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Mai Oil Operations
Martin Dietz #1
SW-NW-SE-NW (1840' FNL & 1375' FWL)
Section 9-15s-14w
Russell County, Kansas
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5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (Rig #3)
Commenced: November 29, 2013
Completed: December 4, 2013
Elevation: 1839' K.B; 1837' D.F; 1831' G.L.
Casing program: Surface; 8 5/8" @ 477'
Production; 5 1/2" @ 3357'
Sample: Samples saved and examined 2300' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 2300 ft. to the Rotary Total Depth.
Measurements: All depths measured from the Kelly Bushing.
Drill Stem Tests: There were three (3) Drill Stem Tests ran by Trilobite Testing Co.
Electric Log: By Nabors; Dual Induction, Compensated Density/Neutron and Micro Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	824	-1015
Base Anhydrite	857	+982
Grand Haven	2392	-553
1 st Tarkio Sand	2403	-564
Dover	2418	-579
2 nd Tarkio Sand	2428	-589
Tarkio Lime	2465	-626
Elmont	2526	-687
Howard	2664	-825
Topeka	2728	-889
Heebner	2959	-1120
Toronto	2976	-1137
Lansing	3018	-1179
Base Kansas City	3226	-1387
Conglomerate	3250	-1411
Arbuckle	3271	-1432
Rotary Total Depth	3365	-1526
Log Total Depth	3358	-1519

(All tops and zones corrected to Electric Log measurements).

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

1 st Tarkio Sand	2403	-564
Dover	2418	-579
2 nd Tarkio Sand	2428	-589
Tarkio Lime	2465	-626
Elmont	2526	-687

Recovery: 1220' gas in pipe
375' very heavily oil and gas cut thin watery mud
(55% oil, 30% gas, 10% mud, 5% mud)

1ST TARKIO SAND SECTION

2403-2413' Sand; gray, grayish green, very fine grained, silty, poorly developed, no shows.

2ND TARKIO SAND SECTION

2428-2442' Sand; gray, very fine grained, sub rounded, friable, fair intergranular porosity, micaceous, few shaley, fair stain and saturation, fair show of free oil and faint odor in fresh samples.

Drill Stem Test #1 2404-2460' (Log corrected 2397-2453)

Times: 30-30-45-45

Blow: Strong

Recovery: 1220' gas in pipe
375' very heavily oil and gas cut thin watery mud
(55% oil, 30% gas, 10% mud, 5% mud)

Pressures: ISIP 715 psi
FSIP 706 psi
IFP 42-128 psi
FFP 147-231 psi
HSH 1179-1105 psi

TOPEKA SECTION

2803-2814' Limestone; white, few fossiliferous, chalky, poor visible porosity, trace brown stain, no show of free oil and no odor.

2896-2930' Limestone; tan, finely crystalline, chalky, poor visible porosity, trace poor stain, no show of free oil and no odor in fresh samples.

TORONTO SECTION

2976-2990' Limestone; tan, cream, finely crystalline, chalky, scattered porosity, poorly developed, brown spotty stain, show of free oil and faint odor in fresh samples.

LANSING SECTION

3018-3026' Limestone; tan, cream, finely crystalline, poor scattered porosity, light brown stain, trace of free oil and questionable odor.

3043-3050' Limestone; tan, finely crystalline, scattered sub-oomoldic type porosity, few cherty, trace stain, weak show of free oil and no odor in fresh samples.

3061-3071' Limestone; tan, finely crystalline, oomoldic, good oomoldic porosity, fair stain, good show of free oil and faint odor in fresh samples.

FSIP 55 psi
 IFP 14-16 psi
 FFP 16-18 psi
 HSH 1554-1482 psi

Limestone; tan, finely crystalline, poorly developed porosity, chaly, trace poor stain, trace of free oil and no odor in fresh samples.

Drill Stem Test #2 3034-3084' (Log corrected 3027-3077)

Times: 30-30-45-45

Blow: Weak

Recovery: 10' mud

Pressures: ISIP 56 psi
 FSIP 55 psi
 IFP 14-16 psi
 FFP 16-18 psi
 HSH 1554-1482 psi

3096-3106' Limestone; tan, finely crystalline, poorly developed porosity, chaly, trace poor stain, trace of free oil and no odor in fresh samples.

3113-3130' Limestone; tan, finely crystalline, oomoldic, poor to fair oomoldic porosity, trace stain, show of free oil and no odor in fresh samples.

3142-3155' Limestone; cream, tan, finely crystalline, slightly cherty, scattered porosity, no shows.

3162-3177' Limestone; cream, finely crystalline, few fossiliferous, poor porosity, no shows.

3188-3196' Limestone; tan, brown, finely crystalline, slightly cherty, trace light brown stain, no free oil and no odor.

3201-3210' Limestone; white, oolitic, chaly, poorly developed porosity, chaly, no shows.

CONGLOMERATE SECTION

3250-3271' Varied colored chert in matrix of red/green/gray shales.

ARBUCKLE SECTION

3271-3290' Dolomite; white, finely crystalline, granular, sucrosic, poor scattered porosity, no shows.

3290-3299' Dolomite; white, finely crystalline, fair to good intercrystalline, porosity, poor stain, trace of free oil and no odor in fresh samples.

Drill Stem Test #3 **3232-3310' (Log corrected 3225-3303)**

Times: 30-30-30-30

Blow: Strong

Recovery: 2340' water

Pressures: ISIP 1096 psi
FSIP 1101 psi
IFP 723-935 psi
FFP 935-1085 psi
HSH 1771-1600 psi

- 3299-3310' Dolomite; white, finely crystalline, dense, poor porosity.
- 3310-3330' Dolomite; as above, increase in porosity, no show.
- 3330-3353' Dolomite; white, rose/pink, finely crystalline, granular in part, no shows.
- 3353-3358' Dolomite; white, sandy, poor porosity, no shows.

Rotary Total Depth 3365
Log Total Depth 3358

Recommendations: 5 1/2" production casing was set and cemented in the Martin Dietz #1.

Respectfully submitted;

James C. Musgrove and Wyatt Urban

James C. Musgrove and
Wyatt Urban,
Petroleum Geologists



Rotary Total Depth 3365
Log Total Depth 3358

Recommendations: 5 1/2" production casing was set and cemented in the Martin Dietz #1.

Wyatt Urban