

JAMES C. MUSGROVE

Petroleum Geologist
212 Main Street
P.O. Box 215
Claflin, KS 67525

Office (620) 588-4250

Res. Claflin (620) 587-3444

Mai Oil Operations
Warren Vine #2
SW-SW-NE-NE
Section 27-11s-19w
Ellis County, Kansas
Page 1

Dry and Abandoned

Contractor: Southwind Drilling Co. (Rig #3)
Commenced: October 15, 2013
Completed: October 21, 2013
Elevation: 2108' K.B; 2106' D.F; 2100' G.L.
Casing program: Surface; 8 5/8" @ 218'
Production; none.
Sample: Samples saved and examined 3000' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 3000 ft to the Rotary Total Depth.
Measurements: All depths measured from the Kelly Bushing.
Formation Tests: There were three (3) Drill Stem Tests ran by Trilobite Testing Co.
Electric Log: By Nabors Completion and Production Services; Dual Induction, Compensated Density/Neutron, Micro and Sonic Log.

Completed: October 21, 2013

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1390	+718
Base Anhydrite	1438	+670
Topeka	3068	-963
Heebner	3296	-1188
Toronto	3311	-1203
Lansing	3336	-1228
Base Kansas City	3358	-1450
Arbuckle	3627	-1519
Rotary Total Depth	3715	-1607
Log Total Depth	3717	-1609

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

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

TOPEKA SECTION

3258-3281' Limestone; tan, gray, finely crystalline, fossiliferous, poor pinpoint porosity, trace light brown stain, no free oil and no odor.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1390	+718
Base Anhydrite	1438	+670
Topeka	3068	-963
Heebner	3296	-1188
Toronto	3311	-1203
Lansing	3336	-1228
Base Kansas City	3358	-1450
Arbuckle	3627	-1519
Rotary Total Depth	3715	-1607
Log Total Depth	3717	-1609

TORONTO SECTION

3311-3323' Limestone; cream, white, finely crystalline, poor intercrystalline to finely vuggy type porosity, chalky, trace brown stain, no free oil and no odor.

LANSING SECTION

3335-3350' Limestone; cream, white, finely crystalline, oolitic, chalky, poor porosity, no shows.

3365-3375' Limestone; gray, tan, finely crystalline, slightly oolitic, chalky, poor pinpoint porosity, no shows.

3410-3423' Limestone; cream, white, finely crystalline, poor pinpoint to intercrystalline porosity, cherty in part, trace dark brown stain, no free oil and no odor.

3428-3450' Limestone; cream, white, finely crystalline, chalky, few cherty, poor visible porosity, no shows.

3460-3480' Limestone; cream, tan, white, finely crystalline, chalky, poorly developed porosity, no shows.

3490-3500' Limestone; white, cream, light gray, finely crystalline, chalky, poor visible porosity, no shows.

3523-3536' Limestone; white, finely crystalline, dense, poor visible porosity, no shows.

Limestone; white, cream, finely crystalline, chalky, poor porosity, no shows.

CONGLOMERATE SECTION

3597-3627' Chert; peach, salmon, yellow, plus maroon, red, green shales.

ARBUCKLE SECTION

3627-3629' Dolomite; white, cream and tan, fine and medium crystalline, poor intercrystalline type porosity, golden brown stain, show of free oil and good odor in fresh samples.

Drill Stem Test #1 3540-3627' (Log measurements 3542-3629)

Times: 30-30-30-30

Blow: Weak

Recovery: 1' clean oil
9' very slightly oil cut mud

Pressures: ISIP 260 psi
FSIP 240 psi
IFP 62-61 psi
FFP 56-54 psi
HSH 1723-1642 psi

3629-3638' Dolomite; as above, increase in porosity, golden brown/brown stain, show of free and good odor in fresh samples.

Drill Stem Test #2 3542-3636' (Log measurements 3544-3638)

Times: 45-45-30-30

Blow: Fair

Recovery: 1' clean oil

Pressures: ISIP 250 psi
 FSIP 242 psi
 IFP 57-59 psi
 FFP 60-59 psi
 HSH 1744-1650 psi

3638-3645' Dolomite; cream, tan, fine and medium crystalline, poor intercrystalline to finely vuggy type porosity, dark brown to golden brown stain, show of free oil and faint odor in fresh samples.

Drill Stem Test #3 3542-3643' (Log measurements 3544-3645)

Times: 45-45-30-30

Blow: Weak

**Recovery: 25' very slightly oil cut mud
 (2% oil, 98% mud)**

Pressures: ISIP 58 psi
 FSIP 44 psi
 IFP 19-30 psi
 FFP 30-44 psi
 HSH 1730-1643 psi

3645-3665' Dolomite; cream, white, tan, fine and medium crystalline, poorly developed porosity, trace poor stain, weak show of free oil and faint odor, plus white, gray chert.

3665-3680' Dolomite; white/cream, fine and medium crystalline, poorly developed porosity, scattered stain, show of free oil and faint odor.

3680-3700' Dolomite; cream, white, fine crystalline, few medium crystalline, poorly developed porosity, no visible shows, trace white chalk and white/cream, boney chert.

3700-3717' Dolomite; cream, white, finely crystalline, poor to fair intercrystalline porosity, chalky luster, cherty in part, (barren).

Rotary Total Depth 3715 30-44 psi
Log Total Depth 3717 1730-1643 psi

3645-3665' Dolomite; cream, white, tan, fine and medium crystalline, poorly developed porosity, trace poor stain, weak show of free oil and faint odor, plus white, gray chert.

3665-3680' Dolomite; white/cream, fine and medium crystalline, poorly developed porosity, scattered stain, show of free oil and faint odor.

Mai Oil Operations
Warren Vine #2
SW-SW-NE-NE
Section 27-11s-19w
Ellis County, Kansas
Page 4

Recommendations:

The Warren Vine #2 was plugged and abandoned at the Rotary Total Depth 3715'.

Respectfully submitted;



Kurt Talbott,
Petroleum Geologist

Mai Oil Operations
Warren Vine #2
SW-SW-NE-NE
Section 27-11s-19w
Ellis County, Kansas

Respectfully submitted;



Kurt Talbott,
Petroleum Geologist