





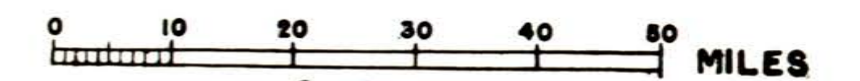


EXPLANATION

-  Precambrian Outcrop
-  Producing Well, Total Depth
-  Dry Hole, Total Depth
-  Oil Show, Total Depth
-  Gas Show, Total Depth
-  Gas Pipeline

Oil and Gas Tests in South Dakota, 1958

Compiled by Allen F. Agnew  
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Scale  
 Base Map Drafted by G.E. Kroger, 1958

Oil and Gas Developments in South Dakota, 1958

by  
Allen F. Agnew

Exploratory activity in South Dakota dropped off in 1958, with the completion of only 15 oil tests. This represents only 34 per cent of 1957's activity. However, two of the holes were productive, both from the Ordovician Red River dolomite in Harding County.

Mid-America Minerals #1-17 State joined the three Shell producing wells in the Buffalo-Red River pool. The Clarkson-Schlaikjer #1 Government well, 3½ miles to the southwest, has a potential of 288 BOPD on pump with no water. This well attracted much attention to Harding County upon its completion in November, and set off a lease play in Harding County. Both of these wells were awaiting pipeline arrangements on December 31.

The total footage drilled in 1958 was 44,575 feet, only 28 per cent of 1957. The average depth of this year's holes was 2972 feet, or 600 feet less than in 1957.

Of the 15 oil tests completed in 1958, eight (53 per cent) were drilled in the southwestern part of the Black Hills, mostly in or near the Barker-Leo pool along the Custer-Fall River County line. These holes tested the Leo sands of the Pennsylvanian Minnelusa group. Shows of oil or gas were reported from four, but none was economic.

Two oil tests (13 per cent) were drilled in eastern Fall River County. Both reached the Mississippian Pahasapa limestone, and although only 15 miles apart, they penetrated rocks of significantly different character in the lower part of the holes. The eastern hole had an oil show, but was plagued by lost circulation, which eventually caused the hole to be lost.

The two oil tests in the northern fringe of the Black Hills (southwestern corner of Butte County) were likewise unsuccessful. However, as these wells penetrated only the upper (Converse) sands of the Minnelusa group, the productive potential of the Leo sands, which lie several hundred feet deeper, is unknown in that area.

One hole was drilled in the saddle between the Williston Basin and the smaller Kennedy Basin, to the south. It was abandoned as a dry hole in the upper part of the Madison limestone of Mississippian age, when lost circulation troubles became bothersome. The potential of the lower zones in this area, therefore, was not tested.

In December the Shell Oil Company requested 160-acre spacing for the eastern two-thirds of T. 21 N., R. 3 E., all of T. 21 N., R. 4 E., and the southern line of sections adjoining on the north. The hearing was set by the State Oil and Gas Board for February 16, 1959.

Production in 1958 continued at a slightly higher rate from the Buffalo-Red River pool--56,075 bbl oil and 5420 mcf gas were produced (increases of 3 and 8 per cent, respectively). In the Barker-Leo pool, 2136 bbl oil were taken from the ground, an increase of 122 per cent over 1957. At year's end, one of the three Shell wells in the Buffalo-Red River pool was shut down.

In the following tabulation the tops are from electric and other mechanical logs except for wells no. 2, 3, 4, 6, 10, 11, and 15, where sample tops are used.

Explanation of Remarks Column

- A Gas show, 1347-9; trace oil 1400-3, 1410-11. Water, 760-85, 1437-47.
- B Cable tools. Gas show, 730-45. Water, 730-45.
- C Cable tools. Oil show, 1005-15, 1040-55, 1070-5, 1360-70. Water, 708-18, 803-43.
- D Rotary to 1300; cable tools 1300-T.D. Perforated 1034-50, swabbed, no show.
- E Cable tools. Gas odor 730-45, 1005-09, 1397-1406. Water 80, 710-15.
- F Cored 2220-70, 2320-57, 2465-2503.
- G Lost circulation and hole. Oil show 3990-4000. DST 4027-42. Rec. 3000 FW, 218 MFW. Lost circulation 2527, 2544, 2919, 2983, 3000-24, 3025, 4033-6, 4052, 4068-T.D.
- H Cable tools. Lost hole at 245 feet. Skidded 20 feet. Completed as water well at 564 feet.
- I Oil show 1140-4. Water 1210.
- J Cored 8420-63 = 8461-63 stain and bleeding core. Cored 8468-8511 = 8471-91 lt. bn. stain, good sat.; 8491-8508, slight blk. oil bleeding. DST 8460-8511. Rec. 1890 highly GCO, 1200 highly GC & OCW. IHP 4570, IFP 495, FFP 1265, FSI 3197, FHP 4586. Temp. 200° F. Cored 8539-70, no show. Cored 8597-8645, no show. Set 5½" at 8566 with 850 sx. Perforated 8474-8484, acid 1000 gal., SWB 16 BOPH, 34° + Pump test 12 BOPH.
- K DST 6800-45; Rec. 80 feet WCM. DST 8545-80; rec. 1120 highly GC slightly MCO, 180 GCWCMO. DST 8608-30; rec. 90 M with oil scum. DST 8604-52; rec. 190 slightly WCM with trace oil. Set 5½" at 8657 with 825 sx. Perforated 8522-4, 8526-38, 8548-52, 8558-74. Pumped 36 BOPD, 180 BWPD for 11 days. Diesel oil-cement. Squeeze and acidized with 500 gal. SWB 175 BO and 65 BW in 24 hours. Put on pump.
- L DST 3910-30; flowed FW. DST 3350-72; rec. 90 WCM with very slight G odor.
- M Cored 757-1152, 1214-34. Flowed 150 GPM (est.) FW at 446-530. Flowed 600 GPM (est.) FW at 574-676. Abandoned June 21, but not yet plugged.

WELL DATA

Well No.	Name	Location	Completed	Altitude	Niobrara	Greenhorn	Newcastle	Fall River	Piper Limestone	Minnekahta	Minnelusa	Red Marker	Mission Canyon	Lodgepole	Duperow	Interlake	Stony Mt.	Red River	Precambrian	T.D.	Remarks	Well No.
1	Harris #1 Rothleutner	NESW 7-6S-2E	11-13	4040 G	-	-	-	-	-	407	547	968	-	-	-	-	-	-	-	1200	-	1
2	Wagner #1 Kline	SENE 33-6S-2E	11-6	4203 G	-	-	-	-	-	649	760	1233	-	-	-	-	-	-	-	1454	A	2
3	Milburn #1 Robinson	NESW 34-6S-2E	6-13	4199 G	-	-	-	-	-	698	-	-	-	-	-	-	-	-	-	745	B	3
4	Milburn #2 Robinson	10 foot skid	12-5	4199 G	-	-	-	-	-	698	803	1245	-	-	-	-	-	-	-	1455	C	4
5	Helms #1 Robinson	NWSE 34-6S-2E	10-23	4189 G	-	-	-	-	-	688	780	1246	-	-	-	-	-	-	-	1650	D	5
6	Wirkkala #1 Robinson	NWSW 34-6S-2E	9-3	4205 G	-	-	-	-	-	715	795	1250	-	-	-	-	-	-	-	1454	E	6
7	Island View #1 Martinson	NWNW 24-8S-2E	2-5	3608 KB	-	-	-	240	-	1614	1690	2182	-	-	-	-	-	-	-	2540	F	7
8	Gary #1 State	SESE 25-10S-5E	8-31	3772 KB	828	1505	2118	2397	-	3626	3777	4208	4700	-	-	-	-	-	-	4782	-	8
9	Ohio #1 Hedrick	SENE 25-9S-7E	10-18	3413 G	812	1470	2036	2300	-	3574	3644	4154	4525	-	-	-	-	-	-	4617	G	9
10	Caudill #1 Cunningham	NWSW 9-7N-1E	12-18	3423+G	-	-	-	-	-	538	712?	-	-	-	-	-	-	-	-	785	H	10
11	Clark #1 Hartwell	NWNE 30-8N-1E	6-11	3610 G	-	-	-	-	-	979	1134	-	-	-	-	-	-	-	-	1211	I	11
12	Clarkson-Schlaikjer #1 Government	SENE 23-21N-3E	11-24	3173 G	2875	3445	4095	4390	5303	5952	6092	-	7065	7402	7888	8023	8366	8434	-	8645	J	12
13	Mid-America Minerals #1-17 State	NESE 17-21N-4E	10-14	3074 KB	-	3408	-	4425	5344	5980	6120	-	7088	7405	7916	8080	8451	8519	-	8657	K	13
14	Campbell #1 Dale	SWSW 1-1S-22E	1-4	3930 G	-	1872	2131	2602	-	-	2921	-	3828	-	-	-	-	-	-	3930	L	14
15	Rittershaus #1 Jamesville Colony	NESW 29-96N-56W	6-21	1160 G	-	226	-	358	-	-	-	-	-	-	-	-	-	-	738?	1234?	M	15