

**IDENTIFICATION AND TABULATION OF GEOLOGICAL CONTACTS
IN THE EDWARDS AQUIFER, SAN ANTONIO AREA, TEXAS**

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CONTENTS

	Page
Abstract-----	1
Introduction-----	2
Location of the San Antonio area-----	2
Source of data-----	2
Well-numbering and well-location system-----	2
Stratigraphic units-----	5
Overlying the Edwards aquifer-----	5
Within the Edwards aquifer-----	9
San Marcos Platform-----	9
Devils River Trend-----	9
Maverick Basin-----	9
Underlying the Edwards aquifer-----	9
Identification of stratigraphic contacts-----	11
Overlying the Edwards aquifer-----	11
Within the Edwards aquifer-----	14
San Marcos Platform-----	14
Georgetown Formation-----	20
Person Formation-----	20
Kainer Formation-----	22
Devils River Trend-----	23
Maverick Basin-----	23
Salmon Peak Formation-----	24
McKnight Formation-----	24
West Nueces Formation-----	24
Underlying the Edwards aquifer-----	25
Data tabulation-----	26
Selected references-----	27
Supplemental information-----	28

ILLUSTRATIONS

	Page
Figure 1. Map showing location and hydrologic features-----	3
2. Map showing location of wells and test holes with identifiable contacts on geophysical logs-----	4
3. Diagram showing system of locating wells by latitude and longitude-----	6
4. Map showing depositional environments of the Edwards aquifer-----	7
5. Stratigraphic relationships and formation contact identification on representative logs-----	8
6. Electric log of well AY-68-36-206 in the San Marcos Platform-----	12
7. Gamma-ray log of well AY-68-30-807 in the San Marcos Platform-----	13
8. Induction-electric log of well TD-69-53-6-- in the Devils River Trend-----	15
9. Gamma-ray log of well YP-69-37-402 in the Devils River Trend-----	16
10. Electric log of well RP-70-54-5-- in the Maverick Basin-----	17
11. Gamma ray-sonic log of well RP-70-44-8-- in the Maverick Basin-----	18
12. Electric log of well AY-68-28-910 in the San Marcos Platform-----	19
13. Neutron, gamma-gamma, and caliper logs of well AY-68-29-506 in the San Marcos Platform-----	21

TABLES

Table 1. Carbonate-rock classification system of Dunham (1962)-----	10
2. Tabulation of wells and contacts-----	29

METRIC CONVERSIONS

The "inch-pound" units used in this report may be converted to metric units by the following factor:

From	Multiply by	To obtain
feet	0.3048	meter

National Geodetic Vertical Datum of 1929 (NGVD of 1929): A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called mean sea level.

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ABSTRACT

Geological contacts were picked on logs of about 480 wells in the San Antonio area of the Edwards aquifer. The base of the Del Rio Clay is the most frequently picked contact because it is the top of the Edwards aquifer and also because it is easily identified on either gamma-ray or electric logs.

Other important formation contacts identified were the Austin Group, the Eagle Ford Group, the Buda Limestone, and the Glen Rose Formation. These contacts were usually easy to identify on either gamma-ray or electric logs.

INTRODUCTION

This report describes the identification of geologic contacts and compiles the picks from well and test-hole data compiled from 1970 to 1978 by the U.S. Geological Survey as part of a study of the Edwards aquifer in the San Antonio area, Texas. The study was made in cooperation with the San Antonio City Water Board and the Texas Department of Water Resources. These picks were used to prepare geologic cross sections and a structural contour map of the top of the Edwards aquifer (Maclay and Small, 1983).

Location of the San Antonio Area

The San Antonio area of the Edwards aquifer is in the Balcones Fault Zone and includes parts of Kinney, Uvalde, Medina, Bexar, Comal and Hays Counties. The location and the hydrologic features of the San Antonio area is shown in figure 1.

Source of Data

The documented geophysical logs are filed in the Geological Survey's San Antonio Subdistrict Office. Many of the logs were recorded by Geological Survey equipment and personnel. The remainder were obtained from outside sources, such as private companies and governmental agencies. The availability of the geophysical logs is documented in Maclay, Small, and Rettman (1981).

Well-Numbering and Well-Location System

The location of wells or test holes having geophysical logs with identifiable contacts is shown in figure 2. The wells and test holes are identified by the standard well-numbering system used by the Texas Department of Water Resources.

The well-numbering system in Texas was developed by the Texas Department of Water Resources for use throughout the State. Under this system, each 1-degree quadrangle is given a number consisting of two digits. These are the first two digits in the well number. Each 1-degree quadrangle is divided into 7-1/2-minute quadrangles which are given two-digit numbers from 01 to 64. These are the third and fourth digits of the well number. Each 7-1/2-minute quadrangle is divided into 2-1/2-minute quadrangles which are given a single-digit number from 1 to 9. This is the fifth digit of the well number. Finally, each well within a 2-1/2-minute quadrangle is given a two-digit number in the order in which it was inventoried, starting with 01. These are the last two digits of the well number. Only the last three digits of the well number are shown at each well site; the middle two digits are shown in the northwest corner of each 7-1/2-minute quadrangle. In addition to the seven-digit number, a two-letter prefix is used to identify the county. The prefixes for counties where well logs were used for correlation are as follows: AY, Bexar; DX, Comal; KX, Guadalupe; LR, Hays; RP, Kinney; TD, Medina; and YP, Uvalde. An example of a well numbered by this system is AY-68-27-906.

Since this well-numbering system will locate a well only to a 2-1/2-minute quadrangle, the latitude and longitude also are given so that the well can be precisely located as shown in figure 3.

STRATIGRAPHIC UNITS

The stratigraphic names used in this report are from the Geologic Atlas of Texas, San Antonio sheet (University of Texas, Bureau of Economic Geology, 1974). The stratigraphic nomenclature proposed by Rose (1972) is used to describe the geologic units of the Maverick Basin, the Devils River Trend, and the San Marcos Platform (fig. 4) and does not follow the usage of the U.S. Geological Survey. The correlation of the stratigraphic units is shown in figure 5.

Overlying the Edwards Aquifer

The formations overlying the Edwards that will be discussed in this report are, in descending order, the Austin Group, Eagle Ford Group, Buda Limestone, and the Del Rio Clay.

The Austin Group is a white to buff, dense, chalky limestone. It is about 150 feet thick in much of the eastern area and central part of the San Antonio area and thickens to more than 1,000 feet in Kinney County, where it is a massive limestone in the lower part and a thin-bedded chalky limestone and marl in the upper part (Bennett and Sayre, 1962).

The Eagle Ford Group is the basal unit of the Gulf Series or Upper Cretaceous. It is chiefly flaggy, calcareous, and sandy shale interbedded with hard, shaly limestone (Arnow, 1959). It is about 35 feet thick in the eastern part of the study area and over 200 feet thick in the west where it is a flaggy, crystalline limestone and clayey, chalky limestone interbedded with layers of marl (Bennett and Sayre, 1962).

The Buda Limestone is the top formation of the Washita Group and is a very hard, dense, massive limestone (Holt, 1956). It is about 55 feet thick in the east and more than 100 feet thick in the west.

The Del Rio Clay overlies the Georgetown Formation, both of the Washita Group, within the San Marcos Platform, the Devils River Limestone within the Devils River Trend, and the Salmon Peak Formation within the Maverick Basin. It is a soft, sticky calcareous clay that is about 50 feet thick in the eastern and central part of the San Antonio area. In the western part of the San Antonio area, the Del Rio Clay also contains thin, flaggy beds of limestone interbedded with clay. The Del Rio Clay thickens to the west and according to Welder and Reeves (1962), is about 120 feet thick at the Uvalde-Kinney County line and more than 200 feet thick in southwestern Kinney County (Bennett and Sayre, 1962).

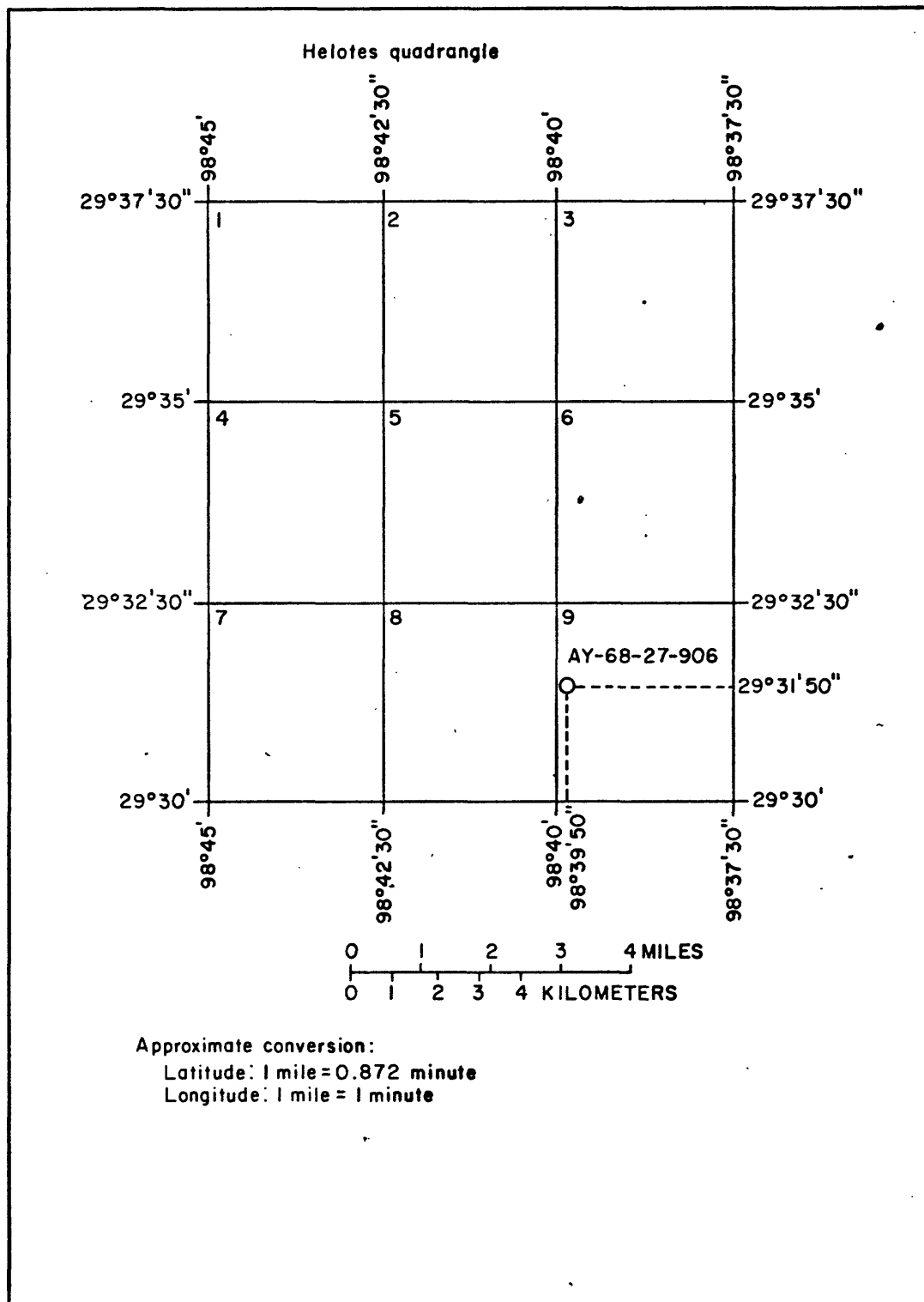
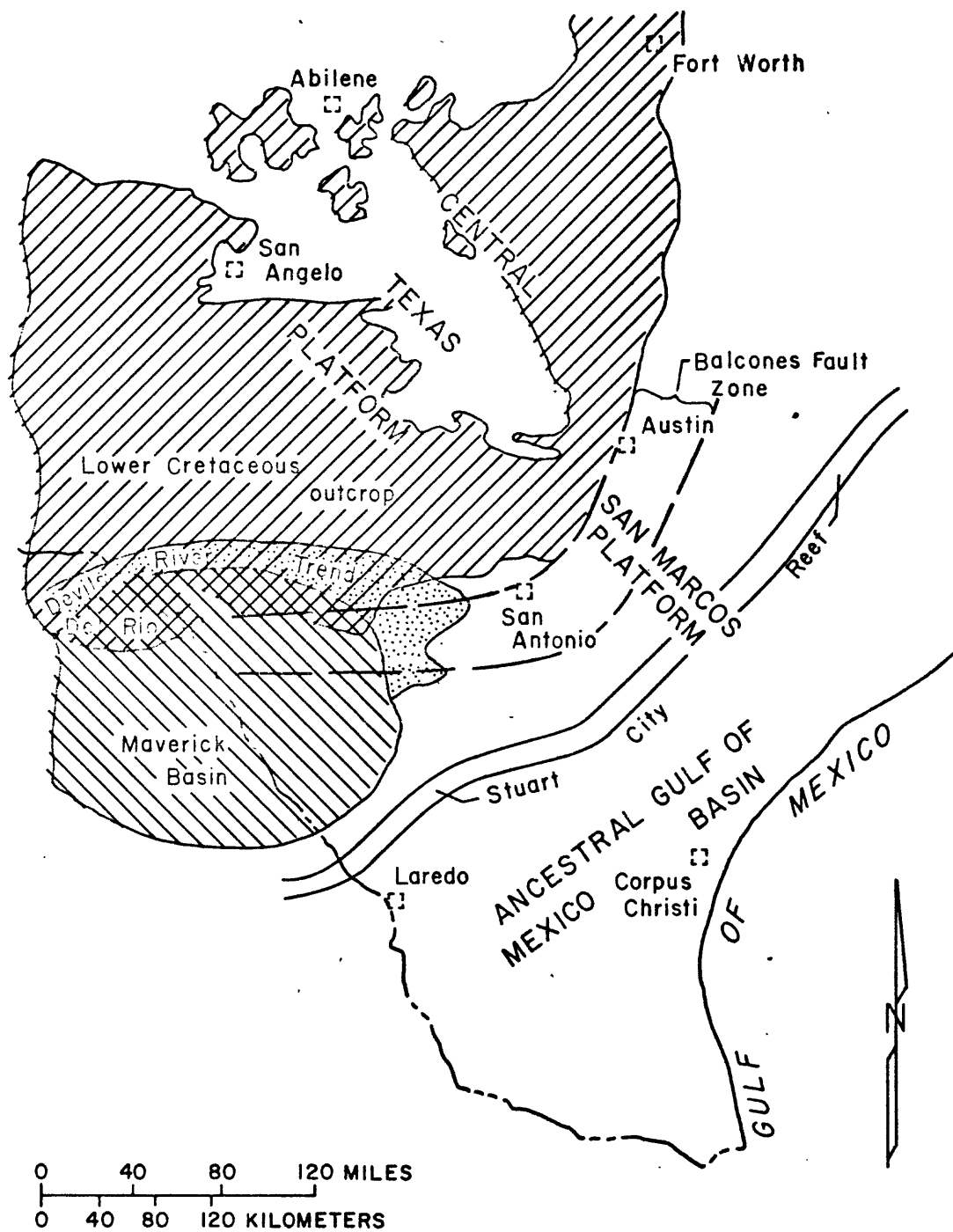


Figure 3.-Diagram showing system of locating wells by latitude and longitude



Modified from Rose (1972)

Figure 4.-Depositional environments of the Edwards aquifer

Within the Edwards Aquifer San Marcos Platform

The Georgetown Formation of the Washita Group overlies the Edwards Group (Rose, 1972) on the San Marcos Platform. It is a dense, shaly, lime mudstone (see table 1 for carbonate identification system used in this report) and/or wackestone. The formation is about 20 to 30 feet thick.

The Edwards Group (Rose, 1972) consists of two formations, the Person (upper) and the Kainer (lower). The Person Formation is about 180 feet thick and was divided by Rose (1972) into five units: The Cyclic member, the Marine member, the Collapsed member, the Leached member, and the Regional dense member. The Cyclic member is not present or is not distinguishable within the aquifer. The Marine member is a dense, lime mudstone about 80 feet thick. The Leached member and the Collapsed member are dense, variably recrystallized lime wackestone and lime grainstones about 80 feet thick. The Regional dense member is the basal unit and is a dense, clayey, lime mudstone about 20 feet thick. The Kainer Formation is about 250 feet thick and consists of four members. The Grainstone member is the upper member and is a well-cemented, miliolid lime grainstone about 60 feet thick. The Kirschberg evaporite is stratigraphically below and is a recrystallized, variably honeycombed, crystalline limestone about 50 feet thick. The Dolomitic member is a variably recrystallized, honeycombed, crystalline, dolomitic limestone or crystalline dolomite. The Dolomitic member is about 90 feet thick. The Basal nodular member is the lowest member and is a dense, shaly, lime wackestone about 50 feet thick. The Cyclic, Marine, Leached, and Collapsed members of the Person Formation are not readily identifiable and are not picked.

Devils River Trend

The Devils River Trend refers to the belt of stratigraphically inseparable Fredericksburg and Washita rocks bordering the northern Maverick Basin (Lozo and Smith, 1964). These Edwards facies rocks are known as the Devils River Limestone and are chiefly recrystallized miliolid and shell fragment, lime grainstones and wackestones about 450 to 600 feet thick.

Maverick Basin

The rocks equivalent to the Edwards in the Maverick Basin are divided into the Salmon Peak Formation, the McKnight Formation, and the West Nueces Formation (Lozo and Smith, 1964). The Salmon Peak Formation, the upper unit of the Maverick Basin, is a dense, massive lime mudstone about 350 feet thick. The McKnight Formation is a thin-bedded lime mudstone and shale, about 100 to 200 feet thick. The West Nueces Formation consists of a lower nodular, lime wackestone about 60 feet thick and an upper massive, dense, lime mudstone about 60 feet thick.

Underlying the Edwards Aquifer

The Glen Rose Formation, which is the confining unit below the Edwards aquifer, consists of beds of massive, chalky limestone alternating with beds of marly limestone (Livingston, Sayre, and White, 1936).

Table 1.--Carbonate-rock classification system of Dunham (1962)

DEPOSITIONAL TEXTURE RECOGNIZABLE					DEPOSITIONAL TEXTURE NOT RECOGNIZABLE
Original components not bound together during deposition				<p>Original components were bound together during deposition... as shown by intergrown skeletal matter, lamination contrary to gravity, or sediment-floored cavities that are roofed over by organic or questionably organic matter and are too large to be interstices.</p> <p><u>Boundstone</u></p>	
(particles of clay and fine silt size)		Grain-supported	Lacks mud and is grain-supported		
Contains mud					
Mud-supported	Grain-supported				
Less than 10 percent grains	More than 10 percent grains				
<u>Mudstone</u>	<u>Wackestone</u>	<u>Packstone</u>	<u>Grainstone</u>		
<p><u>Crystalline Carbonate</u></p> <p>(Subdivide according to classifications designed to bear on physical texture or diagenesis.)</p>					

IDENTIFICATION OF STRATIGRAPHIC CONTACTS Overlying the Edwards Aquifer

The electrical properties of the Austin Group, Eagle Ford Group, Buda Limestone, and Del Rio Clay are illustrated on the partial electric log of well AY-68-36-206 (fig. 6).

The representative pattern for the resistivity curve for the formations from the Austin Group to the Del Rio Clay is as follows: A high uneven resistivity zone for the Austin; a low resistivity zone commonly containing two deep reentrants for the Eagle Ford; a broad zone of high resistivity of some variation for the Buda; and a zone of deeply suppressed resistivity of little variation for the Del Rio.

The normal resistivity curve shows an abrupt shift from a low resistivity (10 ohmmeters) within the basal Anacacho Limestone to a broad unevenly elevated pattern of higher resistivity that ranges from 50 to 90 ohmmeters in the Austin Group. The top of the Austin is picked at this shift. About 150 feet below the top of the Austin, the resistivity shifts to about 20-40 ohmmeters. The top of the Eagle Ford Group is picked at this shift. Approximately 30 feet below the top of the Eagle Ford, the resistivity curve shifts sharply to a high of about 90 ohmmeters. The top of the Buda is picked where the curve shifts to the high resistivity value. About 60 feet below the top of the Buda, the curve shows a shift to a resistivity of about 10 ohmmeters and this lower resistivity marks the Del Rio Clay. The top of the Del Rio Clay is picked where the curve becomes recessive and the base is picked about 55 feet below the top where the resistivity curve shifts sharply to the high resistivity of the Georgetown Formation.

The above mentioned high, low, high pattern of the resistivity curve is offset by a spontaneous potential (SP) curve that is a flattened (no high peaks or deep valleys) mirror image of the resistivity curve. The SP curve shows a negative (to the left) shift of about 15 millivolts at the contact of the Anacacho and the Austin. This is followed by a positive (to the right) shift of 10-20 millivolts at the top of the Eagle Ford and a negative shift of about 15 millivolts at the top of the Buda. There is a positive shift of about 15 millivolts at the top of the Del Rio and a negative shift of about 15 millivolts at the base of the Del Rio.

The gamma-ray curve in figure 7, partial gamma-ray log of well AY-68-30-807, shows the natural gamma radiation properties of the Austin Group, the Eagle Ford Group, the Buda Limestone, the Del Rio Clay, the Georgetown Formation, the Person Formation and the Kainer Formation. The typical pattern of gamma-ray curve for the formations from the Austin Group through the Del Rio Clay is as follows: A broad zone of relatively low radiation in the Austin; a very high spiky peak of high radiation in the Eagle Ford; low radiation in the Buda; and a zone of high spiky peaks of high radiation in the Del Rio.

The gamma-ray curve shows that the Austin has lower natural gamma radiation, 15-30 counts per second (cps), than that of the overlying Anacacho which has about 60 cps. The top of the Austin is picked where the curve shifts to the left (toward lower radiation) in the Austin. About 210 feet below the top of the Austin, the curve deflects sharply to the right, showing a pattern of three high spiky peaks, having radiation of about 70 to 100 cps in the Eagle

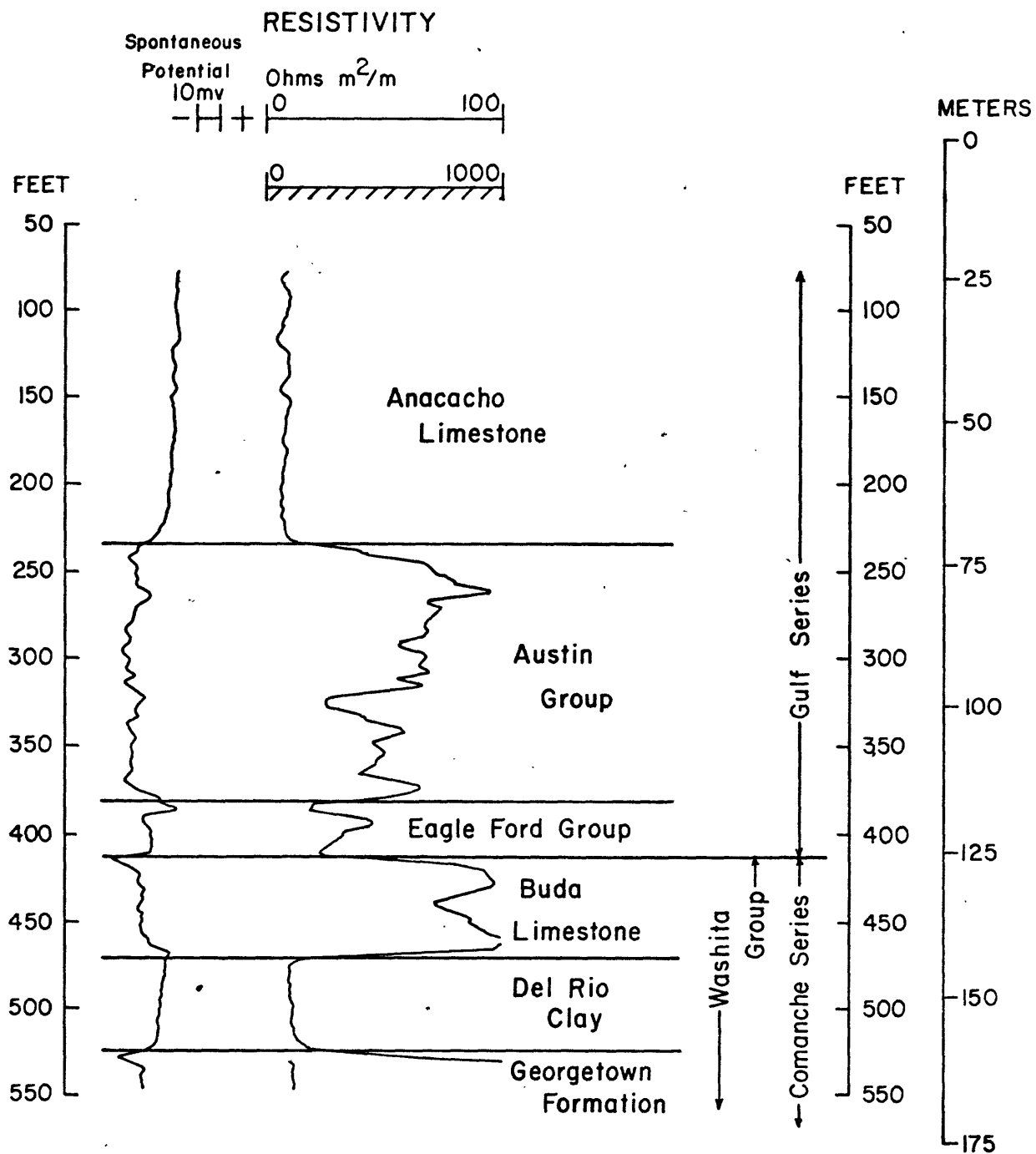


Figure 6.-Electric log of well AY-68-36-206 in the San Marcos Platform

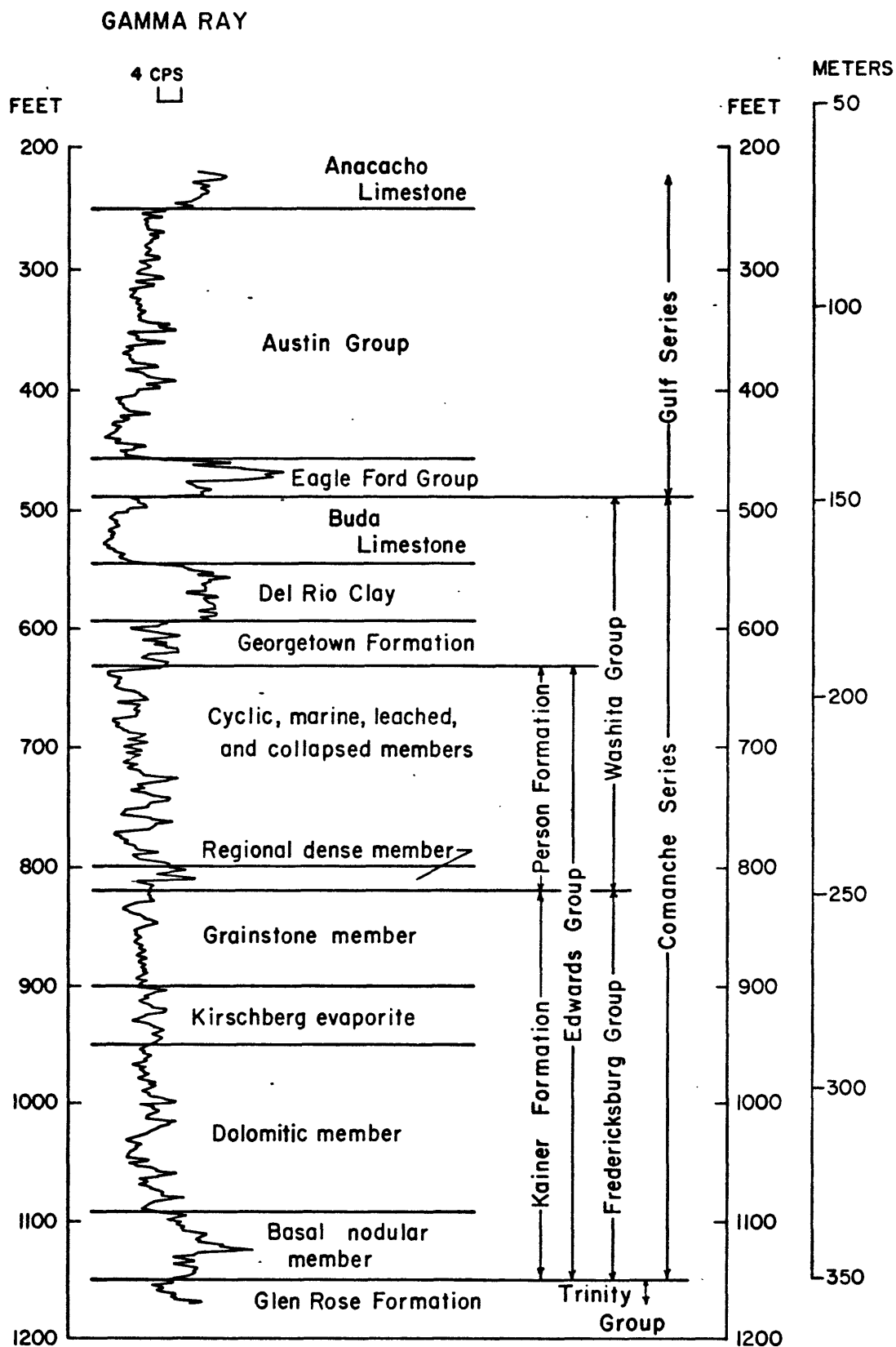


Figure 7.-Gamma-ray log of well AY-68-30-807 in the San Marcos Platform

Ford. The top of the Eagle Ford is picked where the curve shifts to the right. About 30 feet below the top of the Eagle Ford, the curve kicks back to the left to low radiation of about 20 cps. The top of the Buda is picked where the curve shifts back to low radiation. Approximately 55 feet below the top of the Buda, the curve deflects sharply to the right, to a series of high spiky peaks of about 60-65 cps. This series of peaks represents the Del Rio Clay. The top is picked where the curve deflects to the right to form the series, and the base is picked about 50 to 55 feet below the top where the curve shifts back to the left to the lower radiation of the Georgetown Formation.

The electrical properties of the Austin Group, Eagle Ford Group, Buda Limestone, Del Rio Clay, and the Devils River Limestone in the Devils River Trend are shown in the induction-electric log of well TD-69-53-6-- (fig. 8), and the natural gamma-radiation properties of these formations are shown in the gamma-ray log of well YP-69-37-402 (fig. 9).

The typical resistivity, SP, and gamma-ray radiation curves for the Austin, Eagle Ford, Buda, and Del Rio in the Devils River Trend are very similar in shape to those already described for the San Marcos Platform, and the criteria for picking the contacts are about the same. The formations are a little thicker in the Devils River Trend.

The electrical properties of the Austin Group, the Eagle Ford Group, the Buda Limestone, the Del Rio Clay, the Salmon Peak Formation, the McKnight Formation, and the West Nueces Formation in the Maverick Basin are shown in the induction-electric log of well RP-70-54-5-- (fig. 10), and the natural gamma-ray properties of these formations are shown in the gamma-ray sonic log of well RP-70-44-8-- (fig. 11)

The criteria for picking the contacts of the formations overlying the Edwards in the Maverick Basin are similar to the criteria used for picking the same contacts in the San Marcos Platform area. The shape of the SP-resistivity curve in figure 10 is not the same for the Austin-Eagle Ford as SP-resistivity curves in the San Marcos Platform area, but the contacts are not difficult to pick. The Buda-Del Rio pattern is much the same as it is on the San Marcos Platform. The pattern of the gamma-ray curve in figure 11 for the formations overlying the Edwards is similar to gamma-ray curves for the same formations in the San Marcos Platform area and the criteria for picking the formation contacts are the same.

Within the Edwards Aquifer San Marcos Platform

A typical example of the electrical properties of the Georgetown Formation, the Person Formation, and the Kainer Formation, along with the associated members, is shown in figure 12 with an electric log of well AY-68-28-910.

The electric log is probably the best correlation log for the Edwards because of the high and low resistivity zones common to limestone. The gamma ray is a good supplemental log but is not as satisfactory as the electric log because the limestones generally have low radiation properties. In the unsaturated part of the Edwards the gamma-ray log is usually the only log available for correlation.

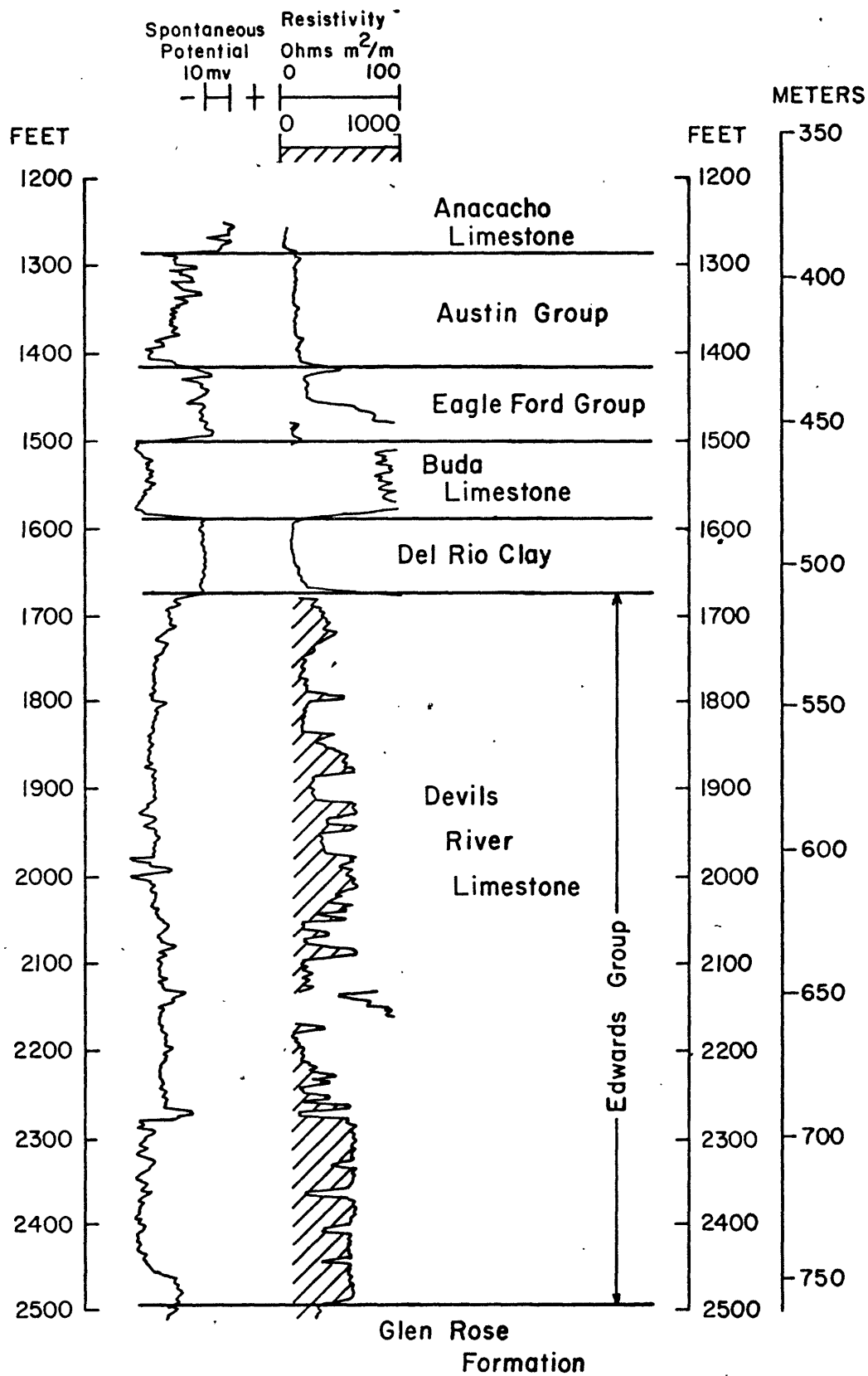


Figure 8.-Induction-electric log of well TD-69-53-6-- in the Devils River Trend

GAMMA RAY

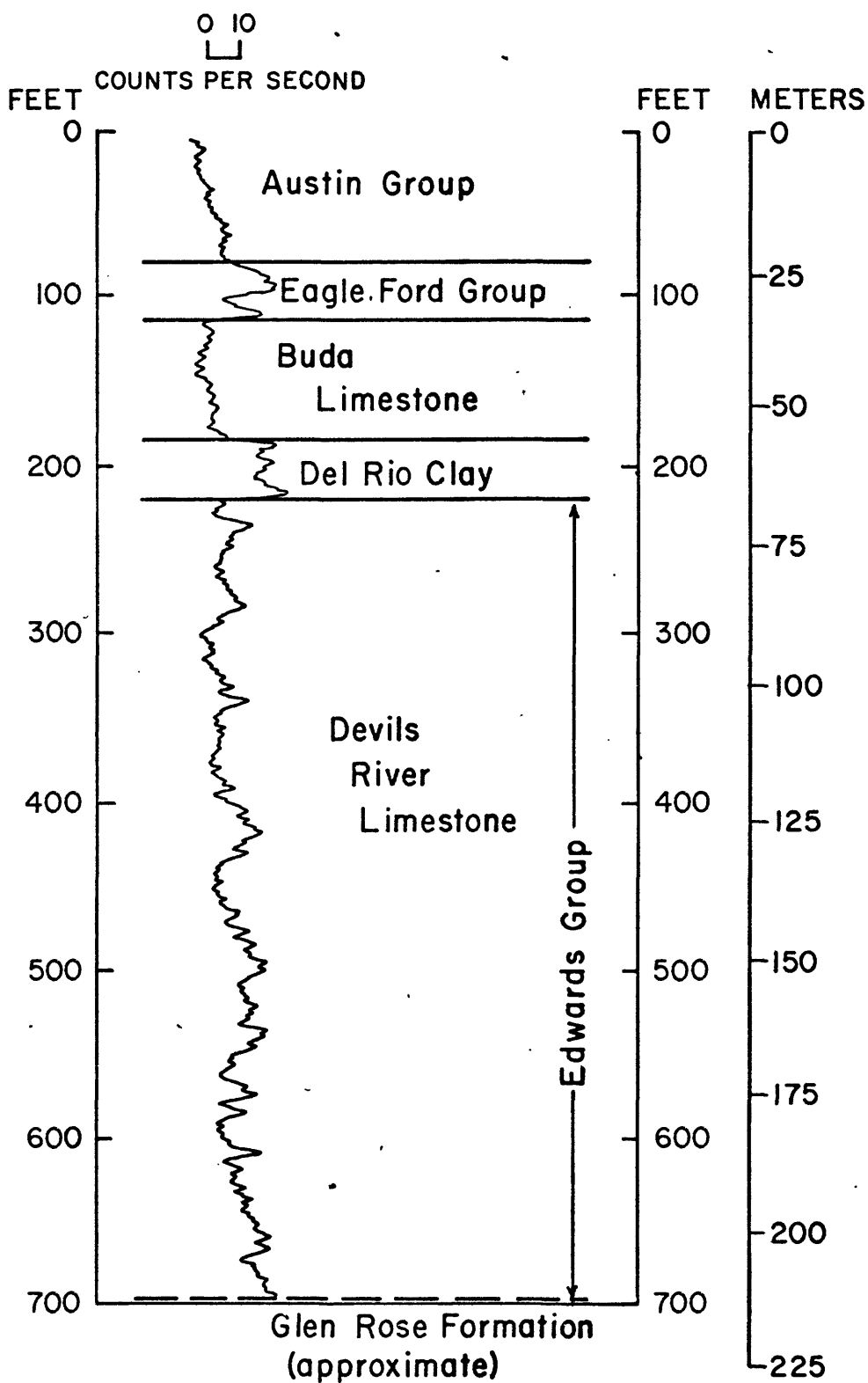


Figure 9.-Gamma-ray log of well YP-69-37-402 in the Devils River Trend

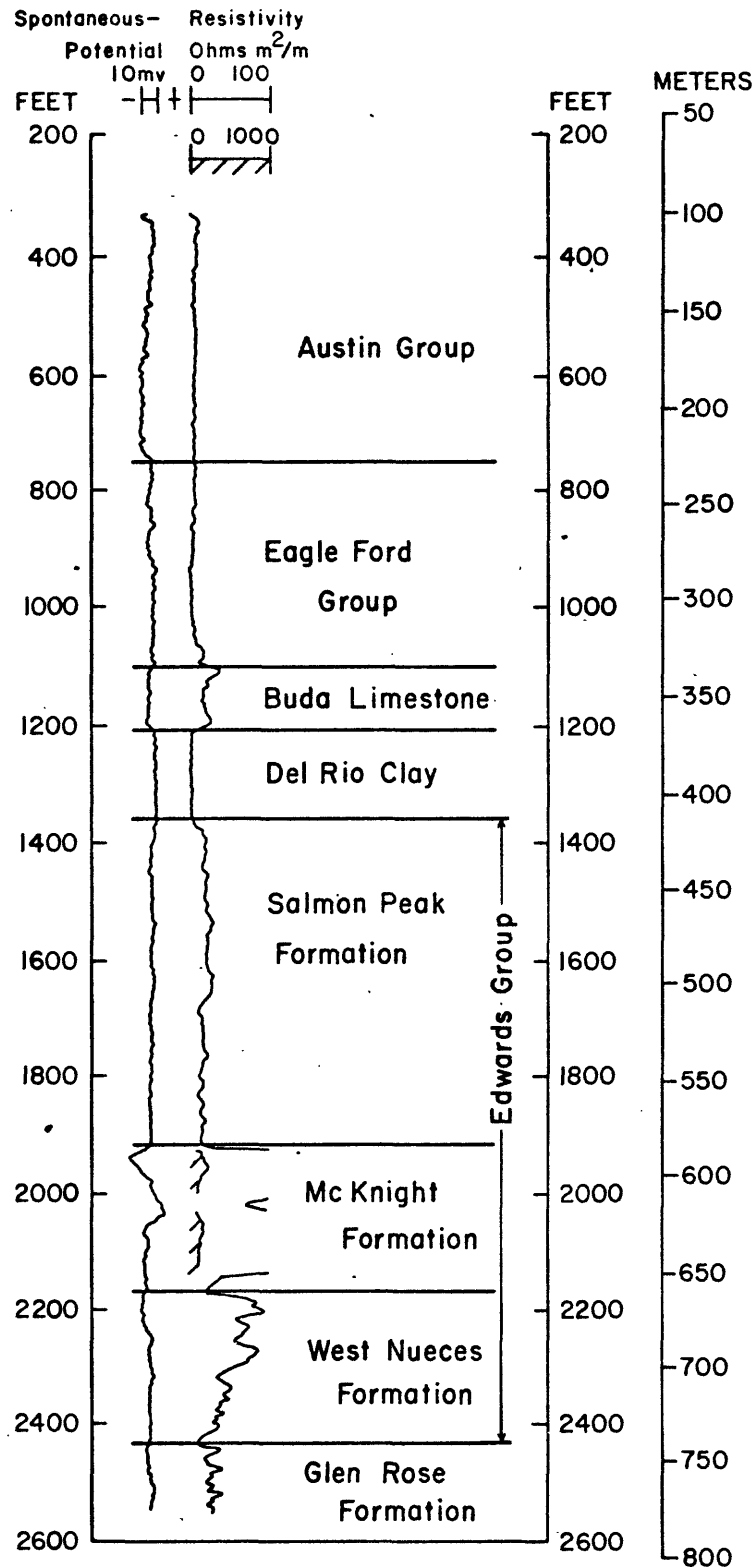
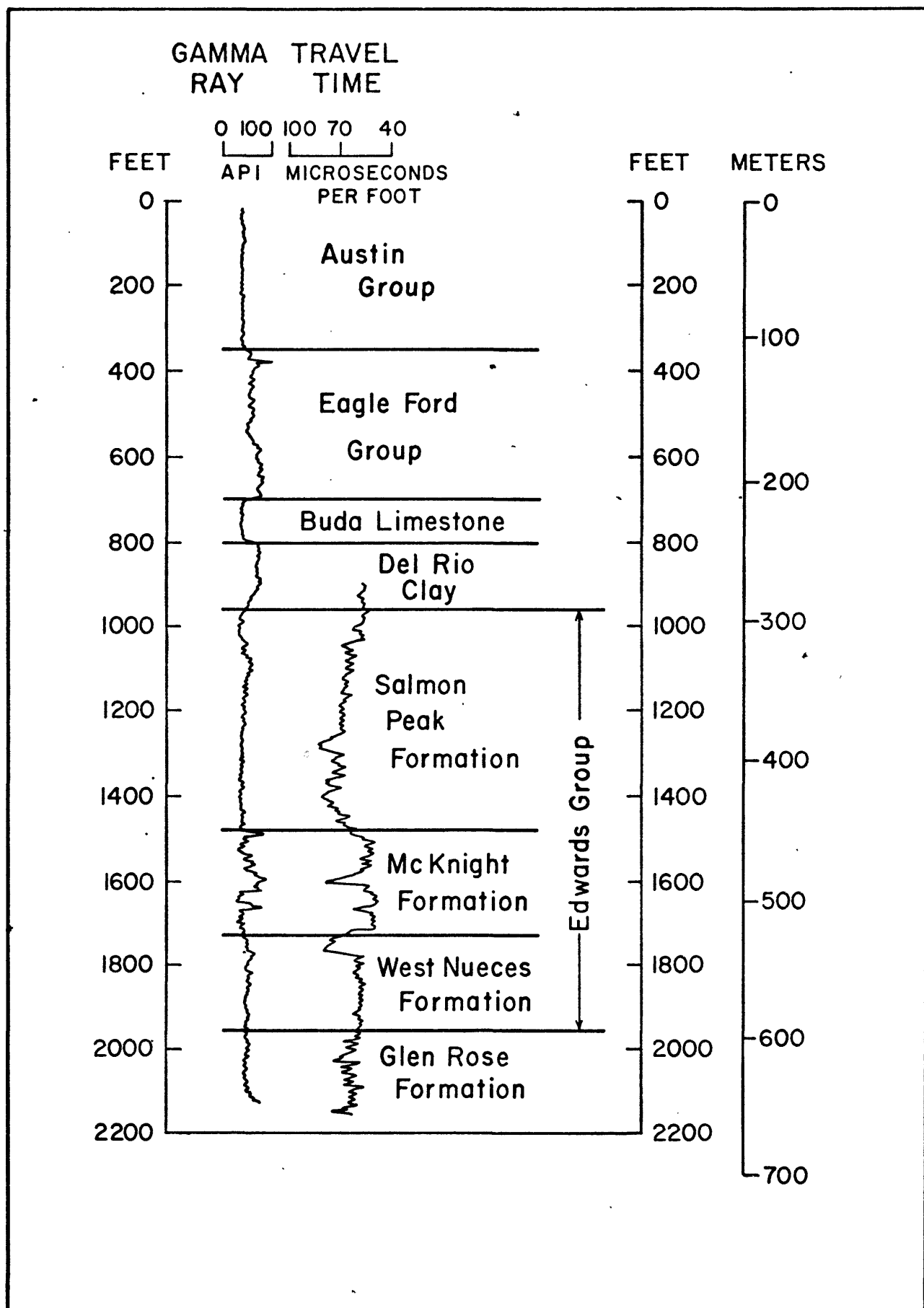


Figure 10.-Electric log of well RP-70-54-5-- in the Maverick Basin



**Figure 11.-Gamma ray-sonic log of well RP-70-44-8--
In the Maverick Basin**

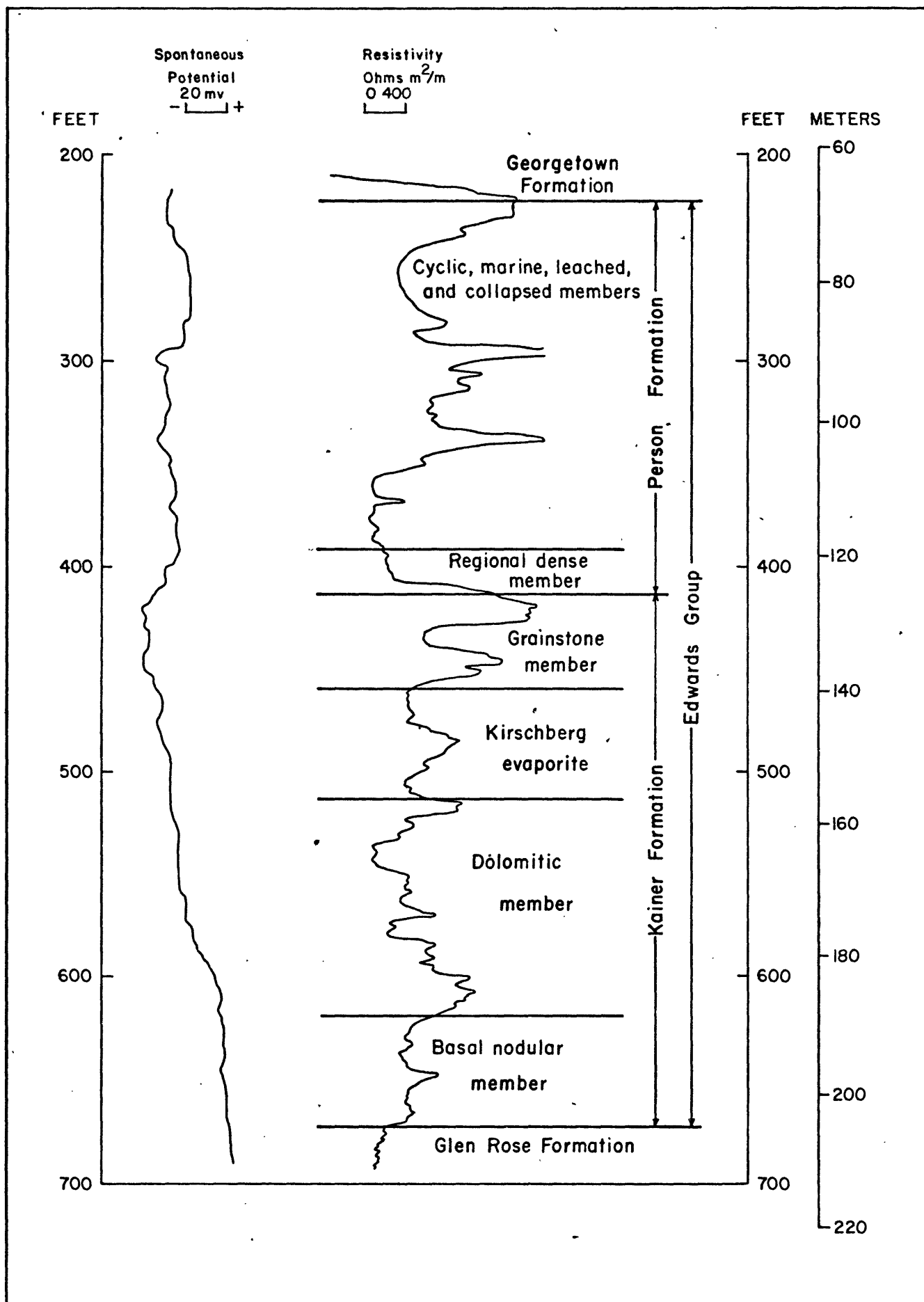


Figure 12.-Electric log of well AY-68-28-910 in the San Marcos Platform

The general pattern of the resistivity curve (on the electric log) is as follows: High resistivity in the Georgetown, top of the Person, middle Person, top of the Kainer (Grainstone member), and part of the lower Kainer (Dolomitic member). These high resistivities usually are separated by low to medium-low resistivities in the upper and lower Person, middle Kainer (Kirschberg evaporite), lower Kainer (Dolomitic member), and basal Kainer (Basal nodular member). The tops of these formations, or members, usually are picked where the resistivity curve shifts from high to low resistivity or vice versa.

Georgetown Formation

The resistivity curve in figure 12 shows a high resistivity of more than 1,200 ohmmeters in the lower Georgetown. The top of the Georgetown cannot be determined because of the effect of well casing on the resistivity log.

The SP curve for the top of the Georgetown is adversely affected by the well casing also. In the lower Georgetown, the SP curve gradually shifts to the left (negative).

The gamma-ray curve shows the Georgetown as three spiky peaks of 45 to 50 cps (fig. 7). The top is picked at the base of the series of high spiky peaks of 60-70 cps radiation of the Del Rio Clay.

Person Formation

The resistivity curve, mentioned in the discussion of the identification of the Georgetown (fig. 12), continues to the right to a peak of more than 2,000 ohmmeters, which marks the top of the Person. The resistivity curve shows the Person Formation as three peaks of about 1,600 to 2,000 ohmmeters and three suppressed zones of about 200 to 600 ohmmeters. The Regional dense member, the basal unit of the Person, is within the lower 20 feet of the lower suppressed zone. The top of the Regional dense member is picked about 20 feet above the shift toward the high resistivity peak that marks the top of the underlying Kainer with the aid of other logs.

The SP curve in figure 12 is a flattened and distorted mirror image of the resistivity curve. It deflects about 10 millivolts to the left (negative) opposite the resistivity peak in the top of the Person Formation. It shifts back to positive opposite the broad zone of low resistivity in the upper Person and is unevenly negative opposite the zone of high resistivity in the middle Person. The curve generally is positive opposite the zone of low resistivity in the lower Person. The Regional dense member cannot be identified on this SP.

Electric logs for the freshwater part of the aquifer are not satisfactory for locating the Regional dense member. The Regional dense member is seldom manifested on either the resistivity curve or the SP curve with an identifiable deflection. It is more reliably located on a suite of neutron, gamma-gamma, and caliper logs (fig. 13). These logs show the Regional dense member as a zone of low porosity and high density and also indicate that the borehole is about the same diameter as the drill bit (MacLay, Small, and Rettman, 1981). Downdip, and within the saline portion of the Edwards aquifer, Rose (1972) noted that the Regional dense member shows a distinct decrease in the SP curve, and the resistivity curve shows a corresponding peak at the same relative position.

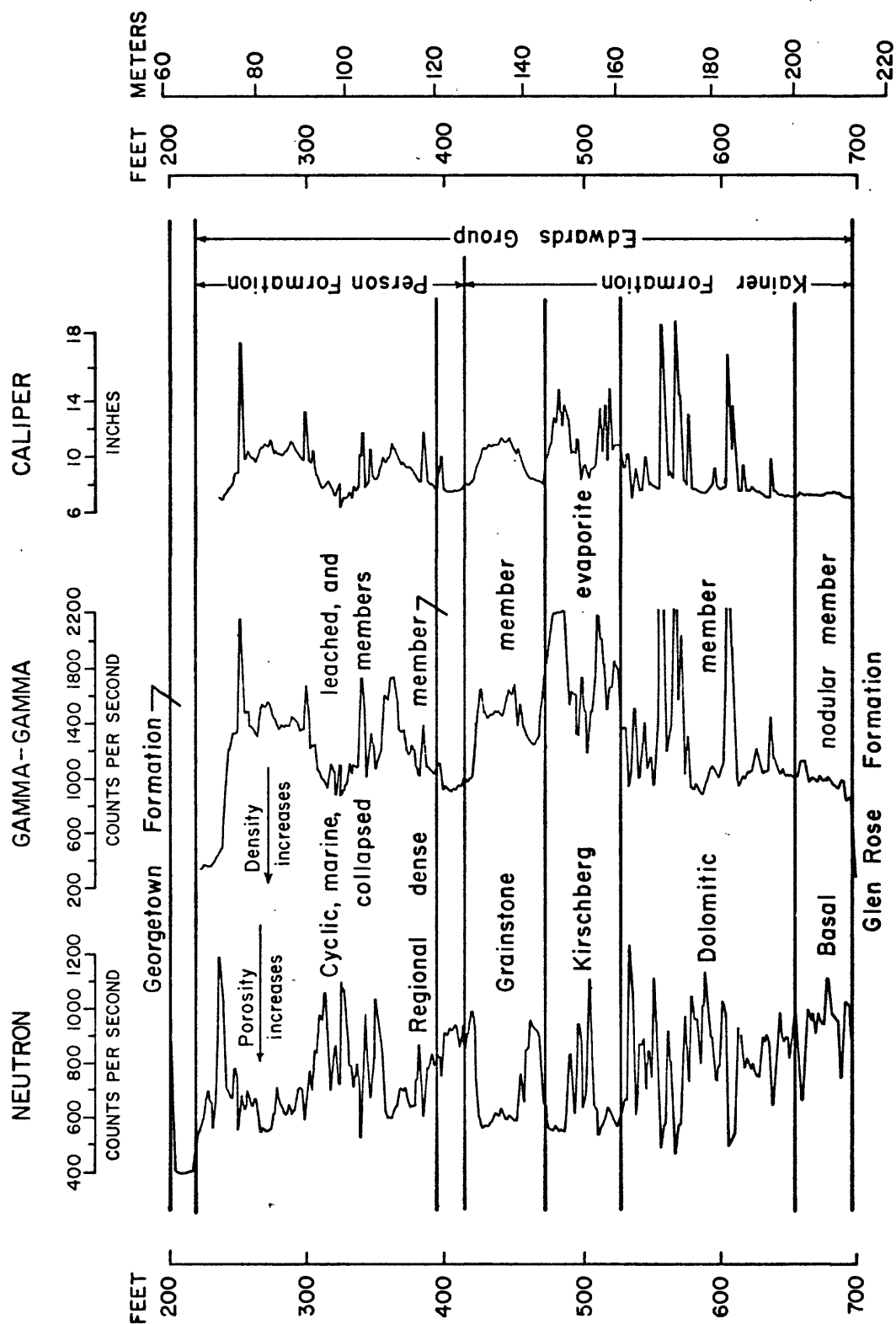


Figure 13.-Neutron, gamma-gamma, and caliper logs of well AY-68-29-506 in the San Marcos Platform

The gamma-ray curve shows the Person Formation to have low gamma radiation of about 15 to 30 cps in the upper part (fig. 7). The top of the Person is picked where the curve shifts to the low 15 cps radiation from the spiky peak of about 45 cps in the Georgetown Formation. There is a zone of spiky peaks of 40-50 cps near the middle of the formation and a zone of spiky peaks of 40-55 cps at the base of the formation that represents the Regional dense member. The top of the Regional dense member is picked where the curve shifts to the 45 cps radiation about 200 feet below the base of the Del Rio Clay.

Kainer Formation

The Kainer Formation is divided into four units, the Grainstone member, the Kirschberg evaporite, the Dolomitic member, and the Basal nodular member. A discussion of the picks using electric logs (fig. 12) is given first and using other geophysical logs (figs. 7 and 13) is second.

As shown in figure 12, the top of the Grainstone member is picked where the resistivity curve shifts to the right, to a peak of 2,000 ohmmeters which is commonly about 200 feet below the base of the Del Rio. The Grainstone is shown as two high peaks of 1,600 to 2,000 ohmmeters resistivity separated by a recessive zone of about 1,000 ohmmeters resistivity. The top of the Kirschberg evaporite is picked about 50 feet below the top of the Grainstone member and at the base of the bottom peak. It is shown as a 50-foot zone of low resistivity of about 800 to 1,200 ohmmeters. The top of the Dolomitic member is picked at the top of a narrow peak of about 800 ohmmeters at the base of the Kirschberg. The curve is unevenly recessed for about the next 90 feet and the resistivities range from a low of about 200 ohmmeters in the upper middle part to about 800 ohmmeters near the bottom. The top of the Basal nodular member is picked at the base of a low peak of about 1,000 ohmmeters. The resistivity curve for the Basal nodular member is similar in shape and thickness to the resistivity curve for the Kirschberg evaporite. The Basal nodular member is about 60 feet thick and has an upper and lower zone of low resistivity of about 400 ohmmeters with a narrow peak of about 700 ohmmeters in the middle. The base of the Basal nodular member, which is also the base of the Kainer Formation and of the Edwards Group, is picked where the curve shifts to the left toward lower resistivity and becomes an erratic line of about 500 ohmmeters at the top of the Glen Rose Formation. The SP curve shows some response down through the top of the Kirschberg evaporite (about 480 feet). Below 480 feet, the SP gradually shifts to the right. This portion of the curve has no distinguishing features that are valuable for determining formation contacts. The SP curve deflects about 15 millivolts negative opposite the resistivity peak that indicates the position of the Grainstone member. The curve shifts to positive opposite the low resistivity of the upper Kirschberg evaporite but below the Kirschberg, the SP curve is insensitive to changes in lithology.

The top of the Kainer Formation (and the top of the Grainstone member) is picked at the base of the narrow spiky zone representing the Regional dense member (fig. 7) on the gamma-ray log. The base of the Grainstone member or the top of the Kirschberg evaporite is arbitrarily picked about 70 feet below the top of the Grainstone member just above a zone of three narrow spiky peaks having radiation of about 45 cps. The Kirschberg is picked more reliably on the neutron log at the top of the high porosity zone and on the caliper log on the large increase in borehole diameter over the size of the bit (fig. 13).

The top of the Dolomitic member is picked about 40 feet below the top of the Kirschberg. The top of the Basal nodular member is picked at the top of a zone of a gradual increase of gamma radiation (fig. 7) which ranges from 50 to 80 cps. The member is about 270 feet below the top of the Kainer Formation. The neutron, gamma-gamma, and caliper logs (fig. 13) show the Basal nodular member to have low porosity and high density and to have a borehole approximately the same diameter as the drill bit. The base of the Kainer (and the base of the Basal nodular member) is picked where the gamma-ray curve (fig. 7) shifts toward a lower gamma radiation of about 75 cps. The base of the Kainer is about 60 feet below the top of the Basal nodular member.

Devils River Trend

The only stratigraphic unit in the Devils River Trend in the Edwards aquifer is the Devils River Limestone. The resistivity curve of this unit shows the upper part of the Devils River generally to have very high resistivity (fig. 8). The top is picked where the curve shifts to the right toward the high resistivity at the base of the Del Rio Clay.

The resistivity curve of the Devils River Limestone shows medium high to high resistivity throughout the formation. A zone of high resistivity occurs near the middle of the formation and another zone of high resistivity occurs near the base of the formation. The base of the formation is picked where the curve shifts toward the left to low resistivity in the Glen Rose Formation.

The SP curve deflects left (negative) about 20 millivolts at the top of the Devils River and gradually decreases by 10 or 20 millivolts. The lower part of the SP curve is about -40 millivolts except near the lower part (base) of the formation where it shifts to the left to about -50 millivolts. The lowest part of the curve increases toward a higher SP at the base of the formation.

The gamma-ray curve in figure 9 shows the natural gamma radiation properties of the Devils River Limestone. The average radiation is low, generally between 20 and 30 cps. The top of the Devils River is picked where the curve deflects back to the left, from the high peaks of over 40 cps in the Del Rio Clay to lower radiation of about 25 cps. It increases in the basal part of the formation to about 40 cps. The curve of the formations above the Devils River show an apparently lower radiation because the signal is attenuated by casing.

Maverick Basin

Electric logs show distinctive patterns that are useful for determining stratigraphic correlations in the Maverick Basin. They usually show significant changes in resistivity in the limestone and have more definition than the gamma-ray logs, which are excellent supplemental logs. The typical resistivity curve shows high resistivity for the Salmon Peak, higher resistivity for the McKnight, and medium high to medium low resistivity for the West Nueces. These high resistivities usually are separated from each other by zones of low resistivity, and the formation contacts are picked at these changes.

Salmon Peak Formation

The resistivity curve in figure 10 shows the Salmon Peak Formation to have medium high resistivity of about 40-50 ohmmeters throughout the formation. The top is picked where the curve deflects to the right about 150 feet below the top of the Del Rio. The SP curve is without distinguishing characteristics except for a small negative deflection about 40 feet below the top of the Salmon Peak.

The gamma-ray curve in figure 11 shows low gamma radiation of about 30-40 API gamma-ray units throughout most of the Salmon Peak Formation. The top of the Salmon Peak Formation is picked where the gamma-ray curve shifts to the left, to about 40 gamma-ray units, from the 70-80 units in the Del Rio. A narrow zone of slightly higher radiation of about 60-65 API gamma-ray units (Keys and MacCary, 1971) occurs about 130 feet below the top of the formation.

The sonic curve in figure 11 shows the Salmon Peak to have travel times of about 65-70 microseconds per foot in the upper half of the formation. Travel times in the lower half vary from 86 to about 65 microseconds per foot. The top of the formation cannot be picked on this log because it is shielded by the well casing.

McKnight Formation

The resistivity curve in figure 10 shows the McKnight as two peaks of more than 200 ohmmeters with a narrow zone of lower resistivity near the middle of the formation. The top of the McKnight Formation is picked where the resistivity curve deflects sharply to the right to a very high peak, which occurs about 500 feet below the top of the Salmon Peak.

The SP curve deflects about 25 millivolts to the left (negative) at the top of the McKnight. It drifts back to the right (positive) about 15 millivolts opposite the zone of low resistivity on the resistivity curve and then shifts back to the left about 10-15 millivolts in the lower part of the formation.

The gamma-ray curve in figure 11 shows the McKnight as a series of high spiky peaks of 80 to 100 API gamma-ray units. The top of the formation is picked at the start of the series of peaks.

The travel-time curve on the sonic log in figure 11 shows the McKnight as a broad zone of low travel time of about 50-55 microseconds per foot. This appears as a broad flat peak on the travel-time curve. There is a narrow zone of high travel time of about 75 microseconds per foot near the middle of the peak. The top of the McKnight is picked on the sonic log at the beginning of the peak where the travel times decrease from about 70 microseconds per foot to about 55 microseconds per foot.

West Nueces Formation

The West Nueces is shown as a series of unevenly elevated low peaks on the resistivity curve (fig. 10). The resistivity of these peaks decreases with

depth. The formation is separated from the high resistivity peak of the overlying McKnight by a decrease in resistivity, from about 200 ohmmeters to about 20 ohmmeters, that appears on the curve as a sharp recession.

The top of the West Nueces Formation is picked at the low point in the sharp recession and is about 250 feet below the top of the McKnight. The base is picked at the end of a sharp recession and is about 250 feet below the top of the West Nueces Formation.

The SP curve of West Nueces Formation shifts left (negative) about 10 millivolts at the top of the formation and then drifts back in a positive direction. It is relatively featureless below a point about 80 feet below the top of the formation. The top of the Glen Rose is not apparent on this SP curve.

The gamma-ray curve in figure 11 shows the West Nueces to have about 50 API gamma-ray units radiation, which is about the same as the Salmon Peak. The top is picked about 180 feet below the top of the McKnight, at the base of the series of high spiky peaks. The base of the West Nueces, top of the Glen Rose, is not evident on this curve.

The sonic log shows a 50-foot zone of high travel time at the top of the West Nueces. Travel times in this zone are about 75 microseconds per foot. They decrease to about 58 microseconds per foot below this zone and remain about the same for the rest of the formation.

The top of the West Nueces is picked at the top of the 50-foot zone of high travel time. The base is picked about 230 feet below the top where the travel-time curve changes from a series of low peaks with little difference in travel time between peaks and troughs to a somewhat more erratic series of high spiky peaks with a large difference in travel times between peak and trough.

Underlying the Edwards Aquifer

The unit below the Edwards is the Glen Rose Formation. The top of the Glen Rose is picked on most resistivity curves at the point where the curve shifts from the generally higher resistivities of the Edwards to the lower resistivities of the Glen Rose (figs. 8, 10, and 12).

The top of the Glen Rose is picked on SP curves where the curve deflects to the right (positive) after coming out of the Edwards. The SP curves in the San Marcos Platform area commonly show this shift, but the SP curves in the Devils River Trend and the Maverick Basin frequently do not. The SP curves generally are unsatisfactory for picking the top of the Glen Rose.

In the San Marcos area, the gamma-ray curve usually shows a slight decrease in radiation from the higher radiation of the rocks near the base of the Edwards to lower radiation in the upper Glen Rose. However, in the western part of the area there is no noticeable change in radiation shown on the gamma-ray curve near the part representing the basal Edwards and upper Glen Rose.

Few sonic logs were available for study of the Edwards-Glen Rose contact. Those that were available show a change in travel time at the top of the Glen Rose and are satisfactory for determining the top of the Glen Rose.

DATA TABULATION

Interpretations derived from all the logs used in this study are presented in table 2 (supplemental information).

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SUPPLEMENTAL INFORMATION

Table 2.--Tabulation of wells and contacts

(RDM, regional dense member)

Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Formation top		Remarks
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	
BEXAR COUNTY													
AY-68-21-9--	29°38'26"	98°22'42"	1,010	564	--	--	--	RDM 26	+984	--	Grainstone 60	+950	Gamma--electric Metcalf & Eddy test well #32.
26-804	29°31'26"	98°47'52"	1,045	950	904	+141	Gamma	Austin 520	+525	--	--	--	Sanders. Gamma--electric
805	29°31'15"	98°47'49"	1,045	998	850	+195	Gamma	Austin 452	+593	--	Eagle Ford 700	+345	Gamma Livingstone.
27-401	29°33'09"	98°44'39"	1,035	407	136	+899	Gamma	Buda 36	+999	--	Del Rio 84	+951	Gamma San Antonio Ranch.
504	29°33'45"	98°40'58"	992	453	--	--	--	--	--	--	--	--	Gamma WCID #17.
512	29°33'45"	98°40'59"	992	505	7	+985	Drill cuttings	RDM 195	+797	--	Basal nodular 458	+534	Core, gamma, & caliper TDMR core test.
5--	29°34'02"	98°40'18"	980	370	83	+897	Gamma	Buda 32	+948	--	--	--	Gamma Esparza-Circle S Ranch.
6--	29°32'50"	98°39'46"	1,010	383	72	+938	Gamma	Del Rio 18	+992	--	--	--	Gamma Bierling.
703	29°30'27"	98°44'27"	935	633	552	+383	Gamma	Austin 204	+731	--	--	--	Gamma El Sueno #1.
7--	29°31'55"	98°42'54"	945	355	176	+769	Gamma	Eagle Ford 82	+863	--	Buda 97	+848	Gamma Boyd (faulted).
8--	29°32'07"	98°41'08"	950	320	282	+668	Gamma	Eagle Ford 158	+800	--	Buda 184	+766	Gamma Zion Lutheran Church.
906	29°31'25"	98°39'50"	990	764	304	+686	Gamma	Eagle Ford 166	+824	--	Buda 202	+788	Gamma Concorde #1.
907	29°31'40"	98°39'19"	940	670	192	+748	Gamma	Eagle Ford 75	+865	--	Buda 88	+852	Gamma Concorde #2, faulted(?)
9(a)	29°31'42"	98°38'33"	856	316	172	+684	Gamma	Eagle Ford 16	+840	--	Buda 54	+802	Gamma Lazy Daze Mobile Home Court.
9--	29°31'50"	98°38'54"	880	98	(184)	(+696)	Gamma	Eagle Ford 59	+821	--	Buda 86	+794	Gamma Braun Rd. well.
28-102	29°35'41"	98°36'04"	1,005	440	--	--	--	--	--	--	--	--	Electric C. B. Peters (USGS recorder).
205	29°35'04"	98°33'26"	960	456	--	--	--	--	--	--	--	--	Gamma Shavano Park.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/
				Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	
AY-68-28-3--	29°35'09" 98°32'06"	970	250	56	+914	Gamma	Del Rio 4 +966	--	--	Gamma Uptmore Cadillac Dr.
404	29°32'30" 98°36'15"	910	546	30	+880	Gamma	RDM 192 +718	Basal nodular 456 +454	Glen Rose 510 +400	Core, electric, & gamma USGS core test "Lockhill Rd."
503	29°33'05" 98°33'00"	935	340	206	+729	Gamma	Eagle Ford 88 +847	Buda 108 +827	Del Rio 154 +781	Gamma Old Forrest Hills Country Club.
504	29°33'05" 98°33'08"	910	430	162	+748	Gamma	Eagle Ford 32 +878	Buda 60 850	Del Rio 108 +802	Gamma Forrest Hills Country Club.
605	29°34'11" 98°32'10"	898	613	100	+798	Gamma	Del Rio 44 +854	RDM 282 +616	Glen Rose 600 +298	Gamma Lloyd Denton.
606	29°34'53" 98°30'26"	895	553	96	+799	Gamma	RDM 260 +635	Basal nodular 506 +389	Glen Rose 550 +345	Gamma Hidden Forrest.
6--	29°34'10" 98°30'20"	840	2,132	--	--	--	Glen Rose 675 165	--	--	Sample Mid Tex-Waring.
706	29°31'03" 98°37'10"	902	655	305	+597	Gamma	Eagle Ford 174 +728	Buda 204 +798	RDM 482 +420	Gamma Balcones Water Co.
809	29°32'18" 98°34'23"	1,042	746	507	+535	Gamma	Austin 224 +818	Buda 402 +640	RDM 670 +372	Gamma United Services Automobile Assoc. (new well).
810	29°30'27" 98°34'16"	1,024	662	504	+520	Gamma	Austin 224 +800	Buda 400 +624	--	Gamma Methodist Hospital.
8--	29°30'39" 98°34'19"	1,020	508	502	+518	Gamma	Austin 220 +800	Eagle Ford 374 +646	Buda 406 +614	Gamma Medical Center.
903	29°32'08" 98°30'44"	885	416	320	+565	Electric	Austin 37 +848	Buda 221 +664	--	Drillers log Castle Hills Water Co.-- well #1.
909	29°30'26" 98°31'33"	783	867	353	+430	Electric	Eagle Ford 210 +573	Buda 233 +550	--	Electric San Antonio City Water Board --West Ave. #1 (E-172). 2/
910	29°32'08" 98°32'17"	815	804	204	+611	Gamma	RDM 392 +423	Basal nodular 627 +188	Glen Rose 677 +138	Core, electric, & gamma USGS core test "Castle Hills."
911	29°30'12" 98°32'29"	824	850	364	+460	Electric	Austin 83 +741	Buda 260 +564	--	Electric San Antonio City Water Board --Barbet Rd. #1 (E-150). 2/
29-102	29°35'45" 98°29'22"	947	496	--	--	--	--	Basal nodular 364 +583	Glen Rose 400 +547	Gamma-- electric Hill Country Water Works well.
103	29°35'22" 98°29'12"	953	520	--	--	--	--	Basal nodular 421 +532	Glen Rose 484 +469	Gamma Hill Country Village water well.
107	29°35'07" 98°28'28"	885	606	--	--	--	--	--	Glen Rose 456 +429	Gamma TDWR test at Hill Country Water Works.
109	29°35'12" 98°29'17"	970	590	120	+850	Gamma	Buda 24 +946	Basal nodular 504 +466	Glen Rose 584 +386	Gamma Hill Country (F-169).

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Log	Formation top		Formation top		Formation top		Remarks 1/
	Latitude	Longitude			Depth (feet)	Elevation (feet)		Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Log		
AY-68-29-2--	29°35'01"	98°25'42"	800	2,100	198	+602	Drillers log			--	--	--	Electric	Renlee Oil Co. #1 A Theis.
303	29°36'15"	98°24'32"	830	420	--	--	--	Basal nodular 368	+462	Glen Rose 414	+416	--	--	Gamma Olmos Rock Products.
3(a)	29°36'26"	98°23'18"	920	84	65	+855	Gamma	Buda 21	+899	--	--	--	--	Gamma Ackermann.
3--	29°36'09"	98°23'17"	930	582	72	+858	Gamma	Del Rio 20	+910	Basal nodular 526	+404	Glen Rose 572	+358	Gamma Metcalf & Eddy test well #33.
410	29°34'32"	98°29'22"	875	346	40	+835	Gamma	--	--	--	--	--	--	Hill Country water well (F-38). 2/
4(a)	29°33'40"	98°29'03"	800	737	254	+546	Gamma	Buda 156	+644	RDM 424	+376	Glen Rose 728	+72	Gamma--electric Metcalf & Eddy test well #31.
4(b)	29°34'32"	98°27'33"	780	227	193	+587	Gamma	Buda 96	+684	--	--	--	--	Gamma Metcalf & Eddy test well #30.
4--	29°32'32"	98°28'40"	770	260	244	+526	Gamma	Buda 159	+611	--	--	--	--	Gamma Jones-Maltsberger Rd.
506	29°34'27"	98°26'19"	788	700	220	+568	Gamma	Person Fm 238	+550	RDM 394	+394	Basal nodular 650	+138	Core, electric, & gamma USGS core test "Feathercrest."
5(a)	29°33'44"	98°26'25"	794	223	(255)	(+539)	Gamma	Austin 30	+764	Buda 154	+640	--	--	Gamma Rumpel #1.
5(b)	29°33'20"	98°26'16"	835	337	322	+513	Gamma	Austin 70	+765	Buda 232	+603	--	--	Gamma N. E. Preserve #2.
5(c)	29°33'20"	98°26'11"	833	315	270	+563	Gamma	Buda 166	+667	--	--	--	--	Gamma Rumpel #2.
5(d)	29°33'45"	98°25'18"	820	1,943	315	+505	Drillers log	Glen Rose 906	-86	--	--	--	--	Electric Renlee Oil Co. #1 Pape.
606	29°33'44"	98°23'24"	855	656	400	+455	Gamma	Buda 296	+459	--	--	--	--	Gamma Valencia.
702	29°31'23"	98°29'03"	787	872	428	+359	Electric	Austin 160	+627	Buda 333	+454	--	--	Electric Maltsberger #1.
707	29°31'23"	98°29'02"	766	857	410	+356	Casing depth	RDM 610	+156	Kirschberg 670	+96	--	--	Electric Matsberger #3.
711	29°31'31"	98°28'32"	795	600	(465)	(+330)	Electric	Austin 195	+600	Buda 363	+432	--	--	Electric Municipal Airport #2 (F-128).
7--	29°30'26"	98°28'48"	710	583	(620)	(+90)	Gamma	Austin 194	+516	Buda 484	+226	--	--	Gamma Sunset Rd. near Jones Maltsberger.
804	29°31'50"	98°25'16"	763	242	238	+525	Electric	Buda 128	+635	--	--	--	--	Electric San Antonio City Water Board -Perrin #3.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/
				Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	
AY-68-29-811	29°30'49" 98°26'53"	735	612	205	+530	Electric	Del Rio 150	+585	--	San Antonio City Water Board -Northwood #1 (F-190). 2/
813	29°31'55" 98°25'04"	780	369	(257)	(+523)	Electric	Buda 144	+636	--	City Public Service Perrin #1 (F-142). 2/
913	29°31'50" 98°22'44"	811	798	350	+461	Electric	Buda 260	+551	--	San Antonio City Water Board -Randolph #1.
914	29°30'26" 98°24'14"	738	844	420	+318	Electric	Buda 298	+440	--	San Antonio City Water Board -Walzem Rd. #1.
915	29°31'52" 98°22'43"	816	829	372	+446	Gamma	Austin 139	+677	RDM 360	San Antonio City Water Board -Randolph #2.
9--	29°30'47" 98°24'18"	720	510	324	+396	Gamma	Buda 212	+508	--	Marshall Courts.
30-109	29°35'23" 98°21'39"	944	710	376	+568	Gamma	Austin 176	+768	Buda 278	Fox Run.
211	29°36'17" 98°19'40"	776	778	222	+554	Gamma	RDM 402	+374	Basal nodular 662	USACE Selma core test.
2--	29°35'54" 98°18'53"	760	650	508	+252	Gamma	Austin 140	+620	Buda 408	Retama Polo Field.
403	29°32'41" 98°20'19"	872	634	375	+497	Gamma	Austin 116	+756	Eagle Ford 240	Village Public Utility.
405	29°32'58" 98°22'12"	850	790	366	+484	Gamma	Austin 160	+690	Buda 282	Valley Forge.
508	29°33'29" 98°19'14"	900	789	355	+545	Gamma	Eagle Ford 200	+700	Buda 230	Universal City (F-259).
510	29°33'11" 98°18'04"	835	396	393	+442	Electric	Eagle Ford 259	+576	Buda 289	Schertz City Water #2.
512	29°34'14" 98°19'16"	871	601	275	+596	Gamma	Eagle Ford 150	+721	Buda 180	Live Oak.
5(a)	29°34'05" 98°19'13"	880	776	314	+566	Gamma	Eagle Ford 196	+684	Buda 211	Universal City.
5(b)	29°34'24" 98°19'24"	845	618	320	+525	Gamma	Austin 62	+783	Buda 845	Selma.
5(c)	29°34'36" 98°19'15"	770	600	256	+514	Gamma	--	--	Buda 150	Metcalf & Eddy test well #21.
5(d)	29°34'16" 98°18'48"	828	2,582	244	+584	Electric	Glen Rose 875	-47	--	Security Drilling Co. #1.
616	29°32'32" 98°17'23"	758	1,003	472	+286	Gamma	Austin 130	+628	Buda 368	Randolph #9 (G-19). 2/

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Log	Formation top		Depth (feet)	Formation top		Remarks 1/
				Depth (feet)	Elevation (feet)		Depth (feet)	Elevation (feet)		Depth (feet)	Elevation (feet)	
AY-68-30-705	29°32'26" 98°21'59"	916	408	350	+566	Gamma	Austin 95	+821	Buda 248	+	+668	Gamma Stonegate #1.
708	29°30'55" 98°21'42"	822	856	476	+346	Gamma	Austin 208	+614	Buda 372	+	+450	Gamma Ray Ellison.
7(a)	29°31'16" 98°20'32"	822	439	(500)	(+322)	Gamma	Austin 230	+592	Buda 390	+	+458	Gamma Metcalf & Eddy test well #7.
7--	29°31'44" 98°21'46"	905	626	520	+385	Gamma	Austin 220	+685	Buda 412	+	+493	Gamma Murrey.
807	29°31'29" 98°17'45"	750	1,200	594	+156	Gamma	Austin 354	+398	RDM 810	+	-60	Core & gamma USGS core test "Randolph."
8--	29°32'18" 98°19'23"	765	420	368	+397	Gamma	Austin 130	+630	Buda 260	+	+505	Gamma Universal City #8.
34-3--	29°28'13" 98°46'39"	930	333	308	+622	Gamma	--	--	Buda 190	+	+740	Gamma Whitehead.
6--	29°27'28" 98°45'31"	869	2,617	250	+619	Casing depth	Glen Rose 755	+114	--	--	--	Electric General Crude Oil Co. #1 Talley.
35-102	29°28'44" 98°42'41"	988	796	265	+723	Gamma	Buda 165	+823	RDM 475	+	+513	Gamma-electric San Antonio City Water Board pump station.
1--	29°27'31" 98°43'04"	995	3,002	--	--	--	--	--	Glen Rose 830	+	+165	Electric Hickcock & Reynolds #1 Evert (H-96). 2/
307	29°27'52" 98°37'37"	760	227	227	+533	Gamma	Buda 130	+630	--	--	--	Gamma Van Cleave (well destroyed).
308	29°27'45" 98°38'23"	818	607	312	+506	Gamma	Buda 200	+618	--	--	--	Gamma Royal Crest.
310	29°29'24" 98°37'46"	852	415	284	+568	Gamma	Buda 180	+672	--	--	--	Gamma Timber Creek.
401	29°26'44" 98°44'55"	862	301	212	+650	Gamma	Buda 102	+760	--	--	--	Gamma Hill Top Acres.
601	29°26'13" 98°38'20"	760	900	502	+258	Gamma	Austin 204	+556	Buda 393	+	+367	Gamma Southwest Research #2.
608	29°25'04" 98°38'13"	754	626	574	+180	Gamma	Austin 196	+558	Buda 456	+	+298	Gamma Harbach Rd.-Reyes.
6--	29°27'07" 98°39'55"	812	5,895	240	+572	Casing depth	Glen Rose 740	+72	--	--	--	Gamma General Crude Oil Co. #1 Rogers Ranch.
7--	29°22'58" 98°43'53"	704	538	502	+202	Gamma	Austin 172	+532	Buda 378	+	+326	Gamma Jungman (Barnes).
807	29°22'41" 98°42'28"	788	868	768	+20	Gamma	Austin 456	+332	Buda 652	+	+136	Gamma Luckey Ranch (H-13). 2/

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	MGVD elevation (feet)	Base of the Del Rio			Formation top			Formation top			Remarks 1/
			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)		Depth (feet)	Elevation (feet)	Log	
AY-68-35-808	29°24'28" 98°40'41"	730	1,005	580	+150	Electric	Austin 250	+480	Buda 470	+260	--	Electric Adams Hill #1.
902	29°24'42" 98°39'05"	800	840	640	+160	Gamma	Austin 310	+490	Buda 514	+286	--	Gamma Halbardier.
9(a)	29°24'05" 98°37'37"	740	880	872	-132	Electric	Austin 548	+172	Buda 756	-16	--	Electric Humble Station-Hwy. 90 & Loop 13.
9(b)	29°24'04" 98°37'42"	740	854	(862)	(-122)	Gamma	Austin 484	+256	Buda 750	-10	--	Gamma Texaco Station-Hwy. 90 & Loop 13.
9(c)	29°23'52" 98°37'31"	760	1,251	(1,305)	(-545)	Electric	Austin 925	-165	Buda 1,190	-430	--	Electric Lackland Air Force Base #4 (1-191). 2/
36-103	29°29'19" 98°36'04"	910	824	335	+575	Electric	Buda 230	+680	--	--	--	Electric San Antonio City Water Board -Wurzbach Station #2.
104	29°29'25" 98°36'02"	885	814	322	+563	Electric	Buda 217	+668	--	--	--	Electric San Antonio City Water Board -Wurzbach Station #3.
111	29°28'30" 98°37'22"	790	669	320	+470	Gamma	--	--	--	--	--	Timbercreek.
113	29°27'57" 98°35'10"	830	1,317	--	--	--	--	--	Glen Rose 885	-55	--	Electric San Antonio City Water Board -Woodlawn Hills #1.
205	29°28'17" 98°34'20"	807	956	400	+407	Electric	Buda 294	+513	--	--	--	Electric San Antonio City Water Board Bandera Rd. #1 (1-189). 2/
206	29°28'22" 98°32'54"	756	748	522	+234	Electric	Austin 232	+524	Buda 411	+345	--	Electric San Antonio City Water Board -St. Cloud & Sunshine (Cy-258).
207	29°28'15" 98°33'40"	755	1,030	490	+265	Electric	Austin 198	+557	Buda 370	+385	--	Electric San Antonio City Water Board -Sutton Dr. (Cy-270). 2/
208	29°28'47" 98°32'44"	813	840	605	+208	Electric	Austin 310	+503	Buda 501	+312	--	Electric San Antonio City Water Board -Loma Linda (Cy-290). 2/
302	29°28'21" 98°32'12"	743	744	620	+123	Electric	Austin 330	+413	Buda 502	+241	--	Electric San Antonio City Water Board -Babcock Rd. (Cy-289). 2/
304	29°29'12" 98°32'04"	775	1,094	551	+224	Electric	Austin 282	+450	Buda 450	+305	--	Electric San Antonio City Water Board -Vance Jackson (1-202). 2/
305	29°19'16" 98°30'19"	747	703	523	+224	Electric	Austin 246	+501	Buda 414	+333	--	Electric San Antonio City Water Board Basse Rd. (Cy-261). 2/
307	29°28'27" 98°30'15"	718	772	558	+160	Electric	--	--	Buda 468	+250	--	Electric San Antonio City Water Board Fresno Rd. (Cy-260). 2/
407	29°25'34" 98°37'26"	735	555	526	+209	Gamma	Austin 223	+512	Buda 413	+322	--	Gamma Pinn Rd.
503	29°26'24" 98°33'50"	682	1,240	704	-22	Electric	Austin 421	+261	Buda 593	+89	--	Electric San Antonio City Water Board -34th St. 2/

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Depth (feet)	Formation top		Remarks 1/
				Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)		Depth (feet)	Elevation (feet)	
AY-68-36-504	29°27'01" 98°34'21"	765	772	592	+173	Electric	Austin 312	+453	Buda 492	+273	San Antonio City Water Board -Hilcrest & Brandywine (1-201). 2/
511	29°26'49" 98°33'23"	706	1,051	805	-99	Electric	Austin 552	+154	Buda 698	+8	San Antonio City Water Board -San Felipe at Culebra (Cy-272). 2/
610	29°25'31" 98°32'13"	652	1,213	958	-306	Electric	Austin 665	-13	Buda 848	-196	San Antonio City Water Board -19th St. (Cy-62). 2/
704	29°24'05" 98°37'11"	720	1,521	1,102	-382	Electric	Austin 800	-80	Buda 964	-244	Lackland Air Force Base (1-232). 2/
707	29°23'36" 98°37'21"	761	1,750	1,472	-711	Electric	Austin 1,160	-399	Buda 1,364	-603	Lackland Air Force Base #3 (1-190). 2/
7--	29°24'17" 98°37'12"	730	926	882	-152	Gamma	Austin 603	+127	Buda 757	-27	Hiway 90 Motel.
802	29°23'24" 98°33'35"	680	979	948	-268	Electric	Austin 650	+30	Buda 832	-152	Bexar Metropolitan Water District-Roselawn (Cy-320). 2/
803	29°23'19" 98°32'59"	675	916	905	-230	Electric	Austin 605	+70	Buda 784	-109	Bexar Metropolitan Water District (Cy-311). 2/
806	29°23'22" 98°34'10"	680	1,042	968	-288	Gamma	Austin 710	-30	Buda 880	-200	Kelly Field (1-78). 2/
8(a)	29°22'30" 98°32'52"	660	1,200	1,012	-352	Gamma	Austin 730	-72	Buda 888	-228	Kelly Field (Camp Normoyle, 1-94). 2/
8--	29°23'41" 98°32'57"	670	1,224	1,200	-530	Electric	Austin 908	-238	Buda 1,087	-417	Bexar Metropolitan Water District (Cy-309). 2/
907	29°22'49" 98°31'15"	640	1,227	1,210	-570	Gamma	Austin 890	-250	Buda 1,092	-452	Bexar Metropolitan Water District (Cy-305). 2/
908	29°22'49" 98°31'13"	640	1,229	1,223	-583	Electric	Austin 925	-285	Buda 1,102	-462	Bexar Metropolitan Water District (Cy-306). 2/
916	29°24'27" 98°30'41"	629	1,289	755	-126	Gamma	Austin 461	+168	Buda 640	-11	Union Stock Yards.
917	29°24'51" 98°32'23"	675	1,054	875	-200	Electric	Austin 580	+95	Buda 765	-90	San Antonio City Water Board -S. Laredo St. (Cy-286). 2/
931	29°23'38" 98°31'54"	652	1,333	1,030	-378	Electric	Austin 730	-78	Buda 917	-265	San Antonio City Water Board -Zarzamora & Walton (Cy-287). 2/
9--	29°24'14" 98°31'21"	652	960	918	-266	Electric	Austin 765	-113	Buda 842	-190	La Gloria Trailer Camp (1-203). 2/
37-101	29°29'55" 98°29'17"	725	1,005	560	+165	Electric	Austin 290	+435	Buda 458	+267	San Antonio City Water Board -Basin Station #7.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location		MGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Formation top		Remarks 1/
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Log	
AY-68-37-102	29°29'51"	98°29'14"	724	1,092	560	+164	Electric	Austin 282	+442	Buda 452	+272	--	San Antonio City Water Board -Basin Station #8.
104	29°29'42"	98°29'09"	734	1,010	570	+164	Electric	Austin 290	+444	Buda 458	+276	--	Electric
106	29°29'37"	98°29'22"	727	985	540	+187	Electric	Austin 265	+462	Buda 429	+298	--	Electric
107	29°28'49"	98°29'30"	740	810	608	+132	Gamma	Austin 366	+374	Buda 510	+230	--	Gamma
112	29°29'02"	98°27'55"	802	588	400	+402	Gamma	Austin 148	+654	Buda 296	+506	--	Gamma
132	29°28'83"	98°28'48"	713	607	138	+575	Electric	--	--	--	--	--	01mos Park (Cy-262). 2/
1(a)	29°28'22"	98°29'47"	800	370	260	+540	Gamma	Austin 14	+786	Buda 154	+646	--	Gamma
1--	29°27'45"	98°29'13"	729	700	510	+219	Electric	Austin 242	+487	Buda 410	+319	--	Electric
203	29°28'45"	98°25'54"	731	874	484	+247	Gamma	Austin 226	+505	Buda 380	+351	RDM 692	Electric, neutron, & gamma-gamma
207	29°28'44"	98°26'06"	749	872	698	+51	Electric	Austin 430	+319	Buda 600	+149	--	San Antonio City Water Board -Klaus Rd. #2 (J-88). 2/
208	29°29'43"	98°26'52"	821	763	406	+415	Gamma	--	--	Buda 274	+542	--	Electric
210	29°28'16"	98°25'41"	670	635	575	+95	Gamma	Austin 315	+355	Buda 460	+210	--	Electric
212	29°29'05"	98°25'49"	710	778	457	+260	Electric	Austin 186	+531	Buda 350	+467	--	Electric
402	29°26'35"	98°28'46"	655	1,162	634	+21	Electric	Austin 347	+308	Buda 524	+131	--	Electric
406	29°26'43"	98°28'18"	670	1,100	683	-13	Electric	Austin 383	+287	Buda 555	+115	--	Electric
413	29°26'51"	98°28'35"	662	1,000	654	+8	Electric	Austin 360	+302	Buda 540	+122	--	Electric
429	29°26'00"	98°28'59"	654	749	657	-3	Electric	Austin 363	+291	Buda 540	+114	--	Electric
4--	29°25'20"	98°29'16"	640	1,140	775	-135	Electric	Austin 480	+160	Buda 658	-18	--	Electric

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/			
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Depth (feet)		Elevation (feet)	Log	
AY-68-37-507	29°25'57"	98°26'15"	643	1,108	852	-209	Electric	Austin 718	-75	Buda 788	-145	--	Electric	San Antonio City Water Board -Artesia Rd. (Cy-278). 2/
518	29°25'58"	98°26'02"	631	977	848	-217	Electric	Austin 585	+46	Buda 738	-107	--	Electric	San Antonio City Water Board -Artesia Rd. (Cy-277). 2/
519	29°26'02"	98°26'22"	648	1,334	895	-247	Gamma	--	--	--	--	--	--	San Antonio City Water Board -Artesia Rd. #6.
520	29°25'57"	98°26'08"	640	1,000	893	-253	Electric	Austin 607	+33	Buda 760	-120	--	Electric	San Antonio City Water Board -Artesia Rd. (Cy-276). 2/
701	29°23'24"	98°29'50"	600	1,582	1,410	-810	Electric	Austin 1,100	-500	Buda 1,270	-670	--	Electric	San Antonio City Water Board -Mission Station (Cy-284). 2/
705	29°23'28"	98°29'47"	601	1,800	1,285	-684	Electric, drillers log	Austin 860	-259	Buda 1,110	-509	--	Electric, Drillers log.	San Antonio City Water Board -Mission Station #5.
706	29°23'28"	98°29'42"	604	1,521	1,322	-718	Electric	Austin 960	-356	Buda 1,225	-621	--	Electric	San Antonio City Water Board -Mission Station #6.
709	29°23'26"	98°29'49"	600	1,361	1,308	-708	Electric	Austin 1,064	-464	Buda 1,205	-605	--	Electric	San Antonio City Water Board -Concepcion Park (Cy-283). 2/
710	29°23'25"	98°29'47"	601	1,510	1,332	-731	Electric	Austin 1,095	-494	Buda 1,234	-633	--	Electric	San Antonio City Water Board -Mission Station (Cy-285). 2/
711	29°23'30"	98°29'43"	604	1,500	1,290	-686	Electric	Austin 950	-346	Buda 1,200	-596	--	Electric	San Antonio City Water Board -Mission Station #7.
717	29°23'26"	98°29'49"	600	1,841	1,232	-632	Gamma	Austin 1,003	-403	Buda 1,171	-571	--	Gamma	San Antonio City Water Board -Mission Station (Cy-173). 2/
719	29°24'59"	98°28'53"	650	1,241	786	-136	Electric	Austin 504	+146	Buda 670	-20	--	Electric	San Antonio City Water Board -Peach & Alamo (Cy-294). 2/
7--	29°23'22"	98°29'50"	600	1,260	1,193	-593	Electric	Austin 1,017	-417	Buda 1,160	-560	--	Electric	San Antonio City Water Board -Mission Station (Cy-172). 2/
7--	29°23'23"	98°29'50"	600	1,400	1,300	-700	Electric	--	--	--	--	--	--	San Antonio City Water Board -Mission Station. 2/
7--	29°23'37"	98°29'26"	610	1,260	1,190	-580	Electric	--	--	--	--	--	--	Alamo Dressed Beef (Cy-241). 2/
38-108	29°29'54"	98°21'10"	730	1,023	612	+118	Gamma	Austin 340	+390	Buda 503	+227	--	Gamma	Walzem Rd. at Southern Pacific Railroad.
110	29°28'56"	98°22'11"	715	1,042	564	+151	Gamma	Austin 316	+399	Buda 456	+259	RDM 780	Gamma-neutron	Doug Saunders.
6--	29°26'44"	98°15'51"	567	4,046	1,270	-703	Electric	Austin 1,030	-453	Buda 1,160	-573	--	Electric	Thomas Drilling Co. #1 Schwenn.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/
				Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	
AY-68-39-5--	29°25'40" 98°11'53"	590	4,610	1,650	-1,060	Electric	Austin 1,416	-826	Buda 1,544	-- Electric Fair Oil #1 Lyro.
6--	29°27'27" 98°07'49"	550	1,816	1,750	-1,225	Electric	Austin 1,530	-980	Buda 1,690	-- Electric Wellington #1 Schultz.
7--	29°23'07" 98°12'44"	515	1,810	(1,930)	(-1,415)	Electric	Austin 1,700	-1,185	--	-- Electric Krchnak et al Posek #1-A.
42-216	29°20'41" 98°47'49"	724	972	864	-140	Gamma	Austin 522	+202	Buda 744	-- Gamma Echtle.
3--	29°22'27" 98°45'54"	740	1,320	652	+88	Gamma	Austin 306	+434	Buda 526	RDM 836 Gamma, gamma-neutron Metcalf & Eddy test well #3.
43-104	29°22'00" 98°44'26"	725	912	832	-107	Gamma	Austin 510	+215	Buda 710	-- Gamma Meadow Wood Acres.
201	29°21'45" 98°41'04"	648	1,140	860	-212	Gamma	Austin 546	+102	Buda 742	-- Gamma Thekla Wentwich #2.
2--	29°21'24" 98°40'50"	635	1,708	1,514	-879	Gamma	Austin 1,217	-587	Buda 1,404	-- Gamma A. Wentwich #1.
3--	29°22'20" 98°39'22"	670	1,714	1,410	-740	Gamma	Austin 1,100	-430	Buda 1,300	Gamma-electric U.S. Air Force, Lackland Field & Medina Base.
406	29°18'44" 98°43'48"	727	2,126	1,700	-973	Electric	Austin 1,360	-633	Buda 1,570	-- Electric Berry #1 (M-41). 2/
4--	29°18'09" 98°44'36"	706	5,272	1,721	-1,015	Electric	Austin 1,372	-666	Buda 1,592	Electric Coastal States #1 Loessberg.
602	29°19'53" 98°37'32"	675	1,620	1,590	-915	Electric	Austin 1,235	-560	Buda 1,465	-- Electric O. R. Mitchell #4.
607	29°18'57" 98°39'00"	612	2,146	1,582	-970	Electric	Austin 1,280	-668	Buda 1,465	-- Electric O. R. Mitchell #3.
6--	29°18'39" 98°38'59"	609	1,446	(1,450)	(-841)	Electric	Austin 1,210	-601	Buda 1,385	-- Electric Lightning Oil Co. #1 Mitchell.
704	29°15'13" 98°43'46"	725	5,140	1,825	-1,100	Electric	Austin 1,465	-740	Buda 1,700	Electric Bur-Kan #1 Hubbard.
815	29°16'55" 98°41'44"	655	2,251	1,760	-1,105	Gamma	Austin 1,432	-782	Buda 1,637	-- Gamma Aldridge Nursery (M-29).
816	29°16'34" 98°41'23"	650	1,993	1,745	-1,095	Electric	Austin 1,430	-780	Buda 1,640	-- Electric Aldridge Nursery (M-40). 2/
9--	29°16'45" 98°38'12"	610	1,330	(1,670)	(-1,060)	Electric	--	--	--	-- Baker #13 (M-28). 2/

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/
				Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	
AY-68-44-1--	29°21'53" 98°37'13"	702	7,197	1,323	-621	Electric	Austin 1,018	-316	Buda 1,200	Electric
								-498	Glen Rose 1,820	Pagenkopf #1 Blum (I-192). 2/
207	29°21'06" 98°34'26"	640	1,129	1,115	-475	Electric	Austin 830	-90	Buda 1,002	Electric
218	29°21'45" 98°32'45"	650	1,326	1,238	-588	Electric	Austin 956	-306	Buda 1,130	City Public Service Leon Creek Station #4 (I-253). 2/
301	29°21'20" 98°32'14"	650	1,373	1,290	-640	Electric	Austin 1,004	-354	Buda 1,175	Bexar Metropolitan Water District (Cy-223). 2/
303	29°22'02" 98°32'05"	650	1,222	1,222	-570	Electric	Austin 982	-332	Buda 1,110	El Patio Foods #2 (I-266). 2/
304	29°22'00" 98°32'04"	650	1,500	1,250	-600	Electric	Austin 980	-330	Buda 1,125	Bexar Metropolitan South-cross #4. 2/
307	29°22'05" 98°31'32"	645	1,423	1,250	-605	Electric	Austin 970	-325	Buda 1,135	Bexar Metropolitan South-cross (Cy-313). 2/
3--	29°20'02" 98°32'16"	635	1,481	1,454	-819	Electric	Austin 1,204	-569	Buda 1,342	Bexar Metropolitan South-cross (Cy-295). 2/
5--	29°19'20" 98°34'54"	600	1,500	(1,545)	(-945)	Electric	Austin 1,250	-650	Buda 1,420	Thurman Barrett #1 Thurman Barrett.
6(a)	29°17'42" 98°32'30"	564	1,479	1,394	-830	Electric	Austin 1,104	-540	Buda 1,271	Robert Ross #1 Turner Williams.
6(b)	29°18'10" 98°31'31"	595	4,426	1,510	-915	Electric	Austin 1,225	-630	Buda 1,390	Williams & Greenburg #1 Russell.
6--	29°18'58" 98°30'52"	573	4,482	1,555	-982	Electric	Austin 1,280	-707	Buda 1,422	Union Production #1 McKeon.
8--	29°16'42" 98°34'48"	601	1,533	1,435	-834	Electric	Austin 1,155	-554	Buda 1,305	J. M. West #1 Timber Lake.
9--	29°17'29" 98°30'35"	570	2,124	1,590	-1,020	Electric	Austin 1,305	-735	Buda 1,470	O. N. Beer #2-A Carl Prinz.
45-1--	29°21'01" 98°27'41"	585	1,390	(1,439)	(-854)	Gamma	Austin 1,125	-540	Buda 1,305	Philtop #1 Patton.
301	29°22'14" 98°23'59"	610	2,086	1,710	-1,100	Electric	Austin 1,452	-842	Buda 1,597	Reinhardt #1 Chic Haven Courts.
3--	29°21'32" 98°24'03"	592	4,300	1,544	-952	Electric	Austin 1,504	-912	--	Holt Machinery Co. #1.
4--	29°18'07" 98°27'44"	540	4,115	1,582	-1,042	Electric	Austin 1,302	-762	Buda 1,460	Anderson Pritchard #1 Yturri.
								-920	RDM 1,850	Parker & McGuire #1 Goad (O-121). 2/

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/ Log			
				Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)				
AY-68-45-8--	29°16'10" 98°26'36"	535	2,014	2,064	-1,529	Electric	Austin 1,790	-1,255	Buda 1,950	-1,415	--	Electric	Arnold #1 Goeth.
901	29°15'21" 98°22'52"	510	2,927	2,443	-1,933	Electric	Austin 2,168	-1,658	Buda 2,313	-1,803	--	Electric	City Public Service East Lake #1.
46-2--	29°21'25" 98°18'19"	550	1,869	1,835	-1,285	Electric	Austin 1,570	-1,020	Buda 1,707	-1,157	--	Electric	Hill #2 Hawkins.
3(a)	29°21'28" 98°17'12"	515	1,940	1,860	-1,345	Electric	Austin 1,610	-1,095	Buda 1,745	-1,230	--	Electric	Hill #1 Rawlings.
3(b)	29°22'05" 98°15'55"	570	2,481	1,940	-1,370	Electric	Austin 1,680	-1,110	Buda 1,820	-1,250	RDM 2,180	Electric	Elliot et al #1 Edwards.
3(c)	29°20'14" 98°16'02"	570	5,097	2,120	-1,550	Electric	Austin 1,875	-1,305	Buda 2,010	-1,440	Glen Rose 2,700	Electric	Arkansas #1 Burkhardt (P-28). 2/
4(a)	29°19'26" 98°22'25"	571	1,720	1,659	-1,088	Electric	Austin 1,405	-834	Buda 1,540	-969	--	Electric	Butcher-Arthur #1A Gambler (O-23). 2/
4(b)	29°17'45" 98°20'55"	510	2,316	2,274	-1,764	Electric	Austin 2,004	-1,494	Buda 2,150	-1,640	--	Electric	Sec Oil Co. #1 Maspero.
5--	29°19'58" 98°17'58"	480	1,942	1,915	-1,435	Electric	Austin 1,653	-1,173	Buda 1,793	-1,313	--	Electric	Danielson & Mikey #1 Cover.
47-1--	29°20'29" 98°13'14"	618	2,166	(2,390)	(-1,772)	Electric	Austin 2,140	-1,522	--	--	--	Electric	McKenzie #1 Grams.
4--	29°19'08" 98°14'51"	550	2,476	2,388	-1,838	Electric	Austin 2,123	-1,573	Buda 2,268	-1,718	--	Electric	Teagle & Gill #1 Lemellier.
52-3(a)	29°14'27" 98°30'39"	539	2,364	2,290	-1,751	Electric	Austin 2,030	-1,491	Buda 2,170	-1,631	--	Electric	Long Brothers #1 Applewhite.
3(b)	29°13'12" 98°31'20"	610	2,500	2,438	-1,828	Electric	Austin 2,134	-1,524	Buda 2,308	-1,698	--	Electric	Oakes #1 Applewhite (N-73). 2/
6--	29°12'07" 98°30'36"	588	2,697	2,643	-2,055	Electric	Austin 2,333	-1,745	Buda 2,513	-1,925	--	Electric	Coggin et al #1 Watson.
53-1--	29°12'34" 98°27'54"	582	2,604	(2,722)	(-2,140)	Electric	Austin 2,412	-1,970	Buda 2,590	-2,008	--	Electric	Kelley & Pagenkopf #1 Centillif.
2--	29°14'38" 98°26'20"	522	2,128	(2,382)	(-1,860)	Electric	Austin 2,103	-1,581	Buda (2,283)	-1,761	--	Electric	H&J #1 Wright.
4--	29°10'44" 98°28'26"	705	3,373	3,308	-2,603	Electric	Austin 3,003	-2,298	Buda 3,173	-1,468	--	Electric	Arnold #1 Dillon.
5--	29°10'38" 98°26'12"	615	3,474	3,410	-2,795	Electric	Austin 3,115	-1,500	Buda 3,275	-2,660	--	Electric	Katz #1 Keepers.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Latitude	Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio			Formation top			Formation top			Remarks 1/
					Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	
AY-68-53-6(a)	29°12'26"	98°24'09"	540	3,109	3,060	-2,520	Electric	Austin 2,775	-2,235	Buda 2,935	--	-2,395	Electric	Fraser-Northrup et al #1 Whitt.
6(b)	29°11'51"	98°23'03"	575	3,316	3,233	-2,658	Electric	Austin 2,943	-2,368	Buda 3,103	--	-2,528	Electric	H&J #1 Lamm.
8--	29°07'33"	98°25'41"	562	4,204	4,142	-3,580	Electric	Austin 3,833	-3,271	Buda 4,008	--	-3,446	Electric	H&J & Wilson #1 Chapaty.
54-1(a)	29°14'06"	98°20'25"	472	3,017	2,935	-2,463	Electric	Austin 2,660	-2,188	Buda 2,805	--	-2,333	Electric	Star #1 Loop.
1(b)	29°14'00"	98°20'28"	470	2,784	(2,910)	(-2,440)	Electric	Austin 2,646	-2,176	Buda (2,780)	--	(-2,310)	Electric	Wilson #1 Weiner.
1(c)	29°13'50"	98°20'32"	460	3,003	2,920	-2,460	Electric	Austin 2,650	-2,190	Buda 2,790	--	-2,330	Electric	Star #1 Cochran.
1(d)	29°12'31"	98°20'11"	434	3,037	(3,174)	(-2,740)	Electric	Austin 2,899	-2,465	Buda 3,074	--	-2,640	Electric	Jacobs #1 Hartl.
2--	29°14'02"	98°19'49"	484	2,848	(2,944)	(-2,460)	Electric	Austin 2,745	-2,261	Buda (2,920)	--	(-2,436)	Electric	Hagan #1 Griesenbeck.
4(a)	29°12'30"	98°21'08"	443	2,948	(3,173)	(-2,730)	Electric	Austin 2,903	-2,460	Buda (3,078)	--	(-2,635)	Electric	Sutton #1 Esperanza Ranch.
4(b)	29°11'50"	98°21'17"	571	3,489	3,408	-2,837	Electric	Austin 3,133	-2,562	Buda 3,278	--	-2,707	Electric	Hunt #1 Esperanza Ranch.
COMAL COUNTY														
DX-68-15-8--	29°45'41"	98°12'24"	935	564	--	--	--	--	--	--	Glen Rose 212	+723	Gamma	Hano Pape.
16-602	29°47'36"	98°01'25"	605	500	286	+319	Gamma	Austin 30	+575	Buda 190	--	+415	Gamma	Acapulco Cafe.
701	29°45'25"	98°06'16"	715	432	6	+709	Gamma	--	--	--	--	--	--	TDNR test hole.
22-501	29°40'48"	98°17'35"	908	480	92	+816	Gamma	--	--	RDM 250	--	+658	Gamma	do.
802	29°47'52"	98°17'55"	940	380	160	+780	Gamma	--	--	--	--	--	--	Garden Ridge.
23-202	29°42'40"	98°12'02"	937	432	surface	+937	--	--	--	RDM 168	--	+769	Gamma	TDNR test well.
304	29°42'40"	98°08'15"	640	1,061	650	-10	Electric	Austin 368	+272	Buda 560	--	+80	Electric	City Public Service Comal #3.
602	29°42'27"	98°08'10"	635	840	525	+110	Electric	Austin 250	+385	Buda 432	--	+203	Electric	City Public Service Comal #2.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Latitude	Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Dat Rfo		Formation top		Formation top		Remarks 1/	
					Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log		
DX-68-23-6--	29°42'24"	98°17'57"	630	826	460	+170	Electric	Buda 372	+248	--	Electric	City Public Service Comal #1.
706	29°37'54"	98°13'44"	790	438	326	+464	Gamma	Buda 202	+588	--	Gamma	Swinney.
807	29°39'57"	98°10'17"	660	520	448	+212	Gamma	Buda 354	+306	--	Gamma	Feick (H-49). 2/
GUADALUPE COUNTY												
KX-67-09-801	29°45'53"	97°56'14"	567	3,080	850	-283	Electric	Buda 765	-198	Glen Rose 1,420	Electric	Parsons #1 Voss.
10-703	29°46'50"	97°52'12"	585	3,372	1,265	-670	Electric	Buda 1,163	-578	RDM 1,423	Electric	Hefnert #1 Lehman.
7--	29°46'55"	97°52'12"	522	3,201	1,230	-708	Electric	Buda 1,150	-628	RDM 1,405	Electric	Coates #1 Walters.
17-901	29°38'01"	97°54'18"	555	4,400	1,790	-1,235	Electric	Buda 1,690	-1,145	RDM 1,580	Electric	Hagen #1 Calvert.
26-202	29°35'45"	97°49'24"	490	5,431	2,622	-2,132	Electric	Buda 2,512	-2,022	RDM 2,622	Electric	Texas Southern #1 Turner.
2--	29°35'35"	97°48'18"	531	4,515	2,433	-1,902	Electric	Buda 2,313	-1,782	RDM 2,638	Electric	Sutton #1 Weinang.
33-3--	29°29'55"	97°53'36"	510	3,662	2,748	-2,238	Electric	Buda 2,658	-2,148	RDM 2,948	Electric	Rando1 & McPeters #1 Holm.
68-24-605	29°42'28"	98°00'42"	618	2,958	716	-98	Electric	Buda 626	-08	RDM 901	Electric	Parsons & Norman #1 Timmerman.
30-218	29°35'48"	98°17'55"	765	576	308	+457	Gamma	Buda 264	+501	RDM 500	Electric	John.
3--	29°36'01"	98°17'17"	800	491	434	+366	Gamma	--	--	--	--	Uptmore-Schertz.
31-105	29°36'22"	98°14'42"	807	2,640	327	+480	Electric	Buda 232	+575	RDM 522	Electric	Stanollind #1 Schmidt.
212	29°36'53"	98°10'42"	772	2,499	279	+493	Electric	Buda 179	+593	RDM 484	Electric	Blumberg #1 Sanders.
32-604	29°33'14"	98°00'12"	610	1,877	1,775	-1,165	Gamma	Buda 1,670	-1,060	--	Gamma	Hueners #1 Boecker.
40-203	29°28'52"	98°03'42"	525	3,767	1,757	-1,232	Electric	Buda 1,647	-1,122	--	Electric	Sutton #1 Kunde.
2--	29°29'29"	98°03'54"	545	4,011	1,703	-1,158	Electric	Buda 1,463	-1,042	--	Electric	Wilson #1 Kubela.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Formation top		Remarks 1/	
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)		
HAYS COUNTY														
LR-58-57-302	30°06'00"	97°08'33"	809	412	3	+806	Gamma	--	--	--	--	--	Dahlstrom.	
902	30°00'30"	97°53'42"	815	363	268	+547	Gamma	--	Buda 174	+641	--	--	Gamma	Gregg.
58-101	30°05'10"	97°50'40"	707	243	150	+557	Gamma	--	Buda 56	+651	--	--	Gamma	Horton (E-36). 2/
104	30°06'16"	97°50'54"	730	248	87	+643	Gamma	--	--	--	--	--	--	Armbruster (E-31). 2/
105	30°06'39"	97°51'35"	775	480	155	+620	Gamma	--	Buda 67	+708	--	--	Gamma	Lowke.
108	30°06'17"	97°51'44"	755	332	116	+639	Gamma	--	Buda 30	+725	--	--	Gamma	Ruby Leisurewood #2.
206	30°06'08"	97°49'33"	668	406	168	+500	Gamma	--	Buda 82	+586	--	--	Gamma	Granbury-Travis Materials.
4--	30°03'58"	97°50'18"	762	590	436	+326	Gamma	Austin 156	+606	Buda 344	+418	--	Gamma	D. J. Simon.
5--	30°04'35"	97°49'27"	745	530	442	+303	Gamma	Austin 126	+619	Buda 348	+397	--	Gamma	Keller.
59-4--	30°02'34"	97°44'51"	696	2,028	1,092	-396	Electric	Austin 777	-81	Buda 995	-299	RDM 1,251	Electric	Gilliam #1 Alexander.
7(a)	30°01'34"	97°44'00"	634	1,131	1,068	-434	Electric	Austin 752	-118	Buda 967	-333	--	Electric	Woodward #1 Graef.
7(b)	30°00'42"	97°43'54"	584	3,295	964	-380	Electric	Austin 669	-85	Buda 867	-283	RDM 1,114	Electric	Woodward #1 Schubert.
67-01-201	29°58'51"	97°55'13"	672	300	--	--	--	--	--	--	--	RDM 160	Gamma	Allen.
5--	29°56'18"	97°55'06"	785	1,696	150	+635	Electric	--	--	Buda 53	+732	RDM 294	Electric	McAlpin #1 Lane.
7--	29°53'38"	97°57'35"	795	332	60	+735	Gamma	--	--	--	--	RDM 176	Gamma	Gilcrease.
02-103	29°59'23"	97°52'24"	704	375	300	+404	Gamma	--	--	Buda 202	+502	--	Gamma	Texas Highway Department (H-20). 2/
09-105	29°50'39"	97°59'03"	700	330	120	+580	Gamma	--	--	Buda 24	+676	--	Gamma	Fish Hatchery #1.
106	29°51'08"	97°59'14"	700	402	232	+468	Gamma	--	--	Buda 170	+530	--	Gamma	Fish Hatchery #2.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Latitude	Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/
					Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	
LR-67-09-110	29°50'35"	97°58'54"	685	634	76	+609	Buda 18	+667	RDM 246	+439	Glen Rose 624 Core, gamma, & electric USGS core test "San Marcos."
4--	29°48'39"	97°57'34"	645	1,016	654	-9	Austin 396	+249	Buda 556	+89	Gamma Tate.
KINNEY COUNTY											
RP-70-38-902	29°24'47"	100°15'42"	902	1,380	118	+1,262	Gamma	--	McKnight 510	+870	West Nueces 624 TDMR core test. Gamma-electric
43-6--	29°19'27"	100°39'00"	1,043	3,502	450	+593	Electric	--	McKnight 1,010	+33	Glen Rose 1,500 Electric Austral #1 Wardlaw.
44-5--	29°19'06"	100°33'48"	1,035	4,000	684	+351	Electric	Buda 433	McKnight 1,102	-67	Glen Rose 1,544 Electric Josey #1 Beidler.
7--	29°15'52"	100°35'30"	1,060	2,010	800	+260	Electric	Buda 534	McKnight 1,260	-200	Glen Rose 1,730 Electric Merbla #1 Kerr.
8(a)	29°15'46"	100°33'32"	1,060	1,432	955	+105	Gamma	Eagle Ford 370	Buda 712	+348	-- Gamma Travelers Insurance #25.
8(b)	29°15'39"	100°33'20"	1,060	1,571	922	+138	Gamma	--	Buda 690	+370	McKnight 1,475 Gamma Travelers Insurance #4.
8(c)	29°15'28"	100°34'08"	1,050	2,154	950	+100	Gamma	Buda 700	McKnight 1,480	-430	West Nueces 1,715 Gamma-sonic Travelers Insurance #7.
8(d)	29°15'04"	100°33'18"	1,050	1,879	1,060	-10	Gamma	Buda 800	McKnight 1,590	-540	West Nueces 1,830 Gamma-sonic Travelers Insurance #6.
9--	29°15'04"	100°32'24"	1,050	1,925	1,005	+45	Gamma	Buda 765	McKnight 1,580	-530	West Nueces 1,800 Gamma-sonic Travelers Insurance #2.
45-603	29°19'40"	100°24'45"	1,150	1,130	336	+814	Gamma	Buda 132	McKnight 804	+343	West Nueces 924 Gamma, electric, & neutron Pat Rose Jr.
46-7--	29°15'58"	100°21'30"	1,121	1,603	590	+531	Electric	Buda 345	McKnight 1,080	+41	West Nueces 1,275 Electric Manor #1 Toft.
52-2(a)	29°14'50"	100°19'44"	1,030	1,535	1,005	+25	Gamma	Eagle Ford 402	Buda 760	+270	-- Gamma Travelers Insurance #23.
2--	29°14'39"	100°33'36"	1,050	1,832	1,090	-40	Gamma	Eagle Ford 505	Buda 845	+205	McKnight 1,050 Gamma-sonic Travelers Insurance #11.
8--	29°08'10"	100°33'48"	950	2,509	1,730	-780	Electric	Buda 1,411	McKnight 2,271	-1,321	-- Electric Cannon #1 Townsend (11-2). 2/
53-5--	29°11'12"	100°25'42"	1,010	5,140	1,230	-220	Electric	Buda 952	McKnight 1,790	-780	West Nueces 2,210 Electric Eltex #1 Beidler (CC-5). 2/

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Formation top		Remarks 1/	
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)		Log
RP-70-54-1--	29°13'14"	100°20'26"	1,071	3,040	1,026	+45	Electric	Buda 759	+312	McKnight 1,567	-496	West Nueces 1,772 -701	Electric	Stritex #1 Toft.
5(a)	29°11'33"	100°18'30"	973	4,850	965	+8	Electric	Buda 854	+119	McKnight 1,541	-568	West Nueces 1,677 -704	Electric	Smith #1 Franks.
5(b)	29°11'10"	100°17'30"	961	5,255	1,225	-264	Electric	Buda 901	+60	McKnight 1,501	-640	West Nueces 1,851 -890	Electric	Leeco #1 Franks.
5(c)	29°10'03"	100°17'37"	937	7,925	1,350	-413	Electric	Buda 1,090	-153	McKnight 1,910	-973	West Nueces 2,160 -1,223	Electric	General Crude #1 Hedrick.
61-1--	29°06'59"	100°28'38"	971	2,134	1,961	-990	Gamma	Buda 1,667	-696	--	--	--	Gamma	Olsen #1 Scott.
MEDINA COUNTY														
TD-68-26-701	29°30'05"	98°51'30"	984	740	592	+392	Gamma	Austin 196	+788	Buda 484	+500	--	Gamma	Borquin.
7--	29°30'21"	98°51'48"	1,060	576	502	+558	Gamma	--	--	--	--	--	--	Little "D" Ranch.
801	29°30'59"	98°49'55"	989	480	(578)	(+411)	Gamma	Austin 190	+799	Buda 470	519	--	Gamma	TDMR test well.
8--	29°30'31"	98°48'56"	980	720	(730)	(+250)	Gamma	Austin 348	+632	Buda 628	+352	--	Gamma	Stolte.
33-3--	29°29'52"	98°53'10"	930	420	374	+566	Gamma	Austin 162	+768	Buda 265	+665	--	Gamma	English.
34-506	29°25'52"	98°48'44"	1,042	935	406	+636	Gamma	Austin 66	+976	Buda 266	+776	RDM 614 +428	Core, gamma	USGS core test "Rio Medina."
41-1--	29°22'21"	98°58'02"	1,000	1,363	1,275	-275	Electric	Austin 875	+125	Buda 1,150	-150	--	Gamma	Myers.
401	29°17'47"	98°59'13"	954	1,932	1,554	-600	Gamma	--	--	Buda 1,416	-462	--	Gamma	Podevyn.
4--	29°19'43"	98°58'25"	972	1,305	1,298	-326	Electric	Austin 902	+70	Buda 1,166	-194	--	Electric	Wells.
8--	29°15'10"	98°56'20"	790	1,641	1,565	-775	Electric	Austin 1,140	-350	Buda 1,420	-630	--	Electric	White #1 Bendele (J-4-49). 2/
42-112	29°20'44"	98°50'55"	765	1,155	1,127	-362	Gamma	Austin 746	+19	Buda 992	-227	--	Gamma	USGS test.
113	29°20'56"	98°51'08"	772	612	510	+262	Gamma	Austin 426	+346	Buda 474	+298	--	Gamma	Castroville Airport.
213	29°22'05"	98°49'05"	778	706	587	+191	Gamma	Austin 230	+548	Buda 460	+318	--	Gamma	Zinsmeyer.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location		NGVD elevation (feet)	total depth (feet)	Base of the Del Rio		Formation top		Formation top		Formation top		Remarks 1/
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	
TD-68-42-2--	29°20'59"	98°49'38"	755	1,160	956	-201	Gamma	Austin 626	+129	Buda 830	-75	Gamma	Santleben.
403	29°18'53"	98°50'20"	748	1,246	1,058	-310	Gamma	Austin 698	+52	Buda 932	-184	Gamma	Jungman.
701	29°17'05"	98°52'03"	862	1,448	1,360	-498	Electric	Austin 980	-118	Buda 1,227	-365	Electric	Ruby (J-4-144). 2/
702	29°15'39"	98°52'13"	770	2,409	1,886	-1,116	Gamma	Austin 1,508	-738	Buda 1,752	-982	Electric, gamma, & neutron	Dorfmeister (1-4-145). 2/
7--	29°16'51"	98°50'49"	820	1,479	1,447	-627	Electric	Austin 1,092	-272	Buda 1,322	-502	Electric	Wise #8 Gross.
806	29°15'10"	98°48'16"	815	2,035	1,916	-1,101	Gamma	Austin 1,544	-729	Buda 1,784	-969	Gamma	Lytle city well.
49-3--	29°14'55"	98°52'50"	731	1,977	1,918	-1,187	Electric	Austin 1,768	-1,037	Buda 1,828	-1,097	Electric	Murrell #13 Murrell (J-4-65). 2/
5--	29°12'19"	98°56'57"	740	2,620	2,179	-1,439	Gamma	Austin 1,720	-980	Buda 2,034	-1,294	Gamma, sonic	Devine city water well.
813	29°09'55"	98°56'19"	664	3,200	2,538	-1,874	Gamma	Austin 2,084	-1,420	Buda 2,388	-1,724	Core, gamma, neutron, & sonic	USGS core test "Devine."
8--	29°09'01"	98°56'33"	675	5,700	2,625	-1,950	Electric	Austin 2,180	-1,505	Buda 2,480	-1,800	Electric	Progress #1 Haas.
50-1--	29°14'18"	98°52'00"	745	2,249	1,995	-1,250	Electric	Austin 1,585	-840	Buda 1,855	-1,110	Electric	Parker & McCune #1 Walker.
5--	29°10'02"	98°48'42"	767	5,200	2,730	-1,963	Electric	Austin 2,345	-1,578	Buda 2,600	-1,833	Electric	Moncrief #1 Collins.
8--	29°09'51"	98°49'30"	770	5,110	2,690	-1,920	Electric	Austin 2,315	-1,545	Buda 2,550	-1,780	Electric	Tenneco #1 Powell.
57-102	29°06'51"	98°57'54"	680	5,236	2,958	-2,278	Electric	Austin 2,498	-1,818	Buda 2,800	-2,120	Electric	Republic #1 Seale.
58-1--	29°07'15"	98°56'54"	660	2,892	(-3,240)	(-2,580)	Electric	Austin 2,790	-2,130	Buda (3,090)	(-2,330)	Electric	Campbell #1 McMenemy (J-7-48). 2/
69-38-101	29°28'07"	99°20'15"	1,104	625	102	+1,002	Gamma	--	--	--	--	--	Woodward Valdina Farms.
901	29°24'53"	99°15'56"	985	652	402	+583	Gamma	--	--	Buda 274	+711	Gamma	Foreman.
905	29°24'04"	98°16'49"	970	976	436	+534	Gamma	Austin 40	+930	Buda 310	+664	Gamma	Amberson.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	
TD-69-39-504	29°27'01"	99°11'39"	1,021	654	64	+957	Gamma	--	--	--	TWDB core test.
508	29°25'05"	99°11'11"	985	622	90	+895	Gamma	--	--	--	Hickey.
5--	29°25'21"	99°11'30"	992	605	80	+912	Gamma	--	--	--	Saathoff.
803	29°23'17"	99°11'49"	990	840	420	+570	Gamma	Austin $\frac{66}{66}$	+924	Buda $\frac{294}{294}$	Nester.
8(a)	29°24'38"	99°10'48"	975	720	180	+795	Gamma	--	--	Buda $\frac{78}{78}$	Amberson.
8(b)	29°23'23"	99°12'20"	970	971	528	+381	Gamma	Austin $\frac{173}{173}$	+793	Buda $\frac{464}{464}$	Anderson.
901	29°23'27"	99°09'45"	942	1,080	650	+292	Gamma	Austin $\frac{218}{218}$	+724	Buda $\frac{525}{525}$	Wiemers #2.
40-404	29°26'01"	99°07'17"	935	527	180	+755	Gamma	--	--	Buda $\frac{200}{200}$	Fohn.
601	29°26'20"	99°01'55"	930	235	160	+770	Gamma	--	--	Buda $\frac{34}{34}$	Reed.
703	29°23'45"	99°05'13"	875	1,601	(1,265)	(-390)	Electric	Austin $\frac{865}{865}$	+10	Buda $\frac{1,140}{1,140}$	Rogers.
45-301	29°22'06"	99°23'26"	980	985	976	+4	Gamma	Austin $\frac{526}{526}$	+314	Buda $\frac{840}{840}$	Anderson.
46-403	29°18'33"	99°20'49"	1,010	1,569	1,400	-390	Gamma	Austin $\frac{915}{915}$	+100	Buda $\frac{1,255}{1,255}$	Burks.
601	29°19'43"	99°16'33"	884	1,282	910	-26	Gamma	Austin $\frac{464}{464}$	+420	Buda $\frac{774}{774}$	D'Hanis city well.
47-102	29°21'39"	99°12'34"	1,000	1,351	786	+214	Gamma	Austin $\frac{480}{480}$	+520	Buda $\frac{698}{698}$	Pope.
202	29°20'34"	99°10'39"	905	1,464	1,186	-281	Gamma	Austin $\frac{745}{745}$	+165	Buda $\frac{1,050}{1,050}$	Martin.
207	29°21'58"	99°10'56"	927	1,190	840	+87	Gamma	Austin $\frac{400}{400}$	+527	Buda $\frac{710}{710}$	Hondo city well.
701	29°15'27"	99°14'54"	810	1,824	1,229	-419	Gamma	Austin $\frac{740}{740}$	+70	Buda $\frac{1,084}{1,084}$	Gray-Swanson.
48-4--	29°19'53"	99°14'00"	852	1,780	1,280	-428	Gamma	Austin $\frac{864}{864}$	-12	Buda $\frac{1,144}{1,144}$	Cooper.
5--	29°19'06"	99°02'59"	800	1,424	1,258	-458	Gamma	Austin $\frac{820}{820}$	-20	Buda $\frac{1,123}{1,123}$	Schweers.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/
				Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Formation top (feet)	
TD-69-53-6--	29°11'02" 99°23'20"	897	5,026	1,660	-763	Electric	Austin 1,274	-377	Buda 1,490	Electric
									Glen Rose 2,490	Ford & Hamilton #1 Munley.
54-6--	29°10'58" 99°16'15"	855	2,400	1,930	-1,075	Gamma	Austin 1,380	-525	Buda 1,764	Gamma
55-201	29°13'50" 99°11'16"	810	2,200	1,785	-975	Gamma	Austin 1,240	-430	Buda 1,620	Gamma
501	29°10'35" 99°11'56"	736	2,529	2,000	-1,264	Gamma	Austin 1,450	-714	Buda 1,850	Gamma
6--	29°12'21" 99°09'56"	910	2,100	2,041	-1,131	Gamma	Austin 1,633	-723	Buda 1,934	Gamma
701	29°09'06" 99°13'39"	710	2,818	2,162	-1,452	Gamma	Austin 1,650	-940	Buda 2,002	Gamma
56-1--	29°14'51" 99°06'06"	764	4,900	1,803	-1,039	Electric	Austin 1,316	-552	Buda 1,653	Electric
507	29°10'18" 99°03'16"	713	2,648	2,142	-1,429	Gamma	Austin 1,642	-929	Buda 1,980	Gamma
5(a)	29°11'52" 99°02'52"	709	1,986	1,910	-1,201	Electric	Austin 1,610	-901	Buda 1,760	Electric
5(b)	29°10'54" 99°04'18"	704	6,516	1,950	-1,241	Electric	Austin 1,460	-756	Buda 1,790	Electric
6--	29°10'28" 99°00'39"	784	5,006	2,355	-1,571	Electric	Austin 1,863	-1,079	Buda 2,203	Electric
64-3--	29°05'31" 99°02'08"	725	3,332	3,150	-2,425	Electric	Austin 2,650	-1,925	Buda 3,000	Electric
UNALDE COUNTY										
YP-69-33-601	29°25'37" 99°53'49"	1,330	385	--	--	--	--	--	--	Electric
6--	29°27'00" 99°54'38"	1,504	620	--	--	--	--	--	--	Electric
901	29°23'36" 99°52'43"	1,250	395	--	--	--	--	--	McKnight 94	Gamma
35-602	29°26'45" 99°39'54"	1,150	232	--	--	--	--	--	--	Electric
6--	29°25'04" 99°37'41"	1,120	582	--	--	--	--	--	--	--
901	29°23'12" 99°38'46"	1,092	674	180	+912	Drillers log	--	--	--	--

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Log	Formation top		Formation top		Remarks 1/			
				Depth (feet)	Elevation (feet)		Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)				
YP-69-35-903	29°23'07" 99°38'30"	1,090	580	225	+845	Gamma	--	--	Buda 74	+1,010	Glen Rose 560	+530	Gamma	Seidel & Sons.
9(a)	29°23'07" 99°38'12"	1,080	735	246	+834	Gamma	--	--	--	--	--	--	--	Seidel.
9(b)	29°23'08" 99°38'27"	1,089	1,123	--	--	--	--	--	--	--	Glen Rose 798	+297	Electric	Seidel (H-3-40). 2/
36-601	29°25'10" 99°30'49"	1,065	760	142	+923	Gamma	--	--	--	--	--	--	--	Jackson (H-3-23). 2/
602	29°25'17" 99°31'40"	1,096	670	108	+988	Gamma	--	--	--	--	--	--	--	Mechler.
704	29°22'38" 99°37'09"	1,050	596	176	+874	Gamma	--	--	--	--	--	--	--	Nayak Aviation.
705	29°22'58" 99°37'05"	1,060	527	230	+830	Gamma	--	--	--	--	--	--	--	Bishop.
7(a)	29°22'58" 99°36'47"	1,060	855	408	+652	Electric	--	--	--	--	--	--	--	Rogers (H-3-41). 2/
7(b)	29°23'13" 29°35'55"	1,040	496	(390)	(+650)	Electric	--	--	--	--	--	--	--	Rogers (H-3-42). 2/
37-402	29°27'11" 99°28'22"	1,158	694	220	+938	Gamma	--	--	Buda 115	+1,043	--	--	Core, gamma-electric	USGS core test "Sabinal."
7--	29°22'48" 99°29'38"	1,027	1,600	(650)	(+377)	Electric	--	--	--	--	Glen Rose 1,180	-153	Electric	Henry (1-1-17).
42-703	29°15'39" 99°50'09"	970	425	395	+575	Electric	--	--	--	--	--	--	--	Raney.
709	29°16'23" 99°51'44"	1,005	714	85	+920	Gamma	--	--	McKnight 404	+601	West Nueces 518	+487	Core, gamma-electric	TDMR core test.
711	29°17'13" 99°52'26"	1,020	844	80	+940	Electric	McKnight 468	+552	West Nueces 845	+375	Glen Rose 800	+220	Electric	Pardl.
712	29°17'22" 99°52'14"	1,031	518	(25)	(+1,006)	Electric	McKnight 455	+576	--	--	--	--	Electric	do.
803	29°16'20" 99°49'26"	980	540	172	+868	Gamma	--	--	McKnight 476	+504	--	--	Gamma	Speir.
8--	29°16'52" 99°48'57"	975	84	44	+931	Electric	--	--	--	--	--	--	--	Rambie.
901	29°15'16" 99°45'32"	985	322	--	--	--	--	--	McKnight 310	+675	--	--	Gamma	Toone #1.
902	29°15'16" 99°45'05"	995	491	--	--	--	--	--	McKnight 310	+685	--	--	Gamma	Toone #2.
906	29°16'51" 99°45'17"	998	700	314	+684	Gamma	Buda 150	+848	--	--	--	--	Gamma	Carnes.
9(a)	29°17'16" 99°45'42"	1,002	800	185	+817	Electric	--	--	McKnight 500	+502	--	--	Electric	Hargrave (H-5-185). 2/
9(b)	29°15'58" 99°46'33"	976	389	235	+741	Electric	--	--	--	--	--	--	--	Watkins (H-5-188). 2/

See footnotes at end of table.

Table 2.---Tabulation of wells and contacts---Continued

Well no.	Latitude	Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio			Formation top			Formation top			Remarks 1/
					Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	
YP-69-42-9(c)	29°17'08"	99°45'12"	1,005	370	350	+655	Gamma	--	--	--	--	--	--	Stoy (H-5-184). 2/
43-103	29°20'52"	99°42'36"	1,090	693	102	+988	Gamma	--	--	--	--	--	--	Briscoe.
106	29°21'20"	99°44'13"	1,081	560	105	+976	Gamma	--	--	--	--	--	--	Hutcheson (H-2-32). 2/
301	29°21'38"	99°39'15"	1,080	690	50	+1,030	Gamma	--	--	--	--	--	--	Sanderlin.
304	29°20'16"	99°38'30"	1,025	753	348	+677	Gamma	--	--	--	--	--	--	Rimkus #3.
305	29°21'42"	99°38'47"	1,059	552	110	+949	Gamma	--	--	--	--	--	--	Verstuyft.
3--	29°22'21"	99°38'43"	1,068	548	90	+978	Gamma	--	--	--	--	--	--	Sanderlin.
4--	29°18'29"	99°44'59"	1,037	518	--	--	--	--	McKnight 425	--	--	Electric	--	Stoy (H-5-178). 2/
605	29°17'31"	99°38'05"	977	1,271	680	+297	Gamma	--	McKnight 950	--	--	Gamma	--	E. Knippa.
606	29°18'39"	99°38'28"	1,000	694	188	+812	Gamma	--	--	--	--	--	--	Knippa city well.
6(a)	29°19'53"	99°37'40"	1,009	506	412	+597	Electric	--	--	--	--	--	--	Meyers (H-3-58). 2/
6(b)	29°19'05"	99°38'27"	1,000	286	184	+816	Gamma	--	--	--	--	--	--	Knippa city well #2.
701	29°15'42"	99°44'13"	984	326	92	+892	Gamma	--	--	--	--	--	--	Toone.
7--	29°15'18"	99°42'41"	965	848	160	+805	Electric	--	--	--	--	--	--	Shell #1 Walcott (H-5-192). 2/
804	29°16'33"	99°41'33"	970	966	366	+604	Gamma	--	--	--	--	--	--	E. Knippa.
8--	29°17'07"	99°40'11"	977	1,235	787	+190	Electric	--	--	--	--	--	--	Kramer (H-5-181). 2/
910	29°15'01"	99°38'17"	930	975	945	-15	Electric	--	--	--	--	--	--	Able Irrigation Co.
914	29°15'01"	99°38'41"	933	1,300	840	+93	Electric	--	--	--	--	--	--	do.
9(b)	29°16'53"	99°38'51"	970	1,400	672	+298	Gamma	Buda 508	+363	--	McKnight 930	+40	--	Miyakawa.
9(c)	29°16'35"	99°38'09"	957	1,278	454	+503	Gamma	--	--	--	--	--	--	do.
44-107	29°20'32"	99°35'21"	1,002	888	728	+274	Gamma	Buda 594	+408	--	--	--	--	Ward.
1--	29°21'47"	99°35'35"	1,027	455	425	+602	Electric	--	--	--	--	--	--	Meyers.
401	29°19'22"	99°35'35"	995	855	724	+271	Gamma	Buda 572	+423	--	--	--	--	G. Knippa.
405	29°18'45"	99°36'36"	994	1,320	684	+310	Gamma	Buda 534	+460	--	--	--	--	Woodley #3.
406	29°19'06"	99°36'54"	1,000	1,135	538	+462	Gamma	Buda 386	+614	--	--	--	--	Woodley #4.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Remarks 1/			
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log				
YP-69-44-4--	29°19'06"	99°37'06"	1,000	1,166	540	+460	Gamma	Buda 388	+612	--	--	Gamma	Woodley #2.	
703	29°15'31"	99°35'42"	935	1,665	950	-15	Gamma	Buda 784	+151	McKnight 1,270	-335	--	Gamma	Briscoe.
704	29°15'17"	99°36'39"	922	1,794	1,080	-158	Gamma	Buda 914	+8	--	--	--	Gamma	Herndon (H-6-89). 2/
806	29°15'35"	99°32'32"	895	1,642	944	-49	Gamma	Buda 798	+97	--	--	--	Gamma	Reagan.
8(a)	29°16'30"	99°34'19"	936	1,610	836	+100	Gamma	Buda 687	+249	--	--	--	Gamma	Wooton.
8(b)	29°15'17"	99°33'55"	912	1,520	910	+2	Electric	--	--	--	--	--	--	Reagan (H-6-44). 2/
45-401	29°19'09"	99°28'05"	954	1,470	920	+34	Gamma	Buda 766	+188	--	--	--	Gamma	Sabinal city well.
7--	29°16'27"	99°28'53"	898	1,531	1,120	-222	Electric	Buda 970	-150	--	--	--	Gamma	Gulley (I-4-40). 2/
8(a)	29°16'11"	99°26'08"	885	1,910	1,180	-295	Electric	Buda 1,035	-175	--	--	--	Electric	Nelson (I-4-42). 2/
8(b)	29°15'44"	99°26'40"	860	1,740	(1,195)	(-335)	Electric	--	--	--	--	--	--	Nelson (I-4-41). 2/
49-2--	29°13'53"	99°25'13"	962	653	635	+327	Electric	--	--	--	--	--	--	Ingram (I-4-43). 2/
50-108	29°13'05"	99°52'11"	958	1,400	666	+292	Gamma	Buda 485	+473	--	--	--	Gamma	OKH Ranch.
1--	29°13'02"	99°51'25"	939	809	600	+340	Electric	Buda 417	+523	--	--	--	Electric	Clements (H-4-45). 2/
202	29°14'13"	99°48'05"	927	137	128	+799	Electric	--	--	--	--	--	--	Heine (H-5-209). 2/
206	29°14'11"	99°49'35"	938	342	280	+658	Gamma	Buda 116	+822	--	--	--	Gamma	Miyakawa.
2(a)	29°14'50"	99°49'13"	941	602	174	+767	Electric	--	--	--	--	--	--	Ramsey (H-5-210). 2/
2(b)	29°13'36"	99°48'23"	925	187	150	+775	Electric	--	--	--	--	--	--	Daly (H-5-212). 2/
2(c)	29°13'33"	99°48'56"	928	550	365	+563	Electric	Buda 170	+808	--	--	--	Electric	Monagin (H-5-213). 2/
2(d)	29°13'17"	99°49'41"	932	295	215	+717	Electric	--	--	--	--	--	--	Stoy (H-5-214). 2/
2(e)	29°13'18"	99°48'41"	928	330	265	+663	Electric	--	--	--	--	--	--	Monagin (H-5-233). 2/
302	29°12'37"	99°47'12"	905	287	260	+645	Electric	--	--	--	--	--	--	Uvalde city well (H-5-1). 2/
303	29°13'35"	99°45'22"	938	221	50	+888	Gamma	--	--	--	--	--	--	Haag.

See footnotes at end of table.

Table 2.---Tabulation of wells and contacts---Continued

Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Formation top		Remarks 1/
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)	Log	
YP-69-50-309	29°14'54"	99°45'16"	970	568	64	+906	Gamma	--	--	McKnight 342	+628	--	Toone #4.
310	29°14'47"	99°45'28"	965	381	78	+887	Gamma	--	--	McKnight 340	+625	--	Olmitos Ranch.
3(a)	29°12'42"	99°46'36"	901	167	139	+762	Electric	--	--	--	--	--	Raney (H-5-218). 2/
3(b)	29°12'39"	99°46'05"	912	426	265	+647	Electric	--	--	--	--	--	Puccini (H-5-222). 2/
3(c)	29°13'02"	99°46'09"	925	599	(80)	(+845)	Casing	--	--	McKnight 405	+520	--	Uvalde city well (H-5-207). 2/
3(d)	29°13'13"	99°46'18"	925	473	(99)	(+826)	Casing	--	--	--	--	--	McFatter (H-5-206). 2/
406	29°10'49"	99°52'19"	943	1,275	875	+68	Electric	Buda 695	+248	--	--	--	Nelson (H-4-95). 2/
410	29°11'36"	99°51'24"	935	1,121	740	+195	Electric	Buda 555	+380	--	--	--	Harlan (H-4-93). 2/
4--	29°12'03"	99°51'19"	936	960	760	+176	Electric	Buda 575	+361	--	--	--	Hutcherson (H-4-88). 2/
501	29°11'28"	99°49'53"	912	579	535	+377	Electric	Buda 350	+562	--	--	--	U.S. Fish Hatchery (H-5-163). 2/
507	29°11'10"	99°49'43"	913	750	655	+258	Electric	Buda 568	+345	--	--	--	U.S. Fish Hatchery (H-5-162). 2/
5(a)	29°12'22"	99°48'26"	910	289	230	+680	Electric	--	--	--	--	--	Winans (H-5-215). 2/
5(b)	29°11'45"	99°47'51"	902	387	245	+657	Electric	--	--	--	--	--	Burns (H-5-217). 2/
5(c)	29°11'59"	99°49'18"	910	430	375	+535	Electric	Buda 200	+710	--	--	--	Burkett (H-5-216). 2/
601	29°10'52"	99°47'16"	880	562	485	+395	Electric	Buda 325	+555	--	--	--	Painter (H-5-240). 2/
609	29°11'14"	99°47'57"	898	640	400	+498	Electric	Buda 225	+673	--	--	--	Capt (H-5-53). 2/
611	29°11'19"	99°46'13"	880	225	(225)	(+655)	Electric	--	--	--	--	--	Sutherland (H-5-234). 2/
612	29°10'28"	99°45'25"	882	350	(225)	(+657)	Electric	--	--	--	--	--	Hoag (H-5-230). 2/
6(a)	29°11'46"	99°46'42"	900	451	290	+610	Electric	Buda 110	+790	--	--	--	Pogue (H-5-236). 2/
6(b)	29°11'23"	99°46'42"	899	385	265	+634	Electric	Buda 140	+759	--	--	--	Fry (H-5-237). 2/
6(c)	29°12'25"	99°45'55"	907	302	235	+672	Electric	--	--	--	--	--	Herndon (H-5-223). 2/

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

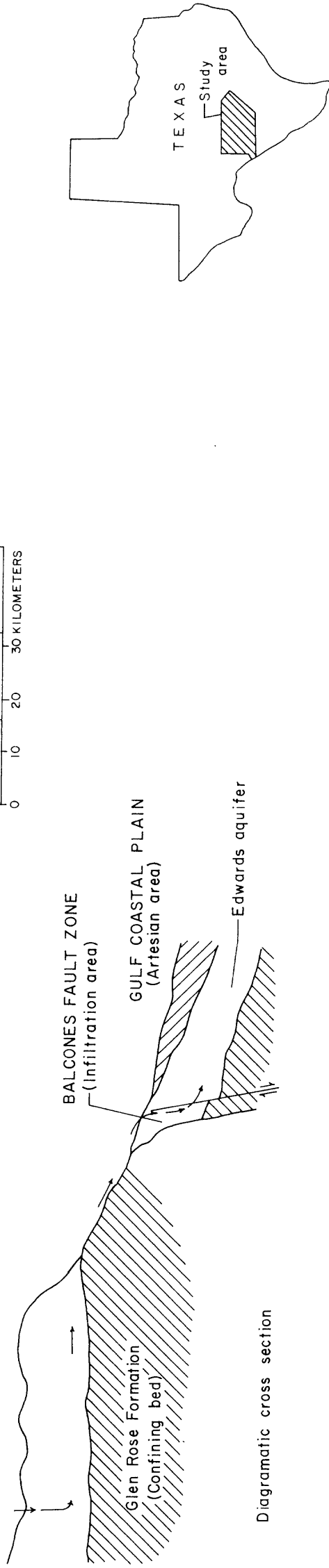
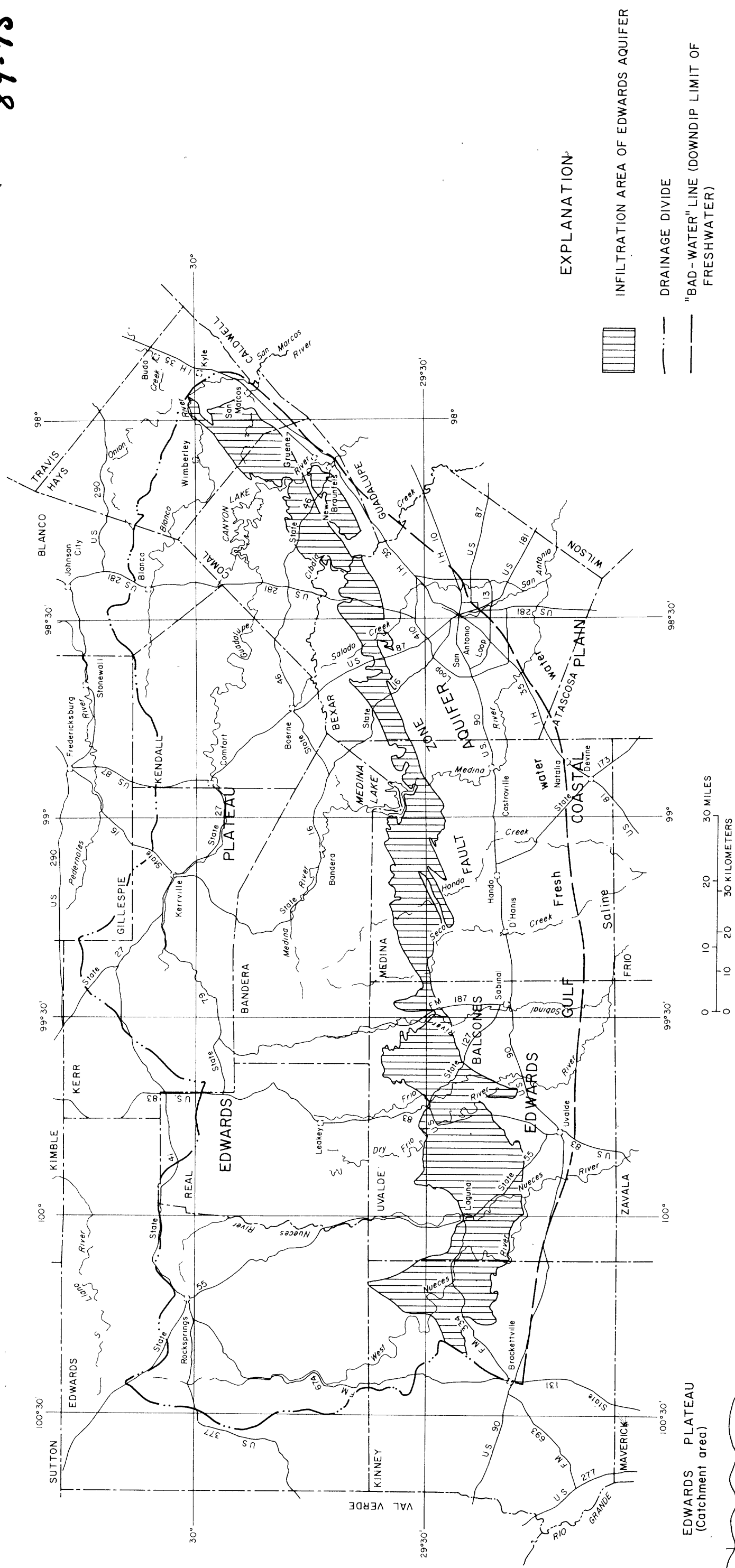
Well no.	Well location		NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Formation top		Formation top		Formation top		Remarks 1/	
	Latitude	Longitude			Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)	Log	Depth (feet)	Elevation (feet)		Log
YP-69-50-6(d)	29°12'27"	99°46'46"	890	735	365	+525	Electric	Buda 190	+700	--	--	Electric	Thompson (H-5-220). 2/	
6(e)	29°11'19"	99°47'00"	900	534	290	+610	Electric	Buda 135	+765	--	--	Electric	Hancock (H-5-52). 2/	
802	29°08'12"	98°48'57"	925	669	(694)	(+226)	Electric	Buda 520	+405	--	--	Electric	Willoughby.	
901	29°09'46"	99°46'25"	914	604	595	+319	Electric	Buda 385	+529	--	--	Electric	Farr (H-8-69). 2/	
902	29°09'54"	99°46'07"	894	579	423	+471	Electric	Buda 250	+644	--	--	Electric	Estes (H-5-251). 2/	
51-104	29°13'09"	99°44'49"	943	428	68	+875	Gamma	--	--	McKnight 396	+547	--	Gamma	Uvalde city well.
1--	29°13'59"	99°44'30"	965	1,492	130	+835	Electric	--	--	McKnight 445	+520	Glen Rose 825	Electric	Newell (H-5-202). 2/
2(a)	29°13'56"	99°42'16"	960	273	230	+730	Electric	--	--	--	--	--	--	Herndon (H-5-196). 2/
2(b)	29°12'56"	99°41'33"	956	494	280	+676	Electric	--	--	--	--	--	--	F. Winslow (H-5-227). 2/
301	29°13'31"	99°38'53"	906	1,025	458	+448	Gamma	Buda 369	+537	McKnight 710	+196	--	Gamma-electric	A. Winslow.
3--	29°14'01"	99°37'35"	910	693	370	+540	Gamma	Buda 305	+605	--	--	--	Gamma	Neimeyer.
403	29°11'41"	99°43'30"	937	320	(320)	(+631)	Gamma	--	--	--	--	--	--	Carter.
407	29°10'49"	99°44'36"	883	1,500	205	+678	Electric	--	--	--	--	--	--	Hoag.
408	29°10'56"	99°44'11"	890	630	120	+770	Gamma	--	--	--	--	--	--	Carnes.
4--	29°11'17"	99°43'37"	923	480	240	+683	Gamma	--	--	--	--	--	--	Carter.
502	29°10'30"	99°40'30"	894	342	(170)	(+725)	Casing point	--	--	--	--	--	--	Turner.
503	29°10'46"	99°40'16"	885	566	210	+675	Electric	Buda 65	+820	--	--	--	Gamma	Hargrove.
602	29°10'31"	99°39'37"	866	2,208	568	+298	Gamma	Buda 404	+462	McKnight 822	+44	Glen Rose 1,310	Gamma	La Moca Ranch.
603	29°11'40"	99°39'07"	877	696	252	+625	Gamma	Buda 70	+807	McKnight 680	+197	--	Gamma	Johnson.
702	29°08'47"	99°44'59"	868	1,010	690	+178	Drillers log	--	--	--	--	--	--	Briscoe.

See footnotes at end of table.

Table 2.--Tabulation of wells and contacts--Continued

Well no.	Well location Latitude Longitude	NGVD elevation (feet)	Total depth (feet)	Base of the Del Rio		Log	Formation top		Depth (feet)	Formation top		Log	Remarks 1/ 2/
				Depth (feet)	Elevation (feet)		Depth (feet)	Elevation (feet)		Depth (feet)	Elevation (feet)		
YP-69-52-1--	29°14'11" 99°36'44"	910	887	630	+280	Casing point	--	--	--	--	--	--	Herndon.
201	29°13'08" 99°34'41"	888	1,528	896	-8	Gamma	Buda 712	+176	McKnight 1,308	-420	--	Gamma-electric	Briscoe.
403	29°11'54" 99°36'58"	875	1,455	842	+33	Gamma	Buda 650	+225	--	--	--	Gamma	Johnson.
9--	29°09'31" 99°32'25"	815	1,780	1,540	-725	Gamma	--	--	--	--	--	--	Maner.
53-701	29°08'49" 99°28'40"	749	3,688	1,905	-1,156	Electric	Buda 1,682	-933	--	--	--	Electric	Woodley #2.
60-1--	29°05'56" 99°36'12"	846	4,015	2,180	-1,334	Electric	Buda 1,990	-1,144	McKnight 2,540	-1,694	--	Electric	Steege et al #1 Kincaid.
70-56-8--	29°09'46" 100°03'42"	1,070	2,140	1,510	-440	Electric	Buda 1,300	-230	--	--	--	Electric	Texas Highway Department (6-9-3). 2/

1/ Name followed by a number indicates that there is more than one well with the same name or that the well is part of a series of wells.
2/ Old well number from county report.



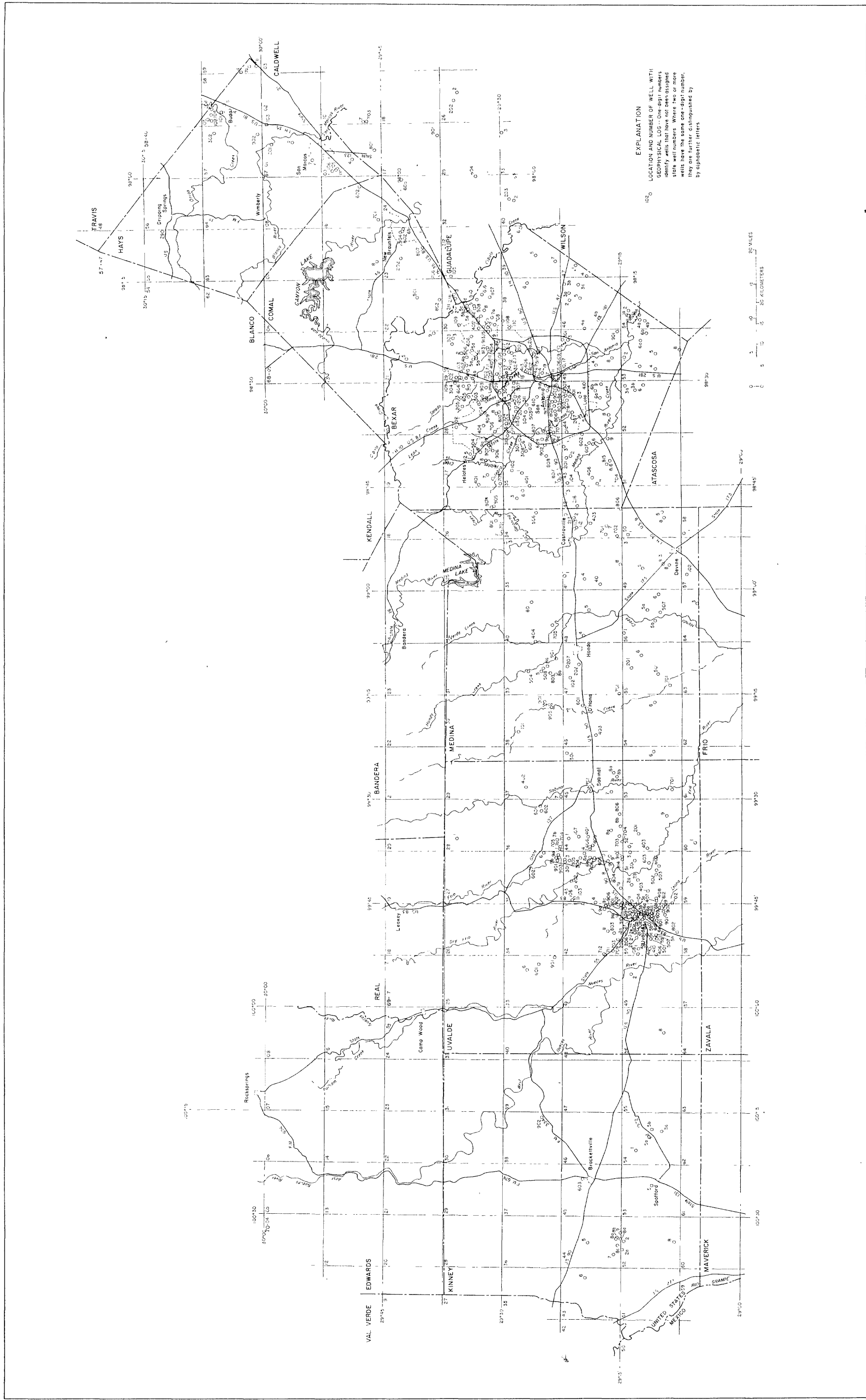
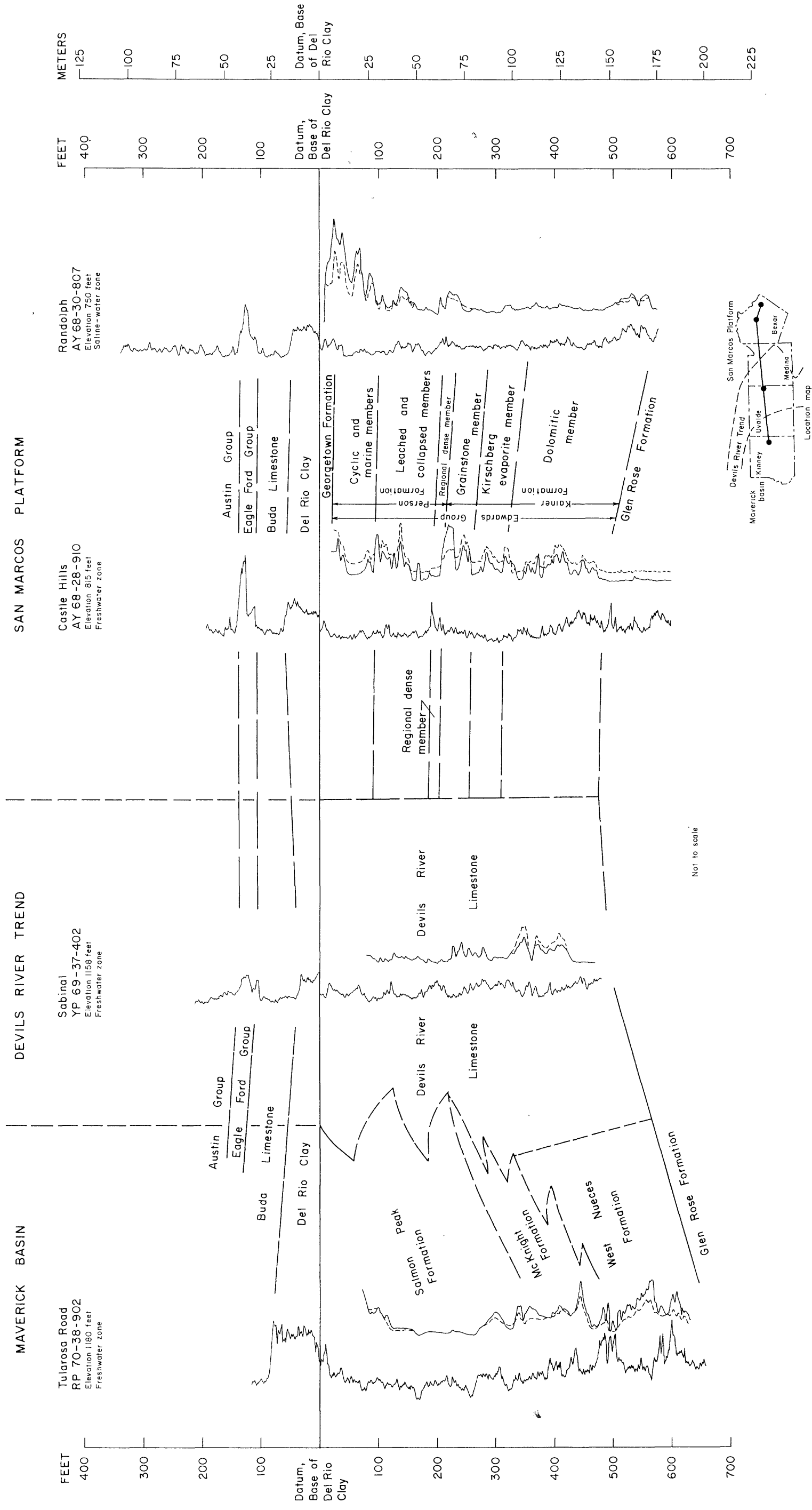


Figure 2 -Location of wells and test holes with identifiable contacts on geophysical logs

84-75



Stratigraphic nomenclature of the Edwards Group and equivalent units is from Rose, (1972) and Lazo and Smith, (1964)

Figure 5.-Stratigraphic relationships and formation contact identification on representative logs