

8-11-57W  
CSWSe

510 ORPHEUM BLDG.

# walters drilling co.

WICHITA 2, KANSAS

Amherst 5-6683

July 24th, 1962

## G E O L O G I C A L   R E P O R T

WALTERS DRILLING CO. & BEARDMORE DRILLING CO.  
TILLEY #1  
C SW/4 SE/4 Section 8-17S-24W  
Ness County, Kansas

CONTRACTOR: Walters Drilling Co. ELEVATION: 2495 KB  
2493 DF  
COMMENCED: July 9th, 1962 2490 GL  
COMPLETED: July 20th, 1962

CASING RECORD: 8-5/8" set @ 148' w/100 sacks cement  
5-1/2" set @ 4465 1/2' w/125 sacks cement

DRILL STEM TESTS: #1 4465-73' in Mississippian

ELECTRICAL SURVEYS: None

SAMPLES: Samples were examined and drilling time was  
logged from 3800' to 4473', rotary total depth.

MEASUREMENTS: Drill pipe measurements were corrected upward  
4 feet @ 4165'. Tops and measurements above 4165'  
were corrected upward 1 foot per 1,000 feet. The  
drill pipe was strapped three times between 3,000'  
and 4160; the following discrepancies were found:  
4.49', 4.52' and 4.72'.

Structural comparison is made below with the subject  
well and it's nearest offset, Walters Drilling Co.'s Dickman #1, located  
to the southwest in the C NE/4 NW/4 Section 17-17S-24W, Ness County, Kansas.

FORMATION	TILLEY #1 2495 KB	DICKMAN #1 2479 KB
BLAINE	1154 (+1341)	1131 (+1348)
STONE CORRALL	1779 (+ 716)	1754 (+ 725)
PENNSYLVANIAN	3369 (- 874)	3346 (- 867)
TOPEKA	3538 (-1043)	3512 (-1033)
HEEBNER	3815 (-1320)	3789 (-1310)
LANSING	3858 (-1363)	3830 (-1351)
BASE KANSAS CITY	4151 (-1656)	4123 (-1644)
PAWNEE	4279 (-1784)	4248 (-1769)
FORT SCOTT	4358 (-1863)	4330 (-1851)
CHEROKEE SAND	4440 (-1945)	
CONGLOMERATE CHERT	4454 (-1959)	4418 (-1939)
MISSISSIPPIAN	4464 (-1969)	4424 (-1945)
TOTAL DEPTH	4473 (-1978)	4500 (-2021)



ZONES OF INTEREST:

Lansing @ 3858

- 3913-19 Limestone, white to cream, very finely to medium crystalline, fossiliferous, part soft and chalky, having some poor very fine pinpoint porosity with no shows. Poor reservoir.
- 3937-43 Limestone, white, very finely to micro-crystalline, slightly fossiliferous, most soft and sub-chalky to chalky, having little to no visible porosity and no shows. Poor reservoir.
- 3967-80 Limestone, cream to light buff, finely crystalline, fossiliferous, oolitic and vaguely oolitic, with good oolitic and fossil-cast porosity. No shows. Good reservoir.
- 4017-23 Limestone, cream, very finely to finely crystalline, fossiliferous, oolitic, sub-oolitic in part, with fair to good oolitic porosity and no shows. Fair to good reservoir.
- 4076-79 Limestone, white to light buff, finely to medium crystalline, vaguely oolitic, much soft, chalky, having some poorly developed inter-crystalline porosity, and no shows. Poor reservoir.
- ~~4100-04~~ Limestone, white and gray, finely to medium crystalline, slightly fossiliferous, sub-oolitic, part sub-chalky, flaky, with trace fine vugular porosity and no shows. Poor reservoir.

Fort Scott @ 4358

- 4361-62 Limestone, light gray, finely to medium crystalline, dense to part sub-chalky, fossiliferous, with trace poorly developed fossil-cast and fine vugular porosity; fair odor, iridescent oil film, trace scummy brown globules free oil, gray-brown scattered staining, and abundant black dead asphalt staining.
- 4395-97 Limestone, tan, finely to crypto-crystalline, fossiliferous in part, some secondary re-crystallization, with poor scattered very fine to fine vugular and pinpoint porosity, and few isolated fossil-casts; having scattered brown to black dead asphalt staining, and few scummy brown globules free oil.

The above described shows of oil in the Fort Scott were considered not worth testing in view of the poor development of reservoir quality, thin pay interval, low structural position, and "watery" appearance of the shows.

Cherokee Sand @ 4440

- 4440-46 Individual grains fine to coarse, gray-white to clear, sub-rounded, slightly frosted, quartz sand; occasional trace sand size chert fragments, and coarse quartz pebbles; some clusters very fine to medium grained, porous and friable to tight, compact and pyritic sandstone with no odor, medium to dark brown globules free oil, scattered brown staining, and fairly abundant black dead asphalt staining. Some clusters devoid of shows.

The above interval was considered not worth testing in view of the poor development of reservoir quality, lack of good shows of oil, and low structural position.



Conglomerate Chert @ 4454

4454-59 Chert, yellow, tan, gray, and some jasper, sub-translucent, fresh, sharp, spicular, becoming oolitic with few vugs and fossil-casts near the base of this interval; having no shows of oil or gas in wet or dry samples.

Mississippian Spergen @ 4464

CORE DESCRIPTION:

4459-68 Core #1. Full recovery.

4459-60 Clay-shale, pale to deep green, part sub-waxy, with compaction slickensides, fairly abundant individual pyrite crystals, and few scattered chert nodules.

4460-61 Clay-shale, pale to deep green, slightly pyritic, with disseminated fine to medium rounded sand grains and occasional gray-brown shale partings.

4461-62 Clay-shale as above, with occasional trace very finely to crypto-crystalline, fossiliferous lime fragments.

4462-64 Clay-shale as above, with lime fragments, bleeding oil slightly.

4464-64½ Clay-shale, light to deep green, with abundant pyrite, disseminated with fused massive quartz with occasional isolated re-crystallized voids; bleeding oil slightly.

Mississippian @ 4464½ (Spergen)

4464½-65 Dolomite, cream, very finely to crypto-sucrose, clean, fossiliferous, with scattered very poor fossil-cast and some small vugular porosity, scattered staining, and bleeding oil. Rare vertical fracs, and shale parting.

4465-66 Limestone, light gray to cream, crypto-crystalline, dense, sucrosic, little or no visible porosity and no shows. Occasional voids lined with coarse milky dolomite rhombs and bleeding oil at the base of this interval.

4466-67 Dolomite, light gray to cream, finely sucrose to crystalline, dense, fossiliferous, rare green shale partings; scattered poor to fair fossil-cast and vugular porosity, increasing with depth, uneven saturation and bleeding oil profusely.

4467-68 Dolomite as above, with occasional large voids lined with coarse milky dolomite rhombs and clear quartz crystals.

4468-73 Core #2. Full recovery.

4468-70 Dolomite, cream, finely sucrose to crystalline, highly fossiliferous, rare green shale partings, with good fossil-cast and vugular porosity, scattered brown staining and saturation, and bleeding oil profusely.

4470-71 Dolomite, cream to light buff, finely and medium sucrose to finely crystalline, highly fossiliferous, clean, with excellent fossil-cast, vugular, and some inter-crystalline porosity; brown even oil saturation and bleeding oil profusely.



- 4471-72 Dolomite, cream to light gray, crypto-sucrose, fossiliferous, fairly dense, with few green shale seams; having fair fossil-cast and vugular porosity, with few fairly large re-crystallized voids. Scattered brown staining and saturation, bleeding oil.
- 4472-73 Dolomite, cream, finely sucrose to crystalline, highly fossiliferous, fairly dense, occasional green shale seams, having fair fossil-cast and vugular porosity, scattered brown staining and saturation, bleeding oil. Several coarse crystalline rhombic dolomite seams indicating possible horizontal as well as vertical fracs.

D.S.T. #1, 4465-73, Open 1 hour, good blow throughout, recovered 200' gas in pipe, 320' clean to slightly muddy oil, and 300' muddy oil.

Initial Shut-In Pressure in 30 minutes	1320#
Initial Flow Pressure	40#
Final Flow Pressure	235#
Final Shut-In Pressure in 30 minutes	1300#

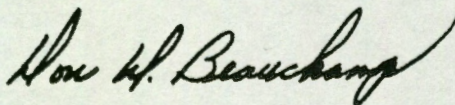
Rotary Total Depth @ 4473

CONCLUSIONS AND RECOMMENDATIONS

In the Tilley #1, shows of oil were encountered in two zones in the Fort Scott, Cherokee Sand, and Mississippian formations. Fort Scott and Cherokee shows discussed earlier in the report, are considered as having no commercial value at this location. Although the Mississippian was topped at a datum 24 feet lower than the Dickman #1, the oil-water contact is still approximately 4 feet below the present total depth at 4473. With good shows of oil without water recovered on D.S.T. #1, and excellent reservoir conditions in the Mississippian as determined from core analysis and D.S.T. information, there is good probability the Tilley #1 will make a commercial oil well.

In view of the above, recommendation was made to set 5-1/2" production casing at 4465 1/2', seven and one-half feet off bottom, to further test the Mississippian, July 20th, 1962.

Respectfully submitted,



DON W. BEAUCHAMP, Geologist