New Mexico Geological Society

Downloaded from: https://nmgs.nmt.edu/publications/guidebooks/12



Petroleum exploration in a part of north-central New Mexico

Edward C. Beaumont
1961, pp. 175-185. https://doi.org/10.56577/FFC-12.175

in:

Albuquerque Country, Northrop, S. A.; [ed.], New Mexico Geological Society 12 th Annual Fall Field Conference Guidebook, 199 p. https://doi.org/10.56577/FFC-12

This is one of many related papers that were included in the 1961 NMGS Fall Field Conference Guidebook.

Annual NMGS Fall Field Conference Guidebooks

Every fall since 1950, the New Mexico Geological Society (NMGS) has held an annual Fall Field Conference that explores some region of New Mexico (or surrounding states). Always well attended, these conferences provide a guidebook to participants. Besides detailed road logs, the guidebooks contain many well written, edited, and peer-reviewed geoscience papers. These books have set the national standard for geologic guidebooks and are an essential geologic reference for anyone working in or around New Mexico.

Free Downloads

NMGS has decided to make peer-reviewed papers from our Fall Field Conference guidebooks available for free download. This is in keeping with our mission of promoting interest, research, and cooperation regarding geology in New Mexico. However, guidebook sales represent a significant proportion of our operating budget. Therefore, only *research papers* are available for download. *Road logs*, *mini-papers*, and other selected content are available only in print for recent guidebooks.

Copyright Information

Publications of the New Mexico Geological Society, printed and electronic, are protected by the copyright laws of the United States. No material from the NMGS website, or printed and electronic publications, may be reprinted or redistributed without NMGS permission. Contact us for permission to reprint portions of any of our publications.

One printed copy of any materials from the NMGS website or our print and electronic publications may be made for individual use without our permission. Teachers and students may make unlimited copies for educational use. Any other use of these materials requires explicit permission.

This page is intentionally left blank to maintain order of facing pages.

PETROLEUM EXPLORATION IN A PART OF NORTH-CENTRAL NEW MEXICO

EDWARD C. BEAUMONT
Consultant, Albuquerque, New Mexico

The area shown on the accompanying maps (Figs. 1 and 2) comprises about 9,000 square miles which amounts to about 7 per cent of the area of New Mexico. It is difficult to conceive of another map of similar dimensions which might embrace a greater diversity of geologic conditions. The northwestern part of the map includes a portion of the San Juan Basin of the Colorado Plateau province whereas the east-central and southeastern parts of the map include most of the Estancia basin and the west flank of the Pedernal uplift—units sometimes assigned to the Great Plains province, but by Fenneman (1930) to the Basin and Range province. Separating segments of the Rocky Mountain province in the northern part of the map-area and lying between the Colorado Plateau and Great Plains (or Basin and Range) provinces farther south there is the Rio Grande trough and its flanking uplifts—an area of debatable major province association.

The problems and challenges presented to those searching for oil and gas are commensurate with the geologic variation. Although touching to the northwest on the prolific oil- and gas-producing region of the San Juan Basin and lying between that area and the area of even greater production in southeastern New Mexico, the area of this report remains, as of this writing, essentially nonproductive. Nevertheless, the wide range of geologic prospects continues to attract the petroleum industry, and in a period of more than 40 years almost 200 tests have been drilled. Only about a dozen of these tests have become commercially productive of either oil or gas and all of these are in the San Juan Basin (Fig. 2). Encouragement has been derived from numerous reports of shows of either oil or gas or both, as well as several other natural resources that have been encountered in commercial or potentially commercial quantities.

Just about half of the 199 wells shown on the maps (Figs. 1 and 2) and listed in Table 1 are within or on the margin of the San Juan Basin—an area amounting to less than one-tenth of the total map area. The other half are distributed through the remaining area of the map, but about 80 percent of the extra-San Juan Basin tests lie in the southern third of the map area. The northern two-thirds of the map area east of the San Juan Basin has had but a few scattered tests, and quite naturally some of the higher uplifts in which Precambrian rocks are exposed have gone untested.

If it were not for the delineation of the Rio Grande trough, a cursory examination of Figure 1 might lead one to conclude that the narrow band of tests across the lower part of the map is alined along some east-west-trending geologic feature. This band reaches from the Lucero uplift region of the Colorado Plateau across the Rio Grande trough and through the Estancia basin segment of the Great Plains (or Basin and Range) province. Although the present geologic divisions are based principally upon Laramide structural developments, and pre-Laramide trends might well cross these boundaries, it is likely that the apparent alinement is coincidental.

The Rio Grande trough probably represents the area of least knowledge with respect to oil and gas potential within the area of interest—despite having been the site of considerable exploratory activity. The abruptness and magnitude of this depression is illustrated by the deepest test in the map area, Humble #1 Santa Fe Pacific test (Ref. no. 12), which is located about six miles east of exposures of Mesozoic and Paleozoic strata along the western margin of the trough. This test penetrated nearly 10,000 feet of Quaternary and Tertiary sediments before entering Cretaceous strata and is presumed to have bottomed in Cretaceous rocks at 12,691 feet. Just north of Albuquerque the Norrins Realty No. 2 fee test bottomed in Tertiary sediments at 5,024 feet from a surface elevation of 4,950 feet—about five miles west of the Sandia Mountains where Precambrian rocks attain an elevation of over 9,000 feet. A remote wildcat test in the Rio Grande trough east of Espanola, the Castle and Wigzell No. 1 Federal (Ref. no. 199), has been spudded and promises to shed some light on this structural feature should it be drilled to its anticipated total depth.

Oil and gas have been discovered and produced from three small fields in Sandoval County, but two of the fields, the Torreon-Mesaverde in T. 19 N., R. 4 W. and the Media-Entrada in T. 19 N., R. 3 W. have been abandoned. Production is still being obtained from the San Luis-Mesaverde field in T. 18 N., R. 3 W., and many wells are being drilled or are nearing completion in that township.

Discovery of carbon dioxide as early as 1926 led to the development of New Mexico's first carbon-dioxide plant in 1934 north of Estancia. Natural depletion, water encroachment, and changing economic conditions brought this once-flourishing industry to a conclusion. The reported discovery of sizable quantities of steam in the Westates Petroleum Company's No. 1 Bond et al. test, which is located within the Jemez caldera in northern Sandoval County (Ref. no. 198), caused considerable speculation as to the commercial possibilities of this potential source of energy. The development of ground water is a natural product of unsuccessful petroleum exploration and many of the tests shown have been completed as water wells.

Space and time will not permit even the broadest discussion of the many intriguing tests drilled in the various parts of the map area. The accompanying table is intended to present the factual data concerning all oil and gas (including carbon-dioxide) tests known to have been drilled or currently being drilled within the area. The data assembled in Table 1 are drawn from many sources, but principally from U. S. Geological Survey Circular 333 (Dixon and others, 1954), New Mexico Bureau of Mines and Mineral Resources petroleum exploration maps of the various counties, and various commercial reports.

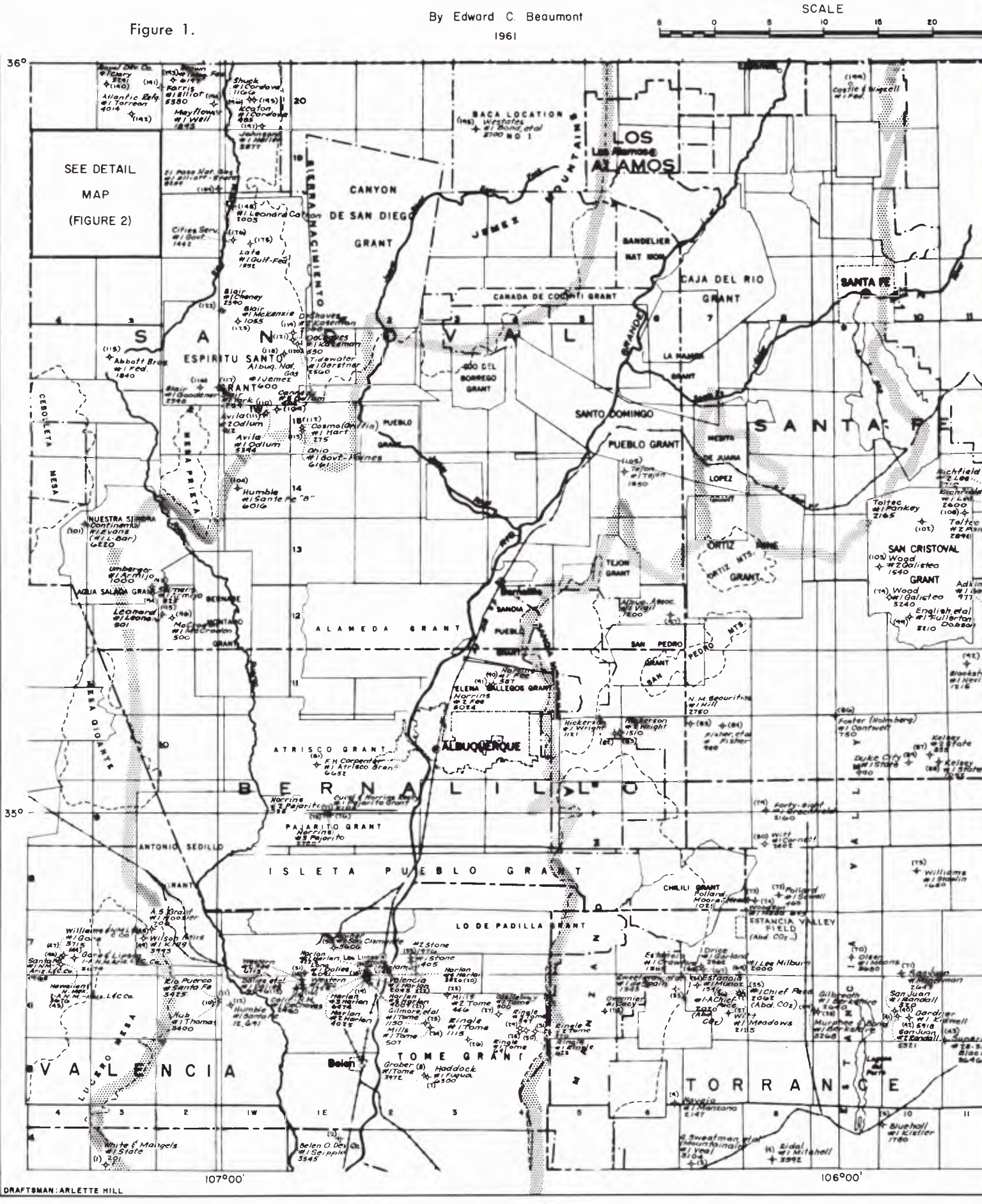
The tabular information is not consistent throughout. The completeness of the available data varies considerably from well to well. The writer also found numerous discrepancies in the information pertaining to many of the tests as obtained from the various sources, and it was impossible to reconcile many of these. Therefore the data in the table are not purported to be completely accurate, but the writer hopes that it represents an improvement on previous compilations.

DRY-HOLE MAP OF A PART OF CENTRAL NEW MEXICO

By Edward C. Beaumont

1961

Figure 1.



DRAFTSMAN: ARLETTE HILL

EXPLANATION FOR FIGURE 1.

Number in table ---------- (74)
Number of holes represented by symbol — 2
F. Kelly --- Operator
#1 State --- Well number and lease
3776 ----- Total depth

Dry hole

Positive physiographic features

Drilling well

CO_2 Abandoned carbon dioxide well

Approximate margin of Rio Grande trough

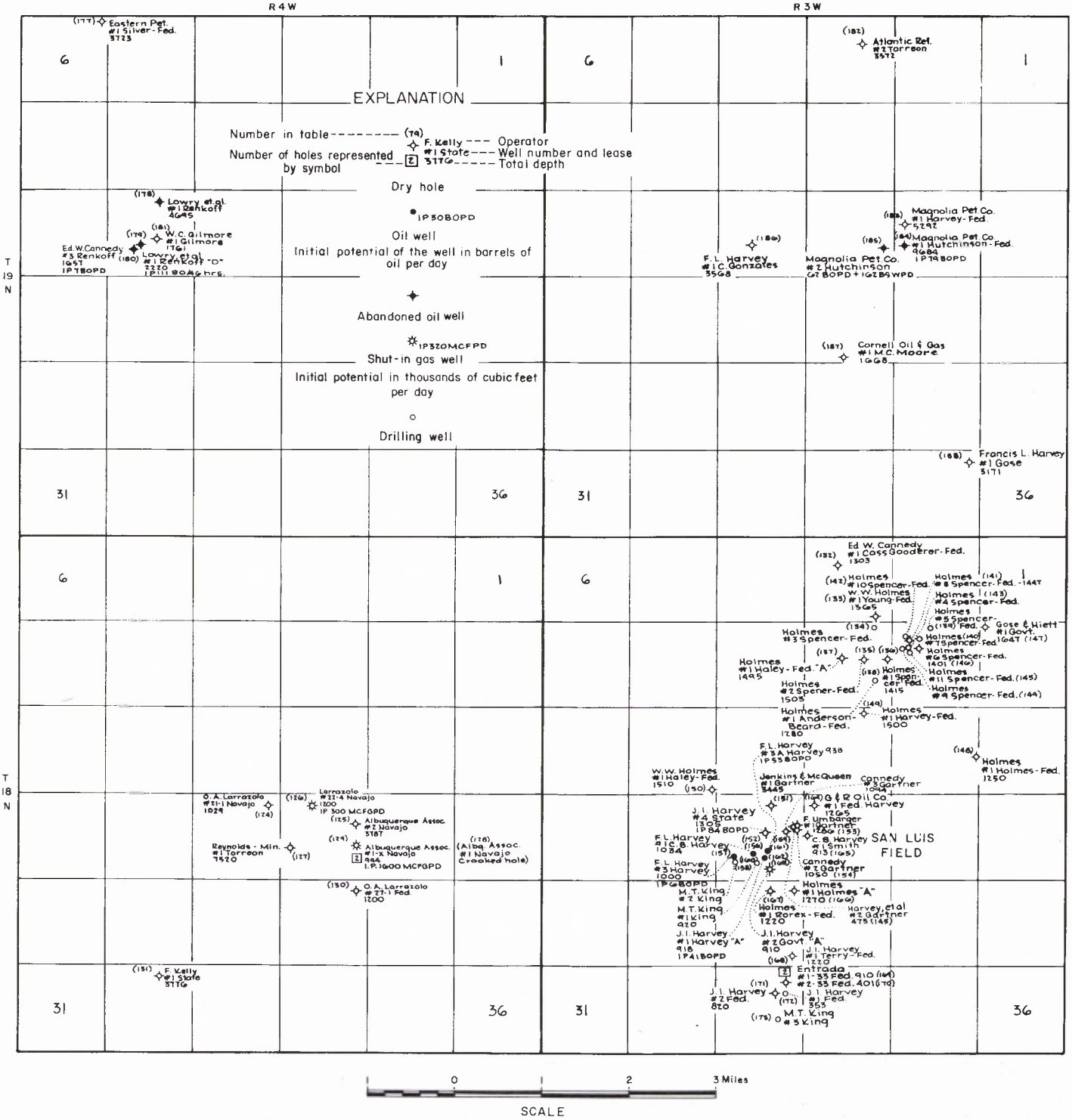


Figure 2. — Map showing area of production and greatest exploration activity, Sandoval County. See northwest corner of Figure 1 for location.

Table 1. Oil and gas tests drilled in a part of north-central New Mexico.

REF. NO.	LOCATION				OPERATOR, LEASE, AND WELL NUMBER	STATUS AND DATE		ELEV.	TOTAL DEPTH	BOT-TOM FM.	PRODUCTION, SHOWS, TESTS, AND TOPS
	Twp.	Rge.	Section	County							
1	4N	3W	SENW 32	Socorro	F. B. White & G. T. Mangels, 1 State	A	1947	6200	201	pЄ?	
2	4N	1E	NENENE 23	"	Belen Oil & Devel. Co., Seipple 1	A	1931		3545	Pa	SO 2375
3	4N	7E	NWSW 32	Torrance	G. Sweatman et al., J. E. Veal & W. M. Parnell 1	A	1952	6540	3104	IP?	SO 2190, 2600, 2835
4	4N	8E	SWNWNE 33	"	Eidal Mfg. Co., B. L. Mitchell 1	A	1947	6350	3592	pЄ	SG 3460, T/Pa 851, IP 2090
5	4N	10E	CNWSW 7	"	Bluehall Oil & Gas Co., Kistler 1	A	1931	6258	1785	P	SG (CO_2) 1400
6	5N	2E		Valencia	C. S. Ringle, L. Gabaldone 1	A	1936		750		(Not on map)
7	5N	3E	NENE 19	"	Haddock Construction Co., Wm Fugua 1	A	1946		6300		
8	5N	3E	NWNE 19	"	Grober, Tome Grant 1	A	1940		3972		SO 3928; SG 900
9	5N	6E	SWSWSW 36	Torrance	Navajo Oil, Manzano 1	A	1931	6500	2147	IP?	SO 1104, 1208
10	6N	2W	NESENE 13	Valencia	Hubb Oil Co., Thomas 1	A	1931		3400	Jm	
11	6N	2W	SWNENE 13	"	Rio Puerco Oil Co., Re: Hubb Oil Co. Ball 1	A	1931		3425		
12	6N	1W	CSESE 18	"	Humble Oil & Ref., 1 Santa Fe & Pacific	A	1953	5092 DF	12,691	K?	
13	6N	1E	CSWSE 5	"	Dalies and von Glahn, E. Y. Sketchley 1 Dalies	A	1949	5298	6096	Kd?	SO 3350, 4600
14	6N	1E	SWSWNE 5	"	West Nalt. Res. Corp., re: Big Three Oil Co., De Chavez 2	A	1939		6113	Kd?	
15	6N	1E	NWNWNW 8	"	Navajo Pet. Co., re: Calif.-N. Mex. Oil Synd. 1 De Chavez	A	1931		2900	IP	
16	6N	1E	SENWNE 8	"	West Natl. Res. Corp., N. Duran-De Chavez Grant 1	A	1932		1725	Tsf	
17	6N	2E	NWNWNE 5	"	Harlan et al., Harlan 1	A	1931	4841	4223		SG 2510
18	6N	2E	NWNWNE 5	"	Harlan et al., Harlan 2	A	1931	4841	4025	Kmv?	
19	6N	2E	NWNWNE 5	"	Harlan et al., Harlan 3	A	1931	4841	6900?		TD may be 4021
20	6N	2E	NNWNE 5	"	Harlan et al., Harlan 4	A	1931	4841	3820		
21	6N	2E	NSWSE 5	"	Harlan et al., Harlan 5	A	1932	4841	4007		
22	6N	2E	SWNE 5	"	Valencia Pet. Co., Harlan 1				2039		
23	6N	3E	SESE 9	"	Homer C. Mills, 2 Tome Grant				446		
24	6N	3E	SWSWNW 29	"	H. C. Mills, Inc., Tome Grant 1	A	1933		507		
25	6N	3E	NENE 30	"	Gilmore and Sheldon, Tome Grant 1	A	1931	4877	1180		
26	6N	3E	CSESE 35	"	Ringle Devel. Co., Tome Grant 1	A	1936	4800	1115		

REF. NO.	LOCATION				OPERATOR, LEASE, AND WELL NUMBER	STATUS AND DATE		ELEV.	TOTAL DEPTH	BOT-TOM FM.	PRODUCTION, SHOWS, TESTS AND TOPS
	Twp.	Rge.	Section	County							
27	6N	4E	SENWSW 20	Valencia	S. M. Castleberry, 1 Tome Grant	A	1948	5140	500		
28	6N	4E	SWNENW 34	"	C. S. Ringle, Tome Grant 1	A	1946		641		
29	6N	4E	NNENW 34	"	C. S. Ringle, Tome 3	A	1948		597		
30	6N	4E	SWNENE 34	"	C. S. Ringle, Ringle 1		1947	5600	623		
31	6N	4E	SENWNE 35	"	C. S. Ringle, Tome Grant 2	A	1947	6150	870		SO 530-60
32	6N	5E	SENE 23	Torrance	C. L. Overmire & W. L. Cacy, 1 Cacy	TA	1958	7501 Gr	955		Reported good SO 885-911; reported swbd 70 BO/48 hrs
33	6N	6E	CSENW 12	"	Sweetman, Parnell & Aday, 1 de Spain		1954		1343	pE?	
34	6N	7E	NESW 5	"	Munoz Oil Co., Strong 1	A	1931	6800	1346	pE	SOG 1027
35	6N	7E	WSE 12	"	Chief Oil and Gas, 1 Pace	A	1940		2062		Abandoned CO_2 well
36	6N	7E	NWSW 12	"	Chief Oil and Gas, 1-A Pace (2 Pace)	A	1940		2020		Abandoned CO_2 well
37	6N	7E	NSWNE 23	"	Witt Ice and Gas Co., F. T. Meadows 1	A	1945		2123	pE	
38	6N	9E	CNENW 19	"	F. E. Gilbreath, Berkshire 1	A	1950		2640	IP	
39	6N	9E	NWNENW 19	"	Murphee & Bond Drlg. Co., 1 Berkshire	A	1948	6101	3268	pE	T/ IP 1588
40	6N	10E	NWNW 19	"	San Juan Coal & Oil Co., 1 Randell				320		
41	6N	10E	NESW 20	"	San Juan Coal & Oil Co., Randell 2	A	1931	6100	5321	pE	SO 3537
42	6N	10E	SESESW 21	"	Gardner Petroleum Co., Ed Kidwell 1	A	1954	6177 DF	5918	pE	T/IP 1865, pE 5900
43	6N	11E	SESWSW 31	"	Superior Oil Co., 28-31 Blackwell	A	1954	6136 DF	2646	pE	T/Abo 940, IP 1410, pE 2590
44	7N	4W	SENW 26	Valencia	Gore & Lipson, 1-B N.Mex. Ariz. L.&C.	A	1958	6052 Gr	3674		T/Py 398, Pa 1435, IP 2645
45	7N	4W	NESWNW 27	"	Hawaiian & N.Mex. Oil Ventures, 2-A N.Mex.-Ariz. L. & C. Co.	TA	1959	6061 DF	3676	IP?	
46	7N	4W	WSWNW 27	"	Acme Oil Co., N.M.-Ariz. L. & C. Co. 1	A	1935		4965	pE	
47	7N	4W	CNWSW 27	"	Williams & Gore, 1 N.M.-Ariz. L. & C.Co.	A	1957	5958 Gr	3663	IP?	T/Psa 120, Psg 270, Py 430, Pa 1435, IP 2700
48	7N	3W	SENWSE 12	"	Hoosier Oil Co., Valley 1	A	1932		700		
49	7N	3W	NENESE 14	"	Richard King, Jr., 1 Wilson Heirs Unit	A	1958	5884 Gr	3993	pE	T/Pa 1076, IP 2000, pE 3944, pE gr 3990
50	7N	1E	NESENW 23	"	Joiner Oil Corp., San Clemente Grant 1	A	1939		5606		SG 4202-4306
51	7N	1E	CSESE 32	"	H. C. Long, Dalies 1	A	1952		6091		
52	7N	2E	SENWNW 25	"	A. W. Stone et al., 1	A	1931		1405		SO 902
53	7N	2E	SENWNW 25	"	Swisher & Wallace, re: A. W. Stone et al., 2	A	1931		1976		

REF. NO.	LOCATION				OPERATOR, LEASE, AND WELL NUMBER	STATUS AND DATE		ELEV.	TOTAL DEPTH	BOT-TOM FM.	PRODUCTION, SHOWS, TESTS, AND TOPS
	Twp.	Rge.	Section	County							
54	7N	2E	NENESW 32	Valencia	A. W. Stone, Harlan 1	A	1931		2144		
55	7N	7E	SWSE 1	Torrance	Estancia Valley CO_2 Devel. Co. Kellog 2	A	1936	6552	1415	IP?	
56	7N	7E	CSENW 12	"	Estancia Valley CO_2 Co., Dehart 2		1934	6526 DF	1545		IP 679,000 CF CO_2 PD
57	7N	7E	SESWNE 12	"	Estancia Valley CO_2 Co., Dehart 3		1936	6540 DF	1264		
58	7N	7E		"	Estancia Valley CO_2 Co., Dehart 4				1236		
59	7N	7E	SESWNE 12	"	Estancia Valley CO_2 Co., Dehart 5		1937	6534 DF	1258		
60	7N	7E	NWNE 12	"	Estancia Valley CO_2 Co., Kellogg 1		1935	6550 DF	1268		
61	7N	7E	CSESE 12	"	Estancia Valley CO_2 Devel. Co., C. B. Roland 1	A	1934		1359		SG 168, 1214, 1267
62	7N	7E	NENW? 12	"	Estancia Valley CO_2 Co., Wilcox 4				1050?		
63	7N	7E	SWSESE 12	"	Sinoco Oil, DeHart 1	A	1931		765	IP	SG 208
64	7N	7E	NESESW 12	"	Sinoco Oil Co., DeHart 2		1931	6151 Gr	1440		IP 140,000 CF CO_2 PD from 1270'
65	7N	7E	NWNENW 13	"	Estancia Valley CO_2 Co., Kutchin 1		1937	6644 Gr	1428		
66	7N	7E	CNENW 13	"	Sinoco Oil Co., Kutchin 1		1929		299		
67	7N	7E	NESENE 32	"	The Drice Co., Garland 1	A	1941	6280?	2062	pЄ	
68	7N	7E	SENENE 32	"	Estancia Valley CO_2 Devel. Co., Crawford 1	A	1939		1355		
69	7N	7E	SWSW 36	"	Orville J. Lee, Milburn 1		1941		2000		SG 1717-22, 1769, 1792, SO 368
70	7N	9E	CNWNW 27	"	R. Olsen Oil Co., H. Means, Jr. 1	A	1950	6000	3680	pЄ	
71	7N	10E	SWSE 32	"	San Juan Coal & Oil, Minerman 1	A	1931	6132	2647	P	
72	8N	8E	CNENE 28	"	Pollard Bros., 1 H. J. Sewell		1956		463		
73	8N	8E	CSWSW 30	"	Pollard Bros., 1 Moore & Mead		1956		1025		
74	8N	8E	SWSWSE 30	"	Woodson, 1 Moore-Mead		1956		645		
75	8N	10E	NENENE 16	"	H. L. Williams, Staplin 1	A	1931	6350	1650	P	
76	9N	1E	NWNE 22	Bernalillo	E. B. Guest & Norrins Realty Co., Pajarito Grant 1	A	1946		5104	P?	Reported in sh., red ss., and ls. below 4906
77	9N	1E	NWNWNE 22	"	Norrins Realty Co., Norrins Realty Co. 3	A	1946	5300	2780		
78	9N	1E	NENE 22	"	Norrins Realty, Pajarito Grant 2				385		
79	9N	8E	CNWSW 17	Torrance	Forty-eight Prod. Co., Greenfield 1	A	1937	6100	2160	pЄ?	SG 530, 1500

REF. NO.	LOCATION				OPERATOR, LEASE, AND WELL NUMBER	STATUS AND DATE		ELEV.	TOTAL DEPTH	BOT-TOM FM.	PRODUCTION, SHOWS, TESTS, AND TOPS
	Twp.	Rge.	Section	County							
80	9N	8E	CNESW 32	Torrance	Witt Ice & Gas Co., Cornett 1	A	1944		2402		
81	10N	1E	CSESE 28	Bernalillo	F. H. Carpenter, Atrisco Grant 1	A	1942	5772	6652	Tsf?	SO 3350-60
82	10N	5E	SESENW 12	"	L. O. Hickerson, Wright 1	A	1947		1121	Km	
83	10N	5E	SWSWNE 12	"	L. O. Hickerson, Wright 2	A	1948	6554	1510	Jm	
84	10N	7E	SW 3	Santa Fe	Fisher & Wolcott, Fisher 1	A	1931		980		
85	10N	7E	NENESW 6	"	N. Mex. Securities Co., Hill 1	A	1935	7000	2750	pЄ	SO 1365, 1850, 2585; SG 850, 1050
86	10N	9E	NWNWNW 5	"	Sam Foster, Cantwell 1	A	1935		750		
87	10N	10E	22	"	Kelsey Clients Co., State 2	A	1937		835		
88	10N	10E	SWSWNE 26	"	Kelsey Clients Devel. Co., State 1	A	1933	6638	1052	P	
89	10N	10E	NESE 29	"	Duke City Pet., State 1	A	1931		990	P	
90	11N	4E	SENWNW 19	Bernalillo	Norrins Realty Co., Norrins Realty Co. 1	A	1936	4950	587	Tsf	
91	11N	4E	SENWNW 19	"	Norrins Realty Co., Norrins Realty Co. 2	A	1940	4950	5024		
92	11N	11E	SNWNW 9	Santa Fe	J. H. Blackstone, Neville 1	A	1950		1215	Pa?	
93	12N	3W	SENWNW 1	Sandoval	P. B. Umbarger, Armijo 1	A	1946	5900	1000	Jm	
94	12N	3W	SESW 1	"	Siemens & Boyd, D. Armijo 1	A	1941	6000	325	Km?	
95	12N	2W	SESWSE 18	"	H. Leonard, H. Leonard 1	A	1934	5700	501	Km	
96	12N	2W	NWNWNW 20	"	N. G. McCrodan, N. G. McCrodan 1	A	1934	5700	500	Km	
97	12N	6E	NWSE 14	"	Albuquerque Associates, 1 Vigil	TA	1954		1200	IP	T/Pa 65, T/IP 520
98	12N	10E	NENENE 7	Santa Fe	Wood et al., Galisteo (Pan Key) 1	A	1931		3240	IP	
99	12N	10E	SSESE 16	"	P. B. English, Fullerton Dobson 1	A	1945	6444 Gr	3210	pЄ	T/IP 2490, pЄ 3200
100	12N	11E	SWNWNW 23	"	E. S. Adkins, H. H. Basher 1	A	1945	7120	977	pЄ	
101	13N	4W	SESENE 2	Sandoval	Continental Oil Co., L Bar Cattle 1 Evans	A	1935	6561	6220	pЄ	Kd 258, Jm 290, Trc 1330, Psa 2765, Pg 2865, Pa 3630, IP 4815, pЄ 6134
102	13N	10E	SW 2	Santa Fe	Toltec Oil Co., Panky (Eaton) 1		1918	6265	2165		
103	13N	10E	SW 30	"	Wood et al., 2 Galisteo	A	1931		1540		
104	14N	1W	NWNW 20	Sandoval	Humble Oil & Ref., 1 Santa Fe Pac. "B"	A	1954	6149 DF	6016	pЄ	Sa T/IP 4930, T/pЄ 6008 (El Psa 2730, Py 3492)
105	14N	6E	7	"	Tejon Oil Co., 1	A	1914		1850		SO 1000
106	14N	11E	14	Santa Fe	Richfield Oil Corp., Lee 2	A	1945	6900	2725	pЄ	

REF. NO.	LOCATION				OPERATOR, LEASE, AND WELL NUMBER	STATUS AND DATE		ELEV.	TOTAL DEPTH	BOTTOM FM.	PRODUCTION, SHOWS, TESTS, AND TOPS
	Twp.	Rge.	Section	County							
107	14N	11E	CSWNW 25	Santa Fe	Richfield Oil Corp., Lee 1	A	1945	7098	2588	pC	
108	14N	11E	NWSESW 33	"	Toltec Oil Co., Panky 2	A	1919		2898		
109	15N	1W	NESESE 11	Sandoval	Cannedy & Larrazolo, 3 Odlum	A	1955	5710 Gr	402	Je	T/Jt 270, T/Je 396
110	15N	1W	NWNENE 15	"	Avila Oil Co., 1 Odlum	A	1953	5963 KB	5394	pC	T/Jt 742, Je 858, Trc 1043, Psa 2151, Psg 2308, Pa 3693, IP 4551, pCq 5250
111	15N	1W	NNENE 15	"	Avila Oil Co., 2 Odlum	A	1954	5944 Gr	912	Je	T/Je 860
112	15N	1E	SWNW 20	"	Percy Griffin, 1 Federal (Hart)	A	1954	5726 Gr	275	Trw	
113	15N	1E	NESWSW 20	"	Ohio Oil Co., 1 Ohio-Govt. Haines	A	1960	5761 Gr	6161	pC?	T/Trc 300, Traz 2250, Py 2422, Pa 3950
114	15N	5E		"	Anschutz & Guest, Tejon Spanish Grant 1	A	1931		550	Kd	Not shown on map
115	16N	3W	CSWSW 17	"	Abbott Bros., 1 Fed.	TA	1959	6100 DF	1840	Kd?	
116	16N	2W	SWNESE 34	"	Blair & Price, 1 Goodener	A	1955	6292 Gr	2398	Je	T/Kd 1300, T/Je 2333
117	16N	2W	CNWSE 36	"	Blair & Price, 1 Jess York	A	1955	6050 Gr	1759	Je	
118	16N	1W	13	"	Albuquerque Nat. Gas Co., Jemez 1	A	1931		600		
119	16N	1E	SW 6	"	De Chavez Pet. Co., Kaseman 2	A	1932		2008	P	
120	16N	1E	NENWSE 7	"	Tide Water Assoc. Oil Co., Gerstner 1	A	1949	6220	2560	pC	T/P 1911, pC gr. 2480
121	16N	1E	7	"	De Chavez Pet. Co., Kaseman 1	A	1925		550		
122	17N	2W	SENWSE 25	"	Jack N. Blair, 1 Cheney	A	1955	6362 Gr	2390	Je	T/Kd 1395, T/Jm 1810, T/Je 2359
123	17N	1W	SWNESE 32	"	Blair & Price, 1 McKenzie	A	1955	6051 Gr	1055	Je	T/Je 1049
124	18N	4W	NENE 21	"	O. A. Larrazolo, 22-1 Navajo	A	1959	6405 Gr	1200	Kmv	PB 973, Perf. 878-904 Compl.as WW
125	18N	4W	NWSENE 22	"	Albuquerque Assoc., 2 Navajo	A	1953	6348 DF	3787	Jm?	T/Kd 3450, Jm 3662, Kd 4208
126	18N	4W	NENW 22	"	O. A. Larrazolo, 22-4 Navajo	Gas	1959	6429 Gr	1200		IP 300 MCFPD 1056-1109 Kmv
127	18N	4W	CNWSW 22	"	Reynolds Mining, 1 Torreon	A	1956	6388 DF	7520		T/Kd 3471, Jm 3738, Je 4585, Trc 4792, Pc 5891
128	18N	4W	CNESE 22	"	Albuquerque Assoc., 1 Navajo	A	1953		100		Crooked hole, skidded rig
129	18N	4W	NWNESE 22	"	Albuquerque Assoc., 1-X Navajo	Gas	1953	6290 Gr	994	Kmv	IP: 594, MCF 3 hrs from Kmf
130	18N	4W	NENE 27	"	O. A. Larrazolo, 27-1 Fed.	A	1959	6329 Gr	1200	Kmv	SG 490-500, 645-660, 880-950, 1090-1100
131	18N	4W	CNWNE 32	"	F. F. Kelly, State 1	A	1953	6490 DF	3776	Jm	PB 1025 T/Kd 3380
132	18N	3W	NSENW 3	"	Ed W. Cannedy (John Fidel), 1 Cass Goodener Fed.	TA	1955	6619 Gr	1303	Kmv?	T/Kmf 681
133	18N	3W	CSWSESE 3	"	W. W. Holmes, 1 Young-Fed.	A	1961	6683 Gr	1365	Kmv	
134	18N	3W	NWNENE 10	"	W. W. Holmes, 3 Spencer-Fed.	Loc.	1961	6678 Gr			

REF. NO.	LOCATION				OPERATOR, LEASE, AND WELL NUMBER	STATUS AND DATE		ELEV.	TOTAL DEPTH	BOT-TOM FM.	PRODUCTION, SHOWS, TESTS, AND TOPS
	Twp.	Rge.	Section	County							
135	18N	3W	SESWNE 10	Sandoval	W. W. Holmes, 2 Spencer-Fed.		1961	6741 Gr	1503		
136	18N	3W	SESENE 10	"	W. W. Holmes, 1 Spencer-Fed.	A	1961	6696 Gr	1415	Kmv	T/Kpl 1375
137	18N	3W	SESENW 10	"	W. W. Holmes, 1 Haley-Fed. "A"	A	1959	6644 Gr	1495	Kmv	Several slight shows of oil in cores
138	18N	3W	SWNESE 10	"	W. W. Holmes, 1 Anderson Beard-Fed.	Dlg.	1961	6715 Gr	1280	Kmv	Spud 6/3/61
139	18N	3W	NENENW 11	"	W. W. Holmes, 5 Spencer-Fed.			6775 Gr			Loc. 7/12/61
140	18N	3W	SWNENW 11	"	W. W. Holmes, 7 Spencer-Fed.			6755 Gr			Loc. 7/12/61
141	18N	3W	SENWNW 11	"	W. W. Holmes, 8 Spencer-Fed.		1961	6750 Gr	1447		
142	18N	3W	SENWNW 11	"	W. W. Holmes, 10 Spencer-Fed.			6692 Gr			Loc. 7/12/61
143	18N	3W	NESWNW 11	"	W. W. Holmes, 4 Spencer-Fed.			6708 Gr	1145		Rec. 3' sd w/ bleeding oil from core #2 1139-45; 120 fillup oil; testing 7/12/61
144	18N	3W	SWNW 11	"	W. W. Holmes, 9 Spencer-Fed.	A	1961		1470		
145	18N	3W	NESWNW 11	"	W. W. Holmes, 11 Spencer-Fed.	Dlg.	1961	6709 Gr			Spud 6/26/61
146	18N	3W	NWSENW 11	"	W. W. Holmes, 6 Spencer-Fed.		1961	6714 Gr	1401		
147	18N	3W	NWNWNW 12	"	F. H. Gose & C. Hiett, 1 Govt.	TA	1955	6680 Gr	1647	Km?	
148	18N	3W	NENESE 14	"	W. W. Holmes, 1 Holmes-Fed.	A	1961	6660 Gr	1250	Kmv	
149	18N	3W	NENWNE 15	"	W. W. Holmes, 1 Fed.-Harvey	A	1961	6682 Gr	1500	Kmv	
150	18N	3W	SESESE 17	"	W. W. Holmes, 1 Haley-Federal	A	1959	6673 Gr	1510	Kmv	
151	18N	3W	CNWNE 21	"	Jenkins & McQueen, Gartner 1	A	1948	6885	3445	Kd	
152	18N	3W	SWSENE 21	"	J. I. Harvey, 4 Harvey-Fed.	A	1959	6679 DF	1305	Kmv	Several shows of oil and gas
153	18N	3W	ESENE 21	"	F. B. Umbarger, C. B. Gartner 1	A	1950	6397	1287	Km	Completed as water well
154	18N	3W	CSENE 21	"	F. B. Umbarger, C. B. Gartner 2	A	1949	6623	1050	K	PB 811
155	18N	3W	SENE 21	"	Harvey et al., 2 Gartner		1949		475		
156	18N	3W	NESW 21	"	Francis L. Harvey, 1 Clyde Harvey Fed.	Dis	1960	6740 Gr	1024	Kmv	IP: 84 BOPD & 12 BWPD from 992-1000' in Kmv
157	18N	3W	SENWSW 21	"	F. L. Harvey, 3 Harvey	Oil	1961	6687 Gr	1000		IP 6 BOPD
158	18N	3W	NESWSW 21	"	Myron T. King, 2 King			6673 Gr			Loc. 7/12/61
159	18N	3W	SWSENE 21	"	E. W. Cannedy, 3 Gartner	TA	1955	6626 DF	1094		P.B. 932, SG 861-81
160	18N	3W	NESESW 21	"	Myron T. King, 1 King	WOO	1961	6650 Gr	920		Spud 7/2/61
161	18N	3W	SWNWSE 21	"	F. L. Harvey, 3-A Fed.	Oil	1961	6685 Gr	935		IP 53 BOPD/908-935' in Kmv
162	18N	3W	SWNWSE 21	"	J. I. Harvey, 1 Harvey-Fed. "A"	Oil	1959	6663 Gr	918	Kmv	IP: 41 BOPD from 891-918' (est. 200 MCFGPD)

REF. NO.	LOCATION				OPERATOR, LEASE, AND WELL NUMBER	STATUS AND DATE		ELEV.	TOTAL DEPTH	BOT-TOM FM.	PRODUCTION, SHOWS, TESTS, AND TOPS
	Twp.	Rge.	Section	County							
163	18N	3W	SWSE 21	Sandoval	J. I. Harvey, 2-A Federal	Gas	1959	6604 DF	910	Kmv	Gas Disc.
164	18N	3W	NWNW 22	"	G & R Oil Co., 1 Fed. Harvey		1950		1265		
165	18N	3W	SWSWNW 22	"	Clyde B. Harvey, 1 Smith	A	1958	6143 Gr	913	Kmv	SO 502-525 & 565-70; T/Kpl 805
166	18N	3W	NENE 30	"	W. W. Holmes, 1 Holmes "A"	A	1961	6605 Gr	1270	Kmv	
167	18N	3W	NWNE 28	"	W. W. Holmes, 1 Rorex	A	1959	6549 Gr	1215	Kmv	Slight SO 410-20, 594-609, 895
168	18N	3W	SESE 28	"	J. I. Harvey, 1 Terry-Fed.	A	1960	6695 DF	1220		
169	18N	3W	SWNENE 33	"	Entrada Corp., 1-33 Fed.	A	1958	6477 Gr	910		Slight SO 292-300, 314-19; wtr at 865
170	18N	3W	SWNENE 33	"	Entrada Corp., 2-33 Fed.	A	1958	6464 Gr	401	Kmv	Slight SO 292-328, sulfur wtr at TD
171	18N	3W	NESWNE 33	"	J. I. Harvey, 2 Fed.	A	1959	6590 Gr	820		
172	18N	3W	NWSENE 33	"	J. I. Harvey, 1 Fed.		1959	6462 Gr	353		Flowed 5 BO + 5 BWPD from 338-353
173	18N	3W	NENWSE 33	"	Myron T. King, 3 King			6540 Gr			Loc. 7/12/61
174	18N	1W	CNWNE 7	"	H. Leonard et al., Catron Grant 1	A	1931	6434	2003	Jm	
175	18N	1W	NWSESW 28	"	Late Oil Co., 1 Gulf-Federal	A	1958	6774 Gr	1552	Jm	T/Ksa 760, T/Kd 1210, T/Jm 1555
176	18N	1W	NESWNE 30	"	Cities Service Oil Co., 1 Govt.	A	1953	6460 Gr	1442	Kd?	T/Kd 1264
177	19N	4W	NENE 6	"	Eastern Petroleum Co., 1 Silver-Fed.	A	1957	6650 Gr	3729	Km	DST 2164-2214 rec 60' free oil, 160' MCO, 107' mud; T/Kch 834, Kmf 1475, Kpl 2350, Km 2480, Kgs 3460
178	19N	4W	SWNWNE 17	"	Lowry et al., 1 Renkoff	A	1953	6643 Gr	4695	Jm	Rec. shows at sev. depths on DST's; PB 2212 ~~T/Kd~~ 4380
179	19N	4W	NESW 17	"	Lowry Oil, 1 "D" Renkoff	A	1954	6647 Gr	2220		Pumped 61 BO, 3 BW in 48 hrs from Kmv; respudded 1954 and drilled to TD.
180	19N	4W	SWNESW 17	"	Ed W. Cannedy, 3 Renkoff	TA	1957	6638 DF	1657	Kgs	Pumped 7 BOPD, SI
181	19N	4W	NWNWSE 17	"	W. C. Gilmore, 1 Gilmore	A	1957	6675 Gr	1761		
182	19N	3W	SENE 3	"	Atlantic Refining, 2 Torreon	A	1961		3572		Strat. test; no information released
183	19N	3W	CSWNW 14	"	Magnolia Petroleum, 1 Harvey-Fed.	A	1954	6806 DF	5292	Je	T/Kd 4205, Je 5231; DST 5217-32 Rec. 90' sli OCM, 90' sli O&WCM
184	19N	3W	CNWSW 14	"	Magnolia Petroleum, 1 Hutchison-Fed.	Oil	1953	6841 DF	9684	pe	T/Km 2114, Je 5215, P 6658, IP 8454, pe 9660. Perf 5210-15; swbd 59 BO 24 hrs
185	19N	3W	CNESE 15	"	Magnolia Petroleum, 2 Hutchison	Oil	1954		5202	Je	T/Kd 4172, Je 5197; IP: 62 BO & 162 BSW in 24 hrs from 5200-02
186	19N	3W	CNESE 16	"	F. L. Harvey, 1 C. Gonzales	A	1956	6868 DF	3568	Km	P.B. 900', sold as wtr well
187	19N	3W	SESESW 22	"	Cornell O & G Corp., M.C. Moore 1	A	1952	6635	1668		
188	19N	3W	SENENE 35	"	Francis L. Harvey, 1 Gose	A	1956	6740 KB	3171	Km	

REF. NO.	LOCATION				OPERATOR, LEASE, AND WELL NUMBER	STATUS AND DATE	ELEV.	TOTAL DEPTH	BOT-TOM FM.	PRODUCTION, SHOWS, TESTS, AND TOPS
	Twp.	Rge.	Section	County						
189	19N	2W	NWSENW 36	Sandoval	El Paso Natural Gas Co., 1 Elliott-State	A 1953	6668 DF	8254	pε	T/Kd 2825, Je 3925, Psa 5394, IP 7049, pε 8237
190	20N	3W	CSESE 7	"	Royal Dev. Co., 1 P. Clary	TA 1954	6885 DF	3291	Km	T/Kpc 965, Kl 1044, Kch 1634, Klv 1930, Km 3260
191	20N	3W	CNENE 13	"	Joe D. Farris, 1 Elliott	A 1957	7141 Gr	5380	Jm	T/Kpc 570, Kch 985, Km 2940, Kgs 3690, Kd 5080, Jm 5355
192	20N	3W	CNESW 27	"	Atlantic Refining Co., 1 Torreon	A 1961	6799 Gr	4014		Strat test; no information released
193	20N	2W	NWSW 8	"	A. N. Brown, 1 Magnolia-Fed.	A 1959	6875 Gr	6197	Je	T/Kpc 520, Kch 2025, Kpl 2706, Km 2910, Kd 5023, Jm 5215, Je 6055
194	20N	2W	SNESE 23	"	Mayflower O & G Co., Weil 1	A 1931		1845	Km	
195	20N	1W	NWNE 21	"	Keaton, 1 Cordova			985		
196	20N	1W	NWNWNW 21	"	Schuck, 1 Cordova	A 1953	6833 DF	1166		T/Kch 675, Kpl 1002
197	20N	1W	NESW 34	"	S. D. Johnson, 1 Heller		6923 KB	3877		T/Km 410, Kgl 1430, Kd 2706
198	20N	3E	CSESE 35	"	Westates Pet. Co., 1 Bond et al.	A 1960	8697 Gr	3700		Reported to have flowed 3-5,000 MCF steam PD
199	20N	9E	SWSWSW 11	Santa Fe	Castle & Wigzell, 1 Federal	Dlg 1961	6032 DF			Spudded 8/61

Abbreviations and symbols used in table:

Stratigraphic Units

K - Cretaceous rocks
Kl - Lewis shale
Kmv - Mesaverde group
Kch - Cliff House sandstone
Kmf - Menefee formation
Kpl - Point Lookout sandstone
Klv - La Ventana sandstone
Km - Mancos shale
Kgs - Gallup sandstone
Ksa - Sanostee formation
Kd - Dakota sandstone
Jm - Morrison formation
Jt - Todilto limestone
Je - Entrada sandstone
Tr - Triassic rocks
Trc - Chinle formation
Traz - Agua Zarca sandstone
Trs - Shinarump conglomerate
P - Permian rocks
Pc - Cutler formation
Psa - San Andres formation
Psg - Glorieta sandstone
Py - Yeso formation
Pa - Abo formation
IP - Pennsylvanian rocks
pε - Precambrian rocks
pεg - Precambrian granite
pεq - Precambrian quartzite

Other Symbols

A - Dry and abandoned
BOPD - Barrels of oil per day
BSW - Barrels of salt water
BWPD - Barrels of water per day
DF - Derrick floor
Dis. - Discovery
Dlg. - Drilling
DST - Drill-stem test
El T/ - Formation top from electric log
Gr - Ground
KB - Kelly bushing
Loc. - Location
MCFPD - Thousand cubic feet per day
MCO - Mud-cut oil
OCM - Oil-cut mud
O&WCM - Oil-and water-cut mud
Sa T/ - Formation top from samples
SG - Show of gas
SI - Shut-in
SO - Show of oil
SOG - Show of oil and gas
T/ - Formation top
TA - Temporarily abandoned
TD - Total depth
WOO - Waiting on orders
Wtr - Water
WW - Water Well