GROUND-WATER REPORT 9

Ground-Water Resources and Geology of Quay County, New Mexico

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UNITED STATES GEOLOGICAL SURVEY

Prepared in co-operation with the
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Abstract

Ground water has been used for irrigation since 1936 in the southern part of Quay County, near the community of House. Between 1942 and 1964, water levels declined about 30 feet in this area, and further decline is expected as discharge is much larger than recharge. East of Tucumcari, water levels have risen about 40 feet as a result of recharge from surface water used to irrigate lands of the Tucumcari Irrigation Project. Elsewhere in the county, water levels have remained relatively stable.

Rocks exposed in Quay County range in age from Triassic to Recent. Alluvial deposits of Quaternary age, the Ogallala Formation of Tertiary age, and the Entrada Sandstone of Jurassic age are the only formations that yield large amounts of water to wells. The alluvium yields as much as 325 gpm (gallons per minute) of water to wells, the Ogallala Formation yields as much as 1600 gpm, and the Entrada Sandstone yields as much as 250 gpm. Other aquifers in Quay County yield adequate supplies of water for domestic and stock uses.

The concentrations of sulfate in 142 samples of water range from 11 to 3190 ppm (parts per million). About half the ground-water samples analyzed contained more than 250 ppm of sulfate, the recommended upper limit for domestic supplies; however, the water is generally satisfactory for irrigation and stock use. Fluoride in excess of 1.5 ppm was found in 46 per cent of the samples analyzed.

Ground water from the Entrada Sandstone and older alluvium furnishes the water supply for Tucumcari. The Ogallala Formation is the source of ground water for irrigation. Most domestic and stock water supplies are derived from ground water.

The yield of ground water from the Ogallala Formation can be expected to decrease and water levels to decline because discharge exceeds recharge. The amount of water in storage in aquifers supplying Tucumcari is sufficient for present and anticipated needs. The amount of water available in rocks of Triassic age is small but fairly constant; these rocks supply water for a large part of the county.

Introduction

Quay County, in east-central New Mexico, adjoining Texas, has an area of 2883 square miles (fig. 1); the population was 12,279 in 1960 (U.S. Bureau of the Census, 1960). The economy of the county is based on agriculture, tourism, and livestock. The Arch Hurley Conservancy District (formerly called the *Tucumcari Irrigation District)* had 34,400 acres in central Quay County under irrigation in 1961 (fig. 1). Water for the district comes from Conchas Reservoir in San Miguel County. About 4000 acres in the county, concentrated on the High Plains near House (fig. I), are irrigated with ground water. About 237,000 acres are dry-farmed; crop failures on dry farms are common because of drought and occasional hail storms. Wheat and grain sorghum are the main crops; minor amounts of broomcorn, cotton, alfalfa, and corn are grown. Most of the land in the county is utilized for grazing.

This study of the ground-water resources and geology in Quay County was made by the U.S. Geological Survey in co-operation with the New Mexico Institute of Mining and Technology, State Bureau of Mines and Mineral Resources Division, and the New Mexico State Engineer. The objective was to determine the origin, movement, and quality of the ground water.

Other report areas of the New Mexico Institute of Mining and Technology are shown in Figure 2.

The field investigation was begun in August 1953 and continued through 1956. Information on 1300 wells and springs was collected by C. F. Berkstresser, Jr. Other personnel of the Geological Survey collected data for wells in the House area from 1941 to 1955 and for wells west of Tucumcari from 1952 to 1953. The depth of the wells and the depth to water were measured wherever possible. About 175 samples of well or spring water were collected for chemical analysis, of which 43 were collected in 1948 by L. S. Hughes. A geologic map of the county was compiled by C. F. Berkstresser, Jr., from reconnaissance mapping, photo interpretation, and published maps. The altitude of the land surface at most wells was determined by aneroid barometer; the altitude of some wells was determined from topographic maps, and elevations were provided by C. G. Haynes of Magnolia Petroleum Co.

Previous investigations that pertain to Quay County include the following: Geology and stratigraphy, Darton (1928a); geology of northwest Quay County, Dobrovolny, Summerson, and Bates (1946); irrigation possibilities in the Nara Visa and Porter areas, Trauger (1953); ground water in the structural basins west of Tucumcari, Trauger and Bushman (1964).

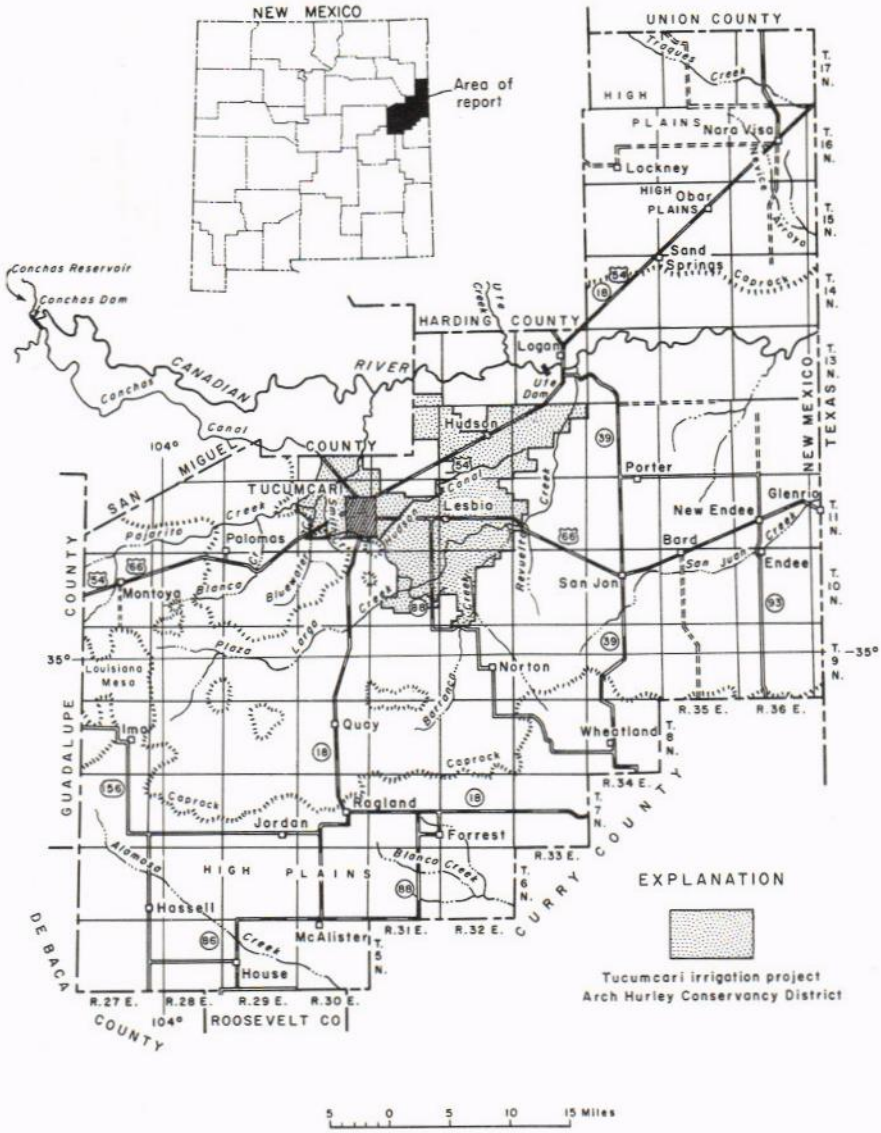

Figure 1

INDEX MAP OF QUAY COUNTY, N. MEX.

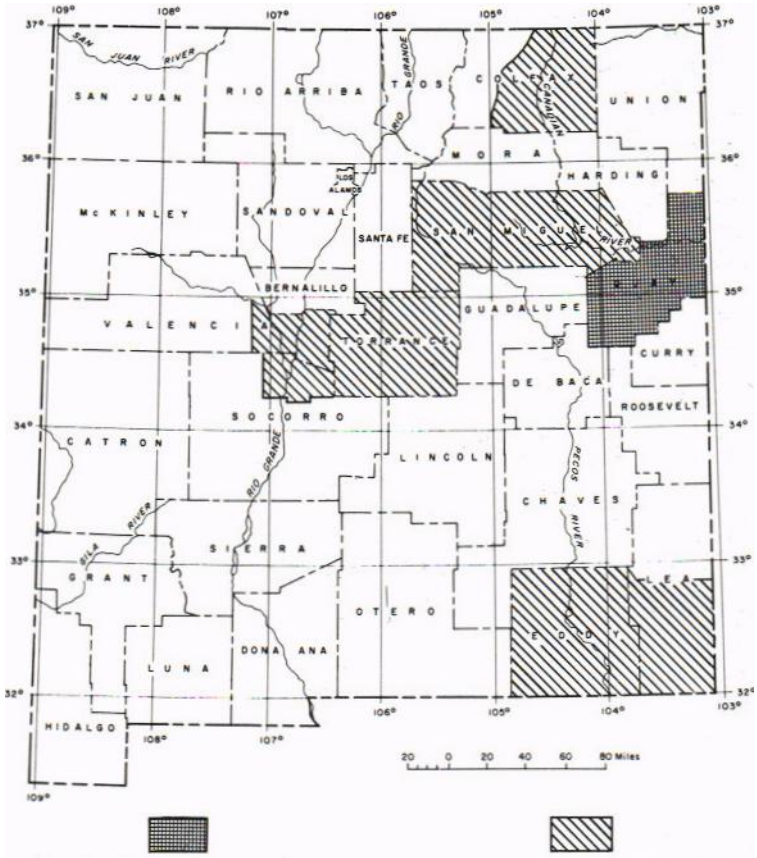

Figure 2

AREAS IN NEW MEXICO DESCRIBED IN GROUND-WATER REPORTS PUBLISHED BY THE NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY, STATE BUREAU OF MINES AND MINERAL RESOURCES DIVISION, IN CO-OPERATION WITH THE U.S. GEOLOGICAL SURVEY AND THE NEW MEXICO STATE ENGINEER

WELL-NUMBERING SYSTEM

The wells and springs investigated for this report are listed in Tables 1 and 2. The location numbers are based on townships, ranges, sections, and parts of sections (fig. 3). The first three parts of the number, separated by decimal points, represent the township north, range east, and section number, respectively. For convenience, the quarters of a section are numbered 1, 2, 3, 4, as indicated in Figure 3.

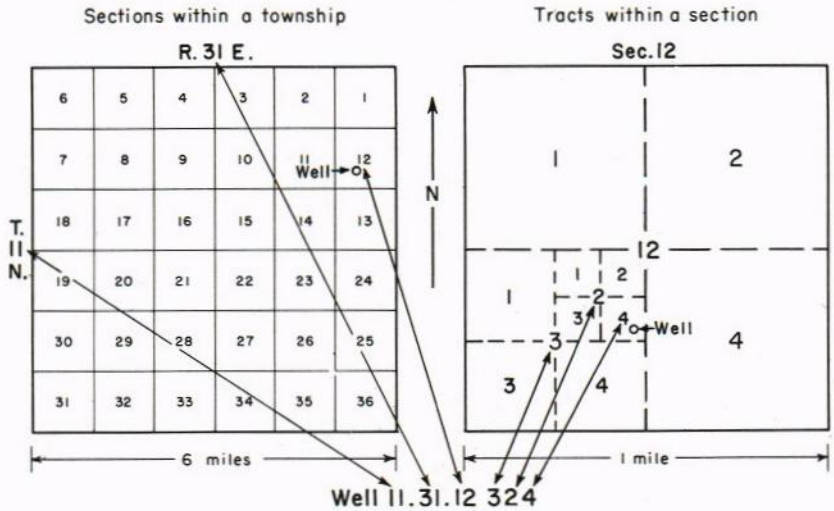

Figure 3

SYSTEM OF NUMBERING WELLS AND SPRINGS IN NEW MEXICO

The first digit of the last part of the number gives the quarter section, the second digit gives the quarter of that quarter, and the third digit designates the 10-acre tract. Letters a, b, c, and so on are added to the last part of the number to designate the second, - third, fourth, and succeeding wells or springs listed in the same 10-acre tract. Thus, well 11.31.12.324 is in the SE1/4 NEB SW sec. 12, T. 11 N., R. 31 E.

In Tables 1 and 2, the location number is not given in full for each well and spring. The wells and springs are grouped by townships and ranges, and the full symbol is used only for the first one in each group. Only the last two sets of numbers, showing the section, 10-acre tract, and serial letter are given for other wells or springs in that township and range.

GEOGRAPHIC SETTING

The topography of Quay County is characterized by flat-topped mesas or gently rolling plains separated by lower level or lowland plains. Relief varies from almost level alluvial plains to deeply dissected hills. The altitude ranges from about 3600 feet where the Canadian River flows into Texas to about 5500 feet on Louisiana Mesa in the southwestern part of the county.

The northern and southern parts of Quay County are part of the High Plains of western Texas and eastern New Mexico. The nearly level surface is a plain of deposition—one built up by stream deposits.

In the central part of Quay County, erosion has removed most of the deposits but has left remnants standing as mesas. The edge of the High Plains is marked by a distinct scarp called the "caprock." The relief of the "caprock" escarpment ranges from a few feet in the northern part of the county to nearly 800 feet in the southwestern part near Louisiana Mesa. The surface of the High Plains is marked by many depressions called *lakes, wallows,* or *sinkholes.* Some of these depressions are large enough to have developed small drainage systems, and the depression may contain water most of the time.

Streams that drain the central part of Quay County are the Canadian River, Ute, Pajarito, Blanca, Bluewater, Plaza Larga, Barranca, Revuelto, and San Juan creeks, and Rana Canyon. The Canadian River in Quay County is normally a perennial stream and flows eastward into Texas. Ute Creek, whose drainage is mostly in Harding County, enters the Canadian River just west of Logan and is a perennial stream. The flow of Ute Creek helps to supply the water impounded by Ute Dam near Logan. Pajarito Creek is perennial from about sec. 13, T. 11 N., R. 29 E. to its confluence with the Canadian River and is intermittent above sec. 13. Blanca Creek is intermittent and is a tributary of Pajarito Creek. Bluewater Creek is intermittent to about one mile south of its confluence with Pajarito Creek, where it is perennial. Plaza Larga Creek is intermittent to the Tucumcari irrigation project and perennial from there to its confluence with Revuelto Creek. Barranca Creek is intermittent and a tributary of Revuelto Creek. Revuelto Creek (sometimes called *Tucumcari Creek)* is intermittent to its confluence with Plaza Larga Creek and perennial from there to where it flows into the Canadian River east of Logan. San Juan Creek, which is intermittent, drains a large area in southeast Quay County, then flows into Texas and enters the Canadian River. Rana Canyon is intermittent and enters the Canadian River a few miles from the Texas line.

The major drainage systems of the High Plains in Quay County are Traques Creek and Nevice Arroyo in the northern part and Alamosa and Blanco creeks in the southern part, all of which drain to the southeast. These streams and several smaller ones on the High Plains are intermittent.

Alamogordo and Truchas creeks are intermittent streams that have their origin in southwestern Quay County and flow southwesterly to the Pecos River.

The climate of Quay County is characterized by clear, sunny days, large diurnal temperature changes, low humidity, scant rainfall, and generally high rates of evaporation. Light to moderate winds prevail most of the year and strong winds are common from January to May. At Tucumcari, the average annual maximum daily air temperature is 72.7°F, the average annual minimum daily air temperature is 43.5°F, and the mean annual temperature is 58°F.

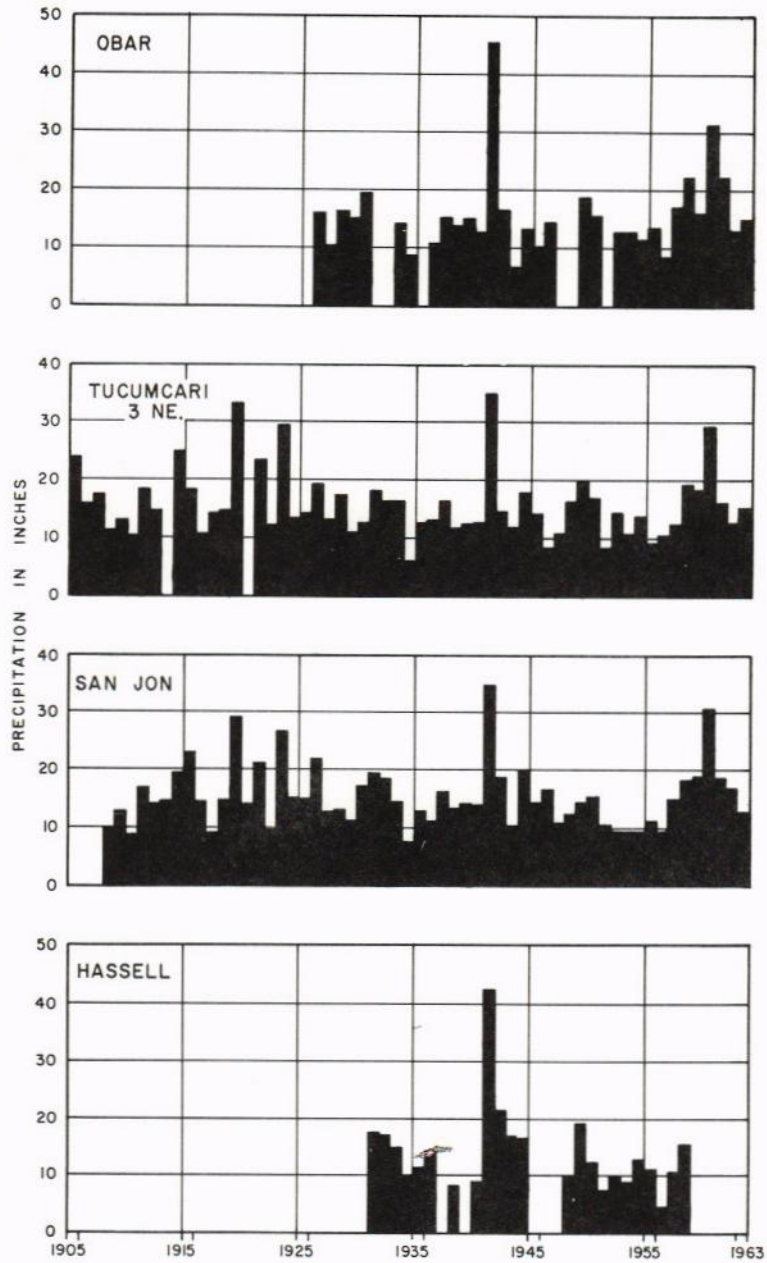

Figure 4
ANNUAL PRECIPITATION IN QUAY COUNTY, N. MEX., 1905-1963

The average annual precipitation in Quay County is about 16 inches. The minimum annual precipitation for the county was about 7 inches in 1934, the maximum was about 35 inches in 1941. Figure 4 shows the large variation in annual precipitation at four stations in Quay County. About half the precipitation falls during summer thunderstorms. Snowfall is usually light and usually melts or evaporates between falls.

Ground-Water and Geology

Water is moving constantly from the atmosphere to and into the ground and back to the atmosphere; this circulatory pattern is known as the *hydrologic* or *water cycle*. It includes precipitation in liquid and solid form, infiltration, runoff, surface and underground storage, evaporation, and transpiration. Most precipitation runs off in streams or is evaporated, but some infiltrates into the ground and is stored temporarily in the soil or rocks. The temporary storage of ground water may be for many years. Some of the water in streams infiltrates into the ground if the material underlying the channel is porous and unsaturated.

The geology of an area is an important factor in the hydrologic cycle because the character of the rock materials upon which precipitation falls and across which streams flow determines how much of the precipitation and runoff infiltrates to become ground water. Most rock formations contain open spaces, or voids, and the ratio of void space to the volume of the rock is the porosity, usually expressed as per cent. If the void spaces are connected and contain water that can be recovered through wells, the saturated part of the formation is called an *aquifer*. In general, the porous formations such as sand and gravel are the best aquifers.

The zone of aeration extends from the land surface to the water table; this zone does not yield water to wells. However, water held by capillarity as soil moisture in the zone of aeration is available to plants.

The zone in which all the openings in the rocks are filled with water is termed the *zone of saturation.* In unconfined aquifers, the top of the zone of saturation is the water table, which is not a plane surface but in general reflects in a subdued manner the topographic features in areas where recharge is distributed uniformly. Ground water, when confined between beds of rock of relatively low permeability, is under artesian pressure. In confined or artesian aquifers, the ground water is under sufficient pressure to rise above the top of the aquifer. Zones of saturation separated from the underlying main zone of saturation by unsaturated rock contain "perched" ground water. Water in the zone of saturation moves underground to points of discharge such as springs and seepage to streams or is evaporated or transpired by plants. Much of the ground water is in storage for long periods of time because movement through the rocks to points of discharge generally is slow. Ground water west of Tucumcari moves about 15 feet a year and takes about 2500 years to move from the point of infiltration to the point of discharge (Trauger and Bushman, p. 82). The low or base flow of streams

is maintained entirely by the discharge of ground water from the zone of saturation, generally as springs or as seepage along the stream channel.

Most of the wells in Quay County tap unconfined water. Plate 1 shows the locations of selected wells in the county with their depth to water and the altitude of the water table in the well. The general direction of ground-water movement is also shown. Some wells near San Jon and Porter may tap perched ground water, as this area is underlain by the Chinle Formation which contains shale beds that yield little or no ground water to wells. The area of T. 12 N., R. 34 E. north of Porter apparently has an unsaturated zone between ground water in the Chinle Formation and the Santa Rosa Sandstone.

Four wells are known to have been drilled into artesian aquifers in Quay County. Two wells (9.27.13.243 and 9.28.17.244) tap artesian aquifers in the Chinle Formation. Well 9.27.13.243 reportedly flows 0.25 gpm and, when pumped, yields about 2 gpm with a drawdown of 28 feet. Well 9.28.17.244 flowed 0.5 gpm when measured in April 1955. Well 11.28.30.232, which was drilled to a depth of 3504 feet as an oil test, flowed about 1000 gpm of highly mineralized water from 2167 to 2420 feet from the Permian San Andres Limestone. Well 11.29.13.133, which taps the Entrada Sandstone, reportedly flowed when drilled in 1949 (Tranger and Bushman, p. 114). Ground water in the Entrada Sandstone in much of the area west of Tucumcari is under artesian pressure (Trauger and Bushman). Other wells in Quay County may tap artesian aquifers but records of their locations are not available.

The aquifers are recharged by several processes, such as precipitation on the outcrop; seepage from intermittent surface streams, ponds, lakes, irrigation ditches, and canals; part of applied irrigation water; perched zones of saturation; and movement of water by subsurface flow between water-bearing formations. Some of these processes are referred to in the description of the water-bearing properties of the geologic formations.

GEOLOGIC FORMATIONS AND THEIR WATER-BEARING PROPERTIES

The rocks that crop out in Quay County range in age from Triassic to Recent. Their distribution is shown on the geologic map (pl. 2).

Unconsolidated rocks, such as sand and gravel of the Ogallala Formation, are usually the best aquifers. Coarse-grained, poorly cemented rocks, such as the Entrada Sandstone, are good aquifers, and shale and siltstone, such as the Chinle Formation, are poor aquifers.

PERMIAN SYSTEM

Rocks of Permian age do not crop out in Quay County. No wells drilled for water in the county have penetrated rocks of Permian age, but oil-test wells have penetrated Permian and older rocks.

Yield or quality of water in the Permian rocks is not known except for oil-test well 11.28.30.232, which flowed about 1000 gpm. This water had a dissolved solids content of about 7000 ppm, which is too highly mineralized for ordinary use. (See table 3 for analysis.)

TRIASSIC SYSTEM

Rocks of the Triassic System that crop out in Quay County include deposits of the Santa Rosa Sandstone and the overlying Chinle and Redonda formations, which together constitute the Dockum Group of Late Triassic age. The Chinle and Redonda formations are part of Darton's "red beds" (Darton, 1928a). The Redonda Member of the Chinle Formation was raised to formation rank by Griggs and Read (1959, p. 2006).

Santa Rosa Sandstone

The Santa Rosa Sandstone consists of sandstone with interbedded layers of clay, shale, and conglomerate. The sandstone strata typically are gray, although some are red or brown. They are fine- to coarse-grained, thin-bedded to massive, and locally cross-bedded. Sorting of the quartz grains is poor to fair. The sandstone contains small amounts of fossil wood and bone. The conglomerate is composed of fine to coarse gravel of quartzite, shale, and igneous rocks. The sandstone and conglomerate usually are well cemented with calcareous material and form bluffs in outcrops; some weathered outcrops give the appearance of a limestone. The clay and shale layers are reddish orange, maroon, dark red, or variegated. Beds of low-grade coal about 3 inches thick crop out in the southeast corner of sec. 15, T. 13 N., R. 36 E. Poorly preserved clam shells are in black clay beds, 1 to 3 feet thick, interbedded with the coal.

About 140 feet of Santa Rosa are exposed in the valley of the Canadian River one mile south of Logan (pl. 2). The log of oil-test well 13.34.9.333 indicates that the Santa Rosa is 375 feet thick; it may be as much as 450 feet thick near the Canadian River.

The Santa Rosa Sandstone yields 1 to 50 gpm of water to wells. Several springs yield 1 to 150 gpm from the Santa Rosa (table 2). The water from the Santa Rosa generally is satisfactory for stock and domestic use.

The water table in the Santa Rosa Sandstone slopes toward the Canadian River and its tributaries, which serve as drains. Water in the

Santa Rosa Sandstone may be under artesian pressure in T. 12 N., R. 32 E.

Much of the recharge to the aquifer is derived from local precipitation. The Santa Rosa Sandstone also is recharged in its outcrop area in Guadalupe and San Miguel counties, and water may move from these areas into Quay County.

Chinle and Redonda Formations

The Chinle and Redonda formations consist mainly of red shale and red siltstone. The Redonda overlies the Chinle and was not mapped separately as it is similar hydrologically and lithologically to the Chinle Formation. These rocks are exposed or thinly covered with alluvium in half the county. Oil tests have penetrated 1230 feet of these rocks.

Both formations consists of sandstone, clay, siltstone, shale, and limestone. The shale generally is red to purplish red. The sandstone beds are red or gray, generally fine-grained and well cemented. They range in thickness from about 1 foot to about 100 feet. The clay and siltstone generally are red or gray but may be orange, blue, or green. The limestone beds are thin and commonly gray.

The Chinle is an important source of stock and domestic water because of the absence of a better aquifer. The Chinle may yield as much as 20 gpm, but many wells obtain less than 1 gpm. Springs along the Canadian River discharge 0.2 to 10 gpm from the Chinle. The Redonda yields very little water to wells, so most wells are drilled to the underlying Chinle.

The water from these rocks generally is highly mineralized and some is reported unusable even for stock. Of 19 samples of water from the Chinle and Redonda formations for which an analysis of dissolved solids was made, 15 samples contained more than 1000 ppm, the limit recommended for domestic use by the U.S. Public Health Service (1962). The beds of sandstone and lower shale often yield water of better quality and quantity than that in the upper shale layers. In three wells, 10.35.29.222a, 11.32.19.424a, and 11.32.30.422, the quality and quantity of water reportedly were improved by drilling to a deeper water-bearing zone and by sealing off the water of poorer quality in the upper zone.

JURASSIC SYSTEM

Rocks of the Jurassic System in Quay County are the Entrada Sandstone (San Rafael Group) and the Morrison Formation, both of which are Late Jurassic in age, and shale and siltstone of Jurassic age.

The Entrada Sandstone was referred to as the Wingate(?) by Dobrovolny, Summerson, and Bates and was later correlated with the

exposures at Entrada Point in northeastern New Mexico by Barker, Dane, and Reeside (1947).

The Morrison Formation was described and named by Eldridge (Emmons, Cross, and Eldridge, 1896, p. 60-62) for the town of Morrison near Denver, Colorado. By correlation, Lee (1902, p. 57) applied the name in northern New Mexico, and subsequent workers, including Darton (1928a,b), Dobrovolny, Summerson, and Bates, and Griggs and Hendrickson (1951), have used it near and in Quay County.

Entrada Sandstone

The Entrada Sandstone in Quay County consists of three units: a lower sandstone, a middle limestone, and an upper sandstone. The sandstone units are fine- to medium-grained, friable, light buff or white, even- to cross-bedded or massive. Much of the sandstone can be reduced to loose sand by rubbing it between the fingers. The sandstone grades to a siltstone in some places. The limestone unit is thin-bedded and slabby and is present only in the extreme western part of the county.

The Entrada crops out as a prominent white to light gray or light buff band in the bluff around Louisiana Mesa and southwest of Ima, around the flanks of Mesa Rica, and the associated upland masses, including the Palomas hills, Liberty Mesa, and hills west of Tucumcari, and the smaller outliers, such as Circle-S Mesa, Mesa Redonda, and Tucumcari Mountain. The thickness of the Entrada Sandstone ranges from about 60 feet on the north side of Louisiana Mesa to about 240 feet at Metropolitan Park, west of Tucumcari.

The yield of wells tapping the Entrada Sandstone ranges from 1.5 to 250 gpm. High yields are obtained from the Entrada where the formation is thick and under artesian pressure, such as in the Metropolitan Park area. In such an area, well 11.29.13.133 (Tucumcari west field well number 2) reportedly flowed when drilled.

The Entrada Sandstone is recharged on the outcrop areas west of Tucumcari by precipitation, by runoff across outcrops in beds of intermittent streams, and by leakage from irrigation ditches and the Conchas Canal.

The chemical quality of the water in the Entrada Sandstone is generally good, though hard. The sulfate content may be increasing locally because of recharge to the formation from seepage of high-sulfate water in the Conchas Canal (Trauger and Bushman).

Morrison Formation

The Morrison Formation crops out in the western and southeastern parts of Quay County. It unconformably overlies the Entrada Sandstone. The Morrison Formation was identified and mapped in Quay

County by Darton (1928a,b) and by Dobrovolny, Summerson, and Bates.

The Morrison consists of clay, shale, and sandstone. Well logs indicate that the formation may be as much as 240 feet thick. The sandstone layers are near the base and the top of the formation, most of which consists of layers of variegated shale and clay. Pebbles of chalcedony are present in a clay bed near the base.

Sandstone beds of the Morrison yield 1 to 2 gpm of water to wells. The clay and shale beds yield little or no water. The water is of good chemical quality.

Trauger (Trauger and Bushman, p. 25) has pointed out the similarity of the sequence of beds in the Jurassic System to those in the Triassic System. This similarity has caused some well drillers to believe they have reached the red beds of the Triassic and to stop drilling, whereas they were actually in the Morrison Formation and would penetrate the Entrada Sandstone if drilling were continued. As the Entrada is capable of yielding as much as 250 gpm of good quality water to wells, a geologic map should be consulted prior to drilling so that the formations to be penetrated will be known and drilling is not stopped too soon.

Shale and Siltstone

Rocks exposed between the Chinle Formation of Triassic age and the Tucumcari Shale of Early Cretaceous age, or the Ogallala Formation of Pliocene age, in southeastern Quay County in the vicinity of the Bonita Fault zone were examined, mapped, and identified as being of Jurassic age by Alfred Clebsch, Jr.

These rocks consist of variegated shale and siltstone. The siltstone is 20 to 60 feet thick, the shale about 15 feet thick. The beds of silt-stone are buff to grayish orange, well cemented, and poorly sorted. The shale is red or maroon with gray mottling. These rocks are not known to yield water to wells in Quay County.

CRETACEOUS SYSTEM

The Cretaceous rocks in Quay County include the Lower Cretaceous Pajarito Shale, Mesa Rica Sandstone, and Tucumcari Shale.

The Tucumcari Shale consists of sandy shale containing an abundance of marine fossils and thin beds of calcareous sandstone. These rocks are gray, buff, tan, or yellow and have a maximum thickness of about 60 feet.

The Mesa Rica Sandstone is a white, brownish buff, orange, or yellow, cross-bedded, medium- to coarse-grained, well-cemented sandstone that is massive and cliff-forming. The Mesa Rica has a maximum thickness of about 120 feet and is gradational with the underlying Tucumcari Shale.

The Pajarito Shale overlies the Mesa Rica and consists of gray fossiliferous shale and soft brown sandstone. It has a maximum thickness of about 80 feet.

The Cretaceous rocks in Quay County yield little or no water to wells, except on the High Plains where some wells obtain yields generally less than 3 gpm. The quality of the water from the Cretaceous rock is generally satisfactory for all uses.

TERTIARY SYSTEM

Ogallala Formation

The Ogallala Formation of Tertiary (Pliocene) age crops out in northern and southern Quay County (pl. 2) and underlies most of the surface of the High Plains. The formation lies unconformably on rocks of Triassic, Jurassic, and Cretaceous ages. The Ogallala was deposited over all of Quay County but has been removed by erosion in the central and southwestern parts. The Ogallala was described by Darton (1898, p. 732-742) and named by him for outcrops of the formation around Ogallala, Keith County, Nebraska.

The Ogallala Formation consists of stratified sand, gravel, clay, silt, and caliche. Locally, it is covered by younger deposits of windblown sand and alluvium.

The composition of the formation varies within short distances, both vertically and laterally. At most places, gravel beds composed of igneous and sedimentary material are at the base of the formation. Sorting is poor to fair and the size of the material ranges from very fine-grained sand to boulders. Bretz and Horberg (1949) reported boulders as much as 14 inches in diameter in conglomerate three miles north of Taiban in DeBaca County, eight miles south of the QuayDeBaca county line. The sand, clay, and silt in the Ogallala are well sorted to poorly sorted, interbedded, and intermixed. The color of the sediments is white, gray, brown, tan, yellow, red, or blue.

Where the sediments are indurated by calcium carbonate cement, they form hard beds commonly called *caliche*. Caliche beds at or near the surface are termed *caprock* and are the most commonly observed part of the Ogallala Formation, because they form the cliffs, or cap-rock, along the top of the slopes separating the High Plains from the lowland plains. The caliche often contains sand, silt, or clay. The color of freshly broken caliche is light gray, tan, cream, or pink, but the weathered surfaces generally are dark gray. Detached fragments commonly weather into hard boulders or slabs.

The thickness of the Ogallala Formation varies from 0 to 260 feet in Quay County. Most of the irrigation wells penetrate about 100 feet of Ogallala although a few wells in both the north and south High Plains areas have penetrated more than 200 feet.

The Ogallala yields from 0.1 to 1600 gpm to wells; low yields are obtained where only a few feet of saturated material are present or where the formation is clayey or mostly caliche. High yields are obtained where many feet of saturated unconsolidated sand and gravel are present, such as in the House area, where wells yield as much as 1600 gpm. Low yields are obtained from the Ogallala in the northern part of the county.

Recharge to the Ogallala is from local precipitation. Theis (1936, p. 152) estimated that recharge on the High Plains in Lea County averaged about half an inch a year during years of near normal precipitation. Drainage ways and surface depressions probably are the main areas of recharge. Sand deposits in the north part of the county probably help to retain precipitation for recharge to the underlying Ogallala.

Water in the Ogallala moves in a general southeasterly direction (pl. 1). In the southern part of the county, the water table has been modified by the underlying eroded, channeled surface of the Triassic red beds and concentration of pumping. The decline of water levels for a period of 22 years is shown in Figure 5. In a five-square-mile area of concentrated pumpage, water levels have declined 20 to 32 feet during the period from 1942 to 1964.

This decline is an indication of the concentration of pumpage. Changes in ground-water levels are described in annual reports published by the New Mexico State Engineer. In the northern part of the county, the water table has a more regular slope to the south-southeast, probably because of less channeling in the eroded surface of the underlying Triassic rocks and less concentration of pumpage.

The quality of the water in the Ogallala generally is satisfactory for most uses. Total hardness is about 200 ppm (table 3). The fluoride content is above the 1.0 ppm recommended for domestic use in the five samples of water from the Ogallala for which this constituent was determined.

QUATERNARY SYSTEM

The deposits of Quaternary age in Quay County include an upland cover of older alluvium, younger alluvium, and dune sand. The older alluvium generally lies topographically above the present drainage, and the younger aluvium, of Recent age, occurs along the stream courses and drainageways. Extensive sand dunes of Recent age locally overlie the Ogallala Formation, the younger alluvium, and the upland cover of older alluvium.

Upland Cover of Older Alluvium

The unconsolidated rocks mapped as upland cover of older alluvium consist of alluvium and terrace gravels of Pleistocene age. These

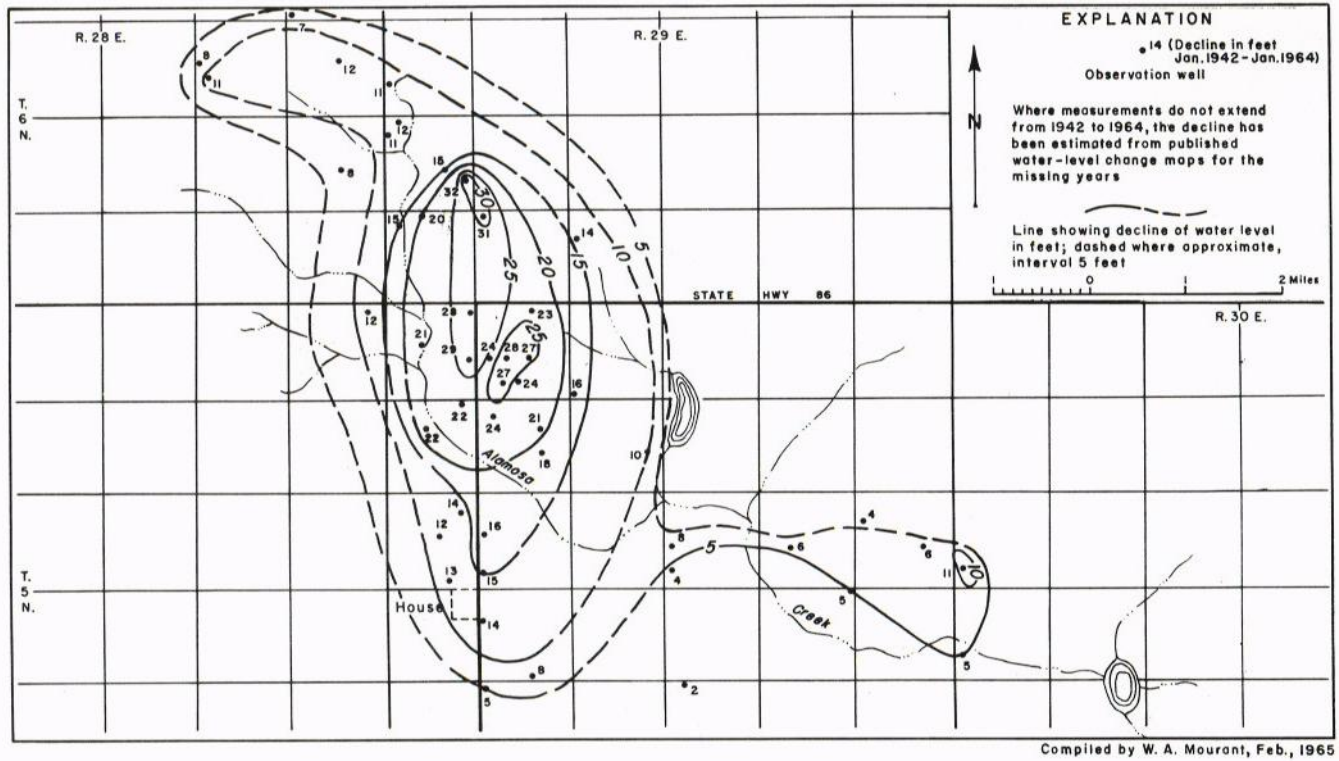

Figure 5

DECLINE OF GROUND-WATER LEVEL FROM JANUARY 1942 TO JANUARY 1964 IN THE HOUSE AREA, QUAY COUNTY, N. MEX.

deposits were differentiated arbitrarily from *the* younger alluvium of Recent age by topographic position. The older alluvium covers benches between the drainageways of many of the major streams and includes windblown sand and slope wash from the flanks of the High Plains and nearby mesas.

The upland cover of older alluvium usually is poorly sorted, unconsolidated, silty sand that locally contains large quantities of clay or gravel.

The characteristics of the upland cover of older alluvium usually are similar to the source material. Thus, alluvial material derived from the Chinle Formation is red or pink, fine-grained clayey sand and silt; alluvial material derived from the Ogallala is light gray or tan, medium- to coarse-grained sand. A fair to good soil usually has developed on the upland cover.

The upland cover of older alluvium is less than 20 feet thick in most of the county; however, at Tucumcari it may be as much as 600 feet thick. The thick deposit of gravel, sand, silt, and clay underlying Tucumcari is believed to be fill material in a depression caused by solution and collapse (Trauger and Bushman).

The yield from wells tapping the older alluvium generally is about 0.25 to 16 gpm, except in the Town well field at Tucumcari, where yields as great as 325 gpm are reported from wells penetrating the thick section. Large yields could be obtained from wells penetrating saturated buried channel gravels if they are present in the older alluvium.

The chemical quality of the water in the upland cover of older alluvium varies considerably. The sulfate content ranged from 18 to 576 ppm in the 11 samples for which this constituent was analyzed. The specific conductance ranged from 457 to 4020 micromhos in 12 samples. Water high in sulfate is unsatisfactory for domestic use, and water with a specific conductance of more than 3000 is generally unsatisfactory for irrigation.

Younger Alluvium

Alluvium of Recent age occurs along the stream courses and drainageways and consists of poorly sorted sand, gravel, silt, and clay. Where it forms a thin cover on the relatively impermeable Chinle Formation, it may contain perched ground water.

The younger alluvium is widely distributed throughout the county and was mapped principally on the basis of its hydrologic importance as a source of ground water. A few wells that obtain water from this alluvium are not shown on Plate 1 because of the small scale of the map.

The thickness of the younger alluvium may be as great as 80 feet in the channel of the Canadian River, but it generally is less than 30 feet in the channels of the tributaries.

Yields of 0.25 to 9 gpm are obtained by wells that tap the younger alluvium. In the channel of Pajarito Creek, wells probably could obtain yields of as much as 200 gpm from the saturated alluvium.

The quality of the water in the younger alluvium generally is satisfactory for most uses, although it may be highly mineralized. Water that has its source from irrigation return or seepage from the Conchas canal system may be high in sulfate.

Dune Sand

Extensive sand dunes of Recent age locally overlie the Ogallala Formation in the north and the upland cover of older alluvium of Quaternary age and older formations in the central part of Quay County. They are absent from the High Plains in the southern part of the county except for small, isolated areas.

The dune sand is mostly very fine- to medium-grained, subangular to subrounded quartz, fairly well sorted. It is generally uncemented but is locally indurated by clay. Some of the dunes are stabilized by grass.

The thickness of the dune sand is less than 50 feet in most of the county but may be as much as 100 feet in T. 14 N., R. 34-36 E.

The dune sand is believed to be above the water table in all of Quay County and therefore does not yield water to wells. It forms an excellent catchment area for rainfall, thus facilitating recharge to the underlying formations.

STRUCTURE

The rock strata in Quay County dip generally southeastward at about two degrees. The regional dip is interrupted by local structures, such as the structural basins near Tucumcari, the Bonita Fault, and several broad anticlines and elongate domes (Dobrovolny, Summerson, and Bates).

The structural basins are excellent sources of ground water (Trauger and Bushman). The large, roughly oval, structural basin west of Tucumcari has several anticlinal ridges within the large syncline. Diagrammatic sections (pls. 3, 4, 5) show the major structures of the rocks of Quay County. The stratigraphy and structure as interpreted by Dobrovolny, Summerson, and Bates have been used as a guide in the compilation of the diagrammatic sections. Table 6 lists the logs of the wells used in these diagrammatic sections.

The Bonita Fault is a normal fault which truncates several folds and has a downward displacement on the northwest side of about 200 to 300 feet (Dobrovolny, Summerson, and Bates). The full extent or nature of the fault is not known; it apparently is a part of a faulted zone that probably is less than half a mile wide, rather than being a single line of displacement.

Chemical Quality of Water

All rocks are soluble to some extent, some more so than others. Water moving across or through rocks takes part of the rock into solution. The material in solution determines the chemical quality of the water. Therefore, the chemical quality of ground water and surface water at any place reflects the kinds of rocks in which the water is found or through which the water has passed.

Chemical analyses for 157 samples of water from wells and springs in Quay County are given in Table 3 and for 18 samples of surface water in Table 4. The significance and recommended limits of the most common dissolved mineral constituents and properties in water are listed in Table 5.

The chemical suitability of water can be evaluated only on the basis of its intended use. For example, water high in sulfate may not be acceptable for domestic use but might be suitable for irrigation. For more detailed reports on the origin and significance of the chemical quality of water, the reader is referred to publications by Hem (1959) and the U.S. Public Health Service.

The data collected by Hem and Hughes (1948) provide the basis for comparison of changes in the quality of water in the Tucumcari area. The chemical quality of shallow ground water in the irrigated areas near Tucumcari has deteriorated since irrigation was started using water imported from Conchas Reservoir (Trauger and Bushman, p. 103). The water in Conchas Reservoir has a sulfate concentration that is variable but which generally is more than 250 ppm (Hem, 1952, table 5).

Water Utilization

Ground water is used in Quay County for irrigation, domestic, stock, municipal, and industrial supplies. Surface water is used for irrigation, stock ponds, and recreation.

Irrigation wells have been developed in the High Plains areas of Quay County, with the major irrigation concentrated near House. Irrigation with ground water from the Ogallala Formation began near House in 1936 (Reeder et al., 1962, p. 18). The irrigated acreage in that area gradually increased from an estimated 190 acres in 1936 to about 4400 acres in 1950 and then decreased to about 3000 acres by 1960.

Water levels have declined in the House area (fig. 6) as a result

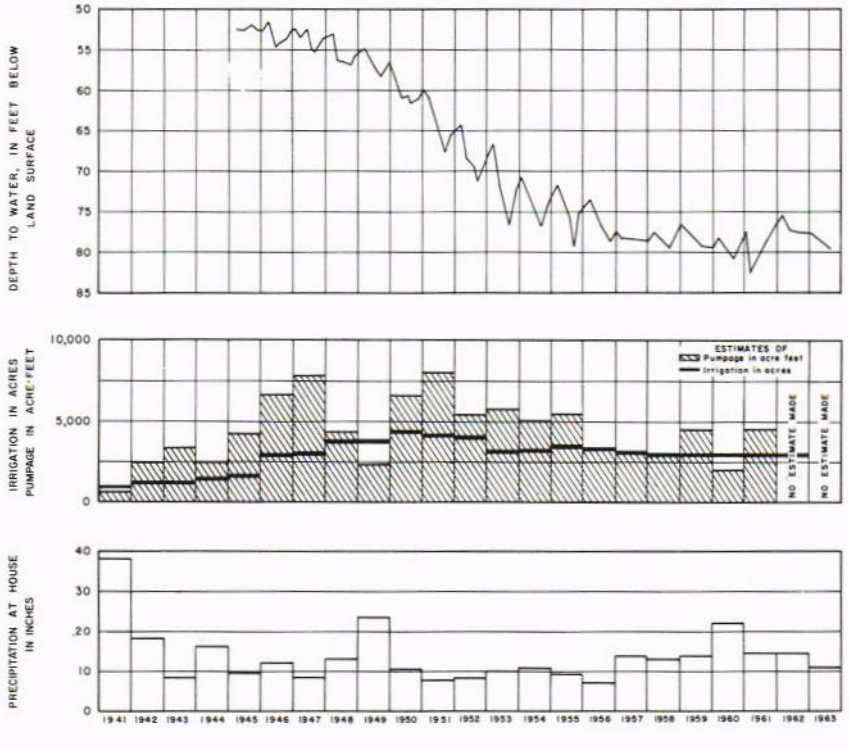

Figure 6

HYDROGRAPH OF WELL 5.29.6.222 WITH BAR GRAPHS OF PUMPAGE, IRRIGATED ACRES, AND PRECIPITATION IN HOUSE AREA, QUAY COUNTY, N. MEX. 1941 TO 1963

of pumping of ground water for irrigation and insufficient recharge. U. N. Benge reported (Reeder et al., 1962, p. 8-9) that some irrigation wells have been abandoned in the House area because of insufficient yield resulting from the lower water levels and that land formerly irrigated is now dry-farmed. Water levels in the House area have declined and risen in response to irrigation practices and recharge (fig. 5). The large increase in precipitation in 1960 over that for 1959 accounts for the decrease in pumpage in 1960 (Ballance et al., 1962, p. 10).

Ground water is used for domestic and stock supplies throughout the county. Table 1 lists many of the domestic and stock wells with information on their depth, water level, and aquifers. The quantity of water used for these purposes has not been estimated.

Ground water is the source of supply for all municipalities in Quay County. Dinwiddie (1964) listed details as to population served, quantity of water used, treatment, sewage system, and adequacy of supply and storage for the communities of House, Logan, Nara Visa, San Jon, and Tucumcari. Trauger and Bushman described in detail the history and development of the water supply for the city of Tucumcari.

Surface water has been diverted since September 1945 to the Conchas Canal for irrigation of lands in the Arch Hurley Conservancy District (fig. 1). In 1962, 83,000 acre-feet of water were diverted to the Conchas Canal, according to the Conservancy District's annual report to the Bureau of Reclamation. The water was used to irrigate about 34,400 acres.

A general rise of water levels in wells in the irrigation project area has resulted from irrigation with this imported water. Water levels have risen about 40 feet in some areas, such as T. 11 N., R. 32 E. A depression at the east side of Tucumcari, called *Tucumcari Lake,* has been filled with water for several years because ground-water levels around the depression have risen higher than its bed (Trauger and Bushman).

Ground-water levels have risen in the vicinity of Pajarito Creek, northwest of Tucumcari, as a result of leakage from Conchas Canal and its laterals and from recharge in the irrigated areas to the extent that ground water discharges to Pajarito Creek, and it now has year-round flow in this area (Trauger and Bushman).

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TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX.

Location number: See text for explanation of well numbering system.

Year completed: Wells designated "old" drilled generally before 1925.

Depth: Depths are in feet below land surface. Reported depths are given to nearest foot. Measured depths are given to nearest tenth of a foot.

Diameter: The diameter of the casing, or the mean diameter of the well if uncased, to nearest inch.

Altitude: Altitude of land surface at well. Altitude interpolated from topographic maps, or aneroid determination to nearest 10 feet.

Water level: Reported depths are given to nearest foot. Measured depths are given to nearest tenth of a foot.

Stratigraphic unit: Qal, younger alluvium; Qc, upland cover of older alluvium; To, Ogallala Formation; Ks, Cretaceous sandstone and siltstone; Jm, Morrison Formation; Je, Entrada Sandstone; $\overline{R}$c, Chinle Formation; $\overline{R}$sr, Santa Rosa Sandstone; Pr, Permian rocks.

Type of pump and power source: E, electric; I, internal combustion; J, jet; N, none; P, plunger or cylinder; S, submersible; T, turbine; W, windmill.

Use of Water: D, domestic; I, irrigation; Ind, industrial; O, observations; PS, public supply; RR, railroad; S, stock; N, none.

Remarks: All wells are drilled and cased with steel casing unless otherwise indicated. Ca, chemical analysis in table 3; dd, drawdown; est, estimated; gpm, gallons per minute; log, log in table 6; meas, measurement; perf, perforated, perforations given in feet below land surface; rept, reported, reportedly; T 61°F, temperature in degrees Fahrenheit; USBR, U.S. Bureau of Reclamation; yields are reported unless otherwise indicated.

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
5.26.22.320	Abercrombie and H Hawkins No. 1—Nappier	1949	7149	9	4518	—	—	—	—	—	Oil test; in DeBaca Co., 2½ miles west of Quay Co. line; log
5.27. 1.341	L. W. Barnhill	—	200	5	4950	131.0	8-23-55	To	P,W	D,S	—
3.312	—	—	77.1	5	4650	49.6	4-15-55	Qal, $\overline{R}$c	P,W,I	S	—
9.333	L. W. Barnhill	—	33.3	6	4530	28.5	8-25-53	Qal	P,W	S	Ca
12.444	L. W. Barnhill	1951	182	6	4920	170	1951	To	P,W	S	T 61°F
15.424	Dick Ballew	1945	64.8	4	4640	43.9	4-15-55	Qal, $\overline{R}$c	P,W	D,S	T 62°F. Ca Pumping water level
17.441	Mrs. N. G. Koll	—	7.6	48	4510	5.3	4-15-55	Qal, $\overline{R}$c	P,W	S	Dug. T 51°F
25.242	D. O. Bomar	Old	86	5	4890	75	1954	To	P,W	D,S	T 63°F
29.212	Guy Shipely	—	35.1	7	4470	25.7	4-15-55	Qal	P,W	D,S	—
30.242	Mrs. N. G. Koll	—	13.3	48	4440	12.9	4-15-55	Qal, $\overline{R}$c	P,W	S	Dug. Pumping water level. Est yield 4 gpm
31.122	Mrs. N. G. Koll	—	13.2	30	4420	13.2	4-15-55	Qal	P,W	S	Dug. Est yield 1 gpm. T 58°F
5.28. 1.111	G. E. Murphy	1950	90	6	4750	70	1950	To	P,W	S	John Maddox, driller

1.212	D. C. Wyatt	1943	102	10	4730	48.6 50.9	11-23-43 12-3-47	To	N	N	Yield 100 gpm, dd 40 ft. Rept destroyed; R. F. Davis, driller
1.221	D. C. Wyatt	1946	133.0	16	4720	46.6 54.9	3-29-46 1-11-56	To	T,I	I	R. F. Davis, driller
5.222	W. R. Crawley	Old	97	6	4900	80	—	To	P,W	D,S	Not cased; T 60°F
5.442	B. R. Hood	Old	100	—	4890	80	—	To	P,W	D,S	—
8.222	—	—	89.9	5	4880	87.8	8-23-55	To	P,W	D,S	—
18.131	L. W. Barnhill	Old	136.9	5	4910	120.2	8-23-55	To	P,W	D	Water level rising when measured. Weak
19.422	R. R. Adams	1952	110	6	4890	100	1952	To	P,W	D,S	Yield 1 gpm. John Maddox, driller
22.212	C. A. Morrow	1940	102.8	6	4820	91.0	8-23-55	To	P,W	S	—
30.212	R. R. Adams	1955	107.9	6	4870	73.5	8-23-55	To	P,W	S	Perf. 50 to 110 ft. Rept yield 5 gpm. John Maddox, driller
31.222	Mr. Baxter	Old	121.0	4	4860	94.6	8-23-55	To	P,W	S	—
33.421	—	—	106.3	5	4820	98.9	8-23-55	To	P,W	S	T 61°F
36.331	State of N. Mex.	—	95.6	10	4770	92.8	8-23-55	To	P,W	S	Water stains pipe yellow.
5.29. 1.000	Charlie Vance	1940	103	18	4730	—	—	To	N	N	Not cased. Yield 20 gpm. S. J. Davis, driller
2.131	O. G. Miller	1947	132	14	4710	24.2 25.2	1-19-48 1-11-56	To	P,W	S	Yield 35 gpm. R. F. Davis, driller
4.333	W. Y. Head	1949	128	18	4690	36.5 47.9	6-3-49 1-11-56	To	T,I	I	Not cased, red clay at 125 ft. A. L. Akin, driller
5.111	Wm. Young estate	1948	120	16	4720	—	—	To	T,I	I	R. L. Davis, driller
5.211	R. H. Currence	1943	108.0	12	4720	49.9 67.4	11-22-43 1-11-56	To	T,I	I	R. F. Davis, driller
5.231	R. H. Currence	1943	134	—	4710	42.4 47.9	1-24-44 1-15-49	To	T,I	I	R. F. Davis, driller
5.312	Willard Carpenter	1940	115	15	4710	41.2 64.5	4-30-41 1-11-56	To	T,I	I	—
5.312a	Willard Carpenter	1955	122	18	4710	63.9	1-11-56	To	T,I	I	Lee Williams, driller
5.321	Spence Morris	1945	108	16	4710	44.8 64.1	6-13-45 1-11-45	To	T,I	I	R. F. Davis, driller
5.341	I. D. Linville	1941	140	16	4700	33.6 54.6	4-29-41 1-11-56	To	T,I	I	Yield 1600 gpm, Mr. Wood, driller

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
5.29. 5.342	I. D. Linville	1937	80	12	4700	34.3 53.4	1-28-41 1-11-56	To	T,I	I	Not cased; Bill Dwight, driller
5.411	Spencer Morris	1940	—	12	4710	40.8 61.0	4-30-41 1-11-58	To	T,I	I	—
5.413	Spencer Morris	Old	—	—	—	34.8 41.9	4-30-41 1-8-51	To	N	N	Dry, January 1952; caved
6.144	F. I. Austin	1943	109	16	4700	24.1 38.6	11-22-43 1-11-56	To	T,I	I	Perf to 109 ft. Yield 900 gpm. R. F. Davis, driller
6.222	Laurence Poe	1944	125	16	4720	49.5 74.2	1-26-45 1-11-56	To	T,I	I	T 62°F; R. F. Davis, driller Ca
6.422	Laurence Poe	1944	112	14	4710	35.8 61.6	3-27-44 1-11-56	To	T,I	I	Yield 1000 gpm. R. F. Davis, driller
6.444	Laurence Poe	1944	50	—	4700	42.0	9-25-52	To	P,W	D	Ca
7.141	D. L. Birch	—	—	—	4690	29.0 41.5	9-27-42 1-21-53	To	N	N	Rept destroyed
7.142	D. L. Birch	1937	80	12	4690	21.0 29.3	1-28-41 1-10-56	To	T,I	I	Yield 500 gpm
7.143	D. L. Birch	1940	120	12	4690	24.4 23.3	1-29-41 2-6-46	To	N	N	Yield 35 gpm; measured by S. J. Davis, driller. Rept destroyed
7.221	Earl Farmer	1941	113	12	4700	31.0 43.0	4-29-41 1-11-56	To	T,I	I	Yield 850 gpm. Mr. Whitten, driller
7.242	Earl Farmer	1943	53.0	16	4690	19.0 33.2	11-21-43 1-10-56	To	T,I	I	Perf 33 to 85 ft. R. F. Davis, driller
7.330	E. Phillips	—	150	12	4730	23	—	To	N	N	Yield 40 gpm. Romain and Burgin, drillers. Rept destroyed
7.430	E. Phillips	—	115	16	4720	39	—	To	—	—	Yield less than 200 gpm
8.114	J. C. Davenport	1936	105	15	4700	27.9 43.9	1-28-41 1-11-56	To	T,I	I	Yield 900 gpm; first irrigation well in area. Leland Mount, driller
8.232	G. W. Turner	1941	139	16	4700	38.9 52.8	4-29-41 1-11-56	To	N	N	Mr. Hill, driller

8.412	W. W. Kuykendall	1941	114	14	4690	32.8 42.5	4-29-41 1-11-56	To	T,I	I	Yield 700 gpm. Mr. Wood, driller
8.422	Bill Dwight	—	42	10	4690	—	—	To	P,W	D	—
8.422a	Bill Dwight	1944	105.0	16	4690	31.4 45.5	3-28-44 1-11-56	To	T,I	I	Bill Dwight, driller
8.433	Byron Jones	1941	114	14	4670	34	1941	To	N	N	Cased to 99 feet. Yield 700 gpm. Mr. Ward, driller
9.421	J. R. Gollehon	—	60	—	4670	24.9 28.1	4-30-41 1-11-56	To	P,W	S	Ca
13.121	J. C. Barron	1937	105	14	4690	79.1 80.6	1-28-41 1-12-55	To	T,I	I	Yield 500 gpm
13.131	J. C. Barron	1940	105	14	4670	59.2 73.9	1-28-41 1-14-56	To	T,I	I	Yield 700 gpm. S. J. Davis, driller
13.234	B. O. Newman	1944	88	14	4650	51.4 55.5	8-21-44 1-9-56	To	T,I	I	Red beds at 87 ft. Bill Dwight, driller
13.412	J. C. Barron	1940	111	18	4640	47.6 55.7	1-28-41 1-9-56	To	T,I	I	Yield 500 gpm. S. J. Davis, driller
14.321	R. A. Tullis	—	80	—	4640	35.6 41.4	1-24-45 1-12-55	To	T,I	I	Water level rising when measured. Red beds at 80 ft
15.133a	R. A. Tullis	1915	188	—	4660	16	1915	To or Tc	N	N	Rept destroyed
15.311	R. A. Tullis	1942	56.0	14	4660	16.8	7-16-42	To	N	N	Joe Kirk, driller. Rept destroyed
15.311b	R. A. Tullis	1942	80	20	4660	17.5 23.2	9-23-42 1-10-56	To	N	N	Not cased
15.331	R. A. Tullis	1942	120	10	4670	34.9 37.0	9-23-42 1-10-56	To	P,W	D,S	Water level rising when measured
15.333	R. A. Tullis	—	80	6	4680	42.4	7-16-42	To	N	N	Red beds rept at 62 ft. Joe Kirk, driller. Rept destroyed
15.333a	R. A. Tullis	1942	111	5	4680	—	—	To	N	N	Seep at 51 ft, red beds at 51 ft; Joe Kirk, driller Rept destroyed
15.333b	R. A. Tullis	1942	101	6	4680	—	—	To	—	—	Water at 47 ft, red beds at 63 ft; Joe Kirk, driller
16.142	H. J. Lee	1952	30	6	4660	16	—	To	P,W	S	Bill Miller, driller
17.133	W. W. Kuykendall	1938	57.0	12	4690	35.5 47.6	1-28-41 1-10-56	To	T,I	I	Yield 300 gpm
17.331	B. L. Barnett	1936	90	12	4690	41.1 49.6	8-13-40 1-10-56	To	T,I	I	Not cased. Yield 1200 gpm

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
5.29.17.332	B. L. Barnett	1947	102	12	4680	37.0	8-2-47	To	T,I	I	Not cased. Yield 1000 gpm. R. F. Davis, driller
17.340	B. L. Barnett	1947	92	12	—	—	—	To	T,I	I	Not cased. Yield 100 gpm. R. F. Davis, driller
18.213	Dayton Harris	1941	65	18	4690	39.5	1-29-41	To	T,I	I	Red beds at 62 ft. Yield 850 gpm
						41.7	1-9-51				
18.223	Carl Johnson	1944	76.0	12	4700	31.9	1-24-45	To	T,I	I	R. F. Davis, driller
						45.3	1-10-56				
18.233	M. R. Wallace	1939	108	12	4700	48.9	1-28-41	To	T,I	I	Yield 900 gpm. Bill Dwight, driller
						59.5	1-10-56				
18.243	L. M. Bright	1944	74.0	12	4690	34.8	1-26-45	To	N	N	R. F. Davis, driller
						48.5	1-10-56				
18.413	Ralph Norris	1951	166	14	4700	59.4	3-28-52	To	T,I	I	Yield 650 gpm. Al Akin, driller
18.431	A. O. Norris	1943	109.0	12	4710	51.9	11-24-43	To	N	N	Bill Dwight, driller
18.434	A. O. Norris	1946	87.0	16	4700	49.8	3-28-46	To	T,I	I	Yield 800 gpm. R. F. Davis, driller
						62.2	1-10-56				
18.441	L. V. Vaughn	1943	110	14	4700	44.6	1-24-44	To	T,I	I	Leland Mount, driller
18.443	L. V. Vaughn	1936	103	14	4700	37	1940	To	T,I	I	Leland Mount, driller
19.211	J. C. Holley	1947	80	12	4710	54.0	4-1-47	To	T,I	I	Yield 600 gpm. R. F. Davis, driller
19.244	Lester McCasland	—	80	—	4700	51.8	1-28-41	To	T,I	I	—
						56.7	1-18-54				
20.131b	Asa G. Paschall	1941	90	14	4710	52.4	1-15-42	To	T,I	I	Yield 600 gpm
						61.1	1-10-56				
20.133	Wilton Henry	1943	94	16	4710	49.5	3-24-43	To	T,I	I	Bill Dwight, driller
						50.5	1-24-47				
20.233	John Martin	1940	69	—	4700	29	1940	To	T,I	I	—
20.314	S. Elliott	1944	96.0	16	4700	51.4	3-28-44	To	N	N	Red beds rept at 95 ft. R. F. Davis, driller
						55.0	1-14-49				
20.433a	W. E. Stutts	1940	—	12	4700	49.3	1-29-41	To	T,I	I	Yield 375 gpm. Joe Kirk, driller
20.433b	W. E. Stutts	1940	82	12	4700	49.2	4-29-41	To	N	N	Yield 400 gpm. Bill Dwight, driller
						53.9	1-10-56				

23.121	Wm. Upton	1953	—	18	4630	24.0 25.4	1-19-54 1-10-56	To	T,I	I	—
23.222	E. C. Harris	1947	80	16	4630	30.1	4-1-47	To	T,I	I	Yield 1000 gpm. Rept destroyed
23.222a	E. C. Harris	1948	—	16	4630	30.9 32.0	1-14-49 1-10-56	To	T,I	I	—
26.212		—	78.2	6	4670	73.6	8-19-55	To	N	D,S	—
27.112	Eugene Gollehon	1946	150	14	4690	70.9 71.0	1-24-47 1-10-56	To	N	N	Yield 400 gpm. R. F. Davis, driller
28.132	J. W. Huckaday	1947	100	13	4700	—	—	To	T,I	I	R. F. Davis, driller
29.111	C. A. Morrow	1939	91	16	4720	67.1 70.4	1-28-41 1-10-56	To	T,E	I	Yield 205 gpm. Joe Kirk, driller
32.333	—		107.9	5	4740	79.2	8-18-55	To	P,E	D,S	
33.443	E. E. Fish	1950	255	6	4700	188.3	8-19-55	To, Tr c(?)	P,W	D,S	Water rept at 80 to 85 and 235 ft. Water slightly turbid. Bob Brown, driller
35.444	—	—	101.2	5	4660	93.9	8-19-55	To	P,W	D,S	—
36.112	Mr. Mitchell	—	115	—	4650	100	—	To	T,I	I	Weak
36.242	State of N. Mex.	Old	—	6	4650	96.4 94.1	10-17-41 1-9-56	To	P,W	S	—
5.30. 1.212	C. F. Tatum	Old	208.3	5	4710	200.2	8-20-55	To	P,W	D,S	Ca
5.222	—	—	242.1	5	4720	211.8	8-20-55	To	P,W	D,S	—
10.311	Martin Burk	1954	249.6	6	4700	168.2	8-20-55	To	P,W	S	Red beds rept at 190 ft. R. C. Wells, driller
13.444	C. D. Adams	Old	200	5	—	—	—	To	P,E	D,S	—
17.213	E. P. Robberson	1948	58.1	5	4700	56.4	8-20-55	To	P,W	S	Yield 0.25 gpm.
18.314	W. M. Lee	1945	88	16	4640	40.2 46.2	6-11-45 1-9-56	To	T,I	I	R. F. Davis, driller
18.331	W. M. Lee	1943	77	16	4640	39.1 43.9	5-18-44 1-9-56	To	T,I	I	Yield 960 gpm. Bill Dwight, driller
19.113	J. M. Thompson	1943	—	16	4620	30	1943	To	N	N	Bill Dwight, driller
19.132	Ralph Hendricks	1939	80	—	4630	29.6	4-30-41	To	N	I	Rept destroyed
19.132a	Ralph Hendricks	1943	—	16	4630	25.8 27.5	7-25-43 1-6-50	To	N	I	Rept destroyed
19.132b	Ralph Hendricks	1950	—	16	4630	28.9 31.4	1-9-51 1-9-56	To	T,I	I	—
19.313	Ralph Hendricks	1938	70	12	4600	20.2 21.0	4-30-41 1-9-56	To	P,E	D,I	Yield 700 gpm
19.423	J. M. Thompson	Old	29	8	4600	26.1	4-30-41	To	N	N	—

23.121	Wm. Upton	1953	—	18	4630	24.0 25.4	1-19-54 1-10-56	To	T,I	I	—
23.222	E. C. Harris	1947	80	16	4630	30.1	4-1-47	To	T,I	I	Yield 1000 gpm. Rept destroyed
23.222a	E. C. Harris	1948	—	16	4630	30.9 32.0	1-14-49 1-10-56	To	T,I	I	—
26.212		—	78.2	6	4670	73.6	8-19-55	To	N	D,S	—
27.112	Eugene Gollehon	1946	150	14	4690	70.9 71.0	1-24-47 1-10-56	To	N	N	Yield 400 gpm. R. F. Davis, driller
28.132	J. W. Huckaday	1947	100	13	4700	—	—	To	T,I	I	R. F. Davis, driller
29.111	C. A. Morrow	1939	91	16	4720	67.1 70.4	1-28-41 1-10-56	To	T,E	I	Yield 205 gpm. Joe Kirk, driller
32.333	—		107.9	5	4740	79.2	8-18-55	To	P,E	D,S	
33.443	E. E. Fish	1950	255	6	4700	188.3	8-19-55	To, Tr c(?)	P,W	D,S	Water rept at 80 to 85 and 235 ft. Water slightly turbid. Bob Brown, driller
35.444	—	—	101.2	5	4660	93.9	8-19-55	To	P,W	D,S	—
36.112	Mr. Mitchell	—	115	—	4650	100	—	To	T,I	I	Weak
36.242	State of N. Mex.	Old	—	6	4650	96.4 94.1	10-17-41 1-9-56	To	P,W	S	—
5.30. 1.212	C. F. Tatum	Old	208.3	5	4710	200.2	8-20-55	To	P,W	D,S	Ca
5.222	—	—	242.1	5	4720	211.8	8-20-55	To	P,W	D,S	—
10.311	Martin Burk	1954	249.6	6	4700	168.2	8-20-55	To	P,W	S	Red beds rept at 190 ft. R. C. Wells, driller
13.444	C. D. Adams	Old	200	5	—	—	—	To	P,E	D,S	—
17.213	E. P. Robberson	1948	58.1	5	4700	56.4	8-20-55	To	P,W	S	Yield 0.25 gpm.
18.314	W. M. Lee	1945	88	16	4640	40.2 46.2	6-11-45 1-9-56	To	T,I	I	R. F. Davis, driller
18.331	W. M. Lee	1943	77	16	4640	39.1 43.9	5-18-44 1-9-56	To	T,I	I	Yield 960 gpm. Bill Dwight, driller
19.113	J. M. Thompson	1943	—	16	4620	30	1943	To	N	N	Bill Dwight, driller
19.132	Ralph Hendricks	1939	80	—	4630	29.6	4-30-41	To	N	I	Rept destroyed
19.132a	Ralph Hendricks	1943	—	16	4630	25.8 27.5	7-25-43 1-6-50	To	N	I	Rept destroyed
19.132b	Ralph Hendricks	1950	—	16	4630	28.9 31.4	1-9-51 1-9-56	To	T,I	I	—
19.313	Ralph Hendricks	1938	70	12	4600	20.2 21.0	4-30-41 1-9-56	To	P,E	D,I	Yield 700 gpm
19.423	J. M. Thompson	Old	29	8	4600	26.1	4-30-41	To	N	N	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
5.30.20.333	J. C. Barron	—	30	6	4600	23.6 25.8	4-30-41 11-24-52	To	P,W	S	Nearby well pumping when measured
20.333a	J. C. Barron	1951	—	6	4600	26.3 26.8	7-24-53 1-9-56	To	P,W	S	Pumping water level
21.113	Martin Burk	—	55	—	4620	35	1955	To	P,W	S	Red bed rept at 55 ft.
22.333	—	—	85.3	6	4610	70.4	8-19-55	To	P,W	S	T 61°F
25.441	Hershel Adams	1896	129.8	6	4730	121.5	8-19-55	To	P,I	S	Rept one of 3 wells in area when homesteading began
26.144	W. M. Fitzgerald	1954	116.9	6	4730	108.0	8-19-55	To	P,W	S	Red clay rept at 150 ft. R. C. Wells, driller
29.424	Joe Davis	1896	41.7	5	4580	39.0	8-17-55	To	P,W	S	—
31.442	Richard L. Barber	1943	129.0	16	4630	99.9 99.4	11-24-43 1-9-56	To	T,I	I	Yield 300 gpm. R. F. Davis, driller
33.113	—	—	65	6	4580	59.3	8-19-55	To	P,W	S	T 61°F
34.244	—	Old	110.0	—	4590	99.7	8-19-55	To	P,W	S	Water level rising when measured
5.31. 5.221	—	1943	198.5	5	4770	195.0	7-21-55	To	P,W	S	Weak. Yield 1 gpm
18.331	H. W. Adams	1935	195.9	6	4630	176.6	7-20-55	To	P,W,E	D,S	T 62°F
31.311	—	—	139.8	5	4700	120.7	7-19-55	To	P,W	D,S	—
5.32.10.310	Franklin, Aston, Fair, No. 1 Green	1961	8181	—	4635	—	—	—	—	—	Oil test; in Curry County, 1½ miles south of Quay County line. Log
6.27. 8.331	K. Y. Lawrence	1955	295.0	5	5140	269.4	8-24-55	To, Tr c	P,W	S	John Maddox, driller
10.424	K. Y. Lawrence	—	150.7	4	5100	147.0	8-25-55	To	P,W	S	—
17.432	K. Y. Lawrence	1943	95.4	5	5070	84.9	8-24-55	To	P,W	S	—
21.444	K. Y. Lawrence	—	153.3	6	5060	145.1	8-24-55	To	P,W	S	Pumping water level. Yield 1.5 gpm. 60°F. Ca
22.442	K. Y. Lawrence	—	167.1	6	5040	135.9	8-24-55	To	P,W	S	—
23.344	Horace Blackburn	Old	150	5	5030	130	—	To	P,W	S	—
30.431	—		36.8	6	4650	36.1	4-15-55	Qal	P,W	S	Pumping water level; yield 2 gpm
32.343	Powhatan Carter	—	26.0	5	4610	22.1	4-15-55	Qal	P,W	S	Originally a dug well
33.313	—	—	11.3	30	—	—	—	—	N	N	Dug; dry at total depth

34.144	—	—	57.9	5	4780	54.9	4-15-55	Qal	P,W	S	—
34.313	—	—	35.7	36	4710	—	—	—	P,W	N	Dug; dry at total depth
35.124	K. Y. Lawrence	1950	145.0	6	5010	116.7	8-23-55	To	P,W	S	Yield 3 gpm, dd 22.4 ft; T 60°F
6.28. 1.232	H. A. Fitzgerald	1944	98	14	4830	67.0	4-1-47	To	P,E	D,I	Not cased
						65.0	1-14-56				
7.112	K. Y. Lawrence	1955	100.4	6	5020	85.0	8-24-55	To	P,W	S	Red bed rept at 103 ft
10.133	R. V. Davis	—	146.0	6	4890	140.4	8-25-55	To	P,W	D,S	—
13.232	Irwin estate	1944	87	14	4800	62.0	3-27-44	To	N	N	R. F. Davis, driller
						60.9	1-20-48				
13.330	Ollie Dameron	1947	—	16	4820	100.5	1-20-48	To	T,I	I	R. F. Davis, driller
						108.7	1-12-56				Nearby well pumping
14.300	Ben Dodson	1945	135	—	—	—	—	To	N	N	Water sand rept at 120 to 130 ft. Insufficient yield. R. F. Davis, driller
21.132	T. J. Upton	Old	100	5	4880	95.4	8-25-55	To	L,W	D,S	Ca
23.112	Bill Upton	1946	122.0	18	4810	74.5	12-3-46	To	T,I	I	Perf 78 to 122 ft. Yield 800
						74.2	1-5-50				gpm. R. F. Davis, driller
23.133	Carl Upton	1953	135+	14	4820	107.0	1-23-54	To	T,I	I	—
						108.5	1-13-56				
23.221	Sid Thomas	1954	127.6	16	4820	106.6	1-15-55	To	T,I	I	Yield 750 gpm
23.233	Sid Thomas	1955	142	16	4810	96.8	1-13-56	To	T,I	I	Red clay rept at 142 ft. Jeter and Ray, drillers
23.311	S. E. Hobbs	1955	158	16	4,820	107.6	1-13-56	To	T,I	I	Not cased. Lee Williams, driller
23.312	S. E. Hobbs	1953	150	16	4820	98.6	1-23-54	To	T,I	I	—
						101.7	1-13-56				
24.233	Byers Irwin	1944	131	16	4790	78.0	3-27-44	To	T,I		Cased to 52 ft. R. F. Davis, driller
						87.9	1-12-56				
24.423	W. D. Perry	1941	—	—	4780	63.6	1-22-42	To	N	N	—
						65.2	1-5-50				
24.431	E. G. Heine	1941	—	14	4780	72.1	1-29-41	To	N	N	—
24.441	E. G. Heine	1940	140	14	4760	80	—	To	N	N	—
25.411	R. A. Davenport	1943	116	16	4760	52.2	11-22-43	To	T,I	I	Perf 76 to 116 ft. R. F.
						59.0	1-12-56				Davis, driller
30.111	R. L. Neff	1947	206.5	12	4970	111.3	8-23-55	To	T,I	N	Red beds rept at 209 ft. Insufficient yield. R. F. Davis, driller
34.434	W. F. Smith	—	55	6	4820	40	—	To	P,W	D,S	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
6.28.36.232	G. M. Mitchell	1947	91	16	4730	43.4	11-24-47	To	T,I	I	Perf 57 to 91 ft. Red beds rept, not encountered Yield 700 gpm. John Maddox, driller
6.29. 4.334	Mrs. Young	1915	385	5	4870	90	1954	To	P,W	D,S	Red bed rept at 100 ft. Al Akin, driller
13.244	Roscoe Runyan	1940	130	6	4790	120	—	To	P,W	D,S	T 60°F
13.434	Martin Burk	1950	135	6	4760	112	—	To	P,W	S	Weak. Red beds rept at 127 ft. L. C. McWhirter, driller
15.143	Young Estate	—	287.8	6	4830	248.4	5-18-56	To	P,W	—	Water level rising when measured
16.333	State of N. Mex.	—	256.6	—	4810	192.9	8-22-55	To	P,W	S	—
19.313	R. W. Dean	1938	97	12	4770	53.5	2-6-46	To	T,I	I	—
						60.3	1-12-56				—
21.424	John Canady	—	223	—	4770	180	—	To	P,W	D,S	—
22.311	Mrs. J. H. Canady	1915	219	5	4780	180	—	To	P,W	D,S	—
23.334	—	—	256.7	8	4770	146.2	5-14-56	To	P,W	S	—
23.434	—	—	216.0	6	4770	131.8	5-14-56	To	P,W	D,S	—
25.433	—	1943	94.5	6	4750	84.4	5-14-56	To	P,W	S	—
26.133	M. M. Gates	—	230	—	4750	160	—	To	P,W	S	—
26.422	M. M. Gates	1910±	230	5	4760	220	—	To	P,W	D,S	Yield 1 gpm
27.332	W. K. Kemp	1944	181	16	4740	44.3	3-29-44	To	N	N	Red clay rept at 80 ft. Yield 350 gpm R. F. Davis, driller
						44.0	1-12-56				
29.133	—	—	100	6	4760	82.0	1-22-54	To	P,W	N	Caved at 78 ft, January 1955
29.331	C. C. Carpenter	1948	154.3	16	4760	85.9	5-30-48	To	T,I	I	—
						105.5	1-12-56				
30.112	M. L. Griggs	1940	—	12	4750	50.6	1-29-41	To	N	N	—
						55.7	1-12-56				
30.113	M. L. Griggs	1940	105	12	4750	54.3	1-29-41	To	T,I	I	—
						59.0	1-12-56				

30.412	R. W. Dean	1946	122	18	4760	74.5	7-30-46	To	T,I	I	Bill Dwight, driller. Red bed rept at 106 ft. R. F. Davis, driller
30.424	R. W. Dean	1945	136	14?	4760	78.2 103.2	11-29-45 1-14-55	To	T,I	I	Not cased R. F. Davis, driller
31.114	C. C. Pilley	1940	80	16	4730	41.4 47.3	1-29-41 1-12-56	To	T,I	I	—
31.122	A. T. Henderson	1943	106	16	4740	53.2 67.6	11-22-43 1-12-56	To	T,I	I	Yield 450 gpm R. F. Davis, driller. Nearby well pumping
32.111	Sam Morrow	1946	129	16	4760	71.0 95.4	2-7-46 1-12-56	To	T,I	I	R. F. Davis, driller Nearby well puumping
32.311	Sam Morrow	—	170	—	4740	—	—	To	T,I	I	Red beds rept at 164 ft. Jim Brown, driller
33.111	E. R. Clifton	1955	158.6	16	4740	63.9	1-12-56	To	T,I	I	Lee Williams, driller
33.131	E. R. Clifton	1941	139	16	4730	54.7 64.0	10-20-42 1-12-56	To	T,I	I	Cased to 80 ft. Joe Kirk, driller
33.242	George Weigl	1922	44.2	6	4730	40.3	5-18-56	To	P,W	S	—
35.211	Tom Coleman	—	70	—	4740	—	—	To	P,W	D,S	Yield 3 gpm
35.314	Bill Miller	1945	75.5	14	4730	38.6 39.1	11-30-45 1-12-56	To	T,I	I	Yield 800 gpm. R. F. Davis, driller
36.422	Roy Howard	—	100	—	4740	90	—	To	P,W	S	—
6.30. 3.211	J. H. Gray	1938	200	8	4840	196	—	To	P,W	D,S	Perf 190 to 200 ft. Red bed rept at 200 ft. Jim Watts, driller
4.222	Henry Brooks	Old	220	—	4840	—	—	To	P,W	S	Red beds rept at 220 ft
5.122	Mrs. Willie Green	1910	194.5	5	4830	186.3	8-17-55	To	P,W	D,S	—
7.444	Bill Runyan	—	168.7	—	4800	164.5	8-17-55	To	P,W	D,S	T 61°F
10.111	Bill Runyan	—	250±	—	4820	230	—	To	P,W	S	—
10.211	J. L. Jordan	1942	250	—	4820	220	—	To	P,E	D,S	Red beds rept at 240 ft. Joe Kirk, driller
11.234	L. Hudson	—	69.1	5	4800	65.9	8-5-55	To	P,W	S	May be perched aquifer
11.432	L. Hudson	—	69.2	5	4790	—	—	To	P,W	S	May be perched aquifer T 60°F
15.343	J. B. Ridling	1954	215	6	4760	196	1954	To	P,W	S	Perf 195 to 215 ft. Red bed rept at 215 ft. Al Akin, driller
16.313	R. V. Runyan	1920	160	6	4770	152	—	To	P,W	D,S	Not cased. Red bed rept at 160 ft. Yield 5 gpm
20.133	Dawson Ridling	Old	156.6	5	4770	152.1	5-14-56	To	P,W	D,S	—
24.331	W. C. and H. J. Lee	1938	210	6	4740	205	1954	To	P,W	—	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
6.30.26.113	W. C. and H. J. Lee	1944	242	6	—	—	—	To	P,W	S	Seep rept at 180 ft. R. F. Davis, driller
27.434	Brodie Webb	Old	190.6	5	4720	182.4	8-15-55	To	P,W	D,S	—
28.333	J. B. Ridling	—	143.3	12	4740	131.2	8-22-55	To	P,W	S	—
30.344	Mac Noland	1925	165	5	4750	85.2	5-14-56	To	P,W	D,S	—
31.444	W. C. and H. J. Lee	1940	91.4	12	4730	74.8	8-22-55	To	P,W	D,S	Pumping water level. Perf 60 to 80 ft; gravel packed. Bill Dwight, driller
32.111	E. B. Rushing	Old	170	6	4750	168	—	To	P,W	S	May be perched aquifer. Weak
32.112	E. B. Rushing	1922	56.7	6	4760	—	—	To	N	N	—
33.111	McAlister School	—	169.0	6	4750	138.6	5-18-56	To	P,E	P,S	—
6.31. 1.333	J. E. McKee	1953	160	12	4700	—	—	To	N	N	Not cased. Partly caved. Rept 4 ft water-bearing gravel. Tom House, driller
2.442	J. E. McKee	1907	138.0	5	4710	112.7	7-30-55	To	P,W	D,S	Red beds rept at 140 ft. Yield 12 gpm. Mr. Mckee, driller
4.211	J. S. Pollard	1915	140	5	—	—	—	To	P,W	D,S	—
6.111	A. E. Sarten	1952	127.3	12	4800	97.1	8-1-55	To	N	N	Yield 25 gpm. J. R. Watson, driller
9.343	L. O. Hudson	1915	124	5	—	—	—	To	P,W	D,S	—
9.343a	L. O. Hudson	—	124	5	—	—	—	To	P,E	D,S	—
11.334	Lawrence Stewart	Old	120	6	—	—	—	To	P,E	D,S	—
13.112	C. R. Terry	Old	121.4	5	4700	108.6	8-3-55	To	P,W	S	—
14.131	John Dabau	—	160	—	4710	150	—	To	P,W	D,S	—
14.222	C. R. Terry	1907	130	5	—	—	—	To	P,W	S	—
15.343	G. A. Lavender	1950	114.4	5	4740	Dry	7-30-55	To	N	N	—
15.433	G. A. Lavender	—	130	5	4730	110	1953	To	P,W	D,S	Seismograph hole, reamed and cased. Water piped 0.25 mi to house
20.112	Dudley Green	—	98.9	5	4720	79.5	8-5-55	To	P,W	D,S	T 59°F

21.133	J. B. Lavender	1931	124.1	5	4740	110.9	8-5-55	To	P,W	S	Rept cased to 140 ft; perf 120 to 140 ft. Rept red beds at 140 ft. Yield 4 gpm. T 60°F. Joe Kirk, driller
22.311	G. A. Lavender	1945	108.5	5	4690	91.0	8-5-55	To	P,W	S	Rept depth 130 ft. Cased to 110 ft; perf 90 to 110 ft. Red beds rept at 110 ft. Yield 5 gpm. Joe Kirk, driller
23.133	J. C. Reagan	1947	99.9	6	4680	96.3	8-3-55	To	P,W	D,S	—
23.422	J. C. Reagan	Old	100	—	—	—	—	To	P,W	S	—
25.224	—	—	117.6	7	4650	105.1	8-3-55	To	P,W	S	—
26.244	—	—	163.5	6	4680	140.7	8-3-55	To	P,W	S	—
27.111	G. A. Lavender	1954	140	—	4700	95	—	To	P,W	S	Red clay rept at 100 ft. Weak. Esker Burton, driller
35.424	H. D. Redwein	—	191	—	4750	—	—	To	P,W	S	—
36.244	M. C. Vinyard	1935	220	6	4700	202	—	—	P,W	D,S	Perf at gravel, 180 to 200 ft. Red beds rept at 220 ft. Joe Kirk, driller
6.32. 1.342	Mrs. W. M. Rush	Old	260	5	—	—	—	To	P,W	S	Yield 0.75 gpm
2.124	Ivan Rush	Old	189.1	5	4670	178.3	8-2-55	To	P,W	S	Yield 1.5 gpm
2.223	Ivan Rush	Old	217.2	5	4690	191.0	8-2-55	To	P,W	S	Yield 1.5 gpm
4.211	G. A. Beevers	1917	189.8	5	4640	139.7	8-2-55	To	P,W,E	D,S	Yield 3 gpm. Perf 180 to 190 ft
6.112	J. T. Cooper	Old	127.2	4	4700	102.6	7-19-55	To	P,W	D,S	1953, casing raised 2 ft. Rept larger yield than in earlier years
6.334	—	—	128.8	—	4680	108.0	8-3-55	To	P,W	S	—
7.313	—	Old	101.2	—	4670	96.3	8-3-55	To	P,W	S	—
17.131	Carl Hall	—	118.6	5	4650	110.8	7-21-55	To	P,E	D,S	—
17.131a	Carl Hall	—	132	16	4660	111.2	7-21-55	To	P,E	I	Yield 25 gpm
18.331	George Curtis	—	150.5	—	4690	121.2	7-21-55	To	P,W	D,S	—
21.244	—	—	101.3	5	4590	—	—	To	P,W	D,S	Yield 2 gpm. T 61°F
22.113	—	—	126.4	5	4600	98.2	7-19-55	To	P,E	S	—
26.211	Van McCutchen	—	134.4	5	4580	124.9	7-18-55	To	P,W	D,S	—
26.413	—	—	127.5	5	4560	118.2	7-18-55	To	P,W	S	—
27.444	—	—	150.3	5	4600	144.0	7-19-55	To	P,W	D,S	Water level rising when measured. Yield 2 gpm. T 61°F

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
6.32.28.313	Jack Gunn	1935	141.4	5	4620	122.9	7-19-55	To	P,W	D,S	—
31.133	Sidney Miller	—	220	—	—	—	—	To	P,W	S	—
33.121	Jack Gunn	—	127.3	5	4630	Dry	—	To	N	N	—
7.27. 1.333	Rex Sparks	Old	175	—	5200	125	—	To	P,W	S	Weak
2.333	Rex Sparks	1940	175	5	5230	160	—	To	P,W	D,S	Weak
4.224	Steve Williams	—	98.9	5	5280	88.7	8-24-55	To	P,W	S	—
6.444	—	—	143.5	—	5290	135.0	8-24-55	To	P,W	D,S	T 60°F
10.111	Elvin P. Sparks	1945	100	—	5250	—	—	To	P,W	D	Weak
10.244	Elvin P. Sparks	1948	187.7	6	5220	172.7	8-25-55	To	P,W	D,S	Yield 1 gpm. John Maddox, driller
14.222	Phil Lyons	Old	180	—	5180	—	—	To	P,W	S	Yield 4 gpm
17.313	Steve Williams	1915	135	—	5240	130	—	To	P,W	D,S	—
18.113	Steve Williams	—	101.0	6	5260	89.0	8-24-55	To	P,W	S	Red beds rept at 120 ft.
22.333	F. B. Terry	1953	171	6	5180	155	—	To	P,W	S	Yield 2 gpm. T 59°F. John Maddox, driller
27.444	Steve Williams	—	152.1	7	5160	144.6	8-25-55	To	P,W	D,S	—
28.433	Mrs. A. A. Terry	Old	140	—	5150	130	—	To	P,W	D,S	—
7.28. 9.222	D. E. Lyons	1951	55	6	4900	38	1951	To	N	N	Well pumps sand. Al Akin, driller
9.342	W. B. Giles	1943	110.0	16	4890	26.3 27.2	3-27-44 1-25-47	To	N	N	Rept pumped sand, caved in 1947. Joe Kirk, driller
15.111	P. R. Lyons	1954	255	16	4900	29.8	8-25-55	To	T,I	I	Red beds rept not penetrated. Yield 850 gpm with 130-ft drawdown. Tom House, driller
21.224	L. O. Hudson	—	30.5	5	4890	23.0	8-25-55	To	P,W	S	T 59°F, Ca
25.331	L. O. Hudson	—	130.9	5	4910	129.8	8-25-55	To	P,W	S	Weak
31.111	—	1950	—	12	5050	85.2	8-25-55	To	T,I	I	—
34.311	W. B. Giles	—	119.8	6	4920	100.4	8-25-55	To	P,W	S	—
35.333	Dayton Harris	—	154	6	4880	129.6 129.5	1-26-45 10-1-48	To	N	N	—
7.29. 2.214	James Wallis	—	237.0	6	4480	—	—	$\overline{T}_{R}$c	P,W	S	T 63°F
3.222	—	1942	215.4	4	4490	155.1	4-27-55	$\overline{T}_{R}$c	N	N	—
8.121	Clarence Bradley	—	68.1	48	4580	66.9	4-29-55	Qal, $\overline{T}_{R}$c	P,W	S	Dug, cribbed with rock

10.143	Albert Bradley	1952	410	6	4600	—	—	Tr c	P,W	D,S	Rept salty taste. Drinking water hauled, R. C. Gillean, driller
15.343	Frank Jester	1955	75.0	—	4970	Dry	8-16-55	—	N	N	Rept depth 275 ft with red beds at 115 ft. Esker Burton, driller
15.442	Frank Jester	1955	173.6	6	4980	172.9	8-16-55	To	P,W	S	Rept depth 205 ft. Red beds rept at 175 ft. Pumping water level yield 0.25 gpm. Esker Burton, driller
19.443	Al Akin	—	117.5	5	4920	112.2	8-25-55	To	P,W	S	Pumping water level. Yield 1 gpm
24.433	Ohio No. 1 wells	1926	5204	8	4900	—	—	—	—	—	Oil test, log
25.122	Mrs. N. R. Honea	Old	173	6	4910	180.7	8-16-55	To	P,W	D,S	—
28.432	Al Akin	1947	125.0	4	4890	119.1	8-25-55	To	P,W	S	—
30.344	Al Akin	1951	49.6	6	4860	44.8	8-25-55	To	P,W	S	Yield 10 gpm. T 59°F. Al Akin, driller
35.222	Reymond Hendrix	1946	139.8	5	4870	128.8	8-17-55	To	P,W	D,S	Perf 130 to 140 ft. Red beds rept at 130 ft. Yield 0.5 gpm with 6-ft drawdown. Joe Kirk, driller
35.424	Reymond Hendrix	—	117.2	6	4840	111.8	8-17-55	To	P,W	S	—
7.30. 2.421	Joe Buck	1940	327.2	7	4540	183.6	5-2-55	Tr c	P,W	S	Rept depth 700 ft. Kirk and Gillean, drillers
4.111	T. N. Lawson	Old	125	5	4490	—	—	Tr c	P,W	S	Yield 1 gpm. T 63°F
4.421	Joe Buck	1941	240	6	4480	160.2	4-25-55	Tr c	P,W	D,S	Pumping water level. Yield 2.5 gpm
5.231	H. Y. Dibble, Jr.	1951	209.6	6	4520	150	1951	Tr c	P,W	S	Yield 0.75 gpm, water corrodes pipe. R. C. Gillean, driller
7.242	Frank Jester	—	360	—	4640	260	—	Tr c	P,W	S	Salty taste. T 65°F
10.334	T. N. Lawson	1938	380	5	4560	250	—	Tr c	P,W	S	T 61°F. Joe Kirk, driller
13.433	W. W. Moon	1955	146.2	6	4890	131.7	6-30-55	To	P,W	D,S	Rept red beds at 153 ft. Yield 0.75 gpm. Temp 61°. Esker Burton, driller
13.433	W. W. Moon	—	143.0	6	4890	138.5	6-30-55	To	P,W	D,S	Water level rising when measured. Yield 0.75 gpm

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
7.30.17.242	Tom N. Lawson	Old	87.2	6	4670	83.6	4-25-55	Trc	P,W	D	—
17.244	Tom N. Lawson	1939	525	6	4660	275	—	Trc	P,E	S	Yield 4 gpm. Objectionable taste. T 66°F. Joe Kirk, driller. Ca
19.244	Mr. Hammonds	1940±	325	—	4920	—	—	To	P,W	D,S	Yield 2 gpm
20.424	T. N. Lawson	—	191.2	7	4880	Dry	8-16-55		P,W	S	—
22.133	G. W. Priddy	—	60.0	5	4880	50.4	8-16-55	To	P,W	S	Weak
23.441	Joseph and Rainer	1951	90	6	4880	67	—		P,E	D,S	Perf 70 to 90 ft. Yield 3 gpm. R. C. Gillean, driller
24.333	Lewis Caton	1938	90.1	6	4860	70.4	8-1-55	To	P,W	D,S	Yield 5 gpm. Dewey Southall, driller
25.211	Lewis Caton	1944	90.0	6	4860	82.9	8-1-55	To	P,W	S	—
28.222	G. W. Priddy	Old	185	—	4880	175	1950	To	P,W	D,S	—
29.133	Frank Jester	—	222.6	5	4890	212.7	8-17-55	To	P,W	D,S	Red bed rept at 220 ft
34.433	Mrs. Emma Kirk	1930	207	3	4840	204	—	To	P,W	D,S	Joe Kirk, driller
36.411	Otis Rush	1952	148	16	4810	—	—	To	N	N	Yield 20 gpm. Andy House, driller. Destroyed
36.423	Otis Rush	—	119.1	—	4810	114.6	8-6-55	To	P,W	D,S	Water level rising when measured. Yield 2 gpm
7.31.10.444	Cecil Moon	1910	186	5	4840	176	—	To	P,W	D,S	Yield 2 gpm
11.221	—	—	202.8	5	4870	195.3	7-20-55	To	P,W	S	—
11.334	Cecil Moon	1939	210	5	4860	192	—	To	P,W	D,S	Joe Kirk, driller
11.444	H. J. Thomas	1940	200.5	5	4840	198.8	7-29-55	To	P,W	D,S	Bill Box, driller
13.442	Bill Yates	1945	200	6	4800	187.5	12-30-49	To	P,W	S	—
15.333	John Yates	Old	—	5	4850	136.0	8-3-55	To	P,W	S	Could not get sounding line past 137 ft
17.422	J. B. Langford	1923	55	—	4850	80	—		P,W	S	Langford Brothers, driller. Destroyed in 1937
17.442	J. B. Langford	1937	152	—	4870	122	—	To	P,W	D,S	Red beds rept at 152 ft. Joe Kirk, driller
18.144	Cecil Moon	Old	180	—	—	—	—	To	P,W	S	Weak

18.244	Cecil Moon	1955	174	—	4880	136.0	7-30-55	To, Rc	P,W	S	Red beds rept at 105 ft. Est yield 1.5 gpm. T 61° F. Esker Burton, driller
19.432	Otis Rush	—	128.4	6	4820	117.0	8-6-55	To	P,W	S	T 60°F
21.114	Wilson King	—	156.2	5	4860	111.5	7-28-55	To	P,W	D,S	—
22.224	K. L. Hahn	1948	133.5	6	4820	125.3	7-29-55	To	P,W	S	Red beds rept at 128 ft. Est yield 3 gpm. R. C. Gillean, driller
23.422	John B. Best	—	97	5	4760	90.0	12-16-49	To	J,E	D,S	—
24.212	—	—	167	5	4790	166.0	12-28-49	To	P,W	S	Pumping water levels. Est yield 3 gpm. T 61°F
						166.0	7-21-55				
25.200	—	—	155	5	—	149.0	12-28-49	To	P,W	N	—
25.221	Edna Kuehn	—	147.5	—	4760	144.5	7-21-55	To	P,W	S	Very weak
25.311	John Yates	—	126.5	—	4760	121.2	12-16-49	To	P,W	D,S	Weak
						124.4	7-21-55				
25.341	Howard Waterfield	1951	195	6	4790	173	1955	To	J,E	P,S	Forrest community well. Red beds rept at 193 ft. Yield 7 gpm
27.141	Walter Hammer	Old	165	5	—	—	—	To	P,W	—	—
27.311	J. S. Pollard	1949	201.9	7	4830	198.7	8-5-55	To	—	N	Casing pulled July 1955. Very weak
27.441	Knox N. 1 Langergin	—	3870	—	4820	—	—	—	—	—	Oil test, Log
29.211	George Rush	1947	159.4	5	4840	147.1	8-6-55	To	P,W	S	Weak. Seismograph hole; reamed and cased by R. C. Gillean
31.234	George Rush	—	70	—	4800	65	—	To	P,W	S	Very weak
32.422	Melvin Curtis	1913	137.9	5	4820	127.4	8-5-55	To	P,W	D,S	Water level missing when measured. Not cased. Yield 2.5 gpm. Bill Dwight, driller
34.133	—	—	185.5	—	4820	169.3	8-5-55	To	P,W	D,S	—
34.424	E. E. Darby	—	149.6	5	4770	136.9	7-30-55	To	P,W	S	—
35.333	E. E. Darby	1916	142.5	6	4750	124.3	8-3-55	To	P,W	S	Est. yield 2.5 gpm. T 60°F
36.342	Mrs. Carl Jamison	—	127.0	5	4690	118.8	12-15-49	To	P,W	S	Pumping level. Yield 2 gpm
						113.8	7-19-55				
7.32. 1.424	Mrs. Luvenia Voyles	1952	180	6	4730	—	—	To	P,W	D,S	Weak. R. C. Gillean, driller
1.424a	Mrs. Luvenia Voyles	1951	211.4	6	4730	177.3	7-13-55	To	N	N	R. C. Gillean, driller
2.111	L. C. Lindsey	1938	172.7	6	4760	159.8	7-13-55	To	P,W	D,S	Red beds rept at 170 ft. Yield 2.5 gpm. Bill Box, driller
3.222	Herman Owens	1948	180	6	—	165±	—	To	P,W	S	Yield 2.5 gpm

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
7.32. 5.331	D. A. Helker	1949	180	—	4820	170	—	To	P,W	S	T 60°F
5.424	Roy Best	—	170	—	4830	—	—	To	P,W	S	T 62°F
8.112	D. A. Helker	Old	189.1	5	4830	171.7	7-14-55	To	P,W	S	Water level rising when measured. Red beds rept at 190 ft. T 62°F
9.244	Herman Owen	—	238.6	16	4770	214.3	7-13-55	To	N	N	Perf 208 to 238 ft. Rept red beds at 230 ft. Yield 80 gpm. Smith and Son, drillers
9.422	Herman Owen	1951	218	4	4770	206	1951	To	IE	D,S	—
10.222	Ed Harmon	—	226.3	5	4760	214.5	7-12-55	To	P,W	S	—
10.411	Martin White	1955	265	18	4750	—	—	To	N	N	Red beds rept at 207 ft. Yield inadequate; casing pulled. Howard and Sons, drillers. Destroyed
11.111	Martin White	1955	230	5	4760	192	1955	To	N	N	Red beds rept at 225 ft. Yield inadequate. Wallace Bros. drillers. Destroyed
11.133	Martin White	1955	175	5	4750	140	1955	To	N	N	Red bed rept. at 150 ft. Yield inadequate. Wallace Bros., drillers. Destroyed
11.333	Martin White	Old	192	5	4730	142	—	To	P,W	D,S	—
11.431	Martin White	Old	144.9	5	4720	131.2	7-12-55	To	—	N	—
12.434	O. C. Waterfield	1939	100.2	6	4710	96.1	7-13-55	To	P,W	D,S	Pumps sand
13.112	A. J. Owen	1925	130	6	4730	120	—	To, Ks	P,W	S	Yellow clay rept at 130 ft.
14.313	J. W. Wells	—	243.3	5	4730	231.3	7-16-55	To	P,W	S	—
16.321	W. B. Caton	—	194.1	—	4770	191.4	7-14-55	To	P,W	S	—
16.433	W. B. Caton	—	180.3	—	4750	129.3	7-14-55	To	P,W	S	—
17.221	Tom Ledbetter	—	177.1	5	4770	164.9	7-14-55	To	P,W	S	Water level rising when measured

19.133	Joe Kitchens	1945	156	6	4760	148.9 147.7	12-30-49 7-30-55	To	P,W	D,S	Pumping water level. Joe Kirk, driller
20.222	Floyd Shook	1915	190	5	4760	179.1	12-30-55	To	P,W	D,S	—
21.112	Best Bros.	1954	77	12	4760		7-16-55	To	N	N	Yield inadequate for irrigation. Well originally 210 ft. deep. J. R. Watson, driller
21.421	—	—	121.0	5	4720	98.6	7-14-55	To	N	N	—
21.421a	—	—	116.1	6	4720	98.6	7-14-55	To	P,E	D,S	—
23.122	R. F. Sparks	—	264	—	4730	—	—	To	P,W	—	Red beds rept at 264 ft. Yield 1 gpm
24.111	F. C. Vanlieu	1925	144.6	5	4710	127.6	7-16-55	To	P,W	S	Will Owens, driller
25.214	Mrs. P. P. Trower	1920	150	5	4680	130	—	To	P,W	S	—
27.314	—	—	152.0	5	4700	148.1	12-28-49	To	P,W	S	Pumping water level. Yield 2 gpm
29.222	Floyd Shook	1947	98.5	6	4730	92.6	7-14-55	To	P,W	D,S	Weak. Red beds rept at 150 ft.
29.311	Don Hill	1944	102.0	5	4690	95.6 95.0	12-15-49 8-2-55	To	P,W	S	Yield 1 gpm with 1 ft. drawdown. H. W. Lindsey, driller
29.433	Charlie Best	1925	86.5	4	4660	76.4 76.2	12-15-49 8-2-55	To	P,W	S	Cased 14 ft. Yield 5 gpm
30.212	Bill Yates	—	120.0	6	4700	108.0	12-15-49	To	P,W	S	Yield 2 gpm
31.231	J. L. Trapp	—	148	4	4730	145.0	12-16-49	To	P,W	S	Pumping water level. Yield 1.5 gpm
31.333	—	—	130	4	4700	111.2 110.7	12-16-49 7-19-55	To	P,W	N	— —
32.411	Ardis Beevers	—	113.4	5	4760	110.8	8-2-55	To	P,W	S	—
33.443	H. L. Tipton	1925	160.0	5	4660	144.6	8-2-55	To	P,W	D,S	Pumping water level. Yield 5 gpm
35.111	Ivan Rush	1941	225	5	4700	220	—	To	J,E	D,S	Yield 4 gpm
35.111a	Ivan Rush	1930	210	5	4700	205	—	To	P,W	D,S	Yield 7.5 gpm
36.211	Otis Rush	—	272.8	5	4700	255.6	7-16-55	To	P,W	S	—
36.332	Otis Rush	1954	285	6	4700	277	—	To	J,E	D,S	Yield 9 gpm
7.33. 1.144	E. W. Lovvorn	—	300	4	—	—	—	To	N	N	Not cased. Red beds rept at 215 ft. Wallace Bros., drillers. Destroyed
1.222	E. W. Lovvorn	1955	220	4	4660	175	—	To	N	N	Not cased. Red beds rept at 220 ft. Wallace Bros, drillers. Destroyed

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
7.33. 1.244	E. W. Lovvorn	1955	220	4	4640	—	—	To	N	N	Red beds rept at 215 ft., Wallace Brothers, drillers. Destroyed
1.422	E. W. Lovvorn	Old	160	5	4640	—	—	To	N	N	—
4.111	F. A. McCasland	1912	200.1	5	4720	193.2	5-11-55	To	P,W	D,S	Red beds rept at 200 ft.
4.244	C. R. Best	Old	176.3	5	4690	174.7	6-24-55	To	N	N	—
4.322	F. A. McCasland	—	150	—	4700	Dry	—	—	N	N	Red beds rept at 90 ft. Rept dry hole, destroyed
7.343	A. J. Owen	1920	208	6	4710	206	—	To	P,W	D,S	Yield 3 gpm
9.444	F. A. McCasland	1906	175	—	4680	163	—	To	P,E	D,S	—
10.121	C. R. Best	1955	187.6	6	4680	165	—	To	P,W	S	Red beds rept at 192 ft. Perf 155-235 ft.
12.212	Lloyd Murphy	1953	229.5	16	4640	154.8	6-24-55	To	Ti	N	Red beds rept at 230 ft. Yield 250 gpm. Smith and Morgan, drillers
12.242	Lloyd Murphy	Old	155	5	4630	125	1950	To	P,W	S	—
12.444	M. E. Matlock	1910	158	5	4620	117	—	To	P,W	D,S	—
13.244	M. E. Matlock	1915	158	3	4610	117	—	To	P,W	S	—
13.422	Clyde Queener	1953	249	16	4610	155.2	5-13-55	To	TI	I	Est yield 350 gpm. T 60°F. Bill Morgan, driller. Ca
16.111	F. A. McCasland	1955	174.3	6	4680	113.4	6-24-55	To	P,W	S	Red beds rept at 181 ft. J. T. Watson, driller
18.311	—	—	131.9	—	4710	113.4	7-16-55	To	P,W	S	—
19.334	Mrs. P. P. Trower	—	240	5	4690	220	—	To	P,W	N	—
20.131	C. R. Best	Old	198	5	4700	190	—	To	P,W	D,S	Weak
20.342	L. A. Sumrall	—	225	5	4680	215	—	To	P,W	D,S	—
23.222	E. L. Hatfield	1954	225	6	4600	130	1955	To	S,E	D,S	Bill Box, driller
23.222a	E. L. Hatfield	1896	150	5	4600	132	—	To	N	N	Yield 15 gpm
24.124	Clyde Queener	1934	150	5	4610	125	—	To	P,W	D,S	—
24.142	Clyde Queener	1953	240	5	4630	—	—	To	N	N	Red beds rept at 190 ft. Inadequate yield for irrigation. David Saunders, driller
25.111	W. I. Sims	1930	240	5	4660	234	—	To	P,W	S	Not drilled to red beds

26.221	W. I. Sims	1934	247.8	5	4660	245.3	6-23-55	To	P,W	D,S	Perf 228-240 ft. Not drilled to red beds
28.342	Marvin Smith	—	191.1	5	4640	185	—	To	P,W	D,S	—
28.443	Marvin Smith	1945	265	6	—	235	—	To	P,W	D,S	—
30.122	C. R. Best	—	233.5	5	4680	222.9	7-18-55	To	P,W	S	—
31.421	Mrs. W. M. Rush	1944	248	5	4680	—	—	To	P,I	S	—
32.333	L. A. Sumrall	1935	260	5	4690	250	—	To	P,W	S	Red beds rept at 260 ft. Yield 3 gpm
34.334	Mrs. Ruby Abbot	—	300	5	—	—	—	To	P,W	S	Est yield 3 gpm
35.133	Belle M. Smith	Old	261.1	5	4660	224	—	To	P,W	—	—
8.27. 4.144	Hollie Merrill	1951	46.0	6	5070	24.1	11-1-55	Qal	P,W	S	Originally good well; well silted in during summer flood, 1955. Jim Ham, driller
5.324	Hollie Merrill	Old	59.0	6	5060	51.5	11-2-55	Je	P,W	S	—
8.442	H. G. Johnson	—	82.5	6	4980	44.2		Qal	P,W	S	Weak
9.334	Hollie Merrill	—	70	6	4960	50	—	Qal	P,W	D,S	—
10.441	—	—	35.4	7	5420	Dry	—	—	N	N	—
17.311	H. G. Johnson	1955	1020	—	4890	29.4	11-1-55	Qal, TRc	N	N	Rieddell and Suggs, drillers
17.322	H. G. Johnson	—	51.4	—	4900	35.0	11-1-55	Qal	P,W	S	—
17.411	Hollie Merrill	—	60	6	4900	55	—	Qal	P,W	S	—
18.333	Hollie Merrill	—	60	—	4820	—	—	Qal	P,W	S	—
22.230	Jim Gillespie	—	87.0	6	5390	67.7	11-1-55	Ks	P,W	S	Pumping water level. Est yield 2 gpm
32.443	Steve Williams	—	155.3	5	5280	152.1	8-24-55	To, Je	P,W	D,S	—
36.444	P. R. Lyons	1946	143	8	5200	128.0	11-1-55	To	P,W	S	Pumping water level; est yield 1 gpm
8.28. 5.243	Leslie Fish	Old	63.3	30	4500	62.6	4-27-55	Qal	P,W	D,S	Dug well. Cribbed with rock. Yield 0.5 gpm T 61°F
6.332	Louis Kinkead	1940	242.0	6	4610	159.0	4-28-55	TRc	P,W	S	Yield 4 gpm. Rept salty water
9.221	Fish Bros.	1951	60	—	4490	50	—	Qal	P,W	D,S	Yield 2 gpm. T 62°F R. C. Gillean, driller
12.332	—	—	46.5	—	4480	44.5	5-2-55	Qal	P,W	S	Pumping water level. Est yield 1.5 gpm. T 61°F
15.213	Fish Bros.	1950	27.5	5	4510	19.4	4-28-55	Qal	P,W	S	Yield 1 gpm. T 61°F R. C. Gillean, driller
16.222	Leslie Fish	—	35		4520	30	—	Qal, TRc	P,W	S,PS	Former West Flats school well
20.232	Mr. Riggs	Old	31.5	—	4660	Dry	4-28-55	—	—	—	Dug

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
8.28.30.440	P. R. Lyons	—	49.0	6	5240	48.0	11-1-55	To	P,W	S	Pumping water level. Est yield 0.1 gpm
8.29. 4.110	J. L. Osteen	1940	8	22	—	2.5	—	Qal	P,W	—	Dug. Cased with oil drums
8.433	Mrs. F. Campbell	—	13.7	6	4420	11.0	4-29-55	Qal	P,W	S	Pumping water level. Est yield 0.75 gpm. T 58°F
12.211	Paris Greer	—	19.0	6	4270	16.6	6-17-55	Qal	P,W	S	—
14.422	J. H. Wallis	—	22	—	4390	18	—	Qal	P,W	S	—
18.224	Mrs. F. Campbell	—	15	—	4620	—		Qal	P,W	S	Est yield 0.5 gpm
20.444	Mrs. F. Campbell	—	21.7	6	—	13.1	4-29-55	Qal	N	N	—
24.321	J. H. Wallis	1954	155.5	6	4380	121.5	5-23-55	Tr c	P,W	D,S	Pumping water level; perf 150-160 ft. Salty taste. Ca. T 63°F
25.224	J. H. Wallis	—	142.3	5	4400	95.2	5-23-55	Tr c	P,W	S	—
29.231	Mrs. Florence Campbell	—	21.7	6	4430	Dry	4-29-55	Qal	N	N	—
29.443	Mrs. Florence Campbell	—	37.5	6	4420	36.5	4-29-55	Qal	P,W	S	Pumping water level. Est yield 1.5 gpm. T 63°F. Ca
29.443a	Mrs. Florence Campbell	—	35	7	4420	—	—	Qal	P,W	D	—
29.443b	Mrs. Florence Campbell	—	33.9	6	4420	32.4	4-29-55	Qal	N	N	Nearby well pumping
31.224	Mrs. Florence Campbell	Old	39.7	6	4460	28.8	4-29-55	Tr c	N	N	—
33.112	Brassell Bros.	—	57.0	6	4420	26.1	5-23-55	Qal, Tr c	P,W	S	Pumping water level. Est yield 2 gpm. T 61°F
33.241	L. O. Dunn	1940	30	—	4420	—	—	—	P,W	D,S	Dug. Yield 1.5 gpm. T 61°F
33.434	Albert Bradley	1950	340	6	4460	—	—	Tr c	P,W	S	Cased to 330 ft. Weal. Poor quality. T 62°F R. C. Gillean, driller
33.434a	Albert Bradley	Old	44.7	6	—	Dry	—	—	N	N	—
35.214a	J. H. Wallis, Sr.	1949	52.9	6	4440	46.0	4-27-55	Qal	N	N	R. C. Gillean, driller
36.122	State of N. Mex.	—	163.7	5	4450	156.2	4-26-55	Tr c	P,W	S	Pumping water level. Yield 0.5 gpm. T 63°F
8.30. 2.333	Paris Greer	Old	84	—	4320	60±	—	Tr c	P,W	D,S	Rept water at 60 and 80 ft.
3.131	John Jennings	1955	67.5	6	4300	54.5	4-23-55	—	P,W	S	R. C. Gillean, driller
3.433	John Jennings	1927	84	5	4310	37	—	Tr c	P,W	—	Rept water at 37 to 70 ft. T 64°F. Joe Kirk, driller

3.433a	John Jennings	1917	47.3	6	4310	32.8	4-23-55	TRc	P	D	Hand-powered pump. Rept water at 36 ft. Drilled to 176 ft, back-filled to 55 ft. Weak. Hugh Cecil, driller
6.341	—	—	26.2	48	4240	16.7	6-17-55	Qc	N	N	Dug. Cribbed with rock
7.222	Elvin Hutchens	Old	37.3	5	4280	35.4	6-16-55	Qc	P,W	S	Weak. Salty taste
8.221	Elvin Hutchens	1946	52	6	4260	20	1946	TRc	P,W	D,S	—
9.122	Quay Cemetery	1952	40.5	5	4270	26.4	6-17-55	Qc	P,W	S,I	Pumping level. Yield 0.25 gpm. T 63°F
9.444	C. E. Dunlap	1955	37.5	5	4290	28.8	4-22-55	Qc	Je	D,S	—
13.311	M. C. Myers	1948	28.3	5	—	23.7	5-24-55	Qal	P,W	D,S	Water level rising when measured. Yield 2 gpm. M. C. Myers, driller
14.241	R. H. Kauffman	1955	38.4	30	—	Dry	—	TRc	P,W	D,S	Dug
14.243	R. H. Kauffman	1952	40	6	—	34	—	Qal	P,W	D,S	R. H. Kauffman, driller
14.243a	R. H. Kaufman	—	—	6	—	34	—	Qal	P,W	D,S	—
17.333	J. E. Bradley	Old	80	5	4360	60	1950	TRc	P,W	D,S	T 63°F
18.242	J. E. Bradley	—	60	5	4290	20	—	Qc	P,W	D,S	Est yield 4 gpm. T 63°F
18.331	W. G. Wilkerson	1952	40	5	4340	35	—	TRc	P,W	D,S	Rept highly mineralized water
20.121	Jack Latham	—	38.5	5	4360	37.6	5-23-55	TRc	P,W	S	Pumping water level; yield 1 gpm. T 63°F
22.343	B. H. Dunlap	1908	120	—	4350	57	—	TRc	J,E	D,S	Rept water at 110 ft; yield 0.25 gpm, salty
25.220	Stanolind No. 1, Fuller	1943	6747	10	4459	—	—	—	—	—	Oil test. Log
26.111	N. T. Garnett	1948	65	—	4350	17	—	Qal	P,W	D,S	Water at 17 and 25 ft; est yield 0.25 gpm
26.213	N. T. Garnett	—	—	7	4360	18.7	4-23-55	Qal	P,W	S	Pumping water level; est yield 0.25 gpm
27.111	—	—	8.7	6	4360	6.9	7-28-55	Qal	N	N	—
27.222	Mr. Miller	Old	66.0	6	4350	25.9	7-28-55	Qal	N	N	—
28.122	G. C. Huntley	1910	107.0	5	4360	40.7	4-23-55	TRc	E	D,S	Water level rising when measured; yield 5 gpm
29.312	Brassell Bros.	1900	152.1	5	4410	—	—	TRc	P,W	D,S	T 62°F
31.434	J. H. Wallis, Jr.	1952	211.9	—	4500	—	—	TRc	P,W	S	Yield 1 gpm, T 64°F. R. C. Gillean, driller
32.222	J. H. Wallis, Jr.	1915	100	—	4420	—	—	TRc	P,W	D,S	Yield 1.5 gpm; T 62°F
32.424	H. Y. Dibble, Jr.	Old	110	—	4460	100	—	TRc	P,W	D,S	Yield 1 gpm
33.433	J. H. Wallis, Jr.	—	93.1	—	4450	75.9	4-25-55	TRc	P,W	S	Pumping level; est yield 0.5 gpm; T 61°F

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
8.30.34.334	—	—	52.3	6	4430	50.1	4-25-55	Tr c	P,W	S	Pumping water level; est yield 2 gpm. T 62°F
8.31. 7.331	Beck Bros.	1945	440	7	4440	—	—	Tr c	P,W	D,S	Weak. Rept poor quality. Ca. R. C. Gillean, driller
8.444	C. H. Beck	—	238.4	5	—	227.0	4-20-55	Tr c	P,W	S	Pumping water level; yield 1 gpm. T 65°F
10.234	—	—	22.0	5	—	Dry		—	—	—	—
12.211	A. A. Beck	1949	40	6	—	20	—	Tr c	P,W	S	—
12.313	T. D. Kieth	—	68.8	5	—	58.6	4-21-55	Tr c	P,W	S	Pumping water level; Est yield 0.25 gpm. T 65°F
14.333	C. H. Beck	—	161.7	5	—	116.8	4-20-55	Tr c	P,W	S	Pumping water level; Est yield 2 gpm. T 62°F
17.313	Beck Bros.	—	60.0	6	4440	53.2	4-21-55	Tr c	P,W	D,S	Pumping water level; Est yield 1.5 gpm
20.333	—	—	23.6	—	—	22.2	4-21-55	Tr c	N	N	—
21.444	Mrs. Nettie Rhodes	Old	19.1	—	—	18.3	4-18-55	Qal	P,W	S	Yield 1 gpm. T 56°F
24.244	—	1954	36.7	6	—	35.5	4-18-55	Qal	P,W	S	Pumping water level; Est yield 1 gpm. T 64°F
25.414	—	—	261.1	5	4340	147.7	4-22-55	Tr c	P,W	S	—
26.222	—	—	79.9	6	—	44.0	4-22-55	Tr c	N	N	—
26.431	Mrs. Nettie Rhodes	1950	198.1	6	—	187.8	4-22-55	Tr c	P,W	S	Pumping water level; yield 0.75 gpm. T 64°F R. C. Gillean, driller
29.332	R. H. Kauffman	—	97.5	5	—	84.0	4-21-55	Tr c	P,W	S	Pumping water level. Yield 0.25 gpm. T 64°F
30.244	R. H. Kauffman	—	48.9	6	4350	—	—	Qal, Tr c	P,W	S	Seismograph hole; rept depth 70 ft. Weak. T 63°F. Reamed and cased. R. C. Gillean, driller
30.244a	R. H. Kauffman	1951	300	—	4350	—	—	—	—	—	Rept dry. R. C. Gillean, driller. Destroyed.
33.121	—	Old	12.3	—	—	Dry		Tr c	P,W	S	Dug
33.411	—	—	28.1	5	—	17.5	4-21-55	Tr c	N	N	—

33.413	—	—	6.3	36	—	6.1	4-21-55	TRc	P,W	S	Dug. Pumping level. Est yield 01. gpm
8.32. 2.244	Elder Dennis	1950	272.4	5	4320	209.4	4-14-55	TRc	P,W	S	Cased to 280 ft. Pumping water level. Salty taste. R. C. Gillean, driller
3.441	S. S. Hodges	1908	108.6	6	4250	55.5	4-16-55	TRc	P,W,E	D,S	—
4.244	Walter Hodges	—	28.8	48	4230	25.1	4-16-55	Qal	P,W	D,S	Dug
7.114	R. H. McFarland	1954	81.6	6	4200	55.5	4-16-55	TRc	P,W	S	Water level rising when measured. Yield 2 gpm T 64°F. R. C. Gillean, driller. Ca
10.142	—	—	61.0	6	—	42.1	4-14-55	TRc	P,W	S	Pumping water level. Est yield 2 gpm. T 63°F
14.111	Elder Dennis	—	40	—	—	30	—	Qal, TRc	P,W	S	
15.224	Elder Dennis	—	24.3	30	—	21.9	8-24-53	TRc	P,W	S	Dug. Pumping water level. Est yield 0.5 gpm
16.423	Shelby Gill	1948	155.5	7	4280	59.1	4-14-55	TRc	P,W	S	Water level rising when measured. T 61°F
20.333	—	—	30	42	—	26	—	Qal	N	N	Dug
25.112	Elder Dennis	1927	122.1	6	4402	98.3	8-24-55	TRc	P,W	S	Drilled to supply Gibson No. 1 Parks oil test at this location
25.312	Elder Dennis	1937	42.4	6	4300	34.9	4-2-55	Qal	P,W	S	—
26.223	Elder Dennis	1914	50.0	6	4360	39.3	8-24-55	Qal	P,W	D,S	—
28.131	G. A. Fisher	—	30	5	—	25	—	Qal	P,W	D,S	T 62°F
28.334	D. A. Helker	—	46.3	—	—	40.1	4-14-55	Qal, TRc	P,W	D,S	Rept depth 200 ft.
29.420	—	—	50.0	5	—	44.4	12-28-49	Qal, TRc	P,W	D,S	Slight salty taste
8.33. 2.123	Mrs. Otis Duke, Sr.	—	285	—	4850	—	—	To	P,W	D,S	—
2.422	Otis Duke, Jr.	1949	247.7	7	4890	213.5	5-12-55	To	P,W	D,S	Pumping water level. Weak
6.344	Elder Dennis	1945	312	6	4420	254.9	8-2-55	TRc	P,W	D,S	Water level rising when measured. Rept very soft water
9.122	Jack Brochero	1946	89.7	5	4470	57.3	5-12-55	Qal, TRc	P,W	S	Drilled to red clay. T 62°F Mr. Wells, driller
11.222	F. C. Davis	1952	235	—	—	—	—	To	P,W	D,S	Unidentified taste to water
11.432	Albert Duke	—	156	—	—			To	P,W	S	Very weak
13.122	Ike Forsthoffer	1916	570	4	4820	164.9	5-12-55	To	N	N	Red beds rept at 230 ft. Red, yellow, blue, and gray beds rept below 230 ft. Rept mineral water

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
8.33.16.233	Jack Brochero	1951	125.0	—	4560	—	—	Trc	P,W	S	Weak. R. C. Gillean, driller
20.243	Elder Dennis	1949	237.0	5	4740	221.4	5-11-55	To	P,W	S	Yield 1.5 gpm. R. C. Gillean, driller
21.212	Otis Duke, Jr.	1914	110	6	—	100	1950	To	N	N	Good
21.244	Otis Duke, Jr.	1934	234.3	5	4740	222.0	5-11-55	To	P,W	D,S	Yield 3 gpm
22.133	Mrs. May Frost	—	220	7	—	—	—	To	P,W	S	—
24.343	Lloyd Frost	1941	233.7	5	4730	230.0	5-11-55	To	P,W	D,S	Joe Kirk, driller
26.121	Frank Frost	1913	225	5	4730	220	—	To	P,E	D,S	Yield 2 gpm
31.132	Elder Dennis	1914	134.8	7	—	126.0	4-2-55	Qal, Trc	P,W	S	Will Owens, driller
32.224	Elder Dennis	1954	243.1	6	4750	230.9	5-11-55	To	P,W	S	R. C. Gillean, driller
34.343	J. M. Dennis	1916	190	—	4680	160	—	To	P,E	S	Yield 2 gpm
36.333	Reed Isler	1914	167.4	5	4660	150	—	To	P,W	D,S	—
8.34. 2.241	Dunn Estate	Old	190	5	4780	150	—	To	P,W	D,S	Yield 1 gpm. T 60°F
4.111	Elmer LaGroine	1955	284.9	6	4870	266.7	5-13-55	To, Ks	P,W	D,S	Yield 3 gpm. T 63°F J. R. Watson, driller
12.244	Robert Cogdall	1917	209	5	4740	190	—	To, Ks	P,W	D,S	—
12.443	J. T. Leach	1907	209	5	4720	199	—	To, Ks	P,W,E	D,S	Yellow clay rept at 209 ft.
13.424	O. L. Tillman	1915	216.4	5	4700	211.9	5-13-55	To, Ks	P,W	S	Weak
13.444	C. G. Tillman	1951	220	5	—	210	—	To, Ks	P,W	—	Red beds rept at 220 ft. Yield 1 gpm
14.324	W. F. Sanderson	1932	204	4	4720	160	—	To, Ks	P,W	D,S	W. F. Sanderson, driller
15.134	V. A. Tillman	—	155	4	4750	145	—	To, Ks	P,W	D,S	Red beds rept at 230 ft. Weak
17.244	Roy Chapman	1916	265	5	4780	240	—	To, Ks	P,W	D,S	Good
17.244a	Roy Chapman	1957	285	6	4780	—	—	To, Ks	P,W	D,S	Good. Weak. Ca
19.422	—	—	246.2	5	4750	220.2	6-22-55	To, Ks	P,W	D,S	—
20.222	Louis Forsthoffer	1924	270.9	5	4770	225	—	To, Ks	P,W	D,S	Sand rept 30-270 ft. Red clay rept at 270 ft.
24.424	J. L. Tillman	1942	206.0	5	4680	200	—	To, Ks	P,W	D,S	Cased to 200 ft. Rept depth 230 ft.
25.244	D. M. Massay Est.	1937	215	5	4660	197	—	To, Ks	P,W	D,S	Weak. T 61°F
26.133	W. F. Sanderson	1937	238.8	5	4700	231.0	6-21-55	To, Ks	P,W	—	Gravel rept 230-237 ft. Red clay rept at 237 ft.
27.122	Mrs. Della Smith	1915	265	6	4720	190	—	To, Ks	P,W	D,S	—

28.111	M. S. Mackechnie	1949	260	6	4740	210	—	To, Ks	S,E	D,S	Yield 8 gpm. Bill Box, driller
30.412	G. W. Carter	1955	324	12	4720	230.4	6-22-55	Ks	T,I	I	Perf 254 to 324 ft. Red bed rept at 324 ft. Est yield 340 gpm. T 62°F Mr. Hawthorne, driller
30.433	G. W. Carter	1915	260	—	4740	220	—	To, Ks	P,I	S	—
31.424	Mike Fury	Old	170	—	—	—	—	To, Ks	P,W	D,S	—
34.242	W. H. Bryant	1924	230	—	4680	212	—	To, Ks	P,W	D,S	—
35.313	Edd Pettigrew	1947	215	7	4670	190	—	To, Ks	P,E	D	—
8.37.32.340	Humble No. 1 Northcutt	1946	7511	10	4477	—	—	—	—	—	Oil test, in Curry County, 6 miles south of Quay county line, Log
9.27. 3.111	Louis Kinkead	1950	214.3	8	4460	171.0	4-28-55	TRc	P,W	S	Pumping water level. Rept fair taste, odor of hydrogen sulfide. T 64°F J. R. Watson, driller. Ca
4.423	J. T. Randals	1951	266.6	6	4500	84.6	6-14-55	TRc	P,W	S	J. R. Watson, driller
5.122	J. T. Randals	—	98.8	7	4470	49.2	4-30-55	TRc	P,W	S	—
5.122a	J. T. Randals	—	102.6	5	4470	49.3	4-30-55	TRc	N	N	Rept inadequate yield
8.440	J. T. Randals	—	30	60	4570	26	—	Qc	P,W	D,S	Dug
13.243	Louis Kinkead	Old	259.4	5	4430	28.4	4-28-55	TRc	P,W	S	Pumping water level; est yield 2 gpm. Rept flows 0.25 gpm. Odor of hydrogen sulfide
13.344	Louis Kinkead	Old	179.7	5	4460	50.3	4-28-55	TRc	P,W	D,S	Pumping water level. Est yield 1.5 gpm. T 65°F
16.210	Jimmie Randall	1950	70.7	6	4650	57.0	10-7-53	TRc	P,W	S	—
22.341	Louis Kinkead	—	88.3	5	5430	82.9	10-27-53	Ks	P,W	S	Yield 0.5 gpm. J. R. Watson, driller
27.322	Duke Hornsby	1910	134.6	5	5480	115.8	10-26-53	Ks	P,W	S	Est yield 2 gpm with 11.9 ft drawdown. T 61°F
30.234	Duke Hornsby	1933	300	—	5530	Dry	—	—	N	N	Kirk and Gillean, drillers
9.28. 2.221	J. A. Kinkead	—	175	6	4420	130	—	Jm	P,W	S	J. R. Watson, driller
9.111	J. A. Kinkead	—	350.0	5	4380	298.9	10-16-52	TRc	P,W	S	Salty taste
11.444	Parker Cattle Co.	1951	41.8	5	4320	—	—	Qc	P,W	S	Est yield 1.5 gpm. T 61°F
14.331	Parker Cattle Co.	Old	15.9	5	4345	—	4-28-55	—	P,W	S	—
14.412	Parker Cattle Co.	1925	43.4	6	4330	33.9	5-16-55	Qc	P,W	D,S	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
9.28.17.244	Louis Kinkead	1938	171.5	6	4360	—	—	TRc	P,W	S	Flows 0.5 gpm, 1.3 ft above land surface. Rept fair quality. Kirk and Gillean, drillers
20.321	Louis Kinkead	—	113.2	5	4450	17.0	4-28-55	Qc	N	N	—
22.244	Louis Kinkead	—	39.0	30	4370	35.4	4-28-55	Qc	P,W	S	Dug. Cribbed with rock. T 61°F
23.212	Parker Cattle Co.	1946	43.9	5	4350	36.9	5-16-55	Qc	P,W	S	Pumping water level. Est yield 2 gpm. T 62°F. Ca
27.234	Louis Kinkead	—	35.2	6	4390	32.0	4-28-55	Qc	P,W	S	Pumping water level. Est yield 1 gpm. T 61°F
9.29. 8.311	Parker Cattle Co.	—	28.6	6	4340	20.2	5-16-55	Qc	P,W	S	—
11.122	I. J. Briscoe	1954	33.8	8	4330	28.8	5-16-55	Qc	P,W	S	Pumping water level. Est yield 2.5 gpm. T 61°F. Ca
11.122a	I. J. Briscoe	—	30.1	6	4330	27.5	5-16-55	Qc	N	N	Nearby well pumping
12.433	Parker Cattle Co.	—	29.7	5	4190	20.4	5-16-55	Qal	P,W	S	—
19.123	I. W. Parker	—	44.2	5	4335	—	—	Qc	P,W	S	Est yield 1.5 gpm. T 62°F
22.421	Parker Cattle Co.	—	28.2	5	4240	26.3	5-16-55	Qc	P,W	S	Pumping water level; Est yield 0.25 gpm
23.131	Parker Cattle Co.	—	18.5	5	4250	14.6	5-16-55	Qc	P,W	S	—
33.112	Parker Cattle Co.	—	35.3	5	4300	25.7	5-16-55	Qal	P,W	S	Yield 2 gpm with 4.9 ft drawdown. T 63°F
9.30. 1.211	Farley Stallard	1910	159.5	6	4160	132	9-4-52	Qc, TRc	P,W	S	Yield 1.25 gpm with 27 ft drawdown. Slightly salty taste. T 66°F
1.231	Farley Stallard	1910	159	6	4160	124	—	Qc, TRc	P,W	S	—
2.211	Farley Stallard	1947	27	5	4110	12	1947	Qal	P,W	S	Yield 2.5 gpm. T 62°F
5.242	I. W. Parker	1940	37.8	6	4160	28.5	9-5-52	Qc	J,E	D,S	Perf 20 to 40 ft., gravel packed. Yield 9 gpm. R. C. Gillean, driller
5.323	Tom Horton	—	19.2	6	4140	16.2	5-16-55	Qal	P,W	S	Pumping water level; est yield 2 gpm. T 60°F
11.333	Carl Pettit	1938	200	5	4180	100	—	TRc	P,W	D,S	Slight salty taste
11.344	Carl Pettit	Old	211.6	5	4200	106.8	4-23-55	TRc	P,W	S	Fair quality

15.211	Tom Horton	—	24.1	6	4160	12.3	6-17-55	Qal	P,W	S	Pumping water level
18.211	Tom Horton	1954	26.2	7	4190	15.7	6-17-55	Qc	P,W	S	Rept depth 36 ft. Well pumps sand. Pete Knowles, driller
20.122	Tom Horton	1940	17.3	5	4180	14.3	6-17-55	Qal	P,W	S	Yield 1 gpm. R. C. Gillean, driller
20.444	Tom Horton	—	7.8	24	4180	4.2	5-17-55	Qal	P,W	D,S	Dug. Oil drum casing
23.134	Carl Pettit	—	195	5	4240	100	—	TRc	P,W	S	Yield 0.75 gpm. T 64°F
28.422	Carl Baker	—	65.1	6	4260	32.6	6-17-55	Qc	P,W	S	T 63°F
29.244	Carl Baker	1941	20	6	4200	10	—	Qc	P,W	D,S	—
29.434	J. L. Osteen	1920	19.9	6	4220	18.7	6-17-55	Qal	P,W	D,S	Very weak
29.434a	J. L. Osteen	—	20	—	4220	10	—	Qal	J,E	D,S	—
31.123	I. W. Parker	—	9.5	30	4200	6.5	6-17-55	Qal	P,W	D,S	Dug
31.422	J. L. Osteen	1952	34.9	6	4230	27.6	6-17-55	Qc	P,W	S	Yield 3 gpm. R. C. Gillean, driller
9.31. 5.212	Fred Fields	1903	90	—	4140	—	—	TRc	P,W	D,S	Weak. Soft water
8.122	Clarence Bradley	1952	225	6	4200	143.1	4-6-55	TRc	P,W	S	Weak. R. C. Gillean, driller
8.440	Clarence Bradley	—	213.7	6	4200	199.7	4-6-55	TRc	P,W	S	Pumping water level. T 65°F
11.222	Morris Lewalling	1952	150	6	4170	—	—	TRc	P,E	D,S	R. C. Gillean, driller
11.244	Morris Lewalling	Old	153.0	5	4180	139.2	4-6-55	TRc	P,W	D,S	Pumping level. T 64°F
12.233	Robert Abercrombie	1916	120	5	4130	80	1954	TRc	P,W	D,S	Yield 3 gpm. Warren Ayler, driller
15.444	R. H. McFarland	1952	39.0	6	4170	19	5-6-56	Qal	P,W	S	R. C. Gillean, driller
24.141	C. E. Jobe	1941	82.7	5	4150	20	—	TRc	P,W	D,S	Rept soft water, Salty taste
24.433	C. E. Jobe	Old	88.9	5	4150	62.0	4-17-55	TRc	P,W	S	Weak
25.322	C. E. Jobe	Old	130	5	—	—	—	TRc	P,W	S	T 63°F
28.112	Morris Lewalling	—	120.2	6	4320	111.3	4-6-55	TRc	P,W	S	Water level rising when measured
35.244	C. E. Jobe	—	102.2	5	—	95.7	4-7-55	TRc	P,W	S	Pumping water level; yield 1.5 gpm. T 63°F
35.422	J. R. Fife	—	117.0	—	—	—	—	TRc	P,W	S	—
9.32. 1.433	Mrs. Will Wallace	1951	198.4	5	4150	170	1951	TRc	P,W	S	Rept depth 207 ft. Yield 1 gpm. T 63°F. Ca R. C. Gillean, driller
10.242	Mrs. J. W. Fife	1945	63.8	5	4120	35.3	4-11-55	Qal, TRc	P,W	D,S	—
10.242a	Mrs. J. W. Fife	1930	25	—	4120	—	—	Qal, TRc	P,W	D,S	Dug —
10.323	Mrs. J. W. Fife	1930	107.6	6	4120	20.7	3-12-55	TRc	P,W	—	—
13.223	Mrs. Will Wallace	1955	41.2	6	4150	24.0	4-11-55	Qal	P,W	D,S	—
13.334	—	—	47.6	6	4200	36.1	4-8-55	TRc	P,W	S	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
9.32.15.444	R. H. McFarland	Old	190.1	5	4180	49.3	4-13-55	TRc	P,W	S	Water level rising when measured. Yield 2 gpm. T 63°F
22.112	R. H. McFarland	1939	45.6	6	4180	37.8	4-13-55	TRc	P,W	D,S	Yield 6 gpm. J. R. Watson, driller
23.441	J. R. Fife	1951	199.2	6	4250	137.9	4-13-55	TRc	P,W	S	Rept depth 210 ft. Yield 6 gpm. R. C. Gillean, driller
24.433	Mrs. Hut Wallace	—	40	—	—	—	—	Qal	P,W	S	T 60°F
27.130	R. H. McFarland	1951	121.9	7	4250	92.0	4-14-55	TRc	P,W	S	Yield 5 gpm. R. C. Gillean, driller
9.33. 6.112	—	—	36.5	30	—	35.6	4-14-55	Qc	P,W	S	Dug. Pumping water level; est yield 3 gpm. T 61°F
12.222	Joe Keys	Old	73.3	9	4300	58.7	12-3-54	Qc, TRc	P,W	S	—
20.313	Mrs. Hut Wallace	—	25	6	—	18	—	Qal(?)	P,W	D,S	—
25.343	Ralph Sutton	Old	300	—	4910	180	—	To, Ks	P,E	D,S	Yield 0.5 gpm
9.34. 1.411	J. E. Bradley	1932	43.4	36	4130	42.4	12-2-54	Qc	P,W	D,S	Dug
3.112	Mrs. Julie Acord	1951	85	8	4130	46.6	8-17-53	Qal	P,E	D,S	Perf 50 to 85 ft. Yield 12 gpm. Lamb and Hill, drillers
4.212	Porter and Lane	—	65	6	4140	48.0	8-17-53	Qc	P,W	S	Dug well originally; caved. Hole cleaned and deepened, cased and backfilled with gravel
8.122	—	Old	60.8	5	—	56.1	2-26-55	Qc	P,W	S	—
12.133	Mrs. Julia Acord	—	45.7	5	4140	42.7	12-2-54	Qc	P,W	S	—
12.334	Mrs. Julia Acord	—	68.5	7	4170	53.3	12-2-54	Qc	P,W	S	Roy Hill, driller
22.132	Porter and Lane	1947	56.0	6	—	42.4	8-13-53	TRc	P,W	D,S	Rept depth 70 ft., perf 65 to 70 ft. Rept yield 3 gpm. Rept soft water. T 65°F. R. J. Thrasher, driller
22.132a	Porter and Lane	—	22.9	—	—	14.9	8-13-53	Qal	N	N	Dug
22.132b	Porter and Lane	—	5.0	—	—	4.6	8-13-53	Qal	P,W	D,S	Dug

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
10.34. 9.200	Village of San Jon	—	55-100	7	4050	30-40	—	Qal, Tr c	J,E	P,S	Yield 5-12 gpm. Three wells located 10.34.9.200, three wells located 10.34.4.400 and one well at 10.34.10.132. Ca
10.233	Ernest Slade	1948	270	6	4030	40	1948	Tr c	P,E	D	Perf 40 to 240 ft. Yield 2.25 gpm. Fair quality. Ca. Roy Hill, driller
10.233a	Ernest Slade	1948	500	8	4030	40	1948	Tr c	—	—	Rept unsuitable quality. Destroyed
17.222	Mrs. R. C. Mundell	1948	123.8	6	4060	57.5	2-15-55	Tr c	P,W	D,S	Earl Flint, driller
17.441	C. T. White	1947	220	6	4100	113.1	2-15-55	Tr c	P,W	S	Perf 202 to 220 ft. Yield 1.75 gpm. Poor quality. Thrasher and Flint, drillers
19.211	W. L. Sanderson	—	231.5	6	4100	144.3	2-15-55	Tr c	P,W	S	—
21.113	C. T. White	1918	231	—	4080	100	—	Tr c	P,W	D,S	Rept poor quality
22.132	C. T. White	1905	200	4	4080	102.3	2-16-55	Tr c	P,W	S	Rept water level 65 ft. Fair quality
24.434	Chapman Bros.	Old	24.2	6	—	20	—	Qc	P,W	S	Est yield 2.5 gpm. T 65°F. Originally a dug well
28.412	Gus Moore	1906	71.9	5	4090	45.6	12-3-54	Qc	P,W	D,S	Pumping water level
30.332	N. H. Wooten	—	53.4	5	4200	30.9	2-14-55	Qc	P,W	S	Rept weak
32.142	W. T. Garrett	Old	35	—	—	—	—	Qc	P,W	D,S	Rept very weak
33.333	Gus Moore	—	43.7	—	4130	41.4	2-26-55	Qc	P,W	S	Dug. Yield 1 gpm
35.111	Mrs. Julia Acord	Old	26.5	22	4100	25.8	12-2-54	Qc	P,W	S	Dug. Cased with oil barrels
36.433	J. E. Bradley	1934	33.4	5	4120	32.0	12-2-54	Qc	N	N	Rept depth 60 ft. Water rept gyppy. R. J. Thrasher, driller
10.35. 1.333	—	—	68.9	5	3980	38.8	11-12-54	Tr c	N	N	—
4.333	W. R. Haynes	Old	70.8	5	3970	21.7	11-1-54	Tr c	P	D	Hand-powered pump
5.222	Harry Whatley	1951	24.2	48	4010	19.8	11-2-54	Tr c	J,E	D	Dug. Ca
5.222a	Harry Whatley	—	89	7	4015	15	1954	Tp c	N		Rept very weak
6.111	Walter Swain	—	40.1	—	4050	30.4	2-16-55	Tr c	P,E	D,S	Rept fair quality

10.111	L. E. Hill	—	20.5	5	3930	14.7	3-24-55	Qal	P,W	D,S	—
10.122	L. E. Hill	—	32	48	3950	30	—	Qal	P,W	D,S	Dug. Est. yield 0.25 gpm
16.330	J. T. Underwood	—	—	6	—	—	—	Tr c	—	D,S	—
17.212	C. O. Braddy	Old	58.7	—	4010	32.2	1-9-43	Tr c	P,W	D,S	Meas by USBR
						22.5	3-23-55				
17.313	George Whitaker	1905	112.1	5	4070	84.9	1-9-43	Qc, Tr c	P,W	D,S	Meas by USBR. Ca
						13.5	3-23-55				
19.212	Troy Whatley	—	124.8	6	4080	71.5	1-9-43	Tr c	P,W	S	Meas by USBR. Ca
						31.8	3-23-55				
20.224	Finis Pyeatt	1952	101	8	4020	32	—	—	J,EP,W	D,S	Perf 81 to 101 ft. Yield 7 gpm. W. L. Crews, driller
23.132	Troy Whatley	—	168.5	7	4050	117.3	3-24-55	Tr c	P,W	S	—
23.220	Troy Whatley	—	185.7	6	4080	181.9	3-23-55	Tr c	P,W	S	Pumping water level; Est yield 0.5 gpm
24.212	—	—	232.0	7	4070	113.7	3-23-55	Tr c	P,W	S	—
28.334	Troy Whatley	—	57.2	6	4030	39.0	1-5-43	Tr c	P,W	D,S	Meas by USBR. T 60°F. Ca
						20.2	3-24-55				
32.420	Troy Whatley	—	12	48	4020	11.1	1-5-43	Qal	N	N	Concrete casing. Meas by USBR. Pumps sand
						9.0	6-17-48				
34.243	Troy Whatley	—	17.4	6	4060	15.2	4-11-55	Qal	P,W	S	—
34.434	Mrs. J. W. Fife	—	27.1	6	4050	22.5	4-11-55	Qal	P,W,I	S	—
35.311	—	—	5.3	—	4080	3.1	4-11-55	—	N	N	Dug. Partly caved
10.33. 7.234	Troy Whatley	—	113.9	5	3950	55.1	3-24-55	Tr c	P,W	S	—
12.222	Mr. Montague	—	30.5	5	4030	23.4	2-15-55	Qc	P,W	D,S	—
12.422	J. O. Cresap	—	188.4	5	4040	75.7	2-15-55	Tr c	P,W	S	Rept poor quality
17.442	J. B. Cresap	1948	160	5	—	145	—	Tr c	P,W	S	Yield 7 gpm
18.434	Rhay Harmon	1952	135	6	—	100	—	Tr c	N	N	Rept salty water
23.333	Mrs. H. Y. Dibble	Old	40	48	—	36	—	Tr c	P,W	—	Dug
23.441	J. C. Cresap Estate	Old	51.0	48	4100	21.0	2-14-55	Qc	N	N	Dug. Partly caved
25.131	N. H. Wooten	1914	34.2	48	4050	33.1	2-15-55	Qc	P,W	D,S	Dug. Cribbed with rock
26.242	N. H. Wooten	1950	85	—	—	—	—	Qc	N	N	Weak. Poor quality. Destroyed
36.333	N. H. Wooten	1947	83.8	5	4220	43.3	2-14-55	Qc	N	N	Water rept at 45 ft.
10.34. 5.414	—	—	9.7	48	—	Dry	2-22-55	—	N	N	Partly caved. Dug
6.224	Ara Cardon	Old	19.5	36	—	17.1	3-3-55	Tr c	P,W	D,S	Water level rising when measured
6.434	J. L. Hilton	Old	169	5	—	110	—	Tr c	P,W	D,S	Very weak. Poor quality
6.444	J. L. Hilton	1955	124.3	6	4040	47.3	3-2-55	Tr c	P,W	D,S	Perf 105 to 125 ft. Yield 3 gpm. Thrasher and Irving, drillers

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
10.31.13.333	George Hare	—	95	6	4060	66.9	5-9-45	Rc	J,E	D,S	Meas by USBR
17.244	John Weir	—	120.8	—	4090	78.1	12-29-42	Rc	P,W	D,S	Meas by USBR
						80.3	4-1-55				
19.224	Will Owens	1928	39.1	—	4080	33.3	12-29-42	Qc	P,W	S	Meas by USBR. Dug
						34.4	4-1-55				
20.222	John Weir	—	112.0	5	4080	64.2	4-1-55	Rc	P,W	S	—
23.444	Ed. Farrow	1910	140	6	4130	133.0	1-7-46	Rc	P,W	D,S	Meas by USBR. Yield 1.5 gpm
24.112	Mrs. Harvey Sprinkle	1948	160.4	6	4070	57.1	4-5-55	Rc	P,E	D	Water level rising when measured.
25.313	Troy Whatley	—	143.6	7	4140	116.1	4-13-55	Rc	P,W	S	Water level rising when measured. T 64°F. About 300 ft north of well .331
25.331	Troy Whatley	Old	134.0	5	4140	105.2	9-25-43	Rc	N	N	Meas by USBR. 3.5 ft west of well .331a
						110.9	4-13-55				
25.331a	Troy Whatley	1952	146.4	6	4140	110.9	4-13-55	Rc	P,W	D,S	Rept soft water
26.311	Troy Whatley	1930	134.7	6	4160	91.4	12-23-44	Rc	P,W	S	Meas by USGS. Weak
						92.6	4-5-55				
27.211	J. R. Fife	1951	200	6	4160	—	—	Rc	P,W	D,S	Water at 180 to 200; cased to 193 ft. R. C. Gillean, driller
27.320	Burk Royalty No. 1 Elder Dennis	1958	2710	9	4147	—	—	—	—	—	Oil Test. Log
28.433	Lloyd Dennis	1945	36.8	5	4060	25	—	Qal	J,E	D,S	Yield 7 gpm. R. C. Gillean, driller
29.222	Fred Fields	1906	30	48	4070	22.5	1-7-46	Qal	P,W	S	Dug. Meas by USBR
35.442	—	Old	100	—	4140	72.8	3-20-44	Rc	P,W	S	Meas by USBR. T 62°F
						74.0	4-13-55				
36.333	State of N. Mex.	Old	114.2	5	4140	73.1	1-2-43	Rc	P,W	S	Pumping level. T 63°F. Ca. Meas by USBR
						77.6	4-13-55				
10.32. 7.122	Bernard Wilhelm	1955	159.2	6	4020	38.0	4-5-55	Rc	P,W	S	Water rept at 160 to 165 ft. R. C. Gillean, driller
9.142	Joe Thomas	—	12.6	8	3940	10.0	12-21-44	Qal	P,W	D,S	Pumping water level.
						9.6	3-23-55				T 59°F. Meas by USBR

10.121	Dave Owens	—	181.5	6	4280	152.4	9-24-52	Je	P,W	S	—
11.341	Dave Owens	—	87.9	4	4210	71.7	9-18-52	Tr c	P,W	O	—
14.232	Dave Owens	—	—	5	4170	36.7	9-18-52	Tr c	P,W	S	—
15.244	Dave Owens	—	116.5	6	4220	105.6	9-5-52	Je	P,W	D,S	—
15.444	Dave Owens	Old	86.0	6	4190	82.5	9-5-52	Je	P,W	S	Pumping water level. Est yield 2.5 gpm. T 66°F
18.121	Earl Jobe	1910	129.3	6	4250	125.7	9-23-52	Jm	P,W	D,S	Weak
21.233	I. W. Parker	1937	240	5	4320	140	1952	Je	P,W	S	Rept pumping water level 220 ft at 1.75 gpm
26.321	Farley Stallard	1947	235	6	4130	219	1950	Tr c	P,W	S	Yield 2 gpm. Rept salty water; corrosive to pipes Foote Bros., drillers
27.242	I. W. Parker	1947	340	6	4152	257.8	9-5-52	Tr c	P,W	S	Yield 2 gpm. T 70°F R. C. Gillean, driller
30.322	I. J. Briscoe	1917	92.2	6	4240	15.4	5-17-55	Tr c	P,W	S	—
30.333	I. J. Briscoe	1945	53.5	6	4270	37.2	5-17-55	Qc, Tr c	P,W	D,S	Pumping water level. Originally dug well, 1901. Deepened to 90 ft. Water piped 0.5 mi. south to house. R. C. Gillean, driller
31.312	I. J. Briscoe	1945	100.0	5	4280	74.3	5-17-55	Qc, Tr c	P,W	D,S	Rept soft water
31.440	Sunray Mid-Continent No. 1. Briscoe	1958	9069	10	4243	—	—	—	—	—	Oil test. Log
34.444	I. W. Parker	1940	30	6	4120	8	9-5-52	Qc	P,W	S	Yield 5 gpm. T 64°F. Ca. R. C. Gillean, driller
35.131	Farley Stallard	1910	73	4	4120	31.3	7-21-53	Tr c	P,W	D,S	Very weak. Supplemented by well 35.323
35.323	Farley Stallard	1949	20	5	4100	14	1951	Qal	P,W	D,S	Yield 2.5 gpm. Water piped 0.5 mi. to house. R. C. Gillean, driller
10.31. 2.410	J. S. McIntosh	—	—	—	4010	27.4	4-5-43	Tr c	P,W	D,S	Meas by USBR
3.133	Hugh Pace	1907	71	—	4050	28.9	12-20-44	Tr c	P,W	D,S	Meas by USBR
4.422	Harley Mowrer	1948	95	5	4060	65	—	Tr c	J,E	D,S	Cased to 85 ft. Perf 65-85 ft. Yield 2.5 gpm. Slightly salty. W. L. Crews, driller
8.233	—	Old	184.2	5	4110	139.1	4-1-55	Tr c	P,W	S	—
12.333	C. L. O'Quinn	1939	63	6	4020	21.3	4-9-45	Tr c	J,E	D,S	Meas by USBR. Ca. George Sours, driller
13.210	L. A. Christian	—	12	8	3990	8.0	6-29-48	Qal	—	S	Meas by USBR

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
10.29. 4.443	A. F. Curry	—	99.3	7	4260	82.9	10-7-52	Jm	P,W	S	Pumping water level
6.144	J. A. Kinkead	—	106.5	6	4340	87.1	10-17-52	Jm	P,W	S	—
6.211	A. F. Curry	Old	144.3	5	4320	56.0	10-17-52	Jm	N	O	—
6.212	A. F. Curry	—	76.1	6	4300	57.5	8-28-52	Jm	P,W	S	Yield 1.3 gpm. T 64°F
7.212	J. A. Kinkead	1950	200	7	4400	118.7	10-14-52	Je	T,E	D,S	Water rept at 190 ft; rose to 114 ft. T 63°F. J. R. Watson, driller
7.313	J. A. Kinkead	—	198.7	7	4430	144.5	10-8-52	Jm	P,W	S	T 64°F. Ca
7.313a	J. A. Kinkead	—	159.0	6	4430	145.3	10-8-52	Jm	N	O	10 ft north of well .313
8.332	R. J. Kilgore	Old	97.6	6	4340	79.2	10-8-52	Jm	P,W,I	O	T 63°F. Ca
9.234	A. H. Bugg	—	32.8	4	4270	20.7	10-8-52	Jm	P,W	S	—
9.341	R. J. Kilgore	—	83.7	6	4300	55.5	10-8-52	Jm	P,W	D	Very weak
9.341a	R. J. Kilgore	—	37.9	8	4280	27.6	10-8-52	Qal	P,W	S	Strong
10.411	A. H. Bugg	—	83.2	4	4310	76.5	10-8-52	Jm	P,W	S	Water level rising when measured. Weak
12.222	A. H. Bugg	1945	212.0	7	4280	194.8	9-21-52	Je	P,W	S,O	—
12.423	A. H. Bugg	1910	132.0	5	4250	—	—	—	—	—	Original depth 190 ft.; caved
17.414	R. J. Kilgore	—	147.0	6	4340	134.7	10-8-52	Jm	P,W	S,O	T 64°F
20.113	R. J. Kilgore	Old	110.0	6	4360	83.3	10-8-52	Jm	P,W	S	Pumping water level. Est yield 2 gpm. T 63°F
20.131	J. A. Kinkead	1936	110.9	7	4370	84.4	10-8-52	Qc, Jm	P,W	S	Est yield 3 gpm
26.142	Earl Jobe	Old	180.3	6	4390	140.7	9-23-52	Je	P,W	S	—
30.422	J. A. Kinkead	—	251.0	6	4400	196.8	10-14-52	Je	P,W	S	Yield 2 gpm, dd 9.5 ft.
10.30. 1.111	Dave Owens	—	141.3	4	4170	77.5	9-18-52	Qc	P,W	S	—
2.121	E. W. Plummer	—	200.0	4	4250	164.	9-18-52	Je	P,W	D,S,O	T 64°F
4.433	Clarence Alls	—	120.7	6	4240	94.0	9-24-52	Je	P,W	D,S	Water level rising when measured
6.424	Mrs. Lewis Andrews	Old	90	6	4180	85	10-2-52	Je	P,W	S	—
7.131	A. H. Bugg	—	174.4	5	4240	160.3	9-21-52	Je	P,W	D,S	—
7.331	Earl Jobe	1947	154	4	4240	140	1947	Je	P,W	S	—
7.424	A. H. Bugg	—	161.9	5	4240	142.7	9-24-52	Je	P,W	S,O	Pumping water level. T 62°F. Ca
9.412	Dave Owens	—	77.6	6	4270	67.8	9-24-52	Jm	P,W	S	—

11.242	T-4 Cattle Co.	1954	139.6	6	4280	68.4	6-15-55	$\overline{T}$Rc	P,W	S	Water level rising when measured. J. R. Watson, driller
11.314	T-4 Cattle Co.	1939	54.7	7	—	35.3	6-15-55	Qc	P,W	S	J. R. Watson, driller
18.412	T-4 Cattle Co.	—	57.6	6	—	40.4	6-14-55	$\overline{T}$Rc	P,W	S	Pumping water level; est yield 3 gpm. T 62°F
22.332	M. B. Beazley	1951	20.0	—	4360	10.4	4-30-55	Qc	P,W	S	Est. yield 1.5 gpm. J. R. Watson, driller
23.311	M. B. Beazley	1910	160	—	—	—	—	$\overline{T}$Rc	N	N	Water rept corrosive
26.114	M. B. Beazley	1912	298	6	—	160	—	$\overline{T}$Rc	P,W,I	D,S	T 65°F
31.131	J. T. Randals	—	29.0	48	4440	28.0	4-30-55	Qc	P,W	S	Dug. Cribbed with rock
33.431	J. T. Randals	1949	171.2	—	4450	140	—	$\overline{T}$Rc	P,W	D,S	T 64°F. J. R. Watson, driller
33.432	J. T. Randals	1955	235	8	4450	135	—	$\overline{T}$Rc	—	—	Test well. Yield 0.1 gpm. J. R. Watson, driller. Destroyed
33.441	J. T. Randals	1955	184.8	8	4450	133.7	6-14-55	$\overline{T}$Rc	—	—	Test well. Rept yield 0.1 gpm. Destroyed. J. R. Watson, driller
34.313	Louis Kinkead	Old	200	6	4440	150	—	$\overline{T}$Rc	P,E	D,S	Weel deepened 1946 from 160 to 200 ft and cased
34.432	Louis Kinkead	1938	175	5	—	160	—	$\overline{T}$Rc	P,W	S	Joe Kirk, driller
10.28. 1.422	J. A. Kinkead	—	400	6	4420	345	10-20-52	Je	P,W	D,S	J. R. Watson, driller
3.421	Ralph Richardson	1910	30.3	5	4300	—	—	$\overline{T}$Rc	N	N	Rept depth 90 ft. Weak
3.422	Ralph Richardson	Old	95	5	4300	40	—	Je	P,W,I	D,S	—
4.424	Ralph Richardson	—	29.6	48	4280	27.6	10-21-52	Qal	P,W	S	Dug. T 57°F
8.414	Ralph Richardson	1948	400	8	4400	—	10-21-52	—	N	N	Test well, inadequate yield. J. R. Watson, driller. Destroyed
9.423	Ralph Richardson	—	78.6	6	4340	71.4	10-21-52	$\overline{T}$Rc	P,W	S	—
11.413	J. A. Kinkead	1951	300	8	4580	—	—	—	N	N	Not cased. Test well, inadequate yield. J. R. Watson, driller
12.321	J. A. Kinkead	—	21.3	30	4480	18.3	11-10-53	Jm	N	N	Dug. Perched water
15.143	J. A. Kinkead	1946	138.0	7	4475	93.4	10-21-52	$\overline{T}$Rc	P,W	S	T 62°F. J. R. Watson, driller. Ca
22.421	J. A. Kinkead	—	97.6	7	4490	68.9	10-16-52	Je	P,W	S	—
22.242	J. A. Kinkead	—	73.8	6	4390	58.9	10-14-52	Qc, Jm	N	N	—
24.242a	J. A. Kinkead	—	115.5	6	4400	111.2	10-14-52	Jm	P,W	S	—
27.122	J. A. Kinkead	—	89.2	6	4520	83.3	10-16-52	$\overline{T}$Rc	P,W	S	—
10.29. 4.313	A. F. Curry	1949	304.0	7	4325	231.1	11-21-52	Jm, Je	P,W	S	Pumping water level. Est yield 1 gpm

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
9.36. 8.444	Bill Purcell	1911	30	—	—	27	—	Qal	P,W		Dug
9.122	Mr. Elkins	1894	21.1	60	—	18.9	12-1-54	Qc	P,W	S	Dug
12.234	Chapman Bros.	1939	1050	—	—	—	—	—	N	N	No casing; oil test hole; Log
19.334	J. O. Rusk	1920	80.8	5	4160	57.4	11-19-54	Tr c	N		Well. 344a pumping
19.334a	J. O. Rusk	1929	77.7	6	4160	57.5	11-19-54	Tr c	P,W	S	Yield 4 gpm with 9.5 ft. drawdown. T 63°F
20.343	J. O. Rusk	1952	49.6	6	4120	44.0	11-19-54	Qal	N	N	—
25.123	Jack Frost	—	104.9	5	4120	32.9	11-22-54	Qal, Tr c	P,W	S	Very weak
27.214	Jack Frost	1933	13.6	—	4060	8.1	8-12-53	Qal	P,W	S	Dug
29.344	J. O. Rusk	1937	69.6	6	4160	53.3	11-19-54	Qal	P,W	S	R. J. Thrasher, driller
29.344a	J. O. Rusk	—	59.7	5	4160	53.4	11-19-54	Qal	N	N	—
31.311	J. O. Rusk	1929	15.8	48	—	14.4	11-19-54	Tr c	N	N	Dug. Rept depth 30 ft. Very weak
31.413	J. O. Rusk	1945	70	6	—	—	—	Tr c	P,E	D,S	Supplies house near well .311
33.211	Jack Frost	—	62.5	4	4130	56.0	8-12-53	Qc, Tr c	P,W	S	Rept depth 50 ft.
33.211a	Jack Frost	—	60	6	—	—	—	Qc, Tr c	P,W	D	Rept fair quality
35.142	Jack Frost	1928	162.4	4	4200	141.0	8-12-53	Tr c	P,W	N	Yield 0.5 gpm. Rept poor quality
9.37. 7.142	C. L. Bowe	1936	16.6	6	—	10.1	12-1-54	Qal	P,W	S	Perf 16 to 19 ft. Rept depth 19 ft. Yield 4 gpm
31.434	L. H. Mulhair	—	112	4	4500	60	—	To	P,W	D	Cased 90 ft. Red beds rept at 67 ft. Weak
10.27. 1.431	T-4 Cattle Co.	—	40.2	6	—	36.8	6-15-55	Qc	P,W	S	—
3.144	T-4 Cattle Co.	—	190.0	5	4280	138.4	6-15-55	Tr c	P,W	S	Water level rising when measured. Yield 3 gpm. T 63°F
7.123	T-4 Cattle Co.	—	53.4	6	—	49.5	6-14-55	Qc	P,W	S	Pumping water level
10.144	T-4 Cattle Co.	—	440.8	9	4320	221.9	6-15-55	Tr c	P,W	D	Water level rising when measured. Yield 6 gpm. Water piped to house at well .343
10.343	T-4 Cattle Co.	Old	339.5	6	4310	191.3	6-14-55	Tr c	N	N	Rept poor quality

22.422	Frank Trujillo	1948	80	—	—	—	—	TRc	P,W	D,S	Charles Lamb, driller
22.424	Frank Trujillo	1947	110	6	—	85	1947	TRc	P,W	D	—
22.432	Porter and Lane	1948	45.0	6	—	32.9	8-13-53	Qal	P,W	S	Rept depth 65 ft. Yield 3 gpm
23.221	Frank Trujillo	Old	63.6	5	4200	44.7	12-2-54	TRc	P,W	S	Rept depth 80 ft.
30.343	Elmer LaGroine	1915	150	6	4890	—	—	To, Ks	P,W	D,S	Perf 129 to 150 ft. Yield 1 gpm. Rept hard water
30.343a	Elmer LaGroine	1955	288	10	4900	210	—	To, Ks	P,W	D,S	Cased 10 ft. Yield 1.5 gpm. T 62°F. J. R. Watson, driller
30.343b	Elmer LaGroine	1955	280	6	4890	—	—	To, Ks	P,E	D,S	Cased 12 ft. Red beds rept at 280 ft. Yield 2.5 gpm. T 62°F. J. R. Watson, driller
31.433	J. L. Hilton	1910	276	6	—	—	—	To, Ks	P,W	S	Perf 260 to 270 ft. Yield 0.5 gpm. T 62°F
9.35. 3.331	Chapman Bros.	—	18	—	—	10	—	Qc	P,W	S	Dug. Site of former spring
9.110	McGee No. 1 Chapman	1930	1123	—	4040	—	—	—	N	N	No casing. Oil test. Log
9.343	Frank Trujillo	—	36.5	42	4060	35.4	11-12-54	Qc	N	N	Dug
11.224	Chapman Bros.	—	20.1	6	—	11.3	12-15-54	Qal	P,W	S	—
12.122	J. O. Rusk	1940	45.0	6	—	22.4	12-1-54	TRc	N	N	Rept poor quality. R. J. Thrasher, driller
14.211	J. O. Rusk	1939	48.9	6	4040	34.9	11-19-54	Qal	P,W	S	Rept depth 54 ft. R. J. Thrasher, driller
15.411	J. O. Rusk	1950	68.4	6	4050	52.1	11-15-54	Qal	P,I	S	Rept depth 48 ft. R. J. Thrasher, driller
17.111	Frank Trujillo	Old	40	36	—	—	—	Qal	P,W	S	Dug
20.334	Frank Trujillo	Old	130	5	—	—	—	TRc	P,W	D,S	Est yield 1.5 gpm. T 64°F
21.241	—	—	52.0	36	4120	50.7	11-16-54	Qc, TRc	N	N	Dug
22.144	A. J. Clark	1930	68	—	—	35	—	Qal	P,W	D	Auger-bored well. Yield 4 gpm
22.144a	A. J. Clark	1929	76.1	—	4120	48.2	11-18-54	Qal	P,W	S	Rept depth 69 ft.
22.333	A. J. Clark	—	80	7	—		—	Qal	N	N	Weak. Roy Hill, driller. Well pumps sand
27.343	A. J. Clark	—	43.2	24	4200	41.3	11-18-54	Qal	P,W	S	Dug. Rept depth 46 ft. Pumping water level; Est yield 3 gpm. T 61°F
33.231	L. M. Boney	—	100	6	—	60	—	Qal, TRc	P,E	D,S	Yield 12 gpm. Charles Lamb, driller. Ca
9.36. 3.331	Mr. Elkins	1918	20	—	—	18	—	Qal	P,W	D,S	Dug
8.442	Bill Purcell	1914	24	—	—	20	—	Qal	P,W	S	Dug

	7.331	A. E. and R. E. Roberts	1950	116	6	—	—	—	$\overline{T}_{Rc}$	P,W	S	Yield 20 gpm. Roy Hill, driller
	8.223	Horace Horne	1946	114	6	—	20	—	$\overline{T}_{Rc}$	P,W	D,S	Cased 35 ft. Weak
	9.424	Horace Horne	—	39.8	6	3940	13.3	11-12-54	Qal	P,W	S	Pumping water level. Yield 2 gpm. T64°F. Rept salty water. Earl Flint, driller
	13.221	T. A. Peays	—	37.2	36	3940	34.3	11-12-54	$\overline{T}_{Rc}$	P,W	D,S	Dug. T 63°F
	14.334	Tom Morgan	1952	220	6	3980	102.8	11-12-54	$\overline{T}_{Rc}$	P,W	S	Perf 212 to 218 ft. Pumping water level. Yield 8 gpm. Rept fair quality. T 65°F. Tom Morgan, driller
	15.434	Tom Morgan	1949	85	6	—	—	—	$\overline{T}_{Rc}$	N	N	Rept very poor quality. Tom Morgan, driller. Destroyed
	21.211	Frank Morgan	1952	104.1	6	3960	86.6	11-15-54	$\overline{T}_{Rc}$	P,W	S	Pumping water level. Rept water level 20 ft. T 63°F. Ca. Tom Morgan, driller
	22.121	Tom Morgan	1951	153	6	4000	30	—	$\overline{T}_{Rc}$	S,E	D,S	Yield 15 gpm. W. L. Crews, driller
	28.211	Frank Morgan	1944	200	6	—	180	—	$\overline{T}_{Rc}$	P,W	S	Weak. Highly mineralized
	29.222	Charley White	1950	123.1	6	3990	51.3	5-11-56	$\overline{T}_{Rc}$	N	N	Weak. Highly mineralized. Ca. Charles Lamb, driller. Replaced by well .222a, 100 ft southeast
	29.222a	Charley White	1955	225	6	4000	35	—	$\overline{T}_{Rc}$	P,W	D,S	Water 210 to 225 ft. Yield 7 gpm. Quality rept as much better than well .222. Ragland, driller
	34.220	Chapman Bros.	1940	22	24	—	18	—	Qal	P,W	S	Dug
10.36.	1.224	C. L. Bowe and Son	1953	27.7	6	3850	18.2	11-30-54	Qal	P,W	S	Perf 20 to 54 ft. Pumping water level. Yield 9 gpm. T 64°F. Bowe and Son, drillers
	3.224	—	—	56.6	5	3900	16.9	1-25-53	$\overline{T}_{Rc}$	P,W	S	—
	3.422	—	—	58.7	5	3940	42.6	8-12-53	$\overline{T}_{Rc}$	P,W	D	Ca
	4.133	Chapman Bros.	1915	30	—	—	—	—	Qal, $\overline{T}_{Rc}$	P,W	S	Dug
	4.422	Chapman Bros.	1943	82.6	4	3950	60	—	$\overline{T}_{Rc}$	P,W	S	T 63°F. R. J. Thrasher, driller
	13.211	C. L. Bowe and Son	1952	71.5	6	—	28.6	11-30-54	$\overline{T}_{Rc}$	P,W	S	—
	14.211	Chapman Bros.	Old	16.8	5	3910	13.7	11-22-54	$\overline{T}_{Rc}$	P,W	S	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
10.36.14.311	Chapman Bros.	1940	76.7	6	3910	20.1	8-12-53	Trc	P,W	S	Yield 4 gpm. T 63°F
19.121	Chapman Bros.	1916	40	—	—	—	—	Trc	P,W	S	Drilled into sandstone. Yield 2 gpm. T 62°F
21.223	Chapman Bros.	1946	71.1	5	3930	40.6	11-30-54	Trc	P,W	—	Very weak. Salty water
26.222	C. L. Bowe and Son	1950	71.7	5	3930	33.0	12-1-54	Trc	N	N	Rept salty
26.332	—	—	21.2	37	3920	18.7	8-10-53	Qal	P,W	S	Dug. Pumping water level. Yield 3 gpm
31.440	Chapman Bros.	—	22	—	—	18	—	Qal	P,W	S	Dug. Yield 3 gpm
10.37. 7.412	—	—	48.5	5	3880	25.8	12-1-54	Qal	P,W	S	—
18.122	C. L. Bowe and Son	1952	154.1	6	3980	78.2	12-1-54	Trc	P,W	S	Perf 120 to 160. C. L. Bowe, driller
19.343	C. L. Bowe and Son	1953	95.1	6	4010	45.6	8-12-53	Trc	P,W	D,S	Weak. Rept soft water. C. L. Bowe, driller
30.110	C. L. Bowe and Son	1950	200	—	4040	140	—	Trc	P,W	S	C. L. Bowe, driller
11.27.32.331	T-4 Cattle Co.	—	56.2	5	—	50.3	6-15-55	Trc	P,W	S	Pumping water level
33.433	T-4 Cattle Co.	—	50.4	5	—	40.3	6-15-55	Qc	P,W	S	Pumping water level. T 62°F
35.122	T-4 Cattle Co.	—	70.7	7	—	52.0	6-15-55	Qc	P,W	S	Pumping water level. G. E. Sours, driller
11.28. 9.134	Dale Campbell	1952	441	6	4620	260	1952	Je	P,W	S	Water sand rept 370-420 ft. J. R. Watson, driller
25.124	Dale Campbell	—	28.3	36	4150	23.0	12-10-52	Qal	P,W	S	Dug. Cribbed with rock
27.212	Mrs. Ben Bell	—	100.8	6	4200	49.3	10-22-52	Trc	P,W	S	—
27.344	Mrs. Ben Bell	—	37.6	6	4200	22.0	10-22-52	Trc	P,W	S	—
28.441	Mrs. Ben Bell	—	39.9	5	4200	28.2	10-22-52	Trc	P,W	D,S	Pumping water level. Est yield 1 gpm. T 63°F
30.232	T-4 Cattle Co.	1952	3504	13.7	4250	—	—	Py	N	N	Ray No. 1 Hoover oil test. Water encountered at rept depths 2167 to 2420 ft. Reportedly flowed 1000 gpm. Destroyed
30.331	T-4 Cattle Co.	—	45.1	6	4250	35.5	6-15-55	Qc, Trc	P,W	S	T 62°F
32.212	T-4 Cattle Co.	—	33.4	6	4230	29.6	6-15-55	Qc	P,W	S	—
35.333	A. F. Curry	Old	88.0	6	4250	62.6	10-22-52	Trc	P,W	D,S	Soft water

11.29.13.133	City of Tucumcari	1949	355	12	4060	76.7 14.9	11-7-52 3-18-53	Je	T,E	P,S	Tucumcari west field No. 2 well. Cased to 201 ft. Screen set 201 to 341 ft. Rept flowed 1949. Ca. Yield 75 gpm. T 64°F. Layne-Texas, driller
13.133a	City of Tucumcari	1949	160.0	6	4060	111.9	6-25-53	Je	—	—	Test well. J. R. Watson, driller
13.244	David Garcia	1947	43.0	6	4050	22.5	10-31-52	Je	P,W	D	Rept depth 64 ft
13.314	City of Tucumcari	1949	371	12	4090	104.4	2-19-52	Je	T,E	P,S	Tucumcari west field No. 1 well. Cased to 201 ft. Screen 201 to 366 ft. Water level rising when measured. Yield 180 gpm. T 66°F. Layne-Texas, driller. Ca
13.314a	City of Tucumcari	1949	360	6	4090	222.6 45.5	7-31-52 3-18-53	Je	N	O	Well .314 pumping at time of 1952 meas. 1953 water level rising when meas. Test well. Perf 202 to 353. J. R. Watson, driller
13.321	City of Tucumcari	1949	152.9	6	4160	141.4	12-5-52	Je	N	O	Test hole. Not cased. Rept depth 345 ft. No production well drilled.
19.231	Dale Campbell	1949	136.8	6	4150	52.4	10-17-52	Je	N	O	Tucumcari test well. Rept depth 460. Water 300 to 460 ft
19.231a	Dale Campbell	—	36.6	36	4140	32.0	10-20-52	Jm	P,I	D	Dug
19.341	Dale Campbell	—	54.7	6	4160	27.6	12-10-52	Jm, Je	N	N	—
21.441	Mrs. T. B. Hoover	—	—	—	4140	—	—	Jm	N	N	Weak
24.121	Mrs. T. B. Hoover	—	33.9	48	4130	29.4	8-28-52	Jm	N	N	Dug. Cribbed with rock
24.122	Mrs. T. B. Hoover	—	155.4	6	4180	126.0	9-10-52	Jm	N	O	—
24.122a	Mrs. T. B. Hoover	1955	185	6	4180	—	—	Jm, Je	P,W	D,S	Rept top of Je at 160 ft. Ca. W. L. Crews driller
25.342	Mrs. T. B. Hoover	Old	220.8	10	4170	181.3	10-1-52	Je	P,W	D,S	Rept depth 250 ft. Weak. Pumps sand. Replaced by well .342a
25.342a	Mrs. T. B. Hoover	1955	275	8	4170	170.8	3-16-55	Je	P,W	D,S	Cased 240 ft. Perf 200 to 240. 14 ft north of well .342. W. L. Crews, driller

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
11.29.25.432	City of Tucumcari	—	260.5	15	4170	149.8	2-20-52	Je	T,E	P,S	Weak. Well pumps sand. Ca
25.444	A. H. Bugg	1943	370	—	4130	—	—	Je	N	N	Test well for city; not used; rept produced excessive sand. J. R. Watson, driller
27.111	A. F. Curry	1948	405	8	4140	—	—	Je	N	N	Test well for city; not cased. Destroyed, J. R. Watson, driller
27.131	A. F. Curry	1948	315	7	4150	110	—	Je	P,W	S	Yield 40 gpm. T 64°F. J. R. Watson, driller
31.143	Dale Campbell	—	201.2	7	4320	181.0	10-20-52	Je	P,W	D,S	Est yield 1.5 gpm
32.342	A. F. Curry	1948	405	8	4250	109.5	10-17-52	Je	N	O	Test well for city. J. R. Watson, driller
35.243	G. E. Floeck, Jr.	1946	138.3	6	4250	120.0	10-7-52	Jm, Je	P,W	S	Pumping water level. Rept 1946 water level 60 ft. J. R. Watson, driller
35.244	G. E. Floeck, Jr.	1951	404	—	4220	—	—	Je	N	N	Test well for city, caved, destroyed. Oliver Wellworks, driller
35.413	L. L. Bugg	1946	196.6	7	4300	162.3	10-7-52	Je	P,W	S	Est yield 1.5 gpm. T 64°F. J. R. Watson, driller
35.434	A. H. Bugg	—	173.4	6	4300	156.5	10-8-52	Je	P,W	S	Pumping level. T 65°F
36.131	A. H. Bugg	—	31.0	36	4200	17.4	4-15-53	Jm	N	N	Dug. Cribbed with rock
36.221	A. H. Bugg	—	21.0	24	4130	—	—	Qc	N	N	Dug. Cribbed with rock
36.222	A. H. Bugg	1910	39.0	5	4132	34.4	9-21-52	Qc	P,W	S	Est yield 2 gpm. T 64°F
11.30. 1.313	E. F. Hall	1905	111	—	4040	26.6	4-15-53	Qc	P,W	D,S	Rept strong taste of soda
3.341	Andrew Martin	1935	62.5	22	3990	61.3	7-25-53	Qc	P,W	D,S	Dug. Oil drum casing. Pumping water level. T 68°F. Ca
3.431	Andrew Martin	1942	133.2	5	4030	108.9 99.5	12-17-42 7-24-53	Je	P,W	N	Meas by USBR
4.334	H. W. Brown	1910	60	6	4020	40.4 4.5	12-15-42 7-25-53	Je	J,E	D	Meas by USBR

5.213	Ed. Breen	1952	55.4	6	4140	36.4 28.3	1-14-53 6-16-55	Je	P,W	S	Weak. T 64°F. R. C. Gillean, driller
5.242	Ed. Breen	—	—	36	4040	24.2	12-11-58	Je	J,E	D	Dug. Rept poor taste
5.434	U. S. Bureau of Reclamation	—	9.5	3	4050	5.4	11-3-52	Qc	N	O	Test well
5.443	A. W. Terry	1945	94.5	6	4050	14.5	11-3-52	Je	J,E	D,S	—
7.322	J. G. Garcia	Old	25.0	6	4090	Dry	10-31-52	Je	N	N	Rept depth 75 ft. Water level meas by USBR at 62.2 on 6-14-15 and 48.0 on 6-8-48
8.144	C. W. Reed	1945	73.1	—	4020	8.3	11-3-52	Je	J,E	D,S,O	—
8.411	L. V. Morris	1948	82.3	5	4020	20.0	1-5-53	Je	P,W	D,S	T 64°F. W. L. Crews, driller
8.422	Charles Morris	—	47.8	8	4010	17.5	1-5-53	Je	P,W	D,S	—
8.444	H. B. Cooper	1954	40	8	—	30	—	Qal, Tr c	P,E	D,S	Drilled to 240 ft. Back-filled to 40 ft. Weak. Salty, Ca. Pete Knowles, driller
9.433	Bill Standwick	1927	7.2	5	3970	7.8 4.9	12-17-42 11.21.52	Qc	N	N	Dug. Cased and back-filled.
10.140	Roy Plummer	—	125	6	4030	123.2	6-9-48	Tr c	—	D,S	Meas by USBR
11.222	Southern Pacific Co.	1918	402	8	4040	—	—	Qc, Je	N	N	Test well
11.234	Mrs. Maggie Daniels	1934	160	5	4050	142.5 32.7	12-28-42 4-17-53	Qc	P,W	D,S	Meas by USBR. E. L. Brummitt, driller
11.242	Lake Arthur Farms, Inc.	—	149.8	6	4050	153.9 41.8	12-28-42 4-17-53	Qc	P,W	D,S	Meas by USBR
11.344	Southern Pacific Co.	1918	352.5	8	4050	—	—	Qc, Je	N	N	Test well. Rept encountered water at 290 ft. Layne-Bowler Co., driller
11.411	Southern Pacific Co.	1919	340	—	4060	—	—	Qc, Je	N	N	Test well. Large yield; caved.
11.411a	Southern Pacific Co.	1928	621	8	4060	—	—	Qc	N	N	Well filled and destroyed
11.411b	Southern Pacific Co.	1929	108.0	24	4060	63.8	4-17-53	Qc	N	N	Dept depth 341 ft. J. B. Rogers, driller
11.433	Southern Pacific Co.	1918	360	8	4050	197	8-1918	Qc	N	N	Test well
11.442	Doroteo Baca	—	107.2	5	4060	71.4 24.3	12-22-42 4-17-53	Qc	P,W	N	Meas by USBR
12.330	Sid Latham	—	70	6	4060	54.0	6-9-48	Qc	—	D,S	Meas by USBR. Ca
12.414	Albert Mitchell	1954	85	12	—	—	—	Qc	T,E	I	Well pumps sand
14.143	Southern Pacific Co.	1913	588	13	4060	170	1913	Qc	N	N	Yield 160 gpm, 1913. Destroyed

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
11.30.14.143a	Southern Pacific Co.	1913	608	13	4060	170	1913	Qc, Je	P	N	Yield 173 gpm
						291	1926				
14.143b	Southern Pacific Co.	1913	620	13	4060	170	1913	Qc, Je	P	N	Yield 150 gpm
						271	1919				
14.144	Southern Pacific Co.	1914	620	13	4060	170	1914	Qc, Je	P	N	Yield 241 gpm
						311	1926				
						118	1948				
14.144b	Southern Pacific Co.	1917	367	32	4060	260	1917	Qc, Je	P	N	Yield 110 gpm
14.144c	Southern Pacific Co.	1917	335.6	16	4060	248	1919	Qc, Je	N	N	—
						137.9	3-31-53				
14.144d	Southern Pacific Co.	1937	294.5	6	4060	137.7	12-16-52	Qc, Je	N	O	Gravel-packed well. Rept depth 360 ft
						126.4	10-8-53				
						94.6	1-9-56				
14.144e	Southern Pacific Co.	1918	364	13	4060	260	1918	—	N	N	Yield 75 gpm. Destroyed
14.144f	Southern Pacific Co.	1918	365	13	4060	292	1926	—	P	N	Yield 65 gpm
14.211	Southern Pacific Co.	1917	369	12	4050	165	1917	—	N	N	Test well
14.221	Southern Pacific Co.	1912	360	12	4060	85	1912	—	N	N	Test well. Yield 10 gpm
14.221a	Southern Pacific Co.	1913	333.6	13	4060	105	1913	—	N	N	Test well. Yield 50 gpm
						57.3	3-31-53				
14.221b	Southern Pacific Co.	1917	369	11	4060	100	1917	—	N	N	Test well. Yield 50 gpm
14.223	Southern Pacific Co.	1917	450	12	4060	80	1917	—	N	N	Test well. Yield 60 gpm
14.312	City of Tucumcari	—	336.0	10	4080	155	6-23-53	Qc	P,E	P,S	Not used 1938 to 1953. Equipped and reconditioned 1954. Ca. Yield 180 gpm
14.312a	City of Tucumcari	—	31.8	6	4080	—	—	—	N	N	Destroyed
						139.7	4-15-54				
14.322	Tucumcari Ice and Coal Co.	1910	345	8	4090	178	1951	—	T,E	Ind	Yield 30 gpm with 30 ft drawdown. Water for making ice
14.432	Mrs. Heddy McKinney	1917	130.8	6	4080	82.4	4-14-53	Qc	N	N	—
						71.1	10-2-57				
15.131	W. F. Hevert	1928	93.8	5	4100	75.3	12-19-42	Je	P,W	D,S	1942 meas. by USBR
						46.4	11-21-52				

15.224	City of Tucumcari	1929	331.5	20	4080	144.9 115.0	4-15-52 12-21-54	Qc	N	O	Yield 200 gpm
15.243	City of Tucumcari	1930	337	20	4080	226 131.5 104.5	1947 1-24-53 11-30-54	Qc, Je	T,E	P,S	Reconditioned 1953; yield 325 gpm. Ca
15.434	Southern Pacific Co.	1920	303	10	4080	252	1920	Qc, Je	N	N	Test well. Yield 60 gpm
15.443	Southern Pacific Co.	1920	129.9	10	4080	192 115.0	1920 8-5-53	Qc, Je	N	O	Rept depth 380 ft. Yield 85 gpm
15.443a	Southern Pacific Co.	1920	295	10	4080	260	1920	—	N	N	Destroyed
15.443b	Southern Pacific Co.	1926	300	13	4080	278	1926	—	N	N	Test well. Destroyed
16.440	Claude Allen	—	45	—	4060	—	—	Qc	—	—	—
17.244	K. J. Roberts	1951	44.6	7	4000	17.0	11-3-52	Tr c	J,E	D,S	Perf 60 to 70 ft. W. L. Crews, driller. Ca
17.342	Margaret Patterson	—	95.5	6	4020	22.5	10-1-52	Tr c	J,E	D,S	—
18.332	Jose Garcia	—	40	60	4050	35	1944	Je	N	N	Dug
18.332a	Jose Garcia	1950	41.7	6	4050	13.7	10-31-52	Je	P,W	D,S	T 68°F. George Sours, driller
19.111	Joe Arrietta	1943	14.8	8	4090	12.3	10-1-52	Je	N	N	—
19.122	E. B. Fulton	—	16.5	5	4060	Dry	10-1-52	Je	N	N	—
19.133	Victor Pacheco	1948	139.1	8	4160	82.1	10-1-52	Je	P,W	D,S	T 64°F. Ca
20.423	Mrs. Luella Emler	1910	48.7	6	4070	6.7	10-1-52	Je	P	D	Weak
20.423a	Mrs. Luella Emler	—	48.0	6	4070	6.5	10-1-52	Je	P,W	—	—
20.434	J. C. Butler	—	49.8	6	4100	25.6	10-1-52	Je	N	N	Destroyed. Good
20.434a	J. C. Butler	1952	61.8	6	4100	27.7	10-17-52	Je	J,E	D,S,O	Rept depth 70 ft. Yield 18 gpm. R. C. Gillean, driller
20.444	A. J. Cothern	1941	16.0	48	—	45.4 23.5	3-15-44 6-8-48	Je	N	N	Dug. Rept depth 50 ft. Destroyed
20.444a	A. J. Cothern	1948	65.4	8	4090	18.9	9-19-52	Je	P,I	D,S	—
21.244	D. K. Taylor	—	39.3	4	4100	33.4	9-19-52	Qc, Je	P,W	D	—
21.330	John Weir	—	105	—	—	—	—	Je	—	—	—
21.412	W. A. Huggins	1952	100	6	4080	15.4	9-19-52	Qc, Je	J,E	D	Weak when Conchas Canal is dry
21.420	D. K. Taylor	—	—	—	—	—	—	Qc, Je	—	—	—
22.124	Terry Gardner	—	74.3	8	4120	65.8	4-2-53	Qc	P,W	D,O	—
22.133	W. H. Smith	—	114.7	5	4120	42.2	4-21-53	Qc	N	N,O	—
22.333	W. H. Smith	1910	80.0	6	4150	75.3	9-19-52	Je	P,W	D,S	Not cased. Pumping water level
22.333a	W. H. Smith	1910	78.5	6	4150	72.7	9-19-52	Je	P,W	D,S	—
22.333b	W. H. Smith	1946	96.8	7	4150	75.0	9-19-52	Je	P,W	D,S	George Sours, driller
22.422	Adeline Nichols	—	166.0	5	4150	149.9	4-2-53	Tr c(?)	P,W	N	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
11.30.23.244	A. B. Camp	1910	98.6	5	4090	79.9	4-17-53	Qc, Je	N	O	—
23.321	E. J. Corn	1910	295	5	4130	114.2	4-9-53	Je	P,E	D	Ca
24.131	R. V. Dickens	1921	92.1	5	4080	64.0	3-31-53	Qc(?)	N	N,O	—
24.221	L. E. Littell	—	43.7	6	4030	27.2	9-16-52	Qal	J,E	D	—
24.221a	L. E. Littell	—	38.4	6	4030	27.4	9-16-52	Qal	P,W	S	8 ft. west of well .221
25.113	J. R. Wasson	—	91.2	5	4100	26.4	9-16-52	Qc, Jm	N	N	—
25.121	Johann and Bowen	1945	73.2	7	4060	21.5	9-16-52	Qc, Jm	J,E	D,S	—
26.221	Tucumcari Country Club	—	151.7	5	4110	73.1	9-17-52	Je	P,W	S,O	T 64°F. Ca
26.324	C. D. Clampett	—	220	5	4210	—	—	Je	P,E	D,S	—
27.111	Mark Fenner	—	152.1	4	4160	101.8	9-19-52	Je(?)	P,W	D,S	Pumping water level. Est yield 3 gpm
27.111a	Mark Fenner	—	91.8	6	4160	87.5	9-19-52	Jm, Je	N	N	75 ft. northeast of well .111
28.222	W. H. Smith	1910	34.5	5	4110	Dry	9-19-52	Je	N	N	Rept good well before caving
29.214	Mrs. O. M. Jahns	—	62.1	5	4100	32.3	9-24-52	Jm, Je	N	N,O	—
29.214a	Mrs. O. M. Jahns	1946	—	6	4100	—	—	Jm, Je	P,W	D,S	—
29.221	O. M. Jahns	—	58.4	4	4090	26.4	4-10-53	Qc	N	N,O	—
30.141	Mrs. T. B. Hoover	1938	343.6	8	4200	204.8	2-22-52	Je	T,E	D,S	—
30.313	City of Tucumcari	1938	395.8	18	4140	205.4	2-6-53	Je	T,E	P,S	J. R. Watson, driller
30.314	City of Tucumcari	1951	435	32	4140	189.4	2-19-52	Je	T,E	P,S	Cased to 190 ft. Oliver Well Works, driller
30.323	City of Tucumcari	—	370.3	15	4140	195.0	1-12-53	Je	T,E	P,S	Rept. depth 400 ft. Est yield 250 gpm. Yield 120 gpm with 52 ft drawdown
30.333	City of Tucumcari	1950	324.0	15	4130	185.4	1-30-53	Je	T,E	P,S	Yield 78 gpm. T 65°F
30.341	City of Tucumcari	1945	400	—	4120	196	5-4-52	Je	T,E	P,S	D. L. McDonald, driller
30.344	City of Tucumcari	—	361.7	18	4110	167.6	1-27-53	Je	T,E	P,S	Yield 160 gpm with 79 ft. drawdown
30.413	City of Tucumcari	1946	378	14	4150	373	5-18-52	Je	T,E	P,S	Pumping water level. Yield 210 gpm. T 65°F. Ca
30.443	City of Tucumcari	1945	330	24	4100	96 127.2	1946 2-20-52	Je	T,E	P,S	Yield 140 gpm. T 64°F. D. L. McDonald, driller

	31.244	Mrs. Lewis Andrews	1948	134.2	6	4110	79-5	10-2-52	Je	P,W	D,S,O	George Sours, driller. Ca
	34.143	Mrs. Cora Keeler	—	98.4	5	4400	79.3	9-24-52	Jm	P,W	S	Pumping water level
	34.444	Claude Laws	1952	230	7	4300	130	1952	Jm, Je	P,W	S	Yield 2 gpm. R. C. Gillean, driller
	35.231	J. R. Smith	1947	239.0	8	4200	176.4	9-18-52	Je	P,W	D,S,O	Screen and perf. Yield 3 gpm. George Sours, driller. Ca
	35.241	M. S. Dickinson	1947	240	6	4170	136.1	9-17-52	Je	P,E	D,S	George Sours, driller
	35.324	Claude Laws	—	189.5	6	4230	158.1	9-18-52	—	P,W	D,S	Yield 2 gpm
11.31.	1.424	L. A. Ellis	—	201.3	6	4052	162	—	$\overline{R}$c	P,W	D,S	Ca
	3.220	J. R. McCoy	1950	160	—	—	—	—	—	N	N	Caved; dry at 84 ft. Rept dry at 160 ft
	3.321	A. A. Phillips	—	147.5	6	4160	142.6	3.14.55	$\overline{R}$c	P,W	D,S	Very weak
	5.434	J. R. McCoy and Son	—	350.5	5	4080	216.0 273.4	12-27-44 3-11-55	$\overline{R}$c	P,W	S	Rept depth 385 ft, cased to 360 ft. 1955 pumping water level. Yield 3 gpm. 1944, meas by USBR. T 66°F
	6.444	State of N. Mex.	—	110.2	10	4100	108.6	6-16-55	$\overline{R}$c	N	N	Rept depth 271 ft.
	6.444a	State of N. Mex.	—	270	8	4100	116.3	10-16-45	$\overline{R}$c	P,W	D,S	Meas by USBR. Ca
	8.113	J. J. Hamilton	—	—	—	4040	26.8	9-21-43	Qc	—	D	Meas by USBR. Ca
	8.140	H. V. McAdams	—	—	90	4040	36.4	3-17-45	Qc	—	—	Dug. Meas by USBR. Ca
	9.122	J. R. McCoy and Son	—	332.4	7	4120	230	—	$\overline{R}$c	P,W	S	Rept depth 365 ft
	12.324	Mr. McDaniel	1940	146.9	4	4070	86.6	3-17-55	$\overline{R}$c	P,W	S	Rept depth 185 ft cased 10 ft. Very weak
	13.211	City of Tucumcari	1955	400	8	4050	—	3-17-55	—	—	—	Test well at airport. Seep rept 306 ft. W. L. Crews, driller
	13.312	City of Tucumcari	1940	190	—	4040	160	1940	$\overline{R}$c	N	N	Test well at airport. Salt water rept at 180 ft. Destroyed
	14.113	Dr. G. W. Benson	1947	191.8	6	4060	151.2	3-18-55	$\overline{R}$c	P,W	S	Rept very poor quality. Ca
	14.330	E. A. Westmorland	—	82	6	4050	66.0	1-16-46	$\overline{R}$c	N	N	Meas by USBR. Destroyed 1948. Ca
	17.131	Harry Aten	1938	220	—	4020	170	—	$\overline{R}$c	P,E	D,S	Cased to 200 ft
	19.122	Bill Baxter	1954	100	8	4020	41	1954	Qal, $\overline{R}$c	N	N	Cased to 87 ft. Well pumps sand. Don Box, driller
	19.143	Mrs. Savage	—	—	6	—	35.5	6-15-48	$\overline{R}$c(?)	P,W	S	Meas by USBR. Rept slightly bitter taste. Ca
	19.212	C. W. Cory, Jr.	1954	235	7	4020	160	1954	$\overline{R}$c	S,E	D	Tastes slightly of salt. J. R. Watson, driller

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
11.31.19.333	Mrs. L. B. Anderson	—	16.6	6	—	Dry	4-20-55	—	N	N	—
20.241	C. A. Smith	1955	202.1	—	4080	—	—	Tr c	N	N	Rept depth 280 ft. R. C. Gillean, driller
20.442	Louis Buth	1946	170	6	4060	167	—	Tr c	P,E	D,S	Yield 0.25 gpm. Ca
22.122	L. F. Carden	1946	190	6	4040	—	—	Tr c	N	N	Good water rept 60 ft. Deepened to 190 ft. Encountered bad water. Ca. Destroyed about 1953
23.224	A. W. Lawrence	1954	92.2	6	4020	66.8	4-16-55	Tr c	J,E	D,S	Yield 8 gpm. R. C. Gillean, driller
23.310	Rheo Hubbard	—	105	6	4030	84	1948	Tr c	P,W	D,S	Meas by USBR. Ca
23.330	C. L. Oglesby	—	103	6	4020	72	1948	Tr c	—	D,S	Meas by USBR. Ca
24.112	Bill Landeas	1947	120	6	4030	—	—	Tr c	P,W	D,S	Ca
26.130	Vaughn Garris	—	—	6	4000	6.0	1948	Qc	N	N	Meas by USBR. Destroyed about 1954. Ca
27.210	F. O. McDaniel	—	13	72	4000	13.0	6-17-48	Qc	—	S	Dug. Wooden casing. Meas by USBR. Ca
28.333	Mrs. Ethelwyn Stevens	Old	165	5	4060	122.0	6-15-48	Tr c	P,W	S	Meas by USBR. Very weak
30.112	—	1955	96.8	6	4100	16.2	4-20-55	Tr c	N	N	—
35.442	C. C. Callison	1924	59	6	4010	42.0	6-15-48	Tr c	P,W	D,S	Meas by USBR. Ca
36.111	Harley Mowrer	—	124.4	6	4000	24.8 19.1	3-30-55 4-23-57	Tr c	P,W	S	Ca
11.32. 3.424	A. H. Bugg	1951	144.4	6	4020	97	1951	Tr c	P,W	D,S	Very weak. J. R. Watson, driller
4.420	P. H. Shaub	—	—	—	4030	105.0	7-28-48	Tr c	—	—	Meas by USBR. Ca
5.220	Herbert Collins	—	140	—	4000	122.0	7-28-48	Tr c	—	—	Meas by USBR. Ca
7.133	C. C. McNay	—	180.2	—	4060	172.0 130	7-15-48 1953	Tr c	P,W	D,S	Meas by USBR. Ca
7.244	Wilbur Foote	1946	200	6	4020	140	—	Tr c	J,E	D,S	Foot Bros., drillers. Ca
8.113	Barton Ramsey	1946	180	6	4020	—	—	Tr c	P,W	S	Poor quality. Ca
10.333	Bowen Agency	—	135.8	5	4010	112.3	3-17-55	Tr c	N	N	—
11.111	J. C. Adams	1948	300.3	6	4020	13.9	3-17-55	Tr c	P,E	D	Rept corrosive to pipes

11.113	W. T. Hamman	—	125	6	4030	40.0 25	7-28-48 1955	$\overline{R}$c	J,E	D	Meas 1948 by USBR. Ca
11.430	H. A. Askew	—	145	—	4020	145.0	2-12-46	$\overline{R}$c	—	—	Meas by USBR. Ca
12.333	Mrs. Hanna Goldenburg	Old	160	5	4000	126.0 40	7-28-48 1953	$\overline{R}$c	P,E	D,S	Meas by USBR. Yield 1 gpm
13.130	M. H. Sours	—	—	—	4000	78.0 46.0	9-29-44 2-29-48	$\overline{R}$c	P,W	D,S	Meas by USBR. Ca
13.333	John McCoy	Old	123.8	5	3970	111.1	11-16-54	$\overline{R}$c	P,W	S	Pumping water level. Yield 1.5 gpm. T 64°F
14.444	G. O. Jenkins	1954	111.8	5	3970	82.9	11-19-54	$\overline{R}$c	P,W	S	Est yield 3 gpm. T 64°F
15.444	J. W. Williams	Old	105	5	3960	62.0 25	7-28-48 1952	$\overline{R}$c	J,E	D,S	Poor quality. Ca
17.343	Roy Foote	1946	160	6	4000	145	—	$\overline{R}$c	N	N	Caved in 1950. Destroyed. Ca
17.343a	Foote Bros	1950	204	6	4000	120	—	$\overline{R}$c	P,W	D,S	Perf 174 to 204 ft. Replaced well .343. Foote Bros., drillers
19.424	CRI and P. RR.	1920	400	12	3990	78.8	3-30-55	$\overline{R}$c	N	N	Plugged back to 90 ft
19.424a	Greer Cottingham	1950	184.8	7	3990	80.0	3-30-55	$\overline{R}$c	J,E	D,S	Water level rising when meas. 209 ft. Cased to 140 ft. Rept water at 180 ft. Yield 8 gpm. J. R. Watson, driller
19.442	Greer Cottingham	1946	165	6	3990	65	—	$\overline{R}$c	N	N	Destroyed about 1950. Ca
20.121	G. M. Reading	1948	164	—	4000	69.0	7-6-48	$\overline{R}$c	P,E	D,S	Rept salty. Ca
21.112	Mr. Jackson	1954	200	6	3970	65.8	1-28-54	$\overline{R}$c	P,W	D,S	J. R. Watson, driller
21.311	Ellis Hall	1948	—	6	3970	58.0	7-6-48	$\overline{R}$c	P,E	D,S	Meas by USBR. Ca
22.210	C. A. Carr	—	—	6	—	—	—	$\overline{R}$c	—	—	Ca
23.443	Dan Kelly, St.	1946	120	6	3930	60	—	$\overline{R}$c	J,E	D,S	Ca
24.211	Dan Kelly, Jr.	1915	165	6	3980	122.0	2-12-46	$\overline{R}$c	J,E	D,S	Meas by USBR. Ca
24.323	Dan Kelly, Sr.	1947	106.8	6	3920	78.3	3-18-55	$\overline{R}$c	P,W	D,S	T 64°F
25.333	O. B. Palmer	1950	150	7	3920	40	—	$\overline{R}$c	P,W	D,S	Cased to 140 ft
27.330	Curt Graham	—	—	—	—	—	—	—	—	—	Ca
28.434	Blevins McKenzie	1946	145	6	3970	65	—	$\overline{R}$c	P,E	D,S	Cased to 120 ft. Rept yield 15 gpm. Replaced by .434a. Ca
28.434a	Blevins McKenzie	1956	180	6	3970	65	—	$\overline{R}$c	P,W	D,S	Ca

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
11.32.30.422	J. B. Berry	1953	187.6	6	3990	76.2	3-30-55	Tr c	S,E	D,S	Recovering water level. Rept dept 202 ft. Cased to 80 ft. Water at 172 ft. Yield 9 gpm. J. R. Watson, driller
32.433	—	—	83.0	5	3990	7.6	4-15-55	Tr c	P,W	S	—
34.442	J. B. Routh	Old	76.2	5	3960	60.4 12.8	4-2-45 3-23-55	Tr c	N	N	Meas 1944 by USBR. Ca
34.444	J. B. Routh	1954	200	6	3960	140	—	Tr c	P,E	D,S	Perf 180 to 200 ft. Slight taste of salt. J. R. Watson, driller
11.33. 3.124	Frank Smith	1952	20.4	6	3850	11.7	2-22-55	Qal	P,W	S	Earl Flint, driller
12.241	Frank Smith	Old	60	6	—	20	—	Tr c	J,E	D,S	Ca
13.424	Ben McGee	1928	39.6	22	4100	27.0	2-24-55	Tr c	P,W	D,S	Dug. Oil drum casing. Yield 3 gpm
14.232	Thomas Cardon	—	725	6	—	—	—	—	P,W	S	Hilker & Harris No. 1 Cardon oil test. Log
22.231	Charlie Murray	—	43.1	5	—	43.0	—	—	P,W	S	Pumping water level
23.242	—	—	44.1	36	4090	19.0	2-18-55	Tr c	P,W	D,S	Dug well
25.443	H. M. Stanley	1949	125	5	4000	20	2-18-55	Tr c	P,E	D,S	Rept tastes of salt. Earl Flint, driller
28.232	Irene Anders	1935	46.7	5	4040	15.6	2-16-55	Tr c	P,W	S	Rept depth 80 ft. Cased 4 ft. Poor quality
28.232a	Irene Anders	1941	33.7	48	—	22.4	2-16-55	Tr c	N	N	Dug. Rept depth 50 ft
28.334	R. W. Callison	Old	78.2	5	3980	26.4	2-16-55	Tr c	P,W	S	Rept depth 100 ft. Cased 4 ft
28.341	R. W. Callison	Old	53.7	5	4020	38.3	2-16-55	Tr c	P,W	S	Rept very poor taste. Domestic water hauled from spring
35.242	W. H. Kelsoe	1952	31	8	4000	24	2-18-55	Tr c(?)	P,W	D,S	perf 21 to 31 ft gravel-packed
11.34. 2.333	Joe Yarborough	—	109.0	6	4200	69.2	11-10-54	Tr c	P,E	D,S	—
5.433	R. J. Thrasher	1955	111.4	8	4200	81.4	3-2-55	Tr c	N	N	Not cased

6.314	G. C. Irving	Old	40.5	—	4130	39.8	2-18-55	Rc	P,W	D,S	Dug. Deepened, cleaned 1955
11.224	Milton Terry	1952	84.4	6	4200	47.8	11-10-54	Rc	N	N	Rept depth 100 ft. Roy Hill, driller
12.112	Milton Terry	1918	78.0	48	4200	45.6	11-10-54	Rc	J,E	D,S	Dug. Rept depth 90 ft. Yield 10 gpm
15.111	L. S. Barber	1951	73.0	—	4180	17.6	11-10-54	Rc	P,W	D	—
15.224	Lester Roberts	—	132.6	6	4220	92	2-16-55	Rc	P,E	D,S	—
18.211	D. D. Waltrip	1946	68	6	4080	18	1946	Rc	J,E	D,S	Yield 20 gpm. Lamb and Hill, drillers
18.444	—	—	30	48	—	26	—	Rc	P,W	D,S	Dug
22.333	—	—	25.8	18	—	25.7	11-8-54	Rc	P,W	S	Dug
26.113	—	—	55.9	6	4080	27.0	2-16-55	Rc	P,W	S	Pumping water level. Est yield 8 gpm. T 61°F
31.442	Joe Cardon	Old	55.9	6	4040	16.9	3-3-55	Rc	P,W	S	Rept depth 90 ft. Supplies several families
33.143	Mrs. Dolly Kelsoe	Old	107.8	5	4060	22.6	2-16-55	Rc	P,W	S	—
33.144	Mrs. Dolly Kelsoe	1951	135	6	4060	25	—	—	P,W	S	—
11.35. 1.114	T. G. Rose	—	16.7	36	4050	11.6	11-5-54	Rc(?)	J,E	D,S	Dug. Culvert pipe casing
4.310	C. W. Purcell	1940	147	6	—	—	—	—	N	N	Test well. Inadequate yield. Destroyed
4.320	C. W. Purcell	1940	187	6	4050	Dry	—	—	N	N	Destroyed
5.300	Mrs. B. L. Dunshee	—	—	—	—	—	—	Rc(?)	P,W	S	Poor quality. Ca
13.133	—	—	43.9	5	4100	35.2	11-4-54	Rc(?)	N	N	—
14.224	L. C. Jackson	—	82.2	8	4120	56.8	11-11-54	Rc	P,W	S	T 65°F
19.133	R. R. Gibson	1910	85	5	—	—	—	Rc	P,W	D,S	T 62°F
23.123	—	—	29.9	5	—	15.2	11-5-54	Rc(?)	P,W	S	T 63°F
23.222	—	—	53.5	5	4080	25.5	11-5-54	Rc(?)	N	N	Not cased
25.333	—	—	—	48	4000	15.2	3-21-53	Rc	P,W	S	Dug
26.133	—	—	122.3	5	4140	96.5	11-5-54	Rc	N	N	—
28.433	—	—	70.3	5	4020	27.7	11-2-54	Rc	P,W	—	—
29.121	—	—	66.2	5	4100	46.0	—	Rc	P,W	S	Pumpng water level. Est yield 2 gpm
11.36. 7.214	—	—	3503	—	4070	—	—	—	—	—	Newby No. 1 Endee oil test. Water rept at 100, 540, 708, 835, & 910 ft
15.424	Wellington Johnson	1951	270	6	3900	200	1951	Rc	P,E	D	Perf 230 to 270 ft
16.320	Mrs. Grady Oldham	—	237.6	—	3900	195.7	11-11-54	Rc	P,W	S	Rept depth 260 ft
20.300	Grady Oldham Estate	1953	330	—	—	—	—	—	N	N	Test well; rept dry. R. C. Gillean, driller

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
11.36.20.422	P. B. Morris	1952	11	24	—	10	—	Qal	P,E	D	Dug. Concrete casing. Weak
22.133	Grady Oldham Estate	—	250	—	—	—	—	TRc	P,W	D,S	Good
29.332	Grady Oldham Estate	—	265	—	—	—	—	TRc	P,W	S	Good
11.37.17.320	Chicago, Rock Island and Pacific Railroad	1913	800	—	3850	200	—	TRc	P,W	RR	Company records rept depth at 285 ft and water level at 35 ft. Log
17.321	Fred Brownlee	1952	264.0	5	3860	200	1953	TRc	P,E	D	Roy Hill, driller. Ca
18.421	L. L. Mebane	1953	250	3	3850	20	1953	TRc	P,E	D	R. C. Gillean, driller
12.28.14.110	Miami No. 1 Hoover Ranch	1958	6848	14	4084	20	—	—	—	—	Oil test, in San Miguel Co., 3 miles north of Quay county line. Log
12.29.25.124	Ed Breen	—	155	6	4200	—	—	Je	P,W	S	T 63°F. R. C. Gillean, driller
26.213	T-4 Cattle Co.	—	40.0	6	4090	26.9	6-16-55	Je	P,W	S	—
12.30.27.422	Manuel Lopez	1948	8.3	22	4000	6.0	6-16-55	Qal	P,W	D,S	Dug. Weak in summer, dry in winter
32.240	Fred Horne	—	—	—	4080	41.0	1-2-48	Je(?)	—	D	Meas by USBR. Ca
32.420	L. C. Strawn	—	—	—	4070	58.0	6-4-48	Je(?)	—	D	Meas by USBR. Ca
33.110	A. B. Roberts	—	30	—	4050	14.5	4-4-52	Je(?)	—	—	Meas by USBR. Ca
33.113	J. J. Atwood	—	20	12	4090	9.3	10-21-52	Je	P,W	D,S	Rept depth 105 ft. Caved
34.230	Henry Batterman	—	—	6	3960	96.0	6-7-48	Je(?)	—	D,S	Meas by USBR. Ca
34.310	Jim Cupp	—	—	—	4000	—	—	—	—	—	Ca
35.133	Mr. Jenkins	—	45	—	3960	35	—	Qal, TRc	—	S	—
35.140	Frank McCauley	—	—	—	3930	13.0	6-7-48	Qal	—	—	Meas by USBR. Ca
12.31. 1.142	I. L. Yohn	1953	240	6	4040	—	—	TRc	P,W	S	Yield 8 gpm. T 64°F, W. L. Crews, driller
2.444	G. A. Belmore, Jr.	Old	206	5	4050	60	—	TRc	P,W	D,S	—
14.413	J. R. McCoy and Son	1915	215	6	4110	—	—	TRc	P,W	S	Est yield 4 gpm. T 65°F
25.111	J. R. McCoy and Son	1944	71.8	—	4100	—	—	Qc, TRc	P,W	D,S	Yield 5 gpm. T 62°F
31.122	Ed Breen	Old	75.4	5	4070	43.4	6-16-55	TRc	P,W	D,S	—
31.433	Ed Breen	—	74.4	5	4060	63.0	6-16-55	TRc	P,W	S	—
34.212	J. R. McCoy and Son	1926	135	5	4140	75	—	TRc	P,E	D,S	Yield 15 gpm

12.32.	1.144	W. A. Niles	—	225	—	4050	—	—	—	—	—	Rept dry; destroyed
	1.422	M. G. Cottingham	1950	152.0	5	3980	128.8	9-4-53	$\overline{T}_R$ c	P,W	S	Rept dept 187 ft. Perf 152 to 182. Yield 0.75 gpm. Destroyed. W. L. Crews, driller
	1.422a	M. G. Cottingham	Old	129.1	5	3980	83.3	9-4-53	$\overline{T}_R$ c	N	N	About 75 ft NW of well .422. Destroyed
	1.422b	M. G. Cottingham	1953	278.2	6	3980	183.7	9-25-53	$\overline{T}_R$ sr	P,W	S	Perf 270 to 280 ft. Yield 2.5 gpm. About 2 ft south of well .422a. J. R. Watson, driller. Ca
	1.433	M. G. Cottingham	—	60	—	3990	56.2	9.4.53	Qc	—	S	Inadequate yield
	4.412	Edwin Iles	1946	388	—	—	—	—	$\overline{T}_R$ c	—	—	Rept found salty water. Destroyed
	4.444	Edwin Iles	1948	195	6	4090	153	—	$\overline{T}_R$ c	P,W	D,S	Cased to 130 ft. W. L. Crews, driller
	6.241	G. A. Belmore	1915	112.2	6	3910	105.0	3-8-55	$\overline{T}_R$ c	P,W	S	Pumping water level. Yield 0.75 gpm
	7.334	Mrs. Ethel Ragdale	Old	200	5	4060	180	—	$\overline{T}_R$ c	P,W	D,S	—
	8.313	Dick Maben	—	199.8	5	4020	103.0	3-9-55	$\overline{T}_R$ c	P,W	S	Rept depth 250 ft. Dick Seddon, driller
	9.224	H. E. Osborn	1954	249	7	4110	100	—	$\overline{T}_R$ c	P,W	S	Cased to 60 ft. Weak. W. L. Crews, driller
	11.444	John Kelly	1949	220	6	4040	128.8	8-17-55	$\overline{T}_R$ c	P,W	S	Perf 75 to 220 ft. Yield 15 gpm. Drilled to supply water for nearly oil test. J. R. Watson, driller
	12.221	Mrs. Beatrice Clay	Old	60	5	3990	40.5	9-27-44	Qc	P,W	D,S	Meas by USBR. Weak
	13.111	Ed Kimes	1939	150	6	4020	80	—	$\overline{T}_R$ c	P,W	D,S	—
	15.412	Chicago, Rock Island and Pacific Railroad	—	198	6	4050	150	—	$\overline{T}_R$ c	P,W	RR	—
	19.111	M. L. Dietrich	1951	265	6	4100	225	—	$\overline{T}_R$ c, $\overline{T}_R$ sr	P,E	D,S	—
	20.422	E. V. Felkner	1915	213.1	6	4070	193.1	3-10-55	$\overline{T}_R$ c	P,W	D,S	Ca
	21.244	J. A. Tertling	1947	192	6	4050	32	—	$\overline{T}_R$ c	P,W	D,S	—
	21.412	Ralph Bell	—	240	—	4070	—	—	$\overline{T}_R$ c	P,W	S	—
	23.111	Mr. Crane	—	177.2	8	4020	113.8	3-14-55	$\overline{T}_R$ c	P,W	D,S	—
	24.211	T. H. and C. B. Kemper	1938	215.8	7	4040	126.9	3-16-55	$\overline{T}_R$ c	P,W	D,S	Rept poor taste. J. R. Watson, driller
	25.213	—	—	173.4	6	4060	97.9	3-16-55	$\overline{T}_R$ c	P,W	S	—
	30.333	C. W. Creger	1920	380	6	4150	250	—	$\overline{T}_R$ c	P,W	D,S	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
12.32.32.211	R. C. Gillean	1943	385	6	4150	—	—	Trc	P,E	D,S	Cased to 280 ft. Yield 3 gpm. R. C. Gillean, driller
32.411	Benny Maas	—	210	5	4040	—	—	Trc	P,W	D,S	—
33.224	K. L. Langley	1948	393	6	4060	175	—	Trc	P,E	D,S	Yield 3 gpm
35.224	—	—	183.4	5	4050	53	1955	Trc	P,W	D,S	—
12.33. 4.411	T. C. Chance	1950	94.7	7	3910	6.8	3-4-55	Qc	J,E	S	Yield 16 gpm. Dick Seddon, driller
4.411a	T. C. Chance	1914	85	5	3900	25.7	9-27-44	Qc	P,W	S	About 20 ft south of well .411
4.433	Howard Pierce	1954	100	6	3880	—	—	Trc(?)	P,W	S	T 60°F. W. L. Crews, driller
5.333	Oscar Fraesier	1915	80	5	3980	55.0	1-14-47	Trc	P,W	D,S	Meas by USBR. Weak
5.434	Oscar Fraesier	1915	71.9	5	3940	22.5	1-16-47	Trc	P,W	S	Meas 1047 by USBR. Dick Seddon, driller
						9.6	3-7-55				
6.421	B. F. Moore	1914	67.0	6	3970	44.1	9-27-44	Trc	P,W	D,S	Rept depth 80 ft.
						31.4	3-7-55				
7.124	Alex Hubbard	1954	217.6	8	3980	71.4	10-28-54	Trc	P,W	S	—
9.224	Clarence Fitzner	1943	69	5	3850	62	—	Trc	P,E	D,S	Weak
9.242	Clarence Fitzner	1943	69	5	3860	14	—	Qc, Trc	P,W	S	—
13.111	Ray Sutherland	1945	360	6	—	—	—	Trc, Trsr	P,W	D,S	Rept fair quality
13.222	J. A. Boatman	—	400	—	—	—	—	Trc, Trsr	P,I	D,S	—
13.313	Jack Bond	1945	340	6	—	—	—	Trc, Trsr	P,W	S	—
16.111	Eddie Watson	1951	126.4	6	3900	70	1951	Trc	P,W	S	Est yield 8 gpm. W. L. Crews, driller
17.311	Eddie Watson	Old	76.8	8	3960	59.9	3-16-55	Trc	P,W	S	Ca
18.244	J. T. Smith	1920	82	6	3970	—	—	Trc	P,W	D,S	—
23.330	F. J. Smith	1952	42	6	—	38	—	Qal	P,W	D,S	Earl Flint, driller
24.222	Jack Bond	—	200	6	—	—	—	Trc	P,W	D	Very weak
25.100	Frank Smith	—	60	6	—	—	—	Qal	P,W	S	—
27.344	Frank Smith	1952	25.1	6	3780	10.7	2-23-55	Qal	N	N	Rept depth 38 ft. Earl Flint, driller
34.221	Frank Smith	—	18.6	5	3790	16.9	2-22-55	Qal	N	N	—
35.424	Frank Smith	—	90	6	—	60	—	Trc	P,W	D,S	Weak
36.324	Frank Smith	Old	105.3	5	4260	79.1	2-18-55	Trc	P,W	S	—

36.324a	Frank Smith	1955	150	6	4260	—	—	$\overline{R}$c	P,W	S	Perf 70 to 100 ft. Robert Thrasher, driller
12.34. 2.334	Mrs. Nora Smith	1944	300	6	—	—	—	$\overline{R}$c, $\overline{R}$sr	P,W	D,S	Very weak
5.412	Frank Pierce	1905	18	48	4000	12	—	Qal	P,W	S	Dug. Yield 4 gpm
5.433	Frank Pierce	1952	306	6	4000	—	—	$\overline{R}$c, $\overline{R}$sr	P,E	D	Water 280 to 306 ft. Rept yield 4 gpm. Dick Seddon, driller
6.113	J. A. Cox	—	250	5	3930	200.3	8-6-53	$\overline{R}$c, $\overline{R}$sr	P,W	D,S	T 67°F. Water hauled to house at well 13.34.8.333
7.311	R. J. Smith	1940	80	6	—	30	—	$\overline{R}$c	P,W	D,S	Fred Cavender, driller
7.400	E. C. Davis	1949	200	—	—	—	—	$\overline{R}$c, $\overline{R}$sr	P,W	D,S	R. J. Thrasher, driller
8.211	Frank Pierce	Old	70	5	—	50	—	—	P,W	D,S	Weak
11.212	Mrs. Nora Smith	1951	282.5	5	3980	225.5	11-10-54	$\overline{R}$c, $\overline{R}$sr	P,W	S	Pumping level. Yield 2.5 gpm. T 65°F. Dick Seddon, driller
11.344	H. B. Molyneaux	1914	310	6	4020	302	—	$\overline{R}$c, $\overline{R}$sr	P,W	D,S	Ca
17.212	H. B. Molyneaux	Old	100	—	—	—	—	$\overline{R}$c	—	S	Weak
17.212a	H. B. Molyneaux	1949	118	6	—	—	—	$\overline{R}$c	P,W	S	Yield 1 gpm. Claude Crouch, driller
18.412	E. C. Davis	1949	220	6	4040	170	—	$\overline{R}$c, $\overline{R}$sr	P,E	D,S	Perf 202 to 220 ft. Yield 3 gpm. R. J. Thrasher, driller
21.421	O. C. Bass	1934	33.2	48	4100	20.6	11-8-54	$\overline{R}$c	P,W	D,S	Dug
22.421	Homer Koonsman	—	380	—	4100	370	11-8-54	$\overline{R}$sr(?)	P,E	D,S	—
24.131	S. I. Bennett	—	20.3	36	4100	7.3	11-10-54	$\overline{R}$c(?)	P,W	D,S	Yield 20 gpm
25.421	Mrs. Mary Kime	1919	35	48	4150	23	—	$\overline{R}$c	P,W	D,S	Dug
28.224	J. C. Key	—	73	—	4200	65	—	$\overline{R}$c	P,W	D,S	—
30.422	F. J. Smith, Jr.	Old	174.3	6	—	158.1	2-24-55	$\overline{R}$c	P,W	D	Pumping water level; est. yield 0.5 gpm. Rept water level 60 ft. Weak
31.134	W. I. Ford	1945	113.3	5	4300	80	—	$\overline{R}$c	P,W	D,S	—
35.331	W. H. Tippons	—	22.6	42	4120	17.8	11-10-54	$\overline{R}$c	P,W	D,S	Dug. Rept depth 24 ft.
36.433	Case Jackson	1955	44.2	10	4140	14.6	6-23-55	Qal, $\overline{R}$c	T,I	I	Yield 250 gpm
36.434	Case Jackson	1955	41.7	10	4140	11.2	6-23-55	Qal, $\overline{R}$c	T,I	I	Yield 250 gpm
36.444	L. C. Jackson	1918	32.1	36	4140	10.5	5-21-53	Qal, $\overline{R}$c	P,W	D,S	Dug. Cribbed with rock
36.444a	L. C. Jackson	1953	42	6	4140	12	—	Qal, $\overline{R}$c	J,E	D,S,T	Perf. 18 to 42 ft. Yield 70 gpm. Earl Flint, driller
36.444b	L. C. Jackson	1953	42	13	4140	12.9	5-21-53	Qal, $\overline{R}$c	N	N	Perf 20 to 42 ft. Ca. Yield 200 gpm with 30 ft drawdown. Earl Flint, driller

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
12.34.36.444c	L. C. Jackson	1953	36	13	4140	12.6	5-21-53	Qal, Tr c	N	N	Ca. Yield 40 gpm. Earl Flint, driller. Not cased
36.444d	L. C. Jackson	—	29	13	4140	—	—	Qal, Tr c	N	N	Not cased. Earl Flint, driller
12.35. 2.111	Griffin, Trew, and Cooper	Old	167.1	4	3840	163.8	5-17-56	Tr c	P,W	D,S	Pumping water level. Rept water level 55 ft. Ca
6.143	Griffin, Trew, and Cooper	—	300	—	—	—	—	Tr c, Tr sr	P,W	S	—
7.234	Griffin, Trew, and Cooper	—	258.0	5	3900	170.6	5-17-56	Tr c, Tr sr	P,W	S	Rept depth 380 ft. Rept water level 345 ft. Rept tastes salty
7.234a	Griffin, Trew, and Cooper	—	6.6	48	3900	4.5	10-15-54	Qal	N	N	Dug. Rock casing
7.234b	Griffin, Trew, and Cooper	—	8	48	3900	5	—	Qal	P,W	S	Dug. Rock casing
15.323	—	—	279.4	—	3960	235.9	10-15-54	Tr c, Tr sr	P,W	S	—
20.333	Frank Warmuth	1949	200	6	4250	85	—	Tr c	P,W	D,S	Water at 85 ft.; drilled to 200 ft for storage. Weak
25.123	W. W. Sweeney Estate	1939	300	6	4000	285	1939	Tr c, Tr sr	—	—	Cased to 276 ft. Yield 4 gpm. Rept water slightly alkaline
26.233	—	Old	244.2	5	3960	118.9	10-28-54	Tr c, Tr sr	P,W	S	—
29.143	T. E. Terry	1919	35.1	48	4180	22.1	11-6-54	Tr c	P,W	D,S	Dug. Rept depth 45 ft. Not cased
32.344	Joe Yarborough	—	65	—	—	50	—	Tr c	P,W	D,S	—
32.434	H. E. Norred	—	90	—	4150	70	—	Tr c	—	D,S	R. J. Thrasher, driller
33.422	E. S. Norred	—	32	—	—	28	—	Tr c(?)	P,W	D,S	Water rept hard and alkali
35.422	—	—	21.4	42	4030	20.7	11-5-54	Tr c	N	N	Dug. Culvert-pipe casing
35.424	T. G. Rose	1950	15.2	6	—	15	—	Qal	P,W	S	Rept depth 26 ft. Partly caved. Yield 5 gpm. Ca
12.36. 2.112	A. C. Ward	—	165	—	3860	100	—	Tr sr(?)	S,E	D,S	—

	2.334	Bill Smithers	—	300	—	—	—	—	$\overline{R}$ sr	N	N	Destroyed. Rept unusable water even for stock
	2.413	Bill Smithers	1938	225	—	—	190	—	$\overline{R}$ sr	P,W	D,S	—
	7.334	A. C. Ward	—	190	5	—	170	—	$\overline{R}$ sr	P,W	S	—
	8.313	Louis Lee	—	150	5	—	—	—	$\overline{R}$ c, $\overline{R}$ sr	P,W	D,S	—
	9.334	Louis Lee	—	225	—	3950	205	—	$\overline{R}$ sr	P,W	D,S	—
	10.224	A. C. Ward	—	175	—	3920	163	—	$\overline{R}$ sr	P,W	S	—
	10.434	Bill Smithers	—	227	5	3980	187	—	$\overline{R}$ sr	P,W	S	—
	11.333	J. L. Liles	1954	59.5	8	3960	44.2	11-6-54	$\overline{R}$ c	P,W	D,S	Not cased, 1954. R. J. Trasher, driller
	11.333a	J. L. Liles	1945	28	36	3960	—	—	$\overline{R}$ c	P,W	D,S	Dug. Rept inadequate yield
	14.311	Ray Adams	1954	285.4	6	3950	260.0	10-11-55	$\overline{R}$ sr	N	N	R. J. Thrasher, driller
	16.111	Louis Lee	—	245	—	3960	200	—	$\overline{R}$ sr	P,W	D,S	—
	18.242	—	—	20.2	14	3940	15.9	11-5-54	Qal	P,W	S	Dug. Steel casing
	29.132	D. S. Gentry	—	18.6	6	3960	14.0	11-5-54	Qal	P,W	S	Rept depth 26 ft.
	29.242	L. O. Gentry	1914	296	4	4000	281.4	11-6-54	$\overline{R}$ sr(?)	P,W	D,S	—
	33.222	L. O. Gentry	Old	250	—	3900	232	—	$\overline{R}$ sr(?)	P,W	S	—
	34.142	Henry Sasser	1955	540	—	3950	235	—	$\overline{R}$ sr	N		Yield 10 gpm with 25 ft drawdown during bailing test. Rieddell and Suggs, drillers
12.37.18.424		—	1940	38.1	36	—	36.5	10-11-54	Qal	N	N	Dug
	18.424a	Ira Johnson	—	208.8	5	3900	197.6	10-11-54	$\overline{R}$ sr	N	N	—
	18.442	Ira Johnson	1954	193.4	6	3880	173.4	10-11-54	$\overline{R}$ sr	P,W	S	—
	19.133	R. L. Martin	1946	250	6	3950	225	—	$\overline{R}$ sr	P,W	S	T 63°F
	30.133	R. L. Martin	1914	225	—	3900	205	—	$\overline{R}$ sr	P,W	D,S	Rept poor quality. Ca
	30.422	R. L. Martin	1951	150	—	3850	130	—	$\overline{R}$ sr	P,W	S	Lamb and Hill, drillers
13.31.	1.124	R. R. Simms	—	50	—	3900	40	—	Qal, $\overline{R}$ c	P,W	S	Yield 3.5 gpm. T 62°F. Ca
	25.344	R. S. Bell	1918	140	6	4020	126	1918	$\overline{R}$ c	P,W	D,S	Perf 128 to 140 ft. Weak
	26.123	H. E. Osborne	1924	195	5	3950	150	—	$\overline{R}$ c	P,W	S	Perf 171 to 195 ft. Est yield 2 gpm. T 65°F
	26.244	H. E. Osborne	1912	85	5	4020	75	—	$\overline{R}$ c	P,W	—	Perf 73 to 85 ft. weak. T 62°F
	34.244	H. J. Ellis	1952	175	6	3980	152	—	$\overline{R}$ c	P,E	D,S	Yield 6 gpm. Pete Knowles, driller
	34.444	H. W. Brady	1952	34	10	4030	12	—	Qc	J,E	D,S	Pete Knowles, driller
	36.211	R. S. Bell	1920	76	6	4010	56	—	$\overline{R}$ c	P,W	S	Yield 1 gpm
13.32.	4.311	R. R. Simms	1940	279.3	4	4000	230.4	11-23-53	$\overline{R}$ c	P,W	S	—
	5.131	R. R. Simms	—	200	—	3940	—	—	$\overline{R}$ c	N	N	Destroyed. Rept very salty water
	14.211	R. R. Simms	1940	164.5	—	3840	119.2	11-23-53	$\overline{R}$ c	P,W	S	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
13.32.16.211	R. R. Simms	1932	200	6	3910	—	—	TRc	P,W,E	D	Dick Seddon, driller
18.200	R. R. Simms	1940	222.6	5	3880	179.3	11-23-53	TRc	P,W	S	Seddon and Crouch, drillers
1.311	—	—	176.1	6	3860	116.0	5-14-54	TRsr	P,W	S	—
2.122	Sim McFarland	1951	700	8	3900	151.4	7-22-54	Qc, TRsr	N	N	Laughlin and Harris No. 1 McFarland oil test
13.33. 2.413	Mrs. Barker	Old	160	—	—	145	—	TRsr(?)	P,W	D,S	—
5.244	Bob Rogers	—	138.0+	4	3890	137.4	9-17-54	TRc(?)	P,W	S	—
5.442	Arthur Hamby	1927	235	6	3880	205	—	TRsr(?)	P,W	D,S	—
11.112	Robert McFarland	1952	200	8	—	—	—	Qc, TRsr	T,E	I	Cased to 70 ft. Yield 60 gpm
11.144	Chicago, Rock Island and Pacific Railroad	1930	244.4	12	3810	110.9	4-1-54	TRsr	N	N	—
11.312	Mrs. Ann Bigelow	1920	50	6	3820	30	—	Qc	J,E	D,I	Used to irrigate lawn
11.322	Chicago, Rock Island and Pacific Railroad	—	240.8	16	3820	117.3	8-4-53	TRsr	T,E	P,S	Yield 50 gpm, dd. 87.5 ft. T 64°F; Ca
24.412	—	—	150.9	5	3800	123.7	3-2-55	TRsr	P,W	D,S	—
28.121	R. L. Stansbury	—	76.8	6	3800	72.8	3-7-55	TRc, TRsr	P,W	S	—
32.433	R. C. Chance	1947	140	5	—	120	—	TRc, TRsr	P,W	D,S	—
33.124	L. O. White	—	211.2	7	3970	202.1	3-4-55	TRsr	P,W,E	D,S	Rept soft water
34.114	—	—	81.4	5	—	65	—	TRsr(?)	P,W	S	—
13.34. 1.133	Pyle Ranch	1938	80	—	3650	70	—	TRsr	P,W	S	—
4.134	J. A. Cox	—	140	6	3760	128.2	8-5-53	TRsr	P,W	S	T 67°F
8.333	J. A. Cox	1947	250	6	3930	233.4	8-5-53	TRsr	P,W	S	Perf 230 to 250 ft. Yield 6 gpm. Water has poor taste and odor, 69°F. R. J. Thrasher, driller
9.232	R. H. Haddon	1951	185	6	—	170	—	TRsr	P,W	S	—
9.333	Olean No. 1 Woods	1926	3930	—	3920	—	—	—	N	N	Oil test. Log
10.211	R. H. Haddon	1936	150	—	3750	115	—	TRsr	P,W	S	—
13.234	Griffin, Trew, and Cooper	1952	231	6	—	210	—	TRsr	P,W	S	Ca

17.444	J. A. Cox	—	320	6	3960	248.1	8-4-53	TRsr	P,W	S	Perf 280 to 300 ft. Dick Seddon, driller
20.333	B. J. Lawrence	1951	287	6	4000	280	—	TRsr	P,W	D,S	Rept poor quality. Dick Seddon, driller
22.311	W. L. Bloodworth	1907	240	—	3900	200	—	TRsr	P,W	S	—
23.432	C. A. Eiland	1951	222.3	6	3840	184.6	10-20-54	TRsr	P,W	S	—
28.144	Tom Ayers	—	230	—	4000	200	—	TRsr	P,W	S	Rept poor taste
13.35. 5.113	Pyle Ranch	—	93.0	6	3680	76.7	4-8-54	TRsr	N	N	Good
6.143	Pyle Ranch	1910	78.1	5	3650	60.3	4-8-54	TRsr	N	N	Good
6.221	Pyle Ranch	1914	70	6	3670	60	—	TRsr	P,W	D	—
13.321	Griffin, Trew, and Cooper	Old	250	—	3850	220	—	TRsr	P,W	D,S	Rept poor quality; salty taste; disagreeable odor
19.112	Elmer Wallin	1935	280.0	6	3880	269.8	5-17-56	TRsr	P,W	D,S	—
27.343	Tom Ayers	—	285.9	—	3940	260	10-20-54	TRsr	P,W	S	—
31.444	Griffin, Trew, and Cooper	—	280	6	3920	258.1	10-14-54	TRsr	P,W	S	Pumping water level; est yield 1 gpm
13.36.13.234	A. C. Ward	—	185	—	—	170	—	TRsr	P,W	S	—
14.134	A. C. Ward	—	185.0	5	3800	147.5	10-12-55	TRsr	P,W	S	—
15.231	A. C. Ward	Old	22.7	—	—	21.0	11-3-54	Qal, TRsr(?)	P,W	D,S	Dug. 65°F
18.231	A. C. Ward	—	190	—	—	180	—	TRsr	P,W	S	—
20.332	A. C. Ward	—	284.5	5	3810	94.4	2-25-55	TRsr	P,W	S	Est yield 2 gpm with 40.2 ft drawdown
27.332	A. C. Ward	1955	167.2	6	3850	131.3	2-25-55	TRsr	S,E	D,S	Perf 65-185 ft. Yield 8.5 gpm. 62°F. Ca. Log. Thrasher and Flint, drillers
27.334	A. C. Ward	—	172.5	5	3810	94.4	11-3-54	TRsr	S,E	D	Yield 15 gpm
13.37. 7.144	A. C. Ward	1920	20	—	—	—	—	Qal(?)	P,W	N	Dug. Inadequate supply
30.343	A. C. Ward	Old	300.4	5	3980	286.4	11-3-54	TRsr	P,W	S	Pumping water level. Yield 4.5 gpm. 65°F
14.33.21.444	Underwood No. 1 Cornett	1938	1370	—	3940	—	—	—	—	—	Oil test in Harding County, 2 miles No. of Quay county line, log
14.34. 1.141	W. M. Barnes	1902	100	6	3930	90	—	Qc, To	P,W	D,S	—
1.212	C.R.I. and P. RR.	—	196	5	3940	96	—	Qc, To	N	N	—
5.422	Bonnie Gallegos	—	120.0	6	3960	104.5	6-10-54	Qc	P,W	S	Ca
13.141	Pyle Ranch	—	130	—	3880	118	—	Qc	P,W	S	—
15.112	Taylor Litton	Old	100	6	3920	90	—	Qc	P,W	S	Est yield 2.5 gpm, 64°F

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
14.34.15.212	Pyle Ranch	—	125	—	3920	110	—	Qc	P,W	S	—
16.111	Taylor Litton	1910	97.2	6	3940	87.3	5-27-54	Qc	P,W	D,S	Est yield 3 gpm, 62°F. Ca
21.332	Pyle Ranch	—	100	4	3870	80	—	Qc, Tr sr	P,W	D,S	—
23.114	Pyle Ranch	—	75	—	—	65	—	Qc	P,W	S	—
28.231	Pyle Ranch	—	80	6	3780	70	—	Qc, Tr sr	P,W	S	63°F
29.121	George Meeks	Old	75	4	3920	70	—	Qc, Tr sr	P,W	D,S	—
31.221	Pyle Ranch	—	150	—	—	130	—	Tr sr	P,W	S	—
31.311	Pyle Ranch	—	140	—	—	125	—	Tr sr	P,W	S	—
32.344	Pyle Ranch	—	90	—	—	80	—	Tr sr	P,W	S	Weak
34.243	Pyle Ranch	—	135	6	3740	119	—	Tr sr	P,W	S	—
35.244	Pyle Ranch	1914	140	6	3750	123	—	Tr sr	P,W	S	—
14.35. 1.311	Pyle Ranch	—	145	—	—	135	—	Qc	P,W	S	—
3.313	Pyle Ranch	1949	187.3	5	3900	156.3	5-19-54	Qc	P,W	S	Claude Crouch, driller
3.313a	Pyle Ranch	Old	102.0	5	3880	Dry	5-19-54	Qc	N	N	Rept depth 212 ft. Caved
4.222	Pyle Ranch	—	175	—	3890	155	—	Qc	P,W	S	—
10.442	Pyle Ranch	—	165	—	3880	156	—	Qc, Tr sr	P,W	S	Est yield 3 gpm
16.131	Pyle Ranch	—	150.5	6	3800	130.0	5-6-54	Qc, Tr sr	P,W	S	Est yield 4 gpm. Ca
28.231	Pyle Ranch	—	150	5	3720	140	—	Tr sr	P,W	S	Not used; covered by dune sand
14.36. 1.234	Ed Stringfellow	1908	49.5	5	3800	Dry	5-13-54	—	N	N	Rept. depth 400 ft. Rept dry well
4.111	Pyle Ranch	—	168.4	5	—	158.4	6-29-54	Qc	P,W	S	Est yield 3 gpm
6.113	Pyle Ranch	—	160	—	3890	145	—	Qc	P,W	S	—
7.111	Pyle Ranch	—	165	—	3840	140	—	Qc	P,W	S	—
9.132	Pyle Ranch	—	185	5	—	160	—	Qc, Tr sr	P,W	D,S	—
10.111	Pyle Ranch	—	151.3	—	3800	127.6	4-26-54	Qc, Tr sr	N	N	—
11.122	Pyle Ranch	—	175	—	3770	155	—	Qc, Tr sr	P,W	S	63°F. Ca
12.122	Pyle Ranch	1908	165	—	3770	155	—	Qc, Tr sr	P,W	S	Ca
12.434	Pyle Ranch	—	145	—	3720	135	—	Qc, Tr sr	P,W	S	—
25.133	Pyle Ranch	—	80	—	3730	70	—	Tr sr	P,W	S	Yield 6 gpm. 63°F. Ca
28.234	Pyle Ranch	1910	72.7	5	3710	64.4	5-20-54	Tr sr	P,W	S	Yield 2.5 gpm
29.224	State of N. Mex.	—	80	—	3690	70	—	Tr sr	P,W	S	—
14.37. 6.311	E. A. Stringfellow	1908	190.0	5	3740	176.2	5-13-54	Qc, Tr sr	N	N	Ca

	6.324	E. A. Stringfellow	1930	220	5	3740	180	—	Qc, $\overline{T}$R sr	P,W	S	Yield 2.5 gpm. 64°F. Ca. T. M. Kuehn, driller
	30.121	Pyle Ranch	—	40	—	3620	30	—	$\overline{T}$R sr	P,W	S	Yield 4 gpm. 63°F. Ca
15.34.	4.121	E. E. Mullen	1908	86	—	4280	66	—	To	P,W	D,S	—
	5.224	C. E. Mullin	1910	99.5	5	4270	70	—	To	P,W	D,S	Perf 90 to 100
	11.432	Ernest Kelly	1918	65	4	4180	55	—	To	P,W	S	—
	13.122	O. A. Nicholson	—	82.0	5	4200	Dry	5-21-54	—	N	N	—
	13.433	O. A. Nicholson	—	184.7	6	4120	Dry	5-21-54	—	—	—	Deepened to 385 ft. 1955. Rept red beds 185 to 385 ft; no water
	15.413	Huston McCarty	—	205.2	6	4220	82.4	2-2-55	To	P,W	S	—
	22.311	Huston McCarty	—	60	6	4160	50	—	To	P,W	S	Yield 3 gpm; 62°F. Ca
	22.311a	Huston McCarty	—	90	—	4180	80	—	To	P,W	D	Yield 2 gpm
	23.334	Ernest Kelly	1923	65	5	4080	45	—	To	P,W	S	—
	30.312	Gallegos Estate	—	32	6	4110	5	—	To	J,E	D	Ca
	31.244	Gallegos Estate	—	30	—	4050	10	—	To	P,W	S	64°F
	32.241	—	—	68.5	5	4040	66.2	6-10-54	To	P,W	S	62°F. Ca
15.35.	2.413	C. C. Clark	1904	182	—	4130	154	—	To	P,W	D,S	—
	3.111	O. A. Nicholson	—	170	6	—	150	—	To	P,W	S	—
	7.122	O. A. Nicholson	—	175	6	4190	155	—	To	P,W	S	—
	10.334	—	Old	179.2	5	4180	173.0	2-7-55	To	P,W	S	—
	10.433	Walter Owens	1906	180	—	4150	150	—	To	P,W	S	—
	14.211	Pyle Ranch	—	290	8	4130	230	—	To	P,W	S	Est yield 4 gpm. 62°F. Ca
	15.222	Mrs. Mae Cobb	—	190	5	4130	135.8	9-1-53	To	N	N	Ca
	16.334	State of N. Mex.	—	100	6	—	90	—	To	P,W	S	63°F
	20.443	C.R.I. and P. R.R.	1906	227.0	6	4010	59.4	5-21-54	To	P,W	S	Rept depth 285 ft
	21.334	C.R.I. and P. R.R.	1918	165.8	8	4010	45.7	8-6-53	To	N	N	—
	22.133	Pyle Ranch	—	92.6	6	4040	84.1	5.6.54	To	P,W	S	Ca
	24.310	Pyle Ranch	—	180	—	4040	150	—	To, $\overline{T}$R sr	P,W	S	—
	28.331	West-Pyle Cattle Co.	—	150	6	3720	130	—	To, $\overline{T}$R sr	P,W	S	Est yield 5 gpm. 63°F
	29.132	—	1904	56.7	5	—	Dry.	5-21-54	—	N	N	Rept depth 180 ft. Rept was good well before caving
	33.344	Pyle Ranch	—	165	—	3910	150	—	To, $\overline{T}$R sr	P,W	S	—
	35.411	Pyle Ranch	—	140	5	3910	133	—	To, $\overline{T}$R sr	P,W	D,S	Ca
15.36.	10.224	Mrs. Dorthea Burns	—	40	—	3980	20	—	To	P,W	S	65°F
	12.311	E. A. Jones	1947	70	7	—	60	—	To	P,W	D,S	Perf 65-70. Red clay rept at 70 ft. W. L. Crews, driller
	12.441	I. L. McAlister	1949	100	7	3940	88	—	To	P,W	S	Yield 40 gpm. W. L. Crews, driller

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
15.36.14.144	E. A. Jones	1947	60	7	—	55	1947	To	P,W	S	Perf 54 to 60 ft. 63°F. Ca. W. L. Crews, driller
22.211	Arlie Dean	—	100	5	3930	80	—	To	P,W	S	—
24.312	Ira Ward	—	26.4	5	3850	15.4	4-7-54	Qal	N	N	Inadequate yield
34.342	Arlie Dean	—	209	5	3850	175	—	Tr c	P,W	D,S	—
15.37. 6.311	I. L. McAlister	1946	131.1	7	4020	122.5	4-7-54	To	P,W	D,S	Yield 3 gpm. 63°F. Ca.
18.124	E. A. Stringfellow	1924	68.2	5	3920	58.4	4-7-54	To	P,W	S	Weak
18.344	E. A. Stringfellow	1910	20.6	—	3900	16.2	4-7-54	Qal, To	P,W	S	Dug
19.312	E. A. Stringfellow	1924	29.6	4	3860	12.6	4-7-54	Qal	N	N	Clay rept 30 ft. Very weak
30.112	Ira Ward	1922	34.6	8	3840	29.6	4-7-54	Qal, Qc	P,W	S	Pumping water level. Yield 2 gpm. T 60°F. Ca
30.121	Ira Ward	—	52.6	4	3820	14.3	4-7-54	Qal, Qc	P,W	N	Rept inadequate yield
16.34. 1.224	Rock Bros.	1913	228.7	4	4520	214.8	5-5-54	To	P,W	S	Ca
3.221	Cecil Burks	1927	200	4	—	180	—	To	P,W	—	Red beds rept at 200 ft
6.444	Mr. Willis	—	230	4	4550	211.6	9-21-53	To	P,W	D,S	Pumping water level
12.110	Rock Bros	1910	217	5	—	210	—	To	P,W	S	—
19.112	Huston McCarthy	—	245.0	5	4450	106.3	6-28-54	To	P,W	S	Pumping water level; est yield 4 gpm. 61°F
21.222	Rinestine Bros.	—	140	4	4420	130	—	To	P,W	D,S	—
22.233	Ernest Kelly	1928	140	4	4350	134	—	To	P,W	D,S	—
28.211	Rinestine Bros.	1941	140	4	4380	133.8	9-29-53	To	P,W,E	D,S	Pumping water level; est yield 3 gpm. 63°F. Perf 125 to 130 ft
33.111	C. E. Mullen	1944	130.0	5	4350	112.9	2-9-55	To	P,W	S	Ca
33.433	Rinestine Bros.	—	83.7	4	4260	72.6	9-29-53	To	N	N	Well pumps sand
35.242	Marion Kidder	1910	265	4	4240	240	—	To	P,W	D,S	—
16.35. 3.133	Rock Bros.	—	182	7	4380	164	—	To	P,W	D,S	Perf 164 to 182 ft
3.312	Rock Bros.	1910	169	5	4360	160	—	To	P,W	D,S	—

3.422	Rock Bros.	1913	146	5	4360	131.1	8-28-53	To	P,W	S	Pumping water level. Yield 2.5 gpm. 62°F
4.321	Rock Bros.	1950	210	6	4380	150.7	8-28-53	To	P,W	S	Perf 160 to 210 ft. Yield 6 gpm. T 63°F. Inadequate for irrigation. Roy Hill, driller
5.222	Rock Bros.	1914	212	6	—	194	1940	To	P,W	S	—
6.442	Rock Bros.	1950	208	—	—	149	1950	To	P,W	S	Perf 190 to 208 ft. T 63°F
9.314	Rock Bros.	1910	161	5	4360	151	1945	To	P,W	S	T 62°F
24.134	E. H. Edgerton	1952	102	3	4230	57.1	9-29-53	To	P,W	D,S	Perf 0 to 102 ft. 15 gpm. Fred Godwin, driller
33.424	O. A. Nicholson	1920	225	4	—	160	—	To	P,W	D,S	—
33.442	O. A. Nicholson	1908	228	4	—	160	—	To	P,W	S	—
16.36. 4.224	—	Old	207.1	4	4370	173.3	12-14-53	To	N	N	—
6.113	S. H. Fort	1919	160	4	4410	150	—	To	P,W	S	—
6.211	R. C. Cline	—	144.9	4	4380	137.9	5-5-54	To	P,W	S	Pumping water level. Yield 3 gpm. T 61°F. Ca
6.441	R. C. Cline	1938	110	6	4350	99.3	5-5-54	To	P,W	D,S	Yield 4 gpm. Ca
8.413	Jim Burns	1912	90	6	—	80	—	To	P,W	S	—
9.313	Jim Burns	1906	90	4	—	80	—	To	P,E	D,S	—
11.144	Jim Burns	—	81.3	6	4210	80.8	9-1-53	To	P,W	S	Pumping water level. Yield 1.5 gpm
12.121	Jim Burns	1913	60.0	5	4230	Dry	9-1-53	To	N	N	—
14.134	Frank Sharman	1954	107.9	5	4190	64.7	4-1-54	To	P,W	D,S	Rept depth 115 ft. Cased to 80 ft. Perf 75 to 80 ft. Ca. D. H. Saunders, driller
14.134a	Joe Hettinger	1954	101.9	7	4200	82.0	4-26-54	To	J,E	D,S	Rept depth 115 ft. Cased to 100 ft. Perf 94 to 100 ft. Yield 3 gpm. D. H. Saunders, driller
15.432	Ira Ward	1929	527	12	4200	61.0	9-18-53	To	T,E	D,RR	Drilled to 527 ft. Plugged back to 111 ft. Perf. Yield 100 gpm. 66°F. Log
15.441	Mrs. Watts	Old	53.3	5	4180	53.1	1-4-53	To	N	N	—
18.444	S. E. Hughes, Sr.	—	120	4	4260	110	—	To	P,W	D,S	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
16.36.20.212	S. E. Hughes, Jr.	1910	58.0	6	4220	—	—	To	N	N	Rept inadequate yield. Destroyed
20.222	S. E. Hughes, Jr.	Old	57.8	5	4200	55.8	3-31-54	To	N	N	Rept depth to 100 ft. Caved
20.422	S. E. Hughes, Jr.	1910	120	4	4200	114	9-29-53	To	P,W	D,S	—
20.422a	S. E. Hughes, Jr.	1954	114.0	4	4180	—	—	To	N	N	Rept depth 165 ft. Not cased. Joe Stringer, driller
21.234	S. E. Hughes, Jr.	1954	33	4	4170	29.5	3-31-54	Qal(?)	N	N	Rept depth 100 ft. Not cased. Joe Stringer, driller
21.243	S. E. Hughes, Jr.	1954	40	—	4180	—	—	To	N	N	Not cased. Joe Stringer, driller. Destroyed
22.213	Watts and Burns	—	103.2	5	4190	51.7	1-3-53	To	N	N	—
23.121	R. C. Bell	1954	110.0	5	4140	46.5	3-29-54	To	N	N	Rept depth 120 ft. Not cased. Joe Stringer, driller
23.122	R. C. Bell	1954	—	5	4120	—	—	To	N	N	Rept depth 205 ft. Not cased. Red bed rept at 195 ft. Joe Stringer, driller. Destroyed
23.123	R. C. Bell	—	37.4	5	4110	20.7	3-29-54	To	N	N	Rept depth 55 ft. Not cased. Joe Stringer, driller
24.443	I. L. McAlister	1910	150	4	—	130	—	To	P,W	S	Yield 3.5 gpm
26.333	—	—	86.5	5	4100	44.7	5-14-54	To	N	N	—
27.134	Mrs. Dorthea Burns	1951	53	7	—	45	—	To	P,W	S	Roy Hill, driller
30.244	S. E. Hughes, Jr.	1912	145.3	5	4250	139.5	3-31-54	To	P,W	S	—
35.133	—	—	47.6	5	4080	Dry	5-14-54	To	N	N	—

35.214	Mrs. Dorthea Burns	1952	56	7	—	50	—	To	P,W	S	Red beds rept at 56 ft. Roy Hill, driller
16.37. 6.121	Fred Coots	1946	65.5	8	—	48.3	4-1-54	Qal, To	P,W	S	Pumping water level; est yield 1 gpm. 63°F. Ca. Replaces well .122. Fred Godwin, driller
6.122	Fred Coots	—	65.1	4	—	42.8	4-1-54	Qal, To	N	N	—
17.34. 3.140	State of N. Mex.	1940	235	—	4710	200	—	To, Ks	P,W	S	62°F
10.433	Addison Cammack	1925	150.0	4	4710	140.2	10-19-53	To, Ks	P,W	S	Rept depth 175 ft. Pumping water level. Yield 2.5 gpm. 62°F. Martin Rinestine, driller
11.122	Addison Cammack	1940	210	6	4690	—	—	To, Ks	P,W	D,S	Weak. Est yield 1.5 gpm. 62°F. Ca
16.132	George Cater	—	175	—	—	—	—	To	P,W	S	Yield 4 gpm. 61°F
20.422	Harold Kauffman	1954	180	7	—	160	—	To	P,W	S	Perf 170 to 180 ft. Red beds rept at 180 ft. Est yield Ca. 4 gpm. 62°F
20.422a	Harold Kauffman	1920	152.8	4	—	143.4	6-26-54	To	N	N	Casing rusted out
21.333	Cecil Burks	1903	131.7	4	—	109.6	6-25-54	To	N	N	—
22.414	Cecil Burks	1903	200	4	4560	175	—	To	P,W	S	Yield 1 gpm
26.234	Cecil Burks	1903	245	4	4580	220	—	To	P,W	D,S	Yield 10 gpm. Ca
28.244	Cecil Burks	1931	170	6	4550	150	—	To	P,W	S	Yield 8 gpm. 60°F. Lee Forker, driller
29.122	Harold Kauffman	1920	155	6	—	135	—	To	P,W	D,S	—
30.244	Mr. Redinbaugh	1920	160	4	—	140	—	To	P,W	S	Yield 2 gpm. 62°F. Ca
30.343	Cecil Burks	1903	200	4	—	180	—	To	P,W	S	Red clay rept at 200 ft. Est yield 3 gpm. Ca
33.343	Cecil Burks	1941	225	6	4560	210	—	To	P,W	S	—
17.35. 4.424	Lester Whitaker	1918	230	—	4530	200	—	To, Ks	P,W	S	—
8.111	Fred Heimann	1933	219.2	6	4520	204.4	1-28-54	To	P,W	D,S	—
9.131	Rock Bros.	1908	210	—	4490	190	—	To	P,W	S	—
9.243	Guy Patterson	1910	230	6	4460	172.2	1-28-54	To	P,W	D,S	—
9.334	Geo. Hanna	1906	171	3	4450	155	1953	To	P,W	D,S	—

TABLE 1. RECORDS OF SELECTED WELLS IN QUAY AND ADJOINING COUNTIES, N. MEX. (cont)

Location No.	Owner or name	Year completed	Depth (feet)	Diameter (inches)	Altitude (feet)	Water level: Depth below land surface (feet)	Water level: Date	Stratigraphic unit	Type of pump and power source	Use of water	Remarks
17.35.19.421	Cecil Burks	1939	300	4	4560	275	—	Rc(?)	P,W	S	Red beds rept at 100 ft. Perf 180 to 300 ft
23.341	C. L. Edgerton	1945	155	6	4410	100	—	To	P,W	D,S	—
23.342	C. L. Edgerton	1910	128	4	4390	80	—	To	P,W	D,S	—
24.322	C. L. Edgerton	1910	109.0	4	4360	95.2	9-9-53	To	P,W	S	Est yield 3 gpm
24.412	John Burns Estate	1928	113.0	6	4350	96.3	9-9-53	To	P,W	S	Pumping water level; yield 5 gpm
30.211	—	1939	151.3	4	4470	148.9	1-28-54	To	N	N	Partly caved
32.424	—	—	204.1	5	4400	189.7	1-28-54	To	N	N	—
17.36. 3.142	James Bradley	1916	250	6	4430	235	1916	To, Ks	P,W	D,S	—
7.222	H. and K. Wise	1938	428	—	4540	320	1938	Jm, Rc	P,W	D,S	Red beds rept at 200 ft. Water rept at 420 ft. S. R. Mitchell, driller
12.323	John Burns Estate	1906	220	4	4380	—	—	To	P,W	S	—
13.120	John Burns Estate	1932	210	4	4350	200	—	To	P,W	S	Gravel packed 200 to 250 ft. Yield 2.5 gpm
13.210	John Burns Estate	Old	189.9	—	4360	Dry	9-14-53	—	N	N	—
15.332	John Burns Estate	1946	190	6	4370	175	—	To	P,W	S	Fred Godwin, driller
20.233	John Burns Estate	1938	140	—	4320	—	—	To	P,W	S	Yield 2.5 gpm
21.312	John Burns Estate	1946	135	6	4320	111.1	9-11-53	To	P,E	D	—
27.440	John Burns Estate	1910	90.3	3	4240	82.9	9-16-53	To	P,W	S	Pumping water level. Yield 3 gpm

28.431	John Burns Estate	Old	142.3	4	4300	118.8	12-15-53	To	N	N	Rept depth 160 ft
32.341	John Burns Estate	—	155.5	4	4320	147.4	9-9-53	To	P,W	S	Pumping water level, 2.5 gpm
34.113	James Watts	—	164.2	6	4310	153.9	12-15-53	To	P,W	S	—
34.240	Lester Gray	1908	140	4	4280	126.3	9-16-53	To	P,W	S	Rept depth 150 ft, backfilled to 140 ft. Est yield 3 gpm
18.34.15.442	H. A. Petrow	1953	174.3	12	4760	105.6	9-18-53	To, Ks	T.I	I	Est yield 300 gpm with about 45 ft drawdown; stagnant odor
18.36.31.442	H. and K. Wise	1914	210	5	4430	190.8	9-8-53	Jm, Tr c	P,W	S	Recovering water level. Yield 1.5 gpm with 9.2 ft drawdown

TABLE 2. RECORDS OF SPRINGS IN QUAY COUNTY, N. MEX.

Location number: See explanation in text.

Altitude: Altitude of land surface at spring. Altitude interpolated from topographic maps or aneroid determination to nearest 10 feet.

Stratigraphic unit: Qal, younger alluvium; Qc, upland cover of older alluvium; To, Ogallala Formation; Ks, Cretaceous sandstone and shale; Je, Entrada Sandstone; TRc, Chinle Formation; TRsr, Santa Rosa Sandstone.

Location number	Owner	Name	Topographic situation	Altitude (feet)	Stratigraphic unit	Yield (estimated gpm)	Date	Use of water	Temperature (°F)	Remarks
7.30.15.432	—	—	Below cliff in gully	4720	To	Seep	8-25-53	None	—	Reported good quality and to have supplied 25 families 1910 to 1930
8.27. 6.430	H. G. Johnson	—	Side of cliff	5100	Je	2	11-2-55	Stock	—	Perched water, piped to tank
8.31.12.320	—	—	Stream channel	4220	Qal	2	4-21-55	—	—	—
8.32.18.223	—	—	Stream channel	4220	Qal	5	4-16-55	Stock	—	—
35.114	Elder Dennis	—	Stream channel	4480	Ks	5	4-2-55	None	—	Spring at fault contact of Cretaceous and Triassic rocks
9.27.36.244	Mr. Hortenstein	Louisiana Spring	Side of cliff	5220	Ks	2	10-27-53	Stock	55	Chemical analysis in Table 3
9.32.24.322	Mrs. Hut Wallace	—	Stream channel	4200	Qal	1	4-8-55	Stock	58	—
33.333	S. S. Hodges	—	Stream channel	4190	Qal	25	4-16-55	Stock	—	—
9.33.24.312	Mr. Pierce	Hopkins Spring	Stream channel	4480	Ks	Seep	2-14-55	None	—	—
10.33.14.212	Mr. Stams	Starns Spring	Side of cliff	4080	Qc	Seep	2-15-55	Stock	—	—
10.35.32.422	Chapman Bros.	—	Stream channel	4020	Qal	3	12-1-54	Stock	—	Piped to tank
10.36. 8.233	Chapman Bros.	—	Steep slope	3920	TRc	3	11-29-54	Domestic and stock	—	Piped to tank
18.224	Chapman Bros.	—	Stream channel	3970	TRc	1	11-29-54	Stock	—	—
11.33.29.211	Otto Collins	—	Side of cliff	3920	TRc	0.5	2-18-55	Domestic and stock	51	Piped to tank
11.36.30.412	Grady Oldham estate	—	Steep slope	3950	TRc	0.5	11-5-54	Stock	—	—

12.32. 6.213	Jacob Van Sweden	Cow Springs	Stream channel	3920	$\overline{T}$Rc	10	3-8-55	Domestic and stock	—	Piped to tank
12.33.17.234	Joe Hettinger	—	Stream channel	3920	$\overline{T}$Rc	10	3-4-55	Stock	—	—
12.34.22.241	Homer Koonsman	—	Gentle slope	4070	$\overline{T}$Rc	0.5	11-8-54	Stock	—	—
12.36. 5.231	A. C. Ward	Blue Hole	Stream channel	—	$\overline{T}$Rc	100	11-6-54	Stock	—	—
13.32. 1.434	—	—	Stream channel	—	$\overline{T}$Rsr	0.25	3-9-57	Stock	—	Chemical analysis in Table 3
13.36.27.332	A. C. Ward	—	Side of cliff	3820	$\overline{T}$Rsr	1	7-26-57	Stock	—	Piped to tank
14.35.34.343	Pyle Ranch	—	Stream channel	—	$\overline{T}$Rsr	30	3-8-57	Stock	62	Chemical analysis in Table 3
35.311	Pyle Ranch	—	Stream channel	—	$\overline{T}$Rsr	150	3-8-57	Stock	64	Chemical analysis in Table 3
14.37.31.211	Ollie Mae Pyle	Coggin Spring	Stream channel	3580	$\overline{T}$Rsr	5	3-31-54	Domestic and stock	59	Chemical analysis in Table 3
15.34.30.310	Gallegos Estate	Sand Springs	Gentle slope	4110	Qc, To	300	6-3-54	Stock and irrigation	—	—
15.36.24.230	E. A. Stringfellow	—	Stream channel	3850	Qal	100	4-7-54	—	—	—
15.37.19.134	E. A. Stringfellow	—	Stream channel	3840	Qal	50	4-7-54	Stock	—	—
16.37.18.421	R. C. Bell	—	Stream channel	4130	To	1	5-22-53	Stock	—	Chemical analysis in Table 3

TABLE 3. CHEMICAL ANALYSIS OF WATER FRO

(Analyses by U.S. Geological Surv

Explanation:

Location number: See explanation in text. (S) preceding number denotes spring in this table only. Depths are of a foot.

Stratigraphic unit: Qal, younger alluvium; Qc, upland cover of older alluvium; To, Ogallala Formation; Santa Rosa Sandstone; Pr, Permian rocks.

Location number	Owner, tenant, or name	Depth of well (feet)	Stratigraphic unit	Date collected	Temp. (°F)	Silica (SiO_2)	Iron (Fe) In solution	Iron (Fe) Total	Calcium (Ca)	Magnesium (Mg)
5.27. 9.333	L. W. Barnhill	33.3	Qal	12-10-58	60	19	0.01	—	39	25
15.424	Dick Ballew	64.8	Qal, Pr c	12-10-58	62	—	—	—	—	—
5.29. 6.222	L. L. Poe	125	To	7-27-54	—	69	—	—	33	25
	L. L. Poe	125	To	9-18-56	62	—	—	—	—	—
6.444	L. L. Poe	50	To	9-25-52	—	60	—	—	52	23
9.421	J. R. Gollehon	60	To	7-27-54	—	71	—	—	41	26
	J. R. Gollehon	60	To	9-18-56	—	—	—	—	—	—
5.30. 1.212	C. F. Tatum	208.3	To	12-10-58	62	28	.03	—	42	21
6.27.21.444	K. Y. Lawrence	153.3	To	8-24-55	60	—	—	—	—	—
6.28.21.132	T. J. Upton	100	To	12-9-58	—	—	—	—	—	—
7.28.21.224	L. O. Hudson	30.5	To	8-25-55	59	—	—	—	—	—
7.30.17.244	T. N. Lawson	525	Pr c	4-25-55	66	—	—	—	—	—
7.31.25.341	Howard Waterfield	195	To	8-24-55	—	—	—	—	—	—
7.33.13.422	Clyde Queener	249	To	8-24-55	60	—	—	—	—	—
8.29.24.321	J. H. Wallis	155.5	Pr c	5-23-55	63	—	—	—	—	—
29.443	Mrs. Florence Campbell	37.5	Qal	4-20-55	63	—	—	—	—	—
8.31. 7.331	Beck Bros.	440	Pr c	12-10-58	57	—	—	—	—	—
8.32. 7.114	R. H. McFarland	81.6	Pr c	4-16-55	64	—	—	—	—	—
8.34.17.244a	Roy Chapman	285	To, Ks	12-9-58	—	—	—	—	—	—
9.27. 3.111	Louis Kinkead	214.3	Pr c	4-28-55	64	—	—	—	—	—
S9.27.36.240	Mr. Hortenstein	—	Ks	12-27-53	55	28	—	—	63	12
9.28.17.244	Louis Kinkead	171.5	Pr c	4-28-55	63	—	—	—	—	—
23.212	Parker Cattle Co.	43.9	Qc	5-16-55	62	—	—	—	—	—
9.29.11.122	I. J. Briscoe	33.8	Qc	12-10-58	—	—	—	—	—	—
9.32. 1.433	Mrs. Will Wallace	198.4	Pr c	9-1951	—	5.7	—	—	46	15
9.35.33.231	L. M. Boney	100	Qal, Pr c	12-9-58	—	—	—	—	—	—
10.28.15.143	J. A. Kinkead	138.0	Pr c	12-10-52	62	16	.02	—	16	8.7
10.29. 7.313	J. A. Kinkead	198.7	Jm	12-10-52	64	17	.01	—	34	26
8.332	R. J. Kilgore	97.6	Jm	12-9-52	63	24	.03	—	62	47
10.30. 7.424	A. H. Bugg	161.9	Je	12-9-52	62	21	.02	—	30	28
34.444	I. W. Parker	30	Qc	12-10-58	64	—	—	—	—	—
10.31.12.333	C. L. O'Quinn	63	Pr c	7-30-48	—	—	—	—	117	59
36.333	State of N. Mex.	114.2	Pr c	4-23-57	63	—	—	—	—	—
10.32.17.313	George Whitaker	112.1	Pr c	10-8-48	—	—	—	—	2	3.7
19.212	Troy Whatley	124.8	Pr c	4-23-57	63	—	—	—	—	—
28.334	Troy Whatley	57.2	Pr c	4-23-57	—	—	—	—	—	—
10.34. 9.200	Village of San Jon	[a]55-100	Qal, Pr c	11-17-54	—	14	—	—	27	9.3
10.233	Ernest Slade	270	Pr c	12-8-58	—	12	.01	0.0	3.6	.(
10.35. 5.222	Harry Whatley	24.2	Pr c	12-8-58	—	—	—	—	—	—
21.211	Frank Morgan	104.1	Pr c	11-15-54	63	—	—	—	—	—

WELLS AND SPRINGS IN QUAY COUNTY, N. MEX.

Chemical constituents are in parts per million)

Feet below land surface. Reported depths are given to nearest foot. Measured depths are given to nearest tenth

Cretaceous sandstone and shale; Jm, Morrison Formation; Je, Entrada Sandstone; Rc, Chinle Formation; Rsr,

Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids: Parts per million (ppm)	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Per cent sodium	Sodium adsorption ratio (SAR)	Specific conductance (micromhos at 25° C)	pH
620	388	0	717	330	6.3	1.5	1950	2.65	200	0	87	19	2940	7.9
—	271	0	126	48	—	—	—	—	178	0	—	—	806	7.5
32	220	0	35	22	2.0	2.3	328	.45	186	5	27	1.0	469	—
—	209	0	40	24	—	—	—	—	202	30	—	—	481	7.8
46	217	0	69	46	2.0	4.0	409	.56	224	46	31	1.3	613	—
47	234	0	64	32	2.4	2.7	401	.55	210	18	33	1.4	560	—
—	227	0	49	31	—	—	—	—	222	36	—	—	554	7.7
33	228	0	37	19	2.2	4.7	299	.41	192	4	27	1.0	488	7.7
—	192	0	35	25	—	—	—	—	186	28	—	—	443	7.4
—	200	0	42	31	—	—	—	—	199	35	—	—	484	7.7
—	218	0	75	22	—	—	—	—	196	18	—	—	544	7.4
—	257	0	1090	745	—	—	—	—	200	0	—	—	4610	8.0
—	242	0	27	6	—	—	—	—	206	8	—	—	440	7.2
—	260	0	34	17	—	—	—	—	116	0	—	—	511	7.6
—	363	0	1700	620	—	—	—	—	118	0	—	—	5560	7.3
—	324	0	39	13	—	—	—	—	120	0	—	—	633	7.9
—	778	0	461	212	—	—	—	—	13	0	—	—	2660	8.2
—	616	27	309	78	—	—	—	—	16	0	—	—	1840	8.9
—	225	0	28	12	—	—	—	—	170	0	—	—	424	7.9
—	515	12	616	420	—	—	—	—	19	0	—	—	3320	8.4
31	175	0	77	30	—	9.9	337	.46	206	63	25	—	528	—
—	825	0	849	570	—	—	—	—	33	0	—	—	4470	8.2
—	917	0	576	85	—	—	—	—	64	0	—	—	2660	7.5
—	420	0	45	31	—	—	—	—	319	0	—	—	848	7.9
1620	593	0	2540	390	3.1	2.6	4910	6.68	176	0	95	53	6670	—
—	417	0	266	82	—	—	—	—	104	0	—	—	1400	7.9
212	388	14	120	44	1.0	7.8	631	.86	76	0	86	11	1000	8.2
218	499	0	217	20	1.0	1.0	779	1.06	192	0	71	6.8	1200	7.7
53	346	0	112	36	1.4	11	516	.70	348	64	25	1.2	833	7.8
38	305	0	11	5	.7	3.6	287	.39	190	0	31	1.2	467	8.0
—	683	0	79	17	—	—	—	—	42	0	—	—	1190	8.1
227	257	0	581	143	.9	11	1270	1.73	534	324	—	4.3	1820	—
—	390	0	81	24	—	—	—	—	55	0	—	—	884	7.7
431	636	49	267	53	—	1.2	1120	1.52	20	0	—	42	1760	—
—	599	0	352	73	—	—	—	—	80	0	—	—	1830	7.9
—	439	0	784	322	—	—	—	—	210	0	—	—	3110	7.5
414	552	0	277	174	4.4	8.3	1200	1.63	106	0	89	18	1880	—
424	460	57	184	187	1.4	.7	1100	1.50	9	0	99	61	1810	9.3
—	355	0	65	52	—	—	—	—	63	0	—	—	906	7.7
—	869	0	1310	505	—	—	—	—	—	—	—	—	5170	—

TABLE 3. CHEMICAL ANALYSIS OF WATER FROM

Location number	Owner, tenant, or name	Depth of well (feet)	Stratigraphic unit	Date collected	Temp. (°F)	Silica (SiO_2)	Iron (Fe) In solution	Iron (Fe) Total	Calcium (Ca)	Magnesium (Mg)
10.35.29.222	Charley White	123.1	Trc	7-1955	—	—	—	—	—	—
10.36. 3.422	—	58.7	Trc	12-8-58	60	—	—	—	—	—
11.28.30.232	T-4 Cattle Co.	[b]2420	Pr	12-11-51	—	—	—	—	890	102
11.29.13.133	City of Tucumcari	355	Je	10-23-52	66	—	—	—	—	—
13.314	City of Tucumcari	371	Je	11-7-52	66	—	—	—	—	—
24.122a	Mrs. T. B. Hoover	185	Jm, Je	10-2-57	64	—	—	—	—	—
25.432	City of Tucumcari	260.5	Je	8-20-53	66	—	—	—	—	—
11.30. 3.341	Andrew Martin	62.5	Trc	10-11-48	—	—	—	—	25	29
8.444	H. B. Cooper	40	Qal, Trc	7-6-54	—	—	—	—	—	—
12.330	Sid Latham	70	Qc	9-27-48	—	—	—	—	16	31
14.312	City of Tucumcari	336.0	Qc	4-16-54	—	—	—	—	—	—
15.243	City of Tucumcari	337	Qc, Je	12-19-52	67	30	.02	—	26	22
17.244	K. J. Roberts	44.6	Trc	12-22-52	—	—	—	—	—	—
19.133	Victor Pacheco	139.1	Je	4-9-53	—	—	—	—	—	—
21.412	W. A. Huggins	100	Qc, Je	6-24-53	—	—	—	—	—	—
23.321	E. J. Corn	295	Je	7-24-53	—	—	—	—	—	—
26.221	Tucumcari Country Club	151.7	Je	8-22-53	—	—	—	—	—	—
30.413	City of Tucumcari	378	Je	1-25-55	65	21	—	.19	35	26
31.244	Mrs. Lewis Andrews	134.2	Je	2-4-53	—	—	—	—	—	—
35.231	J. R. Smith	239.0	Je	12-8-52	64	20	.01	—	28	23
11.31. 1.424	L. A. Ellis	201.3	Trc	7-15-48	—	—	—	—	3.0	2.4
6.444a	State of N. Mex.	270	Trc	7-30-48	—	—	—	—	—	—
8.113	J. J. Hamilton	—	Qc	7-30-48	—	—	—	—	—	—
8.140	H. V. McAdams	—	Qc	7-30-48	—	—	—	—	—	—
14.113	Dr. G. W. Benson	191.8	Trc	7-14-48	—	—	—	—	13	6.3
14.330	E. A. Westmorland	82	Trc	9-27-48	—	—	—	—	—	—
19.143	Mrs. Savage	—	Trc	9-27-48	—	—	—	—	29	43
20.442	Louis Buth	170	Trc	10-12-48	—	—	—	—	9.5	4.5
22.122	L. F. Carden	190	Trc	10-13-48	—	—	—	—	82	54
23.310	Rheo Hubbard	105	Trc	10-13-48	—	—	—	—	—	—
23.330	C. L. Oglesby	103	Trc	10-13-48	—	—	—	—	5.0	5.0
24.112	Bill Landess	120	Trc	7-30-48	—	—	—	—	—	—
26.130	Vaughn Garris	—	Qc	9-27-48	—	—	—	—	—	—
27.210	F. O. McDaniel	13	Qc	10-12-48	—	—	—	—	38	9.2
35.442	C. C. Callison	59	Trc	7-30-48	—	—	—	—	—	—
36.111	Harley Mowrer	124.4	Trc	10-1-48	—	—	—	—	—	—
11.32. 4.420	P. H. Shaub	—	Trc	7-28-48	—	—	—	—	—	—
5.220	Herbert Collins	140	Trc	7-28-48	—	—	—	—	—	—
7.244	Wilbur Foote	200	Trc	7-15-48	—	—	—	—	—	—
	Wilbur Foote	200	Trc	4-26-57	—	—	—	—	—	—

WELLS AND SPRINGS IN QUAY COUNTY, N. MEX. (cont)

So- dium (Na)	Potas- sium (K)	Bicar- bonate (HCO_3)	Car- bonate (CO_3)	Sulfate (SO_4)	Chlo- ride (Cl)	Fluo- ride (F)	Ni- trate (NO_3)	Dissolved solids: Parts per million (ppm)	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Non-carbonate	Per cent sodium	Sodium adsorption ratio (SAR)	Specific conductance (micromhos at 25° C)	pH
1940		426	19	2150	1190	—	2.1	—	—	73	0	—	—	7920	8.7
—		216	0	23	19	—	—	—	—	133	0	—	—	449	7.7
1510		994	—	1840	2270	—	—	7100	9.66	2640	1830	55	13	10000	—
—		348	0	91	12	—	—	—	—	—	—	—	—	737	—
—		310	16	98	—	—	—	—	—	—	—	—	—	744	—
—		213	0	67	—	—	—	—	—	368	0	—	—	959	7.6
—		316	0	64	12	—	—	—	—	—	—	—	—	634	—
136		372	0	125	26	—	6.5	531	.72	182	0	—	4.4	871	—
—		1110	0	3190	535	—	—	—	—	—	—	—	—	7450	—
329		272	0	424	136	—	33	1100	1.50	168	0	—	11	1280	—
—		393	0	104	22	—	—	—	—	—	—	—	—	851	—
135		336	0	126	29	1.6	1.9	539	.73	160	0	65	4.6	850	8.2
—		368	14	400	74	—	—	—	—	—	—	—	—	1700	—
—		—	—	146	22	—	—	—	—	290	—	—	—	782	—
—		172	0	346	21	—	—	—	—	—	—	—	—	970	—
—		308	0	50	15	—	—	—	—	—	—	—	—	599	—
—		254	0	108	28	—	—	—	—	—	—	—	—	674	—
48.6		292	0	34	9.8	1.6	4.4	324	44	194	0	32	—	541	7.8
—		277	0	134	19	—	—	—	—	—	—	—	—	747	—
106		324	0	81	26	2.2	2.7	448	.61	164	0	58	3.6	712	7.9
518		504	49	494	92	1.9	.7	1410	1.92	18	0	—	54	2130	—
—		314	0	—	50	—	—	—	—	—	—	—	—	737	—
—		484	0	—	24	—	—	—	—	—	—	—	—	1190	—
—		245	0	18	6	—	—	—	—	—	—	—	—	457	
1200		824	75	1100	510	.9	2.9	3310	4.50	58	0	—	68	4890	—
—		828	59	—	320	—	—	—	—	—	—	—	—	4310	—
307		572	7.9	249	116	—	16	1050	1.43	250	0	—	8.4	1680	—
1370		824	49	1760	300	—	2.9	3900	5.30	42	0	—	92	5520	—
304		88	0	555	31	—	.1	1070	1.46	426	354	—	6.4	1270	—
—		932	47	—	144	—	—	—	—	—	—	—	—	3850	—
970		852	59	968	238	—	1.8	2670	3.63	33	0	—	73	3970	—
—		698	35	403	86	—	—	—	—	—	—	—	—	2150	—
—		704	43	—	338	—	—	—	—	—	—	—	—	4020	—
234		592	0	79	34	—	32	718	.98	133	0	—	8.8	1150	—
—		488	47	—	60	—	—	—	—	—	—	—	—	1250	—
—		752	43	961	770	—	—	—	—	—	—	—	—	5330	—
—		494	87	—	77	—	—	—	—	—	—	—	—	1630	—
—		656	59	618	48	—	—	—	—	—	—	—	—	2470	—
—		556	0	—	153	—	—	—	—	—	—	—	—	2570	—
367		424	0	889	152	—	—	—	—	690	342	—	—	2600	7.4

TABLE 3. CHEMICAL ANALYSIS OF WATER FROM

Location number	Owner, tenant, or name	Depth of well (feet)	Stratigraphic unit	Date collected	Temp. (°F)	Silica (SiO_2)	Iron (Fe) In solution	Iron (Fe) Total	Calcium (Ca)	Magnesium (Mg)
11.32. 8.113	Barton Ramsey	180	Rc	7-16-48	—	—	—	—	8.0	4.8
11.113	W. T. Hamman	125	Rc	10-13-48	—	—	—	—	7.5	6.3
	W. T. Hamman	125	Rc	4-26-57	—	—	—	—	—	—
11.430	H. A. Askew	145	Rc	7-28-48	—	—	—	—	—	—
13.130	M. H. Sours	—	Rc	7-28-48	—	—	—	—	—	—
15.444	J. W. Williams	105	Rc	10-13-48	—	—	—	—	332	141
17.343	Roy Foote	160	Rc	7-16-48	—	—	—	—	—	—
19.442	Greer Cottingham	165	Rc	10-8-48	—	—	—	—	—	—
20.121	G. M. Reading	164	Rc	7-16-48	—	—	—	—	—	—
21.311	Ellis Hall	—	Rc	10-13-48	—	—	—	—	2.5	1.3
22.210	C. A. Carr	—	Rc	10-13-48	—	—	—	—	—	—
23.443	Dan Kelly, Sr.	120	Rc	7-29-48	—	—	—	—	—	—
24.211	Dan Kelly, Jr.	165	Rc	7-6-48	—	—	—	—	—	—
27.330	Curt Graham	—	—	12-27-54	—	—	—	—	—	—
28.434	Blevins McKenzie	145	Rc	10-8-48	—	—	—	—	—	—
28.434a	Blevins McKenzie	180	Rc	4-26-57	—	—	—	—	—	—
34.442	J. B. Routh	76.2	Rc	10-8-48	—	—	—	—	1.5	.5
11.33.12.241	Frank Smith	60	Rc	12-9-58	—	—	—	—	—	—
11.35. 5.300	Mrs. B. L. Dunshee	—	Rc	3-31-52	—	—	—	—	—	—
11.37.17.321	Fred Brownlee	264.0	Rc	12-8-58	—	15	.06	.88	45	38
12.30.32.240	Fred Horne	—	Je	7-14-48	—	—	—	—	—	—
32.240	L. C. Strawn	—	Je	7-14-48	—	—	—	—	—	—
33.110	A. B. Roberts	30	Je	7-14-48	—	—	—	—	81	32
34.230	Henry Batterman	—	Je	10-11-48	—	—	—	—	64	88
34.310	Jim Cupp	—	—	7-29-48	—	—	—	—	—	—
35.140	Frank McCauley	—	Qal	7-29-48	—	—	—	—	—	—
12.32. 1.442b	M. G. Cottingham	278.2	Rsr	6-10-54	64	—	—	—	—	—
	M. G. Cottingham	278.2	Rsr	4-26-57	63	—	—	—	—	—
20.422	E. V. Felkner	213.1	Rc	4-26-57	63	—	—	—	—	—
12.33.17.311	Eddie Watson	76.8	Rc	4-26-57	64	—	—	—	—	—
12.34.11.344	H. B. Molyneaux	310	Rc, Rsr	12-8-58	63	—	—	—	—	—
36.444b	L. C. Jackson	42	Qal, Rc	5-21-53	—	—	—	—	—	—
36.444c	L. C. Jackson	36	Qal, Rc	5-21-53	—	—	—	—	—	—
12.35. 2.111	Griffin, Trew and Cooper	167.1	Rc	12-9-58	62	—	—	—	—	—
35.424	T. G. Rose	15.2	Qal	12-9-58	59	—	—	—	—	—
12.37.30.133	R. L. Martin	225	Rsr	12-8-58	—	—	—	—	—	—
13.31. 1.124	R. R. Sims	50	Qal, Rc	7-19-54	62	—	—	—	—	—
S13.32.1.434	—	—	Rc	3-9-57	—	—	—	—	—	—
13.33.11.322	C. R. I. and P. RR.	240.8	Rsr	2-25-55	63	27	—	1.4	109	32
13.34.13.234	Griffin, Trew and Cooper	231	Rsr	12-9-58	63	—	—	—	—	—

WELLS AND SPRINGS IN QUAY COUNTY, N. MEX. (cont)

Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids: Parts per million (ppm)	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Per cent sodium	Sodium adsorption ratio (SAR)	Specific conductance (micromhos at 25° C)	pH
1060	816	81	1450	26	0	18	3030	4.12	40	0	—	74	4180	—	
564	340	9.8	501	308	—	23	1590	2.16	44	0	—	37	2550	—	
461	322	0	891	458	—	—	—	—	835	571	—	—	3620	7.4	
—	532	59	—	107	—	—	—	—	—	—	—	—	1870	—	
—	548	31	—	252	—	—	—	—	—	—	—	—	3250	—	
342	356	0	1670	80	—	9.5	2750	3.74	1410	1120	—	4.0	3290	—	
—	648	59	695	84	—	—	—	—	—	—	—	—	2740	—	
—	540	35	830	80	—	—	—	—	—	—	—	—	2750	—	
—	876	30	2060	67	—	—	—	—	—	—	—	—	5270	—	
453	528	61	348	71	—	.5	1200	1.63	12	0	—	58	1880	—	
—	278	28	—	86	—	—	—	—	—	—	—	—	1530	—	
—	502	49	—	109	—	—	—	—	—	—	—	—	2260	—	
—	200	37	368	92	—	—	—	—	—	—	—	—	1550	—	
736	411	0	1580	600	4.5	75	—	—	1300	963	55	8.9	5240	—	
—	658	45	1210	414	—	—	—	—	—	—	—	—	3530	—	
836	685	0	687	415	—	—	—	—	44	0	—	—	3610	8.1	
285	420	51	121	50	—	.3	716	.97	6	0	—	53	1180	—	
—	415	0	227	148	—	—	—	—	271	0	—	—	1560	7.7	
427	225	19	1400	970	—	8.0	—	—	2120	1900	30	4.0	4970	7.7	
239	496	0	215	111	1.0	.1	908	1.23	269	0	66	6.3	1440	7.6	
—	328	0	—	120	—	29	—	—	—	—	—	—	1530	—	
—	272	20	—	130	—	12	—	—	—	—	—	—	1580	—	
187	198	22	363	108	.6	13	904	1.23	334	135	—	4.5	1370	—	
577	396	12	1060	212	—	36	2240	3.05	522	178	—	11	3190	—	
—	342	0	745	158	—	—	—	—	—	—	—	—	2320	—	
—	824	0	—	236	—	—	—	—	—	—	—	—	3970	—	
—	438	0	240	146	—	—	—	—	—	—	—	—	1580	—	
—	362	0	254	166	—	—	—	—	308	12	—	—	1570	7.5	
—	340	0	196	66	—	—	—	—	392	114	—	—	1040	7.5	
—	342	0	167	81	—	—	—	—	252	0	—	—	1090	7.4	
—	817	0	326	342	—	—	—	—	746	76	—	—	2630	7.4	
—	396	0	656	330	—	—	—	—	—	—	—	—	2660	—	
—	341	13	184	96	—	—	—	—	—	—	—	—	1180	—	
—	884	0	637	20	—	—	—	—	1180	456	—	—	2130	7.1	
—	545	0	1300	302	—	—	—	—	465	18	—	—	3980	8.0	
—	404	0	604	20	—	—	—	—	858	527	—	—	1570	7.3	
—	400	0	308	167	—	—	—	—	—	—	—	—	1620	—	
—	224	0	79	19	—	—	—	—	270	86	—	—	611	7.8	
54	314	0	170	51	.6	3.6	601	.82	404	146	21	—	932	7.4	
—	588	0	886	184	—	—	—	—	1260	778	—	—	2640	7.4	

TABLE 3. CHEMICAL ANALYSIS OF WATER FRO

Location number	Owner, tenant, or name	Depth of well (feet)	Stratigraphic unit	Date collected	Temp. (°F)	Silica (SiO_2)	Iron (Fe) In solution	Iron (Fe) Total	Calcium (Ca)	Magnesium (Mg)
13.36.27.332	A. C. Ward	167.2	Tr sr	6-22-55	—	—	—	—	—	—
14.34. 5.422	Bonnie Gallegos	120.0	Qc	6-10-54	62	—	—	—	—	—
16.111	Taylor Litton	97.2	Qc	6-10-54	62	—	—	—	—	—
14.35.16.131	Pyle Ranch	150.5	Qc, Tr sr	5-6-54	—	—	—	—	—	—
S14.35.34.343	Pyle Ranch	—	Tr sr	3-8-57	62	—	—	—	—	—
S14.35.35.311	Pyle Ranch	—	Tr sr	3-8-57	64	—	—	—	—	—
14.36. 4.111	Pyle Ranch	168.4	Qc	6-29-54	—	—	—	—	—	—
11.122	Pyle Ranch	175	Qc, Tr sr	5-13-54	63	—	—	—	—	—
12.122	Pyle Ranch	165	Qc, Tr sr	5-13-54	65	—	—	—	—	—
25.133	Pyle Ranch	80	Tr sr	5-13-54	63	—	—	—	—	—
28.234	Pyle Ranch	72.7	Tr sr	5-13-54	63	—	—	—	—	—
14.37. 6.311	E. A. Stringfellow	190.0	Qc, Tr sr	5-13-54	—	—	—	—	—	—
6.324	E. A. Stringfellow	220	Qc, Tr sr	5-13-54	—	—	—	—	—	—
30.121	Pyle Ranch	40	Tr sr	5-13-54	—	—	—	—	—	—
S14.37.31.211	Ollie Mae Pyle	—	Tr sr	3-31-54	59	26	—	—	—	—
15.34.22.311	Huston McCarty	60	To	6-10-54	62	—	—	—	—	—
30.312	Gallegos Estate	32	To	6-3-54	—	—	—	—	—	—
32.241	—	68.5	To	6-10-54	62	—	—	—	—	—
15.35.14.211	Pyle Ranch	290	To	5-19-54	62	—	—	—	—	—
15.222	Mrs. Mae Cobb	190	To	5-22-53	—	—	—	—	—	—
22.133	Pyle Ranch	92.6	To	5-5-54	—	—	—	—	—	—
35.411	Pyle Ranch	140	To, Tr sr	5-6-54	63	—	—	—	—	—
15.36.14.144	E. A. Jones	60	To	4-6-54	63	—	—	—	—	—
15.37. 6.311	I. L. McAlister	131.1	To	6-11-54	—	—	—	—	—	—
30.112	Ira Ward	34.6	Qal, Qc	4-7-54	60	—	—	—	—	—
16.34. 1.224	Rock Bros.	228.7	To	6-25-54	—	—	—	—	—	—
28.211	Rinestine Bros.	140	To	12-9-58	61	29	.07	.74	39	18
16.36. 6.211	R. C. Cline	144.9	To	5-5-54	61	—	—	—	—	—
6.441	S. H. Fort	110	To	5-5-54	61	—	—	—	—	—
14.134	Frank Sharman	107.9	To	6-11-54	—	—	—	—	—	—
16.37. 6.121	Fred Coots	65.5	Qal, To	4-1-54	63	—	—	—	—	—
S16.37.18.412	R. C. Bell	—	Qal	5-22-53	—	—	—	—	—	—
17.34.11.122	Addison Cammack	210	To, Ks	10-12-53	62	51	—	—	48	36
20.422	Harold Kauffman	180	To	6-28-54	62	—	—	—	—	—
26.234	Cecil Burks	245	To	6-25-54	—	—	—	—	—	—
30.244	Mr. Redinbaugh	160	To	6-28-54	62	—	—	—	—	—
30.343	Cecil Burks	200	To	6-28-54	—	—	—	—	—	—

[a] Composite sample of 7 wells. [b] Depth when sampled.

WELLS AND SPRINGS IN QUAY COUNTY, N. MEX. (cont)

So-dium Na)	Potas-sium (K)	Bicar-bonate (HCO_3)	Car-bonate (CO_3)	Sulfate (SO_4)	Chlo-ride (Cl)	Fluo-ride (F)	Ni-trate (NO_3)	Dissolved solids: Parts per million (ppm)	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium magne-sium	Hardness as $CaCO_3$: Non-carbon-ate	Per cent so-dium	Sodium adsorp-tion ratio (SAR)	Specific conduc-tance (micro-mhos at 25° C)	pH
—		333	0	71	19	—	—	—	—	180	0	—	—	697	7.1
—		274	0	98	39	—	—	—	—	—	—	—	—	761	—
—		255	0	117	24	—	—	—	—	—	—	—	—	677	—
—		263	0	39	16	—	—	—	—	—	—	—	—	532	—
—		249	0	40	9	—	—	—	—	233	29	—	—	491	7.6
—		240	0	—	8	—	—	—	—	215	18	—	—	463	7.5
—		256	0	39	29	—	—	—	—	—	—	—	—	552	—
—		—	—	—	—	—	—	—	—	—	—	—	—	583	—
—		—	—	—	—	—	—	—	—	—	—	—	—	621	—
—		—	—	—	—	—	—	—	—	—	—	—	—	578	—
—		228	0	29	28	—	—	—	—	—	—	—	—	534	—
—		—	—	—	—	—	—	—	—	—	—	—	—	854	—
—		232	0	47	39	—	—	—	—	—	—	—	—	593	—
—		—	—	—	—	—	—	—	—	—	—	—	—	459	—
38		266	0	47	26	1.4	14	—	—	236	18	26	1.1	591	—
—		—	—	—	—	—	—	—	—	—	—	—	—	493	—
—		242	0	54	28	—	—	—	—	—	—	—	—	567	—
—		—	—	—	—	—	—	—	—	—	—	—	—	560	—
—		248	0	46	30	—	—	—	—	—	—	—	—	571	—
—		—	—	—	—	—	—	—	—	—	—	—	—	593	—
—		—	—	—	—	—	—	—	—	—	—	—	—	605	—
—		227	0	75	47	—	—	—	—	—	—	—	—	671	—
—		—	—	—	—	—	—	—	—	—	—	—	—	545	—
—		260	0	150	69	—	—	—	—	—	—	—	—	878	—
—		—	—	—	—	—	—	—	—	—	—	—	—	826	—
—		205	0	19	84	—	—	—	—	—	—	—	—	658	—
68		170	0	80	61	1.3	8.6	394	.53	172	32	46	2.3	640	7.7
—		—	—	—	—	—	—	—	—	—	—	—	—	432	—
—		192	0	31	45	—	—	—	—	—	—	—	—	528	—
—		198	0	20	15	—	—	—	—	—	—	—	—	396	—
—		270	0	—	22	—	—	—	—	—	—	—	—	573	—
—		209	0	29	24	—	—	—	—	—	—	—	—	452	—
28		240	0	23	64	.4	20	388	.53	268	72	18	—	659	—
—		—	—	—	—	—	—	—	—	—	—	—	—	454	—
—		255	0	15	7	—	—	—	—	—	—	—	—	459	—
—		218	0	47	50	—	—	—	—	—	—	—	—	591	—
—		—	—	—	—	—	—	—	—	—	—	—	—	720	—

TABLE 4. CHEMICAL ANALYSES OF SURFACE WATERS IN QUAY COUNTY, N. MEX.

(Analyses by U.S. Geological Survey. Chemical constituents are in parts per million.)

Location	Name	Flow at time of collection (estimated cubic feet per second)	Date collected	Temp. (°F)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH
SE¼ sec. 14, T. 10 N., R. 31 E.	Plaza Larga Creek	0.46	3-25-58	—	361	0	1420	272	740	444	3680	7.9
SW¼ sec. 16, T. 10 N., R. 32 E.	Barranca Creek	.11	3-25-58	—	291	0	697	130	322	84	2090	7.7
SE¼ sec. 24, T. 10 N., R. 32 E.	Plaza Larga Creek	3.14	3-25-58	—	306	0	881	155	392	141	2500	8.1
SE¼ sec. 24, T. 10 N., R. 32 E.	Barranca Creek	1.08	3-25-58	—	322	0	637	128	210	0	2080	8.2
SW¼ sec. 9, T. 11 S., R. 30 E.	Smith Creek	.25	10-2-57	78	355	0	524	—	480	189	1600	8.2
SE¼ sec. 1, T. 11 N., R. 31 E.	Drain	.02	3-25-58	—	390	0	545	66	402	82	1730	7.6
NE¼ sec. 18, T. 11 N., R. 31 E.	Drain	.28	3-25-58	—	416	0	640	95	430	89	2230	7.6
SE¼ sec. 29, T. 11 N., R. 32 E.	Plaza Larga Creek	1.23	3-25-58	—	214	8	1180	212	515	326	3050	8.4
NE¼ sec. 22, T. 12 N., R. 30 E.	Pajarito Creek	4.06	3-24-58	—	448	0	947	92	505	138	2740	7.8
SW¼ sec. 36, T. 12 N., R. 30 E.	Dawson Drain	.15	4-25-58	—	616	0	952	138	575	70	3210	8.2
NE¼ sec. 32, T. 12 N., R. 30 E.	Drain	.13	3-24-58	—	268	0	830	202	835	616	2320	7.6
SW¼ sec. 33, T. 12 N., R. 32 E.	Drain	.05	3-25-58	—	463	0	434	42	252	0	1600	8.1
SE¼ sec. 24, T. 13 N., R. 31 E.	Canadian River	.5	3-17-57	—	433	0	861	675	635	280	4190	7.8
NW¼ sec. 12, T. 13 N., R. 32 E.	Ute Creek	—	3- 9-57	39	271	0	—	56	272	50	963	7.9
NE¼ sec. 15, T. 13 N., R. 33 E.	Canadian River	.05	3-17-57	—	421	0	806	6410	1410	1060	19300	7.6
NE¼ sec. 15, T. 13 N., R. 33 E.	Canadian River	29.1	3-26-58	—	298	0	384	191	282	38	1730	8.0
NW¼ sec. 2, T. 13 N., R. 35 E.	Canadian River	—	3- 8-57	—	—	—	—	—	—	—	7280	—
NW¼ sec. 3, T. 13 N., R. 35 E.	Canadian River	—	3- -57	39	339	0	604	2420	950	672	8600	7.6

TABLE 5. COMMON CHEMICAL CONSTITUENTS AND CHARACTERISTICS OF WATER AND SUMMARY OF ANALYSES OF WATER IN QUAY COUNTY, N. MEX.

(Derivation, significance, and recommended limits are mostly those set forth in "Water Quality Criteria, 1963," published by the [California] State Water Quality Control Board, and "Drinking Water Standards, 1962," published by U.S. Public Health Service. Constituent has no harmful physiological effect, unless specified. Chemical constituents are in parts per million.)

Constituent or property	Derivation	Significance	Recommended limits for selected uses	Range in concentration for samples analyzed	Number of determinations	Number of determinations more than (>) recommended limits
Silica (SiO_2)	Siliceous materials present in virtually all rocks	Forms hard scale in boilers and pipes. Inhibits deterioration of zeolite-type water softeners. May prevent corrosion in pipes by forming a protective coating	1 ppm for high-pressure-boiler feed; 5 to 100 ppm for other industrial processes	5.7 to 71	21	21>5 4>40
Iron (Fe)	Iron-bearing minerals present in most rocks. Iron may be added to water in contact with iron objects such as well casing, pipes, and storage tanks	Oxidizes to a reddish brown precipitate. More than about 0.3 ppm stains laundry and utensils. Objectionable for many industrial, food processing, and beverage uses. Supports growth of certain bacteria. Imparts objectionable taste when greater than about 1.0 ppm	Less than 1.0 ppm for most industrial use; 0.3 ppm for the sum of iron and manganese in domestic supplies	0.01 to 1.4	13	3>0.3 1>1.0
Calcium (Ca)	Limestone, dolomite, gypsum or gypsiferous shale, sewage, and industrial waste	With magnesium causes most of the hardness and scale-forming properties of water. Beneficial in irrigation water where unfavorable sodium ratio exists in soil	20 ppm for sugar processing	1.5 to 890	39	27>20
Magnesium (Mg)	Dolomite and most igneous rocks	Similar to calcium in flocculating soil colloids, imparting the property of hardness, and forming scale. Salts of magnesium act as cathartics	10 ppm for sugar processing	0.0 to 141	39	26>10

TABLE 5. COMMON CHEMICAL CONSTITUENTS AND CHARACTERISTICS OF WATER AND SUMMARY OF ANALYSES OF WATER IN QUAY COUNTY, N. MEX. (cont)

Constituent or property	Derivation	Significance	Recommended limits for selected uses	Range in concentration for samples analyzed	Number of determinations	Number of determinations more than (>) recommended limits
Sodium (Na) plus potassium (K)	Feldspars, salt beds, and other common minerals and sewage and industrial wastes	Causes foaming in boilers when concentration of sodium plus potassium exceeds 50 ppm. High concentrations are toxic to plants, harmful to soil, and will act as cathartic. High ratio of sodium to calcium + magnesium is harmful to soil structure	50 ppm of sodium plus potassium for boiler water	28 to 1940	46	37>50
Bicarbonate (HCO_3) and carbonate (CO_3)	Carbonate rocks and calcareous materials	In combination with calcium and magnesium forms scale and releases corrosive carbon dioxide gas. A high ratio of carbonate and bicarbonate to alkaline earths may cause the water to be unsuitable for irrigation	100 ppm for boiler use	88 to 1110	159	158>100
Sulfate (SO_4)	Gypsum, anhydrite, pyrite, and oxidized organic matter in the sulfur cycle	In combination with calcium and magnesium forms hard scale. As magnesium or sodium sulfate acts as a cathartic. High concentrations may be toxic to plants	250 ppm for domestic use. 250 ppm in carbonated beverages	11 to 3190	142	71>250
Chloride (Cl)	Most rocks and soils, sewage, and industrial effluents	High concentrations of chloride salts impart salty taste. May be toxic to plants. May accelerate corrosion in pipes	250 ppm for domestic use. 20 ppm for sugar processing	5 to 6410	157	29>250
Fluoride (F)	Fluorite, apatite, and hydrothermal solutions	Reduces incidence of tooth decay in children when concentration is 0.7 to 1.0 ppm; more than about 1.5 ppm causes mottling of tooth enamel in children	1.0 ppm for domestic use. 1.0 ppm for food canning	0.0 to 6.3	26	16>1.0 12>1.5 1>5

Nitrate (NO_3)	Decayed organic matter, sewage, nitrate fertilizers, and nitrates in the soil	More than about 45 ppm may cause methemoglobanemia (infant cyanosis). Generally nitrate in water used for irrigation is desirable for its fertilizing value	45 ppm for domestic use	0.1 to 75	44	20>5 1>45
Dissolved solids	Rocks, soils, industrial and sewage effluents	High concentrations are harmful to plant and animal life and can cause foaming in boilers	1000 ppm for domestic use, although more saline waters are used by some communities without harmful effects. 1000 ppm for most industrial uses	299 to 7100	39	19>1000
Hardness (as $CaCO_3$) 0- 60 soft 61-120 moderately hard 121-180 hard 181+ very hard	Mainly calcium and magnesium in solution; certain other cations cause hardness but are ordinarily present in small amounts	Hard water causes excessive soap consumption, scale in boilers and pipes, toughening of some cooked vegetables. Moderately hard water produces finer grained structure in baking. Very hard water retards fermentation in baking	0 to 50 ppm for laundering. 80 ppm for boiler feed water at 0 to 150 pounds per square inch	6 to 2120	103	86>60 76>120 65>180 19>500
Sodium-adsorption ratio (SAR)		Index of sodium hazard in irrigation water	Less than 3.0 generally satisfactory on all soils. More than 26 generally unsatisfactory	1.0 to 92	38	30>3 8<3.0
Specific conductance (micromhos at 25°C)	Ion concentration in water	An increase in value indicates an increase in dissolved solids.	More than 1500 generally exceeds standards for domestic water. More than 3000 unsuitable for irrigation under most conditions	396 to 19,300	175	83>1500 36>3000

TABLE 5. COMMON CHEMICAL CONSTITUENTS AND CHARACTERISTICS OF WATER AND SUMMARY OF ANALYSIS OF WATER IN QUAY COUNTY, N. MEX. (cont)

Constituent or property	Derivation	Significance	Recommended limits for selected uses	Range in concentration for samples analyzed	Number of determinations	Number of determinations more than (>) recommended limits
pH (hydrogen-ion concentration expressed as pH)	Hydrogen-ion concentration	Values from 1 to 7 indicate decreasing acidity; of more than 7 indicate increasing alkalinity. Affects taste, corrosivity, and treatment processes such as coagulation. Low value desirable where irrigation water applied to alkaline soils	7.5 for food canning and freezing. More than 9.0 unsuitable for irrigation use	7.1 to 9.3	74	56>7.5 1>9.0

TABLE 6. LOGS OF SELECTED WELLS IN QUAY COUNTY AND PARTS OF CURRY, DeBACA, AND HARDING COUNTIES, N. MEX.

Logs have been modified for uniformity of presentation. Stratigraphic correlations were made by W. A. Mourant.

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 5.26.22.320 Abercrombie and Hawkins, No. 1 Nappier In DeBaca County, 2½ miles west of Quay county line		
Triassic System		
Chinle Formation		
Sandstone and red beds	841	841
Santa Rosa Sandstone		
Sandstone and red beds	290	1131
Permian System		
Artesia Formation and San Andres Limestone		
Lime, gray	669	1800
Sand and sandy lime	181	1981
Anhydrite	339	2320
Yeso Formation		
Anhydrite	780	3100
Shale and anhydrite	891	3991
Abo Formation		
Shale and anhydrite	529	4520
Lime, gray and shale	520	5040
Pennsylvanian System		
Lime, gray and shale	1060	6100
Quartz	30	6130
Lime, gray and shale, blue with stringers of quartz	997	7127
Quartz and granite wash	16	7143
Precambrian System		
Quartz and granite wash	5	7148
Granite, in place	1	7149
Well 5.32.10.310 Franklin, Aston, Fair, No. 1 Green In Curry County 1½ miles south of Quay County line		
Tertiary System		
Ogallala Formation		
Sand	165	165
Triassic System		
Chinle Formation and Santa Rosa Sandstone		
Shale and sandstone	1105	1270
Permian System		
Artesia Formation		
Anhydrite and limestone	1033	2237
San Andres Limestone and Yeso Formation		
Dolomite, limestone, siltstone	2613	4850
Abo Formation		
Siltstone and sandstone	1346	6196
Wolfcamp Series		
Limestone	698	6894
Pennsylvanian System		
Shale and limestone	1280	8174
Precambrian System		
Granite	7	8181

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 7.29.24.433 Ohio No. 1 Wells		
Tertiary System		
Ogallala Formation		
Soil, white lime, brown sand	190	190
Triassic System		
Chinle Formation		
Red beds, partly sandy	515	705
Shale, brown	10	715
Red beds	10	725
Sand, gray	18	743
Red beds	52	795
Shale, brown	50	845
Shale, blue	15	860
Red beds	170	1030
Shale, blue, sandy	30	1060
Shale, brown, sandy	35	1095
Sand, brown	5	1100
Red beds	230	1330
Santa Rosa Sandstone		
Lime, shells, gray	30	1360
Sand	25	1385
Lime, sandy	47	1432
Shale, blue, soft	2	1434
Lime, sandy, hard	4	1438
Shale, gray	2	1440
Sand, hard	15	1455
Sand, soft	10	1465
Lime and sand	50	1515
Sand	12	1527
Shale, blue	23	1550
Sand	40	1590
Shale, sandy	10	1600
Sand	15	1615
Permian System		
Artesia Formation		
Red beds	143	1758
Shale, gray and gyp	8	1766
Salt	16	1782
Red beds	6	1788
Salt and gyp	70	1858
Red beds	58	1916
Salt	44	1960
Red beds, sandy and salt	190	2150
Sand, red, hard with fine gravel	18	2168
Salt	32	2200
Red beds	50	2250
Salt	50	2300
Anhydrite	6	2306
Salt	94	2400
Red beds	29	2429
San Andres Limestone		
Salt and anhydrite	81	2510
Lime, gray	5	2515
Salt	10	2525
Shale, blue and anhydrite	10	2535
Shale, gray, hard	7	2542
Anhydrite and gray shale	38	2580

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 7.29.24.433 Ohio No. 1 Wells (cont)		
Sand, white	12	2627
Lime, gray	35	2615
Anhydrite	48	2675
Shale, gray, salt and anhydrite	6	2681
Salt	61	2742
Lime, gray	7	2749
Sand, white	16	2765
Anhydrite	40	2805
Lime, gray	50	2855
Salt	90	3045
Lime, brown	175	3220
Sand, brown	30	3250
Lime, sandy	60	3310
Anhydrite	15	3325
Shale, gray	5	3330
Shale, anhydrite and salt	5	3335
Salt	55	3390
Sandstone (Glorieta?)	20	3410
Yeso Formation		
Limestone	20	3430
Shale and anhydrite	40	3470
Sandstone	160	3630
Salt	60	3690
Shale, salt and sandstone	90	3780
Anhydrite, sandstone, salt	120	3900
Sandstone	70	3970
Limestone, shale, anhydrite, dolomite	320	4290
Shale	200	4490
Anhydrite, salt, shale, sandstone	630	5120
Abo Formation		
Shale and sandstone	84	5204
Well 7.31.27.441 Knox No. 1 Langergin		
Tertiary System		
Ogallala Formation		
Slate, red and brown	170	170
Slate, brown and shells	20	190
Sand, white	5	195
Slate, red, and shells	16	211
Lime, gray	19	230
Sand, gray, soft	12	242
Triassic System		
Chinle Formation		
Slate, red	8	250
Sand, gray	64	314
Slate, gray and blue	22	336
Sand, gray	45	381
Sand, hard and granite	53	434
Slate, red and cave	96	530
Sand, gray	70	600
Slate, red	30	630
Sand, red and white	10	640
Slate, red	15	655
Sand, white	15	670
Lime, red	10	680

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 7.31.27.441 Knox No. 1 Langerin (cont)		
Slate, red	20	700
Lime, red and white	25	725
Sand, red and white	15	740
Slate, red	70	810
Lime, white	10	820
Slate, red	20	840
Lime, white, hard	10	850
Slate, white	70	920
Sand, white	20	940
Slate, red and white	90	1030
Lime, hard	10	1040
Slate, red and white	70	1110
Sand, red	25	1135
Slate, red	70	1205
Slate, red and sandy lime	95	1300
Slate, red	80	1380
Permian System		
Artesia Formation		
Slate and lime	265	1645
Sand, hard pebbly	15	1660
Lime and slate	510	2170
San Andres Limestone		
Lime, black, hard	140	2310
Sand, red and white	590	2900
Salt and red lime	100	3000
Yeso Formation		
Sand, red and mud	380	3380
Lime, white, hard	490	3870
Well 8.30.25.220 Stanolind No. 1 Fuller		
Triassic System		
Chinle Formation		
Sandstone	240	240
Shale	20	260
Sandstone	120	380
Shale	20	400
Sandstone	140	540
Limestone	20	560
Sandstone	80	640
Limestone	15	655
Shale	45	700
Sandstone	20	720
Shale and sandstone	100	820
Santa Rosa Sandstone		
Sandstone	160	980
Shale	60	1040
Permian System		
Artesia Formation		
Sandstone	130	1170
Anhydrite	50	1220
Shale	40	1260
Anhydrite	20	1280
Shale	160	1440
Sandstone	40	1480
Shale	50	1530

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 8.30.25.220 Stanolind No. 1 Fuller (cont)		
Sandstone	130	1660
Shale	40	1700
Salt	60	1760
Anhydrite	30	1790
Shale	20	1810
Salt	58	1868
San Andres Limestone		
Anhydrite	42	1910
Salt	25	1935
Anhydrite and dolomite	125	2060
Salt	90	2150
Anhydrite	30	2180
Dolomite	30	2210
Anhydrite	25	2235
Salt	210	2445
Anhydrite	20	2465
Dolomite	85	2550
Anhydrite	20	2570
Dolomite	50	2620
Anhydrite	25	2645
Dolomite	85	2730
Salt	20	2750
Yeso Formation		
Anhydrite	20	2770
Dolomite	20	2790
Anhydrite	20	2810
Salt	40	2850
Anhydrite and dolomite	20	2870
Salt	20	2890
Anhydrite and sandstone	20	2910
Salt	15	2925
Sandstone	20	2945
Anhydrite	55	3000
Salt	160	3160
Sandstone	20	3180
Salt	180	3360
Sandstone	40	3400
Salt	120	3520
Shale	15	3535
Sandstone	25	3560
Shale	100	3660
Salt	140	3800
Sandstone	20	3820
Anhydrite	30	3850
Salt	85	3935
Anhydrite	15	3950
Shale	40	3990
Dolomite	30	4020
Sandstone	20	4040
Anhydrite and dolomite	180	4220
Salt	159	4379
Abo Formation		
Sandstone	20	4399
Shale	41	4440
Sandstone	50	4490
Shale	70	4560

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 8.30.25.220 Stanolind No. 1 Fuller (cont)		
Sandstone	150	4710
Shale	150	4860
Sandstone	60	4920
Shale	305	5225
Sandstone	15	5240
Shale	20	5260
Arkose	15	5275
Shale	135	5410
Arkose	20	5430
Shale	190	5620
Arkose	20	5640
Shale	460	6100
Pennsylvanian System		
Anhydrite	15	6115
Shale	15	6130
Anhydrite	15	6145
Arkose	80	6225
Shale	135	6360
Dolomite	30	6390
Arkose	40	6430
Shale	45	6475
Arkose	25	6500
Shale	25	6525
Arkose	25	6550
Shale	70	6620
Dolomite	25	6645
Sandstone	25	6670
Shale	57	6727
Precambrian System		
Granite	20	6747
Well 8.37.32.340 Humble No. 1 Northcutt In Curry County, 6 miles south of Quay county line		
Tertiary System		
Ogallala Formation		
Sandstone and red beds	142	142
Triassic System		
Chinle Formation		
Shale, blue, and red beds	868	1010
Santa Rosa Sandstone		
Red beds and shale	127	1137
Permian System		
Artesia Formation		
Anhydrite and red beds	294	1431
Anhydrite and gyp	281	1712
Lime	435	2147
San Andres Limestone		
Lime	598	2745
Dolomite and anhydrite	522	3267
Yeso Formation		
Dolomite and anhydrite	85	3352
Dolomite	186	3538
Red beds and streaks of shale	512	4050
Anhydrite and red beds	727	4777

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 8.37.32.340 Humble No. 1 Northcutt (cont)		
Abo Formation		
Anhydrite and red beds	900	5677
Wolfcamp Series		
Anhydrite and red beds	169	5846
Red beds	269	6115
Lime and shale	119	6234
Lime	343	6577
Pennsylvanian System		
Lime	54	6631
Shale, dark gray	41	6672
Shale and lime	71	6743
Lime, gray and granite wash	18	6761
Lime	47	6808
Lime and shale	220	7028
Granite wash	66	7094
Lime and shale	134	7128
Dolomite	64	7192
Lime and shale	143	7335
Granite wash	23	7358
Lime and shale	134	7492
Granite wash	19	7511
Well 9.35.9.113 McGee No. 1 Chapman		
Quaternary System		
Recent		
Sand	40	40
Triassic System		
Chinle Formation		
Shale, red	220	260
Shale, red and sandstone shells	20	280
Shale, red, sandy	10	290
Shale, red	20	310
Santa Rosa Sandstone		
Sandstone	5	315
Shale, red	5	320
Sandstone	20	340
Sandstone and shale	30	370
Shale, red	182	552
Permian System		
Artesia Formation		
Sandstone, calcareous, some mica	11	563
Shale, red	50	613
Sandstone, calcareous, mica	7	620
Shale, red	23	643
Sandstone	2	645
Shale, red	67	712
Conglomerate, dark blue	15	727
Sandstone, very porous	2	729
Conglomerate	1	730
Sandstone, porous	2	732
Conglomerate, dark blue	4	736
Sandstone, porous	28	764
Shale, blue, cavey	7	771
Sandstone, porous	1	772
Sandstone, calcareous	12	784

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 9.35.9.113 McGee No. 1 Chapman (cont)		
Sandstone, blue, shaly, and conglomerate	22	806
Conglomerate, hard	19	825
Shale, blue, some gyp	265	1090
Shale, blue and brown	33	1123
Well 10.30.31.440 Sunray Mid-Continent No. 1 Briscoe		
Quaternary System		
Upland cover of older alluvium		
Sand and clay	100	100
Triassic System		
Chinle Formation		
Shale, some limestone	200	300
Shale, red	80	380
Sandstone	10	390
Shale, red	190	580
Sandstone	80	660
Shale, red	40	700
Sandstone	190	890
Shale, red	90	980
Limestone	40	1020
Sandstone	100	1120
Limestone	40	1160
Shale, red	210	1370
Santa Rosa Sandstone		
Limestone	40	1410
Stone, red	160	1570
Permian System		
Artesia Formation		
Shale, red	100	1670
Gypsum	40	1710
Shale, red and gypsum	520	2230
San Andres Limestone		
Dolomite	10	2240
Gypsum	10	2250
Dolomite	50	2300
Gypsum	35	2335
Dolomite with gypsum	165	2500
Gypsum	50	2550
Dolomite	30	2580
Yeso Formation		
Dolomite	70	2650
Gypsum and red shale	890	3540
Sand and red shale	350	3890
Dolomite and gypsum	124	4014
Abo Formation		
Dolomite and gypsum	76	4090
Sand and red shale	610	4700
Wash, gray and red shale	80	4780
Wash, gray	90	4870
Wash, gray and red shale	1220	6090
Pennsylvanian System		
Wash, gray with red and gray shale	690	6780
Dolomite	20	6800

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 10.30.31.440 Sunray Mid-Continent No. 1 Briscoe (cont)		
Wash, gray with red and gray shale	500	7300
Wash, gray and gray shale	390	7690
Sandstone, gray shale and dolomite	1250	8940
Limestone	70	9010
Sand and shale	40	9050
Precambrian System		
Rhyolite	19	9069
Well 10.31.27.320 Burk Royalty No. 1 Elder Dennis		
Triassic System		
Chinle Formation		
Red beds and sand	600	600
Red beds	140	740
Santa Rosa Sandstone		
Red Beds	230	970
Permian System		
Artesia Formation		
Red beds, salt and anhydrite	696	1666
San Andres Limestone		
Dolomite and anhydrite	169	1835
Salt	65	1900
Anhydrite, streaks dolomite	105	2005
Salt	180	2185
Dolomite, streaks anhydrite	115	2300
Salt	50	2350
Dolomite	125	2475
Salt, sand, red shale	40	2515
Sand	35	2550
Salt, sand, red shale	30	2580
Yeso Formation		
Dolomite	20	2600
Shale, red, sand, traces salt	110	2710
Well 12.28.14.110 Miami No. 1 Hoover Ranch In San Miguel County, 3 miles north of Quay County line		
Triassic System		
Chinle Formation and Santa Rosa Sandstone		
Red beds	375	375
Shale, red	65	440
Sand and shale	1410	1850
Permian System		
Artesia Formation		
Dolomite, anhydrite, shale	550	2400
San Andres Limestone		
Sand(?)	160	2560
Yeso Formation		
Shale, sand	490	3050
Dolomite, anhydrite	110	3160
Shale, sand	390	3550
Wash, granite, red shale	1450	5000
Abo Formation and older formations		
Wash, granite, gray shale	280	5280
Wash, granite, conglomerate gray shale, lime	90	5370
Shale, gray, conglomerate, lime	160	5350

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 12.28.14.110 Miami No. 1 Hoover Ranch (cont)		
Shale, gray, conglomerate	270	5800
Lime, conglomerate, gray shale	330	6130
Conglomerate, sand, gray shale, lime	180	6310
Sand	90	6400
Lime	130	6530
Precambrian System		
Wash, granite	15	6545
Schist, chlorite	275	6820
Granite	28	6848
Well 13.34.9.333 Olean No. 1 Woods		
Triassic System		
Chinle Formation		
Red beds	100	100
Santa Rosa Sandstone		
Sand and adobe mud	375	475
Permian System		
Artesia Formation		
Sand and red rock	85	560
Lime	5	565
Sand and red rock	190	755
San Andres Limestone		
Lime	109	864
Sand	1	865
Lime	5	870
Slate, blue	5	875
Lime	110	985
Shale, blue	15	1000
Salt	175	1175
Lime	65	1240
Salt	70	1310
Lime	100	1410
Yeso Formation		
Sand and red rock	80	1490
Salt	10	1500
Lime	15	1515
Sand and red rock	65	1580
Shale, sandy	85	1665
Sand, salt	175	1840
Shale, red	10	1850
Sand and shale	320	2170
Shale, sandy	150	2320
Lime, hard	15	2335
Shale	73	2408
Lime, soft	22	2430
Shale, hard and soft	15	2445
Sand and shale	120	2565
Lime, soft	15	2580
Shale	15	2595
Lime, hard	5	2600
Shale	65	2665
Lime	85	2750
Sand	70	2820
Lime	10	2830

TABLE 6. LOGS OF SELECTED WELLS (cont)

Stratigraphic unit and material	Thickness (feet)	Depth (feet)
Well 13.34.9.333 Olean No. 1 Woods (cont)		
Abo Formation		
Mud, red	80	2910
Sand, caving	30	2940
Mud, red	30	2970
Sand	30	3000
Mud, red	20	3020
Sand	105	3125
Permian and Pennsylvanian Systems		
Sangre de Cristo Formation		
Sand and granite	245	3370
Sand and arkose	140	3510
Precambrian System		
Granite	420	3930
Well 14.33.21.444 Underwood No. 1 Cornett In Harding County, 2 miles north of Quay County line		
Triassic System		
Chinle Formation		
Sand, red	6	6
Shale, red and brown	264	270
Coal	10	280
Shale, red and green	25	305
Santa Rosa Sandstone		
Sand	25	330
Shale, red and green	150	480
Permian System		
Artesia Formation		
Shale, red and green	440	920
San Andres Limestone		
Lime, gray	25	945
Lime, white, broken	105	1050
Lime, gray	55	1105
Dolomite, brown	35	1140
Anhydrite, white	65	1205
Dolomite and anhydrite	65	1270
Dolomite, brown	95	1365
Sand, sulphur water	5	1370
Well 16.36.15.432 Ira Ward		
Tertiary System		
Ogallala Formation		
Soil and clay	20	20
Clay and sand	60	80
Sand	10	90
Triassic System		
Chinle Formation		
Shale, variegated	30	120
Sandstone, water	5	125
Shale, variegated	270	395
Sandstone	5	400
Shale, variegated	28	428
Santa Rosa sandstone		
Sandstone	56	484
Shale, light blue	8	492
Sandstone	20	512
Shale, red, sandy	15	527