

GEOLOGIC REPORT

JACKSON, SHEAR, AND PARKER

NO. 1 FOSTER

SW SW SW Sec. 14, T. 6 S., R. 32 W.
Thomas County, Kansas

OWLL

RICHARD G. SMITH

PETROLEUM GEOLOGIST

RESIDENCE
2934 EUCLID

301 BEACON BLDG.
WICHITA 2, KANSAS

OFF. AM 5-9626
RES. WH 3-0703

July 21, 1958

Jackson, Shear, and Parker
Box 149
Duncan, Oklahoma

Re: Jackson, Shear, and Parker
No. 1 Foster
SW SW SW Sec. 14, T. 6 S., R. 32 W.
Thomas County, Kansas

Gentlemen:

The following is my interpretation of the geologic data derived from the samples, drilling time log, drill stem tests, and Schlumberger electrical survey on the Foster No. 1.

<u>Formation</u>	<u>Sample Tops</u>	<u>Schlumberger Tops</u>
Anhydrite	2673 (/353)	
Topeka	3778 (-752)	3782 (-756)
Heebner	3951 (-925)	3951 (-925)
Toronto	3983 (-957)	3983 (-957)
Lansing-Kansas City	3999 (-973)	3999 (-973)
Base Kansas City	4225 (-1199)	4217 (-1191)
Marmaton	4235 (-1209)	4234 (-1208)
Cherokee	4400 (-1374)	4400 (-1374)
Mississippian	4556 (-1530)	4557 (-1531)
Arbuckle	4718 (-1692)	4718 (-1692)
Rotary Total Depth	4770 (-1744)	4772 (-1746)

REGIONAL STRUCTURAL CORRELATIONS:

<u>Formation</u>	<u>Jackson et al No. 1 Foster SW SW SW 14-6s-32w</u>	<u>Virginia No. 1 Barnett NW NW SE 8-6s-31w D & A</u>	<u>C.S.O. No. 1 Lincoln SE SE SE 11-6s-33w D & A</u>	<u>Texas No. 1 Daugherty NW SW SW 23-6s-33w D & A</u>
Anhydrite	/353		/396	/358
Topeka	-756	-783	-701	-747
Heebner	-926	-961	-857	-906
Toronto	-957	-994	-888	-937
Lansing-Kansas City	-973	-1010	-904	-953
Marmaton	-1208	-1259	-1165	-1217
Cherokee	-1374	-1426	-1324	-1384
Mississippian	-1531	-1581	-1474	-1543
Arbuckle	-1692	-1701	-1660	-1711
Total Depth	-1746	-1750	-1944	-

SHOWS OF OIL AND/OR GAS:

- 3718-3740 Light tan sucrosic dolomite with good vuggy porosity. No shows of oil and/or gas observed.
- 3748-3754 Light gray finely crystalline limestone with good vuggy porosity. Dead brown oil staining in dry sample; flaky oil residue in wet sample; no fluorescence. Recommended not testing this zone.

Topeka Zones:

- 3792-3804 Gray - tan finely crystalline limestone with fair to good pinhole to vuggy porosity; no shows of oil and/or gas observed.
- 3816-3832
- 3848-3853 Cream fine to medium crystalline limestone with fair vuggy porosity; no shows of oil and/or gas observed.
- 3867-3871 Gray - tan fine to medium crystalline limestone with fair vuggy porosity; trace heavy free oil; slight fluorescence; scattered spotted oil staining. Recommended drill stem testing this zone.
- 3890-3893 Cream - tan finely crystalline limestone with poor inter-crystalline porosity; trace spotted oil staining; slight spotted fluorescence. Recommended drill stem testing this zone.
- 3907-3917 Cream - tan fine to medium crystalline limestone with scattered vuggy porosity; trace black heavy oil; black tarry oil staining in dry sample; no fluorescence. Recommended drill stem testing this zone.

No. 1 drill stem test, 3866-3927, open 1 hour, had a weak steady blow and recovered 160 feet of muddy salt water; 20 minute closed-in pressures were: IBHP 1307 p.s.i.; FBHP 1039 p.s.i.; IFP 31 p.s.i.; FFP 82 p.s.i.

Toronto Zone:

- 3983-3985 White fine to medium crystalline, oolitic limestone with scattered vuggy porosity; trace heavy black tarry oil staining; no free oil; no fluorescence. Recommended not testing this zone.

Lansing-Kansas City Zones:

- 4001-4004 Gray fine to medium crystalline limestone; scattered vuggy porosity with black residual oil staining; no free oil; no fluorescence.

4026-4032 White - gray fine to medium crystalline limestone, scattered vuggy porosity; trace free oil; slight fluorescence; black oil staining in dry sample.

Recommended drill stem testing the two previously mentioned zones.

No. 2 drill stem test, 4000-4040, open 1 hour, had a weak blow and recovered 155 feet drilling mud with no shows of oil; 20 minute closed-in pressures were: IBHP 1300 p.s.i.; FBHP 1156 p.s.i.; IFP 35 p.s.i.; FFP 86 p.s.i.

4039-4042 Gray finely crystalline limestone with fair to good scattered vuggy porosity; fair to good spotted oil staining in dry sample; scattered fluorescence.

4066-4068 Gray finely crystalline limestone, poor porosity, trace spotted oil staining; no fluorescence.

4084-4091 Gray - tan fine to medium crystalline limestone; fair scattered vuggy porosity; trace free oil; fair to good scattered spotted fluorescence and oil staining.

Recommended drill stem testing the three previously mentioned zones.

No. 3 drill stem test, 4034-4098, open 30 minutes, had a strong blow and recovered 330 feet muddy salt water. 20 minute closed-in pressures were: IBHP 1396 p.s.i.; FBHP 1290 p.s.i.; IFP 57 p.s.i.; FFP 195 p.s.i.

4122-4127 Gray finely crystalline limestone; poor intercrystalline pinhole and scattered vuggy porosity; no shows of oil and/or gas observed.

4162-4167 Gray to tan fine to medium crystalline, pseudo oolitic limestone; poor scattered vuggy porosity; no shows of oil and/or gas observed.

Marmaton Zones:

4362-4369 Gray finely crystalline limestone with scattered vuggy porosity; slight show free oil; fair to good oil staining in dry sample; scattered fluorescence. Recommended drill stem testing this zone.

No. 4 drill stem test, 4344-4376, open $1\frac{1}{2}$ hours, had a moderate blow and recovered 130 feet clean gassy oil; gravity @ 31°; 20 minute closed-in pressures were: IBHP 1062 p.s.i.; FBHP 200 p.s.i.; IFP 31 p.s.i.; FFP 62 p.s.i.

Cherokee Zones:

4404-4408 Gray finely crystalline limestone with white fossiliferous chert; fair scattered vuggy porosity; slight spotted oil staining. Did not recommend drill stem testing this zone; however, Schlumberger indicates good porosity and no water. Recommend perforating and testing 4405-4410.

4473-4478 Clear fine size glassy sub-angular calcareous sand; good porosity; no shows of oil and/or gas observed.

4538-4544 Clear, rounded and sub-angular, fine to coarse size loose sand; no shows of oil and/or gas observed.

Mississippian Zones:

Samples indicated the section to consist of chert, cherty limestones, and slightly cherty dolomites. No important porous zones were indicated by the samples or Schlumberger.

Arbuckle Zones:

4718-4747 Gray - tan medium crystalline slightly vuggy, pyritic dolomite with white opaque and translucent chert; streaked vuggy porosity; no shows of oil and/or gas observed.

4747-4758 Light tan finely crystalline to sucrosic vuggy dolomite; good intercrystalline and vuggy porosity. No shows of oil and/or gas observed.

Four and one-half inch production casing has been set and cemented at 4425 feet (-1399), drillers' rotary bushing measurement. All measurements were taken from the kelly bushing, and Schlumberger measurements of tops, zones, and rotary total depth are taken as correct.

Recommendations for completion are:

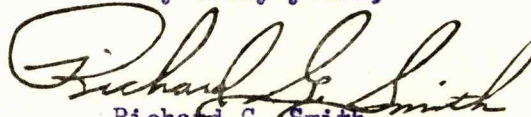
1. Perforate casing opposite the Cherokee limestone from 4405 feet to 4410 feet.
2. Test zone.
3. Treat zone with initial acid treatment of 500 gallons.
4. Test zone.
5. Treat zone with additional acid treatment of 500 to 1500 gallons if needed.
6. Test zone.

After Cherokee limestone has been fully tested and zone has either been condemned or established, set plug and:

1. Perforate casing opposite the Marmaton limestone from 4368 feet to 4376 feet.
2. Test zone.
3. Treat zone with initial acid treatment of 500 gallons.
4. Test zone.
5. Treat zone with additional acid treatment of 500 to 1500 gallons if needed.
6. Test zone.

The samples and Schlumberger indicate there are no possible commercial oil producing zones behind the casing above the Cherokee and Marmaton. It is recommended that the hole be plugged as dry and abandoned when the subject Cherokee and Marmaton zones have been fully tested for commercial oil production and/or are depleted.

Very truly yours,



Richard G. Smith
Petroleum Geologist

RGS/cs