TEXAS BOARD OF WATER ENGINEERS

Durwood Manford, Chairman
R. M. Dixon, Member
O. F. Dent, Member

BULLETIN 6106

VOLUME I

GEOLOGY AND GROUND-WATER RESOURCES OF PECOS COUNTY, TEXAS

Includes Records of Wells

Prepared by the United States Geological Survey
and the
Texas Board of Water Engineers
in cooperation with Pecos County

October 1961

Second Printing April 1972
by
Texas Water Development Board

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By

C. A. Armstrong, Geologist
United States Geological Survey
and
L. G. McMillion, Geologist
Texas Board of Water Engineers

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FOREWORD

Volume I

GEOLOGY AND GROUND-WATER RESOURCES OF PECOS COUNTY, TEXAS

This report is the first of a two-volume publication on the geology and ground-water resources of Pecos County, located in the Trans-Pecos region of Texas. The Texas Board of Water Engineers and the U. S. Geological Survey have prepared the report in cooperation with the Commissioner's Court of Pecos County, under the joint authorship of Mr. L. G. McMillion of the BWE and Mr. C. E. Armstrong of the USGS.

In this volume is a textual presentation of the geology and ground-water resources of the County; graphic aids, such as maps, geologic sections, charts, graphs, and photographs, which illustrate the results of the study; and tabular records of some 2,735 wells.

The second volume is composed of three tables: drillers' logs of wells (table 5), data on water levels in wells (table 6), and chemical analyses of water (table 7). Locations of wells listed in these tables may be found on the four maps (plates 1, 2, 3, and 4) enclosed in the pocket of this volume.

TEXAS BOARD OF WATER ENGINEERS

John J. Vandertulip

John J. Vandertulip, Chief Engineer

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GEOLOGY AND GROUND-WATER RESOURCES OF PECOS COUNTY, TEXAS

ABSTRACT

Rocks ranging in age from Pennsylvanian to Recent are at the surface in Pecos County. The Pennsylvanian and Permian rocks are exposed only in the Glass Mountains and the Marathon Basin in the southwestern part of the county. Triassic rocks crop out in the Glass Mountains and in small areas near the Pecos River in northern Pecos County. Volcanic rocks of Tertiary age, capping the Barilla Mountains, occur in a small area near the western corner of the county. The greater part of the county contains outcrops of Cretaceous limestones and sandstones and Cenozoic alluvium. The Cretaceous rocks and the Cenozoic alluvium make up the Pecos aquifer.

The Pennsylvanian and Permian rocks yield water to a few domestic and stock wells in the Glass Mountains. Twenty-seven deep wells in northern Pecos County tap (withdraw water from) the San Andres limestone of Permian age. The water from this aquifer generally contains more than 5,000 ppm (parts per million) of dissolved solids. Of the estimated 10,000 acre-feet discharged from the San Andres in 1957, about 6,000 acre-feet was used for irrigating about 1,500 acres of salt-tolerant crops. The Rustler formation of Permian age is the water-bearing unit tapped by 31 wells in central and northern Pecos County. About 7,500 acre-feet of water was discharged in 1958 from wells developed from this aquifer. The concentration of dissolved solids in the water from the Rustler ranges from 1,730 ppm in well P-120 in the Leon-Belding irrigation area to as much as 86,800 ppm in well B-27. In 1958, 8 wells supplied water for irrigation and 4 supplied water for repressuring oil and gas fields. Future development of wells located in the Rustler formation will be limited by the low transmissibility of the formation throughout the county, the great depth to the formation in the central part of the county, and the poor quality of water in the northern part of the county.

Prior to 1946, about 10,000 acres in Pecos County was irrigated from water from springs issuing from the Pecos aquifer; the average annual flow from the springs was about 46,000 acre-feet. Withdrawals from wells drilled after World War II have caused a water-level decline and a reduction in the flow from most springs. In 1958, about 50,000 acres, or a little less than 2 percent of the county, was irrigated with about 200,000 acre-feet of water from the Pecos aquifer; the combined flow of the springs probably was less than 2,000 acre-feet.

The water from the Pecos aquifer is used for irrigation in seven areas. The names of these areas and the acreage irrigated in 1958 are: North Coyanosa, 16,500; Leon-Belding, 12,500; Pecos County Water Control and Improvement District No. 1, 3,000; Bakersfield, 5,000; Girvin, 4,500; South Coyanosa, 4,200;

and Hovey, 1,200. Most wells in the North Coyanosa irrigation area tap Cenozoic alluvium that fills a slumpage trough. Wells in the Leon-Belding irrigation area produce principally from a zone of solution cavities in limestone of Cretaceous age; many of these wells also produce small to moderate amounts of water from sandstone of Cretaceous age. Most wells in the other areas produce water from either limestone or sandstone of Cretaceous age, but some are developed from both.

Before 1946 recharge to the Pecos aquifer was approximately equal to the discharge by springs, underflow, and evapotranspiration. The Pecos aquifer is recharged principally in the southern part of the county where mountain streams, which flow only after heavy precipitation, sink into their beds after reaching the alluvial plain. Locally, the aquifer is recharged by precipitation, streams, and irrigation water. The total discharge from the Pecos aquifer is difficult to determine because consumption of ground water by evapotranspiration cannot be measured directly. Before 1946 the sum of the flow from springs and of the estimated underflow out of the county was about 78,000 acre-feet per year. In 1958, because the discharge was 2 to 4 times the recharge, a large quantity of water was removed from storage. Water-level declines resulting from removal of water from storage have reduced the yield of some wells. As long as ground water is discharged at a rate greater than the rate of recharge, water levels will continue to decline.

Ground water in the Pecos aquifer is very hard and has a wide range of dissolved solids. The dissolved-solids content is less than 500 ppm in both the western and eastern parts of Pecos County, whereas it is more than 1,000 ppm in the central part and more than 5,000 ppm in the north-central part. Water from the Pecos aquifer in the western and eastern parts of the county generally is suitable for irrigation, municipal, and most other uses. Even though high in dissolved solids, the water in the central part of the county has been used successfully for irrigation because the percent sodium is less than 60 and the soils on which it generally is used have a high calcium content and above-average permeability.

GEOLOGY AND GROUND-WATER RESOURCES OF PECOS COUNTY, TEXAS

INTRODUCTION

Location and Extent of Pecos County

Pecos County lies immediately west of the Pecos River in a region commonly referred to as Trans-Pecos Texas. It is bordered on the northwest by Reeves County, on the southwest by Jeff Davis and Brewster Counties, on the southeast by Terrell County, and on the northeast is separated from Ward, Crane, and Crockett Counties by the Pecos River. The northernmost point of the county is about 43 miles south of the southeast corner of New Mexico (figure 1).

The county, second largest in Texas, has an area of 4,736 square miles. The population of the county was 9,939 in 1950 and was estimated to be 12,500 in 1957.

Fort Stockton, the county seat and chief commercial center, had a population of about 7,000 in 1957. Iraan, which has a population of about 1,200, is an important oil-field center in the eastern part of the county. Smaller towns in the county are Imperial, Coyanosa, Girvin, and Sheffield.

Purpose and Scope of Investigation

About a third of Pecos County would be suitable for cultivation if sufficient water were available. Since 1945, irrigation with ground water has developed rapidly in several areas; during this same interval, the size of the areas irrigated with surface water from springs and the Pecos River has declined. Storage of runoff from storms is not feasible, as there are no suitable damsites in drainageways tributary to the Pecos River. Because the ground water used for the municipal supply of Fort Stockton is of poor chemical quality for domestic use, some of the citizens are exploring the possibility of obtaining water of better quality in amounts adequate for expanding needs. Ranchers who utilize more than 95 percent of the area within the county for stock-raising are concerned about their water supply, especially in those parts of the county where large withdrawals of ground water for irrigation have caused some of the stock wells to go dry.

The purpose of this report is to describe the source, direction of movement, quantity, and quality of ground water in Pecos County, and to relate the occurrence of ground water to the discharge of the springs and to the geology.

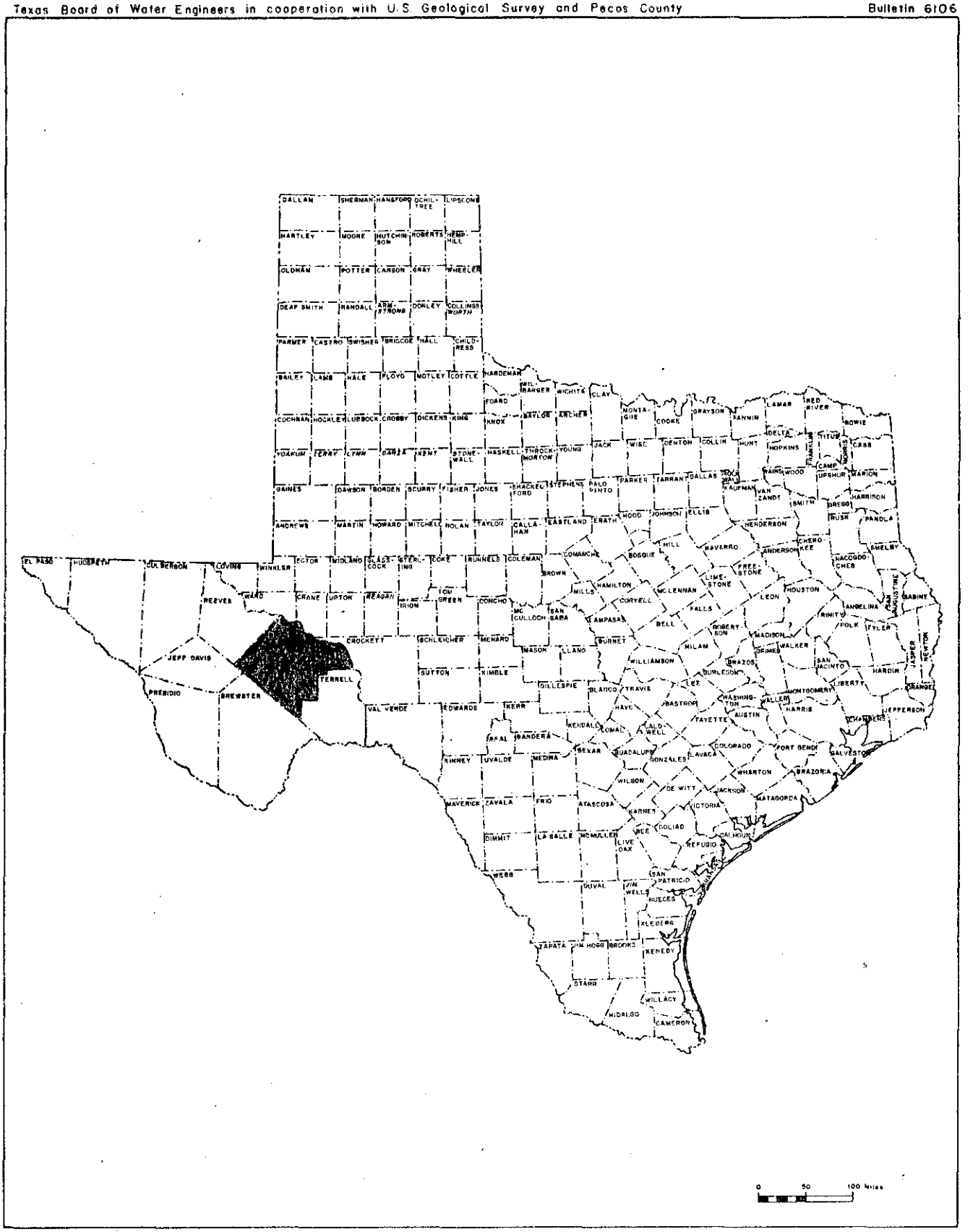

FIGURE 1.— Map of Texas showing the location of Pecos County

The report was prepared by the Texas Board of Water Engineers and the U. S. Geological Survey in cooperation with the Commissioner's Court of Pecos County. Field investigations were begun in the latter part of 1956 and were completed in November 1958, except for some water-level measurements which were made early in 1959.

This report was prepared under the administrative direction of A. N. Sayre and P. E. LaMoreaux, successive chiefs of the Ground Water Branch, and under the supervision of R. W. Sundstrom, district engineer in charge of the Ground Water Branch, the U. S. Geological Survey, in Texas.

Previous Investigations

The earliest known geologic work in Pecos County was that done by Conrad (1857), who described fossils collected by W. H. Emory in 1853-54 at Leon Springs west of Fort Stockton. A comprehensive study of the geology of the Fort Stockton area by Adkins (1927) contains sections on water, oil and gas, salt, potash, sulfur, and limestone, and a geologic map of the Fort Stockton quadrangle. Extensive geologic work by P. B. King and R. E. King in the Glass Mountains in 1925-27 resulted in two reports. P. B. King (1930) described the geology of the Glass Mountains, and R. E. King (1930) described fossils from the Glass Mountains and discussed correlation of the stratigraphic units. P. B. King (1937) also reported on the geology of the Marathon Basin. Other reports on the geology of West Texas by P. B. King were published in 1934, 1942, and 1948. Dennis and Lang (1941) investigated the ground-water resources in Pecos County from 1939 to 1941 as a part of a cooperative study of the Pecos River Basin. In 1946-47, Dante (1947) compiled records of wells and springs in the northern two-thirds of Pecos County. Maley and Huffington (1953) mapped the thick Cenozoic fill in northwestern Pecos County and adjoining areas. Audsley (1956) made a reconnaissance of ground-water development in the Leon, Comanche, Sixshooter, and Coyanosa watersheds.

Acknowledgments

Appreciation is expressed to the city officials of Fort Stockton for providing equipment and ground-water data on several occasions, to the Pecos County Commissioner's Court for furnishing office space, and to oil companies for providing information on wells, data on pumpage, and altitudes of wells. Particular recognition is due to the geologic staff of Pan American Petroleum Corporation's Midland office for permitting access to their logs and other technical data. Texaco, Inc. contributed valuable information which shortened the time required in the field by several weeks. Appreciation is also expressed to the well drillers, farmers, and ranchers for giving free access to their land and records, and to Ed L. Reed and to W. F. Guyton and Associates for supplying technical data.

Well-numbering System

For convenience in identifying wells, the county was subdivided into 10-minute quadrangles bounded by lines of latitude and longitude. Some small fractional parts of quadrangles along the county borders were arbitrarily included

in the adjoining complete or more nearly complete quadrangle. Letters of the alphabet, starting with A in the northern part of the county and ending with WW in the southern part, are used to identify the quadrangles. To avoid confusion, the letters I and O were not used. Within the quadrangles individual wells were numbered consecutively beginning near the northwest corner. The locations of the wells are shown on plates 1, 2, 3, and 4 (Volume I, in pocket). Basic data on the wells are contained in table 4 (Volume I, page 77) and tables 5, 6, and 7. (See Volume II of this report.)

In the report by Dante (1947), the wells were numbered consecutively within a modified 20-minute grid system. Table 1 is an index of well numbers used in the 1947 report and corresponding numbers in this report.

GEOGRAPHY

Climate

The semiarid climate of Pecos County is characterized by hot summers and cool winters. Precipitation records have been kept at Fort Stockton since 1859 and temperature records have been kept since 1904.

The Weather Bureau records show that the long-term mean annual temperature at Fort Stockton based on the period 1927-56 was 66.2°F. July, the hottest month, had a mean temperature of 82.3°F and January, the coldest month, had a mean temperature of 48.0°F (figure 2). In summer the temperature often exceeds 100°F, although during June, July, and August the range usually is from an early morning minimum of about 67°F to an afternoon maximum of about 97°F; in winter the temperature is rarely below 0°F. The average growing season is 217 days; the average dates of the first freeze in the fall and the last freeze in the spring being November 6 and April 2, respectively. The earliest fall freeze was recorded October 21, 1945, and the latest spring freeze, April 23, 1944.

The long-term mean annual precipitation at Fort Stockton is 13.00 inches. Nearly all the precipitation is in the form of rain; more than 70 percent falls at irregular intervals from May through October, usually during thunderstorms (figure 2). The thunderstorm type of precipitation is extremely variable not only from month to month (figure 3) but also from place to place within the county. Snowstorms are infrequent, and the snow usually dissipates within 2 or 3 days. Evaporation has been recorded during the summer months for 17 years and during other months for 12 to 16 years. The potential annual evaporation is about 109 inches; the monthly evaporation ranges from about 4 inches in January to 12-14 inches in the summer (figure 2) when the crop demand for water is highest.

Physiographic Subdivisions

Pecos County lies in parts of five physiographic subdivisions: the Stockton Plateau, the Toyah Basin, the Marathon Basin, the Glass Mountains, and the Barilla Mountains (figure 4).

About 2,000 square miles of the Stockton Plateau (Fenneman, 1931, page 47), a westward extension of the Edwards Plateau, is included in eastern Pecos County.

Table 1.--Index of previously published well numbers and corresponding numbers in this report

Well number		Well number		Well number		Well number		Well number		Well number	
This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)
A-1	A-1	C-59	B-39	D-25	C-12	E-13	A-20	G-31	B-68	J-34	C-48
A-29	A-2	C-61	B-41	D-32	C-18	E-16	A-16	G-35	B-72	J-38	C-51
A-70	A-3	C-63	B-42	D-33	C-19	E-18	A-19	G-38	B-71	J-40	C-53
A-71	A-4	C-70	B-44	D-34	C-20	E-21	A-18	H-1	B-53	J-42	C-50
A-73	A-5	C-71	B-45	D-39	C-22	E-33	A-24	H-19	B-45	J-60	C-55
A-219	A-13	C-97	B-21	D-41	C-21	F-1	A-12	H-29	B-48	J-61	C-49
A-227	A-9	C-100	B-22	D-46	C-15	F-12	A-11	H-34	B-50	J-62	C-54
B-2	B-1	C-103	B-24	D-48	C-17	F-62	A-29	H-36	B-55	K-5	C-46
B-5	B-2	C-104	B-23	D-49	C-16	F-78	A-27	H-41	B-56	K-14	C-57
B-26	B-4	C-105	B-26	D-58	C-37	F-80	A-28	H-42	B-82	K-20	C-58
B-32	B-5	C-106	B-25	D-69	C-36	F-81	A-30	H-44	B-81	K-24	C-59
B-38	B-6	C-109	B-19	D-71	C-34	F-84	A-31	H-47	B-83	K-26	C-64
B-40	B-8	C-119	B-18	D-72	C-35	F-87	F-1	H-52	B-85	K-27	C-62
B-41	B-7	C-153	B-16	D-78	C-33	F-91	A-25	H-53	B-86	K-28	C-61
B-43	B-9	C-163	B-20	D-80	C-23	F-92	A-26	H-61	B-87	K-29	C-63
B-72	B-15	D-1	C-1	D-82	C-24	F-93	A-23	H-64	B-88	K-30	C-60
B-74	B-13	D-4	C-8	D-83	C-25	F-100	E-9	H-66	B-89	K-31	C-65
B-75	B-12	D-5	C-7	D-89	C-26	G-1	B-64	H-71	B-84	K-43	C-66
B-88	B-11	D-9	C-6	D-90	C-27	G-3	B-63	H-73	B-76	K-44	C-67
C-24	B-28	D-11	C-2	D-91	C-28	G-5	B-62	H-75	B-78	K-47	C-68
C-25	B-29	D-12	C-3	D-93	C-29	G-6	B-61	H-76	B-80	K-52	C-56
C-26	B-30	D-14	C-4	D-94	C-30	G-7	B-69	H-79	B-73	L-5	H-1
C-27	B-31	D-15	C-5	D-95	C-31	G-12	B-58	J-4	C-40	L-53	H-7
C-33	B-32	D-18	C-9	D-96	C-32	G-13	B-57	J-11	C-41	L-54	H-9
C-41	B-33	D-20	C-13	E-3	A-14	G-15	B-70	J-13	C-42	L-57	H-8
C-47	B-35	D-21	C-14	E-5	A-15	G-23	B-65	J-14	C-43	L-81	H-12
C-48	B-36	D-22	C-10	E-7	A-21	G-28	B-66	J-15	C-44	M-2	D-4
C-57	B-38	D-23	C-11	E-11	A-22	G-29	B-67	J-16	C-45	M-5	D-3

(Continued on next page)

Table 1.--Index of previously published well numbers and corresponding numbers in this report--Continued

Well number		Well number		Well number		Well number		Well number		Well number	
This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)
M-7	D-2	P-86	E-30	Q-141	F-5	R-1	B-74	S-23	G-23	V-32	H-16
M-14	D-6	P-95	E-27	Q-155	F-68	R-2	F-28	S-27	G-20	V-44	H-20
M-15	D-5	P-105	E-26	Q-160	F-69	R-3	F-27	S-30	G-19	V-50	H-18
M-17	D-13	P-106	F-70	Q-165	F-66	R-7	F-29	S-39	G-21	W-8	I-1
M-20	D-12	P-118	E-29	Q-186	F-56	R-9	F-30	S-40	G-22	W-9	I-2
M-21	D-7	P-120	E-28	Q-197	F-52	R-12	F-31	T-11	G-9	W-10	I-3
N-1	A-17	P-134	E-31	Q-198	F-53	R-13	F-33	T-14	G-12	W-13	I-4
N-19	E-3	P-135	E-32	Q-199	F-54	R-14	F-32	T-19	G-10	W-28	I-6
N-22	E-6	P-136	E-34	Q-200	F-55	R-17	F-34	T-28	G-13	W-31	I-7
N-23	E-5	Q-5	F-2	Q-216	F-58	R-18	F-35	T-31	G-16	W-34	I-9
N-24	E-4	Q-17	F-9	Q-228	F-50	R-19	F-36	T-37	G-17	W-35	I-10
N-31	E-36	Q-21	F-12	Q-229	F-51	R-21	F-37	T-59	G-15	W-36	I-11
N-32	E-35	Q-22	F-11	Q-244	F-15	R-23	F-38	T-60	G-14	W-41	I-12
N-33	E-37	Q-28	F-13	Q-257	F-16	R-26	F-41	U-1	G-11	W-51	I-13
N-35	E-38	Q-40	F-26	Q-286	F-48	R-29	F-42	U-6	H-2	W-53	I-14
P-8	E-10	Q-46	F-25	Q-289	F-49	R-33	F-47	U-18	H-4	X-7	D-14
P-12	E-11	Q-51	F-20	Q-294	F-59	R-57	F-46	U-19	H-5	X-8	D-11
P-15	E-12	Q-55	F-23	Q-296	F-88	R-58	F-45	U-22	H-6	X-9	D-10
P-17	E-13	Q-59	F-22	Q-299	F-60	R-59	F-89	U-52	H-25	X-11	D-8
P-18	F-67	Q-61	F-21	Q-300	F-62	R-64	F-40	U-57	H-26	X-19	D-9
P-20	E-16	Q-70	F-19	Q-302	F-61	R-68	F-39	U-59	H-24	X-24	D-15
P-33	E-7	Q-71	F-18	Q-303	F-57	S-1	G-1	U-64	H-23	X-26	D-17
P-62	E-33	Q-72	F-17	Q-307	F-63	S-3	G-4	U-79	H-22	X-28	D-16
P-65	E-18	Q-126	F-8	Q-308	F-64	S-4	G-3	U-80	H-21	Z-1	E-44
P-72	E-20	Q-129	F-6	Q-309	F-65	S-5	G-2	V-12	H-15	Z-6	E-48
P-73	E-23	Q-130	F-7	Q-310	F-73	S-7	G-8	V-13	H-14	Z-20	E-45
P-77	E-24	Q-133	F-4	Q-329	F-71	S-8	G-7	V-14	H-13	Z-37	E-46
P-78	E-25	Q-135	F-3	Q-335	F-72	S-9	G-6	V-20	H-17	Z-44	E-47

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Table 1.--Index of previously published well numbers and corresponding numbers in this report--Continued

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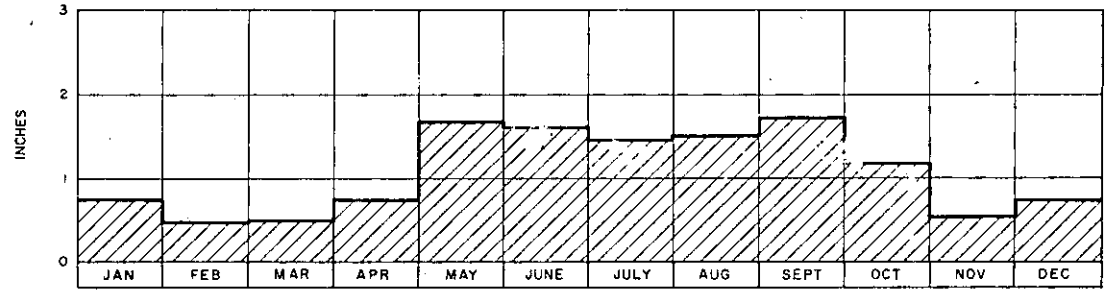
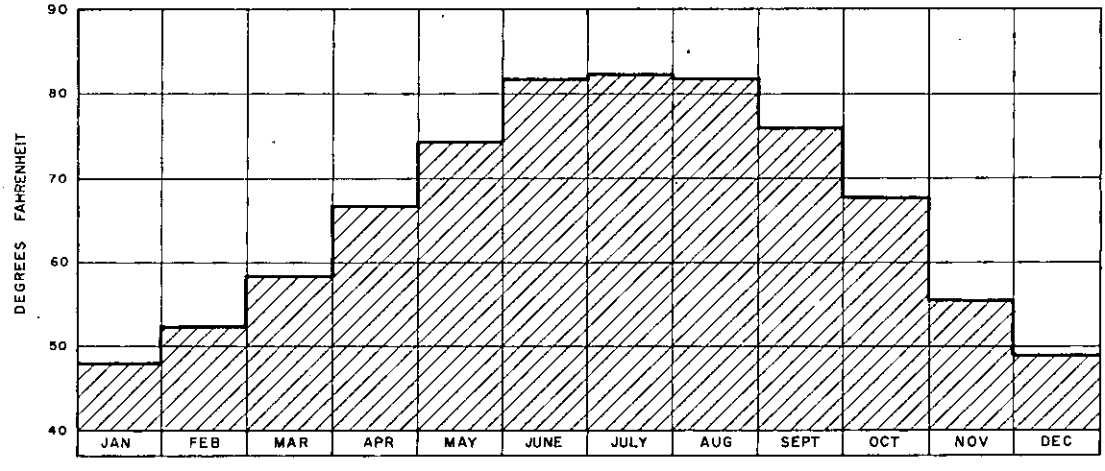
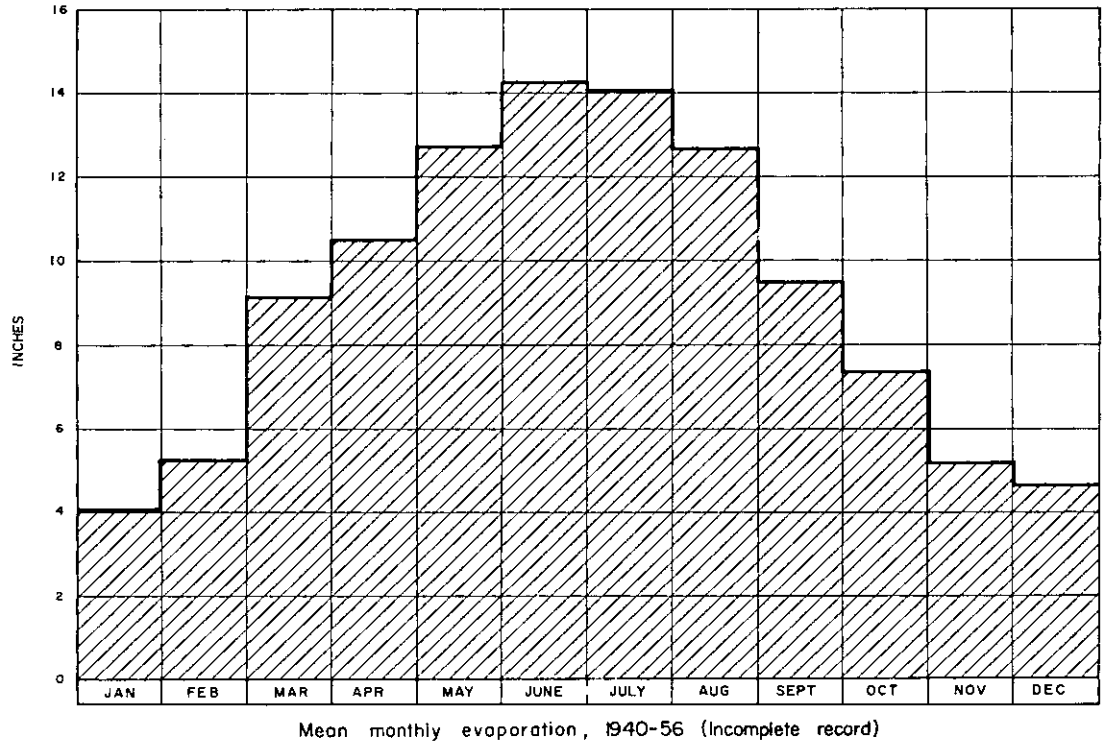
This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)	This report	Report by Dante (1947)
Z-60	E-52	AA-5	F-76	AA-24	F-86	BB-4	F-91	FF-28	H-29	GG-63	I-22
Z-64	E-50	AA-8	F-75	AA-29	F-85	BB-6	F-43	GG-5	I-15	GG-66	I-23
Z-66	E-55	AA-10	F-80	AA-30	F-84	BB-15	F-93	GG-31	I-16	GG-82	I-24
Z-70	E-56	AA-13	F-79	AA-32	F-82	BB-18	F-94	GG-40	I-17		
Z-73	E-57	AA-14	F-78	AA-33	F-81	BB-19	F-95	GG-54	I-18		
Z-78	E-58	AA-15	F-77	BB-1	F-87	EE-4	H-27	GG-55	I-19		
Z-84	E-54	AA-16	F-74	BB-3	F-92	EE-20	H-28	GG-56	I-20		



Mean monthly precipitation, 1927-56



Mean monthly temperature, 1927-56



Mean monthly evaporation, 1940-56 (Incomplete record)

FIGURE 2. - Precipitation, temperature, and evaporation at Fort Stockton

(From records of the U.S. Weather Bureau)

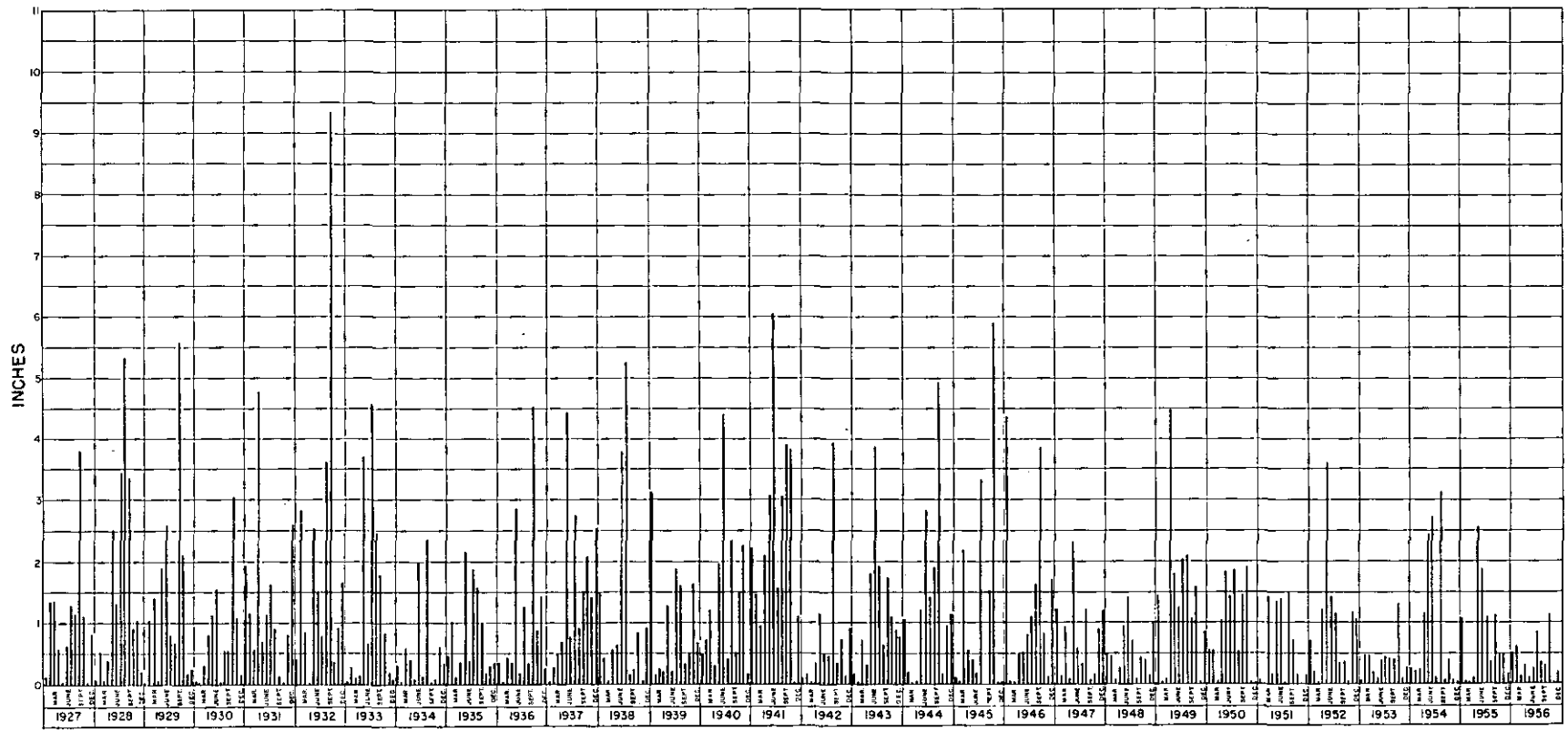


FIGURE 3.- Monthly precipitation at Fort Stockton, 1927-56

(From records of U.S. Weather Bureau)

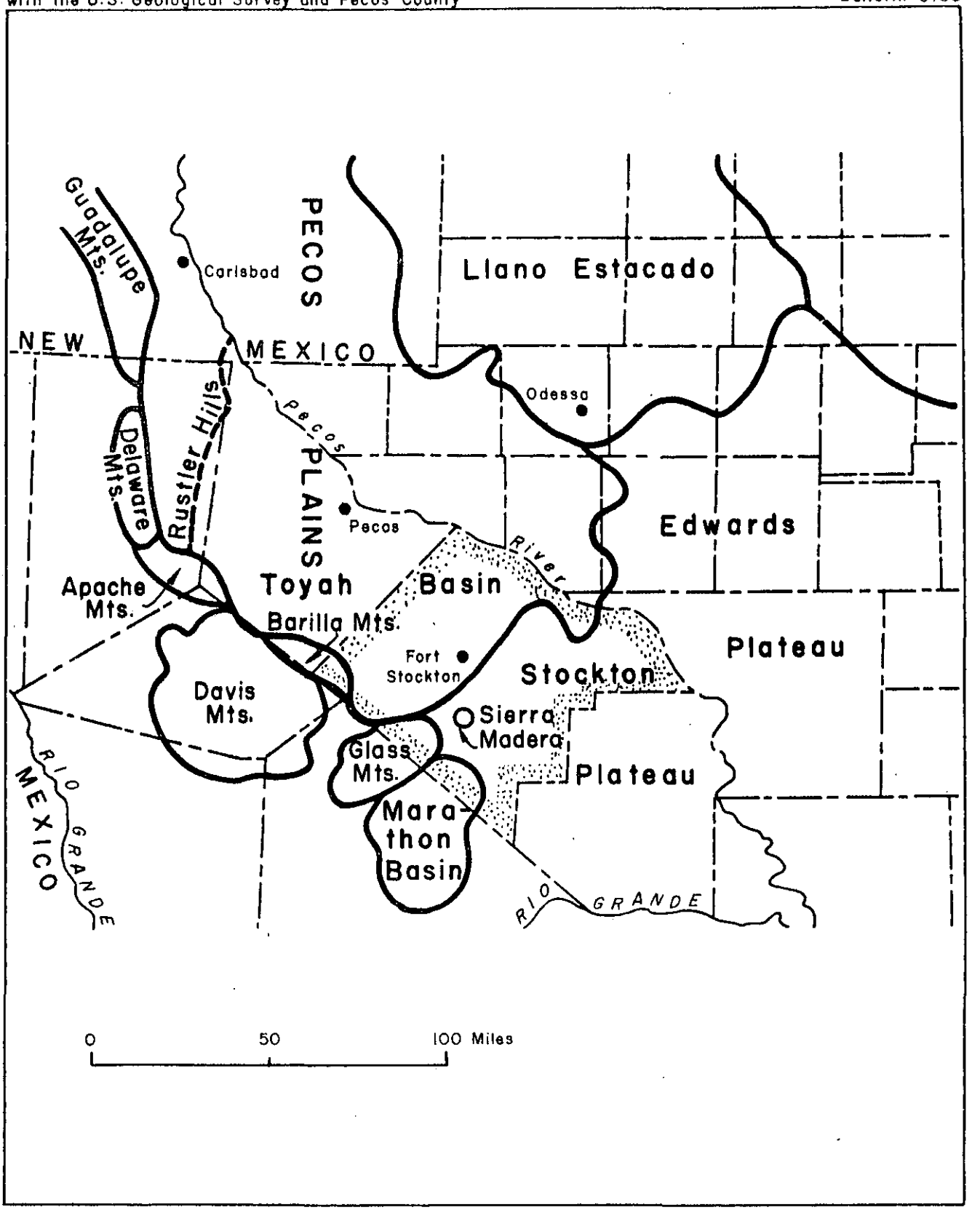


FIGURE 4.— Map showing the physiographic subdivisions in the vicinity of Pecos County

It is separated from the Edwards Plateau by the Pecos River. The altitude of the Stockton Plateau ranges from about 2,000 feet above sea level near the Pecos River to about 5,000 feet above sea level in the southern part of the county. Relief of 200 to 300 feet is common in the larger valleys. The southwest edge of the Stockton Plateau laps up against and forms part of the foothills of the Glass Mountains. Southeast of the Glass Mountains, an escarpment at the edge of the plateau forms a high rim around part of the Marathon Basin. The northwestern edge of the plateau forms the border of the Toyah Basin. The Stockton Plateau consists of irregularly dissected, nearly horizontal beds of massive limestone. Most of the upland part of the plateau is rough and stony and the soil is thin. The relatively flat floors of the major valleys are underlain by a thick soil.

Approximately the northwestern one-third of Pecos County lies in the Toyah Basin, a nearly treeless basin in the southern part of the Pecos Plains. The basin is now drained by the Pecos River, but the great thickness of the alluvium within the basin and the relative narrowness of the canyon carved into bedrock by the Pecos River downstream from the basin suggest that this basin, like those in the Basin and Range province to the west, once had interior drainage. In Pecos County the floor of the basin slopes 15 to 18 feet per mile toward the Pecos River. Much of it is nearly flat and is underlain by thick soil. However, near the Stockton Plateau and the Barilla and Glass Mountains the terrain is uneven and outcrops of the bedrock are numerous.

The Marathon Basin is an eroded, structurally complex dome that lies mainly in Brewster County but extends into southern Pecos County. The basin is an area of plains, sharp-backed ridges, isolated buttes, and mesas, ranging in altitude from about 3,900 to 4,900 feet. The plains have been formed by differential erosion of greatly deformed consolidated rocks. The resistant rocks form ridges and cap the buttes and mesas. Climatic changes and, possibly, structural movements have caused widespread alluviation in the basin; the alluvium is reported to be a few hundred feet thick locally.

The Glass Mountains (figure 4), ranging in altitude from about 4,000 to 6,000 feet, occupy about 75 square miles in Pecos County. The mountains consist of deeply eroded and faulted, northwestward-dipping beds of limestone and dolomite. Stream valleys in the mountains are deep and generally are floored with thick deposits of boulders and gravel.

About 10 square miles of the Barilla Mountains extend into Pecos County. The Barilla Mountains, ranging in altitude from about 3,500 to 5,000 feet in Pecos County, were formed mainly from eroded extrusive igneous rocks and local dikes and plugs of intrusive rocks. Locally, conglomerate and a thin bed of limestone also are present.

Surface Drainage

Pecos County lies in the Rio Grande drainage basin. The Pecos River, a large tributary of the Rio Grande, drains all but the southern part of the county. Leon Creek, Comanche Creek, Tunis Creek, Four Mile Draw, and Independence Creek are the principal tributaries of the Pecos River in the county. Barilla Draw and Coyanosa Draw drain a large area in the western part of the county; they rarely reach the Pecos River. The tributaries of the Pecos River, that head in the mountainous area in the southern part of the county and in Jeff Davis and Brewster Counties, have well-defined valleys and stream channels in the mountainous areas. Upon entering the Toyah Basin, the channels widen to

shallow depressions in broad valleys bordered by rolling hills. As the streams approach the Pecos River, their channels almost disappear. The drainage from an estimated 1,000 square miles of Barilla and Davis Mountains enters the southwestern part of Pecos County. The southern part of the county is drained by the streams that flow in Big Canyon, Downey Draw, and Sanderson Canyon, and empty directly into the Rio Grande.

The Pecos River is the only perennial stream in the county. The other streams flow only after infrequent torrential rains that are characteristic of the region. In the mountainous areas, streams become rushing, turbid torrents after short periods of intense rainfall. The water flows onto the adjoining plains and is lost by percolation and evaporation, with the result that in years of normal rainfall little surface runoff reaches the Pecos River in Pecos County.

GENERAL GEOLOGY

Structure

The Central Basin Platform, a subsurface southward-trending structural high that divides the Permian Basin of West Texas into the Midland Basin on the east and the Delaware Basin on the west, extends southward into northeastern Pecos County (figure 5). The Delaware Basin extends southeastward into western Pecos County, and the Sheffield Channel, a structural trough that connects the Delaware Basin to the Midland Basin, underlies the central and eastern parts of the county. Both the Marathon Folded Belt and the Southern Shelf area extend into the southern part of the county. The Marathon Folded Belt is an area of uplifted, complexly folded Paleozoic rocks. The west end of the Southern Shelf area terminates at the Glass Mountains, a northeastward-trending asymmetrical cuesta-like upland. The Glass Mountains consist of eroded resistant dolomite and limestone beds that flank the Marathon Folded Belt on the north.

Limestones of Cretaceous age overlie part of the Southern Shelf, the Central Basin Platform, the Marathon Folded Belt, and the Sheffield Channel. Generally, the Cretaceous rocks in southeastern Pecos County dip away from the center of the Marathon uplift at a rate of 5 to 10 feet per mile. North and northeast of the Glass Mountains the Cretaceous rocks dip toward the northeast, whereas east of the Glass Mountains they are tilted eastward. P. B. King (1930, page 123) states, "This change in dip apparently takes place along a definite axis, which is a broad fold extending east-northeast from Sierra Madera [dome] as far as the Pecos River, following the divide between Sixshooter Draw on the north and Independence Creek and Four Mile Draw on the south." Plate 5, a map showing the configuration of the top of the "Trinity sand," indicates a ridge in about the same position as the broad fold described by King. Several other structural highs and lows also are shown on the map.

The Sierra Madera dome, about 25 miles south of Fort Stockton, is a prominent structural feature about 600 feet high and 3 miles in diameter. The hills forming the dome consist of dolomites of Permian age that generally dip radially from the highest part of the dome. Within a mile of the center of the dome, the dip of the rocks ranges from 70° toward the center to about 45° away from the center. Farther away from the center the dips lessen, and concentric synclines and anticlines are formed around the outer part of the structure (P. B. King, 1930, page 124).

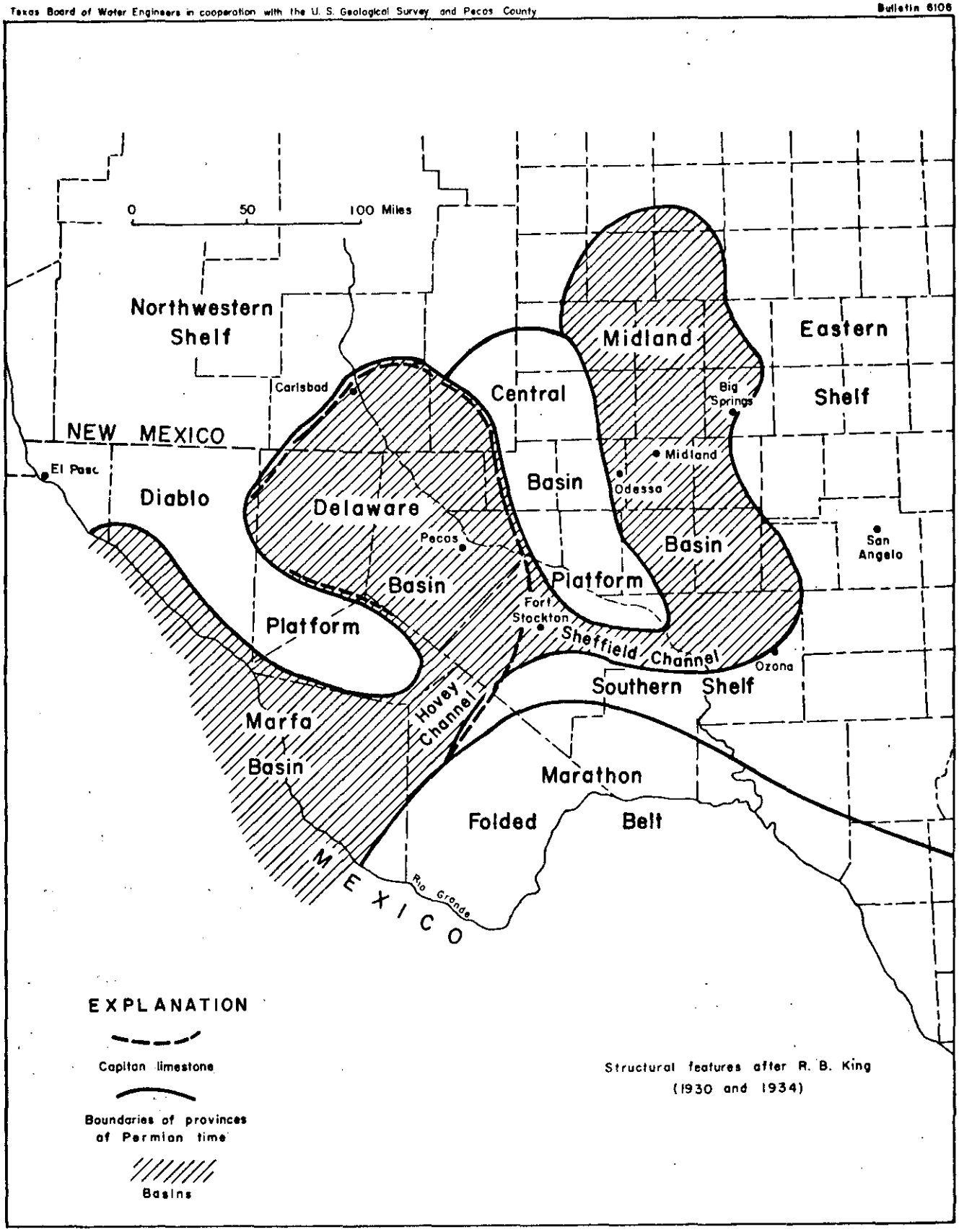


FIGURE 5.-Map showing the structural features in western Texas and southeastern New Mexico during Permian time

Much of the folding in the Cretaceous rocks apparently reflects, in a subdued manner, the structure of the older beds. Probably this is caused by renewed movement along old zones of weakness. In referring to the Edwards Plateau, P. B. King (1930, pages 122-123) stated that the broad gentle anticlines and synclines west of the Pecos clearly are related to the stronger folding of the mountains, thus suggesting a post-Cretaceous history of folding in the mountains west of Pecos County, possibly the Laramide revolution. However, the low dip and relatively undistrubed condition of the Cretaceous rocks, which overlie the flanks of the intensely folded Paleozoic rocks in the Marathon Basin and Glass Mountains, give evidence that post-Cretaceous folding is not related to the forces that caused the earlier pre-Cretaceous folding.

Post-Cretaceous faulting also occurred in Pecos County. Some of the exposed faults are shown on the geologic map (figure 6) and some of the buried faults are shown on the map showing the configuration of the top of the "Trinity sand" (plate 5). Hydrologic conditions and data from drilling indicate that other faults may be buried beneath the alluvium; however, steeply dipping strata could be inferred from the same information.

A significant structure, a slumpage trough filled with Cenozoic alluvium, underlies the northwestern part of the county. This structure is discussed in detail in the section titled "Geologic History."

Geologic History

The surface of the Precambrian igneous rocks was reached at a depth of about 4,500 feet in the drilling of an oil test about 22 miles northeast of Fort Stockton, in the Central Basin Platform area, but was not reached at a depth of more than 25,000 feet by an oil test in the central part of the county, in the Sheffield Channel area. Igneous rocks of probable Precambrian age and consolidated sedimentary rocks of Ordovician and Devonian age are shown by Scobey and others (1951) to be in the subsurface. Sedimentary rocks of Pennsylvanian, Permian, Triassic, Cretaceous, Tertiary, and Quaternary age and extrusive igneous rocks of Tertiary age are exposed within the county (figure 6). The lithologic character and water-bearing properties of the stratigraphic units of Pennsylvanian and younger age are given in table 2. Geologic sections A-A', B-B', and C-C'-C" (plates 6, 7, and 8) show the subsurface relationships of the stratigraphic units in different parts of Pecos County.

The early Paleozoic history of Pecos County is inferred from geologic evidence gathered in the surrounding area and from drill cuttings from deep oil tests within the county. Because no Lower or Middle Cambrian strata are known to be present, it is assumed that the area was emergent during that period. If Lower or Middle Cambrian deposits were laid down in Pecos County, they were removed by erosion before the invasion of Late Cambrian and Ordovician seas. In early Paleozoic time, a geosynclinal trough formed on the north side of a landmass called Llanoria (Sellards and others, 1932, page 23). As the trough grew in size, it included part of southern Pecos County. This trough, probably never very deep and at times emergent, gradually sank beneath the accumulating load of sediments. Near the end of the Pennsylvanian period, after several thousand feet of deposits were laid down, the beds in the trough were folded and uplifted.

During Late Cambrian and Ordovician time marine limestone, at least part of which has since been dolomitized, was deposited in the central and northern parts of Pecos County. Sandstone, shale, limestone, and chert were deposited in the

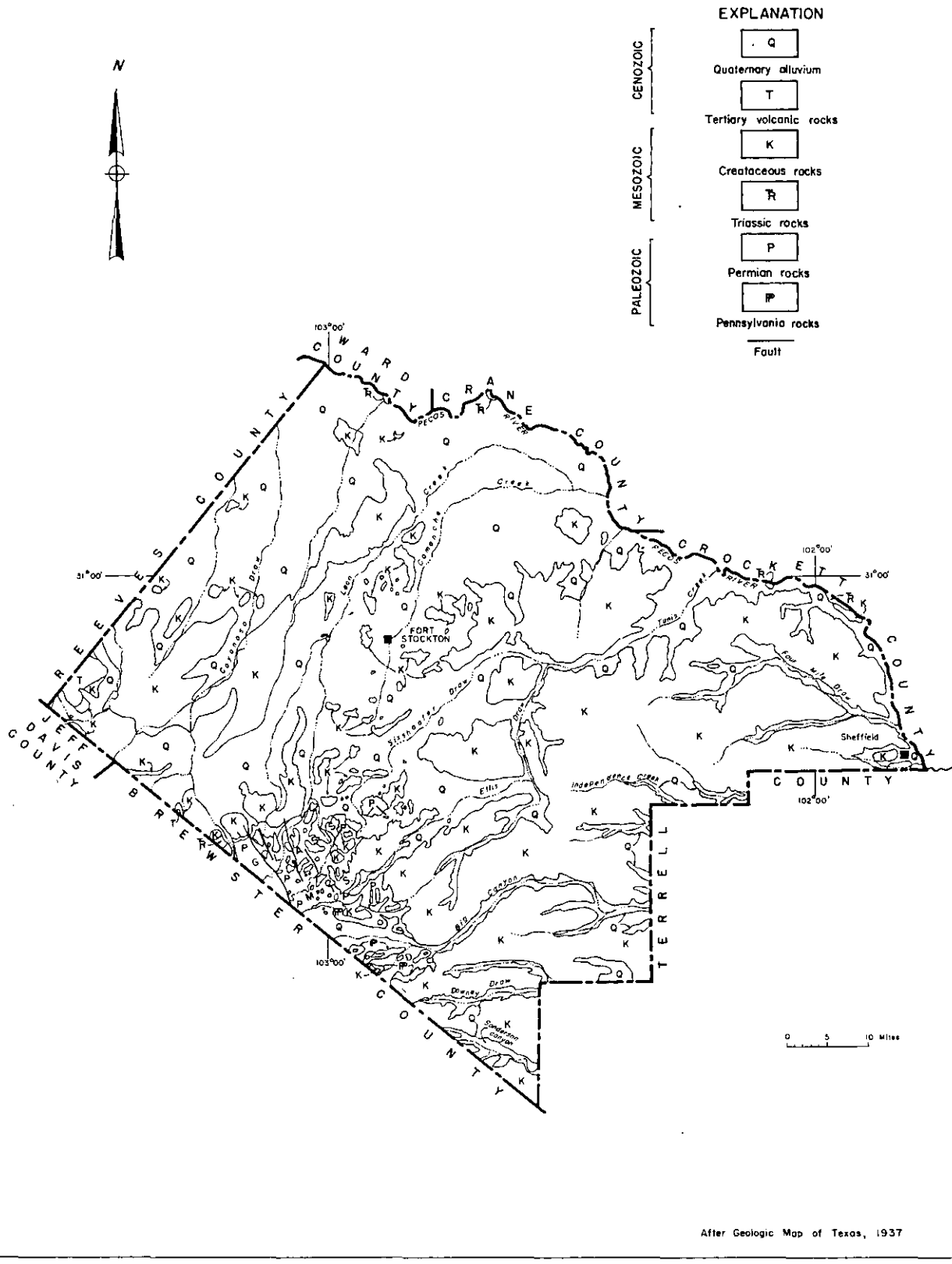


FIGURE 6. – Generalized geologic map of Pecos County

Table 2.--Stratigraphic units and their water-bearing properties in Pecos County

Era	System	Series or group	Stratigraphic unit		Maximum known thickness (feet)		Character of rocks		Water-bearing properties	
Cenozoic	Quaternary and Tertiary		Alluvium		1,150		Sand, gravel, silt, clay, and caliche.		Yields large quantities of water to wells.	
	Tertiary		McCutcheon volcanic series of Eifler (1951)		1,000±		Tuff, volcanic flows, and basal conglomerate.		Yields small quantities of water to contact springs.	
Mesozoic	Cretaceous	Gulf series and Washita group	Austin chalk equivalent, Boquillas flags, Buda limestone, and Grayson shale, undifferentiated		250		Platy calcareous shale, limestone flags and clay.		Not known to yield water to wells in Pecos County.	
		Comanche series: Washita group	Georgetown limestone	Main Street limestone	285	100	Limestone		do	
				Weno clay		80	Argillaceous to cherty limestone and calcareous clay.		do	
				Denton clay		40	Limestone		May yield small quantities of water in conjunction with underlying Washita beds in northern Pecos County.	
				Fort Worth limestone		35	Chalky argillaceous limestone and calcareous clay.		Yields small to very large quantities of water to wells in northern Pecos County.	
				Duck Creek formation		50	Chalky argillaceous limestone.		do	
		Comanche series: Fredericksburg group	Kiamichi formation		66		Calcareous clay		Not known to yield water to wells in Pecos County.	
			Edwards limestone and equivalents		200		Limestone, chert, marl, and calcareous clay.		do	
			Comanche Peak limestone		90		Limestone and argillaceous limestone.		Yields small to very large quantities of water to wells.	
		Fredericksburg and Trinity groups, undifferentiated	"Trinity sand"		350		Very fine to coarse, cemented to loose sand. Some limestone and shale.		Yields small to large quantities of water to wells.	
		Trinity group	Glen Rose limestone		200+		Calcareous shale, argillaceous limestone, and limestone.		May yield some water to wells in conjunction with overlying beds.	
	Triassic	Dockum group	Southern Pecos Co.: Bissett conglomerate	Northern Pecos Co.: Triassic and Permian undifferentiated red beds	Southern Pecos Co.: 720	Northern Pecos Co.: 1,500	Southern Pecos Co.: Dolomite and limestone fragments cemented in a calcareous matrix.	Northern Pecos Co.: Red shale, siltstone, and sandstone, some gravel and blue shale.	Southern Pecos Co.: Not known to yield water to wells.	Northern Pecos Co.: Yields small quantities of water locally to wells.
Paleozoic	Permian	Ochoa series	Tessey limestone	Rustler formation	1,050	450	Limestone and dolomite	Dolomite, anhydrite limestone, sandstone, halite, and shale.	Not known to yield water to wells.	Yields small to large quantities of water to wells.
				Salado formation		2,200		Anhydrite, halite, and dolomite.		Not known to yield water to wells.
				Castile formation		2,300		Limestone, anhydrite, halite, and polyhalite.		do

(Continued on next page)

Table 2.--Stratigraphic units and their water-bearing properties in Pecos County--Continued

Era	System	Series or group		Stratigraphic unit		Maximum known thickness (feet)		Character of rocks		Water-bearing properties	
				Southern Pecos Co.	Northern Pecos Co.	Southern Pecos Co.	Northern Pecos Co.	Southern Pecos Co.	Northern Pecos Co.	Southern Pecos Co.	Northern Pecos Co.
Paleozoic	Permian	Guadalupe series	Whitehorse group	Gilliam limestone	Tansill formation	870	500	Limestone, dolomite and sandstone	Dolomite, anhydrite, and sandstone	Yields water to a few deep stock wells in the Glass Mountains	Yields water to one well; Not known to yield water to wells
					Yates sandstone		300		Sandstone, dolomite, anhydrite, and shale		Yields small quantities of water to wells
					Seven Rivers formation		350		Dolomite, limestone, anhydrite, shale, and sandstone		Not known to yield potable water to wells
					Queen formation		400		Sandstone, anhydrite, and dolomite		Yields small quantities of water to wells
					Grayburg formation		350		Dolomite, limestone, anhydrite, and sandstone		Not known to yield water to wells
				Word formation: Vidrio limestone member	Sand Andres limestone (Cherry Canyon formation in the Delaware Basin)	500	1,400	Dolomite and limestone interbedded with siliceous shale; Dolomite and dolomitic limestone	Dolomite (Shale and sandstone facies in the Delaware Basin)	Not known to yield water to wells; Not known to yield water to wells	Yields moderate to large quantities of water to wells. (Cherry Canyon formation does not yield water to wells)
				Leonard formation		2,100		Siliceous shale, dolomitic limestone, and basal conglomerate.		Yields small quantities of fresh water.	
				Wolfcamp formation		7,500(?)		Shale, limestone, and sandstone.		Not known to yield water to wells in Pecos County.	
	Pennsylvanian			Gaptank formation		1,800		Cemented sandstone and shale; conglomerate and limestone.		do	
				Haymond formation		1,800+		Cemented sandstone and shale.		Yields small quantities of water to wells.	
				Dimple limestone		1,100+		Sandy limestone interbedded with chert and shale.		Yields small quantities of water near surface from weathered zones.	
				Tesnus formation		1,010+		Cemented sandstone and shale.		Yields small quantities of water from fractures and joints near surface weathered zones.	

Marathon Folded Belt and probably extend into Pecos County. This varied lithology indicates an oscillating sea. Neither the extent nor duration of the oscillations is known. Probably the sea withdrew near the end of Ordovician time, and the area remained emergent and subject to erosion during Silurian, much of Devonian, and Mississippian time. According to P. B. King (1930, page 30) the sea invaded the area at least once during the Devonian and deposited the Caballo novaculite.

Possibly in the Late Mississippian epoch but probably in the Early Pennsylvanian epoch, the sea again invaded the region. Llanoria remained above sea level, supplying large amounts of clastic material to the geosynclinal trough. At one time the landmass was worn down so low that very little clastic material was being removed, and carbonaceous, sandy, and argillaceous limestones of the Dimple limestone were deposited. When the landmass was again uplifted, more clastics were deposited. A tectonic disturbance near the close of the Pennsylvanian period caused the rocks in the geosyncline to become intensely folded, faulted, and uplifted. The Central Basin Platform, which influenced formations up to and including the Permian (Sellards and others, 1932, page 52), also was uplifted.

The older Paleozoic rocks were eroded from the Central Basin Platform early in the Permian. By the end of Wolfcamp time, several hundred feet of interbedded conglomerate, sandstone, shale, and limestone had been deposited in the sea around the Marathon uplift and several thousand feet of dark-colored shale had been deposited in the Sheffield Channel. During Leonard time limestone was deposited throughout most of Pecos County. Thick beds of clastics were deposited locally near the Marathon uplift, but only thin beds of limestone were deposited on the Central Basin Platform.

During early Guadalupe time the Sheffield Channel connected the Midland Basin with the Delaware Basin. A limestone, the San Andres (King, 1942, pages 701-703), was deposited in the shallow water over the Central Basin Platform, and the Cherry Canyon formation, a shale overlain by sand, was deposited in the Delaware Basin. The Goat Seep reef formed around the Delaware Basin and tongues of limestone extended into the basin. Detritus at the top of the San Andres limestone on the Central Basin Platform indicates a period of erosion at the end of San Andres deposition. In middle Guadalupe time a reef, the Capitan limestone, formed around the margins of the Delaware Basin and across the Sheffield Channel, cutting off the Midland Basin by the end of Grayburg time. This caused contemporaneous deposition of three different sequences of rock: a deep-water marine facies in the Delaware Basin represented by sandstone, shale, and limestone; a reef zone represented by massive crystalline dolomite and limestone; and the shelf, or shallow-sea, deposits of the Whitehorse group consisting of limestone and shale, dolomitic limestone, evaporites, and onshore clastics. The shelf deposits characteristically are thin-bedded dolomite or limestone near the reef, grading into clastics and evaporites away from the reef. During the time that the Whitehorse group was being deposited, the reef growth around the edge of the Delaware Basin oscillated laterally because of the irregular subsidence within the basin. The reef formed at or very near sea level, and the subsidence of the reef caused the reef growth to shift toward the Central Basin Platform. However, the reef grew faster than it subsided, resulting in the reef growing several miles basinward. The older beds of the Whitehorse group underlying Pecos County are predominantly limestone and dolomite. The younger beds contain larger proportions of anhydrite and clastics as a result of the lateral growth of the reef. The Grayburg formation represents the first stage of the Whitehorse deposition, and the Tansill formation represents the last stage. In the Delaware Basin the sandstone of Guadalupe age is overlain by anhydrite and limestone of the Castile

formation of Ochoa age. There was no recognizable deposition in the area surrounding the reef during Castile time.

The formations of the Ochoa series were deposited in the Delaware Basin near the end of the Permian period. During Castile time, while the Central Basin Platform was slightly above sea level, a sequence of evaporites was deposited on the basin side of the reef. After the deposition of the Castile, the more saline sediments of the Salado formation were deposited in the Delaware Basin and across the Central Basin Platform. This widespread deposition of evaporites, interbedded at intervals with limestone, dolomite, sand, and shale, continued through Salado and Rustler time. The evaporites are overlain by red beds, the youngest rocks of the Ochoa series.

The sediments deposited in the Glass Mountains area during Guadalupe and Ochoa time are similar to those deposited in the basin, reef, and platform areas. The Word formation is similar to the Cherry Canyon formation and San Andres limestone in that its western facies is predominantly clastic and its eastern facies is predominantly dolomitic. P. B. King (1930, page 77) described a transitional zone between the two facies that probably represents a reef development and stated (page 80), "All the members of the Capitan formation [limestone] in the Glass Mountains pass through these changes of facies..." When so writing, King considered the Tessey limestone to be a member of his Capitan formation [limestone], but since then it has been learned that the Tessey limestone is equivalent to at least part of the Ochoa series and that the Gilliam limestone is the Glass Mountains equivalent of the Capitan (P. B. King, 1942, page 655). A reef-backreef sequence of rocks grew across the Hovey Channel, closing off the Delaware Basin from the open sea. A slight uplift also may have been involved in the closing of the Hovey Channel. According to Adams and Frenzel (1950, page 308) the whole Delaware Basin was uplifted and tilted eastward at the close of Capitan deposition. However, the uplift must have been slight, because there is little or no evidence of erosion on the Central Basin Platform during the deposition of the Castile formation. During Castile time the barrier across the Hovey Channel must have remained very near sea level in order to allow an intermittent supply of sea water to enter and eventually fill the basin with anhydrite and limestone.

At the end of Castile time the Delaware Basin and the Central Basin Platform subsided, and the salt-rich Salado formation was deposited. P. B. King (1942, page 762) stated, "Salado time closed with a period of movement by which the formation was tilted, uplifted, and eroded." This movement has not been demonstrated clearly in the southern part of Pecos County. At the end of Salado time the sea rose with respect to the land, and sea water again circulated. The lower part of the Rustler formation was deposited, and then another barrier, possibly a reef, stopped the marine circulation and caused the deposition of the uppermost evaporites of the Rustler. Red beds consisting of fine-grained material probably derived from marginal lands south, west, and north of the Delaware Basin, then were deposited on the evaporites.

In the Glass Mountains area the Permian rocks were uplifted and tilted after the deposition of the Tessey limestone. In Pecos County the uplift was followed by a long period of erosion in the higher areas and by deposition in the lower areas. The Bissett conglomerate, which was deposited in the southern part of Pecos County during the Triassic period, was derived from older beds. Red beds of Late Triassic age were deposited in the northern and western parts of the county.

In Cretaceous (Comanche) time the sea advanced slowly from the southeast and inundated Pecos County. The gradualness of the sea's advance is indicated

in the Glass Mountains-Marathon uplift area by the overlap of older Comanche strata by younger Comanche strata. The oldest Comanche formation in Pecos County, the Glen Rose limestone, apparently was deposited in only the low areas of that time. The thick deposits of early Comanche age reported in the log of Twin City Oil and Gas Company Kokernot No. 1 (Adkins, 1927, page 34), an oil test in northern Brewster County, indicate that the Hovey Channel was an active negative area during Trinity time. The overlying formation, the "Trinity sand," is present almost everywhere in Pecos County. It is missing only in those places where it laps up against pre-Cretaceous highs or has been removed by erosion. Throughout most of the county the younger Comanche strata of Fredericksburg and Washita age are composed of nearly pure limestones but in the Fort Stockton area they consist of argillaceous and marly limestone.

Apparently the sea retreated from the Pecos County area after the limestones and shales of the Washita group were deposited. The sea advanced again in Gulf time, depositing the calcareous shales of the Boquillas flags and Austin chalk in the western part of Pecos County and, probably, in much of the southwestern part. The beds of the Gulf series as well as some of the Comanche rocks have been eroded from the region of the Glass Mountains-Marathon uplift, but beds of the Gulf series remain in structurally low areas and in areas where they are protected by Tertiary strata.

In Pecos County the Cenozoic era primarily was one of erosion, but some uplift accompanied by volcanic deposition (the McCutcheon volcanic series of Eifler) occurred in the Davis Mountains region, probably in the Oligocene epoch. Alluvium was deposited in a deep trough, 5 to 10 miles wide, in the northwestern part of the county.

Formation of the trough possibly began in the Triassic or Late Permian. As shown by the west end of geologic section A-A' (plate 6), the Rustler and older post-Capitan formations do not show other than normal basinward thickening, thus indicating that they were deposited before the trough was in existence. However, the Permian and Triassic red beds are greatly thickened, indicating that the trough began to form either before or during the time of their deposition. Adams and Frenzel (1950, page 301) reasoned that post-Permian movements along the buried Capitan ridge at the east edge of the Delaware Basin fractured the overlying rocks, thereby creating channels for circulating water to attack the soluble salts. Apparently the solution and removal of salts from the Permian beds caused the overlying beds to collapse and thus to form a trough. The troughward tilt of the "Trinity sand" and younger Cretaceous rocks, as shown by geologic section A-A' (plate 6), indicates that the trough was deepened by post-Cretaceous movement or movements.

The general shape of the trough (plates 9, 10, and 11 and figure 7) and the lack of continuous Cretaceous rocks in the deeper part indicate that erosion of the Cretaceous rocks may also have been a factor in the formation of the trough. In the southern part of the irrigation area the alluvial fill in the trough is as much as 1,150 feet thick (figure 7). In a discussion of a similar trough in Reeves County, Adams (1944, page 1624) stated, "Much of the solution developing such a deep trough must have taken place below the spillway over which the saturated water escaped across the Edwards Plateau toward the southeast. This would imply that the sinking trough was filled with sediments as rapidly as it formed, and that solution occurred in a sealed hydrostatic system."

The trough filled with sediments derived from the margins of the trough and from the nearby mountains. At first the margins of the trough probably furnished most of the sediments, resulting in a larger proportion of fine-grained and

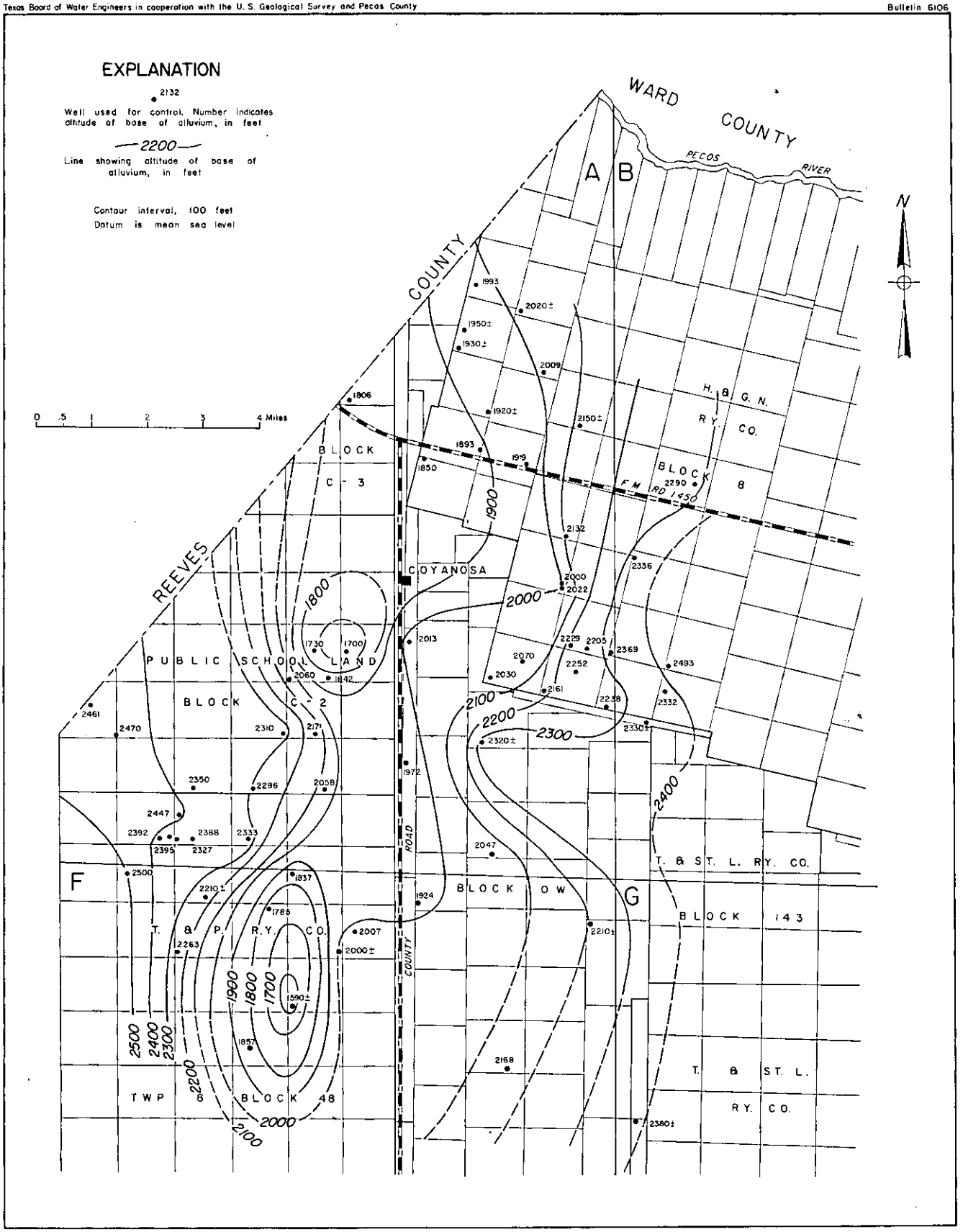


FIGURE 7.— Map showing altitude of the base of the Cenozoic alluvium in the North Coyanosa irrigation area, Pecos County

calcareous material in the lower part of the fill. Later a larger proportion of coarse-grained sediments was brought by streams from the mountains south and southwest of northwestern Pecos County.

Because much of the alluvium was derived from local sources, the contact between the alluvium and the underlying beds is not ascertained readily. The lower part of the alluvium contains thin beds of sand similar in color and, locally, in grain size to the Permian-Triassic red beds. However, the alluvium and red beds can usually be distinguished by differences in red-bed thicknesses, lithification, and radiation characteristics as shown on gamma-ray logs. The contact between the alluvium and Cretaceous rocks is difficult to determine in those areas where thick limestone sections are absent and the alluvium overlies the lowermost Cretaceous beds of sand and clay. In the eastern part of the North Coyanosa irrigation area, which coincides roughly with the eastern part of the trough, the contact is determined readily where thick limestones are present.

PRINCIPLES OF GROUND-WATER OCCURRENCE

All fresh ground water is derived from precipitation. When precipitation falls on the earth's surface a part is returned to the air by evaporation; a part runs off to the streams; and a part sinks into the ground. Much of the water that sinks into the ground is held temporarily in the soil and is either returned to the atmosphere by evaporation or by the transpiration of plants. However, if the soil is unable to retain all the water that enters it, the remainder percolates downward to the zone of saturation. The water in the saturated zone is ground water.

Ground water moves under the influence of gravity from areas of recharge to areas of discharge. Its rate of movement is governed by the permeability and thickness of the rock through which it moves and the hydraulic gradient or slope of the water table. Owing to frictional resistance, the rate of movement of ground water generally is very slow compared to the flow of water in streams.

Permeability is the capacity of rocks to transmit water under pressure. Well-cemented sandstone and conglomerate, dense limestone, and fine-grained materials such as silt, clay, and shale, have very low permeability. They may act as barriers, impeding the movement of water into or out of more permeable rocks. On the other hand, cavernous limestone, gravel, and well-sorted sand generally are highly permeable. Beds of sand and gravel and permeable zones in limestone serve not only as conduits through which ground water moves but also as reservoirs in which water is stored. A formation, group of formations, or a part of a formation that yields water is called an aquifer.

The coefficient of transmissibility is a measure of the capacity of an aquifer to act as a conduit. It is the number of gallons of water that will move in 1 day, under a unit hydraulic gradient, through a vertical section having a width of 1 foot and a height equal to the thickness of the aquifer.

The coefficient of permeability is the rate of flow in gallons per day through a cross section of 1 square foot under a unit hydraulic gradient. The field coefficient of permeability is stated at the prevailing water temperature. Thus, the field coefficient of permeability is equal to the coefficient of transmissibility divided by the thickness of the aquifer, in feet.

The coefficient of leakage, or "leakance," may be defined as the quantity of water that enters an aquifer by leakage through a unit area of the interface between the aquifer and the leaking bed, if the difference between the head in the aquifer and in the bed supplying leakage is unity.

The coefficient of storage is the volume of water released from or taken into storage per unit of surface area of the aquifer per unit change in the component of head normal to that surface. Under water-table conditions the coefficient of storage is practically equal to the specific yield, which is the volume of water involved in gravity drainage divided by the volume of the material drained.

Ground water occurs under both water-table and artesian conditions in Pecos County. Where an aquifer crops out, the water in it is under water-table conditions; that is, it is unconfined. As the water is subject only to atmospheric pressure, it does not rise in wells above the level at which it is encountered. The upper surface of the zone of saturation is called the water table. Downdip where the aquifer is overlain by relatively impermeable beds, the water is confined and is under artesian conditions. It will rise above the level at which it is first encountered in wells. Wells tapping an artesian aquifer are artesian wells whether they flow or not. If the water rises above the top of the casing, the well is a flowing artesian well. The imaginary surface that everywhere coincides with the static level of the water in the aquifer is the piezometric surface. The static level is the level at which water stands in a well when it is not being pumped. The water level in a well fluctuates in response to changes in recharge to and discharge from the aquifer, including the effect of pumping from other wells. When water is withdrawn from a well, the water level in and around it is lowered and the piezometric surface takes the form of an inverted cone with the well at its center, thus creating a hydraulic gradient toward the well. The water level in the well when it is being pumped is called the pumping level, and the inverted cone is called the cone of depression. The amount of water-level drawdown in a well when it is pumped (that is, the difference between the static level and the pumping level) is determined in part by the aquifer coefficients, in part by the physical characteristics of the well, and in part by the rate and duration of pumping. If the rate of withdrawal from the well is constant, the water level declines rapidly at first and continues to lower at a decreasing rate. As the cone of depression slowly broadens, the water level is lowered at distances farther and farther from the well.

The rate of pumping divided by the drawdown in a well is the specific capacity of the well. Because the drawdown generally is measured in feet and the pumping rate in gallons per minute, the specific capacity is expressed as gallons per minute per foot of drawdown.

The decline of water level is serious only if it causes water of undesirable quality to move into the aquifer, if the yield of wells decrease, or if the pumping lift increases so that pumping becomes uneconomical. When withdrawal ceases, the water level rises at a decreasing rate until the water level approaches the static level.

The amount of water in transient storage—that is, moving slowly from areas of recharge toward areas of discharge—is very large. However, the aquifers have physical limits in thickness and extent; consequently, the total amount in storage has finite limits.

Under natural conditions over a long period of time, the rate of discharge from an aquifer approximately equals the rate of recharge. When equilibrium exists, the amount of water in storage remains essentially the same, and water-level fluctuations are not pronounced.

Withdrawal of water from an aquifer causes one or a combination of the following: a decrease in the rate of natural discharge, an increase in the rate of recharge, or a reduction in the volume of water in storage. If ground-water withdrawal plus natural discharge do not exceed the recharge to an aquifer, the water levels will approach equilibrium. If they exceed the recharge, the excess will be withdrawn from storage. When water is taken from storage, the water level declines and will continue to decline as long as water is taken from storage.

The maximum rate of ground-water withdrawal that can be maintained indefinitely is related directly to the rate of recharge. However, recharge is controlled largely by climate and geology and generally is difficult to evaluate quantitatively. The specific yield of an aquifer is a measure of the amount of water available regardless of whether or not there is recharge.

GENERAL DISCUSSION OF QUALITY OF WATER

The suitability of water for various uses is determined largely by the kind and amount of dissolved mineral matter. Excessively high concentrations of some constituents adversely affect the use of water for drinking, of others for domestic and industrial purposes, and of others for irrigation.

Several factors determine the concentration and character of mineral constituents in ground water. The most important are the source of the water, the mineral composition of the rocks through which the water has passed, and the length of time the water has been in contact with the rock. Precipitation dissolves some gases from the air. That part of the precipitation that percolates to the water table, having dissolved carbon dioxide from the air as well as from the organic matter in the soil, reacts with rock particles, dissolving them and forming new compounds. The dissolved-solids content of water usually increases with depth, because the water generally has been in contact with rock minerals for longer periods of time than water occurring at shallow depths. The principal constituents in ground water are calcium, magnesium, sodium, potassium, bicarbonate, sulfate, and chloride. Other constituents include silica, iron, manganese, nitrate, fluoride, and boron. The amount listed in analyses is given in parts per million—a unit that expresses concentration of chemical constituents by weight.

The suitability of a water for public supply and domestic use can be judged by standards that have been established by the U. S. Public Health Service (1946, pages 382-383) for drinking water used on interstate carriers. These standards are as follows:

Iron (Fe) and manganses (Mn) together should not exceed 0.3 ppm.
Magnesium should not exceed 125 ppm.
Chloride should not exceed 250 ppm.
Sulfate should not exceed 250 ppm.
Fluoride must not exceed 1.5 ppm.
Dissolved solids should not exceed 500 ppm; however, a dissolved-solids content of as much as 1,000 ppm may be permitted if less mineralized water is not available.

These standards were established to help protect travelers from digestive upsets but generally are used in evaluating the suitability of public water supplies in the United States. Although many people continually drink water containing substantially higher concentrations than the suggested limits, persons unaccustomed to such water may suffer ill effects until their digestive systems become adjusted to the change. Water used for drinking generally contains less than 2,000 ppm of dissolved solids. However, water containing somewhat higher concentrations has been used where water of better quality is not available. Some livestock have been known to survive on water containing as much as 10,000 ppm (Smith and others, 1942, page 15), although water of considerably better quality is necessary for maximum growth and reproduction.

Water in which chloride exceeds 250 ppm has a salty taste for many persons and water in which magnesium exceeds 125 ppm and sulfate exceeds 250 ppm tends to have a laxative effect. The maximum concentration for nitrate has not been established, but Maxcy (1950, page 271) states that water having a nitrate content in excess of 45 ppm should be regarded as unsafe for infant feeding because it may cause methemoglobinemia ("blue baby" disease). The presence of nitrate may indicate pollution.

Moderate quantities of fluoride are not known to affect crops, animals, or adult human beings. However, it is generally recognized that a small amount of fluoride in drinking water consumed by children during the time their permanent teeth are being formed reduces the occurrence of dental caries (tooth decay) and that an excess may cause dental fluorosis (mottled enamel). According to a report by Galagan and Lamson (1953, page 507), the optimum quantity of fluoride a drinking water should contain depends to some extent upon the climate and the amount of water consumed; the maximum quantity of fluoride permitted by the Public Health Service (1.5 ppm) may cause mottling of teeth in the arid and semiarid sections of the southwestern United States.

The tolerances in chemical quality of water for industrial use differ widely for different industries and different processes. In general, water that meets U. S. Public Health Service standards for drinking water is suitable for most industrial uses.

Hardness of water is an important consideration in domestic, municipal, and industrial supplies. It is expressed in parts per million as calcium carbonate. Water having a hardness of 60 ppm usually is rated as soft, whereas water having a hardness of 61 to 120 ppm is considered moderately hard and water having a hardness of 121 to 200 ppm is considered hard. Water having a hardness of more than 200 ppm is regarded as very hard. Hardness is caused almost entirely by calcium and magnesium. As hardness increases, soap consumption for laundering increases and boilers, pipes, and coolers (evaporation pads) become encrusted more rapidly. Two methods commonly are used to soften large quantities of water. One, the lime-soda or lime process, not only softens but reduces the mineralization of the water. The other, the zeolite process, involves the exchange of calcium and magnesium in the water for sodium in the zeolite.

Silica also forms hard scale in boilers. The scale-forming process increases as the pressure in the boiler increases.

Oxidation of dissolved iron and manganese in water forms a precipitate that stains laundered clothes and plumbing fixtures. The staining properties of water containing these minerals are especially objectionable in some manufacturing processes. Water containing more than 0.3 ppm of iron and manganese combined is likely to cause objectionable staining. Although excessive iron characterizes the water in scattered places in Pecos County, it generally is not considered to

be a serious problem. The concentration of manganese in ground water in Pecos County was not determined; however, the manganese concentrations generally are small and for most purposes negligible.

The usefulness of a water supply for irrigation cannot be predicted solely on the chemical quality of the water. Other factors such as soil texture, infiltration rate, drainage, climate, and salt tolerance of the crop must be considered. It is, therefore, impossible to make a universal quality-of-water classification for irrigation.

According to the U. S. Salinity Laboratory Staff (1954, page 69), the characteristics of an irrigation water that appear to be most important in determining its quality are: (1) Total concentration of soluble salts; (2) relative proportion of sodium to other cations; (3) concentration of boron or other elements that may be toxic; and, (4) under some conditions the bicarbonate concentration as related to the concentration of calcium plus magnesium.

The total concentration of soluble salts is related to the electrical conductivity of water. The U. S. Salinity Laboratory Staff (1954, page 70) stated that nearly all irrigation water used successfully for a considerable time has a conductivity less than 2,250 micromhos per centimeter at 25°C. Water of higher conductivity is used occasionally but has not been satisfactory except in unusual situations. However, water having a conductance in excess of 7,000 micromhos per centimeter has been used successfully in areas in Pecos County where the water has a very high sulfate content and the soils have a high calcium content and are very permeable.

The relative proportion expressed as a percentage of the sodium to other cations is termed percent sodium. Percent sodium is calculated as follows:

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

where all constituents are expressed in equivalents per million. A water is generally considered safe for irrigation if it contains less than 60 percent sodium and the salinity hazard is within limits that are safe for the prevailing conditions of use.

Scofield (1936, page 286) proposed the following limits of boron for irrigation water:

Table 3.--Permissible limits of boron for several classes of irrigation waters

Boron class	Sensitive crops (ppm)	Semitolerant crops (ppm)	Tolerant crops (ppm)
1	0.33	0.67	1.00
2	0.33 to .67	0.67 to 1.33	1.00 to 2.00
3	.67 to 1.00	1.33 to 2.00	2.00 to 3.00
4	1.00 to 1.25	2.00 to 2.50	3.00 to 3.75
5	1.25	2.50	3.75

Pennsylvanian System

The oldest rocks known to contain potable water in Pecos County are of Pennsylvanian age. The zones in which these rocks contain potable water are confined to the area near their outcrops along the north flank of the Marathon uplift. Apparently the water-bearing characteristics of these rocks are governed as much by their topographic position and the extent to which they are fractured and weathered as by their lithology. Only a few wells in Pecos County tap (withdraw water from) Pennsylvanian rocks.

Tesnus Formation

The Tesnus formation crops out along the south side of Big Canyon near the Brewster County line about 38 miles south of Fort Stockton. The formation, more than 1,010 feet thick (P. B. King, 1930, page 33), is composed of greenish-gray silica-cemented, fine-grained sandstone and dark-colored shale. The sandstone weathers reddish brown. A stock well (RR-14), which was drilled into the weathered upper part of the Tesnus formation, is believed to be the only well that taps this formation. The owner's description of the well suggests that water reaches the well through joints and other fractures rather than through interstices between the sand grains.

Dimple Limestone

The Dimple limestone, named for exposures in and near the Dimple Hills in the Marathon Basin, conformably overlies the Tesnus. It consists of more than 1,100 feet (P. B. King, 1930, page 38) of slightly sandy limestone interbedded with chert and shale. The formation crops out on both sides of Big Canyon. In Big Canyon, joints and crevices in the Dimple limestone where it is covered by alluvium yield from 2 to 3 gpm (gallons per minute) of water to well RR-12. The maximum quantity of water that the formation would yield to a well has not been determined.

Haymond Formation

The Haymond formation, which conformably overlies the Dimple limestone, crops out on the north side of Big Canyon about 34 miles south of Fort Stockton. Lithologically it is very similar to the Tesnus formation, consisting of cemented sandstone and shale. It is more than 1,800 feet thick (P. B. King, 1930, page 40). Three wells—QQ-6, QQ-7, and RR-7—penetrate beds of sandstone that yield small quantities of water.

Gaptank Formation

The Gaptank formation, which conformably overlies the Haymond, crops out in southern Pecos County. At its type locality in Stockton Gap, at the head of Ellis Draw about 34 miles south of Fort Stockton, it is 1,800 feet thick (P. B. King, 1930, page 44). The Gaptank consists of cemented sandstone and shale interbedded with conglomerate and limestone. This formation is not known to yield water to any wells in Pecos County.

Permian System

Wolfcamp Formation

The Wolfcamp formation unconformably overlies the Gaptank formation and is the oldest Permian formation in Pecos County (P. B. King, 1930, page 52). Its thickness ranges from about 700 feet at the type locality about 5 miles southwest of Pecos County in the Marathon Basin to about 7,600 feet in oil test CC-1. At its type locality the formation is composed of dull greenish-gray shale, thin beds of limestone, and a few beds of sandstone whereas in the oil test it consisted wholly of very dark shale. Oil company geologists who have seen the shale generally agree that it is of Wolfcamp age. This formation is not known to yield water to wells in Pecos County.

Leonard Formation

The Leonard formation, which unconformably overlies the Wolfcamp formation, is 2,100 feet thick. The lower 300 feet consists of limestone, sandy limestone, siliceous shale and a basal conglomerate. The upper 1,800 feet consists of thin-bedded dolomitic limestone (the Hess thin-bedded limestone member). The Leonard is believed to furnish water of good quality to wells JJ-18, JJ-19, and RR-2.

Lower Guadalupe Series

San Andres Limestone

The San Andres limestone, the oldest formation in the Guadalupe series, does not crop out in Pecos County. It consists predominantly of gray dolomite and ranges in thickness from about 500 to 1,400 feet (Lewis, 1941, page 89). According to Adams and Frenzel (1950, pages 294-296), it is equivalent to the Word formation which crops out in the Glass Mountains. The Word formation, about 500 feet thick in the basin facies, is composed of dolomite and limestone interbedded with siliceous shale. The reef facies of the Word formation, the Vidrio limestone member, is as much as 2,000 feet thick and is principally dolomite and dolomitic limestone. Newell and others (1953, page 179) state that the dolomite was formed by the secondary replacement of limestone and suggest that the dolomitization resulted from the movement of magnesium-enriched lagoonal water through the porous reefs.

The Word formation is not known to yield water to wells, but probably it would yield water at depth, as the outcrop of the Word may be part of the recharge area of the San Andres limestone. The equivalent beds (Cherry Canyon formation) in the Delaware Basin are not known to yield water.

Development of Water Supplies

Twenty-seven wells in northern Pecos County are known to tap the San Andres limestone. Possibly a few others also may obtain water from this source. Most of the wells are from about 7 miles east to about 13 miles southwest of Imperial in the C, D, H, and J quadrangles. At least one well (U-45) in the Bakersfield area also taps the San Andres. The wells range in depth from about 1,925 feet (well H-59) to 3,000 feet (well H-53). All of the wells flowed when drilled, but a few (wells C-109, H-53, and H-59) no longer flow because they either have been

plugged or have caved in or the pressure head has declined. A few of the flowing wells, such as wells C-88 and H-39, are equipped with valves so that they can be shut off when not in use. The flow from three wells is uncontrolled and the flow from several others has been reduced to less than 75 gpm. If the flow from a well is shut off completely, the shut-in pressure may be great enough to rupture the casing.

The total withdrawal of water from the San Andres limestone in 1957 is estimated to have been 10,000 acre-feet. About 6,000 acre-feet of this was used for irrigating about 1,500 acres, about 1,000 acre-feet was used for repressuring oil fields by waterflooding, and about 3,000 acre-feet was allowed to run off. A small part of the runoff was used for stock and the rest was wasted.

The static pressure in well C-83 was reported to be about 150 psi (pounds per square inch) in 1951 and about 75 psi in the summer of 1957. Reported declines in well yields indicate that the pressure probably was even less near the end of the irrigation season. If discharge from the aquifer remains at the present rate, pressures in the aquifer probably will continue to decline at a gradually reducing rate until equilibrium is established. Additional development of wells in the area will cause a further decline in pressure and a resultant reduction in flow from wells. The additional quantity of water that could be developed for useful purposes is not known, but it would be more than the 3,000 acre-feet that now is wasted.

Quality of Water

The water from the San Andres limestone is unsuitable for human consumption. Hydrogen sulfide escapes into the air; oxidation of the gas results in the precipitation of elemental sulfur from the water in open ditches. The water is used by stock without any noticeable ill effects.

Water from most of the wells in the San Andres generally contains more than 5,000 ppm of dissolved solids. The calcium and sulfate content of the water is high, and the percent sodium is generally less than 40. The soil in the area where it is used for irrigation is very permeable, and only salt-tolerant crops, principally cotton, are grown.

Water from the San Andres is very corrosive; after a few years the casings usually are so weakened that they cannot withstand the shut-in pressure of the water.

Upper Guadalupe Series

Capitan Limestone

The Capitan limestone is shown on geologic sections A-A', B-B', and C-C'-C" (plates 6, 7, and 8) to be as much as 1,650 feet thick. It consists of limestone and dolomite that was deposited as a reef and as reef talus. The Capitan is a generally north-south trending belt of rocks on the east side of the Delaware Basin (figure 5) which probably averages less than 5 miles in width (Adams and Frenzel, 1950, page 298). In the northern part of Pecos County the top of the Capitan is as much as 4,400 feet below the surface; in the southwestern part of the county its equivalent, the Gilliam limestone, crops out in the Glass Mountains. Eastward the Capitan is interfingered with the Whitehorse group, and in the Delaware Basin it is interfingered with the upper formations of the Delaware Mountain group.

Only one well (B-54) in northern Pecos County taps the Capitan limestone. It flows about 1,000 gpm, or about 1,600 acre-feet per year, from a reported depth of 3,200 to 3,600 feet below the land surface. According to the owner, the discharge was about 1,500 to 2,000 gpm before the casing ruptured in 1957. Well HH-23 and a few of the other deep stock wells in the Glass Mountains probably are bottomed in the Capitan limestone or equivalent beds.

The Capitan limestone probably is recharged not only where it crops out in the Guadalupe Mountains in New Mexico but also is recharged by inflow from the Gilliam limestone, which in turn is recharged where it crops out in the Glass Mountains in Brewster and Pecos Counties. The quantity of recharge is not known but undoubtedly is sufficiently great that many wells could be supplied. However, the great depth to and the limited width of the reef facies probably will forestall its overdevelopment as a source of water supply.

According to most standards, water from well B-54, which taps the Capitan limestone in northern Pecos County, is unsuitable for human consumption and of doubtful quality for irrigation. However, water from the Capitan has been used successfully to grow cotton on permeable soil and has been mixed with more dilute water from younger rocks for irrigating cantaloupes.

Whitehorse Group

The five formations of the Whitehorse group—the Grayburg formation, Queen formation, Seven Rivers formation, Yates sandstone, and Tansill formation—are back-reef equivalents of the Capitan limestone and do not crop out in Pecos County. The rocks near the edge of the Central Basin Platform consist predominantly of dolomite interbedded with sand and some anhydrite and salt; the proportion of anhydrite and salt increases toward the interior of the platform. The formations are distinguished partly on the basis of the dominance of dolomite, limestone, and anhydrite in the Grayburg, Seven Rivers, and Tansill, and the greater amounts of sandstone in the Queen and Yates. Locally, the sandstone is thin or absent and the formations cannot be identified readily.

Grayburg Formation

The Grayburg formation, approximately 350 feet thick in Pecos County, is the oldest formation of the Whitehorse group. It consists of dolomite, sandy dolomite, and limestone interbedded with sandstone. The sandstone, however, generally is not prominent. A brown limestone is near the top of the formation; anhydrite is present locally, most commonly near the Bakersfield irrigation area. In Pecos County the depth to the top of the Grayburg formation ranges from about 1,300 to 2,800 feet.

The Grayburg formation is not known to yield water to wells in Pecos County, but the shallow depths of a few of the wells reported to tap the San Andres suggest that they may be producing some water from the Grayburg.

Queen Formation

The Queen formation, approximately 400 feet thick in Pecos County, overlies the Grayburg formation. The rocks consist of dolomite interbedded with red and gray sandstone and anhydrite. Both the Queen and Grayburg formations are back-reef deposits of similar lithology. The Queen generally contains more sand and

anhydrite; where this difference is not apparent, the two formations cannot be distinguished readily.

The Queen formation yields small quantities of saline water in conjunction with oil production.

Seven Rivers Formation

The Seven Rivers formation, which overlies the Queen formation, ranges in thickness from about 120 to 350 feet in Pecos County. The Seven Rivers consists of anhydrite and some dolomite, limestone, red sandstone, and shale; the dolomite content is greatest near the reef. The depth to the top of the Seven Rivers formation in Pecos County ranges from 1,000 to 2,300 feet. The Seven Rivers formation yields saline water to oil wells in this county.

Yates Sandstone

The Yates sandstone, named by Cartwright and Adams (Gester and Hawley, 1929, page 487) from the Yates oil field in the eastern part of Pecos County, overlies the Seven Rivers formation. The Yates, approximately 300 feet thick, consists of gray and red sandstone, anhydrite, thin beds of dolomite, and beds of gray and red shale. Scattered grains of frosted quartz, believed to have been deposited by the wind either in shallow water or on land and later carried into the back-reef areas, are common at the top of the formation.

The depth to the Yates sandstone in Pecos County ranges from a few hundred feet in the eastern part near the Terrell County line to about 2,050 feet near the reef west of Fort Stockton.

The quantity and quality of water that can be obtained from the Yates sandstone have not been determined for most of Pecos County. However, moderately saline water has been obtained from oil tests in the northern part of the county, and "fresh" water has been reported by drillers in the southeastern part of the county. The high sodium chloride content would make the water unsuitable for irrigation.

Tansill Formation

The Tansill formation, overlying the Yates sandstone, is approximately 150 to 500 feet thick in Pecos County and is the topmost formation in the Whitehorse group. The rocks are predominantly dolomite near the reef and grade into anhydrite and salt away from the reef. The top of the Tansill is at depths ranging from about 950 to 2,800 feet along geologic sections A-A', B-B', and C-C'-C" (plates 6, 7, and 8).

The water-bearing characteristics of the Tansill formation are not known.

Ochoa Series

Castile Formation

The Castile formation, as much as 2,300 feet thick in Pecos County, is the bottommost formation of the Ochoa series. It was deposited in the Delaware Basin

and consists largely of varve-like beds of limestone and calcareous anhydrite and some fairly widespread beds of halite (common table salt) and polyhalite. The laminae probably were caused by renewed supplies of sea water entering the basin during storms or when the barrier reef had small breaks in it.

The top of the Castile is more than 2,900 feet below the land surface in western Pecos County. The formation is not known to yield water to any wells in the county.

Salado Formation

The Salado formation, which overlies the Castile formation in the Delaware Basin and the Tansill formation on the Central Basin Platform, ranges in thickness from 80 to 2,200 feet in Pecos County. In the Delaware Basin the Salado is thinnest where it underlies the trough filled with Cenozoic alluvium. The difference in thickness probably is due to the removal of salt by solution. Geologic section A-A' (plate 6) shows that the Salado thins to about 80 feet in the eastern part of the county.

In the northern part of the county the Salado formation is composed of more halite and less anhydrite than the Castile. However, in the central part of the county it consists largely of anhydrite and some dolomite. The Salado is progressively more calcareous toward the south, grading into the Tessey limestone in the Glass Mountains (King, 1942, page 762). The depth to the Salado ranges from about 400 feet in the northeastern part of the county to about 2,500 feet in the slumpage trough.

The Salado formation is not known to yield water to wells in Pecos County.

Rustler Formation

Deposition of the Rustler formation was preceded by a period of uplift and erosion. The Rustler, ranging from 0 to about 450 feet in thickness in Pecos County, unconformably overlies the Salado formation. Consisting largely of dolomite and anhydrite, the Rustler has a basal zone of sand, conglomerate, and variegated shale. Locally, it contains minor amounts of salt and limestone. Like the Salado formation, the Rustler grades into the Tessey limestone in the Glass Mountains (plate 8). The dolomite and limestone has a vugular porosity and is reported to be cavernous in some places.

Development of Water Supplies

The Rustler formation is tapped by 31 wells in Pecos County. Water from 8 of these wells is used for irrigation, from 4 is used for repressuring oil and gas fields, and from the others is used either for stock or allowed to run off and evaporate. The depth of wells in the Rustler formation ranges from 452 feet (well J-14) to 1,812 feet (well P-85); wells P-134, Q-9, Q-10, and Q-21 are much deeper, but water is reported to enter them from shallower depths. Most of the water from the Rustler is reported to come from dolomite, but some is withdrawn from the basal sand. Wells tapping the basal sand have comparatively small yields unless abundant water was encountered in the overlying limestone.

Most of the wells in the Rustler were drilled as wildcat oil tests. Many flowed when first drilled, and several were still flowing in 1958 but at greatly

reduced rates. The piezometric surface of the water in the Rustler west of Fort Stockton was at an altitude higher than 3,100 feet when the older wells were drilled, but it had declined to about 3,085 in well P-120 by 1958. It is reported that wells tapping the Rustler once flowed in the Imperial irrigation area, but hydrostatic pressures have declined so that the piezometric surface now intersects the land surface about 10 miles north of Fort Stockton. The total yield from four flowing irrigation wells near Fort Stockton (wells P-85, P-86, P-120, and Q-10) has declined from about 4,800 gpm when first reported to an estimated 2,000 gpm when the wells were visited during 1958. The flow from well Q-137 was estimated in April 1956 to be about 350 gpm and in 1958 to be less than 50 gpm. The total discharge from all the flowing wells tapping the Rustler probably did not exceed 5,500 acre-feet in 1958.

Although the decline in yield from the flowing wells is due largely to a decline of the hydrostatic pressure in the aquifer, part of the decline may be due to conditions within the wells such as ruptured casings or caving below the casing.

The water from wells A-199 and A-200, the only wells tapping the Rustler in the North Coyanosa irrigation area, is mixed with water from the alluvium before being applied for irrigation. Well A-199 is 1,500 feet deep and well A-200 is 1,570 feet deep and both discharge about 600 gpm. The water level in well A-199 was 169 feet below land surface in February 1958 and was more than 301 feet (the length of the measuring device) in January 1959. However, due to the complex structure of the area the trend in water levels in the Rustler formation may be unlike those elsewhere in the county.

Water from wells B-21, B-22, B-27, and J-8 is used for repressuring oil and gas fields. A total of about 500 acre-feet of water reportedly was pumped from wells B-21, B-22, and B-27 in 1957, but the quantity pumped from J-8 is not known. Because all these wells are sealed, the change in water level could not be determined.

The transmissibility and storage coefficients of the Rustler formation are not known, but the large decline of the piezometric surface indicates that they probably are small. The higher water levels in the Leon-Belding irrigation area indicate that the movement of water is from the south, probably from the Glass Mountains where the equivalent Tessey limestone is exposed.

About 7,500 acre-feet of water was discharged in 1958 from wells tapping the Rustler formation. In the northern part of the county a large quantity of water probably moves upward into the Cenozoic alluvium.

Because the Rustler formation is deeply buried in the Leon-Belding irrigation area and yields water of poor quality where it is nearer the surface in the northern part of the county, it is unlikely that many wells will be drilled into this aquifer. Furthermore, because the Rustler has a low transmissibility, wells drilled into it should be widely spaced and their rate of discharge kept small so as to prevent an excessive decline of the water level and a consequent increase in the pumping lift. A decline in hydrostatic pressure results in a reduction in the rate of flow from wells and eventually may cause wells to stop flowing and necessitate their being pumped. Generally, wastage of water is much less when wells must be pumped.

Quality of Water

The dissolved-solids content of the water in the Rustler formation generally increases toward the north. Water from the Rustler is unsuitable for human consumption but is used for watering livestock. Hydrogen sulfide, which commonly is present in the water is dissipated soon after the water is exposed to the atmosphere.

In the North Coyanosa irrigation area, the water from the Rustler contains about 3,500 ppm of dissolved solids, high concentrations of sulfate, calcium and magnesium, and a low concentration of chloride. Its percent sodium is about 17.

Water being used for repressuring an oil and gas field in quadrangle B is reported to contain as much as 86,800 ppm of dissolved solids and about 48,000 ppm of chloride. The high concentration of dissolved solids in the water may be due to inflow of highly mineralized water from lower aquifers. Possibly the water rises along a fault which, if it exists, is in the vicinity of the junction of State Highway 18 and Farm Road 1450. The water may ascend from the Capitan or San Andres limestones and increase greatly in mineral content as it passes through the Castile and Salado formations.

Water in the Rustler formation in the Imperial irrigation area is reported to be highly saline. No water is withdrawn from wells tapping the Rustler formation in that area.

The dissolved-solids content of water from the Rustler in the Leon-Belding irrigation area ranges from 1,730 ppm (well P-120) to 2,580 ppm (well P-86). The water has a relatively high content of sulfate and calcium, a relatively low content of chloride, and a low percent sodium. The chloride content of water in the Rustler in this area is slightly less than that of water in the limestones and sandstones of Cretaceous age in the same vicinity.

Water from the Rustler formation in the northern part of quadrangle Q contains more than 3,000 ppm of dissolved solids. As in the Leon-Belding irrigation area, it has a high content of sulfate and calcium, a low content of chloride, and a low percent sodium. Northward from Q quadrangle, the water contains more chloride and has a higher percent sodium.

Permian and Triassic Red Beds, Undifferentiated

Continental and lacustrine red beds of Permian and Triassic age ranging in thickness from 0 to about 1,550 feet, underlie much of Pecos County. These beds crop out in weathered exposures near the Pecos River in the northern part of the county; one of the most prominent outcrops is on the north side of Farm Road 1450 about a mile east of State Highway 18. The uppermost Permian red beds, which are composed of red siltstone that contains fine sand, have been identified in a few scattered oil tests in Pecos County at the base of a thick sequence of red beds. The Permian red beds are the Dewey Lake red beds (Page and Adams, 1940, pages 62-63) and are similar to the overlying strata of the Dockum group of Triassic age. As the soil zone at the top of the Dewey Lake cannot be readily identified from samples obtained under usual oil-test operating conditions, the Permian and Triassic are not differentiated in this report.

The Bissett conglomerate, which crops out in the Glass Mountains and is the approximate equivalent of the Triassic red beds, is absent on the north and northeast flank of the Marathon Folded Belt and in the subsurface in that area.

The Dockum group is almost the exact equivalent of the Chinle formation of the Colorado Plateau region (Reeside and others, 1957, page 1476). However, usage in West Texas has included only the upper part of the Dockum group in the Chinle formation. The formations in the Dockum group—the Tecovas formation, Santa Rosa sandstone, and "Chinle equivalent"—have not been differentiated in Pecos County. In Reeves County where the Santa Rosa sandstone has been recognized, the underlying beds, probably the Tecovas formation, are composed of fine-grained clastic deposits, mostly shale and silt. The Santa Rosa, a cemented sandstone, is overlain by fine-grained clastic deposits, which may be the "Chinle equivalent." These three formations probably extend as distinct units into western Pecos County southwest of the North Coyanosa irrigation area.

The Bissett conglomerate, for the most part rounded fragments of dolomite and limestone in a cemented matrix of calcareous sand, also contains beds of red shale, sandstone, and limestone. The logs of a few scattered oil wells indicate that the red beds of the Dockum may extend to the Glass Mountains and are equivalent in age to the Bissett conglomerate.

Generally, in the subsurface the red beds are composed of silt and shale, but locally sand, gravel, and small boulders occur. The coarser sediments, as shown in some well logs, generally are mixed with finer material, and sorting is not apparent. However, some of the beds consist of sorted sand and gravel as much as 30 feet thick. These sorted beds are believed to be channel deposits of small lateral extent. The presence of blue shale in the red-bed section, reported in many logs, suggests that some lake sediments were deposited under conditions that did not allow red iron oxide to form.

The red beds of Permian and Triassic age have yielded small amounts of water at various locations. However, they have not been widely developed as a source of water supply because ample water generally is available for shallower aquifers.

Cretaceous System

Comanche Series

Rocks of the Comanche series unconformably overlie the Permian and Triassic red beds throughout most of Pecos County. Locally, where red beds are absent, the Comanche formations lie directly on Paleozoic rocks. According to P. B. King (1930, page 90), the Comanche series is not more than 1,000 feet thick in the Glass Mountains area. However, the presence of fossils of Comanche age at depths of 3,100 to 3,511 feet (Adkins, 1927, page 34) in the Twin City Oil and Gas Company Kokernot No. 1 well in Brewster County, which probably encountered Cretaceous rocks at less than 500 feet about 3 miles west of Hovey, suggests that, at least locally, as much as 3,000 feet of the Comanche series may be present in Pecos County.

Trinity Group

Glen Rose Limestone

Along the north flank of the Marathon uplift in the southern part of Pecos County, the relatively flat-lying Glen Rose limestone of the Trinity group overlies Triassic, Permian, and intensely folded Pennsylvanian strata. The Glen Rose

consists predominantly of thin-bedded, pure to argillaceous limestone and calcareous shale. Limestone of probable Glen Rose age is present in the subsurface near Hovey and in the Leon-Belding irrigation area. The maximum thickness reported in wells in the Leon-Belding irrigation area is about 200 feet; the maximum thickness near Hovey may be several hundred feet.

The Glen Rose limestone is not known to yield water; however, in the Leon-Belding irrigation area, a small part of the water yielded by some wells may be derived from the Glen Rose.

Fredericksburg and Trinity Groups, Undifferentiated

"Trinity Sand"

The term "Trinity sand" in this report refers to the Maxon sandstone and the Basement sands of P. B. King (1930, pages 92-93) and to the basal Cretaceous sandstone of Adkins (1927, pages 31-33). The term is used by most geologists, well drillers, and many well owners in Pecos County. The age of the "Trinity sand" has not been definitely established, but fossil evidence (Adkins, 1927, page 33) indicates that at least the upper part of the "basal Cretaceous sandstone" is of Fredericksburg age. The lower part probably is of Trinity age (P. B. King, 1930, page 93).

The "Trinity sand," which is present nearly everywhere in the subsurface in Pecos County, crops out in several places. The most prominent outcrops are in the southern part where the Maxon sandstone forms massive ledges between the Glen Rose limestone and the overlying limestones and marls of the Fredericksburg group. In most places in the county, where the Glen Rose is missing, the sandstone unconformably overlies the Permian and Triassic red beds or Paleozoic consolidated rocks and only the uppermost or lowermost beds are exposed.

The thickness of the "Trinity sand" ranges from about 35 feet in outcrops in the southern part of the county to approximately 350 feet in well C-29. The thickness differs from place to place because the formation was deposited on a surface of moderate topographic relief.

Although predominantly sand, the "Trinity sand" contains some limestone and shale. In the southern part of the county outcrops of the formation consist of crossbedded, fine- to coarse-grained quartz sand having varying amounts of calcareous cement. A conglomerate as much as 8 inches thick crops out at the base of the sandstone 30 miles south of Fort Stockton in block 2, T. C. Railway Company survey. The uppermost beds on the northeast side of Seven Mile Mesa (7 miles northeast of Fort Stockton) are thin-bedded, varicolored silty sands. The lowest beds, which are exposed along Farm Road 1450 about a mile east of State Highway 18, are fine- to medium-grained, calcareous cemented quartz sand.

The "Trinity sand" supplies as much as 500 gpm of water to individual industrial, irrigation, and public-supply wells. In the eastern part of the county nearly all the wells obtain water from the "Trinity sand."

Fredericksburg Group

The Fredericksburg group (excluding the "Trinity sand") is divided into the Comanche Peak limestone, the Edwards limestone, and its equivalents, and the Kiamichi formation (Adkins, 1927, page 37).

Comanche Peak Limestone

The Comanche Peak limestone in the vicinity of Fort Stockton and to the northeast toward the Pecos River has been described by Adkins (1927, page 38). Generally, the formation, about 90 feet thick, is a soft gray, thin-bedded, argillaceous limestone that weathers white. Some calcareous shale is present in most outcrops, and gypsum has been reported in a few wells southwest of Fort Stockton. About 10 miles south and east of Fort Stockton the formation is predominantly a hard limestone.

In Fort Stockton and to the west and southwest the Comanche Peak limestone contains large subsurface solution cavities filled with water. The cavities are as much as 8 feet across and yield as much as 3,000 gpm to wells. Elsewhere in the county where the solution cavities are not well developed, only small supplies of water are obtained.

Edwards Limestone

The Edwards limestone, a hard light-gray thick-bedded limestone containing brown nodular chert, overlies the "Trinity sand" in the southern and eastern parts of the county, the Comanche Peak limestone being absent in that area. The maximum thickness in the area north of the Marathon Basin and in the vicinity of the Glass Mountains is 200 feet (King, 1937, page 115). Complete sections of the Edwards have not been measured elsewhere in Pecos County; its similarity to the overlying limestone makes it difficult to determine the thickness from available well logs.

The Edwards limestone does not yield large supplies of water to wells in Pecos County; it is relatively impermeable and, except in the eastern part of the county, commonly is above the water table. A few stock wells in the eastern part of the county tap permeable zones in the Edwards. Well owners elsewhere in the county reported that meager quantities of water, usually too small for domestic supplies, have been encountered in small crevices above the regional water table.

The University Mesa marl of Adkins (Sellards and others, 1932, page 347), about 50 feet thick, overlies the Comanche Peak limestone in central and northern Pecos County. This formation, a fossiliferous marl and calcareous clay topped by a thin brown limestone, appears to be a facies of the Edwards limestone. Because the clay is easily eroded it is a major factor in the development of the flats around the buttes and mesas. Lithologically it is similar to the clay of the overlying Kiamichi formation, but the two formations can be distinguished by fossil content. However, the University Mesa marl of Adkins usually is not differentiated from the Kiamichi.

Kiamichi Formation

The Kiamichi formation, which overlies the University Mesa marl of Adkins, is present in the subsurface in and near Fort Stockton; its full thickness is exposed in the mesas south and east of Fort Stockton. The formation, about 66 feet thick, is predominantly a brown calcareous clay containing a few thin beds of limestone. Neither the Kiamichi formation nor the University Mesa marl of Adkins is known to yield water to wells in Pecos County.

Washita Group

The Washita group is divided into two facies, the Georgetown limestone in the southern part of the county and five formations in the northern part of the county. Both facies are calcareous, but argillaceous beds in the northern facies are somewhat less indurated than the equivalent beds in the southern facies. The formations of the Washita group have not been differentiated in the subsurface in the Fort Stockton-Leon-Belding area. However, a detailed study of the fossils might make possible the identification of individual Washita formations. The greater thickness of the Washita group in part of the Leon-Belding irrigation area suggests that the thicknesses of some, if not all, of the individual formations may be greater than those given in this report.

Georgetown Limestone

The Georgetown limestone, ranging in thickness from 142 feet (P. B. King, 1930, page 96) near the Glass Mountains to about 285 feet near Sheffield (Adkins, 1927, page 57), overlies the Edwards limestone in southern Pecos County. The Georgetown is predominantly a hard light-colored limestone, which does not yield water to wells, as it generally is above the water table.

Duck Creek Formation

The Duck Creek formation, ranging in thickness from about 35 to 50 feet, conformably overlies the Kiamichi formation in northern Pecos County. It is exposed in most of the mesas in the Pecos River valley. The lower one-third of the formation is predominantly a nodular, light-gray, chalky, soft, argillaceous limestone and the upper two-thirds consists of alternating beds of chalky limestone and calcareous clay. The lower one-third of the Duck Creek is more resistant to erosion than the underlying Kiamichi and forms steep slopes on the sides of the mesas. Because relatively flat tablelands remain where the younger beds have been removed, the Duck Creek is sometimes referred to as the "lower caprock." These limestones are soluble and many caverns have been formed in the subsurface.

The Duck Creek formation, in conjunction with the younger beds of the Washita yield large supplies of water to irrigation wells and springs in the Fort Stockton-Leon-Belding area.

Fort Worth Limestone

The Fort Worth limestone, ranging in thickness from 30 to 35 feet, conformably overlies the Duck Creek formation and generally forms a steep escarpment where it crops out on the mesas in the Pecos River valley. The formation, predominantly a light-gray chalky limestone, is similar to but less argillaceous than the Duck Creek.

The Fort Worth limestone generally lies above the water table in eastern Pecos County. However, in conjunction with the underlying Duck Creek formation, it yields very large supplies of water to irrigation wells in the Fort Stockton-Leon-Belding area. In other parts of the county, stock supplies are obtained from the Fort Worth limestone. Surface outcrops and well logs indicate that the Duck Creek formation and the Fort Worth limestone supply nearly all the ground water that is withdrawn from the Washita group in Pecos County.

Denton Clay

In Pecos County the Denton clay consists of a hard moderately thick bedded to massive limestone, ranging in thickness from 20 to 40 feet. In conformably overlies the Fort Worth limestone. This member, which forms cliffs on the sides of buttes and mesas and relatively flat tablelands on the tops of mesas where the younger beds have been removed, locally is called the "middle caprock."

East of the Fort Stockton area the Denton clay lies above the water table and does not yield water to wells. In some areas west of Fort Stockton, beds equivalent to the Denton lie approximately at the water table and may yield water in conjunction with the older beds of Washita age.

Weno Clay

The Weno clay, about 75 to 80 feet thick, conformably overlies the Denton clay in Pecos County. It consists of argillaceous limestone and calcareous clay beds containing a zone of chert nodules near the top. The chert zone is easily identified on weathered surfaces, but generally is overlooked in the subsurface. The Weno clay generally is above the water table in Pecos County and where below the water table is not known to yield water.

Main Street Limestone

The Main Street limestone, predominantly a light-colored limestone, is the uppermost formation in the Comanche series in most of Pecos County. Because of erosion, the thickness of this formation varies considerably. It is as much as 100 feet thick where it caps the Stockton Plateau in the eastern part of the county; it is present only on the higher mesas in the Fort Stockton area and locally is called the "upper caprock." The Main Street limestone generally lies above the water table and is not known to yield water to wells in Pecos County.

Comanche and Gulf Series, Undifferentiated

Grayson Shale, Buda Limestone, Boquillas Flags, and Austin Chalk, Undifferentiated

Cretaceous rocks crop out in Pecos County near Hovey and the Barilla Mountains; the lowermost beds are reported (Sellards and others, 1932, page 393) to be equivalent to the Grayson shale of the Washita group. Reportedly (Stevens, 1957) the Grayson is overlain by the Buda limestone of the Washita group and the Boquillas flags and Austin chalk of the Gulf series. The undifferentiated beds, composed predominantly of calcareous shale, flaggy limestone, and clay are 150 to 250 feet thick. Generally they are above the water table and are not known to yield water to wells in Pecos County.

Tertiary System

McCutcheon Volcanic Series of Eifler (1951)

The McCutcheon volcanic series of Eifler (1951) is of early Tertiary age and unconformably overlies the argillaceous beds of the Gulf series in western Pecos County. The thickness of the individual formations in this series differs greatly within short distances. The aggregate thickness in Pecos County is estimated to be about 1,000 feet.

Eifler (1951, page 342) states that the volcanic series contains a succession of five flows alternating with five tuffs. Some of the tuffs are interbedded with sandstone, breccia, and fresh-water limestone. The series in Pecos County consists of only the lower four lavas and tuffs described by Eifler. The lowermost unit in the McCutcheon volcanic series is composed of light-colored quartzite, light- to dark-colored chert, and dark-colored limestone pebbles, cobbles, and boulders. The individual lava flows appear to be nearly uniform in composition, but within the series the rocks vary from acidic to basic; rhyolite is the dominant type. The tuffs in the series generally are distinct layers, ranging from a few inches to about 2 feet in thickness. The individual beds commonly are white to gray; however, tints of blue, green, and yellow are present.

The volcanic rocks are not known to yield water to wells in Pecos County. However, a few small springs, such as X-13, flow from the base of the conglomerate and a few flow from the contact between the lowest rhyolite and the underlying tuff bed.

Tertiary and Quaternary Systems, Undifferentiated

Cenozoic Alluvium

Alluvium of Cenozoic age unconformably overlies rocks of Pennsylvanian, Permian, Triassic, Cretaceous, and Tertiary ages in Pecos County. The alluvial deposits are thinnest where they wedge out against the outcrop of older rocks on the sides of valleys. The thickest deposits are in the Coyanosa Draw area in the northwestern part of the county.

The alluvium, which consists of unconsolidated gravel, sand, silt, clay, and caliche, generally ranges in thickness from 200 to 350 feet in the deeper parts of the larger valleys in southern and western Pecos County. In the Coyanosa Draw area, where alluvium fills a slumpage trough, thicknesses of 600 to 700 feet are common and may exceed 1,150 feet near well F-58. In the mountainous areas the alluvium is relatively thin in the uppermost reaches of the small tributary valleys, but gradually thickens in a downstream direction.

Drillers' logs of various wells in the slumpage trough and larger stream valleys in the county indicate that the alluvial fill in each valley is similar in character and was deposited under similar conditions. Lenses of gravel, sand, silt, and clay of differing thicknesses and depths, typical of terrestial deposits, were transported and laid down by streams similar to those now present in the area. The coarser sediments generally were deposited near the mountains and in the stream channels; the finer sediments were deposited on the flood plains or

carried out into the major streams that drained the area. Occasional large floods carried coarse sediments out onto the flood plains, and low flows deposited silts and clays in the channels. The streams meandered over the valley bottoms as the alluvium gradually filled the valleys. The resulting lenticular deposits of coarse sediments are poorly connected.

The alluvium in the Pecos River valley, unlike the other valleys, was subject to nearly continuous sorting during depositions, and, consequently, the sand and gravel beds contain a much smaller percentage of fine-grained sediments. Sand and gravel deposits more than 100 feet thick are common in the alluvium near the Pecos River and clay beds more than 100 feet thick are present in the alluvium that fills the slumpage trough.

Large quantities of ground water occur in the deeper alluvium in Pecos County. The occurrence of ground water in the Cenozoic alluvium is discussed in the section on the Pecos aquifer.

PECOS AQUIFER

Description and Extent

The Pecos aquifer, as it is used in this report, was defined by the Texas Board of Water Engineers on the basis of data presented at a public hearing held by the Board June 11, 1959, in response to a petition for delineation of the underground water reservoir. As it was defined, it consists of water-bearing rocks near the surface everywhere in Pecos County except in the Glass Mountains and the Barilla Mountains. It consists of the formations of Cretaceous age and the Cenozoic alluvium, all of which are hydraulically continuous. Throughout most of Pecos County the Pecos aquifer overlies Permian and Triassic red beds. However, in the northeastern part of the county, the Cretaceous rocks overlie Permian rocks that are older than the red beds, and in the Marathon Basin they overlie pre-Permian rocks. The Pecos aquifer extends into adjoining counties.

Development of Water Supplies

Early ranchers in the county obtained water from springs and from shallow wells tapping the Pecos aquifer in the lower lying parts of the county. The drilling of deeper wells enabled the ranchers to extend their grazing areas to the higher lying lands in the county. By 1950 about a thousand stock wells produced water from the aquifer. Early settlers, finding that irrigation was necessary for successful cultivation of crops, diverted water from Comanche (Q-216), Leon (P-138), Santa Rosa (B-40), and San Pedro (R-3) Springs to irrigate the adjacent land.

Prior to 1946, about 10,000 acres in Pecos County was irrigated from spring flow, which averaged about 46,000 acre-feet annually. About 6,000 acres was irrigated by the flow from Comanche Springs, which averaged 31,000 acre-feet annually. An estimated perennial flow of 9,000 acre-feet from Leon Springs and a few nearby wells irrigated about 2,000 acres; an annual flow of about 3,500 acre-feet from San Pedro Springs irrigated about 1,000 acres; and an annual flow of about 2,500 acre-feet from Santa Rosa Springs irrigated about 1,000 acres. The combined flow of several other small springs was about 2,000 acre-feet a year but was not used for irrigation.

Soon after World War II ground-water supplies were developed rapidly. At first, wells were drilled to supplement surface-water supplies, but later, irrigation spread to areas where no surface water was available. Figure 8 shows the principal areas in the county that were irrigated with ground water in 1958. About 50,000 acres was irrigated with an estimated 200,000 acre-feet of water from the Pecos aquifer in that year.

The withdrawals have caused water-level declines, which affect the flows of most springs. After 1946 the annual flow of Comanche Springs (Q-216) declined steadily, and during the 1955 irrigation season there was no flow on 90 days (plate 12). The period of no flow from Comanche Springs has increased each year since 1955; flow was recorded on only 95 days in the 1958 water year (October 1, 1957 through September 30, 1958). San Pedro Springs (R-3) ceased flowing in April 1958. Leon Springs have not flowed for several years.

Fort Stockton, Imperial, and McCamey obtain municipal supplies from wells in the Pecos aquifer. Wells tapping the aquifer throughout the county supply water for oil-well drilling, waterflooding operations in oil fields, gas plants, and pipeline pumping stations and an electric generating plant.

Movement of Ground Water

Because the permeability and thickness of the Pecos aquifer differ widely from place to place in the county, the rate of ground-water movement also differs widely from place to place. Limestone beds containing connected solution cavities are very permeable, but limestone beds not having connected solution cavities are relatively impermeable. Gravel beds in the alluvium generally are very permeable, but interstitial clay or caliche, such as commonly is found in terrestrial gravel deposits, greatly reduce permeabilities. The permeability of sand beds differs with the grain size, sorting, and cementation. Generally, the larger the grain size and the better the sorting, the higher the permeability of the sand. The presence of cementing material in a sand or gravel reduces the permeability in proportion to the amount of cement present. The quantity of water that moves through an aquifer varies directly with the thickness of the aquifer, if the permeability and hydraulic gradient remain the same.

Water moves in an aquifer from a position of high head to one of low head, the direction being determined by the downward slope of the water table or piezometric surface. The configuration of the water table or piezometric surface may be portrayed on a map by contour lines. Ground water moves at right angles to the contour lines. Closely spaced contours on the map indicate a steep gradient and, conversely, widely spaced contours indicate a low gradient. Plate 13, a map showing the configuration of the water surface of the Pecos aquifer, shows that the water generally moves from the south and southwest toward the north and northeast or from the recharge area near the mountains to the natural discharge area in the Pecos River valley.

Ground water in the western part of the county moves toward the north-northeast, in the central part it moves northeastward, and in the eastern part it moves almost due east. Ground water does not flow directly toward the river valley in several localities because of geologic structure, varying permeabilities in the aquifer, large withdrawals, or a combination of these factors.

Domes and other large geologic structures (plate 5) in east-central Pecos County have considerable influence on the movement of ground water in that area.

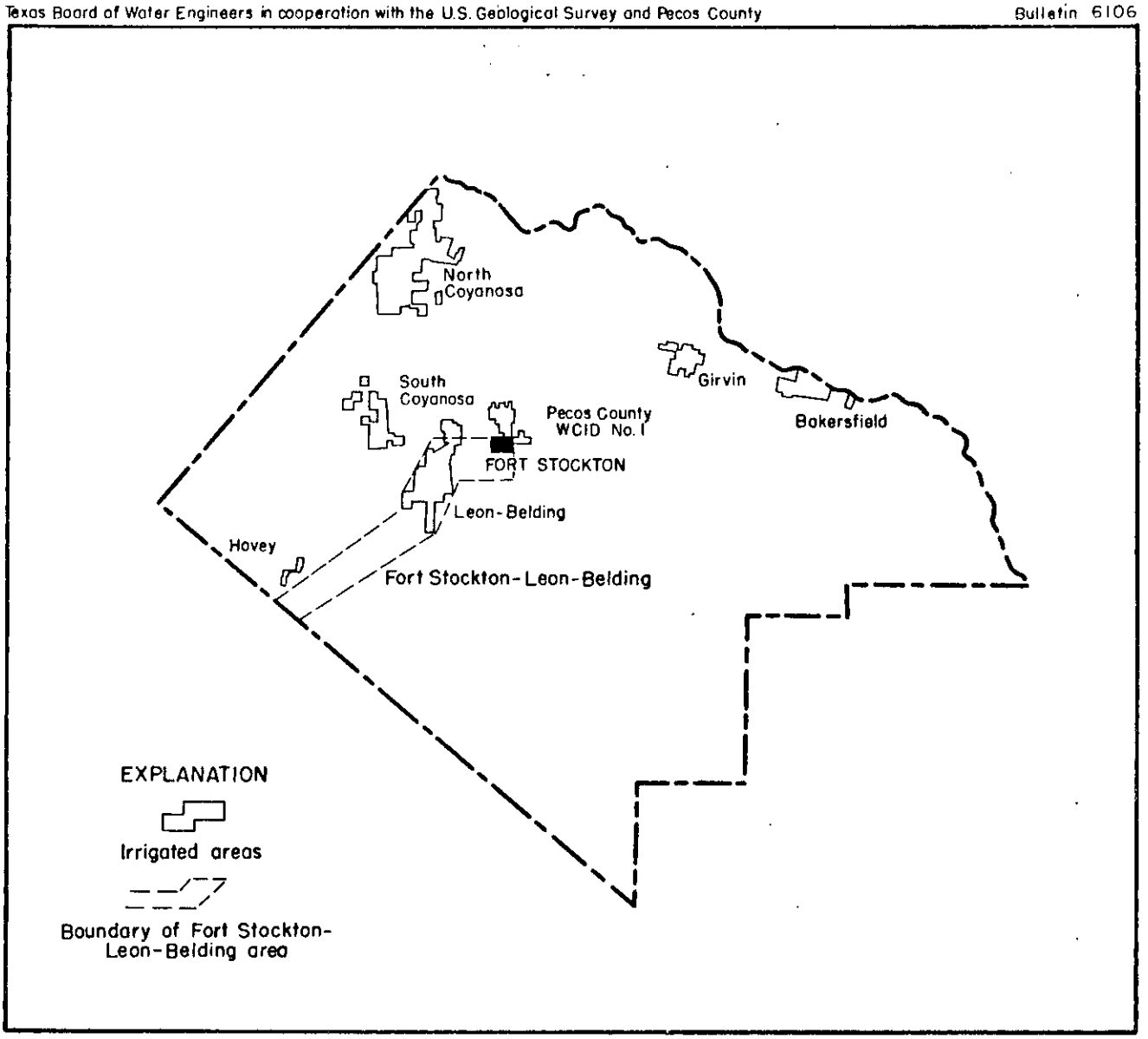


FIGURE 8.– Map showing location of areas irrigated from the Pecos aquifer and the boundaries of the Fort Stockton-Leon-Belding area, Pecos County

Locally the "Trinity sand" is not fully saturated on structural highs and water-table conditions exist, but in structurally low areas the sand is fully saturated and the overlying relatively impermeable limestone causes artesian conditions. In the eastern part of quadrangles CC and MM, relatively small withdrawals from wells on the Puckett gas field dome have lowered the water surface around the dome.

A large northeastward-trending trough in the water surface heads just west of the Glass Mountains in quadrangle HH and extends to the Leon-Belding irrigation area. Although this ground-water trough occupies a structural low (plate 5) it is caused primarily by differences in the permeability of the aquifer. Permeable zones caused by solution and fracturing have developed in the limestones of Cretaceous age overlying the Permian reefs whereas the limestones to the northwest have remained relatively impermeable. A lower gradient exists in the highly permeable rocks even though large quantities of water may move through them. The Cretaceous rocks southeast of the trough are not fully saturated and only small yields are obtained from wells tapping the Cretaceous rocks in that area.

A large depression in the ground-water surface in the North Coyanosa irrigation area has developed where large-scale withdrawals have dewatered part of the alluvium.

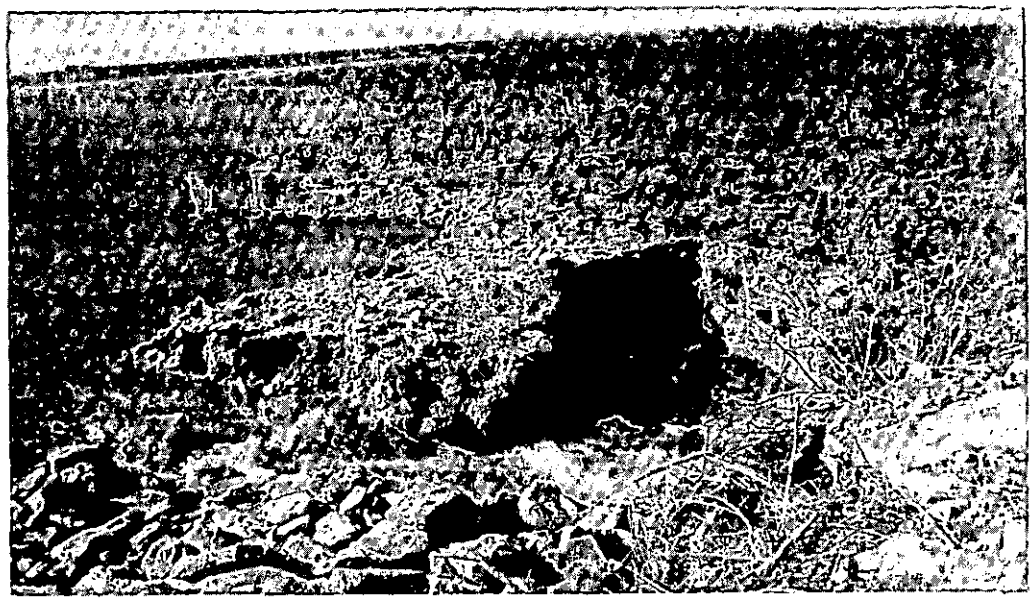
Recharge to Zone of Saturation

Natural recharge to the Pecos aquifer is derived from three sources: precipitation, runoff, and underflow. Direct infiltration of precipitation is believed to be negligible in the irrigated areas and probably occurs only during those rare times when the soil moisture is high after several days of steady rain and when evaporation is low because of cold weather. Usually part of the precipitation is lost by evaporation shortly after it falls on the ground; the rest is absorbed by the soil, but is returned to the atmosphere by transpiration of crops or desert plants.

However, much of the precipitation that falls on the barren rocks in the mountainous areas of Pecos and Brewster Counties becomes overland runoff until it reaches the valleys and there infiltrates the gravels in the valleys and the foothills. Considerable recharge also occurs in areas where jointed and cavernous limestone crops out. For example, surface water enters several large sinkholes that have developed in the bottom of a surface reservoir on Comanche Creek immediately south of Fort Stockton. Plate 14 shows water running into one of these sinkholes.

Some recharge to the limestones of Cretaceous age may occur from runoff infiltrating through the volcanic rocks in the Davis and Barilla Mountains. However, the quantity of recharge to the Pecos aquifer in Pecos County from this source is believed to be negligible as the limestones are overlain by clays and shales of Late Cretaceous age which have a very low permeability.

There is no known recharge to the Pecos aquifer from underflow from underlying formations in Pecos County, but underflow to the Pecos aquifer from limestones of pre-Cretaceous age possibly occurs in Brewster County, a few miles south of Hovey. It is also possible that saline water moves from the Rustler formation through the red beds into the Pecos aquifer in the north-central part of the county.



WATER RUNNING INTO A SINKHOLE IN COMANCHE CREEK RESERVOIR, PECOS COUNTY

Discharge From Zone of Saturation

Before wells were drilled into the Pecos aquifer, discharge approximately equaled recharge. Although water levels fluctuated somewhat in response to periods of drought and abundant rainfall, the range of fluctuation probably was not more than a few feet. Fluctuations of this type still occur in areas remote from the influence of large-scale pumping. Changes in water level in wells B-66, S-36, and GG-17 (table 6, Volume II, page 243) are examples of this type of variation.

Prior to the withdrawal of large quantities of water from wells, discharge was through springs, by evapotranspiration in areas of shallow ground water, by underflow into the Pecos River, and, to a smaller extent, by underflow into Terrell County. The average flow of Comanche Springs was 31,000 acre-feet a year between March 1941 and February 1948 (U. S. Bureau of Reclamation, 1956, page 8). The average flow of Leon Springs and withdrawal from nearby wells was about 9,000 acre-feet a year before irrigation by wells became widespread. The combined flow of other springs in the county is estimated to have been 8,500 acre-feet a year. Underflow to the Pecos River probably was in the order of 30,000 acre-feet a year as the flow of the Pecos River increased about 50 cfs (cubic feet per second) or 36,000 acre-feet per year while passing Pecos County (U. S. Geological Survey, 1922, page 103, and Texas Board of Water Engineers, 1958, pages 458, 459) during periods of little or no rainfall. Although the Pecos River received underflow from both sides, it is believed that at least 80 percent was from the Pecos County side because of the greater rainfall in the Glass and Davis Mountains and the better opportunity for movement to the river that exists in Pecos County. The estimated 48,000 acre-feet of spring flow each year usually evaporated or was transpired by vegetation or seeped into the ground, surface runoff of spring flow being negligible. An unknown but probably small amount reappeared in the river as base flow; most of the spring flow probably being evaporated or transpired before it reached the water table. Although the sum of the spring flow and underflow was about 78,000 acre-feet a year, the actual discharge of the Pecos aquifer in Pecos County may have been less because some of the underflow undoubtedly was recirculated spring flow. The quantity of water discharged by evapotranspiration near the Pecos River was unknown, but it is estimated to have been large.

In 1958 the total discharge from the Pecos aquifer by wells and springs was about 200,000 acre-feet and the total flow from the springs probably was less than 2,000 acre-feet. The gradient of the water table (plate 13) indicates underflow to the Pecos River was taking place everywhere except in the North Coyanosa irrigation area. Evapotranspiration was withdrawing water from the Pecos aquifer in areas of shallow depth to water near the river. The underflow was not measured in 1958 but, because of lowered gradients in northern and northwestern Pecos County and because of less recirculated spring flow, probably was less than before the withdrawals from wells became so large. Evapotranspiration may have been somewhat less in 1958 but probably was approximately the same as before. The discharge through wells is discussed in the sections devoted to each area.

Because, under natural conditions, the average annual discharge was equal to the average annual recharge, the effects of increasing discharge through withdrawals from wells has been a reduction in the natural discharge and a decrease in the quantity of water stored in the aquifer. In 1958 the total discharge from the aquifer was estimated to be 3 or 4 times the average annual recharge.

Quality of Water

Characteristically, ground water in the Pecos aquifer is very hard and has a wide range in dissolved solids. The contour line on 1,000 ppm of dissolved solids (plate 15) divides the aquifer in Pecos County into three parts with respect to quality of water. The dissolved-solids content is less than 500 ppm in western Pecos County near the Barilla Mountains. Toward the east the concentration increases gradually; however, on the west side of the ground-water trough from near Hovey in quadrangle HH to the Leon-Belding irrigation area the dissolved-solids content increases about 300 to 500 ppm. The dissolved-solids content of the water is less than 500 ppm in most of eastern Pecos County, but near the western edge of the Stockton Plateau the concentration increases to more than 1,000 ppm. Thus, the ground water in the central part of the county is of poor quality in comparison with that in the eastern and western parts. Near Imperial, in the north-central part of the county, the ground water is of even poorer quality because some of the water in this part of the county is recirculated spring flow and probably has been concentrated to some extent by evapotranspiration. Furthermore, the Pecos aquifer in the north-central part of the county probably receives considerable saline inflow from the Rustler formation.

The quality of water changes comparatively little between the southwestern part of the county and an east-west line through Fort Stockton. Directly north of this line the dissolved-solids content increases from about 1,500 ppm to more than 2,500 ppm. About 10 miles northeast of Fort Stockton the concentration is more than 5,000 ppm, and northward toward Imperial increases to a known maximum of 13,300 ppm in well C-13.

In the eastern and western parts of the county, the ground water is suitable for irrigation, municipal, and most other uses. However, the water used for municipal supply in the Fort Stockton area is of poorer quality than that recommended by the U. S. Health Service and the water used for irrigation in the north-central part of the county contains nearly 6,000 ppm of dissolved solids. The quality of water in each area is discussed in more detail in a section devoted to that area.

North Coyanosa Irrigation Area

Development of Water Supplies

The North Coyanosa irrigation area, containing about 37,000 acres of land prepared for irrigation, is near the lower reaches of Coyanosa Draw in the northwestern part of Pecos County (plate 3, Volume I, in pocket). The area, about 2 to 10 miles wide and about 15 miles long, roughly overlies the erosion and slumpage trough which is filled with Cenozoic alluvium. About 16,500 acres was irrigated in 1958 with approximately 85,000 acre-feet of ground water. The total withdrawal of water was estimated by measuring the quantity of water pumped per cubic foot of natural gas used and then multiplying by the number of cubic feet of natural gas consumed in the North Coyanosa irrigation area. The gallons of water per cubic foot of natural gas ratio was determined at 30 sites serviced by 23 meters.

Before the first irrigation well was drilled in 1948, the North Coyanosa irrigation area like most of West Texas, was cattle range. More than 300

irrigation wells were drilled in the following decade and at the end of June 1958, approximately 250 irrigation wells were in use. Of the more than 300 wells that were drilled, about half were drilled between 1955 and 1958. Approximately 50 of the wells drilled during the 10-year period either were never used because their yield was insufficient or they pumped too much sand or they were no longer in use in 1958 because the decline in water level had caused a reduction in yield. Most of the older wells in the central part of the area were drilled only deep enough to furnish sufficient water to meet immediate irrigation demands or until the driller believed that he had reached the base of the alluvium.

Figure 7 shows the altitude of the base of the Cenozoic fill, which generally is more than 500 feet thick in the central part of the slumpage trough, and is reported to be as much as 1,150 feet thick.

Wells in the northern part of the area west of the County Road (plate 3, Volume I, in pocket) derived nearly all of their water from alluvium underlain by red beds or by remnants of probable Cretaceous strata. Blocks of Cretaceous strata, which are thought to have been involved in the collapse of the slumpage trough, are included in the alluvium. Other beds may be reworked Cretaceous strata that retain some aspects of the parent materials.

Most of the deeper wells east of the County Road penetrate not only alluvium but also the underlying strata of Cretaceous age (plates 10 and 11). However, Cretaceous rocks apparently yield only a small part of the total discharge from the wells in this part of the irrigation area. In the extreme eastern part of the area several wells encountered limestone of Cretaceous age within 100 feet of the surface. Five wells (B-58, B-77, B-78, B-79, and B-80) obtained sufficient water for irrigation from the limestone. The use of well B-80 was discontinued in 1958 when the water table declined below the large crevice which was the source of most of the water. One well (B-76) found only small seeps in the limestone but developed about 350 gpm in the "Trinity sand." At least five wells (B-42, B-55, B-56, B-57, and B-59) were drilled through both the limestone and "Trinity sand" without developing sufficient water for irrigation.

Changes in Water Levels

Pumping for irrigation increased each year until 1957 when about 85,000 acre-feet of water was pumped; it is estimated that approximately the same quantity was used in 1958. Figure 9 shows how much the water level in the North Coyanosa area had declined by 1958 as the result of withdrawals for irrigation. Figure 9 was constructed by subtracting the altitude of the water, as measured in wells in January or February 1958, from the altitude of the water before irrigation was begun in the North Coyanosa area, as determined from figure 10. The lines on the map show that there has been very little water-level decline near the edge of the area, and more than 150 feet near the largest center of withdrawal. Although the decline averaged about 17 feet per year, the greatest amount of withdrawal has occurred since 1953 and, consequently, the average yearly decline has been greater since that year. Withdrawals in the interval January 1958 to January 1959 resulted in an average water-level decline of 20 feet and a maximum decline of 40 feet.

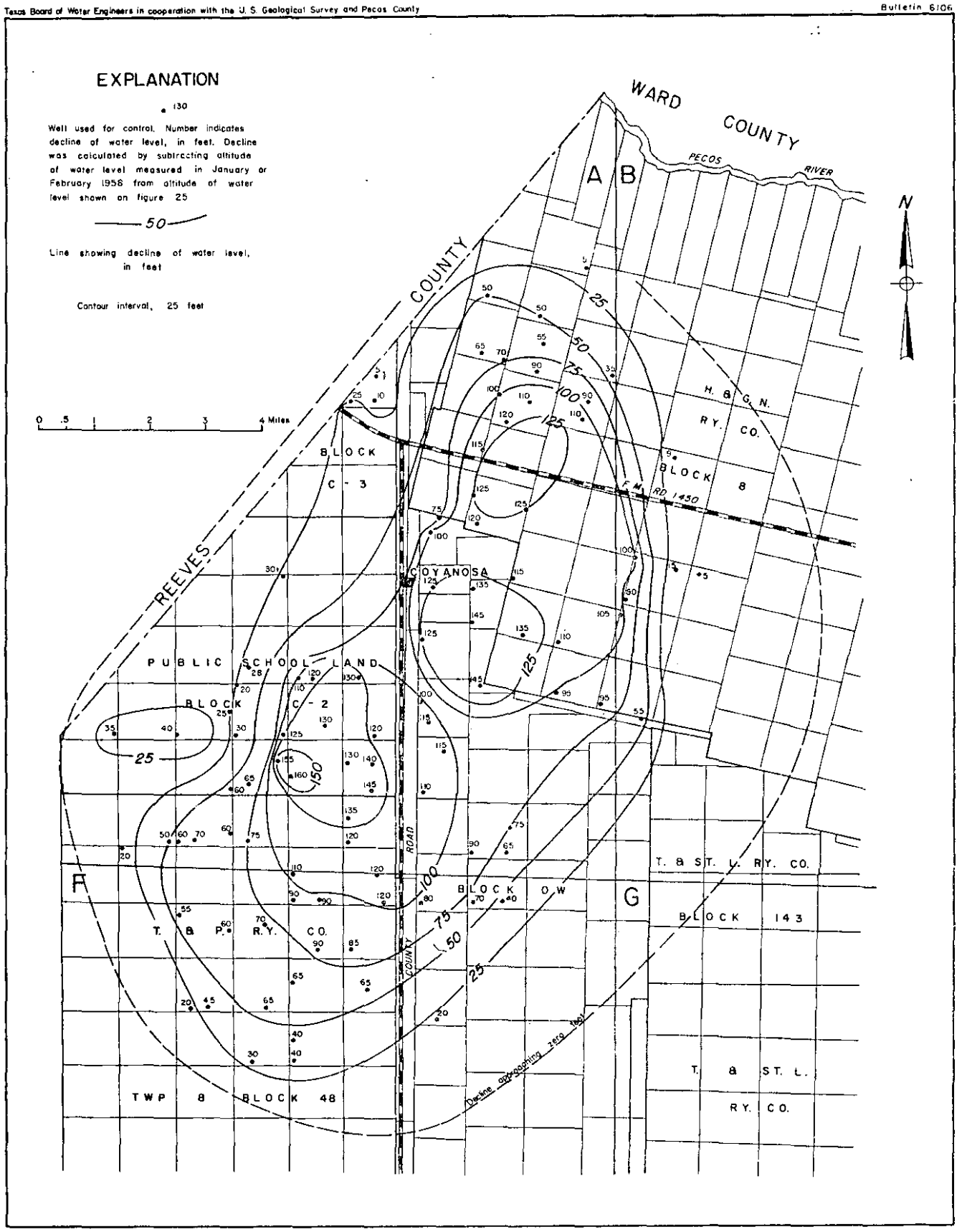


FIGURE 9.– Map showing approximate decline of water level in the North Coyanosa irrigation area, Pecos County, from prior to the development of irrigation to 1958

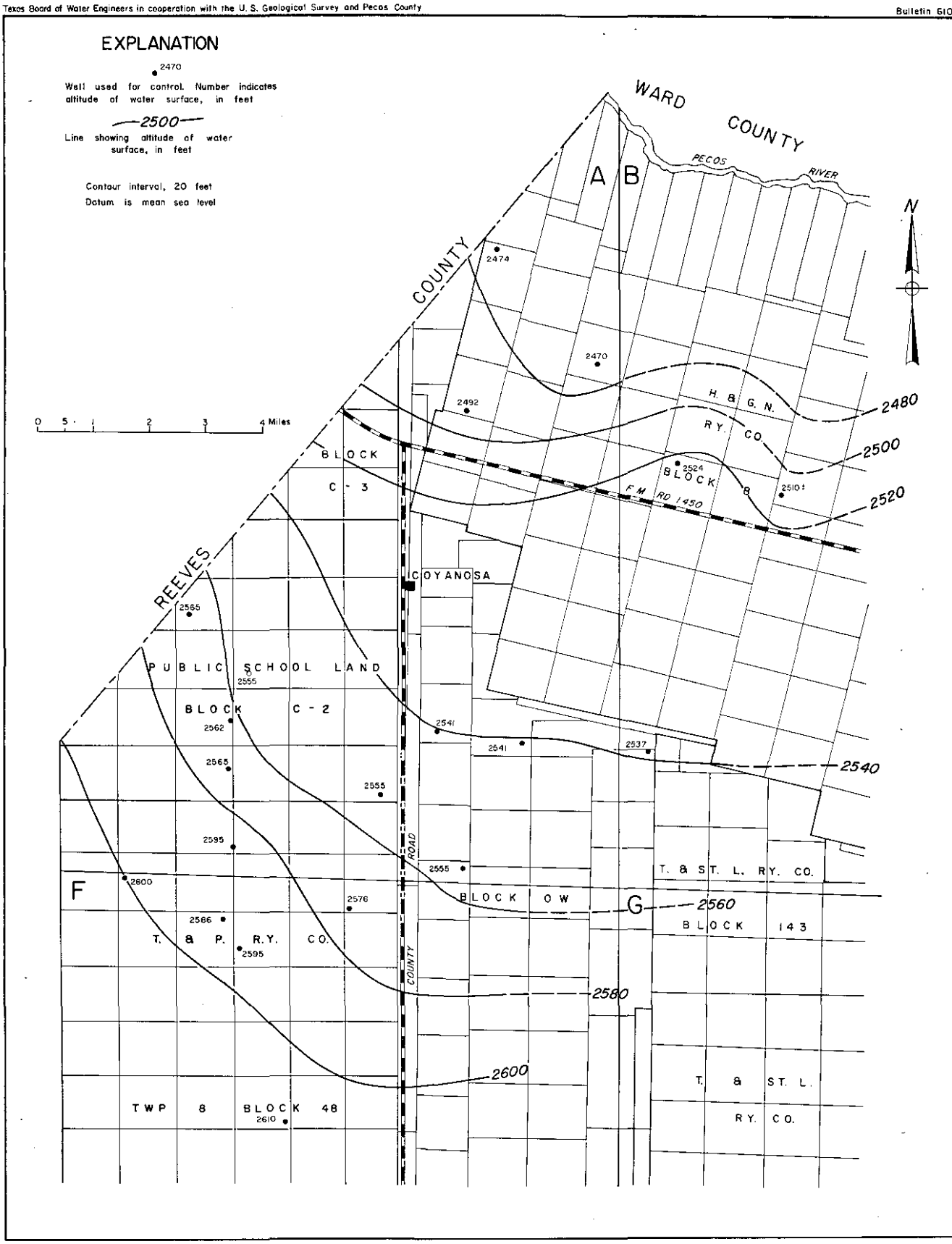


FIGURE 10. – Map showing approximate altitude of water surface in the North Coyanosa irrigation area, Pecos County before the development of irrigation

Recharge and Ground-Water Movement

Recharge in the North Coyanosa area from Coyanosa Draw is very infrequent as the stream carries water only after unusually large storms south of the area. Some of the runoff infiltrates into the coarse sediments in the channel, but most of it passes through the area and spreads out near the Reeves County line. Part of the runoff infiltrates to the water table and the remainder is lost by evapotranspiration.

Recharge also occurs on the northwest side of the area where the gradient of the water table has been reversed and water from the Pecos River moves through the alluvium toward the irrigation area. The quantity of recharge from the river is unknown but will increase as the reverse gradient steepens. Such recharge is undesirable as the water in the Pecos River and the adjacent alluvium is of very poor quality.

Because the soils generally are very permeable, at least part of the applied irrigation water is returned to the water table. The total amount of water pumped divided by the number of acres cultivated gives the duty of water, which was 5.2 acre-feet per acre in the North Coyanosa irrigation area. In an area of similar climate where crops similar to those grown in the North Coyanosa irrigation area were grown, consumptive use was determined to be 4.24 acre-feet per acre per year (Houk, 1951, pages 317-319). If this figure is applicable in the North Coyanosa irrigation area, then possibly as much as 20 percent of the irrigation water, or about 17,000 acre-feet, infiltrated toward the water table in 1958 and eventually will be available for withdrawal again.

The exact quantity of underflow into the North Coyanosa irrigation area is not known, but can be approximated by indirect methods. The configuration of the water table, as shown on plate 13, is related to the direction of underflow, to the transmitting properties of the aquifer, and to the characteristics of the discharge areas. An estimate based on the few measurements of flow from the Santa Rosa Springs and a calculation based on an undisturbed gradient of 10 feet per mile (figure 10), an estimated transmissibility of 60,000 gpd per foot for the full thickness of alluvium, and a width of 8 miles indicate that about 5,000 acre-feet of water was discharged each year from the North Coyanosa irrigation area before irrigation from wells began. Because equilibrium conditions had been established, the quantity of underflow entering the area was almost as great as the outflow, the small difference being the increment from local recharge. Pumping since irrigation began has upset the previously established equilibrium and underflow now moves into the irrigated area from all directions.

The quantity of underflow moving toward the area from the north was not estimated because the transmissibility of the alluvium near the Pecos River and the hydraulic gradient have not been ascertained. However, a calculation based on an estimated average transmissibility of 20,000 gpd per foot, an average gradient of 20 feet per mile, and a length of 23 miles in Pecos and Reeves Counties, indicates that the underflow from the south and southwest across the 2,550-foot contour line was about 10,000 acre-feet in 1957.

Storage of Ground Water

Approximately 90,000 acres, the area within the zero contour lines on figure 11 in the North Coyanosa irrigation area is underlain by unconsolidated alluvial

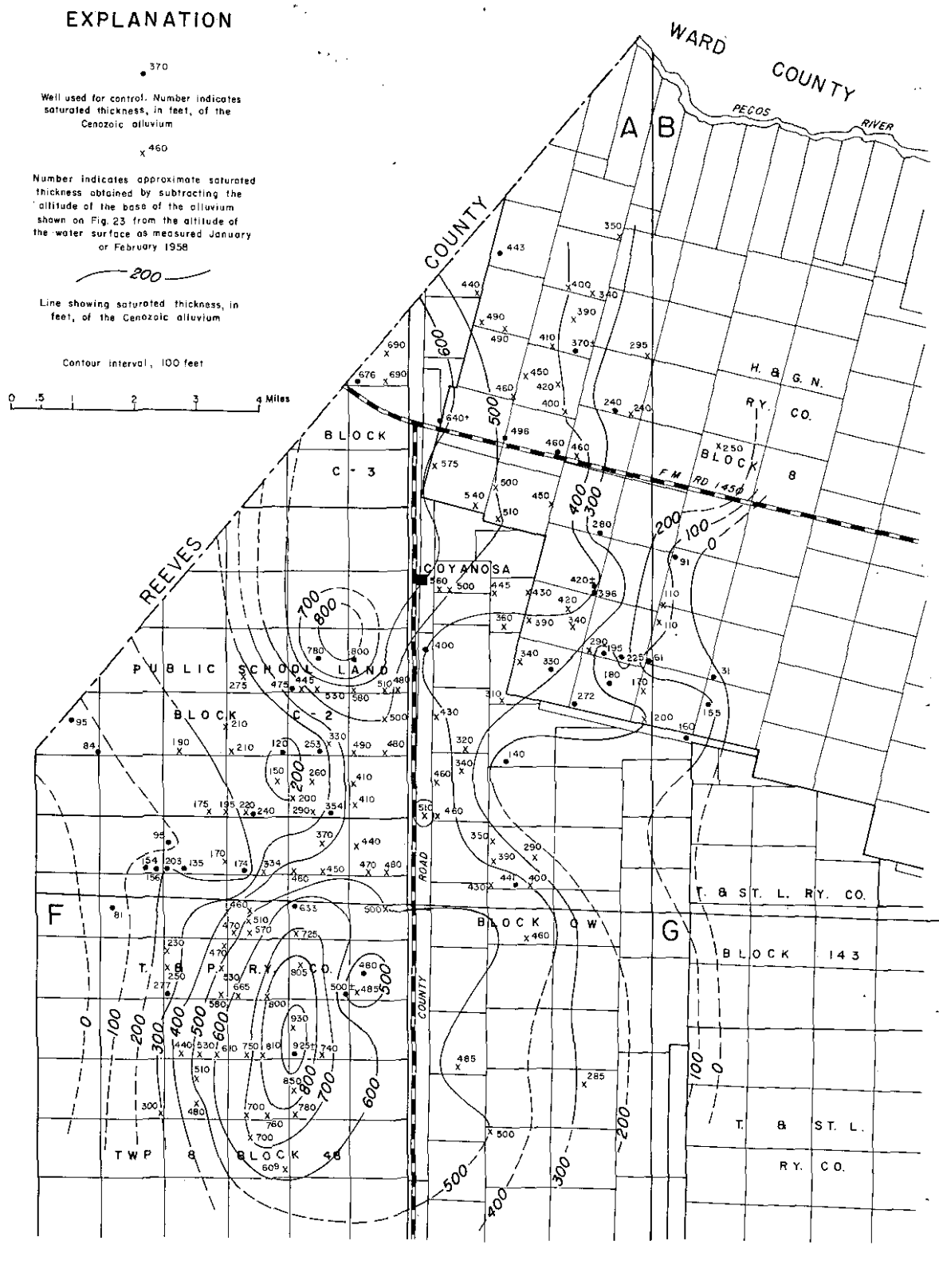


FIGURE 11.- Map showing thickness of saturated Cenozoic alluvium in 1958 in the North Coyanosa irrigation area, Pecos County

deposits that are saturated with water. The volume of saturated alluvium, as determined from the saturated thickness map (figure 11), is approximately 34,000,000 acre-feet, of which 10 to 40 percent is water. However, some of the water stored in the sand and much of the water stored in the silt and clay is unavailable because it adheres to the surfaces of individual grains; complete drainage of the available water in silt and clay may require several years. Because of this the specific yield, which is a measure of the water available to wells, is lower than the porosity. Computations based on data presented in figure 9 indicate that approximately 3,600,000 acre-feet of alluvium has been dewatered by pumping an estimated 300,000 acre-feet of water. The combined recharge from underflow and recirculated irrigation water during this period is estimated to be about 100,000 acre-feet, leaving a net of about 200,000 acre-feet withdrawn from storage. This quantity amounts to 5.5 percent of the volume of alluvium that was dewatered and is the specific yield. The reason for the low specific yield is the high percentage of fine-grained sediments included in the alluvium. Also, because some of the connections between the lenses of permeable material are remote and because artesian conditions exist locally, the decline in water levels in some wells upon which the decline map is based reflect a decline in artesian pressure head and not a decline to the position of the water table. Artesian conditions are limited to those areas where a thick layer of clay is at the top of the saturated alluvium and the permeable beds are poorly connected.

If the average specific yield of the 34,000,000 acre-feet of saturated alluvium is about equal to that of the dewatered alluvium, about 1,900,000 acre-feet of water is still available to wells in the North Coyanosa irrigation area. However, only about 25,000,000 acre-feet of saturated alluvium is within 500 feet of land surface. The quantity of water available from the saturated alluvium within that depth is about 1,400,000 acre-feet. However, to remove that much water from the alluvium would necessitate drawing the water table down to a level well below 500 feet in those places where the alluvium is thicker than 500 feet so as to effect complete drainage of the alluvium where it is less than 500 feet thick.

Aquifer Tests

Aquifer tests were made at four sites in the North Coyanosa irrigation area. Three were made by measuring the rate of water-level recovery in wells that had been pumped and one was made by measuring the rate of water-level drawdown and recovery in both a pumped well and a nearby observation well. Data from the tests on wells A-23, A-184, and F-25 were analyzed by the Theis recovery formula (Theis, 1935, page 522), and the computed coefficients of transmissibility were 41,000, 26,000, and 7,000 gpd per foot, respectively. The drawdown data from observation well A-64 were analyzed by the Theis nonequilibrium method (Theis, 1935, pages 520-522), and the coefficient of transmissibility based on the data after well A-63 had been pumped 100 minutes was about 19,000 gpd per foot. The water-level recovery measurements in A-63 indicated a coefficient of transmissibility of about 20,000 gpd per foot.

The field coefficient of permeability ranged from 16 gpd per square foot in well A-63 to 220 gpd per square foot in well A-184. The coefficient of storage determined from well A-64 was 0.0008, which is typical of artesian conditions.

Quality of Water

The quality of the water in the North Coyanosa irrigation area, except on the north and east sides, generally is adequate for most uses. In the central part of the area the hardness ranges from about 250 to 500 ppm and the dissolved-solids content generally ranges from about 500 to 1,000 ppm. Nearly all the pumped water is used for irrigation, mostly for cotton but in part for grain sorghums and cataloupes.

Because the ground water near the Pecos River has a higher mineral content than that in the central part of the area, it is believed that water from the river has migrated into the extreme northern part of the area. The water in well A-9 has a dissolved-solids content of 4,690 ppm, a chloride content of 1,110 ppm, and a percent sodium of 52. A mixture of this water with water of better quality from wells further south is used to irrigate salt-tolerant crops such as grain sorghums and cotton.

The water in the limestones of Cretaceous age on the east side of the area has a dissolved-solids content from 2,980 to 3,400 ppm and a hardness of 1,000 ppm or more. This water contains from 800 to 900 ppm chloride, 1,010 to 1,180 ppm sulfate, and about 48 percent sodium. The water is used principally to irrigate cotton, but cantaloupes also have been grown.

Analyses in the files of the U. S. Geological Survey and the Texas State Department of Health of the water in the alluvium a short distance west of the wells tapping Cretaceous strata indicate that underflow from the Cretaceous strata mixes with the water in the alluvium. The dissolved-solids content of water from well B-81 was 1,750 ppm in 1957 whereas the water from the alluvium generally contains less than 1,000 ppm. The dissolved-solids content of the water in the eastern part of the area may increase as pumping causes further migration of water from the east.

An analysis made in 1957 of the water from well B-76, which was the only well withdrawing water principally from the "Trinity sand" in the North Coyanosa area in 1958, shows that it had a hardness of 426 ppm, had a dissolved-solids content of 970 ppm, a chloride content of 248 ppm, and a sulfate content of 262 ppm. The well has been used to irrigate cotton and cantaloupes.

South Coyanosa Irrigation Area

The South Coyanosa irrigation area lies along Coyanosa Draw, 15 miles west of Fort Stockton. Irrigation began in 1955 when 216 acres of cotton was irrigated. In 1958 an estimated 14,000 acre-feet of water was pumped from 38 wells tapping the Pecos aquifer to irrigate about 4,200 acres of cotton, melons, alfalfa, and grain crops.

Most of the ground water is withdrawn from Cretaceous strata which range in thickness from 500 to 700 feet (plates 7 and 9). The alluvium in the area generally is too thin to yield a significant amount of water. The "Trinity sand" is about 200 feet thick and consists of medium to fine quartz sand, calcareous sandstone, and limestone. Although the overlying limestones, as much as 500 feet thick, contain many fractures, they are assumed to have low permeability and small storage capacity because the fractures have not been enlarged significantly by solution.

Static water levels in the South Coyanosa irrigation area have declined rapidly in relation to total withdrawal, indicating that the coefficient of transmissibility is low. The decline in water levels is caused by a widespread decline in artesian pressure. From 1955 to January 1959 the decline of static water levels ranged from about 20 feet in the southern end of the irrigated area to about 100 feet in the central part. The depth to water in January 1959 ranged from about 120 to 185 feet. Water levels are reported to decline rapidly during the pumping season; in 1959 pumping levels ranged from about 200 to 450 feet below land surface, probably averaging about 350 feet. Although many square miles of land are suitable for irrigation, expansion of irrigation proceeded at a slower rate in 1958 than in the previous 3 years because of limitations on cotton allotments and because of the deep pumping levels.

The concentrations of dissolved solids in irrigation water of the area ranges between 500 and 750 ppm. Less than a mile east of the irrigated area the concentration increases to about 1,000 ppm; a short distance farther east it is more than 2,500 ppm. Water samples have not been taken over a long enough period for changes in water quality to be noted. However, the quality is unlikely to change significantly since there are few solution channels in the limestone and most of the movement takes place in the sand.

Hovey Irrigation Area

The Hovey irrigation area consists of about 1,200 acres in 3 farms in southwestern Pecos County, about midway between the Glass and the Barilla Mountains and about 3 to 6 miles northeast of Hovey. In 1958 alfalfa and grain crops were irrigated with about 3,000 acre-feet of water pumped from the Pecos aquifer.

Five irrigation wells have been drilled in the Hovey area: HH-4, in 1955; Y-19, HH-8, and HH-15, in 1956; and HH-7, in 1957. Well HH-15 was finished in alluvium at 421 feet and is reported to have yielded approximately 950 gpm with a drawdown of more than 200 feet. The other wells were started in alluvium, but were finished in Cretaceous rocks and are reported to have encountered water in "broken lime" or crevices. The wells in the Cretaceous strata are reported to yield from 800 to 1,300 gpm with very small drawdowns. The deepest well, HH-7, which is reported to be 740 feet deep, penetrated 10 feet of sand at the bottom. The sand is believed to be the "Trinity sand," but it cannot be positively identified from the available data.

The fluctuations of water levels in the Hovey area appear to be small, therefore water-level trends cannot be accurately established. The small change in water levels indicate that the quantity of recharge and underflow to this area probably exceeds the pumpage from the existing wells.

The observed dissolved-solids contents of ground water in the area ranges from 298 ppm in HH-15 to 814 ppm in HH-6. The water meets the minimum standards set by the U. S. Public Health Service for drinking water and has been used satisfactorily for irrigation.

Fort Stockton-Leon-Belding Area

The Fort Stockton-Leon-Belding area is an irregularly shaped area (figure 8) bounded on the north by an east-west line which roughly follows U. S. Highway

290; its east side approximates the east city limits of Fort Stockton and extends about 3 miles farther south. As a 5-mile wide zone, it extends west about 10 miles to include all of the irrigated lands that lie south and east of U. S. Highways 67 and 290. From the irrigated lands in Leon Draw, the area extends southwest into Brewster County near Hovey.

The area is discussed as a unit because it overlies a highly permeable zone in the Pecos aquifer created by interconnected solution cavities in limestones of Cretaceous age. Water-level data show that discharge into the Leon-Belding area quickly affects water levels in the Fort Stockton area.

In the area, water-bearing rocks of the Pecos aquifer are the "Trinity sand," the Comanche Peak limestone, and limestones of the Washita group. The sand ranges in thickness from about 50 to 150 feet and has relatively low permeability. At Fort Stockton, where the sand is about 150 feet thick, a pumping test showed the coefficient of transmissibility to be 7,000 gpd per foot.

The Comanche Peak limestone overlies the "Trinity sand" and is about 100 feet thick. It contains many solution channels which supply most of the water pumped by irrigation wells and is the source of the large springs in the area.

Solution cavities in limestones of the Washita group yield large amounts of water to wells in the part of the area that lies south of an east-west fault in the vicinity of well Z-4 to the vicinity of well Z-34. The fault, the south side of which is downthrown as much as 240 feet, is known locally as the Belding fault. Plate 5 shows the fault and also shows a prominent structural trough beginning at the fault and continuing about 20 miles farther south-southwest. The limestones of the Washita group are 400 to 500 feet thick in the vicinity of the Belding fault but thicken toward the southwest.

In normal sequence, limestones of the Washita group are separated from the Comanche Peak limestone by about 100 feet of clay, but along the Belding fault the limestones are in contact. Because the natural gradient of the ground water is toward the north, water from the limestones of the Washita group moves into the Comanche Peak limestone.

South of a point about 2 miles south of the Belding fault, the water-bearing solution cavities in the limestones of the Washita group are restricted to a narrow zone, possibly less than 1 mile wide, along the axis of the structural trough. Within 2 miles immediately south of the fault, solution channels are present in the limestones in a 5 mile wide zone. Where present north of the Belding fault, these limestones generally are above the water table.

General Hydrology

As indicated in the above paragraph, geologic structure has determined to a large extent the development of solution cavities in limestones and the local direction of ground-water movement in this area. The principal recharge area is south of the Belding fault because the principal water-bearing formation, the Comanche Peak limestone, north of the fault is overlain by about 100 feet of clay which restricts downward movement of the recharge water.

After entering the limestones of Cretaceous age, the water travels north to the Belding area through channels developed in the limestones along the axis of the structural trough where the limestones are down-folded, strongly fractured,

and possibly faulted. Water in the Washita group south of the fault appears to be under water-table conditions.

The system of solution channels in the Comanche Peak limestone apparently extends from the Belding fault zone to Leon Springs (P-138) and to Comanche Springs (Q-216). It probably resulted from the enlargement, by percolating water, of open fractures in the limestone.

Prior to large-scale irrigation with ground water, water in the Comanche Peak limestone was under artesian pressure north of the Belding fault where shale and clay overlie the limestone and was under water-table conditions in the vicinity of Leon Springs and near Comanche Springs in Fort Stockton where the clay and shale cover had been removed by erosion. During the 1958 irrigation season, water-table conditions existed in the Comanche Peak limestone throughout most of the withdrawal area because the water level was lowered below the top of the limestone. In some wells the water level was drawn down below the highly permeable zone.

Development of Water Supplies

The flow from Comanche Springs and from Leon Springs until they stopped flowing has been used for irrigation since the time of early settlers. The utilization of water from Comanche Springs is discussed in this report in the section on Pecos County Water Control and Improvement District No. 1, as the lands irrigated with this spring flow are north of the area underlain by the system of solution channels.

From 1915 to 1920 a few irrigation wells were drilled near Leon Springs to supplement the spring flow, but not until about 30 years later did large-scale irrigation with water from wells begin to develop.

Domestic water supplies in Fort Stockton originally were obtained from Comanche Springs; later many small private wells were drilled. Since 1928 the city of Fort Stockton has operated a municipal water system using wells; the Fort Stockton system is discussed in the section on public supplies.

Between 1943 and 1954 a few irrigation wells were drilled in the immediate vicinity of Fort Stockton. These wells could not sustain an adequate rate of pumping throughout the growing season because water levels dropped below the producing cavities in the Comanche Peak limestone.

By 1958 all irrigation in the area was in the Leon-Belding irrigation area. Most of the wells were drilled in the periods 1915-20, 1945-51, and 1956-57. The early drilling activities were concentrated near Leon Springs in an area which was called "the Leon irrigation area" and near the Belding railroad siding, about 12 miles southwest of Fort Stockton, in an area which was called "the Belding irrigation area." As development proceeded the two areas joined and they are now known as the Leon-Belding irrigation area. In 1958, 49,000 acre-feet of water was pumped from 81 wells tapping the Pecos aquifer to irrigate about 12,500 acres of cotton, alfalfa, small grains, and vegetables.

The depth of the irrigation wells in the Leon-Belding irrigation area ranges from about 120 to 1,120 feet and averages about 420 feet. All of the wells and test holes outside the presently irrigated area have been abandoned as "dry holes" either because they produced an insufficient amount of water

when drilled or because the yield became insufficient when water levels dropped below cavities which supplied water to the wells.

Yields of individual wells vary greatly depending on the size and degree of interconnection of the solution cavities encountered in the wells. At the beginning of the 1958 irrigation season, yields of wells ranged from about 600 to 2,500 gpm and averaged about 1,400 gpm. Well yields recorded at the beginning of the irrigation season in the Leon-Belding irrigation area have not declined appreciably from year to year. However, well yields decline considerably during the irrigation season. Some wells that yielded more than 2,000 gpm in March, at the start of the 1958 irrigation season, were producing less than 1,000 gpm in July.

Aquifer Tests

Because the solution channels in the limestones differ greatly in size and are irregularly distributed, the transmissibility of the aquifer is much greater in some places than in others. An aquifer test made by pumping from well P-81, which taps the Pecos aquifer in the vicinity of Leon Lake, indicated that the coefficient of transmissibility is extremely large; however, an exact value could not be determined because of the non-homogeneity of the aquifer.

The coefficients of transmissibility and storage of the "Trinity sand" were determined from an aquifer test made by pumping from well Q-187 and measuring water-level changes in both the pumped well and observation well Q-183 during the drawdown and recovery periods. Both wells are cased through the Comanche Peak limestone and are open only to the "Trinity sand." The water-level data were analyzed by the Theis recovery formula and the Theis nonequilibrium method (Theis, 1935, pages 520-522). The coefficient of transmissibility was 7,000 gpd per foot and the coefficient of storage was 0.0001. The test also showed the leakage coefficient of the overlying limestone is 0.0023 gpd per square foot. The leakage coefficient indicates that in the Fort Stockton area, 0.0023 gallons will flow vertically across the boundary between the limestone and the sand through a horizontal cross-sectional area 1 foot square per day per foot difference in head between the two formations. One foot of head difference across the boundary would cause a vertical flow of 44 gpm in an area of 1 square mile; a 10-foot difference in head would cause a flow of 440 gpm in the same area.

Changes in Water Levels

Plate 12 shows that water levels at Fort Stockton fluctuated about 130 feet in 1956 and 85 feet in 1957 and 1958. In the northern part of the Leon-Belding irrigation area, the annual fluctuation in 1957 was about 100 feet, and in 1958 about 135 feet. Hydrographs for wells P-76, P-79, and Q-199 show a large water-level decline each year while irrigation wells are being pumped for preplanting irrigation, and a rapid recovery when the wells are shut down during the planting season. Another large decline occurs during the main irrigation season, after which the water levels rise during the winter and early spring.

In the winter of 1958-59 static water levels ranged from above land surface at Comanche Springs to 321 feet below land surface in well Z-77 in the southern part of the Leon-Belding irrigation area. Because the average annual withdrawal exceeds the average annual recharge to the aquifer, the water-level recovery in

successive winters is progressively less. The water level in the Leon-Belding irrigation area declined about 15 feet from the winter of 1954-55 to the winter of 1958-59, or nearly 4 feet per year. In the same period, the water level at the end of the pumping season has declined as much as 40 feet per year in the northern part of the Leon-Belding irrigation area. In 1958, the water level was lowered below the base of the limestone in the northeastern part of the Leon-Belding irrigation area and the discharge from individual wells decreased from an average of about 1,500 gpm to about 150 gpm.

Recharge and Discharge of Ground Water

Before large-scale development of irrigation wells in the Fort Stockton-Leon-Belding area, recharge from precipitation, influent streams, and underflow was approximately balanced by discharge. The water not discharged at the surface by Comanche and Leon Springs and the few wells was discharged by underflow to the area north of Fort Stockton. Annual recharge to the area can be estimated by adding the annual discharge from the springs and wells to the amount of annual discharge by underflow.

The combined annual flow of Comanche Springs, Leon Springs, and wells in the Leon area prior to 1946 was about 40,000 acre-feet (U. S. Bureau of Reclamation, 1956, pages 7-9) and the combined discharge from the Fort Stockton municipal and other wells is estimated to have been 1,000 acre-feet. Underflow out of the area, as calculated by multiplying the coefficient of transmissibility of the rocks ("Trinity sand") in the underflow zone by the width of the zone and by the hydraulic gradient of the water surface, was about 4,000 acre-feet per year. Thus, the estimated rate of annual recharge to the ground-water reservoir in the Fort Stockton-Leon-Belding area is about 45,000 acre-feet.

The combined discharge from wells and springs in the Fort Stockton-Leon-Belding area was about 51,000 acre-feet in 1958. The estimate is based on measured flow from springs, measured pumpage from municipal wells, and estimated irrigation withdrawals. Irrigation withdrawals were estimated from records of gas consumption and crop acreage and from water duty. North of the Belding fault, where most of the irrigation wells are located, probably little irrigation water infiltrates to the zone of saturation because the Kiamichi formation underlies the thin alluvium and overlies the water-bearing Comanche Peak limestone. The Kiamichi formation has very low permeability. The 6,000 acre-foot annual excess of discharge over recharge is the cause of the net decline in water level. Most of the discharge was from wells instead of from springs.

Quality of Water

The concentration of dissolved solids in the ground water in the Fort Stockton-Leon-Belding area ranges from about 1,000 to 2,000 ppm. The water contains 200 to 400 ppm of chloride and 250 to 400 ppm of sulfate, the percent sodium is 35 to 55. The water has been used successfully for many years for irrigation of most crops commonly grown in Pecos County. It is also used for domestic and stock purposes.

No significant changes have been observed in the chemical quality of the water in this area and there is little reason to believe that the chemical quality will change significantly under present conditions.

Future of Area

Continued successful irrigation in the Fort Stockton-Leon-Belding area will depend in large part on limiting the amount of water withdrawn from the aquifer in the area to the amount of recharge to the area. Most of the irrigators are aware that declining water levels have created serious problems in areas where pumping levels have dropped below the base of the cavernous limestone. Consequently, the Leon-Belding Water Conservation Association was formed to promote a program of water conservation. Beneficial measures include construction of concrete-lined ditches, prevention of excessive tail waters, preparation of effective lengths of crop rows, more scientific applications of water, and development of other sources of water, such as the Rustler formation. Water levels and total withdrawals in the area need to be correlated on a continuing basis, and a determined effort should be made to restore the delicate balance between recharge and discharge.

Pecos County Water Control and Improvement District No. 1 Irrigation Area

Development of Water Supplies

The Pecos County Water Control and Improvement District No. 1, commonly referred to as the Comanche Irrigation District, was created in 1920. The District is composed of two separate areas downstream from Comanche Springs: the larger, just north of Fort Stockton, is about 4 miles long and 3 miles wide, and the smaller, just northeast of Fort Stockton, is about 3 miles long and 2 miles wide (figure 8). The terrain, for the most part, is nearly flat having a slight gradient to the north and toward Comanche Creek.

Pioneers were attracted to the Fort Stockton area in the latter part of the nineteenth century by the availability of water from Comanche Springs to supply their domestic, stock, and farming needs. By 1913 the complete flow of the springs, an average 43 cfs, was used during the growing season to irrigate approximately 6,000 acres of cotton, alfalfa, small grains, and other feed crops, and small quantities of vegetables.

The first wells drilled in the District were shallow and of small diameter; they supplied the domestic and stock needs of the farmers while the flow from the springs was being diverted to other farms. The first irrigation well was drilled in 1939 by the District to supplement the spring flow. A few landowners had irrigation wells drilled shortly thereafter, but drilling of wells nearly ceased during the war years, 1941-45. Only a few more wells were drilled in the first few years after the war, but in 1951, when the flow from the springs began to diminish, the demand for new wells increased sharply.

Many of the older wells were drilled into small crevices in the limestone, and drilling was stopped as soon as sufficient water for supplemental irrigation had been obtained. Those that did not encounter sufficient water in the limestone were drilled a few feet into the "Trinity sand." The older wells generally yield less than 300 gpm and several yield less than 100 gpm. A few wells drilled into comparatively large crevices at more than 100 feet below the water table yield as much as 1,000 gpm. Most of the newer wells were drilled completely through the "Trinity sand" and yield from 300 to 500 gpm.

Approximately 50 irrigation wells were in use during 1958 in Pecos County Water Control and Improvement District No. 1. Many were used to irrigate crops during much of the summer, but several had small yields and were used to supplement rainfall on pastures. The amount of land in the District that was irrigated in 1958 was about 3,000 acres.

Aquifer Characteristics

The hydrologic properties of the Pecos aquifer in the Pecos County Water Control and Improvement District No. 1 are principally those of the "Trinity sand." Although small crevices in the limestone overlying the "Trinity sand" contain water, wells drilled into them generally do not yield enough for irrigation. Some larger crevices exist and were once filled with water, but, with few exceptions, since the water table has declined as much as 45 feet, they generally are dry during the irrigation season. The rate of discharge from well Q-32, drilled into creviced limestone, declined from about 1,500 gpm when the well was first drilled to about 800 gpm in 1958.

The "Trinity sand" is reported by drillers to range in thickness from about 80 to 130 feet. It consists of beds of white to yellow, fine to medium sand intercalated with lenses or beds of sandstone, limestone, and shale. Only the uncemented sand beds are reported to yield water.

An aquifer test made by pumping from well Q-31 and using well Q-32 for observation showed that the coefficient of transmissibility of the "Trinity sand" is 3,300 gpd per foot at the pumped well and 4,400 gpd per foot at the observation well; the storage coefficient was about 0.0007. The storage coefficient indicates that artesian conditions exist in the "Trinity sand," at least in the area near the wells. The full thickness of "Trinity sand" has an estimated coefficient of transmissibility of 8,000 gpd per foot.

Recharge and Discharge of Ground Water

Before ground water was pumped for irrigation, the aquifer was in equilibrium. Underflow through the "Trinity sand" and the overlying limestone and the downward infiltration of spring discharge, precipitation, and runoff were the sources of recharge. The quantity of water that was involved in these processes cannot be estimated from the available data, and only broad generalizations can be made.

Underflow in 1958 from the Fort Stockton area was considerably less than was the average annual underflow before 1951 because the lowered water levels in the Fort Stockton-Leon-Belding area had resulted not only in a reduction in the thickness of the transmitting material but also a reduction in the hydraulic gradient between Fort Stockton and the District.

Infiltration of surface water to the water table was much less in 1958 than when the springs were flowing throughout the year. Before wells were drilled in the District, the water available from Comanche Springs during the growing season was used conservatively and only insignificant amounts infiltrated to the water table. During the winter, however, when the flow from the springs was greater, evapotranspiration was less, and much less land was under cultivation, much of the discharge probably seeped into the ground and recharged the aquifer.

In 1958 much less water was discharged from the springs. Even though the water was discharged in the winter when evapotranspiration was low, probably very little of it infiltrated to the water table because the water from the springs usually was applied to land which was deficient in soil moisture; the moisture deficiency had to be satisfied before excess moisture was available to infiltrate below the soil zone.

Discharge from the Pecos aquifer north of Fort Stockton is by underflow, spring flow, and pumping. Because the water levels have declined as much as 45 feet in the District but have declined only a few feet in wells north of it, the difference in head has been reduced and the underflow out of the District has declined correspondingly. If the water levels in the District continue to decline more rapidly than those to the north, underflow out of the District will cease and the direction of flow will reverse. All of the flow from springs near the north boundary of the District prior to the development of irrigation wells was never measured but is estimated to have been about 6,000 acre-feet annually. The estimate is based on an estimated flow of 1.7 cfs from springs G-28 and G-30, an average measured flow of 3.7 cfs from San Pedro Springs (R-3) in 1949-51 (U. S. Geological Survey, 1951, page 368; 1952, page 387; and 1953, page 383), 2.6 cfs from Cold Springs (R-7), and on the flow of Johnson Springs (H-73), which had a measured flow of 0.3 cfs in May 1943. Of these, G-28 and H-73 were the only springs still flowing at the end of 1958. As the combined flow from these springs probably did not exceed 20 gpm in 1958, or about 30 acre-feet per year, discharge from the springs was negligible. If, as estimated, an average of 2 acre-feet per acre of water was applied to the approximately 3,000 acres of land irrigated with ground water, the total pumpage in the District in 1958 was 6,000 acre-feet.

Quality of Water

The dissolved-solids content of water in the District ranges from 1,650 ppm (Q-290) in the southern part to 3,420 ppm (Q-40) in the northern part. The hardness ranges from about 400 ppm to as much as 1,600 ppm. The water has a distinct salty and bitter taste. Even though high in dissolved solids, the water has been successfully used for irrigation because its percent sodium is less than 60 and the soil on which the water is used has a high calcium content and above average permeability.

Girvin Irrigation Area

Development of Water Supplies

The Girvin irrigation area is about 4 to 8 miles southwest of the village of Girvin (figure 8). The southern and southeastern parts of the area are bounded by rough terrain which effectively restricts the development of irrigation in those directions. However, irrigation could be extended toward the north and west if suitable water supplies could be found.

The principal development of ground water in the Girvin irrigation area took place after 1956. In 1958 approximately 4,500 acres was irrigated, and by the end of that year at least 45 irrigation wells had been drilled.

The irrigation wells south of the railroad reportedly were drilled through limestone, shale, and basal sand of Cretaceous age, the top of the sand being 400 to 500 feet below the land surface. In some wells, the basal sand is underlain by red beds; in others, especially in the southeastern part of the area, the red beds are missing and the sand is underlain by anhydrite. The geology north of the railroad seems to be somewhat different. Here the sand overlies red beds at depths of 200 to 300 feet and the shale and limestone section apparently contains more shale and some sand.

Several wells, especially those south of the railroad were drilled into large crevices in the limestone; these wells discharge as much as 3,000 gpm. The yields of wells that did not tap large crevices are only a few hundred gallons per minute. A few wells that were not drilled through the sand have been abandoned because of their low yield. North of the railroad the limestone is thinner than it is to the south, and apparently the crevices are smaller or less numerous. Wells in this area, with the exception of well J-26, discharge less than 1,000 gpm; a considerable part of the water is reported to be derived from the sand.

The contours on plate 13 indicate that the aquifer beneath the Girvin irrigation area is recharged by underflow from the south and southwest and discharges by underflow to the north and northeast. An estimated 4.5 acre-feet of water was applied to approximately 1,100 acres of cotton and 3 acre-feet of water was applied to 3,400 acres of alfalfa, grain sorghums, and other feed crops, or a total of about 15,000 acre-feet of water was pumped from wells in the area during 1958.

Water-level measurements have been made over too short a time to establish whether withdrawals are depleting the supply. Although water-level measurements made in February 1958 and January 1959 indicate a decline in the water table, much, if not all, of the apparent decline may have been due to pumping in January 1959.

Quality of Water

The dissolved-solids content of water used for irrigation in the Girvin irrigation area ranges from about 2,100 to more than 3,800 ppm. The water has a bitter taste and is very hard. Although high in dissolved solids, the water has been used successfully to irrigate salt-tolerant crops because the percent sodium generally is less than 60 and the soil is very permeable and has a high calcium content. A well drilled about three-quarters of a mile east of K-62 was reported to have been abandoned because of the high "salt" content.

Bakersfield Irrigation Area

Development of Water Supplies

The Bakersfield irrigation area comprises about 5,000 irrigated acres north of the village of Bakersfield. Most of the irrigated land lies within 3 miles of the Pecos River near Farm Road 1901 (plate 4, Volume I, in pocket). Outlying farms are as much as 4 miles southwest of the main irrigation area.

A few shallow wells were drilled to supply water for domestic and stock use during the early period of ranching in the area. Oil-well development, which began in 1929, led to the drilling of many wells to supply water for drilling purposes. Nearly all these wells were filled in when the need for the water ended; the records of such wells were not obtained during this investigation.

Irrigation with ground water began in 1946 and developed rapidly until 1951, when expansion virtually ceased. Replacement wells and wells to supplement reduced yields in older wells have been drilled since 1951. Also, some new land has been developed since then, but other land previously irrigated has been left idle. Landowners report that less land was cultivated during 1957 and 1958 than during the peak years of farming. In 1958 approximately 5,000 acres of cotton, alfalfa, grasses, and grain sorghums were irrigated with about 18,000 acre-feet of water.

Many irrigation wells in the Bakersfield irrigation area are less than 250 feet deep and produce water from alluvium. The rate of discharge from these wells ranges from 300 gpm to 3,500 gpm and is governed in large part by the thickness and sorting of the sand and gravel encountered below the water table. The wells that tap only thin beds of sand and gravel have low yields and comparatively large drawdowns; the wells that encounter thick beds of sand and gravel and very little clay have large yields and small drawdowns.

A few of the wells in the area penetrate Cretaceous rocks which consist of limestone and of shale and sand interbedded with limestone. Apparently most of the water from these wells is derived from sand rather than creviced limestone, as the yields are comparatively small. However, well U-58, which has an unusually large yield (887 gpm when measured in August 1957) for wells tapping Cretaceous strata in the area, may derive a large part of its water from creviced limestone.

Recharge and Discharge of Ground Water

The aquifer underlying the Bakersfield area is recharged largely by underflow. However, influent seepage from Tunis Creek results in some recharge. The creek normally flows for only a few days each year, but during exceptionally wet years, such as 1957, it may flow for several weeks.

Ground water is discharged from the area by underflow into the Pecos River, evapotranspiration, and withdrawals for irrigation. The available data do not justify estimation of the amount of underflow and evapotranspiration, but the withdrawal from wells in 1958 is estimated to have been 18,000 acre-feet.

Water levels in the Bakersfield irrigation area generally have declined from 10 to about 40 feet since 1946.

Quality of Water

The dissolved-solids content of the water in the area ranges from 1,190 ppm to 4,140 ppm and averages about 1,950 ppm. Irrigation with even the more highly mineralized water has been successful where the soil is very permeable and has a high calcium content and the crop is salt tolerant. The water in the Pecos River north of the Bakersfield irrigation area probably is very similar in quality to

the water in the Pecos River at the Girvin gaging station at the U. S. Highway 67 bridge. From the concentrations of sodium, sulfate, and chloride and from the specific conductance as reported by the Texas Board of Water Engineers (1959, page 43) for the water at the station during low flow (most of the year), it is estimated that water in the Pecos River contains from 12,000 to 14,000 ppm dissolved solids and that its percent sodium is from 60 to 70. Lowering the water level in the irrigation area below that of the Pecos River will induce river water to move toward the wells. The rate of movement would be slow, probably less than 100 feet per year. The wells nearest the river would be the first to begin discharging the more highly mineralized water.

Minor Irrigation Areas

Imperial Irrigation Area

The Imperial irrigation area extends from about 9 miles east to about 9 miles southwest of the village of Imperial. Before World War II the area was irrigated with water from the Pecos River, but between 1945 and 1950 because of a shortage of water in the river, about 110 shallow irrigation wells were drilled to supplement the supply of river water. The irrigation wells produced water from gravel lenses in the alluvium. Reportedly, most wells yielded more than 1,000 gpm and several more than 2,000 gpm. Ground water mixed with river water was applied to crops. About 1952, when the quantity of surface water available for mixing declined, unmixed ground water was applied to the land. However, because the ground water is chemically unsuitable for repeated application to crops, most irrigation in the area soon stopped.

In 1958, only 5 irrigation wells were withdrawing water from the Pecos aquifer. Water from 2 of these wells—C-70 and C-71—is mixed with water from 2 nearby wells—C-72 and C-73—which tap the San Andres limestone, and the mixed water is applied to crops; water from the other 3 wells tapping the Pecos aquifer—C-155, C-156, and C-157—is used to irrigate very salt-tolerant grasses.

In several places in the area, water levels were lower in 1957 and 1958 than in 1946, but in a few places the water level was higher. Some of the lower water levels may be due less to withdrawals by pumpage than to a flattening of the ground-water mound which was built up during the many years that extensive irrigation was practiced in the area.

Most of the ground water in the area is chemically unsuitable for use in irrigation, and even the best water can be used for irrigating only salt-tolerant crops. The percent sodium ranges from 53 in well C-33 to 65 in well D-88, and the dissolved-solids content ranges from 5,020 ppm in well C-157 to 13,100 ppm in well D-88. Even though the soil is very permeable, the dissolved-solids content generally is too high to grow crops. Much of the land has been damaged for agricultural purposes because water of such poor quality was used for irrigating.

Sheffield Irrigation Area

There are 5 irrigation wells that tap the Pecos aquifer on 4 farms in the Sheffield area. Three are in Sheffield Draw 1 to 2 miles southwest of Sheffield

and the other 2 are near the Pecos River 7 to 8 miles north of Sheffield. The irrigated plots are small either because the area of level land is small or because the wells do not yield sufficient water for irrigation on a large scale.

The records show that the first stock well near Sheffield, GG-76, was drilled in 1906 and that many stock wells have been drilled since that time. The first irrigation well (GG-82) was drilled in 1946 and of the other four, two were drilled in 1951 and one each in 1953 and 1955. Wells GG-18 and GG-21 reportedly tap the alluvium and wells GG-82, GG-83, and GG-84 reportedly penetrated limestone of Cretaceous age approximately at the water table; the limestone is underlain by sand.

As the water in the area generally contains less than 400 ppm of dissolved solids, it is suitable for most purposes.

Future irrigation developments near Sheffield will probably be limited to small areas. Topography is the principal limiting factor, but well yields, which rarely exceed 600 gpm on a sustained basis, will also limit the acreage that can be irrigated.

PUBLIC WATER SUPPLIES

Fort Stockton

Fort Stockton began to operate the present municipal water system in 1928, using water from wells tapping solution openings in the Comanche Peak limestone. Water from the limestone was used exclusively until 1956. Prior to 1954 the depth to the static water level in the city wells was about 52 feet and to the pumping level about 54 feet. The depth to pumping level had increased to about 63 feet by the summer of 1954, and to about 102 feet by the summer of 1955. According to local sources the problem of the declining pumping levels, as well as contamination from surface seepage to the limestone, prompted the city to start a drilling program to develop wells in the "Trinity sand" and to case off water from the limestone. By the end of 1958, six "Trinity sand" wells had been completed; they were reported to have a combined yield in excess of 2,500 gpm.

The wells tapping only the limestone yield from 450 to 1,100 gpm. Since the wells tapping the sand were completed, the limestone wells have been used only in the winter when the water level is high and the chance of contamination is low. The wells tapping the sand yield 330 gpm (well Q-191) to 615 gpm (well Q-196); the yield of Q-196 is reported to decrease to about 500 gpm after being pumped for several hours. An aquifer test on a city of Fort Stockton well (Q-187) is discussed in the section on the Fort Stockton-Leon-Belding area.

Pumpage in 1958 was about 80 percent greater than in 1949 (figure 12), the increase being due principally to the growth in population. The watering of lawns and the operation of air conditioners account for the much greater use of water during the summer. Daily use during the summer varies with the amount of precipitation and fluctuation in temperature.

The chemical quality of water available for municipal supplies should be of more immediate concern than the quantity of water. The chemical quality of the Fort Stockton water supply does not meet the standards established by the U. S.

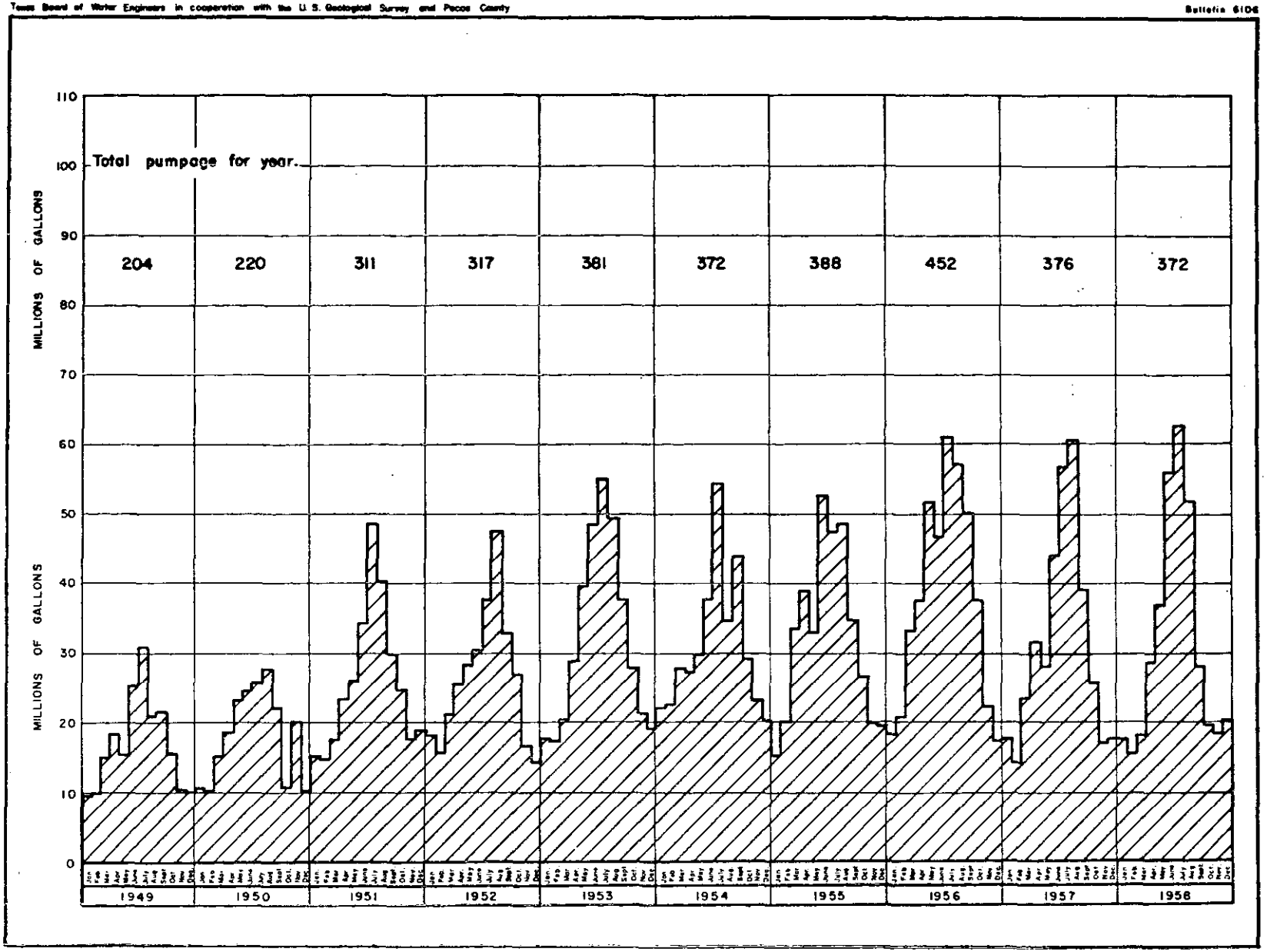


FIGURE 12 .- Monthly pumpage from Fort Stockton city wells, 1949-58

Public Health Service. The water is very hard, has a chloride content of about 350 ppm, and has a slightly salty taste. The sulfate content is about 400 ppm and the water has a laxative effect on many persons unaccustomed to drinking it. The fluoride content is slightly higher than the maximum recommended. Water of better quality is available in both eastern and western Pecos County, several miles from Fort Stockton (plate 15).

McCamey

The Texas Public Service Company operated the first municipal water system of the city of McCamey, Upton County, using wells in Pecos County. In 1928 the system was supplied by three wells (V-12, V-13, and V-14) tapping the "Trinity sand." After the city assumed control of the system, one well (V-12) was abandoned and three new wells (V-9, V-10, and V-11) were drilled, making a total of five "Trinity sand" wells in use. The yield per well is reported to range from 280 to 350 gpm and to average about 300 gpm.

According to pumpage figures furnished by the city, the average monthly use in 1957 and 1958 was about 15 million gallons, the maximum being 28,282,000 gallons in July 1957 and the minimum 7,183,000 gallons in November 1958.

An aquifer test was made by pumping from well V-13 and measuring the water-level drawdown in well V-12. Analysis of the recovery of the water level in the pumped well by the Theis recovery formula (Theis, 1935, page 522), gave a coefficient of transmissibility of 3,700 gpd per foot. Analysis of the change in water level in well V-12 caused by pumping from well V-13 by the Theis nonequilibrium method (Theis, 1935, pages 520-522) gave a coefficient of transmissibility of 6,100 gpd per foot and a coefficient of storage of 0.000016.

Based on the analysis of water from well V-13, the quality of water used in the McCamey municipal supply is satisfactory according to standards set by the U. S. Public Health Service and is adequate for most uses.

Iraan

The Iraan Gas and Water Company, which established the municipal water system of the city of Iraan in 1950, pumped from wells within the city. After the system was purchased by the city in 1952, two wells were drilled across the Pecos River in Crockett County to replace the wells which had reportedly become contaminated. The two replacement wells were also reported to have been contaminated and were in turn replaced by two wells drilled about a mile east of them.

The original wells in Iraan reportedly were drilled into the "Trinity sand" and the water from them did not become salty until after many producing oil wells had been drilled in the vicinity. However, the salty water may have moved to the wells from the alluvium adjacent to the river as the river contains water of very poor quality. Lowering the water level in the wells caused water to move toward the wells from all directions.

The first two wells drilled in Crockett County tapped the alluvium about a mile east of the river. Pumping from these also may have drawn salty water from the alluvium adjacent to the river. The third and fourth wells drilled in Crockett County were drilled a mile farther east; reportedly they tap the "Trinity sand" and are about 210 feet deep.

Imperial

The town of Imperial formerly obtained its water supply from a well field in Crane County about 15 miles northwest of the town. The total yield from the wells in this field was less than 100 gpm, a rate which proved to be inadequate for the demand. In 1956-57 four wells (B-84, B-85, B-86, and B-87) were drilled on the east side of the North Coyanosa irrigation area. The wells, although drilled through the alluvium to the limestone, obtain water from the alluvium. The yield from wells B-84, B-85, and B-86 was reported to be 600-700 gpm. Well B-87, which yielded only about 50 gpm, was not equipped with a pump.

City officials report that the average monthly pumpage during 1957 and 1958 was approximately 1,800,000 gallons.

According to the Texas State Department of Health, the dissolved-solids content in the water from the four new wells was about 1,000 ppm when the wells were first drilled. An analysis made by the Department of Health shows that in July 1958 the water from well B-86 contained about 1,600 ppm of dissolved solids. The deterioration in the quality of water probably is an indication that water is moving from the Cretaceous rocks toward the cone of depression in the alluvium in the North Coyanosa irrigation area. The water eventually may become as mineralized as that in well B-79, which contains 3,400 ppm of dissolved solids.

INDUSTRIAL WATER SUPPLIES

Except for water furnished through public-supply systems for such industries as laundries and ice plants, nearly all the water pumped for industrial purposes is used in connection with the production either of electricity or of oil and gas.

The largest single industrial user is the power plant of the West Texas Utilities Company (wells K-23, K-25, K-26, K-27, K-28, K-29, and K-30). The reported pumpage in 1957 and 1958 was 257 million gallons (790 acre-feet) and 304 million gallons (935 acre-feet), respectively.

The largest industrial use of ground water in Pecos County is for the secondary recovery of oil. The injection of water under pressure (waterflooding), through strategically spaced wells drilled into the oil zones, displaces the oil and forces it to move toward the oil-producing wells. Approximately 2,500 acre-feet of water was used in Pecos County in 1958 for waterflooding, about 80 percent of it in the Imperial area.

Water for waterflooding is produced from three aquifers in Pecos County. The San Andres limestone furnishes about 600 acre-feet per year from well H-9 for use in several injection wells. This water is treated before injection. Three wells—B-21, B-22, and B-27—tapping the Rustler formation, supplied about 500 acre-feet of water in 1957. Water from these wells is pumped through closed systems. The Pecos aquifer supplied about 1,400 acre-feet of water for waterflooding in 1957. About 400 acre-feet of this was supplied by wells U-68, U-69, U-73, U-74, U-75, and V-21, and the remainder was supplied by several wells in the Imperial area.

Most oil tests are drilled with fluid prepared with water from a supply well developed on the lease or an adjacent lease. The casing in water wells of this

type usually is reclaimed after the test drilling is finished; only a few such wells were inventoried during this investigation. Supply wells for oil-test drilling generally are considered adequate if they can furnish as much as 30 gpm, but standby wells usually are drilled near the deeper oil tests. The total amount of water used by wells of this type is estimated to be a few hundred acre-feet a year, but the life of the well usually is short and the long-term effect on the water table is negligible. The quality of the water for drilling oil tests generally is not considered to be an important factor in the usability of the water.

Two natural gas plants in Pecos County use water for cooling purposes in processing the gas before it is transmitted through high-pressure pipelines. The amount of water used by these plants varies with the weather; the total is estimated to be less than 150 acre-feet per year.

CONCLUSIONS

The Pecos aquifer, which consists of the limestones and sands of Cretaceous age and the alluvium of Cenozoic age, is the most important source of water in Pecos County. In some parts of the county the Pecos aquifer yields large quantities of water to wells, principally for irrigation use. However, throughout the remainder of the county, except in the Glass Mountains where it is missing, the Pecos aquifer yields only small to moderately large quantities. In 1958, about 200,000 acre-feet of water was withdrawn from the aquifer to irrigate about 50,000 acres.

Before the widespread development of irrigation wells, the discharge from the aquifer was in equilibrium with the recharge. The sum of the flow from springs and the underflow to the Pecos River and to Terrell County was about 78,000 acre-feet; some of the underflow was recirculated spring flow. Evapotranspiration near the Pecos River is believed to have been large, perhaps several tens of thousands of acre-feet. The discharge from the Pecos aquifer in 1958 is estimated to have been 3 or 4 times the annual recharge, the excess of discharge over recharge having been taken from storage in the aquifer. Withdrawal of water from storage has caused water-level declines, especially in the North Coyanosa, South Coyanosa, and Fort Stockton-Leon-Belding areas.

In proceeding with further development of ground water in the county, the fact that in some areas water is being withdrawn at a much faster rate than it is being replaced should be given serious consideration. Continued removal of water from storage in those areas will lower water levels, increase pumping lifts, and lessen well yields. Eventually the shallower wells will go dry and some of the deeper wills will no longer yield adequate amounts for irrigation. In the more critical areas either the pumping lift will become too great for farming to continue to be profitable or the withdrawal rate will decrease to the extent that discharge and recharge are once more in equilibrium.

Studies required to predict accurately the potential yield at a specific pumping level in a particular area in Pecos County are: a more precise evaluation of the recharge-discharge relationship; many more determinations of aquifer coefficients; compilation of withdrawals and their effect on water levels; and, as more data become available, a re-evaluation of the amount of water in storage and the specific yield.

The chemical quality of water in the Pecos aquifer ranges from very good in the eastern and western parts of Pecos County, to poor in the central part, to bad in the north-central part near the Pecos River. Although the chemical quality of the water in the Pecos aquifer at most places in the county is not likely to change appreciably, evidence indicates that water of poor quality is moving from the alluvium near the Pecos River into the northern part of the North Coyanosa irrigation area and also that water of poor quality is moving from the Cretaceous rocks into the east side of the North Coyanosa area. Recharge from irrigation water may increase the mineralization of the ground water in some areas. Periodic analyses of water from selected wells would define the potentially critical areas.

The water-yielding potential of the Rustler formation and the San Andres limestone requires further evaluation. However, because of their depth and the chemical quality of the water, these formations probably will not be extensively developed.

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Table 4.--Records of wells and springs in Pecos County, Texas

All wells are drilled unless otherwise noted in remarks column.
Water level : Reported water levels given in feet; measured water levels given in feet and tenths.
Method of lift and type of power: C, cylinder; E, electric; G, gasoline, butane or Diesel engine; H, hand; J, jet; N, none; T, turbine; W, windmill. Number indicates horsepower.
Use of water : D, domestic; Ind, industrial; Irr, irrigation; N, none; P, public supply; S, stock.

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*A-1	A. J. Hoelscher	--	1942	175	7	Pecos aquifer	2,510±	35.6	Nov. 22, 1946	N	N	Cased to bottom.
A-2	do	L. Walker	1957	625	16	do	2,513	79.7 101.5	Jan. 15, 1958 Jan. 20, 1959	T,G, 145	Irr	1/
A-3	do	do	1955	630	16	do	--	--	--	T,G, 300	Irr	Cased to bottom. Discharge estimated 2,000 gpm July 3, 1957.
A-4	do	do	1955	591	16	do	2,515	86.6 110.1	Jan. 15, 1958 Jan. 20, 1959	T,G, 145	Irr	Cased to bottom. Discharge reported 2,000 gpm.
A-5	C. E. Davis	do	1958	763	16	do	--	--	--	T,G	Irr	
A-6	do	do	1955	448	16	do	2,516	96.6 101.7	Jan. 15, 1958 Jan. 20, 1959	T,G, 110	Irr	Cased to bottom.
A-7	do	do	--	330	16	do	2,514	98.1 99.1	Jan. 15, 1958 Jan. 20, 1959	T,G, 110	Irr	Cased to bottom. Discharge reported 1,500 gpm.
A-8	do	do	1957	520	16	do	2,506	41.6 54.9	Jan. 15, 1957 Jan. 20, 1959	T,G	Irr	do
*A-9	do	do	1955	557	16	do	2,500	32.8 38.3	Jan. 15, 1958 Jan. 20, 1959	T,G	Irr	Cased to bottom. Red beds reported at bottom. Perforated from 250 ft. to bottom. Temp. 69°F.
*A-10	Crystal Water Farms	Roy McDonald	1933	75	8	do	2,520±	50	1933	N	N	Dry Nov. 25, 1957. Temp. 71°F. 2/
A-11	do	--	1952	340	16	do	2,523	78.2 85.4	Jan. 16, 1958 Jan. 20, 1959	T,G, 78	Irr	Cased to bottom. Perforated from 240 ft. to bottom.
A-12	do	--	1952	340	16	do	2,522	81.9 101.9	Jan. 16, 1958 Jan. 20, 1959	T,G, 78	Irr	do
A-13	C. E. Davis	L. Walker	--	460	16	do	2,522	106.2 141.1	Jan. 15, 1958 Jan. 20, 1959	N	N	Cased to bottom. Perforated from 208 ft. to bottom. 2/
A-14	do	do	1958	--	16	do	--	--	--	T,G	Irr	2/
A-15	do	do	1955	590	16	do	2,527	145.2 154.1	Jan. 15, 1957 Jan. 20, 1959	T,G, 110	Irr	Cased to bottom. Discharge reported 1,500 gpm. Perforated from 194 ft. to bottom. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-16	C. E. Davis	L. Walker	1957	425	16	Pecos aquifer	2,529	137.1 148.3	Jan. 15, 1957 Jan. 20, 1959	T,G, 110	Irr	Cased to bottom. Discharge reported 1,500 gpm.
A-17	do	do	1955	425	16	do	2,530	132.7	Jan. 15, 1958	T,G, 110	Irr	do
A-18	do	do	1958	545	16	do	--	--	--	T,G	Irr	
*A-19	do	do	1956	510	16	do	2,527	104.8 129.2	Jan. 16, 1958 Jan. 20, 1959	T,G	Irr	Cased to bottom. Discharge reported 2,000 gpm. Temp. 69°F. 2/
A-20	do	do	1955	448	16	do	2,525	102.5	Jan. 16, 1958	T,G	Irr	Discharge reported 2,500 gpm.
A-21	do	do	1958	724	16	do	--	--	--	T,G	Irr	2/
A-22	do	do	1958	785	16	do	--	--	--	T,G	Irr	1/
A-23	J. H. Black	-- McMillan	--	420	16	do	--	165	Sept. 1958	T,G	Irr	
A-24	-- Hodges	Earl Fisher	1957	888	16	do	2,548	52.0 53.6	Jan. 15, 1958 Jan. 20, 1959	N	N	Cased to bottom. 2/
A-25	do	do	--	750	16	do	2,556	74.3	Jan. 15, 1958	T,G, 110	Irr	Cased to bottom. Original depth 1,495 ft., plugged back to 750 ft. Perforated from 200 ft. to bottom. 1/
A-26	do	do	1957	779	16	do	2,556	57.8 64.2	Jan. 15, 1957 Jan. 20, 1959	T,G, 110	Irr	Discharge reported 1,400 to 1,500 gpm. 2/
A-27	Trees Estate	L. Walker	--	603	--	do	--	--	--	N	N	Test hole. Red beds reported from 391 to 549 ft. 2/
A-28	do	do	--	275	--	do	--	--	--	N	N	Test hole. Red beds reported at 275 ft. 2/
A-29	do	--	--	80	10	do	2,540±	47.5	Mar. 7, 1940	N	N	Temp. 68°F.
A-30	C. E. Davis	L. Walker	1958	526	16	do	--	146.1	Jan. 20, 1959	T,G	Irr	
A-31	do	do	1958	900	16	do	--	--	--	T,G	Irr	1/
A-32	do	do	1958	682	16	do	--	--	--	T,G	Irr	Discharge measured 800 gpm Jan. 20, 1959.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-33	C. E. Davis	L. Walker	1955	600	16	Pecos aquifer	2,535	139.0 165.1	Jan. 15, 1958 Jan. 20, 1959	T,G, 110	Irr	Cased to bottom. Discharge reported 2,000 gpm.
*A-34	do	do	1955	496	16	do	--	--	--	T,G, 110	Irr,D	Cased to bottom. Discharge reported 1,800 gpm. Perforated from 200 ft. to bottom. Temp. 71°F.
A-35	L. O. Davis	do	1955	665	16	do	2,558	164.3	Nov. 26, 1956	T,G, 132	Irr	Cased to bottom. Discharge reported 1,000 gpm. Reported red beds at 665 ft. 1/
A-36	C. E. Davis	do	--	610	16	do	2,555	178.4	Jan. 15, 1958	T,G, 110	Irr,D	
A-37	do	do	1957	652	16	do	2,552	173.2 186.2	Jan. 16, 1958 Jan. 20, 1959	T,G	Irr	Cased to bottom. 1/
A-38	do	do	1957	661	16	do	2,549	170.9 193.2	Jan. 15, 1957 Jan. 20, 1959	T,G, 110	Irr	Cased to bottom. Discharge reported 1,500 gpm.
A-39	do	do	1955	519	16	do	2,543	160.4 185.1	Jan. 15, 1958 Jan. 20, 1959	T,G, 110	Irr	Cased to bottom. Discharge reported 2,000 gpm. Perforated from 208 to 500 ft. 2/
A-40	do	do	1957	600	16	do	2,536	156.5 170.3	Jan. 15, 1958 Jan. 20, 1959	T,G	Irr	Cased to bottom. Discharge reported 1,500 gpm.
A-41	Ben Barbee, Jr.	--	1950	160	--	do	--	155	Jan. 1958	T,G	Irr	
A-42	Ben R. Barbee	L. Walker	1956	480	16	do	--	71.4	Dec. 4, 1954	T,G, 90	Irr	Cased to bottom. Discharge reported 1,017 gpm. Perforated from 168 to 460 ft. 2/
A-43	Crystal Water Farms	do	1952	548	16	do	--	73.6	do	T,G, 145	Irr	Cased to bottom. Perforated 241 ft. to bottom. 2/
A-44	do	--	--	--	16	do	2,536	148.1 159.4	Jan. 16, 1958 Jan. 20, 1959	T,G	Irr	
A-45	do	--	1952	550	16	do	2,536	133.9 162.3	Jan. 16, 1958 Jan. 20, 1959	T,G	Irr	Cased to bottom. Discharge reported 1,520 gpm Sept. 3, 1952. Perforated from 450 ft. to bottom.
A-46	do	--	1953	355	16	do	2,543	153.2 165.4	Jan. 16, 1958 Jan. 20, 1959	T,G, 78	Irr	Cased to bottom. Perforated from 255 ft. to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-47	A. Tipton	--	1957	400?	16	Pecos aquifer	2,552	78.5	Jan. 16, 1958	T,G	Irr	
A-48	Allen Tipton	A. Tipton	1957	302	16	do	2,554	66.0 69.4	Jan. 16, 1958 Jan. 20, 1959	N	N	Cased to bottom.
A-49	do	do	1956	395	16	do	--	--	--	N	N	do
A-50	A. J. Hoelscher	L. Walker	1955	633	16	do	2,576	164.1 174.0	Jan. 28, 1958 Jan. 23, 1959	T,G, 180	Irr	Cased to bottom. Measured discharge 1,387 gpm Aug. 18, 1955.
A-51	John H. Tipton	A. Tipton	1953	349	16	do	2,574	--	--	N	N	Cased to bottom. Discharge reported 600 gpm.
A-52	do	J. H. Tipton	1956	378	16	do	2,574	182	Jan. 1958	T,G, 141	Irr	Cased to bottom.
A-53	do	A. Tipton	1953	354	16	do	2,565	166.5 177.3	Jan. 28, 1958 Jan. 23, 1959	T,G, 141	Irr	do
A-54	do	--	1957	375	16	do	2,565	--	--	T,G	Irr	
A-55	A. Tipton	--	1956	390	16	do	2,566	155.6	Jan. 28, 1958	T,G, 140	Irr	Cased to bottom.
A-56	do	A. Tipton	1956	495	16	do	2,567 2,566	182.8	do	T,G, 140	Irr	Cased to 400 ft.
A-57	Mrs. -- Branch	--	1956	--	16	do	2,573	168.0 165.8	Jan. 28, 1958 Jan. 23, 1959	T,G	Irr	
A-58	H. L. Moore	Orvil James	1957	350	16	do	--	--	--	T,G, 165	Irr	Cased to bottom. 2/
A-59	do	Bob Mullican	1955	340	16	do	--	--	--	T,G	Irr	Cased to bottom. Casing: 193 ft. of 16 in., 70 ft. of 12 in., and 60 ft. of 10 in.
A-60	Mrs. -- Branch	--	1957	400	16	do	2,578	189.3 197.9	Jan. 28, 1958 Jan. 23, 1959	T,G	Irr	
A-61	J. W. Wristen	--	--	--	16	do	2,588	103.5 136.1	Dec. 4, 1954 Jan. 15, 1958	T,G, 70	Irr, D	Used for supplemental irrigation.
A-62	do	-- Livezay	--	187	16	do	2,588	73.0 101.6	Jan. 6, 1950 Jan. 15, 1958	N	N	Casing: 16-in. to 163 ft.; 10-in. to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-63	J. W. Wristen	Perry Jones	1957	400	16	Pecos aquifer	2,588	169.7 183.0	Jan. 13, 1957 Jan. 23, 1959	T,G, 70	Irr	Discharge measured 385 gpm Jan. 15, 1958.
A-64	do	--	--	400	16	do	2,590	171.9	Jan. 15, 1958	T,G, 70	Irr	Discharge reported 600 gpm.
A-65	Leroy Price	--	--	305	16	do	2,579	154.2 163.7	Jan. 28, 1958 Jan. 23, 1959	T,G	Irr	Cased to bottom. Discharge reported 1,800 gpm.
A-66	Western Cotton Oil Co.	Clarence Pierce	1957	500	8	do	--	--	--	J,E, 5	D,Ind	
A-67	Leroy Price	-- Livezay	1949	--	16	do	--	110.3 127.7	Dec. 6, 1955 Mar. 21, 1957	N	N	Casing reported pulled Apr. 15, 1957.
A-68	Gid Redding	do	--	170	14	do	--	56.5 63.4	Dec. 18, 1948 Jan. 2, 1951	N	N	Cased to bottom. Perforated from 110 ft. to bottom.
A-69	Leroy Price	--	1957	750	16	do	2,562	105.2 117.9	Jan. 15, 1958 Jan. 20, 1959	T,G	Irr	
A-70	Charles Dodson	--	--	104	--	do	00	78.8 79.3	May 31, 1940 Nov. 23, 1946	N	N	Dry in 1957.
A-71	do	Tom Simmons	1930	103	6	do	--	70.3 71.4	Mar. 7, 1940 Oct. 29, 1946	N	N	Dry in 1957. 2/
A-72	R. M. Reed	-- Wilcox	1906	140	6	do	2,625±	60	1933	N	N	
A-73	P. D. Colville	Knute Yarborough	--	--	--	do	2,653	97.6 127.5	Nov. 25, 1946 Jan. 31, 1958	C,W	S	
A-74	Si Stafford	--	--	250	16	do	2,662	124.1 127.5	Jan. 31, 1958 Jan. 25, 1959	N	N	
A-75	W. O. Thagard	--	1955	700	16	do	2,654	120.7 127.3	Jan. 29, 1958 Jan. 25, 1959	T,G, 80	Irr	Discharge reported 500 gpm. Red beds at 600 ft.
A-76	do	G. W. Huffman	1955	400	16	do	2,658	213.9	Jan. 29, 1957	T,G	Irr	Cased to bottom. Discharge reported 500 gpm.
A-77	do	--	1955	615	16	do	2,658	226.1 237.9	Jan. 29, 1958 Jan. 25, 1959	T,G	Irr	Discharge reported 500 gpm.
A-78	do	Clarence Pierce	1957	915	16	do	2,645	127.4	Jan. 29, 1958	T,G	Irr	Cased to 850 ft.
A-79	do	--	1955	800	16	do	--	215	Jan. 1958	T,G	Irr	Discharge reported 1,000 gpm.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-80	W. O. Thagard	Clarence Pierce	--	950	16	Pecos aquifer	2,642	140.0	Jan. 29, 1958	T,G	Irr	Casing: 16-in. to 700 ft.; 14-in. to 915 ft.
A-81	do	--	1955	615	16	do	2,650	219.2	do	T,G, 110	Irr	Discharge reported 800 gpm.
A-82	do	--	1956	600	16	do	2,637	220.2	do	T,G	Irr	Discharge reported 500 gpm.
A-83	do	--	1956	600	16	do	2,638	207.4 221.0 232.6	Mar. 29, 1957 Jan. 29, 1958 Jan. 25, 1959	T,G	Irr	Discharge reported 800 gpm.
A-84	do	--	1956	600	16	do	2,640	212.0 207.7 217.5	Mar. 29, 1957 Jan. 29, 1958 Jan. 25, 1959	T,G	Irr	Discharge reported 900 gpm.
A-85	do	--	1957	620	16	do	--	84.9	Mar. 28, 1957	T,G, 110	Irr	
A-86	Lowe Bros.	L. Walker	1955	865	16	do	2,622	212.5 232.1	Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	Discharge reported 1,014 gpm. Perforated from 300 ft. to bottom. 1/
A-87	do	G. W. Huffman	1953	386	16	do	2,621	213.2	Jan. 30, 1958	T,G, 135	Irr	Cased to bottom. Discharge reported 674 gpm at 210 ft., Aug. 15, 1955; discharge reported 1,800 gpm at 180 ft., Sept. 10, 1953.
A-88	do	California Pump Co.	--	--	--	do	--	200	Jan. 1958	T,E	D	
A-89	do	G. W. Huffman	1953	335	16	do	--	171.4	Apr. 25, 1957	N	N	Discharge reported 1,058 gpm at 250 ft. Aug. 15, 1955; 1,800 gpm at 180 ft. Sept. 21, 1953. Perforated from 164 ft. to 330 ft. 1/
A-90	do	do	1953	335	16	do	--	103	Sept. 1953	T,G, 130	Irr	Discharge reported 1,520 gpm in 1955. Perforated from 210 to 330 ft. 2/
A-91	do	L. Walker	1953	400	16	do	--	--	--	T,G	Irr	Discharge reported 1,440 gpm in 1955. Perforated from 230 to 360 ft. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*A-92	Battle Estate	Austin Jones	1955	228	16	Pecos aquifer	--	--	--	T,G, 90	Irr	Casing: 14-in. from 128 ft. to bottom. Discharge reported 1,000 gpm July 1957. Temp. 72°F. 2/
A-93	Bob Brown	-- Tipton	1957	250	8	do	--	150	Jan. 1958	T,E	P	
A-94	do	do	1955	200	5	do	--	138.0	Jan. 29, 1958	N	N	Discharge reported 40 gpm.
A-95	W. M. Lee	--	1954	211	5	do	--	74.0	Jan. 29, 1957	N	N	
A-96	Red Bluff Lumber & Hardware Co.	--	--	200	8	do	2,608	144.8 149.2	Sept.20, 1957 Jan. 24, 1959	N	N	3/
A-97	C. Wilson	--	--	243	14	do	--	--	--	T,G, 70	S,Irr	Casing: 14-in. to 100 ft., and 13-in. to 80 ft. Temp. 72°F.
A-98	do	--	--	268	16	do	2,603	199.1 225.2	Jan. 29, 1958 Jan. 24, 1959	T,G	Irr	Perforated from 93 ft. to bottom. 1/
A-99	George Brown	Huffman & Jones	1953	405	16	do	2,592	110.6 196.5 223.2	Dec. 4, 1954 Jan. 29, 1958 Jan. 24, 1959	T,G, 165	Irr	Deepened in 1955 from 250 to 405 ft.
A-100	do	G. W. Huffman	1954	376	16	do	--	110.6	Dec. 4, 1954	T,G	Irr	Cased to bottom. Perforated 200 ft.
A-101	do	Perry Jones	1957	350	6	do	--	165	Dec. 1957	T,E, 1	D	Cased to bottom.
A-102	N. O. Livezay	--	1952	258	--	do	--	130.9 180	Mar. 16, 1956 Jan. 1958	T,G	Irr	2/
*A-103	do	--	1952	375	16	do	2,591	144.7 203	Mar. 16, 1956 Jan. 1958	T,G	Irr	Cased to 257 ft. Sand and gravel from 130 to 375 ft. Discharge reported 1,800 gpm. Temp. 68°F.
A-104	K. W. Stephan	Freeman & Caldwell	1955	391	16	do	2,586	174.7 176.3 215.8	July 3, 1957 Jan. 28, 1958 Jan. 23, 1959	T,G	Irr	Cased to bottom. Discharge reported 800 gpm.
*A-105	Jim Broyles	-- Broyles	--	192	--	do	--	90	Sept. 1933	N	N	Temp. 69°F.
A-106	do	--	--	--	16	do	2,596	206.7	Jan. 28, 1958	N	N	
A-107	do	--	--	--	16	do	2,597	196.8 203.1	Jan. 27, 1958 Jan. 23, 1959	N	N	3/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-108	G. W. Huffman	G. W. Huffman	1957	405	12	Pecos aquifer	2,602	204.1	Jan. 28, 1958	T,G	Irr	Cased to bottom. Discharge reported 850 gpm.
A-109	do	do	1956	350	16	do	--	192.1	July 22, 1957	T,G	Irr	
A-110	do	do	1949	482	16	do	2,602	221.9	Jan. 28, 1958	T,G	Irr	
A-111	Avery and Allgood	--	1955	422	16	do	2,602	218	Jan. 1958	T,G	Irr	Original depth 220 ft., deepened in 1955 to 422 ft.
A-112	do	--	1957	736	16	do	--	202.0	Jan. 29, 1958	T,G	Irr	Discharge reported 900 gpm.
A-113	do	--	1957	411	16	do	--	202.6	do	J,E	D	Cased to bottom.
A-114	do	--	1957	450	16	do	2,603	218.1 238.1	Jan. 29, 1958 Jan. 24, 1959	N	N	
A-115	Jim Neal	--	1956	500	18	do	2,624	233.6 256.1	Jan. 29, 1958 Jan. 24, 1959	T,G, 95	Irr	Cased to bottom. Discharge reported 800 gpm.
A-116	Harper and Walker	L. Walker	1956	734	18	do	2,622	173.9	Jan. 27, 1958	T,G	Irr	Cased to bottom. Perforated from 261 to 454 ft., and 504 to 734 ft. 1/
A-117	do	do	1956	568	18	do	--	--	--	T,G	Irr	Cased to bottom. Perforated from 230 to 350, 370 to 412, and 432 to 512 ft. 2/
A-118	do	do	1956	702	16	do	2,610	208.4 239.3 221.8	Feb. 8, 1957 July 22, 1957 Jan. 27, 1958	T,G	Irr	Cased to bottom. Perforated from 332 ft. to bottom. 2/
A-119	do	do	1956	722	16	do	2,612	221.8	Jan. 27, 1958	T,G	Irr	Cased to 493 ft. Perforated from 293 to 493 ft. 2/
A-120	Toone Estes	--	--	450	16	do	2,600	185.9	do	T,G	Irr	2/
A-121	do	Perry Jones	1953	240	13	do	2,601	207	Jan. 1958	N	N	Cased to bottom. 2/
A-122	do	do	1956	402	16	do	2,602	177.3	Jan. 27, 1957	T,G	Irr	do
A-123	L. M. Freeman	do	--	--	16	do	2,594	186.6 198.6	May 16, 1957 Apr. 17, 1958	N	N	2/ 3/
A-124	do	--	--	560	16	do	--	--	--	T,G	Irr	Casing: 16-in. to 200 ft., and 12-in. to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-125	J. M. Wristen	--	1955	450	16	Pecos aquifer	2,591	150.8 152.9	Jan. 28, 1958 Jan. 23, 1959	T,G	Irr	Cased to 330 ft.
A-126	A. J. Hoelscher	L. Walker	1957	--	16	do	2,586	161.0 170.2	Jan. 28, 1958 Jan. 23, 1959	T,G	Irr	
A-127	do	do	1957	964	16	do	2,588	--	--	T,G	Irr	1/
A-128	do	do	1955	596	16	do	2,590	172.1	Jan. 28, 1958	T,G, 180	Irr	Cased to 592 ft. Discharge reported 900 gpm. Perforated from 254 to 432, and 507 to 592 ft. 2/
A-129	Dan Johnson	Perry Jones	1953	240	--	do	--	--	--	N	N	2/
A-130	do	L. Walker	--	500	16	do	2,591	173.0 203.7	Jan. 28, 1958 Jan. 23, 1959	T,G	Irr	Cased to bottom. Perforated from 200 to 500 ft. 2/
A-131	A. J. Hoelscher	do	1955	705	16	do	2,601	179.6 198.6	Jan. 27, 1958 Jan. 23, 1959	T,G	Irr	Discharge reported 960 gpm at 305 ft. Aug. 18, 1955. Perforated from 189 to 262, 330 to 370, and 440 to 700 ft. 2/
A-132	do	do	1956	916	16	do	2,602	178.2	Jan. 27, 1958	T,G	Irr	Discharge reported 800 gpm. Cased to 844 ft. Perforated from 354 to 844 ft. 1/
A-133	do	do	1957	--	16	do	2,599	168.6 179.8	Jan. 27, 1958 Jan. 23, 1959	T,G	Irr	
A-134	W. O. Thagard	do	1955	718	16	do	2,595	134	Jan. 1958	T,G	Irr	Casing 480 ft., 200 ft. perforated. 2/
A-135	do	do	1955	700	16	do	2,599	169.5 185.2	Jan. 27, 1958 Jan. 23, 1959	T,G	Irr	2/
A-136	Kenneth Scott	L. Walker	1955	725	16	do	2,607	208.9 178.0 197.3	July 18, 1957 Jan. 27, 1958 Jan. 23, 1959	T,G	Irr	Discharge reported 500 gpm. Perforated from 235 to 432, 477 to 523, and 569 to 726 ft. Temp. 74°F. 2/
A-137	Damond Boyd	Perry Jones	1958	382	16	do	--	69.6	Jan. 27, 1958	T,G, 78	Irr	
A-138	R. C. Crabb	L. Walker	--	381	16	do	2,604	171.8 155.3	July 2, 1957 Jan. 27, 1958	T,G	Irr	Perforated from 153 to 381 ft. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-139	R. C. Crabb	L. Walker	--	642	16	Pecos aquifer	2,608	--	--	T,G	Irr	Perforated from 85 to 390 ft., and 597 ft. to bottom. 1/
A-140	do	do	--	635	--	do	2,608	215.8 167.2 171.3	July 2, 1957 Jan. 27, 1958 Jan. 23, 1959	T,G	Irr	Perforated from 161 to 454 ft., and 545 to 635 ft. 2/
A-141	Port Williams	Perry Jones	1957	--	16	do	--	--	--	T,G	Irr	
A-142	do	--	--	--	16	do	2,616	207.2 176.4	July 18, 1957 Jan. 27, 1958	T,G	Irr	
A-143	do	L. Walker	--	644	16	do	2,618	185.1 204.4	Jan. 27, 1958 Jan. 23, 1959	T,G	Irr	Perforated from 269 to 644 ft. 1/
A-144	D. J. Sibley	--	--	96	6	do	2,630±	89.0	Dec. 7, 1946	N	N	Temp. 69°F.
A-145	Pete White	R. T. Mullican	--	425	16	do	--	--	--	T,G	Irr	Cased to 139 ft. 1/
A-146	Lowe Bros.	L. Walker	1953	393	16	do	--	218.8	Jan. 30, 1958	T,G, 135	Irr	Discharge reported 2,052 gpm at 165 ft. Sept. 11, 1953; 1,340 gpm Aug. 19, 1955. Perforated from 276 to 393 ft. 2/
A-147	do	do	1953	384	16	do	--	--	--	N	N	Cased to bottom. Discharge reported 712 gpm Aug. 19, 1955. Perforated from 251 to 372 ft. 2/
A-148	do	do	1953	383	16	do	2,637	205.9 201.0	Mar. 25, 1957 Jan. 30, 1958	T,G, 135	Irr	Discharge reported 1,285 gpm at 220 ft. Aug. 20, 1953. Perforated from 244 to 383 ft. 2/
A-149	do	do	1953	478	16	do	2,641	214.1 201.9	Jan. 30, 1958 Jan. 24, 1959	T,G, 135	Irr	Cased to 330 ft. Discharge reported 1,534 gpm at 220 ft. Aug. 19, 1953. Perforated from 210 to 330 ft. 2/
*A-150	do	E. C. Brown	1940	107	5	do	2,640±	98.9	May 31, 1940	N	N	Cased to 105 ft. Temp. 69°F.
A-151	do	L. Walker	1953	915	16	do	2,646	218.8 243.3	Jan. 30, 1958 Jan. 24, 1959	T,G, 135	Irr	Discharge reported 1,800 gpm at 190 ft. Aug. 25, 1953; 1,360 gpm July 26, 1955. Deepened from 400 ft. to 915 ft. Casing: 16-in. to 400 ft., 13-in. from 386 to 915 ft. Perforated from 258 to 384 and 386 to 915 ft. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-152	Lowe Bros.	L. Walker	1953	392	16	Pecos aquifer	2,653	203 236.5	Jan. 1958 Jan. 24, 1959	T,G	Irr	Discharge reported 960 gpm Aug. 15, 1955. Perforated from 233 to 392 ft. 2/
A-153	do	do	1956	1,000	16	do	2,652	--	--	T,G	Irr	Casing: 16-in. to 429 ft., 13-in. to 1,000 ft. Perforated from 429 to 1,000 ft. 1/ 2/
A-154	H. V. Colls	do	--	494	16	do	2,658	216.0	Jan. 30, 1958	T,G	Irr	Casing perforated from 333 to 494 ft. 2/
A-155	do	do	--	356	16	do	2,660	171.9 202.7	Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	Casing perforated from 210 to 356 ft. 2/
A-156	Bill Tipton	Bill Tipton	1958	500	16	do	2,662	--	--	T,G	Irr	Discharge measured 600 gpm July 1958.
A-157	William A. Moore	-- Scarbrough	--	225	--	do	2,665±	110	May 1949	N	N	Discharge reported 750 gpm May 4, 1949.
A-158	Bill Tipton	Bill Tipton	1954	475	--	do	2,666	258.9 245.9	Feb. 2, 1958 Jan. 25, 1959	T,G	Irr	Casing: 12-in. to 400 ft. Discharge reported 900 gpm.
A-159	do	do	1954	358	18	do	2,671	239.3	Feb. 2, 1958	T,G	Irr	Discharge reported 1,000 gpm. 2/
A-160	do	do	1955	480	--	do	2,670	--	--	T,G	Irr	Discharge reported 900 gpm.
A-161	do	do	1955	485	12	do	2,671	247.5	Feb. 2, 1958	T,G, 140	Irr	Discharge reported 950 gpm.
A-162	do	do	1955	575	12	do	2,667	247.0 277.1	Feb. 2, 1958 Jan. 25, 1959	T,G	Irr	Discharge reported 750 gpm.
A-163	do	do	1953	400	16	do	2,663	235.4 275.0	Mar. 17, 1957 Jan. 25, 1959	N	N	3/
*A-164	J. T. Jackson	--	1955	590	16	do	2,659	229.2 252.7	Jan. 29, 1958 Jan. 25, 1959	T,G	Irr	Discharge measured 610 gpm Apr. 23, 1957. Temp. 69°F.
A-165	J. P. Rader	L. Walker	1955	600	16	do	2,657	208.2 217.3	Jan. 29, 1958 Jan. 25, 1959	T,G	D,S, Irr	
A-166	F. A. Zeitler	--	--	600	16	do	2,664	212.2 221.4	Mar. 29, 1957 Jan. 29, 1958	T,G	Irr	Discharge reported 1,500 gpm.
A-167	do	--	--	600	16	do	2,663	105.0 175.4	Mar. 29, 1957 Jan. 29, 1958	T,G	Irr	do

See footnotes at end of table.

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-168	Ralph Burkholder	--	--	--	16	Pecos aquifer	--	251.3	Jan. 31, 1958	N	N	
A-169	do	--	--	--	16	do	2,668	251.1	do	N	N	
A-170	do	L. Walker	1954	560	16	do	2,670	249.6	do	N	N	Perforated for 225 ft. 2/
A-171	do	do	--	610	--	do	2,674	250.4 268.6	Jan. 31, 1958 Jan. 25, 1959	N	N	Perforated for 200 ft. 2/
A-172	Worsham Bros.	--	--	--	16	do	2,684	268.6	Feb. 2, 1958	T,G	Irr	Gammaray log indicates base of alluvium at about 620 ft.
A-173	do	--	--	--	--	do	2,678	265.9 293.3	Feb. 2, 1958 Jan. 25, 1959	T,G	Irr	Electric log indicates base of alluvium at about 620 ft.
A-174	do	--	--	--	16	do	2,683	276.7	Feb. 2, 1958	T,G	Irr	
A-175	do	--	--	--	16	do	2,685	280.3 300.4	Feb. 2, 1958 Jan. 25, 1959	T,G	Irr	
A-176	do	--	--	--	16	do	2,683	282.8 299.4	Feb. 2, 1958 Jan. 25, 1959	T,G	Irr	
A-177	Sim A. Reeves, Jr.	--	1953?	300	14	do	2,679	277.2	Feb. 2, 1958	N	N	Perforated at bottom.
A-178	Sim Reeves	S. Stafford	1957	825	14	do	2,687	154.9 153.7	Feb. 2, 1958 Jan. 2, 1959	T,G, 90	Irr	
A-179	do	--	--	--	16	do	2,687	134.5	Feb. 2, 1958	T,G	Irr	
A-180	do	Bill Tipton	--	293	16	do	2,685	--	--	C,W	D	Discharge reported 1,000 gpm. Casing: 16-in. to 228 ft., 12-in. of 68 ft. Perforated from 133 ft. to bottom. 2/
A-181	do	Earl Fisher	1956	420	16	do	2,686	150.6	Feb. 2, 1958	N	N	1/
A-182	do	--	--	--	16	do	2,687	165.0	do	T,G	Irr	
A-183	do	-- Tipton	--	300	16	do	2,687	168.1	June 24, 1957	N	N	
A-184	do	Si Stafford	1958	370	16	do	--	--	--	T,G	Irr	Cased to 370 ft. Discharge reported 270 gpm Sept. 17, 1958.
A-185	Ben and Bob Burkholder	--	--	--	16	do	2,686	169.6	Feb. 4, 1958	T,G, 70	Irr	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-186	J. Deacon	Taylor Wilcox	1903	125	8	Pecos aquifer	2,685±	117.5 112.5 120.0	Sept. 8, 1933 Mar. 7, 1940 May 30, 1950	N	N	
A-187	Si Stafford	L. Walker	1954	585	16	do	2,672	240.8 249.5	Jan. 31, 1958 Jan. 25, 1959	N	N	Perforated from 110 to 392 ft. Well deepened from 392 ft. to 585 ft. Red beds at 368 ft. 2/
A-188	do	do	1954	400	16	do	--	--	--	N	N	Discharge reported 600 gpm July 1957. Deepened from 340 ft. 2/
A-189	do	do	1954	800	16	do	2,670	237.0	Jan. 31, 1958	T,G	Irr	Cased to bottom. Discharge reported 600 gpm. Perforated from 30 to 140, 302 to 344, and 494 to 582 ft. 1/
A-190	do	Si Stafford	1956	650	--	do	2,673	135.7	do	N	N	Red beds reported at 200 ft.
*A-191	E. L. Davis	Taylor Wilcox	1905	138	--	do	2,669	102 134.4	Sept. 1933 Jan. 31, 1958	N	N	3/
A-192	Burkholder Bros.	--	--	--	16	do	2,677	137.9	Jan. 31, 1958	T,G	Irr	Discharge reported 450 gpm.
A-193	do	--	--	--	16	do	2,677	137.4 143.4	Jan. 31, 1958 Jan. 25, 1959	T,G	Irr	Discharge reported 600 gpm, 1956.
A-194	do	--	--	--	16	do	2,674	141.0	Jan. 31, 1958	T,G	Irr	Discharge reported 350 gpm, 1956.
A-195	W. G. Locker and Sons	--	1956	220	16	do	2,661	105.5	do	T,G, 60	Irr	Cased to bottom. 1/
A-196	do	--	1955	220	16	do	2,666	110.8	do	T,G, 125	Irr	Cased to bottom. Discharge reported 500 gpm Sept. 10, 1957.
A-197	do	--	1957	229	16	do	2,669	120.2 114.0	Sept.10, 1957 Jan. 31, 1958	T,G, 125	Irr	Cased to bottom.
A-198	do	--	1953	210	16	do	2,680	126.1 130.1	Jan. 31, 1958 Jan. 25, 1959	T,G, 100	Irr	Cased to bottom. Discharge reported 400 gpm Sept. 10, 1957.
*A-199	Ben and Bob Burkholder	Mullican & Fisher	1956	1,500	16	Rustler formation	2,692	168.6 301	Feb. 4, 1958 Jan. 25, 1959	T,G	Irr	Cased to 1,300 ft. Discharge reported about 600 gpm.
A-200	do	Earl Fisher	--	1,570	--	do	2,690	--	--	T,G	Irr	Original depth 760 ft.; deepened in 1956 to 1,570 ft. Discharge reported 600 gpm. 1/
A-201	Ralph Burkholder	do	1956	289	--	Pecos aquifer	2,688	161.8	Feb. 4, 1958	T,G	Irr	2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-202	Ralph Burkholder	L. Walker	--	600	16	Pecos aquifer	2,694	152.5	Feb. 6, 1958	N	N	Casing: 16-in. 0 to 275 ft.; 10-in. 275 ft. to bottom. Perforated from 285 to 325, and 345 to 435 ft. 2/
A-203	do	Earl Fisher	1953	276	16	do	2,703	159.8	do	T,G	Irr	Red beds at 271 ft. 2/
A-204	do	do	1953	360	16	do	--	--	--	N	N	2/
A-205	do	L. Walker	--	600	16	do	--	--	--	N	N	Casing: 16-in. to 278 ft., perforated 75 ft.; 10-in. to 325 ft., perforated. 2/
A-206	Si Stafford	Si Stafford	1957	335	13	do	2,705	161.3 167.5	Feb. 6, 1958 Jan. 25, 1959	T,G, 110	Irr	Red beds reported at 315 ft.
A-207	do	do	1957	400	13	do	2,705	163.9	Feb. 6, 1958	T,G, 110	Irr	Red beds reported at 310 ft. Discharge reported 700 gpm 1957.
A-208	Ralph Burkholder	Earl Fisher	1953	385	16	do	2,705	175.4	do	T,G, 70	Irr	Casing: 16-in. 0 to 260 ft., 13-in. 260 to 320 ft., and 11-in. 320 to 385 ft. 1/
A-209	do	do	1953	415	16	do	2,705	183.1 195.3	Feb. 6, 1958 Jan. 25, 1959	T,G, 72	Irr	2/
A-210	do	do	1953	325	--	do	2,705	181.3 191.6	Feb. 6, 1958 Jan. 25, 1959	C,E	D	2/
A-211	Harral and Marable	E. James	1950	250	14	do	--	--	--	T,G	Irr	Casing: 14-in. 0 to 200 ft., 80 ft. perforated, 8-in. to 250 ft., perforated.
A-212	A. Tipton	Bill Tipton	1950	245	16	do	2,705±	175	Feb. 1958	T,G, 90	Irr	Cased to bottom. Perforated from 52 to 232 ft. Temp. 69°F. 2/
A-213	do	A. Tipton	1957	407	20	do	2,700	177.3 184.0	Feb. 4, 1958 Jan. 25, 1959	T,G, 70	Irr	
A-214	Crystal Water Farms	L. Walker	--	377	16	do	2,704	195.9	Feb. 4, 1958	T,G	Irr	Well deepened in 1955. Discharge reported 863 gpm Aug. 15, 1955. Perforated from 265 to 373 ft. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-215	Crystal Water Farms	L. Walker	--	480	16	Pecos aquifer	2,702	168.3 212.6	Feb. 4, 1958 Jan. 25, 1959	T,G, 70	Irr	Well deepened in 1955. Discharge reported 665 gpm Aug. 17, 1955. Perforated from 280 to 400 ft.
A-216	do	do	--	340	16	do	2,702	162.3 170.4	Feb. 4, 1958 Jan. 25, 1959	T,G	Irr	Well deepened in 1955. Discharge reported 610 gpm Aug. 15, 1955. Perforated from 256 to 340 ft.
A-217	-- Fraley	--	--	--	16	do	2,696	261.4 285.8	Feb. 4, 1958 Jan. 25, 1959	T,G, 110	Irr	
A-218	do	--	--	--	16	do	2,692	272.2 293.7	Feb. 4, 1958 Jan. 25, 1959	T,G, 110	Irr	
A-219	W. W. Courtney	--	--	85	8	do	--	73.7 40.6	Mar. 1, 1940 Nov. 26, 1946	N	N	Temp. 69°F.
A-220	Lowe Bros.	L. Walker	1955	612	16	do	2,682	257.8 295.5	Feb. 4, 1958 Jan. 25, 1959	T,G	Irr	Casing: 16-in. to 371 ft., and 11-in. to 250 ft. Original depth 371 ft., deepened to 612 ft. on Apr. 1, 1955. 1/
A-221	do	do	1954	370	16	do	2,688	243.1	Feb. 4, 1958	T,G	Irr	Perforated from 210 ft. to bottom. Discharge reported 813 gpm Aug. 17, 1955. 2/
A-222	do	do	1955	--	16	do	2,684	237.2 259.1	Feb. 4, 1958 Jan. 25, 1959	T,G	Irr	
A-223	do	do	1954	373	16	do	2,682	246	Feb. 1958	T,G	Irr	Perforated from 235 to 373 ft. Discharge reported 1,008 gpm Aug. 15, 1955. 2/
A-224	do	do	1954	375	16	do	--	--	--	T,G	Irr	Perforated from 237 to 375 ft., well deepened in 1955. Discharge reported 840 gpm Aug. 15, 1955. 2/
A-225	John Dorr	--	--	--	16	do	2,659	191.8 208.7	Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	
A-226	do	--	--	--	16	do	2,662	209.5 212.6	Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	
A-227	do	--	--	119	12	do	--	115.2	Nov. 29, 1946	T,E, 1½	D,S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
A-228	John Dorr	--	--	--	16	Pecos aquifer	2,669	203.5	Jan. 30, 1958	T,G	Irr	
A-229	A. C. Butler	--	--	147	6	do	2,675±	120.7	Nov. 29, 1946	N	N	Dry Nov. 26, 1957.
A-230	John Dorr	L. Walker	1954	924	16	do	2,674	185.6	Jan. 30, 1958	T,G	Irr	Cased to 667 ft. Perforated from 205 to 325, and 417 to 497 ft. Red beds reported at 891 ft. 1/
A-231	do	--	--	--	16	do	2,673	185.8 208.3	Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	
A-232	do	--	--	--	16	do	2,660	187.1	Jan. 30, 1958	T,G, 145	Irr	
A-233	Jim Neal	--	--	--	12	do	--	101.5	July 24, 1957	N	N	
B-1	--	--	--	--	--	--	--	24.9	Nov. 25, 1957	N	N	
*B-2	E. T. Brandenberg	--	--	47	9	Pecos aquifer	--	34.1 35.7	June 7, 1940 Nov. 25, 1957	C,W	S	Temp. 75°F.
B-3	H. Johnson	Aero-Gas Refining Co.	1938	2,701	--	--	--	--	--	N	N	Oil test. 2/
B-4	E. T. Brandenberg	Tex-Mex Oil Co.	--	2,422	--	--	2,439	--	--	N	N	do
B-5	J. T. Netterville	do	--	2,400	--	--	2,461	--	--	N	N	Oil test. 1/
B-6	E. T. Brandenberg	R. A. Charlsworth	--	2,350	--	--	2,447	--	--	N	N	Oil test. 2/
B-7	J. C. Trees	Trees Oil Co.	--	2,982	--	--	2,476	--	--	N	N	do
B-8	--	E. Valvey	1938	111	7	Pecos aquifer	--	18.7	Nov. 25, 1957	C,W	S	Cased to 63 ft.
B-9	G. T. Abell	Tex Mex Oil Co.	--	--	--	--	2,459	--	--	N	N	Oil test. 2/
B-10	State of Texas	Abell Bros.	1936	1,910	--	--	2,434	--	--	N	N	do
B-11	O. W. Williams	--	--	--	6	Pecos aquifer	--	25.0	Nov. 25, 1957	C,W	S	
B-12	J. C. Trees	Trees Oil Co.	--	2,309	--	--	2,641	--	--	N	N	Oil test.
B-13	S. A. Williams	Tex-Mex Oil Co.	--	2,345	--	--	2,457	--	--	N	N	Oil test. 2/
B-14	L. Cordz	--	--	--	6	Pecos aquifer	--	20.7	Nov. 15, 1957	C,W	S	
B-15	do	--	--	55	6	do	--	22.5	do	C,W	S	Discharge measured 1 gpm Nov. 15, 1957.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
B-16	H. L. Lowry	--	--	55	6	Pecos aquifer	--	23.2	Nov. 15, 1957	C,W	S	Discharge measured 1 gpm Nov. 12, 1957.
B-17	-- Lowry	Tex-Mex Oil Co.	--	2,377	--	--	2,451	--	--	N	N	Oil test. 2/
B-18	H. L. Cordz	Hoss and Downey	--	2,044	--	--	2,433	--	--	N	N	Oil test. 1/
B-19	Payton Water-flood Co.	--	1949	36	5	Pecos aquifer	--	19.9	Nov. 12, 1957	J,E, 1	S	
B-20	do	--	--	Spring	--	do	--	(+)	--	Flows	D,S	
B-21	do	--	1952	761	9	Rustler formation	2,440	70	1956	T,G, 45	Ind	Cased to 637 ft. Discharge reported 200 gpm. Secondary oil recovery.
B-22	do	--	1952	720	9	do	2,441	70	1956	T,G, 45	Ind	Cased to 687 ft. Discharge reported 290 gpm Jan. 4, 1952. Secondary oil recovery.
B-23	Cordz and Juul	--	--	--	6	Pecos aquifer	--	18.4	Nov. 15, 1957	C,W	S	Temp. 71°F.
B-24	--	--	--	--	6	do	--	14.2	do	C,W	S	
*B-25	O. W. Williams	--	--	--	24	do	--	11.7	do	C,W	S	Dug.
B-26	J. J. Dorr	Marland Oil Co.	--	2,409	--	--	2,448	--	--	N	N	Oil test. 2/
*B-27	Cordz and Juul well 2	Sun Oil Co.	1948	774	10	Rustler formation	--	--	--	T,E	Ind	Cased to 749 ft. Discharge reported 60,000 gpd. Drilled as oil test. Secondary oil recovery.
B-28	J. J. Dorr	Rector Oil Co.	--	2,000	--	--	2,469	--	--	N	N	Oil test. 1/
B-29	--	L. B. Ryan	--	120	7	Pecos aquifer	--	20.3	May 28, 1948	N	N	Discharge reported 5 gpm May 28, 1948.
*B-30	Texas Natural Gas Co.	--	--	45	--	do	--	--	--	N	N	
B-31	-- Davis	Chancellor and Slick	--	9,785	--	--	--	--	--	N	N	Oil test.
B-32	J. C. Trees	Atlantic, Trees, et al	--	1,927	--	--	2,489	--	--	N	N	Oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*B-33	--	-- Harberson	1949	60	9	Pecos aquifer	--	--	--	N	N	Cased to 10 ft. Discharge reported 15 gpm July 2, 1949. Temp. 69°F.
B-34	R. Levy	Plymouth Oil Co.	1940	6,473	--	--	--	--	--	N	N	Oil test.
B-35	--	--	--	--	6	Pecos aquifer	--	28.6	Oct. 17, 1957	C,W	S	
B-36	R. Cochran	Perry Jones	1948	435	--	do	--	20.3	Nov. 25, 1957	C,W	S	
B-37	H. Tipton	Wm. Y. Penn	--	2,425	--	--	2,479	--	--	N	N	Oil test. 2/
*B-38	Allen Tipton	--	1938	40	6	Pecos aquifer	--	11.5	June 7, 1940	N	N	Cased to 10 ft. Dry Nov. 25, 1957. Temp. 75°F.
B-39	Trees Estate	Continental Oil Co.	1953	6,007	--	--	--	--	--	N	N	Oil test.
*B-40	Santa Rosa Springs	--	--	Spring	--	Pecos aquifer	--	(+)	--	Flows	Irr	Santa Rosa Springs. Dry in summer.
B-41	J. C. Trees	Bendum and Trees	--	3,502	--	--	2,555	--	--	N	N	Oil test. 2/
B-42	Jim Neal	R. A. Cleveland	1948	260	16	Pecos aquifer	--	--	--	N	N	Text hole. Perforated from 160 ft. to bottom.
*B-43	J. C. Trees Estate	--	--	60	6	do	2,554	29.6 46.7 39.1 52.6	Oct. 24, 1946 Nov. 25, 1957 Jan. 16, 1958 Jan. 20, 1959	C,W	S	Temp. 72°F.
B-44	Baker and Jernigan	L. Walker	--	719	13	do	2,590	163.4 178.6	Jan. 16, 1958 Jan. 23, 1959	T,G	Irr	Cased to bottom. Perforated from 238 to 335 ft., and 474 to 720 ft.
B-45	L. D. Bankston	--	--	600	16	do	2,591	165.6	Jan. 16, 1958	T,G	Irr	Cased to bottom.
B-46	C. E. Watkins	--	--	230	16	do	--	140	1958	T,G, 85	Irr	
B-47	E. T. Watkins	--	1952	2,589	16	do	--	87.5 86.7	Mar. 15, 1957 Jan. 16, 1958	N	N	
B-48	do	--	--	--	16	do	2,589	135.5 140.9	Jan. 16, 1958 Jan. 23, 1959	T,G	Irr	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
B-49	W. D. Thagard	L. Walker	1956	922	16	Pecos aquifer	2,592	167.4	July 2, 1957	J,E	D	Casing: 12-in. from 443 ft. to bottom. Red beds at 915 ft. Perforated from 254 to 922 ft.
B-50	do	--	1957	575	16	do	2,593	166.2 177.5	Jan. 27, 1958 Jan. 23, 1959	T,G	Irr	
B-51	-- Combest	--	--	--	16	do	2,586	66.2 77.0	Jan. 16, 1958 Jan. 23, 1959	T,G	Irr	
B-52	do	--	--	--	16	do	2,579	68.2	Jan. 16, 1958	T,G, 60?	Irr,S	
B-53	Harlan Black	--	--	200	6	do	2,569	48.5 62.0	Jan. 16, 1958 Jan. 20, 1959	C,W	D	
*B-54	do	Houston Oil Co.	--	4,000	--	Capitan limestone	--	(+)	--	Flows	Irr	Drilled as oil test, converted to water well. Flow reported 1,000 gpm. Capitan reef from 3,200 to 3,600 ft.
B-55	do	--	--	642	--	Pecos aquifer	2,564	79.0 39.5 47.1	July 19, 1957 Jan. 16, 1958 Jan. 20, 1959	N	N	Test hole.
B-56	Jim Neal	John Lancaster	--	520	--	do	2,565	84.5 43.5 57.7	July 19, 1957 Jan. 27, 1958 Jan. 20, 1959	N	N	Test hole. Insufficient water for irrigation.
B-57	do	--	1957	620	--	do	--	81.9	July 19, 1956	N	N	Test hole. Red beds at 620 ft. Caved at 20 ft. Jan. 27, 1957.
*B-58	George Hanna	Johnson Pump Co.	--	400	--	do	2,572	46.3 63.2	Jan. 27, 1958 Jan. 20, 1959	T,G	Irr	Well deepened in 1958.
B-59	do	E. J. McMillan	1957	610	--	do	--	118.0	July 18, 1957	N	N	Test well. Discharge reported 450 gpm. 1/
B-60	Jim Neal	--	--	--	6	do	2,550	56.6 25.8 42.6	July 19, 1957 Jan. 27, 1958 Jan. 20, 1959	C,W	S	
B-61	George Atkins Estate	Santa Rosa Gas Plant	--	--	--	do	--	101.0	Oct. 9, 1957	T,E	Ind	
B-62	do	L. B. Ryan	1949	243	12	do	2,522	101.0	do	T,E, 15	Ind	Cased to 78 ft.

See footnotes at end of table.

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
B-63	George Atkins Estate	L. B. & Virgil Ryan	1950	--	--	Pecos aquifer	--	21.0 94.7	Mar. 4, 1950 Oct. 9, 1957	N	N	Original depth 40 ft., deepened in 1950.
B-64	do	L. B. Ryan	--	156	--	do	--	18.8 59.5	Mar. 2, 1950 Oct. 9, 1957	N	N	
*B-65	do	Perry Jones	1950	144	6	do	--	20.5 21.1 35.0	Mar. 2, 1950 Mar. 4, 1950 Oct. 9, 1957	C,W	S	Well deepened in 1950.
B-66	do	--	1948	--	6	do	--	23.3 26.5	Jan. 19, 1955 Jan. 26, 1959	C,W	S	3/
B-67	H. E. Bonebrake	Bahan & Rhodes	--	2,230	--	--	2,504	--	--	N	N	Oil test.
B-68	W. T. Shearer	G. T. Abell	--	1,696	--	--	2,441	--	--	N	N	Oil test. 2/
B-69	George Atkins Estate	--	1947	75	6	Pecos aquifer	--	21.9	Nov. 15, 1957	C,W	S	
B-70	Iowa Realty Co.	Aero-Gas Refining Co.	1938	1,520	--	--	2,511	--	--	N	N	Oil test. 2/
B-71	Ray Claver	--	--	--	6	Pecos aquifer	2,508	20.8	Nov. 15, 1957	C,W	S	
*B-72	Bonebrake Estate	--	1944	120	7	do	--	18.2 16.7	Oct. 23, 1946 Sept. 2, 1950	C,W	D,S	Cased to 50 ft.
B-73	do	--	--	2,004	--	--	2,568	--	--	N	N	Oil test. 2/
*B-74	do	--	--	Spring	--	Pecos aquifer	--	(+)	--	Flows	S	Flow reported 2 gpm. Monument Springs.
B-75	A. LeFevre	G. H. Anderson	--	2,037	--	--	2,517	--	--	N	N	Oil test. 1/
*B-76	E. C. Graham	Huffman & Byres	1957	518	14	Pecos aquifer	2,563	40.0 94.2	Jan. 27, 1958 Jan. 20, 1959	T,G	Irr	Cased to 150 ft. Temp. 76°F.
B-77	-- Church	--	--	555	16	do	2,574	48.3 66.2	Jan. 27, 1958 Jan. 20, 1959	T,G	Irr	Cased to 20 ft.
B-78	do	--	1957	333	16	do	2,570	44.1 61.8	Jan. 27, 1958 Jan. 20, 1959	T,G, 110	Irr	Cased to 185 ft. Discharge reported 1,000 gpm July 19, 1957.
*B-79	do	--	1956	512	16	do	2,568	117.9 44.5 61.1	July 19, 1957 Jan. 27, 1958 Jan. 20, 1959	T,G, 185	Irr	Cased to 305 ft. Discharge reported 2,000 gpm July 19, 1957.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
B-80	E. L. Hartman	-- Hazelwood	1957	558	16	Pecos aquifer	2,584	92.7 59.6 76.8	July 5, 1957 Jan. 27, 1958 Jan. 20, 1959	N	N	Cased to 100 ft. Limestone at 91 ft.
*B-81	Harlan Black	--	--	265	16	do	2,597	109.8 127.9	Jan. 27, 1958 Jan. 20, 1959	T,G	Irr	Cased to bottom. Limestone at 265 ft.
B-82	do	--	--	265	--	do	2,599	108.5	Jan. 27, 1958	T,G	Irr	Limestone at 265 ft.
B-83	do	--	1956	400	16	do	2,601	114.2 121.4	Jan. 27, 1958 Jan. 20, 1959	T,G	Irr	
B-84	City of Imperial	Brown Drilling & Welding Co.	1957	198	11	do	--	118.1	June 6, 1957	T,E	P	Cased to bottom. Perforated from 98 to 158 ft.
B-85	do	B. L. Breed	1956	232	11	do	--	118.9	do	T,E	P	Cased to bottom. Perforated from 103 to 143, 192 to 222 ft. Discharge reported 600 to 700 gpm.
B-86	do	W. H. Drilling Co.	1957	676	11	do	--	118.5	do	T,E	P	Cased to bottom. Perforated from 115 to 175, 275 to 285, 437 to 497, and 570 to 600 ft. 1/
B-87	do	--	1956	235	9	do	2,602	115.5 127.6	June 6, 1957 Jan. 20, 1959	N	N	Cased to bottom. Discharge reported 50 gpm when drilled. 3/
B-88	D. J. Sibley	N. A. House	1940	100	7	do	2,605±	67.8	Dec. 7, 1946	C,W	S	Cased to bottom. Perforated 20 ft. Temp. 70°F.
B-89	Jim Neal	B. L. Breed	1956	235	11	do	--	--	--	T,G	Irr	Cased to bottom. Discharge reported 900 gpm.
B-90	State of Texas	Perry Jones	1956	191	13	do	--	--	--	--	--	Cased to 147 ft. Test hole. 2/
B-91	--	--	--	72	6	do	--	55.6	Nov. 11, 1957	C,W	S	
C-1	Scharff and Blackman	Rowan & Tong	--	2,215	16	do	2,433	24.5	Nov. 12, 1957	N	N	Oil test; converted to water well.
C-2	-- Potts	Union Oil & Mining Co.	--	1,712	--	--	--	--	--	N	N	Oil test. 2/
C-3	Magnolia Petroleum Co.	Hostetler Engineering Co.	1957	180	8	Pecos aquifer	--	18	June 1957	T,E, 7½	--	Cased to bottom. Used in secondary-oil recovery. 1/
C-4	-- Potts	do	1953	140	8	do	--	20	Oct. 1953	T,E, 3	--	do

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-5	George Atkins Estate	--	1940	--	6	--	--	23.8	Oct. 1, 1957	N	N	
C-6	-- -	--	--	1,622	--	--	2,426	--	--	N	N	Oil test. 2/
C-7	George Atkins Estate	--	1942	--	6	--	--	20.7	Oct. 4, 1957	N	N	
C-8	-- Eaton	Shell-Ditman	--	1,634	--	--	2,433	--	--	N	N	Oil test. 2/
C-9	Monterrey Oil Co.	Hostetler Engineering Co.	1957	326	11	Pecos aquifer	--	33.2	Nov. 14, 1957	N	N	To be used for secondary-oil recovery.
C-10	--	Sun-Ray Oil Co.	1946	2,661	11	San Andres limestone	2,427	--	--	N	N	Oil test. 2/
C-11	--	--	--	2,098	--	--	2,419	--	--	N	N	do
C-12	-- Eaton	J. R. Bell et al	--	1,750	--	--	2,425	--	--	N	N	do
C-13	Hal Burnett	Fields Parker	--	176	16	Pecos aquifer	2,423	40 37.5	May 1948 Nov. 1, 1957	N	N	Cased to bottom. Perforated from 115 to 176 ft. 2/
C-14	-- Blackman	Cromwell and Kimberlin	1926	2,126	--	San Andres limestone	2,402	(+)	1958	Flows	Irr	Oil test.
C-15	Hal Burnett	--	--	108	16	Pecos aquifer	2,420	36.6	Nov. 1, 1957	N	N	
C-16	do	--	--	169	16	do	2,422	36.9	do	N	N	2/
C-17	do	--	--	--	11	--	2,412	.6 1.2	May 12, 1948 June 10, 1948	N	N	Oil test; converted to water well, but not used. Reported originally flowed.
C-18	do	--	--	2,300?	--	San Andres limestone	--	(+)	1958	Flows	Irr	
C-19	do	--	--	2,300?	--	do	--	(+)	1958	Flows	Irr	
C-20	-- Tyler	Peck, Penn and Richardson	--	2,460	--	do	2,412	--	--	N	N	Oil test. 1/
C-21	Hal Burnett	--	--	103	18	Pecos aquifer	2,422	28.4	Nov. 12, 1957	N	N	
C-22	-- Michaelson	-- Talbot	--	2,012	--	--	--	--	--	N	N	Oil test. 2/
C-23	Hal Burnett	--	1948	--	--	Pecos aquifer	2,403	27.2 24.7	Sept. 15, 1948 Nov. 12, 1957	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*C-24	Hal Burnett	Roscoe Armstrong	1946	91	20	Pecos aquifer	2,403	24.9 23.6 22.7 27.3	Sept.26, 1946 Dec. 12, 1946 Jan. 30, 1947 Nov. 12, 1952	N	N	Discharge measured 1,380 gpm June 10, 1947. Temp. 70°F.
C-25	do	do	1946	88	16	do	2,404	27.6 31.2 22.7	Sept.26, 1946 Sept.15, 1948 Nov. 12, 1957	N	N	Casing: 16-in. to 63 ft., and 9-in. from 63 ft. to bottom, perforated.
C-26	do	do	1946	88	16	do	2,404	28.0 31.2 25.5	Sept.26, 1946 Sept.15, 1948 Nov. 8, 1948	N	N	Casing: 16-in. to 60 ft., and 9-in. from 60 ft. to bottom, all perforated. Discharge reported 1,400 gpm. June 10, 1947. Temp. 70°F.
C-27	do	do	1946	94	16	do	2,404	25.9 23.5 28.9	Sept.26, 1946 June 10, 1947 Sept.15, 1948	N	N	Perforated from 38 ft. to bottom. Temp. 70°F.
C-28	do	--	--	--	--	do	2,402	24.2	Nov. 12, 1957	N	N	
C-29	L. L. Borgens	Allman and Weekley	--	1,075	--	--	--	--	--	N	N	Oil test. 2/
C-30	Scharff and Blackman	Jones and Eakin	1950	875	--	--	--	--	--	N	N	do
C-31	-- Williams	Tek Oil Corp.	1957	168	11	Pecos aquifer	--	--	--	T,E, 15	--	Cased to bottom. Discharge reported 2,300 bpd. Used for secondary-oil recovery.
*C-32	C. Williams	-- Hankinson	1950	--	10	Rustler formation	--	--	--	N	N	Oil test. Temp. 72°F. 2/
*C-33	Fred Quintela	-- Moore	1946	110	16	Pecos aquifer	2,399	15.8 21.4	Oct. 25, 1946 Jan. 26, 1959	N	N	Cased to bottom. Perforated from 40 ft. to bottom. 3/
C-34	do	E. E. Scarbrough	1944	54	6	do	2,397	18.2 18.8 19.7	Sept.15, 1948 Nov. 8, 1948 Mar. 8, 1949	N	N	Cased to bottom. Perforated from 38 to 53 ft. Sand and gravel from 36 to 54 ft.
C-35	Tom Johns	--	--	--	--	do	2,398	20.7	Nov. 12, 1957	C,W	S	Dug.
C-36	E. B. Barrow	Robert M. Bass	--	--	10	--	--	--	--	N	N	Oil test. 2/
C-37	Charles Hart	Sam Parker	1948	110	16	Pecos aquifer	--	16 20.0	May 1948 Nov. 12, 1957	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-38	Dave Pierce	--	--	--	6	Pecos aquifer	--	20.7	Nov. 12, 1957	C,W	S	
*C-39	Charles Hart	Sam Parker	1948	107	20	do	2,396	18.3 18.4 19.6 20.0	May 19, 1948 Nov. 8, 1948 Mar. 8, 1949 Nov. 12, 1957	N	N	Casing: 20-in. 0 to 45 ft., and 16-in. from 45 ft. to bottom. Discharge reported 1,480 gpm July 20, 1948. Temp. 69°F. 2/
C-40	County of Pecos	Earl Holloway	1947	170	10	do	--	10.0 11.0 20	Oct. 30, 1940 Oct. 26, 1946 June 1948	N	N	Casing: 10-in. from 0 to 70 ft., and 8-in. from 70 to 150 ft. Gravel from 150 to 165 ft.
C-41	Ralph Fogleman	E. E. Scarbrough	1946	89	16	do	2,393	15.4 21.2	Oct. 22, 1946 Jan. 26, 1959	N	N	Casing: 16-in. from 0 to 31 ft., and 14-in. from 31 ft. to bottom. Perforated from 59 ft. to bottom. Discharge measured 1,100 gpm Apr. 12, 1947. 3/
C-42	do	do	1948	90	16	do	2,394	17.6 17.6 21.2	Sept.15, 1948 Nov. 8, 1948 Nov. 12, 1957	N	N	Cased to bottom. Perforated from 60 ft. to bottom.
C-43	County of Pecos	do	1948	175	10	do	2,391	18.6 18.1 16.8	June 7, 1948 Sept.15, 1948 Mar. 23, 1949	N	N	Casing: 10-in. from 0 to 119 ft., and 8-in. from 119 to 165 ft.
C-44	George Abell	Hankinson et al	1948	--	12	--	--	--	--	N	N	Oil test. 2/
C-45	F. R. Knapp	--	--	2,503	--	--	--	--	--	N	N	do
C-46	B. Heierman	County of Pecos	--	--	6	Pecos aquifer	--	16.9	Nov. 12, 1957	C,W	S	
*C-47	L. A. Heagy	Jack Reinertsen	1946	92	13	do	2,388	11.8 18.9	Oct. 21, 1946 Jan. 26, 1959	N	N	Casing: 13-in. 0 to 70 ft., and 11-in. from 70 to 92 ft. Perforated from 64 to 92 ft. Temp. 70°F. 2/ 3/
C-48	Bob Simpson	E. E. Scarbrough	1946	83	12	do	2,393	14.8 18.6 18.9 18.7	Oct. 21, 1946 Sept. 6, 1948 Nov. 28, 1949 Nov. 12, 1957	N	N	Discharge reported 1,282 gpm July 21, 1948. Original depth 50 ft., deepened to 83 ft. by owner.
C-49	C. W. Williams	G. T. Abell	--	2,449	--	--	--	--	--	N	N	Oil test. 1/
C-50	--	E. E. Scarbrough	--	--	16	Pecos aquifer	--	15.2 16.6	May 9, 1949 Nov. 13, 1957	N	N	
C-51	Pete Maxey	--	1957	50	--	do	--	17.6	Oct. 13, 1957	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level: Below or above (+) land surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
C-52	Francisco Terrazas	Minter and Bertram	1948	158	16	Pecos aquifer	2,394	15.0 16.8 17.7	June 11, 1948 Nov. 8, 1948 Mar. 10, 1949	N	N	Casing: 16-in. from 0 to 90 ft., and 12-in. from 90 ft. to bottom. Discharge estimated 700 gpm Apr. 20, 1948. Abandoned.
C-53	L. E. Edmiston	P. D. Weddle	1946	116	8	do	2,386	12.3 14.6 14.1	Apr. 23, 1948 Nov. 9, 1948 Oct. 24, 1957	N	N	Casing: 8-in. from 0 to 22 ft., and 7-in. from 22 ft. to bottom. Sand and gravel from 5 to 116 ft.
*C-54	do	Walter Dugan	--	132	16	do	2,386	11.4 12.7 12.5	Apr. 23, 1948 Nov. 9, 1948 Oct. 24, 1957	N	N	Cased to bottom. Original depth 80 ft., deepened in 1948. Perforated from 82 ft. to bottom. Temp. 68°F.
*C-55	W. K. Heagy	-- Abell	--	--	6	San Andres limestone	--	--	--	N	N	Oil test. 2/
C-56	--	--	--	--	6	Pecos aquifer	--	14.2	Nov. 8, 1957	N	N	
C-57	M. M. McFrancis	J. B. Spikes	--	2,359	--	--	2,387	--	--	N	N	Oil test. 2/
C-58	C. Hart	--	--	75	6	Pecos aquifer	--	15.7	Nov. 14, 1957	N	N	Oil test.
*C-59	W. K. Heagy	Ellsworth Greer	1946	61	16	do	2,389	12.3 17.6	Oct. 21, 1946 Jan. 28, 1959	N	N	Casing: 16-in. from 0 to 34 ft., and 13-in. from 34 ft. to bottom. Discharge reported 1,150 gpm June 10, 1947. Perforated from 34 ft. to bottom. Temp. 67°F. 3/
C-60	do	--	--	102	7	do	--	15.0 16.1	May 23, 1949 June 2, 1949	N	N	
C-61	Ira Cox	-- Gann	1946	144	16	do	2,391	13.1 18.1 17.8 16.3	Sept.27, 1946 Nov. 9, 1948 Mar. 8, 1949 Oct. 24, 1957	N	N	Cased to bottom. Discharge reported 729 gpm Aug. 2, 1948. Perforated from 84 ft. to bottom.
C-62	George Atkins Estate	Walter Dugan	1948	120	7	do	2,392	24.3 19.3 17.5 17.3	Sept.20, 1948 Nov. 9, 1948 Nov. 28, 1949 Nov. 8, 1957	N	N	Cased to 53 ft.
C-63	W. A. Simmons	--	1947	91	13	do	2,388	11.5 16.0	Jan. 30, 1947 Dec. 20, 1957	N	N	Cased to bottom. Perforated from 51 ft. to bottom. Temp. 68°F. 3/
C-64	Mrs. W. H. Simmons	--	1941	37	8	do	2,387	13.6 14.6 16.5	Nov. 9, 1948 Mar. 8, 1949 Oct. 24, 1957	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-65	George Atkins Estate	L. B. Ryan	1943	92	7	Pecos aquifer	--	15.6 16.0	Mar. 23, 1949 Nov. 8, 1957	N	N	Cased to 70 ft.
C-66	do	--	1940	--	--	--	--	24.4	Oct. 9, 1957	N	N	
C-67	do	John Barnett	1947	145	16	Pecos aquifer	2,400	26.4 24.5 25.2 23.0	Nov. 9, 1948 Nov. 28, 1948 Mar. 9, 1949 Nov. 8, 1957	N	N	Cased to bottom. Perforated from 70 ft. to bottom.
C-68	do	Walter Dugan	1948	146	16	do	2,398	25.4 24.2 21.6	Nov. 9, 1948 Mar. 9, 1949 Nov. 8, 1957	N	N	Cased to 140 ft.
C-69	do	R. L. Cleveland	--	120	7	do	--	32.8 36.3 31.8	Dec. 2, 1948 Mar. 8, 1949 Oct. 7, 1957	C,W	S	
*C-70	do	Claude Garrett	1946	180	18	do	2,411	28.9 39.9 40.7	Apr. 14, 1947 May 13, 1948 Aug. 15, 1949	T,G	Irr	Casing: 18-in. from 0 to 60 ft., and 16-in. from 60 ft. to bottom. Discharge reported 2,000 gpm Apr. 14, 1947. Perforated from 60 ft. to bottom.
C-71	do	Reinertsen and Holloway	1946	190	18	do	2,410	29.0 34.3 40.4	Apr. 14, 1947 Dec. 2, 1948 Aug. 15, 1949	T,G	Irr	Casing: 18-in. from 0 to 60 ft., 16-in. from 60 ft. to bottom. Discharge reported 3,000 gpm Apr. 14, 1947. Perforated from 60 ft. to bottom.
*C-72	do	--	--	--	--	San Andres limestone	--	(+)	1957	Flows	Irr	Oil test. Rustler cased off after water samples were taken.
*C-73	George Atkins	William Y. Penn	1949	2,668	--	do	2,403	(+)	--	Flows	Irr	Oil test. Temp. 82°F. 2/
C-74	George Abell	B. L. Schumacher	1948	220	16	Pecos aquifer	2,402	27.4 25.8 25.5 23.0	Nov. 9, 1948 Mar. 9, 1949 Nov. 28, 1949 Nov. 8, 1957	N	N	Cased to bottom. Discharge reported 2,000 gpm May 25, 1948. Perforated from 180 ft. to bottom.
C-75	do	do	1948	195	16	do	2,403	28.0 26.3 25.6 22.1	Nov. 9, 1948 Mar. 9, 1949 Mar. 4, 1950 Nov. 8, 1957	N	N	Cased to bottom. Discharge reported 2,100 gpm May 25, 1948. Perforated from 155 ft. to bottom.
C-76	Paul Davis	Don Croft et al	1948	1,957	--	--	--	--	--	N	N	Oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-77	--	--	--	--	--	Rustler formation	--	--	--	N	N	Oil test.
C-78	Paul Davis	Don Croft	1949	1,995	7	--	--	--	--	N	N	Oil test. 2/
C-79	do	Croft and Barnett	1948	--	10	--	--	--	--	N	N	Oil test.
C-80	Western Cotton Oil Co.	Tek Oil Co.	1956	167	11	Pecos aquifer	--	--	--	T,E, 15	--	Cased to bottom. Discharge reported 1,800 bpd Nov. 13, 1957. Red beds reported at 167 ft. Secondary-oil recovery.
C-81	do	Layne-Texas Co. Ltd.	1948	193	--	do	2,954	--	--	N	N	
C-82	do	--	1948	140	--	do	2,403	23.7	Nov. 8, 1957	N	N	
C-83	do	--	1951?	2,800	8	San Andres limestone	--	(+)	--	Flows	N	Measured flow 1,330 gpm in April 1957; and 900 gpm in August 1957. Static pressure reported 150 psi in 1951 and about 75 psi in summer 1957.
C-84	J. W. Reinertsen and O. L. Grove	J. W. Reinertsen	1948	130	18	Pecos aquifer	2,404	41.1 39.7 25.8 23.3	June 11, 1948 Sept. 6, 1948 Mar. 4, 1950 Nov. 8, 1957	N	N	Cased to bottom. Discharge reported 2,800 gpm Apr. 20, 1948. Perforated from 58 to 63, 75 to 82, and 96 ft. to bottom.
*C-85	Western Cotton Oil Co.	do	1948	140	18	do	--	23.5	Nov. 8, 1957	N	N	Cased to bottom. Perforated from 80 ft. to bottom. Temp. 70°F.
C-86	--	Sam Eakin and Perry Jones	1949	--	--	--	--	23.2	Dec. 5, 1949	N	N	Oil test. Red beds reported at 190 ft. 2/
C-87	--	Western Drilling Co.	1948	910	10	Rustler formation	--	--	--	N	N	Oil test. Casing: 10-in. set at 180 ft. 2/
*C-88	Western Cotton Oil Co.	--	--	2,600	8	San Andres limestone	--	(+)	--	Flows	Irr	Flow reported 900 gpm August 1957. Well shut in when not in use.
C-89	H. V. Colls	Colls and Holloway	1948	186	18	Pecos aquifer	2,401	35.0 33.8 31.0 27.6	Apr. 16, 1948 Nov. 5, 1948 Mar. 7, 1949 Nov. 8, 1957	N	N	Cased to bottom. Discharge reported 2,500 gpm June 10, 1948. Perforated from 166 ft. to bottom. Red beds at 170 ft. Temp. 70°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-90	Jones and Moore	Earl Holloway	1948	170	20, 16	Pecos aquifer	2,415	37.9 34.4 31.6	Nov. 5, 1948 Mar. 7, 1949 Nov. 8, 1957	N	N	Casing: 20-in. from 0 to 55 ft., and 16-in. from 55 ft. to bottom.
C-91	H. V. Colls	do	1948	158	18, 16	do	2,408	33.5 30.7 37.4	Nov. 5, 1948 Mar. 7, 1949 Aug. 15, 1949	N	N	Casing: 18-in. from 0 to 73 ft., and 16-in. from 73 ft. to bottom. Perforated from 103 ft. to bottom.
C-92	Billy Moore	E. E. Scarbrough	1946	146	20	do	2,428	38.6 49.5 45.1 40.0	Oct. 22, 1946 Nov. 5, 1948 Mar. 6, 1950 Nov. 1, 1957	N	N	Casing: 20-in. from 0 to 91 ft., and 16-in. from 91 to 141 ft. Perforated from 106 to 141 ft. Temp. 69°F.
C-93	Hall and Abell	Walter Dugan	1948	146	16	do	2,413	26.9 34.1 34.2 28.3	Apr. 23, 1948 Nov. 29, 1949 Mar. 4, 1950 Nov. 8, 1957	N	N	Cased to bottom. Perforated from 86 ft. to bottom. Temp. 70°F.
C-94	Bruce Grammer	--	1951?	2,727	10	San Andres limestone	--	(+)	1957	Flows	Irr	Measured flow 1,750 gpm in spring 1955.
C-95	E. A. Hall	Wm. Y. Penn	--	1,958	--	--	--	--	--	N	N	Oil test. 1/
C-96	G. T. Abell	Condor Petroleum Co.	--	2,005	--	--	2,411	--	--	N	N	Oil test. 2/
C-97	George Atkins Estate	L. B. Ryan	1944	98	7	Pecos aquifer	2,424	43.1 57.1 42.9	Apr. 26, 1947 May 7, 1948 Mar. 4, 1950	N	N	Cased to 72 ft.
C-98	Heagy and Grammer	--	--	2,727	9	San Andres limestone	--	(+)	--	Flows	Irr	Estimated flow 1,800 gpm Oct. 12, 1957.
C-99	Catholic Foundation	Perry Jones	1948	140	20?	Pecos aquifer	2,421	43.3 39.3 9.9	Nov. 5, 1949 Mar. 7, 1950 Nov. 1, 1957	N	N	Discharge measured 750 gpm Aug. 25, 1948. Temp. 70°F.
C-100	do	E. E. Scarbrough	1946	134	16	do	2,425	80.7	June 10, 1948	N	N	Cased to bottom. Temp. 68°F.
C-101	do	--	--	2,600	10	San Andres limestone	--	(+)	--	Flows	Irr	Reported flow 800 gpm spring of 1957.
*C-102	do	-- Lutaehy	--	2,600	5	do	--	(+)	--	Flows	Irr	Measured flow 500 gpm spring of 1957. Temp. 85°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*C-103	Catholic Foundation	George Moore	1946	140	20	Pecos aquifer	2,427	38.6 40.9	Oct. 22, 1946 Jan. 26, 1959	N	N	Casing: 20-in. from 0 to 75 ft., and 16-in. from 75 ft. to bottom. Perforated from 120 ft. to bottom. Temp. 69°F. 3/
C-104	do	E. E. Scarbrough	1946	--	20	do	--	39.3	Nov. 1, 1957	N	N	
C-105	G. C. Holladay	Carmine Drilling Co.	1947	147	--	do	2,434	53.1	Nov. 5, 1948	N	N	Temp. 70°F.
C-106	do	Perry Lange	1947	149	16	do	2,435	43.2 55.8 46.9	Apr. 10, 1947 Nov. 5, 1948 Mar. 7, 1949	N	N	Cased to bottom. Perforated from 89 ft. to bottom. Temp. 70°F.
C-107	do	--	--	--	--	San Andres limestone	--	(+)	1957	Flows	Irr	Measured flow 800 gpm in the spring of 1957.
C-108	J. W. McMillan	Perrin Oil Co.	--	2,300		--	2,439	--	--	N	N	Oil test. 2/
*C-109	George Atkins Estate	Humble Oil & Refining Co.	1940	2,600	10	San Andres limestone	2,448	--	--	N	N	Cased to bottom. Original depth 7,430 ft., plugged back to 2,600 ft. Reported flowing 20 gpm Apr. 20, 1947. Not flowing October 1957.
C-110	G. C. Holladay	E. E. Scarbrough	1948	240	--	Pecos aquifer	2,451	61.8 58.1 34.2	Nov. 5, 1948 Mar. 7, 1949 Oct. 7, 1957	N	N	Temp. 70°F. 2/
C-111	do	--	--	--	8	San Andres limestone	--	(+)	1958	Flows	Irr	Water has H_2S odor.
*C-112	do	Walter Dugan	1948	250	16	Pecos aquifer	2,454	61.1 60.9	Nov. 4, 1948 Nov. 29, 1949	N	N	Casing: 16-in. from 0 to 250 ft. Original depth 585 ft., plugged back to 250 ft. Perforated from 150 to 250 ft.
C-113	do	do	1948	250	16	do	2,452	62.0 58.0 62.2	Nov. 4, 1948 Mar. 7, 1949 Nov. 29, 1949	N	N	Cased to bottom. Perforated from 160 ft. to bottom.
C-114	do	do	1948	250	16	do	2,452	38.2 43.0 44.8 34.8	Nov. 4, 1948 Nov. 29, 1949 Mar. 4, 1950 Oct. 7, 1957	N	N	Cased to bottom. Discharge reported 1,342 gpm Apr. 16, 1948.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-115	G. C. Holladay	Walter Dugan	1948	252	16	Pecos aquifer	2,451	66.6 59.4 30.5	Nov. 5, 1948 Mar. 7, 1949 Oct. 7, 1957	N	N	Cased to bottom. Discharge reported 1,600 gpm Apr. 16, 1948.
C-116	-- Eaton	Perrin Oil Co.	--	1,505	--	--	2,497	--	--	N	N	Oil test. 1/
C-117	do	Hunt Oil Co.	--	5,705	--	--	2,445	--	--	N	N	Oil test. 2/
C-118	--	--	--	1,971	--	--	2,459	--	--	N	N	Oil test.
C-119	Richard Cochran	Richard Cochran	1947	150	16	Pecos aquifer	2,460	24.9 38.8	Feb. 8, 1957 Mar. 18, 1958	N	N	Casing: 16-in. from 0 to 86 ft., and 14-in. from 86 ft. to bottom. Perforated from 87 ft. to 123 ft. Discharge reported 1,150 gpm Feb. 8, 1947. Temp. 69°F. 3/
C-120	Odom and Cochran	L. N. Schooler	1947	127	16	do	2,459	35.6 32.6 35.3	Nov. 4, 1948 Mar. 7, 1949 Oct. 4, 1957	N	N	Cased to bottom.
C-121	do	Perry Jones	1948	265	14	do	2,458	29.3 27.5 39.8	Nov. 4, 1948 Mar. 7, 1949 Oct. 4, 1957	N	N	do
C-122	L. J. Reischman	--	--	--	8	do	--	40	Nov. 1957	T,E, 5	--	Secondary oil recovery.
C-123	--	--	--	1,630	--	--	2,500	--	--	N	N	Oil test. 2/
C-124	Jackson Atwood et al	--	--	60	6	Pecos aquifer	--	50.8	Nov. 14, 1957	T,E, 3	N	
C-125	-- Jackson	Cecil Yadon	1939	1,651	--	--	2,428	--	--	N	N	Oil test. 2/
C-126	C. F. Heagy and W. K. Hart	--	--	--	--	San Andres limestone	--	(+)	--	Flows	Irr	Measured flow 1,320 gpm April 1957.
C-127	Carl Smith	M. E. Taliaferro	1947	135	6	Pecos aquifer	--	42.2 25.0	June 10, 1948 Jan. 11, 1957	C,W	S	Cased to bottom.
C-128	do	Western Drilling Co.	1947	255	18	do	2,436	52.4 47.1 48.1 45.0	Nov. 5, 1948 Mar. 7, 1949 Mar. 4, 1950 Nov. 1, 1957	N	N	Cased to bottom. Discharge reported 2,400 gpm May 17, 1948. Temp. 70°F.
C-129	do	Walter Dugan	--	262	16	do	2,431	48.3 43.8	Nov. 5, 1948 Mar. 7, 1949	N	N	Cased to bottom. Perforated from 190 ft. to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-130	Hal Burnett	Fields-Parker	1948	199	20	Pecos aquifer	2,422	70.1 35.1	May 13, 1948 Nov. 1, 1957	N	N	Casing: 20-in. from 0 to 40 ft., and 18-in. from 40 ft. to bottom.
C-131	do	--	--	5,663	8	--	--	--	--	N	N	Oil test.
C-132	do	Fields-Parker	1948	283	16	Pecos aquifer	2,422	75.7 36.1	May 17, 1948 Nov. 1, 1957	N	N	Discharge reported 1,700 gpm May 17, 1948.
C-133	Carl Smith	Walter Dugan	1948?	229	16	do	2,431	49.3 45.0	Nov. 5, 1948 Mar. 7, 1949	N	N	Cased to bottom. Perforated from 157 ft. to bottom.
C-134	do	Scarbrough and Hightower	1948	210	20	do	--	41.7	Mar. 7, 1949	N	N	Casing: 20-in. from 0 to 68 ft., and 16-in. from 68 to 199 ft. Perforated from 139 to 199 ft.
C-135	George Atkins Estate	--	1945	105	6	do	--	16.5 19.6	Mar. 15, 1949 Oct. 4, 1957	C,W	S	
C-136	Ambassador Oil Co.	--	--	300	11	do	--	--	--	T,E, 10	Ind	Cased to 300 ft. Reported average use 34,000 gpd. Secondary-oil recovery.
C-137	--	--	--	1,651	--	--	2,424	--	--	N	N	Oil test. 2/
C-138	Sunray Mid-Continent Oil Co.	--	--	160	8	Pecos aquifer	--	--	--	T,E, 7	Ind	Reported to use 76,000 gpd. Secondary-oil recovery.
C-139	Monterrey Oil Co.	Hostetler Engineering Co.	1955	338	11	do	--	30	Mar. 1955	T,E, 10	Ind	Cased to bottom. Reported usage 101,000 gpd. Secondary-oil recovery. 1/
C-140	do	do	1956	360	11	do	--	15	June 1956	T,E, 10	--	Cased to bottom.
C-141	Ambassador Oil Co.	--	1956	--	--	do	--	70	Jan. 1956	T,E, 10	Ind	Discharge reported 63,000 gpd. Secondary-oil recovery.
C-142	--	--	--	1,630	--	--	2,436	--	--	N	N	Oil test. 2/
C-143	--	--	--	1,620	--	--	2,433	--	--	N	N	do
C-144	Sunray Mid-Continent Oil Co.	--	--	160	8	Pecos aquifer	--	--	--	T,E, 7½	Ind	Reported usage 14,700 gpd. from C-144, and C-145. Secondary-oil recovery.
C-145	do	--	--	160	8	do	--	--	--	T,E, 7½	--	See well C-144

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-146	George Atkins Estate	--	1942	--	6	Pecos aquifer	--	29.6	Oct. 9, 1957	C,W	S	
C-147	Buster Black	California-Iowa Realty Co.	--	1,653	--	--	2,457	--	--	N	N	Oil test. 2/
C-148	George Atkins Estate	--	--	--	6	Pecos aquifer	--	33.2	Oct. 9, 1957	C,W	S	
C-149	R. H. Rice	--	1940	--	--	--	--	55.9	do	N	N	
*C-150	--	Croft and Barnett	--	1,316	11	Yates sandstone	--	--	--	N	N	Oil test. 2/
C-151	-- Unsicker	Talbot and Dittman	--	1,512	--	--	2,496	--	--	N	N	Oil test. 1/
C-152	J. W. Byrne	--	--	1,600	--	--	2,479	--	--	N	N	Oil test. 2/
C-153	George Atkins Estate	L. B. Ryan	1944	166	7	Pecos aquifer	2,468	30.0 43.5	Apr. 14, 1947 Oct. 1, 1957	C,W	S	Cased to 140 ft.
C-154	do	Perry Jones	1949	335	--	do	--	55.4	Oct. 1, 1957	N	N	
C-155	Keeney and Atkins	Starr and Dittman	1948	350	16	do	2,482	59.8	do	T,G	Irr	Cased to bottom. Discharge measured 745 gpm Aug. 18, 1948. Temp. 70°F.
C-156	do	Western Irrigation Co.	1948	354	16	do	2,484	55.0 62.8	Mar. 29, 1957 Oct. 1, 1957	T,G	Irr	Cased to bottom. Discharge measured 990 gpm Aug. 18, 1948. Temp. 71°F.
*C-157	George Atkins Estate	Earl Holloway	1948	350	16	do	2,484	--	--	T,G	Irr	Cased to bottom, all perforated. Temp. 70°F.
C-158	Murmanill Corp.	--	1949	220	--	do	--	--	--	T,E, 3	Ind	Pumping level reported 50 ft. Secondary-oil recovery.
C-159	do	--	1949	220	7	do	--	--	--	T,E, 5	Ind	Reported usage 71,000 gpd from C-158 and C-159. Reported pumping level 50 ft. Secondary-oil recovery.
C-160	--	--	--	1,574	--	--	--	--	--	N	N	Oil test. 2/
C-161	B. D. Young	J. H. Rives	1938	1,852	--	--	--	--	--	N	N	do
C-162	R. J. Reischman	--	--	--	8	San Andres limestone	--	(+)	--	Flows	Irr	Flowing 800 gpm Oct. 1, 1957. Originally drilled as oil test. Drilled to 1,835 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*C-163	George Atkins Estate	R. L. Cleveland	1942	120	5	Pecos aquifer	2,431	20.1 26.4 30.8	Apr. 10, 1947 Nov. 8, 1948 Oct. 1, 1957	C,W	S	Cased to 30 ft. Temp. 69°F.
C-164	--	--	--	1,825	--	--	2,426	--	--	N	N	Oil test. 2/
C-165	--	--	--	2,504	--	--	2,441	--	--	N	N	do
C-166	B. D. Young	Samwan Oil Co.	1939	1,870	--	--	--	--	--	N	N	do
C-167	George Atkins Estate	--	1948	--	5	Pecos aquifer	--	--	--	C,W	S	
C-168	--	--	--	1,716	--	--	2,444	--	--	N	N	Oil test. 2/
*C-169	Jack Davis	Jim Sullivan	1948	120	8	Pecos aquifer	2,446	24.0 28.9 25.2	July 9, 1948 Sept.10, 1948 Nov. 8, 1948	N	N	Cased to 65 ft.
C-170	Burk Royalty Co.	--	1941	1,895	--	--	2,450	--	--	N	N	Oil test. 1/
C-171	do	Burk Royalty Co.	--	128	9	Pecos aquifer	--	40	Nov. 1957	T,E	Ind	Cased to bottom. Perforated from 90 to 101 ft. Secondary-oil recovery.
C-172	do	do	1955	128	9	do	--	37	Nov. 1957	G	Ind	Cased to bottom. Perforated from 72 to 83 ft., and 91 to 102 ft. Secondary-oil recovery.
C-173	George Atkins Estate	R. L. Cleveland	1946	142	7	do	--	16.9 24.8	Mar. 8, 1949 Oct. 4, 1957	C,W	S	Cased to 80 ft.
C-174	do	--	1951	2,725	8	San Andres limestone	--	(+)	--	Flows	S,Irr	Flowed from 60 to 90 gpm Oct. 1, 1957.
C-175	do	Perry Jones	1948	175	--	Pecos aquifer	--	--	--	N	N	Insufficient water for irrigation.
C-176	do	do	1948	346	16	do	2,422	17.3 19.3 19.3 29.0	May 17, 1948 Nov. 8, 1948 Mar. 4, 1950 Oct. 4, 1957	N	N	Cased to 100 ft.
C-177	do	N. C. House	1947	165	16	do	--	28.1 34.3 33.2 35.1	Dec. 2, 1948 Mar. 3, 1949 Mar. 4, 1950 Oct. 4, 1957	N	N	Cased to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
C-178	George Atkins Estate	L. B. Ryan	1948	120	7	Pecos aquifer	2,404	18.7 18.7 31.0 32.3	Nov. 17, 1948 Dec. 2, 1948 Mar. 8, 1949 Oct. 4, 1957	N	N	Cased to 70 ft.
C-179	do	Walter Dugan	1948	210	16	do	2,405	35.9 34.7 33.0 35.9	May 5, 1948 Nov. 9, 1948 Nov. 28, 1949 Oct. 4, 1957	N	N	Cased to bottom. Perforated from 130 to 210 ft.
*C-180	do	N. C. House	1948	173	18	do	--	32.8 31.7 30.5 32.4	May 5, 1948 Nov. 9, 1948 Mar. 4, 1950 Oct. 7, 1957	N	N	Cased to bottom. Perforated from 100 to 172 ft.
C-181	do	--	--	2,910	9	San Andres limestone	--	(+)	--	Flows	N	Estimated flow 750 gpm Oct. 1, 1957.
C-182	do	--	1945	--	--	Pecos aquifer	--	20.2	Oct. 4, 1957	C,W	S	
C-183	A. C. Hoover	--	--	60	6	do	--	24.8	Oct. 17, 1957	C,W	S	
C-184	do	--	--	--	--	--	--	21.1	do	C,W	S	
D-1	-- McKee	Tex-Mex Oil Co.	--	2,725	20	--	2,304	--	--	N	N	Oil test. 2/
*D-2	J. F. McKee	--	--	87	--	Pecos aquifer	--	--	--	N	N	
D-3	E. J. Rizse	Abell et al	1941	5,040	--	--	2,382	--	--	N	N	Oil test. 2/
D-4	Oliver L. Grove	Ellsworth Greer	1946	113	20	Pecos aquifer	2,378	9.8 14.7 12.9 14.1	Oct. 22, 1946 Nov. 10, 1948 Nov. 28, 1949 Oct. 18, 1957	N	N	Cased to bottom. Perforated from 87 ft. to bottom. Temp. 70°F.
D-5	do	Jack Reinertsen	1946	102	20	do	2,378	12.0 17.5	Oct. 22, 1946 Jan. 28, 1959	N	N	Cased to bottom. Perforated from 62 ft. to bottom. Temp. 70°F. 3/
D-6	Markey Heirs	Magnolia Petroleum Co.	1941	5,401	--	--	2,391	--	--	N	N	Oil test. 2/
D-7	Virginia Crockett	Taubert et al	1940	80	7	Pecos aquifer	--	7.7	Aug. 25, 1940	N	N	Cased to bottom.
D-8	National Gas Production Co.	Bryce McCandless	1947	100	6	do	--	12.3	Oct. 18, 1957	N	N	
D-9	Eugene Grove	Reinertsen and Holloway	1946	116	14	do	2,378	10.7 15.3	Oct. 22, 1946 Jan. 28, 1959	N	N	Cased to bottom. Perforated from 86 ft. to bottom. 3/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
D-10	G. T. Abell	R. D. Blades	--	5,301	--	--	2,392	--	--	N	N	Oil test. 2/
*D-11	Mrs. J. A. Bowman	Jack Reinertsen	1946	115	13	Pecos aquifer	2,382	9.5 12.0 12.6	Oct. 21, 1946 Nov. 10, 1948 Mar. 6, 1940	N	N	Cased to bottom.
D-12	L. G. Bowman	E. E. Scarbrough	1946	94	14	do	2,383	10.1 10.2 13.7	Oct. 21, 1946 Dec. 5, 1946 Mar. 9, 1949	N	N	Casing pulled.
D-13	H. V. Colls	Walter Dugan	1948	230	--	do	--	15.1 15.7	Nov. 9, 1948 Mar. 9, 1949	N	N	Abandoned.
D-14	do	E. E. Scarbrough	1946	65	16	do	--	15.0	Oct. 22, 1946	N	N	do
D-15	do	do	1946	105	12	do	--	12.8 13.0 16.5	Oct. 22, 1946 Dec. 12, 1946 Mar. 6, 1950	N	N	do
D-16	H. J. Eaton	G. T. Abell	1941	5,209	--	--	2,392	--	--	N	N	Oil test. 2/
D-17	Lute and Simon	Walter Dugan	1948	117	16	Pecos aquifer	--	12.8 13.8 13.9	July 9, 1948 Nov. 9, 1948 Nov. 28, 1949	N	N	Cased to bottom. Perforated from 78 ft. to bottom.
D-18	-- Young	Rector Oil Co.	1930	2,318	12	--	2,380	--	--	N	N	Oil test. 1/
D-19	A. E. Simmons	--	--	176	7	Pecos aquifer	--	23.6	June 15, 1948	N	N	Cased to 100 ft. Reported caved Oct. 17, 1957.
*D-20	do	Warren Gann	1946	79	--	do	2,375	19.1 21.3 22.1	Oct. 25, 1946 Nov. 10, 1948 Mar. 9, 1949	N	N	Casing pulled. Temp. 70°F.
D-21	do	do	1946	102	16	do	2,374	18.3 21.1	Oct. 25, 1946 Dec. 20, 1957	N	N	Cased to bottom. Temp. 70°F. 3/
D-22	C. W. Mitchell	do	1946	107	13	do	2,372	17.1 20.5	Oct. 25, 1946 Jan. 28, 1959	N	N	Cased to 100 ft. Perforated from 65 to 100 ft. 3/
D-23	do	do	1946	107	13	do	2,361	11.6 13.6 13.0	Oct. 25, 1946 June 11, 1948 Oct. 8, 1957	N	N	Cased to 100 ft. Perforated from 70 to 100 ft.
D-24	R. T. Stribling	Jim Hardway	1945	83	7	do	--	14.7 14.9 15.1	June 11, 1948 Nov. 10, 1948 Mar. 9, 1949	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
D-25	R. T. Stribling	Warren Gann	1946	105	13	Pecos aquifer	2,370	18.8 14.6	Oct. 22, 1946 Jan. 28, 1959	N	N	Cased to 100 ft. Perforated from 70 to 100 ft. 3/
D-26	A. E. Simmons	Liedtke Bros.	1956	2,700	8	San Andres limestone	--	(+)	--	Flows	Irr	Cased to 2,386 ft. Measured flow 165 gpm Oct. 9, 1957. Unfit for domestic and stock use.
D-27	do	Earl Holloway	1948	97	18	Pecos aquifer	--	15.5 16.0	Nov. 10, 1948 Mar. 9, 1949	N	N	Casing: 18-in. from 0 to 83 ft. Perforated from 50 ft. to bottom. Discharged measured 1,775 gpm Aug. 5, 1948. Temp. 71°F.
D-28	do	-- Simmons	1916	22	48	do	--	20	June 1948	C,E	S	Dug. Discharge reported 2 to 3 gpm Sept. 21, 1948.
D-29	do	G. T. Abell	--	2,410	--	--	--	--	--	N	N	Oil test. 2/
D-30	Ray Carmen	Walter Dugan	1948	104	16	Pecos aquifer	--	16.9 16.8	Nov. 10, 1948 Mar. 6, 1950	N	N	Cased to bottom. Perforated from 40 ft. to bottom. Discharge estimated 1,700 gpm June 17, 1948.
D-31	George Brown	George Brown	1946	32	--	do	--	17	Sept. 1948	N	N	
*D-32	do	Jack Reinertsen	1946	100	20, 15	do	2,363	16.9 19.1	Oct. 24, 1946 Mar. 6, 1950	N	N	Casing: 20-in. from 0 to 32 ft., 15-in. perforated from 72 ft. to bottom. Discharge reported 1,500 gpm when drilled. Plugged when visited Oct. 17, 1957.
D-33	do	do	1946	109	16, 14	do	2,362	16.1 19.7	Oct. 24, 1946 Dec. 20, 1957	N	N	Casing: 14-in. from 0 to 109 ft. Discharge measured 513 gpm July 23, 1948. Perforated from 69 ft. to bottom. Plugged when visited Oct. 17, 1957. 2/ 3/
D-34	do	Gene Watkins	1945	430	7, 4	do	2,363	(+) 10.6	Oct. 24, 1946 Oct. 17, 1951	Flows	N	Reported flowed 25 gpm Oct. 24, 1946. 2/
D-35	do	George Brown	1946	20	--	do	--	17.0 18.4	Sept. 21, 1948 Mar. 10, 1949	C,W	S	Dug.
D-36	M. Dameron	do	1946	15	--	do	--	14.1 13.7	Nov. 10, 1948 Mar. 10, 1949	N	N	do
D-37	R. L. Dameron	--	--	--	6	do	--	7.3	Oct. 17, 1957	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*D-38	Tomas G. Esparza	Walter Dugan	1948	109	16	Pecos aquifer	--	15.2 15.3	June 17, 1948 Mar. 6, 1950	N	N	Discharge reported 1,800 gpm June 17, 1948. Temp. 70°F.
D-39	Antonio Esparza	E. E. Scarbrough	1946	100	20, 16	do	2,352	14.3 18.9	Oct. 22, 1946 Oct. 11, 1957	N	N	Discharge reported 1,200 gpm Oct. 22, 1946. Reported caved to 25 ft. when visited Oct. 11, 1957.
D-40	Eva Griswell	--	--	26	24	do	--	23.7	Oct. 11, 1957	C,W	S	
*D-41	G. C. Holladay	A. L. Cox	1946	105	16, 12	do	2,356	15.1 20.2	Oct. 22, 1946 Jan. 28, 1959	N	N	Cased to bottom. Perforated from 65 ft. to bottom. Discharge reported 1,000 gpm Sept. 1946. 3/
*D-42	Carl Courtney	Arrow Drilling Co.	1947	2,855	14, 8	San Andres limestone	--	(+)	May 7, 1948	Flows	N	Oil test converted to water well. Plugged at 2,855 ft. Estimated flow 150 gpm May 7, 1948.
D-43	O. W. Williams	G. T. Abell	1943	2,155	--	--	2,368	--	--	N	N	Oil test. 1/
D-44	A. B. Hall	M. H. Black	1940	110	8	Pecos aquifer	--	14.7 17.5	June 17, 1948 Oct. 17, 1957	N	N	
D-45	Leonard M. Freeman	W & Z Drilling Co.	1948	258	5	--	--	16.1 17.3	Dec. 23, 1948 Oct. 17, 1957	N	N	Cased to bottom. 2/
D-46	L. J. Colls	--	1946	119	16	Pecos aquifer	2,372	13.7 17.6	Oct. 22, 1946 Jan. 22, 1958	N	N	Cased to bottom. Perforated from 69 ft. to bottom. Discharge reported 1,800 gpm Oct. 22, 1946. Pump set at 80 ft. Temp. 69°F. 3/
D-47	Leonard M. Freeman	--	1951	79	5	do	--	17.3	Oct. 17, 1957	N	N	
*D-48	L. B. Freeman	Earl Holloway	1946	100	16, 14	do	2,375	13.8 16.2	Oct. 22, 1946 Mar. 6, 1950	N	N	Cased to bottom. Perforated from 41 ft. to bottom. Discharge measured 869 gpm July 22, 1948.
D-49	do	George Moore	1946	96	20	do	2,374	13.2 16.6	Oct. 22, 1946 Nov. 9, 1948	N	N	Cased to bottom. Perforated from 41 ft. to 95 ft. Discharge measured 958 gpm July 22, 1948. Filled to 17 ft.
D-50	Dietrich and Eager	G. T. Abell	1947	5,410	--	--	--	--	--	N	N	Oil test. 2/
D-51	G. G. Dietrich	--	--	98	7	Pecos aquifer	--	16.4 14.3	July 9, 1948 Oct. 18, 1957	C,W	S	
D-52	--	--	--	--	--	--	--	--	--	N	N	Oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
D-53	--	--	--	21	--	Pecos aquifer	--	19.0 20.2	July 7, 1948 Mar. 9, 1949	C,W	S	2/
D-54	--	--	--	31	--	do	--	18.3	July 7, 1948	C,W	S	2/
D-55	George Atkins Estate	--	1949	--	8	do	--	22.6	Oct. 7, 1957	N	N	
D-56	do	N. C. House	1948	165	18, 16	do	--	26.4 26.3	May 5, 1948 Oct. 7, 1957	N	N	Casing: 18-in. to 73 ft., and 16-in. from 73 to 159 ft. Discharge reported 1,600 gpm May 1948.
D-57	do	Walter Dugan	1948	210	16	do	2,398	32.1 31.9	May 5, 1948 Oct. 7, 1957	C,W	S	
D-58	Harral and Marable	Perry Jones	1946	299	20, 12	do	2,408	25.2 20.3	Nov. 9, 1948 Mar. 4, 1950	N	N	Casing: 20-in. to 125 ft., 12-in. to bottom. Discharge reported 950 gpm May 6, 1948.
*D-59	do	Walter Dugan	1948	330	16	do	--	33.8 34.3	Nov. 9, 1948 Aug. 15, 1949	N	N	Cased to bottom. Perforated from 290 ft. to bottom. Discharge reported 1,850 gpm when drilled.
D-60	do	do	1948	317	16	do	--	18.6 15.8	Nov. 9, 1948 Nov. 28, 1949	N	N	Cased to bottom. Perforated from 277 ft. to bottom. Pump set at 140 ft. Discharge reported 1,000 gpm when drilled.
D-61	Charles Harral	--	--	--	--	San Andres limestone	--	(+)	--	Flows	N	Estimated flow 175 gpm Oct. 17, 1957.
*D-62	A. C. Hoover	--	--	52	6	Pecos aquifer	--	7.5 15.0	Aug. 4, 1950 Oct. 17, 1957	C,W	S	Temp. 69°F.
D-63	do	Perry Jones	1950	400	6	do	--	(+)	--	Flows	S	Oil test; completed as water well. Estimated flow 40 gpm Oct. 17, 1957.
D-64	do	--	--	--	6	do	--	9.9	Oct. 17, 1957	C,W	S	
D-65	do	--	--	--	--	do	--	23.4	do	C,W	S	
D-66	do	--	--	--	6	do	--	23.2	do	C,W	S	
D-67	Sun-Crockett	G. F. Aldrich	1945	2,305	--	--	2,371	--	--	N	N	Oil test. 2/
D-68	H. J. Eaton	--	--	41	--	Pecos aquifer	--	24.9	Oct. 17, 1957	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
D-69	V. W. Crockett	--	--	45	6	Pecos aquifer	--	12.7 17.1	Feb. 3, 1947 Oct. 17, 1957	N	N	
*D-70	George Atkins Estate	J. F. Sullivan	1947	115	7	do	--	12.5	June 17, 1948	C,W	S	Casing: 7-in. to 100 ft.
D-71	S. Rheinstrom	Humble-Kirby Oil Co.	--	2,385	20, 10	--	2,351	--	--	N	N	Oil test. 2/
*D-72	Leona M. Mueller	--	--	64	8	Pecos aquifer	--	19.6 23.8	Feb. 3, 1947 Jan. 28, 1959	C,W	S	Temp. 66°F. 3/
D-73	L. M. Mueller	G. F. Aldrich	--	2,118	--	--	2,362	--	--	N	N	Oil test. 1/
D-74	George Atkins Estate	--	--	28	9	Pecos aquifer	--	14.1 18.2	Dec. 23, 1948 Oct. 18, 1957	N	N	
*D-75	do	Earl Holloway	1947	140	--	do	--	11.7	Dec. 23, 1948	C,W	S	
D-76	J. W. Lutz	Walter Dugan	1948	119	16	do	--	16.4 16.6	Nov. 11, 1948 Mar. 10, 1949	N	N	Casing: 16-in. to 82 ft. Discharge measured 1,700 gpm Aug. 25, 1948. Temp. 69°F.
*D-77	do	do	1948	114	16	do	--	16.2 16.1	Mar. 10, 1949 Mar. 6, 1950	N	N	Casing: 16-in. to 82 ft. Discharge reported 600 to 800 gpm when drilled.
D-78	N. A. Holladay	E. E. Scarbrough	1946	100	18	do	2,340	12.5 17.2	Dec. 12, 1946 Jan. 28, 1959	N	N	Casing: 18-in. to 36 ft., 14-in. from 36 ft. to bottom. Perforated from 68 ft. to bottom. Discharge reported 1,100 gpm Oct. 24, 1946. 3/
D-79	Paul Crone	P. D. Weddle	1948	76	18, 10	do	--	12.1 13.0	Aug. 25, 1948 Mar. 10, 1949	N	N	Discharge measured 2,100 gpm Aug. 27, 1948.
D-80	N. A. Holladay	A. L. Cox	1946	70	18, 14	do	2,339	9.2 15.2	Oct. 22, 1946 Oct. 10, 1957	N	N	Casing: 14-in. cased to bottom, perforated. Discharge reported 1,000 gpm when drilled.
D-81	F. A. Zeitler	W & Z Drilling Co.	1948	121	16	do	--	14	1948	N	N	Casing: 16-in. to 79 ft. Perforated from 20 to 79 ft. Discharge reported 2,400 gpm June 25, 1948.
D-82	do	J. Reinertson	1946	106	14, 10	do	--	9.5 14.3	Oct. 22, 1946 Oct. 10, 1957	N	N	Casing: 14-in. to 92 ft., 10-in. to bottom. Discharge reported 1,400 gpm June 15, 1947. Temp. 70°F. 1/

See footnotes at end of table.

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
D-83	F. A. Zeitler	A. L. Cox	1946	105	16	Pecos aquifer	2,338	10.0 12.9	Apr. 22, 1947 Oct. 10, 1957	N	N	Casing: 16-in. to 105 ft. Perforated from 76 ft. to bottom. Pump set at 80 ft. Discharge reported 1,400 gpm June 10, 1947. Temp. 69°F.
D-84	P. L. Childress	W & Z Drilling Co.	1948	105	18	do	--	18.3	Oct. 10, 1957	N	N	Casing: 18-in. to 40 ft., 16-in. to bottom. Discharge reported 1,630 gpm July 21, 1948.
D-85	do	do	1948	107	18	do	--	16.8 18.4	Nov. 11, 1948 Oct. 10, 1957	N	N	Casing: 18-in. to 104 ft., 16-in. to bottom. Perforated from 47 ft. to bottom. Discharge reported 1,400 gpm June 7, 1948.
D-86	R. L. Ewing	Fuhrman Pertoleum Corp.	--	2,203	--	--	2,325	--	--	N	N	Oil test. 1/
D-87	A. H. and J. T. Ray	W & Z Drilling Co.	1948	105	18	Pecos aquifer	--	26.2 20.1	Aug. 27, 1948 Mar. 10, 1949	N	N	Casing: 18-in. to 39 ft., 16-in. to bottom. Perforated from 45 ft. to bottom. Discharge reported 1,800 gpm July 9, 1948.
*D-88	do	do	1947	170	20	do	--	17.0	Mar. 10, 1949	N	N	Casing: 20-in. to 24 ft., 18-in. to bottom. Perforated from 24 ft. to bottom. Discharge reported 2,000 gpm July 9, 1948.
D-89	S. Millspaugh	Schooler Drilling Co.	1947	118	18, 16	do	2,335	15.0 18.1	June 10, 1947 Mar. 10, 1949	N	N	Casing: 16-in. to bottom. Perforated from 60 ft. to bottom. Discharge reported 1,507 gpm when drilled. Temp. 69°F.
D-90	do	do	1947	118	18, 16	do	2,335	13.8 17.5	June 10, 1947 Mar. 10, 1949	N	N	Casing: 16-in. to 118 ft. Perforated from 68 ft. to bottom.
D-91	do	do	1947	119	18, 16	do	2,333	13.1 14.8	June 10, 1947 Mar. 6, 1950	N	N	Casing: 16-in. to bottom. Perforated from 69 ft. to bottom. 1/
D-92	Mrs. S. S. Millspaugh	--	--	--	--	do	--	14.9	Oct. 10, 1957	N	N	
*D-93	W. J. Holladay	E. E. Scarbrough	1946	105	18, 16	do	2,331	14.1 16.9	Oct. 22, 1946 Jan. 28, 1959	N	N	Casing: 16-in. to 105 ft. Perforated from 57 ft. to bottom. Discharge reported 1,700 gpm Oct. 22, 1946. 3/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
D-94	W. J. Holladay	E. E. Scarbrough	1946	102	16, 14	Pecos aquifer	2,332	14.7 15.9	Oct. 2, 1946 Nov. 11, 1948	N	N	Casing: 14-in. to bottom. Perforated from 62 ft. to bottom. Discharge reported 1,300 gpm Oct. 22, 1946. Temp. 70°F.
D-95	L. C. Holladay	-- Cox	1946	85	18, 12	do	2,332	12.5 15.2	Oct. 22, 1946 Mar. 10, 1949	N	N	Casing: 12-in. to bottom. Perforated from 45 ft. to bottom. Pump set at 60 ft. Discharge reported 1,100 gpm Oct. 22, 1946.
D-96	do	do	1946	100	18, 12	do	2,331	13.7 15.6	Oct. 22, 1946 Mar. 10, 1949	N	N	Casing: 12-in. to bottom. Perforated from 40 ft. to bottom. Discharge remeasured 1,250 gpm June 12, 1947. Pump set at 50 ft.
E-1	Lee Weatherby	--	--	150	6	do	2,753	101.1	July 29, 1957	C,W	S	
E-2	do	-- Scott	1913	260	6	do	--	102.8 104.2	Mar. 1, 1940 Nov. 25, 1946	N	N	
E-3	do	--	1917	207	5	do	2,764	101.3 100.6	Mar. 4, 1940 Nov. 25, 1946	C,W	S	
*E-4	W. W. Courtney	--	1900	92	6	do	2,740	70.0	Mar. 1, 1940	C,W	S	
E-5	do	--	--	95	6	do	--	66.0 63.8	Mar. 1, 1940 Nov. 26, 1946	N	N	Temp. 69°F.
E-6	Lee Weatherby	--	--	113	6	do	2,800	101.4 102.6	May 21, 1947 Apr. 29, 1958	C,W	S	
*E-7	Mrs. H. D. Mendel	R. L. Cleveland	1940	160	6	do	--	112.8	Nov. 26, 1946	N	N	
E-8	Lee Weatherby	--	--	125	6	do	--	83.4	July 26, 1947	C,W	S	
E-9	-- Lawrence	--	--	193	--	do	--	111.9	Apr. 29, 1958	C,W	S	
E-10	Mrs. H. D. Mendel	John Hardaway	--	140	6	do	2,818	116.0	do	C,W	S	
E-11	do	do	--	159	6	do	2,850	136.2 137.3	Nov. 28, 1946 Apr. 29, 1957	C,W	S	
E-12	do	do	--	133	6	do	--	109.1	Apr. 29, 1958	C,W	S	
*E-13	Mrs. H. D. Mendel	--	--	150	--	do	2,837	125.8 129.7	Sept. 5, 1940 Apr. 22, 1958	C,W	S	Temp. 70°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
E-14	Mrs. Ada P. Criswell	--	1957	300±	16	Pecos aquifer	--	140.0	Apr. 16, 1958	N	N	Drilled as test well for irrigation. Discharge reported 500 gpm when drilled.
E-15	do	--	1943	--	12	do	2,874	131.0	Apr. 22, 1958	N	N	Formerly supplied water for oil-well drilling rig.
*E-16	Billy Sol Estes	--	--	159	--	do	2,890	147.5 138.0	Nov. 27, 1946 Apr. 22, 1958	N	N	Drilled as test well for irrigation.
E-17	Mrs. Ada P. Criswell	--	--	--	14	do	--	133.4	Apr. 22, 1958	N	N	do
E-18	do	Bill Holden	1935	170	6	do	--	101.0 83.5	Sept. 5, 1940 Nov. 26, 1946	C,W	D,S	Temp. 73°F.
*E-19	Mrs. H. D. Mendel	Ryan Bros.	1939	180	--	do	--	--	--	C,W	S	Temp. 75°F.
E-20	do	Hugh Gray	1937	180	--	do	--	169.4	Nov. 27, 1946	C,W	S	
E-21	Mrs. Ada P. Criswell	Ben Beckley	1939	180	6	do	2,893	138.2 139.6	Sept. 6, 1940 Apr. 15, 1958	C,W	S	Casing: 6-in. to 100 ft. Sand and gravel reported from 170 to 180 ft. Temp. 74°F.
E-22	do	Gray Bros.	1957	--	18	do	--	161.7	Apr. 22, 1958	N	N	Drilled as test well for irrigation.
E-23	Billy Sol Estes	--	1943	163	6	do	2,923	148.7	Nov. 27, 1946	N	N	Formerly supplied water for stock.
E-24	do	Billy Sol Estes	--	--	14	do	2,921	161.7	Feb. 8, 1958	N	N	Drilled as test well for irrigation.
E-25	do	do	--	--	--	do	2,909	148.2	do	N	N	do
E-26	do	do	--	--	14	do	2,916	146.8	do	N	N	do
E-27	do	do	--	--	16	do	2,927	172.5	do	N	N	do
E-28	do	do	--	--	--	do	2,929	158.8	do	N	N	do
E-29	do	do	--	--	16	do	2,931	166.7	do	N	N	do
E-30	do	do	--	--	16	do	2,938	170.3	Feb. 7, 1958	N	N	do
E-31	do	do	--	142	--	do	2,953	--	--	N	N	Drilled as test well for irrigation. Reported dry.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
E-32	Emerson Tinkler	--	--	175	7	Pecos aquifer	--	--	--	C,W	S	
E-33	Mrs. H. D. Mendel	John Hardaway	--	280	6	do	--	167.9 198.7	Nov. 28, 1946 Apr. 30, 1958	C,W	S	
*F-1	W. W. Courtney	Scott and McLung	1907	139	6	do	2,710±	109.7	Nov. 25, 1946	N	N	Water reported in sand and gravel from 132 to 139 ft. Temp. 67°F.
F-2	Lee Weatherby	R. A. Cleveland	1957	210	6	do	2,710	128.3 130.5	Feb. 6, 1958 Jan. 25, 1959	C,W	D,S	Casing: 6-in. to bottom. Red beds at 210 ft.
F-3	Harral and Marable	-- James	1952	290	16	do	--	--	--	T,G	Irr	Casing: 16-in. to bottom. Discharge reported 554 gpm July 31, 1952.
F-4	do	James and Weddle	1948	253	12	do	2,725	121.1	Apr. 15, 1948	T,G	Irr	Casing: 12-in. to 200 ft. Perforated to 80 ft. Discharge estimated 1,300 gpm Apr. 15, 1948.
F-5	do	Layne-Texas Co. Ltd.	1949	285	16	do	2,700	126.0 208.5	Feb. 8, 1950 Jan. 25, 1959	T,G	Irr	Discharge measured 300 gpm. Gravel-packed.
F-6	Lee Weatherby	Bill Tipton	1952	475	16, 14, 12	do	2,723	190.6 208.5	Feb. 5, 1958 Jan. 26, 1959	T,G, 130	Irr	Discharge reported 900 gpm July 24, 1957.
F-7	do	Percy Weddle	1952	292	16	do	2,729	201.5	Feb. 5, 1958	T,G, 110	Irr	Casing: 16-in. to bottom. Discharge reported 700 gpm July 24, 1957.
F-8	do	E. M. Little	1957	472	12	do	2,737	196.4	do	T,G, 130	Irr	Casing: 12-in. to bottom. Red beds at 472 ft. Discharge reported 700 gpm July 24, 1957.
F-9	do	do	1957	524	12	do	2,735	202.9	do	T,G, 130	Irr	Casing: 12-in. to bottom. Discharge reported 1,000 gpm July 24, 1957.
F-10	do	do	1957	588	12	do	2,728	199.4	Feb. 5, 1958	T,G	Irr	do
F-11	do	R. L. Cleveland	1957	288	6	do	2,721	192.8	Jan. 26, 1959	C,W	D	Casing: 6-in. to 278 ft. Perforated from 196 to 220 ft.
*F-12	W. W. Courtney	--	--	160	6	do	2,720±	133.8	Nov. 25, 1946	N	N	
F-13	Harral and Marable	Earl Fisher	1957	513	12	do	--	--	--	T,G	Irr	Casing perforated 300 ft. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
F-14	Harral and Marable	Earl Fisher	1957	420	16	Pecos aquifer	--	--	--	T,G	Irr	Casing perforated 250 ft. 2/
F-15	do	L. Walker	--	--	--	do	--	--	--	T,G	Irr	2/
F-16	Glen Emert	do	--	245	8	do	2,715	195.4	Feb. 5, 1958	T,G	D	Casing: 8-in. to bottom. Perforated 60 ft.
F-17	do	--	1956	--	16	do	2,712	199.6	do	T,G, 110	Irr	
F-18	do	L. Walker	1955	683	16	do	2,713	197.0	do	T,G, 110	Irr	Casing: 16-in. to bottom. Perforated 136 ft. 1/
F-19	do	do	1955	649	16	do	2,718	199.9 217.4	Feb. 5, 1958 Jan. 26, 1959	T,G, 110	Irr	Casing: 16-in. to bottom. Perforated 283 ft. 2/
F-20	Lee Varnum	Hankamer and Kirklin	1957	--	--	--	2,715	--	--	N	N	Oil test. 2/
F-21	Lee Weatherby	--	--	--	16	Pecos aquifer	2,725	205.8 216.4	Feb. 5, 1958 Jan. 26, 1959	T,G, 110	Irr	
F-22	Bill Moody	W. E. Hawkins	1948	170	--	do	2,730±	135.2	Feb. 8, 1950	N	N	2/
F-23	Jim Neal	--	--	--	--	do	2,734	208.4 209.1	Nov. 27, 1956 Feb. 5, 1958	T,G	Irr	
F-24	do	--	--	--	16	do	2,735	208.4	Feb. 5, 1958	T,G, 70	Irr	
F-25	Paul Ivey	L. Walker	1954	613	16, 12	do	2,728	195.1 195.9 214.5	Nov. 27, 1956 Feb. 5, 1958 Jan. 26, 1959	T,G	Irr	Casing: 16-in. and 12-in. to bottom. Perforated from 240 ft. to bottom. Pump set at 300 ft. in 1955. Discharge measured 904 gpm Oct. 19, 1955.
F-26	Willard Moore	-- Mullican	1954	650	12	do	2,722	214.4 216.4	Nov. 27, 1956 Feb. 5, 1958	T,G	Irr	Casing: 12-in. to bottom.
F-27	-- Hunter	L. Walker	1954	420	16	do	2,712	218.1 243.1	Feb. 5, 1958 Jan. 26, 1959	T,G, 110	Irr	Casing: 16-in. to bottom. 2/
F-28	A. R. Dillard, Jr.	do	--	902	8	do	2,707	237.0 273.2	Feb. 5, 1958 Jan. 26, 1959	N	N	1/
F-29	-- Hunter	do	1954	490	16	do	2,707	224.0 231.0	Feb. 5, 1958 Jan. 25, 1959	T,G	Irr	Casing: 16-in. to bottom. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
F-30	J. H. McIntyre	-- Mullican	--	580	16	Pecos aquifer	2,717	221.2 241.2	Feb. 5, 1958 Jan. 26, 1959	T,G, 70	Irr	
F-31	Willard Moore	L. Walker	1955	1,003	16	do	--	217.8	Feb. 15, 1958	T,G, 110	Irr	Casing: 16-in. to bottom. Perforated at water sands. 1/
F-32	E. E. Martin	L. Walker	1954	426	16	do	2,712	216.6	Feb. 5, 1958	T,G, 145	Irr	Casing: 16-in. to bottom. Perforated from 225 ft. to bottom. Pump set at 266 ft. Discharge estimated 1,000 gpm in 1955.
F-33	do	do	1954	416	18	do	--	199.1 203.3	Nov. 27, 1956 Feb. 5, 1958	T,G, 125	Irr	Casing: 18-in. to bottom. Perforated from 155 ft. to bottom. Pump set at 260 ft. Discharge estimated 1,000 to 1,500 gpm in 1955.
F-34	do	do	1956	1,012	16	do	--	--	--	T,G, 145	Irr	Casing: 16-in. to bottom. Perforated from 200 ft. to bottom. Discharge estimated 1,200 to 1,400 gpm in 1956. 1/
F-35	do	do	--	605	16	do	2,708	219.8 243.3	Feb. 5, 1958 Jan. 26, 1959	T,G, 160	Irr	Casing: 16-in. to bottom. Perforated from 225 ft. to bottom. Discharge estimated 1,500 to 2,000 gpm when drilled.
F-36	Paul Ivey	--	--	197	6	do	2,705±	129.2 191.9	Nov. 29, 1946 July 2, 1957	N	N	Dry in 1958.
F-37	do	--	--	--	16	do	--	--	--	T,G, 70	Irr	
F-38	do	--	1954	400	16	do	--	--	--	N	N	Casing: 16-in. to 370 ft. Perforated from 220 ft. to bottom. Discharge reported 960 gpm Aug. 15, 1955.
F-39	do	--	1954	403	16	do	2,687	244.0 244.6	Feb. 5, 1958 Jan. 25, 1959	T,G, 70	Irr	Discharge reported 853 gpm Aug. 19, 1955. Reported pump lowered from 300 to 340 ft. in 1955.
F-40	do	--	--	--	16	do	2,694	245.9 231.7	Feb. 5, 1958 Jan. 25, 1959	T,G, 110	Irr	
F-41	J. Neal	L. Walker	1955	913	14, 10	do	2,689	207.1 224.5	Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	Drilled from 397 to 913 ft. in 1955. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
F-42	Frank Coleman	L. Walker	1957	1,005	16	Pecos aquifer	2,689	199.8 199.8	Jan. 30, 1958 Jan. 24, 1959	T,G, 150	Irr	
F-43	do	do	1957	902	16	do	2,688	166.5 202.7	Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	
F-44	Yarbrough and Crow	Earl Fisher	--	700	--	do	--	--	--	N	N	Test hole. 2/
F-45	do	do	--	700	16	do	--	125.0 150.7	Jan. 28, 1958 Jan. 24, 1959	T,G	Irr	1/
F-46	Nelson Lethco	--	1957	--	6	do	2,709	120.8 127.1	Feb. 7, 1958 Jan. 24, 1959	C,W	S	
F-47	Ira Lethco	--	1949	165	6	do	--	140	1949	C,W	S	
F-48	Yarbrough and Crow	Earl Fisher	--	690	16	do	2,743	--	--	T,G	Irr	Casing: 16-in. to bottom. Discharge estimated 400 gpm in 1958. 2/
F-49	do	do	1958	500	16	do	2,741	--	--	T,G	Irr	Casing: 16-in. to bottom. Discharge measured 850 gpm in 1958. 2/
*F-50	Nelson Lethco	L. Walker	1957	500	12	do	2,746	141.4 153.1	Feb. 6, 1958 Jan. 24, 1959	T,G	Irr	Water reported in gravel from 350 to 476 ft. Discharge estimated 1,000 gpm in 1958.
F-51	do	Roy Pierce	1955	879	16, 12	do	2,724	140.2 156.7 157.6	Aug. 6, 1957 Feb. 7, 1958 Jan. 24, 1959	T,G, 62	Irr	Cased to bottom.
F-52	J. D. Fortenberry	L. Walker	--	850	16	do	--	218.9	Jan. 26, 1959	T,G	Irr	
F-53	do	do	1955	382	16	do	2,720	210.2 211.5	Nov. 27, 1956 Feb. 5, 1958	T,G, 135	Irr	Casing: 16-in. to bottom. Perforated from 142 ft. to bottom. Discharge estimated 1,300 gpm Nov. 27, 1956.
F-54	do	do	1956	557	16	do	2,728	210.2	Nov. 27, 1956	T,G, 135	Irr	Casing: 16-in. to bottom. Perforated from 242 ft. to bottom. Discharge estimated 1,200 gpm Nov. 27, 1956. 2/
F-55	-- Hunter	do	1954	480	16	do	2,735	189.3 201.4	Feb. 6, 1958 Jan. 26, 1959	T,G, 135	Irr	Casing: 16-in. to bottom. Perforated from 245 ft. to bottom. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
F-56	-- Hunter	L. Walker	1954	440	16	Pecos aquifer	2,735	208.2 225.1	Feb. 5, 1958 Jan. 26, 1959	T,G, 110	Irr	Casing: 16-in. to bottom. Perforated from 268 ft. to bottom. 2/
F-57	J. D. Fortenberry	do	1954	420	16	do	2,743	254.6 227.2	July 5, 1957 Feb. 5, 1958	T,G, 110	Irr	Casing: 16-in. to 416 ft. Perforated from 256 to 416 ft. 2/
F-58	Paul Ivey	--	1958	1,150	16	do	--	227.8	Jan. 26, 1959	T,G	Irr	Discharge measured 850 gpm in June 1958.
F-59	--	--	--	163	--	do	--	141.2	Dec. 7, 1948	C,W	D,S	Temp. 72°F.
F-60	J. H. McIntyre	Rule Bros.	1957	450	16, 12	do	2,753	195.0	Feb. 6, 1958	T,G, 55	Irr	Discharge estimated 600 gpm in 1957.
F-61	do	S. Stafford	--	500	12	do	2,762	193.8 203.5	Feb. 6, 1958 Jan. 26, 1959	T,G, 110	Irr	Casing: 12-in. to bottom. Discharge estimated 1,150 gpm in 1956.
F-62	do	--	--	192	--	do	2,775	166.6 164.2 165.1	Mar. 8, 1940 Feb. 2, 1950 Nov. 26, 1957	C,W	S	Temp. 71°F.
F-63	do	L. Walker	1957	--	16	do	2,780	177.1 201.4	Feb. 5, 1958 Jan. 26, 1959	T,G, 70	Irr	
*F-64	A. J. Hoelscher	do	--	885	16	do	2,767	200.2	Feb. 6, 1958	T,G, 110	Irr	Casing: 16-in. to bottom. Discharge reported 1,000 gpm Aug. 13, 1957. 2/
F-65	do	do	1957	970	16	do	2,768	--	--	T,G	Irr	2/
F-66	do	do	1955	688	16, 12	do	2,768	196.0 210.4	Feb. 6, 1958 Jan. 26, 1959	T,G, 110	Irr	Discharge reported 1,200 gpm in 1957.
F-67	do	do	1957	1,275	--	do	2,767	--	--	N	N	Filled. 1/
F-68	do	do	1956	833	--	do	2,754	--	--	N	N	Temp. 71°F. 2/
F-69	Woodrow Davis	do	1954	660	16	do	2,750	213.0 218.2	Feb. 6, 1958 Jan. 26, 1959	T,G, 110	Irr	
F-70	do	do	1955	710	16	do	2,751	203.1	Feb. 6, 1958	T,G, 110	Irr	Cased to bottom.
F-71	G. Moore	--	--	--	16, 14	do	2,750	188.4 197.5	Feb. 6, 1958 Jan. 26, 1959	J,E	D	Reported original well plugged because of salt water. 14-in. liner installed.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
F-72	G. Moore	S. Stafford	1957	465	16	Pecos aquifer	2,750	188.8	Feb. 6, 1958	T,G, 150	Irr	
F-73	do	do	1957	465	16	do	2,748	169.8 160.1 186.9	Nov. 20, 1957 Feb. 6, 1958 Jan. 26, 1959	T,G, 150	Irr	
F-74	Pomeroy and Newbrough	do	--	465	--	do	2,756	182.9 189.7	Feb. 6, 1958 Jan. 26, 1959	T,G, 70	Irr	
F-75	do	do	1957	465	16	do	2,764	181.6 179.2	Nov. 20, 1957 Feb. 6, 1958	T,G, 75	Irr	
F-76	--	do	1957	464	16	do	2,770	180.7 177.4	Nov. 20, 1957 Feb. 6, 1958	T,G, 150	Irr	Casing 16-in. to 410 ft.; top of red beds.
*F-77	John McIntyre	Lawrence Ryan	1945	220	5	do	--	154.9	Feb. 7, 1958	C,W	S	Cased to bottom.
*F-78	Mrs. H. D. Mendel	Blake Shupe	1940	218	5	do	--	137.3	Nov. 26, 1946	C,W	D	
*F-79	John McIntyre	--	--	228	6	do	2,803	176.9	Feb. 7, 1958	C,W	S	
F-80	do	--	--	231	--	do	2,846	215.2	Mar. 8, 1940	C,W	D,S	Temp. 72°F.
F-81	A. Kloh	World Oil Co.	1928	3,105	15, 6	--	2,810	--	--	N	N	Oil test. 1/
F-82	John McIntyre	Bill Beckley	1938	320	6	Pecos aquifer	2,825	260 214.7	Nov. 1946 Nov. 26, 1957	C,W	S	Cased to bottom.
F-83	Nelson Lethco	--	--	177	4	do	2,779	175.7	Apr. 25, 1957	N	N	
F-84	A. H. Roberson	Humble Oil & Refining Co.	1938	5,368	16, 10	--	2,793	--	--	N	N	Oil test. 1/
F-85	Ira Lethco	--	1948	165	7	Pecos aquifer	2,794	48 136.4	1948 Aug. 6, 1957	C,W	S	
*F-86	Lula McGowins	Union Oil Co.	--	510	--	do	--	--	--	N	N	Temp. 72°F. 1/
*F-87	D. J. Sibley	Phillips Petroleum Co.	1945	505	--	do	2,922	118.5	Nov. 22, 1946	C,W	S	Drilled to supply water for oil well drilling rig.
F-88	Lee Ripps	Humble Oil & Refining Co.	1942	160	8	do	2,830	100 137.2	Nov. 1946 Sept.10, 1957	C,W	D,S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
F-89	D. J. Sibley	--	1939	381	7	Pecos aquifer	2,868	159.4 164.8	Dec. 4, 1946 Jan. 25, 1959	C,W	D,S	Cased to bottom. 3/
*F-90	John McIntyre	-- Ryan	--	200	6	do	--	--	--	C,W	S	Temp. 72°F
*F-91	Mrs. H. D. Mendel	--	--	277	6	do	2,936	252.9 239.4	Mar. 8, 1940 Nov. 25, 1957	C,W	S	
*F-92	John McIntyre	--	--	193	6	do	--	152.8 152.7	Mar. 8, 1940 Nov. 20, 1957	N	N	Temp. 72°F.
*F-93	Mrs. H. D. Mendel	--	--	203	6	do	2,873	168.5 164.9	Mar. 8, 1940 Jan. 22, 1959	C,W	S	3/
F-94	Billy Sol Estes	Billy Sol Estes	1957	--	16	do	2,918	202.2 150.7	Aug. 15, 1957 Jan. 22, 1959	N	N	3/
F-95	do	Ray Hawthorne	1957	550	16	do	2,923	134.4	Jan. 15, 1958	N	N	
F-96	do	Bob Mullican	1957	507	16	do	2,925	--	--	T,G	Irr	Flowed when drilled. Discharge estimated 2,000 gpm. Supplied water for labor camp Jan. 15, 1958. 1/
F-97	do	do	1957	600	16	do	2,924	134.8	Jan. 15, 1958	T,G	Irr	Pump set at 220 ft. Discharge estimated 2,000 gpm Aug. 15, 1957. 1/
F-98	do	do	1957	606	16	do	2,917	116.8	do	T,G, 190	Irr	Pump set at 260 ft. Discharge measured 1,470 gpm Aug. 15, 1957.
F-99	Mrs. H. D. Mendel	--	--	--	6	do	2,923	206.5 206.0	Aug. 15, 1957 Apr. 30, 1958	C,W	S	
F-100	do	R. L. Cleveland	--	156	6	do	--	135.2 204.3	Mar. 8, 1940 Apr. 30, 1958	C,W	D,S	
G-1	A. D. Neal	--	--	92	6	do	--	74.0	Dec. 7, 1946	N	N	Dry in 1957. Temp. 69°F.
G-2	Ira Lethco	--	--	350	7	do	--	196.5	Aug. 7, 1957	C,W	S	
*G-3	D. C. Oglen Wilson	--	1940	645	6	do	2,598	28.0	Oct. 24, 1946	C,W	S	Temp. 79°F.
G-4	do	R. F. Gorman	1941	271	--	do	2,566	9.8	do	C,W	S	
*G-5	do	--	1907	300	6	do	2,607	42.8 48.2	Oct. 23, 1946 Dec. 27, 1957	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*G-6	Bonebrake Estate	--	1906	300	6	Pecos aquifer	--	42.9	Oct. 24, 1946	C,W	S	Temp. 74°F.
G-7	Ralph Johnson	--	--	57	--	do	2,579	53.1 41.0 39.3	Oct. 23, 1946 July 25, 1957 Nov. 10, 1957	C,W	D,S	Temp. 71°F.
G-8	White & Associates	-- Dittman	--	1,065	--	--	--	--	--	N	N	Oil test. 2/
G-9	Iowa Realty Co.	--	--	1,115	--	--	--	--	--	N	N	do
G-10	D. C. Ogden Wilson	--	--	--	6	Pecos aquifer	--	42.7	Sept.27, 1957	C,W	S	
G-11	-- Hines	Robinson and Massey	1955	2,833	--	--	2,618	--	--	N	N	Oil test.
*G-12	J. R. Bennett	--	1940	202	6	Pecos aquifer	--	35.1 39.9	Dec. 6, 1946 Sept.27, 1957	C,W	S	Cased to bottom. Water in white sand from 180 to 200 ft.
*G-13	do	Art Powell	--	452	6	do	2,633	36.5 34.4 35.8	Dec. 6, 1946 Aug. 13, 1950 July 27, 1957	N	N	
*G-14	do	--	1940	200	6	do	2,745	116.4 116.4	July 27, 1957 Sept.27, 1957	C,W	S	Casing: 6-in. to 150 ft.
G-15	-- Streety	John D. O'Mara et al	--	2,130	--	--	2,653	--	--	N	N	Oil test. 1/
G-16	--	--	--	96	6	Pecos aquifer	2,722	53.1 75.7	Oct. 23, 1946 Jan. 26, 1959	C,W	S	3/
G-17	D. C. Ogden Wilson	--	1941	151	6	do	--	106.5	Oct. 24, 1946	C,W	S	
*G-18	do	--	1940	200	6	do	--	--	--	C,W	S	
G-19	A. D. Neal	--	1907	525	--	do	2,690	76	Sept. 1958	C,W	S	
G-20	Ira Lethco	--	--	150	6	do	--	78.8	Dec. 7, 1946	C,W	S	Formerly supplied water for oil well drilling rig.
G-21	Crow and Yarbrough	E. Fisher	1958	489	16	do	--	--	--	T,G	Irr	Discharge measured 2,100 gpm August 1958. 1/
G-22	Ira Lethco	Sharples Oil Corp.	1946?	400	--	do	2,760	128.5	Aug. 7, 1957	C,W	S	Originally drilled to 3,235 ft., plugged back to 400 ft.
*G-23	R. H. Price	Virgil Ryan	1941	500	6	do	--	107.2	Nov. 23, 1946	C,W	S	Casing: 6-in. to 250 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*G-24	Elbert Price	--	--	475	8	Pecos aquifer	--	97.7 265.8	May 2, 1950 May 14, 1958	C,W	S	
*G-25	D. J. Sibley	--	--	1,680	--	Rustler formation	--	(+)	Jan. 18, 1959	Flows	N	Oil test. 2/
G-26	W. C. Tyrell	N. C. House	1948	435	9, 5	Pecos aquifer	--	--	--	N	N	Casing: 9-in. to 10 ft., 5-in. to bottom. Discharge reported 85 gpm in 1948. 2/
G-27	D. J. Sibley	--	1906	400	7	do	--	2.6	Sept.10, 1956	C,W	S	
*G-28	J. R. Bennett	--	--	Spring	--	do	2,780	(+)	July 19, 1950	Flows	S	Discharge reported 600 to 700 gpm July 19, 1950.
G-29	W. C. Tyrell Trust	C. A. Everts	--	2,560	--	--	2,747	--	--	N	N	Oil test. 1/
*G-30	Henry Wilbanks	--	--	Spring	--	Pecos aquifer	--	(+)	July 25, 1950	Flows	S	Discharge measured 0.4 cubic ft. per second, May 10, 1943. Known as Diamond Y or Deep Spring. Temp. 69°F.
*G-31	do	R. L. Cleveland	1942	470	8	do	--	54.9	Oct. 23, 1946	C,W	D,S	Water sands from 70 to 80 ft., and 465 ft. to bottom.
G-32	J. R. Bennett	do	1947	65	--	do	2,759	11.9 22.2	Aug. 13, 1950 Sept.26, 1957	C,W	S	Temp. 69°F.
G-33	J. H. Dyche	--	--	60	6	do	2,780	33.6	July 26, 1957	C,W	S	
G-34	D. J. Sibley	The Texas Co.	1949	4,850	--	--	--	--	--	N	N	Oil test. 2/
G-35	do	--	1902	200	--	Pecos aquifer	2,809	--	--	N	N	Formerly flowed. Dry when visited Sept. 26, 1957.
G-36	J. R. Bennett	N. G. Penrose, Inc.	1954	4,260	--	--	--	--	--	N	N	Oil test. 2/
G-37	do	-- Brown	1936	200	--	Pecos aquifer	2,774	133.9	Sept.27, 1957	C,W	D,S	
*G-38	do	Dittman, Miller, and Adams	1935	370	10, 6	do	2,880	209.9 226.4	Dec. 6, 1946 Sept.27, 1957	C,W	S	Originally drilled as oil test, plugged back to 370 ft., and used for stock supply.
*G-39	do	R. L. Cleveland	1938	400	4	do	2,880	179.4 195.6	Dec. 16, 1946 Sept.26, 1957	C,W	S	Temp. 70°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
H-1	Lee O. White	Atlantic Refining	1945	6,302	15, 10, 8	--	--	--	--	--	--	Oil test. Discharge reported 400 to 500 gpm Oct. 28, 1946. Water reported from 2,180 to 2,315 ft. 1/
H-2	Iowa Realty Co.	G. H. Vaughn	1951	8,313	--	--	2,554	--	--	N	N	Oil test. 2/
H-3	Lee O. White	-- Schumacher	1948	--	--	--	--	--	--	N	N	Oil test. Reported shot at 2,805 ft. Discharge reported 800 gpm when drilled. 2/
*H-4	C. S. Messenger	Ford and Graham	1948	1,425	7	Yates sandstone	--	--	--	N	N	Oil test. 2/
*H-5	George Atkins Estate	The Texas Co.	1949	101	7	Pecos aquifer	--	--	--	C,G	D	Formerly supplied water for irrigating lawn. Temp. 69°F.
H-6	El Paso Water-flood Co.	--	1955	317	8	do	--	--	--	T,E	--	Pump set at 180 ft. Used for secondary-oil recovery.
H-7	--	--	--	1,400	--	--	2,518	--	--	N	N	Oil test. 2/
H-8	R. J. Reischman	--	1955	75	8	Pecos aquifer	--	--	--	T,E, 15	--	Used for secondary-oil recovery.
*H-9	George Atkins	-- Lassiter	--	2,570	--	San Andres limestone	--	(+)	--	Flows	Irr	Originally drilled as oil test. Used for irrigation in 1950, and for secondary oil recovery in 1958. Discharge measured 1,100 gpm June 22, 1950. Temp. 84°F. 2/
*H-10	A. M. Barnes	A. M. Barnes	1933	80	6	Pecos aquifer	2,515	48.9 61.1	Nov. 11, 1948 Oct. 1, 1957	C,W	S	
H-11	George Atkins Estate	L. B. Ryan	1946	105	7	do	--	43.0 43.7 51.6	Nov. 11, 1948 July 7, 1949 Nov. 1, 1957	N	N	
H-12	do	--	--	--	5	do	--	38.0	Oct. 4, 1957	C,W	S	
H-13	Burk Royalty Co.	C. D. Spencer	1946	122	5	do	2,449	24.0 35.1	July 9, 1948 Oct. 4, 1957	C,W	D	Casing: 3-in. to 90 ft. Perforated at bottom.
H-14	A. C. Hoover	--	--	75	6	do	--	52.4	Oct. 17, 1957	C,W	S	
H-15	J. L. Sullivan	Burk Royalty Co.	--	1,726	--	--	--	--	--	N	N	Oil test. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
H-16	Iowa Realty Co.	W. R. Weaver	--	5,785	--	--	2,443	--	--	N	N	Oil test. 2/
H-17	A. C. Hoover	--	--	57	6	Pecos aquifer	--	39.2	Oct. 17, 1957	C,W	S	
H-18	do	--	--	55	6	do	--	33.5	do	C,W	S	
*H-19	do	--	--	67	6	do	--	11.8 13.1	Feb. 6, 1947 July 7, 1948	C,W	S	
H-20	--	--	--	5,171	--	--	2,425	--	--	N	N	Oil test. 2/
H-21	A. C. Hoover	--	--	96	6	Pecos aquifer	--	14.0 23.8	July 7, 1948 Oct. 17, 1957	C,W	S	Temp. 71°F.
H-22	--	--	--	1,829	--	--	2,441	--	--	N	N	Oil test. 2/
H-23	A. C. Hoover	--	--	38	--	Pecos aquifer	--	30.7	Feb. 6, 1946	C,W	S	
H-24	do	--	--	--	5	do	--	33.8	Oct. 17, 1957	C,W	S	
H-25	do	--	--	--	6	do	--	34.0	do	C,W	S	
*H-26	do	--	--	79	--	do	--	21.0	Feb. 6, 1947	C,W	S	Temp. 69°F.
H-27	Iowa Realty Co.	Ted Weiner	1949	--	--	do	--	--	--	N	N	Formerly supplied water for oil-well drilling rig.
H-28	A. C. Hoover	--	--	--	6	do	--	41.3	Oct. 16, 1957	C,W	S	
H-29	do	R. L. Cleveland	1946	307	5	do	--	65.7 59.1	Feb. 6, 1947 Oct. 16, 1957	C,W	S	Cased to bottom. Perforated from 287 ft. to bottom.
H-30	do	--	--	--	6	do	--	44.2	Oct. 16, 1957	C,W	S	
H-31	Debbs Pattillo	Magnolia Petroleum Co.	--	1,653	--	--	2,465	--	--	N	N	Oil test. 1/
H-32	A. C. Hoover	--	--	65	6	Pecos aquifer	--	--	--	C,W	S	
H-33	do	--	--	65	6	do	2,509	32.6	Oct. 17, 1957	C,W	S	
*H-34	San Pedro Ranch	Eural James	1943	80	2	do	2,522	24.4 38.5	Oct. 30, 1946 Apr. 25, 1958	C,W	S	
*H-35	J. R. Bennett	Bower, Hale and Lamb	1932	900	--	Rustler formation	--	--	--	N	N	Oil test.

-- end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
H-36	R. G. Heiner	Trans-Pecos Oil Co.	1940	2,335	--	San Andres limestone	2,548	(+)	--	Flows	Irr	Oil test. Water reported at 2,100 ft. 1/
*H-37	Scripps Farms	E. A. Culbertson	1944	2,550	8	do	2,560	(+)	Apr. 21, 1948	Flows	Irr	Originally drilled as oil test. Discharge reported 2,500 to 4,000 gpm Apr. 21, 1948. Perforated at 2,200 ft.
H-38	Culbertson and Irwin	--	1946	2,540	--	do	2,564	(+)	--	Flows	--	Drilled as oil test. Discharge reported 3,500 gpm in 1947.
H-39	Scripps Farms	--	1947	--	--	do	--	(+)	--	Flows	Irr	Well shut in when not in use.
H-40	J. R. Bennett	--	--	--	6	Pecos aquifer	--	42.4	Sept.27, 1957	C,W	S	
*H-41	do	Eural James	1945	200	8	do	--	25.9 54.8 29.6	Dec. 6, 1946 Sept.27, 1956 Oct. 10, 1957	C,W	S	Temp. 69°F.
*H-42	San Pedro Ranch	do	1945	81	--	do	2,591	20.5 20.9 32.9	Oct. 30, 1946 Nov. 20, 1948 Oct. 15, 1957	C,W	S	Temp. 68°F.
H-43	J. R. Bennett	--	--	66	8	do	2,663	44.5 55.6	Dec. 6, 1946 Sept.27, 1957	C,W	S	
H-44	San Pedro Ranch	George D. Moore	1946	320	20	do	2,619	15.7	Nov. 20, 1948	N	N	
H-45	do	Henry Dahms	1918	300?	--	do	2,622	119.6 127.4	June 6, 1940 Nov. 20, 1948	C,W,E	D,S	
H-46	do	Sims and Devlin	--	1,455	--	--	2,625	--	--	N	N	Oil test. 2/
*H-47	A. C. Hoover	--	--	59	6	Pecos aquifer	2,601	21.1 21.8 17.9	Oct. 30, 1946 Nov. 20, 1948 Oct. 10, 1957	C,W	S	Temp. 68°F.
H-48	Standard Oil Co.	J. G. Allen	1957	140	7	do	--	24.7	Dec. 23, 1957	N	N	Drilled to supply water for oil-well drilling rig. Discharge reported 20 gpm Oct. 17, 1957.
H-49	A. C. Hoover	--	--	--	6	do	2,571	31.8	Oct. 10, 1957	C,W	S	
H-50	do	--	--	--	6	do	--	44.9 44.9	Oct. 10, 1957 Oct. 16, 1957	C,W	S	
H-51	do	Lee O. White	1950?	--	6	--	--	5.3 31.3	June 20, 1950 Oct. 10, 1957	N	N	Oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
H-52	W. W. Turney	Trans-Pecos Oil Co.	--	2,835	--	--	2,594	--	--	N	N	Oil test. 1/
*H-53	H. Johnson	--	--	3,000	--	San Andres limestone	--	--	--	N	N	Oil test. Flowing 3 to 4 cfs in 1950. Not flowing 1958.
H-54	A. C. Hoover	--	--	--	6	Pecos aquifer	--	38.4	Oct. 19, 1957	C,W	S	Oil test. Converted to water well for stock. 2/
H-55	-- Flanagan	Amerada Petroleum Co.	--	1,457	--	--	2,536	--	--	N	N	Oil test.
H-56	A. C. Hoover	Jim Sullivan	1950	90	6	Pecos aquifer	--	19.0 37.9	Nov. 3, 1950 Oct. 11, 1957	C,W	S	Water reported in sand and gravel from 64 to 73 ft.
*H-57	do	--	--	73	6	do	--	32.9	Oct. 19, 1957	C,W	S	
H-58	do	--	--	--	6	do	--	32.9	Oct. 16, 1957	C,W	S	
H-59	do	J. R. Reischman	1950	1,925	8	San Andres limestone	--	--	--	N	N	Oil test. Casing: 8-in. to 1,100 ft.; no casing from 1,100 to 1,925 ft. Flow estimated 10 gpm July 3, 1950. Not flowing 1957. Temp. 75°F.
*H-60	do	-- Crow	1950	--	8	Yates sandstone	--	(+)	Oct. 11, 1957	Flows	S	Oil test. Depth during drilling, July 11, 1950, 1,440 ft., total depth unknown. Discharge estimated 75 gpm Oct. 10, 1957. 2/
H-61	Turney Estate	Humble Oil & Refining Co.	1945	370	8	--	--	78.0	Feb. 5, 1947	N	N	
H-62	A. C. Hoover	--	--	--	6	Pecos aquifer	--	33.4	Oct. 10, 1957	C,W	S	
H-63	do	--	1957	--	8	Rustler formation	2,579	--	--	--	S	Oil test, drilled to 4,792 ft., plugged back to Rustler formation. Flows intermittently.
H-64	do	--	--	249	6	--	2,590	199.6 138.3	Jan. 28, 1947 Nov. 24, 1948	N	N	
*H-65	George Atkins Estate	L. B. Ryan	1941?	76	--	Pecos aquifer	--	--	--	N	N	
H-66	University of Texas	Roxana and Kirby	1929	370	12	--	--	84.2 82.4 106.9	Apr. 29, 1948 May 16, 1948 July 3, 1950	N	N	Drilled as oil test to depth 5,205 ft. and plugged back to 370 ft. Formerly supplied water for irrigation. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
H-67	W. W. Turney Estate	-- McKeehan	1950	1,300	--	--	--	--	--	N	N	Drilled as oil test. Flowed in 1950.
H-68	R. E. Johnson	--	--	2,997	6	--	--	127.8	June 26, 1950	C,W	S	
H-69	A. C. Hoover	--	--	--	--	Pecos aquifer	--	14.0	Oct. 10, 1957	C,W	S	Temp. 68°F.
H-70	San Pedro Ranch	Humble Oil & Refining Co.	--	--	6	do	--	20.5 31.9	May 10, 1950 Apr. 25, 1958	N	N	Drilled to supply water for oil-well drilling rig.
H-71	do	Percy Weddle	1946	95	--	do	2,603	14.1 17.0 27.2	Nov. 21, 1946 Nov. 20, 1948 Apr. 25, 1958	C,W	S	
H-72	R. E. Johnson	--	--	--	6	do	--	14.4 14.4	Nov. 18, 1957 Dec. 23, 1957	N	N	
*H-73	do	--	--	Spring	--	do	--	(+)	Dec. 23, 1957	Flows	S	Flow measured 0.3 cfs May 12, 1943. Johnson Spring. Temp. 65°F.
H-74	do	--	--	--	6	do	2,881	23.6	do	C,W	S	
*H-75	San Pedro Ranch	Eural James	1945	70	--	do	2,658	19.3 23.6	Nov. 21, 1946 Apr. 25, 1958	C,W	S	Temp. 66°F.
*H-76	do	N. E. Johnson	1940	1,364	10	Rustler formation	---	(+)	Oct. 30, 1946	Flows	S,Irr	Casing: 10-in. to 360 ft. Discharge reported 50 gpm Oct. 30, 1946. 1/
*H-77	do	-- Schumacher	1948	299	--	Pecos aquifer	--	52.3 24.6	June 11, 1948 Nov. 20, 1948	N	N	Temp. 70°F.
H-78	do	Eural James	1946	125?	--	do	--	90.3	Dec. 23, 1957	N	N	
H-79	do	R. A. Cleveland	1942	260	--	do	2,768	85.0 120.3 154.4	Nov. 21, 1946 Oct. 1, 1957 Apr. 25, 1958	C,W	S	Cased to 180 ft. Temp. 71°F.
H-80	do	--	1950	--	16	do	2,712	27.0	Apr. 25, 1958	T,E, 7½	N	Formerly supplied water for irrigation.
H-81	do	--	1950	60	16	do	--	25.9	do	T,E, 7½	N	do
H-82	do	--	--	60	16	do	--	25.7	do	T,E, 7½	N	do
H-83	do	--	--	60	16	do	--	24.6	do	T,E, 7½	N	do

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
H-84	San Pedro Ranch	--	--	60	16	Pecos aquifer	--	24.5	Apr. 25, 1958	N	N	Formerly supplied water for irrigation.
H-85	do	--	--	60	16	do	--	23.4	do	N	N	do
H-86	do	--	--	60	16	do	2,724	24.0	do	T,E, 7½	N	do
H-87	do	Jones and Schumacher	1948	60	--	do	2,724	24.2	do	T,E	N	do
H-88	do	--	1948	60	--	do	--	13.7 24.1	May 28, 1948 Apr. 25, 1958	T,E	N	do
H-89	do	--	--	60	16	do	--	23.5	Apr. 25, 1958	T,E	N	do
H-90	do	--	1948	60	16	do	--	14.1 23.9	May 28, 1948 Apr. 25, 1958	T,E	N	do
H-91	do	--	1948	60	--	do	--	14.9 24.0	May 28, 1948 Apr. 25, 1958	T,E	N	do
H-92	do	--	--	60	16	do	--	--	--	T,E	N	do
H-93	do	--	1948	45	12	do	2,729	17.8 23.6	May 28, 1948 Apr. 25, 1958	N	N	do
H-94	do	--	--	80±	--	do	2,729	22.7	Apr. 25, 1958	T,E, 7½	N	do
H-95	do	--	1947	50	16	do	--	22.7	do	T,E, 7½	N	Casing: 16-in. to 40 ft. Perforated from 25 to 40 ft. Discharge estimated 250 gpm. Formerly supplied water for irrigation.
H-96	do	--	--	60	16	do	--	23.1	do	T,E	N	Formerly supplied water for irrigation.
H-97	do	B. L. Schumacher	1947	43	16	do	--	23.0	do	T,E, 5	N	Casing: 16-in. to 40 ft. Perforated from 25 to 40 ft. Discharge estimated 250 gpm. Formerly supplied water for irrigation.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
H-98	San Pedro Ranch	B. L. Schumacher	1947	94	16	Pecos aquifer	--	17.9 23.1	May 28, 1948 Apr. 25, 1958	T,E, 3	N	Casing: 16-in. to 50 ft. Perforated from 30 to 45 ft. Discharge reported 200 gpm. Formerly supplied water for irrigation. Temp. 67°F.
*H-99	do	do	1947	331	20	do	2,737	15.3	May 28, 1948	T,E, 7½	N	Discharge reported 400 gpm Oct. 18, 1947. Water reported in gravel and caliche from 30 to 40 ft. Formerly supplied water for irrigation. 2/
H-100	do	Anderson and Grable	--	1,480	--	--	--	--	--	N	N	Oil test. 1/
J-1	A. C. Hoover	--	--	--	8	Pecos aquifer	--	11.5	Oct. 17, 1957	C,W	N	
J-2	do	--	--	--	6	do	--	24.1	do	C,W	N	
J-3	E. C. Powell	Anderson-Prichard	--	5,318	--	--	2,500	--	--	N	N	Oil test. 2/
J-4	do	--	--	36	--	Pecos aquifer	--	13.6 12.6 17.6	Aug. 26, 1940 Feb. 7, 1947 Sept. 30, 1948	C,W	S	
*J-5	--	--	--	2,600	--	San Andres limestone	--	(+)	Sept. 20, 1948	Flows	N	Oil test. Flow estimated 5 gpm from leak in "bull-plug" cap.
*J-6	Estes Bros.	--	--	131	--	Pecos aquifer	--	26.7 51.7 51.3	Nov. 15, 1948 Dec. 20, 1957 Jan. 22, 1958	C,W	N	
J-7	-- Masterson	Childress Royalty Co.	1944	202	5	do	--	--	--	C,E, ½	N	
J-8	Burk Royalty Co.	Burk Royalty Co.	--	598	5	Rustler formation	--	22	Nov. 1957	T,E	Ind	
J-9	do	do	1955	390	8	--	--	22	Nov. 1957	-,G	Ind	Used for secondary oil recovery.
J-10	--	--	--	--	--	--	--	--	--	N	N	Oil test. 2/
J-11	Neal and Ratliff	N. A. House	1946	350	8, 5	Pecos aquifer	--	47.9 45.7	Feb. 7, 1947 Dec. 20, 1948	C,W	N	Casing from 0 to 345 ft. Perforated from 305 to 345 ft.
*J-12	do	do	1946	300	8, 5	do	--	179.0 160.6	Feb. 3, 1947 Aug. 9, 1957	C,W	S	Cased to 225 ft. Temp. 72°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
J-13	J. F. McElroy	Kirby Petroleum Co.	--	2,015	12	--	--	--	--	N	N	Oil test. 1/
*J-14	Neal and Ratliff	Russell and Beckermann	1946	452	8,	Rustler formation	--	43.0	Feb. 3, 1947	C,W	S	Casing from 0 to 450 ft. Perforated from 430 to 450 ft. Temp. 67°F.
J-15	do	--	1940	358	7	Pecos aquifer	--	36.3 39.1	June 6, 1940 Feb. 3, 1947	N	N	Casing: 7-in. to 150 ft.
J-16	H. F. Neal	--	--	100	--	do	--	44.7 44.4	June 6, 1940 Feb. 3, 1946	C,W	S	Temp. 70°F.
*J-17	Neal and Ratliff	--	--	78	5	do	--	61.6	Feb. 3, 1947	C,W	N	
J-18	J. B. Ratliff, Jr.	--	--	275	--	do	--	--	--	T,G, 70	Irr	Pump set at 180 ft. Discharge measured 305 gpm Aug. 9, 1957.
J-19	Looney and Houghton	--	--	600	--	do	--	--	--	T,G	Irr	Pump set at 200 ft. Discharge reported 600 gpm July 18, 1957.
*J-20	Neal and Ratliff	Bryce McCandless, etc.	--	95	5	do	--	40.4 41.3 50.2	Feb. 4, 1947 Dec. 23, 1948 Aug. 6, 1957	C,W	S	Casing: 5-in. to 60 ft.
J-21	-- Franklin	--	1957	--	--	do	2,390	65.3	Feb. 6, 1958	T,G, 50	Irr	
J-22	do	--	1957	--	--	do	2,395	67.0	do	N	N	Pump not installed when visited Feb. 6, 1958.
J-23	J. B. Ratliff, Jr.	R. D. Cleveland	1957	300	--	do	2,395	69.1	do	T,G, --	Irr	Pump set at 180 ft. Discharge measured 350 gpm July 18, 1957.
J-24	do	--	--	151	5	do	--	51.0 81.1 69.0	Feb. 4, 1947 July 18, 1957 Feb. 6, 1958	C,W	S	
J-25	do	R. D. Cleveland	1957	315	--	do	2,397	71.2	Feb. 6, 1958	T,G, 70	Irr	Pump set at 200 ft. Red beds reported at 310 ft. Discharge measured 380 gpm July 18, 1957.
J-26	do	Buck Richardson	--	320	--	do	2,405	69.3	do	T,G, 70	Irr	Pump set at 170 ft. Discharge estimated 2,000 gpm Aug. 6, 1957.
J-27	David Glass	--	--	400	--	do	2,410	73.2	do	T,G, 50	Irr	Discharge reported 600 gpm July 18, 1957.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
J-28	J. B. Ratliff, Jr.	Eural James	--	375	--	Pecos aquifer	2,408	68.1	Feb. 6, 1958	T,G, 50	Irr	Pump set at 140 ft. Discharge reported 700 gpm July 26, 1957.
*J-29	Neal & Ratliff	--	1939	101	--	do	--	60.7 62.4 60.7	June 6, 1940 Dec. 20, 1948 Feb. 8, 1958	C,W	S	
*J-30	J. B. Ratliff, Jr.	Perry Jones	1953	202	12	do	--	84.2	Feb. 6, 1958	T,G, 30	Irr	Casing: 12-in. to 196 ft. Pump set at 130 ft. Discharge estimated 300 gpm July 26, 1957.
J-31	do	do	--	300	--	do	--	84.6	do	T,G, 52	Irr	Pump set at 160 ft.
J-32	do	--	--	--	8	do	--	55.3	Aug. 9, 1957	C,W	S	
J-33	Shell Oil Co.	G. F. Aldrich	--	1,835	--	--	2,398	--	--	N	N	Oil test. 1/
*J-34	Neal and Ratliff	N. A. House	1946	146	8	Pecos aquifer	--	--	--	C,W	S	Casing: 8-in. to bottom. Perforated from 106 ft. to bottom. Temp. 69°F.
J-35	-- Fromme	Culbertson-Irwin Inc.	--	1,440	--	--	2,437	--	--	N	N	Oil test. 1/
J-36	D. B. Gregg	N. C. House	1942	125	10, 7	Pecos aquifer	--	--	--	C,W	N	Originally drilled to 215 ft., plugged back to 125 ft. 2/
J-37	A. C. Hoover	--	--	--	6	do	--	52.7 60	July 11, 1950 Oct. 1957	N	N	
J-38	do	--	1945	245	8	--	--	113.4 133.9	Feb. 5, 1947 Oct. 17, 1957	C,W	S	Drilled from 210 ft. to present depth in 1957. Formerly supplied water for oil-well drilling rig.
J-39	N. Pevsner	S. D. Pattillo	--	1,393	--	Rustler formation	2,560	(+)	1958	Flows	S	Oil test. Flow reported about 50 gpm. 2/
J-40	A. C. Hoover	N. A. House	1946	307	6	--	2,558	151.3 150.6 148.5	Jan. 28, 1947 Aug. 6, 1957 Oct. 16, 1957	C,W	S	
J-41	do	--	--	259	--	--	--	177.8 167.3	Aug. 6, 1957 Oct. 16, 1957	C,W	S	
*J-42	Neal and Ratliff	N. A. House	1946	200	8	Pecos aquifer	2,475	132.1 90.4	Feb. 4, 1947 Nov. 15, 1948	C,W	S	Temp. 65°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
J-43	J. B. Ratliff, Jr.	Kelly Wilson	1958	--	--	Pecos aquifer	--	89.8	Feb. 6, 1958	N	N	
J-44	Landreth Co.	do	1957	430	--	do	2,400	86.5 56.6	Aug. 12, 1957 Feb. 6, 1958	T,G	Irr	Discharge estimated 500 gpm July 25, 1957. 2/
J-45	do	Stanolind Oil Co.	1951	4,150	--	--	2,407	--	--	N	N	Oil test. 2/
J-46	do	Kelly Wilson	1955	400	--	Pecos aquifer	2,400	67.9	Feb. 6, 1958	T,G	Irr	Discharge estimated 300 gpm July 25, 1957.
J-47	R. N. Beakley	do	1952	245	13	do	2,394	93.3 60.9	Aug. 12, 1957 Feb. 6, 1958	N	N	Drilled for irrigation. Not used when visited in 1957.
J-48	do	do	1951	135	--	do	2,392	60.6	Feb. 6, 1958	T,G, 72	Irr	Pump set at 100 ft. Discharge estimated 1,000 gpm July 25, 1957.
J-49	do	do	--	150	--	do	2,389	58.0	do	T,G, 52	Irr	
J-50	J. M. Waddell	do	--	87	6	do	2,380	78.2 47.6	Aug. 12, 1957 Feb. 5, 1958	C,W	S	
J-51	do	-- Robinson	--	180	14	do	2,387	87.4 55.7	July 26, 1957 Feb. 5, 1958	T,G, 70	Irr	Cased to bottom. Originally drilled to 145 ft.; deepened to 180 ft.
J-52	Agriculture Inc.	--	--	157	18	do	2,391	57.7	Feb. 5, 1958	T,G, 70	Irr	Pump removed when visited Feb. 5, 1958.
J-53	do	--	--	200	18	do	2,395	94.9 63.0	July 25, 1957 Feb. 5, 1958	T,G, 75	Irr	Casing: 18-in. to 45 ft. Pump set at 110 ft. Discharge measured 590 gpm Aug. 12, 1957.
J-54	do	--	1957	--	--	do	2,422	88.0	Feb. 5, 1958	N	N	Drilled for irrigation. Pump not installed when visited in 1958.
J-55	do	--	1957	--	--	do	2,423	95.3	do	N	N	
J-56	do	--	1957	--	16	do	2,441	80.6	do	N	N	Drilled to supply water for irrigation.
J-57	do	--	1957	--	--	do	2,446	115.1	do	T,G, 150	Irr	
J-58	do	--	1957	--	--	do	2,451	117.3	do	T,G, 110	Irr	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*J-59	Agriculture Inc.	--	1957	400	16	Pecos aquifer	2,446	115.7	Feb. 5, 1958	T,G, 150	Irr	
*J-60	Ralph Johnson	--	--	87	5	do	--	77.6	Jan. 29, 1947	C,W	S	Temp. 70°F.
*J-61	John W. Garner	--	--	170	6	do	2,451	81.0 82.6	Feb. 4, 1947 Nov. 17, 1948	C,W	S	Temp. 69°F.
*J-62	Ralph Johnson	--	--	115	5	do	--	105.3	Jan. 29, 1947	C,W	S	Temp. 68°F.
J-63	D. C. Ogden Wilson	--	--	150	--	do	2,506	122.3 123.4	Apr. 17, 1957 Oct. 2, 1958	N	N	
K-1	George Atkins Estate	L. B. Ryan	1947	154	7	do	--	31.9	Dec. 23, 1948	C,W	S	
*K-2	S. S. Millspaugh	--	--	68	--	do	--	15.4	Oct. 8, 1957	C,W	S	Temp. 70°F.
*K-3	do	--	--	21	5	do	--	12.9	do	C,W	S	Temp. 71°F.
K-4	-- Blaksley	Marland-Texon	--	2,360	--	--	2,353	--	--	N	N	Oil test. 1/
*K-5	Agriculture Inc.	--	--	113	6	Pecos aquifer	--	36.4 46.6	Feb. 3, 1947 Aug. 9, 1957	N	N	Cased to 49 ft.
K-6	-- Gray	Humble Oil & Refining Co.	--	6,238	--	--	3,592	--	--	N	N	Oil test. 2/
K-7	Looney and Houghton	--	--	275	--	Pecos aquifer	--	--	--	T,G	Irr	Pump set at 180 ft. Discharge estimated 600 gpm July 18, 1957.
K-8	Cordova Union Land Co.	Mazda Oil Corp.	--	1,802	--	--	2,371	--	--	N	N	Oil test. 1/
K-9	Agriculture Inc.	--	--	--	--	Pecos aquifer	2,361	44.0 32.6	Aug. 19, 1957 Feb. 5, 1958	N	N	Drilled to supply water for irrigation.
K-10	Pete and Cleve Looney	--	--	--	--	do	2,360	49.7 43.2 32.0	July 26, 1957 Aug. 19, 1957 Feb. 5, 1958	N	N	
K-11	Agriculture Inc.	--	--	182	15	do	2,361	39.7 33.3	Aug. 19, 1957 Feb. 5, 1958	N	N	Drilled to supply water for irrigation.
K-12	F. R. Zoch et al	Cordova Union Land Co.	--	1,937	--	--	2,344	--	--	N	N	Oil test. 2/
*K-13	Roy Girvin	-- Nevans	1929	67	--	Pecos aquifer	--	49.1	Jan. 31, 1947	C,W	S	Temp. 70°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*K-14	Wes Poole	--	--	68	8	Pecos aquifer	2,323	33.0	Feb. 3, 1947	N	N	Temp. 70°F.
K-15	Cordova Union Land Co.	Cosby Producing & Royalty Co.	--	3,015	--	--	2,320	--	--	N	N	Oil test. 1/
K-16	Girvin School	--	--	70	--	Pecos aquifer	--	29.3 28.8	Apr. 17, 1957 Jan. 21, 1958	N	N	3/
K-17	Fonnie Woodward	Park Holt	1945	105	--	do	2,346	67.0 64.4 64.0	Oct. 14, 1957 Dec. 19, 1957 Jan. 21, 1958	C,W	S	
K-18	do	Tidewater Oil Co.	1951	102	8	do	2,359	90.4	Oct. 14, 1957	C,W	S	Cased to bottom.
K-19	J. D. Smith	--	1950	68	8	do	2,376	52.8	Oct. 2, 1957	C,W	D,S	
*K-20	Roy Girvin	--	--	80	8	do	--	45.2	Jan. 27, 1947	C,W	S	Temp. 71°F.
K-21	Willard McDaniel	--	--	64	8	do	--	60.3	Oct. 7, 1957	C,E, 3/4	D	
K-22	Fonnie Woodward	--	1916	110	6	do	--	86.9 120.0	Feb. 1, 1947 Oct. 14, 1957	C,W	S	Cased to bottom. Perforated from 90 ft. to bottom.
K-23	West Texas Utilities Co.	--	--	95	--	do	2,373	--	--	T,E, 60	Ind	
K-24	Fonnie Woodward	Harris Cromell et al	1930	1,847	12, 8	--	2,373	--	--	N	N	Oil test. 1/
K-25	West Texas Utilities Co.	Russell and Beckham	1947	275	15, 12	Pecos aquifer	2,354	210	Aug. 1950	T,E, 40	D,Ind	Casing: 15-in. to 181 ft., 12-in. from 181 ft. to bottom. Perforated from 83 to 105 ft., and from 185 ft. to bottom. Discharge reported 400 gpm in 1950. 2/
*K-26	do	do	1948	253	15	do	2,373	105.4	May 29, 1957	T,E, 25	D,Ind	Casing: 15-in. from 0 to bottom, 150 ft. perforated at bottom. Discharge estimated 300 gpm May 29, 1957. 2/
K-27	do	do	1944	274	15, 12	do	2,343	89.5	do	N	N	Discharge reported 150 gpm in 1947. Pumping level 132 ft. below land surface Feb. 11, 1947.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
K-28	West Texas Utilities Co.	--	1938	--	--	Pecos aquifer	2,347	118	Dec. 1946	T,E, 30	D,Ind	Discharge measured 295 gpm June 10, 1938.
K-29	do	Russell and Beckham	1944	251	15, 12	do	2,348	149.0 184.5	Jan. 27, 1947 Feb. 11, 1947	T,E, 30	D,Ind	Casing: 15-in. to 175 ft., 12-in. perforated from 167½ ft. to bottom. Drawdown reported 35 ft. after pumping several days at 400 gpm.
K-30	do	--	1930	--	--	do	2,348	118.6	May 29, 1957	N	N	
*K-31	Roy Girvin	--	--	40	48	do	--	30.0	Jan. 25, 1947	N	N	Dug.
K-32	do	--	--	115	5	do	2,354	75.3 77.4 82.0	Jan. 25, 1947 Jan. 1, 1949 Oct. 2, 1957	N	N	
*K-33	J. C. Mitchell	--	1948	75	--	do	2,287	--	--	N	N	Discharge measured 790 gpm Jan. 1, 1949.
K-34	do	Percy Weddle	1948	120	12	do	2,301	40.2	Dec. 31, 1948	T,E	N	2/
*K-35	do	--	1948	66	8	do	--	44.7 24.1	Dec. 31, 1948 Oct. 2, 1957	N	N	
K-36	--	N. A. House	1949	150	--	do	2,364	90.6	Oct. 2, 1957	N	N	
K-37	--	--	1949	--	12	do	2,369	95.9	do	N	N	
K-38	--	A. N. Yockey	1949	150	11	do	2,361	93.5 88.5	Sept. 6, 1950 Oct. 2, 1957	N	N	Formerly supplied water for irrigation.
K-39	--	--	1949	--	18	do	2,368	94.9	Oct. 2, 1957	N	N	
K-40	--	A. N. Yockey	1949	145	11	do	2,362	89.3	do	N	N	Formerly supplied water for irrigation.
K-41	Lynn Bedell	Schneider Bros.	1943	100	6	do	--	66.7	Oct. 7, 1957	C,W	D,S	Sand reported from 65 ft. to bottom.
K-42	do	do	1943	110	6	do	--	85.2	do	C,W	S	
K-43	-- Cordova	-- Bateman	1930	1,851	--	--	2,393	--	--	N	N	Oil test. 2/
K-44	R. G. Hollingsworth	Schneider Bros.	1943	152	6	Pecos aquifer	2,431	133.3	Jan. 27, 1947	C,W	S	
K-45	J. C. Cunningham	A. H. Flaherty & Son	--	2,265	--	--	2,514	--	--	N	N	Oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
K-46	-- Smithpeter	Landreth Production Co.	--	2,334	--	--	2,530	--	--	--	N	Oil test. 1/
*K-47	Roy McDonald	--	--	175	8	Pecos aquifer	--	106.4 107.0	Dec. 14, 1946 Oct. 7, 1957	C,W	S	Old Adobe.
K-48	Wangerin Estate	Condor Oil Co.	--	1,665	--	--	2,464	--	--	N	N	Oil test. 2/
*K-49	Roy McDonald	--	--	200	6	Pecos aquifer	--	200	Dec. 1946	N	N	Temp. 70°F.
K-50	Roy Girvin	H. M. Curtice	1940	120	6	do	--	50.5	Jan. 31, 1947	C,W	S	do
K-51	-- Sullivan	Moncrief et al	--	1,930	--	--	2,401	--	--	N	N	Oil test. 2/
*K-52	Roy Girvin	--	1932	120	6	Pecos aquifer	--	102.2	Jan. 31, 1947	C,W	S	Temp. 70°F.
K-53	Fred Clarkson	--	--	460	14	do	2,398	69.1	Feb. 5, 1958	T,G, 70	Irr	Discharge measured 784 gpm July 26, 1957.
K-54	Agriculture Inc.	--	1957	--	16	do	2,414	87.9	do	T,G	Irr	Casing: 16-in. to 90 ft.
K-55	-- Looney	--	--	--	12	do	2,409	88.6 73.5	July 25, 1957 Feb. 5, 1958	N	N	Pump removed when visited Sept. 18, 1957.
K-56	do	--	--	--	--	do	2,405	114.0 87.7	July 25, 1957 Feb. 5, 1958	T,G, 70	Irr	Discharge measured 1,715 gpm July 25, 1957.
K-57	-- Clarkson	-- Moncrief	--	1,795	--	--	2,395	--	--	N	N	Oil test. 2/
K-58	Agriculture Inc.	--	--	--	16	Pecos aquifer	2,402	90.9	July 25, 1957	T,G, 150	S,Irr	Discharge estimated 3,000 gpm Feb. 5, 1958.
K-59	J. T. Holmes	--	--	--	--	do	2,430	100.0	Feb. 5, 1958	T,G,	Irr	
K-60	Agriculture Inc.	--	--	440	--	do	--	--	--	T,G, 150	Irr	Pump set at 150 ft. Discharge measured 2,124 gpm July 22, 1957.
K-61	do	--	--	200	15	do	2,430	98.8	Feb. 5, 1958	T,G, 70	Irr	Pump set at 200 ft. Discharge measured 1,240 gpm July 22, 1957.
K-62	do	--	--	490	--	do	--	--	--	T,G, 110	Irr	Pump set at 300 ft. Discharge measured 826 gpm July 22, 1957.
K-63	do	--	--	138	--	do	--	84.6 87.3	Jan. 31, 1947 July 22, 1957	J,E, 2	N	Formerly supplied water for stock.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
K-64	Agriculture Inc.	--	--	400	--	Pecos aquifer	--	--	--	T,G, 70	Irr	Pump set at 200 ft. Discharge estimated 1,800 gpm July 22, 1957.
K-65	J. R. Alexander	-- Cleveland	1956	350	14	do	--	108.3	Feb. 5, 1958	N	N	
K-66	do	Sidler and Imler	1951	600	8	do	--	111.2 111.0	Sept.13, 1957 Feb. 5, 1958	N	N	Drilled to supply water for oil-well drilling rig.
K-67	H. R. Alexander	Gorman Bros.	1943	175	--	do	--	138.1	Sept.13, 1957	C,W	S	
K-68	Stockton Cattle Co.	Kirby Petroleum Co.	--	1,695	--	--	2,497	--	--	N	N	Oil test. 2/
K-69	Roy Girvin	-- Nevans	1929	210	8	Pecos aquifer	--	119.6	Jan. 31, 1947	N	N	
K-70	do	Intex Oil Co.	1955	3,033	--	--	2,501	--	--	N	N	Oil test.
L-1	E. D. Brown	--	1953	100	16	Pecos aquifer	--	36.9	Oct. 2, 1957	T,G	Irr	Cased to bottom. Pump set at 90 ft. Discharge reported 250 gpm Oct. 2, 1957.
L-2	do	Bodie Smith	1956	400	12	do	--	57.1	do	T,G	N	Casing: 12-in. to 200 ft. Perforated from 50 to 200 ft. Discharge reported 950 gpm. Gravel-walled.
L-3	Roy McDonald	Shell Oil Co.	--	193	--	do	--	140	Dec. 1950	N	N	Drilled to supply water for oil-well drilling rig. Water reported in sand from 145 to 193 ft. 2/
L-4	E. L. Hawkins	--	--	32	6	do	--	29.5	Dec. 31, 1958	N	N	Dry when visited Jan. 26, 1952.
L-5	-- Price	Jayhawk Oil Co.	1929	1,735	12, 6	--	2,310	--	--	N	N	Oil test. 1/
L-6	E. L. Hawkins	-- Butler	1957	--	16	Pecos aquifer	--	103.9 84.2	Oct. 1, 1957 Feb. 14, 1958	N	N	Formerly supplied water for irrigation.
L-7	do	-- Schooler	--	170	--	do	--	106.2 84.6	Oct. 1, 1957 Feb. 14, 1958	T,G, 70	Irr	
L-8	do	--	--	200±	--	do	--	87.0	Feb. 14, 1958	T,G, 70	Irr	Discharge measured 313 gpm Sept. 30, 1957.
L-9	do	--	--	200±	--	do	--	85.2	do	T,G, 50	Irr	Discharge measured 382 gpm Oct. 1, 1957.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
L-10	E. L. Hawkins	--	--	200?	--	Pecos aquifer	--	84.5	Feb. 14, 1958	T,G, 50	Irr	Discharge measured 241 gpm Oct. 1, 1957.
L-11	do	--	1951	--	16	do	--	79.6	do	T,G, 50	Irr	Discharge reported 2,000 gpm.
L-12	do	--	1951	--	18	do	--	88.6 75.3	Oct. 1, 1957 Feb. 14, 1958	T,G, 70	Irr	
L-13	do	--	1951	--	18	do	--	88.7 75.8	Oct. 1, 1957 Feb. 14, 1958	T,G, 70	Irr	
L-14	do	--	--	--	--	do	--	87.2 73.9 85.8	Sept.27, 1957 Feb. 14, 1958 Jan. 26, 1959	T,G, 50	Irr	
L-15	W. H. Hawkins	--	1951	200?	16	do	--	82.1 71.1	Oct. 1, 1957 Feb. 14, 1958	--	D,S	
L-16	Jack Adamson	-- Haines	1949	52	18	do	2,287	44.2	Sept.25, 1957	N	N	
*L-17	do	Szenasi and Haines	1940	122	16	do	2,286	34.8 44.4	Dec. 11, 1948 Oct. 4, 1957	N	N	Casing: 16-in. to 115 ft. Perforated from 20 to 115 ft. Discharge reported 1,500 gpm in 1948. 1/
L-18	J. E. Duval	--	--	100	16	do	--	44.8	Sept.25, 1957	N	N	
L-19	--	A. N. Yockey	1950	175	--	do	--	--	--	N	N	2/
L-20	J. E. Duval	-- Haines	--	103	16	do	2,293	39.8 79.2	Dec. 28, 1948 Sept.27, 1957	N	N	Formerly supplied water for irrigation.
L-21	Bill Tripp	-- Szenasi	1949	130?	--	do	2,301	48.9 87.1 73.5	Feb. 27, 1950 Oct. 1, 1957 Feb. 14, 1958	N	N	do
L-22	do	do	1949	130	16	do	2,302	48.9 56.5 91.6 75.2	Feb. 27, 1950 Mar. 21, 1951 Oct. 1, 1957 Feb. 14, 1958	N	N	do
L-23	Jack Adamson	Szenasi and Haines	1949	140	16	--	2,305	56.1	Feb. 27, 1950	T,G	N	Formerly supplied water for irrigation. Sealed when visited Oct. 1, 1957. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
L-24	Jack Adamson	Harris & Bullock	1948	230	16	Pecos aquifer	2,311	53.7 97.7	Dec. 28, 1948 Oct. 1, 1957	T,G, 70	Irr	Discharge reported 800 gpm Dec. 1948. Deepened from 160 to 230 ft. in 1950. 3/
L-25	do	Bob Stone	1948	--	16	do	--	54.9	Dec. 11, 1948	C,E,½	D	2/
L-26	H. B. Thompson	L. Walker	1957	191	16	do	--	106.8	Sept.20, 1957	N	N	Cased to bottom. Perforated from 105 ft. to bottom. Discharge reported 600 gpm August 1957. Drilled to supply water for irrigation.
L-27	do	do	1952	165	16	do	--	115.0	do	T,G, 30	Irr	Cased to bottom. Perforated from 110 ft. to bottom. Discharge reported 500 gpm.
L-28	do	Bullock and Brown	1947	161	16, 14	do	--	61.1 63.6	July 12, 1948 Dec. 28, 1948	T,G	Irr	Casing: 16-in. to 155 ft., 14-in. to bottom. Discharge reported 1,200 gpm July 1948.
L-29	do	Arch Yockey	1949	198	16	do	2,324	67.7 101.9	Feb. 27, 1950 Dec. 14, 1956	T,G, --	Irr	Cased to bottom. Perforated from 90 ft. to bottom. Discharge measured 374 gpm Sept. 12, 1957. 2/ 3/
*L-30	do	do	--	197	16	do	--	--	--	T,G, 70	Irr	Cased to bottom. Perforated from 89 ft. to bottom. Discharge measured 837 gpm Sept. 12, 1957. Temp. 70°F. 2/
L-31	do	do	1950	208	16	do	2,323	78.8 78.7	June 10, 1950 Mar. 21, 1951	T,G, 70	Irr	Cased to bottom. Discharge measured 326 gpm Sept. 12, 1957. 2/
L-32	do	do	--	170	16	do	2,310	58.2 106.9	Feb. 27, 1950 Sept.20, 1957	T,G, 70	Irr	Cased to bottom. Perforated from 75 ft. to bottom. Discharge reported 1,200 gpm in 1950. 2/
L-33	Jack Adamson	--	1948	--	--	do	--	72.0 102.1	Jan. 26, 1952 Oct. 1, 1957	T,G, 70	Irr	
*L-34	-- Tripp	--	1948	139	16	do	2,304	48.3 51.4 53.2	Dec. 28, 1948 Feb. 27, 1950 May 21, 1951	N	N	Formerly supplied water for irrigation.
L-35	-- Underhill	Jones and Parker	1948	150	16	do	2,293	41.9 87.4	Dec. 28, 1948 Sept.20, 1957	N	N	do

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
L-36	Jake Broyles	-- Parker	1948	161	16	Pecos aquifer	--	38.6 55.1	Dec. 28, 1948 Sept.20, 1957	N	N	2/
L-37	Looney and Houghton	-- Szenasi	1948	130	16	do	2,283	34.8 47.4	Dec. 28, 1948 Sept.20, 1957	N	N	2/
L-38	-- Howard	-- Robinson	--	151	--	do	2,279	40.6 60.9	June 28, 1950 Sept.25, 1957	N	N	
L-39	T. C. Waddell	Joe Evans	1949	85	--	do	2,282	71.1	Sept.25, 1957	J,E, 1	D	
L-40	Jake Broyles	-- Parker	1948	182	16	do	2,285	38.1 76.2	Dec. 28, 1948 Sept.25, 1957	N	N	Formerly used for irrigation. 2/
L-41	do	do	1950	116	16	do	2,284	--	--	N	N	Formerly used for irrigation. Dry Sept. 25, 1957. 2/
L-42	T. C. Waddell	Joe Evans	--	108	16	do	2,283	42	Apr. 1950	T,G	Irr	Cased to bottom. Discharge measured 420 gpm Sept. 25, 1957.
L-43	do	do	--	112	16	do	2,281	--	--	T,G, 50	Irr	Casing: 16-in. to 12 ft.
L-44	J. W. Howard	--	1949	112	16	do	--	61.6	Sept.25, 1957	N	N	Formerly used for irrigation. 2/
L-45	Charles Putty	-- Robinson	1950	170	16	do	2,286	--	--	T,G	Irr	Casing: 16-in. to 165 ft. Perforated from 60 to 165 ft. Discharge measured 610 gpm Sept. 15, 1950.
L-46	do	--	1951	220	16	do	--	--	--	T,G, 50	Irr	Discharge measured 450 gpm Oct. 4, 1957.
L-47	do	Haines and Szenasi	1949	130	16, 13	do	2,291	58.3 96.2	Aug. 5, 1950 Oct. 4, 1957	T,G, 50	Irr	Casing: 16-in. to 94 ft., 13-in. perforated from 94 ft. to bottom
L-48	L. J. Haren	--	--	250	16	do	--	74.8 71.6	Oct. 4, 1957 Feb. 14, 1958	T,G, 70	Irr	Cased to bottom. Perforated from 100 ft. to bottom.
L-49	do	--	1948	160	--	do	--	100	Oct. 1957	J,E, 1½	D,S	
L-50	V. G. Neville	Allen Tipton	1949	216	16	do	2,314	73.8 125.6	May 16, 1950 Aug. 20, 1957	T,G, 70	Irr	Cased to bottom. Perforated from 70 ft. to bottom. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
L-51	V. G. Neville	Allen Tipton	1949	216	16	Pecos aquifer	2,308	--	--	T,G, 70	Irr	Casing: 16-in. to 210 ft. Perforated from 70 to 210 ft. Discharge reported 800 gpm in 1957. 2/
L-52	do	do	--	227	16	do	2,313	68.3 75.7	Feb. 9, 1950 May 16, 1950	-,E, ½	D	Cased to bottom. Perforated from 80 ft. to bottom. 1/
L-53	Darrel Warren	Lee Bullock	1946	236	15	do	2,308	56.8 58.5 60.6	Dec. 9, 1946 Mar. 6, 1948 Dec. 29, 1948	N	N	
L-54	Noel E. Johnston	Bullock and Brown	1947	200	20, 8	do	2,304	53.1	Apr. 11, 1947	T,G	Irr	Discharge measured 450 gpm Aug. 15, 1957. Temp. 70°F. 3/
L-55	L. D. Haren	Carl Hammet	1949	169	16	do	2,300	79.7	Feb. 14, 1958	T,G, 70	Irr	Cased to bottom. Perforated from 49 ft. to bottom. Discharge measured 1,080 gpm Oct. 4, 1957.
L-56	Donald Jones	R. P. Robinson	1951	265	16	do	--	81.1	do	T,G, 70	Irr	Cased to bottom. Perforated from 60 ft. to bottom. Pump set at 240 ft.
*L-57	D. S. Warren	Lee Bullock	1946	138	16	do	2,302	53.6 84.9	Dec. 9, 1946 Feb. 14, 1958	T,G, 70	Irr	Discharge measured 550 gpm June 27, 1950. 3/
L-58	Darrell Warren	Allen Tipton	1951	225	16	do	--	92.3	Feb. 14, 1958	T,G, 70	Irr	Casing: 16-in. to 200 ft. Perforated from 100 to 200 ft. Discharge reported 1,500 gpm in 1957.
L-59	Joe Duval	Jim Sullivan	1948	199	18	do	2,300	--	--	T,G	Irr	Cased to bottom. Perforated from 70 to 170 ft. Discharge measured 940 gpm Aug. 31, 1950.
*L-60	Darrell Warren	Lee Bullock	--	61	8	do	--	55.1	Dec. 28, 1948	N	N	Filled and abandoned.
L-61	Donald Jones	R. P. Robinson	1957	270	16	do	--	75.7	Feb. 14, 1958	T,G	Irr	Casing: 16-in. to 235 ft. Discharge measured 1,070 gpm Aug. 13, 1957.
L-62	do	do	1951	180	--	--	--	--	--	N	N	Plugged at 83 ft. 2/
L-63	do	Sam Parker	1955	160	--	Pecos aquifer	--	--	--	J,E, 3	D	
L-64	do	R. P. Robinson	1951	180	16	do	--	83	Aug. 1957	T,G	Irr	Cased to bottom. Perforated from 50 ft. to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
L-65	Tom Warren	Nolan Schuler	1950	200	--	Pecos aquifer	--	70	Aug. 1957	T,G, 70	Irr	Cased to bottom. Perforated from 80 ft. to bottom.
L-66	Donald Jones	Carl Hammett	--	111	16	do	2,286	40.5 42.0	May 1, 1948 Dec. 28, 1948	T,E, 30	Irr	Casing: 16-in. to 109 ft. Perforated from 51 ft. to bottom.
L-67	Tom Warren	Allen Tipton	1952	225	16	do	--	45.0 79.3	Mar. 6, 1948 June 19, 1957	T,G	Irr	Deepened from 200 to 225 ft. 3/
L-68	J. W. Robbins	Koonce and Young	1948	81	6	do	2,277	70.4 63.5	Oct. 3, 1957 Feb. 14, 1958	N	N	
*L-69	do	do	1948	96	16	do	2,277	49.6 35.9 71.8	Aug. 20, 1948 Dec. 29, 1948 Oct. 3, 1957	N	N	Temp. 70°F. 2/
L-70	Gene Holmes	Allen Tipton	1952	195	16	do	--	78.7	Oct. 3, 1957	T,G, 70	Irr	Cased to bottom. Perforated from 70 ft. to bottom. Discharge measured 2,000 gpm in 1957.
L-71	J. W. Robbins	Koonce and Young	1948	120	16	--	2,284	44.5 42.2 81.6	Feb. 9, 1950 Dec. 29, 1948 Oct. 3, 1957	T,E	Irr	Temp. 70°F.
L-72	do	do	1948	137	16	Pecos aquifer	2,288	48.4 84.9	Feb. 9, 1950 Oct. 3, 1957	T,G, 70	Irr	Discharge measured 1,750 gpm Nov. 27, 1950.
L-73	H. B. Thompson	Allen Tipton	1951	145	18	do	--	77.2	Feb. 10, 1958	T,G, 70	D,Irr	Cased to bottom. Perforated from 105 to 141 ft. Pump set at 130 ft.
L-74	do	A. N. Yockey	1949	200	16	do	--	78.9	do	T,G, 70	Irr	Casing: 16-in. to 157 ft. Perforated from 60 to 157 ft. Discharge measured 400 gpm in 1957.
L-75	do	Lee Bullock	--	123	16	do	--	53.0 51.6 115.2	May 20, 1948 Dec. 29, 1948 Aug. 23, 1957	N	N	
L-76	Marshall Neville	Bullock, Gibson, and Tipton	1949	138	16	do	--	47.0 48.6 72.1	May 20, 1948 Feb. 9, 1950 Feb. 10, 1958	T,G, 80	Irr	Discharge reported 600 to 700 gpm in 1957.
L-77	Jake Broyles	Koonce and Young	1948	110	16	do	2,271	33.9 57.6	Dec. 30, 1948 Feb. 10, 1958	T,G, 70	Irr	Casing: 16-in. to 96 ft. 2/
L-78	do	do	1948	128	16	do	2,274	39.1 62.7	Aug. 2, 1948 Feb. 10, 1958	T,G	Irr	Pump set at 90 ft. 2/ 3/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
L-79	Jake Broyles	--	--	123	--	Pecos aquifer	2,281	47.5	Dec. 30, 1948	N	N	
*L-80	T. C. Fortson	Perry Jones	1952	123	16, 14	do	2,258	42.4	Feb. 7, 1958	T,G	D,Irr	Casing: 16-in. to 80 ft., 14-in. from 80 ft. to bottom. Discharge measured 1,060 gpm Aug. 23, 1957.
*L-81	do	Brown and Bullock	1946	62	6	do	2,264	31.7	Dec. 30, 1948	N	N	
L-82	M. R. Tripp	Szenasi and Haines	--	157	16	do	--	60.5 54.3	Feb. 9, 1950 Feb. 7, 1958	T,G, 70	Irr	Casing: 16-in. to 142 ft. Perforated from 60 to 142 ft. Discharge measured 1,160 gpm Aug. 22, 1957. 1/
*L-83	do	do	1948	134	16	do	2,268	37.4 54.6	Aug. 2, 1948 Feb. 7, 1958	T,G, 75	Irr	Discharge measured 1,180 gpm Aug. 22, 1957. 3/
M-1	Henry Wilbanks	--	--	350	--	do	--	200	Oct. 1957	C,W	S	
*M-2	do	--	--	272	8	do	--	254.0	June 14, 1947	C,W	D,S	
*M-3	do	--	--	200	6	do	--	--	--	C,W	S	
M-4	do	--	--	450	6	do	--	400	1947	C,W	S	
M-5	H. G. Hershenson	John Droppleman	--	3,805	--	--	3,354	--	--	N	N	Oil test. 2/
M-6	Henry Wilbanks	C. L. Huffman	--	--	6	Pecos aquifer	--	171.2	Oct. 31, 1957	N	N	
M-7	H. G. Hershenson	Dixie Oil Co.	--	5,354	--	--	3,265	--	--	N	N	Oil test. 1/
M-8	Edward Hershenson	--	--	--	4	Pecos aquifer	--	150	1957	C,W	S	
M-9	do	Lee O. White	--	5,042	--	--	3,244	--	--	N	N	Oil test. In Reeves County. 2/
M-10	do	J. M. House	1945	440	7	Pecos aquifer	--	141.7	Oct. 9, 1957	C,W	S	
M-11	J. H. Hayter	Eural James	1957	221	16	do	--	128.3	do	N	N	Discharge measured 65 gpm with test pump. Pump not installed Oct. 9, 1957. Drilled as test hole for irrigation.
M-12	do	Fritz Graef	1916	345	4	do	3,227	190.5	Oct. 3, 1957	C,W	D,S	Drilled from 345 to 360 ft. in 1951. 1/
M-13	Mrs. Ralph Lindsey	--	--	--	--	do	--	200	1957	C,W	S	
*M-14	J. H. Hayter	Ligon Bros.	--	360	7	do	3,295	334.3 342.0	June 14, 1947 Oct. 3, 1957	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*M-15	J. H. Hayter	R. A. Cleveland	1944	510	--	Pecos aquifer	--	298.2	Oct. 9, 1957	C,W	S	
M-16	Emerson Tinkler	--	--	235	7	do	--	226.1	Oct. 15, 1957	C,W	S	
*M-17	J. H. Hayter	--	--	350	6	do	3,198	200.0	June 19, 1947	C,W	S	
*M-18	do	Gorman Bros.	1943	500	6	do	--	382.8 351.4	June 14, 1947 Oct. 2, 1957	C,W	S	
M-19	do	Eural James	1947	200	7	do	--	159.5	Oct. 24, 1957	C,W	S	
*M-20	Ralph Lindsey Estate	--	--	500	8	do	3,312	316.4 323.8	June 18, 1947 Oct. 15, 1957	C,W	D,S	
M-21	Popham Land and Cattle Co.	Floyd and Dodson	1939	5,337	--	do	3,407	--	--	N	N	Oil test. 1/
N-1	C. M. Caldwell	Claude Garrett	1933	5,280	14	Rustler formation	--	1.5 3.1	Sept. 6, 1940 Nov. 27, 1946	N	N	Formerly supplied water for irrigation. Flowed when drilled. 1/
N-2	Billy Sol Estes	Bill Sol Estes	--	--	16	Pecos aquifer	2,963	166.3	Feb. 8, 1958	N	N	Drilled to supply water for irrigation. 2/
N-3	do	do	--	--	--	do	2,960	162.4	do	N	N	do
N-4	Emerson Tinkler	--	--	170	--	do	--	160.0	Aug. 15, 1957	C,W	D,S	
N-5	do	L. Walker	1957	1,840	--	do	--	--	--	N	N	Discharge reported with test pump, 200 gpm. 1/
N-6	Mrs. H. D. Mendel	--	--	237	6	do	--	171.9	Apr. 30, 1958	C,W	S	
N-7	Carrasco Traylor	L. C. Robinson	1958	550	16	--	--	200	Jan. 1958	T,G, 190	Irr	Casing: 16-in. to 400 ft. Perforated from 340 to 400 ft. Discharge reported 700 gpm 1958. Temp. 73°F.
N-8	do	--	1957	468	16	--	--	200	Sept. 1957	T,G, 225	Irr	Casing: 16-in. to 400 ft. Perforated from 340 to 400 ft. Discharge reported 1,000 gpm July 30, 1958. Temp. 73°F.
N-9	Mrs. H. D. Mendel	--	--	161	6	--	--	111.0	Apr. 30, 1958	C,W	S	
N-10	do	--	1950?	230	7	Pecos aquifer	--	114.3	do	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*N-11	Mrs. H. D. Mendel	Perry Jones	--	237	--	Pecos aquifer	2,979	160.9 160.9	Aug. 15, 1957 Apr. 17, 1958	C,W	S	
N-12	J. R. Alexander	--	--	210	6	do	--	165.4 160.7	Sept.13, 1957 Apr. 17, 1958	C,W	S	
*N-13	do	Gorman Bros.	1942	310	--	do	--	139.1 155.9	Nov. 27, 1946 Sept.13, 1957	C,W	S	
N-14	James Ensor	James Ensor	1954	360	--	do	3,084	171.1 168.7	Sept.13, 1957 Feb. 7, 1958	N	N	
N-15	do	Percy Weddle	1952	380	16	do	--	170	1957	T,G	Irr	Casing: 16-in. to 90 ft. Discharge reported 600 gpm in 1957.
N-16	do	Charlie Langlitz	1953	351	16	do	--	176.7	Feb. 20, 1956	T,G	Irr	Casing: 16-in. to 250 ft. Discharge reported 500 gpm Sept. 13, 1957. 1/
N-17	do	James Ensor	1954	360	--	do	--	168.4	Sept.13, 1957	N	N	Drilled as test hole for irrigation.
N-18	Henry Wilbanks	Ryan Bros.	--	350	10	do	--	167.4	Oct. 31, 1957	C,W	S	
*N-19	Texas Highway Department	--	1938	225	6	do	3,076	172.5 178.4	June 18, 1942 Jan. 21, 1959	C,W	P	3/
N-20	J. R. Alexander	R. A. Cleveland	1941	200	--	do	--	86.6 84.2	Oct. 21, 1946 Sept.12, 1957	C,W	S	
N-21	Mrs. H. D. Mendel	-- James	1955	556	6	do	--	159.0	Apr. 24, 1958	C,W	S	
*N-22	do	--	--	205	6	do	--	122.1	Sept. 5, 1957	C,W	S	
N-23	do	--	--	180	--	do	--	--	--	C,W	N	
*N-24	Hollis Alexander	--	--	455	--	do	--	214.2	Sept.12, 1957	C,W	S	
*N-25	Henry Wilbanks	--	--	300	--	do	--	194.9	Oct. 15, 1957	C,W	S	
N-26	Emerson Tinkler	Eural James	1956	400	7	do	--	211.6	do	C,W	S	
N-27	do	Percy Weddle	1944	40	6	do	--	--	--	C,W	S	
N-28	-- Fraser	Pure Oil Co.	--	5,082	--	--	3,311	--	--	N	N	Oil test. 2/
*N-29	M. R. Kennedy	--	1933	415	6	Pecos aquifer	3,180	194.8	June 9, 1947	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
N-30	M. R. Kennedy	--	--	175	--	Pecos aquifer	3,129	160.5	Sept. 6, 1957	C,W	S	
*N-31	do	--	--	265	8	do	--	116.6	Sept. 8, 1957	C,W	S	
*N-32	do	--	--	240	8	do	--	116.8	do	C,W	S	
*N-33	do	--	--	275	8	do	--	261.6	Sept. 6, 1957	C,W	S	
*N-34	do	--	--	86	6	do	--	--	--	C,W	S	
*N-35	Malcomb Almond	--	--	375	--	do	3,319	339.1	Mar. 16, 1958	C,W	S	
P-1	Mrs. H. D. Mendel	--	--	100	--	do	--	90.0	Nov. 28, 1946	C,W	S	
P-2	J. D. O'Michael Farms	Billy Sol Estes	1956	--	16	do	2,991	152.0 176.0	Jan. 15, 1958 Jan. 21, 1959	T,G	Irr	Discharge reported 2,000 gpm in 1957.
P-3	Bennie Downing	Perry Jones	1957	501	16	do	2,964	126.7 150.4	Jan. 15, 1958 Jan. 21, 1959	T,G	Irr	Discharge estimated 750 gpm Mar. 24, 1957. Temp. 75°F. 1/
*P-4	do	Bob Mullican	1957	531	--	do	2,958	--	--	T,G	Irr	1/
P-5	Raymond Tyler	do	1957	510	16	do	2,967	123.3	Jan. 15, 1958	T,G	Irr	Pump set at 400 ft. 1/
P-6	R. H. Tyler	do	1957	470	16	do	2,961	116.9 140.6	Jan. 15, 1958 Jan. 21, 1959	T,G	Irr	
P-7	Mrs. H. D. Mendel	Lawrence Ryan	1936	170?	--	do	--	143.0 123.0	Dec. 4, 1946 Apr. 30, 1958	C,W	S	
*P-8	D. J. Sibley	--	--	188	--	do	--	--	--	C,W	D,S	
P-9	do	--	--	--	--	do	2,953	203	1958	C,W	S	
P-10	do	Bud Hurst	1928	350	--	do	2,977	14.5 20.6 65	Apr. 12, 1937 Dec. 4, 1946 1958	C,W	D,S	
P-11	-- Estes	Hussman Oil & Development Co.	1930	1,680	--	--	3,123	--	--	N	N	Oil test. 2/
P-12	Pryor & Courtney	Phillips Petroleum Co.	--	1,397	12, 6	Pecos aquifer	--	--	--	N	N	do
P-13	I. T. Pryor	do	1959	4,375	--	do	2,951	--	--	N	N	do
P-14	Pryor & Courtney	do	--	1,408	12, 6	do	2,954	--	--	N	N	do

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*P-15	C. A. Wadsworth	--	--	177	5	Pecos aquifer	2,979	84.0	Dec. 2, 1946	C,W	D	
P-16	Southwestern Life Insurance Co.	Phillips Petroleum Co.	1929	1,660	--	--	2,951	--	--	N	N	Oil test. 1/
*P-17	D. J. Sibley	Lawrence Ryan	1943	401	7	Pecos aquifer	2,946	44.3 72.8	Mar. 23, 1946 Jan. 22, 1959	C,W	S	Cased to bottom. 3/
*P-18	R. D. Webb	--	1938	289	6	do	3,050	34.0 17.4	Oct. 31, 1946 July 19, 1948	C,W	S	Temp. 73°F. 2/
P-19	Lillian Rudicil	The Texas Co.	--	3,122	--	--	2,997	--	--	N	N	Oil test. 1/
P-20	Southwestern Life Insurance Co.	Buell & Hagen	--	2,933	12, 6	--	3,170	--	--	N	N	Oil test. 2/
*P-21	Charles Eldred	--	--	300	--	Pecos aquifer	3,070	--	--	N	N	
P-22	Firestone Test Center	--	1938	590	5	do	3,060	73.4 111.6	June 14, 1947 Mar. 17, 1958	N	N	
*P-23	do	--	1956	458	--	do	3,030	--	--	T,E	Ind	
P-24	Olds-Cecil-Wooten	Zapata Drilling Co.	1956	5,420	8	--	3,036	--	--	N	N	Oil test. 2/
P-25	R. & R. Farms	R. T. Mullican	1957	730	14	Pecos aquifer	3,008	116.1 95.0	Mar. 17, 1958 Jan. 21, 1959	N	N	Pump not installed Jan. 5, 1958. Will be used to supply water for irrigation. 1/
P-26	George Baker	Dual Lock	1932	--	--	do	--	99.0	June 27, 1950	N	N	
P-27	Raymond Tyler	John Lancaster	1956	690	16	do	3,015	130.1	Jan. 17, 1958	T,G	Irr	Casing: 16-in. to 420 ft.
P-28	George Baker	N. C. House	1938	380	5	do	--	5	June 1950	C,W	S	Temp. 72°F.
P-29	Raymond Tyler	Richardson Bros.	--	485	16	do	2,989	49.5 126.2 150.7	Jan. 7, 1956 Jan. 17, 1958 Jan. 21, 1959	T,G	Irr	Originally drilled to 429 ft., deepened to 485 ft. 2/
P-30	George Baker	Percy Weddle	1947	390	--	do	--	10.2	June 27, 1950	N	N	2/
P-31	A. J. Sitton	Richardson Bros.	--	410	16	do	2,989	48.1 130.4	Jan. 7, 1956 Jan. 17, 1958	T,G	Irr	Discharge measured 1,360 gpm. Originally drilled to 350 ft., deepened to 410 ft.
P-32	do	Mullican & Shackleford	1956	490	16	do	2,984	126.7 165.9	Jan. 15, 1958 Jan. 21, 1959	T,G, 180	Irr	Casing: 16-in. to 330 ft. Discharge reported 1,500 gpm.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
P-33	Mrs. H. D. Mendel	--	--	160	6	Pecos aquifer	2,992	97.8 103.5	Nov. 28, 1946 Jan. 17, 1958	C,W	S	
P-34	Raymond Tyler	John Lancaster	1956	630	20, 16	do	3,015	62.3 133.3	Feb. 20, 1956 Jan. 17, 1958	T,G	Irr	Casing: 20-in. to 200 ft., 16-in. from 200 to 400 ft. Discharge reported 2,000 gpm Jan. 6, 1956.
P-35	do	Henry Parker	1955	670	16	do	3,024	58.5	Feb. 20, 1956	T,G	Irr	Casing: 16-in. to 360 ft. Temp. 76°F. 2/
*P-36	do	do	1955	630	16	do	3,037	76.1 120.5	Feb. 20, 1956 Jan. 17, 1958	T,G	Irr	Casing: 16-in. to 420 ft.
P-37	do	John Lancaster	1955	641	16	do	3,035	67.1	Feb. 20, 1956	T,G	Irr	Casing: 16-in. to 420 ft. 2/
P-38	A. J. Sitton, Jr.	Gray Bros.	1957	616	16	do	3,025	135.2 140.6	Jan. 17, 1958 Jan. 21, 1959	T,G	Irr	Casing: 16-in. to 350 ft. Discharge estimated 200 gpm Sept. 5, 1957. Temp. 73°F. 2/
P-39	Mrs. H. D. Mendel	do	1957	580	16	do	3,013	140.6	Jan. 21, 1959	T	Irr	Casing: 16-in. to 392 ft. Discharge reported 600 gpm. 1/
P-40	do	--	--	210	--	do	--	170	1946	C,W	S	
P-41	do	Richardson Bros.	1957	514	16	do	3,018	158.5 183.7	Jan. 17, 1958 Jan. 21, 1959	T,G, 110	Irr	Casing: 16-in. to 375 ft. Perforated from 210 to 250 ft. Discharge measured 1,270 gpm Aug. 1957. Temp. 74°F. 2/
P-42	do	Perry Jones	--	632	18	do	3,025	98.2 98.6	Aug. 21, 1957 Jan. 17, 1958	N	N	2/
P-43	Chester Burks	R. T. Mullican	1957	612	--	do	3,076	137.0 136.0	Jan. 12, 1958 Jan. 17, 1959	N	N	1/
P-44	M. R. Kennedy	--	--	--	--	do	3,086	135.6	Sept. 8, 1957	C,W	S	
P-45	Chester Burks	John Lancaster	1956	655	16	do	3,099	156.4 153.9	Jan. 17, 1958 Jan. 21, 1959	T,G	Irr	Casing: 16-in. to 360 ft. Discharge measured 450 gpm. Temp. 73°F. 2/
P-46	do	Shackleford Drilling Co.	1956	540	16	do	3,087	143.1	Jan. 21, 1958	T,G	Irr	Casing: 16-in. to 360 ft. Discharge measured 610 gpm in 1958. Temp. 73°F.
P-47	D. C. McIntyre	--	1957	--	16	do	3,060	143.1 152.8	Jan. 21, 1958 Jan. 21, 1959	T,G	Irr	Discharge estimated 500 gpm. Temp. 74°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
P-48	Charles Harrel	Perry Jones	1957	549	16	Pecos aquifer	3,049	144.9	Jan. 21, 1959	T,G, 110	Irr	Casing: 16-in. to 349 ft. Discharge measured 590 gpm in 1958. Temp. 74°F. 2/
P-49	do	do	1957	505	16	do	3,049	133.7	do	T,G, 110	Irr	Casing: 16-in. to 356 ft. Discharge estimated 450 gpm in 1958. Temp. 74°F. 2/
P-50	Luther Holliday	Shackleford Drilling Co.	1956	575	16	do	3,060	--	--	T,G, 110	Irr	Casing: 16-in. to 350 ft. Discharge measured 620 gpm. Temp. 73°F. 2/
P-51	do	do	1956	554	16	do	3,070	134.7 127.5	Jan. 17, 1958 Jan. 21, 1959	T,G, 110	Irr	Casing: 16-in. to 335 ft., 108 ft. perforated. Temp. 78°F. 2/
P-52	George Baker	Richardson Bros.	1957	550	16	do	3,080	132.1 140.8	Jan. 17, 1958 Jan. 21, 1959	T,G	Irr	Casing: 16-in. to 365 ft. Discharge measured 766 gpm Aug. 13, 1957. 1/
P-53	L. C. Holliday	E. J. McMillan	1956	555	16	do	3,067	--	--	T,G, 110	Irr	Casing: 16-in. to 335 ft. Discharge measured 385 gpm. 2/
P-54	Luther Holliday	do	1957	400	--	do	3,058	381.0 115.9	Sept. 6, 1957 Jan. 17, 1958	N	N	2/
P-55	do	N. C. House	1938	--	4	do	3,051	--	--	N	N	
P-56	Bob Jenson	Huffman and Brazell	1955	658	16	do	3,053	101.2	Feb. 6, 1958	T,G	Irr	Casing: 16-in. to 515 ft. 2/
P-57	do	Jack McMillan	1955	570	14	do	3,052	90.1 100.8 119.8	Jan. 9, 1956 Jan. 17, 1958 Jan. 22, 1959	T,G	Irr	Temp. 70°F.
P-58	Luther Holliday	Eural James	1957	550?	16	do	3,067	99.5 124.4	Jan. 17, 1958 Jan. 22, 1959	T,G	Irr	Casing: 16-in. to 368 ft. Discharge measured 960 gpm.
P-59	R. & R. Farms	Richardson Bros.	1957	543	12	do	3,063	94.6	Feb. 6, 1958	T,G, 110	Irr	Casing: 12-in. to 340 ft. Perforated from 300 to 340 ft. Discharge measured 625 gpm. Temp. 73°F.
P-60	do	do	1957	555	12	do	3,062	89.5 106.5	Feb. 6, 1958 Jan. 22, 1959	T,G, 110	Irr	Casing: 12-in. to 334 ft. Perforated from 260 to 334 ft. Discharge measured 610 gpm.
P-61	do	do	1956	556	14	do	3,063	89.4	Jan. 22, 1959	T,G, 70	Irr	Casing: 14-in. to 460 ft. Discharge measured 450 gpm. Temp. 73°F. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*P-62	George Baker	--	--	200	8	Pecos aquifer	3,086	84.2 116.1	June 16, 1947 Jan. 22, 1959	C,W	S	3/
P-63	W. E. Lawrence	Gray Bros.	1958	414	20	do	3,056	77.4 84.3	Mar. 13, 1958 Jan. 22, 1959	N	N	Discharge reported 1,000 gpm Mar. 12, 1958. Drilled to supply water for irrigation. 2/
P-64	Chas. Eldred	--	--	91	8	do	--	56.9	June 18, 1942	C,W	S	
P-65	R. D. Webb	Honolulu Oil Co. et al	1931	3,098	15, 8	--	3,054	--	--	N	N	Oil test. 2/
*P-66	Mrs. M. L. Mauld	--	--	164	6	Pecos aquifer	--	93 103.3	June 1942 Oct. 21, 1946	C,W	S	
P-67	Chandler Co.	S. H. Parker	1957	350	16	do	3,004	23.0	Feb. 17, 1958	T,G, 93	Irr	Cased to bottom. Perforated from 100 ft. to bottom.
P-68	do	--	1947	337	--	do	3,082	--	--	T,G	Irr	Pump set at 40 ft. Discharge estimated 4,000 gpm Sept. 18, 1951.
P-69	do	S. H. Parker	1957	363	16	do	3,006	29.6 34.7	Feb. 17, 1958 Jan. 22, 1959	T,G, 93	Irr	Cased to bottom. Perforated from 100 ft. to bottom. Discharge reported 2,000 gpm Nov. 27, 1957. 2/
P-70	do	do	1957	346	16	do	3,002	--	--	T,G, 93	Irr	Cased to bottom. Perforated from 100 ft. to bottom. 2/
P-71	do	--	--	--	--	do	3,001	13.6 29.5	Dec. 5, 1953 Jan. 22, 1959	N	N	3/
P-72	do	--	1915	322	6	do	3,064	--	--	--	N	Casing: 6-in. to 20 ft. Flow reported 720 gpm Oct. 31, 1946. 2/
P-73	do	--	1916	322	8	do	3,064	--	--	--	--	Flow reported 1,500 gpm Oct. 31, 1946. 2/
P-74	do	S. H. Parker	1957	406	16	do	3,005	15.0 24.1	Dec. 8, 1952 Feb. 13, 1958	T,G, 93	Irr	Cased to bottom. Perforated from 100 ft. to bottom. 1/
P-75	do	do	1957	362	16	do	3,001	26.4	Feb. 17, 1958	T,G	Irr	Cased to bottom. Perforated from 100 ft. to bottom. 2/
P-76	do	--	--	--	--	do	2,998	7.6 55.5	Feb. 11, 1955 Aug. 14, 1955	N	N	

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level: Below or above (+) land surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
P-77	Chandler Co.	--	1920	556	6	Pecos aquifer	3,064	--	--	--	N	Flowed intermittently in 1946. 2/
P-78	do	-- Haney	1918	316	8	do	3,064	--	--	--	N	do
P-79	do	--	--	290	10	do	3,008	62.2 100.0	Apr. 12, 1956 Apr. 30, 1959	N	N	
P-80	do	S. H. Parker	1957	350	16	do	3,001	23.2 29.9	Feb. 15, 1958 Jan. 22, 1959	T,G, 93	Irr	Cased to bottom. Perforated from 100 ft. to bottom. 2/
P-81	do	-- Schumacher	--	120	16	do	3,060	8.8	July 17, 1950	T,G	Irr	Originally drilled to 480 ft., plugged back to 120 ft. Casing: 16-in. to 20 ft. Discharge measured 5,400 gpm in 1950. Temp. 80°F. 2/
P-82	do	--	--	--	18	do	--	7.2 13.4	Jan. 28, 1955 Dec. 7, 1955	N	N	
P-83	do	--	--	1,600	--	--	3,060	--	--	N	N	Oil test. 2/
*P-84	Clayton Williams	--	--	--	--	Pecos aquifer	--	24.1	July 17, 1950	C,W	S	Temp. 80°F.
*P-85	Chandler Co.	Joe Cannon	1952	1,812	16, 12	Rustler formation	3,047	(+)	--	Flows	Irr	Casing: 16-in. to 120 ft., 12-in. from 120 to 1,620 ft. Discharge reported 1,500 gpm in 1956. Temp. 86°F.
*P-86	do	Schade & Reynolds	1940	1,756	8	do	3,042	(+)	Apr. 4, 1956	Flows	Irr	Flow reported about 600 gpm in 1956. 1/
P-87	C. L. Thompson	Humble Oil & Refining Co.	--	429	--	--	3,061	--	--	N	N	Oil test. 2/
P-88	L. L. Davis	Bill Tipton	1951	249	--	Pecos aquifer	--	--	--	N	N	2/
P-89	Comanche Farms	Gray Bros.	1956	461	16	do	3,068	71.9 89.0 86.7	Dec. 28, 1955 Jan. 7, 1958 Jan. 15, 1958	T,G, 110	Irr	Casing: 16-in. to 160 ft. Discharge reported 3,000 gpm in 1955.
P-90	do	Bob Mullican	1957	360	16	do	3,068	78.2 88.9 87.7	Dec. 28, 1955 Jan. 7, 1958 Jan. 15, 1958	T,G, 70	Irr	Casing: 16-in. to 165 ft. Originally drilled to 201 ft., deepened to 360 ft. in 1957. 2/
P-91	do	do	1957	360	16	do	3,067	78.6 92.1 88.2	Dec. 28, 1955 Jan. 7, 1958 Jan. 15, 1958	T,G, 70	Irr	Discharge measured 1,456 gpm Mar. 30, 1956. Originally drilled to 178 ft., deepened to 360 ft. in 1957. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
P-92	Comanche Farms	Bob Mullican	1957	372	16	Pecos aquifer	3,059	64.8 65.9 81.9	Dec. 28, 1955 Nov. 30, 1951 Jan. 7, 1957	T,G, 70	Irr	Casing: 16-in. to 140 ft. Discharge measured 1,017 gpm Mar. 30, 1956. Originally drilled to 190 ft., deepened to 372 ft. in 1957.
P-93	L. L. Davis	Bill Tipton	1951	200	--	do	--	--	--	N	N	2/
P-94	Clayton Williams	L. B. Ryan	--	--	7	do	3,077	92.3	Feb. 5, 1958	C,W	D	Temp. 75°F.
*P-95	Chandler Co.	W. T. Graham	1939	1,550	10	Rustler formation	3,071	66 66.1	1939 May 10, 1948	N	N	Formerly flowed. 2/
P-96	C. W. Williams	Perry Jones	1957	360	16	Pecos aquifer	3,068	87.7 82.6 91.8	Jan. 12, 1958 Feb. 5, 1958 Jan. 22, 1959	T,G	Irr	Casing: 16-in. to 169 ft. 2/
P-97	do	do	1957	327	16	do	3,062	83.4 89.8	Feb. 5, 1958 Jan. 22, 1959	T,G	Irr	Casing: 16-in. to 118 ft. Discharge reported 2,500 gpm. 2/
P-98	T. B. Armentrout	R. C. Lister	1950	165	12	do	--	58.6 66.1	Apr. 1, 1950 Jan. 5, 1956	T,G	Irr	Casing: 12-in. to 97 ft. Discharge measured 1,940 gpm Mar. 29, 1956.
P-99	Wilbur Sage	--	1957	--	16	do	3,052	61.2	Feb. 17, 1958	N	N	
P-100	Bill Cochran	Perry Jones	1950	285	16	do	3,045	51.0 57.8	Apr. 12, 1950 Jan. 5, 1956	T,G	Irr	Casing: 16-in. to 90 ft. Discharge measured 1,668 gpm Apr. 11, 1956. Originally drilled to 160 ft.; deepened to 285 ft. in July 1957. 2/
P-101	do	do	1957	320	16	do	3,044	--	--	T,G, 110	Irr	Casing: 16-in. to 100 ft. Discharge reported about 3,000 gpm.
P-102	L. C. Holliday	R. A. Cleveland	--	--	16	do	3,046	54.4 67.0	Dec. 28, 1955 Jan. 31, 1958	T,G	Irr	Discharge measured 2,000 gpm Mar. 28, 1956. Originally drilled to 175 ft., and later deepened. 2/
P-103	Wilbur Sage	do	--	300	16	do	3,052	41.9 40.9 74.3	Apr. 21, 1950 Aug. 4, 1950 Feb. 17, 1958	T,G	Irr	Casing: 16-in. to 110 ft. 1/
P-104	L. C. Holliday	Cleveland and McMillan	1956	368	16	do	3,050	61.9 69.9	Jan. 5, 1956 Jan. 31, 1958	T,G	Irr	Discharge reported 2,500 gpm. Originally drilled to 150 ft., deepened to 368 ft. in 1956.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*P-105	L. A. Taliaferro	--	--	350	16	Pecos aquifer	3,050	50.4 55.9 69.8	Nov. 30, 1946 Mar. 13, 1950 Jan. 31, 1958	T,G	Irr	Discharge measured 2,930 gpm Mar. 15, 1956. Originally drilled to 500 ft., but filled in to 350 ft.
P-106	Williams Bros.	--	1903	125	--	do	--	54.6 58.7	Dec. 17, 1946 Feb. 28, 1950	C,W	N	Butz well.
P-107	Joe Harral	Gray Bros.	1956	450	16	do	3,080	110.8 108.9	Jan. 3, 1958 Jan. 15, 1958	T,G, 70	Irr	Pump set at 370 ft. 2/
P-108	do	S. H. Parker	1956	405	16	do	3,091	115.4 113.3	Jan. 3, 1958 Jan. 15, 1958	T,G, 70	Irr	Casing: 16-in. to 200 ft. Pump set at 370 ft. 1/
P-109	University of Texas	--	1946	208?	--	do	--	99.5 101.7 150.9	Nov. 30, 1951 Dec. 19, 1955 May 5, 1956	C,W	S	
P-110	Clayton Williams, Jr.	Gray Bros.	1957	361	--	do	3,099	--	--	N	N	2/
P-111	do	do	1957	318	--	do	3,123	--	--	N	N	Drilled as test hole for irrigation. 2/
P-112	do	do	1957	274	--	do	3,127	--	--	N	N	do
P-113	Wesley Whitman	E. J. McMillan	1956	308	--	do	3,096	141.8 110.6	Apr. 10, 1956 Jan. 29, 1958	T,G	Irr	Casing: 16-in. to 120 ft. 2/
P-114	do	Perry Jones	--	--	--	do	3,098	117.4 158.9	Nov. 24, 1957 June 27, 1958	N	N	Caved in July 28, 1958. 3/
P-115	do	Gray Bros.	1956	299	--	do	3,096	105.8 90.4	Nov. 28, 1957 Jan. 22, 1959	N	N	2/ 3/
P-116	I. T. Pryor	Stanolind Oil & Gas Co.	1953	5,266	--	--	3,086	--	--	N	N	Oil test.
P-117	Clayton Williams	--	--	--	--	Pecos aquifer	3,084	71.3 85.4	Dec. 28, 1955 Jan. 12, 1958	T,G	Irr	Discharge measured 1,070 gpm Mar. 28, 1956.
*P-118	do	Claude Garrett	1946	446	12	do	3,083	66.3 82.5 97.7	Dec. 17, 1946 Feb. 5, 1948 Jan. 22, 1959	T,G	Irr	Discharge measured 1,474 gpm Mar. 28, 1956.
P-119	do	--	--	--	--	do	3,083	72.5 85.7 82.5	Dec. 28, 1955 Jan. 12, 1958 Feb. 5, 1958	T,G	Irr	Discharge measured 618 gpm Mar. 28, 1956.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*P-120	Clayton Williams	Humble Oil & Refining Co.	1937	1,373	8	Rustler formation	3,083	(+)	--	Flows	Irr	Flow measured 675 gpm Mar. 28, 1956. Temp. 89°F.
P-121	L. C. Holliday	E. J. McMillan	1956	385	16	Pecos aquifer	3,094	--	--	T,G	Irr	Casing: 16-in. to 155 ft. Discharge measured 1,500 gpm. 1/
P-122	do	Eural James	1955	192	16	do	3,094	79.8 90.7	Dec. 28, 1955 Jan. 31, 1958	T,G	Irr	Casing: 16-in. to 160 ft. Discharge estimated 1,500 gpm Mar. 28, 1956.
P-123	Chandler Co.	Gray Bros.	1955	260	16	do	3,135	97.9 110.3	Jan. 3, 1956 Feb. 5, 1958	T,G	Irr	Cased to bottom. Discharge measured 1,676 gpm Mar. 31, 1956.
P-124	Clayton Williams, Jr.	do	1947	425	16	do	3,128	115.1	Jan. 31, 1958	T,G	Irr	Casing: 16-in. to 115 ft. Discharge reported 2,500 gpm. 1/
P-125	S. F. Williams	do	--	370?	16	do	3,127	103.6	do	T,G	Irr	Casing: 16-in. to 200 ft. Discharge reported 2,000 gpm.
P-126	do	A. N. Yockey	1956	360	16	do	3,125	108.2	do	T,G	Irr	Casing: 16-in. to 200 ft.
P-127	do	Gray Bros.	1956	547	16	do	3,123	99.8	Feb. 5, 1958	T,G	Irr	Casing: 16-in. to 280 ft. Pump set at 325 ft.
P-128	D. C. McAteer	Joe Gray	1956	327	16	do	3,123	101.2	Jan. 29, 1958	N	N	
P-129	Wesley Whitman	Eural James	1957	330	--	do	3,099	94.4	Jan. 31, 1958	N	N	2/
P-130	do	--	1956	460	--	do	3,098	96.9	Jan. 29, 1958	N	N	2/
P-131	do	Joe Gray	1957	559	--	do	3,099	97.3	do	T,G	Irr	Cased to 263 ft., 135 ft. of 12-in. casing at bottom. 2/
*P-132	Clayton Williams	R. A. Cleveland	1949	120	5	do	3,100	--	--	C,W	S	Temp. 76°F.
*P-133	Mrs. C. L. Thompson	--	--	130	6	do	--	110	1950	C,W	D,S	Temp. 71°F.
P-134	do	Humble Oil & Refining Co.	1943	3,575	--	Rustler formation	3,100	(+)	Apr. 3, 1946	Flows	N	Drilled as oil test. Formerly used for irrigation. Flow estimated 800 gpm in 1946. 2/
*P-135	George Baker	R. A. Cleveland	1946	194	8	Pecos aquifer	3,165	168.8 197.3	June 16, 1947 Jan. 22, 1959	C,W	S	3/
P-136	do	White and Baker	--	250?	6	do	3,070	172.8 184.0	June 16, 1947 Sept.20, 1957	C,W	S	
P-137	M. R. Kennedy	--	--	160	--	do	--	135.0	Sept. 8, 1957	C,W	S	

See footnotes at end of table.

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
P-138	Leon Land and Cattle Co.	--	--	--	--	Pecos aquifer	--	--	--	N	N	Leon Springs. Not flowing in 1958. Discharge of Leon Springs and adjacent flowing wells measured 26.9 cfs July 26, 1920.
Q-1	-- Davenport	--	1921	451	--	do	3,120	10	Dec. 1958	N	N	
*Q-2	Bodie Smith	--	1949	1,600	8	Rustler formation	--	(+)	Nov. 3, 1949	Flows	N	Oil test. Flow reported 1,000 gpm Nov. 3, 1949. 2/
Q-3	Elbert Price	--	--	--	--	Pecos aquifer	2,846	31.6	May 14, 1958	C,W	S	
Q-4	Ernest Riggs	--	--	--	--	do	--	40	Dec. 1958	C,W	S	
*Q-5	do	N. A. House	1939	226	5	do	--	11.9	Apr. 5, 1950	C,W	S	Casing: 5-in. to 194 ft. Originally drilled to 300 ft., plugged back to 226 ft. Temp. 68°F.
Q-6	do	N. C. House	1949	53	13	do	--	--	--	N	N	2/
Q-7	do	do	1945	45	7	do	--	--	--	C,W	Ind	Water sand reported from 27 to 44 ft. 2/
Q-8	do	--	--	400	7	do	2,860	31.2 17.7	June 6, 1950 Feb. 4, 1958	N	N	Formerly supplied water for oil-well drilling rig.
Q-9	Ernest Riggs	Cannon and Cox	1949	2,178?	--	Rustler formation	--	(+)	June 22, 1949	--	N	Oil test. Flow reported 1,500 gpm June 22, 1949. Not flowing in 1958. 2/
*Q-10	Mrs. B. Downs	The Texas Co.	1947	2,997	10	Rustler formation(?)	2,331	(+)	Apr. 7, 1958	Flows	Irr	Casing: 10-in. to 400 ft. Flow reported about 2,000 gpm Apr. 7, 1956. Temp. 76°F. 1/
Q-11	D. J. Sibley	Lawrence Ryan	1946	66	10, 7	Pecos aquifer	--	16.6	Dec. 4, 1946	C,W	S	Cased to bottom. Perforated from 43 ft. to bottom. 2/
Q-12	O. W. Williams	N. C. House	1944	66	10, 7	do	--	--	--	N	N	Cased to bottom. Perforated from 25 ft. to bottom. 2/
Q-13	do	do	1944	233	7	do	--	--	--	C,E, 5	D	Casing: 7-in. to 192 ft. 2/
Q-14	do	do	1946	66	7	do	--	--	--	N	N	Cased to bottom. Perforated from 23 ft. to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-15	Overton Black	N. C. House	1949	324	5	Pecos aquifer	--	--	--	N	N	Cased to bottom. Gravel-walled.
Q-16	do	--	--	--	--	do	--	--	--	C,W	S	2/
*Q-17	Ernest Riggs	--	1935	380	6	do	--	(+)	June 17, 1947	--	N	Casing: 6-in. to 90 ft. Sand reported from 300 ft. to bottom. Flow measured 5 gpm June 17, 1947. Not flowing in 1958.
Q-18	Paul Crone	--	--	350	5	do	--	--	--	C,W	D,S	Temp. 67°F.
Q-19	do	Ligon Bros.	1910	125	8	do	--	10 3.2	June 1949 Jan. 7, 1950	N	N	Reported formerly flowed. Not flowing in 1958.
Q-20	T. W. Hillin	Clyde Word	1956	300	8	do	2,870	49.2 53.1	Nov. 26, 1956 Jan. 27, 1958	C,W	S	Sand reported from 220 ft. to bottom.
Q-21	D. J. Sibley	Major Quimby	--	3,300	--	Rustler formation	2,877	(+)	Apr. 13, 1946	Flows	S	Flow estimated 15 gpm Apr. 13, 1946.
Q-22	do	Lawrence Ryan	1946	486	7	Pecos aquifer	--	29.6	Dec. 4, 1946	C,W	S	Temp. 71°F.
Q-23	Harrison Dyche	do	1945	280?	5	do	--	--	--	C,W	S	
Q-24	do	--	--	--	8	do	--	41.5 42.9	Nov. 26, 1957 Jan. 27, 1958	N	N	
Q-25	T. W. Hillin	--	1952	--	--	do	--	59.0 62.8	Nov. 26, 1957 Jan. 27, 1958	T,E	D	
*Q-26	C. E. Criswell	C. L. Nevins	1928	230	6, 4	do	--	--	--	C,W	D,S	Casing: 6-in. to 50 ft., 4-in. from 50 to 130 ft.
Q-27	T. W. Hillin	James E. Dye	1949	500	12	do	--	14.8 59.1	Apr. 3, 1949 Nov. 26, 1957	N	N	Casing: 12-in. to 125 ft. Formerly used for irrigation. Temp. 67°F. 2/
*Q-28	do	Carman Drilling Co.	1947	515	16	do	2,882	23.0 70.8	Apr. 10, 1947 Nov. 26, 1957	T,G, 50	Irr	Casing: 16-in. to 125 ft. Discharge reported 400 gpm Nov. 1956. 2/
Q-29	C. A. Criswell	Mark Taliaferro, Jr.	1947	280	6	do	--	66.3 69.2	Apr. 10, 1947 Jan. 27, 1958	T,E, ½	D	Casing: 6-in. to 180 ft. Sand reported from 257 ft. to bottom. Originally drilled to 200 ft., deepened to 280 ft. in 1957.
Q-30	Elbert Boatman	John Lancaster	1956	910	12	do	--	67.0	Nov. 27, 1957	T,G	Irr	Casing: 12-in. to 700 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-31	C. A. Criswell	R. A. Cleveland	1953	300	10	Pecos aquifer	--	45.0 60.0 71.2	Apr. 4, 1956 Nov. 26, 1957 Jan. 22, 1959	T,G	Irr	Casing: 10-in. to 175 ft. Discharge reported about 600 gpm, summer 1957.
Q-32	Marvin Dees	Perry Jones	1956	330	10	do	--	--	--	T,G	Irr	Cased to bottom. Pump set at 300 ft. Discharge 1,500 gpm when drilled but declined to 800 gpm in 1958. 1/
Q-33	do	R. A. Cleveland	1951	160	16	do	--	--	--	T,G	Irr	Casing: 16-in. to 101 ft. Perforated from 19 to 101 ft. Discharge reported 300 gpm, 1957.
Q-34	Ed Sullivan	Jim Sullivan	1949	487?	--	do	2,874	15.8 20.9 47.6	Apr. 19, 1949 Oct. 11, 1950 Nov. 14, 1957	N	N	Drilled as test hole for irrigation. 2/
Q-35	--	--	--	--	--	do	--	49.5 51.7	Nov. 26, 1957 Jan. 30, 1958	N	N	
Q-36	W. J. York	--	--	96	3	do	--	63.7 66.1	Nov. 14, 1957 Jan. 30, 1958	T,E, 1	D,S	
Q-37	Tom Moore	Eural James	1942	55	6	do	--	51.0 53.3	Nov. 14, 1957 Jan. 30, 1958	C,W	S	
Q-38	Ed Sullivan	Jim Sullivan	1939	356	6	do	2,877	31	May 1940	J,E, 1	D,S	2/
Q-39	do	do	1954	630	14	do	--	79.6	Jan. 28, 1958	T,G	Irr	Discharge reported 1,200 gpm. 2/
*Q-40	Harrison Dyche	Carmine Drilling Co.	1947	260	14	do	2,858	38.5 81.5	Apr. 14, 1947 Jan. 24, 1959	T,G, 50	Irr	Casing: 14-in. to 240 ft. Perforated from 60 to 80 ft. 2/ 3/
Q-41	do	Jim Sullivan	1947	538	6, 4	do	2,840	31	May 1947	C,E	D,S	2/
Q-42	do	L. B. Ryan	--	515	5	do	2,836	39.0 98.8	May 19, 1949 Sept.26, 1957	C,W	S	
Q-43	do	do	1946	80	6	do	3,006	13.3 40.4 41.2	May 17, 1949 Nov. 13, 1957 Jan. 29, 1958	C,W	S	
Q-44	do	do	1926	85	--	do	--	(+)	Nov. 26, 1949	Flows	S	Flow reported 20 gpm. Temp. 66°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-45	E. R. Dyche	E. R. Dyche	1946	180	16	Pecos aquifer	--	19.9	Oct. 18, 1946	T,G	Irr	Casing: 16-in. to 151 ft.
Q-46	do	Eural James	1947	220	--	do	--	19.1 59.3	May 8, 1947 Jan. 29, 1958	T,G	Irr	Discharge measured 290 gpm June 9, 1949.
Q-47	Clyde Wilson	Bodie Smith	1957	200	18	do	2,839	59.9	Jan. 29, 1958	T,G	Irr	
Q-48	do	Charlie Stone	1950	180	12	do	--	22.8 19.2 57.7	Apr. 25, 1949 Feb. 23, 1950 Jan. 29, 1958	N	N	Formerly supplied water for irrigation.
Q-49	do	do	1950	158	--	do	--	23.1 39.6 52.5 49.2	Mar. 19, 1951 Apr. 5, 1956 Nov. 27, 1957 Jan. 28, 1958	T,G, 75	Irr	Discharge reported 900 gpm Mar. 1951
Q-50	do	John Lancaster	1948	--	10	do	--	3.7 41.9 42.3	Apr. 25, 1949 Nov. 27, 1957 Jan. 29, 1958	N	N	Casing: 10-in. to 132 ft. Perforated from 0 to 132 ft.
Q-51	E. A. Robertson	--	1946	217	16	do	2,862	17.7	Oct. 18, 1946	T,G	Irr	
Q-52	H. E. Taylor	R. A. Cleveland	1955	200	12	do	--	60.5 59.7	Nov. 14, 1957 Jan. 29, 1958	T,G, 50	Irr	Discharge measured 381 gpm. Temp. 63°F. 2/
Q-53	do	--	--	350	--	do	--	53.9 53.6	Nov. 14, 1957 Jan. 29, 1958	C,W	D,S	
Q-54	E. A. Robinson	--	--	--	--	do	--	58.5	Jan. 29, 1958	C,W	S	
*Q-55	T. B. Rhodes	T. B. Rhodes	1946	147	--	do	--	20.4	Oct. 2, 1946	T,G	Irr	Discharge measured 750 gpm May 2, 1947. Temp. 66°F. 2/
Q-56	Charlie Stone	-- Taliaferro	--	90	6	do	--	63.2	Jan. 29, 1958	T,E, ½	D	Originally drilled to 37 ft., deepened to 90 ft.
Q-57	William Hoefs	Lawrence Ryan	1955	100	6	do	--	61.5 62.8	Nov. 14, 1957 Jan. 28, 1958	C,W	S	
Q-58	Charlie Stone	Charlie Stone	1957	115	7	do	--	59.9	Jan. 29, 1958	-,E, ½	D	Pump set at 80 ft.
Q-59	do	Ed Jones	1945	250	10	do	--	14.4 13.6 13.4 59.8	Oct. 18, 1946 Mar. 6, 1948 May 10, 1949 Jan. 28, 1958	T,G	Irr	2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-60	Charlie Stone	William Holman	1948	260	12	Pecos aquifer	--	20.1 15.5	June 15, 1948 Nov. 23, 1949	N	N	Formerly supplied water for irrigation.
Q-61	do	John Lancaster	1942	220	8	do	2,856	19.0 45	June 15, 1949 Apr. 1956	T,G	Irr	Discharge reported 400 gpm Apr. 5, 1956. 1/
Q-62	do	Percy Weddle	1952	234	12	do	--	63.0	Jan. 28, 1958	T,G, 50	Irr	Drawdown reported 124 ft. after 5 hours pumping at 800 gpm in 1956.
Q-63	M. E. Fincher	R. A. Cleveland	1954	270	14	do	2,852	67.6 63.7	Nov. 20, 1957 Jan. 29, 1958	T,G, 75	Irr	Drawdown reported 100 ft. after ½ hour pumping at 875 gpm in 1956.
Q-64	E. A. Robertson	Bodie Smith	1948	200	14	do	--	37.5 63.3	Apr. 6, 1956 Jan. 29, 1958	T,G	Irr	
Q-65	L. B. Steeler	--	--	60	5	do	2,924	37.5 33.6 71.6 70.7	Apr. 19, 1949 Mar. 14, 1950 Oct. 31, 1957 Jan. 30, 1958	N	N	
Q-66	Clyde Wilson	Bishop Smith	1948	215	12	do	2,865	23.1 15.3 57.9 58.6	Nov. 23, 1949 Jan. 3, 1950 Nov. 27, 1957 Jan. 28, 1958	T,G	Irr	Temp. 64°F.
Q-67	M. E. Fincher	-- Taylor	1952	270	14	do	--	70.2 70.6	Nov. 20, 1957 Jan. 29, 1958	T,G, 30	Irr	Discharge reported 300 gpm in 1957. Temp. 63°F.
Q-68	do	do	1951	270	14	do	--	69.1 69.6	Nov. 20, 1957 Jan. 29, 1958	T,G, 32	Irr	Discharge reported 480 gpm in 1956. Temp. 63°F.
Q-69	do	Bishop Smith	1949	300	--	do	2,876	25.9 70.3 70.5	Jan. 3, 1950 Nov. 20, 1957 Jan. 29, 1958	C,W	S	
Q-70	Lee O. White	Debs Pattillo	1946	301	8	do	--	23.8	Nov. 20, 1946	J,E	D	Originally drilled to 205 ft., deepened to 301 ft. 2/
Q-71	do	Laferty and Pattillo	1947	312	12	do	2,873	--	--	T,G, 30	Irr	Casing: 12-in. to 132 ft. Discharge reported 800 gpm Feb. 1, 1947. 2/
*Q-72	do	Lee O. White	1947	310	12	do	2,871	--	--	T,G, 30	Irr	Casing: 12-in. to 80 ft. Perforated from 60 to 80 ft. Discharge measured 410 gpm May 31, 1950. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*Q-73	Lee O. White	Lee O. White	1951	1,480	7	Rustler formation	--	(+)	Jan. 29, 1958	Flows	S,Irr	Originally drilled to 1,800 ft., plugged back to 1,480 ft. Flow measured 200 gpm Apr. 6, 1956. Temp. 75°F. 2/
Q-74	Mrs. Evelyn Nevans	Percy Weddle	1951	300	14	Pecos aquifer	--	71.3 72.4	Nov. 25, 1957 Jan. 29, 1958	T,G, 50	Irr	Discharge reported from 850 to 1,000 gpm in 1956.
Q-75	Jim Nevans	--	1948	285	16	do	--	24.1 72.0 68.9	May 21, 1949 Nov. 28, 1957 Jan. 29, 1958	T,G, 52	Irr	Pump set at 140 ft. Discharge reported 1,200 gpm May 21, 1949.
Q-76	Mrs. Evelyn Nevans	--	1947	200	8	do	--	69.7	Nov. 25, 1957	T,E, 3/4	D	Casing: 8-in. to 60 ft. Pump set at 90 ft.
Q-77	A. Nieman	Ryan Bros.	1914	83	6	do	--	25	1946	--	D,S	Casing: 6-in. to 80 ft.
Q-78	Paul Counts	--	--	--	8	do	--	124.6 87.4	Sept.16, 1957 Jan. 23, 1959	C,E, 3/4	D	3/
Q-79	L. D. Guthrie	R. A. Cleveland	1952	225	--	do	--	--	--	T,G, 30	Irr	Discharge reported about 450 gpm in 1956. Temp. 64°F.
Q-80	F. A. Guthrie	Jim Nevans	1909	--	6	do	2,885	19.5 68.7 66.4	June 30, 1950 Nov. 13, 1957 Jan. 30, 1958	C,W	D,S	
Q-81	do	R. A. Cleveland	1949	230	8	do	2,885	26.3 21.3 69.4 67.3	Sept.12, 1949 Mar. 14, 1950 Nov. 13, 1957 Jan. 30, 1958	-,E	D,S	Casing: 8-in. to 100 ft. 1/
*Q-82	C. E. McIntyre	--	1953	386	16	do	--	67.2 65.3	Nov. 25, 1957 Jan. 30, 1958	N	N	Discharge reported 400 gpm Apr. 3, 1956. Pump removed when visited Nov. 25, 1957. Temp. 65°F.
Q-83	do	Eural James	--	270	8	do	--	70	Nov. 1957	J,E, ½	D	
Q-84	William Hoefs	Jim Parker	1955	300	16	do	--	66.8 66.0	Nov. 14, 1957 Jan. 27, 1958	T,G, 70	Irr	Discharge reported 150 gpm in 1956.
Q-85	do	Pat Taylor	1951	316	12, 8	do	--	68.8 67.4	Nov. 14, 1957 Jan. 28, 1958	T,E, 1	D	Casing: 12-in. to 135 ft., 8-in. from 135 ft. to bottom. 2/
Q-86	do	Taylor and Parker	1951	310	16	do	--	67.7 65.7	Nov. 14, 1957 Jan. 27, 1958	T,G, 50	Irr	Discharge reported 150 gpm Nov. 14, 1957.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-87	C. E. Barker	--	--	92	--	Pecos aquifer	--	65	Nov. 1957	J,E	D	
Q-88	do	H. F. Parker	1955	310	16	do	--	--	--	T,G, 30	Irr	Cased to bottom. Perforated from 60 ft. to bottom. Discharge reported 650 gpm Apr. 4, 1956. Temp. 65°F.
Q-89	William Hoefs	do	1955	310	16	do	--	64.1	Nov. 14, 1957	N	N	
Q-90	do	Bishop Smith	1947	374	24, 8	do	2,875	11.8 62.7 61.7	Mar. 14, 1950 Nov. 11, 1957 Jan. 29, 1958	N	N	Casing: 8-in. from 0 to 100 ft. Formerly supplied water for irrigation. Temp. 69°F.
Q-91	W. J. Holliday	--	1954	300	6	do	--	61.1 60.2	Nov. 26, 1957 Jan. 29, 1958	J,E, 3/4	D	
Q-92	Tom Moore	Bishop Smith	--	400	24	do	2,870	10.0 8.6 63.8 69.6	Nov. 23, 1949 Jan. 3, 1950 Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	2/
Q-93	do	--	1948	303	6	do	--	--	--	C,E, 1	D	Casing: 6-in. to 105 ft.
Q-94	William Hoefs	--	1944	200	6	do	2,891	64.7 67.5	Nov. 14, 1957 Jan. 28, 1958	T,E, 3/4	D	
Q-95	Mrs. -- Spivey	--	--	--	12	do	--	61.6 62.0	Nov. 25, 1957 Jan. 28, 1958	N	N	Formerly used for irrigation.
Q-96	do	--	--	--	--	do	--	94.4	Nov. 25, 1957	C,W	D	
Q-97	Elbert Boatman	--	1957	400	--	do	--	55.9	Jan. 27, 1958	T,E, 1	D,S	
Q-98	C. E. Oswalt	--	--	--	--	do	--	61.7	do	T,E, 1	D,S	
Q-99	do	Luther Gray	1955	225	12	do	--	32.6 64.8	Apr. 4, 1956 Jan. 27, 1958	T,G	Irr	Casing: 12-in. to 122 ft. Discharge reported 450 gpm in 1956.
Q-100	Tom Rhoades	L. B. Ryan	1948	328	--	do	2,887	11.0 9.2 10.2	Jan. 3, 1950 Mar. 15, 1950 May 30, 1950	T,G	Irr	Discharge reported 350 gpm Apr. 15, 1949.
Q-101	Claude Owens	Perry Jones	1946	292	10	do	--	60	Jan. 1958	T,G	Irr	2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-102	Claude Owens	Perry Jones	1957	--	--	Pecos aquifer	--	59.9 64.2	Jan. 27, 1958 Jan. 24, 1959	T,G	Irr	Discharge measured 375 gpm Apr. 18, 1957.
Q-103	Bill Glen	Bill Holman	1925	203	8	do	--	--	--	J,E,½	D	Pump set at 83 ft.
Q-104	--	--	--	--	6	do	--	62.7	Jan. 27, 1958	C,W	--	
Q-105	Joseph Schlegel	--	--	125	6	do	--	20	1956	--	N	
Q-106	Lee W. Harris	L. B. Ryan	1949	140	6	do	--	--	--	T,E,1	D,S	Temp. 67°F.
Q-107	Mrs. R. D. Blaydes	R. L. Cleveland	1957	179	7	do	--	60.5	Jan. 27, 1958	T,E,1	D	
Q-108	-- Shouse	Virgil Ryan	1949	80	6	do	--	55.4	do	C,W	D,S	2/
Q-109	William Hoefs	--	1933	200	8	do	--	68.2	Nov. 14, 1957	T,E,3/4	D	Casing: 8-in. to 80 ft.
Q-110	Adron Griffith	Perry Jones	1957	260	6	do	--	57.9	Jan. 27, 1958	J,E,½	D	Casing: 6-in. to 75 ft.
Q-111	J. R. Griffith	--	1950	105	7	do	--	--	--	J,E,½	D	
Q-112	do	--	1957	155	5	do	--	53.4	Jan. 27, 1958	J,E,½	D	
Q-113	-- Armstrong	Walter Holliss	1941	210	6	do	--	62.5	do	C,W	D,S	Casing: 6-in. to 86 ft.
Q-114	W. A. Davenport	A. N. Yockey	1954	--	7	do	--	61.7	do	J,E,½	D	
Q-115	Sim Reeves	--	--	--	6	do	--	61.1	do	J,E	D	
Q-116	do	Cleveland & Stone	1948	303	14	do	2,914	17.2 16.3 59.6 63.3	June 12, 1948 Jan. 10, 1950 Jan. 27, 1958 Jan. 24, 1959	N	N	2/
Q-117	Pecos County Airport	Continental Oil Co.	1955	3,980	--	--	2,944	--	--	N	N	Oil test. 2/
Q-118	W. P. Rooney	--	--	--	--	Pecos aquifer	--	42.9	Aug. 14, 1948	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*Q-119	Mrs. Mollie Allen	R. A. Cleveland	1939	283	8	Pecos aquifer	2,908	18.9	Aug. 14, 1948	C,W	D,S	
Q-120	Lester Griffith	Lawrence Ryan	1950	240	12	do	--	--	--	T,G	Irr	Discharge reported about 450 gpm in 1956.
Q-121	W. P. Rooney	-- Ryan	--	352	5	do	--	46.5 43.2 55.5	Aug. 14, 1948 Sept. 3, 1949 Feb. 16, 1958	C,W	S	2/
Q-122	Paul Crone	Perry Jones	1953	149	14	do	2,882	56.2 53.6 56.8	Nov. 28, 1957 Jan. 28, 1958 Jan. 24, 1959	N	N	
Q-123	W. P. Rooney	The Texas Co.	--	130	--	do	--	--	--	N	N	Seismograph shot hole. 2/
Q-124	do	do	--	135	--	do	--	--	--	N	N	do
Q-125	Pecos County Airport	Continental Oil Co.	1953	2,945	--	do	2,939	--	--	N	N	Oil test. 2/
*Q-126	Ernest Riggs	N. A. House	1935	214	6	do	2,893	13.1 43.3	Dec. 3, 1946 Feb. 15, 1958	C,W	S	Casing: 6-in. to 180 ft.
Q-127	J. R. Bennett	The Texas Co.	--	--	--	do	--	46.8	May 6, 1950	C,-	N	
Q-128	do	-- Woods	--	1,291	10	--	--	--	--	N	N	Oil test. 2/
Q-129	Ernest Riggs	-- House	1941	300	8	Pecos aquifer	2,922	10.0 18.4 17.3 24.4	Oct. 19, 1946 June 8, 1948 Mar. 15, 1950 Feb. 15, 1958	N	N	
Q-130	do	Earl Holloway	1947	381	18	do	2,888	14.2 32.7	June 6, 1947 Jan. 22, 1959	N	N	2/ 3/
Q-131	do	Perry Jones	1950	3,347	8	--	--	40.8	Mar. 13, 1950	N	N	Supplied water for drilling oil test.
Q-132	do	--	--	--	7	Pecos aquifer	2,879	28.0	Feb. 15, 1958	C,W	D,S	
Q-133	do	Smith and Holloway	1946	335	16	do	2,879	38.9 44.4 28.7	Dec. 3, 1946 Aug. 1, 1948 Feb. 15, 1958	T,G	Irr	Casing: 16-in. to 107 ft. Drawdown reported 20 ft. after 10 hours pumping at 1,000 gpm Sept. 7, 1956. Temp. 65°F. 2/
Q-134	do	--	--	--	14	do	2,879	28.7	Feb. 15, 1958	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-135	Bishop Smith	--	1947	380	16	Pecos aquifer	--	46.5 41.4	Apr. 21, 1947 July 28, 1948	--	N	
Q-136	Teas and Cox	F. P. Grosshans	1950	142	--	do	--	30.3	Mar. 15, 1950	N	N	
*Q-137	Ernest Riggs	Paul Teas	1952	1,435	8	Rustler formation	--	(+)	Apr. 7, 1956	Flows	Irr	Flow estimated 350 gpm in Apr. 1956, and less than 50 gpm in 1958.
*Q-138	Teas and Cox	-- Yockey	1950	358	16	Pecos aquifer	--	9.9	Sept.14, 1950	T,G	N	Discharge reported 1,000 gpm in 1950. 2/
Q-139	Leon Farms	L. B. Ryan	--	425	--	do	3,050	--	--	--	--	2/
Q-140	Ernest Riggs	-- House	--	100?	6	do	2,905	1.4 0.0 37.7	Dec. 3, 1946 Mar. 7, 1950 Feb. 15, 1958	C,W	S	
Q-141	R. D. Webb	Fisher and Lowry	--	3,256	10, 8	--	2,915	--	--	N	N	Oil test. 2/
Q-142	Paul Crone	Eural James	1947	330	14, 8	Pecos aquifer	--	13.5	Apr. 21, 1951	N	N	Casing: 14-in. to 150 ft., 8-in. from 150 to 300 ft.
Q-143	Leon Land & Cattle Co.	--	1910	300	8	do	2,919	1.6 30.8	Apr. 21, 1950 Mar. 11, 1958	C,W	D,S	
Q-144	do	--	--	--	6	do	2,934	20.7	Mar. 11, 1958	N	N	
Q-145	do	--	--	--	--	do	2,948	33.6	do	C,W	S	
Q-146	do	Percy Weddle	--	2,868	10	--	--	--	--	N	N	Oil test. 2/
Q-147	do	--	--	--	--	Pecos aquifer	--	35	May 1958	J,E	D	Discharge reported 20 gpm in 1958. 2/
Q-148	do	Percy Weddle	1950	1,215	--	--	--	--	--	N	N	Oil test. 1/
Q-149	do	J. S. Meriwether	1950	2,840	--	--	2,920	--	--	N	N	Oil test. 2/
Q-150	do	--	--	236	7	Pecos aquifer	3,025	37.5	Mar. 11, 1958	C,W	D,S	2/
Q-151	do	--	--	--	7	do	2,970	25.6	Nov. 30, 1951	C,W	D,S	2/
Q-152	do	--	--	--	--	do	2,972	34.7	Mar. 11, 1958	J,E	D	
Q-153	do	--	--	262	--	do	2,977	25.6 45.4	Nov. 30, 1951 Dec. 26, 1957	N	N	Cased to 108 ft. 3/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-154	Leon Land & Cattle Co.	--	1957	--	8	Pecos aquifer	2,978	57.0 42.3	June 3, 1957 Jan. 22, 1959	J,E	D	3/
Q-155	do	-- Lockhart	--	3,306	--	--	2,977	--	--	N	N	Oil test. 1/
Q-156	do	--	--	--	--	Pecos aquifer	3,045	17.4	Mar. 1, 1950	C,W	--	
Q-157	Chandler Co.	--	--	425	--	--	3,050	--	--	N	N	2/
Q-158	Bill Cochran	R. A. Cleveland	1950	300	--	Pecos aquifer	--	32.7 20.9	June 30, 1950 Dec. 28, 1950	N	N	2/
Q-159	Steve Armentrout	do	1950	187	6	do	--	--	--	--	D	Casing: 6-in. to 111 ft. 2/
Q-160	L. C. Holliday	Claude Garrett	1946	460	4	do	--	20.3 24.6 22.4	Dec. 3, 1946 June 16, 1949 Nov. 30, 1950	J,E	D,S	2/
Q-161	Steve Armentrout	Bodie Smith	1956	302	20	do	3,020	26.5	Jan. 31, 1958	N	N	Drilled to supply water for irrigation. 2/
Q-162	T. B. Armentrout	Eural James	1954	100	16	do	3,019	31.8 31.0	Jan. 27, 1958 Jan. 23, 1959	T,G	Irr	2/
Q-163	do	Perry Jones	1953	375	--	do	3,028	58.9 52.7	Dec. 14, 1957 Jan. 22, 1959	N	N	3/
Q-164	--	Eural James	1957	400	--	do	3,010	30	1957	J,E,1	D	
*Q-165	Chandler Co.	Lawrence Ryan	1925	341	6	do	2,973	27.2 29.8	Oct. 31, 1946 July 19, 1948	C,W	D,S	2/
Q-166	C. W. Williams	--	--	--	--	--	--	41.0	Nov. 29, 1951	C,W	S	Temp. 73°F.
Q-167	do	--	--	2,982	--	--	3,149	--	--	N	N	Oil test. 2/
Q-168	do	--	--	528	--	--	--	--	--	--	N	Sand reported from 330 to 433 ft. and from 500 ft. to bottom. Rock Quarry well.
Q-169	do	--	--	3,278	--	--	3,205	--	--	N	N	Oil test. 2/
Q-170	--	--	--	--	--	--	--	--	--	N	N	do
Q-171	C. W. Williams	E. R. Minschall et al	--	3,005	--	--	3,090	--	--	N	N	do

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-172	C. W. Williams	--	--	--	6	Pecos aquifer	--	87.6 114.8	Nov. 30, 1951 May 9, 1958	C,W	S	Temp. 73°F.
Q-173	do	--	--	346	--	do	3,066	137.7	June 28, 1949	C,W	D,S	do
Q-174	City of Fort Stockton	R. A. Cleveland	1956	390	12	--	--	225	Sept. 1956	T,E,	P	Casing: 12-in. to 229 ft. Pump set at 360 ft. 2/
Q-175	--	Minschall and Thompson	--	3,187	--	--	3,090	--	--	N	N	Oil test. 2/
*Q-176	The Texas Co.	-- Hightower	1948	345	7	Pecos aquifer	3,035	--	--	C,E, 7½	D	Casing: 7-in. to 249 ft. 2/
Q-177	do	--	--	240	5	do	3,034	103.0 107.6	June 28, 1949 Jan. 25, 1959	N	N	Cased to 185 ft. 3/
Q-178	Mrs. W. W. Mayes	Mark Taliaferro	1947	402	6	do	3,047	110.9 111.8	Apr. 24, 1948 June 28, 1949	C,G	Irr	Casing: 6-in. to 270 ft. Temp. 70°F.
Q-179	Santa Fe Ry. Co.	Burney Ligon	--	355	6	do	3,053	116.4 127.8	Oct. 25, 1946 Jan. 17, 1958	C,W	S	Sand reported from 335 ft. to bottom. 3/
Q-180	D. J. Sibley	--	--	181	--	do	--	--	--	C,W	--	
Q-181	Sotero Pina	Virgin Ryan	1934	200	5	do	3,032	92.4 92.2	July 28, 1949 Nov. 22, 1949	C,W	D,S	Casing: 5-in. to 100 ft. Temp. 79°F.
Q-182	do	L. B. Ryan	1949	371	14	do	3,011	82.4 83.9	Sept.11, 1949 May 29, 1950	N	N	2/
Q-183	City of Fort Stockton	Perry Jones	1956	414	18	do	--	--	--	T,E, 60	P,S	Casing: 18-in. to 190 ft. Discharge reported with pump test 300 to 500 gpm. 2/
Q-184	Frank Hinde	Eural James	1949	305	6	do	3,010	72.2 71.8 74.5	July 28, 1949 Nov. 22, 1949 Mar. 26, 1951	C,W	D	Casing: 6-in. to 217 ft. 2/
Q-185	J. M. Montgomery	--	--	404	--	do	3,009	37.4 38.7 36.7 40.6	July 29, 1949 Nov. 22, 1949 Mar. 26, 1951 Mar. 10, 1958	C,W	D	Sand reported from 300 to 404 ft. Temp. 73°F.
Q-186	C. E. Dees	B. L. Schumacher	1945	385	10	do	3,006	68.4 69.7	Apr. 18, 1949 Aug. 10, 1949	T,G	Irr	Casing: 10-in. to 200 ft. Discharge reported 166 gpm Apr. 21, 1947.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level: Below or above (+) land surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
Q-187	City of Fort Stockton	--	1956	378	12	Pecos aquifer	--	137.2 91.2	Dec. 7, 1957 Mar. 4, 1958	T,E	P	Casing: 12-in. to 192 ft. Sand reported from 225 ft. to bottom. Discharge measured 450 gpm in Jan. 1957. Originally drilled to 700 ft.; plugged back to 378 ft.
Q-188	E. L. Brown	Perry Jones	1953	235	--	do	--	96	Jan. 1953	--	N	2/
Q-189	C. G. Teitsch	M. O. Swafford	1949	160	10	do	2,996	64.5 68.8	Mar. 22, 1949 Aug. 11, 1949	T,G	N	Casing: 10-in. to 150 ft. Discharge reported 820 gpm June 28, 1949. Temp. 77°F. 2/
Q-190	W. S. Wood	Jack Nations	--	170	8, 5	do	--	--	--	C,W	D,S	Cased from 0 to 96 ft. Temp. 76°F.
Q-191	City of Fort Stockton	R. A. Cleveland	1957	390	12	do	--	84	Feb. 1957	T,E, 75	P	Cased to 193 ft. Discharge reported 330 gpm in Apr. 1957. 2/
Q-192	H. A. Wyche	A. N. Yockey	1949	360	12	do	2,998	73.5 69.1	July 27, 1949 Nov. 22, 1949	N	N	Drilled to supply water for irrigation. Sand reported from 245 ft. to bottom.
Q-193	do	C. L. McDonald	1949	389	--	do	--	74.8	May 5, 1950	--	N	Temp. 72°F. 2/
Q-194	Albert Urias	B. A. Shupe et al	1932	200	6	do	--	59.7 43.1	Apr. 13, 1937 Nov. 27, 1949	C,W	D,S	Originally drilled to 125 ft.; deepened to 200 ft. 2/
Q-195	City of Fort Stockton	Shackleford Drilling Co.	1956	382	12	do	2,983	--	--	T,E	P	Casing: 12-in. to 182 ft. Discharge reported 400 gpm in Apr. 1957. Pump set at 330 ft. 1/
Q-196	do	John Lancaster	1956	360	16	do	2,983	--	--	T,E, 60	P	Casing: 16-in. to 201 ft. Discharge reported 615 gpm Apr. 1957. 2/
*Q-197	do	--	--	175	6	do	2,983	51.4 50.8	Oct. 21, 1946 Dec. 13, 1949	T,E, 15	P	Casing: 6-in. to 160 ft. Discharge reported 450 gpm in 1946.
Q-198	do	Art Powell	1938	180	13	do	--	52.5	Oct. 21, 1946	T,E, 25	P	Casing: 13-in. to 161 ft. Discharge reported 750 gpm in 1946. Temp. 77°F.
*Q-199	do	R. A. Cleveland	1946	203	12	do	2,983	51.8 105	Oct. 21, 1946 May 1959	T,E, 25	N	Casing: 12-in. to 161 ft. Discharge reported 1,110 gpm in 1946. Observation well. 3/
Q-200	do	--	--	165	--	do	--	52	1946	T,E	P	Discharge reported 540 gpm. Temp. 77°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-201	City of Fort Stockton	Perry Jones	1955	345	10	Pecos aquifer	--	60	Jan. 1956	T,E	P	Casing: 16-in. to 236 ft., 10-in. from 236 to 340 ft. Drawdown reported 210 ft. after 36 hours pumping at 500 gpm. 1/
Q-202	J. R. Bennett	-- Arnett	1912	200	5	do	2,992	56.8 57.5	Sept. 10, 1949 Oct. 31, 1949	--	N	
Q-203	Lily Hogin	Walter Hollis	1949	151	5	do	2,986	48.4	Jan. 5, 1950	C,H	N	2/
Q-204	M. R. Gonzales	L. B. Ryan	1932	155	5	do	--	32	1949	N	N	Sand reported from 153 to 155 ft.
Q-205	do	--	1938	165	5	do	2,967	31.5 32.3 40.1	Aug. 10, 1949 Jan. 9, 1950 Mar. 10, 1958	C,W	D	Sand reported from 160 to 165 ft.
Q-206	-- Garcia	--	--	50	15	do	2,965	27.5 38.3	Dec. 9, 1949 Mar. 10, 1958	N	N	
Q-207	Hugh Cabot	--	1924	80	10	do	2,950	13.3 23.1 16.1	Aug. 5, 1949 Mar. 10, 1958 Nov. 27, 1951	C,E, P	D,S	
Q-208	Alton Ivy	Walter Hollis	1941	43	12	do	2,946	14.4 17.3	Aug. 4, 1949 Nov. 27, 1951	C,W	D,S	Temp. 69°F.
Q-209	L. A. Hayhurst	Hollis and Ryan	1941	158	8	do	2,947	23.4 16.7	June 20, 1949 Dec. 9, 1949	C,W	D	Temp. 71°F.
Q-210	J. F. Gipson	--	1941	98	--	do	2,947	13.3	July 28, 1949	C,W	D	Temp. 68°F.
Q-211	Thomas T. Foster	Walter Hollis	1948	148	5	do	2,946	13.1	do	N	N	2/
Q-212	do	-- Shultz	--	36	6	do	2,947	--	--	J,E	D,S	
Q-213	J. F. Gipson	-- Hightower	1946	58	8	do	2,956	26	June 1949	C,W	S	
Q-214	-- Kreps	--	--	100	--	do	2,951	--	--	C,W	D,S	
Q-215	Pecos County Water Control & Improvement District No. 1	--	--	Spring	--	do	2,936	--	--	--	--	Jail House Springs. Flows in winter. Temp. 75°F.
*Q-216	do	Pat Taylor	--	Spring	--	do	2,928	--	--	--	Irr	Comanche Springs. Flows in winter. Discharge reported 2,800 gpm Nov. 26, 1951. Temp. 76°F.

See footnotes at end of table.

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-217	Mrs. Emma Parke Estate	--	1908	90	--	Pecos aquifer	2,962	32.7 31.1 32.8	May 5, 1949 Dec. 9, 1949 Jan. 9, 1950	C,W	D	Temp. 76°F.
Q-218	Pecos County Water Control & Improvement District No. 1	Dwyer and Weddle	1951	182	--	do	--	--	--	N	N	2/
Q-219	do	--	1939	265	--	do	2,926	6	1939	N	N	Discharge reported 200 gpm Aug. 9, 1949. 2/
Q-220	Joe Martinez	Eural James	1947	245	5	do	2,945	32.6 31.9 38.7	June 21, 1949 Oct. 15, 1949 Mar. 10, 1958	C,W	D,S	
Q-221	Edward Houghton	R. A. Cleveland	1945	347	5	do	2,949	96.5	Nov. 7, 1957	N	N	
Q-222	Texas Highway Department	Rex Rood	1931	220	5	do	2,947	54.3 98.2	Oct. 5, 1949 Aug. 28, 1958	N	N	3/
Q-223	Ellis & Auhl	Eural James	1950	501	8, 7	do	2,949	62.4 96.5	Nov. 14, 1950 Nov. 7, 1957	T,E, 3/4	D,S	Temp. 69°F. 2/
Q-224	R. A. Ligon	Lloyd Ligon	1916	325	--	do	--	67.1	Feb. 4, 1958	C,W	D	Drilled to 150 ft.; deepened to 325 ft.
Q-225	C. Moore	Virgil Ryan	1938	165	6	do	2,944	54.5 55.4	May 6, 1949 Oct. 15, 1949	C,W	D	Casing: 6-in. to 145 ft.
Q-226	Joel Moore	J. F. Sullivan	1948	241	6	do	--	64.0 95.4 69.6	June 30, 1949 Nov. 7, 1957 Feb. 3, 1958	J,E, 1½	D	Casing: 6-in. to 140 ft. Temp. 74°F.
Q-227	H. L. Jackson	B. Ligon	1926	140	6	do	2,949	63.0 58.6 69.4	June 30, 1949 Oct. 15, 1949 Feb. 3, 1958	C,W	S	Casing: 6-in. to 90 ft.
Q-228	R. Reischman	Debs Pattillo	1946	233	7	do	2,949	56.6	Oct. 18, 1946	J,E, ½	D	Casing: 7-in. to 170 ft.
Q-229	Santa Fe Ry. Co.	--	--	300	8	do	2,952	47.3 62.9 76.2	Dec. 15, 1946 Oct. 14, 1949 Nov. 27, 1951	T,E, 50	RR	Casing: 8-in. to 48 ft. Temp. 71°F.
Q-230	Quinby Oil Co.	--	--	--	--	do	3,050	--	--	N	N	Oil test. 2/
Q-231	Apglomis Munoz	Eural James	1947	120	8	do	2,965	76.8 82.5	Oct. 6, 1949 Mar. 10, 1958	C,W	D,S	Temp. 73°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-232	F. A. Guthrie	Jim Sullivan	1939	350	6	Pecos aquifer	2,969	50.6 51.3	Oct. 3, 1949 Oct. 15, 1949	N	N	Abandoned.
Q-233	R. C. Lister	Mark Taliaferro	1947	325	6	do	2,975	44.7 48.8	Jan. 5, 1950 Mar. 10, 1958	C,W	D	Supplies water for garden. Temp. 70°F.
Q-234	Roy Lanham	Perry Jones	1948	270	--	do	2,962	69.5	Aug. 23, 1949	T,G	Irr	Discharge reported about 250 gpm Dec. 25, 1950.
Q-235	Lawrence Hillger	Eural James	1948	230	11	do	2,951	63.4 63.7 71.6	Apr. 14, 1949 Jan. 3, 1950 Jan. 3, 1951	N	N	
Q-236	Mrs. B. F. Webb	Earl Scarbrough	1944	258	7	do	2,953	41.4 67.3	Mar. 15, 1950 Jan. 26, 1959	C,W	D,S	Cased to 90 ft. 3/
Q-237	Luis Vara	Eural James	1945	80	8	do	2,940	--	--	C,W	D,S	
Q-238	Salome Hernandez	Jim Sullivan	1950	140	5	do	2,939	48.4	Feb. 20, 1950	C,E, 1/2	D	
Q-239	J. E. Moore	L. B. Ryan	1948	253	--	do	--	40.8 41.1 45.1	May 18, 1949 Mar. 14, 1950 May 31, 1950	N	N	
Q-240	Clayton Puckett	do	--	293	3	--	--	--	--	C,W	D,S	Cased to 60 ft.
*Q-241	M. C. Puckett	R. A. Cleveland	1949	460	12	Pecos aquifer	2,914	36.3 31.5	Aug. 4, 1949 Mar. 14, 1950	T,E, 25	N	Discharge reported 300 to 350 gpm in 1949. Drilled to supply water for irrigation.
Q-242	Community Work Center	L. B. Ryan	1949	140	7	do	--	36.1 78.7 70.4	Nov. 5, 1949 Nov. 13, 1957 Jan. 30, 1958	C,-	D	Temp. 67°F. 2/
Q-243	W. R. Binion	R. L. Cleveland	1952	152	6	do	--	76.3 70.4	Nov. 12, 1957 Jan. 29, 1958	T,E, 3/4	D	Cased to bottom. Pump set at 136 ft.
Q-244	M. C. Puckett	Lawrence Ryan	1944	180	10	do	--	--	--	N	N	
Q-245	Dan Patterson	L. B. Ryan	1917	94	6	do	--	83.9	Oct. 31, 1957	C,W	D	
Q-246	do	do	1949	100	--	do	--	53.1 49.8 74.9	Nov. 23, 1949 Mar. 14, 1950 Nov. 26, 1951	N	N	
Q-247	Othro Adams	--	--	44	6	do	--	--	--	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level: Below or above (+) land surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
Q-248	Othro Adams	Eural James	1951	350	6	Pecos aquifer	--	86.6 72.3	Oct. 30, 1957 Jan. 30, 1958	C,W	S	2/
Q-249	do	--	--	74	8	do	--	71.9 70.5	Oct. 30, 1957 Jan. 30, 1958	N	N	
Q-250	do	R. A. Cleveland	--	90	--	do	3,126	20.6 70.5 68.7	May 19, 1949 Oct. 30, 1957 Jan. 30, 1958	C,W	S	
Q-251	do	do	--	90	--	do	3,126	20.6	May 19, 1949	C,W	N	
Q-252	do	do	1951	300	16	do	--	70.8 68.4	Oct. 30, 1957 Jan. 30, 1958	N	N	
Q-253	do	do	1948	100	--	do	--	22.5 71.0 67.0	May 18, 1949 Oct. 30, 1957 Jan. 30, 1958	C,W	D	Originally drilled to 47 ft.; deepened to 100 ft.
Q-254	do	Eural James	1948	262	--	do	--	26.3 74.3 69.1	May 18, 1949 Oct. 30, 1957 Jan. 30, 1958	N	N	Formerly supplied water for irrigation. Temp. 68°F.
Q-255	do	R. A. Cleveland	1949	300	--	do	--	26.5 74.1 69.1	May 18, 1949 Oct. 30, 1957 Jan. 30, 1958	T,G	Irr	Discharge reported 1,100 gpm Apr. 9, 1956. 2/
Q-256	do	do	1949	300	16	do	2,918	56.3 73.9 69.1	Dec. 12, 1951 Oct. 30, 1957 Jan. 30, 1958	T,G, 50	Irr	Discharge reported 700 gpm Apr. 9, 1956. 1/
Q-257	do	Eural James	1947	300	--	do	--	--	--	N	N	Formerly supplied water for irrigation.
Q-258	V. E. Danielson	R. A. Cleveland	1928	240?	5	do	--	33.0 79.8	May 19, 1949 Oct. 30, 1957	T,E, 3/4	D,S	
Q-259	do	Gulf Oil Corp.	1954	400	16	do	--	91.7 80.2	Oct. 30, 1957 Jan. 30, 1958	T,G, 50	Irr	Discharge reported 400 gpm Oct. 30, 1957. Pump set at 215 ft. Originally drilled to 2,200 ft.; plugged back to 400 ft.
Q-260	C. Villalva	Eural James	--	90	8	do	--	76.9 73.3	Nov. 5, 1957 Jan. 30, 1958	J,E, ½	D,S	
Q-261	W. L. Watters	--	--	91	6	do	--	81.1 76.0	Oct. 31, 1957 Jan. 30, 1958	C,W	D	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-262	Gale Chappell	L. B. Ryan	1949	200	6	Pecos aquifer	2,928	42.0 45.3	May 4, 1949 Oct. 12, 1949	J,E, 1	D	
Q-263	Fidel Terrazas	--	1950	340	--	do	--	40.4 36.1	Oct. 8, 1949 Oct. 30, 1957	N	N	Drilled to supply water for irrigation.
Q-264	D. V. Rowles	R. A. Cleveland	1954	140	6	do	--	70.5	Oct. 31, 1957	J,E, ½	D	
Q-265	N. B. Hillin	Eural James	1949	250	--	do	--	39.9 70.0 72.1	Mar. 21, 1949 Oct. 31, 1957 Feb. 4, 1958	C,W	D	2/
Q-266	Bodie Smith	--	1949	100	8	do	--	79.9	Nov. 26, 1951	C,W	D	2/
Q-267	Francis Sheen	R. A. Cleveland	1951	205	16	do	2,921	64.9 83.8	Nov. 26, 1951 Jan. 23, 1959	N	N	3/
Q-268	J. E. Deck	-- Shupe	1946	78	6	do	2,932	--	--	C,W	D,S	
*Q-269	do	Virgil Ryan	1943	220	8	do	--	40	Sept. 1949	C,E, 3/4	D	
Q-270	D. V. Rowles	Eural James	1951	300	18	do	--	77.2 60.0	Oct. 31, 1957 Jan. 30, 1958	T,G	Irr	Discharge reported 1,800 gpm Apr. 6, 1956. 2/
Q-271	--	The Texas Co.	--	120	--	do	--	--	--	N	N	Seismograph shot hole. 2/
Q-272	Pecos County Water Control & Improvement District No. 1	P. D. Weddle	1951	297	18, 12	do	--	67.3	Sept. 7, 1951	N	N	Drilled to supply water for irrigation.
Q-273	Francis Sheen	R. A. Cleveland	1956	200	--	do	--	67.2	Jan. 30, 1958	T,G	Irr	Discharge reported 650 gpm in 1957. Originally drilled to 300 ft.; caved to 200 ft.
Q-274	do	do	--	200	7	do	--	69.9 66.0	Oct. 31, 1947 Jan. 30, 1958	J,E, 1	D	Reported not used for drinking.
Q-275	Ida Johnson	L. B. Ryan	1948	122	--	do	--	22.9 62.9 58.9	Oct. 8, 1949 Nov. 12, 1957 Jan. 30, 1958	T,G, 50	N	
Q-276	N. M. Mitchell	--	--	300	--	do	2,928	39.3 40.7	Aug. 8, 1949 Oct. 15, 1949	C,W	D,S	Temp. 73°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level: Below or above (+) land surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
Q-277	Bryan Wells	--	--	120	--	Pecos aquifer	2,928	37.7 90.0 75.2 46.0	Aug. 8, 1949 Oct. 6, 1949 Nov. 6, 1957 Feb. 4, 1958	C,W	S	Temp. 74°F.
Q-278	N. M. Mitchell	Percy Weddle	1951	300	15	do	2,920	38.2	Feb. 3, 1958	N	N	2/
Q-279	do	do	1951	310	15	do	--	35.3 70.5 43.3	Mar. 22, 1951 Nov. 5, 1957 Feb. 3, 1958	T,E, 20	Irr	Discharge reported 300 to 400 gpm.
Q-280	do	Lister & Hollis	1948	255	14, 12	do	2,923	70.6 43.6	Nov. 5, 1957 Feb. 3, 1958	N	N	Discharge reported 200 gpm Apr. 6, 1956. Temp. 69°F.
Q-281	do	do	1948	300	--	do	--	70.3 42.9	Nov. 5, 1957 Feb. 3, 1958	N	N	
Q-282	City of Fort Stockton	R. A. Cleveland	--	280	6	do	2,926	36.8	Sept. 4, 1950	J,E	D	Supplies water for lawn. Temp. 70°F. 2/
Q-283	N. M. Mitchell	Percy Weddle	1951	300	15	do	2,920	59.5 28.9	Nov. 5, 1957 Jan. 31, 1958	N	N	Discharge reported with test pump 250 gpm. Drilled to supply water for irrigation. 2/
Q-284	do	Jim Sullivan	1948	62	6	do	2,921	28.6 40.7 40.0	June 20, 1949 Nov. 5, 1957 Jan. 31, 1958	C,W	D,S	Temp. 69°F.
Q-285	Burney Ligon	--	1948	83	--	do	2,945	69.4 69.8 69.3	Nov. 27, 1951 Nov. 6, 1957 Jan. 31, 1958	N	N	
Q-286	do	Eural James	1947	642	8	do	2,945	62.0 68.3	Jan. 25, 1952 Jan. 23, 1959	T,E	D	Cased to 100 ft. 2/ 3/
Q-287	do	--	--	69	8	do	2,944	51.4 49.0 66.2	July 16, 1949 Oct. 4, 1949 Nov. 6, 1957	N	N	
Q-288	Ben Hillger	--	1940	68	--	do	2,945	51.3 62.3	June 21, 1949 Mar. 17, 1958	C,W	S	Water reported in gravel from 45 to 63 ft. 3/
Q-289	do	Eural James	1947	485	13	do	2,958	55.1 66.9 100.2 84.0	June 7, 1947 July 20, 1948 Nov. 7, 1957 Jan. 31, 1958	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*Q-290	Ben Hillger	Hilger and Solenberger	1949	200	--	Pecos aquifer	--	78.0 117.6 109.3	Dec. 29, 1949 Nov. 7, 1957 Jan. 31, 1958	N	N	Sand reported from 150 to 200 ft. Formerly supplied water for irrigation. 2/
Q-291	do	Walter Hollis	1948	100	--	do	--	77.6 78.1	May 3, 1948 Dec. 29, 1949	N	N	Formerly supplied water for irrigation. 2/
Q-292	W. S. Mitchell	-- Gallion	1949	250	--	do	--	57.0	Oct. 27, 1949	C,W	N	Sand reported from 150 to 220 ft. Drilled to supply water for oil-well drilling. Temp. 71°F.
Q-293	City of Fort Stockton	--	1940	227	--	do	--	117 152.5	Jan. 1950 July 29, 1958	C,E	Irr	Supplies water for cemetery lawn. 3/
Q-294	A. L. Price	-- Morgan	1905	230	--	do	3,038	118.0 121.7 127.7	Apr. 15, 1937 Nov. 15, 1946 May 29, 1958	C,W	S	
*Q-295	Jeff B. Wade	--	1934	231	8	do	3,096	188.6	May 25, 1958	C,W	S	
Q-296	Mrs. Rhoda Kelly	--	--	170	--	do	3,070	126.5 169.9	Nov. 14, 1946 May 16, 1958	C,W	S	Temp. 67°F.
Q-297	Page Carson	-- Schumacher	1947	1,547	--	do	3,009	16.9	June 6, 1947	N	N	Drilled as oil test. Formerly flowed. 2/
Q-298	do	Perry Jones	1951	300	--	do	--	82.5	Feb. 18, 1958	C,W	S	
Q-299	do	--	--	147	6	do	3,007	72.1 75.2 92.2	Apr. 15, 1937 Nov. 14, 1946 Feb. 18, 1958	C,W	D,S	
Q-300	Claude Baker	Garrett and Schumacher	1947	1,547	6	Rustler formation	3,009	(+) 3.6	June 23, 1947 Apr. 9, 1956	J,G	S	Casing: 6-in. to 1,305 ft. Flow measured 150 gpm June 23, 1947. Pump installed after well stopped flowing in 1953. Formerly supplied water for irrigation. Temp. 82°F. 1/
Q-301	M. R. Gonzales	R. A. Cleveland	1949	240	15	Pecos aquifer	2,981	41.2 58.0	Mar. 21, 1949 Jan. 23, 1959	N	N	Discharge reported 600 gpm Mar. 21, 1949. Drilled to supply water for irrigation. 2/ 3/
Q-302	do	Schumacher et al	1929	2,504	10, 5	do	2,977	39.5	Jan. 2, 1950	C,W	N	Drilled as oil test; plugged back to 48 ft. 2/
Q-303	do	-- Ryan	1945	235	8, 6	do	2,972	29.8 43.7	Apr. 10, 1947 Jan. 23, 1959	T,-	N	Discharge measured 260 gpm June 1, 1950. Temp. 74°F. 3/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-304	Raymond Holstein	Percy Weddle	1947	115	--	Pecos aquifer	2,999	69.2	Nov. 29, 1951	C,W	D,S	Sand reported from 90 ft. to bottom. Temp. 75°F.
Q-305	do	Pentex Oil Co.	1951	1,525	--	--	--	--	--	N	N	Oil test. 2/
Q-306	Page Carson	Perry Jones	1954	210	16	Pecos aquifer	3,010	77.7 80.8	Feb. 17, 1958 Jan. 23, 1959	T,G	Irr	Discharge reported 400 gpm Apr. 9, 1956. 3/
Q-307	Lem Smith	C. L. Garrett	1943	350	16, 10	do	3,044	97.4 81.6	Oct. 30, 1946 Jan. 23, 1959	T,G	N	Cased to 245 ft. Perforated from 175 to 245 ft. Discharge reported 400 gpm Apr. 21, 1947. 3/
Q-308	H. D. Cariesman	-- Brannon	--	218	6	do	3,050	97.1 93.6	June 16, 1942 Oct. 25, 1946	C,W	D,S	Red House well. Temp. 74°F.
Q-309	University of Texas	Jamison & Pollard	1942	2,968	12, 8	--	3,087	--	--	N	N	Oil test. 1/
Q-310	do	--	--	148	6	Pecos aquifer	3,121	135.8	June 16, 1942	C,W	S	Five Mile well.
Q-311	do	Gulf Oil Corp.	1954	3,005	--	--	3,063	--	--	N	N	Oil test.
Q-312	do	--	1955	252	7	Pecos aquifer	3,037	93.4	Dec. 21, 1957	C,W	S	2/
Q-313	-- Anderson	Tiger Minerals Co.	1953	3,364	13, 8	--	3,033	--	--	N	N	Oil test. 2/
Q-314	Clayton Williams	--	1942	330	6	Pecos aquifer	--	47.2	Mar. 31, 1950	C,W	S	Casing: 6-in. to 200 ft. Sand reported from 312 to 320 ft. Temp. 71°F.
Q-315	L. A. Taliaferro	Lawrence Ryan	1951	319	5	do	3,037	46.7 85.5	Jan. 25, 1952 Nov. 13, 1958	C,W	D,S	Casing: 6-in. to 120 ft. 3/
Q-316	do	Richardson Bros.	1956	413	16	do	3,038	60.9	Nov. 13, 1958	T,G	Irr	Casing: 16-in. to 155 ft. Discharge reported 500 gpm in 1957. 2/
Q-317	Bill Slaton	Hollis and Lister	1948	500	--	do	--	42.0 41.7 66.1	Feb. 24, 1950 Mar. 13, 1950 Jan. 23, 1959	N	N	
Q-318	Kermit Dyche	Gray Bros.	1957	404	16	do	3,063	87.6	Jan. 15, 1958	T,G, TO	Irr	Casing: 16-in. to 192 ft. Discharge reported 500 gpm Jan. 3, 1958. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-319	Kermit Dyche	Gray Bros.	1957	405	12	Pecos aquifer	3,062	90.0 88.1	Jan. 3, 1958 Jan. 15, 1958	T,G, 110	Irr	Casing: 12-in. to 178 ft. Pump set at 250 ft. Discharge reported 200 gpm. 1/
Q-320	Joe Harrel	do	1957	548	8, 5	do	3,073	--	--	T,G, 3	D	Casing: 8-in. to 43 ft., 5-in. to 206 ft. Pump set at 300 ft. 2/
Q-321	do	Richardson Bros.	1955	390	16	do	3,089	98.7 114.5 111.9	Dec. 19, 1955 Jan. 3, 1957 Jan. 15, 1958	T,G, 50	Irr	Drawdown reported 20 ft. after 1 hour pumping at 1,000 gpm in 1955. Temp. 77°F. 2/
Q-322	Joe Harrel	A. N. Yockey	1954	200	--	do	3,087	106.5 110.4	Jan. 3, 1957 Jan. 15, 1958	N	N	Drawdown reported 6 to 10 ft. after 2 hours pumping at 800 gpm in 1956. Temp. 77°F. 2/
Q-323	do	Gray Bros.	1956	402	16	do	3,084	109.3 107.5	Jan. 3, 1958 Jan. 15, 1958	T,G, 70	Irr	Casing: 16-in. to 170 ft. Pump set at 340 ft. 2/
Q-324	do	do	1957	396	16	do	3,081	107.5 104.9	Jan. 3, 1958 Jan. 15, 1958	T,G, 70	Irr	Casing: 16-in. to 191 ft. Pump set at 230 ft. 1/
Q-325	S. C. Park	Richardson Bros.	1955	210	16	do	--	91.5	Dec. 19, 1955	T,G	Irr	Drawdown reported 10 ft. after 3 hours pumping at 2,000 gpm. Pump set at 140 ft. Temp. 76°F. 2/
Q-326	Joe Harrel	Gray Bros.	1957	400	16	do	3,080	--	--	N	N	Casing: 16-in. to 179 ft. 2/
Q-327	do	do	1957	252	--	do	--	--	--	N	N	Drilled to supply water for irrigation, but discharge reported insufficient. Plugged. 2/
Q-328	Comanche Farms	do	--	340	16	do	3,114	139.4	Jan. 15, 1958	N	N	
Q-329	do	--	1915	181	6	do	3,116	--	--	N	N	
Q-330	do	James and Yockey	--	259	16	do	3,103	112.4 126.3	Dec. 16, 1955 Jan. 15, 1958	N	N	Casing: 16-in. to 150 ft. Perforated from 110 to 150 ft. Discharge measured 1,166 gpm Mar. 23, 1956. Originally drilled to 200 ft.; later deepened to 259 ft.
Q-331	do	Gray Bros.	1957	500	--	do	3,100	109.7 134.1 123.8	Dec. 16, 1955 Mar. 21, 1956 Jan. 15, 1958	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Q-332	Darr Whittenburg	Joe Gray	1955	250	16	Pecos aquifer	3,099	102.0	Dec. 15, 1955	N	N	Casing: 16-in. to 130 ft. Reported supply not adequate for irrigation. Originally drilled to 401 ft.; plugged back to 250 ft. 2/
Q-333	do	Perry Jones	1953	155	--	do	3,096	109.3 127.1	Dec. 3, 1954 Mar. 14, 1957	N	N	2/ 3/
Q-334	do	--	1952	342	14	do	3,091	100.7 97.9	Dec. 8, 1952 May 4, 1956	N	N	2/
*Q-335	Dow Puckett	R. A. Cleveland	--	200	6	do	3,100	109.5 128.5	Nov. 19, 1946 May 16, 1957	C,W	S	Railroad well. Temp. 76°F. 3/
R-1	San Pedro Ranch	James and Weddle	1945	81	--	do	2,739	25.0 30.6	Nov. 21, 1946 Apr. 25, 1958	C,W	S	Cased to 60 ft.
*R-2	do	do	1946	80	2	do	2,733	19.5 26.3 27.6	Nov. 21, 1946 Dec. 16, 1948 Apr. 25, 1958	C,W	S	Casing: 2-in. to 60 ft.
R-3	do	--	--	Spring	--	do	2,771	(+)	Mar. 1958	Flows	Irr	Measured flow averaged 3.7 cfs 1949-51. Not flowing late summer of 1958. San Pedro Springs. Temp. 69°F.
R-4	do	Pinal Dome Corp.	--	3,955	--	--	--	--	--	N	N	Oil test. 1/
R-5	do	--	--	80	6	Pecos aquifer	2,808	34.9	Apr. 25, 1958	C,W	S	
R-6	do	--	1957	60	6	do	2,830	27.4	do	C,W	S	Casing: 6-in. to 10 ft.
R-7	do	--	--	Spring	--	do	--	(+)	Oct. 16, 1942	Flows	S,Irr	Flow measured 2.6 cfs. Known as Cold Springs. Not flowing in 1958. Temp. 67°F.
*R-8	W. A. Stroman	R. A. Cleveland	1939	250	--	do	--	131.0	July 10, 1958	C,W	S	Sand reported from 30 to 110 ft.
R-9	San Pedro Ranch	Eural James	1945	81	2	do	--	45.4 45.5	Nov. 21, 1946 Oct. 18, 1949	C,W	D,S	
R-10	-- Word	--	--	--	--	do	2,830	47.1	Oct. 18, 1949	C,W	S	Temp. 71°F.
R-11	San Pedro Ranch	--	--	80	2	do	2,769	18 29.9	Nov. 1946 Apr. 25, 1958	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
R-12	San Pedro Ranch	B. A. Schupe	1939	76	2	Pecos aquifer	2,733	33.2 39.8	Nov. 21, 1946 Apr. 25, 1958	C,W	S	Casing: 2-in. to 60 ft.
R-13	Pryor and Wilson	Mid-Kansas Oil Co.	--	3,330	15, 6	--	2,802	--	--	--	--	Oil test. Cased to 3,260 ft. 2/
R-14	San Pedro Ranch	R. A. Cleveland	1942	82	2	Pecos aquifer	--	30.7	Nov. 21, 1946	N	N	Abandoned.
R-15	A. C. Hoover	--	--	--	--	do	--	3.0	Oct. 10, 1957	C,W	S	Dug. Formerly Benita Springs.
R-16	do	--	--	100	6	do	--	35.6	Oct. 16, 1957	C,W	S	
R-17	H. D. Ward	--	1940	181	--	do	--	68.8	June 6, 1940	C,W	S	Temp. 71°F.
R-18	University of Texas	Buell-Hagen	--	3,008	--	--	2,816	--	--	N	N	Oil test. 1/
*R-19	do	--	--	185	8	Pecos aquifer	--	138	1957	C,W	S	Temp. 70°F.
*R-20	do	Percy Weddle	1949	220	--	do	--	--	--	--	N	Water reported in sandy shale from 188 ft. to bottom. 2/
*R-21	do	--	1924	375	8	do	--	170	1947	C,W	S	Temp. 73°F.
R-22	do	--	--	--	--	do	--	134.9	June 5, 1958	C,W	S	
*R-23	do	Pryor and Wilson	--	250	6	do	2,984	208.4 222.7	Apr. 14, 1947 June 5, 1957	C,W	S	Temp. 64°F.
R-24	do	--	--	--	--	--	--	129.8	June 5, 1958	C,W	S	
R-25	Phillips Petroleum Co.	--	1957	260	7	Pecos aquifer	--	121.3	do	T,E, 30	D,Ind	Cased to bottom.
*R-26	W. A. Stroman	--	1939	250	6	do	2,881	62.3 66.6 93.2	Apr. 14, 1947 Nov. 18, 1950 July 10, 1958	C,W	S	Cased to bottom. Temp. 68°F.
R-27	do	--	1945	250	7	do	--	48.1 54.2	Nov. 18, 1950 July 10, 1958	C,W	S	Temp. 72°F.
R-28	Burney Ligon	Schooler and Brown	1938	270	--	do	--	94.0 139.1	Jan. 11, 1950 Nov. 7, 1957	C,W	S	
*R-29	W. A. Stroman	--	1909	500	8	do	--	67.2	Apr. 14, 1947	C,W	D,S	
R-30	Pryor and Wilson	Buell-Hagen	--	2,508	12, 10, 8	--	2,929	--	--	--	--	Oil test. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*R-31	W. A. Stroman	--	--	200	--	Pecos aquifer	--	163.6	Dec. 2, 1949	C,W	S	
R-32	Burney Ligon	Rex Rood	1932	289	5	do	2,929	82.4 112.9	Jan. 11, 1950 Jan. 23, 1959	C,W	S	Cased to 173 ft. Originally drilled to 326 ft.; caved to 289 ft. 3/
R-33	J. M. Montgomery	Eural James	1947	350	12	do	--	19.9	Mar. 6, 1948	N	N	
R-34	Mrs. Jo Ann Moore	--	--	60	6	do	--	21.6	Apr. 25, 1949	N	N	
R-35	Jones Taylor	--	1950	110	7	do	--	78.0	Nov. 1, 1957	N	N	
R-36	do	R. A. Cleveland	1955	420	16	do	2,915	50 76.3	Apr. 1956 Nov. 1, 1957	T,G, 70	Irr	Discharge measured 498 gpm Jan. 31, 1958.
R-37	L. H. Whiteacre	do	1956	280	12	do	2,903	60 62.2 62.3	Apr. 1956 Nov. 7, 1957 Jan. 31, 1958	T,G, 55	Irr	Cased to bottom. Temp. 66°F.
R-38	Jones Taylor	--	1956	--	6	do	--	69.5	Nov. 1, 1957	J,E, ½	D	
R-39	do	C. H. Cunningham	1953?	300	14	do	2,915	50 75.8 77.5	Apr. 1956 Nov. 1, 1957 Jan. 31, 1958	T,G, 70	Irr	Casing: 14-in. to 15 ft. Discharge reported 600 gpm in 1956.
R-40	do	R. A. Cleveland	1956	--	--	do	--	75.9 78.3	Nov. 1, 1957 Jan. 31, 1958	C,W	S	
R-41	do	do	1956	200	18	do	--	94.7 91.2	Nov. 1, 1957 Jan. 30, 1958	N	N	
R-42	L. H. Whitaker	--	--	--	--	do	--	--	--	C,W	S	
R-43	J. S. Oates	--	--	90	6	do	--	54.6	Nov. 19, 1957	C,W	S	
R-44	do	--	--	90	--	do	--	56.0	do	C,W	D,S	
*R-45	do	James and S. Locke	1948	259	15	do	--	80	Apr. 1950	T,E, 25	Irr	Casing: 15-in. to 110 ft. Discharge measured 670 gpm July 16, 1949. Temp. 69°F. 2/
*R-46	B. E. Mitchell	Eural James	1948	255	16	do	2,907	15.6 42	Apr. 21, 1949 Apr. 1956	T,G	Irr	Casing: 16-in. to 105 ft. Discharge reported 1,200 gpm Apr. 6, 1956.
R-47	do	Perry Jones	1957	90	12	do	2,897	57.2 57.2	Nov. 20, 1957 Jan. 31, 1958	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
R-48	Bill Moody	L. B. Ryan	1914	217	8	Pecos aquifer	2,920	33.8 75.2 73.0	Oct. 8, 1949 Nov. 7, 1957 Jan. 31, 1958	T,E, 3/4	D,S	Casing: 8-in. to 200 ft.
R-49	W. Y. Edmonds	--	--	--	8	do	2,916	62.6 61.0	Nov. 7, 1957 Jan. 31, 1958	N	N	
R-50	J. S. Oates	R. A. Cleveland	1955	160	12	do	2,914	85 76.7 72.1	Apr. 1956 Nov. 19, 1957 Jan. 31, 1958	T,E, 30	Irr	Casing: 12-in. to 120 ft. Discharge reported 900 gpm Apr. 6, 1956.
R-51	Burney Ligon	A. N. Lockey	1956	139	12	do	2,919	78.8 73.8	Nov. 7, 1957 Jan. 31, 1958	T,G, 50	Irr	Casing: 12-in. to 139 ft. Pump set at 120 ft. Discharge reported 1,100 gpm Nov. 7, 1957.
R-52	do	J. B. Ligon	1950	250	12	do	--	99.1 95.8	Nov. 7, 1957 Jan. 31, 1958	T,G, 30	Irr	Casing: 12-in. to 10 ft. Discharge reported 400 gpm Apr. 6, 1956.
R-53	-- Smith	Tiger Minerals Co.	--	3,260	--	--	2,978	--	--	N	N	Oil test. 1/
R-54	Pecos County	--	--	90	6	Pecos aquifer	--	81.6 110.6	Mar. 22, 1951 Jan. 31, 1958	N	N	
*R-55	H. L. Winfield Estate	-- Ryan	1927	206	8	do	--	148.7	June 20, 1949	C,W	S	Discharge estimated 5 gpm June 20, 1949. Temp. 71°F.
R-56	--	-- Gallion	1949	310	--	do	--	229.9	Oct. 11, 1949	N	N	
R-57	Roots Estate	Anderson and Acrey	1933	1,416	10, 8	--	--	--	--	N	N	Oil test. Casing: 10-in. to 316 ft.; 8-in. to 780 ft. 2/
*R-58	H. L. Winfield Estate	--	1939	200	6	Pecos aquifer	--	146.5 150.0	May 2, 1947 June 20, 1949	C,W	S	Discharge estimated 5 to 10 gpm in 1949. Temp. 70°F.
R-59	-- Wright	The Texas Co.	1930	3,504	15, 6	--	3,147	--	--	N	N	Oil test. 2/
R-60	A. L. Price	-- Ryan	1945	400	--	Pecos aquifer	--	317.7	May 29, 1958	C,W	S	
R-61	H. L. Winfield Estate	Bob Gray	--	--	--	do	--	--	--	C,W	S	
R-62	do	--	--	1,933	--	do	3,015	--	--	N	N	Oil test. 1/
*R-63	do	--	--	376	--	do	--	174	May 1950	C,W	S	
R-64	do	Bill Drake	1938	404	6	do	--	188.9	May 2, 1947	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
R-65	University of Texas	--	--	--	--	Pecos aquifer	--	136.1	June 6, 1958	C,W	S	
R-66	do	--	--	--	--	do	--	133.8	do	C,W	S	
R-67	do	--	--	--	--	do	--	183.7	June 11, 1958	C,W	S	
*R-68	do	--	--	300	--	do	--	133.7	Apr. 17, 1947	C,W	D,S	
*S-1	do	--	--	160	8	do	--	98.6	Jan. 28, 1947	C,W	D,S	Temp. 67°F.
S-2	do	Farrell et al	--	2,247	--	--	2,916	--	--	N	N	Oil test. 2/
*S-3	do	R. L. Cleveland	1943	234	5	Pecos aquifer	--	186.2	Jan. 28, 1947	C,W	S	Temp. 70°F.
*S-4	do	do	1946	375	10	do	--	138.8	do	C,W	S	Temp. 71°F.
S-5	do	Kirby Petroleum Co.	--	1,356	12	--	2,785	--	--	N	N	Oil test. Casing: 12-in. to 646 ft. 1/
*S-6	D. C. Ogden Wilson	--	--	229	--	Pecos aquifer	--	--	--	C,W	D,S	Temp. 72°F.
S-7	do	--	--	195	6	do	2,656	--	--	C,W	S	Temp. 71°F.
S-8	do	--	--	282	6	do	--	191.1	Jan. 29, 1947	C,W	S	
*S-9	Hinyard Land & Cattle Co.	--	--	250	6	do	--	192.5 189.2	Jan. 30, 1947 June 17, 1958	C,W	D,S	
S-10	B. F. Smith	Grover and Frates	--	1,607	--	--	2,578	--	--	N	N	Oil test. 1/
S-11	Hinyard Land & Cattle Co.	Henshaw Oil Co.	--	2,534	--	Pecos aquifer	2,780	--	--	N	N	do
S-12	do	R. A. Cleveland	1955	400	--	do	--	344.7	June 17, 1958	C,W	S	
S-13	do	do	1955	400	--	do	--	--	--	C,W	S	
S-14	J. R. Alexander	Standard Oil Co. of Texas	--	--	6	do	2,643	214.2	Sept.13, 1957	N	N	Formerly supplied water for oil-well drilling.
*S-15	Hinyard Land & Cattle Co.	--	1940	460	--	do	--	450	1958	C,W	S	
S-16	do	--	--	470	--	do	--	457.0	June 17, 1958	C,W	S	
S-17	J. L. Nutt	Superior Oil Co.	1951	9,111	--	--	2,821	--	--	N	N	Oil test.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
S-18	Hinyard Land & Cattle Co.	--	--	275	--	Pecos aquifer	--	124.1	June 17, 1958	C,W	S	
S-19	do	R. A. Cleveland	1955	200	--	do	--	150.1	do	C,W	D,S	
S-20	do	--	--	--	--	do	--	83.9	June 18, 1958	C,W	D,S	
S-21	do	--	--	290	--	do	--	35.8	do	C,W	S	
S-22	do	--	--	--	14	do	--	65.1	do	C,W	S	
*S-23	E. W. McKenzie Estate	--	--	Spring	--	do	--	(+)	--	Flows	S	Flow reported 100 gpm Jan. 12, 1943, and 75 gpm May 13, 1943. West Escondido or Tunis Springs.
S-24	Laro B. McKenzie	--	--	--	--	do	--	35.0 28.1	Dec. 7, 1953 July 30, 1957	T,G, 70	N	Formerly supplied water for irrigation. 3/
S-25	do	--	1951	--	--	do	--	--	--	T,G, 50	N	do
S-26	do	--	--	40	--	do	--	20.2	July 30, 1957	C,W	S	
*S-27	University of Texas	--	--	114	6	do	2,786	53.2 49.8	Feb. 1, 1947 July 30, 1957	C,W	D,S	Temp. 68°F.
S-28	Hinyard Land & Cattle Co.	--	--	260	--	do	--	140.4	June 17, 1958	C,W	S	
S-29	do	--	--	--	--	do	--	161.0	do	C,W	S	
S-30	University of Texas	--	--	188	6	do	--	83.5 68.9	Feb. 1, 1947 July 11, 1957	C,W	S	
S-31	Hinyard Land & Cattle Co.	--	--	550	--	do	--	306.0	June 17, 1958	C,W	S	
S-32	University of Texas	--	--	266	--	do	--	259.0	July 30, 1957	C,W	S	
*S-33	do	--	--	235	5	do	2,857	174.7 176.6 174.6	Jan. 28, 1947 June 22, 1957 June 5, 1958	C,W	D,S	Temp. 64°F.
S-34	do	--	--	177	6	do	--	173.9 222.4	July 22, 1957 June 5, 1958	C,W	S	
S-35	do	--	--	--	8	do	--	220.3	June 5, 1958	C,W	D,S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*S-36	Texas Highway Department	--	--	462	--	Pecos aquifer	--	136.2 132.1	Jan. 17, 1948 Jan. 26, 1952	C,W,G	P	3/
S-37	University of Texas	--	--	--	6	do	--	95.4	June 9, 1958	C,W	S	
S-38	do	--	--	--	--	do	--	183.3	do	C,W	S	
*S-39	do	--	--	157	6	do	2,840	93.0 89.8	Feb. 1, 1947 July 30, 1957	C,W	S	Filled in 37 ft.
*S-40	do	--	--	106	6	do	--	83.7	May 7, 1947	C,W	S	
S-41	-- Nutt	Lee Petroleum Co.	--	2,224	--	--	2,752	--	--	N	N	Oil test. 1/
T-1	D. C. Ogden Wilson	--	--	206	--	Pecos aquifer	--	189.8	Jan. 30, 1947	C,W	S	
T-2	J. R. Alexander	--	--	600	--	--	2,547	158.8	Sept.13, 1957	N	N	Oil test. Drilled to 1,411 ft.; plugged back to 600 ft.
T-3	H. R. Alexander	Gorman Bros.	1943	--	--	Pecos aquifer	--	200	1957	C,W	S	
T-4	do	--	1944	--	--	do	--	209.7	Sept.13, 1957	N	N	Formerly supplied water for oil-well drilling.
T-5	do	Gorman Bros.	1942	259	--	do	2,627	223.9	do	C,W	S	
T-6	Belgrade Cattle Co.	Steadham and Thrasher	--	2,020	--	--	2,695	--	--	N	N	Oil test. 1/
T-7	H. R. Alexander	Pan-American Petroleum Corp.	1948	--	8	Pecos aquifer	--	292.2	Sept.13, 1957	N	N	Drilled to supply water for oil-well drilling.
T-8	Roy Girvin	--	1954	250	12	do	2,564	180.7	do	N	N	do
T-9	H. R. Alexander	R. A. Cleveland	1938	325	--	do	--	269.6	do	C,W	S	
T-10	do	Standard Oil Co.	1945	625	--	do	--	--	--	C,W	S	
*T-11	Fonnie Woodward	-- Nevans	1937	335	6	do	--	315.9	Dec. 12, 1946	C,W	S	Cased to bottom. Temp. 71°F.
T-12	Roy McDonald	--	--	450	--	do	--	--	--	C,E, 1½	D,S	
T-13	Belgrade Cattle Co.	Humble Oil & Refining Co.	--	2,115	--	--	--	--	--	N	N	Oil test.
*T-14	Fonnie Woodward	--	--	175	--	Pecos aquifer	--	157.2	Dec. 16, 1946	C,W	S	Casing: 6-in. to 10 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
T-15	Belgrade Cattle Co.	Humble Oil & Refining Co.	--	--	--	--	--	--	--	N	N	Oil test. 2/
T-16	-- McDonald	Putnam & Co.	--	--	--	--	2,584	--	--	N	N	Oil test.
T-17	Cunningham Bros.	Landreth Production Co.	--	1,720	--	--	--	--	--	N	N	Oil test. 2/
T-18	-- Phelps	Independent Oil & Gas Co.	1930	2,404	--	--	2,615	--	--	N	N	Oil test. 1/
*T-19	Roy McDonald	--	--	290	6	Pecos aquifer	--	59.6	Dec. 12, 1946	C,W	D,S	Casing: 6-in. to 40 ft. Temp. 72°F.
T-20	do	Rowan-Tong	--	1,677	--	--	2,471	--	--	N	N	Oil test. 2/
T-21	do	Cosden Oil Co.	--	2,016	--	--	2,452	--	--	N	N	do
T-22	do	--	--	250	8	Pecos aquifer	--	120.3	Dec. 16, 1946	C,W	S	
T-23	State of Texas	Gulf Oil Corp.	1929	1,695	--	--	2,478	--	--	N	N	Oil test. 2/
T-24	University of Texas	Tidal Oil Co.	1929	1,602	--	--	2,482	--	--	N	N	do
T-25	do	do	--	1,877	--	--	2,470	--	--	N	N	do
*T-26	do	--	--	220	16	Pecos aquifer	--	53.7 69.9	Dec. 1, 1954 Jan. 26, 1959	T,-	Irr	3/
T-27	do	--	--	139	--	do	--	83.5 83.1	Feb. 1, 1947 Sept.27, 1957	C,W	S	
*T-28	do	N. A. House	--	200	--	do	2,530	137.2	Apr. 19, 1947	C,W	S	Temp. 71°F.
T-29	do	--	--	103	--	do	--	53.7	July 2, 1957	C,W	S	
T-30	do	Addison Oil Co.	1942	1,378	--	--	2,539	--	--	N	N	Oil test. 2/
T-31	do	--	--	200	--	Pecos aquifer	--	106.1	Feb. 1, 1947	C,W	S	
T-32	--	--	--	88	--	do	--	38.2	June 28, 1957	C,W	S	
T-33	University of Texas	Humble Oil & Refining Co.	1954	7,492	--	--	2,572	--	--	N	N	Oil test.
T-34	do	Transcontinental Oil Co.	--	4,920	--	--	2,552	--	--	N	N	Oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
T-35	White and Baker Estate	N. A. House	1935	160	--	Pecos aquifer	--	29.0 27.8	May 9, 1947 Sept.30, 1957	C,W	D,S	
T-36	do	do	1946	30	--	do	--	24.6	Sept.30, 1957	C,W	S	
*T-37	do	--	--	Spring	--	do	--	--	--	N	N	East Escondido Spring.
T-38	do	--	--	150	--	do	--	24.3	Sept.30, 1957	C,W	D	
T-39	do	--	--	--	--	do	--	23.2	do	C,G	D	
T-40	do	N. A. House	1946	80	--	do	--	21.5	do	N	N	
T-41	University of Texas	--	--	300	--	do	--	250	May 1947	C,W	S	
T-42	do	World Oil Co.	--	2,199	--	--	2,611	--	--	N	N	Oil test. 1/
T-43	White and Baker Estate	--	--	280	--	Pecos aquifer	--	230	May 1947	C,W	S	Original depth 250 ft.; deepened to 280 ft.
T-44	University of Texas	Pinerock et al	1937	1,517	--	--	2,679	--	--	N	N	Oil test. 2/
T-45	do	--	1935	325	--	Pecos aquifer	2,674	--	--	C,W	S	
T-46	J. R. Alexander	-- Gray	1930	600	--	do	--	--	--	C,W	S	
T-47	do	-- Zafentez	1950	335	8	do	2,809	296.5	Sept.13, 1957	C,W	S	
T-48	do	R. A. Cleveland	--	600	--	do	--	550	Sept. 1957	C,W	S	
T-49	University of Texas	Simms Oil Co.	--	2,874	--	--	2,695	--	--	N	N	Oil test. 2/
T-50	do	R. A. Cleveland	1949	50	14	--	2,410	21.0	July 3, 1957	C,W	S	
*T-51	Mary Lea McKenzie	do	1930	378	6	Pecos aquifer	--	278	Feb. 1947	C,W	S	
*T-52	University of Texas	do	1935	213	5	do	--	180	Feb. 1947	C,W	S	Casing: 5-in. to 212 ft.
T-53	do	Dobbs Oil Co.	1937	2,100	--	--	2,636	--	--	N	N	Oil test. 1/
T-54	C. R. McKenzie	R. A. Cleveland	1937	300	--	Pecos aquifer	--	--	--	C,W	D,S	
T-55	University of Texas	--	1943	191	--	do	--	109.0	June 28, 1957	C,W	S	
T-56	--	Brown and Schooler	--	250	6	do	--	234.4	June 11, 1958	C,W	S	
T-57	C. R. McKenzie	-- Ligon	--	354	--	do	2,602	--	--	C,W	S	Water level reported by owner 215 ft. below land surface.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
T-58	C. R. McKenzie	--	--	800	--	Pecos aquifer	--	--	--	C,W	S	
*T-59	University of Texas	--	--	125	6	do	--	72.9 74.0	Apr. 19, 1947 Aug. 5, 1957	C,W	S	Temp. 70°F.
T-60	do	W. A. Moncrief	1929	2,097	--	--	2,791	--	--	N	N	Oil test. 2/
T-61	do	--	1916	218	8	Pecos aquifer	--	190.9	Sept.27, 1957	C,W	S	
T-62	do	Sun Oil Co.	--	--	--	--	2,684	--	--	N	N	Oil test.
T-63	C. R. McKenzie	R. A. Cleveland	1949	396	--	Pecos aquifer	--	--	--	C,W	S	
U-1	Roy McDonald	Red Bank Oil Co.	--	1,775	10, 6	--	2,539	--	--	N	N	Oil test. Casing from 0 to 1,566 ft. 2/
*U-2	Fonnie Woodward	--	--	270	6	Pecos aquifer	--	250	1946	N	N	Casing: 6-in. to 22 ft. Temp. 66°F.
U-3	Roy McDonald	Landreth Production Co.	--	1,670	--	--	--	--	--	N	N	Oil test. 2/
U-4	do	--	--	90	--	Pecos aquifer	--	83.4	Dec. 16, 1946	C,W	S	
U-5	-- Neville	Merrick and Bristow	--	1,670	--	--	2,412	--	--	N	N	Oil test. 2/
U-6	Roy McDonald	--	--	160	--	Pecos aquifer	--	77.8	Dec. 16, 1946	C,W	S	
U-7	Marshall Neville	--	--	112	6	do	--	--	--	C,W	S	Casing: 6-in. to 112 ft. Perforated from 62 to 112 ft.
U-8	Walter Graef Estate	Nolan Shuler	1950	172	16	do	--	--	--	T,G, 50	D,Irr	Cased to bottom. Perforated from 130 ft. to bottom. 2/
U-9	do	do	--	164	8	do	--	97.6	Aug. 21, 1957	N	N	
U-10	do	Koonce and Young	1951	200	18	do	--	78.4 108.5	Dec. 27, 1950 Sept.12, 1957	N	N	Cased to bottom. Pump set at 180 ft. 2/
U-11	do	-- Shuler	1952	200	--	do	--	--	--	N	N	
U-12	V. G. Neville	Bill Tipton	1950	212	16	do	2,340	--	--	T,-	N	Cased to bottom. 2/ 3/
U-13	Walter Graef Estate	The Texas Co.	1929	1,775	--	--	2,358	--	--	N	N	Oil test. 1/
U-14	Marshall Neville	Allen Tipton	1951	213	16	Pecos aquifer	--	138.0	Aug. 20, 1957	T,G, 70	Irr	Discharge measured 512 gpm Sept. 20, 1957.

See footnotes at end of table.

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level: Below or above (+) land surface datum (ft.)	Water level: Date of measurement	Method of lift	Use of water	Remarks
U-15	V. G. Neville	-- Tipton	1950	210	16	Pecos aquifer	2,323	82.9 93.7	May 16, 1950 Jan. 26, 1959	T,-, 70	Irr	Casing: 16-in. to 208 ft. Perforated from 95 to 208 ft. Discharge measured 1,166 gpm Sept. 19, 1957. 2/ 3/
U-16	do	W. R. Holt	1950	205	16, 10	do	2,327	67.2	Feb. 27, 1950	N	N	Casing: 16-in. to 112 ft. Perforated from 140 to 190 ft. 2/
U-17	do	--	1905	133	6	do	--	106.8	Sept.12, 1957	N	N	
*U-18	do	Humble Oil & Refining Co.	1928	192	12	do	--	106.6	do	C,W	Ind	Casing: 12-in. to 115 ft. 2/
U-19	do	do	1928	182	12	do	--	60.7 66.2	Feb. 2, 1947 Feb. 27, 1950	N	N	Plugged when visited Sept. 12, 1957. 2/
U-20	David Rhodes	Bill Tipton	1950	259	--	do	2,330	83.5	Sept.29, 1950	N	N	do
U-21	V. G. Neville	Gault and Brown	1930	1,774	--	--	--	--	--	N	N	Oil test. 2/
*U-22	do	Lee Bullock	1939	76	8	--	2,321	65.9 68.0 78.5	Dec. 14, 1946 Dec. 28, 1948 May 16, 1950	C,W	S	Drilled from 61 ft. to 76 ft. in 1939. Temp. 66°F.
U-23	H. B. Thompson	Allen Tipton	1951	230	16	--	--	88.5	Feb. 10, 1958	T,G, 70	Irr	Cased to bottom. Perforated from 80 ft. to bottom. Discharge measured 297 gpm Aug. 28, 1957. 2/
U-24	do	--	1951	210	--	--	--	--	--	N	N	Drilled as test hole and later filled. 2/
U-25	do	T. L. George	1954	720	--	Pecos aquifer	--	108.0	Sept.12, 1957	N	N	Discharge reported 300 gpm in 1957.
U-26	do	--	1951	145	16	do	--	81.6	Feb. 10, 1958	T,G, 70	Irr	Cased to bottom. Discharge measured 427 gpm Aug. 23, 1957. 2/
U-27	do	--	1957	--	--	do	--	90.8	do	N	N	
U-28	do	Gault and Brown	--	--	--	--	2,325	--	--	N	N	Oil test. 2/
U-29	Bessie Jennings	J. P. Robinson	--	200	--	Pecos aquifer	--	164.7	Oct. 4, 1957	N	N	
U-30	do	do	1947	200	16	do	--	164.7	do	N	N	
U-31	do	do	1955	238	16	do	--	154.9	do	T,G, 50	Irr	Discharge reported 1,250 gpm in 1957. Pump set at 220 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
U-32	Bessie Jennings	J. P. Robinson	--	238	6	Pecos aquifer	--	--	--	T,E, l	D	Pump set at 200 ft. Not used for drinking.
U-33	M. R. Tripp	--	1949	250	16	do	--	133.0 152.5	Jan. 26, 1952 Oct. 15, 1957	N	N	3/
U-34	-- Maloof	Lusby Bros.	--	256	--	do	--	155.1	Oct. 4, 1957	N	N	Cased to bottom. Perforated from 195 to 255 ft. 2/
U-35	do	do	--	--	16	do	--	157.0	do	N	N	
U-36	M. R. Tripp	do	1950	250	16	do	--	158.1	do	N	N	
U-37	V. G. Neville	-- Tipton	1949	242	16, 14	do	2,303	110.8 86.6	Aug. 20, 1957 Feb. 10, 1958	T,G, 70	Irr	Casing: 16-in. to 170 ft. 2/
U-38	do	do	1950	198	16	do	2,314	69.0 115.7 113.4	Nov. 27, 1950 Aug. 20, 1957 Feb. 10, 1958	N	N	Cased to bottom. Discharge reported 1,200 gpm in 1950. 2/
*U-39	Jake Broyles	Koonce and Young	1948	270	16	do	2,316	63.4 63.9	Aug. 2, 1948 Dec. 30, 1948	T,E, 110	Irr	Discharge measured 240 gpm Aug. 22, 1957. 1/
U-40	do	do	1948	144	6	do	2,321	70.7 119.1	Dec. 30, 1948 Feb. 10, 1958	C,W	D	Cased to bottom.
U-41	Tippett and McKenzie	--	--	--	--	do	--	162.4	July 3, 1957	C,W	S	
U-42	M. R. Tripp	--	--	230	--	do	2,293	64.5 90.2 80.7 78.6	Dec. 30, 1948 Aug. 22, 1957 Feb. 7, 1958 Jan. 26, 1959	T,E, 60	Irr	
U-43	Winfield and Dyche	--	--	190	--	do	2,328	97.6 97.8 98.7	July 21, 1948 Dec. 30, 1948 Feb. 9, 1950	N	N	Drilled as oil test, plugged to 190 ft. Discharge reported 250 gpm July 21, 1948.
U-44	Tripp and Whittenburg	Szenasi and Haines	1948	200	--	do	2,327	--	--	N	N	Abandoned. 2/
U-45	M. R. Tripp	--	1957	2,200	6	San Andres limestone	--	(+)	Aug. 22, 1957	Flows	Irr	Flow measured 876 gpm Aug. 28, 1957.
*U-46	University of Texas	R. A. Cleveland	1947	270	--	Pecos aquifer	--	--	--	C,W	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
U-47	University of Texas	--	--	134	--	--	--	84.6 89.1	July 27, 1948 July 3, 1957	C,W	S	
*U-48	do	N. C. House	--	80	--	--	--	77.9 80.5 84.9	Dec. 14, 1946 Feb. 27, 1950 July 5, 1957	C,W	S	Temp. 70°F.
U-49	do	--	--	--	6	Pecos aquifer	--	--	--	C,W	N	
*U-50	Roy McDonald	--	1948	425	16	do	2,410	78.1 96.2	Apr. 23, 1948 Jan. 21, 1958	T,G, 75	Irr	Casing: 16-in. to 300 ft. Perforated from 80 to 170 ft. Pump set at 200 ft. 3/
U-51	do	--	--	287	--	do	--	--	--	T,G, 75	Irr	Cased to bottom. Perforated from 90 ft. to bottom. Discharge measured 241 gpm Sept. 27, 1957.
*U-52	University of Texas	--	1929	116	6	do	--	82.8 96.8	Dec. 12, 1946 Aug. 14, 1957	C,W	N	
U-53	do	--	--	182	6	do	--	158.8 164.1	Nov. 29, 1950 July 2, 1957	C,W	N	
U-54	do	Stanolind Oil Co.	1951	8,090	--	--	2,541	--	--	N	N	Oil test.
U-55	do	Taylor-Link Oil Co.	--	1,628	--	--	2,500	--	--	N	N	Oil test. 1/
U-56	do	--	--	212	--	Pecos aquifer	2,550	179.4	July 2, 1957	C,W	D	
*U-57	Fred Davidson	N. A. House	1936	192	5	do	--	166.4	Apr. 1, 1947	C,W,E, ½	D	
U-58	University of Texas	Curtis Stice	1952	400	18	do	--	--	--	T,G, 72	Irr	Pump set at 180 ft. Discharge measured 887 gpm Aug. 14, 1957.
*U-59	do	--	1917	180	6	do	--	95.4 97.3 120	Dec. 9, 1946 Feb. 27, 1950 1957	C,W	D,S	Jail House well.
U-60	do	Curtis Stice	--	--	--	do	--	--	--	N	N	
U-61	do	Cardinal Oil Co.	1943	1,408	--	--	2,536	--	--	N	N	Oil test. 2/
U-62	do	do	1930	1,985	--	--	2,480	--	--	N	N	Oil test. 1/
U-63	do	--	--	277	--	Pecos aquifer	--	231.8	July 5, 1957	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*U-64	University of Texas	--	1927	300	6	Pecos aquifer	--	75.1	Dec. 9, 1946	C,W	S	Temp. 65°F.
U-65	do	--	--	500	--	do	2,638	--	--	N	N	Cased to bottom. "V" Mill well.
U-66	do	-- Ajax	--	1,765	--	--	2,649	--	--	N	N	Oil test. 2/
U-67	do	M. M. Rowan et al	1929	2,044	--	--	2,764	--	--	N	N	do
U-68	White and Baker	Gibbs Bros.	1949	825	8	Pecos aquifer	--	750	June 1951	T,G, 20	Ind	Cased to bottom. Drilled to 2,478 ft.; plugged back to 825 ft. Supplied water for secondary recovery of oil. 2/
U-69	do	Helmerich and Payne	1957	830	10	do	--	750	June 1951	T,G, 20	Ind	Casing: 10-in. to 826 ft. Perforated from 781 to 826 ft. Discharge reported 35 gpm. Supplied water for secondary recovery of oil.
U-70	Ambassador Oil Co.	Carl Engle	--	700	--	do	--	--	--	C,E	D	
U-71	White and Baker Estate	F. Kirk Johnson	1955	1,998	--	do	2,836	--	--	N	N	Oil test.
U-72	do	Gulf Oil Corp.	--	4,280	--	--	2,993	--	--	N	N	Oil test. 1/
U-73	Ambassador Oil Co.	John L. Greer	1956	878	10	Pecos aquifer	2,933	--	--	C,E, 25	Ind	Casing: 10-in. to 858 ft. Gravel-walled. Perforated from 533 to 623, and from 683 to 858 ft. Pump set at 725 ft. Water used for secondary recovery of oil. 2/
U-74	do	do	1956	525	10	do	--	444.0	June 12, 1957	T,E, 15	Ind	Casing: 10-in. to 518 ft. Perforated from 407 to 517 ft. Gravel-walled. Discharge measured 47 gpm with test pump. Water used for secondary recovery of oil.
U-75	do	do	1956	--	10	do	--	--	--	T,E, 30	Ind	Casing: 10-in. to 518 ft. Perforated from 488 to 508 ft. Water used for secondary recovery of oil.
U-76	White and Baker Estate	Helmerich and Payne	1946	602	7	do	--	530	June 1957	C,G, 3	D,Ind	Casing: 7-in. to 20 ft. Supplies water for oil-well drilling rigs.
U-77	do	Cardinal Oil Co.	1943	2,021	--	--	2,951	--	--	N	N	Oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
U-78	Leo Richardson	Humble Oil & Refining Co.	--	740	--	--	--	650	Apr. 1947	C,W	S	Drilled as oil test, converted to water well.
*U-79	Mary Lea McKenzie	--	--	535	6	Pecos aquifer	--	500	Apr. 1947	C,W	D,S	
*U-80	White and Baker Estate	--	--	150	6	do	--	119.3	Apr. 19, 1947	C,W	S	Temp. 72°F.
U-81	University of Texas	George Anderson	1928	1,998	--	--	2,813	--	--	N	N	Oil test. 2/
U-82	do	Ligon Bros.	--	327	--	Pecos aquifer	--	320 310.0	May 1947 Sept.27, 1957	C,W	S	
U-83	do	--	--	274	--	do	--	249.6	June 28, 1957	C,W	S	
U-84	do	--	--	167	--	do	--	137.1	July 5, 1957	C,W	N	
U-85	T. W. Hillin	--	--	244	6	do	2,693	195.1	Aug. 28, 1958	C,W	D,S	
U-86	University of Texas	Buell and Hagan	1929	1,332	--	--	2,760	--	--	N	N	Oil test. 1/
U-87	T. W. Hillin	--	--	--	6	Pecos aquifer	2,893	333.3	Aug. 28, 1958	C,W	S	
*U-88	J. W. Owen	R. A. Cleveland	1943	520	--	do	--	380	Apr. 1947	C,W	S	Temp. 72°F.
*U-89	do	--	--	400	--	do	--	340	Apr. 1947	C,W	D,S	Temp. 71°F.
U-90	White and Baker	--	--	--	--	do	--	--	--	C,W	N	
*U-91	J. W. Owen	--	--	400	6	do	--	340	Apr. 1947	C,W	D,S	
U-92	White and Baker	Walter Abell	1937	2,062	--	--	2,740	--	--	N	N	Oil test. 1/
V-1	-- Tippett	Cardinal Oil Co.	1937	997	--	--	2,273	--	--	N	N	Oil test. 2/
V-2	Wm. B. Wilson	--	--	98	--	Pecos aquifer	--	90.1 90.8	Feb. 9, 1950 Oct. 4, 1950	C,W	S	
V-3	White and Baker Estate	J. L. Green et al	1938	1,940	--	--	--	--	--	N	N	Oil test. 1/
V-4	Wm. B. Wilson	Lee Bullock	1948	235	16, 14	Pecos aquifer	2,264	48.4 54.8	July 29, 1948 Oct. 3, 1957	T,G	Irr	Casing: 16-in. to 153 ft. 2/ 3/
V-5	do	C. E. Wheeler	1936	405	10	do	2,268	43.1	July 29, 1948	N	N	Abandoned. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
V-6	Wm. B. Wilson	-- Livezay	1949	--	7	Pecos aquifer	2,245	29.2	May 13, 1949	T,G, 70	Irr	Casing: 7-in. to 125 ft. Pump set at 70 ft. Discharge reported 3,500 gpm May 13, 1949. 2/
V-7	do	--	1952	63	8	do	--	39.1	Oct. 3, 1957	C,W	S	
V-8	do	--	1955	8,500	--	--	--	(+)	--	Flows	N	Oil test. 2/
V-9	City of McCamey	N. C. House	1954	328	--	Pecos aquifer	--	192.3	May 24, 1957	T,E, 40	P	Drilled to 368 ft.; plugged back to 328 ft. Pump set at 277 ft.
V-10	do	do	1955	318	--	do	--	208.0	do	T,E, 40	P	Casing: 250 ft. of 18-in., 310 ft. of 8-in. Bottom 94 ft. perforated. Discharge reported 350 gpm in 1957.
V-11	do	D. G. Ash	1950	290	18, 10	do	--	183.3	do	T,E	P	Casing: 18-in. to 257 ft., 10-in. to 258 ft. Perforated from 256 to 296 ft. Gravel-walled. 2/
V-12	do	Layne-Texas Co.	--	285	8	do	2,357	182.2	May 24, 1957	T,E, --	N	
*V-13	do	do	1929	354	16	do	2,365	148.1 168.9	Feb. 10, 1947 May 24, 1957	T,E, 30	P	Casing: 16-in. to 284 ft. Perforated from 286 to 326 ft. Gravel-walled. 2/
V-14	do	do	1929	272	15	do	2,393	167.6 204.5	Feb. 11, 1947 May 24, 1957	T,E, 30	P	Casing: 15-in. to 238 ft., 8-in. from 228 to 272 ft. Perforated from 232 to 272 ft. Discharge reported 280 gpm in 1947. 1/
V-15	White and Baker Estate	Cardinal Oil Co.	1931	1,764	--	--	--	--	--	N	N	Oil test. 2/
V-16	Larry and Wilson	--	--	210	--	Pecos aquifer	--	200	Apr. 1947	C,W	S	
V-17	Cordova Union Land Co.	F. P. Zoch et al	--	1,368	--	--	2,244	--	--	N	N	Oil test. 1/
*V-18	--	Shell Pipeline Co.	--	378	5	Pecos aquifer	--	160	1946	C,E	D,Ind	
V-19	White and Baker Estate	Cardinal Oil Co.	1936	1,458	--	--	2,434	--	--	N	N	Oil test. 2/
*V-20	M. A. Smith	Helmerich and Payne	1945	245	7	Pecos aquifer	--	75	June 1951	C,E, 2	D	Casing: 7-in. to 25 ft. Deepened from 233 to 245 ft. in 1951. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level			Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement				
V-21	M. A. Smith	Helmerich and Payne	1957	180	8	Pecos aquifer	--	--	--		T,E, 10	Ind	Casing: 8-in. to 180 ft. Perforated from 79 to 180 ft. Discharge reported 116 gpm June 21, 1957. Supplies water for secondary oil recovery. 2/
V-22	J. H. Tippett	do	1955	262	--	do	--	--	--		--	D	
V-23	S. H. Murray	--	--	180	8	do	2,318	125		1958	C,W	S	
V-24	-- Earwood	--	1932	320	6	do	--	100	Apr.	1947	C,W,G	D,S	Casing: 6-in. to 212 ft.
V-25	-- Murray	--	--	250	8	do	--	150		1957	C,W	S	Cased to bottom.
V-26	G. R. White	Albert Bruce	1954	1,595	--	--	2,510	--	--		N	N	Oil test.
V-27	White and Baker Estate	Douglass Oil Co.	1927	1,519	--	--	2,443	--	--		N	N	Oil test. 1/
*V-28	Larry and Wilson	--	--	250	6	Pecos aquifer	2,527	250	Apr.	1947	C,W	S	Temp. 70°F.
V-29	do.	--	1946	360	6	do	--	300	Apr.	1947	C,W	S	
V-30	-- Wilson	Standard Oil of Texas	1952	--	--	--	--	--	--		N	N	Oil test.
V-31	Larry and Wilson	D. Ash	1949	--	--	--	--	240	May	1949	N	N	do
*V-32	do	M. T. Anderson Oil Co.	1936	830	10	Pecos aquifer	3,055	800	Apr.	1947	C,W	S	Drilled to 2,282 ft.; plugged back to 830 ft. Temp. 69°F.
V-33	White and Baker Estate	--	--	340	--	do	2,797	379.3	June 25,	1957	C,W	S	
V-34	Leo Richardson	Helmerich and Payne	1946	602	5	do	--	--	--		N	N	Casing: 5-in. to 597 ft.
V-35	do	-- Smith	1945	380	--	do	--	325	Apr.	1947	C,W	S	
V-36	do	Ligon Bros.	1912?	306	--	do	--	298	Apr.	1947	C,W	D,S	Baker Fly House well.
V-37	White and Baker Estate	Cardinal Oil Co.	1941	310	6	do	--	241	Apr.	1947	C,E, 5	D,S, Ind	Sand reported from 267 ft. to bottom. Formerly supplied water for oil-well drilling.
V-38	Leo Richardson	Humble Oil & Refining Co.	1940	450	--	do	--	250	June	1957	N	N	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
V-39	White and Baker Estate	Helmerich and Payne	1946	385	--	Pecos aquifer	--	--	--	N	N	Sand reported from 370 ft. to bottom. 2/
*V-40	do	do	--	310	6	do	--	300	Apr. 1947	C,W	Ind	Discharge reported 56 gpm June 21, 1957.
V-41	Leo Richardson	do	1941	354	--	do	--	--	--	--	D	Sand reported from 255 ft. to bottom. Deepened from 310 ft. to 354 ft. in June 1953.
V-42	Larry and Wilson	--	--	400	6	do	--	360	Apr. 1947	C,W	D,S	
*V-43	Texas Highway Department	--	--	289	--	do	2,636	248.9	Apr. 16, 1957	C,W	D	
*V-44	Frank Perry	Oscar Schneider	1946	315	6	do	--	285	May 1947	C,W	S	
V-45	Larry and Wilson	--	1946	630	--	do	--	600	Apr. 1947	C,G	S	
V-46	do	--	--	320	--	do	--	300	Apr. 1947	C,W	S	
V-47	Frank Perry	Transcontinental Oil Co.	1925	3,537	--	--	2,643	--	--	--	N	Oil test. 1/
V-48	do	-- Smith	1937	220	6	Pecos aquifer	2,561	199.6 185.5	Apr. 25, 1947 June 25, 1957	C,W	S	Casing: 6-in. to 10 ft.
V-49	Frank Perry, Sr.	B. F. Phillips	1936	525	--	--	--	--	--	N	N	Oil test. Drilled to 1,934 ft.; plugged back to 525 ft.
V-50	Larry and Wilson	--	--	225	--	--	--	194.5	Apr. 28, 1947	C,W	S	
*V-51	do	--	--	--	6	Pecos aquifer	--	--	--	C,W	S	Temp. 71°F.
V-52	S. H. Murray	--	--	450	8	do	--	400	1958	C,W	S	
V-53	do	Fletcher Holt	1945	380	6	do	--	340	Apr. 1947	C,W	S	Casing: 6-in. to 20 ft.
*V-54	do	J. J. Pruitt	1945	520	6	do	--	502	Apr. 1947	C,W	S	Temp. 71°F.
*V-55	H. K. Hines Estate	--	--	290	6	do	--	240	Apr. 1947	C,W	S	
V-56	do	Fletcher Holt	1947	246	5	--	--	208	Apr. 1947	C,W	D,S	Casing: 5-in. to 65 ft.
W-1	I. G. Yates Estate	Crosby Drilling Co.	1927	1,577	--	--	--	--	--	N	N	Oil test. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
W-2	I. G. Yates Estate	--	--	75	--	Pecos aquifer	--	64.9 69.7	Dec. 13, 1946 May 22, 1957	C,W	S	
W-3	J. H. Tippett	Cardinal Oil Co.	1937	575	--	do	2,463	--	--	N	N	Oil test.
W-4	do	do	1937	1,384	--	--	2,457	--	--	N	N	Oil test. 2/
W-5	I. G. Yates Estate	--	--	--	--	Pecos aquifer	--	--	--	C,E, 3/4	D,S	
W-6	do	Gulf Oil Corp.	1927	--	--	--	2,555	--	--	N	N	Oil test. 2/
W-7	M. A. Smith	Humble Oil & Refining Co.	1927	1,512	--	--	--	--	--	N	N	do
*W-8	I. G. Yates Estate	--	1933	170	8	Pecos aquifer	--	123.1 125	Apr. 23, 1947 Oct. 1958	C,W	S	Temp. 70°F.
W-9	do	Gulf Oil Corp.	1931	225	12, 6	do	--	168.3	Apr. 24, 1947	C,E, 5	D,Ind	Sand reported from 190 to 222 ft.
W-10	do	do	1936	245	12, 7	do	--	168	Apr. 1947	C,E, 5	D,Ind	2/
W-11	J. H. Tippett	Roxana Petroleum Co.	1927	1,398	--	--	2,617	--	--	N	N	Oil test. 2/
*W-12	M. A. Smith	California Co.	1927	400	7	Pecos aquifer	--	300	Apr. 1947	C,E, 5	D,Ind	Cased to bottom. Perforated from 313 ft. to bottom. Discharge reported 15 gpm April 1947.
W-13	do	do	1927	384	10, 4	do	--	300	Apr. 1947	C,E, 5	D,Ind	2/
W-14	I. G. Yates Estate	do	1930	226	--	do	--	--	--	N	N	2/
W-15	S. H. Murray	--	--	350	8	do	--	300	1958	C,G	S	
W-16	M. A. Smith	Gulf Oil Corp.	1927	1,425	--	--	2,624	--	--	N	N	Oil test. 2/
*W-17	do	do	--	432	--	Pecos aquifer	--	370	Apr. 1947	C,E, 3	D,S	Sand reported from 395 ft. to bottom.
W-18	I. G. Yates Estate	--	--	282	--	do	--	--	--	N	N	2/
W-19	do	--	--	--	--	do	--	60.7	June 21, 1957	C,W	S	
W-20	Pasotex Pipeline Co.	Gulf Oil Corp.	1950	220	6	do	--	--	--	C,E	D,S	Casing: 6-in. to 210 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
W-21	I. G. Yates Estate	--	--	170	6	Pecos aquifer	--	112.1	June 21, 1957	C,W	S	Discharge reported 4 gpm in May 1957.
*W-22	do	Ohio Oil Co.	--	543	--	do	2,471	--	--	N	N	1/
W-23	-- Bascomb	do	1952	180	6	do	--	58.9	May 2, 1957	C,E	--	Supplies water for lawn.
W-24	-- Cope	do	--	--	--	--	--	--	--	C,E	--	do
W-25	West Texas Utilities Co.	--	--	--	6	--	--	--	--	N	N	
W-26	I. G. Yates Estate	Yates Drilling & Tool Co.	1941	212	16	Pecos aquifer	--	175	Apr. 1947	C,E, 5	D	Sand reported from 175 to 206 ft. 2/
W-27	do	do	1941	214	15	do	--	175.0	Apr. 23, 1947	T,E, 5	D	Sand reported from 170 to 210 ft. 2/
*W-28	do	Sam Parker	1946	168	7	do	--	160.0	Dec. 13, 1947	N	N	Discharge reported 75 gpm in Dec. 1947. Drilled to 210 ft.; plugged back to 168 ft. Dry May 22, 1957.
W-29	do	Mid-Kansas Oil & Gas Co.	1928	1,174	--	--	2,271	--	--	N	N	Oil test. 2/
W-30	do	--	--	--	6	Pecos aquifer	--	60.4	June 21, 1957	C,W	S	
*W-31	do	--	1928	180	6	do	--	51.1	Apr. 22, 1947	C,E, 2	D	Cased to bottom. Perforated from 160 ft. to bottom. Discharge reported 9 gpm.
W-32	do	Mid-Kansas Oil & Gas Co.	1927	1,115	--	--	2,324	--	--	N	N	Oil test. 2/
W-33	State of Texas	Allsman & Bell	1927	1,069	--	--	2,146	--	--	N	N	do
W-34	I. G. Yates Estate	Mid-Kansas Oil & Gas Co.	1929	1,351	12, 8	--	2,522	--	--	N	N	Oil test. 1/
W-35	do	Humble Oil & Refining Co.	--	144	5	Pecos aquifer	--	140.7	May 21, 1957	N	N	
W-36	do	do	1928	198	6	do	--	140.3	do	N	N	
W-37	do	County Highway Department	1934	134	--	do	--	--	--	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
W-38	I. G. Yates Estate	--	--	110	--	Pecos aquifer	--	104.4	May 21, 1957	C,W	S	
*W-39	do	-- House	1939	90	--	do	2,187	57.1 56.4	Apr. 23, 1947 May 21, 1957	C,W	S	Temp. 71°F.
W-40	do	--	1927	140	--	do	--	130	1957	C,W	S	
*W-41	do	--	1927	38	--	do	--	33.4 27.8	Apr. 23, 1947 May 21, 1957	C,W	D,S	Temp. 70°F.
W-42	do	Pecos County	1934	90	--	do	--	--	--	C,W	S	
W-43	do	H. G. Barbee	1946	343	10, 8	do	--	285	Apr. 1947	C,W	S	
W-44	do	Ohio Oil Co.	--	815	--	--	--	--	--	N	N	Oil test. 2/
W-45	S. H. Murray	--	--	450	--	Pecos aquifer	--	340	1957	C,W	S	
W-46	M. A. Smith	Gulf Production Co.	1929	1,713	--	--	2,813	--	--	N	N	Oil test. 1/
W-47	do	Standard Oil Co.	1956	1,200	--	--	2,930	--	--	N	N	Oil test.
W-48	do	E. R. Crosby	1929	1,699	--	--	--	--	--	N	N	Oil test. 2/
W-49	do	California Co.	1928	1,595	--	--	2,606	--	--	N	N	do
*W-50	G. C. Murray	--	--	380	8	Pecos aquifer	--	220 368	Apr. 1947 1957	C,W	S	Temp. 72°F.
W-51	M. A. Smith	California Co.	--	515	--	do	--	--	--	C,E	D	2/
W-52	-- Bailey	Plymouth Oil Co.	1929	1,903	--	--	2,627	--	--	N	N	Oil test. 2/
W-53	M. A. Smith	Cardinal Oil Co.	1936	1,743	10, 5	--	2,810	--	--	N	N	do
X-1	Ralph Lindsey Estate	Gorman Bros.	1942	1,010	--	--	--	900	Oct. 1957	C,W	S	
X-2	Sam Bruce	Bill Addison	1927	--	7	Pecos aquifer	--	550	Oct. 1957	C,W	D,S	
X-3	Ralph Lindsay Estate	--	--	--	--	do	--	402.1	Oct. 24, 1957	C,W	S	
*X-4	do	-- Goodall	1910	167	8	do	--	118.8	do	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
X-5	Mrs. Virginia Moore	--	1948	600?	6	Pecos aquifer	--	217.5	June 18, 1947	C,W	S	
X-6	do	Ligon and Bell	--	362	--	do	3,210	244.2	Mar. 16, 1958	C,W	S	
*X-7	do	--	1930	388	--	do	--	249.9	June 6, 1947	C,W	S	
*X-8	S. W. Morris	--	--	370	6	do	--	289.0 248.2	June 14, 1947 Oct. 3, 1957	C,W	S	
X-9	-- Gray	Humble Oil & Refining Co.	--	6,238	12, 7	--	3,592	--	--	N	N	Oil test. 1/
X-10	J. W. Stone	Fritz Graef	--	120	6	Pecos aquifer	--	50	Oct. 1957	C,W	S	Cased to bottom.
*X-11	do	Fred Gorman	1938	620	6	do	--	298.3	June 18, 1947	N	N	
X-12	Sam Bruce	--	1952	650	7	do	--	80	Oct. 1957	C,W	N	
X-13	Jeff Ranch	--	--	Spring	--	McCutcheon Volcanic series of Eifler (1951)	--	--	--	N	D,S	Barilla Springs.
X-14	Roy and Wade Reid	--	--	500	--	Pecos aquifer	--	--	--	C,W	D,S	
X-15	do	--	--	500	--	do	--	--	--	C,W	D,S	
X-16	do	--	--	250	--	do	--	150	1957	C,W	S	
X-17	do	--	--	250	--	do	--	150	1957	C,W	S	
X-18	J. W. Stone	Gorman Bros.	1943	152	--	do	--	130	1957	C,W	S	
*X-19	do	do	1943	75	2	do	3,531	43.5 33.0	June 18, 1947 Oct. 2, 1957	C,W	S	Casing: 7-in. to 64 ft.
X-20	do	--	1900	120	6	do	3,530	44.0	Oct. 2, 1957	C,W	D,S	
X-21	do	A. L. Ligon	1912	450	7	do	--	180.8	do	C,W	S	
X-22	do	Fritz Graef	--	85	6	do	--	--	--	N	N	Reported dry.
*X-23	S. W. Morris	--	1912	232	6	do	--	202.4	Oct. 2, 1957	C,W	S	Temp. 70°F.
*X-24	Gene Cartledge	--	1941	240	4	do	3,488	212.1 218.0	June 17, 1947 May 9, 1958	C,W	D	
*X-25	do	--	--	390	6	do	--	240.5	May 9, 1958	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
X-26	Gene Cartledge	--	1945	390	--	Pecos aquifer	--	238.7	May 8, 1958	C,W	S	
X-27	do	--	1941	469	--	do	--	162.4	May 9, 1958	C,W	S	
*X-28	do	A. L. Ligon	1913	400	6	do	--	261.3	June 17, 1943	C,W	S	
X-29	do	--	--	600	6	do	--	350.9	May 9, 1958	C,W	D,S	
*X-30	J. W. Stone	Gorman Bros.	1943	390	--	do	--	365	May 1947	C,W	S	Anne's Well.
X-31	do	John Cox	1936	550	6	do	--	30	1957	C,W	S	
X-32	do	--	--	120	6	do	--	37.9	Oct. 2, 1957	C,W	S	
X-33	do	A. L. Ligon	--	500	--	do	--	--	--	C,W	N	Reported dry.
*X-34	Gene Cartledge	--	1941	350	6	do	3,517	318 324.5	May 1947 May 8, 1958	C,W	S	
X-35	do	-- Stone	1939	493	6	do	--	450	May 1958	C,W	S	
*X-36	Graef Bros.	Walter Graef	1912	400	5	do	--	310	May 1947	C,W	D,S	Drilled to 210 ft.; deepened to 400 ft.
X-37	Gene Cartledge	--	--	4,655	12	--	3,458	350.0	May 9, 1958	N	N	Oil test.
*X-38	Graef Bros.	Ligon Bros.	1910	390	8	Pecos aquifer	--	360	May 1947	C,W	S	
*Y-1	Mrs. Virginia Moore	--	1930	387	6	do	--	331.2 348.5	June 9, 1947 Mar. 16, 1958	C,W	S	
Y-2	do	--	--	--	--	do	--	247.3	Mar. 16, 1958	C,W	S	
Y-3	M. R. Kennedy	--	--	240	--	do	3,227	210.3	Sept.30, 1957	C,W	S	
*Y-4	do	--	--	270	8	do	3,193	195.2 219.9	June 9, 1947 Sept.30, 1957	C,W	D,S	
Y-5	do	--	--	275	6	do	3,198	140.5 217.8	June 9, 1947 Sept.26, 1957	C,W	D,S	
Y-6	do	--	1940	260	--	do	--	230	1957	C,W	S	
Y-7	do	Humble Oil & Refining Co.	--	4,685	--	--	--	--	--	N	N	Oil test. 1/
Y-8	do	--	--	213	--	Pecos aquifer	3,191	193.1	Sept.30, 1957	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Y-9	M. R. Kennedy	--	--	--	8	Pecos aquifer	--	--	--	C,W	S	
*Y-10	do	Taylor-Smith Oil Co.	--	1,000	8	Rustler formation	--	200 227.2	May 1947 Sept.26, 1957	C,W	S	Sulfur well.
*Y-11	do	--	--	400	8	Pecos aquifer	--	225	Sept. 1957	C,W	S	
*Y-12	do	Sullivan and James	--	566	--	do	3,605	481.4	Sept.26, 1957	C,W	S	Originally drilled to 517 ft.; deepened to 566 ft. in 1956. 1/
*Y-13	do	--	--	460	6	do	--	346.0	do	C,W	S	Qualls Mill.
Y-14	do	--	1940	350	--	do	--	225.8	Sept.30, 1957	C,W	S	Willow Mill.
Y-15	do	--	1910	200?	7	do	3,294	96.3	Sept.26, 1957	C,W	S	Mathews Mill.
*Y-16	do	--	1943	230	--	do	--	187.6 183.2	May 12, 1947 Sept.26, 1957	C,W	S	Big Sampson Mill.
Y-17	Gene Cartledge	--	1943	250	--	do	--	262.1	May 8, 1958	C,W	S	
Y-18	-- Townsend	--	--	160	3	do	--	155	May 1947	C,W	D,S	Temp. 71°F.
*Y-19	Elsinore Cattle Co.	Aldrich and Stroud	1956	698	--	do	--	240	Apr. 1956	T,G	Irr	Water reported in brown sand from 605 to 698 ft.
*Y-20	do	--	--	--	6	do	--	225.8	June 26, 1956	C,W	D,S	
Y-21	M. R. Kennedy	--	--	500	--	do	--	328.6	Nov. 21, 1957	C,W	S	
*Y-22	Elsinore Cattle Co.	--	--	400	8	do	--	300	July 1958	C,W	S	Temp. 70°F.
*Z-1	George Baker	Cleveland and Stone	--	396	--	do	3,292	300.4 295.3 295.9	June 16, 1947 July 13, 1948 June 25, 1950	C,W	S	Drilled to 330 ft.; deepened to 396 ft. in 1956.
*Z-2	do	R. A. Cleveland	1956	420	5	do	--	340.5 395.5	June 25, 1950 Sept.20, 1957	C,W	S	Drilled to 390 ft.; deepened to 420 ft. in 1956. Temp. 74°F.
Z-3	do	--	--	--	--	do	--	21.5	June 25, 1950	N	N	
Z-4	Clayton Williams	Perry Jones	1957	--	--	--	3,212	--	--	N	N	Drilled to supply water for irrigation.
Z-5	L. P. Williams	Gray Bros.	1957	627	--	Pecos aquifer	--	--	--	N	N	Discharge reported 250 gpm.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*Z-6	Clayton Williams	--	--	176	8	Pecos aquifer	3,167	136.5 125.3 140.8 145.9	Nov. 19, 1946 Dec. 26, 1955 Feb. 4, 1958 Jan. 23, 1959	C,W	S	
Z-7	Bill Williams	John Lancaster	1957	310	16	do	3,169	132.6	Feb. 4, 1958	T,G	Irr	Casing: 16-in. to 275 ft. Discharge reported 2,400 gpm in 1958.
Z-8	do	A. N. Yockey	1955	312	16	do	3,169	127.2 143.0 143.2	Dec. 20, 1955 Apr. 10, 1956 Feb. 4, 1958	T,G	Irr	Casing: 16-in. to 260 ft. Perforated from 161 to 181 ft., and 282 to 312 ft. Discharge reported 3,000 gpm in 1955. Temp. 82°F.
Z-9	L. P. Williams	J. T. Coats	1955	385	16	do	3,205	155.1	Dec. 20, 1955	T,G	Irr	Cased to bottom. Perforated from 285 ft. to bottom. Discharge measured 1,064 gpm Mar. 30, 1956. 2/
*Z-10	do	do	1955	372	16	do	3,206	156.9	do	T,G	Irr	Casing: 16-in. to 44 ft. Discharge measured 1,690 gpm Apr. 11, 1956. 2/
Z-11	do	do	1956	382	16	do	3,219	197.2	Feb. 4, 1958	T,G	Irr	Casing: 16-in. to 150 ft. Water reported at 270, 349, and 370 ft. Discharge reported 2,000 gpm Jan. 7, 1958.
Z-12	do	Gray Bros.	1957	420	16	do	3,194	169.9 163.9 170.0	Jan. 3, 1958 Feb. 4, 1958 Jan. 23, 1959	N	N	Casing: 16-in. to 270 ft.
Z-13	Chandler Co.	S. H. Parker	1957	500	14	do	3,175	149.4	Feb. 5, 1958	T,G	Irr	Casing: 14-in. to bottom. Perforated from 300 ft. to bottom. Discharge reported 1,600 gpm Jan. 6, 1958. 1/
Z-14	do	do	--	600	14	do	3,157	125.6 129.9	Apr. 3, 1956 Feb. 5, 1958	T,G	Irr	Casing: 14-in. to 220 ft. Discharge reported 800 gpm Jan. 3, 1956. Drilled to 270 ft.; deepened to 600 ft. in 1956. 2/
Z-15	Leo Park	A. N. Yockey	1956	465	16	do	3,143	117.5	Jan. 29, 1958	N	N	Casing: 16-in. to 260 ft.
Z-16	do	Gray Bros.	1956	467	16	do	3,145	120.7 126.2	Jan. 29, 1958 Jan. 23, 1959	T,G	Irr	Casing: 16-in. to 267 ft. Discharge reported 1,000 gpm Dec. 28, 1957.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Z-17	R. H. Taylor	Joe Gray	1956	465	16	Pecos aquifer	3,135	111.7	Jan. 29, 1958	T,G	Irr	Casing: 16-in. to 265 ft. Drawdown reported 55 ft. after 2 hours pumping at 1,200 gpm in 1956. Drilled to 308 ft.; deepened to 465 ft. in 1957.
Z-18	Chandler Co.	-- Wilson	1955	265	16	do	3,144	104.9 119.1	Jan. 3, 1956 Feb. 5, 1958	T,G	Irr	Cased to bottom. Discharge measured 1,415 gpm Apr. 11, 1956.
Z-19	do	do	--	575	14	do	3,139	108.9 121.5	Jan. 3, 1956 Jan. 29, 1958	T,G	Irr	Casing: 14-in. to 423 ft. Perforated from 221 to 243 ft. Discharge measured 1,784 gpm Mar. 31, 1956. 2/
Z-20	Clayton Williams	R. L. Cleveland	1945	174	6	do	--	120	Nov. 1946	C,W	S	
Z-21	Chandler Co.	Gray Bros.	1955	270	16	do	3,149	108.2 122.9	Jan. 3, 1956 Feb. 5, 1958	T,G	Irr	Cased to bottom. Discharge measured 885 gpm Apr. 3, 1956. Temp. 76°F.
Z-22	do	--	1955	224	--	do	--	136.0 140.2 148.4	Apr. 3, 1956 Apr. 13, 1956 May 3, 1956	N	N	
Z-23	do	S. H. Parker	1957	519	16	do	3,157	132.4 138.1	Feb. 5, 1958 Jan. 23, 1959	T,G	Irr	Casing: 16-in. to 517 ft. Perforated from 198 to 519 ft. Discharge reported 2,700 gpm Jan. 15, 1958. 1/
Z-24	do	-- Wilson	1955	270	16	do	--	129.4	Jan. 3, 1956	T,G	Irr	Cased to bottom. Discharge measured 910 gpm Mar. 31, 1956.
Z-25	do	Gray Bros.	1955	420	16	do	3,175	133.3 154.4	Jan. 3, 1956 Feb. 5, 1958	T,G	Irr	Casing: 16-in. to 383 ft. Perforated from 291 to 383 ft. Discharge measured 1,258 gpm Apr. 3, 1956. Temp. 75°F. 2/
Z-26	do	Luther Gray	1957	528	16	do	3,189	159.9	Feb. 5, 1958	T,G	Irr	Casing: 16-in. to 377 ft. Perforated from 218 to 377 ft. Discharge reported 1,200 gpm Jan. 15, 1958. 2/
Z-27	do	Wilson & Parker	1955	670	16	do	3,194	149.5 170.1	Jan. 3, 1955 Feb. 17, 1958	T,G	Irr	Casing: 16-in. to 490 ft. Perforated from 295 to 490 ft. Discharge measured 903 gpm Mar. 31, 1956. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Z-28	Chandler Co.	Earl Fisher	1957	779	16	Pecos aquifer	3,201	172.5 179.7	Feb. 6, 1958 Jan. 23, 1959	T,G	Irr	Cased to bottom. Perforated from 300 ft. to bottom. Discharge reported 1,200 gpm Jan. 15, 1958. 2/
Z-29	Douglas Fugate	A. N. Yockey	1957	360	16	do	3,221	190.8	Feb. 7, 1958	T,G	Irr	Casing: 16-in. to 120 ft. Discharge reported 3,000 gpm Dec. 19, 1957.
Z-30	do	do	1956	329	16	do	3,219	171.2 187.9 188.6	Feb. 20, 1956 Apr. 3, 1956 Feb. 7, 1958	T,G	Irr	Casing: 16-in. to 254 ft. Drawdown reported 24 ft. after 4½ hours pumping at 2,200 gpm Jan. 6, 1956.
Z-31	Chandler Co.	Earl Fisher	1956	489	14	do	3,214	187.2	Feb. 6, 1958	T,G	Irr	Discharge reported 900 gpm Nov. 27, 1957.
Z-32	--	--	--	450	9	do	3,216	65.3 63.7	July 15, 1948 Apr. 28, 1950	N	N	
Z-33	Chandler Co.	Leonard Wilson	1955	369	14	do	--	173.0	Dec. 29, 1955	T,G	N	Discharge measured 1,022 gpm Mar. 30, 1956.
Z-34	do	S. H. Parker	1956	494	--	do	3,206	180.1 186.8	Feb. 6, 1958 Jan. 23, 1959	T,G	Irr	Discharge reported 1,200 gpm Jan. 15, 1958.
Z-35	do	do	1956	483	16, 12	do	3,199	172.4	Feb. 6, 1958	T,G	Irr	Discharge reported 1,500 gpm Nov. 27, 1957. 1/
Z-36	Ralph Merkle	Gray Bros.	1956	395	--	do	--	--	--	N	N	2/
*Z-37	Chandler Co.	--	--	146	6	do	3,164	77.8	Nov. 19, 1946	C,W	N	
Z-38	Comanche Farms	Gray Bros.	1956	615	16	do	3,148	138.5 130.0	Dec. 7, 1957 Jan. 23, 1959	N	N	Drilled to supply water for irrigation. 3/
Z-39	do	do	1956	361	--	do	3,157	140.2 143.0 146.1 149.2	Dec. 16, 1955 Mar. 21, 1956 Jan. 15, 1958 Jan. 23, 1959	T,G, 70	Irr	Discharge measured 921 gpm Mar. 31, 1956. Originally drilled to 320 ft.; deepened to 361 ft.
Z-40	do	do	1956	348	16	do	3,155	147.5	Jan. 15, 1958	T,G	Irr	Casing: 16-in. to 137 ft.
Z-41	Ralph Merkle	--	1956	310	16	do	3,166	152.7	Feb. 6, 1958	T,G	Irr	2/
Z-42	do	Parker Drilling Co.	1955	301	--	do	3,184	171.6	do	N	N	2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Z-43	Ralph Merkle	Gray Bros.	1957	300	16	Pecos aquifer	3,193	160.6 179.5	Jan. 5, 1956 Feb. 6, 1958	T,G	N	Casing: 16-in. to 30 ft.
*Z-44	A. F. Buchanan	O. W. Williams	--	456	8	do	3,218	169.5 173.2	June 15, 1942 Oct. 25, 1946	C,W	S	
Z-45	W. T. Buchanan	--	--	--	16	do	3,209	183.9	Jan. 30, 1958	T,G	Irr	
Z-46	A. F. Buchanan	-- Gibbs	1955	360	16	do	3,213	188.6	do	T,G, 260	Irr	Cased to bottom. Discharge measured 3,080 gpm Mar. 30, 1956.
Z-47	do	Stephens Drilling Co.	1957	366	16	do	3,219	194.1	Jan. 30, 1958	T,G	Irr	Casing: 16-in. to 322 ft.
Z-48	do	S. H. Parker	1958	560	20	do	3,219	198.5	Jan. 24, 1959	T,G	Irr	
Z-49	do	Stephens Drilling Co.	1955	515	20	do	3,252	211.8 232.7	Feb. 20, 1956 Jan. 26, 1959	N	N	2/
Z-50	K. C. Buchanan	--	1956	517	20	do	3,241	210.9 216.5	Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	Discharge reported 2,400 gpm in July 1957.
Z-51	do	-- Barbee	1956	508	16	do	3,260	220.4 225.0 228.5	Mar. 31, 1956 Apr. 10, 1956 Jan. 30, 1958	T,G	Irr	Casing: 16-in. to 277 ft. Perforated from 255 to 277 ft. Discharge reported about 800 gpm in July 1957.
Z-52	A. F. Buchanan, Jr.	Stephens Drilling Co.	1956	497	16	do	3,270	240.3	Jan. 30, 1957	T,G	Irr	2/
Z-53	B. D. Crammer	do	1956	468	16	do	3,279	254.3	Jan. 24, 1959	T,G	Irr	Casing: 16-in. to 341 ft. Discharge reported 1,900 gpm July 1957.
Z-54	A. F. Buchanan	do	1956	1,118	16	--	--	--	--	T,G	Irr	Casing: 16-in. to 230 ft. Discharge reported 1,000 gpm in July 1957.
Z-55	L. P. Williams	A. N. Yockey	1957	597	--	Pecos aquifer	3,308	--	--	N	N	1/
Z-56	Glen B. Williams	J. T. Coats	1955	584	16	do	3,225	196.5 193.2	Feb. 4, 1958 Jan. 23, 1959	T,G	Irr	Casing: 16-in. to 206 ft. Pump set at 320 ft. 2/
*Z-57	do	Gray Bros.	1957	450	--	do	3,253	210.5	Feb. 4, 1958	T,G	Irr	Discharge reported 1,800 gpm in January 1958.
Z-58	George Baker	Stone and Cleveland	1948	192	--	do	--	140	May 1948	N	N	Temp. 70°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Z-59	-- Harrison	Pure Oil Co.	--	5,000	--	--	3,494	--	--	N	N	Oil test. 1/
*Z-60	J. S. Oates	do	--	1,000	6, 2	Pecos aquifer	3,378	214.0 226.0	June 20, 1947 July 14, 1948	C,W	S	Casing: 6-in. to 420 ft., 2-in. to 1,000 ft. Temp. 72°F.
*Z-61	do	--	--	425	--	do	--	214	June 1947	C,W	S	
Z-62	do	--	--	375	--	do	--	240.4	June 20, 1947	C,W	S	Temp. 69°F.
Z-63	do	--	--	325	6	do	--	279.0 300	May 19, 1947 Nov. 1957	C,W	S	Temp. 73°F.
Z-64	Pete McIntyre	Virgil Ryan	--	252	--	do	3,310	200.5 192.5 211.5	June 20, 1947 July 14, 1948 May 22, 1957	C,W	S	Temp. 71°F.
Z-65	C. E. McIntyre	Eural James	1957	400	10	do	3,309	208.9	Feb. 6, 1958	N	N	Discharge reported 525 gpm in Nov. 1957. Drilled to supply water for irrigation.
*Z-66	J. S. Oates	R. A. Cleveland	--	400	--	do	--	336.4	Nov. 20, 1957	C,W	S	
Z-67	do	--	--	640	--	do	--	--	--	N	N	Reported dry. 2/
*Z-68	do	R. A. Cleveland	--	560	--	do	--	267.7 314.8	June 21, 1947 Nov. 21, 1957	C,W	S	Temp. 76°F.
*Z-69	Pete McIntyre	Gage and Davenport	1882	450	--	do	--	230	May 1947	C,W	D,S	
Z-70	-- Alvis	Penn Oil Co.	1931	3,925	12, 6	--	3,493	--	--	N	N	Oil test. 1/
Z-71	J. S. Oates	Gulf Oil Corp.	1955	--	12	Rustler formation	--	416.0	Nov. 21, 1957	N	N	Oil test.
*Z-72	do	Art Powell	--	500	5	Pecos aquifer	--	300	May 1947	C,W	S	
*Z-73	K. C. Buchanan	R. A. Cleveland	1941	726	8	do	--	422.6	June 21, 1947	C,W	S	Temp. 74°F.
Z-74	W. F. Buchanan	Stephens Drilling Co.	1956	1,847	16	--	3,320	272.2	Jan. 28, 1958	N	N	2/
Z-75	W. I. Buchanan	--	--	--	18	Pecos aquifer	3,338	301.8 304.6	Jan. 28, 1958 Jan. 24, 1959	T,G	Irr	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
Z-76	W. I. Buchanan	Stephens Drilling Co.	1956	702	16	Pecos aquifer	3,367	310.6	Jan. 28, 1958	T,G	Irr	Casing: 16-in. to 90 ft. Discharge reported about 2,000 gpm July 1957. 2/
Z-77	do	do	1956	693	16	do	3,377	316.5 320.9	Jan. 28, 1958 Jan. 24, 1959	T,G, 450	Irr	2/
*Z-78	A. F. Buchanan	R. A. Cleveland	--	840	6	do	--	382.7 392.8	June 21, 1947 June 27, 1958	C,W	S	Sand reported from 780 ft. to bottom. Temp. 77°F.
Z-79	do	--	1958	846	--	do	3,425	--	--	N	N	1/
Z-80	Elsinore Cattle Co.	Hunt Oil Co.	--	2,459	--	--	3,508	--	--	N	N	Oil test. 1/
Z-81	do	do	1950	1,710	--	--	3,582	390	1950	N	N	do
Z-82	do	--	1918	700	8	Pecos aquifer	--	450	1958	C,W	S	
Z-83	do	Hunt Oil Co.	1949	2,057	--	--	3,523	--	--	N	N	Oil test. 2/
Z-84	J. S. Oates	Pure Oil Co.	1947	1,852	12, 7	--	3,617	--	--	--	--	Oil test. Abandoned. Sand reported at 280 ft., and from 670 to 690 ft. Water reported at 1,385 ft. and 1,780 ft.
Z-85	Elsinore Cattle Co.	Hunt Oil Co.	--	1,000	8	--	--	400	1958	C,W	S	
*Z-86	do	--	--	450	8	Pecos aquifer	--	300	1958	C,W	S	Temp. 73°F.
Z-87	Mrs. Ruth Pfiester	R. L. Cleveland	1956	674	7	do	3,476	304.5	Sept.23, 1958	C,W	S	
AA-1	Comanche Farms	Gray Bros.	1956	589	16	do	3,153	150.5	Jan. 15, 1958	T,G	Irr	Casing: 16-in. to 191 ft. Discharge measured 774 gpm Mar. 29, 1956. Temp. 75°F.
AA-2	do	--	--	--	--	do	3,134	143.1 154.9 153.3	Dec. 16, 1955 Mar. 21, 1956 Jan. 15, 1958	T,-	N	
AA-3	do	A. N. Lockey	1956	312	16	do	3,147	153.3 148.2	Jan. 15, 1958 Jan. 23, 1959	T,G, 70	Irr	
*AA-4	A. F. Buchanan	Stephens Drilling Co.	1955	520	16	do	3,196	158.5 172.5 178.0	Dec. 15, 1955 Jan. 30, 1958 Jan. 24, 1959	T,G	Irr	Discharge measured 1,171 gpm Mar. 30, 1956. Perforated from 250 to 280 ft.
AA-5	A. L. Price	--	1915	198	--	do	3,208	163.3	Jan. 15, 1942	C,W	D,S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
AA-6	Bill Wills	R. T. Mullican	1957	1,553	18, 8	Rustler formation	3,154	87.7	June 18, 1958	--	N	Casing from 0 to 1,321 ft. Discharge reported about 250 gpm. Drilled for irrigation. 1/
AA-7	McDonald and Wills	Stanley Lewis	1956	600	--	Pecos aquifer	3,156	--	--	N	N	Discharge reported 250 gpm. Originally drilled to 416 ft.; deepened to 600 gt. in 1957. Drilled for irrigation. 2/
AA-8	Dow Puckett	Helmerich and Payne	1938	3,502	--	--	3,185	--	--	N	N	Oil test. 2/
AA-9	Toreador Oil Co.	Toreador Oil Co.	1957	300	6	Pecos aquifer	--	246.5	May 20, 1958	C,G	N	
AA-10	do	do	1958	1,300	9	Rustler formation	--	183.7	do	N	N	
AA-11	Dow Puckett	R. A. Cleveland	--	300	--	Pecos aquifer	--	139.0	Nov. 16, 1946	C,W	S	Junk well.
*AA-12	do	Permian Drilling Co.	--	410	--	do	3,344	--	--	N	N	Oil test. 1/
AA-13	do	R. A. Cleveland	1938	380	--	do	--	367.1 263.4	Dec. 15, 1957 May 19, 1958	C,W	S	Wildcat Mill. Temp. 70°F.
*AA-14	do	--	--	325	8	do	3,344	283.8 329.4	Nov. 16, 1946 May 19, 1958	C,W	D,S	Old Headquarters well. Temp. 82°F.
*AA-15	do	R. A. Cleveland	1938	220	--	do	--	219.2	May 17, 1958	C,W	S	
AA-16	University of Texas	do	--	265	4	do	3,239	224.5 226.4 223.6	Nov. 18, 1946 July 22, 1948 Nov. 4, 1949	C,W	S	Bull Mill well. Temp. 70°F.
*AA-17	do	Perry Jones	--	211	6	do	3,126	150.6	Aug. 28, 1949	C,W	S	Temp. 70°F. 2/
AA-18	Mrs. Rhoda Kelly	do	1947	218	6	do	3,123	112.0 137.1	Nov. 24, 1949 May 16, 1958	C,W	S	do
AA-19	Jeff B. Wade	-- Ryan	--	280	--	do	--	201.1	May 24, 1958	C,W	S	
AA-20	-- Wright	-- Gallion	1949	--	--	do	--	223.0	Feb. 4, 1950	N	N	Formerly used to supply water for oil-well drilling. Temp. 69°F.
AA-21	Mrs. Rhoda Kelly	--	--	300	--	do	3,196	264.4	May 16, 1958	C,W	S	Temp. 68°F.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*AA-22	Jeff B. Wade	F. M. Gorman	1944	360	7	Pecos aquifer	--	335 221.5	Nov. 1946 May 24, 1958	C,W	S	Casing: 7-in. to 40 ft. Temp. 71°F.
*AA-23	Mrs. Rhoda Kelly	--	--	416	4	do	--	392.0	Apr. 16, 1937	C,W	D,S	Deepened to 418 ft. in 1945. Temp. 70°F.
AA-24	J. R. Wade	F. M. Gorman	1943	400	12, 10	do	--	346.4 347.8 346.0	Nov. 13, 1946 Jan. 14, 1950 May 24, 1958	C,W	S	Temp. 68°F.
AA-25	Jeff B. Wade	Lawrence Ryan	--	370	--	do	--	316.7	May 25, 1958	C,W	S	
AA-26	do	do	1947	438	3	do	--	--	--	C,W	S	Casing: 3-in. to 60 ft. Temp. 69°F.
*AA-27	do	F. M. Gorman	1940	418	4	do	--	352 391.1	Nov. 1946 Jan. 12, 1950	C,W	S	Casing: 4-in. to 167 ft. Temp. 70°F.
*AA-28	Mrs. Rhoda Kelly	Perry Jones	--	427	--	do	--	347.0 380	Jan. 16, 1950 May 1958	C,W	S	Temp. 71°F. 2/
*AA-29	do	L. B. Ryan	1945	490	4	do	--	309.7 343.4 365.9	Nov. 13, 1946 Jan. 16, 1950 May 6, 1958	C,W	S	Cased to bottom. Temp. 71°F.
*AA-30	Dow Puckett	R. L. Cleveland	1940	400	--	do	--	410.7	May 19, 1958	C,W	S	Corner well.
*AA-31	do	--	--	540	6	do	3,407	402.4	May 16, 1958	C,W	D,S	Casing: 6-in. to 20 ft. Ranch House well. Temp. 72°F.
AA-32	do	Humble Oil & Refining Co.	1944	3,220	10	do	3,400	396.6	May 12, 1958	C,W	S	Oil test. Casing: 10-in. to 440 ft. Plugged at 600 ft. and used to supply water for stock. Temp. 70°F.
AA-33	A. C. Mitchell	--	--	245	6	do	3,288	227.1	June 15, 1942	C,W	D,S	
*AA-34	Dow Puckett	R. L. Cleveland	--	580	--	do	--	283.6 319.8	Nov. 18, 1946 May 16, 1958	C,W	S	West well. Temp. 74°F.
AA-35	Elsinore Cattle Co.	Hunt Oil Co.	1949	1,922	--	--	3,485	--	--	N	N	Oil test. 1/
AA-36	do	do	1952	1,690	--	--	3,861	--	--	N	N	do
AA-37	do	do	1951	1,516	--	--	3,445	385	Mar. 1951	N	N	Oil test. 2/
AA-38	do	do	1949	1,566	--	--	3,394	--	--	N	N	Oil test. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
AA-39	Elsinore Cattle Co.	Hunt Oil Co.	1949	1,075	--	--	3,443	--	--	N	N	Oil test. 2/
AA-40	do	--	1928	550	8	Pecos aquifer	--	450	1958	C,W	S	
AA-41	do	--	1900	370	8	do	--	300	1958	C,W	S	
AA-42	do	Hunt Oil Co.	1949	2,513	--	--	3,334	255.0	Nov. 15, 1949	N	N	Oil test. 2/
AA-43	do	do	1951	1,150	--	--	3,370	295	June 1951	N	N	do
AA-44	do	do	1952	1,501	--	--	3,301	--	--	N	N	Oil test. 1/
AA-45	do	do	--	1,326	--	--	3,412	475	Feb. 1950	N	N	do
*BB-1	Jeff B. Wade	F. M. Gorman	1942	400	8	Pecos aquifer	3,123	217.0 215.5 221.1	Nov. 13, 1946 May 24, 1958 Jan. 26, 1959	C,W	S	Temp. 67°F.
BB-2	R. H. Price	Gulf Oil Corp.	1956	16,196	--	--	3,172	--	--	N	N	Oil test.
*BB-3	A. L. Price	Virgil Ryan	1941	270	8	Pecos aquifer	3,119	70.0 186.7	Nov. 15, 1946 May 29, 1958	C,W	S	Temp. 70°F.
*BB-4	do	--	--	300	6	do	--	46.6	Nov. 15, 1946	C,W	S	Old Ranch Mill well. Temp. 71°F.
BB-5	H. L. Winfield	LaGloria Corp.	1948	2,751	--	--	3,055	--	--	N	N	Oil test.
BB-6	do	--	1902	300	6	Pecos aquifer	--	111.4	May 2, 1947	C,W	D,S	
BB-7	do	R. A. Cleveland	--	405	6	do	--	--	--	C,W	S	Casing: 6-in. to 300 ft.
BB-8	University of Texas	--	--	--	--	do	--	161.4	June 11, 1958	C,W	S	Buck Pasture Mill well.
BB-9	do	--	--	--	--	do	--	261.9	June 10, 1958	C,W	S	
BB-10	do	--	--	--	--	do	--	285.8	June 11, 1958	C,W	S	Pipeline Mill well.
*BB-11	do	Art Powell	1938	375	--	do	--	263.5	do	C,W	S	Temp. 67°F.
BB-12	Maud S. Saenger	Hugh Gray	1928	320	--	do	--	--	--	C,W	S	West Mill well.
*BB-13	E. B. Carson	R. A. Cleveland	1941	430	--	do	--	400 392.2	Nov. 1946 Mar. 18, 1957	C,W	S	East well.
BB-14	H. L. Winfield	Ed Ligon	--	340	--	do	--	--	--	C,W	S	
*BB-15	E. B. Carson	--	1906	295	8	do	3,164	262.5	June 16, 1942	C,W	D,S	Old Martin Place Mill well.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
BB-16	A. L. Price	Lawrence Ryan	1944	305	--	Pecos aquifer	--	273.5 225.3	Nov. 15, 1946 May 29, 1958	C,W	S	Temp. 70°F.
BB-17	Jeff B. Wade	do	--	296	--	do	--	240 230.8	Apr. 1937 May 24, 1958	C,W	D,S	Temp. 68°F.
*BB-18	A. L. Price	Virgil Ryan	--	277	8	do	--	266.3 209.7	Nov. 15, 1946 May 29, 1958	C,W	S	Temp. 73°F.
*BB-19	Jeff B. Wade	F. M. Gorman	1945	375	7	do	--	275.4 281.9	Nov. 13, 1946 May 24, 1958	C,W	S	Cased to bottom. Temp. 73°F.
*BB-20	Jack Allison	Hugh Gray	1950	340	8	do	3,400	310	1958	C,W	S	Casing: 8-in. to 20 ft.
BB-21	J. C. Montgomery	--	--	525	--	do	--	--	--	C,W	S	
BB-22	do	Hugh Gray	--	320	--	do	3,298	298.3	Feb. 26, 1958	C,W	D,S	
BB-23	do	--	--	525	--	do	--	450	1957	C,W	S	
BB-24	do	Phillips Petroleum Co.	1957	1,400	8	--	--	--	--	T,G	Ind	Supplied water for drilling oil-test.
BB-25	do	do	1957	1,100	8	--	--	--	--	T,G	Ind	do
BB-26	do	--	--	700	--	--	--	540	1957	C,W	S	
BB-27	-- Scharbauer	Southern Crude Oil Co.	1928	4,232	--	--	3,580	--	--	N	N	Oil test. 1/
BB-28	J. C. Montgomery	Hugh Gray	--	630	--	Pecos aquifer	--	575	1958	C,W	S	
BB-29	do	--	--	525	--	do	--	--	--	C,W	S	
*BB-30	E. B. Carson	Hugh Gray	1925	450	--	do	--	400	Nov. 1946	C,W	S	Temp. 71°F.
BB-31	Maud S. Saenger	--	1928	720	--	do	--	700	Mar. 1957	C,W	S	
CC-1	University of Texas	Pan-American Petroleum Corp.	1956	21,687	--	--	2,993	--	--	N	N	Oil test.
CC-2	do	--	--	--	--	Pecos aquifer	--	239.9	June 10, 1958	C,W	S	New Mill well.
CC-3	do	--	--	--	--	do	--	212.8	do	C,W	S	High Mill well.
CC-4	do	--	--	--	--	do	--	245.9	do	C,W	S	South Linger Mill well.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
CC-5	University of Texas	--	--	--	--	Pecos aquifer	--	249.0	June 11, 1958	C,W	S	Little Mill well.
*CC-6	do	Art Powell	1939	300	6	do	--	163.8	June 10, 1958	C,W	S	Cased to bottom. Temp. 71°F.
CC-7	do	R. A. Cleveland	--	300	--	do	--	118.7	July 11, 1957	C,W	S	
CC-8	Lard B. McKenzie	do	--	300	--	do	--	153.6	do	C,W	S	Hill Trap Mill well.
*CC-9	Alph Harral	--	--	300	6	do	--	188.8	May 7, 1947	C,W	S	West Pasture well.
*CC-10	Mrs. Laro B. McKenzie	--	--	375	6	do	2,998	202.7	July 11, 1957	C,W	D,S	
CC-11	University of Texas	--	--	143	--	do	--	136.1	do	C,W	S	
CC-12	do	--	--	103	--	do	--	49.5	do	C,W	S	
CC-13	J. L. Nutt	Phillips Petroleum Co.	1941	2,584	--	--	--	--	--	N	N	Oil test. 2/
CC-14	do	do	1930	2,717	--	--	--	--	--	N	N	Oil test. 1/
CC-15	Philip Robbins	--	--	460	8	Pecos aquifer	--	431.9	Aug. 20, 1958	C,W	S	
CC-16	L. H. Heyman	Phillips Petroleum Co.	1958	4,615	--	--	--	--	--	N	N	Oil test. 2/
CC-17	J. W. Robbins	--	--	550	6	Pecos aquifer	--	520	1959	C,W	S	
CC-18	do	--	--	750	6	do	--	730	1959	C,W	S	
CC-19	do	Garland Oil Co.	1927	3,501	--	--	--	--	--	N	N	Oil test. 2/
CC-20	do	Gulf Oil Corp.	1957	--	--	--	3,432	--	--	N	N	do
CC-21	Gulf Oil Corp.	Bower Drilling & Welding Co.	1955	573	10	Pecos aquifer	3,204	514.0	Mar. 13, 1957	-,G	Ind	Casing: 10-in. to 561 ft. Drilled to supply water for oil test. 1/
CC-22	do	Gulf Oil Corp.	1955	543	10	do	3,204	510.0	Dec. 10, 1955	C,G	Ind	Casing: 10-in. to 32 ft. Drilled to supply water for oil test. 2/
CC-23	do	C. & H. Drilling Co.	1956	560	7	do	3,208	480	1956	C,G	Ind	Casing: 7-in. to 498 ft. Drilled to supply water for oil test. 2/
CC-24	J. W. Robbins	Gulf Oil Corp.	1956	538	10	do	3,208	500.0	July 25, 1956	C,W	Ind	Casing: 10-in. to 24 ft. Drilled to supply water for oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
CC-25	J. W. Robbins	Gulf Oil Corp.	--	530	--	Pecos aquifer	--	--	--	N	N	Drilled to supply water for oil test.
CC-26	do	Parker Drilling Co.	1957	633	13	do	3,140	460	Sept. 1958	C,G	Ind	do
CC-27	do	--	--	465	--	do	--	430	1957	C,W	D,S	
CC-28	do	Gulf Oil Corp.	1956	--	--	--	3,266	--	--	N	N	Oil test. 2/
CC-29	Frank McKenzie	Red Bank Oil Co.	1927	3,512	--	--	3,277	--	--	N	N	Oil test. 1/
CC-30	J. W. Robbins	--	--	450	6	Pecos aquifer	--	--	--	C,W	S	
CC-31	do	--	--	400	6	do	--	370	1958	C,W	S	
*CC-32	Philip Robbins	--	1900	283	--	do	--	243	Aug. 1958	T,E	D,S	
CC-33	do	--	--	350	8	do	--	320	1958	C,W	S	
CC-34	Maud S. Saenger	C. L. Scharbauer	--	340	--	do	--	--	--	C,W	D,S	
CC-35	Philip Robbins	--	--	401	--	do	--	365	1957	C,W	S	
CC-36	M. C. Puckett	R. A. Cleveland	1938	440	--	do	--	410	Feb. 1957	C,W	S	Little Mill well.
CC-37	do	D. Cleveland	1952	723	--	do	--	690	Feb. 1957	C,W	S	Water reported in sand at 690 ft. Divide well.
CC-38	do	--	1940	650	--	do	--	620	1956	N	N	Mutton Mill well.
DD-1	L. M. Rooney	Dobbs Oil Co.	1936	2,639	--	--	--	--	--	N	N	Oil test. 2/
*DD-2	University of Texas	--	--	385	--	Pecos aquifer	--	210 219.5	Feb. 1947 July 3, 1957	C,W	S	Escondido Mill well.
DD-3	C. R. McKenzie	--	--	300	8	do	--	185	July 1957	C,W	S	Casing: 8-in. to 150 ft.
DD-4	Jasper County School Lands	--	--	425	--	do	--	395	June 1958	C,W	S	Pump set at 410 ft. Canyon well.
DD-5	do	Brown and Schooler	1935	722	--	do	--	700	1957	C,W	S	Pump set at 715 ft.
DD-6	do	Buell and Hagan	1927	2,902	--	--	3,315	--	--	N	N	Oil test. 1/
*DD-7	Lloyd Ligon	--	1902	300	6	Pecos aquifer	2,771	293.7	June 11, 1958	C,W	S	Juan well.
DD-8	do	--	1941	554	--	do	--	525	June 1958	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level			Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement				
DD-9	S. Parke, Jr. Estate	--	1945	656	--	Pecos aquifer	--	635		1956	C,W	S	East well.
*DD-10	Lloyd Ligon	--	1926	565	6	do	--	545		1958	C,W	D,S	Headquarters well.
DD-11	Jasper County School Land	--	--	523	--	do	--	495	June	1958	C,W	S	Pump set at 515 ft.
DD-12	do	--	1935	635	--	do	3,210	600		1958	C,W	S	Pump set at 625 ft. Jasper well.
DD-13	do	--	--	585	--	do	--	550	June	1958	C,W	S	
DD-14	do	Ungren & Frazier	1944	2,792	--	--	--	--	--		N	N	Oil test. 2/
DD-15	Dow Puckett	Sloan & Zock Co.	1937	2,973	--	--	--	--	--		N	N	Oil test. 1/
DD-16	Helen Harrel	--	1938	615	--	Pecos aquifer	3,241	535		1957	C,W	S	Pump set at 560 ft.
DD-17	Ada C. Price	--	1937	745	--	do	3,390	700		1956	C,W	S	Pump set at 720 ft.
DD-18	Walton Harrel	Pan-American Petroleum Corp.	1938	700	7	do	3,120	430		1958	C,W	S	Pump set at 455 ft.
DD-19	do	Stanolind Oil Co.	1938	680	--	do	--	630		1957	N	N	Formerly supplied water for oil test.
*DD-20	Helen Hokit	--	1949	587	--	do	--	537		1958	C,W	D,S	Pump set at 555 ft.
DD-21	--	--	1932	440	8	do	--	404		1956	C,W	S	Pump set at 425 ft.
DD-22	Stanolind Oil Co.	Stanolind Oil Co.	--	--	--	--	--	--	--		N	N	Oil test. 2/
DD-23	--	--	1938	715	--	Pecos aquifer	--	685		1958	C,W	S	
DD-24	--	Pan-American Petroleum Corp.	--	--	8	--	3,112	--	--		N	N	Oil test. 2/
DD-25	W. C. Mitchell	R. A. Cleveland	1943	500	--	Pecos aquifer	--	--	--		C,W	S	
DD-26	do	--	1941	700	--	do	--	--	--		C,W	S	
DD-27	do	--	1941	700	6	do	--	520	May	1947	C,W	S	
DD-28	do	--	1941	650	--	do	--	--	--		C,W	S	
*DD-29	Claude Owens	Hugh Gray	1941	500	6	do	3,218	470	May	1947	C,W	S	
DD-30	W. C. Mitchell	--	--	600	6	do	--	570	May	1947	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
DD-31	M. C. Puckett	Layne-Texas Co.	1956	850	16	Pecos aquifer	3,266	--	--	N	N	Casing: 16-in. to 50 ft. 1/
DD-32	do	Frank Gillian	1953	850	--	do	--	--	--	T,-, 100	Ind	Discharge reported 300 gpm.
DD-33	do	Layne-Texas Co.	1956	864	16, 12	do	3,292	600	Feb. 1957	T,E, 100	D,P, Ind	Casing: 16-in. to 40 ft., 12-in. to 746 ft. Discharge reported 315 to 376 gpm.
DD-34	do	Frank Gillian	1953	850	--	do	--	--	--	T,-	D,Ind	
*DD-35	W. C. Mitchell	--	--	480	6	do	--	450	May 1947	C,W	D,S	
*EE-1	Bill McKenzie	--	--	400	--	do	--	350	Oct. 1958	C,W	S	Temp. 73°F.
*EE-2	do	--	--	278	5	do	--	--	--	C,W	S	Temp. 67°F.
EE-3	T. N. McKenzie	Dixie Oil Co.	1929	2,680	--	--	3,172	--	--	N	N	Oil test. 1/
*EE-4	Mary Carter	--	--	278	6	Pecos aquifer	--	258.1	Apr. 15, 1947	C,W	S	Supplies water for garden. Temp. 70°F.
EE-5	do	--	--	--	8	do	--	400	Oct. 1958	C,W	S	
EE-6	R. R. King	J. F. Sullivan	--	419	--	do	--	--	--	C,W	S	1/
EE-7	J. W. Owen	-- Rowan	--	400	6	do	--	360	Apr. 1947	C,W	S	Originally drilled as oil test; plugged back from 2,495 ft. to 400 ft.
EE-8	M. A. Sherbino et al	Dixie Oil Co.	1925	1,742	--	--	2,872	--	--	N	N	Oil test. 2/
*EE-9	Sherbino Estate	--	--	476	8	Pecos aquifer	--	450	Sept. 1958	C,W	S	
EE-10	do	--	--	800	8	do	--	400	Sept. 1958	C,W	S	
EE-11	do	--	--	375	--	do	--	350	Sept. 1958	C,W	D,S	
EE-12	-- Menzie	Fort Stockton Pioneer Co.	1926	365	6	--	2,820	300	May 1947	N	N	Originally drilled as oil test; plugged back from 3,745 ft. to 365 ft.
EE-13	Priest & Beaver	--	--	360	--	Pecos aquifer	2,803	294.6	Sept. 2, 1958	C,W	S	
EE-14	Sherbino Bros.	Transcontinental Oil Co.	1924	1,701	--	--	2,853	--	--	N	N	Oil test. 1/
EE-15	Priest & Beaver	--	--	360	--	Pecos aquifer	--	340	July 1958	C,W	D,S	Pump set at 350 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
EE-16	Priest & Beaver	--	--	360	6	Pecos aquifer	--	340	1958	C,W	S	
EE-17	Sherbino Estate	--	--	400	--	do	--	375	Sept. 1958	C,W	S	
*EE-18	do	Fred Gorman	1944	659	6	do	--	600	May 1947	C,W	S	
*EE-19	Arthur Harral	Oleander Oil Co.	1927	720	--	do	--	500	May 1947	C,W	S	Originally drilled as oil test; plugged back from 3,001 ft. to 720 ft.
*EE-20	do	R. L. Cleveland	1946	600	--	do	3,097	525	May 1947	C,G	S	
EE-21	Sherbino Estate	--	--	400	--	do	--	350	Sept. 1958	C,W	S	
EE-22	do	Ed Sullivan	--	400	--	do	--	475	Sept. 1958	C,W	S	
*EE-23	Arthur Harral	Lloyd Ligon	1915	480	6	do	--	400	May 1947	C,W	D,S	
EE-24	G. M. Harral Estate	R. L. Cleveland	1937	400?	--	do	--	380	June 1957	C,W	S	
EE-25	Sherbino Estate	--	--	684	6	do	--	600	1958	C,W	S	
EE-26	do	--	--	565	--	do	--	500	Sept. 1958	C,W	S	
EE-27	G. M. Harral Estate	Ligon Bros.	--	450	--	do	--	430	June 1957	C,W	S	
EE-28	do	Olean Petroleum Co.	1928	4,030	--	--	3,005	--	--	N	N	Oil test. 1/
EE-29	do	--	1905	450	--	Pecos aquifer	--	430	June 1957	C,W	D,S	
EE-30	do	R. L. Cleveland	1945	400	--	do	--	380	June 1957	C,W	S	
EE-31	--	Perry Jones	1946	460	6	do	--	410	June 1958	C,W	S	
EE-32	F. P. Montgomery	--	--	515	--	do	--	--	--	C,W	S	
EE-33	do	--	1940	510	--	do	2,952	410.0	Oct. 20, 1958	C,W	S	
EE-34	Will Harral Estate	-- Ryan	1946	450	--	do	2,980	375	June 1957	C,W	D	
EE-35	do	Circle Oil Co.	--	321	--	do	2,852	303	June 1957	N	N	Drilled as oil test; plugged back from 3,950 ft. to 321 ft. 1/
EE-36	do	--	1940	350	--	do	--	300	June 1957	C,W	S	
EE-37	do	--	1940	450	--	do	--	339.6	June 25, 1957	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
EE-38	-- Moody	--	--	2,965	--	--	2,991	--	--	N	N	Oil test. 1/
EE-39	G. A. Henshaw	--	1927	2,517	--	--	2,980	595	1927	N	N	do
FF-1	Priest and Beaver	R. L. Cleveland	--	360	6	Pecos aquifer	--	300	1958	C,W	S	
*FF-2	Sherbino Estate	do	1939	503	6	do	--	440	May 1947	C,W	S	
FF-3	do	--	--	500	--	do	--	450	Sept. 1958	C,W	S	
FF-4	do	--	--	600	8	do	--	575	Sept. 1958	C,W	S	
FF-5	do	--	--	400	6	do	--	375	Sept. 1958	C,W	S	
FF-6	F. A. Perry	--	1949	630	--	do	--	600	May 1957	C,W	S	
*FF-7	do	Cooper and Wheeler	--	626	--	do	--	590	May 1947	C,W	S	Drilled as oil test.
*FF-8	do	--	1903	485	6	do	--	460	May 1947	C,W	D,S	
*FF-9	do	R. L. Cleveland	1940	590	6	do	--	565	May 1947	C,W	S	
FF-10	do	Mays-Maxon Oil Co.	--	2,085	--	--	--	--	--	N	N	Oil test. 1/
FF-11	do	--	1945	650	--	Pecos aquifer	--	620	May 1957	C,W	S	
FF-12	do	Gorman Bros.	1944	658	6	do	--	590	May 1947	C,W	S	
FF-13	Worth Odom	Hugh Gray	1930	360	6	do	--	360	May 1947	C,W	S	
FF-14	do	-- Smith	1938	634	6	do	--	620	May 1947	C,W	S	
FF-15	F. A. Perry	do	1937	320	6	do	--	270	May 1947	C,W	D,S	
FF-16	Claude Owen	--	--	250	--	do	--	230	May 1947	C,W	D,S	
FF-17	T. A. Bailey	Young Petroleum Corp.	1937	2,081	--	--	--	--	--	N	N	Oil test. 1/
FF-18	C. C. Cannon	Park Holt	1946	311	--	Pecos aquifer	--	239.8	Mar. 21, 1957	C,W	S	
FF-19	H. A. Wimberly	--	--	280	--	do	--	200	Apr. 1947	C,W	S	
FF-20	do	--	--	280	--	do	2,495	175	Apr. 1947	C,W	D,S	
FF-21	do	--	--	280	6	do	--	200.5	Apr. 29, 1947	C,W	S	
FF-22	F. A. Perry, Sr.	--	1947	650	--	do	--	620	May 1957	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*FF-23	Arthur Harral	Earl Ligon	1920	560	6	Pecos aquifer	--	540	May 1947	C,W	S	
FF-24	do	Olean Petroleum Co.	1928	3,303	--	--	3,005	--	--	N	N	Oil test. 1/
*FF-25	do	Stanolind Oil Co.	1943	440	6	Pecos aquifer	--	400	May 1947	C,G, 6	S	Drilled to supply water for oil test.
FF-26	Worth Odom	R. L. Cleveland	1941	185	6	do	--	160.8	May 1, 1947	C,W	S	Casing: 6-in. to 30 ft.
FF-27	Arthur Harral	do	1946	375	6	do	--	300	May 1947	--	S	
FF-28	do	Earl Ligon	1920	580	6	do	--	580	May 1947	C,W	D,S	
*FF-29	do	R. L. Cleveland	1940	600	6	do	--	525	May 1947	C,W	S	
FF-30	do	do	1940	785	6	do	--	600	May 1947	C,W	S	
FF-31	Blackstone and Slaughter Estate	--	--	--	--	do	--	--	--	C,W	S	Drilled to sand. Couch Mill well.
FF-32	do	--	--	--	--	do	--	--	--	C,W	S	Drilled to sand. Divide Mill well.
FF-33	do	--	--	500	--	do	--	411.9	May 14, 1957	C,W	S	Drilled to sand. Hrat Mill well.
FF-34	do	--	--	--	--	do	--	--	--	C,W	S	Drilled to sand. Shearing Pen Mill well.
FF-35	do	--	--	--	--	do	--	--	--	C,W	S	Drilled to sand. Little Mill well.
FF-36	do	Arkansas Fuel Oil Co.	1925	3,395	--	--	--	--	--	N	N	Oil test. 1/
FF-37	do	Sides and Cloyd	1943	3,395	--	--	--	--	--	C,W	S	Old Oil well.
FF-38	do	--	--	--	--	--	--	278.2	Mar. 14, 1957	C,W	S	Drilled to sand. Plank Gate well.
FF-39	do	--	--	--	--	--	--	--	--	C,W	S	Middle well.
FF-40	do	--	--	--	--	--	--	--	--	C,W	S	Jonah Mill well.
GG-1	F. A. Perry	--	1925	2,990	15	--	2,563	--	--	N	N	Oil test. 2/
GG-2	C. C. Cannon	--	--	270	--	Pecos aquifer	--	230	May 1957	C,W	S	Roy Mill well.
GG-3	do	Park Holt	1946	298	--	do	--	191.4	Mar. 21, 1957	C,W	S	Javelina Mill well.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
GG-4	C. C. Cannon	--	--	100	6	Pecos aquifer	--	149.4	May 21, 1957	N	N	
*GG-5	do	--	--	300	--	do	--	190.9 195.8	May 1, 1947 May 21, 1957	C,W	S	North McKinley well.
GG-6	do	Park Holt	1945	326	--	do	--	283.9	May 21, 1957	C,W	S	North Mill well.
GG-7	--	Seventy five Oil & Gas Co.	1927	300	10	do	--	--	--	N	N	Oil test. 2/
GG-8	Holmes and Monroe	R. A. Cleveland	1937	680	--	do	--	635 600	Apr. 1947 Mar. 1957	C,W	S	
GG-9	Herbert Holmes	O. A. Smith	1944	250	--	do	--	229.4	Mar. 25, 1957	C,W	S	
GG-10	John Monroe	-- Pruitt	1940	250	--	do	--	235.6	do	C,W	S	
GG-11	M. Holmes	Arkansas Fuel Oil Co.	1927	3,044	--	--	--	--	--	N	N	Oil test. 1/
*GG-12	John Monroe	--	1920	250	--	Pecos aquifer	--	200 200	Apr. 1947 Mar. 1957	C,E, ½	D,S	Monroe House well. Temp. 72°F.
GG-13	do	-- Pruitt	1940	180	--	do	--	141.0	Mar. 25, 1957	C,W	S	
GG-14	Millard Holmes	-- Franklin	1950	130	--	do	--	115.1	Mar. 29, 1957	C,W	S	Cased to 40 ft.
GG-15	do	-- Pruitt	1953	130	--	do	--	--	--	C,W	S	Cased to bottom.
GG-16	do	Texas Highway Department	1937	100	--	do	--	75	1957	C,W	S	do
GG-17	do	J. E. Smith	1951	100	18	do	--	50.3 47.3	Jan. 26, 1954 Jan. 28, 1959	N	N	Casing: 18-in. to 98 ft. Originally drilled as oil test; plugged back to 100 ft. 3/
GG-18	do	Gibbs Bros.	1951	100	--	do	--	40.3	Mar. 26, 1957	T,G, 375	Irr	Cased to bottom.
GG-19	do	--	1936	135	--	do	--	124.6	Mar. 25, 1957	C,W	S	
GG-20	Manley Holmes	Bob Elmore	1927	2,010	8	--	2,176	--	--	N	N	Oil test. Casing: 8-in. to 515 ft. 1/
GG-21	Millard Holmes	Tommy Gibbs	1955	90	--	Pecos aquifer	--	48.1 46.5	Jan. 25, 1954 Dec. 18, 1957	T,G	Irr	Discharge reported 370 gpm in March 1957. 3/
GG-22	do	-- House	1939	70	--	do	--	37.5	Mar. 26, 1957	C,W	D,S	Cased to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
GG-23	Herbert Holmes	-- Smith	--	25	--	Pecos aquifer	2,119	22.8	Oct. 20, 1958	T,E, l	D	Supplies water for small orchard.
*GG-24	do	Texas Highway Department	1935	50	5	do	--	30	Mar. 1957	C,W	S	Cased to bottom. Temp. 72°F.
GG-25	Herbert Holmes	--	--	130	--	do	--	86.0	Mar. 27, 1957	C,W	D,S	
GG-26	do	O. A. Smith	1942	172	--	do	--	147 130	Apr. 1947 Mar. 1957	C,W	S	
GG-27	John Monroe	-- Pruitt	1943	180	5	do	--	149.2	Mar. 26, 1957	C,W	S	Cased to bottom.
GG-28	do	-- Looney	1932	--	--	do	--	196.7	do	C,W	S	
*GG-29	Herbert Holmes	-- McMahan	1946	240	--	do	--	180 180	Apr. 1947 Mar. 1957	C,W	S	Casing: 5-in. to 100 ft.
GG-30	do	-- Smith	1940	250	--	do	--	210.7	Mar. 29, 1957	C,W	S	
GG-31	do	N. C. House	1944	180	8, 5	do	--	143.3	Apr. 28, 1947	C,W	S	Casing: 8-in. to 70 ft.; 5-in. from 70 ft. to bottom.
GG-32	C. C. Cannon	--	--	280	--	do	--	132.5	Mar. 21, 1957	C,W	S	Fish Tail Mill well.
GG-33	do	--	--	186	--	do	2,394	158.4	May 21, 1957	C,W	D,S	
*GG-34	do	Park Holt	1945	303	6	do	2,478	252.9	May 20, 1957	C,W	S	Casing: 6-in. to 60 ft.
GG-35	Blackstone and Slaughter Estate	--	--	440	7	do	2,588	339.1	May 14, 1957	C,W	S	
GG-36	C. C. Cannon	Kershaw and Livingston	1928	2,565	--	--	2,297	--	--	N	N	Oil test. 1/
GG-37	do	do	--	650	--	Pecos aquifer	--	449.1	May 20, 1957	C,W	S	Originally drilled to 2,571 ft.; plugged back to 650 ft.
GG-38	do	Park Holt	1945	232	--	do	--	203.2	do	C,W	S	
GG-39	do	--	--	230	--	do	--	177.9	do	C,W	S	
*GG-40	T. G. Thigpen	--	--	210	6	do	2,270	93.6 95.5	Apr. 29, 1947 Mar. 20, 1957	C,W	D,S	
GG-41	do	--	--	200	6	do	--	66.8 82.7	Apr. 26, 1947 Mar. 20, 1957	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
GG-42	J. M. Holmes	Hightower Oil & Refining Co.	1937	3,048	--	--	--	--	--	N	N	Oil test. 1/
GG-43	T. G. Thigpen	--	--	--	--	Pecos aquifer	--	200	Mar. 1957	C,W	S	
GG-44	do	--	--	100	--	do	--	70.0	Mar. 20, 1957	C,W	S	
GG-45	do	--	--	--	--	do	--	92.8	do	C,W	S	
GG-46	M. B. Monroe	--	--	--	--	do	2,204	56.8	do	C,W	S	
GG-47	do	Southern Union Gas Co.	1944	2,216	--	--	2,265	--	--	N	N	Oil test. 2/
GG-48	do	M. B. Monroe	1950	9	--	Pecos aquifer	--	4.8	Mar. 21, 1957	C,G	S	Dug.
*GG-49	Mrs. Jerry Monroe	Gibbs Bros.	1915	40	--	do	--	24.6	Apr. 22, 1947	T,E, 1/2	D	Temp. 72°F.
GG-50	do	--	--	45	--	do	--	--	--	C,W	S	
GG-51	do	--	--	45	--	do	--	--	--	C,W	S	
GG-52	do	--	1954	--	--	do	--	25.1	Mar. 21, 1957	N	N	
GG-53	do	--	--	45	--	do	--	40.7	do	C,W	D,S	
GG-54	do	N. C. House	1943	175	6	do	--	148.0 149.9	Apr. 22, 1947 Mar. 21, 1957	C,W	S	Temp. 76°F.
GG-55	do	--	--	60	6	do	--	38.5 38.1	Dec. 13, 1946 Mar. 20, 1957	C,W	S	
*GG-56	do	N. C. House	1930	150	--	do	--	96.0 92.2 92.3	Dec. 13, 1946 Apr. 24, 1947 Mar. 21, 1957	C,W	S	Temp. 73°F.
GG-57	do	--	--	134	--	do	--	124.9	Mar. 21, 1957	C,W	S	
GG-58	do	--	--	125	--	do	2,131	73.2	do	C,W	S	
GG-59	do	Illinois Pipeline Co.	--	52	--	do	--	44.8	do	N	N	
*GG-60	C. D. Wilson	--	--	35	36	do	--	31.9 28	Apr. 22, 1947 Mar. 1957	C,W	D,S	Dug.
GG-61	W. F. Smith	W. F. Smith	1920	26	--	do	--	24.2	Mar. 7, 1957	C,E	D	do

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
GG-62	John Garson	Hugh Gray	1950	90	--	Pecos aquifer	--	66.5	Mar. 7, 1957	C,W	D	
GG-63	W. F. Smith	--	1937	2,692	15, 8	--	--	--	--	N	N	Oil test. 2/
GG-64	Baker McGilvery	--	1958	165	--	Pecos aquifer	--	110.0	Jan. 29, 1959	N	N	
GG-65	Boyd Holmes	-- Martin	1957	250	8	do	--	115	1957	T,E	D	Casing: 8-in. to 165 ft.
*GG-66	Sheffield Public School	--	--	139	6	do	--	117.9 108.3	Apr. 22, 1947 May 22, 1957	C,E, 1	P	
GG-67	C. C. Brooks	--	1952	220	8	do	--	113.3	Jan. 28, 1959	T,E, 1½	D	Casing: 8-in. to 20 ft. Sand from 205 ft. to bottom.
GG-68	City of Sheffield	--	1953	210	--	do	--	115	1958	T,E, --	Irr	Discharge estimated 500 gpm in 1958.
GG-69	Clint Owen	--	1925	165	8	do	--	99.9	Jan. 29, 1959	T,E	D	Casing: 8-in. to 30 ft.; deepened from 145 to 165 ft. in 1955.
GG-70	Paul Morris	--	1956	188	8	do	--	99.3	do	C,W	D	Casing: 8-in. to 30 ft.
GG-71	R. L. Donham	--	1949	127	8	do	--	95	Jan. 1959	C,E	D	Casing: 8-in. to 20 ft.
GG-72	do	--	--	150	8	do	--	99.5	Jan. 29, 1959	C,W	N	do
GG-73	T. E. Autry	--	--	220	8	do	--	95.6	do	T,E	D	Casing: 8-in. to 20 ft.
GG-74	J. L. Greer	--	--	109	8	do	2,164	101.4	Jan. 28, 1959	C,W	N	
GG-75	Pedro Penalver	Cal Donaho	1959	150	8	do	--	96.0	Jan. 29, 1959	J,E	D	Casing: 8-in. to 20 ft.
GG-76	W. F. Smith	--	1906	90	--	do	--	--	--	N	N	McKay well.
GG-77	do	--	1939	75	--	do	--	65	1958	C,W	S	Highway Mill well.
GG-78	do	Hugh Gray	1946	210	--	do	--	139.8	Mar. 7, 1957	C,W	S	Canyon well.
GG-79	D. W. McKay	Brown and Hancock	1943	2,501	8, 7	--	2,157	--	--	N	N	Oil test. 1/
GG-80	W. T. McKay	Grapeland Oil Co.	1942	523	10	--	--	--	--	N	N	Oil test. 2/
GG-81	W. F. Smith	--	--	--	6	Pecos aquifer	2,132	80	Sept. 1958	C,W	S	

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*GG-82	Mrs. H. C. Noelke, Jr.	Hugh Gray	1946	180	14	Pecos aquifer	--	75.3 135	Apr. 11, 1947 Apr. 1957	T,E, 50 T,G, 70	Irr	Casing: 14-in. to 15 ft. Discharge estimated 850 gpm Apr. 24, 1957.
GG-83	do	--	1951	121	--	do	--	76	Apr. 1957	T,E, 7½	D,S, Irr	Pump set at 80 ft.
GG-84	do	Gibbs Bros.	1953	255	14	do	--	99.1 108.2	Jan. 25, 1954 Jan. 29, 1959	T,-, 185	Irr	Casing: 14-in. to 12 ft. Pump set at 205 ft. 3/
GG-85	do	--	--	250	--	do	--	124.9	Apr. 24, 1957	C,W	D,S	
GG-86	do	--	--	217	--	do	--	154.6	do	C,W	S	
GG-87	do	--	--	190	6	do	--	166.6 172.4	Apr. 30, 1947 Mar. 8, 1957	C,W	S	Sanderson Road Mill well.
GG-88	do	Reilly Texas Acreage Co.	--	3,142	--	--	--	--	--	N	N	Oil test. 2/
GG-89	do	--	--	--	--	Pecos aquifer	--	140.9	Mar. 20, 1957	C,W	S	Willow Tree well.
GG-90	T. G. Thigpen	--	--	--	--	do	--	147.9	do	C,W	S	
GG-91	do	--	--	250	--	do	--	210	Apr. 1947	C,W	S	
GG-92	Mrs. H. C. Noelke, Jr.	--	--	--	--	do	--	198.6	Mar. 8, 1957	C,W	S	Middle Mill well.
GG-93	do	--	1940	310	6	do	--	290 240	Apr. 1947 Mar. 1957	C,W	S	T. E. Mill well.
GG-94	do	Smith Bros.	1955	279	--	do	--	200	Mar. 1957	C,W	S	South Sanderson Ranch Mill well.
GG-95	Blackstone and Slaughter Estate	-- Holt	1945	401	6	do	--	276.4	May 14, 1957	C,W	S	Highway Mill well.
GG-96	do	Diamond Petroleum Co.	--	2,464	--	--	2,515	395	1920	N	N	Oil test. Top of sand at 375 ft.
GG-97	do	Ollie Smith	--	300	6	--	2,427	275.5	May 14, 1957	C,W	S	
*HH-1	Graef Bros.	John Cox	1940	480	6	Pecos aquifer	--	329	May 1947	C,W	S	Casing: 6-in. to 220 ft. Reported deepened from 359 to 480 ft. in 1954.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
HH-2	Graef Bros.	John Cox	1941	400	--	Pecos aquifer	--	397.2	June 23, 1956	C,W	S	Reported deepened twice since original drilling.
HH-3	-- Kokernot	Humble Oil & Refining Co.	--	6,100	--	--	--	--	--	N	N	Oil test. 1/
*HH-4	Graef Bros.	Eural James	1955	450	14	Pecos aquifer	--	289	Dec. 1955	T,G	Irr	Casing: 14-in. to 410 ft. Drawdown reported 5 ft. after 6½ hours pumping at about 1,200 gpm. Temp. 77°F. 1/
HH-5	do	Fred Quarles	1910	350	--	do	--	--	--	C,W	D,S	Originally drilled to 210 ft.; deepened to 350 ft.
*HH-6	Townsend Estate	--	1931	300	8	do	--	293.6	Jan. 29, 1956	C,W	N	
HH-7	Graef Bros.	Eural James	1957	740	--	do	--	288	June 1957	T,G	Irr	2/
HH-8	Elsinore Cattle Co.	Aldridge and Stroud	1956	697	16	do	--	265.2	June 29, 1956	--	Irr	Casing: 16-in. to 516 ft. Drawdown reported 3 ft. after 5 hours pumping about 1,300 gpm.
HH-9	do	Hunt Oil Co.	--	3,800	--	--	3,478	--	--	N	N	Oil test. 1/
HH-10	do	do	1949	1,396	--	--	3,504	--	--	N	N	do
HH-11	Santa Fe Ry. Co.	--	--	--	7	Pecos aquifer	--	151.9	June 16, 1956	N	N	Formerly supplied water for railroad use.
HH-12	Elsinore Cattle Co.	Hugh Gray	1931	250	6	do	--	202.4	June 26, 1956	C,W	S	
*HH-13	David McGill	Fritz Graef	--	300	6	do	--	207.7	June 25, 1956	C,W	S	Cased to bottom.
HH-14	do	do	1928	200	5	do	--	147.6 145.6 148.6	June 17, 1947 June 16, 1956 May 6, 1958	C,W	S	Cased to bottom. Flat Pasture well. Temp. 70°F.
*HH-15	do	Royce Hemmline	1956	421	16	do	3,484	120.0 130.8	Mar. 5, 1956 May 5, 1958	T,-	Irr	Discharge reported 950 gpm. Drilled as test hole for irrigation. 1/
*HH-16	Mrs. Elizabeth Graef	Fritz Graef	1917	300	6	do	3,543	178.9 182.2	June 6, 1956 May 5, 1958	C,W	D	Formerly supplied water for railroad use.
*HH-17	David McGill	-- Sullivan	1950	280	6	do	--	224.1 224.1	June 15, 1956 May 5, 1958	C,W	S	Casing: 6-in. to 260 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*HH-18	Mrs. -- Shirley	--	1916	400	6	Pecos aquifer	3,538	354	June 1956	C,W	N	Originally drilled to 200 ft.; deepened in 1947 to 400 ft.
HH-19	Elsinore Cattle Co.	Hunt Oil Co.	1951	1,410	--	--	3,702	--	--	N	N	Oil test. 1/
HH-20	do	do	1951	1,543	--	--	3,788	--	--	N	N	Oil test. 2/
HH-21	do	do	1951	2,427	--	--	4,104	--	--	N	N	Oil test. 1/
HH-22	do	do	1952	1,337	--	--	4,086	920	1952	N	N	do
*HH-23	D. J. Sibley	-- Seales	1941	1,209	8	Capitan limestone(?)	--	1,164	Apr. 1946	C,W	D,S	
JJ-1	Mrs. Ruth Pfiester	Percy Weddle	1953	590	--	Pecos aquifer	3,601	515	Sept. 1958	C,W	S	
JJ-2	Elsinore Cattle Co.	Hunt Oil Co.	1950	2,322	--	--	3,668	--	--	N	N	Oil test. 1/
*JJ-3	do	do	--	1,793	--	--	3,795	--	--	N	N	Oil test. Water sample taken at depth of 580 ft. 2/
JJ-4	do	do	1950	1,865	--	--	3,725	--	--	N	N	do
JJ-5	do	--	--	500	8	Pecos aquifer	--	400	1958	C,W	S	
JJ-6	do	Hugh Gray	1933	250	8	do	--	200	July 1958	C,W	S	
JJ-7	do	Sinclair Oil Co.	1950	3,635	--	--	3,708	--	--	N	N	Oil test.
JJ-8	do	--	--	265	8	Pecos aquifer	--	245	July 1958	C,W	S	
JJ-9	do	Hunt Oil Co.	1949	1,751	--	--	3,763	--	--	N	N	Oil test. 1/
JJ-10	do	do	1949	1,263	--	--	3,656	--	--	N	N	Oil test. 2/
JJ-11	do	do	--	1,087	--	--	3,769	--	--	N	N	do
JJ-12	do	do	1949	1,330	8	--	3,829	--	--	N	N	Oil test. 1/
JJ-13	do	do	--	1,340	--	--	3,866	--	--	N	N	Oil test. 2/
JJ-14	do	do	1951	1,560	--	--	3,826	--	--	N	N	do
JJ-15	do	do	--	1,610	--	--	3,901	--	--	N	N	Oil test. 1/
JJ-16	do	do	1951	1,381	8	--	4,018	1,000	1958	C,W	S	Drilled as oil test. 2/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
*JJ-17	Texas-American Syndicate	-- Gooden	1947	1,150	8	--	--	1,070	1947	C,G, 16	D,S	Temp. 71°F.
JJ-18	Homer Walker	--	--	1,400	--	Leonard formation	--	1,300	1958	C,W	S	Temp. 72°F.
*JJ-19	J. M. Montgomery	Garland and Seales	1946	1,300	8	do	4,200	1,175	1958	C,W	S	Cased to bottom. Perforated from about 1,260 ft. to bottom.
KK-1	Elsinore Cattle Co.	Hunt Oil Co.	1952	1,088	--	--	3,698	--	--	N	N	Oil test. 2/
KK-2	do	--	--	800	8	--	--	750	June 1958	C,W	S	
KK-3	do	Hunt Oil Co.	1950	1,294	--	--	3,741	--	--	N	N	Oil test. 1/
KK-4	do	--	1900	780	--	--	3,700	725	1958	C,W	D,S	
KK-5	do	Hugh Gray	1918	780	8	--	--	725	1958	C,W	D,S	
KK-6	do	Hunt Oil Co.	--	--	8	--	--	600	1958	C,W	S	Originally drilled as oil test, and later plugged back.
KK-7	do	do	1949	1,520	--	--	3,624	--	--	N	N	Oil test. 1/
KK-8	do	do	1949	1,120	--	--	3,568	--	--	N	N	Oil test. 2/
KK-9	do	do	1950	2,290	--	--	3,558	365	1950	N	N	do
KK-10	do	do	1952	971	--	--	3,550	--	--	N	N	Oil test. 1/
KK-11	do	--	--	500	8	--	--	400	1958	C,W	S	
KK-12	do	Hunt Oil Co.	--	1,405	--	--	3,591	--	--	N	N	Oil test. 2/
KK-13	do	do	--	--	--	--	--	500	1958	C,W	S	Drilled as oil test; converted to water well.
KK-14	do	do	1949	2,264	--	--	3,469	--	--	N	N	Oil test. 2/
*KK-15	Jack Allison	--	--	700	--	--	--	635	1958	C,W	S	
KK-16	Elsinore Cattle Co.	Hunt Oil Co.	1952	1,287	--	--	3,556	630	1952	N	N	Oil test. 2/
KK-17	do	do	1951	1,113	--	--	3,697	--	--	N	N	Oil test. 1/
KK-18	do	--	1922	815	8	--	3,720	775	1958	C,W	S	
KK-19	Jack Allison	A. N. Yockey	--	240	8	Pecos aquifer	--	153.1	Apr. 4, 1958	C,W	S	Cased to bottom.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
KK-20	Elsinore Cattle Co.	Hugh Gray	1937	1,025	--	--	--	970	1958	C,W	S	
KK-21	do	--	--	1,100	8	--	--	1,000	1958	C,W	S	
KK-22	do	Hugh Gray	1934	850	--	--	--	740	1958	C,W	S	
*KK-23	Frank Fulk	Ed Lawrence	1922	790	--	--	4,320	240.4	June 23, 1947	C,W	S	Sand reported from 380 to 400 ft.
KK-24	Jack Allison	--	1954	1,485	--	--	--	1,400	Apr. 1958	C,W	S	
*KK-25	do	Hugh Gray	1936	950	--	--	--	--	--	C,W	S	
KK-26	do	--	--	600	7	--	--	580	Apr. 1958	C,W	S	Casing: 7-in. to 20 ft.
KK-27	do	--	--	600	--	--	--	580	1958	C,W	S	
LL-1	do	--	--	700	--	--	--	670	Apr. 1958	C,W	S	Water reported in fine blue sand.
LL-2	J. C. Montgomery	Hugh Gray	--	670	--	Pecos aquifer	--	600	May 1958	C,W	S	Pump set at 660 ft.
LL-3	do	do	--	670	--	do	--	600	May 1958	C,W	S	do
*LL-4	Floyd Henderson	do	--	700	6	do	--	--	--	C,W	S	
LL-5	do	do	--	880	8	do	--	--	--	C,W	S	
LL-6	Boyd Clayton	--	--	1,100	--	--	--	650	1958	C,W	S	
LL-7	J. C. Montgomery	Hugh Gray	--	1,100	--	--	--	650	1958	C,W	S	Pump set at 700 ft.
LL-8	Jack Allison	do	1947	1,330	--	--	--	1,290	Apr. 1958	C,W	S	
LL-9	West-Pyle Cattle Co.	do	1948	973	5	--	--	960	Nov. 1957	C,W	S	Cased to bottom. Panther well.
LL-10	do	--	--	420	--	Pecos aquifer	--	387.9	Nov. 8, 1957	C,W	S	Northside well 1.
LL-11	do	R. A. Cleveland	1955	420	--	do	--	387.7	do	C,W	S	Northside well 2.
MM-1	R. Henderson	-- Walsh et al	1930	2,887	--	--	3,323	--	--	N	N	Oil test. 1/
MM-2	do	Hugh Gray	1928	672	--	Pecos aquifer	--	600	Mar. 1957	C,W	S	Pump set at 656 ft. South Mill well.
MM-3	-- Michalson	Thompson and Minshall	--	3,304	10, 8	--	--	--	--	N	N	Oil test. 1/
MM-4	R. Henderson	Hugh Gray	1928	575	--	Pecos aquifer	3,472	525	1957	C,W	S	Reported weak supply. House Mill well.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
MM-5	R. Henderson	Hugh Gray	1937	1,064	--	--	--	560	1957	C,W	D,S	Hill Mill well.
MM-6	M. C. Puckett	D. Cleveland	1952	440	--	Pecos aquifer	--	419.0	Mar. 19, 1957	C,W	S	West Mill well.
MM-7	do	-- Hull	1934	505	--	do	--	480	1957	C,W	S	Iron Tank Mill well.
MM-8	do	R. A. Cleveland	1937	680	--	do	--	620	1957	C,W	S	Pump set at 640 ft. North Mill well.
*MM-9	do	do	1953	920	--	do	3,286	605	1958	T,E, 3	D	Pump set at 635 ft. Sand reported from 605 to 640 ft. New House well.
MM-10	do	--	1917	600	--	do	--	565	1957	C,E, 3	D	House Mill well.
MM-11	do	-- Hull	1934	672	--	do	--	650	1957	C,W	S	Discharge reported 30 gpm. Pump set at 660 ft. Big Mill well.
MM-12	do	R. A. Cleveland	1953	705	--	do	--	690	1957	C,W	S	Reported weak supply at 690 ft. Pump set at 703 ft. Pen Mill well.
MM-13	Guy S. Rachal	Gorman Bros.	1934	750	--	do	--	680	1957	C,W	S	Pump set at 715 ft. East Mill well.
*MM-14	do	--	--	630	--	do	--	--	--	C,W	D,S	Pump set at 620 ft. Reported breaks suction at 30 gpm.
MM-15	do	Phillips Petroleum Co.	1940	1,000	--	--	--	--	--	C,W	S	Originally drilled to 1,800 ft.; plugged back to 1,000 ft. First water reported cased-off at 585 ft.; second water from 900 to 1,000 ft.
MM-16	do	Gorman Bros.	1937	700	--	Pecos aquifer	--	650	1957	C,W	S	Pump set at 600 ft. Water reported at 585 ft. New Deal well.
MM-17	West-Pyle Cattle Co.	Hugh Cox	1938	595	--	do	--	550	1957	C,W	S	Discharge reported 6 gpm. Scarborough Mill well 1.
MM-18	do	--	--	600	--	do	--	550	1957	C,W	D,S	Discharge reported 7 gpm. Scarborough Mill well 2.
MM-19	do	Clyde Word	1949	528	7, 5	do	--	485	1949	C,W	S	Cased to bottom. Discharge reported 7 gpm. Scarborough Mill well 3.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
MM-20	West-Pyle Cattle Co.	Hugh Gray	1949	517	7	Pecos aquifer	--	485	1949	C,W	S	Casing: 7-in. to 198 ft. Discharge reported 6 gpm in 1951. Scarborough Mill well 4.
MM-21	Guy S. Rachal	Hugh Cox	1939	700	--	do	--	680	Feb. 1957	C,W	S	Pump set at 690 ft. Divide Mill well.
MM-22	M. Cerf	Wilcox Oil Co.	--	--	--	do	3,534	525	1958	N	N	Oil test. 2/
MM-23	Guy S. Rachal	do	1944	1,000	--	--	--	496.4	Mar. 1, 1957	C,W	S	Originally drilled as oil test to 5,245 ft.; plugged back to 1,000 ft.
MM-24	do	Hugh Cox	1940	585	--	Pecos aquifer	3,470	570	Feb. 1957	C,W	S	Pump set at 580 ft. Center Mill well.
MM-25	M. Cerf	World Oil Co.	--	3,505	--	--	3,430	--	--	N	N	Oil test. 1/
MM-26	Guy S. Rachal	--	1905	800	--	--	--	--	--	C,W	S	Water reported at 600 and 800 ft. Discharge reported 50 gpm in 1957. Sulfur well.
MM-27	do	Hugh Cox	1935	845	--	--	--	--	--	C,W	S	Discharge reported 4 gpm. High Mill well.
NN-1	M. C. Puckett	R. A. Cleveland	1943	680	--	Pecos aquifer	--	640	Feb. 1957	C,W	S	
NN-2	W. C. Mitchell	do	1941	400	--	do	--	--	--	C,W	S	
*NN-3	Claude Owen	--	--	450	8	do	--	390	Oct. 1958	C,W	D,S	Temp. 72°F.
NN-4	Joe Bynum	Hugh Gray	1951	575	--	do	--	500	June 1958	C,W	S	Pump set at 555 ft.
*NN-5	do	--	--	425	--	do	3,046	402	Oct. 1958	C,W	D,S	Pump set at 425 ft. Headquarters well.
NN-6	do	--	--	900	--	--	--	500	June 1958	C,W	S	Originally drilled as oil test; plugged back to 900 ft. Pump set at 600 ft.
NN-7	do	--	--	--	--	Pecos aquifer	--	560	1958	C,W	S	Pump set at 600 ft.
NN-8	do	--	--	655	--	do	--	610	1958	C,W	S	Pump set at 650 ft.
NN-9	Blackstone and Slaughter	Transcontinental Oil Co.	--	4,988	--	--	3,536	--	--	N	N	Oil test. 1/

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
NN-10	Lackey, Blackstone and Slaughter	W. H. Sides	1939	2,160	--	--	3,310	--	--	N	N	Oil test. 2/
PP-1	F. P. Montgomery	-- Ryan	1935	520	--	Pecos aquifer	--	450	July 1958	C,W	D,S	Sand reported from 480 to 520 ft. House well.
PP-2	do	--	--	510	--	do	--	490	1957	C,W	S	South well.
PP-3	do	R. A. Cleveland	1940	510	--	do	--	390	1957	C,W	S	Canyon well.
PP-4	Will Harral Estate	--	1940	450	--	do	--	400	1957	C,W	S	
PP-5	do	--	1940	450	--	do	--	277.7	June 25, 1957	C,W	S	
PP-6	H. Q. Lyles	--	1910	375	--	do	--	--	--	C,W	S	
*PP-7	do	-- Ryan	1924	600	--	do	--	500	June 1957	C,W	S	House well.
PP-8	do	do	1943	600	--	do	--	--	--	C,W	S	
PP-9	do	--	--	160	7	do	--	--	--	C,W	S	Cased to bottom.
*PP-10	P. C. Coats	--	1907	135	6	do	2,528	132.4	May 6, 1947	C,W	D,S	
PP-11	Corder Ranch	Bethflem-Texas	1920	2,108	--	--	2,630	--	--	N	N	Oil test. 2/
PP-12	do	Benedum and Trees	1929	3,715	--	--	2,710	--	--	N	N	Oil test. 1/
*QQ-1	Texas-American Syndicate	-- Gooden	1948	1,450	--	--	--	--	--	C,E	S	
QQ-2	Homer Walker	Garland and Seales	--	1,265	--	--	--	1,165	1957	C,W	S	
QQ-3	do	--	--	350	--	--	--	280.0	Apr. 1, 1958	C,W	S	Drilled as oil test to 1,500 ft.; plugged back to 350 ft.
QQ-4	Conley Brooks	--	--	160	8	--	--	--	--	C,W	S	Casing: 8-in. to 20 ft.
QQ-5	do	--	--	160	8	--	--	46.9	Apr. 18, 1958	C,W	S	do
*QQ-6	Wayne Moore	--	--	400	--	Haymond formation	--	--	--	C,W	S	
QQ-7	do	--	--	400	--	do	--	--	--	C,W	S	
*QQ-8	do	--	--	140	--	Pecos aquifer	--	--	--	C,W	S	Discharge reported 35 gpm with test pump.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
QQ-9	Conley Brooks	--	--	160	8	Pecos aquifer	4,398	128.4	Apr. 18, 1958	C,W	S	Casing: 8-in. to 20 ft.
RR-1	Frank Fulk	Garland and Seales	1948	1,265	--	--	4,380	1,200	Apr. 1958	C,W	S	
*RR-2	Jack Allison	--	1932	105	--	Leonard formation	--	80	Apr. 1958	C,W	S	
*RR-3	do	--	1918	240	8	Pecos aquifer	--	224	Apr. 1958	C,W	S	Cased to bottom. Temp. 68°F.
RR-4	George Skevington	--	--	--	--	--	--	35.5	Apr. 22, 1958	C,W	S	Dug. Rock curb at top.
*RR-5	Jack Allison	A. N. Yockey	1950	172	8	Pecos aquifer	4,020	130.7 131.2	Aug. 11, 1950 Apr. 4, 1958	C,W	S	Casing: 8-in. to 160 ft. Perforated from 145 to 155 ft. Discharge measured 16 to 20 gpm. Temp. 68°F.
*RR-6	do	do	--	220	8	do	--	113.5	Apr. 4, 1958	C,W	S	Cased to bottom.
*RR-7	do	-- Cox	--	220	8	Haymond formation	--	150	1958	C,W	S	do
RR-8	do	do	1935	240	8	Pecos aquifer	--	145	1958	C,W	S	do
RR-9	do	--	--	240	8	do	--	139.7	Apr. 4, 1958	N	N	
RR-10	do	Hugh Gray	--	240	8	do	--	140	1958	C,W	S	
RR-11	do	do	1945	410	--	do	--	125	Apr. 1950	C,W	S	
*RR-12	W. E. McGonagill	--	--	160	7	Dimple limestone	--	111.0	Apr. 7, 1958	C,W	S	Discharge estimated 2 to 3 gpm. Temp. 67°F.
RR-13	do	George Hargis	--	150	7	--	--	109.2	do	C,W	S	
RR-14	do	R. A. Cleveland	--	175	7	Tesnus formation	--	89.0	do	C,W	S	Discharge reported 10 gpm when drilled. Water reported at 90 ft. and from 167 to 168 ft.
RR-15	do	--	--	140	8	--	4,027	87.0	do	C,W	S	
SS-1	West-Pyle Cattle Co.	-- Nevans	--	242	--	Pecos aquifer	--	167.9	Nov. 7, 1957	C,W	S	Discharge reported 6 gpm. Nevans Mill well.
SS-2	do	Hugh Cox	1941	300	7	do	--	270.0	Nov. 8, 1957	C,W	S	Casing: 7-in. to 20 ft. Discharge reported 7 gpm. Renninger Mill well.
SS-3	do	Lawrence Ryan	1921	550	7	do	--	460	Nov. 1957	C,G	S	Three-inch column pipe to 530 ft.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
SS-4	West-Pyle Cattle Co.	--	--	550	--	Pecos aquifer	--	460.0	Nov. 8, 1957	C,W	S	Discharge reported 6 gpm.
SS-5	do	Hugh Cox	1940	550	--	do	--	460.0	Nov. 7, 1957	C,W	S	Discharge reported 6 gpm. East Crawford Mill well 3.
SS-6	do	--	--	280	--	do	3,492	191.9	Nov. 8, 1957	N	N	
SS-7	do	Hugh Cox	1940	280	--	do	--	191.2	do	C,W	S	Cased to bottom.
SS-8	do	--	--	200	--	do	--	119.8	Nov. 7, 1957	C,W	S	Cased to bottom. Discharge estimated 6 gpm. Middle Mill well.
SS-9	do	--	--	200	--	do	--	150	Nov. 1957	C,W	S	Discharge estimated 6 gpm.
SS-10	do	--	--	150	--	do	--	91.1	Nov. 7, 1957	C,W	S	Bull Trap Mill well.
SS-11	George Skevington	--	--	200	6	do	--	191.0	Apr. 22, 1958	C,W	S	Cased to bottom. Reported weak supply. White Mill well.
SS-12	do	--	--	200	--	do	--	180	1957	C,W	S	
SS-13	do	John Hollis	1945	150	--	do	--	87.1	Apr. 22, 1958	C,W	S	Cased to bottom. Upper Flat Mill well.
SS-14	do	--	--	110	6	do	--	91.7	do	C,W	S	Lower Flat well.
SS-15	do	John Hollis	1949	200	8	do	--	90.1	do	N	N	Discharge reported 300 gpm. Drilled to supply water for irrigation.
SS-16	do	Jones Drilling Co.	--	--	8	--	--	81.3	do	N	N	Oil test.
SS-17	West-Pyle Cattle Co.	--	--	110	--	Pecos aquifer	--	74.6	Nov. 7, 1957	C,W	S	Cased to bottom. Old Headquarters well.
SS-18	do	Hugh Cox	1938	519	6	do	--	437.9	do	C,W	S	Cased to bottom. Discharge reported 12 gpm. Vega Mill well.
*SS-19	George Skevington	--	--	175	8	do	3,800	87.7	Apr. 22, 1958	C,W	D,S	
TT-1	West-Pyle Cattle Co.	Hugh Cox	1939	650	7	do	3,670	456.4	Nov. 7, 1957	C,W	S	Casing: 7-in. to 86 ft., 110 ft. at bottom; 612 ft. of 2-in. column pipe. Burnum Turner well.
TT-2	do	Hugh Gray	1946	334	--	do	--	301.3	do	C,W	S	Discharge reported 7 gpm. Bouzer Mill well 1.
TT-3	do	do	1946	337	--	do	--	290	1946	C,W	S	Bouzer Mill well 2.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
TT-4	West-Pyle Cattle Co.	Hugh Cox	1939	--	--	Pecos aquifer	--	366.2	Nov. 7, 1957	C,W	N	Huddo Mill well.
TT-5	-- Downie	Pan-American Oil Co.	1958	--	--	--	3,352	--	--	N	N	Oil test. Sand reported from 310 to 460 ft.
TT-6	Etta Patterson	do	1958	--	--	--	3,383	--	--	N	N	Oil test. Sand reported from 380 to 500 ft.
TT-7	West-Pyle Cattle Co.	--	--	--	6	--	--	410	Nov. 1957	N	N	Discharge reported small. Old Bouzer well.
TT-8	do	--	--	250	7	Pecos aquifer	--	235	Nov. 1957	C,W	S	Casing: 7-in. to 20 ft. Evers Mill well 1.
TT-9	do	Hugh Gray	1946	252	7	do	--	166.5	Nov. 7, 1957	C,W	S	Casing: 7-in. to 20 ft. Evers Mill well 2.
TT-10	do	Hugh Cox	1939	860	--	do	--	800	Nov. 1957	C,W	S	Divide Mill well.
TT-11	do	-- Tyler	--	700	7	do	--	452.6	Nov. 7, 1957	C,W	S	Casing: 7-in. to 450 ft. Rebecca Mill well.
TT-12	do	--	--	360	6	do	--	350	Nov. 1957	C,W	S	Cased to bottom. Mock Mill well.
TT-13	do	Hugh Gray	1952	453	--	do	--	380.3	Nov. 7, 1957	C,W	S	Cliette Mill well 1.
TT-14	do	do	1952	451	--	do	--	397	1952	C,W	S	Cliette Mill well 2. 1/
TT-15	do	Carl Lambert	1950	420	--	do	--	390.7	Nov. 7, 1957	C,W	S	Cliette Tank Mill well 1.
TT-16	do	do	1950	421	--	do	--	388.7	do	C,W	S	Cliette Tank Mill well 2.
UU-1	Charles Downie	Pan American Petroleum Corp.	--	--	--	--	3,248	--	--	N	N	Oil test. Sand reported from 320 to 480 ft.
UU-2	A. Appel	Clyde Word	1942	700	--	Pecos aquifer	--	650	Feb. 1957	C,W	S	Ridge Mill well.
UU-3	do	-- Fletcher	1916	560	--	do	--	--	--	C,W	D,S	House well.
UU-4	do	Clyde Word	1942	700	--	do	--	675	Feb. 1957	C,W	S	Mesa well.
UU-5	do	do	1942	585	--	do	--	--	--	C,W	S	West well.
UU-6	do	Dull Bros.	--	600	--	do	--	500	Feb. 1957	C,W	S	Five well.
UU-7	Mrs. R. F. Spencer	Hugh Gray	1952	475	--	do	--	420	Feb. 1957	C,W	S	Section 106 Mill well.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
UU-8	Mrs. R. F. Spencer	Pan American Petroleum Corp.	1958	--	--	--	3,300	--	--	N	N	Oil test. Sand reported from 360 to 510 ft.
UU-9	N. M. Mitchell	Dull Bros.	1900	360	--	Pecos aquifer	--	320	Feb. 1957	C,W	D,S	House well.
UU-10	Josie Arvin	--	--	560	--	do	--	490	Feb. 1957	C,W	S	Bean well.
UU-11	do	Clyde Word	--	700	--	do	--	640	1957	C,W	S	Header well.
UU-12	Charles Downie	Pan American Petroleum Corp.	--	--	--	--	3,175	--	--	N	N	Oil test. Sand reported from 350 to 470 ft.
*UU-13	do	Clyde Word	1941	650	--	Pecos aquifer	--	560	Feb. 1957	C,W	S	Word well.
UU-14	do	Pan American Petroleum Corp.	--	--	--	--	3,129	--	--	N	N	Oil test. Sand reported from 280 to 420 ft.
UU-15	N. M. Mitchell	Hugh Cox	--	510	--	Pecos aquifer	--	420	Feb. 1957	C,W	S	Garden well.
UU-16	do	Clyde Word	1948	370	--	do	3,150	300	1957	C,W	S	Casing: 320 ft. of 4-in. column pipe. Formerly supplied water for highway construction.
UU-17	do	do	1945	450	--	do	--	400	1951	C,W	S	Shearing Pens well.
UU-18	do	Pan American Petroleum Corp.	--	--	--	--	3,175	--	--	N	N	Oil test. Sand reported from 410 to 500 ft.
UU-19	do	--	--	500	--	Pecos aquifer	--	400	Feb. 1957	C,W	S	Section 101 Mill well.
UU-20	C. C. Mitchell	Gibson Oil Corp.	1928	3,010	10, 8	--	3,423	--	--	C,W	S	Casing: 10-in. to 786 ft., 8-in. to 1,880 ft. 860 ft. of 2½-in. column pipe. Drilled as oil test to 3,010 ft. and plugged back. Oil Well Mill well. 2/
UU-21	T. P. Russell	do	--	3,020	--	--	--	--	--	N	N	Oil test. 1/
UU-22	N. M. Mitchell	Clyde Word	1943	565	--	Pecos aquifer	--	550	Feb. 1957	C,W	S	
UU-23	do	--	--	350	--	do	--	330	Feb. 1957	C,W	S	
*UU-24	Mrs. R. F. Spencer	--	1928	650	--	do	--	--	--	C,W	S	
UU-25	do	Hugh Cox	1938	700	--	do	--	--	--	C,W	S	Barcelena Mill well.
UU-26	do	do	1941	510	--	do	--	--	--	C,W	S	Section 23 Mill well.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
UU-27	Mrs. R. F. Spencer	Hugh Cox	1939	500	--	Pecos aquifer	--	--	--	C,W	N	Top of sand at 500 ft.
UU-28	C. C. Mitchell	do	--	600	--	do	--	560	Feb. 1957	C,W	S	Woods Tank Mill well.
UU-29	do	do	1937	600	--	do	--	560	1957	C,W	S	Wood Mill well.
UU-30	do	do	--	550	--	do	--	510	1957	C,W	S	Hidden Mill well.
UU-31	do	do	--	550	--	do	--	530	1957	C,E, 5	D,S	Discharge reported 35 gpm. Formerly supplied water for highway construction. Pump set at 545 ft.
*UU-32	do	--	--	525	--	do	3,150	400	1957	C,W	D,S	Casing: 500 ft. of 4-in. column pipe. Discharge reported 35 gpm.
UU-33	do	Hugh Cox	--	600	--	do	--	560	1957	C,W	S	West Mill well.
VV-1	West-Pyle Cattle Co.	--	--	130	--	do	--	116.7	Nov. 8, 1957	C,W	S	Gruley Mill well.
VV-2	George Skevington	Percy Weddle	1951	160	--	do	--	126.0	Apr. 22, 1958	N	N	
VV-3	do	--	--	110	6	do	--	73.6	do	C,W	S	Cased to bottom.
VV-4	do	-- Walker	1952	2,300	--	--	--	58.5	do	T,G	S,Irr	Supplies water for lawn.
VV-5	do	--	--	100	--	Pecos aquifer	--	90.2	do	C,W	S	
VV-6	West-Pyle Cattle Co.	--	--	400	7	do	--	306.7	Nov. 8, 1957	C,W	D,S	Cased to bottom. Discharge reported 4½ gpm.
VV-7	do	-- Tyler	1927	400	7	do	--	305.0	Nov. 13, 1957	C,W	D,S	Discharge reported 4½ gpm.
VV-8	do	Hugh Cox	1939	357	7	do	--	--	--	C,W	D,S	Cased to bottom.
VV-9	do	do	1937	657	--	do	--	500	Nov. 1957	C,W	S	Casing: 516 ft. of 3-in. column pipe. East Lewis Mill well.
VV-10	do	Hugh Gray	1950	360	--	do	--	352	1950	C,W	D,S	West Lewis Mill well.
VV-11	W. R. Strumberg	Ed Wagner	1951	260	--	do	--	204.8	Nov. 13, 1957	C,W	S	Buck No. 2 Mill well.
VV-12	George Skevington	Jake Voss	--	220	6	do	--	215	1958	C,W	S	Casing: 6-in. to 110 ft. Dry Pasture Mill well.
VV-13	West-Pyle Cattle Co.	--	--	300	--	do	--	274.7	Nov. 8, 1957	C,W	S	Discharge reported 7 gpm. Red Mill well.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
VV-14	W. R. Strumberg	Ed Wagner	1951	300	--	--	--	256.8	Nov. 13, 1957	C,W	S	Water reported in black sandstone.
VV-15	do	Fred Harmon	1939	325	--	Pecos aquifer	--	286.7	do	C,W	S	Discharge reported 8 gpm.
VV-16	do	Ed Wagner	1948	250	--	do	--	245.6	do	C,W	S	Javelina Mill well.
VV-17	do	Fred Harmon	1939	262	--	do	--	240.2	do	C,W	S	Buck Mill well 1.
VV-18	do	do	1939	--	--	do	--	290.8	do	C,W	S	Discharge reported 8 gpm.
VV-19	do	-- Searcy	1950	250	--	do	--	200	Nov. 1957	C,W	D,S	
VV-20	do	John Cox	1937	250	--	do	--	200	1957	C,W	D,S	Purington well 2.
VV-21	do	Ed Wagner	1951	250	6	do	--	228.9	Nov. 13, 1957	C,W	S	Casing: 6-in. to 200 ft. Discharge reported 10 gpm.
VV-22	West-Pyle Cattle Co.	Hugh Cox	1947	240	--	do	--	220	Nov. 1957	C,W	S	Discharge reported 8 gpm. West Silver Lake Mill well.
VV-23	do	do	1947	260	--	do	--	247.7	Nov. 8, 1957	C,W	S	Discharge reported 3 gpm. East Silver Lake Mill well.
*VV-24	do	--	--	300	--	do	3,655	300	Nov. 1957	C,W	S	Longfellow Mill well.
VV-25	W. R. Strumberg	-- Tyler	1929	565	--	do	--	438	Nov. 1957	C,W	D,S	Discharge reported 5 gpm.
VV-26	S. L. Strumberg	Ed Wagner	1945	400	6	do	--	--	--	C,W	S	Discharge reported 5 to 6 gpm.
VV-27	do	--	--	216	6	do	--	197.9	Nov. 13, 1957	N	N	Casing: 6-in. to 210 ft.
VV-28	do	--	1915	250	6	do	--	198.1	do	C,W	S,Ind	Discharge reported 45 gpm. Supplied water for highway construction.
VV-29	Mrs. Van Casey	--	--	--	7	do	--	186.0	do	C,W	S	Casey Mill well 2.
*VV-30	do	--	--	--	--	do	--	200	Nov. 1957	C,W	S	
*WW-1	West-Pyle Cattle Co.	Hugh Gray	1949	310	--	do	--	280	1949	C,W	S	Hanie Mill well 2.
WW-2	do	Hugh Cox	1938	319	--	do	--	280.8	Nov. 7, 1957	C,W	S	Hanie Mill well 1.
WW-3	do	-- Hanie	1918	310	--	do	--	280	1957	C,W	S	Discharge reported 7 gpm.
WW-4	Jack Downie	-- Tyler	1956	350	8	do	3,427	267.1	Feb. 8, 1957	N	N	Rock Pens well.

See footnotes at end of table.

Table 4.--Records of wells and springs in Pecos County--Continued

Well	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)	Water-bearing unit	Altitude of land surface (ft.)	Water level		Method of lift	Use of water	Remarks
								Below or above (+) land surface datum (ft.)	Date of measurement			
WW-5	E. H. Jessup	Clyde Word	--	520	--	Pecos aquifer	--	500	Feb. 1957	C,W	S	
WW-6	do	Bill Haynes	1948	484	--	do	--	480	1957	C,W	S	
WW-7	do	--	--	440	--	do	3,390	390.5	Mar. 6, 1957	C,W	D	
WW-8	Jack Downie	Clyde Word	--	300	--	do	--	268.4	Feb. 8, 1957	C,W	S	Rock Tank Mill well.
WW-9	West-Pyle Cattle Co.	Hugh Gray	1948	350	--	do	--	318.0	Nov. 8, 1957	C,W	S	Discharge reported 12 gpm. Baker well.
WW-10	Helen Downie Bondurat	--	1937	260	6	do	--	235.0	Feb. 8, 1957	C,W	S	
WW-11	H. A. Smith	Hugh Cox	1945	540	--	do	--	520	May 1958	C,W	S	Jaboncillo Mill well. 1/
WW-12	West-Pyle Cattle Co.	do	1948	400	5	do	--	246.8	Nov. 8, 1957	C,W	S	Cased to bottom. Barney Mill well.
WW-13	H. A. Smith	do	1945	515	6, 4	do	3,630	489.8	June 21, 1958	C,W	S	Cased to bottom. Water reported at 496 ft. 1/
WW-14	do	John Cox	1938	515	--	do	--	490	1958	C,W	S	
WW-15	do	Ligon Drilling Co.	1940	710	--	do	--	600	Oct. 1940	--	N	Discharge reported 2½ gpm. Jackson Tank well. 1/
*WW-16	Joe N. Brown	--	--	630	8	--	3,287	350	Oct. 1958	C,W	S	
WW-17	do	--	--	630	8	--	3,287	350	Oct. 1958	C,W	S	
WW-18	West-Pyle Cattle Co.	Hugh Cox	1947	900	7	--	--	500	1957	C,W	D,S	Casing: 7-in. to 20 ft. Railroad well.

1/ See table 5 for drillers' logs of wells in Pecos County, Texas.
2/ Electric logs and radioactivity logs in files of Texas Board of Water Engineers.
3/ See table 6 for water levels in wells in Pecos County, Texas.
* See table 7 for analyses of water from wells and springs in Pecos County, Texas.