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Mai Oil Operations Inc.  
Pfeifer #3  
NW-SE-NE-SW (1840' FSL & 2260' FWL)  
Section 5-14s-17w  
Ellis County, Kansas

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**5 1/2" Production Casing Set**

**.Contractor:** Southwind Drilling Co. (rig #3)  
**Commenced:** June 28, 2019  
**Completed:** July 6, 2019  
**Elevation:** 2029' K.B., 2027' D.F., 2020' G.L.  
**Casing program:** Surface; 8 5/8" @ 1226  
Production, 5 1/2" @ 3647'  
**Sample:** Samples saved and examined 3000' to the Rotary Total Depth.  
**Drilling time:** One (1) foot drilling time recorded and kept 3000' to the Rotary Total Depth.  
**Measurements:** All depths measured from the Kelly Bushing.  
**Drill Stem Tests:** There were four (4) Drill Stem Tests ran by Trilobite Testing Co.  
**Electric Log:** By Eli; Dual Induction, Compensated Density/Neutron and Micro

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1223	+806
Base Anhydrite	1261	+768
Heebner	3267	-1238
Toronto	3284	-1255
Lansing	3310	-1281
Base Kansas City	3527	-1498
Arbuckle	3551	-1522
Rotary Total Depth	3650	-1621
Log Total Depth	3650	-1621

(All tops and zone(s) corrected to Electric Log Measurements)

**SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.**

**TOPEKA SECTION**

3050-3060' Limestone, tan, brown, fossiliferous, poor scattered porosity, trace brown stain; no show of free oil and no odor in fresh samples.

- 3074-3082' Limestone, tan cream, few fossiliferous, dense.
- 3086-3094' Limestone, tan, buff, fossiliferous, poorly developed pinpoint porosity, chalky, trace brown stain, no show of free oil and no odor.
- 3138-3150' Limestone, tan, cream, chalky, poor scattered pinpoint porosity, trace brown, black stain, trace brown flaky (dead) free oil and no odor.
- 3150-3170' Limestone, tan, slightly dolomitic, trace brown stain,, weak show of free oil and no odor in fresh samples.
- 3174-3184' Limestone, tan, cream, scattered porosity, trace black stain, no free oil and no odor. Trace white, tan opaque chert.
- 3197-3217' Limestone, tan, cream, buff scattered pinpoint porosity; trace brown to black stain, no free oil and questionable odor in fresh samples.

**TORONTO SECTION**

- 3284-3292' Limestone, tan, cream, slightly chalky, scattered vuggy to pinpoint type porosity, trace brown stain, no free oil and questionable odor in fresh samples.

**LANSING SECTION**

- 3311-3320' Limestone, tan, buff, few fossiliferous, scattered pinpoint type porosity, slightly chalky, black stain, dark brown free oil and faint odor in fresh samples.
- 3322-3328' Limestone, buff, few fossiliferous, poorly developed porosity, chalky, brown stain, show of free oil and strong odor.

**Drill Stem Test #1 3288-3360**

**Times: 15-15-30-30**

**Blow: Weak**

**Recovery: 93' mud**

**Pressures: ISIP 373 psi  
FSIP 379 psi  
IFP 35-48 psi  
FFP 49-56 psi  
HSH 1618-1552 psi**

- 3334-3342' Limestone, tan, gray, dense, poor visible porosity, few cherty; trace black stain, no free oil and no odor.
- 3352-3358' Limestone, tan, brown, poorly developed porosity, brown stain; show of free oil and strong odor in fresh samples.

**Drill Stem Test #2**

**3342-3408**

**Times: 30-45-45-60**

**Blow: Weak to fair**

**Recovery: 104' oil cut muddy water  
(10% oil; 40% mud; 50% water)**

**Pressures: ISIP 428 psi  
FSIP 408 psi  
IFP 14-34 psi  
FFP 14-34 psi  
HSH 1639-1599 psi**

- 3412-3430' Limestone, white, finely crystalline, few cherty; poor porosity, no shows; plus white chalk.
- 3444-3454' Limestone, cream, tan, fair pinpoint porosity, dark brown stain, show of free oil and faint odor samples broken.
- 3461-3480' Limestone, white, tan, scattered porosity, dark brown and black stain and saturation, show of free oil and faint odor fresh samples.
- 3481-3490' Limestone, white, tan, buff, few fossiliferous; poor visible porosity; black stain, no free oil and questionable odor.
- 3505-3520' Limestone, brown, gray, cream, finely crystalline; dense, poor porosity, no shows.

**CONGLOMERATE SECTION**

- 3542-3557' Chert; white, boney; trace limestone, brown, gray, cream, finely crystalline, dense in matrix of maroon shales.

**ARBUCKLE SECTION**

- 3551-3570' Dolomite, tan, brown; fine to medium crystalline, good inter-crystalline porosity; dark brown stain; show of free oil and fair odor in fresh samples.

**Drill Stem Test #3** **3503-3570**

**Times:** 30-30-30-30

**Blow:** Strong

**Recovery:** 252' gassy oil  
378' gassy muddy oil  
(30% gas; 65% oil; 5% mud)  
283' muddy oil; trace of water  
(70% oil; 5% water; 25% mud)

**Pressures:** ISIP 470 psi  
FSIP 467 psi  
IFP 114-279 psi  
FFP 288-365 psi  
HSH 1781-1673 psi

3570-3575' --Missed Sample--

3575-3582' Dolomite, white, cream, medium crystalline, fair inter-crystalline porosity, brown stain, fair show of free oil and good odor in fresh samples.

3582-3597' Dolomite, brown, tan; sucrosic; scattered pinpoint porosity, brown and golden brown stain, good show of free oil.

**Drill Stem Test #4** **3575-3597**

**Times:** 30-30-45-45

**Blow:** Strong

**Recovery:** 31' oil cut muddy water  
(30% gas; 40% oil; 30% mud)  
567' oil and gas cut muddy water  
(10% gas; 15% oil; 60% water; 15% mud)  
378' muddy water; trace of oil

**Pressures:** ISIP 695 psi  
FSIP 681 psi  
IFP 212-495 psi  
FFP 495-635 psi  
HSH 1810-1704 psi

3600-3610' Dolomite, tan, brown, sucrosic, slightly chalky, scattered pinpoint porosity, brown stain, good show of free oil and good odor in fresh samples.

3610-3625' Dolomite, tan, cream, medium to coarse crystalline, fair inter-crystalline porosity; dark brown stain, show of free oil and strong odor in fresh samples.

3625-3640' Dolomite, tan, cream, medium and coarse crystalline; fair porosity, dark brown stain, show of free oil and no odor in fresh samples.

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3640-3650' Dolomite, white, tan, cream, finely crystalline, dense, poor inter-crystalline porosity, black stain; no free oil and no odor in fresh samples.

**Rotary Total Depth: 3650**  
**Log Total Depth: 3650**

**Recommendations:**

5 1/2" production casing was set and cemented on the Mai Oil Operations, Inc., Pfeifer #3.

Respectfully yours,

Wyatt Urban  
Petroleum Geologist