REPORT COPY

25-10S-23W
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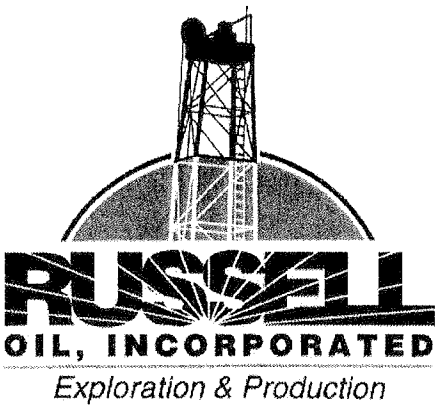
# GEOLOGICAL REPORT




## No. 2-25 Bollig "D"
## 1950' FSL & 670' FEL
## Section 25-10S-23W
## Graham County, Kansas

15-065-23246-00-00



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| | |
|---|---|
| OPERATOR: | Russell Oil, Inc. |
| WELL: | No. 2-25 Bollig "D"<br>API # 15-065-23,246-00-00 |
| LOCATION: | 1950' from the South Line<br>670' from the East Line<br>Section 25-10S-23W<br>Graham County, Kansas |
| FIELD: | Prairie Glen |
| CONTRACTOR: | Shields Drilling Inc. |
| DRILLING COMMENCED: | 12-11-2006 |
| DRILLING COMPLETED: | 12-27-2006 |
| DRILLING TIME: | One (1) foot drilling time was recorded<br>from 3150' to 4360' RTD. |
| SAMPLES: | Samples were saved and examined from 3200'<br>to 4360' RTD. |
| ELEVATIONS: | 2342' Ground Level 2347' Kelly Bushing |
| MEASUREMENTS: | All depths are measured from **2347' K.B.** |
| CASING RECORD: | 8 5/8" Surface Casing set @ 219' with 175 sxs. common<br>5 ½" Production Casing set @ 4136' with 175sxs. AA-2 |
| FORMATION TESTING: | Four (4) tests were run by Trilobite Testing Inc.<br>Tyson Flax, Tester |
| MUD: | Mud-Co. (Chemical Mud) |
| OPEN HOLE LOGS: | Log-Tech (RAG) |
| PRODUCTION: | Oil |

FORMATION TOPS:

| FORMATION | LOG | DATUM |
|---|---|---|
| ANHYDRITE | 1864' | **+ 483'** |
| BASE ANHYDRITE | 1901' | **+ 446'** |
| TOPEKA | 3354' | **-1004'** |
| HEEBNER SHALE | 3575' | **-1225'** |
| TORONTO | 3596' | **-1247'** |
| LANSING | 3610' | **-1261'** |
| MUNCIE CREEK SHALE | 3736' | **-1389'** |
| STARK SHALE | 3800' | **-1452'** |
| BASE KANSAS CITY | 3834' | **-1486'** |
| RE-WORKED ARBUCKLE | 4074' | **-1727'** |
| ARBUCKLE | 4083' | **-1736'** |
| LOG TOTAL DEPTH | 4170' | **-1823'** |
| LOG TOTAL DEPTH | 4360' | **-2013'** |

SAMPLE DESCRIPTIONS AND TEST DATA:

TOPEKA:
3372-3378 Limestone, tan and gray, finely crystalline, slightly oolitic, with poor visible porosity, chalky in part in slight dead staining, now show of oil, no odor

TORONTO:
3594-3607 Limestone, tan and gray, finely crystalline, mostly dense with abundant pyrite, poor visible porosity, no shows of oil

LANSING:
3610-3620 Limestone, tan and cream, finely crystalline, oolitic and fossiliferous with fair to good visible intercrystaline and pinpoint vugular porosity, fair spotted staining and saturation and very slightly show of oil on break, light odor.

FORMATION TEST NO. 1

Lansing-K.C ( A )
Tested from 3604'-3525'

| | | | |
|---|---|---|---|
| | | I.H.P. | 1737# |
| *B.O.B. in 20 min.* | 45 min. | I.F.P. | 21# -183# |
| *No blow-back* | 45 min. | I.S.I.P. | 587# |
| *B.O.B. in 42 min.* | 45 min. | F.F.P. | 185# -245# |
| *No blow-back* | 45 min. | F.S.I.P. | 580# |
| | | F.H.P. | 1685# |

*(SEE PRESSURE CHARTS AT END OF REPORT)*

RECOVERY: 45' Muddy Water
360' Water

TEMPERATURE: 104*

CHLORIDES: 42,000 ppm (Recovery) 2,100 ppm (System)

3650-3658 Limestone, cream, white and gray, oolitic and slightly fossiliferous, fair interparticle porosity, slightly chalky, fair spotted staining, fair show of free oil, fair odor

FORMATION TEST NO. 2

Lansing-K.C ( C-D )
Tested from 3630'-3660'

| | | | |
|---|---|---|---|
| | | I.H.P. | 1765# |
| *Weak surface blow* | 30 min. | I.F.P. | 21# -19# |
| *No blow-back* | 30 min. | I.S.I.P. | 24# |
| *Weak surface blow, died in 10 min.* | 30 min. | F.F.P. | 20# -18# |
| *No blow-back* | 30 min. | F.S.I.P. | 21# |
| | | F.H.P. | 1739# |

*(SEE PRESSURE CHARTS AT END OF REPORT)*

RECOVERY: .5' Mud

TEMPERATURE: 101*

CHLORIDES: N/A ppm (Recovery) 3,100 ppm (System)

3665-3674 Limestone, gray, finely crystalline, dense, no show of oil noted

3688-3694 Limestone, white, tan and gray, finely crystalline, dense, chalky in part, no shows of oil

3700-3707 Limestone, tan and light gray, finely crystalline, chalky, slightly oolitic, with fair interoolitic porosity, fair staining, fair show of free oil on break, light odor

FORMATION TEST NO. 3

Lansing-K.C ( F-G )
Tested from 3692'-3708'

| | | | |
|---|---|---|---|
| | | I.H.P. | 1803# |
| *Weak blow building to 2 ½"* | 30 min. | I.F.P. | 22# -37# |
| *Very weak surface blow* | 30 min. | I.S.I.P. | 814# |
| *Weak blow building to 2"* | 45 min. | F.F.P. | 44# -62# |
| *No blow back* | 45 min. | F.S.I.P. | 810# |
| | | F.H.P. | 1763# |

*(SEE PRESSURE CHARTS AT END OF REPORT)*

RECOVERY: 30' Watery Mud
60' Muddy Water

TEMPERATURE: 103*

CHLORIDES: 50,000 ppm (Recovery) 3,100 ppm (System)

3712-3716 Limestone as above, no show of oil

3750-3754 Limestone, finely crystalline, chalky, poor porosity, no shows of oil

3772-3777 Limestone as above

3786-3792 Limestone, preem and gray, dense to finely crystalline, slightly oolitic and fossiliferous with poor visible interoolitic porosity, slight spotted staining, slight show of free oil, light odor

FORMATION TEST NO. 4

Lansing-K.C ( I, & J, )
Tested from 3735'-3792'

| | | | |
|---|---|---|---|
| | | I.H.P. | 1840# |
| *Weak blow building B.O.B. 28 min.* | 45 min. | I.F.P. | 27# -51# |
| *No blow-back* | 45 min. | I.S.I.P. | 1102# |
| *B.O.B. in 30 min.* | 45 min. | F.F.P. | 56# -78# |
| *No blow-back* | 60 min. | F.S.I.P. | 1103# |
| | | F.H.P. | 1783# |

*(SEE PRESSURE CHARTS AT END OF REPORT)*

RECOVERY: 355' Gas in Pipe
125' Gassy Muddy Oil

TEMPERATURE: 106*

CHLORIDES: N/A ppm (Recovery) 2,500 ppm (System)

3808-3813 Limestone, white and gray, finely crystalline, dense, chalky in part, rare spotted staining, no show of free oil

The Pleasanton and Marmaton were penetrated with no sand development and no show of oil.

4072-4090 Dolomite, gray and tan, fine to medium crystalline with poor to fair visible crystalline porosity, no shows of oil were noted

STRUCTURAL COMPARISION:

| | **Russell Oil, Inc.**<br>**No. 2-25 Bollig D**<br>**1950'FSL & 670' FEL**<br>**Sec. 25**<br>**OIL** | Russell Oil, Inc.<br>No. 1-25 Bollig D<br>2310' FSL & 1410' FWL<br>Sec. 25<br>OIL |
|---|---|---|
| ANHYDRITE | **+ 465'** | +495' |
| BASE ANHYDRITE | **+ 446'** | +453' |
| TOPEKA | **-1007'** | -1004' |
| HEEBNER SHALE | **-1228'** | -1225' |
| TORONTO | **-1249'** | -1247' |
| LANSING | **-1263'** | -1261' |
| BKS | **-1487'** | -1486' |

SUMMARY:

The No. 2-25 Bollig "D" was under geological supervision from 3150' to 4170' RTD after wich the well was log and drilled to 4360' for the purpose of a future saltwater disposal well. With the positve results drill stem test No.4 it was decided to complete this well through perforations.

Respectfully submitted,

Todd E. Morgenstern