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Oil and gas in Socorro County, New Mexico

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This is one of many related papers that were included in the 1963 NMGS Fall Field Conference Guidebook.

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OIL AND GAS IN SOCORRO COUNTY, NEW MEXICO

ANONYMOUS—III

Prospecting for oil and gas in Socorro County began in 1923 and has continued intermittently to the present. Twenty-four wells have been drilled, but no production has been developed (see figure 1 and table 1). Oil or gas showings were reported in seven wells but have not been verified. With some exceptions, the wells were drilled by poorly financed or inexperienced operators, and some of the wells are not regarded as adequate tests of the area in which they were drilled.

An inspection of available geologic maps and a review of the literature does not indicate a more than moderately hopeful future for Socorro County as an oil- or gas-producing region, especially when compared with the productive areas of southeastern and northwestern New Mexico. There are large areas that are structurally disturbed or covered by volcanic rocks. The Precambrian basement is relatively high and Precambrian rocks are exposed in the mountain areas. Tertiary intrusive rocks of varied composition and form are not uncommon. Rocks of Mississippian age and of the type common in southern New Mexico are not known north of the Magdalena Mountains. Pre-Mississippian strata are apparently present only in a faulted area in the southeastern corner of the county.

Permian and later sedimentary formations offer little inducement for testing. They are mostly of shallow water or continental origin, or of the red-bed type, and are widely exposed by erosion. They are not considered to be of importance as potential sources of oil or gas. Cretaceous strata that underlie the Jornada del Muerto in the eastern part of the county may be an exception by reason of their more favorable lithologic character.

Strata of Pennsylvanian age that comprise the Magdalena Group are regarded as the most likely source of oil or gas in Socorro County. They consist of limestone, sandstone, and shale. The shales near Scholle in the northeastern corner of the county are reported to yield oil on distillation. Most of or all the showings reported in the wells are in Pennsylvanian rocks. The Magdalena Group has a maximum thickness of more than 2000 feet, and in many places has an adequate cover of younger strata. Structure is locally favorable and stratigraphic trap conditions are undoubtedly present. The future of Socorro County as an oil or gas region lies in the hands of the operators who are willing and able to take the risks of drilling in a strictly wildcat region.

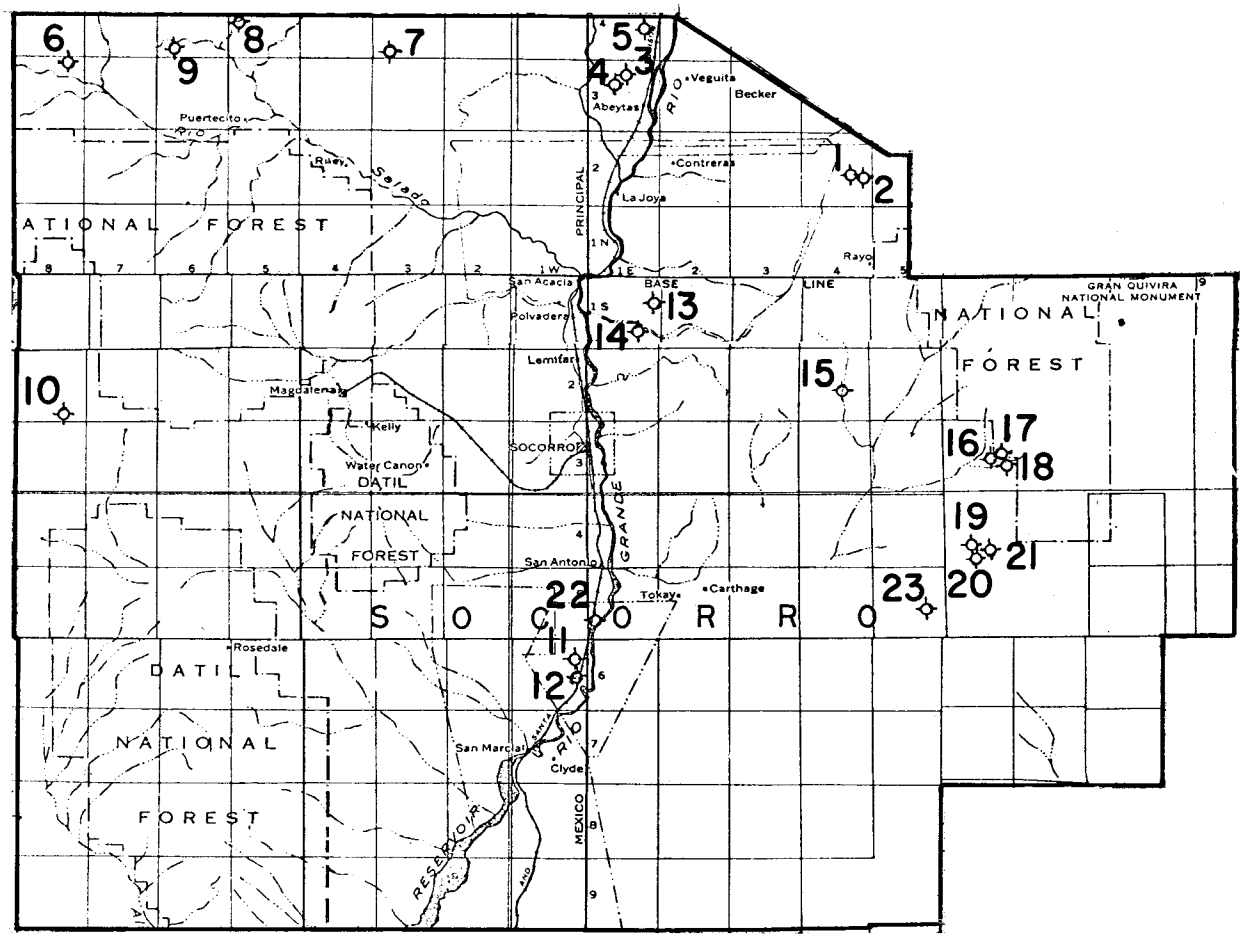


FIGURE 1

Exploratory wells drilled in Socorro County.

WELLS DRILLED FOR OIL OR GAS
SOCORRO COUNTY, NEW MEXICO

Map No.	LAND STATUS	OPERATOR	WELL NUMBER		LOCATION		YEAR COMPLETED	ELEVATION	TOTAL DEPTH	FORMATION AT SURFACE	FORMATION AT TOTAL DEPTH	OIL OR GAS SHOWINGS REPORTED	PRESENT STATUS
1.	Public	Laing Oil Co.	Sanchez	1	NW¼ SW¼ Sec. 23	T. 2 N., R. 4 E.	1952	5950	1182	Permian	Pennsylvanian	Gas 836, 1090	P&A 1955
2.	Patented	Laing, R. B.		2-A	NW¼ NW¼ 23	T. 2 N., R. 4 E.	1954	5910	738	Permian			Abd 1955
3.	Patented	Central N. Mex. Oil Co.	Livingstone	1	SE¼ NW¼ 16	T. 3 N., R. 1 E.	1938	5000	2978	Santa Fe		Oil 1860	Abd 1940
4.	Patented	Central N. Mex. Oil Co.	Livingstone	2	SE¼ NW¼ 16	T. 3 N., R. 1 E.	1940	--	845	Santa Fe		Oil 845	DSI 1940
5.	Non-public	Belen Oil Dev. Co.	Seipple	1	NE¼ NE¼ 23	T. 4 N., R. 1 E.	1927	--	3545	Santa Fe	Abo	Oil 2375	Abd 1931
6.	Patented	L. B. Mitchell & Sons	Red Lake	1	NW¼ NW¼ 2	T. 3 N., R. 8 W.	1925	--	4012	Triassic	Precambrian		Abd 1931
7.	State	White & Mangels	State	1	NE¼ SW¼ 32	T. 4 N., R. 3 W.	1947	6200	201	Permian	Granite		Abd 1947
8.	Patented	Spanel & Heinz	S.F. 9608	1	SE¼ NW¼ 17	T. 4 N., R. 5 W.	1959	6066	4784	Triassic	Precambrian		Abd 1959
9.	State	Ohio Oil Co.	McDonald	1	NW¼ NE¼ 32	T. 4 N., R. 6 W.	1926	--	1997	Cretaceous			Water well, 1931
10.	Non-public	Southland Royalties	Augustine (anomaly)	1	SW¼ NE¼ 35	T. 2 S., R. 8 W.	1958	7000 est.	1795	Quaternary	Volcanic		
11.	Non-public	Arnold et al		1-A	SE¼ NE¼ 13	T. 6 S., R. 1 W.	1927	--	2445	Quaternary	Permian	Oil 1690	Abd 1927
12.	Non-public	Arnold et al		2	SE¼ NE¼ 13	T. 6 S., R. 1 W.	1929	4505	1975	Quaternary	Permian		Abd 1925
13.	Patented	Lajara Basin Oil Co.		1	NE¼ 13	T. 1 S., R. 1 E.	1923	--	800	Quaternary			Abd 1923
14.	Patented	Lavoya Oil Co.		1	26	T. 1 S., R. 1 E.			860	Quaternary			Abd 1952
15.	Public	Skelly Oil Co.	Goddard	1	NW¼ SE¼ 22	T. 2 S., R. 4 E.	1948	5619	3386	Quaternary			Abd 1949
16.	Public	Abo Oil Co.	Powell-Stackhouse	1	NE¼ SE¼ 14	T. 3 S., R. 6 E.	1927	6300	614	Permian	Permian		Abd 1927
17.	Public	Abo Oil Co.	Powell-Stackhouse	1-A	NE¼ SE¼ 14	T. 3 S., R. 6 E.	1931	6300	750	Permian	Permian		P&A 1933
18.	Public	Lockhart Co.	Powell-Stackhouse	2	NE¼ SE¼ 14	T. 3 S., R. 6 E.	1930	5900	2772	Permian	Permian		P&A 1930
19.	Public	J. R. Lockhart	Lockhart	1	SE¼ NW¼ 28	T. 4 S., R. 6 E.	1953	5752	2990	Permian	Granite		P&A 1954
20.	Public	J. R. Lockhart	Lockhart	2	NW¼ NW¼ 33	T. 4 S., R. 6 E.	1954	5693	3037	Permian	Precambrian		Abd 1954
21.	Public	J. R. Lockhart	Lockhart	3	SW¼ NW¼ 33	T. 4 S., R. 6 E.	1955	5712	2665	Permian	Precambrian	Oil 2483	Abd 1955
22.	Non-public	New Mexico Dev. Co.	Perrin	1	SW¼ SE¼ 30	T. 5 S., R. 1 E.	1928		3275	Tertiary		Oil 1387	DSI 1931
23.	State	Sun Oil Co.	Bingham-State	1	SW¼ SW¼ 23	T. 5 S., R. 5 E.	1955	5412	3141	Recent	Granite		Abd 1955

TABLE 1