Steve

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# GEOLOGICAL REPORT

JANDIE OIL COMPANY, INC.
&
RICHARD G. SMITH

NO. 2 ALPERS-UKENS
SW NE SW SECTION 22-22S-12W
STAFFORD COUNTY, KANSAS

| | |
|---|---|
| Operator: | Jandie Oil Company, Inc.<br>&<br>Richard G. Smith |
| Well: | Alpers-Ukens No. 2 |
| Location: | SW NE SW Section 22-T22S-R12W<br>Stafford County, Kansas |
| Wellsite: | Very sandy plowed field |
| Commenced: | July 27, 1984 |
| Completed: | August 4, 1984 (with rotary) |
| Elevation: | 1862 GL 1864 DF 1867 KB |
| Total Depth: | 3760 (Driller) 3757 (Electra) |
| Casing: | Surface: 8 5/8" @ 317/200 sacks cement<br>Production: 5½" @ 3757/125 sacks cement |
| Samples: | 10-foot intervals: 2800 feet to 3315 feet<br>5-foot intervals: 3315 feet to 3760 feet |
| Electrical logs: | Radiation-Guard-Caliper by Electra Log, Inc. |
| Drillstem tests: | Two (2) by Swift Formation Testers |
| Contractor: | Emphasis Oil Operations (Rig 6) |

| FORMATION TOPS | SAMPLES | | ELECTRA | |
|---|---|---|---|---|
| Anhydrite | | | 636 | +1231 |
| Heebner | 3162 | -1295 | 3154 | -1290 |
| Toronto | 3182 | -1315 | 3174 | -1307 |
| Douglas | 3195 | -1328 | 3188 | -1321 |
| Brown Lime | 3292 | -1425 | 3287 | -1420 |
| Lansing | 3315 | -1448 | 3310 | -1443 |
| Base Kansas City | 3537 | -1670 | 3534 | -1667 |
| Viola | 3579 | -1712 | 3580 | -1713 |
| Simpson | 3630 | -1763 | 3628 | -1761 |
| Arbuckle Sand | 3691 | -1824 | 3683 | -1816 |
| Arbuckle Dolomite | 3694 | -1827 | 3690 | -1823 |
| Rotary Total Depth | 3670 | -1893 | 3757 | -1890 |

## SAMPLE ZONE DESCRIPTIONS

### LANSING-KANSAS CITY 3310 (-1443)

3319-3326 "A" Zone — Limestone; white, fine to medium crystalline; fossiliferous in part; poorly developed vuggy porosity; no visible free oil; scattered spotted staining and fluorescence.

3342-3348 "B" Zone — Limestone; buff to gray, finely crystalline; some fair vuggy porosity; no visible free oil; scattered, spotted staining and fluorescence.

3365-3370 "D" Zone — Limestone; buff, finely crystalline; oolitic in part; poorly developed oolicastic-vuggy porosity; no visible free oil; scattered, spotted oil staining and fluorescence.

3400-3407 — Limestone; buff, fine to medium crystalline; fossiliferous in part; poorly developed pinhole vuggy porosity; no visible free oil; spotted staining.

3445-3451 — Limestone; gray, finely crystalline; oolitic and oolicastic; good vuggy porosity; small show free oil; good odor, fluorescence and staining.

DRILLSTEM TEST No. 1, 3438-3451
failed due to bridge in hole at 2850 feet.

DRILLSTEM TEST No. 2, 3438-3451

30/60/30/60; initial blow weak for 30 minutes; final flow had weak blow for 10 minutes.
Recovered: 120 feet gas in drillpipe; 20 feet gas cut mud with a trace of oil.

| | | | |
|---|---|---|---|
| IHP | 1880 psi | FFP | 13-16 psi |
| IFP | 8-13 psi | FCIP | 25 psi |
| ICIP | 23 psi | FHP | 1870 psi |

3463-3467 "I" Zone — Limestone; white, finely crystalline; oolitic; scattered vuggy porosity; TRACE free oil; black tar-like staining; scattered, light spotted staining.

3682-3691 "J" Zone — Limestone; white to buff, finely crystalline; oolitic and oolicastic; fair vuggy and oolicastic porosity; black tar-like residual staining; slight odor, some scattered, spotted oil staining.

3508-3513 "K" Zone — Limestone; gray to buff; oolitic and oolicastic; fair to good oolicastic and vuggy porosity; no visible free oil; slight odor, scattered oil staining.

MARMATON 3540 -1673

3540-3546 — Limestone; buff to gray, fine to medium crystalline; scattered, fair vuggy porosity; TRACE free oil; scattered, spotted oil staining.

VIOLA 3579 -1712

3610-3630 — Chert; abundant bone and gray-white chert; good to excellent pinhole-vuggy porosity; no visible free oil;

good sweet gas odor; good fluorescence, oil staining and saturation.

ARBUCKLE 3691 -1824

3691-3694 Sandstone; clear, glassy, fine sized; rounded to sub-rounded; friable clusters; abundant loose sand in sample; small show free oil; good odor, fluorescence and oil staining.

3694-3701 Dolomite; brown medium crystalline; abundant pyrite at top; scattered pin-hole to good vuggy porosity; small show free oil; good odor, fluorescence and staining.

No. 3 drillstem test, 3671-3701
30/60/30/60; strong blow during both flow periods. Recovered 690 feet gas in drillpipe; 380 feet, gas cut muddy oil; (Top- 40% mud; 40% oil; 20% gas; bottom-6% mud; 2% water; 42% oil; 50% gas)

| | | | |
|---|---|---|---|
| IHP | 2073 psi | FFP | 126-143 psi |
| IFP | 84-109 psi | FCIP | 1159 " |
| ICIP | 1167 " | FHP | 2070 " |

STRUCTURAL CORRELATION

| FORMATION | No. 2 Alpers-Ukens SW NE SW 22-22s-12w | No. 1 Ukens NE SE SW 22-22s-12w (oil) |
|---|---|---|
| Anhydrite | +1231 | +1227 |
| Heebner | -1307 | -1286 |
| Lansing | -1443 | -1442 |
| Arbuckle Sand | -1816 | -1820 |
| Arbuckle Dolomite | -1823 | -1824 |
| Total Depth | -1890 | -1891 |

Five inch production casing has been set and cemented one (1) foot off bottom at 3756 feet (Electra). It is recommended the following zones be perforated and tested for commercial oil production:

Arbuckle 3695-3700

Before abandonment perforate and test:

| | |
|---|---|
| Arbuckle | 3711-3715 |
| Viola | 3613-3619 |
| Marmaton | 3542-3547 |
| Lansing | 3441-3446 |

All measurements were taken from the rotary kelly bushing. Electra's measurements of formation tops, zones and rotary total depth are taken as correct.

Respectfully,

Richard G. Smith
Petroleum Geologist