TEXAS BOARD OF WATER ENGINEERS

R. M. Dixon, Chairman
H. A. Beckwith, Member
O. F. Dent, Member

BULLETIN 5711

# GROUND-WATER RESOURCES OF GOLIAD COUNTY, TEXAS

By

O. C. Dale, E. A. Moulder, and Ted Arnow
United States Geological Survey

Prepared in cooperation with the Geological Survey,
United States Department of the Interior
and the
San Antonio River Authority

September 1957

# CONTENTS


| | Page |
|---|---|
| Abstract | 1 |
| Introduction | 2 |
| Purpose and scope | 2 |
| Location and areal extent | 2 |
| Cultural development | 2 |
| Previous investigations | 2 |
| Acknowledgments | 4 |
| Geography | 4 |
| Climate | 4 |
| Topography and drainage | 4 |
| Rock formations and their water-bearing properties | 6 |
| Tertiary system | 6 |
| Miocene(?) series | 6 |
| Catahoula tuff | 6 |
| Miocene series | 6 |
| Oakville sandstone | 6 |
| Miocene(?) series | 10 |
| Lagarto clay | 10 |
| Pliocene series | 10 |
| Goliad sand | 10 |
| Quaternary system | 11 |
| Pleistocene series | 11 |
| Lissie formation | 11 |
| Beaumont clay | 11 |
| Recent series | 11 |
| Alluvium | 11 |
| Hydrology | 11 |
| Ground water | 11 |
| Occurrence | 11 |
| Pumping tests | 12 |
| Present development | 16 |
| Potential development | 16 |
| Surface water | 18 |
| Relationship between ground water and surface water | 20 |
| Quality of water | 20 |
| Conclusions | 24 |
| References | 25 |

## ILLUSTRATIONS


| | | | Page |
|---|---|---|---|
| Plate | 1. | Geologic map of Goliad County, Tex., showing location of wells | 94 |
| | 2. | Geologic cross section A-A', DeWitt, Goliad, and Victoria Counties | 8 |
| | 3. | Geologic cross section B-B', Bee, Goliad, and Victoria Counties | 9 |
| Figure | 1. | Map of Texas showing location of Goliad County | 3 |
| | 2. | Precipitation at Goliad, Tex. | 5 |
| | 3. | Idealized section showing movement of fresh ground water | 13 |
| | 4. | Locations of stream-gaging stations and pumping-test sites in Goliad and adjoining counties | 14 |
| | 5. | Results of pumping tests related to geologic horizons | 15 |
| | 6. | Computed drawdowns along a profile between a well at Goliad, Tex., and a line source (outcrop of aquifer) | 17 |
| | 7. | Monthly discharge of San Antonio River at Goliad, Tex. | 19 |
| | 8. | Classification of irrigation waters in Goliad County | 23 |


## TABLES


| | | | |
|---|---|---|---|
| Table | 1. | Rock formations in Goliad County, Tex. | 7 |
| | 2. | Records of wells in Goliad County, Tex. | 27 |
| | 3. | Drillers' logs of wells in Goliad County, Tex. | 55 |
| | 4. | Analyses of water from wells and springs in Goliad County, Tex. | 87 |
| | 5. | Analyses of composites of daily samples from San Antonio River | 92 |

# GROUND-WATER RESOURCES OF GOLIAD COUNTY, TEXAS

By

O. C. Dale, E. A. Moulder, and Ted Arnow
United States Geological Survey
September 1957

## ABSTRACT

This report presents the results of an investigation of the ground-water resources of Goliad County, Tex. The occurrence of ground water is discussed in relation to surface water and to the geology of the county. The report contains records of 458 wells, 160 drillers' logs, 102 chemical analyses of ground-water samples, results of 5 pumping tests, discharge measurements on and chemical analyses of the water of the San Antonio River, and 2 cross sections based on electric logs. A geologic map shows the extent and pattern of outcropping rocks and the location of the wells inventoried.

The important formations bearing water of good chemical quality extend to maximum depths ranging from about 1,200 feet to nearly 2,000 feet and are all sedimentary deposits of Tertiary and Quaternary age. Fresh water is available to wells from the sands of the following formations: Oakville sandstone, Lagarto clay, Goliad sand, and Lissie formation.

The surface-water resources could be developed further only by providing artificial storage. About 10,000 acre-feet of water per year is appropriated from the San Antonio River to irrigate about 5,000 acres in Goliad County. Other streams are not perennial and are used only for watering stock.

Approximately 100 million acre-feet of fresh water is stored in the water-bearing sands of the county. Development of ground water in Goliad County to date is only about 1 million gallons per day or 1,100 acre-feet per year. Because recharge is being rejected as effluent seepage to the San Antonio River, development may be increased considerably without exceeding the potential recharge to the area.

Development of ground-water resources for industrial and public supplies appears to be more favorable than for irrigation supplies. Domestic and stock supplies can be obtained anywhere in the county at depths of less than 300 feet. Wells tapping the full thickness of the fresh-water aquifers should yield 500 to 1,000 gallons per minute each; however, such large yields generally will require lifts that may be uneconomical for pumping irrigation supplies.

The chemical quality of water varies widely but most of the 102 samples of water collected were of acceptable quality for most purposes. About a third of the water samples from the sands of the Lagarto clay and Goliad sand were of doubtful suitability for irrigation. Samples from the Lagarto had high sodium-adsorption ratios and those from the Goliad were high in total mineralization. The one sample from the Oakville sandstone was high in boron content, sodium adsorption ratio, and dissolved solids. Water samples from the Lissie formation were of suitable quality for irrigation, public supply, and most other uses.

# INTRODUCTION

## PURPOSE AND SCOPE

The purpose of the present investigation is to evaluate the existing and potential development of ground-water resources of Goliad County and to compare them with the surface-water resources.

The investigation was made possible through cooperation among the San Antonio River Authority, the Texas Board of Water Engineers, and the United States Geological Survey. Field data were gathered from September 1954 through March 1955. The report contains records of 458 wells, 160 drillers' logs of wells, 102 chemical analyses of ground-water samples, 41 chemical analyses of surface-water samples, results of 5 pumping tests, climatological data, 2 cross sections based on electric logs, measurements of surface-water discharge, and a map showing locations of wells and the areal extent of outcropping rock formations. The study was made under the general supervision of A. N. Sayre, chief, Ground Water Branch, U. S. Geological Survey, and under the direct supervision of R. W. Sundstrom, district engineer in charge of ground-water investigations in Texas.

## LOCATION AND AREAL EXTENT

Goliad County is in south Texas on the Gulf Coastal Plain (fig. 1). Goliad, the county seat, is centrally located within the county and is about 90 miles southeast of San Antonio. Other communities in the county are Fannin, Weesatche, Berclair, Charco, and Schroeder. The area of the county is 871 square miles.

## CULTURAL DEVELOPMENT

Goliad County is one of the first to be established in Texas. Dating from the Spanish mission era, it was created in 1836 and organized in 1837. The county is the site of many historic landmarks, including the Mission La Bahia del Espiritu Santo, established in 1749. The Battle of Coleto Creek and the Goliad Massacre were important events in the fight for independence of Texas.

The economy of the county depends chiefly on agriculture. The principal crops are corn, flax, grain sorghums, and cotton. A large part of the land is used for grazing of cattle. The important mineral resources are oil and gas; in 1954, a reported 2,403,253 barrels of oil was produced.

United States Census records show that the population of the county increased from 648 in 1850 to 10,093 in 1930. Since 1930 the population has decreased, and in 1950 it was 6,219, less than that in any of the adjoining counties.

## PREVIOUS INVESTIGATIONS

An inventory of water wells in Refugio County and southern Goliad County was made in 1937 as a project of the Works Progress Administration in cooperation with the Texas Board of Water Engineers and the U. S. Geological Survey. The records, including chemical analyses of water, were published by the Texas Board of Water Engineers (Muenster and Michal, 1938). Some of the data from that release are included in the present report. Other reports pertaining to the area are given in the list of references.

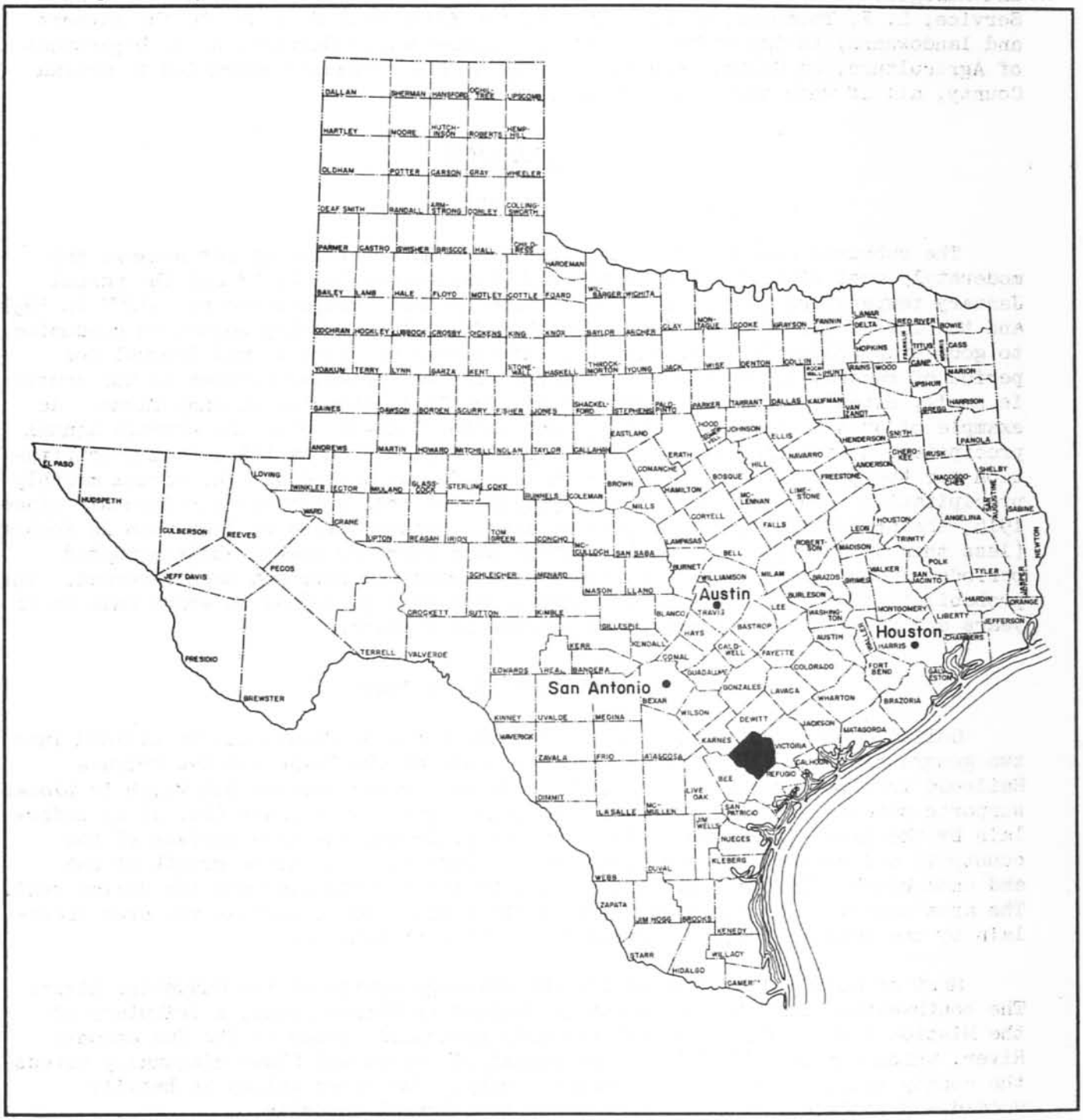



FIGURE 1.- Map of Texas showing location of Goliad County

ACKNOWLEDGMENTS

Appreciation is expressed to the city officials of Goliad, Beeville, Victoria, and Refugio; to the well drillers of the area, particularly the Youngblood Well Service, L. F. Thompson, W. E. Eeds, and the Kelly Well Service; to the farmers and landowners; to the office of the Soil Conservation Service, U. S. Department of Agriculture, at Goliad; and to the various oil companies operating in Goliad County, all of whom contributed valuable information.

## GEOGRAPHY

### CLIMATE

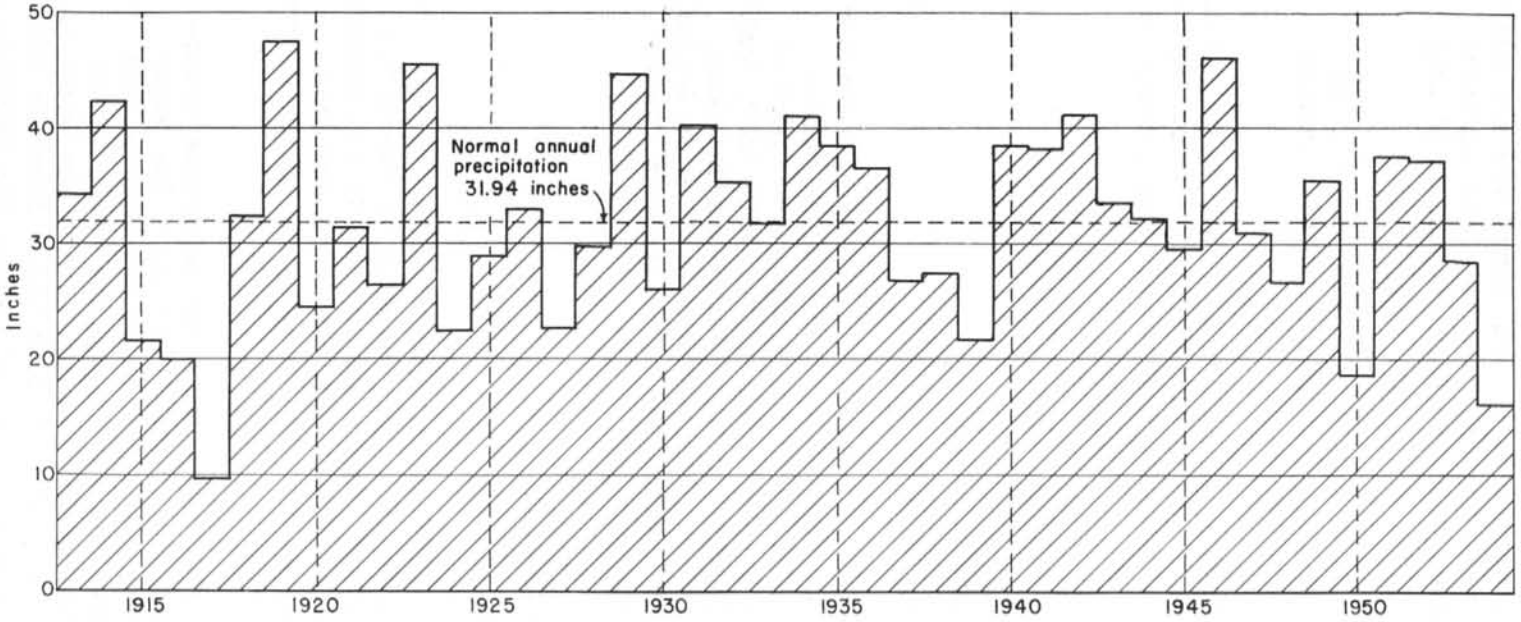
The subhumid climate of Goliad County is characterized by hot summers and moderately cool winters. The normal July temperature is 84.5°F and the normal January temperature is 55.0°F. The maximum recorded temperature was 112°F in 1939 and the lowest was 10°F in 1940. The long frost-free growing season is conducive to good crop production when the rainfall is near or above normal (normal for period of record, 31.94 inches). However, as the irrigated acreage in the county is small, extended periods of drought may result in disaster on many farms. An example of such a drought was the 3-year period 1915-17, when the average annual precipitation at Goliad was only 17 inches. Figure 2 shows the annual precipitation for the period of complete record (1913-54) at Goliad and the normal monthly precipitation. On the basis of precipitation records collected continuously since 1915, the probability of occurrence of annual precipitation of less than 16 inches (less than 50 percent of normal) is about once every 20 years. Uninterrupted periods of more than 3 years of below-normal rainfall have not been recorded. The probability of 3 successive years having less than 30 inches is about once in 21 years and of 2 successive years, about once in 8 years.

### TOPOGRAPHY AND DRAINAGE

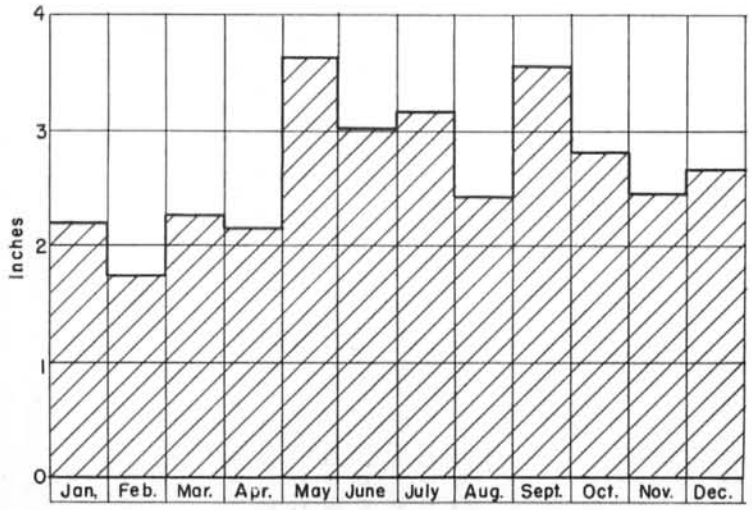
Goliad County, which lies in the Coastal Plain of Texas, may be divided into two geographic units. Most of the county south of the Texas and New Orleans Railroad is a featureless plain which is largely grass covered but which in places supports patches of oak or scattered mesquite trees. The plain (pl. 1) is underlain by the Lissie formation. North of the railroad, the land surface of the county is a dissected rolling upland which supports a scattered growth of oak and underbrush. This upland is underlain by the Lagarto clay and the Goliad sand. The area underlain by the Lagarto has a thick black soil, whereas the area underlain by the Goliad is characterized by outcrops of caliche.

Most of Goliad County is within the drainage system of the Guadalupe River. The southwestern part of the county is drained by Blanco Creek, a tributary of the Mission River. The principal and only perennial stream is the San Antonio River, which enters Goliad County northwest of Charco and flows diagonally across the county southeastward into Victoria County. The river valley is heavily wooded and contains scattered flat areas of alluvial deposits.

The highest part of the county is the western corner where the altitude exceeds 400 feet above sea level. The land slopes gradually toward the Gulf, and where the San Antonio River leaves the county the altitude is less than 100 feet above sea level.




A.-Annual precipitation, 1913-54.




B.- Normal monthly precipitation.

FIGURE 2.-Precipitation at Goliad, Tex.
(Data from U. S. Weather Bureau)

## ROCK FORMATIONS AND THEIR WATER-BEARING PROPERTIES

The rock formations penetrated by water wells in Goliad County are all sedimentary deposits of Tertiary and Quaternary age (table 1). The chief aquifers are sandstones and sands which are interbedded with extensive deposits of clay and sandy clay.

The rocks strike northeastward and dip southeastward toward the Gulf of Mexico. The dip is about 20 feet per mile near the outcrop, but it increases markedly downdip to a maximum of about 70 feet per mile.

The geologic map (pl. 1) shows no faulting, but an irregularity on the cross section (pl. 2) between wells E-28 and E-41, which are in the east-central part of the county, suggests that there may be a fault having a vertical displacement of about 100 feet.

### TERTIARY SYSTEM

#### Miocene(?) Series

##### Catahoula Tuff

The Catahoula tuff of Miocene(?) age does not crop out in Goliad County but is penetrated by wells at depths ranging from about 1,400 feet in the northeastern part of the county to more than 3,000 feet in the southeastern part of the county (pl. 2). The Catahoula consists predominantly of volcanic tuff, tuffaceous clay, and clay and contains discontinuous lenses of sandstone and sand. Electric logs indicate that the Catahoula is not a fresh-water aquifer in Goliad County, and its chief importance consists of marking the lower limit of fresh-water exploration in the northern half of the county.

#### Miocene Series

##### Oakville Sandstone

The Oakville sandstone of Miocene age, which lies unconformably on the Catahoula tuff, does not crop out in Goliad County. The Oakville is overlain by the Lagarto clay but the position of the contact in the subsurface is not definitely known; hence the two formations are not differentiated in the cross sections (pls. 2 and 3). The Oakville thickens somewhat downdip, ranging in thickness from about 450 to 700 feet.

The Oakville consists principally of crossbedded sand and sandstone interbedded with lesser thicknesses of sandy, ashy, or bentonitic clay. The sands appear to retain their character consistently downdip through the county, but according to interpretation of electric logs, the quality of the water in the sands changes. In the northern and northwestern part of the county the water is fresh, and several wells (B-12, B-14, and G-4, table 2) draw water from the Oakville for industrial purposes. South of the town of Goliad, where the Oakville is deeper than 2,000 feet, however, the water probably is too highly mineralized for municipal or industrial use (pl. 2).

Table 1.- Rock formations in Goliad County, Tex.

| Age | | Geologic unit | Approximate thickness (feet) | Character of rocks | Water supply |
|---|---|---|---|---|---|
| System | Series | | | | |
| Quaternary | Recent | Alluvium | 0-30 | Clay, silt, sand, and gravel. | Not important as an aquifer in Goliad County. |
| Tertiary | Pleistocene | Beaumont clay | 0-50 | Clay containing layers of sand. | Not important as an aquifer in Goliad County. |
| | | Lissie formation | 0-500 | Thick beds of sand containing lentils of gravel and layers of clay and silt. | Yields small supplies of fresh water for domestic and stock use. |
| | Pliocene | Goliad sand | 0-500 | Predominantly sandstone and sand containing some clay and gravel. The sand and gravel are impregnated with caliche. | Yields small supplies of water of variable quality for domestic and stock use. |
| | Miocene(?) | Lagarto clay | 800-1,200 | Clay and sandy clay containing interbedded layers of sand and sandstone | Yields moderately large supplies of fresh water for municipal and industrial use. |
| | Miocene | Oakville sandstone | 450-700 | Crossbedded sand and sandstone containing interbedded sandy, ashy, or bentonitic clay. | Yields moderately large supplies of fresh water for industrial use in the northwestern half of the county. |
| | Miocene(?) | Catahoula tuff | ? | Predominantly volcanic tuff and tuffaceous clay containing sandstone lentils. | Not a fresh-water aquifer in Goliad County. |

Relatively few wells have been drilled to the Oakville sandstone in Goliad County because adequate water supplies generally are available in the overlying sediments. Records have been obtained for only seven wells screened in the Oakville (table 2). Tests at several wells indicated a maximum yield of about 200 gallons per minute (gpm). One analysis (B-14, table 4) of water from the Oakville suggests that the water is of doubtful suitability for use in irrigation because of the boron content, sodium-adsorption ratio, dissolved solids, and residual sodium carbonate.

## Miocene(?) Series

### Lagarto Clay

The Lagarto clay of Miocene(?) age, which overlies the Oakville sandstone conformably, crops out in three belts in the northern and northwestern parts of Goliad County, where it has been exposed by stream erosion. At the outcrop the Lagarto is about 800 feet thick. It thickens downdip, however, and is about 1,200 feet thick in the southeastern part of the county.

The Lagarto consists of clay and sandy clay and intercalated beds of sand and sandstone. The clays weather to a thick black soil which is excellent for cultivation. The sands are most common near the outcrop, particularly in the upper and lower parts of the section, and are progressively replaced by clay downdip. Northwest of the town of Goliad the sandy strata contain fresh water. Southeast of Goliad, however, the water in the lower part of the Lagarto becomes more mineralized, and at the southeastern boundary of the county the Lagarto contains no fresh water at all.

The Lagarto supplies water to numerous wells for domestic, industrial, and municipal supply. A test of one of the Goliad municipal wells screened in the Lagarto indicated a specific capacity of 3.4 gallons per minute per foot of drawdown after pumping at an average rate of 580 gallons per minute for 4 hours. The water (D-78 and H-3, table 4) is of good quality, except that it is very hard.

## Pliocene Series

### Goliad Sand

The Goliad sand of Pliocene age overlies the Lagarto clay unconformably, but its basal layers are difficult to distinguish from sand beds in the Lagarto. The Goliad crops out in a belt about 15 miles wide extending northeastward through the county and also caps many of the hilltops within the area of outcrop of the Lagarto clay shown on plate 1. The Goliad has not been differentiated from the contiguous formations on plates 2 and 3, but it probably attains a maximum thickness of about 500 feet in the southeastern part of the county.

The Goliad consists predominantly of sandstone and sand containing interbedded clay and gravel. The sand and gravel are impregnated and cemented with caliche, which may amount to as much as 35 percent of the volume of the sample (Sellards, Adkins, and Plummber, 1932, p. 758). The white color of the caliche is characteristic of the Goliad in the area of outcrop.

Many wells of small capacity obtain water from the Goliad sand for domestic and stock supply. Larger supplies are locally obtained from properly constructed wells in the Goliad in the southeastern part of Goliad County.

The water in the Goliad sand ranges in quality from fresh to moderately mineralized.

## QUATERNARY SYSTEM

### Pleistocene Series

#### Lissie Formation

The Lissie formation of Pleistocene age overlies the Goliad sand unconformably, but the two are difficult to distinguish in the subsurface and they have not been differentiated on plates 2 and 3. The outcrop of the Lissie is essentially a flat grassy plain which can be distinguished from the more maturely dissected rolling upland underlain by the Goliad. The Lissie underlies most of the county southeast of the Texas and New Orleans Railroad and attains a maximum thickness of about 500 feet (pl. 1).

The Lissie formation consists primarily of thick beds of sand but contains layers of clay and silt and lenses of gravel. The sands presently furnish only small quantities of water to wells for domestic and stock use, but they may be capable of much larger yields. The water in the Lissie, though hard, is otherwise of good quality and suitable for most purposes.

#### Beaumont Clay

The Beaumont clay of Pleistocene age, which overlies the Lissie formation unconformably, crops out in a small area in the southeast corner of Goliad County. The Beaumont consists of indistinctly bedded clay and interbedded layers of sand. The maximum thickness of the Beaumont clay in Goliad County is probably less than 50 feet, and no records were obtained of wells drawing water from the Beaumont.

### Recent Series

#### Alluvium

Scattered deposits of alluvium consisting of clay, silt, sand, and gravel are found in many places in the county, chiefly along the valley of the San Antonio River. The alluvium is thin and not important as an aquifer in Goliad County.

## HYDROLOGY

### GROUND WATER

#### Occurrence

The sedimentary deposits underlying Goliad County are saturated below a depth ranging from a few feet to about 100 feet below the land surface. The lower extent of the zone occupied by fresh water is shown by the cross sections (pls. 2 and 3). As shale and clay do not yield appreciable quantities of water to wells, only the thickness of the sand was considered in estimating the volume of fresh water in

storage. Assuming an average thickness of 700 feet and an average porosity of 30 percent, about 100,000,000 acre-feet of fresh ground water is in storage in the county. Perhaps only half is readily accessible to wells because of the great depth at which much of it occurs. Artesian pressure must be maintained to force the deeper water to rise in the wells so that the pumps need not be set at excessive depths. The water is in transient storage--that is, it is moving from areas of recharge toward areas of discharge. Under natural conditions, the water discharged from the formations is replaced by an equal quantity of recharge to the formations.

Most of the recharge in Goliad County is derived from precipitation that falls on the outcrop of the sandy parts of the formations. Only a small part of the precipitation percolates to the water table; most of it is lost by evapotranspiration or runs off in streams. However, some of the runoff that collects in the small streams and drainageways also provides recharge. Some of the water that reaches the water table is discharged by springs at places where the streams have cut the water table, and some is lost by evapotranspiration directly from places where the water table is near the surface. The remainder moves downdip, replacing water discharged from wells and water that is lost to overlying horizons. Figure 3 illustrates the movement of water along the dip of the formations. The lower limit of fresh-water movement depends upon differences in permeability parallel to and perpendicular to the dip of the strata and upon the head differences between adjacent aquifers. The fresh water-salt water contact marks this limit and represents the extent to which saline water has been removed from the aquifers by the circulation of fresh water. The relationship of fresh water to salt water has been explained in detail by Winslow and Doyel (1954).

In the sandy outcrop areas ground water is unconfined and is said to be under water-table conditions. Downdip the sand beds are overlain by less permeable materials, which tend to confine the water within the sand. The sands in the Lagarto clay are the only ones in Goliad County that have sufficient artesian pressure to cause wells to flow at the surface. Most of the flowing wells are in the valley of the San Antonio River west-northwest of the city of Goliad, but a few are in the southern part of the county (pl. 1).

## Pumping Tests

Pumping tests were made to determine quantitatively the capacity of several fresh water-bearing sand zones in Goliad County to transmit and store water. The test sites in Goliad and adjoining counties are shown in figure 4. The data from the tests were analyzed by the Theis nonequilibrium method as modified by Cooper and Jacob (1946) and the Theis recovery method (Wenzel, 1942). The results of the tests are shown on figure 5, which also shows the stratigraphic position of the sands tested.

The coefficient of transmissibility is expressed as the number of gallons of water that will move under the prevailing temperature in 1 day through a vertical strip of the aquifer 1 foot wide extending the full height of the aquifer under a unit hydraulic gradient. It is the field coefficient of permeability, in gallons per day per square foot, times the thickness of the aquifer, in feet. The coefficient of storage is the volume of water released from or taken into storage per unit surface area of the aquifer per unit change in the component of head normal to that surface.

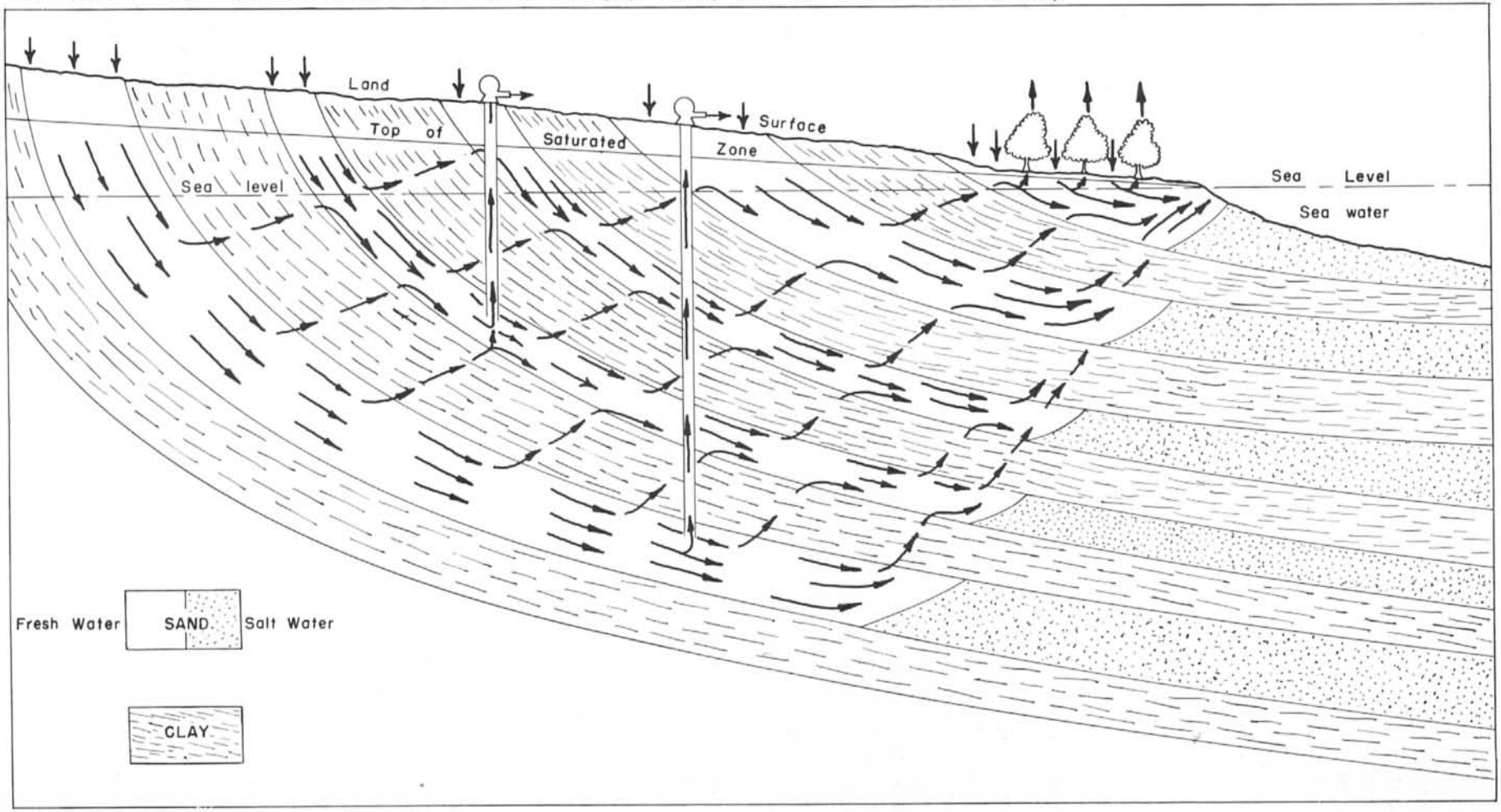



FIGURE 3.- Idealized section showing movement of fresh ground water

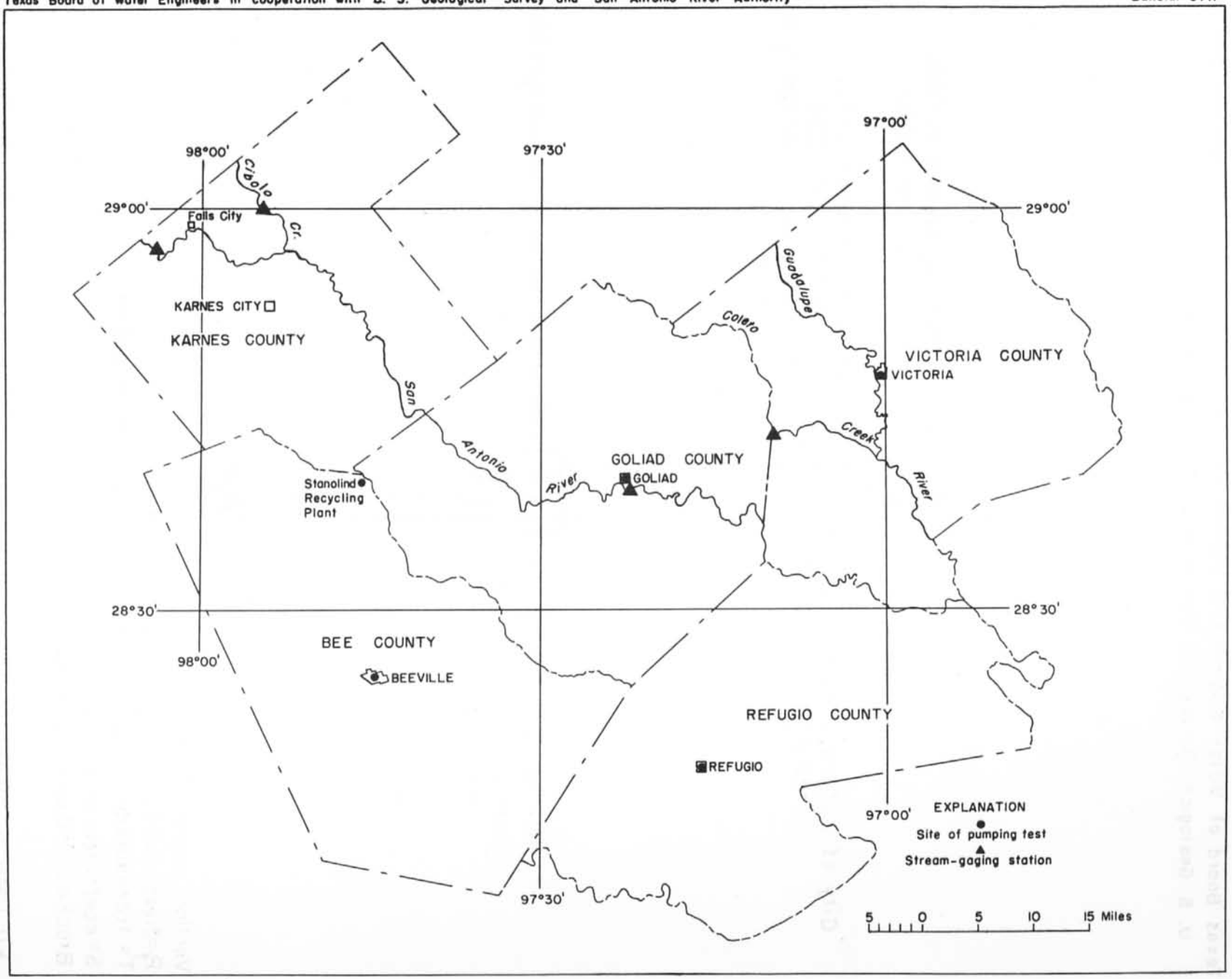
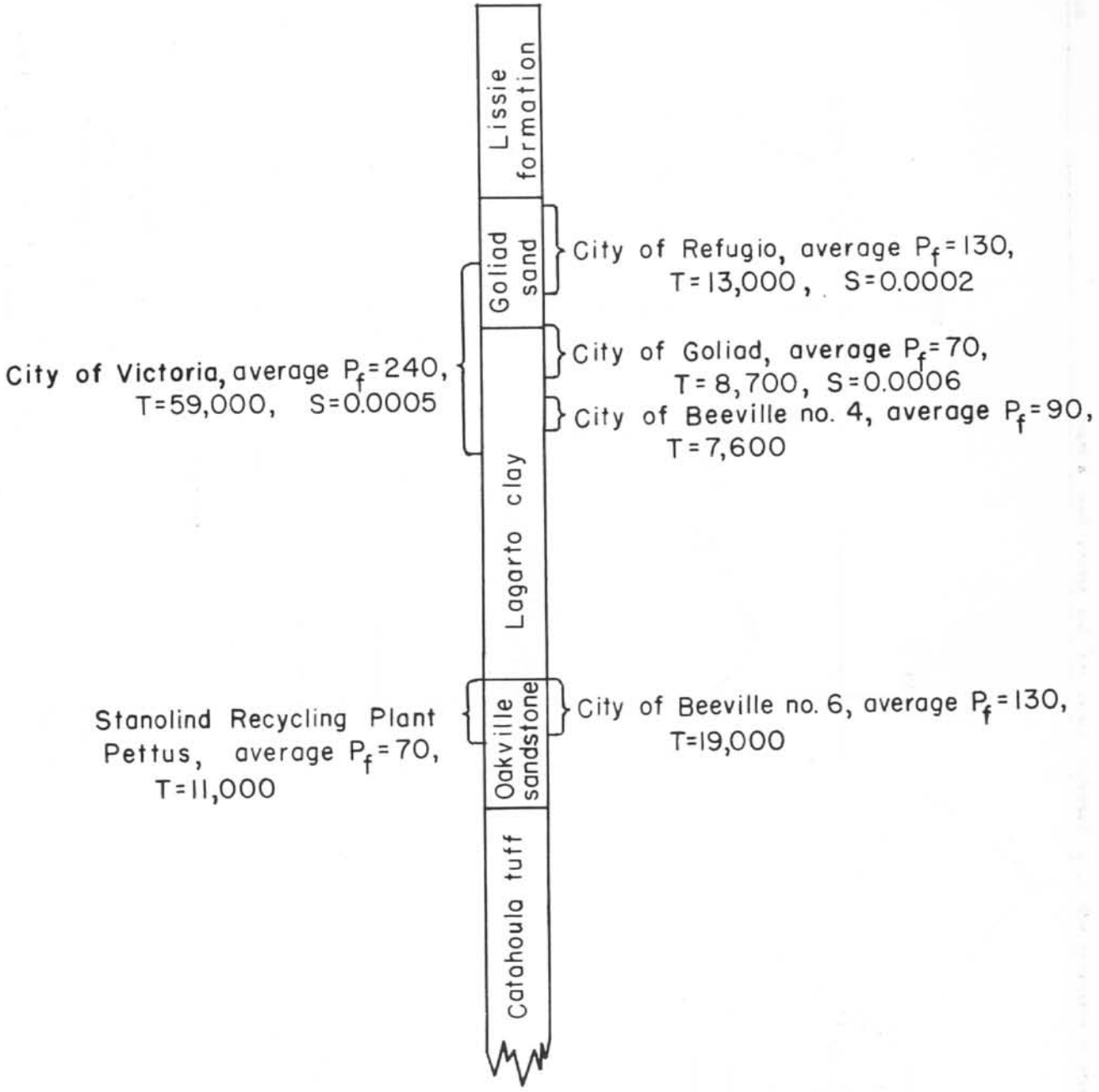



FIGURE 4. - Locations of stream-gaging stations and pumping-test sites in Goliad and adjoining counties.




Vertical scale: 1" = 500'
$P_f$=field coefficient of permeability, in gpd/ft$^2$
T= transmissibility ($P_f$ x thickness of aquifer, in feet), in gpd/ft
S= coefficient of storage
Brackets indicate screened interval

FIGURE 5.-Results of pumping tests related to geologic horizons.

Figure 5 shows the probable order of magnitude of the coefficients to be expected from similar thicknesses of sand in the indicated formations; however, variations in permeability from place to place preclude the use of this information for making accurate predictions of yield in untested areas.

## Present Development

Ground water is used for all domestic and public supplies and most industrial and stock supplies in Goliad County; however, the total use during 1954 was very small, averaging only about 1,000,000 gallons per day (gpd) exclusive of waste. About 40 percent of the water was used for public and domestic supplies, about 40 percent for stock supplies, and about 20 percent for industrial supplies, principally water used in drilling oil-test wells.

Some water is wasted from the 18 flowing wells inventoried in the county, several of which are allowed to flow continuously. Although the flow is intended for livestock or for pasture irrigation, conservative practices probably could save as much as 100,000 gpd.

Goliad has the only municipal water supply in the county. In 1955 two wells were in use, each having a maximum capacity of about 500 gallons per minute (gpm). The average annual withdrawal at Goliad is less than 200,000 gpd; however, this represents the greatest concentration of pumping in the county. The static water level in the city of Goliad well 3 (H-3) declined about 14 feet from March 1946, when the water level was reported to be 20 feet below the land surface, to March 15, 1955, when the water level was 34.1 feet.

Most domestic and stock wells are drilled only deep enough to supply the average needs of the user, and because all the formations that crop out in Goliad County contain several sand horizons saturated with fresh water, most of the wells are not deep (table 3). Although the depths of the domestic and stock wells inventoried range from 40 to 900 feet, the average depth is only about 180 feet. In general, supplies adequate for domestic and stock purposes may be obtained anywhere in the county at depths less than 300 feet.

## Potential Development

The extent of future development of the water-bearing sands in Goliad County is dependent largely upon the ability of the sands to yield water to wells. The coefficients of storage and transmissibility are related to well yield. For example, two wells identical in construction would yield different quantities of water for the same amount of drawdown if either or both of the coefficients were different. A greater coefficient of either transmissibility or storage would increase the yield of the well. Other things being equal, the yield of a well is essentially proportional to the coefficient of transmissibility, and is proportional to the logarithm of the storage coefficient.

The water-bearing strata supplying water to the Goliad city wells crop out about 12 miles northwest of town. If the discharge does not exceed the natural recharge, the water table in the outcrop will not decline appreciably and the outcrop will act as an effective line source of recharge. Assuming that these conditions exist, figure 6 shows the estimated lowering of the piezometric surface in the vicinity of a well at Goliad pumping 500 gallons per minute. The equi-

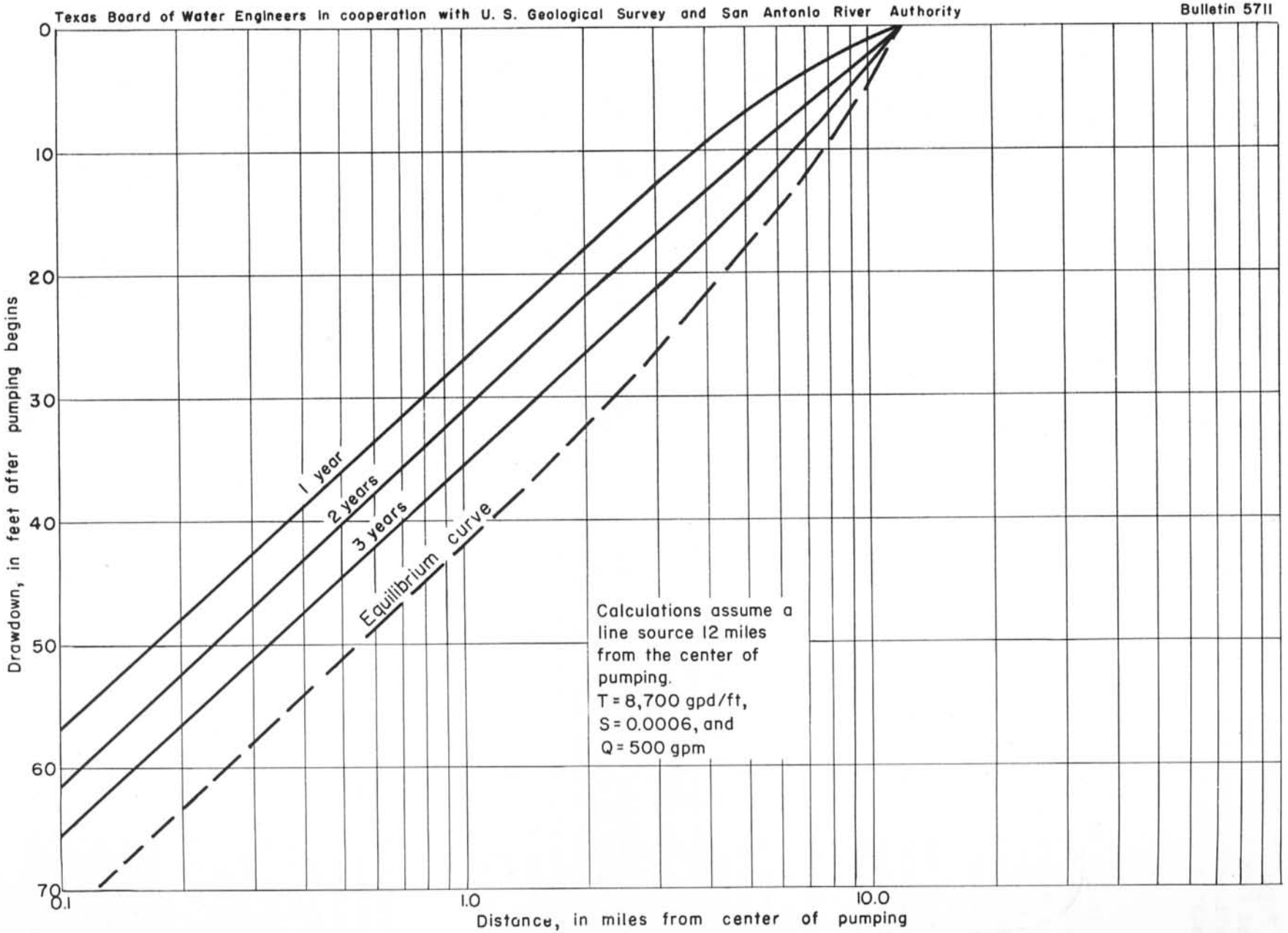



FIGURE 6. - Computed drawdowns along a profile between a well at Goliad, Tex., and a line source (outcrop of aquifer).

librium curve shows the maximum drawdown to be expected. The drawdowns for other pumping rates can be determined because the drawdown is directly proportional to the pumping rate. The pumping level of a well near another pumping well will be lowered by the amount indicated on the graph.

The data collected during the present investigation suggest that a properly constructed well drilled anywhere in Goliad County to a depth of 1,000 to 1,500 feet would yield water at a rate of at least 500 gallons per minute (gpm). Yields up to 1,000 gpm may be obtained in the more favorable locations in the southeastern third of the county where the thickness and permeability of water-bearing sands are the greatest. The yields should be large near wells E-53 and J-6 (pl. 2). All water-bearing sands must be screened to obtain maximum yields. Gravel-packed wells may prove to be the most practical because the mixtures of grain sizes in the aquifers would make difficult the selection of a well screen that would allow effective development for large yields. Well casings large enough to accommodate deeply set submersible or deep-well turbine pumps would be necessary to allow for the water-level decline that would accompany large-scale developments.

In some areas deep pumping levels may restrict the use of wells for irrigation. For example, well D-78 (city of Goliad well 4) had a reported water level of 249 feet after pumping at a rate of 550 gpm for 24 hours. Deeper pumping levels would be expected at greater pumping rates. Extensive development would undoubtedly lower pumping levels over a period of years. Well D-78 penetrates only 125 feet of water-bearing sand, however, so deeper wells to the southeast penetrating greater thicknesses of more permeable material undoubtedly would have shallower pumping levels and would be more practical for irrigation development.

## SURFACE WATER

The San Antonio River is the only perennial stream in Goliad County. The drainage area above the city of Goliad is 3,918 square miles. Coleto Creek, which flows to the Guadalupe River, is spring fed at several places throughout its course but does not flow beyond a point a few miles downstream from the springs. The drainage area above the gaging station on Coleto Creek near Victoria (fig. 4) is 514 square miles. Some discharge has been recorded during nearly every month throughout the period of record, although the stream is dry less than a mile above the gaging station during periods of low flow. The other drainageways in the county carry water only intermittently.

Surface-water supplies in the county are obtained principally from the San Antonio River and are used for irrigation and for watering stock. Additional surface supplies are obtained from numerous small stock tanks and reservoirs which are scattered throughout the county. Existing water rights permit about 10,000 acre-feet of water per year to be used from the San Antonio River to irrigate 4,963 acres in the county. Withdrawals from the river must be pumped because no diversion structures are authorized. The average annual discharge of the San Antonio River is about 375,000 acre-feet at Goliad. The authorized rate of withdrawal in Goliad County is 26 second-feet. Figure 7 shows that the monthly discharge of the San Antonio River at Goliad is greater than the appropriation rate even during droughts. However, the Texas Board of Water Engineers has stated that, if all the water for which upstream rights exist were used, there would be little or no surplus for Goliad County; therefore, applications for permits to divert water from the river in that county are being considered only where off-stream reservoirs are planned to store water pumped from the streams during periods of peak discharge.

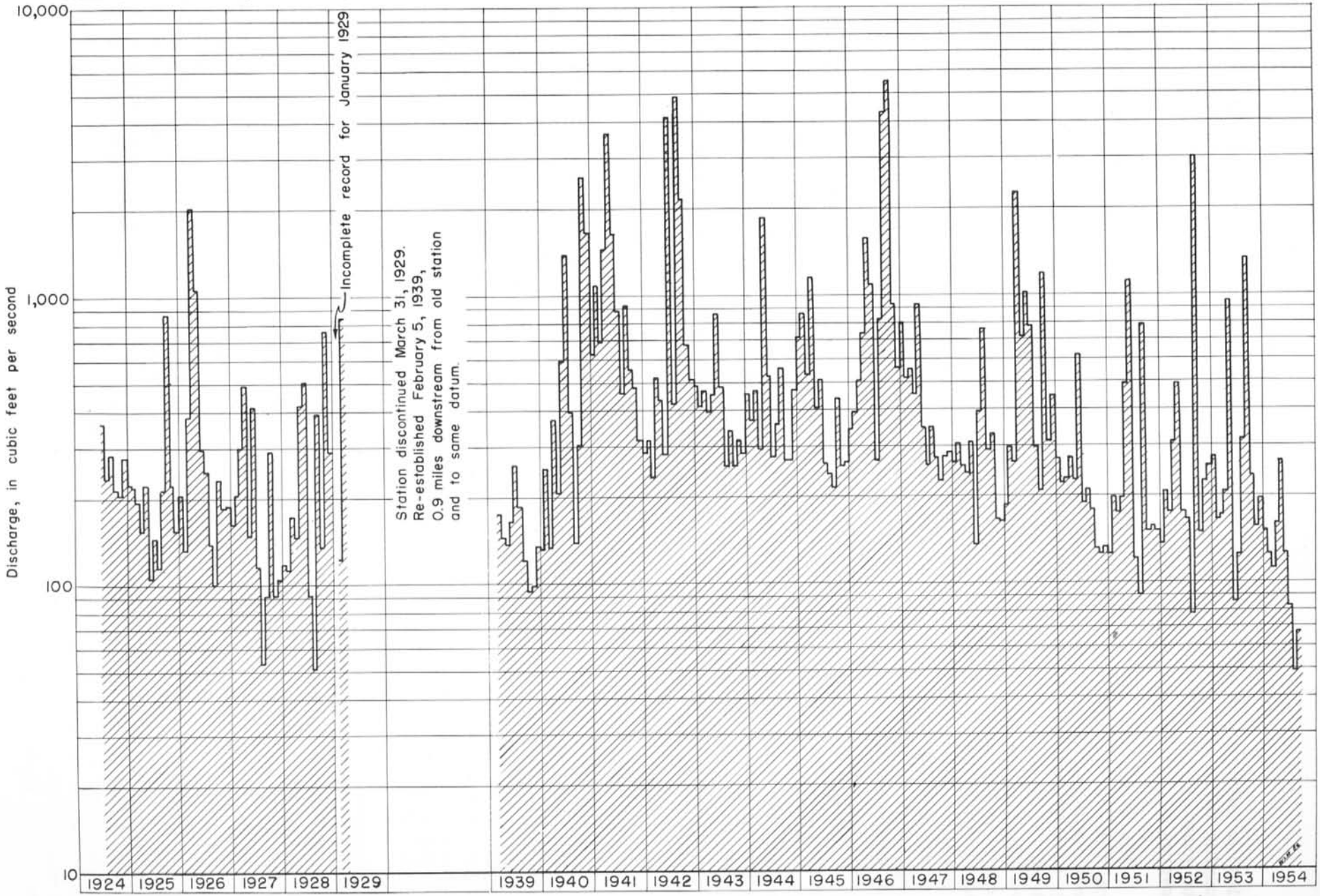



FIGURE 7. - Monthly discharge of San Antonio River at Goliad, Tex.

## RELATIONSHIP BETWEEN GROUND WATER AND SURFACE WATER

In Goliad County surface and ground water are hydraulically connected through the permeable materials of the river bed and adjoining sandy formations. The direction of water movement depends on the relative water levels in the river and in the water-bearing formations. The differences in elevation were determined between the water levels in 7 shallow wells (H-7, H-8, G-11, C-34, C-41, C-44, and J-16) and in the river. The water level in each well was above stream level, the difference in level ranging from 6.46 feet at well C-34 to 25.55 feet at well J-16. These data indicate that the stream is effluent--that is, ground water is being discharged to the stream throughout the county. Streamflow records suggest, however, that the quantity discharged is small. The amount of gain in streamflow between the gaging stations on Cibolo Creek and the San Antonio River near Falls City in Karnes County and the station on the San Antonio River at Goliad (fig. 4) is usually less than 10 cubic feet per second (cfs) during winter months when evapotranspiration rates are low and the precipitation is slight. Therefore, the average gain per mile between Falls City and Goliad is less than 0.2 cfs. If the same rate of increase prevails in all of Goliad County, the gain in streamflow in the county is less than 7 cfs, or $4\frac{1}{2}$ million gallons per day.

The San Antonio River is a potential source of recharge to the water-bearing formations of Goliad County. Extensive development of the county's ground-water resources would cause a lowering of the ground-water level. A lowering in the vicinity of the river would decrease the discharge to the river, and if the ground-water level dropped below river level, the aquifers would be recharged with surface water. The magnitude of this potential source and the resulting depletion of flow in the river cannot be determined from existing data.

A considerable quantity of ground water is discharged by evapotranspiration, especially in areas adjacent to the river where the water table is near the surface. Much of the water so discharged could be reclaimed by lowering water levels; however, estimates of the quantity that might be salvaged are beyond the scope of the present report.

## QUALITY OF WATER

Ground water in Goliad County generally is more highly mineralized than water from the San Antonio River. Water samples from 102 wells, ranging in depth from 43 to 934 feet, had a dissolved-solids content ranging from 368 to 4,010 parts per million (ppm). Daily water samples from the San Antonio River at Goliad collected during the period October 1, 1945 - September 30, 1946, had concentrations of dissolved solids ranging from 175 to 560 ppm. The analyses are shown in tables 4 and 5.

The chemical quality of water determines its suitability for various uses. Water suitable for human consumption may be unfit for certain industrial purposes, and in some instances the reverse is true. An excess of certain dissolved constituents also adversely affects the suitability of water for irrigation. The following evaluation is necessarily generalized because of the limited number of analyses available for study, and because factors other than water chemistry affect the usable limits of chemical concentrations.

The hardness of water is an important consideration in both municipal and industrial supplies. Soap consumption for cleansing, washing, and laundering operations increases as the hardness increases. Water hardness is also related to incrustations (boiler scale) formed in pipes, coils, and boilers.

Calcium and magnesium are the principal constituents that cause hardness; several others that cause hardness usually are present in ground water, but in negligible amounts so far as hardness is concerned. Hardness equivalent to the carbonate and bicarbonate is called carbonate hardness; the remainder of the hardness is called noncarbonate hardness.

An arbitrary classification commonly used to describe waters with reference to hardness is as follows: Less than 60 ppm, soft; 61 to 120 ppm, moderately hard; 121 to 200 ppm, hard; and more than 200 ppm, very hard. Water having a hardness of more than 200 ppm needs to be softened for most purposes. The hardness of 75 percent of the samples collected in the present investigation exceeded 200 ppm and of about 95 percent, 60 ppm. All samples from wells tapping the Goliad sand were very hard, ranging from 196 ppm to 2,420 ppm in hardness. The hardness of three-fourths of the samples from the Lagarto clay and of 13 of 14 samples from the Lissie formation exceeded 120 ppm. The single sample from the Oakville sandstone was soft (53 ppm). Samples from the San Antonio River ranged in hardness from 106 to 321 ppm, of which more than two-thirds was carbonate hardness.

Two general methods are commonly used to soften large quantities of water: The lime or lime-soda process, which in addition to softening reduces the mineralization; and the zeolite process, which involves the exchange of calcium and magnesium in the water for sodium in the exchange material. Carbonate hardness may be removed most economically by using lime as the precipitant. The low noncarbonate hardness of many of the water samples indicates that water from wells in many places in Goliad County can be softened effectively by this economical method.

The quality of water considered suitable for human consumption varies widely from place to place. Some of the standards set forth by the U. S. Public Health Service (1946) for water used by common carriers in interstate commerce are presented for comparative purposes below:

Iron (Fe) and manganese (Mn) together should not exceed 0.3 ppm.
Magnesium (Mg) should not exceed 125 ppm.
Chloride (Cl) should not exceed 250 ppm.
Sulfate ($SO_4$) should not exceed 250 ppm.
Fluoride (F) must not exceed 1.5 ppm.
Dissolved solids should not exceed 500 ppm. However, if such water is not available, a dissolved-solids content of 1,000 ppm may be permitted.

Some communities, because better water is unavailable, use water that contains certain minerals far in excess of the concentrations suggested in the standards. The people of such communities become accustomed to water exceeding the suggested limits and apparently suffer no ill effects except from waters high in fluoride, which causes mottling of teeth if used continuously by young children.

Only about 5 percent of the samples of water from wells in Goliad County contained less than 500 parts per million of dissolved solids, but more than 70 percent contained less than 1,000 ppm. Five of the seven samples in which iron concentrations were determined exceeded the indicated limits for this constituent, and in four of the seven the content exceeded 1 ppm. A dissolved-iron content exceeding 0.3 ppm may cause an objectionable reddish precipitate of iron oxide. Three of 101 samples (wells A-8, D-71, and H-8) had high nitrate concentrations, respectively 84, 70, and 42 ppm. Investigations in Illinois, Ohio, and elsewhere indicate that nitrate in concentrations of more than about 45 ppm may be a cause of methemoglobinemia ("blue baby disease") in infants (Maxcy, 1950, p. 271).

Because silica forms a hard, adherent scale in boilers, information as to its concentration in water supplies for boiler use is important to industries. Moore (1940, p. 263) has suggested the following allowable concentration of silica in water for boilers operating at various pressures: Less than 150 psi (pounds per square inch), 40 ppm; 150-250 psi, 20 ppm; 250-400 psi, 5 ppm; and more than 400 psi, 1 ppm. Nearly 60 percent of the 102 ground-water samples taken for analysis had concentrations of silica exceeding 40 ppm.

According to the U. S. Salinity Laboratory Staff (1954): "The characteristics of an irrigation water that appear to be most important in determining its quality are: (1) total concentration of soluble salts; (2) relative proportion of sodium to the cations: (3) concentration of boron or other elements that may be toxic; and (4) under some conditions, the bicarbonate concentration as related to the concentration of calcium plus magnesium."

The classification of water by the U. S. Department of Agriculture for use in irrigation is based on voluminous data collected from arid and semiarid areas. Classifications that suggest maximum allowable concentrations in irrigation water for areas having appreciable rainfall are not available. Factors such as farm management and drainage modify the permissible concentrations of these constituents in water used for irrigation. The tolerance of different crops to the toxic effect of dissolved constituents in water varies widely. The classifications suggested for arid and semiarid areas are presented in the present report for comparison only; the subhumid climate and other indeterminate factors prevent their use in evaluating the suitability of water for irrigation in Goliad County.

The concentration of soluble salts, or salinity, as indicated by the specific conductance, is used as an index by the Salinity Laboratory of the salinity hazard in an irrigation water. The relative proportion of sodium to other cations and the probable extent to which a soil will adsorb sodium from the water under certain conditions may be expressed in terms of the sodium-adsorption ratio (SAR), where

$$SAR = \frac{Na^{+}}{\sqrt{\frac{Ca^{++} + Mg^{++}}{2}}}$$

. The SAR value is an index of sodium hazard. Samples of ground water and surface water from Goliad County are classified using these indices according to U. S. Salinity Laboratory standards in figure 8. About 20 percent of the ground-water samples were very high in salinity or sodium hazard, and 3 samples (wells A-46, B-14, and K-6) plotted outside the limits of the diagram. In general, the surface water is of better quality for irrigation than the ground water.

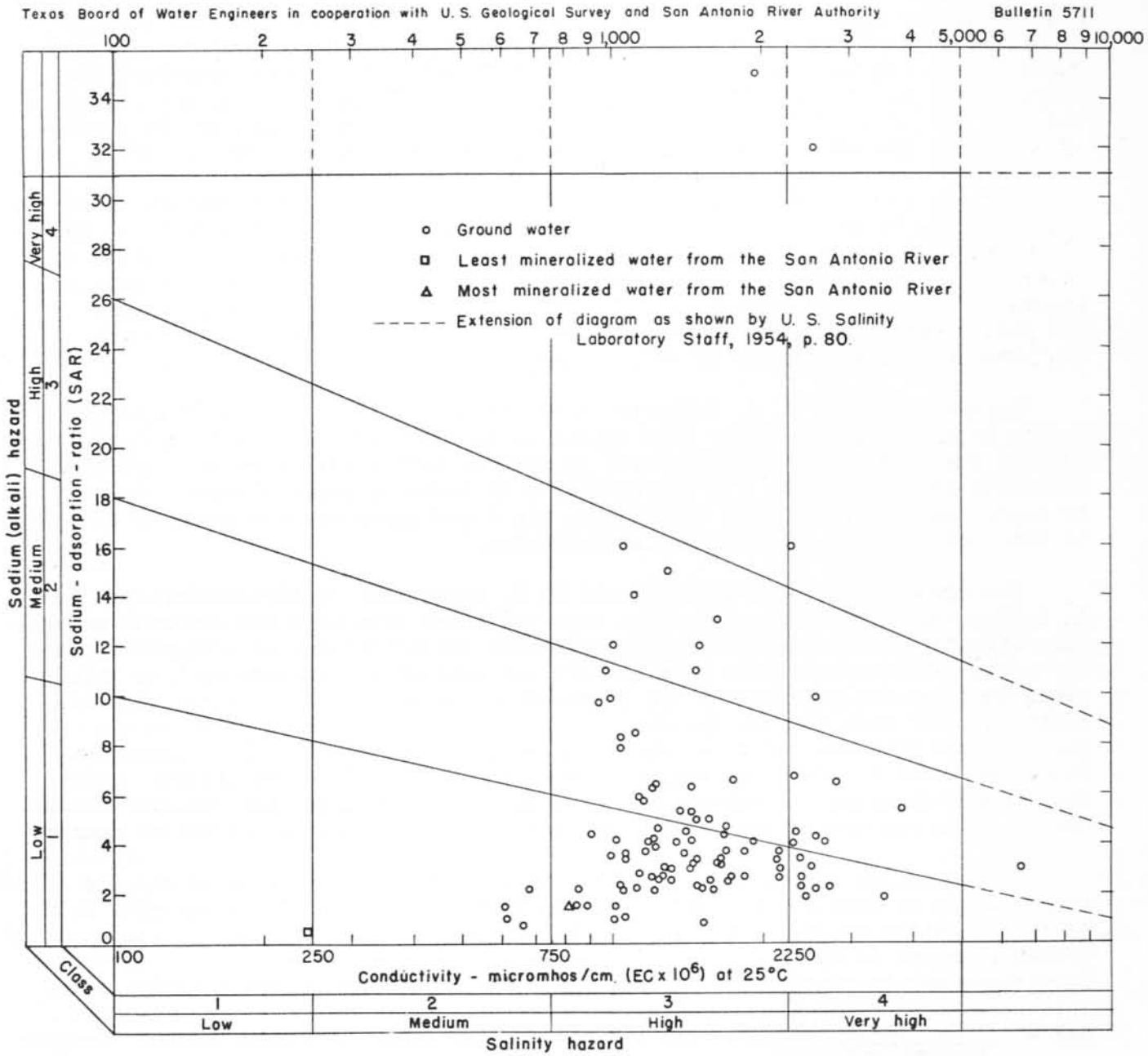



FIGURE 8.- Classification of irrigation waters in Goliad County.
(After classification for arid and semi-arid areas by U.S. Salinity Laboratory Staff, 1954, p. 80.)

Only 3 samples were analyzed for boron; 2 were well within the concentration limits for boron proposed by Scofield (1936) for arid areas; the other, which is from well B-14, which taps the Oakville sandstone, was classified as unsatisfactory for most crops.

The relation of the bicarbonate concentration to the concentration of calcium plus magnesium may be expressed as residual sodium carbonate (RSC), where RSC = $(CO_3^- + HCO_3^-) - (Ca^{++} + Mg^{++})$. Values for RSC are shown in table 4. The Salinity Laboratory states that "waters with more than 2.5 meq/l (milliequivalents per liter) residual sodium carbonate are not suitable for irrigation purposes." This conclusion may not be strictly applicable in areas such as Goliad County where the climate is subhumid. In about 20 percent of the samples of ground water, residual sodium carbonate exceeded 2.5 meq/l; in all the samples of surface water RSC was zero.

The water analyses, when compared with standards for arid areas, make it appear that much of the ground water in Goliad County is of doubtful quality for irrigation. However, as previously stated, those standards may not apply rigorously to the area. Kelley (1951) cites areas having an average annual precipitation of 18 inches in which salts did not accumulate in the soil. His information suggests that in parts of Goliad County having good drainage most of the ground water would be suitable for supplemental irrigation. The quality of water in the San Antonio River at any time during the year appears to be excellent for irrigation use.

## CONCLUSIONS

The ground-water resources of Goliad County remain relatively undeveloped, and the average withdrawal is only about 1 million gallons per day. The present surface-water supply of the county is fully developed unless reservoirs are built to store the heavy runoff resulting from storms. The potential for development of additional ground water in Goliad County is fair to good by comparison with the other counties in Texas. A substantial part of the estimated 100 million acre-feet of fresh ground water in storage in the county can be practically recovered through wells. Development of ground-water resources for industrial and municipal supplies appear to be more practical than for irrigation. Development of large additional volumes of water for irrigation may be considered marginal because of the economics of pumping and the quality of the water. However, with careful planning and management, successful irrigation development appears feasible, especially in the southeastern half of the county where the water-bearing sands appear to be more productive of water than those in the northern part of the county.

Properly constructed wells drilled to depths as great as 1,500 feet may produce as much as 1,000 gallons per minute in favorable locations within the county. Wells yielding 500 gallons per minute or more may be constructed anywhere in the county.

Water generally suitable in quantity and quality for domestic or stock supplies may be found within 300 feet of the land surface at any place in the county. In many places water of better quality may be found at depths greater than 300 feet.

## REFERENCES

Applin, E. R., Ellisor, A. C., and Kniker, H. T., 1925, Subsurface stratigraphy of the Coastal Plain of Texas and Louisiana: Am. Assoc. Petroleum Geologists Bull., v. 19, no. 1, p. 79-122.

Cooper, H. H., Jr., and Jacob, C. E., 1946, A generalized graphical method for evaluating formation constants and summarizing well-field history: Am. Geophys. Union Trans., v. 27, p. 526-534.

Deussen, Alexander, 1924, Geology of the Coastal Plain of Texas west of Brazos River: U. S. Geol. Survey Prof. Paper 126.

Doering, John, 1935, Post-Fleming surface formations of coastal southeast Texas and south Louisiana: Am. Assoc. Petroleum Geologists Bull., v. 19, p. 651-688.

Ellison, A. C., 1944, Anahuac formation: Am. Assoc. Petroleum Geologists Bull., v. 28, p. 1355-1375.

Kelley, W. P., 1951, Alkali soils: New York, Reinhold Publ. Corp., 176 p.

Maxcy, K. F., 1950, Report on the relation of nitrate concentrations in well waters to the occurrence of methemoglobinemia: Natl. Research Council Bull., Sanitary Engineers, p. 265-271, App. D.

Moore, E. E., 1940, Progress report of the committee on quality tolerances of water for industrial uses: New England Water Works Assoc. Jour., v. 54, p. 263.

Muenster, R. A., and Michal, E. J., Refugio County and part of Goliad County, Tex., records of wells, drillers' logs, and water analyses and maps showing location of wells: Texas Board of Water Engineers mimeographed report.

Renick, B. C., 1936, The Jackson group and the Catahoula and Oakville formations in a part of the Texas Gulf Coastal Plain: Texas Univ. Bull. 3619.

Richards, H. G., 1939, Marine Pleistocene of Texas: Geol. Soc. America Bull., v. 50, p. 1865-1898.

Scofield, T. S., 1936, The salinity of irrigation water: Smithsonian Inst. Ann. Rept. 1935, p. 275-287.

Sellards, E. H., Adkins, W. S., and Plummer, F. B., The geology of Texas, v. 1, Stratigraphy: Texas Univ. Bull. 3232.

Stenzel, H. B., Turner, F. E., and Hesse, C. B., 1944, Brackish and nonmarine Miocene in southeastern Texas: Am. Assoc. Petroleum Geologists Bull., v. 28, p. 977-1011.

U. S. Public Health Service, 1946, Public Health Service drinking water standards: Public Health Reports v. 61, p. 371-384.

U. S. Salinity Laboratory Staff, 1954, Diagnosis and improvement of saline and alkali soils: U. S. Dept. Agriculture Agr. Handbook 60.

## REFERENCES

Weeks, A. W., 1933, Lissie, Reynosa, and Upland terrace deposits of Coastal Plain of Texas between Brazos River and Rio Grande: Am. Assoc. Petroleum Geologists Bull., v. 17, p. 453-487.

_____, 1945, Oakville, Cuero, and Goliad formations of Texas Coastal Plain between Brazos River and Rio Grande: Am. Assoc. Petroleum Geologists Bull., v. 29, no. 12, p. 1721-1732.

Wenzel, L. K., 1942, Methods for determining permeability of water-bearing materials, with special reference to discharging-well methods: U. S. Geol. Survey Water-Supply Paper 887.

Winslow, A. G., and Doyel, W. W., 1954, Salt water and its relation to fresh ground water in Harris County, Tex.: Texas Board of Water Engineers Bull. 5409; U. S. Geol. Survey Water-Supply Paper 1360-F. (in press)

Table 2.- Records of wells in Goliad County, Texas

All wells are drilled unless otherwise noted in remarks column.

Water level : Reported water levels given in feet; measured water levels given in feet and tenths.

Method of lift and type of power : A, airlift; B, bucket; C, cylinder; Cf, centrifugal; E, electric; G, gasoline; H, hand; J, jet; T, turbine; W, windmill. Number indicates horsepower.

Use of water : D, domestic; Ind, industrial; Irr, irrigation; N, none; P, public supply; RR, railroad; S, stock.

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| *A-1 | Robert F. Goehring | August Pohler | 1947 | 400 | 5 | Goliad sand | 90 | Dec. 1954 | C,E, ½ | Ind,D | Casing: 400 ft of 5-in., slotted 300 to 400 ft. Temp. 78°F. |
| A-2 | Sunray Oil Corp. | -- | 1948 | 7,745 | -- | -- | -- | -- | -- | -- | Oil test. Base of fresh water sands is 1,600 ft. See plate 2 for electric log. |
| A-3 | Mitchell Oil Co. | W. E. Eeds | 1952 | 659 | 4 | Lagarto clay | 76.8 | Jan. 10, 1955 | N | N | Casing: 659 ft of 4-in., slotted 617 to 659 ft. Oil field supply well. See log. |
| A-4 | Landgrebe Estate | Thompson Well Service | 1952 | 256 | 4 | Goliad sand | 80 | Jan. 1955 | C,W | S | Casing: 256 ft of 4-in., slotted 214 to 256 ft. See log. |
| A-5 | A. H. Hardt | -- | Old | 43 | 4 | do | 40.2 | Oct. 6, 1954 | C,W | D,S | Casing: 43 ft of 4-in., open end. |
| A-6 | Mrs. Otto Krueger | -- | 1952 | 120 | 4 | do | -- | -- | C,W | S | Casing: 120 ft of 4-in., slotted 110 to 120 ft. |
| A-7 | do | Emil Dobsky | 1892 | 140 | 4 | do | 89.5 | Oct. 6, 1954 | C,W | S | Casing: 140 ft of 4-in., open end. Temp. 77°F. |
| *A-8 | Albert Willms | A. G. Reimenschnider | 1904 | 86 | 4 | do | 72.5 | do | C,W | D,S | Casing: 76 ft of 4-in., open end. Temp. 78°F. |
| A-9 | Laurence Schrade | Edwin Rangnow | 1949 | 65 | 4 | do | 53 | Oct. 1954 | C,E, ¾ | D,S | Casing: 65 ft of 4-in., open end. |
| A-10 | Hickock & Reynolds Inc. | W. E. Eeds | 1952 | 341 | 4½ | Lagarto clay | 28.5 | Sept. 22, 1954 | A | Ind | Casing: 341 ft of 4½-in., slotted 320 to 341 ft. Oil field supply well. |
| A-11 | Victor Preiss | John Maur | 1935 | 60 | 4 | Goliad sand | 40 | Oct. 1954 | C,W | D,S | Casing: 60 ft of 4-in., open end. |
| *A-12 | A. G. Preiss | Crowe Drilling Co. | 1952 | 86 | 4 | do | -- | -- | C,E, ½ | D,S | Casing: 86 ft of 4-in., slotted 76 to 86 ft. |
| A-13 | Anton Albrecht | -- | 1906 | 120 | 4 | do | 75.1 | Oct. 6, 1954 | C,W | D,S | Casing: 120 ft of 4-in., open end. |
| *A-14 | Ottilia Stauss | Adolph Fromme | 1929 | 86 | 4 | do | 60.2 | do | C,W | S | Casing: 86 ft of 4-in., open end. Temp. 78°F. |
| A-15 | do | do | 1929 | 70 | 4 | do | 60 | Oct. 1954 | C,W | D,S | Casing: 70 ft of 4-in., open end. |
| A-16 | R. E. Stauss | -- | 1870 | 60 | 4 | do | 38 | Oct. 1954 | C,W | D,S | Dug to 40 ft., drilled to 60 ft. Casing: 60 ft of 4-in. |

* See table 4 for chemical analyses.

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| A-17 | W. E. Albrecht | -- | 1900 | 85 | 4 | Goliad sand | 73 | Oct. 1954 | C,W | D | Casing: 85 ft of 4-in., open end. |
| A-18 | Alvin Bade | -- | Old | 80 | 4 | do | 50 | Oct. 1954 | J,E, ¾ | D,S | Casing: 80 ft of 4-in., open end. |
| A-19 | B. Landgrebe | -- | Old | 116 | 3½ | do | 80 | Jan. 1955 | C,W | D,S | Dug to 40 ft. Casing: 40 ft to 116 ft with 3½-in. |
| A-20 | Sunray Oil Corp. | Thompson Well Service | 1953 | 659 | 4 | Lagarto clay | -- | -- | C,E, 1 | D | Casing: 659 ft of 4-in., slotted 610 to 659 ft. See log. |
| A-21 | do | August Pohler | 1948 | 783 | 4 | Goliad sand and Lagarto clay | -- | -- | J,A | Ind | Casing: 612 ft of 4-in., slotted 348 to 395 ft, and 591 to 612 ft. Oil field supply well. |
| A-22 | Tidewater Associated Oil Co. | -- | 1952 | 466 | 4½ | Lagarto clay | 90.9 | Nov. 11, 1954 | J,A | Ind | Casing: 466 ft of 4½-in., slotted 441 to 466 ft. Oil field supply well. |
| A-23 | Fidelity Oil & Royalty Co. | Youngblood Well Service | 1952 | 895 | 4½ | Oakville sandstone and Lagarto clay, undifferentiated | 77.6 | Sept. 15, 1954 | J,A | Ind | Casing: 895 ft of 4½-in., Oil field supply well. See log. |
| A-24 | Tidewater Associated Oil Co. | do | 1952 | 574 | 4 | Lagarto clay | -- | -- | J,A | Ind | Casing: 574 ft of 4-in., slotted 553 to 574 ft. See log. |
| A-25 | Sierra Drilling Co. | L. R. Fuson | 1954 | 700 | 4 | do | 80 | Jan. 1955 | A | Ind | Casing: 700 ft of 4-in., slotted 610 to 700 ft. Water sand reported at 320 to 380 ft. Oil field supply well. |
| A-26 | Humble Oil & Refining Co. | -- | 1952 | 7,996 | -- | -- | -- | -- | -- | -- | Oil test. Base of fresh water sands at 1,540 ft. |
| A-27 | do | W. E. Eeds | 1952 | 630 | 4½ | Lagarto clay | 111.5 | Jan. 26, 1955 | A | Ind | Casing: 630 ft of 4½-in., slotted 588 to 630 ft. Oil field supply well. See log. |
| A-28 | Stranger & Richards Drilling Co. | August Pohler | 1954 | 358 | 4 | Goliad sand | 95.6 | Oct. 13, 1954 | A | Ind | Casing: 358 ft of 4-in., slotted 337 to 358 ft. Oil field supply well. See log. |
| *A-29 | A. Kerlick | Youngblood Well Service | 1952 | 640 | 4 | Lagarto clay | 94.9 | Mar. 21, 1955 | A | Ind,S | Casing: 595 ft of 4-in., slotted 574 to 595 ft. Temp. 80°F. See log. |
| A-30 | H. W. Dornburg | -- | 1944 | 137 | 4 | Goliad sand | 60 | Oct. 1954 | C,W | D,S | Casing: 127 ft of 4-in., open end. Water sand reported from 120 to 127 ft. |
| A-31 | W. F. Albrecht | -- | Old | 120 | 4 | do | 51.7 | Jan. 10, 1955 | C,W | S | Casing: 120 ft of 4-in., open end. |
| A-32 | Superior Oil Co. | W. E. Eeds | 1950 | 323 | 4 | do | 50.6 | do | A | Ind | Casing: 323 ft of 4-in., slotted from 302 to 323 ft. Oil field supply well. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| A-33 | Superior Oil Co. | -- | 1950 | 8,980 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 227 ft. Base of fresh water sands at 1,550 ft. |
| A-34 | Humble Oil & Refining Co. | -- | 1954 | 8,050 | -- | -- | -- | -- | -- | -- | Oil test. Base of fresh water sands at 1,460 ft. |
| A-35 | Goldston Oil Corp. | Kelly Well Service | 1948 | 630 | 4½ | Lagarto clay | 80 | Mar. 1955 | C,E, 1 | D | Casing: 630 ft of 4½-in., slotted from 589 to 630 ft. See log. |
| A-36 | Humble Oil & Refining Co. | Youngblood Well Service | 1948 | 690 | 4 | do | 71.1 | Oct. 18, 1954 | -- | Ind | Casing: 690 ft of 4-in., slotted from 608 to 629 ft, and 653 to 674 ft. Oil field supply well. See log. |
| A-37 | do | -- | 1948 | 7,903 | -- | -- | -- | -- | -- | -- | Oil test. Base of fresh water sands at 1,580 ft. |
| A-38 | Amerada Petroleum Co. | -- | 1948 | 685 | 4½ | Lagarto clay | 70.7 | Mar. 21, 1955 | -- | Ind | Casing: 685 ft of 4½-in., slotted from 641 to 685 ft. Oil field supply well. See log. |
| A-39 | Humble Oil & Refining Co. | Thompson Well Service | 1953 | 680 | 4 | do | 73.4 | Oct. 26, 1954 | A | Ind | Casing: 672 ft of 4-in., slotted from 590 to 610 ft, and 651 to 672 ft. Oil field supply well. See log. |
| A-40 | Carnes W. Weaver | Kelly Well Service | 1953 | 670 | 4 | do | 120.5 | Sept.29, 1954 | A | Ind | Casing: 670 ft of 4-in., slotted from 628 to 670 ft. Oil field supply well. See log. |
| A-41 | Continental Oil Co. | -- | 1943 | 450 | 5½ | do | 90 | Sept. 1954 | J,E, 2 | P | Casing: 450 ft of 5½-in. Supplies Continental Oil Co. Goliad camp. |
| A-42 | Humble Oil & Refining Co. | Thompson Well Service | 1953 | 678 | 4½ | do | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |
| A-43 | do | -- | 1949 | 7,731 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 249 ft. Base of fresh water sands at 1,570 ft. |
| A-44 | do | Youngblood Well Service | 1949 | 670 | 4 | Lagarto clay | -- | -- | C,E, 1 | D | Casing: 645 ft of 4-in., slotted from 605 to 615 ft, and 635 to 645 ft. See log. |
| *A-45 | Nelson A. Myer | Adolph Reimenschnider | 1947 | 50 | 4 | Goliad sand | 28.9 | Oct. 19, 1954 | C,W | D,S | Casing: 50 ft of 4-in., open end. |
| A-46 | A. F. Dohmann | Ben Wilson | 1949 | 93 | 4½ | do | 53.4 | Oct. 13, 1954 | C,W | S | Casing: 93 ft of 4½-in., slotted from 83 to 93 ft. See log. |
| A-47 | Humble Oil & Refining Co. | Thompson Well Service | 1954 | 260 | -- | -- | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| A-48 | St. Andrews Lutheran Church | Youngblood Well Service | 1951 | 210 | 4½ | Goliad sand | 70 | Oct. 1954 | C,E, ¼ | D,P | Casing: 210 ft of 4½-in., slotted from 189 to 209 ft. See log. |
| *A-49 | Goldston Oil Corp. | August Pohler | 1948 | 680 | 4 | Lagarto clay | -- | -- | A | Ind | Casing: 680 ft of 4-in., Oil field supply well. Temp. 76½°F. |
| A-50 | Atlantic Refining Co. | -- | 1948 | 7,710 | -- | -- | -- | -- | -- | -- | Oil test. Base of fresh water sands at 1,300 ft. |
| A-51 | Amerada Petroleum Co. | -- | 1952 | 604 | 4 | Lagarto clay | 211.5 | Sept. 29, 1954 | A | Ind | Casing: 604 ft of 4-in., slotted from 584 to 602 ft. Oil field supply well. See log. |
| A-52 | Goldston Oil Corp. | -- | 1949 | 600 | 4 | do | 104.9 | Sept. 22, 1954 | A | Ind | Casing: 600 ft of 4-in. Oil field supply well. |
| B-1 | Gladys Powell Key | G. A. Tucker | 1946 | 62 | 4 | do | -- | -- | N | N | Casing: 62 ft of 4-in., slotted from 46 to 62 ft. Reported well went dry in 1954. See log. |
| B-2 | do | -- | 1900 | 80 | 4 | do | 50 | Nov. 1954 | C,W | D,S | Casing: 80 ft of 4-in., open end. |
| B-3 | do | Youngblood Well Service | 1949 | 646 | 4 | do | 72.7 | Oct. 18, 1954 | C,W | S | Casing: 630 ft of 4-in., slotted from 608 to 629 ft. Temp. 79°F. See log. |
| B-4 | G. A. Ray Estate | -- | Old | 150 | 4 | do | 64.2 | Jan. 13, 1955 | C,W,G | D,S | Casing: 150 ft of 4-in. |
| *B-5 | Gladys Powell Key | August Pohler | 1954 | 627 | 4 | do | 99.4 | Nov. 16, 1954 | C,W | S | Casing: 627 ft of 4-in., slotted from 560 to 627 ft. Temp. 78°F. See log. |
| B-6 | G. A. Ray Estate | -- | Old | 130 | 4 | do | 90.7 | Jan. 13, 1955 | C,W | D,S | Casing: 130 ft of 4-in. |
| B-7 | do | J. M. Warfield | 1946 | 180 | 5 | do | 93.6 | do | C,W | D,S | Casing: 180 ft of 5-in., slotted from 159 to 180 ft. |
| B-8 | do | -- | Old | 60 | 4 | do | 42.4 | do | C,W | D,S | Casing: 60 ft of 4-in., open end. |
| B-9 | do | -- | Old | 160 | 3 | do | 59.8 | do | C,W | S | Casing: 160 ft of 3-in. Temp. 77°F. |
| B-10 | do | J. M. Warfield | 1940 | 280 | 4 | do | 60.2 | Jan. 12, 1955 | C,W | S | Casing: 280 ft of 4-in., slotted from 259 to 280 ft. |
| *B-11 | Rockhill Oil Co. | -- | 1935 | 600 | 4½ | do | 195.2 | Nov. 17, 1954 | C,W | D | Casing: 600 ft of 4½-in. |
| B-12 | do | -- | 1934 | 1,300 | 4 | Oakville sandstone | 266.3 | Jan. 6, 1955 | A | Ind | Casing: 1,300 ft of 4-in. Oil field supply well. |
| B-13 | do | -- | 1934 | 600 | 4½ | Lagarto clay | 190.5 | Nov. 16, 1954 | C,W | S | Casing: 600 ft of 4-in. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| *B-14 | Stanolind Oil & Gas Co. | Layne-Texas Co. Ltd. | 1948 | 934 | 10¾, 6 5/8 | Oakville sandstone | 341.0 | Mar. 23, 1955 | T,E,G | Ind | Casing: 10¾-in. to 750 ft; 6 5/8-in. from 650 to 934 ft. Screened from 761 to 931 ft. Cemented with 350 sacks of cement. Measured yield 135 gpm. Temp. 88°F. See log. Well is in Bee County. |
| B-15 | G. A. Ray Estate | J. M. Warfield | 1940 | 300 | 4 | Lagarto clay | 106.7 | Jan. 12, 1955 | C,W | S | Casing: 300 ft of 4-in., slotted from 279 to 300 ft. Temp. 75°F. |
| B-16 | do | -- | Old | 140 | 6 | do | 47.2 | Jan. 13, 1955 | C,W | S | Casing: 140 ft of 6-in., open end. |
| *B-17 | do | G. A. Ray | 1865 | 60 | 72 | do | 36.9 | do | C,W | D,S | Dug. Casing: 60 ft of rock. Four-inch casing from 4 ft to 60 ft. |
| B-18 | do | J. M. Warfield | 1940 | 140 | 4 | do | 88.3 | do | C,W,G | S | Casing: 140 ft of 4-in., slotted from 119 to 140 ft. |
| C-1 | Magnolia Petroleum Co. | C. E. Eaton | 1936 | 251 | 6 | do | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |
| C-2 | Lyons-Prentiss Co. | -- | 1946 | 4,260 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 307 ft. Base of fresh water sands at 1,530 ft. |
| *C-3 | Sunray Oil Corp. | August Pohler | 1948 | 652 | 4 | Lagarto clay | -- | -- | C,E, 3 | D | Casing: 648 ft of 4-in., slotted from 581 to 648 ft. Temp. 77°F. |
| C-4 | Seaboard Oil Co. | -- | 1946 | 7,697 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 320 ft. Base of fresh water sands at 1,550 ft. |
| C-5 | Sun Oil Co. | Sonora Drilling Co. | 1952 | 582 | 4 | Lagarto clay | -- | -- | A | Ind | Casing: 582 ft of 4-in., slotted from 541 to 582 ft. Oil field supply well. |
| C-6 | do | Crowe Drilling Co. | 1952 | 300 | 4 | do | 35.3 | Sept. 23, 1954 | A | Ind | Casing: 116 ft of 4-in., slotted from 95 to 116 ft. No water sand from 116 to 300 ft. Oil field supply well. |
| C-7 | Stanolind Oil & Gas Co. | W. E. Eeds | 1952 | 278 | 4 | do | 39.2 | do | A | Ind | Casing: 278 ft of 4-in., slotted from 257 to 278 ft. Oil field supply well. See log. |
| C-8 | do | -- | 1952 | 7,923 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 250 ft. Base of fresh water sands at 1,420 ft. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| C-9 | Magnolia Petroleum Co. | August Pohler | 1945 | 586 | 4 | Lagarto clay | -- | -- | A | Ind | Casing: 586 ft of 4-in., slotted from 537 to 586 ft. Oil field supply well. See log. |
| C-10 | do | -- | 1953 | 7,829 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 256 ft. Base of fresh water sands at 1,400 ft. |
| C-11 | Hassie Hunt Trust Co. | Thompson Well Service | -- | 329 | 4 | Lagarto clay | 96.8 | Sept. 23, 1954 | A | Ind | Casing: 329 ft of 4-in., slotted from 308 to 329 ft. Oil field supply well. See log. |
| C-12 | do | -- | 1948 | 7,899 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 280 ft. Base of fresh water sands at 1,350 ft. |
| C-13 | Hawn Bros. & Heard & Haring | Thompson Well Service | 1954 | 629 | 4 | Lagarto clay | 55.4 | Oct. 26, 1954 | A | Ind | Casing: 629 ft of 4-in., slotted from 219 to 240 ft, and 608 to 629 ft. Oil field supply well. See log. |
| C-14 | do | -- | 1953 | 4,147 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 255 ft. Base of fresh water sands at 1,270 ft. |
| C-15 | do | -- | 1953 | 4,268 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 292 ft. Base of fresh water sands at 1,300 ft. |
| *C-16 | Continental Oil Co. | W. E. Eeds | 1952 | 648 | 4½ | Lagarto clay | -- | -- | A | Ind | Casing: 648 ft of 4½-in., slotted from 627 to 648 ft. Oil field supply well. Temp. 83½°F. |
| *C-17 | T. M. Reed | do | 1953 | 674 | 4½ | do | 67.7 | Nov. 18, 1954 | C,W | S | Casing: 674 ft of 4½-in., slotted from 653 to 674 ft. Temp. 78½°F. |
| C-18 | John Yanta | Thompson Well Service | 1952 | 526 | 4½ | do | -- | -- | N | N | Casing: 522 ft of 4½-in., slotted from 501 to 522 ft. See log. |
| C-19 | George Hernandez | -- | 1952 | 120 | 4 | do | 45 | Nov. 1954 | C,E, 1 | D,S | Casing: 120 ft of 4-in., slotted from 100 to 120 ft. |
| C-20 | Goldston Oil Corp. | August Pohler | 1949 | 600 | 4 | do | -- | -- | A | Ind | Casing: 600 ft of 4-in., slotted from 579 to 600 ft. Oil field supply well. Temp. 78°F. |
| C-21 | Tidewater Associated Oil Co. | Allen & Morris | 1952 | 603 | 4 | do | 16.8 | Oct. 26, 1954 | A | Ind | Casing: 603 ft of 4-in., slotted from 578 to 603 ft. Oil field supply well. Altitude of land surface 206 ft. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level: Below land-surface datum (ft.) | Water level: Date of measurement | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C-22 | Kirkwood Co. | W. E. Eeds | 1951 | 669 | 4½ | Lagarto clay | 65 | Jan. 1955 | A | Ind | Casing: 663 ft of 4½-in., slotted from 642 to 663 ft. Oil field supply well. See log. |
| C-23 | First National Bank of Goliad | Ben Wilson | 1951 | 193 | 4½ | do | 125.8 | Sept. 28, 1954 | C,W | S | Casing: 193 ft of 4½-in., Screened from 173 to 193 ft. Temp. 77°F. See log. |
| C-24 | Continental Oil Co. | Thompson Well Service | 1953 | 331 | -- | do | -- | -- | -- | N | Casing removed. Oil field supply well. See log. |
| C-25 | do | -- | 1950 | 5,312 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 301 ft. Base of fresh water sands at 1,690 ft. |
| C-26 | Victor Albrecht | E. C. Hubbel | 1934 | 603 | 7 | Lagarto clay | 153.4 | Oct. 21, 1954 | N | N | Casing: 458 ft of 7-in. Perforated from 345 to 365 ft, and 385 to 395 ft. See log. |
| C-27 | Grace Ramsey | W. E. Eeds | 1951 | 130 | 4½ | do | 90.0 | Jan. 25, 1955 | C,E, ½ | S | Casing: 130 ft of 4½-in., slotted from 109 to 130 ft. See log. |
| C-28 | John Oyer | -- | Old | 80 | 4 | do | 62.8 | Feb. 15, 1955 | C,W | S | Casing: 80 ft of 4-in., open end. |
| *C-29 | R. L. Johnson | -- | 1945 | 106 | 4 | do | 60 | Feb. 1955 | J,E, 1 | D,S | Casing: 106 ft of 4-in., open end. Temp. 76°F. |
| *C-30 | Gladys Powell Key | Thompson Well Service | 1953 | 280 | 4½ | do | + | Nov. 16, 1954 | Flows | S | Casing: 280 ft of 4½-in., slotted from 238 to 280 ft. Measured flow 25 gpm. Temp. 77°F. See log. |
| C-31 | do | -- Hutchinson | 1953 | 350 | 4½ | do | + | do | Flows | S | Casing: 350 ft of 4½-in. Measured flow 12 gpm. Temp. 77°F. |
| *C-32 | do | Thompson Well Service | 1953 | 368 | 4½ | do | + | do | Flows | S | Casing: 368 ft of 4½-in., slotted from 326 to 368 ft. Measured flow 20 gpm. Temp. 77½°F. See log. |
| *C-33 | do | do | 1953 | 390 | 4½ | do | + | do | Flows | S | Estimated flow 10 gpm. Temp. 78°F. See log. |
| C-34 | K. N. Elliot | -- | Old | 50 | 6 | do | 31.6 | Feb. 15, 1955 | C,W | D,S | Casing: 50 ft of 6-in., open end. |
| C-35 | Granite Oil Trust | W. E. Eeds | 1954 | 528 | 4½ | do | 53.0 | Sept. 22, 1954 | A | Ind | Casing: 528 ft of 4½-in., slotted from 507 to 528 ft. Cemented. |
| *C-36 | Continental Oil Co. | -- | 1950 | 800 | 4 | Oakville sandstone & Lagarto clay, undifferentiated | 80 | Sept. 1954 | A | Ind,S | Casing: 800 ft of 4-in., slotted. Temp. 81°F. |
| C-37 | MacKenzie Drilling Co. | -- | 1954 | 4,735 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 185 ft. Base of fresh water sands at 1,470 ft. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level: Below land-surface datum (ft.) | Water level: Date of measurement | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C-38 | Dan L. Clark | B. T. Sikes | 1954 | 380 | 4 | Lagarto clay | -- | -- | A | Ind | Casing: 380 ft of 4-in., slotted from 340 to 380 ft. Sand reported from 260 to 268 ft. Temp. 77°F. |
| C-39 | C. C. Ramsey Estate | Will Spangle | Old | 120 | 4 | do | 60 | Jan. 1955 | C,E, 1 | D,S | Casing: 120 ft of 4-in., open end. |
| C-40 | V. T. Irby | do | -- | 187 | 4 | do | 46.5 | Oct. 11, 1954 | C,W | S | Casing: 187 ft of 4-in., open end. |
| C-41 | R. N. Irby | -- | 1920 | 40 | 4 | do | 21.7 | do | C,E, ¾ | D,S | Casing: 40 ft of 4-in., open end. |
| C-42 | do | -- | 1930 | 90 | 4 | do | 30 | Oct. 1954 | J,E, ¾ | D,S | Casing: 90 ft of 4-in., open end. |
| *C-43 | D. B. Hardeman | Ben Wilson | 1946 | 620 | 2 | do | + | Nov. 2, 1954 | Flows | S | Casing: 620 ft of 2-in. Strong sulfur odor. Measured flow 8 gpm. Temp. 79°F. |
| *C-44 | J. W. Davenport | -- | Old | 60 | 6 | do | 30.7 | Feb. 15, 1955 | C,W | D,S | Casing: 60 ft of 6-in., open end. Temp. 75°F. |
| *C-45 | do | W. E. Eeds | 1950 | 350 | 3 | do | + | do | Flows | S,Irr | Casing: 350 ft of 3-in., slotted from 308 to 350 ft. Measured flow 5 gpm. Has irrigated 1½ acres. Temp. 78°F. |
| *C-46 | do | -- | 1925 | 600 | 4½ | do | + | do | Flows | S,Irr | Casing: 600 ft of 4½-in., Screens at 440 to 453, 540 to 548, and 568 to 600 ft. Estimated flow 12 gpm. Temp. 80°F. See log. |
| *C-47 | G. T. Powell Estate | Thompson Well Service | 1953 | 697 | 4½ | do | + | Nov. 2, 1954 | Flows | S | Casing: 697 ft of 4½-in., slotted from 645 to 688 ft. Measured flow 2 gpm. Temp. 78½°F. See log. |
| C-48 | Humble Oil & Refining Co. | -- | -- | -- | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 195 ft. Base of fresh water sands at 1,150 ft. |
| C-49 | G. A. Ray Estate | W. E. Eeds | 1953 | 300 | 4 | Lagarto clay | 90 | Jan. 1955 | C,W | S | Casing: 300 ft of 4-in., slotted from 279 to 300 ft. Temp. 75°F. |
| C-50 | Brown & Wheeler Co. | -- | 1948 | 5,057 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 250 ft. Base of fresh water sands at 1,340 ft. |
| C-51 | G. T. Powell Estate | Thompson Well Service | 1953 | 307 | 4 | Lagarto clay | -- | -- | C,W | D,S | Casing: 307 ft of 4-in., slotted from 286 to 307 ft. See log. |
| C-52 | J. M. Pettus | -- | Old | 60 | 4 | do | 34.1 | Sept. 27, 1954 | C,H | D,S | Casing: 60 ft of 4-in., open end. |
| C-53 | do | -- | 1927 | 80 | 4 | do | 40 | Sept. 1954 | C,W | D,S | Casing: 80 ft of 4-in., open end. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| *C-54 | Amerada Petroleum Co. | -- | -- | 521 | 4 | Lagarto clay | + | Sept. 22, 1954 | Flows | Ind, S | Casing: 521 ft of 4-in., slotted from 459 to 482 ft., and 505 to 521 ft. Measured flow 8 gpm. Temp. 77°F. |
| *C-55 | H. R. Smith | W. E. Eeds | 1954 | 549 | 4½ | do | + | Sept. 27, 1954 | Flows | Ind, D | Casing: 476 ft of 4½-in. Perforated from 432 to 476 ft. Cemented with 50 sacks of cement. Measured flow 27 gpm. Temp. 78°F. See log. |
| C-56 | Amerada Petroleum Co. | Thompson Well Service | 1952 | 633 | -- | do | -- | -- | -- | N | Casing pulled. Sands reported at 223 to 262 ft; 275 to 323 ft; 383 to 405 ft; 421 to 440 ft; 525 to 550 ft; and 610 to 633 ft. Flowed when drilled. |
| C-57 | A. D. McGothing | -- | Old | 60 | 4 | do | 37.7 | Feb. 17, 1955 | C, W | S | Casing: 60 ft of 4-in. |
| D-1 | Carnes W. Weaver | Kelly Well Service | 1951 | 176 | 3½ | do | 125.6 | Sept. 29, 1954 | A | Ind | Casing: 176 ft of 3½-in., slotted from 155 to 176 ft. Oil field supply well. See log. |
| D-2 | H. W. Dornburg | H & K Well Service | 1949 | 85 | 4¼ | Goliad sand | 54.6 | Oct. 13, 1954 | C, W | S | Casing: 85 ft of 4¼-in., slotted from 78 to 85 ft. See log. |
| D-3 | Atlantic Refining Co. | August Pohler | 1950 | 718 | 4 | Lagarto clay | 107.6 | Sept. 16, 1954 | A | Ind | Casing: 640 ft of 4-in., slotted from 600 to 640 ft. Oil field supply well. |
| D-4 | do | -- | 1950 | 2,532 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 270 ft. Base of fresh water sands at 1,600 ft. |
| D-5 | Sunray Oil Corp. | -- | -- | 300+ | 4½ | Lagarto clay | 78.7 | Sept. 16, 1954 | A | Ind | Oil field supply well. |
| D-6 | do | -- | 1949 | 8,200 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 247 ft. Base of fresh water sands at 1,610 ft. |
| D-7 | Humble Oil & Refining Co. | W. E. Eeds | 1952 | 561 | 4½ | Lagarto clay | 53.4 | Sept. 21, 1954 | A | Ind | Casing: 561 ft of 4½-in., slotted from 519 to 561 ft. Oil field supply well. See log. |
| D-8 | do | -- | 1952 | 5,152 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 232 ft. Base of fresh water sands at 1,520 ft. See plate 2 for electric log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| D-9 | Sun Oil Co. | Crowe Drilling Co. | 1952 | 260 | 4 | Goliad sand | 71.5 | Sept. 21, 1954 | A | Ind | Casing: 260 ft of 4-in., slotted from 239 to 260 ft. Oil field supply well. |
| D-10 | Tidewater Associated Oil Co. | Youngblood Well Service | 1952 | 350 | 4½ | do | 99.8 | Sept. 15, 1954 | A | Ind | Casing: 350 ft of 4½-in., slotted from 329 to 350 ft. Oil field supply well. |
| D-11 | W. M. Hoff | -- | 1905 | 120 | 4 | do | 56.6 | Oct. 6, 1954 | C,W | S | Casing: 120 ft of 4-in., open end. Temp. 77°F. |
| D-12 | do | A. G. Reimschneider | 1919 | 125 | 4 | do | 60 | Oct. 1954 | C,W | D,S | Casing: 125 ft of 4-in., open end. |
| D-13 | Edgar Albrecht | Will Spangle | Old | 125 | 4 | do | 74.8 | Oct. 12, 1954 | C,W | S | Do. |
| D-14 | Fred Moritz | -- | Old | 95 | 3½ | do | 90 | Oct. 1954 | C,W | D,S | Casing: 95 ft of 3½-in., open end. |
| D-15 | R. W. Hoff | -- | 1944 | 90 | 4 | do | 70 | Oct. 1954 | C,W | D,S | Casing: 90 ft of 4-in., slotted from 80 to 90 ft. |
| *D-16 | do | Will Spangle | 1936 | 125 | 4½ | do | 114 | Oct. 1954 | J,E, 1 | D,S | Casing: 125 ft of 4½-in., open end. |
| D-17 | Tidewater Associated Oil Co. | -- | 1950 | 5,078 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 261 ft. See plate 2 for electric log. |
| D-18 | do | Martin Well Service | 1950 | 600 | 4 | Lagarto clay | 92.4 | Sept. 21, 1954 | N | N | Casing: 600 ft of 4-in. Oil field supply well. Reported very little water. |
| D-19 | do | do | 1950 | 285 | 4 | Goliad sand | 98.4 | do | A | Ind | Casing: 285 ft of 4-in., slotted from 260 to 285 ft. Oil field supply well. |
| D-20 | Continental Oil Co. | Kelly Well Service | 1953 | 262 | 4 | do | -- | -- | A | Ind | Casing: 262 ft of 4-in., slotted from 240 to 262 ft. Oil field supply well. See log. |
| D-21 | W. P. Clements, Jr. | -- | -- | 300+ | 4½ | do | 116.2 | Mar. 21, 1955 | A | Ind | |
| D-22 | G. R. Brown | -- | -- | 300+ | 4 | do | 113.4 | do | A | Ind | |
| D-23 | Goldston Oil Corp. | August Pohler | 1949 | 675 | 4 | Lagarto clay | 105.1 | Sept. 29, 1954 | A | Ind | Casing: 675 ft of 4-in., slotted from 654 to 675 ft. Oil field supply well. |
| D-24 | Atlantic Refining Co. | -- | 1951 | 500 | 4½ | do | 43.7 | Feb. 15, 1955 | A | Ind | Casing: 500 ft of 4-in. Oil field supply well. |
| D-25 | B & G Oil Co. | Youngblood Well Service | 1946 | 550 | 4 | do | 55.0 | Oct. 18, 1954 | A | Ind | Casing: 550 ft of 4-in., slotted from 529 to 550 ft. Oil field supply well. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level: Below land-surface datum (ft.) | Water level: Date of measurement | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D-26 | C. Henke | Youngblood Well Service | 1951 | 147 | 4½ | Lagarto clay | 60.9 | Oct. 18, 1954 | J,E, 1 | D,S | Casing: 147 ft of 4½-in., slotted from 126 to 147 ft. See log. |
| D-27 | J. H. Gleinser | G. A. Tucker | 1947 | 124 | 4 | do | 62.3 | Oct. 13, 1954 | C,W | S | Casing: 124 ft of 4-in., slotted from 108 to 124 ft. Temp. 77°F. See log. |
| D-28 | J. A. Ressman | Eugene Natho | 1930 | 67 | 4 | Goliad sand | 61 | Sept. 1954 | C,W | D,S | Casing: 67 ft of 4-in., open end. |
| D-29 | Bert Bammert | -- | 1946 | 117 | 4 | do | 109.9 | Sept.20, 1954 | C,W | S | Casing: 117 ft of 4-in., slotted from 107 to 117 ft. Temp. 79°F. |
| D-30 | George Kerlick | -- | 1905 | 95 | 4 | do | 94 | Sept. 1954 | C,W | D,S | Casing: 95 ft of 4-in., open end. |
| D-31 | Raymond Jacobs | Thompson Well Service | 1953 | 165 | 4 | do | 55.0 | Oct. 12, 1954 | J,E, ½ | D,S | Casing: 165 ft of 4-in., slotted from 144 to 165 ft. Reported sand from 126 to 165 ft. |
| D-32 | Oscar Lange | -- | 1946 | 120 | 4 | do | -- | -- | C,W | D,S | Casing: 120 ft of 4-in., slotted from 110 to 120 ft. |
| D-33 | Jay Simmons | Youngblood Well Service | 1946 | 817 | 4½ | Oakville sandstone & Lagarto clay, undifferentiated | 98 | Dec. 7, 1954 | N | N | Casing: 753 ft of 4½-in., slotted from 710 to 753 ft. Well blocked at 98 ft. Oil field supply well. See log. |
| D-34 | do | do | 1946 | 910 | 4 | do | 70.5 | Sept.23, 1954 | A | Ind | Casing: 910 ft of 4-in., slotted from 579 to 600 ft; 780 to 801 ft; 870 to 910 ft. Oil field supply well. See log. |
| *D-35 | Oscar Duderstadt | Allan Beeson | 1949 | 105 | 4 | Lagarto clay | 40 | Nov. 1954 | C,W | D,S | Casing: 105 ft of 4-in. Perforated from 84 to 105 ft. |
| *D-36 | Sunray Oil Corp. | -- | 1947 | 600 | 4 | do | -- | -- | A | Ind,S | Casing: 600 ft of 4-in., slotted from 579 to 600 ft. |
| D-37 | Texas Highway Dept. | -- | 1946 | 101 | 8 | Goliad sand | 66.4 | Feb. 16, 1955 | N | N | Casing: 101 ft of 8-in. |
| D-38 | G. A. Albrecht | Will Spangle | 1917 | 126 | 4¼ | do | 14 | Sept. 1954 | C,E, 1 | D,S | Casing: 126 ft of 4¼-in., open end. |
| D-39 | do | -- | Old | 85 | 3½ | do | 80 | Sept. 1954 | C,W | S | Casing: 85 ft of 3½-in., open end. |
| D-40 | do | -- | Old | 85 | 3½ | do | -- | -- | C,W | S | Do. |
| D-41 | L. C. Fromme | Will Spangle | 1919 | 118 | 4¼ | do | 100 | Sept. 1954 | C,E, ½ | D,S | Casing: 118 ft of 4¼-in., open end. |
| D-42 | Ginther, Warren & Ginther | -- | 1944 | 350 | 4½ | do | 108.6 | Sept.16, 1954 | A | Ind | Casing: 350 ft of 4½-in. |
| D-43 | do | -- | 1944 | 2,696 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 260 ft. Base of fresh water sands at 1,730 ft. See plate 2 for electric log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| D-44 | Mrs. W. E. Reaves | Will Spangle | 1923 | 136 | 4 | Goliad sand | 70 | Nov. 1954 | C,E, ¾ | D,S | Casing: 136 ft of 4-in., open end. |
| D-45 | Mrs. Fanny O. Marshall | -- | Old | 100 | 4 | Lagarto clay | -- | -- | C,W | D,S | Casing: 100 ft of 4-in., open end. |
| D-46 | Mrs. C. G. Riggs | -- | 1942 | 90 | 4 | do | 78.4 | Nov. 1, 1954 | C,W | D,S | Casing: 90 ft of 4-in., open end. |
| D-47 | MacKenzie Drilling Co. | Thompson Well Service | 1953 | 280 | -- | do | -- | -- | -- | N | Casing pulled. See log. |
| D-48 | -- Simms | Will Spangle | 1934 | 140 | 4½ | do | 56.1 | Nov. 1, 1954 | C,W | S | Casing: 140 ft of 4½-in., open end. Reported 20 ft of sand. |
| D-49 | James Hinnig | do | Old | 136 | 4 | Goliad sand | 85.7 | Sept.16, 1954 | C,W | D,S | Casing: 135 ft of 4-in., open end. |
| D-50 | Edna Mae Hennig | Thompson Well Service | 1954 | 147 | 4 | do | -- | -- | C,E, 1 | D,S | Casing: 147 ft of 4-in., slotted from 126 to 147 ft. See log. |
| D-51 | G. A. Albrecht | Youngblood Well Service | 1948 | 123 | 4 | do | 86.1 | Sept.28, 1954 | C,W | D,S | Casing: 118 ft of 4-in., slotted from 108 to 118 ft. Temp. 77°F. See log. |
| D-52 | Mrs. G. G. Bruns | Will Spangle | Old | 96 | 4 | do | 87.8 | Oct. 12, 1954 | C,W | S | Casing: 96 ft of 4-in., open end. Temp. 77°F. |
| D-53 | do | do | Old | 90 | 4 | do | 83.3 | do | C,W | S | Casing: 90 ft of 4-in., open end. Temp. 77°F. |
| D-54 | Charles Danforth | do | 1924 | 107 | 4 | do | 82.7 | do | C,W | D,S | Casing: 107 ft of 4-in., open end. |
| D-55 | J. H. Gleinser | do | 1930 | 125 | 4 | do | 85 | Oct. 1954 | C,W | S | Casing: 125 ft of 4-in., open end. |
| D-56 | Mrs. G. G. Bruns | -- | 1938 | 102 | 4 | do | 83.1 | Sept.16, 1954 | C,W | D,S | Casing: 102 ft of 4-in. |
| D-57 | do | -- | Old | 90 | 4 | do | 80 | Sept. 1954 | J,E | D,S | Casing: 90 ft of 4-in. |
| D-58 | Joe Reitz | -- | Old | 80 | 4 | do | 49.6 | Sept.16, 1954 | C,W | S | Casing: 80 ft of 4-in., open end. Reported sand from 70 to 80 ft. |
| D-59 | A. C. Taylor | Ben Wilson | 1947 | 112 | 4½ | do | 46.4 | Nov. 2, 1954 | C,W | S | Casing: 112 ft of 4½-in., slotted from 91 to 112 ft. Temp. 74°F. See log. |
| D-60 | do | Youngblood Well Service | 1951 | 148 | 4½ | do | 45.8 | do | C,W | S | Casing: 148 ft of 4½-in., slotted from 127 to 148 ft. Temp. 73½°F. See log. |
| D-61 | Shaper Taylor | Will Spangle | 1907 | 142 | 4 | do | 68 | Nov. 1954 | C,E, ¾ | D,S | Casing: 142 ft of 4-in., open end. |
| D-62 | do | do | Old | 60 | 4 | do | -- | -- | C,W | S | Casing: 60 ft of 4-in., open end. |
| D-63 | Mrs. August Freidrich | -- Lunchane | 1930 | 131 | 4 | do | 120.2 | Jan. 26, 1955 | C,W,G, 1½ | D,S | Casing: 131 ft of 4-in., open end. |
| *D-64 | Larry Baker | -- | 1900 | 120 | 4 | do | 90.7 | Feb. 23, 1955 | C,W | S | Casing: 120 ft of 4-in., open end. Temp. 78°F. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| D-65 | Gerald Donoghue | Youngblood Well Service | 1951 | 241 | 4½ | Goliad sand | 85 | Nov. 1954 | J,E, ¼ | D,S | Casing: 241 ft of 4½-in., slotted from 220 to 241 ft. Well was drilled to 92 ft many years ago. Went dry in 1951. See log. |
| D-66 | do | Gaines Bros. | 1950 | 356 | 3½ | Lagarto clay | 104.6 | Nov. 1, 1954 | N | N | Casing: 356 ft of 3½-in., slotted from 335 to 356 ft. Oil field supply well. |
| D-67 | Commercial Production Co. | -- | 1952 | 8,000 | -- | --- | -- | -- | -- | -- | Oil test. Altitude of land surface 229 ft. Base of fresh water sands at 1,900 ft. See plate 3 for electric log. |
| D-68 | Morris N. Dye | Ben Wilson | 1949 | 123 | 4 | Goliad sand | 33 | Sept. - 1954 | J,E, ½ | D,S | Casing: 113 ft of 4-in., slotted from 93 to 113 ft. Reported drawdown 3 ft after pumping 12 hours. |
| D-69 | McCarrick Oil Co. | -- | 1952 | 3,950 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 184 ft. Base of fresh water sands at 1,840 ft. |
| D-70 | I. J. Hennig | -- | Old | 75 | 4½ | Goliad sand | 49.7 | Sept. 16, 1954 | C,W | D,S | Casing: 75 ft of 4½-in., open end. Temp. 77°F. |
| *D-71 | do | -- Chandler | 1922 | 65 | 4¼ | do | 42.4 | do | C,E, ½ | D,S | Casing: 65 ft of 4¼-in., slotted from 55 to 65 ft. Temp. 76°F. |
| D-72 | McBride Oil & Gas Co. | Thompson Well Service | 1953 | 173 | -- | do | -- | -- | -- | N | Casing removed. Oil field supply well. See log. |
| D-73 | Lloyd Sapenter | W. E. Eeds | 1949 | 90 | 4 | do | 44.3 | Nov. 10, 1954 | C,W | D,S | Casing: 90 ft of 4-in., slotted from 69 to 90 ft. Temp. 76°F. See log. |
| D-74 | Alfred Williams | do | 1951 | 120 | 4½ | do | 52.8 | Jan. 25, 1955 | C,W | D,S | Casing: 120 ft of 4½-in., slotted from 110 to 120 ft. See log. |
| *D-75 | C. F. Kohler | Youngblood Well Service | 1951 | 95 | 4½ | do | 45.5 | do | C,W | S | Casing: 60 ft of 4½-in., slotted from 39 to 60 ft. Temp. 76°F. See log. |
| D-76 | J. M. Hensley | do | 1951 | 165 | 4½ | do | 73.4 | Oct. 21, 1954 | C,W | S | Casing: 165 ft of 4½-in., slotted from 144 to 165 ft. Temp. 75½°F. See log. |
| *D-77 | Mrs. G. M. Bridges | do | 1952 | 175 | 4½ | do | 75 | Sept. 1954 | C,E, ¼ | D,S | Casing: 175 ft of 4½-in., slotted from 155 to 175 ft. See log. |
| *D-78 | City of Goliad | Layne-Texas Co. Ltd. | 1953 | 557 | 12¾, 6 5/8 | Lagarto clay | 79.6 | Mar. 15, 1955 | T,E, 40 | P | Casing: 371 ft of 12¾-in. Screened with 6 5/8-in. Screen from 379 to 479 ft; 515 to 540 ft; 8-stage pump set at 250 ft. Measured yield 561 gpm. Temp. 77°F. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| *D-79 | Alton F. Curtis | Thompson Well Service | 1954 | 249 | 4 | Goliad sand | 81.5 | Sept. 15, 1954 | J,E | D | Casing: 249 ft of 4-in., slotted from 229 to 249 ft. See log. |
| E-1 | B. L. Arnold | Youngblood Well Service | 1953 | 360 | 4½ | do | 106.1 | Nov. 15, 1954 | C,W | S | Casing: 358 ft of 4½-in., slotted from 337 to 358 ft. Temp. 75°F. See log. |
| *E-2 | H. S. Jacob | do | 1953 | 393 | 4 | do | -- | -- | C,E, ¼ | D,S | Casing: 391 ft of 4-in., slotted from 370 to 391 ft. Temp. 78°F. See log. |
| E-3 | Victor Priess | -- | Old | 150 | 4 | do | 69.6 | Oct. 20, 1954 | C,W | S | Casing: 150 ft of 4-in., open end. Temp. 78°F. |
| E-4 | do | Youngblood Well Service | 1953 | 160 | 4 | do | -- | -- | -- | -- | Casing pulled. See log. |
| E-5 | Morris, Cannan & Miller Co. | Thompson Well Service | 1951 | 192 | 4 | do | -- | -- | N | N | Casing: 192 ft of 4-in., slotted from 171 to 192 ft. Oil field supply well. See log. |
| E-6 | A. Groll | -- | 1904 | 93 | 4 | do | 78 | Jan. 1955 | C,W | D,S | Dug to 69 ft. Casing: 69 to 93 ft., open end. Reported making sand. |
| E-7 | A. Dietzel | -- | Old | 110 | 4 | do | 58.2 | Jan. 27, 1955 | C,W | D,S | Casing: 110 ft of 4-in. |
| E-8 | F. Speakerman | -- | Old | 90 | 4 | do | 57.4 | do | C,W | S | Casing: 90 ft of 4-in., open end. Temp. 77°F. |
| *E-9 | F. Waitchies | -- | Old | 55 | 4 | do | 41.3 | Feb. 23, 1955 | C,W | S | Casing: 55 ft of 4-in., open end. Temp. 76°F. |
| E-10 | Otto Abremeit | -- | Old | 45 | 4¼ | do | 35 | Oct. 1954 | C,W | D,S | Casing: 45 ft of 4¼-in., open end. |
| E-11 | H. A. Pieper | -- | Old | 60 | 4 | do | 50 | Oct. 1954 | C,W | D,S | Casing: 60 ft of 4-in., open end. |
| E-12 | do | R. R. Lawson | 1951 | 105 | 4¼ | do | 61.9 | Oct. 20, 1954 | C,W | S | Casing: 105 ft of 4¼-in., slotted from 95 to 105 ft. Temp. 77°F. See log. |
| E-13 | H. N. Baecker | -- | Old | 70 | 4 | do | 57.8 | Feb. 21, 1955 | C,W | S | Casing: 70 ft of 4-in. |
| E-14 | F. H. Windberg | Thompson Well Service | 1953 | 247 | 4 | do | -- | -- | C,E, 1 | D,S | Casing: 180 ft of 4-in., slotted from 159 to 180 ft. See log. |
| E-15 | D. B. Hardeman | -- | Old | 125 | 4 | do | 73.9 | Oct. 12, 1954 | C,W | S | Casing: 125 ft of 4-in., open end. Temp. 77½°F. |
| E-16 | Alois Krueger | Will Spangle | 1947 | 90 | 4 | do | 74.4 | do | C,W | D,S | Casing: 90 ft of 4-in., open end. |
| E-17 | Henry Hausman | Rudolph Schultz | 1915 | 148 | 4 | do | 80 | Oct. 1954 | N | S | Casing: 148 ft of 4-in. |
| E-18 | do | Will Spangle | 1927 | 96 | 4 | do | 70 | Oct. 1954 | C,W | D,S | Casing: 96 ft of 4-in., open end. |
| E-19 | do | L. R. Fuson | 1954 | 90 | 4 | do | 38.3 | Oct. 13, 1954 | C,E | D,S | Casing: 90 ft of 4-in., slotted from 75 to 90 ft. |
| E-20 | Raymond Bego | Thompson Well Service | 1953 | 137 | 4 | do | 15. | Oct. 1954 | J,E, ½ | S | Casing: 137 ft of 4-in., slotted from 117 to 137 ft. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| E-21 | B. T. Keene | -- | 1912 | 108 | 4 | Lagarto clay | 95.5 | Oct. 13, 1954 | C,W | D,S | Casing: 108 ft of 4-in., open end. |
| E-22 | Hugo Franke | Thompson Well Service | 1953 | 249 | 4 | do | 65 | Oct. 1954 | C,W | D,S | Casing: 249 ft of 4-in., slotted from 229 to 249 ft. See log. |
| E-23 | Raymond Bego | Ben Wilson | 1947 | 67 | 4¼ | do | 47.6 | Nov. 15, 1954 | C,W | S | Casing: 67 ft of 4¼-in., slotted from 46 to 67 ft. Temp. 74°F. See log. |
| E-24 | Ed Maddox | Dan Martin | 1910 | 110 | 4 | do | 40.9 | Jan. 27, 1955 | C,W | S | Casing: 110 ft of 4-in., open end. Temp. 76°F. |
| E-25 | F. F. Post | -- | Old | 58 | 3½ | do | 58 | Oct. 1954 | C,W | D,S | Casing: 58 ft of 3½-in. |
| *E-26 | Hanley Estate | -- | Old | 60 | 4 | do | 35.4 | Feb. 17, 1955 | C,W | S | Casing: 60 ft of 4-in., open end. Temp. 75°F. |
| E-27 | McBride Oil Co. | Thompson Well Service | 1952 | 445 | 4 | do | 38.5 | Oct. 13, 1954 | A | Ind | Casing: 445 ft of 4-in., slotted from 424 to 445 ft. Oil field supply well. See log. |
| E-28 | do | -- | 1952 | 4,061 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 172 ft. Base of fresh water sands at 1,870 ft. See plate 2 for electric log. |
| E-29 | Walter Hoff | P. Chance | 1923 | 56 | 4 | Goliad sand | 49 | Oct. 1954 | J,E, ½ | D,S | Casing: 56 ft of 4-in., open end. |
| *E-30 | Mrs. W. D. Meatze | -- | 1933 | 550 | 5 | Lagarto clay | 45.7 | Oct. 13, 1954 | C,W | S | Casing: 550 ft of 5-in. Temp. 76°F. |
| *E-31 | J. B. Wilhelm | -- | Old | 50 | 4 | Goliad sand | 33.6 | Feb. 17, 1955 | C,W | S | Casing: 50 ft of 4-in., open end. Temp. 76°F. |
| E-32 | Rockhill Oil Co. | -- | --- | 139 | 3 | do | 40.5 | Jan. 25, 1955 | A | Ind | Casing: 139 ft of 3-in. Oil field supply well. |
| E-33 | Paul Fly | Thompson Well Service | 1953 | 182 | -- | do | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |
| E-34 | Humble Oil & Refining Co. | -- | 1943 | 5,010 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 99 ft. Base of fresh water sands at 1,500 ft. See plate 3 for electric log. |
| E-35 | Edward J. Berger | Willie Foreman | 1931 | 68 | 4 | Goliad sand | 46.0 | Oct. 27, 1954 | N | N | Casing: 50 ft of 4-in., open end. |
| E-36 | do | -- | 1900 | 72 | 4¼ | do | 54 | Oct. 1954 | C,W | D,S | Casing: 72 ft of 4¼-in., open end. |
| E-37 | C. R. Chance | -- | 1930 | 54 | 4½ | Lissie formation | 39.7 | Jan. 27, 1955 | C,W | S | Casing: 54 ft of 4½-in., open end. |
| E-38 | A. B. Alkek | -- | 1954 | 4,150 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 147 ft. Base of fresh water sands at 1,320 ft. See plates 2 and 3 for electric log. |
| E-39 | do | Thompson Well Service | 1953 | 173 | 3 | Goliad sand | 48.7 | Oct. 20, 1954 | A | Ind | Casing: 173 ft of 3-in., slotted from 152 to 173 ft. Oil field supply well. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level: Below land-surface datum (ft.) | Water level: Date of measurement | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E-40 | Louis Hoff | -- | 1914 | 100 | 4 | Goliad sand | 50 | Oct. 1954 | C,W | D,S | Casing: 100 ft of 4-in., open end. |
| E-41 | Andrews & Clark Co. | -- | 1951 | 4,223 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 150 ft. Base of fresh water sands at 1,680 ft. See plates 2 and 3 for electric log. |
| E-42 | Frank Jordon | -- | Old | 60 | 4 | Goliad sand | 45.9 | Oct. 26, 1954 | C,W | S | Casing: 60 ft of 4-in., open end. Temp. 76°F. |
| E-43 | W. C. McBride | Thompson Well Service | 1952 | 310 | -- | do | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |
| E-44 | Peet Oil Co. | -- | 1952 | 3,000 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 160 ft. Base of fresh water sands at 1,250 ft. |
| E-45 | Frank Jordon | -- | 1950 | 108 | 4 | Goliad sand | 49.9 | Oct. 26, 1954 | C,W | S | Casing: 108 ft of 4-in. Screened from 98 to 108 ft. Temp. 77°F. |
| *E-46 | C. F. Schindler | Youngblood Well Service | 1953 | 178 | 4½ | do | 30 | Oct. 1954 | C,E, ½ | D,S | Casing: 178 ft of 4½-in., slotted from 157 to 178 ft. See log. |
| E-47 | D. B. Hardeman | Ben Wilson | 1950 | 92 | 4¼ | do | 48.8 | Oct. 21, 1954 | C,W | D,S | Casing: 70 ft of 4¼-in., slotted from 60 to 70 ft. Temp. 76°F. See log. |
| *E-48 | Sol Parks Estate | Will Spangle | 1914 | 90 | 5 | Lissie formation | 50.6 | Feb. 17, 1955 | C,W,G | S | Casing: 90 ft of 5-in., open end. Temp. 77°F. |
| E-49 | A. B. Alkek | Thompson Well Service | 1953 | 172 | 3 | Goliad sand | 48.7 | Oct. 26, 1954 | A | Ind | Casing: 172 ft of 3-in., slotted from 151 to 172 ft. Oil field supply well. See log. |
| E-50 | do | do | 1953 | 181 | -- | do | -- | -- | -- | N | Casing pulled. Water sand reported from 151 to 181 ft. Oil field supply well. |
| E-51 | do | do | 1953 | 184 | -- | do | -- | -- | -- | N | Casing pulled. Water sand reported from 156 to 184 ft. Oil field supply well. |
| *E-52 | State of Texas | Pleas Chance | 1914 | 86 | 6 | Lissie formation | 54.6 | Jan. 27, 1955 | C,W | P | Casing: 86 ft of 6-in., open end. Fannin State Park well. Temp. 77°F. |
| E-53 | Placid Oil Co. | -- | 1949 | 4,815 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 150 ft. Base of fresh water sands at 1,500 ft. See plates 2 and 3 for electric log. |
| E-54 | W. L. Bonham | -- | Old | 55 | 4 | Goliad sand | 45 | Oct. 1954 | C,W | D,S | Casing: 55 ft of 4-in., open end. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| F-1 | Stanolind Oil & Gas Co. | Layne-Texas Co. Ltd. | 1948 | 930 | 12¾, 6 5/8 | Oakville sandstone | 333.0 | Mar. 23, 1955 | T,E, 50 | Ind | Casing: 727 ft of 12¾-in. Screened with 6 5/8-in. Screens at 727 to 767 ft, and 797 to 907 ft. Underreamed and cemented. Measured yield 253 gpm. Strong sulfur odor. Used in re-cycling plant. Temp. 88°F. See log. |
| F-2 | G. A. Ray Estate | -- | Old | 130 | 4 | Goliad sand | 112.9 | Jan. 11, 1955 | C,W | D,S | Casing: 130 ft of 4-in., open end. Temp. 75°F. |
| F-3 | do | August Pohler | 1950 | 350 | 4½ | Lagarto clay | 135.7 | do | N | N | Casing: 350 ft of 4½-in. Oil field supply well. |
| *F-4 | do | -- | Old | 120 | 6 | do | 110.4 | do | C,W | D,S | Casing: 120 ft of 6-in., open end. Temp. 75½°F. |
| *F-5 | do | August Pohler | 1947 | 300 | 4 | do | -- | -- | A | Ind,S | Casing: 300 ft of 4-in., slotted from 279 to 300 ft. Oil field supply well. Temp. 78°F. |
| *F-6 | do | J. M. Warfield | 1946 | 300 | 4½ | do | 144.8 | Jan. 11, 1955 | C,W | S | Casing: 300 ft of 4½-in., slotted from 280 to 300 ft. Temp. 76°F. |
| F-7 | do | -- | Old | 160 | 4 | do | 80.6 | Jan. 13, 1955 | C,W | S | Casing: 160 ft of 4-in. Temp. 72°F. |
| F-8 | do | J. M. Warfield | 1940 | 150 | 4½ | do | 111.3 | do | C,W | S | Casing: 150 ft of 4½-in., slotted from 129 to 150 ft. Temp. 73°F. |
| F-9 | do | Union Producing Co. | 1939 | 600 | 4½ | do | 183.8 | Jan. 12, 1955 | A | S | Casing: 600 ft of 4½-in., slotted from 579 to 600 ft. |
| F-10 | do | J. M. Warfield | 1940 | 160 | 5 | Goliad sand | 34.6 | Jan. 18, 1955 | C,W | S | Casing: 160 ft of 5-in., slotted from 139 to 160 ft. Temp. 75°F. |
| F-11 | do | do | 1939 | 260 | 4½ | Lagarto clay | 82.9 | do | C,W | S | Casing: 260 ft of 4½-in., slotted from 239 to 260 ft. Temp. 74°F. |
| F-12 | do | -- | Old | 120 | 4 | Goliad sand | 96.7 | Jan. 12, 1955 | C,W | S | Casing: 120 ft of 4-in., open end. Temp. 75°F. |
| F-13 | Mrs. J. W. Ray | W. E. Eeds | 1953 | 293 | 4 | Lagarto clay | 139.0 | do | C,W | D,S | Casing: 137 ft of 4-in., slotted from 116 to 137 ft. See log. |
| F-14 | Herman Wehe | -- | 1920 | 148 | 4½ | Goliad sand | 139.8 | Jan. 17, 1955 | C,G, 1½ | D,S | Casing: 148 ft of 4½-in., open end. |
| F-15 | Victoria National Bank | -- | Old | 150 | 4½ | do | 89.9 | do | C,W,G, 2 | S | Casing: 150 ft of 4½-in. Temp. 76°F. |
| F-16 | G. A. Ray Estate | J. M. Warfield | 1940 | 160 | 4 | do | 131.8 | Jan. 12, 1955 | C,W | S | Casing: 160 ft of 4-in., slotted from 139 to 160 ft. |
| F-17 | do | -- | Old | 60 | 4 | do | 53.4 | Jan. 18, 1955 | C,W,G, 1½ | S | Casing: 60 ft of 4-in., open end. Temp. 75½°F. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| F-18 | Victoria National Bank | -- | Old | 130 | 4 | Goliad sand | 90 | Jan. 1955 | C,W | S | Casing: 130 ft of 4-in., open end. |
| F-19 | do | -- | -- | 317 | 4½ | Lagarto clay | 149.9 | Jan. 6, 1955 | C,E, ¾ | D,S | Casing: 317 ft of 4½-in., slotted from 296 to 317 ft. |
| F-20 | do | -- | 1950 | 360 | 4½ | do | 123.3 | Jan. 13, 1955 | N | N | Casing: 360 ft of 4½-in. Oil field supply well. |
| G-1 | R. R. Wehe | -- Brooks | 1929 | 137 | 4 | do | 130 | Jan 1955 | C,W | D,S | Casing: 137 ft of 4-in., slotted from 116 to 137 ft. |
| G-2 | Amerada Petroleum Co. | A & C Well Service | 1953 | 731 | 4 | do | 92.9 | Sept.27, 1954 | A | Ind | Casing: 731 ft of 4-in., slotted from 615 to 641 ft, and 690 to 731 ft. Oil field supply well. See log. |
| G-3 | J. M. Pettus | Youngblood Well Service | 1952 | 175 | 4 | do | 50.9 | do | C,W | S | Casing: 175 ft of 4-in., slotted from 155 to 175 ft. Temp. 77½°F. See log. |
| G-4 | Amerada Petroleum Co. | -- | 1945 | 900 | 4 | Oakville sandstone | 93.7 | do | A | Ind | Casing: 900 ft of 4-in., slotted from 750 to 771 ft, and 879 to 900 ft. Oil field supply well. |
| G-5 | J. M. Pettus | -- | Old | 125 | 4 | Lagarto clay | 57.2 | do | C,W | S | Casing: 125 ft of 4-in., open end. Temp. 77°F. |
| G-6 | Amerada Petroleum Co. | -- | 1944 | 900 | 4 | Oakville sandstone | -- | -- | J,E, 1 | D | Casing: 900 ft of 4-in., Temp. 78°F. |
| G-7 | do | -- | -- | 710 | 4 | Lagarto clay | + | Sept.27, 1954 | Flows | -- | Casing: 710 ft of 4-in. |
| G-8 | J. M. Pettus | -- | 1920 | 120 | 4 | do | 60.6 | do | C,W | S | Casing: 120 ft of 4-in., open end. Temp. 77°F. |
| *G-9 | W. W. Pettus | Youngblood Well Service | 1950 | 467 | 4½ | do | + | Nov. 2, 1954 | Flows | S | Casing: 467 ft of 4½-in., slotted from 452 to 467 ft. Measured yield 6 gpm. Temp. 78°F. See log. |
| *G-10 | do | do | 1954 | 180 | 4½ | do | 80 | Nov. 1954 | C,E, 1 | D,S | Casing: 180 ft of 4½-in., slotted from 159 to 180 ft. Temp. 75½°F. See log. |
| *G-11 | do | G. A. Tucker | 1949 | 90 | 4½ | do | 23.1 | Nov. 2, 1954 | C,E, 1 | D,S | Casing: 90 ft of 4½-in., slotted from 80 to 90 ft. Temp. 76°F. |
| G-12 | Jack Hayes | W. E. Eeds | 1951 | 165 | 4½ | do | 60 | Sept. 1954 | C,E, 1½ | D,S | Casing: 165 ft of 4½-in., slotted from 144 to 165 ft. See log. |
| G-13 | J. M. Pettus | -- | 1914 | 160 | 6 | do | -- | -- | C,E, 1½ | D,S | Casing: 160 ft of 6-in., open end. |
| G-14 | do | -- | Old | 160 | 6 | do | 80 | Sept. 1954 | C,E, 1½ | D,S | Do. |
| *G-15 | R. L. Pettus | Youngblood Well Service | 1950 | 650 | 4½ | do | 72.0 | Nov. 9, 1954 | C,W | S | Casing: 318 ft of 4½-in., slotted from 285 to 318 ft. Temp. 77°F. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| *G-16 | R. L. Pettus | Youngblood Well Service | 1950 | 250 | 4½ | Lagarto clay | -- | -- | C,E, 1 | D,S | Casing: 250 ft of 4½-in., slotted from 229 to 250 ft. Temp. 77°F. See log. |
| G-17 | do | do | 1951 | 223 | 3 | Goliad sand | 58.8 | Nov. 9, 1954 | A | Ind | Casing: 223 ft of 3-in., slotted from 202 to 223 ft. See log. |
| G-18 | Lottie Pettus Moore | do | 1952 | 235 | 4 | do | 105.9 | do | N | N | Casing: 235 ft of 4-in., slotted from 214 to 235 ft. See log. |
| *G-19 | L. H. Van Dohlen | do | 1951 | 268 | 4½ | Lagarto clay | 148.5 | Nov. 10, 1954 | C,W | S | Casing: 268 ft of 4½-in., slotted from 247 to 268 ft. See log. |
| G-20 | Husky & Andrews Co. | W. E. Eeds | 1952 | 281 | 4 | do | 148.2 | do | A | Ind | Casing: 281 ft of 4-in., slotted from 260 to 281 ft. Oil field supply well. See log. |
| G-21 | J. M. Pettus | -- | 1946 | 150 | 4½ | Goliad sand | 60.5 | Nov. 9, 1954 | C,W | S | Casing: 150 ft of 4½-in., slotted from 130 to 150 ft. |
| G-22 | do | G. A. Tucker | 1947 | 148 | 4 | do | 65 | Sept. 1954 | C,W | S | Casing: 148 ft of 4-in., slotted from 132 to 148 ft. See log. |
| G-23 | Fred J. Floerke | W. E. Eeds | 1952 | 200 | 4 | do | 102.6 | Jan. 27, 1955 | C,W | S | Casing: 200 ft of 4-in., slotted from 158 to 200 ft. Temp. 76°F. See log. |
| G-24 | Chapman & Parker Co. | -- | 1951 | 3,858 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 231 ft. Base of fresh water sands at 1,600 ft. See plate 3 for electric log. |
| G-25 | Geo. R. Brown Co. | -- | 1954 | 4,008 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 228 ft. Base of fresh water sands at 1,730 ft. See plate 3 for electric log. |
| G-26 | Hattie Abele | W. E. Eeds | 1954 | 119 | 4½ | Goliad sand | 45 | Nov. 1954 | C,W | S | Casing: 119 ft of 4½-in., slotted from 99 to 119 ft. See log. |
| G-27 | Ben Wilson | -- | 1910 | 150 | 4 | do | 111.9 | Feb. 16, 1955 | C,W | S | Casing: 150 ft of 4-in., open end. Measured drawdown is 7 ft after 2-hours pumping 2 to 5 gpm. Temp. 76°F. |
| *G-28 | do | W. E. Eeds | 1951 | 302 | 4½ | Lagarto clay | 148.0 | Nov. 10, 1954 | C,W | D,S | Casing: 282 ft of 4½-in., slotted from 261 to 282 ft. See log. |
| G-29 | Husky & Andrews Co. | -- | 1953 | 4,806 | --- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 297 ft. Base of fresh water sands at 1,390 ft. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level: Below land-surface datum (ft.) | Water level: Date of measurement | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G-30 | Ben Wilson | Thompson Well Service | 1952 | 294 | 4½ | Lagarto clay | 119.4 | Nov. 10, 1954 | A | Ind | Casing: 294 ft of 4½-in., slotted from 273 to 294 ft. Oil field supply well. See log. |
| G-31 | Appell Drilling Co. | C.O.E. Drilling Co. | 1954 | 302 | 3 | do | 93.6 | Sept. 14, 1954 | A | Ind | Casing: 302 ft of 3-in., slotted from 281 to 302 ft. Oil field supply well. |
| G-32 | Appell Oil & Gas Co. | -- | 1954 | 5,339 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 277 ft. Base of fresh water sands at 1,420 ft. |
| G-33 | B. & C. Wilkinson Estate | W. E. Eeds | 1952 | 248 | 4 | Lagarto clay | 106.8 | Oct. 14, 1954 | A | Ind | Casing: 248 ft of 4-in., slotted from 227 to 248 ft. Oil field supply well. |
| G-34 | do | Houston Oil Co. | 1950 | 1,600 | 5 | Oakville sandstone | 104.7 | do | A | Ind,S | Casing: 1,600 ft of 5-in. Gun-perforated from 1,210 to 1,235 ft, 1,285 to 1,335 ft, 1,490 to 1,535 ft, and 1,554 to 1,574 ft. Base of fresh water sands at 1,650 ft. |
| *G-35 | do | Harry Brooks | Old | 125 | 4 | Goliad sand | 81.4 | do | C,W | S | Casing: 125 ft of 4-in. Temp. 76½°F. |
| G-36 | Magnolia Petroleum Co. | -- | 1945 | 11,726 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 243 ft. Base of fresh water sands at 1,490 ft. |
| G-37 | do | Youngblood Well Service & Henry Cleveland | 1952 | 1,055 | 4 | Oakville sandstone and Lagarto clay, undifferentiated | 77.6 | Sept. 23, 1954 | A | Ind | Casing: 1,055 ft of 4-in., slotted from 994 to 1,015 ft, and 1,032 to 1,055 ft. See log. |
| G-38 | J. F. Lott | Will Spangle | Old | 135 | 4 | Goliad sand | 84.7 | Sept. 15, 1954 | C,W | S | Casing: 135 ft of 4-in., open end. |
| G-39 | J. B. Lott | -- Wilson | 1914 | 130 | 4 | do | 90 | Sept. 1954 | C,W | D,S | Casing: 130 ft of 4-in., open end. |
| G-40 | T. W. Pettus | Youngblood Well Service | 1952 | 195 | 4½ | do | 77.6 | Sept. 15, 1954 | C,W | S | Casing: 195 ft of 4½-in. Screened from 175 to 195 ft. See log. |
| *G-41 | W. W. Pettus | do | 1954 | 294 | 4½ | Lagarto clay | 29.5 | Nov. 2, 1954 | C,W | S | Casing: 280 ft of 4½-in., slotted from 259 to 280 ft. Temp. 77°F. See log. |
| G-42 | Bill Rodgers | Harry Brooks | Old | 140 | 4 | Goliad sand | 77.2 | Sept. 15, 1954 | C,W | S | Casing: 140 ft of 4-in., slotted from 120 to 140 ft. Reported very corrosive to rods and pipes. Temp. 77½°F. |
| G-43 | Magnolia Petroleum Co. | -- | 1952 | 3,550 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 241 ft. Base of fresh water sands at 1,700 ft. |
| G-44 | Kirkpatrick & Coates | -- | 1951 | 3,215 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 234 ft. Base of fresh water sands at 1,670 ft. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| G-45 | Taylor Oil & Gas Co. | August Pohler | 1950 | 360 | 4½ | Lagarto clay | 58.1 | Sept. 21, 1954 | A | Ind | Casing: 360 ft of 4½-in., slotted from 339 to 360 ft. Oil field supply well. |
| G-46 | Magnolia Petroleum Co. | Patterson Well Service | 1951 | 380 | 4¼ | do | 55.5 | do | A | Ind | Casing: 380 ft of 4¼-in., slotted from 359 to 380 ft. Oil field supply well. See log. |
| G-47 | Kirkwood Drilling Co. | W. E. Eeds | 1951 | 266 | 4½ | do | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |
| G-48 | S. P. Farish | Thompson Well Service | 1954 | 247 | 4½ | Goliad sand | 105.0 | Oct. 27, 1954 | C,W | D,S | Casing: 247 ft of 4½-in., slotted from 226 to 247 ft. Tested sand from 142 to 168 ft--no good. See log. |
| G-49 | Humble Oil & Refining Co. | do | 1953 | 396 | -- | Lagarto clay | -- | -- | -- | N | Casing pulled. Oil field supply well. In Bee County. See log. |
| G-50 | S. P. Farish | do | 1954 | 176 | 4½ | Goliad sand | 89.8 | Oct. 27, 1954 | C,W | S | Casing: 176 ft of 4½-in., slotted from 155 to 176 ft. In Bee County. See log. |
| G-51 | Magnolia Petroleum Co. | Mack Well Service | 1950 | 300 | 4½ | Lagarto clay | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |
| G-52 | Horace Nutt | W. E. Eeds | 1951 | 133 | 4½ | Goliad sand | 50.7 | Jan. 17, 1955 | C,W | D,S | Casing: 120 ft of 4½-in., slotted from 99 to 120 ft. Temp. 76°F. See log. |
| *G-53 | Taylor Oil & Gas Co. | August Pohler | 1950 | 320 | 4 | do | 55 | Sept. 1954 | A | Ind | Casing: 320 ft of 4-in., slotted from 299 to 320 ft. Oil field supply well. Temp. 77°F. |
| G-54 | do | -- | 1950 | 132 | 4 | do | -- | -- | J,E, 1 | P,D | Casing: 132 ft of 4-in., slotted from 117 to 132 ft. Supplies oil field camp. |
| G-55 | do | -- | 1950 | 3,521 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 230 ft. Base of fresh water sands at 1,650 ft. |
| *G-56 | Bill Rodgers, Jr. | Lone Star Well Service | 1946 | 163 | 4 | Goliad sand | 95.8 | Sept. 15, 1954 | C,W | D,S | Casing: 163 ft of 4-in., slotted from 143 to 163 ft. Water reported in sand and gravel. Temp. 77°F. |
| G-57 | do | -- | Old | 126 | 4 | do | 80 | Sept. 1954 | C,W | S | Casing: 126 ft of 4-in., slotted from 106 to 126 ft. |
| *G-58 | do | -- | Old | 43 | 4 | do | 37.3 | Sept. 15, 1954 | C,W | S | Casing: 43 ft of 4-in., open end. Temp. 76°F. |
| G-59 | W. W. Pettus | -- | Old | 60 | 4 | do | 47.2 | Jan. 27, 1955 | C,W | S | Casing: 60 ft of 4-in., open end. Temp. 76°F. |
| *G-60 | Richard Lucas | W. E. Eeds | 1954 | 125 | 4½ | do | 76.8 | Nov. 11, 1954 | C,W | S | Casing: 125 ft of 4½-in., slotted from 104 to 125 ft. Known as Railroad well. Temp. 76½°F. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| *G-61 | Richard Lucas | W. E. Eeds | 1954 | 192 | 4½ | Goliad sand | -- | -- | C,E, 1 | D | Casing: 192 ft of 4½-in., slotted from 171 to 192 ft. See log. |
| G-62 | Magnolia Petroleum Co. | -- | 1947 | 11,494 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 230 ft. Base of fresh water sands at 1,670 ft. See plate 3 for electric log. |
| G-63 | Kirkwood & Morgan Inc. | W. E. Eeds | 1951 | 308 | 4 | Lagarto clay | 36.6 | Sept.23, 1954 | A | Ind | Casing: 305 ft of 4-in., slotted from 282 to 305 ft. Oil field supply well. See log. |
| G-64 | Taylor Oil & Gas Co. | -- | 1954 | 3,208 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 202 ft. Base of fresh water sands at 1,490 ft. |
| G-65 | C. J. Brown Co. | W. E. Eeds | 1952 | 188 | 2½ | Goliad sand | 27.8 | Jan. 11, 1955 | A | Ind | Casing: 188 ft of 2½-in., slotted from 167 to 188 ft. Oil field supply well. In Bee County. See log. |
| *G-66 | Mrs. Lucille Dorsey | L. R. Fuson | 1954 | 115 | 4 | do | 50 | Oct. 1954 | C,E, ½ | D | Casing: 115 ft of 4-in., slotted. Temp. 77½°F. |
| G-67 | B. & C. Wilkinson Estate | W. E. Eeds | 1950 | 116 | 4 | do | 50 | Oct. 1954 | C,W | S | Casing: 116 ft of 4-in., open end. See log. |
| *G-68 | do | -- McCoy | 1932 | 315 | 4 | Lagarto clay | -- | -- | T,E, 5 | D,S | Casing: 315 ft of 4-in. |
| G-69 | B. & C. Wilkinson Estate | W. E. Eeds | 1950 | 103 | 4 | Goliad sand | -- | -- | C,E, ¼ | D | Casing: 103 ft of 4-in., open end. See log. |
| G-70 | Goliad County | Youngblood Well Service | 1944 | 129 | 4 | do | 42.8 | Oct. 14, 1954 | C,W | P | Casing: 119 ft of 4-in. Screened from 119 to 129 ft. Temp. 75°F. |
| *G-71 | Richard Lucas | do | 1951 | 202 | 4½ | do | 50 | Nov. 1954 | C,E, 1 | D,S | Casing: 192 ft of 4½-in. Screened from 192 to 202 ft. Temp. 77°F. See log. |
| G-72 | do | -- | 1950 | 315 | 4½ | Lagarto clay | 85.8 | Nov. 11, 1954 | N | N | Casing: 315 ft of 4½-in., slotted from 294 to 315 ft. Oil field supply well. |
| *G-73 | do | Youngblood Well Service | 1951 | 182 | 4 | Goliad sand | 43.9 | do | C,W | S | Casing: 173 ft of 4-in. Screened from 173 to 183 ft. Temp. 77°F. See log. |
| *G-74 | Mrs. Holman Cartwright | R. R. Lawson | 1950 | 222 | 4 | do | 74.2 | do | C,W | S | Casing: 222 ft of 4-in., slotted from 201 to 222 ft. See log. |
| G-75 | Richard Lucus | -- | Old | 125 | 4¼ | do | 82.5 | Sept.21, 1954. | C,W | S | Casing: 125 ft of 4¼-in., open end. Temp. 76°F. |
| *G-76 | Mrs. Holman Cartwright | R. R. Lawson | 1950 | 123 | 4¼ | do | 64.6 | Nov. 11, 1954 | C,W | -- | Casing: 123 ft of 4¼-in., slotted from 102 to 123 ft. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level: Below land-surface datum (ft.) | Water level: Date of measurement | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H-1 | C. C. Ramsey Estate | Will Spangle | 1933 | 143 | 4 | Goliad sand | 80.5 | Jan. 26, 1955 | C,E | Ind | Casing: 143 ft of 4-in., open end. |
| H-2 | Martin, Shelly & Thomas Co. | -- | 1951 | 3,826 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 156 ft. Base of fresh water sands at 1,730 ft. See plate 3 for electric log. |
| *H-3 | City of Goliad | Layne-Texas Co. Ltd. | 1946 | 709 | 12¾, 6 5/8 | Lagarto clay | 34.1 | Mar. 15, 1955 | T,E, 40 | P | Casing: 321 ft of 12¾-in., 6 5/8-in. screens set at 320 to 440 ft, and 460 to 497 ft. Seven-stage, 10-in. pump set at 200 ft. See log. |
| H-4 | K. M. Lewis | W. E. Eeds | 1951 | 178 | 4½ | Goliad sand | 45.2 | Jan. 25, 1955 | C,W | D,S | Casing: 178 ft of 4½-in., slotted from 158 to 178 ft. Temp. 77°F. See log. |
| H-5 | LaBahia Mission | Youngblood Well Service | 1949 | 237 | 4 | do | 72.1 | Oct. 21, 1954 | T,E | P | Casing: 227 ft of 4-in. Screened from 227 to 237 ft. See log. |
| H-6 | Cole Estate | -- | Old | 147 | 4 | do | 68.5 | Feb. 23, 1955 | C,E, ¾ | S | Casing: 147 ft of 4-in., open end. |
| *H-7 | S. C. Crews | -- | Old | 70 | 4 | do | 38.6 | Feb. 17, 1955 | C,W | D,S | Casing: 70 ft of 4-in., open end. Temp. 74°F. |
| *H-8 | Larry Baker | -- | Old | 100 | 4 | do | 23.9 | Feb. 23, 1955 | C,W | D,S | Casing: 100 ft of 4-in., open end. |
| *H-9 | B. P. Patton | Ben Wilson | 1946 | 593 | 4½ | Lagarto clay | + | Nov. 2, 1954 | Flows | S,Irr | Casing: 593 ft of 4½-in. Screened from 573 to 593 ft. Measured yield 10 gpm. Has irrigated approximately 10 acres. Temp. 78°F. |
| H-10 | Mrs. M. P. Thompson | Will Spangle | 1929 | 150 | 4 | Goliad sand | 86.2 | Sept.14, 1954 | C,W | D,S | Casing: 150 ft of 4-in., open end. Temp. 75°F. |
| H-11 | do | do | Old | 150 | 4 | do | 100 | Sept. 1954 | C,W | S | Casing: 150 ft of 4-in., open end. Reported water sand from 145 to 150 ft. |
| *H-12 | do | do | 1947 | 150 | 4 | do | 116.0 | Sept.14, 1954 | C,E, ¾ | D,S | Casing: 150 ft of 4-in., open end. Temp. 76°F. |
| H-13 | Frank Farley Estate | Emmett Perkins | 1902 | 90 | 4 | do | 77.1 | Sept.15, 1954 | C,W | D,S | Casing: 90 ft of 4-in., open end. |
| H-14 | George Floerke | -- | Old | 150 | 4 | do | 90 | Sept. 1954 | C,W | S | Casing: 150 ft of 4-in., open end. Temp. 76°F. |
| H-15 | J. M. Hensley | Kelly Well Service | 1953 | 147 | 4½ | do | 75.1 | Oct. 21, 1954 | C,E, ¾ | S | Casing: 147 ft of 4½-in., slotted from 137 to 147 ft. See log. |
| H-16 | Pancho Gomez | Youngblood Well Service | 1947 | 142 | 4 | do | 72.1 | do | C,H | D,S | Casing: 132 ft of 4-in., Screened from 132 to 142 ft. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| H-17 | J. M. Hensley | MacKenzie Drilling Co. | 1954 | 600 | 9 5/8 4 | -- | 50 | Feb. 1955 | A | Irr | Oil test. Base of fresh water sands at 1,970 ft. Drilled to 4,410 ft, plugged back to 600 ft, and 4-in. casing set inside 9 5/8-in. Irrigates 10 acres. Altitude of land surface 161 ft. |
| *H-18 | do | Youngblood Well Service | 1954 | 249 | 4 | Goliad sand | 55.9 | Oct. 21, 1954 | C,W | S | Casing: 249 ft of 4-in., slotted from 238 to 249 ft. Temp. 75°F. See log. |
| *H-19 | Mrs. L. Lutenbacher | do | 1947 | 105 | 4 | do | 65.3 | do | C,W | D,S | Casing: 95 ft of 4-in. Screened from 95 to 105 ft. See log. |
| H-20 | Wrather & MacKenzie | -- | 1955 | 4,223 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 174 ft. Base of fresh water sands at 2,070 ft. |
| H-21 | Paul Fly | Thompson Well Service | 1955 | 120 | 3 | Goliad sand | 60.5 | Jan. 25, 1955 | A | Ind | Casing: 120 ft of 3-in., slotted from 99 to 120 ft. Oil field supply well. See log. |
| H-22 | Mrs. R. R. LeMaster | -- | Old | 95 | 6 | do | 61.8 | do | C,W | D,S | Casing: 95 ft of 6-in., open end. |
| H-23 | G. C. Floerke | -- | 1920 | 140 | 4 | do | 80 | Jan. 1955 | C,W | D,S | Casing: 140 ft of 4-in., open end. |
| H-24 | W. F. Albrecht | -- | 1951 | 120 | 4½ | Lissie formation | 60.9 | May 11, 1955 | C,E, 1 | D,S | Casing: 120 ft of 4½-in., slotted from 99 to 120 ft. Temp. 77°F. |
| H-25 | do | A. R. Pohlz | 1951 | 160 | 4½ | do | 55 | May 1955 | C,W | S | Casing: 160 ft of 4½-in., slotted from 137 to 160 ft. See log. |
| *H-26 | Tom Heard Estate | -- | 1940 | 92 | 4 | do | 36.8 | Jan. 4, 1955 | C,W | S | Casing: 92 ft of 4-in., open end. Temp. 77°F. |
| *H-27 | R. H. Wood | -- | Old | 60 | 4 | do | 46.3 | Jan. 19, 1955 | C,W | S | Casing: 60 ft of 4-in., open end. Temp. 73°F. |
| H-28 | do | Kelly Well Service | 1951 | 125 | 4½ | do | 39.8 | do | C,W | S | Casing: 125 ft of 4½-in., slotted from 104 to 125 ft. |
| H-29 | W. W. Perkins | Youngblood Well Service | 1947 | 68 | 4 | do | 50 | Nov. 1954 | C,W | D,S | Casing: 68 ft of 4-in., slotted from 56 to 68 ft. See log. |
| H-30 | Floyd Curtis | Thompson Well Service | 1954 | 198 | 4¼ | Goliad sand | 63.6 | Oct. 27, 1954 | C,W | S | Casing: 198 ft of 4¼-in., slotted from 177 to 198 ft. Temp. 77°F. See log. |
| H-31 | E. W. Whittenton | -- | 1919 | 80 | 4 | do | 60 | Oct. 1954 | C,W | D,S | Casing: 80 ft of 4-in., open end. |
| *H-32 | Charles Prescott | Youngblood Well Service | 1951 | 69 | 4½ | Lissie formation | 58.5 | Nov. 17, 1954 | C,W | D,S | Casing: 69 ft of 4½-in., slotted from 55 to 65 ft. See log. |
| *H-33 | R. H. Wood | do | 1947 | 124 | 4 | do | -- | -- | C,W | S | Casing: 124 ft of 4-in., slotted from 113 to 124 ft. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level: Below land-surface datum (ft.) | Water level: Date of measurement | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H-34 | W. Z. Rigby | Youngblood Well Service | 1948 | 175 | 4 | Lissie formation | 54.2 | Nov. 17, 1954 | C,W | D,S | Casing: 175 ft of 4-in., slotted from 165 to 175 ft. See log. |
| H-35 | Mrs. Dora Willms | do | 1951 | 160 | 4½ | do | 62.7 | do | C,W | D,S | Casing: 160 ft of 4½-in., slotted from 139 to 160 ft. See log. |
| H-36 | Calvin Parker | do | 1946 | 160 | 4 | do | -- | -- | C,W | D,S | Casing: 160 ft of 4-in. Screened from 150 to 160 ft. Temp. 77°F. See log. |
| *J-1 | Ida P. Huggins | Will Spangle | 1934 | 95 | 4 | Goliad sand | 60.2 | Feb. 22, 1955 | C,W | S | Casing: 95 ft of 4-in., open end. Temp. 76°F. |
| J-2 | Sol Parks Estate | -- | Old | 203 | 4 | do | 30.5 | Oct. 20, 1954 | C,W | S | Casing: 203 ft of 4-in. Temp. 75°F. |
| *J-3 | do | Richter Pump Service | 1953 | 123 | 4 | Lissie formation | 57.4 | do | C,W | S | Casing: 123 ft of 4-in., slotted from 113 to 123 ft. Temp. 74½°F. See log. |
| J-4 | Swickheimer Estate | Will Spangle | 1931 | 109 | 4½ | do | 41.3 | Jan. 27, 1955 | C,W | D,S | Casing: 109 ft of 4½-in., open end. See log. |
| J-5 | Gasoline Producing Co. | Youngblood Well Service | 1949 | 220 | 4 | do | 41.7 | Oct. 26, 1954 | A | Ind | Casing: 220 ft of 4-in., slotted from 199 to 220 ft. Oil field supply well. |
| J-6 | do | -- | 1949 | 5,015 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 109 ft. Base of fresh water sands at 1,740 ft. See plate 2 for electric log. |
| J-7 | do | Youngblood Well Service | 1949 | 182 | 4 | Lissie formation | 32.4 | Oct. 26, 1954 | A | Ind | Casing: 182 ft of 4-in., slotted from 161 to 182 ft. Oil field supply well. See log. |
| J-8 | Magnolia Petroleum Co. | -- | 1944 | 5,001 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 115 ft. Base of fresh water sands at 1,720 ft. |
| J-9 | Gasoline Producing Co. | Thompson Well Service | 1953 | 228 | -- | Lissie formation | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |
| J-10 | Paul Fly | Kelly Well Service | 1951 | 166 | 4 | do | 42.0 | Sept.29, 1954 | A | Ind | Casing: 166 ft of 4-in., slotted from 145 to 166 ft. Oil field supply well. See log. |
| J-11 | do | -- | 1950 | 4,863 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 116 ft. Base of fresh water sands at 1,830 ft. |
| J-12 | do | -- | 1953 | 5,115 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 114 ft. Base of fresh water sands at 1,690 ft. |
| *J-13 | G. G. Swickheimer | -- | Old | 60 | 6 | Lissie formation | 50.6 | Nov. 18, 1954 | C,W | S | Casing: 60 ft of 6-in., open end. Temp. 73½°F. |
| J-14 | do | -- | 1900 | 60 | 3½ | do | 40 | Nov. 1954 | C,W | D | Casing: 60 ft of 3½-in., open end. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| J-15 | Ida P. Huggins | -- | Old | 85 | 4½ | Goliad sand | 61.9 | Feb. 22, 1955 | C,W | S | Casing: 85 ft of 4½-in., open end. |
| *J-16 | do | W. E. Eeds | 1952 | 106 | 4½ | do | 29.7 | do | C,W | S | Casing: 106 ft of 4½-in., slotted from 85 to 106 ft. Temp. 76°F. See log. |
| J-17 | Ginther, Warren & Ginther Co. | -- | 1945 | -- | 4½ | -- | 48.6 | Jan. 19, 1955 | A | Ind | |
| J-18 | do | -- | 1945 | 5,050 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 130 ft. Base of fresh water sands at 1,740 ft. |
| J-19 | do | -- | -- | -- | 4½ | -- | 48.5 | Jan. 19, 1955 | A | Ind | |
| J-20 | do | -- | 1952 | 147 | 4 | Lissie formation | 45 | Jan. 1955 | J,E, ½ | D | Casing: 147 ft of 4-in., slotted from 126 to 147 ft. |
| *J-21 | T. J. Heard Estate | Youngblood Well Service | 1947 | 235 | 4 | do | 39.1 | Oct. 21, 1954 | C,W | S | Casing: 223 ft of 4-in. Screened from 223 to 235 ft. Temp. 76°F. See log. |
| *J-22 | J. F. Welder Estate | W. E. Eeds | 1951 | 125 | 4½ | do | 44.6 | Nov. 9, 1954 | C,W | S | Casing: 115 ft of 4½-in. Screened from 115 to 125 ft. See log. |
| *J-23 | do | do | 1949 | 143 | 4 | do | 71.6 | do | C,W | S | Casing: 116 ft of 4-in. Screened from 116 to 126 ft. Temp. 77°F. See log. |
| J-24 | do | -- | Old | 100 | 4 | do | -- | -- | C,W | S | Casing: 100 ft of 4-in., open end. Temp. 77°F. |
| K-1 | Richard Lucas | -- | Old | 120 | 4 | Goliad sand | 77.1 | Sept. 21, 1954 | C,W | S | Casing: 120 ft of 4-in., open end. Temp. 77°F. |
| *K-2 | Mrs. Holman Cartwright | R. R. Lawson | 1950 | 133 | 4¼ | do | 56.9 | Nov. 11, 1954 | C,W | S | Casing: 133 ft of 4¼-in., slotted from 112 to 133 ft. Temp. 76°F. See log. |
| *K-3 | Mrs. Wynette Farley | -- | Old | 150 | 4 | do | 58.9 | Jan. 26, 1955 | C,W | D,S | Casing: 150 ft of 4-in., open end. |
| K-4 | Kirkwood & Morgan Co. | -- | 1953 | 4,415 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 156 ft. Base of fresh water sands at 1,870 ft. |
| *K-5 | Mrs. Wynette Farley | B. T. Sikes | 1953 | 190 | 4 | Goliad sand | 51.7 | Jan. 26, 1955 | C,W | S | Casing: 190 ft of 4-in., slotted from 145 to 190 ft. Temp. 77°F. See log. |
| *K-6 | do | -- | Old | 900 | 2½ | Lagarto clay | + | do | Flows | S | Casing: 900 ft of 2½-in. Measured flow, 1½ gpm. Temp. 78°F. |
| *K-7 | do | -- | Old | 900 | 2½ | do | + | do | Flows | S | Casing: 900 ft of 2½-in. Measured flow, 5 gpm. Temp. 78½°F. |
| *L-1 | do | A.C.C. Well Service | 1953 | 355 | 4 | Goliad sand | 46.7 | do | C,W | S | Casing: 355 ft of 4-in., slotted from 334 to 355 ft. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level: Below land-surface datum (ft.) | Water level: Date of measurement | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *L-2 | J. J. O'Brian | Youngblood Well Service | 1947 | 325 | 4 | Goliad sand | 49.2 | Dec. 7, 1954 | C,W | S | Casing: 315 ft of 4-in. Screened from 315 to 325 ft. Temp. 78°F. See log. |
| *L-3 | do | do | 1947 | 327 | 4 | do | 42.9 | do | C,W | S | Casing: 317 ft of 4-in. Screened from 317 to 327 ft. Temp. 78°F. See log. |
| L-4 | Jim Perkins | do | 1950 | 190 | 4½ | Lissie formation | 50 | Nov. 1954 | C,W | S | Casing: 190 ft of 4-in., slotted from 180 to 190 ft. See log. |
| L-5 | Mrs. Geo. Hecht | -- | Old | 80 | 4 | do | 43.1 | Jan. 24, 1955 | C,W | D,S | Casing: 80 ft of 4-in., open end. |
| L-6 | R. H. Wood | Kelly Well Service | 1953 | 125 | 4 | do | 40.9 | Jan. 21, 1955 | C,W | D,S | Casing: 124 ft of 4-in., slotted from 104 to 125 ft. |
| L-7 | do | Youngblood Well Service | 1944 | 1,114 | 4 | Lagarto clay | + | do | Flows | N | Casing: 1,093 ft of 4-in. Screened from 1,093 to 1,114 ft. Very salty. See log. |
| L-8 | do | Kelly Well Service | 1953 | 126 | 4 | Lissie formation | 42.3 | Jan. 19, 1955 | C,W | D,S | Casing: 126 ft of 4-in., slotted from 106 to 126 ft. Temp. 76°F. |
| L-9 | do | Will Spangle | 1924 | 75 | 5 | do | -- | -- | C,W | S | Casing: 75 ft of 5-in., open end. Temp. 75°F. |
| L-10 | do | do | 1924 | 60 | 4 | do | 41.1 | Jan. 19, 1955 | C,W | S | Casing: 60 ft of 4-in., open end. Temp. 75°F. |
| L-11 | Ginther, Warren & Ginther Co. | Youngblood Well Service | 1948 | 128 | 4 | do | -- | -- | -- | N | Casing pulled. Oil field supply well. See log. |
| L-12 | R. H. Wood | do | 1949 | 78 | 4 | Goliad sand | 33.9 | Jan. 21, 1955 | C,W | S | Casing: 68 ft of 4-in. Screened from 68 to 78 ft. Temp. 73½°F. See log. |
| L-13 | Ginther, Warren & Ginther Co. | -- | 1950 | -- | 3 | -- | -- | -- | J,G | Ind | |
| L-14 | do | -- | 1950 | 5,234 | -- | -- | -- | -- | -- | -- | Oil test. Altitude of land surface 121 ft. Base of fresh water sands at 1,200 ft. |
| *L-15 | Gordon Kirkland | W. E. Eeds | 1953 | 85 | 4½ | Lissie formation | 37.5 | Nov. 17, 1954 | C,W | S | Casing: 85 ft of 4½-in., slotted from 65 to 85 ft. Temp. 75°F. See log. |
| *L-16 | J. J. O'Brian | Youngblood Well Service | 1951 | 320 | 4½ | Goliad sand | 49.7 | Dec. 7, 1954 | C,W | D,S | Casing: 246 ft of 4½-in. Screened from 246 to 256 ft. Temp. 77°F. See log. |
| L-17 | do | -- | Old | 900 | 4 | Lagarto clay | + | Jan. 24, 1955 | Flows | S | Casing: 900 ft of 4-in. Measured flow, 8 gpm. Temp. 79°F. |
| *L-18 | do | Youngblood Well Service | 1948 | 215 | 4 | Goliad sand | 40.6 | Dec. 7, 1954 | C,W | S | Casing: 205 ft of 4-in. Screened from 205 to 215 ft. Temp. 78°F. See log. |

Table 2.- Records of wells in Goliad County--Continued

| Well | Owner | Driller | Date completed | Depth of well (ft.) | Diameter of well (in.) | Water-bearing unit | Water level | | Method of lift | Use of water | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Below land-surface datum (ft.) | Date of measurement | | | |
| L-19 | J. J. O'Brian | -- | Old | 75 | 4 | Lissie formation | 52.2 | Jan. 24, 1955 | C,W | S | Casing: 75 ft of 4-in., open end. |
| L-20 | do | -- | Old | 65 | 4 | Goliad sand | 47.3 | do | C,W | S | Casing: 65 ft of 4-in., open end. Temp. 75°F. |
| L-21 | Nora Plummer | -- | Old | 83 | 4 | do | 42.8 | do | C,W | S | Casing: 83 ft of 4-in., open end. Temp. 74°F. |
| *L-22 | J. J. O'Brian | -- | Old | 900 | 4 | Lagarto clay | + | Feb. 23, 1955 | Flows | S | Casing: 900 ft of 4-in. Measured flow, 3 gpm. Temp. 78½°F. |
| L-23 | do | -- | 1935 | 80 | 4 | Goliad sand | 37.4 | Jan. 24, 1955 | C,W | S | Casing: 80 ft of 4-in. |
| *L-24 | do | Youngblood Well Service | 1950 | 390 | 4½ | do | -- | -- | C,W | S | Casing: 380 ft of 4½-in. Screened from 380 to 390 ft. Temp. 72°F. See log. |
| *L-25 | Herbert Friedrichs | R. R. Lawson | 1950 | 123 | 4¼ | Lissie formation | 42.6 | Jan. 4, 1955 | C,W | S | Casing: 123 ft of 4¼-in., slotted from 113 to 123 ft. Temp. 73½°F. See log. |
| L-26 | do | -- | Old | 65 | 4 | do | 37.3 | Jan. 12, 1955 | C,W | S | Casing: 65 ft of 4-in., open end. Reported sand from 60 to 65 ft. |
| L-27 | Ginther, Warren & Ginther Co. | Youngblood Well Service | 1946 | 547 | 4½ | Goliad sand | 28.3 | Jan. 19, 1955 | N | N | Casing: 547 ft of 4½-in., slotted from 505 to 547 ft. Oil field supply well. See log. |
| *L-28 | Powers Estate | -- | Old | 80 | 4 | Lissie formation | 33.8 | Jan. 12, 1955 | C,W | S | Casing: 80 ft of 4-in., open end. Temp. 75°F. |
| L-29 | do | -- | Old | 75 | 6 | do | 38.8 | do | C,G, 1½ | S | Casing: 75 ft of 6-in., open end. Reported sand from 70 to 75 ft. |
| L-30 | do | -- | Old | 80 | 4 | do | 33.4 | do | C,W | S | Casing: 80 ft of 4-in., slotted from 70 to 80 ft. |
| L-31 | Herbert Friedrichs | -- | Old | 75 | 4 | do | 43.0 | do | C,W | S | Casing: 75 ft of 4-in., open end. |
| L-32 | Joe Williams | -- | Old | 70 | 4 | Goliad sand | 47.1 | do | C,W | D,S | Casing: 70 ft of 4-in., open end. |
| *L-33 | J. J. O'Brian | Youngblood Well Service | 1951 | 545 | 4½ | Lagarto clay | -- | -- | C,W | S | Casing: 535 ft of 4½-in. Screened from 535 to 545 ft. See log. |
| *L-34 | Tom McGuill | W. E. Eeds | 1949 | 105 | 4¼ | Goliad sand | 36.4 | Nov. 16, 1954 | C,W | S | Casing: 80 ft of 4¼-in., slotted from 70 to 80 ft. Temp. 76°F. See log. |
| L-35 | Mary McGuill | -- | Old | 70 | 4 | Lissie formation | 40.3 | Jan. 24, 1955 | C,W | S | Casing: 70 ft of 4-in., open end. |
| L-36 | J. W. McGuill | Youngblood Well Service | 1953 | 85 | 4 | do | 35.5 | Nov. 16, 1954 | C,W | S | Casing: 85 ft of 4-in., slotted from 64 to 85 ft. Temp. 76°F. See log. |
| *L-37 | C. J. Turman | do | 1947 | 750 | 2 | Lagarto clay | 4 | Nov. 1954 | J,E | D,S | Casing: 750 ft of 2-in. Screened from 729 to 750 ft. Flowed 2 gpm when drilled. See log. |

* See table 4 for chemical analyses.

Table 3.- Drillers' logs of wells in Goliad County, Tex.

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well A-3** | | | | | |
| Owner: Mitchell Oil Co. Driller: W. E. Eeds. | | | | | |
| Surface soil | 2 | 2 | Sand | 49 | 356 |
| Sand and caliche | 36 | 38 | Shale, brown | 204 | 560 |
| Sand and shale, red | 66 | 104 | Sand | 12 | 572 |
| Sand and shale streaks | 161 | 265 | Shale | 36 | 608 |
| Shale, red | 42 | 307 | Shale, sand streaks | 51 | 659 |
| **Well A-4** | | | | | |
| Owner: Landgrebe Estate. Driller: Thompson Well Service. | | | | | |
| Surface soil and sand | 45 | 45 | Sand, broken | 40 | 160 |
| Sand | 36 | 81 | Shale | 20 | 180 |
| Shale | 39 | 120 | Sand | 76 | 256 |
| **Well A-20** | | | | | |
| Owner: Sunray Oil Corp. Driller: Thompson Well Service. | | | | | |
| Surface soil and clay | 20 | 20 | Sand | 50 | 490 |
| Sand | 50 | 70 | Shale | 122 | 612 |
| Shale | 370 | 440 | Sand | 47 | 659 |
| **Well A-23** | | | | | |
| Owner: Fidelity Oil & Royalty Co. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 4 | 4 | Shale | 25 | 320 |
| Clay | 21 | 25 | Sand | 27 | 347 |
| Caliche | 65 | 90 | Shale, hard streaks | 18 | 365 |
| Sand | 5 | 95 | Sand | 212 | 577 |
| Shale | 100 | 195 | Shale | 98 | 675 |
| Sand streaks and caliche | 30 | 225 | Shale, hard streaks | 25 | 700 |
| Sand | 50 | 275 | Shale | 165 | 865 |
| Shale | 10 | 285 | Sand, broken | 30 | 895 |
| Sand | 10 | 295 | | | |
| **Well A-24** | | | | | |
| Owner: Tidewater Associated Oil Co. Driller: Youngblood Well Service. | | | | | |
| Caliche, streaks of shale | 80 | 80 | Shale | 75 | 315 |
| Shale | 107 | 187 | Sand | 22 | 337 |
| Sand, streaks of shale | 23 | 210 | Shale | 215 | 552 |
| Sand | 30 | 240 | Sand, broken | 22 | 574 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well A-27** | | | | | |
| Owner: Humble Oil & Refining Co. Driller: W. E. Eeds. | | | | | |
| Surface soil | 2 | 2 | Shale, red, hard sandy streaks | 71 | 554 |
| Clay | 12 | 14 | Shale, blue | 20 | 574 |
| Sand and caliche | 50 | 64 | Shale, red | 29 | 603 |
| Clay, red, sandy | 141 | 205 | Sand | 23 | 626 |
| Sand | 123 | 328 | Shale | 4 | 630 |
| Shale, red | 155 | 483 | | | |
| **Well A-28** | | | | | |
| Owner: Stringer & Richards Drilling Co. Driller: August Pohler. | | | | | |
| Sand and clay | 20 | 20 | Clay | 120 | 254 |
| Clay | 48 | 68 | Sand, broken | 104 | 358 |
| Sand, streaks of clay | 66 | 134 | | | |
| **Well A-29** | | | | | |
| Owner: A. Kerlick. Driller: Youngblood Well Service. | | | | | |
| Caliche and shale | 45 | 45 | Shale, hard streaks | 62 | 312 |
| Sand | 10 | 55 | Sand, hard streaks | 26 | 338 |
| Shale | 60 | 115 | Sand | 17 | 355 |
| Sand and shale, streaky | 30 | 145 | Shale, hard streaks | 210 | 565 |
| Shale | 50 | 195 | Sand | 30 | 595 |
| Sand, streaks of shale | 55 | 250 | Shale | 45 | 640 |
| **Well A-32** | | | | | |
| Owner: Superior Oil Co. Driller: W. E. Eeds. | | | | | |
| Clay, red | 48 | 48 | Sand | 30 | 195 |
| Sand | 24 | 72 | Shale, red | 55 | 250 |
| Shale, red | 68 | 140 | Sand | 32 | 282 |
| Sand | 8 | 148 | Shale | 4 | 286 |
| Shale, red | 17 | 165 | Sand | 37 | 323 |
| **Well A-35** | | | | | |
| Owner: Goldston Oil Corp. Driller: Kelly Well Service. | | | | | |
| Clay | 10 | 10 | Shale, sand streaks | 115 | 295 |
| Sand and caliche | 55 | 65 | Sand, hard streaks | 15 | 310 |
| Clay | 40 | 105 | Shale | 205 | 515 |
| Sand | 13 | 118 | Sand | 10 | 525 |
| Clay | 25 | 143 | Shale, sand streaks | 55 | 580 |
| Sand, caliche streaks | 37 | 180 | Sand | 50 | 630 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well A-36** | | | | | |
| Owner: Humble Oil & Refining Co. Driller: Youngblood Well Service. | | | | | |
| Clay | 10 | 10 | Sand | 25 | 285 |
| Sand | 20 | 30 | Shale | 70 | 355 |
| Clay | 40 | 70 | Sand and boulders | 25 | 380 |
| Sand | 15 | 85 | Shale | 228 | 608 |
| Shale | 110 | 195 | Sand | 25 | 633 |
| Sand | 45 | 240 | Shale | 20 | 653 |
| Shale, sand streaks | 20 | 260 | Sand, streaky and shale | 37 | 690 |
| **Well A-38** | | | | | |
| Owner: Amerada Petroleum Co. Driller: -- | | | | | |
| Surface soil | 4 | 4 | Clay | 21 | 256 |
| Sand and clay | 26 | 30 | Sand and clay | 24 | 280 |
| Sand | 5 | 35 | Sand | 15 | 295 |
| Clay | 100 | 135 | Shale | 15 | 310 |
| Sand | 10 | 145 | Sand | 20 | 330 |
| Clay | 15 | 160 | Shale | 282 | 612 |
| Sand, streaky | 45 | 205 | Sand | 73 | 685 |
| Sand | 30 | 235 | | | |
| **Well A-39** | | | | | |
| Owner: Humble Oil & Refining Co. Driller: Thompson Well Service. | | | | | |
| Surface soil and clay | 140 | 140 | Sand, broken and caliche | 80 | 390 |
| Sand | 10 | 150 | Shale streaks | 200 | 590 |
| Shale | 90 | 240 | Sand, hard | 20 | 610 |
| Sand | 14 | 254 | Shale, streaky | 40 | 650 |
| Shale | 15 | 269 | Sand | 22 | 672 |
| Sand | 31 | 300 | Shale | 8 | 680 |
| Shale | 10 | 310 | | | |
| **Well A-40** | | | | | |
| Owner: Carnes W. Weaver. Driller: Kelly Well Service. | | | | | |
| Caliche, soft | 15 | 15 | Sand, shale, soft | 9 | 325 |
| Caliche, hard | 27 | 42 | Sand, shale, hard | 27 | 352 |
| Sand | 8 | 50 | Shale | 28 | 380 |
| Caliche | 25 | 75 | Sand | 22 | 402 |
| Shale | 80 | 155 | Shale | 28 | 430 |
| Sand | 7 | 162 | Rock | 2 | 432 |
| Shale | 88 | 250 | Sand | 18 | 450 |
| Sand | 22 | 272 | Rock, shale, soft | 90 | 540 |
| Shale | 23 | 295 | Shale, hard streaks | 95 | 635 |
| Sand | 21 | 316 | Sand, shale, hard | 35 | 670 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well A-42** | | | | | |
| Owner: Humble Oil & Refining Co. Driller: Thompson Well Service. | | | | | |
| Surface soil and caliche--- | 126 | 126 | Caliche, hard and sand streaks---------- | 132 | 460 |
| Sand---------- | 8 | 134 | Shale---------- | 120 | 580 |
| Shale---------- | 94 | 228 | Sand---------- | 26 | 606 |
| Sand---------- | 21 | 249 | Shale---------- | 24 | 630 |
| Shale---------- | 38 | 287 | Sand, hard and caliche--- | 48 | 678 |
| Sand---------- | 31 | 318 | | | |
| Shale---------- | 10 | 328 | | | |
| **Well A-44** | | | | | |
| Owner: Humble Oil & Refining Co. Driller: Youngblood Well Service. | | | | | |
| Clay---------- | 48 | 48 | Shale---------- | 8 | 303 |
| Sand---------- | 14 | 62 | Sand---------- | 20 | 323 |
| Shale---------- | 73 | 135 | Shale, sand streaks, hard | 62 | 385 |
| Sand---------- | 10 | 145 | Shale---------- | 53 | 438 |
| Shale---------- | 35 | 180 | Sand---------- | 17 | 455 |
| Sand---------- | 15 | 195 | Shale---------- | 148 | 603 |
| Shale, sand streaks-------- | 28 | 223 | Sand---------- | 9 | 612 |
| Sand---------- | 22 | 245 | Shale---------- | 11 | 623 |
| Shale---------- | 20 | 265 | Sand, broken---------- | 47 | 670 |
| Sand---------- | 30 | 295 | | | |
| **Well A-46** | | | | | |
| Owner: A. F. Dohmann. Driller: Ben Wilson. | | | | | |
| Surface soil---------- | 25 | 25 | Shale, red---------- | 27 | 83 |
| Shale---------- | 29 | 54 | Sand---------- | 10 | 93 |
| Sand---------- | 2 | 56 | | | |
| **Well A-47** | | | | | |
| Owner: Humble Oil & Refining Co. Driller: Thompson Well Service. | | | | | |
| Caliche---------- | 40 | 40 | Shale---------- | 25 | 205 |
| Shale---------- | 60 | 100 | Sand---------- | 20 | 225 |
| Sand---------- | 20 | 120 | Shale---------- | 15 | 240 |
| Shale---------- | 30 | 150 | Sand---------- | 20 | 260 |
| Sand---------- | 30 | 180 | | | |

Table 3.- Drillers' logs of wells in Goliad County - Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well A-48** | | | | | |
| Owner: St. Andrews Lutheran Church. Driller: Youngblood Well Service. | | | | | |
| Clay | 35 | 35 | Shale | 59 | 185 |
| Sand | 11 | 46 | Sand | 17 | 202 |
| Shale | 62 | 108 | Shale | 8 | 210 |
| Sand and shale streaks | 18 | 126 | | | |
| **Well A-51** | | | | | |
| Owner: Amerada Petroleum Co. Driller: -- | | | | | |
| Surface soil | 4 | 4 | Shale, sandy | 15 | 360 |
| Caliche | 24 | 28 | Shale | 30 | 390 |
| Clay | 32 | 60 | Caliche, hard and sand streaks | 22 | 412 |
| Sand | 15 | 75 | Shale, sand streaks | 38 | 450 |
| Clay | 75 | 150 | Shale | 45 | 495 |
| Sand | 20 | 170 | Shale, sandy | 30 | 525 |
| Clay | 37 | 207 | Shale | 59 | 584 |
| Sand | 18 | 225 | Sand | 18 | 602 |
| Clay | 40 | 265 | Shale | 2 | 604 |
| Sand and clay | 55 | 320 | | | |
| Sand | 25 | 345 | | | |
| **Well B-1** | | | | | |
| Owner: Gladys Powell Key. Driller: G. A. Tucker. | | | | | |
| Surface soil | 2 | 2 | Clay, sandy | 2 | 32 |
| Clay, sandy | 6 | 8 | Sand | 9 | 41 |
| Caliche | 4 | 12 | Shale, sandy | 12 | 53 |
| Sand and caliche | 11 | 23 | Sand | 4 | 57 |
| Sand | 7 | 30 | Shale, sandy | 5 | 62 |
| **Well B-3** | | | | | |
| Owner: Gladys Powell Key. Driller: Youngblood Well Service. | | | | | |
| Clay | 75 | 75 | Shale and boulders | 35 | 385 |
| Sand | 20 | 95 | Sand and boulders | 30 | 415 |
| Shale | 75 | 170 | Shale | 175 | 590 |
| Sand | 20 | 190 | Sand | 18 | 608 |
| Shale | 140 | 330 | Shale | 22 | 630 |
| Sand | 20 | 350 | Sand | 16 | 646 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well B-5** | | | | | |
| Owner: Gladys Powell Key. Driller: August Pohler. | | | | | |
| Surface soil | 2 | 2 | Sand | 27 | 377 |
| Sand and clay | 58 | 60 | Shale | 90 | 467 |
| Clay | 30 | 90 | Sand, broken and shale | 35 | 502 |
| Sand, streaky and clay | 90 | 180 | Shale | 53 | 555 |
| Shale | 170 | 350 | Sand | 72 | 627 |
| **Well B-14** | | | | | |
| Owner: Stanolind Oil & Gas Co. Driller: Layne-Texas Co., Ltd. | | | | | |
| Caliche | 55 | 55 | Caliche | 269 | 553 |
| Clay | 21 | 76 | Sand | 31 | 584 |
| Sand | 20 | 96 | Shale, sandy | 162 | 746 |
| Clay | 22 | 118 | Shale | 67 | 813 |
| Sand, broken | 44 | 162 | Sand, broken | 120 | 933 |
| Clay | 120 | 282 | Rock | 1 | 934 |
| Rock | 2 | 284 | | | |
| **Well C-1** | | | | | |
| Owner: Magnolia Petroleum Co. Driller: C. E. Eaton. | | | | | |
| Surface soil | 2 | 2 | Rock | 6 | 116 |
| Shale, pink | 2 | 4 | Red bed | 20 | 136 |
| Sand | 3 | 7 | Rock and sand | 8 | 144 |
| Shale, pink | 4 | 11 | Red bed | 17 | 161 |
| Shale, sandy | 3 | 14 | Rock | 5 | 166 |
| Red bed | 8 | 22 | Red bed | 12 | 178 |
| Sand | 4 | 26 | Rock | 3 | 181 |
| Red bed | 24 | 50 | Shale, sticky | 8 | 189 |
| Shale, sticky | 12 | 62 | Shale, sandy | 6 | 195 |
| Red bed | 8 | 70 | Sandrock | 11 | 206 |
| Sand and rock | 26 | 96 | Red bed | 24 | 230 |
| Red bed | 14 | 110 | Sand, water | 21 | 251 |
| **Well C-7** | | | | | |
| Owner: Stanolind Oil & Gas Co. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Clay, red | 91 | 183 |
| Clay, sandy | 9 | 12 | Sand | 14 | 197 |
| Sand | 34 | 46 | Shale, gray | 68 | 265 |
| Clay | 38 | 84 | Sand and shale streaks | 13 | 278 |
| Sand | 8 | 92 | | | |

Table 3.- Drillers' logs of wells in Goliad County - Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well C-9** | | | | | |
| Owner: Magnolia Petroleum Co. Driller: August Pohler. | | | | | |
| Top soil | 3 | 3 | Shale | 115 | 353 |
| Clay, sandy | 12 | 15 | Sand and sandstone | 17 | 370 |
| Sandstone and caliche | 20 | 35 | Shale, sandy | 60 | 430 |
| Shale, pink | 52 | 87 | Shale, sandy with hard streaks | 84 | 514 |
| Shale, sandy | 84 | 171 | Packsand | 3 | 517 |
| Sand | 16 | 187 | Shale, sticky | 20 | 537 |
| Shale | 8 | 195 | Water sand | 49 | 586 |
| Sand | 43 | 238 | | | |
| **Well C-11** | | | | | |
| Owner: Hassie Hunt Trust Co. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand | 35 | 205 |
| Clay | 113 | 116 | Shale | 65 | 270 |
| Sand | 24 | 140 | Sand | 59 | 329 |
| Shale | 30 | 170 | | | |
| **Well C-13** | | | | | |
| Owner: Hawn Bros. & Heard & Haring. Driller: Thompson Well Service. | | | | | |
| Surface soil and clay | 60 | 60 | Sand | 17 | 192 |
| Sand | 26 | 86 | Shale | 25 | 217 |
| Shale | 47 | 133 | Sand | 23 | 240 |
| Sand | 22 | 155 | Shale | 369 | 609 |
| Shale | 20 | 175 | Sand | 20 | 629 |
| **Well C-18** | | | | | |
| Owner: John Yanta. Driller: Thompson Well Service. | | | | | |
| Surface soil and caliche | 20 | 20 | Sand, hard | 10 | 342 |
| Sand | 10 | 30 | Shale, streaky | 142 | 484 |
| Shale | 90 | 120 | Sand | 38 | 522 |
| Caliche and sand streaks | 70 | 190 | Shale | 4 | 526 |
| Shale | 142 | 332 | | | |
| **Well C-22** | | | | | |
| Owner: Kirkwood Co. Driller: W. E. Eeds. | | | | | |
| Sand | 9 | 9 | Shale, brown | 289 | 554 |
| Clay, red, sandy | 36 | 45 | Shale, blue, sand streaks | 16 | 570 |
| Sand | 151 | 196 | Shale, blue, sticky | 64 | 634 |
| Shale, brown | 54 | 250 | Sand | 29 | 663 |
| Sand | 15 | 265 | Shale | 6 | 669 |

Table 3.- Drillers' logs of wells in Goliad County - Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well C-23** | | | | | |
| Owner: First National Bank of Goliad. Driller: Ben Wilson. | | | | | |
| Caliche | 14 | 14 | Rock and sand | 4 | 134 |
| Rock | 23 | 37 | Shale, red | 34 | 168 |
| Shale, red and gravel | 93 | 130 | Sand | 25 | 193 |
| **Well C-24** | | | | | |
| Owner: Continental Oil Co. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand and caliche rock | 162 | 300 |
| Sand and clay | 117 | 120 | Sand | 29 | 329 |
| Sand | 18 | 138 | Shale | 2 | 331 |
| **Well C-26** | | | | | |
| Owner: Victor Albrecht. Driller: E. C. Hubbel. | | | | | |
| Surface soil | 2 | 2 | Sand (gas) | 8 | 280 |
| Caliche | 96 | 98 | Shale, streaks of caliche | 50 | 330 |
| Shale, red | 7 | 105 | Shale, red | 15 | 345 |
| Packsand | 15 | 120 | Shale, fine | 15 | 360 |
| Sand and caliche streaks | 10 | 130 | Shale, red | 45 | 405 |
| Shale, red | 17 | 147 | Shale, rainbow | 151 | 556 |
| Shale, sandy | 9 | 156 | Sand, shale streaks | 30 | 586 |
| Shale, red; rock and sand | 72 | 228 | Shale, hard | 17 | 603 |
| Shale, red and gray | 44 | 272 | | | |
| **Well C-27** | | | | | |
| Owner: Grace Ramsey. Driller: W. E. Eeds. | | | | | |
| Surface soil | 4 | 4 | Sand, clay streaks | 9 | 92 |
| Caliche, sand streaks | 64 | 68 | Clay, red | 13 | 105 |
| Clay, red | 15 | 83 | Sand, clay streaks | 25 | 130 |
| **Well C-30** | | | | | |
| Owner: Gladys Powell Key. Driller: Thompson Well Service. | | | | | |
| Surface soil and sand | 52 | 52 | Shale | 30 | 230 |
| Clay | 113 | 165 | Sand | 50 | 280 |
| Sand | 35 | 200 | | | |

Table 3.- Drillers' logs of wells in Goliad County - Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well C-32** | | | | | |
| Owner: Gladys Powell Key. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand | 14 | 264 |
| Clay | 57 | 60 | Shale | 41 | 305 |
| Sand | 15 | 75 | Sand | 63 | 368 |
| Shale | 175 | 250 | | | |
| **Well C-33** | | | | | |
| Owner: Gladys Powell Key. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand, broken | 45 | 225 |
| Clay | 27 | 30 | Shale | 165 | 390 |
| Caliche and sand | 150 | 180 | | | |
| **Well C-46** | | | | | |
| Owner: J. W. Davenport. Driller: --. | | | | | |
| Surface soil | 5 | 5 | Water sand | 13 | 453 |
| Clay, sandy and lime | 15 | 20 | Sandrock, sand breaks | 7 | 460 |
| Sand and clay (water) | 60 | 80 | Sandrock | 54 | 514 |
| Shale | 10 | 90 | Shale, blue | 12 | 526 |
| Water sand | 22 | 112 | Shale, hard sandy | 6 | 532 |
| Clay and shale | 78 | 190 | Shale, blue | 8 | 540 |
| Water sand | 43 | 233 | Sand | 8 | 548 |
| Shale, mixed yellow and brown | 157 | 390 | Shale | 4 | 552 |
| Sand and shale | 15 | 405 | Shale, sandy | 10 | 562 |
| Shale | 15 | 420 | Shale | 6 | 568 |
| Sand, hard, shale breaks | 20 | 440 | Sand | 32 | 600 |
| **Well C-47** | | | | | |
| Owner: G. T. Powell Estate. Driller: Thompson Well Service. | | | | | |
| Surface soil and clay | 30 | 30 | Shale | 37 | 565 |
| Sand | 50 | 80 | Sand | 15 | 580 |
| Shale | 20 | 100 | Shale | 22 | 602 |
| Sand and caliche | 35 | 135 | Sand | 18 | 620 |
| Shale | 111 | 246 | Shale, streaky | 10 | 630 |
| Sand | 42 | 288 | Sand | 10 | 640 |
| Shale | 172 | 460 | Shale | 24 | 664 |
| Sand, hard | 15 | 475 | Sand | 24 | 688 |
| Shale | 30 | 505 | Shale | 9 | 697 |
| Sand, hard | 23 | 528 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well C-51** | | | | | |
| Owner: G. T. Powell Estate. Driller: Thompson Well Service. | | | | | |
| Surface soil | 4 | 4 | Sand | 64 | 149 |
| Sand | 76 | 80 | Shale | 128 | 277 |
| Caliche | 5 | 85 | Sand | 30 | 307 |
| **Well C-55--partial log** | | | | | |
| Owner: H. R. Smith. Driller: W. E. Eeds. | | | | | |
| No record | 433 | 433 | Shale, hard | 23 | 509 |
| Sand | 30 | 463 | Sand | 12 | 521 |
| Sand, hard rock streaks | 23 | 486 | Shale | 28 | 549 |
| **Well D-1** | | | | | |
| Owner: Carnes W. Weaver. Driller: Kelly Well Service. | | | | | |
| Caliche | 30 | 30 | Shale | 20 | 155 |
| Shale | 95 | 125 | Sand | 21 | 176 |
| Sand | 10 | 135 | | | |
| **Well D-2** | | | | | |
| Owner: H. W. Dornburg. Driller: H. & K. Well Service. | | | | | |
| Soil and clay | 18 | 18 | Clay | 38 | 78 |
| Sand | 6 | 24 | Sand | 7 | 85 |
| Caliche | 16 | 40 | | | |
| **Well D-7** | | | | | |
| Owner: Humble Oil & Refining Co. Driller: W. E. Eeds. | | | | | |
| Surface soil | 4 | 4 | Shale, red | 109 | 325 |
| Sand and caliche | 28 | 32 | Shale, blue | 79 | 404 |
| Clay, red sandy | 80 | 112 | Sand | 18 | 422 |
| Sand | 36 | 148 | Shale, hard, brown | 56 | 478 |
| Shale, red | 32 | 180 | Sand | 83 | 561 |
| Sand | 36 | 216 | | | |
| **Well D-20** | | | | | |
| Owner: Continental Oil Co. Driller: Kelly Well Service. | | | | | |
| Clay | 70 | 70 | Shale | 155 | 240 |
| Caliche | 5 | 75 | Sand | 22 | 262 |
| Sand | 10 | 85 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well D-26** | | | | | |
| Owner: C. Henke. Driller: Youngblood Well Service. | | | | | |
| Clay, caliche streaks------ | 40 | 40 | Shale---------- | 81 | 128 |
| Sand---------- | 7 | 47 | Sand, clay streaks------- | 19 | 147 |
| **Well D-27** | | | | | |
| Owner: J. H. Gleinser. Driller: G. A. Tucker. | | | | | |
| Surface soil---------- | 3 | 3 | Shale---------- | 2 | 58 |
| Caliche---------- | 4 | 7 | Limerock, sandy---------- | 10 | 68 |
| Limerock, hard---------- | 3 | 10 | Shale, sandy---------- | 9 | 77 |
| Caliche---------- | 1 | 11 | Shale, red---------- | 11 | 88 |
| Limerock---------- | 30 | 41 | Water sand, hard streaks- | 36 | 124 |
| Limerock, sandy---------- | 15 | 56 | | | |
| **Well D-33** | | | | | |
| Owner: Jay Simmons. Driller: Youngblood Well Service. | | | | | |
| Surface soil---------- | 18 | 18 | Shale---------- | 340 | 690 |
| Caliche---------- | 17 | 35 | Shale, hard---------- | 22 | 712 |
| Shale---------- | 105 | 140 | Sand---------- | 28 | 740 |
| Sand---------- | 20 | 160 | Shale---------- | 32 | 772 |
| Shale, sand streaks-------- | 165 | 325 | Sand---------- | 13 | 785 |
| Sand---------- | 25 | 350 | Shale---------- | 32 | 817 |
| **Well D-34** | | | | | |
| Owner: Jay Simmons. Driller: Youngblood Well Service. | | | | | |
| Caliche---------- | 20 | 20 | Sand---------- | 30 | 570 |
| Shale, caliche streaks----- | 40 | 60 | Shale---------- | 10 | 580 |
| Shale---------- | 135 | 195 | Sand, coarse---------- | 32 | 612 |
| Sand---------- | 35 | 230 | Shale---------- | 166 | 778 |
| Shale, sand streaks-------- | 150 | 380 | Sand---------- | 23 | 801 |
| Sand---------- | 30 | 410 | Shale---------- | 79 | 880 |
| Shale---------- | 130 | 540 | Sand---------- | 30 | 910 |
| **Well D-47** | | | | | |
| Owner: MacKenzie Drilling Co. Driller: Thompson Well Service. | | | | | |
| Surface soil---------- | 3 | 3 | Shale---------- | 47 | 252 |
| Clay---------- | 167 | 170 | Sand---------- | 28 | 280 |
| Sand, dry---------- | 35 | 205 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well D-50** | | | | | |
| Owner: Edna Mae Hennig. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand streaks and caliche | 22 | 90 |
| Caliche | 27 | 30 | Shale | 31 | 121 |
| Shale | 38 | 68 | Sand | 26 | 147 |
| **Well D-51** | | | | | |
| Owner: G. A. Albrecht. Driller: Youngblood Well Service. | | | | | |
| Clay | 30 | 30 | Shale | 4 | 104 |
| Rock streaks and shale | 60 | 90 | Sand | 14 | 118 |
| Sand | 10 | 100 | Shale | 5 | 123 |
| **Well D-59** | | | | | |
| Owner: A. C. Taylor. Driller: Ben Wilson. | | | | | |
| Caliche | 10 | 10 | Red bed | 10 | 70 |
| Red bed | 45 | 55 | Shale, blue | 14 | 84 |
| Sand | 5 | 60 | Sand | 28 | 112 |
| **Well D-60** | | | | | |
| Owner: A. C. Taylor. Driller: Youngblood Well Service. | | | | | |
| Clay | 20 | 20 | Shale, sand streaks | 10 | 128 |
| Sand, dry | 25 | 45 | Sand | 20 | 148 |
| Shale, red | 73 | 118 | | | |
| **Well D-65--partial log** | | | | | |
| Owner: Gerald Donoghue. Driller: Youngblood Well Service. | | | | | |
| No record | 92 | 92 | Sand | 16 | 235 |
| Shale | 113 | 205 | Shale, sand streaks | 6 | 241 |
| Sand and shale streaks | 14 | 219 | | | |
| **Well D-72** | | | | | |
| Owner: McBride Oil and Gas Co. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand, caliche streaks | 20 | 165 |
| Caliche, hard, sand streaks | 142 | 145 | Shale | 8 | 173 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well D-73** | | | | | |
| Owner: Lloyd Sapenter. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Clay | 10 | 78 |
| Rock, hard and sand streaks | 33 | 36 | Sand, hard | 12 | 90 |
| Clay | 19 | 55 | | | |
| Clay, sandy and rock streaks | 13 | 68 | | | |
| **Well D-74** | | | | | |
| Owner: Alfred Williams. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Sand | 3 | 66 |
| Rock, sand streaks | 39 | 42 | Clay, white | 43 | 109 |
| Clay, white, sand streaks | 21 | 63 | Sand | 11 | 120 |
| **Well D-75** | | | | | |
| Owner: C. F. Kohler. Driller: Youngblood Well Service. | | | | | |
| Sand and gravel | 8 | 8 | Sand | 8 | 50 |
| Rock | 32 | 40 | Shale, sand streaks | 15 | 65 |
| Rock, sand streaks | 2 | 42 | Shale | 30 | 95 |
| **Well D-76** | | | | | |
| Owner: J. M. Hensley. Driller: Youngblood Well Service. | | | | | |
| Clay | 12 | 12 | Shale, sand streaks | 20 | 145 |
| Sand, dry | 33 | 45 | Sand | 20 | 165 |
| Shale | 80 | 125 | | | |
| **Well D-77** | | | | | |
| Owner: Mrs. G. M. Bridges. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand, shale streaks | 6 | 86 |
| Clay | 12 | 15 | Shale | 74 | 160 |
| Rock | 50 | 65 | Sand | 15 | 175 |
| Clay | 15 | 80 | | | |
| **Well D-78** | | | | | |
| Owner: City of Goliad. Driller: Layne-Texas Co., Ltd. | | | | | |
| Surface soil | 2 | 2 | Rock | 2 | 11 |
| Caliche and clay | 7 | 9 | Sand, hard and caliche | 5 | 16 |

(continued on next page)

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well D-78--continued** | | | | | |
| Caliche, hard and sand, hard | 30 | 46 | Clay, sticky | 39 | 261 |
| Sand and sandstone | 15 | 61 | Clay, soft, sandy and shale | 13 | 274 |
| Clay | 12 | 73 | Clay, sticky | 22 | 296 |
| Clay and caliche | 12 | 85 | Shale, hard, sticky | 48 | 344 |
| Clay, sandy and caliche | 10 | 95 | Sand | 14 | 358 |
| Clay, sticky | 23 | 118 | Shale, sandy and lime streaks | 121 | 479 |
| Clay, sandy, clay and caliche | 31 | 149 | Shale, sticky | 16 | 495 |
| Clay, sticky and sand, hard | 59 | 208 | Shale, hard sticky | 19 | 514 |
| Sand | 14 | 222 | Sand, broken | 31 | 545 |
| | | | Shale | 12 | 557 |
| **Well D-79** | | | | | |
| Owner: Alton F. Curtis. Driller: Thompson Well Service. | | | | | |
| Caliche, hard | 15 | 15 | Shale | 103 | 223 |
| Sand | 12 | 27 | Sand | 26 | 249 |
| Caliche | 93 | 120 | | | |
| **Well E-1** | | | | | |
| Owner: B. L. Arnold. Driller: Youngblood Well Service. | | | | | |
| Clay | 10 | 10 | Sand (tested no good) | 17 | 215 |
| Caliche and rock | 70 | 80 | Shale, sticky | 120 | 335 |
| Shale | 30 | 110 | Rock | 2 | 337 |
| Sand (tested no good) | 22 | 132 | Sand | 21 | 358 |
| Shale, streaky | 66 | 198 | Shale | 2 | 360 |
| **Well E-2** | | | | | |
| Owner: H. S. Jacob. Driller: Youngblood Well Service. | | | | | |
| Clay | 10 | 10 | Shale, sticky | 15 | 320 |
| Sand and rocks | 70 | 80 | Rock | 15 | 335 |
| Shale, red | 25 | 105 | Sand | 19 | 354 |
| Sand | 22 | 127 | Shale | 2 | 356 |
| Shale | 53 | 180 | Shale, sandy | 14 | 370 |
| Sand, red | 4 | 184 | Sand | 20 | 390 |
| Shale, hard streaks | 121 | 305 | Shale | 3 | 393 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well E-4** | | | | | |
| Owner: Victor Priess. Driller: Youngblood Well Service. | | | | | |
| Clay | 8 | 8 | Rock | 5 | 145 |
| Caliche and caliche rock | 67 | 75 | Sand | 13 | 158 |
| Sand | 9 | 84 | Rock | 2 | 160 |
| Gravel, fine | 56 | 140 | | | |
| **Well E-5** | | | | | |
| Owner: Morris, Cannan & Miller Co. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale | 42 | 168 |
| Clay and shale | 82 | 85 | Sand | 24 | 192 |
| Caliche, hard, sand and gravel streaks | 41 | 126 | | | |
| **Well E-12** | | | | | |
| Owner: H. A. Pieper. Driller: R. R. Lawson. | | | | | |
| Sand and topsoil | 4 | 4 | Sand and shale | 5 | 64 |
| Clay, white | 16 | 20 | Rock and shale | 21 | 85 |
| Shale, sandy | 15 | 35 | Water sand | 5 | 90 |
| Rock | 2 | 37 | Shale | 6 | 96 |
| Shale, sandy | 6 | 43 | Water sand | 9 | 105 |
| Rock | 16 | 59 | | | |
| **Well E-14** | | | | | |
| Owner: F. H. Windberg. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale, pink | 71 | 156 |
| Caliche | 47 | 50 | Sand | 17 | 173 |
| Caliche, hard and sandrock | 15 | 65 | Shale | 74 | 247 |
| Caliche and sand streaks | 20 | 85 | | | |
| **Well E-22** | | | | | |
| Owner: Hugo Franke. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale | 166 | 228 |
| Caliche | 49 | 52 | Sand | 21 | 249 |
| Rock, hard | 10 | 62 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well E-23** | | | | | |
| Owner: Raymond Bego. Driller: Ben Wilson. | | | | | |
| Surface soil | 6 | 6 | Shale | 2 | 45 |
| Shale | 21 | 27 | Sand and gravel | 22 | 67 |
| Sand | 16 | 43 | | | |
| **Well E-27** | | | | | |
| Owner: McBride Oil & Gas Co. Driller: Thompson Well Service. | | | | | |
| Surface soil and caliche | 42 | 42 | Shale | 14 | 250 |
| Sand and gravel | 18 | 60 | Conglomerate, hard | 130 | 380 |
| Caliche, hard | 20 | 80 | Shale | 20 | 400 |
| Shale | 100 | 180 | Sand, hard, conglomerate streaks | 45 | 445 |
| Sand, broken, hard | 56 | 236 | | | |
| **Well E-33** | | | | | |
| Owner: Paul Fly. Driller: Thompson Well Service. | | | | | |
| Surface sand | 5 | 5 | Clay and shale | 18 | 147 |
| Clay | 113 | 118 | Sand | 35 | 182 |
| Sand, caliche streaks | 11 | 129 | | | |
| **Well E-39** | | | | | |
| Owner: A. B. Alkek. Driller: Thompson Well Service. | | | | | |
| Surface soil and clay | 15 | 15 | Caliche and shale | 108 | 148 |
| Sand | 25 | 40 | Sand | 25 | 173 |
| **Well E-43** | | | | | |
| Owner: W. C. McBride. Driller: Thompson Well Service. | | | | | |
| Surface soil | 20 | 20 | Sand, broken | 50 | 220 |
| Sand | 22 | 42 | Shale | 45 | 265 |
| Caliche | 48 | 90 | Sand | 45 | 310 |
| Shale | 80 | 170 | | | |
| **Well E-46** | | | | | |
| Owner: C. F. Schindler. Driller: Youngblood Well Service. | | | | | |
| Clay | 7 | 7 | Shale, sandy | 76 | 156 |
| Caliche | 73 | 80 | Sand | 22 | 178 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well E-47** | | | | | |
| Owner: D. B. Hardeman. Driller: Ben Wilson. | | | | | |
| Surface soil | 10 | 10 | Shale | 2 | 56 |
| Sand and gravel | 22 | 32 | Rock | 3 | 59 |
| Gravel | 16 | 48 | Sand | 11 | 70 |
| Rock | 6 | 54 | Shale | 22 | 92 |
| **Well E-49** | | | | | |
| Owner: A. B. Alkek. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale | 62 | 142 |
| Caliche, hard and sand | 77 | 80 | Sand | 30 | 172 |
| **Well F-1** | | | | | |
| Owner: Stanolind Oil & Gas Co. Driller: Layne-Texas Co., Ltd. | | | | | |
| Caliche | 35 | 35 | Shale, sandy and rock | 8 | 540 |
| Caliche and sand | 65 | 100 | Sand and caliche | 30 | 570 |
| Sand, hard layers | 73 | 173 | Shale | 27 | 597 |
| Shale | 4 | 177 | Shale, sandy and shale | 30 | 627 |
| Clay, sandy and clay | 20 | 197 | Shale | 12 | 639 |
| Clay | 20 | 217 | Shale, sandy | 16 | 655 |
| Caliche and rock | 16 | 233 | Shale | 70 | 725 |
| Caliche and shale | 47 | 280 | Shale, sandy, rock, sand- | 15 | 740 |
| Shale, tough | 78 | 358 | Shale, sandy, rock layers | 44 | 784 |
| Shale | 60 | 418 | Shale | 18 | 802 |
| Sand | 8 | 426 | Sand and lime | 55 | 857 |
| Shale | 23 | 449 | Sand, hard layers | 51 | 908 |
| Shale, sandy | 10 | 459 | Sand, hard | 11 | 919 |
| Sand and caliche | 31 | 490 | Shale | 11 | 930 |
| Shale | 42 | 532 | | | |
| **Well F-13** | | | | | |
| Owner: Mrs. J. W. Ray. Driller: W. E. Eeds. | | | | | |
| Surface soil | 2 | 2 | Shale, red | 20 | 118 |
| Sand and caliche | 62 | 64 | Sand | 19 | 137 |
| Clay, red | 28 | 92 | Shale, red | 152 | 289 |
| Sand | 6 | 98 | Sand | 4 | 293 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well G-2** | | | | | |
| Owner: Amerada Petroleum Co. Driller: A & C Well Service. | | | | | |
| Caliche | 30 | 30 | Clay, sticky, hard streaks | 288 | 615 |
| Clay | 66 | 96 | Sand | 26 | 641 |
| Sand | 17 | 113 | Clay | 49 | 690 |
| Clay, sand streaks | 177 | 290 | Sand | 41 | 731 |
| Sand | 37 | 327 | | | |
| **Well G-3** | | | | | |
| Owner: J. M. Pettus. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 5 | 5 | Shale | 105 | 150 |
| Clay | 15 | 20 | Water sand | 25 | 175 |
| Sand | 25 | 45 | | | |
| **Well G-9** | | | | | |
| Owner: W. W. Pettus. Driller: Youngblood Well Service. | | | | | |
| Clay | 32 | 32 | Shale | 116 | 290 |
| Sand | 28 | 60 | Rock, shale streaks | 28 | 318 |
| Shale | 48 | 108 | Shale | 134 | 452 |
| Sand, shale streaks | 66 | 174 | Sand | 15 | 467 |
| **Well G-10** | | | | | |
| Owner: W. W. Pettus. Driller: Youngblood Well Service. | | | | | |
| Sand | 28 | 28 | Shale, sandy | 82 | 147 |
| Clay | 32 | 60 | Sand | 33 | 180 |
| Sand | 5 | 65 | | | |
| **Well G-12** | | | | | |
| Owner: Jack Hayes. Driller: W. E. Eeds. | | | | | |
| Surface soil | 2 | 2 | Clay, sandy, white | 52 | 104 |
| Clay, sandy | 6 | 8 | Sand, shale streaks | 15 | 119 |
| Sand and caliche | 16 | 24 | Clay, red | 18 | 137 |
| Sand, coarse, white | 13 | 37 | Sand | 28 | 165 |
| Caliche, sand streaks | 15 | 52 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well G-15** | | | | | |
| Owner: R. L. Pettus. Driller: Youngblood Well Service. | | | | | |
| Clay | 152 | 152 | Sand | 18 | 316 |
| Sand | 26 | 178 | Shale | 109 | 425 |
| Shale | 75 | 253 | Sand | 19 | 444 |
| Sand | 18 | 271 | Shale, hard streaks | 206 | 650 |
| Shale | 27 | 298 | | | |
| **Well G-16** | | | | | |
| Owner: R. L. Pettus. Driller: Youngblood Well Service. | | | | | |
| Clay | 72 | 72 | Shale, sand streaks | 52 | 232 |
| Sand | 23 | 95 | Sand | 18 | 250 |
| Shale, hard streaks | 85 | 180 | | | |
| **Well G-17** | | | | | |
| Owner: R. L. Pettus. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale, sand streaks | 15 | 125 |
| Caliche | 87 | 90 | Shale | 75 | 200 |
| Shale | 20 | 110 | Sand | 23 | 223 |
| **Well G-18** | | | | | |
| Owner: Lottie Pettus Moore. Driller: Youngblood Well Service. | | | | | |
| Caliche, shale streaks | 50 | 50 | Shale | 48 | 201 |
| Shale, red | 82 | 132 | Sand | 34 | 235 |
| Sand | 21 | 153 | | | |
| **Well G-19** | | | | | |
| Owner: L. H. Van Dohlen. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale, hard streaks | 55 | 210 |
| Rock | 72 | 75 | Hard sand streaks | 20 | 230 |
| Shale, caliche streaks | 55 | 130 | Shale | 15 | 245 |
| Sand (tested no good) | 17 | 147 | Sand | 23 | 268 |
| Rock | 8 | 155 | | | |
| **Well G-20** | | | | | |
| Owner: Husky & Andrews Co. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Sand | 65 | 173 |
| Sand and caliche | 19 | 22 | Shale, gray | 88 | 261 |
| Clay, red | 86 | 108 | Sand, shale streaks | 20 | 281 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well G-22** | | | | | |
| Owner: J. M. Pettus. Driller: G. A. Tucker. | | | | | |
| Surface soil | 3 | 3 | Caliche | 8 | 49 |
| Clay | 5 | 8 | Shale, sandy | 11 | 60 |
| Sand and clay | 16 | 24 | Rock | 2 | 62 |
| Sand and caliche | 9 | 33 | Shale, red | 62 | 124 |
| Caliche, hard | 5 | 38 | Sandrock | 2 | 126 |
| Sand, shale streaks | 3 | 41 | Water sand | 22 | 148 |
| **Well G-23** | | | | | |
| Owner: Fred J. Floerke. Driller: W. E. Eeds. | | | | | |
| Sand and caliche | 72 | 72 | Sand | 3 | 157 |
| Sand | 20 | 92 | Shale, red | 36 | 193 |
| Clay, red | 62 | 154 | Sand | 7 | 200 |
| **Well G-26** | | | | | |
| Owner: Hattie Abele. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Sand | 10 | 86 |
| Clay, sandy | 19 | 22 | Clay, white | 14 | 100 |
| Clay, red | 54 | 76 | Sand | 19 | 119 |
| **Well G-28** | | | | | |
| Owner: Ben Wilson. Driller: W. E. Eeds. | | | | | |
| Clay | 8 | 8 | Sand | 59 | 175 |
| Sand and caliche | 50 | 58 | Shale | 70 | 245 |
| Clay, red | 48 | 106 | Sand | 37 | 282 |
| Clay, red, sandy | 10 | 116 | Shale | 20 | 302 |
| **Well G-30** | | | | | |
| Owner: Ben Wilson. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand | 55 | 175 |
| Caliche | 57 | 60 | Shale | 55 | 230 |
| Shale | 60 | 120 | Sand | 64 | 294 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well G-37** | | | | | |
| Owner: Magnolia Petroleum Co. Driller: Youngblood Well Service & Henry Cleveland. | | | | | |
| Caliche, sand streaks------ | 110 | 110 | Caliche---------- | 25 | 445 |
| Sand---------- | 7 | 117 | Shale, sticky---------- | 170 | 615 |
| Shale, red---------- | 13 | 130 | Sand---------- | 10 | 625 |
| Shale, sand streaks-------- | 30 | 160 | Shale---------- | 5 | 630 |
| Shale---------- | 163 | 323 | Sand---------- | 8 | 638 |
| Sand, caliche and shale streaks---------- | 15 | 338 | Shale, sticky---------- | 242 | 880 |
| Sand---------- | 22 | 360 | Sand, hard---------- | 10 | 890 |
| Shale, sticky---------- | 20 | 380 | Shale---------- | 55 | 945 |
| Sand---------- | 10 | 390 | Sand---------- | 5 | 950 |
| Shale, hard---------- | 10 | 400 | Shale and gravel--------- | 47 | 997 |
| Sand---------- | 10 | 410 | Sand---------- | 13 | 1,010 |
| Shale, hard---------- | 10 | 420 | Shale, sticky---------- | 20 | 1,030 |
| | | | Sand---------- | 25 | 1,055 |
| **Well G-40** | | | | | |
| Owner: T. W. Pettus. Driller: Youngblood Well Service. | | | | | |
| Surface soil---------- | 3 | 3 | Shale---------- | 130 | 175 |
| Caliche---------- | 42 | 45 | Sand---------- | 20 | 195 |
| **Well G-41** | | | | | |
| Owner: W. W. Pettus. Driller: Youngblood Well Service. | | | | | |
| Clay---------- | 10 | 10 | Shale---------- | 165 | 220 |
| Sand---------- | 25 | 35 | Sand, hard---------- | 15 | 235 |
| Shale---------- | 11 | 46 | Shale---------- | 24 | 259 |
| Sand---------- | 9 | 55 | Sand---------- | 35 | 294 |
| **Well G-46** | | | | | |
| Owner: Magnolia Petroleum Co. Driller: Patterson Well Service. | | | | | |
| Surface soil---------- | 5 | 5 | Shale---------- | 17 | 212 |
| Caliche and sand---------- | 85 | 90 | Sand---------- | 23 | 235 |
| Shale---------- | 30 | 120 | Shale---------- | 20 | 255 |
| Sand---------- | 20 | 140 | Sand---------- | 55 | 310 |
| Shale---------- | 28 | 168 | Shale---------- | 50 | 360 |
| Sand---------- | 27 | 195 | Sand---------- | 20 | 380 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well G-47** | | | | | |
| Owner: Kirkwood Drilling Co. Driller: W. E. Eeds. | | | | | |
| Sand | 6 | 6 | Clay, red | 42 | 126 |
| Sand and caliche | 50 | 56 | Sand | 70 | 196 |
| Clay, red | 16 | 72 | Shale, red, sandy | 27 | 223 |
| Sand | 12 | 84 | Sand | 43 | 266 |
| **Well G-48** | | | | | |
| Owner: S. P. Farish. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Sand | 26 | 168 |
| Caliche | 37 | 40 | Shale | 57 | 225 |
| Sand | 20 | 60 | Sand | 22 | 247 |
| Caliche and clay | 82 | 142 | | | |
| **Well G-49** | | | | | |
| Owner: Humble Oil & Refining Co. Driller: Thompson Well Service. | | | | | |
| Surface sand and clay | 60 | 60 | Shale | 17 | 173 |
| Shale | 45 | 105 | Sand | 30 | 203 |
| Sand | 18 | 123 | Caliche, sand streaks | 145 | 348 |
| Shale | 20 | 143 | Sand | 48 | 396 |
| Sand | 13 | 156 | | | |
| **Well G-50** | | | | | |
| Owner: S. P. Farish. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale | 61 | 156 |
| Caliche | 82 | 85 | Sand | 20 | 176 |
| Sand, broken | 10 | 95 | | | |
| **Well G-51** | | | | | |
| Owner: Magnolia Petroleum Co. Driller: Mack Well Service. | | | | | |
| Surface soil | 3 | 3 | Clay, red | 12 | 218 |
| Clay | 9 | 12 | Sand | 7 | 225 |
| Caliche, sand streaks | 70 | 82 | Clay, red | 28 | 253 |
| Clay, red | 63 | 145 | Sand | 22 | 275 |
| Sand | 31 | 176 | Clay, red | 2 | 277 |
| Clay, red | 22 | 198 | Sand | 23 | 300 |
| Sand | 8 | 206 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well G-52** | | | | | |
| Owner: Horace Nutt. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Sand | 4 | 118 |
| Sand and caliche | 52 | 55 | Clay, red | 5 | 123 |
| Clay, sandy, white | 42 | 97 | Sand | 3 | 126 |
| Sand | 5 | 102 | Clay, red, sandy | 4 | 130 |
| Clay, red | 12 | 114 | Clay, red | 3 | 133 |
| **Well G-60** | | | | | |
| Owner: Richard Lucas. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Clay, white | 28 | 90 |
| Sand and caliche | 59 | 62 | Sand | 35 | 125 |
| **Well G-61** | | | | | |
| Owner: Richard Lucas. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Clay, sandy | 64 | 116 |
| Clay, sandy, caliche streaks | 33 | 36 | Sand | 19 | 135 |
| Sand | 16 | 52 | Clay, red | 35 | 170 |
| | | | Sand | 22 | 192 |
| **Well G-63** | | | | | |
| Owner: Kirkwood & Morgan, Inc. Driller: W. E. Eeds. | | | | | |
| Sand and caliche | 53 | 53 | Shale, brown, sandy | 27 | 245 |
| Clay, red | 59 | 112 | Sand | 11 | 256 |
| Sand | 43 | 155 | Shale, red | 26 | 282 |
| Clay, red | 12 | 167 | Sand | 22 | 304 |
| Sand | 25 | 192 | Rock, hard | 1 | 305 |
| Shale, brown | 26 | 218 | Sand | 3 | 308 |
| **Well G-65** | | | | | |
| Owner: C. J. Brown Co. Driller: W. E. Eeds. | | | | | |
| Surface soil | 4 | 4 | Clay, red | 36 | 104 |
| Sand and caliche | 28 | 32 | Sand | 10 | 114 |
| Clay, white | 28 | 60 | Clay, red | 54 | 168 |
| Sand | 8 | 68 | Sand | 20 | 188 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well G-67** | | | | | |
| Owner: B.& C.Wilkinson Estate. Driller: W. E. Eeds. | | | | | |
| Surface soil | 4 | 4 | Sand | 15 | 89 |
| Caliche | 38 | 42 | Shale, red | 17 | 106 |
| Clay, white | 22 | 64 | Sand | 7 | 113 |
| Sand | 3 | 67 | Shale, red | 3 | 116 |
| Clay, white | 7 | 74 | | | |
| **Well G-69** | | | | | |
| Owner: B.& C.Wilkinson Estate. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Sand | 8 | 68 |
| Caliche | 11 | 14 | Clay, white, rock streaks | 22 | 90 |
| Sand | 4 | 18 | Sand | 13 | 103 |
| Caliche, clay streaks, white | 42 | 60 | | | |
| **Well G-71** | | | | | |
| Owner: Richard Lucas. Driller: Youngblood Well Service. | | | | | |
| Caliche | 55 | 55 | Shale | 113 | 180 |
| Shale, sandy | 12 | 67 | Sand | 22 | 202 |
| **Well G-73** | | | | | |
| Owner: Richard Lucas. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale | 96 | 158 |
| Rock | 47 | 50 | Shale, sandy | 7 | 165 |
| Sand | 12 | 62 | Sand | 17 | 182 |
| **Well G-74** | | | | | |
| Owner: Mrs. Holman Cartwright. Driller: R. R. Lawson. | | | | | |
| Topsoil | 1 | 1 | Shale, sandy | 9 | 133 |
| Caliche | 49 | 50 | Shale, sticky | 23 | 156 |
| Sand, hard | 21 | 71 | Sand and shale | 25 | 181 |
| Water sand and shale | 3 | 74 | Shale, white, sticky | 23 | 204 |
| Shale, red, sticky | 16 | 90 | Water sand | 18 | 222 |
| Shale, white, sticky | 34 | 124 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well G-76** | | | | | |
| Owner: Mrs. Holman Cartwright. Driller: R. R. Lawson. | | | | | |
| Topsoil | 3 | 3 | Shale and clay | 11 | 80 |
| Clay | 6 | 9 | Shale, sandy | 20 | 100 |
| Caliche | 60 | 69 | Water sand | 23 | 123 |
| **Well H-3** | | | | | |
| Owner: City of Goliad. Driller: Layne-Texas Co., Ltd. | | | | | |
| Shale and caliche | 18 | 18 | Sand, caliche and shale | 74 | 398 |
| Sand, coarse | 25 | 43 | Shale | 5 | 403 |
| Clay, red | 24 | 67 | Sand, clay, broken | 95 | 498 |
| Sand, coarse and caliche | 16 | 83 | Clay, shale and caliche | 167 | 665 |
| Clay and caliche | 68 | 151 | Shale, sandy | 41 | 706 |
| Shale, clay and caliche | 173 | 324 | Clay | 3 | 709 |
| **Well H-4** | | | | | |
| Owner: K. M. Lewis. Driller: W. E. Eeds. | | | | | |
| Clay | 3 | 3 | Clay, red | 82 | 151 |
| Sand | 6 | 9 | Sand | 3 | 154 |
| Rock, hard and sand streaks | 27 | 36 | Rock | 7 | 161 |
| Clay, white | 23 | 59 | Sand | 17 | 178 |
| Rock, sand streaks | 10 | 69 | | | |
| **Well H-5** | | | | | |
| Owner: LaBahia Mission. Driller: Youngblood Well Service. | | | | | |
| Clay | 10 | 10 | Shale, sandy and shale | 125 | 220 |
| Rock | 80 | 90 | Sand | 17 | 237 |
| Sand | 5 | 95 | | | |
| **Well H-15** | | | | | |
| Owner: J. M. Hensley. Driller: Kelly Well Service. | | | | | |
| Clay and gravel | 15 | 15 | Sand and rock streaks | 3 | 95 |
| Caliche, limestone streaks | 45 | 60 | Rock | 10 | 105 |
| Sand | 5 | 65 | Shale, white | 27 | 132 |
| Sandstone | 27 | 92 | Sand | 15 | 147 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well H-16** | | | | | |
| Owner: Pancho Gomez. Driller: Youngblood Well Service. | | | | | |
| Clay | 22 | 22 | Shale, sandy | 81 | 134 |
| Sandrock | 31 | 53 | Sand | 8 | 142 |
| **Well H-18** | | | | | |
| Owner: J. M. Hensley. Driller: Youngblood Well Service. | | | | | |
| Clay | 6 | 6 | Sand | 15 | 249 |
| Sandrock and caliche | 87 | 93 | | | |
| Shale, sandy, sand streaks | 141 | 234 | | | |
| **Well H-19** | | | | | |
| Owner: Mrs. L. Lutenbacher. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale | 29 | 80 |
| Clay | 19 | 22 | Sand | 25 | 105 |
| Sandrock | 29 | 51 | | | |
| **Well H-21** | | | | | |
| Owner: Paul Fly. Driller: Thompson Well Service. | | | | | |
| Surface soil and clay | 15 | 15 | Shale | 30 | 90 |
| Sand, hard and caliche | 45 | 60 | Sand | 30 | 120 |
| **Well H-25** | | | | | |
| Owner: W. F. Albrecht. Driller: A. R. Pohlz. | | | | | |
| Topsoil | 5 | 5 | Clay | 45 | 130 |
| Caliche | 65 | 70 | Sand, broken | 30 | 160 |
| Sand | 15 | 85 | | | |
| **Well H-29** | | | | | |
| Owner: W. W. Perkins. Driller: Youngblood Well Service. | | | | | |
| Sand | 2 | 2 | Sand | 6 | 63 |
| Clay | 15 | 17 | Caliche | 5 | 68 |
| Caliche | 40 | 57 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well H-30** | | | | | |
| Owner: Floyd Curtis. Driller: Thompson Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale and caliche | 120 | 180 |
| Caliche | 47 | 50 | Sand | 18 | 198 |
| Sand | 10 | 60 | | | |
| **Well H-32** | | | | | |
| Owner: Charles Prescott. Driller: Youngblood Well Service. | | | | | |
| Soil | 3 | 3 | Sand | 5 | 57 |
| Clay | 24 | 27 | Caliche | 4 | 61 |
| Caliche, hard | 8 | 35 | Sand | 4 | 65 |
| Caliche and sand streaks | 17 | 52 | Caliche | 4 | 69 |
| **Well H-33** | | | | | |
| Owner: R. H. Wood. Driller: Youngblood Well Service. | | | | | |
| Clay | 18 | 18 | Shale | 12 | 112 |
| Shale, sandy | 18 | 36 | Sand | 12 | 124 |
| Caliche | 64 | 100 | | | |
| **Well H-34** | | | | | |
| Owner: W. Z. Rigby. Driller: Youngblood Well Service. | | | | | |
| Surface sand | 3 | 3 | Shale, caliche streaks | 77 | 162 |
| Caliche | 82 | 85 | Sand streaks and caliche | 13 | 175 |
| **Well H-35** | | | | | |
| Owner: Mrs. Dora Willms. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 2 | 2 | Shale | 45 | 140 |
| Rock | 83 | 85 | Sand | 20 | 160 |
| Sand | 10 | 95 | | | |
| **Well H-36** | | | | | |
| Owner: Calvin Parker. Driller: Youngblood Well Service. | | | | | |
| Clay | 10 | 10 | Sand | 3 | 43 |
| Caliche | 15 | 25 | Rock, sand streaks | 32 | 75 |
| Sand | 3 | 28 | Shale, sandy | 73 | 148 |
| Caliche, hard and rock streaks | 12 | 40 | Sand | 12 | 160 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well J-3** | | | | | |
| Owner: Sol Parks Estate. Driller: Richter Pump Service. | | | | | |
| Surface soil | 3 | 3 | Limestone and clay | 30 | 83 |
| Clay | 15 | 18 | Clay | 35 | 118 |
| Sand | 23 | 41 | Sand, tight and limestone | 5 | 123 |
| Clay | 12 | 53 | | | |
| **Well J-4** | | | | | |
| Owner: Swickheimer Estate. Driller: Will Spangle. | | | | | |
| Surface soil | 6 | 6 | Gumbo, yellow | 43 | 109 |
| Sand, dry | 60 | 66 | | | |
| **Well J-7** | | | | | |
| Owner: Gasoline Producing Co. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 2 | 2 | Shale | 65 | 165 |
| Sand | 58 | 60 | Sand | 17 | 182 |
| Shale and boulders | 40 | 100 | | | |
| **Well J-9** | | | | | |
| Owner: Gasoline Producing Co. Driller: Thompson Well Service. | | | | | |
| Clay | 20 | 20 | Sand | 15 | 104 |
| Sand | 5 | 25 | Shell | 94 | 198 |
| Caliche | 23 | 48 | Sand | 30 | 228 |
| Clay | 41 | 89 | | | |
| **Well J-10** | | | | | |
| Owner: Paul Fly. Driller: Kelly Well Service. | | | | | |
| Clay and caliche | 50 | 50 | Shale | 30 | 110 |
| Sand | 8 | 58 | Shale, sandy | 20 | 130 |
| Shale | 7 | 65 | Shale, sticky | 20 | 150 |
| Sandstone | 15 | 80 | Sand | 16 | 166 |
| **Well J-16** | | | | | |
| Owner: Ida P. Huggins. Driller: W. E. Eeds. | | | | | |
| Surface soil | 2 | 2 | Clay, red | 50 | 86 |
| Sand and caliche | 34 | 36 | Sand | 20 | 106 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well J-21** | | | | | |
| Owner: T. J. Heard Estate. Driller: Youngblood Well Service. | | | | | |
| Clay | 24 | 24 | Caliche, sand streaks | 42 | 95 |
| Sand | 12 | 36 | Shale, sandy | 95 | 190 |
| Clay | 9 | 45 | Shale | 30 | 220 |
| Sand | 8 | 53 | Sand | 15 | 235 |
| **Well J-22** | | | | | |
| Owner: J. F. Welder Estate. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Sand | 15 | 111 |
| Clay, white | 19 | 22 | Clay, red | 2 | 113 |
| Caliche, sand streaks | 66 | 88 | Sand | 6 | 119 |
| Clay, white, sandy | 8 | 96 | Clay, red | 6 | 125 |
| **Well J-23** | | | | | |
| Owner: J. F. Welder Estate. Driller: W. E. Eeds. | | | | | |
| Surface sand | 12 | 12 | Clay, white | 32 | 115 |
| Sand | 21 | 33 | Sand | 21 | 136 |
| Sand and caliche | 50 | 83 | Clay, red | 7 | 143 |
| **Well K-2** | | | | | |
| Owner: Mrs. Holman Cartwright. Driller: R. R. Lawson. | | | | | |
| Topsoil | 1 | 1 | Shale, sandy | 22 | 111 |
| Caliche | 69 | 70 | Water sand | 22 | 133 |
| Clay and shale | 19 | 89 | | | |
| **Well K-5** | | | | | |
| Owner: Mrs. Wynette Farley. Driller: B. T. Sikes. | | | | | |
| Topsoil | 3 | 3 | Sand | 22 | 110 |
| Clay | 23 | 26 | Clay | 35 | 145 |
| Caliche and rock | 39 | 65 | Water sand | 45 | 190 |
| Clay | 23 | 88 | | | |
| **Well L-2** | | | | | |
| Owner: J. J. O'Brian. Driller: Youngblood Well Service. | | | | | |
| Clay | 16 | 16 | Sand | 25 | 225 |
| Caliche | 74 | 90 | Shale | 75 | 300 |
| Clay | 110 | 200 | Sand | 25 | 325 |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well L-3** | | | | | |
| Owner: J. J. O'Brian. Driller: Youngblood Well Service. | | | | | |
| Clay | 14 | 14 | Sand | 6 | 241 |
| Caliche | 86 | 100 | Clay | 59 | 300 |
| Clay | 135 | 235 | Sand | 27 | 327 |
| **Well L-4** | | | | | |
| Owner: Jim Perkins. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale | 95 | 180 |
| Clay | 17 | 20 | Sand | 10 | 190 |
| Sandstone, caliche streaks- | 65 | 85 | | | |
| **Well L-7** | | | | | |
| Owner: R. H. Wood. Driller: Youngblood Well Service. | | | | | |
| Clay | 32 | 32 | Sand | 18 | 400 |
| Sand, fine | 8 | 40 | Shale | 25 | 425 |
| Caliche | 20 | 60 | Sand | 55 | 480 |
| Shale, caliche streaks | 130 | 190 | Shale | 22 | 502 |
| Sand, caliche streaks | 26 | 216 | Sand | 31 | 533 |
| Lime rock | 6 | 222 | Shale | 32 | 565 |
| Sand | 20 | 242 | Sand | 20 | 585 |
| Shale, streaky | 18 | 260 | Shale, sandy | 95 | 680 |
| Sand | 12 | 272 | Sand | 88 | 768 |
| Shale | 8 | 280 | Shale, streaky | 318 | 1,086 |
| Sand | 21 | 301 | Sand | 28 | 1,114 |
| Shale | 81 | 382 | | | |
| **Well L-11** | | | | | |
| Owner: Ginther, Warren & Ginther Co. Driller: Youngblood Well Service. | | | | | |
| Clay | 15 | 15 | Boulders and clay | 20 | 80 |
| Sand | 10 | 25 | Clay | 25 | 105 |
| Clay | 35 | 60 | Sand, coarse | 23 | 128 |
| **Well L-12** | | | | | |
| Owner: R. H. Wood. Driller: Youngblood Well Service. | | | | | |
| Surface sand | 3 | 3 | Shale | 30 | 72 |
| Clay | 27 | 30 | Sand | 6 | 78 |
| Sand, streaks, and caliche- | 12 | 42 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well L-15** | | | | | |
| Owner: Gordon Kirkland. Driller: W. E. Eeds. | | | | | |
| Surface soil | 3 | 3 | Clay, sandy, white | 14 | 51 |
| Clay, sandy | 5 | 8 | Clay, sandy, red | 25 | 76 |
| Sand | 14 | 22 | Rock, hard and sand streaks | 9 | 85 |
| Caliche | 15 | 37 | | | |
| **Well L-16** | | | | | |
| Owner: J. J. O'Brian. Youngblood Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale | 92 | 248 |
| Caliche | 87 | 90 | Sand | 8 | 256 |
| Shale | 60 | 150 | Shale | 44 | 300 |
| Sand | 6 | 156 | Sand | 20 | 320 |
| **Well L-18** | | | | | |
| Owner: J. J. O'Brian. Driller: Youngblood Well Service. | | | | | |
| Clay | 13 | 13 | Sand | 5 | 85 |
| Sand | 7 | 20 | Shale | 100 | 185 |
| Shale, sand streaks | 60 | 80 | Sand | 30 | 215 |
| **Well L-24** | | | | | |
| Owner: J. J. O'Brian. Driller: Youngblood Well Service. | | | | | |
| Clay | 30 | 30 | Shale | 105 | 280 |
| Rock | 10 | 40 | Shale, sand streaks | 12 | 292 |
| Shale and rock | 55 | 95 | Shale, hard streaks | 88 | 380 |
| Shale | 70 | 165 | Sand | 10 | 390 |
| Sand, shale streaks | 10 | 175 | | | |
| **Well L-25** | | | | | |
| Owner: Herbert Friedrichs. Driller: R. R. Lawson. | | | | | |
| Topsoil | 2 | 2 | Sand rock | 8 | 102 |
| Clay | 18 | 20 | Sand | 3 | 105 |
| Shale, sandy | 15 | 35 | Sand rock | 1 | 106 |
| Sand | 5 | 40 | Sand | 6 | 112 |
| Clay | 26 | 66 | Sand rock and shale | 4 | 116 |
| Sand and sand rock | 5 | 71 | Water sand | 7 | 123 |
| Shale, sticky | 23 | 94 | | | |

Table 3.- Drillers' logs of wells in Goliad County--Continued

| | Thickness (feet) | Depth (feet) | | Thickness (feet) | Depth (feet) |
|---|---|---|---|---|---|
| **Well L-27** | | | | | |
| Owner: Ginther, Warren & Ginther Co. Driller: Youngblood Well Service. | | | | | |
| Clay | 20 | 20 | Shale | 170 | 435 |
| Sand | 45 | 65 | Sand | 15 | 450 |
| Shale | 185 | 250 | Shale | 64 | 514 |
| Sand | 15 | 265 | Sand | 33 | 547 |
| **Well L-33** | | | | | |
| Owner: J. J. O'Brian. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 3 | 3 | Shale, red | 183 | 448 |
| Caliche | 77 | 80 | Sand streaks | 12 | 460 |
| Shale | 180 | 260 | Shale | 62 | 522 |
| Sand | 5 | 265 | Sand | 23 | 545 |
| **Well L-34** | | | | | |
| Owner: Tom McGuill. Driller: W. E. Eeds. | | | | | |
| Surface soil | 2 | 2 | Sand | 2 | 72 |
| Clay | 2 | 4 | Clay, white | 14 | 86 |
| Sand | 14 | 18 | Gravel | 1 | 87 |
| Clay, white | 17 | 35 | Clay, white | 6 | 93 |
| Clay, rock streaks | 17 | 52 | Sand and gravel | 3 | 96 |
| Sand | 11 | 63 | Clay, white | 9 | 105 |
| Clay | 7 | 70 | | | |
| **Well L-36** | | | | | |
| Owner: Joe W. McGuill. Driller: Youngblood Well Service. | | | | | |
| Sand | 2 | 2 | Sand | 11 | 61 |
| Clay | 10 | 12 | Clay | 6 | 67 |
| Shale, sandy | 38 | 50 | Sand | 18 | 85 |
| **Well L-37** | | | | | |
| Owner: C. J. Turman. Driller: Youngblood Well Service. | | | | | |
| Surface soil | 2 | 2 | Shale | 30 | 400 |
| Clay | 26 | 28 | Sand | 21 | 421 |
| Sand | 47 | 75 | Red bed | 120 | 541 |
| Clay | 75 | 150 | Sand | 38 | 579 |
| Sand | 15 | 165 | Shale | 39 | 618 |
| Shale | 135 | 300 | Sand | 38 | 656 |
| Sand | 24 | 324 | Shale | 59 | 715 |
| Shale | 29 | 353 | Sand | 35 | 750 |
| Sand | 17 | 370 | | | |

Table 4.- Analyses of water from wells in Goliad County, Tex.

| Well | Owner | Depth of well (ft.) | Date of collection | Chemical constituents in parts per million | | | | | | | | | | | | | Percent sodium | Sodium adsorption ratio (SAR) | Residual sodium carbonate (RSC) 1/ | Specific conductance (micromhos at 25°C) | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Silica ($SiO_2$) | Iron (Fe) | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium (Na + K) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Fluoride (F) | Nitrate ($NO_3$) | Dissolved solids | Hardness as $CaCO_3$ Total | Hardness as $CaCO_3$ Noncarbonate | | | | | |
| A-1 | Robert F. Goehring | 400 | Dec. 9, 1954 | 38 | - | 96 | 19 | 92 | 297 | 34 | 168 | - | 0.5 | 606 | 318 | 74 | 39 | 2.2 | 0 | 1,050 | 7.5 |
| A-8 | Albert Willms | 86 | Oct. 6, 1954 | 57 | - | 273 | 33 | 150 | 372 | 65 | 498 | - | 84 | 1,340 | 816 | 512 | 29 | 2.3 | 0 | 2,380 | 6.9 |
| A-12 | A. G. Priess | 86 | Oct. 20, 1954 | 36 | - | 98 | 11 | 63 | 330 | 22 | 93 | - | 1.5 | 490 | 290 | 19 | 32 | 1.6 | 0 | 849 | 7.8 |
| A-14 | Ottilia Stauss | 86 | Feb. 21, 1955 | 27 | - | 116 | 3.6 | 12 | 363 | 4.9 | 20 | - | 1.0 | 370 | 304 | 7 | 8 | .3 | 0 | 615 | 7.3 |
| A-29 | A. Kerlick | 640 | Sept. 16, 1954 | 18 | 4.3 | 14 | 6.1 | 261 | 313 | 78 | 205 | - | .2 | 742 | 60 | 0 | 90 | 15 | 3.93 | 1,290 | 7.4 |
| A-45 | Nelson A. Myer | 50 | Oct. 19, 1954 | 71 | - | 694 | 168 | 347 | 257 | 31 | 2,080 | - | - | 4,010 | 2,420 | 2,210 | 24 | 3.1 | 0 | 6,550 | 6.9 |
| A-49 | Goldston Oil Corp. | 680 | Feb. 22, 1955 | 44 | - | 138 | 35 | 118 | 346 | 32 | 302 | - | .2 | 840 | 488 | 204 | 34 | 2.3 | 0 | 1,480 | - |
| B-5 | Gladys Powell Key | 627 | Feb. 16, 1955 | 31 | - | 90 | 29 | 423 | 367 | 206 | 530 | - | .2 | 1,490 | 344 | 43 | 73 | 9.9 | 0 | 2,540 | 8.2 |
| B-11 | Rockhill Oil Co. | 600 | Feb. 22, 1955 | 24 | 5.2 | 200 | 49 | 207 | 210 | 145 | 585 | 0.6 | .8 | 1,310 | 700 | 528 | 39 | 3.4 | 0 | 2,390 | 7.5 |
| *B-14 | Stanolind Oil & Gas Co. | 934 | Mar. 23, 1955 | 19 | .79 | 15 | 4.0 | 552 | 475 | 219 | 450 | 1.0 | .2 | 1,500 | 53 | 0 | 95 | 32 | 6.72 | 2,530 | 7.9 |
| B-17 | G. A. Ray Estate | 60 | Feb. 16, 1955 | 76 | - | 270 | 64 | 135 | 389 | 155 | 529 | 1.1 | .8 | 1,420 | 936 | 618 | 24 | 1.9 | 0 | 2,430 | 7.6 |
| C-3 | Sunray Oil Corp. | 652 | Feb. 22, 1955 | 23 | - | 41 | 20 | 142 | 401 | 33 | 86 | - | 2.5 | 544 | 184 | 0 | 61 | 4.4 | 2.89 | 905 | - |
| C-16 | Continental Oil Co. | 648 | Nov. 18, 1954 | 20 | - | 17 | 7.5 | 197 | 332 | 75 | 106 | .9 | .0 | 589 | 74 | 0 | 85 | 9.9 | 3.96 | 994 | 7.8 |
| C-17 | T. M. Reed | 674 | do | 19 | - | 9.2 | 3.7 | 231 | 401 | 89 | 82 | 1.1 | .2 | 639 | 38 | 0 | 93 | 16 | 5.81 | 1,050 | 8.1 |
| C-29 | R. L. Johnson | 106 | Feb. 15, 1955 | 60 | - | 118 | 14 | 49 | 312 | 16 | 132 | - | .0 | 543 | 352 | 96 | 23 | 1.1 | 0 | 1,060 | - |
| C-30 | Gladys Powell Key | 280 | Nov. 16, 1954 | 29 | - | 48 | 15 | 196 | 406 | 53 | 152 | .7 | 4.0 | 708 | 182 | 0 | 70 | 6.3 | 3.01 | 1,210 | 7.6 |
| C-32 | do | 368 | do | 28 | - | 46 | 17 | 201 | 436 | 67 | 137 | - | 1.5 | 712 | 185 | 0 | 70 | 6.4 | 3.45 | 1,220 | 7.5 |
| C-33 | do | 390 | Feb. 22, 1955 | 13 | - | 27 | 13 | 292 | 419 | 104 | 212 | .8 | 2.2 | 870 | 121 | 0 | 84 | 12 | 4.45 | 1,490 | 8.1 |
| C-36 | Continental Oil Co. | 800 | Nov. 17, 1954 | 20 | - | 14 | 3.5 | 229 | 377 | 91 | 100 | 1.0 | .2 | 658 | 49 | 0 | 91 | 14 | 5.20 | 1,100 | 8.1 |
| C-43 | D. B. Hardeman | 620 | Nov. 2, 1954 | 22 | - | 20 | 12 | 305 | a323 | 119 | 265 | - | 2.0 | 906 | 100 | 0 | 87 | 13 | 3.30 | 1,610 | 8.4 |
| C-44 | J. W. Davenport | 60 | Feb. 15, 1955 | 34 | - | 102 | 30 | 136 | 489 | 54 | 152 | .9 | .2 | 749 | 378 | 0 | 44 | 3.0 | .45 | 1,310 | 8.0 |
| C-45 | do | 350 | do | 28 | - | 41 | 20 | 185 | 435 | 74 | 108 | - | .0 | 670 | 184 | 0 | 69 | 5.9 | 3.44 | 1,130 | 8.0 |

1/ In equivalents per million (epm).

* Phosphate ($PO_4$), 0.05; Boron (B), 3.1.

See additional footnotes at end of table

Table 4.- Analyses of water from wells in Goliad County--Continued

| Well | Owner | Depth of well (ft.) | Date of collection | Chemical constituents in parts per million: Silica ($SiO_2$) | Iron (Fe) | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium ($Na + K$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Fluoride (F) | Nitrate ($NO_3$) | Dissolved solids | Hardness as $CaCO_3$: Total | Hardness as $CaCO_3$: Noncarbonate | Percent sodium | Sodium adsorption ratio (SAR) | Residual sodium carbonate (RSC) 1/ | Specific conductance (micromhos at 25°C) | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-46 | J. W. Davenport | 600 | Feb. 15, 1955 | 25 | - | 30 | 13 | 278 | 411 | 107 | 200 | - | 2.5 | 860 | 128 | 0 | 82 | 11 | 4.17 | 1,470 | 7.8 |
| C-47 | G. T. Powell Estate | 697 | Nov. 2, 1954 | 36 | - | 40 | 9.6 | 433 | 343 | 133 | 468 | - | 2.5 | 1,290 | 140 | 0 | 87 | 16 | 2.83 | 2,280 | 7.8 |
| C-54 | Amerada Petroleum Co. | 521 | Oct. 4, 1954 | 17 | - | 12 | 10 | 186 | b376 | 27 | 99 | - | .0 | 531 | 71 | 0 | 85 | 9.6 | 4.75 | 937 | 8.3 |
| C-55 | H. R. Smith | 549 | Oct. 21, 1954 | 23 | - | 24 | 12 | 190 | 397 | 53 | 101 | - | .0 | 598 | 110 | 0 | 79 | 7.9 | 4.32 | 1,030 | 7.5 |
| D-16 | R. W. Hoff | 125 | Oct. 6, 1954 | 62 | - | 88 | 12 | 26 | 306 | 10 | 38 | - | 13 | 421 | 269 | 18 | 17 | .7 | 0 | 662 | 7.2 |
| D-35 | Oscar Duderstadt | 105 | Feb. 15, 1955 | 51 | - | 92 | 23 | 65 | 296 | 34 | 132 | - | .0 | 543 | 324 | 81 | 30 | 1.5 | 0 | 1,020 | - |
| D-36 | Sunray Oil Corp. | 600 | Oct. 22, 1954 | 18 | - | 15 | 6.7 | 202 | 425 | 7.4 | 105 | - | .0 | 563 | 65 | 0 | 87 | 11 | 5.67 | 974 | 7.3 |
| D-64 | Larry Baker | 120 | Feb. 23 1955 | 45 | - | 44 | 22 | 137 | 224 | 73 | 169 | - | .0 | 602 | 200 | 17 | 60 | 4.2 | 0 | 1,020 | 7.7 |
| D-71 | I. J. Hennig | 65 | Sept. 21, 1954 | 86 | - | 96 | 16 | 65 | 340 | 20 | 65 | - | 70 | 590 | 306 | 27 | 32 | 1.6 | 0 | 887 | 7.4 |
| D-75 | C. F. Kohler | 95 | Feb. 16, 1955 | 38 | - | 59 | 12 | 69 | 291 | 15 | 62 | - | 7.7 | 408 | 196 | 0 | 43 | 2.2 | .84 | 679 | 7.9 |
| D-77 | Mrs. G. M. Bridges | 175 | Sept. 29, 1954 | 55 | - | 326 | 66 | 145 | 167 | 23 | 870 | - | 4.0 | 1,570 | 1,080 | 948 | 23 | 1.9 | 0 | 3,000 | 7.7 |
| **D-78 | City of Goliad | 557 | Mar. 15, 1955 | 34 | 0.04 | 100 | 28 | 117 | 338 | 37 | 212 | 0.8 | 2.2 | 697 | 364 | 88 | 40 | 2.6 | 0 | 1,230 | 7.7 |
| D-79 | Alton F. Curtis | 249 | Nov. 19, 1954 | 16 | - | 98 | 25 | 128 | 288 | 37 | 248 | .6 | .5 | 695 | 348 | 112 | 44 | 3.0 | 0 | 1,310 | 7.6 |
| E-2 | H. S. Jacobs | 393 | Oct. 20, 1954 | 27 | - | 70 | 25 | 144 | 366 | 44 | 173 | - | .2 | 670 | 278 | 0 | 53 | 3.7 | .45 | 1,170 | 7.5 |
| E-9 | F. Waitchies | 55 | Feb. 23, 1955 | 65 | - | 169 | 38 | 204 | 486 | 211 | 285 | .8 | .2 | 1,210 | 578 | 180 | 43 | 3.7 | 0 | 2,160 | 7.7 |
| E-26 | Hanley Estate | 60 | Feb. 17, 1955 | 54 | - | 130 | 18 | 98 | 346 | 48 | 195 | - | .2 | 713 | 398 | 114 | 34 | 2.1 | 0 | 1,210 | - |
| E-30 | Mrs. W. D. Maetze | 550 | do | 17 | - | 74 | 27 | 108 | 187 | 48 | 230 | - | 3.5 | 645 | 296 | 142 | 44 | 2.7 | 0 | 1,130 | 7.5 |
| E-31 | J. B. Wilhelm | 50 | do | 62 | - | 104 | 25 | 136 | 566 | 44 | 105 | - | .0 | 754 | 362 | 0 | 45 | 3.1 | 2.03 | 1,270 | 8.0 |
| E-46 | C. F. Schindler | 178 | Feb. 22, 1955 | 58 | - | 98 | 20 | 84 | 347 | 27 | 139 | - | 1.0 | 614 | 326 | 42 | 36 | 2.0 | 0 | 1,010 | 7.4 |
| E-48 | Sol Parks Estate | 90 | Feb. 17, 1955 | 38 | - | 21 | 14 | 92 | 244 | 21 | 61 | - | 1.5 | 368 | 110 | 0 | 64 | 3.8 | 1.80 | 608 | 8.1 |
| ***E-52 | State of Texas | 86 | do | 51 | .01 | 92 | 19 | 206 | 419 | 87 | 235 | .8 | 2.2 | 900 | 308 | 0 | 59 | 6.2 | .72 | 1,510 | 8.2 |
| F-4 | G. A. Ray Estate | 120 | Feb. 16, 1955 | 44 | - | 110 | 38 | 132 | 209 | 91 | 320 | - | .8 | 839 | 430 | 259 | 40 | 2.8 | 0 | 1,510 | 8.1 |

** Manganese (Mn), 0.00; Phosphate ($PO_4$), 0.04; Boron (B), 0.25.

*** Manganese (Mn), 0.00; Phosphate ($PO_4$), 0.01; Boron (B), 0.23.

See additional footnotes at end of table.

Table 4.- Analyses of water from wells in Goliad County--Continued

| Well | Owner | Depth of well (ft.) | Date of collection | Chemical constituents in parts per million | | | | | | | | | | | | Percent sodium | Sodium adsorption ratio (SAR) | Residual sodium carbonate (RSC) 1/ | Specific conductance (micromhos at 25°C) | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Silica ($SiO_2$) | Iron (Fe) | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium ($Na + K$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Fluoride (F) | Nitrate ($NO_3$) | Dissolved solids | Hardness as $CaCO_3$ Total | Hardness as $CaCO_3$ Noncarbonate | | | | | |
| F-5 | G. A. Ray Estate | 300 | Feb. 22, 1955 | 42 | - | 217 | 50 | 239 | 239 | 238 | 582 | 0.4 | 2.2 | 1,490 | 747 | 551 | 41 | 3.8 | 0 | 2,560 | 7.4 |
| F-6 | do | 300 | Feb. 16, 1955 | 56 | - | 172 | 46 | 191 | 251 | 113 | 504 | - | .2 | 1,210 | 618 | 412 | 40 | 3.3 | 0 | 2,120 | 7.8 |
| G-9 | W. W. Pettus | 467 | Nov. 2, 1954 | 22 | - | 22 | 12 | 195 | 400 | 56 | 101 | - | .0 | 607 | 104 | 0 | 80 | 8.3 | 4.47 | 1,040 | 8.0 |
| G-10 | do | 180 | Feb. 17, 1955 | 25 | - | 56 | 25 | 125 | c381 | 39 | 113 | .7 | .5 | 571 | 242 | 0 | 53 | 3.5 | 1.40 | 994 | 8.3 |
| G-11 | do | 90 | do | 44 | - | 124 | 44 | 190 | 306 | 71 | 410 | .8 | .2 | 1,030 | 490 | 210 | 46 | 3.7 | 0 | 1,840 | 8.1 |
| G-15 | R. L. Pettus | 650 | Nov. 9, 1954 | 44 | - | 178 | 52 | 170 | 260 | 77 | 518 | - | 5.6 | 1,170 | 658 | 445 | 36 | 3.0 | 0 | 2,160 | 7.3 |
| G-16 | do | 250 | do | 50 | - | 94 | 36 | 156 | 219 | 67 | 332 | - | 4.7 | 974 | 382 | 203 | 47 | 3.4 | 0 | 1,650 | 7.9 |
| G-19 | L. H. Van Dohlan | 268 | Feb. 16, 1955 | 25 | - | 82 | 34 | 153 | 273 | 56 | 280 | - | .2 | 820 | 344 | 121 | 49 | 3.6 | 0 | 1,390 | 7.9 |
| G-28 | Ben Wilson | 302 | do | 36 | - | 151 | 38 | 113 | 319 | 50 | 328 | .9 | .2 | 874 | 532 | 271 | 32 | 2.1 | 0 | 1,580 | 7.9 |
| G-35 | B. & C. Wilkinson Estate | 125 | Oct. 14, 1954 | 78 | - | 67 | 13 | 118 | 309 | 21 | 136 | - | 11 | 620 | 220 | 0 | 54 | 3.4 | .65 | 1,060 | 7.6 |
| G-41 | W. W. Pettus | 294 | Feb. 16, 1955 | 34 | - | 76 | 29 | 165 | 361 | 65 | 215 | - | 1.2 | 774 | 308 | 12 | 54 | 4.1 | 0 | 1,340 | 8.1 |
| G-53 | Taylor Oil & Gas Co. | 320 | Sept. 21, 1954 | 78 | - | 44 | 29 | 124 | 171 | 76 | 198 | - | 2.0 | 641 | 229 | 89 | 54 | 3.6 | 0 | 1,060 | 8.0 |
| G-56 | Bill Rodgers, Jr. | 163 | Sept. 15, 1954 | 82 | 2.9 | 119 | 22 | 156 | 367 | 84 | 238 | - | 3.0 | 909 | 388 | 87 | 47 | 3.4 | 0 | 1,480 | 7.4 |
| G-58 | do | 43 | do | 44 | 4.0 | 121 | 36 | 181 | 385 | 119 | 285 | - | 3.0 | 978 | 450 | 134 | 47 | 3.7 | 0 | 1,680 | 7.4 |
| G-60 | Richard Lucas | 125 | Nov. 11, 1954 | 99 | - | 121 | 26 | 147 | 387 | 106 | 210 | - | 5.8 | 945 | 409 | 92 | 44 | 3.2 | 0 | 1,450 | 8.0 |
| G-61 | do | 192 | do | 45 | - | 142 | 51 | 150 | 319 | 78 | 385 | - | 4.7 | 1,010 | 564 | 302 | 37 | 2.7 | 0 | 1,840 | 7.8 |
| G-66 | Mrs. Lucille Dorsey | 115 | Oct. 14, 1954 | 60 | - | 148 | 40 | 135 | 320 | 63 | 348 | .8 | 9.2 | 961 | 534 | 272 | 35 | 2.5 | 0 | 1,700 | 7.3 |
| G-68 | B. & C. Wilkinson Estate | 315 | do | 58 | - | 130 | 40 | 132 | 327 | 81 | 298 | - | 3.5 | 955 | 489 | 221 | 37 | 2.6 | 0 | 1,570 | 7.3 |
| G-71 | Richard Lucas | 202 | Nov. 11, 1954 | 41 | - | 96 | 45 | 152 | 286 | 49 | 330 | - | 4.0 | 908 | 424 | 190 | 44 | 3.2 | 0 | 1,620 | 8.1 |
| G-73 | do | 182 | do | 44 | - | 134 | 56 | 245 | 187 | 134 | 570 | - | 2.0 | 1,280 | 565 | 412 | 49 | 4.5 | 0 | 2,340 | 7.7 |
| G-74 | Mrs. Holman Cartwright | 222 | do | 50 | - | 142 | 57 | 224 | 111 | 175 | 568 | - | 1.5 | 1,270 | 589 | 498 | 45 | 4.0 | 0 | 2,300 | 7.6 |
| G-76 | do | 123 | do | 87 | - | 92 | 22 | 171 | 280 | 70 | 275 | - | 1.0 | 877 | 320 | 90 | 54 | 4.2 | 0 | 1,440 | 8.1 |
| H-3 | City of Goliad | 709 | Mar. 17, 1955 | 32 | - | 96 | 27 | 115 | 331 | 35 | 205 | .4 | 2.2 | 676 | 350 | 80 | 42 | 2.7 | 0 | 1,200 | 7.4 |

Table 4.- Analyses of water from wells in Goliad County--Continued

| Well | Owner | Depth of well (ft.) | Date of collection | Chemical constituents in parts per million | | | | | | | | | | | | Hardness as $CaCO_3$ | | Percent sodium | Sodium adsorption ratio (SAR) | Residual sodium carbonate (RSC) [1] | Specific conductance (micromhos at 25°C) | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Silica ($SiO_2$) | Iron (Fe) | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium ($Na + K$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Fluoride (F) | Nitrate ($NO_3$) | Dissolved solids | | Total | Non-carbonate | | | | | |
| H-7 | S. C. Crews | 70 | Feb. 17, 1955 | 70 | - | 143 | 27 | 137 | 365 | 45 | 290 | 0.9 | 9.5 | 901 | | 468 | 169 | 39 | 2.7 | 0 | 1,730 | 7.6 |
| H-8 | Larry Baker | 100 | Feb. 23, 1955 | 79 | - | 215 | 35 | 260 | 350 | 84 | 592 | .6 | 42 | 1,480 | | 680 | 394 | 45 | 4.3 | 0 | 2,540 | 8.0 |
| H-9 | B. P. Patton | 593 | Nov. 2, 1954 | 18 | - | 12 | 6.1 | 208 | 415 | 52 | 81 | - | .2 | 592 | | 55 | 0 | 89 | 12 | 5.70 | 1,000 | 8.2 |
| H-12 | Mrs. M. P. Thompson | 150 | Sept. 14, 1954 | 60 | - | 218 | 55 | 198 | 272 | 45 | 670 | - | 2.0 | 1,380 | | 770 | 547 | 36 | 3.1 | 0 | 2,500 | 7.2 |
| H-18 | J. M. Hensley | 249 | Feb. 23, 1955 | 48 | - | 97 | 23 | 98 | 341 | 52 | 152 | - | .0 | 638 | | 336 | 57 | 38 | 2.3 | 0 | 1,120 | - |
| H-19 | Mrs. L. Lutenbacher | 105 | do | 52 | - | 134 | 19 | 219 | 359 | 108 | 340 | .6 | 2.2 | 1,050 | | 412 | 118 | 54 | 4.7 | 0 | 1,780 | 7.6 |
| H-26 | T. J. Heard Estate | 92 | Feb. 24, 1955 | 65 | - | 86 | 14 | 160 | 367 | 66 | 178 | - | .5 | 750 | | 272 | 0 | 56 | 4.2 | .58 | 1,200 | - |
| H-27 | R. H. Wood | 60 | Feb. 23, 1955 | 63 | - | 80 | 23 | 198 | 437 | 81 | 198 | - | 4.5 | 862 | | 294 | 0 | 59 | 5.0 | 1.28 | 1,430 | 7.6 |
| H-32 | Charles Prescott | 69 | Feb. 24, 1955 | 48 | - | 97 | 24 | 122 | 378 | 42 | 178 | .6 | .2 | 698 | | 340 | 31 | 44 | 2.9 | 0 | 1,220 | 7.9 |
| H-33 | R. H. Wood | 124 | Nov. 19, 1954 | 45 | - | 71 | 19 | 149 | 304 | 57 | 190 | .5 | .2 | 691 | | 254 | 5 | 56 | 4.1 | 0 | 1,180 | 8.1 |
| J-1 | Ida P. Huggins | 95 | Feb. 22, 1955 | 49 | - | 147 | 25 | 207 | 264 | 135 | 392 | .4 | 10 | 1,100 | | 408 | 192 | 49 | 4.1 | 0 | 1,920 | 7.8 |
| J-3 | Sol Parks Estate | 123 | Oct. 20, 1954 | 44 | - | 116 | 26 | 117 | 348 | 75 | 202 | - | 3.0 | 781 | | 396 | 112 | 39 | 2.6 | 0 | 1,320 | 7.3 |
| J-13 | G. G. Swick-heimer | 60 | Nov. 18, 1954 | 36 | - | 86 | 9.0 | 81 | 329 | 16 | 94 | .3 | 8.8 | 516 | | 251 | 0 | 41 | 2.2 | .37 | 856 | 7.6 |
| J-16 | Ida P. Huggins | 106 | Feb. 22, 1955 | 36 | - | 87 | 24 | 95 | d350 | 40 | 138 | - | .0 | 592 | | 316 | 28 | 40 | 2.3 | 0 | 1,040 | 8.5 |
| J-21 | T. J. Heard Estate | 235 | Feb. 14, 1955 | 43 | - | 54 | 36 | 201 | 331 | 81 | 255 | - | 6.8 | 840 | | 282 | 12 | 61 | 5.2 | 0 | 1,450 | 7.8 |
| J-22 | J. F. Welder Estate | 125 | Nov. 9, 1954 | 41 | - | 104 | 30 | 306 | 242 | 140 | 498 | - | 2.8 | 1,240 | | 383 | 184 | 63 | 6.8 | 0 | 2,310 | 7.9 |
| J-23 | do | 143 | do | 56 | - | 88 | 25 | 205 | 379 | 79 | 265 | - | 2.5 | 918 | | 322 | 12 | 58 | 5.0 | 0 | 1,560 | 7.6 |
| K-2 | Mrs. Holman Cartwright | 133 | Nov. 11, 1954 | 83 | - | 184 | 64 | 162 | 128 | 112 | 602 | - | 5.4 | 1,280 | | 722 | 617 | 33 | 2.6 | 0 | 2,390 | 7.8 |
| K-3 | Mrs. Wynette Farley | 150 | Jan. 26, 1955 | 79 | - | 250 | 82 | 170 | 272 | 94 | 712 | .8 | 4.2 | 1,530 | | 961 | 738 | 28 | 2.4 | 0 | 2,730 | 8.0 |
| K-5 | do | 190 | do | 77 | - | 180 | 58 | 160 | 210 | 85 | 548 | .8 | 1.2 | 1,210 | | 688 | 516 | 34 | 2.7 | 0 | 2,170 | 7.8 |
| K-6 | do | 900 | do | 17 | - | 8.4 | 1.1 | 408 | e311 | 1.6 | 465 | - | .0 | 1,050 | | 26 | 0 | 97 | 35 | 4.59 | 1,940 | 8.3 |
| K-7 | do | 900 | do | 24 | - | 44 | 20 | 184 | 373 | 40 | 172 | - | 2.5 | 672 | | 192 | 0 | 68 | 5.8 | 2.27 | 1,150 | 8.0 |
| L-1 | do | 355 | do | 44 | - | 173 | 75 | 259 | e275 | 113 | 680 | - | .0 | 1,480 | | 740 | 514 | 43 | 4.1 | 0 | 2,660 | 8.4 |
| L-2 | J. J. O'Brian | 325 | Dec. 7, 1954 | 47 | - | 74 | 32 | 182 | 370 | 67 | 238 | - | 4.5 | 826 | | 316 | 13 | 56 | 4.5 | 0 | 1,400 | 8.2 |

Table 4.- Analyses of water from wells in Goliad County--Continued

| Well | Owner | Depth of well (ft.) | Date of collection | Chemical constituents in parts per million | | | | | | | | | | | | Hardness as $CaCO_3$ | | Percent sodium | Sodium adsorption ratio (SAR) | Residual sodium carbonate (RSC) 1/ | Specific conductance (micromhos at 25°C) | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Silica ($SiO_2$) | Iron (Fe) | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium ($Na + K$) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Fluoride (F) | Nitrate ($NO_3$) | Dissolved solids | Total | Noncarbonate | | | | | |
| L-3 | J. J. O'Brian | 327 | Dec. 7, 1954 | 28 | - | 63 | 30 | 173 | 361 | 38 | 224 | - | 5.4 | 742 | 280 | 0 | 57 | 4.5 | 0.31 | 1,320 | 7.5 |
| L-15 | Gordon Kirkland | 85 | Feb. 24, 1955 | 76 | - | 178 | 42 | 373 | 417 | 154 | 650 | 0.6 | 8.2 | 1,690 | 616 | 275 | 57 | 6.5 | 0 | 2,810 | 7.9 |
| L-16 | J. J. O'Brian | 320 | Dec. 7, 1954 | 54 | - | 93 | 38 | 202 | 384 | 62 | 315 | - | 5.1 | 988 | 388 | 74 | 53 | 4.4 | 0 | 1,670 | 7.7 |
| L-18 | do | 215 | do | 30 | - | 54 | 27 | 169 | 371 | 34 | 193 | - | 2.5 | 693 | 246 | 0 | 60 | 4.7 | 1.17 | 1,230 | 7.5 |
| L-22 | do | 900 | Feb. 23, 1955 | 24 | - | 46 | 27 | 218 | 408 | 89 | 192 | - | 3.0 | 800 | 226 | 0 | 68 | 6.3 | 2.17 | 1,440 | 7.7 |
| L-24 | do | 390 | Jan. 24, 1955 | 46 | - | 114 | 40 | 182 | 350 | 83 | 334 | - | .0 | 971 | 449 | 162 | 47 | 3.7 | 0 | 1,690 | 8.1 |
| L-25 | Herbert Friedrichs | 123 | Feb. 23, 1955 | 66 | - | 82 | 24 | 201 | 394 | 76 | 238 | - | 2.5 | 884 | 303 | 0 | 59 | 5.0 | .40 | 1,480 | 7.6 |
| L-28 | Power Estate | 80 | Feb. 14, 1955 | 75 | - | 76 | 31 | 268 | 448 | 130 | 282 | - | .0 | 1,080 | 317 | 150 | 55 | 6.6 | 1.01 | 1,750 | - |
| L-33 | J. J. O'Brian | 545 | Dec. 7, 1954 | 60 | - | 103 | 30 | 121 | 385 | 30 | 208 | - | 3.5 | 758 | 380 | 65 | 41 | 2.7 | 0 | 1,270 | 7.7 |
| L-34 | Tom McGuill | 105 | Feb. 24, 1955 | 79 | - | 266 | 94 | 406 | 403 | 224 | 970 | .6 | .5 | 2,240 | 1,050 | 720 | 46 | 5.4 | 0 | 3,790 | 7.7 |
| L-37 | C. J. Turman | 750 | do | 22 | - | 24 | 14 | 213 | f433 | 59 | 115 | .4 | .5 | 700 | 118 | 0 | 80 | 8.5 | 4.76 | 1,110 | 8.6 |

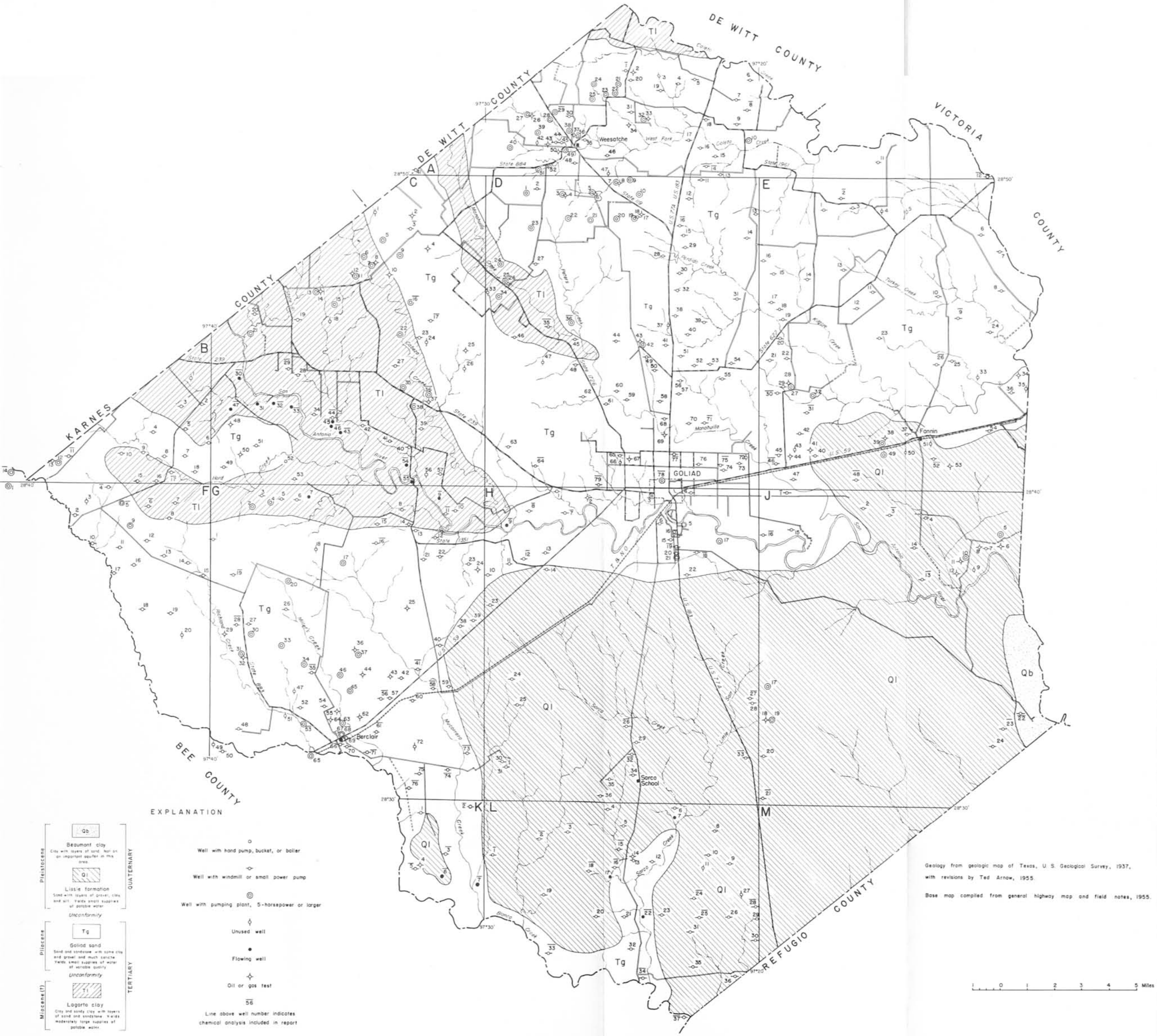
a Includes equivalent of 7 ppm of carbonate ($CO_3$)
b Includes equivalent of 6 ppm of carbonate ($CO_3$)
c Includes equivalent of 5 ppm of carbonate ($CO_3$)
d Includes equivalent of 15 ppm of carbonate ($CO_3$)
e Includes equivalent of 4 ppm of carbonate ($CO_3$)
f Includes equivalent of 17 ppm of carbonate ($CO_3$)
1/ In equivalents per million (epm).

Table 5.- Analyses of composites of daily samples from San Antonio River collected October 1, 1945 to September 30, 1946, at gaging station at bridge on State Highway 29, 1.3 miles southeast of courthouse in Goliad and 10 miles upstream from Manahuilla Creek.

| Date of collection | Specific conductance (micromhos at 25°C) | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium (Na + K) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Dissolved solids | Hardness as $CaCO_3$ | | Sodium adsorption ratio (SAR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Total | Noncarbonate | |
| 1945 | | Parts per million | | | | | | | | | | |
| Oct. 4- 6, 8-10 | 506 | 57 | 11 | 30 | 184 | 40 | 40 | 4.5 | 303 | 188 | 36 | 1.0 |
| Oct. 11-15, 20 | 581 | 69 | 13 | 39 | 235 | 41 | 51 | 2.8 | 369 | 226 | 33 | 1.1 |
| Oct. 22-23, 25-26, 28-29, 31 | 734 | 84 | 19 | 46 | 267 | 62 | 70 | 6.0 | 480 | 288 | 68 | 1.2 |
| Nov. 1- 8, 10 | 753 | 86 | 21 | 43 | 270 | 67 | 70 | 6.0 | 469 | 301 | 80 | 1.1 |
| Nov. 11-12, 15-16, 18 | 726 | 86 | 21 | 31 | 267 | 47 | 67 | 6.8 | 462 | 301 | 82 | .8 |
| Nov. 22, 24-30 | 741 | 90 | 22 | 38 | 269 | 68 | 72 | 6.5 | 481 | 315 | 94 | .9 |
| Dec. 1- 2, 4- 9 | 777 | 88 | 22 | 46 | 276 | 68 | 74 | 8.5 | 482 | 310 | 84 | 1.1 |
| Dec. 13, 15-20 | 786 | 90 | 20 | 49 | 275 | 69 | 77 | 8.0 | 483 | 306 | 81 | 1.2 |
| Dec. 21-26, 28-31 | 794 | 94 | 21 | 46 | 277 | 71 | 79 | 8.6 | 481 | 321 | 94 | 1.2 |
| 1946 | | | | | | | | | | | | |
| Jan. 1-10 | 782 | 88 | 20 | 51 | 270 | 71 | 77 | 9.4 | 469 | 302 | 80 | 1.3 |
| Jan. 11-20 | 753 | 75 | 17 | 58 | 256 | 61 | 72 | 10 | 458 | 257 | 47 | 1.6 |
| Jan. 21-23, 26-29 | 800 | 85 | 20 | 48 | 245 | 70 | 81 | 13 | 487 | 294 | 93 | 1.2 |
| Feb. 1- 4, 6-10 | 790 | 87 | 22 | 51 | 276 | 76 | 77 | 7.0 | 487 | 308 | 82 | 1.3 |
| Feb. 11-13, 15-18 | 799 | 86 | 19 | 50 | 260 | 74 | 74 | 8.5 | 506 | 293 | 80 | 1.3 |
| Feb. 20-22 | 564 | 61 | 11 | 39 | 182 | 55 | 50 | 6.9 | 344 | 197 | 48 | 1.2 |
| Feb. 23-28 | 685 | 68 | 14 | 55 | 218 | 55 | 72 | 11 | 412 | 227 | 48 | 1.6 |
| Mar. 1, 3, 5- 6, 9,12,16-17,19 | 742 | 84 | 17 | 46 | 248 | 66 | 72 | 7.4 | 516 | 280 | 76 | 1.2 |
| Mar. 7,10-11, 13-14,20 | 439 | 51 | 8.1 | 24 | 160 | 32 | 32 | 3.2 | 283 | 161 | 29 | .8 |
| Mar. 21-25,27- 28,30-31 | 749 | 82 | 18 | 50 | 254 | 65 | 76 | 5.3 | 504 | 278 | 70 | 1.1 |
| Apr. 1- 4, 6- 10 | 766 | 80 | 18 | 53 | 259 | 63 | 76 | 5.0 | 520 | 274 | 61 | 1.4 |
| Apr. 11,14-20 | 772 | 80 | 17 | 57 | 249 | 73 | 78 | 4.2 | 521 | 270 | 66 | 1.5 |
| Apr. 23-24,26- 29 | 437 | 49 | 8.6 | 26 | 154 | 34 | 34 | 5.6 | 301 | 158 | 31 | .9 |
| May 2, 5- 6, 8-10 | 528 | 57 | 11 | 37 | 183 | 49 | 42 | 8.8 | 332 | 188 | 38 | 1.2 |
| May 11-13,16 | 551 | 60 | 11 | 33 | 191 | 36 | 48 | 6.6 | 334 | 194 | 38 | 1.0 |
| May 17-18,20 | 248 | 36 | 4.0 | 13 | 122 | 15 | 11 | 3.0 | 175 | 106 | 6 | .5 |
| May 21-25,27-29 | 557 | 60 | 9.7 | 35 | 190 | 43 | 44 | 4.0 | 322 | 190 | 34 | 1.1 |
| June 2- 4 | 264 | 37 | 4.5 | 20 | 126 | 20 | 21 | 1.0 | 184 | 111 | 8 | .8 |
| June 7-10 | 492 | 54 | 8.6 | 35 | 181 | 40 | 38 | 4.0 | 297 | 170 | 22 | 1.2 |
| June 11,22,24 | 332 | 42 | 5.4 | 20 | 143 | 24 | 20 | .2 | 212 | 127 | 10 | .8 |
| June 12-14,25-29 | 508 | 58 | 10 | 32 | 183 | 47 | 38 | 2.5 | 320 | 186 | 36 | 1.0 |
| June 20-21,30 | 710 | 76 | 16 | 44 | 242 | 60 | 63 | 2.5 | 436 | 256 | 57 | 1.2 |
| July 1- 3, 5-10 | 762 | 82 | 18 | 52 | 260 | 67 | 75 | 2.5 | 476 | 278 | 66 | 1.4 |
| July 11-16,18,20 | 823 | 84 | 20 | 58 | 265 | 77 | 83 | 4.0 | 513 | 292 | 74 | 1.5 |
| July 21-23,25-30 | 792 | 77 | 19 | 59 | 250 | 75 | 81 | 2.0 | 506 | 270 | 65 | 1.6 |
| Aug. 1-10 | 741 | 74 | 17 | 55 | 233 | 68 | 77 | 4.0 | 484 | 254 | 64 | 1.6 |
| Aug. 11-20 | 800 | 78 | 19 | 63 | 248 | 73 | 88 | 6.4 | 529 | 272 | 69 | 1.7 |
| Aug. 21,23-28 | 723 | 74 | 17 | 51 | 227 | 68 | 75 | 4.0 | 477 | 254 | 68 | 1.4 |

Table 5.- Analyses of composites of daily samples from San Antonio River collected October 1, 1945 to September 30, 1946 at gaging station at bridge on State Highway 29, 1.3 miles southeast of courthouse in Goliad and 10 miles upstream from Manahuilla Creek-Continued

| Date of collection 1946 | Specific conductance (micromhos at 25°C) | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium (Na + K) | Bicarbonate ($HCO_3$) | Sulfate ($SO_4$) | Chloride (Cl) | Nitrate ($NO_3$) | Dissolved solids | Hardness as $CaCO_3$ | | Sodium adsorption ratio (SAR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Total | Non-carbonate | |
| | | Parts per million | | | | | | | | | | |
| Sept. 3- 6 | 369 | 49 | 6.6 | 20 | 159 | 27 | 24 | 0.5 | 246 | 149 | 19 | 0.7 |
| Sept. 7-10 | 737 | 84 | 14 | 53 | 259 | 65 | 70 | 4.0 | 473 | 267 | 54 | 1.4 |
| Sept.11,12,28 | 801 | 91 | 17 | 57 | 280 | 75 | 77 | 6.2 | 560 | 297 | 68 | 1.4 |
| Sept.29 | 281 | - | - | - | 127 | 23 | 12 | 2.2 | - | - | - | - |




EXPLANATION

| | | | |
|---|---|---|---|
| Pleistocene | Qb | Beaumont clay — Clay with layers of sand. Not an important aquifer in this area. | QUATERNARY |
| | Ql | Lissie formation — Sand with layers of gravel, clay, and silt. Yields small supplies of potable water | |
| | *Unconformity* | | |
| Pliocene | Tg | Goliad sand — Sand and sandstone with some clay and gravel and much caliche. Yields small supplies of water of variable quality | TERTIARY |
| | *Unconformity* | | |
| Miocene(?) | Tl | Lagarto clay — Clay and sandy clay with layers of sand and sandstone. Yields moderately large supplies of potable water. | |

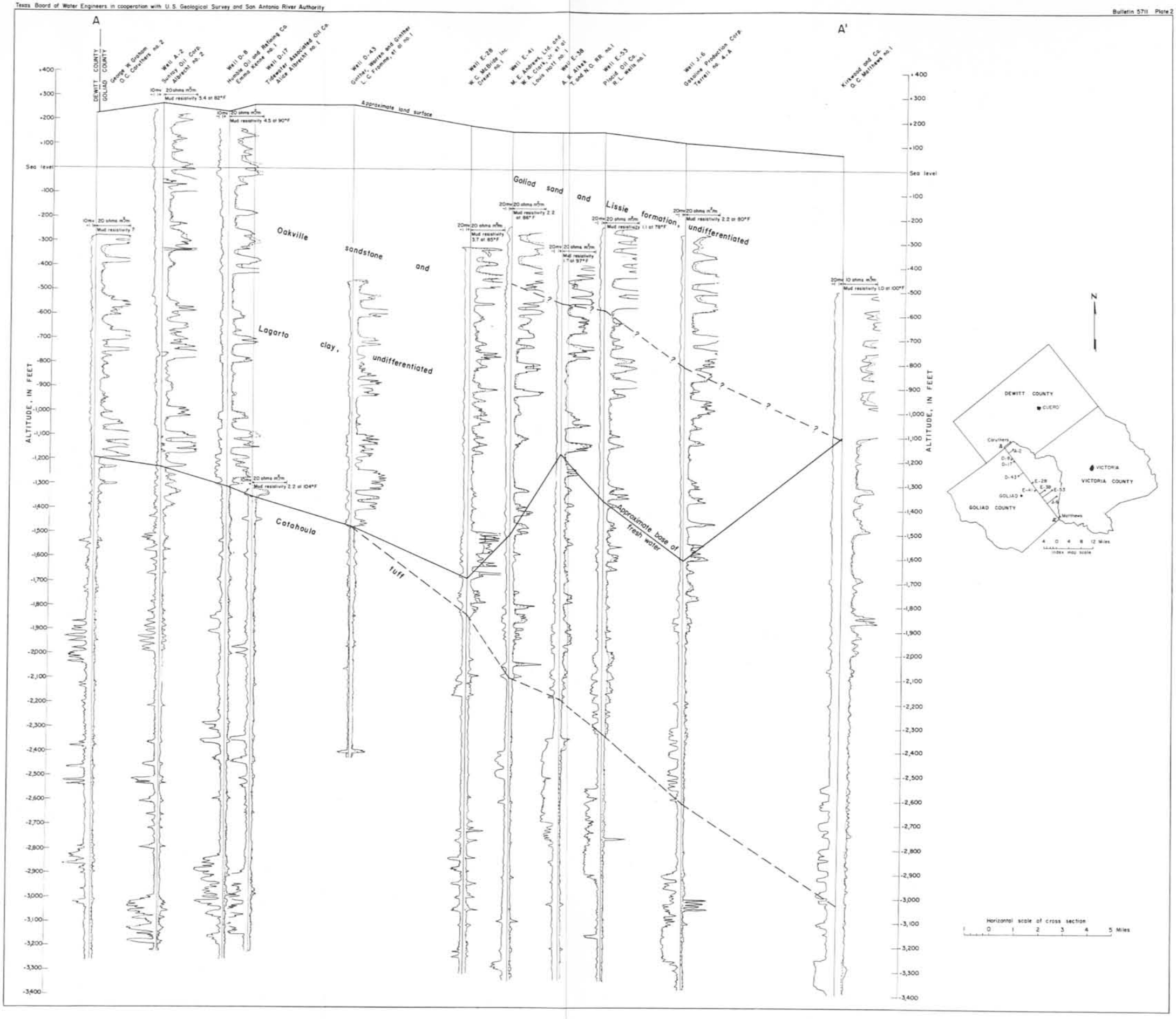
- Well with hand pump, bucket, or bailer
- Well with windmill or small power pump
- Well with pumping plant, 5-horsepower or larger
- Unused well
- Flowing well
- Oil or gas test
- 56 — Line above well number indicates chemical analysis included in report

Geology from geologic map of Texas, U. S. Geological Survey, 1937, with revisions by Ted Arnow, 1955.

Base map compiled from general highway map and field notes, 1955.

1 0 1 2 3 4 5 Miles

# GEOLOGIC MAP OF GOLIAD COUNTY, TEXAS SHOWING LOCATION OF WELLS




GEOLOGIC CROSS SECTION A-A', DEWITT, GOLIAD, AND VICTORIA COUNTIES


GEOLOGIC CROSS SECTION B-B', BEE, GOLIAD, AND VICTORIA COUNTIES