

ORIGINAL

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Geological Report

for



MAI OIL OPERATIONS

**No. 28-1 PALCO SOUTH UNIT
980' FNL & 1550' FEL
Section 28-9S-20W
Rooks County, Kansas**

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ORIGINAL

OPERATOR: Mai Oil Operations

WELL: No. 28-1 Palco South Unit
API # 15-163-23,378-00-00

LOCATION: 980' from the North Line
1550' from the East Line
Section 28-9S-20W
Rooks County, Kansas

FIELD: Northampton

CONTRACTOR: Murfin Drilling Co., Rig No. 16

DRILLING COMMENCED: 06-06-2003

DRILLING COMPLETED: ~~05-06-2003~~ 6/10/03

DRILLING TIME: One (1) foot drilling time was recorded
from 3150' to 3895' RTD.

SAMPLES: Samples were saved and examined from 3200'
to 3895' RTD.

ELEVATIONS: 2265' Ground Level 2270' Kelly Bushing

MEASUREMENTS: All depths are measured from 2270' K.B.

CASING RECORD: 8 5/8" Surface Casing set @ 216' with 165 sxs. 60/40 poz

FORMATION TESTING: One (1) test were run by Trilobite Testing Co.
Jason McLemore, Tester

MUD: Andy's Mud & Chemical Co. (Chemical Mud)

OPEN HOLE LOGS: ELI Wireline Services (Radiation Guard& Sonic)

PRODUCTION: D & A

FORMATION TOPS:

FORMATION	SAMPLE	LOG	DATUM
ANHYDRITE	1773'	1770'	+ 500'
BASE ANHYDRITE	1801'	1804'	+ 466'
TOPEKA	3303'	3301'	-1031'
HEEBNER SHALE	3510'	3508'	-1238'
TORONTO	3531'	3530'	-1260'
LANSING	3550'	3548'	-1278'
BASE KANSAS CITY	3773'	3769'	-1498'
ARBUCKLE	3884'	3880'	-1610'
LOG TOTAL DEPTH	*****	3893'	-1628'
ROTARY TOTAL DEPTH	3895'	*****	-1631'

SAMPLE DESCRIPTIONS AND TEST DATA: All depths have been corrected to log measurements.

TOPEKA:

3327-3340

Limestone, gray and white, finely crystalline, dense in part, fossiliferous, fair visible interparticle porosity, slightly chalky, no shows of oil were noted.

3458-3462

Limestone, gray, buff and tan, finely crystalline, slightly fossiliferous, with fair visible intercrystalline porosity, slightly sucrosic, chalky in part, no shows of oil were noted.

TORONTO:

3530-3541

Limestone, white, gray and tan, dense to finely crystalline, slightly fossiliferous, chalky in part, minor white chert, poor visible porosity, no shows of oil were noted.

LANSING:

3548-3558

Limestone, cream, tan and buff, finely crystalline, oolitic and slightly fossiliferous, minor chalk, no shows of oil were noted.

3587-3594

Limestone, white and gray, finely crystalline, oolitic, poor to fair visible interoolitic and slightly vugular porosity, scattered staining, very slight show of oil on break, no odor. (Covered by D.S.T. No. 1)

3606-3613

Limestone, white and tan, dense to finely crystalline, oolitic, poor visible interoolitic porosity, scattered staining, no show of free oil. (Covered by D.S.T. No. 1)

3622-3630

Limestone, white and gray, oolitic, fair visible interoolitic porosity, fair staining, fair show of free oil, light odor. (Covered by D.S.T. No. 1)

- 3633-3638 Limestone, white and gray, finely crystalline, oolitic and slightly fossiliferous, as above, fair show of free oil, light odor. (Covered by D.S.T. No. 1)
- 3640-3646 Limestone, cream and white, finely crystalline, oolitic and slightly oolitic, chalky in part, with very slight show of free oil, gassy, light odor. (Covered by D.S.T. No. 1)

FORMATION TEST NO. 1

Lansing (70' & 90' zones)
Tested from 3592'-3646'

<i>Fair to 8 Inch Blow</i>	45 min.	I.H.P.	1767#
<i>No Blow-Back</i>	45 min.	I.F.P.	21# -698#
<i>Fair to B.O.B in 20 min.</i>	45 min.	<u>I.S.I.P.</u>	<u>926#</u>
<i>No Blow-Back</i>	60 min.	F.F.P.	129# -818#
		<u>F.S.I.P.</u>	<u>920#</u>
		F.H.P.	1703#

RECOVERY: 425' Muddy Water

TEMPERATURE: 106*

CHLORIDES: N/A p.p.m. (Recovery) 3,000 p.p.m. (System)

- 3682-3694 Limestone, gray and tan, dense to finely crystalline, fossiliferous in part, poor visible porosity, slightly chalky, no shows of oil were noted.
- 3704-3716 Limestone, tan and white, finely crystalline, slightly oolitic and fossiliferous, chalky in part, poor visible porosity, rare spotted staining, no show of free oil, no odor.
- 3721-3729 Limestone, tan and white, finely crystalline, slightly oolitic and fossiliferous, chalky in part, no shows of oil were noted.
- 3740-3750 Limestone, gray and white, finely crystalline, dense, slightly oolitic, poor visible porosity, no shows of oil were noted.
- 3758-3769 Limestone, gray and white, dense, oolitic and fossiliferous, no shows of oil were noted.

ARBUCKLE:

- 3780-3795 Dolomite, white and gray, fine to medium crystalline, poor to fair visible intercrystalline porosity, no shows of oil were noted.