
Test 1		
2,335 feet		
Top soil	5	5
Sand, gravel, red clay, very tight	10	15
Sand, gravel, brown clay, tight	11	26
Sand, gravel, small boulders, very little clay	9	35
Cemented gravel, very hard	9	44
Sand, gravel, clay; soft drilling	21	65
Red cemented sand, very hard	26	91
Red conglomerate, small boulders, sand very hard is broken; a trace of water at 104 feet, approximately 40 gallons per hour	51	142
Red clay, very fine sand	10	152
Hard brick-red material, red malpais; no increase in water	74	226
Not reported	28	254
Hard red malpais, solid	64	318
Hard green rock, solid	8	326
Hard slate-colored rock (basalt); when washed, rock is greenish blue with some white quartz; water has had a bad odor since 330 feet	226	552
Basalt with some red malpais; material has reddish tone when drilled but rock is blue when washed	429	981
TOTAL DEPTH		981

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 17 S., R. 4 E.		
Sec. 27		
SE¼NE¼NW¼		
2 NW of Sells		
Corral Well		
2,295 feet		
Not reported	5	5
Clay and boulders	5	10
Sandy gray clay .	15	25
Red sand	3	28
Sand and gravel .	17	45
Gray clay and boulders	35	80
Sandy clay, red .	15	95
Clay and boulders	15	110
Sandy red clay ..	10	120
Clay and boulders	35	155
Cemented boulders and sand (hit water at 165-170 feet) ..	43	198
Red sandstone ...	82	280
Gray and red clay, sticky ...	90	370
TOTAL DEPTH		370
T. 17 S., R. 4 E.		
Sec. 30		
SW¼NW¼SW¼		
5 W of Sells		
Sells Hosp. 1		
2,175 feet		
Sandy clays and clays with some gravel; drilled to 190 feet without pipe	175	175
Mountain wash in clay; sometimes a little sand; washes out badly requiring casing..	395	570
Hole drilling to size, not washing or caving; getting tough to spud pipe at 575 feet; pipe stopped at 617 feet; just jumps up and down and won't go without reaming ...	130	700
TOTAL DEPTH		700
T. 17 S., R. 4 E.		
Sec. 31		
NW¼NW¼NW¼		
5 W of Sells		
Sells Hosp. 2		
2,180 feet		
Desert conglomerate	40	40
Gravel and clay	31	71
Gummy adobe and clay	21	92
Gravel and sandy clay	13	105
Clay with 30 percent gravel	64	169
Clay with 45 percent gravel, some sand and boulders	107	276

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Gravel, sand, and boulders in clay	6	282
Boulders and gravel	178	460
Fifty percent gravel and mountain wash in clay	160	620
Clay with pebbles and little streaks of hard conglomerate ..	80	700
TOTAL DEPTH		700
T. 17 S., R. 4 E.		
Sec. 34		
SE¼NW¼NE¼		
2 W of Sells		
DW-41		
2,300 feet		
Light-yellow sandy top soil	15	15
Gravel, rocks, caliche	89	104
Reddish-brown clay	11	115
Red igneous conglomerate ..	104	219
White flaky slush, resembles magnesia..	66	285
Red porphyry ...	10	295
Decomposed granite conglomerate	35	330
Stopped drilling and backfilled to 201 feet		330
TOTAL DEPTH		330
T. 17 S., R. 5 E.		
Sec. 19		
NE¼SE¼NE¼		
2 NE of Sells		
Deep Test 6		
2,450 feet		
Surface soil	12	12
Cemented conglomerate	23	35
Gravel and sand; bad caving	10	45
Red rock, hard ..	31	76
Red clay	3	79
Blue or shale rock, very hard	24	103
Broken green rock in layers	17	120
Sand and gravel .	10	130
Red clay	1	131
Blue sand and fine; some water, just enough to drill with	7	138
Broken green rock, seamy ...	22	160
Fine green sand .	2	162
Broken green rock	8	170
Red rock and clay	13	183
Hollow space above water ...	2	185
Mixed gravel and sand; 13 feet of water formation	13	198
Broken green and slate rock; possibly some water	7	205

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Broken green and slate rock, hard and firm ..	10	215
TOTAL DEPTH		215
T. 17 S., R. 5 E. Sec. 19 NE¼NE¼SW¼ 2 N of Sells Water-Table Test 2 2,425 feet		
Top soil	4	4
Cemented gravel	36	40
Gray granitelike rock	15	55
Diorite, very hard	50	105
TOTAL DEPTH		105
T. 17 S., R. 5 E. Sec. 20 SE¼SW¼NW¼ 3 NE of Sells Deep Test 7 2,453 feet		
Top soil and boulders	15	15
Cemented conglomerate	32	47
Red and brown basalt, very hard	59	106
Fine sand, gray; water, ran to 81 feet	6	112
Very hard brown and blue basalt	25	137
Cracked red rock, seamy...	8	145
Fairly hard, heavy red clay and volcanic rock, much red oxide, weathered(?) ..	89	234
Clay, gravel, boulders; still look of clay but drilled easy ...	8	242
Sand bed; dry(?).	10	252
Hard rock	4	256
TOTAL DEPTH		256
T. 17 S., R. 5 E. Sec. 20 SE¼SE¼NW¼ 3 NE of Sells Deep Test 8 2,462 feet		
Soil, sand, gravel	46	46
Pink rock, drilled hard ...	16	62
Black lava formation, drilled easy	8	70
Gray lava, hard .	35	105
Cracks and seams, red rock, hard; small water seep	4	109
Broken rock, gravel fill; more water	1	110
Hard lava rock ..	3	113
Tight clay, broken rock, and gravel	5	118

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Loose clay, fine gravel; main water(?)	9	127
Tight clay and gravel; too tight for water	3	130
TOTAL DEPTH		130
T. 17 S., R. 5 E.		
Sec. 20		
NE¼NE¼SW¼		
3 NE of Sells		
Deep Test 2		
2,460 feet		
Top soil, sand, silt	10	10
Sand and clay ...	20	30
Cemented conglomerate, medium-hard drilling	25	55
Red clay	39	94
Sand and gravel; first water	2	96
Red oxide	9	105
Water	5	110
Unable to classify, began caving from above, cased to 167 feet	55	165
Rock, dark gray; hard drilling ...	5	170
Basalt, dark gray; some water	50	220
Shale and clay; light-gray material	30	250
Sand and clay ...	50	300
Clay, dark-gray.	34	334
Sand and gravel..	6	340
Shale, light-gray	10	350
Sand and clay ...	100	450
TOTAL DEPTH		450
T. 17 S., R. 5 E.		
Sec. 20		
SW¼NW¼SW¼		
3 NE of Sells		
Deep Test 4		
2,436 feet		
Silt	6	6
Clay	6	12
Caliche	53	65
TOTAL DEPTH		65
T. 17 S., R. 5 E.		
Sec. 20		
NW¼SW¼SW¼		
3 NE of Sells		
Deep Test 5		
2,436 feet		
Silt	5	5
Red clay	10	15
Purple clay	35	50
Sandy gray clay	5	55
Sand and gravel	10	65
Sandy gray clay	5	70
Red clay	30	100
Brown clay	10	110
Coarse sand and clay	30	140
Gray clay with some sand	12	152
TOTAL DEPTH		152

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 17 S., R. 5 E.		
Sec. 20		
SE¼NW¼SE¼		
3 NE of Sells		
Deep Test 3		
2,464 feet		
Silt	15	15
Clay	10	25
Caliche	17	42
Sand, fine	6	48
Clay	2	50
Cemented gravel	8	58
White sand	3	61
Cemented gravel; some water at 70 feet	9	70
Sand	5	75
Red oxide, very hard	27	102
TOTAL DEPTH		102
T. 17 S., R. 5 E.		
Sec. 24		
SW¼SE¼SW¼		
6 E of Sells		
DW-34		
2,600 feet		
Boulders and surface soil	60	60
Clay, gravel, and sand (does not cave; light brown or yellow)	338	398
Red clay and igneous gravel	54	452
Brown clay and igneous gravel	26	478
Brown clay, igneous gravel, and quartz gravel	37	515
Brown clay, igneous gravel, and quartz gravel (water)	70	585
Brown clay, igneous gravel, sand	69	654
TOTAL DEPTH		654
T. 17 S., R. 5 E.		
Sec. 30		
NE¼NW¼NE¼		
1 NE of Sells		
Water-Table Test 1		
2,410 feet		
Silt	8	8
Clay	32	40
Conglomerate	19	59
Red clay	16	75
Sand and gravel	15	90
Red clay	10	100
Sand and gravel	25	125
Red clay	17	142
TOTAL DEPTH		142
T. 17 S., R. 5 E.		
Sec. 30		
SE¼SW¼SW¼		
Sells		
2,385 feet		
Soil	6	6
Hard compact rock	24	30

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Broken rock seams filled with calcite	10	40
Hard compact rock	13	53
Softer rock, some seams; water	11	64
Seamy but filled with calcite	7	71
TOTAL DEPTH		71
T. 17 S., R. 5 E.		
Sec. 31 NW¼NW¼NE¼ Sells, DW-60 2,385 feet		
Valley fill	20	20
Red granite porphyry	33	53
Red basalt (water at 55 feet, 2.5 gpm)	24	77
Broken red basalt (water, 5 gpm)	33	110
Black basalt (water, 7.5 gpm)..	10	120
TOTAL DEPTH		120
T. 17 S., R. 6 E.		
Sec. 8 NE¼NE¼SW¼ 3 N of Ali Molina Fresnal Well DW-1 2,680 feet		
Log to original depth not available	484	484
Rock unclassified	6	490
Fine sand; some clay and various-colored large boulders	210	700
TOTAL DEPTH		700
T. 17 S., R. 6 E.		
Sec. 31 NE¼NE¼SE¼ Ali Molina DW-14 2,680 feet		
Boulders, sand, and gravel.....	75	75
Red clay with caliche nodules ..	25	100
Gravel, boulders, and clay	10	110
Red clay with caliche	40	150
Gravel, boulders, and clay.....	12	162
Reddish sandy clay	38	200
Gravel, boulders, and clay.....	80	280
Light-red clay...	50	330
Gravel, boulders, and clay.....	145	475
Red clay, gravel, and boulders...	125	600
Clay, sand, gravel (first water)	25	625
Sand and gravel (water).....	48	673
Clay, sand, gravel (water)..	182	855
TOTAL DEPTH		855

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 18 S., R. 1 E.		
Sec. 7		
NE¼SW¼NE¼		
5 N of Stan Shuatuk		
DW-46		
1,780 feet		
Clay and gravel, valley fill	184	184
Conglomerate ...	80	264
Sand (water, small quantity).	2	266
Sandstone.....	5	271
Sand and gravel (water).....	4	275
Conglomerate ...	35	310
Granite.....	7	317
TOTAL DEPTH		317
T. 18 S., R. 3 E.		
Sec. 16		
NW¼NE¼NE¼		
2 E of Chuwut Murk		
DW-74		
2,000 feet		
Clay	345	345
Sand and gravel .	55	400
Clay and gravel, hard	10	410
TOTAL DEPTH		410
T. 18 S., R. 5 E.		
Sec. 24		
NW¼NW¼NW¼		
4 S of Ali Molina		
DW-63		
2,570 feet		
Conglomerate, clay, and boulders	180	180
Coarse gravel and boulders with less clay	18	198
Clay and boulders	72	270
Valley fill, conglomerate, clay, and boulders	240	510
Coarse red gravel and fine rocks with clay; first water at 510 feet.....	40	550
Coarse red gravel and broken rock with some clay	40	590
Coarse gravel and clay.....	10	600
Fine sand.....	15	615
Gravel and sand ..	35	650
TOTAL DEPTH		650
T. 18 S., R. 7 E.		
Sec. 32		
NE¼NW¼NE¼-2		
Chuili Shaik		
3,200 feet		
Sand, gravel, and boulders; water	12	12
Clay, gravel, and rocks	9	21
Clay, gravel, and rocks; plenty of water	23	44
Broken and rotten red porphyry; water.....	16	60

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Hard igneous rock; stopped drilling	1	61
TOTAL DEPTH		61
T. 19 S., R. 1 E. Sec. 7 NW¼NW¼SE¼ 1 SW of Stan Shuatuk PF-1 1,740 feet		
Surface clay	10	10
Sand	10	20
Clay	10	30
Sand	40	70
Sandy clay	30	100
Clay with streaks of sand.....	290	390
Clay with streaks of sand and gravel	150	540
Clay	130	670
Conglomerate ...	40	710
Hard conglomerate	5	715
TOTAL DEPTH		715
T. 19 S., R. 1 E. Sec. 7 SW¼NW¼SE¼ 1 SW of Stan Shuatuk PF-1A 1,740 feet		
Mostly sand.....	674	674
Gravel	44	718
TOTAL DEPTH		718
T. 19 S., R. 1 E. Sec. 8 NE¼NE¼SE¼ 1 SE of Stan Shuatuk PF-3 1,760 feet		
Surface sand	110	110
Cemented streaks	75	185
Sand and gravel .	115	300
Clay and gravel .	115	415
Sand, gravel (malpais), and streaks of clay.	137	552
Malpais	48	600
Malpais and granite wash...	25	625
Malpais and sand breaks	10	635
Malpais, hard (some conglomerate below 720 feet)	132	767
Hard and sandy..	58	825
Sand, conglomerate, and shells.....	150	975
TOTAL DEPTH		975
T. 19 S., R. 1 E. Sec. 17 NE¼NE¼NE¼ 2 SE of Stan Shuatuk PF-6 1,765 feet		
Surface sand and gravel.....	205	205
Clay, streaks of sand.....	150	355

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Clay, gravel, and sand	195	550
Mountain top	10	560
TOTAL DEPTH		560
T. 19 S., R. 1 E.		
Sec. 18		
NE¼SE¼NE¼		
2 S of		
Stan Shuatuk		
PF-4		
1,740 feet		
Sand and gravel .	130	130
Sand	118	248
Sand, clay, boulders (small boulders, 248-295)	152	400
Sand and clay ...	300	700
Cemented conglomerate	252	952
TOTAL DEPTH		952
T. 19 S., R. 1 E.		
Sec. 19		
NE¼NE¼NE¼		
3 S of		
Stan Shuatuk		
PF-5		
1,745 feet		
Sand	50	50
Sand and boulders	150	200
Clay and sand ...	50	250
Clay and shells ..	425	675
Clay and sand ...	163	838
Conglomerate and sand	112	950
TOTAL DEPTH		950
T. 19 S., R. 3 E.		
Sec. 35		
SE¼SE¼SE¼		
5 SE of		
Chukut Kuk		
DW-21		
2,225 feet		
Sand and gravel ..	18	18
Sandy clay	12	30
Sand and gravel ..	13	43
Clay	61	104
Clay and gravel ..	66	170
Sand and gravel ..	10	180
Clay and gravel ..	80	260
Cemented gravel; drilled easier below 425 feet (260-425, drilled 165 feet in 111 hours; 425-578, drilled 153 feet in 54 hours); hit water at 578 feet	336	596
Clay	18	614
TOTAL DEPTH		614
T. 19 S., R. 3½ E.		
Sec. 1		
NE¼NW¼NE¼		
Cowlic		
DW-12		
2,100 feet		
Sandy clay and gravel	25	25
Yellowish clay and gravel.....	25	50
Red clay.....	50	100
Gravel, clay, small boulders ..	50	150

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Gravel, clay	25	175
Red clay	25	200
Red clay and sand	25	225
Pebbles and clay	150	375
Red clay and gravel	25	400
Red clay and sand (water) ...	14	414
Red gumbo clay .	184	598
Water gravel....	2	600
Red clay.....	50	650
Light-red clay ..	50	700
Light-yellow clay and gravel (water).....	22	722
TOTAL DEPTH		722
T. 19 S., R. 5 E. Sec. 3 SE¼NW¼SE¼ 2 E of Topawa DW-9 2,490 feet		
Alluvial soil	3	3
Boulders and gravel	73	76
Streaks of dark-yellow clay	2	78
Boulders and gravel with clay binding ...	5	83
Clay and boulders	65	148
Boulders	6	154
Clay	20	174
Clay and gravel .	26	200
Clay and boulders	32	232
Clay and gravel .	20	252
Gravel	28	280
Clay and gravel	33	313
Boulders	4	317
Clay and gravel	48	365
Clay	22	387
Clay and gravel (dark clay) ..	26	413
Clay and gravel (first seepage of water noted).	138	551
Gravel and boulders	20	571
Clay and gravel	31	602
TOTAL DEPTH		602
T. 19 S., R. 6 E. Sec. 27 NW¼NE¼NW¼ 4 SW of Pitoikam 2,840 feet		
Valley fill	645	645
Gouge and talc ..	30	675
Valley fill	30	705
Hard red rock ..	50	755
Valley fill; seep of water at 790 feet.....	140	895
Loose broken rock	25	920
Bright-red shale or clay	15	935
Valley fill or conglomerate ..	40	975
TOTAL DEPTH		975

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
T. 20 S., R. 2 E.		
Sec. 2		
SW¼NW¼NE¼		
3 SE of		
Sivili Chuchg		
DW-29		
2,115 feet		
Sand and gravel..	37	37
Clay	9	46
Sand and gravel .	3	49
Clay	85	134
Clay and gravel..	236	370
Cemented gravel (conglomerate, very hard); first water at 370 feet	120	490
TOTAL DEPTH		490
T. 20 S., R. 3 E.		
Sec. 13		
SE¼NW¼NE¼		
1 E of Itak		
Toro Well		
Red clay and gravels	30	30
Light-red clay and gravels....	20	50
Red clay and gravel	60	110
Red clay, gravel, and boulders	100	210
Clay, gravel, boulders	465	675
Water in sand and gravel.....	25	700
Water, sand, and gravel.....	20	720
TOTAL DEPTH		720
T. 20 S., R. 3 E.		
Sec. 22		
NE¼SE¼SW¼		
4 SW of Itak		
Toro Deep Well		
2,310 feet		
Conglomerate and fill	500	500
Rock; water in rock	315	815
TOTAL DEPTH		815
T. 20 S., R. 3 E.		
Sec. 24 (approx.)		
2? W of Itak		
Toro Well		
Sandy clay	5	5
Hard clay and gravel	9	14
Clay and small boulders	60	74
Red clay	24	98
Sand with little clay	6	104
Clay and boulders	33	137
Gravel and boulders	9	146
Clay and boulders	85	231
Sandy clay	17	248
Clay and boulders	60	308
Cemented boulders	24	332
Clay and boulders	53	385
Sandy clay	45	430
Sandy clay and some boulders .	18	448

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona—Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Conglomerate, cemented	64	512
Cemented boulders (512-564) .	31	543
Conglomerate with crevices ..	111	654
Solid conglomerate	31	685
TOTAL DEPTH		685
T. 20 S., R. 4 E.		
Sec. 2		
NE¼SE¼NW¼		
Vamori		
DW-10		
2,245 feet		
Sandy soil and clay (hard clay with white lumps)	8	8
Loose dry sand ..	10	18
Hard dry sand ...	3	21
Sandy clay (fine sand, very yellow)	5	26
Sandy clay (fine sand clay)	12	38
Sandy clay (streaked hard clay with lumps)	17	55
Sandy clay (reddish color)	12	67
Gravel and clay (hard going, mixes slow) ...	5	72
Gravel and clay (easier, more sandy)	19	91
Small gravel, coarse sand, clay	11	102
Gravel-filled clay (yellow) ...	53	155
Gravel, clay, and boulders ...	345	500
Gravel, clay, and boulders (turning white) .	10	510
Decomposed granite schist (water strata—slush—milk white, loose and free)	98	608
TOTAL DEPTH		608
T. 20 S., R. 5 E.		
Sec. 12		
SE¼NW¼NE¼		
2 N of Choulic		
DW-13		
2,490 feet		
Light-red clay ..	25	25
Gravel, clay, and boulders ...	100	125
Red clay and boulders	175	300
Light-red clay and boulders ...	25	325
Red clay and gravel	75	400
Light-red gravel and boulders ...	100	500
Red clay and gravel	75	575
Sand and gravel (water)	4	579
Sand and gravel (2 thin water strata)	21	600
Light-red clay and gravel	50	650

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Sand, gravel, and clay (water)	25	675
Light-red clay ..	6	681
TOTAL DEPTH		681
T. 20 S., R. 5 E.		
Sec. 15		
NW¼NW¼SW¼		
3 NW of Choulic		
DW-64		
2,365 feet		
Valley fill	560	560
Very loose gravel and sand with water	4	564
Gravel, sand, and clay	126	690
Loose gravel and sand	15	705
Not reported	25	730
TOTAL DEPTH		730
T. 20 S., R. 5 E.		
Sec. 24		
SE¼SE¼SE¼		
Choulic		
DW-47		
2,475 feet		
Surface soil	15	15
Coarse gravel ..	38	53
Yellow clay.....	226	279
Gravel and boulders	124	403
Yellow clay.....	115	518
Cemented gravel.	75	593
Gravel (water) ..	20	613
Cemented gravel.	61	674
TOTAL DEPTH		674
T. 20 S., R. 5 E.		
Sec. 28		
NW¼SW¼NW¼		
4 W of Choulic		
DW-51		
2,380 feet		
Top soil	8	8
Yellow hardpan .	22	30
Caliche	100	130
Clay and gravel .	50	180
Granite boulders	12	192
Cemented gravel	48	240
Blue limestone ..	2	242
Sand and gravel (dry)	9	251
Cemented gravel	147	398
Gravel (dry)	7	405
Sandstone with crevices	218	623
Clay	2	625
Fine sand (water)	5	630
Coarse gravel (water)	20	650
Fine sand, some clay	10	660
TOTAL DEPTH		660
T. 21 S., R. 6 E.		
Sec. 7		
NW¼NW¼SW¼		
San Miguel		
DW-11		
2,480 feet		
Red clay soil ...	40	40
Gravel and clay .	5	45
Whitish clay	130	175
Caliche	10	185

Table 2.--Drillers' logs of wells on the Papago Indian Reservation, Arizona--Continued

Well location, designation, altitude, and rock description	Thickness (feet)	Depth (feet)
Reddish clay	78	263
Red clay, caliche, and boulders	18	281
Reddish clay	12	293
Caliche and boulders	57	350
Sand, gravel, clay, and caliche	18	368
Clay, gravel, and sand	22	390
Clay, caliche, and gravel	12	402
Clay, gravel, sand, and a few boulders ...	106	508
Boulders, clay, and sand (water bearing) ...	92	600
Clay	10	610
Sand, clay, and boulders (water bearing) ...	20	630
Whitish clay	10	640
Sand, clay, and boulders	60	700
Large boulders and clay (water bearing)	12	712
TOTAL DEPTH		712
T. 21 S., R. 6 E.		
Sec. 33		
SW$\frac{1}{4}$NE$\frac{1}{4}$NW$\frac{1}{4}$		
4 SE of San Miguel		
DW-49		
2,650 feet		
White granite boulders	45	45
White quartzite granite	155	200
Igneous gravel and clay	420	620
Red igneous rock	85	705
Red igneous sand (water)	38	743
Igneous gravel and clay	12	755
TOTAL DEPTH		755

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona

[Analyses in parts per million, except as indicated. Date of collection: K, analyses from Bryan, 1925; P, sampled during pumping test, figures show rate of pumping at elapsed time after start of test. Depth: B, bailer sample, depth of well at time of sampling; F, point sample with Foerst sampler at depth shown.]

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 10 S., R. 1 W.																									
Sec. 36																									
SE¼SE¼NW¼	Kaka Well	5/10/60	678B	90	52		49	18	72		202	0	88	54	0.8	23		456	0.62	196	30	45	2.3	710	7.5
T. 10 S., R. 2 W.																									
Sec. 10																									
SW¼SE¼SE¼	W-16	6/9/57	10	72	52		82	26	82		344	0	47	108	.6	6.2		573	.78	312	30	36	2.0	844	7.3
T. 12 S., R. 1 W.																									
Sec. 25																									
NW¼SW¼SE¼-1	DW-23	4/20/54	617		35		15	12	98		188	0	42	57	.8	26		378	.51	87	0	71	4.6	612	
NW¼SW¼SE¼-2	DW-23A	4/9/56	803	85	35	0.15			87		188	0	42	55	.4	25				107	0	64	3.7	608	7.2
T. 12 S., R. 2 W.																									
Sec. 21																									
SE¼NE¼SE¼	DW-43	7/19/55	673	92	42		91	72	259		262	0	302	290	1.2	180		1,370	1.86	523	308	52	4.9	2,080	6.9
T. 13 S., R. 2 W.																									
Sec. 34																									
SE¼NE¼NE¼	DW-68	4/12/56	650		12	.02	25	22	157		178	0	86	159	.4	42		621	.84	153	7	69	5.5	1,030	7.2
T. 13 S., R. 4 W.																									
Sec. 10																									
NW¼NE¼NW¼	W-44	10/11/56	76	74	81		58	24	24		338	0	6.4	4.0	.2	8.0		372	.51	243	0	18	.7	545	7.6
T. 14 S., R. 1 W.																									
Sec. 3																									
SW¼NE¼NE¼	DW-67	1/12/55	590	84	19		15	6.6	134		218	0	56	68	.6	29		433	.59	64	0	82	7.2	708	7.3
Sec. 27																									
NW¼NW¼NW¼	DW-19	7/19/55	470	92	38		7.9	6.2	155		147	0	71	108	.8	42		501	.68	45	0	88	10	806	7.8
T. 14 S., R. 4 W.																									
Sec. 9																									
NW¼NW¼SE¼	Gunsight Well	10/15/17K	115		52	1.7	73	15	16		237	17	14	22		14				244					
		5/9/58		77	46		62	12	33		212	0	23	42	.5	22		344	.47	204	30	26	1.0	555	7.1

Table 3.—Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 15 S., R. 4 W.																									
Sec. 10																									
SW¼SE¼NE¼	W-28	10/11/56	45	76	54		78	17	8.0		314	0	9.1	5.5	0.4	7.6		334	0.45	264	7	6	0.2	521	7.7
T. 16 S., R. 2 W.																									
Sec. 6																									
SW¼SE¼NE¼	DW-18	7/21/54	623	76	15		9.5	5.7	206		198	0	86	152	1.4	34		606	.82	47	0	91	13	1,040	
T. 16 S., R. 3 W.																									
Sec. 5																									
NW¼NE¼SW¼	DW-39	7/6/54	805	82	41		15	6.4	61		201	0	6.8	12	.6	8.4		250	.31	64	0	68	3.3	378	
T. 16 S., R. 4 W.																									
Sec. 3																									
SE¼NE¼NW¼	W-54	6/6/58	35	74	74		71	19	38		305	0	16	44	.6	9.5		422	.57	255	5	24	1.0	652	6.9
T. 17 S., R. 1 W.																									
Sec. 11																									
NE¼SW¼NW¼	DW-15	7/16/55	361	84	29		4.8	1.4	116		239	0	24	28	2.2	5.2		329	.45	18	0	93	12	528	7.6
Sec. 33																									
SW¼NE¼NW¼	DW-32	6/10/54	321		30		13	2.8	184		170	0	91	128	1.8	30		565	.77	44	0	90	12	936	
T. 17 S., R. 3 W.																									
Sec. 6																									
NW¼SW¼SW¼	W-11	11/14/17K			98	0.13	100	62	88		565	0	45	84		15				504					
		5/7/58	30	71	75		60	26	50		372	0	20	24	1.0	4.1		443	.60	256	0	30	1.4	656	7.4
Sec. 9																									
SW¼NE¼NE¼	DW-56	7/7/54	687	88	24		4.8	4.2	67		75	7	17	48	1.8	15		226	.31	30	0	83	5.3	367	
Sec. 36																									
SE¼NE¼NW¼	DW-38	6/12/57	480	86	36		14	3.1	150		156	0	72	105	6.0	8.9		472	.64	48	0	87	9.5	796	7.6
T. 18 S., R. 3 W.																									
Sec. 35																									
NE¼NW¼SW¼	DW-58	6/30/54			42		18	4.2	174		195	0	77	123	2.8	24		561	.76	62	0	86	9.6	905	

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 19 S., R. 1 W.																									
Sec. 4																									
NE¼NE¼SE¼	DW-30	6/10/54	257	79	69		4.4	0.3	137		271	0	23	23	11	3.7		404	0.55	12	0	96	17	576	
Sec. 5																									
SE¼SW¼NW¼		5/1/58	12	61	82		44	11	2,360		1,060	0	1,460	2,040	6.9			6,520	8.87	155	0	97	82	9,610	7.8
T. 19 S., R. 2 W.																									
Sec. 2																									
SE¼SW¼NW¼	DW-53	6/18/57	285	82	42	0.05	181	106	1,450		102	0	935	2,110	1.4	6.7		4,880	6.64	888	804	78	2.1	8,000	7.4
T. 8 S., R. 4 E.																									
Sec. 23																									
SE¼SE¼SW¼	DW-5	9/27/56	196	88	28	.57	14	6.4	222		263	0	109	140	4.0	9.7		663	.90	62	0	89	12	1,110	7.7
T. 8 S., R. 5 E.																									
Sec. 12 (east half)																									
NE¼NW¼NE¼-1	C-2	7/30/54	230	81							170	0		36										509	
SE¼NW¼NE¼-1	C-1	8/3/48	240	80							192	0		33										543	
		9/15/48		80	36		33	7.4	77		193		67	33	1.0	5.5		355	.48	113				546	
		8/22/50		80							190	0		33										546	
		7/30/54		81							183	0		40										549	
SE¼NW¼NE¼-2	Old Chuichu 1	11/6/41	228	80			26	9.8	72		174	0	85	36				294		105				501	
T. 8 S., R. 6 E.																									
Sec. 17																									
NW¼SW¼SE¼	CT-1	12/13/50	104B								193	0		31										580	
		12/15/50	147B								194	0		29										565	
		1/24/51	240B		40		40	8.3	67		192	0	74	28	1.0	4.7		358	.49	134		52		543	
T. 9 S., R. 2 E.																									
Sec. 25																									
SW¼SE¼NW¼	W-61	10/6/55	60	77	53		92	17	169		399	0	98	144	.6	41		811	1.10	300	0	55	4.2	1,290	7.6
T. 9 S., R. 3 E.																									
Sec. 14																									
NE¼NW¼NW¼	DW-72	4/4/56	430	80	23	.28	22	12	88		208	0	52	38	1.2	19		357	.49	104	0	65	3.8	577	7.6

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 9 S., R. 4 E.																									
Sec. 4																									
SW¼NE¼NE¼	CT-6	4/1/55	555	81	24		21	8.8	115		223	0	72	50	1.0	11		413	.56	88	0	74	5.3	670	7.5
Sec. 15																									
NW¼NE¼SW¼	CT-11	3/6/56	150B	80	52	0.02	29	36	650	4.8	468	0	234	640	7.0	79	0.7	1,960	2.67	220	0	86	19	3,220	8.0
		3/6/56	200B	80							475	0		518						232	0			2,880	7.8
		3/7/56	250B	80							417	0		488						210	0			2,550	7.8
		3/9/56	300B	80							388	0		428						188	0			2,380	8.1
		3/10/56	350B	80	31	.03	31	25	438	8.4	370	0	207	398	4.4	37	.6	1,360	1.85	180	0	83	14	2,240	7.8
		5/10/56	120F	80	42	0	32	32	536		423	0	219	528	5.6	54		1,660	2.26	212	0	85	16	2,810	7.5
		5/10/56	180F	80	42	.01	32	29	485		409	0	211	462	5.2	43		1,510	2.05	199	0	84	15	2,570	7.7
		5/10/56	290F	80		.13					525	0		465			1.9			204	0			2,580	7.6
NE¼SW¼SW¼-1	CT-8	12/8/55	218B	78	44	.01	41	40	345	4.8	357	0	225	330	3.2	31	1.8	1,230	1.67	267	0	73	9.2	2,000	7.7
		12/16/55	350B	80							295	0		178						125	0			1,310	7.7
		1/6/56P (500 gpm)	350	80	33	.03	19	14	216	4.1	275	0	109	145	9.0	11	1.5	697	.95	105	0	81	9.2	1,120	7.5
		4/5/56P (500 gpm 3-1/2 hrs)	350	81	32	.01	19	11	208	3.1	277	0	112	141	3.6	10	1.1	677	.92	92	0	82	9.4	1,120	7.6
		4/6/56P (500 gpm 24 hrs)	350	82							275	0		143						95	0			1,130	7.5
		4/7/56P (500 gpm 48 hrs)	350	81							273	0		148						97	0			1,130	7.5
		4/8/56P (500 gpm 78 hrs)	350	80							275	0		142						96	0			1,130	7.6
		4/9/56P (500 gpm 96 hrs)	350	81							274	0		140						94	0			1,120	7.8
		5/16/56	130F	83	23	.01	19	14	229		287	0	123	164	2.0	3.0		718	.98	105	0	83	9.7	1,220	7.6
		5/16/56	330F	85		.16					163	0		153						100	0			1,190	7.8
NE¼SW¼SW¼-2	CT-9	1/17/56	457B	76							253	0		214						84	0			1,400	7.6
		1/19/56	505B	78	8.8	.03	15	9.3	263	10	260	0	140	190	8.0	.5	2.1	775	1.05	76	0	87	13	1,300	7.6
		3/16/56	550B	78							269	0		154						50	0			1,150	7.9
		3/17/56	600B	80							284	0		144						49	0			1,130	8.1
		3/20/56	650B	80							291	0		142						43	0			1,120	8.0

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 9 S., R. 4 E.																									
Sec. 15—Continued																									
NE¼SW¼SW¼-2 Continued	CT-9 Con.	3/21/56	675B	80	7.4	0.02	9.1	4.5	238	8.0	298	0	106	138	3.2	0.4	0.8	662	0.90	41	0	91	16	1,110	8.3
		4/23/56P (500 gpm 1 hr)	684	86							332	0		136						67	0			1,160	7.6
		4/24/56P (500 gpm 24 hrs)	684	86							334	0		134						67	0			1,150	7.7
		4/25/56P (500 gpm 48 hrs)	684	86	33	.09	13	7.8	239	4.0	335	0	100	135	2.8	8.9	.95	709	.96	64	0	88	13	1,150	7.8
		5/15/56	350F	88		.27					374	0		130						51	0			1,170	8.2
		5/15/56	440F	87	19	.11	9.5	6.2	250		373	0	88	133	2.4	.6	1.2	693	.94	49	0	92	16	1,180	8.3
NW¼SE¼SW¼	CT-10	1/27/56	255B	76	43	.02	37	33	505	6.6	493	0	240	425	6.0	48	.07	1,590	2.16	228	0	82	14	2,590	7.8
		2/1/56	300B		27	.02	29	25	250	6.0	294	0	147	224	3.0	14	.11	870	1.18	176	0	75	8.2	1,500	7.7
		2/14/56	350B	80							365	0		272						158	0			1,820	7.4
		2/18/56	552B	80							249	0		223						122	0			1,470	7.4
		2/23/56	590B	80							258	0		207						176	0			1,390	7.2
		2/24/56	650B	80							248	0		199						132	0			1,350	7.2
		2/25/56	700B	80	19	.04	32	20	235	8.1	251	0	160	201	2.8	9.1	.90	812	1.10	162	0	75	8.0	1,370	7.1
		5/16/56	135F	85	5.7	.20	19	5.7	237		281	0	128	148	4.8	1.0	1.2	689	.94	71	0	88	12	1,160	7.3
T. 9 S., R. 5 E.																									
Sec. 29																									
SW¼SE¼SW¼	DW-4	11/5/41					72	31	234		246	0	119	348				925		307				1,690	
		10/7/55	123		31		35	30	259		278	0	130	279	2.2	15		918	1.25	211	0	73	7.8	1,560	7.7
T. 10 S., R. 2 E.																									
Sec. 22																									
SE¼NE¼SE¼	W-50	6/27/56	53	74	42	0	78	17		3.9	287	0	12	5	.4	22		321	.44	264	30	3	.1	501	7.3
T. 10 S., R. 3 E.																									
Sec. 12																									
NW¼NE¼NE¼	DW-8	12/1/53	255		29		43	23		118	198	0	77	135	1.0	29		552	.75	202	40	56		981	
		1/7/54	255		27		44	22		125	200	0	86	137	1.0	29		569	.77	200	36	58		989	
T. 10 S., R. 4 E.																									
Sec. 16																									
NE¼NW¼SE¼	DW-33	10/9/57	194	78	18	.15	16	11		204	295	0	58	152	1.4	11		617	.84	85	0	84	9.6	1,080	7.6

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona — Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 10 S., R. 4 E. Continued																									
Sec. 33																									
SE¼SW¼SE¼	DW-7	11/5/41	218				32	22	145		220	0	117	120	1.4	13		559		170				960	
		5/15/54	218	81	27		31	16	158		230	0	110	120	2.2	12		589	0.80	144	0	71	5.7	978	
T. 11 S., R. 1 E.																									
Sec. 14																									
NE¼NE¼SW¼	DW-24	7/19/55	685	78	31		9.5	6.2	118		196	0	48	52	.6	26		387	.53	49	0	84	7.4	606	7.6
T. 11 S., R. 2 E.																									
Sec. 21																									
NE¼SW¼NW¼	DW-25	4/20/54	634	81	38		83	27	74		219	0	31	175	.6	22		559	.76	318	138	33	1.8	1,010	
T. 11 S., R. 3 E.																									
Sec. 4																									
SW¼SE¼NE¼	DW-70	5/17/57	335	82	26		29	17	95		214	0	76	60	.8	11		420	.57	142	0	59	3.5	713	7.5
T. 11 S., R. 4 E.																									
Sec. 20																									
SW¼SW¼SE¼	DW-26	1/6/54	170	75	28		22	12	109		242	0	38	68	.8	7.0		404	.55	104	0	69		679	
T. 11 S., R. 5 E.																									
Sec. 2																									
NE¼SE¼SW¼	DW-71	5/10/55	225	81	25		44	7.6	159		303	0	54	123	1.8	6.2		570	.78	141	0	71	5.8	963	7.5
T. 12 S., R. 1 E.																									
Sec. 11																									
SW¼SE¼SE¼	Ventana Cave Spring	3/24/60		65	74				36		221	0	29	56	.5	5.1				217	36	27	1.1	600	7.4
T. 12 S., R. 2 E.																									
Sec. 32																									
NW¼NE¼NE¼	DW-69	4/12/56	553	80	18	0.05	9.5	5.2	86		166	0	33	32	.4	18		279	.39	45	0	81	5.5	460	7.7
T. 12 S., R. 3 E.																									
Sec. 23																									
NE¼SE¼NE¼	DW-6	11/6/41	265				21	7.6	102		212	0	38	55	1.0	14		343		84				593	
		5/15/54	265	81	23		17	5.5	107		213	0	34	52	1.2	15		360	.49	65	0	78	5.8	594	

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 12 S., R. 6 E.																									
Sec. 25																									
NW¼SE¼NE¼	DW-54	5/27/54	550		23		18	3.5	107		195	0	35	58	1.2	14		356	0.48	60	0	80	6.1	589	
T. 13 S., R. 1 E.																									
Sec. 27																									
NW¼NW¼SE¼	DW-57	7/28/54	268	76	23		62	12	16		268	0	6.0	8	.4	2.0		261	.35	204	0	15	.5	436	
T. 13 S., R. 2 E.																									
Sec. 23																									
SW¼NW¼NW¼	W-74	7/27/55		81	39		52	35	86		364	0	35	81	1.0	12		520	.71	274	0	41	2.3	872	7.7
T. 13 S., R. 3 E.																									
Sec. 2																									
NE¼NW¼NW¼	DW-3	11/6/41					19	7.2	93		218	0	42	41				310		78				536	
		9/26/56	391	87	31		17	5.2	99		220	0	30	40	2.0	6.3		338	.46	64	0	77	5.4	541	7.7
Sec. 10																									
SE¼NW¼SE¼	Santa Rosa Trading Post	10/10/57	368		33	0.14	25	9.0	96		233	0	46	44	1.2	4.4		374	.51	100	0	68	4.2	601	7.4
T. 13 S., R. 4 E.																									
Sec. 23																									
SW¼NE¼NW¼	DW-40	1/6/54	365		49		31	28	70		288	0	24	47	1.2	17		409	.56	192	0	44		651	
		5/15/54	365	84							269	0		40										602	
Sec. 30																									
SW¼SE¼NE¼	DW-55	5/14/54	420		28		17	14	110		191	0	26	97	1.0	21		408	.55	100	0	71	4.8	699	
T. 13 S., R. 7 E.																									
Sec. 21																									
NE¼SW¼SE¼	DW-35	4/7/54	585	90	19		9.9	2.0	132		123	0	65	86	1.0	33		408	.55	32	0	90	10	689	
T. 13 S., R. 8 E.																									
Sec. 11																									
SW¼SE¼NW¼	DW-61	4/7/54	100	96	26		69	73	507		624	0	645	270	2.3	5.7		1,900	2.58	472	0	70	10	2,830	

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 14 S., R. 2 E.																									
Sec. 1																									
NE¼SW¼NW¼	W-73	8/30/55	100	85	54		87	43	50		376	0	21	120	0.4	2.6		563	0.77	394	86	22	1.1	950	7.2
Sec. 27																									
NE¼SW¼SE¼	W-22	11/6/41	49				124	73	24		279	8.9	58	122	1.2	227		776		610				1,300	
		5/16/57		78	67		84	50	33		329	0	34	63	.4	115		608	.83	415	146	15	.7	953	7.3
Sec. 36																									
SE¼SW¼NW¼	W-36	11/6/41	60				56	56	91		375	0	47	85	1.2	110		631		370				1,060	
		5/16/57			48		53	48	85		364	0	31	111	1.4	30		586	.80	330	31	38	2.0	919	7.4
T. 14 S., R. 3 E.																									
Sec. 31																									
SE¼SE¼NW¼	Cooley Well	2/1/57	140	75	61	0	89	25	38		416	0	17	33	.8	.6		469	.64	325	0	20	.9	744	7.2
Sec. 35																									
SW¼SE¼SW¼	DW-36	11/6/41	568				22	13	73		211	9.8	27	36				285		108				499	
		1/6/54	568	83	36		22	8.0	66		202	0	18	31	.6	3.2		284	.39	88	0	62		450	
T. 14 S., R. 4 E.																									
Sec. 28																									
NW¼SW¼SE¼	DW-48	12/22/53	720	91	31		22	10	103		244	21	25	37	.6	6.2		376	.51	96	0	70		602	
T. 14 S., R. 5 E.																									
Sec. 12																									
NW¼NW¼SE¼-1	W-19	12/1/41	15				88	25	82		325	0	49	73	.4	98		576		322			20	978	
Sec. 27																									
NE¼NE¼SW¼		10/28/54		74	62		97	55	98		450	0	52	175	.8	12		773	1.05	468	100	31	2.0	1,280	
T. 14 S., R. 7 E.																									
Sec. 7																									
NW¼NW¼NW¼	DW-65	9/24/56	665	87	21	.10	17	15	68		265	0	2.5	20	1.8	.6		276	.38	104	0	59	2.9	453	7.5
T. 14 S., R. 10 E.																									
Sec. 20																									
SW¼SW¼SW¼	W-12	9/28/56	65	80	40	0	20	1.7	123		321	0	15	24	2.2	7.6		392	.53	57	0	82	7.1	599	7.9

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 14 S., R. 11 E.																									
Sec. 9																									
SE¼NW¼SE¼	DW-59	4/16/54	325		34		37	1.5	36		181	0	7.2	9	0.8	8.5		223	0.30	98	0	45	1.6	338	
T. 15 S., R. 1 E.																									
Sec. 18																									
SE¼SE¼NW¼	DW-45	5/19/54	488	80	25		15	10	121		220	0	56	65	1.1	9.3		410	.56	78	0	77	5.9	679	
T. 15 S., R. 4 E.																									
Sec. 36																									
SE¼SE¼NW¼	W-57-1	10/26/54		76	35		49	66	35		411	0	16	68	.4	24		495	.67	394	57	16	.8	852	
T. 15 S., R. 5 E.																									
Sec. 5																									
NE¼SE¼SE¼	W-10	12/1/41	25				72	350	93		376	0	118	99	1.5	17		636		385				1,050	
		10/28/54	25	75	47		92	48	65		396	0	78	71	1.2	75		672	.91	427	102	25	1.4	1,080	
Sec. 31																									
SE¼NW¼SE¼-1	W-30-1	6/12/56	50	75	52	0.01	96	48	46		400	0	27	96	.6	55		616	.84	437	109	19	1.0	1,050	7.2
T. 15 S., R. 6 E.																									
Sec. 13																									
SE¼SE¼NE¼	DW-22	12/1/41	614				40	7.9	35		189	0	15	24	.1	6.0		221		132				394	
		5/17/57			35		38	7.1	47		204	0	14	24	.4	5.1		269	.37	119	0	46	1.9	397	7.4
T. 15 S., R. 7 E.																									
Sec. 1																									
SE¼SE¼NE¼	DW-28	5/13/54	565	86	27		27	3.8	80		196	0	32	42	.2	4.0		312	.42	83	0	68	3.8	528	
T. 15 S., R. 8 E.																									
Sec. 25																									
SE¼SW¼SW¼	W-23	9/7/56		74	75	.02	59	26	51		358	0	13	18	2.2	33		453	.62	254	0	30	1.4	689	7.4
T. 16 S., R. 1 E.																									
Sec. 18																									
NE¼NW¼NW¼	DW-16	7/19/55	468	80	25		14	7.6	196		195	0	121	129	2.0	30		623	.85	66	0	87	11	1,030	7.4
Sec. 34																									
NE¼SW¼SE¼	DW-73	4/12/56	380	86	32		6.4	1.0	107		232	0	24	25		3.7		306	.43	20	0	92	10	471	7.7

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona --Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 16 S., R. 2 E.																									
Sec. 6																									
NW¼NE¼NE¼		11/21/57	110	71	44		116	34	55		549	0	2.7	65	0.6	3.1		590	0.80	430	0	22	1.1	1,010	7.5
Sec. 14																									
NW¼NW¼NW¼	W-24	1/15/58	40	72	39		51	36	149		554	0	68	50	.8	1.5		687	.91	275	0	54	3.9	1,060	7.7
T. 16 S., R. 3 E.																									
Sec. 10																									
NE¼NW¼SW¼	DW-42	7/27/54	502	93	26		9.9	2.4	67		172	0	8.0	16	1.0	7.5		223	.30	34	0	81	5.0	338	
T. 16 S., R. 4 E.																									
Sec. 9																									
SW¼NE¼NE¼	W-34	6/13/56		69	28	0.01	74	82	18		598	0	15	36	.8	3.6		551	.75	522	32	7	.4	980	7.3
Sec. 17																									
SE¼SE¼NW¼	W-00	10/26/54		77	53		71	74	36		494	0	21	83	.8	17		599	.81	482	76	14	.7	1,010	
Sec. 27																									
SW¼NW¼SE¼		10/26/54		73	40		95	165	121		507	0	77	478	.6	8.4		1,230	1.67	916	500	22	1.7	2,220	
T. 16 S., R. 5 E.																									
Sec. 12																									
NE¼SW¼SE¼	W-63	10/26/54		73	34		59	36	51		383	0	37	33	1.0	4.9		444	.60	295	0	27	1.3	730	
T. 16 S., R. 6 E.																									
Sec. 27																									
NW¼NE¼NW¼	DW-44	12/1/41					50	8.7	36		164	0	30	46	.6	7.1		259		161				462	
		5/17/57	785		43	.02	44	7.1	53		194	0	25	44	8.0	6.2		326	.45	139	0	49	2.3	455	7.2
T. 16 S., R. 7 E.																									
Sec. 8																									
NW¼SE¼NE¼	DW-62	4/5/54	800	88							207	0		39	.2					158				520	
		5/10/57			39		49	8.5	48		210	0	25	39	.4	9.8		322	.44	158	0	40	1.7	504	7.2
T. 16 S., R. 8 E.																									
Sec. 10																									
SE¼NW¼SW¼	Dobbs Well	11/26/17K	62		62	.30	73	30	143		460	0	26	122		12		667		306					

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 16 S., R. 8 E. Continued																									
Sec. 11																									
NW¼NW¼SW¼	Roadside Shaft	6/12/56[a]	800	70	31	0.15	179	133	195		1,050	0	405	93	1.3	0.2		1,550	2.11	994	133	30	2.7	2,300	6.8
		9/20/56[b]	800	70	25		86	67	157		661	0	116	82	1.6	.1		840	1.14	440	0	44	3.3	1,410	7.2
T. 17 S., R. 2 E.																									
Sec. 33																									
NE¼SW¼SE¼	DW-66	7/15/55	445	88	30		2.8	.2	108		210	0	30	20	2.4	5.7		302	.41	8	0	97	17	443	8.1
T. 17 S., R. 3 E.																									
Sec. 8																									
SE¼NE¼SW¼	DW-20	4/2/56	480	85	20		4.0	.7	92		180	0	36	17		3.6		264	.36	13	0	94	11	423	8.0
Sec. 24																									
NW¼SE¼SE¼	DW-17	6/8/54	602	82	33		33	12	55		149	0	13	78	.6	4.6		302	.41	132	10	47	2.1	522	
T. 17 S., R. 4 E.																									
Sec. 11																									
NE¼SW¼SE¼	W-56	10/25/54		73	52		294	324	476		338	0	820	1,380	.8	28		3,540	4.81	2,070	1,790	33	4.6	5,560	
Sec. 25																									
NW¼SE¼NE¼	DW-52C	7/13/54	114	76							310	0		25	.6					250				583	
SW¼SE¼NE¼-2	DW-52A	7/13/54	117	107							326	0		34	.6					255				659	
NW¼SE¼NW¼	State Highway 3	7/13/54	111		11		91	26	51		235	0	91	108	.2	5.5		500	.68	334	142	25	1.2	873	
NE¼NE¼SE¼	DW-52D	7/13/54	250	93							378	0		30	.4					259				676	
Sec. 26																									
NW¼SW¼NE¼	Sells Hosp. Test 1	2/28/57	124B	77	40		65	36	47		322	0	34	67	.6	19		467	.84	310	46	25	1.2	783	7.3
		3/7/57	160B	78	36		68	34	52		323	0	35	71	.6	24		480	.65	310	45	27	1.3	786	7.3
		4/17/57	340B	78	30		58	39	61		347	0	34	71	.4	21		485	.66	305	20	30	1.5	803	7.4
		5/7/57	458B	78	37		62	37	46		317	0	35	67	.4	18		458	.62	306	46	25	1.1	763	7.2
Sec. 27																									
SE¼NE¼NW¼	Corral Well	8/3/56	370	80	7.5	.02	9.5	5.7	65		154	0	19	27	1.4	.5		212	.29	47	0	75	4.1	369	7.4

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 17 S., R. 4 E. Continued																									
Sec. 30																									
SW¼NW¼SW¼	Sells Hosp. 1	3/26/58P (200 gpm 1 hr)	700	96	34		29	10	77		232	0	26	39	0.8	8.3		338	0.46	114	0	60	3.1	549	7.8
		3/26/58P (200 gpm 2 hrs)	700	96	34		31	8.8	77		232	0	26	39	.8	8.3		339	.46	114	0	60	3.1	546	7.6
		3/27/58P (200 gpm 24 hrs)	700	95	35		30	9.5	77		230	0	25	40	.8	9.6		340	.46	120	0	59	3.1	546	7.7
Sec. 31																									
NW¼NW¼NW¼	Sells Hosp. 2	11/17/59	700								173			88						140	0			607	7.6
Sec. 34																									
SE¼NW¼NE¼	DW-41	3/26/43	201				56	18	55		328	0	12	31		9.6		343	.47	214				588	
		5/20/54	201	77	40		64	20	48		312	0	14	44	.4	15		398	.54	242	0	30	1.3	652	
Sec. 36																									
NE¼NW¼NE¼	W-42	11/26/17K	38		73	0.16	61	29	81	7.5	286	0	48	92		21		536		271					
T. 17 S., R. 5 E.																									
Sec. 19																									
NE¼SE¼NE¼	Deep Test 6	7/14/54	215								400	0		86	1.0									917	
Sec. 20																									
SE¼SW¼NW¼	Deep Test 7	7/14/54	256								360	0		72	.8									854	
SE¼SE¼NW¼	Deep Test 8	7/14/54	130								367	0		51	.6									747	
NE¼NE¼SW¼	Deep Test 2	7/14/54	450								369	0		69	.4									813	
SE¼NW¼SE¼	Deep Test 3	7/14/54	102								189	0		5										320	
Sec. 24																									
SW¼SE¼SW¼	DW-34	6/9/54	654		33		49	22	40		276	0	12	33	.5	16		342	.47	213	0	29	1.2	565	
Sec. 31																									
NW¼NW¼NE¼	DW-60	6/10/54	120		58		51	37	51		422	0	14	19	.6	1.4		440	.60	279	0	28	1.3	682	
Sec. 35																									
SW¼NE¼NE¼	Garcia Well	7/15/54	827		27		24	20	221		529	14	56	76	.2	0		698	.95	142	0	77	8.1	1,130	

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona — Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 17 S., R. 6 E.																									
Sec. 8																									
NE¼NE¼SW¼	DW-1	7/15/54	700	78	31		24	7.6	57		237	0	5.4	5	0.2	8.6		256	0.35	91	0	57	2.6	397	
Sec. 31																									
NE¼NE¼SE¼	DW-14	11/10/53	655	81							194	0		23										398	
		7/15/54	655	78	32						176	0		25	.2					68				393	
T. 17 S., R. 7 E.																									
Sec. 5																									
NW¼SE¼NW¼	W-67	10/12/54		70	40		66	17	38		322	0	3.5	30	.6	6.0		359	.49	234	0	26	1.1	598	
T. 18 S., R. 1 E.																									
Sec. 7																									
NE¼SW¼NE¼	DW-46	9/18/57	317	86	37	0.12	18	6.6	105		232	0	41	41	2.0	4.8		370	.50	72	0	76	5.4	595	7.4
		10/24/57	317	86	38	.13	17	6.4	111		237	0	45	43	2.0	4.9		384	.52	69	0	78	5.8	603	7.3
T. 18 S., R. 2 E.																									
Sec. 29																									
SE¼SW¼NW¼	Toro 1	11/25/57	300	85	35		18	2.6	77		200	0	17	25	1.4	4.6		279	.38	56	0	75	4.5	432	7.2
Sec. 31																									
SE¼NE¼NW¼	Toro 3	11/25/57	300	78	17		10	1.2	78		170	0	16	26	1.6	.7		236	.32	30	0	85	6.2	377	6.8
T. 18 S., R. 3 E.																									
Sec. 16																									
NW¼NE¼NE¼	DW-74	4/2/56	410	84	36	0	31	8.6					16	17	.4	28		238	.38	113	0	49	2.0	382	7.5
T. 18 S., R. 5 E.																									
Sec. 7																									
NE¼NW¼NW¼	W-40	10/25/54		75	53		47	59	90		477	0	14	105	.8	.8		605	.82	360	0	35	2.1	1,020	
Sec. 24																									
NW¼NW¼NW¼	DW-63	7/15/55	650	86	33		23	4.8	52		188	0	8.3	16	.5	2.1		233	.32	77	0	59	2.6	347	7.2
T. 16 S., R. 7 E.																									
Sec. 26																									
SW¼SW¼NW¼	W-37	9/20/54	13	76	33		79	24	29		378	0	21	18	.2	1.2		391	.53	298	0	18	.7	651	

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 18 S., R. 7 E. Continued																									
Sec. 29																									
NW¼NW¼NW¼	W-15	9/21/54		77	57		72	22	33		316	0	30	35	0.2	3.0		407	0.55	270	11	21	0.9	632	
Sec. 31																									
NW¼NE¼SE¼-1		10/4/54		70	34		64	15	26		291	0	18	13	.4	.2		314	.43	221	0	20	.7	508	
Sec. 32																									
NE¼NW¼NE¼-1	W-3	9/21/54		76							274	0		16						220	0			509	
T. 19 S., R. 1 E.																									
Sec. 5																									
NW¼NE¼SW¼	DW-2	6/11/54	420	116	14		9.1	2.6	116		162	0	38	52	15	.2		327	.44	33	0	88	5.8	577	
Sec. 7																									
NW¼NW¼SE¼	PF-1	9/7/57	270B	114	56		7.9	3.8	160		224	6	59	53	20	1.0	0.30	477	.65	35	0	91	12	800	8.5
			350B	114							277	0		45						34	0			680	8.1
			550B	114							286	6		42						17	0			689	8.4
		9/12/57	700B	114							312	0		40						66	0			692	7.7
		9/13/57P (2,000 gpm 40 mins)	715	114	64		15	1.9	128		249	0	40	31	12	3.0	.14	417	.57	46	0	86	8.2	599	7.7
		9/27/57P (1,180 gpm 3 hrs)	715	114							222	0		33						38	0			564	7.5
		10/1/57P (1,350 gpm 28-1/2 hrs)	715	114							220	0		33						40	0			559	7.8
Sec. 8																									
NE¼NE¼SE¼	PF-3	5/1/58	975	82	57		14	2.1	99		222	0	21	30	3.6	4.5		340	.46	44	0	83	6.5	491	7.4
Sec. 17																									
NE¼NE¼NE¼	PF-6	5/1/58	560	85	57		15	2.6	122		217	0	36	50	9.0	4.2		403	.55	48	0	85	7.6	605	7.7
Sec. 19																									
NE¼NE¼NE¼	PF-5	5/1/58	950	86	43		11	1.0	118		213	0	26	41	9.0	7.1		361	.49	32	0	89	9.2	553	7.1
T. 19 S., R. 2 E.																									
Sec. 31																									
NE¼NW¼NE¼		9/19/57	180		41	0.02	57	8.8	33		233	0	21	15	1.2	16		308	.42	178	0	29	1.1	446	7.3

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona —Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 19 S., R. 3 E.																									
Sec. 29																									
NW¼SW¼SW¼	DW-37	7/28/54	540	82							215	0	29											461	
		7/14/55	540	88	42		15	5.5	84		209	0	22	28	1.8	5.2		306	0.42	60	0	75	4.7	458	7.3
Sec. 35																									
SE¼SE¼SE¼	DW-21	3/28/55	614	85	33		26	7.6	100		235	0	37	48	4.0	5.8		377	.51	96	0	69	4.4	611	7.6
T. 19 S., R. 3½ E.																									
Sec. 1																									
NE¼NW¼NE¼	DW-12	11/12/53	722	82	31		18	4.8	69		213	0	10	17	1.2	3.9		260	.35	64	0	70		402	
		6/1/54	722								218	0		16										422	
T. 19 S., R. 5 E.																									
Sec. 3																									
NW¼NE¼NW¼	San Solano Mission Well	6/3/54	484		37		34	4.5	42		196	0	6.4	15	.6	5.7		241	.33	104	0	47	1.8	367	
SE¼NW¼SE¼	DW-9	5/12/54	602	84							201	0		11										364	
Sec. 5																									
NE¼SW¼NE¼		6/3/54	505		35		48	16	58		328	0	5.6	12	.6	24		360	.49	186	0	41	1.9	567	
T. 19 S., R. 7 E.																									
Sec. 21																									
NW¼SE¼SE¼	W-46	10/14/54		71	27		82	33	31		388	0	60	18	.4	.1		442	.60	340	22	16	.7	724	
T. 20 S., R. 2 E.																									
Sec. 2																									
SW¼NW¼NE¼	DW-29	3/29/55	490	79	21		50	21	99		368	0	57	42	1.0	5.2		477	.65	212	0	50	3.0	792	7.2
T. 20 S., R. 4 E.																									
Sec. 2																									
NE¼SE¼NW¼	DW-10	5/13/54	608	82	29		19	5.2	69		216	0	13	16	1.4	2.3		261	.35	89	0	68	3.6	414	
T. 20 S., R. 5 E.																									
Sec. 12																									
SE¼NW¼NE¼	DW-13	6/3/54	681								173	0		20										352	

Table 3.--Analyses of ground water, Papago Indian Reservation, Arizona — Continued

Location	Well number	Date of collection	Depth (feet)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	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
T. 20 S., R. 5 E. Continued																									
Sec. 15																									
NW¼NW¼SW¼	DW-64	9/25/56	730	97	34	0.04	18	4.3	73		188	0	16	30	2.4	2.3		272	0.37	62	0	72	4.0	426	7.7
Sec. 24																									
SE¼SE¼SE¼	DW-47	6/3/54	674		34		27	3.8	77		212	0	17	30	2.2	14		309	.42	83	0	67	3.7	464	
Sec. 28																									
NW¼SW¼NW¼	DW-51	7/14/55	660	78	27		18	5.2	74		217	0	10	19	1.0	5.0		272	.37	66	0	71	4.0	425	7.0
T. 20 S., R. 6 E.																									
Sec. 24																									
NE¼NE¼NE¼		10/19/54		74	47		52	20	144		550	0	40	18	1.2	3.6		596	.81	212	0	60	4.3	927	
T. 20 S., R. 7 E.																									
Sec. 4																									
SW¼SW¼SW¼		10/18/54		75	35		33	17	46		356	0	34	31	.8	4.7		426	.58	277	0	26	1.2	695	
T. 21 S., R. 6 E.																									
Sec. 7																									
NW¼NW¼SW¼	DW-11	6/2/54	712		38		30	3.5	54		197	0	9.5	18	2.4	4.4		257	.35	90	0	57	2.5	388	
Sec. 33																									
SW¼NE¼NW¼	DW-49	6/2/54	755	77							193	0		17										373	
T. 21 S., R. 7 E.																									
Sec. 7																									
NE¼SW¼SW¼	W-13	10/20/54		74	50		72	18	46		336	0	6.0	49	.6	2.1		409	.56	254	0	28	1.3	669	
T. 22 S., R. 7 E.																									
Sec. 17																									
NW¼NE¼NE¼	W-49	10/21/54		74	49		53	19	27		239	0	23	23	.2	19		331	.45	210	14	22	.8	515	