

HESS OIL COMPANY

225 N. Market, Suite 300
Wichita, Kansas 67202

(316) 263-2243

GEOLOGICAL REPORT

MARIE #1

840' FSL, 2310' FWL of

SECTION 8 - 14S - 26W

GOVE COUNTY, KANSAS

Commenced: 11-21-08

Surface Pipe: 8-5/8" at 217' KB

Completed: 11-29-08

Production Pipe: none

Contractor: Mallard J.V.

Elevations: 2530' GR, 2535' KB

One foot drilling time to the nearest $\frac{1}{2}$ min. was kept from 1960' to 2060' KB and from 3600' to RTD. Ten foot drilling samples were kept from 3700' to rotary total depth.

Following are sample tops, descriptions of zones of interest (including all shows of oil & gas), and the results of all drill stem tests.

<u>ANHYDRITE</u>	1986	(+549)
<u>BASE ANHYDRITE</u>	2027	(+508)
<u>HEEBNER</u>	3729	(-1194)
<u>LANSING</u>	3769	(-1234)

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3856-64' KB White, fine to very finely crystalline, limestone. Good show of free oil in fair intercrystalline porosity, weak odor, good stain and a strong cut.

3865-70' KB White, very finely to fine crystalline, limestone. Weak show of free oil in good intercrystalline porosity, fair stain, no odor, and fair cut.

DRILL STEM TEST #1 3835' to 3880' KB 45' Anchor

Blow: Bottom of bucket in 3 min. 2nd - BOB $3\frac{1}{2}$ min.

Times: Open 15, Closed 45, Open 30, Closed 45.

Recovered: 1136' Mud Cut SW with show of oil in top.

Pressures: IH 1859# IF 63 - 332# ISIP 1119#
FH 1830# FF 340 - 642# FSIP 1114#

STARK SHALE 3994 (-1459)

**

3927-30' KB Tan, finely crystalline, limestone. Slight show of free oil in very poor intercrystalline porosity, no odor, slight stain, and a very slight cut.
(2 pieces in tray)

3949-52' KB Cream, very finely crystalline, limestone. Slight show of free oil in very poor intercrystalline porosity, no odor, slight stain, and a slight cut.
(3 pieces in tray)

3964-70' KB White, very finely crystalline limestone. Slight show of free oil in very poor intercrystalline porosity, "tite" no odor, slight stain, and a slight cut.

3982-86' KB White to cream, very finely crystalline, limestone. Slight show of free oil in poor intercrystalline porosity, slight odor, fair stain, and a fair cut.

Note: ** indicates an untested oil show.

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4004-10' KB White to cream, very finely crystalline, slightly chalky, limestone. Slight show of free oil in very poor intercrystalline porosity, no odor, slight stain, and a very weak cut.

DRILL STEM TEST #2 3932' to 4012' KB 80' Anchor

Blow: Slow build to 1 $\frac{1}{2}$ ", then died in 43 min.

Times: Open 45, Closed 45, Open 0, Closed 0.

Recovered: 5' Mud w/oil spots

Pressures: IH 1943# IF 19 - 21# ISIP 57#
FH 1916# FF -- FSIP --

** 4026-30' KB Cream, very finely crystalline, chalky, limestone. Slight show of free oil in very poor chalky porosity, slight odor, slight stain, and a very poor cut.

BASE KANSAS CITY 4048 (-1513)

** 4059-62' KB Cream to tan, very finely crystalline, slightly chalky limestone. Very slight show of free oil in very poor intercrystalline porosity, no odor, slight stain, and a slight cut.
(4-5 pieces in tray)

MARMATON 4069 (-1534)

PAWNEE 4184 (-1649)

FORT SCOTT 4246 (-1711)

4248-51' KB Brown, very finely crystalline, dense, limestone. Slight show of free oil in very poor intercrystalline porosity, no odor, slight stain, and a slight cut.
Few gas bubbles! Looks tite.

4260-66' KB Cream to brown, very finely crystalline, dense, limestone. Fair show of free oil in poor intercrystalline porosity, weak odor, fair stain, and a good cut.
Gas bubbles!

** indicates an untested oil show.

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CHEROKEE SHALE 4270 (-1735)

DRILL STEM TEST #3 4230' to 4280' KB 50' Anchor

Blow: Slow build to 2.75". 2nd -- Slow build to 4 $\frac{1}{4}$ ".

Times: Open 30, Closed 45, Open 30, Closed 45.

Recovered: (Early in morning on cold, windy day/night -- I believe there were 2-4 stands of gas unreported)

10' Gas & Oil Cut Mud (40% G, 20% Oil, 40% M)
10' Oil Cut Mud (5% O, 95% M)

Pressures: IH 2100# IF 19 - 26# ISIP 728#
FH 2071# FF 27 - 37# FSIP 277#

MISSISSIPPI 4340 (-1805)

4340-46' KB Cream to tan, very finely crystalline, dense, dolomite. Good show of free oil in poor intercrystalline porosity and fair "vuggy" porosity, slight odor, good stain, and a strong cut.

4350-58' KB Cream to tan, finely crystalline, dense, dolomite. Good show of free oil in poor intercrystalline porosity, weak odor, fair stain, and fair cut. "tite"

DRILL STEM TEST #4 4312' to 4362' KB 50' Anchor

Blow: slow build to 1.75" - died back to 1". 2nd -- no blow.

Times: Open 45, Closed 45, Open 45, Closed 45.

Recovered: 5' Oil
25' Oil Cut Mud (10% O, 90% M)

Pressures: IH 2154# IF 20 - 27# ISIP 949#
FH 2137# FF 29 - 35# FSIP 782#

4362-68' KB Cream to tan, finely crystalline, dense, dolomite. Fair to good show of free oil in fair "vuggy" porosity, no odor, good stain, and a strong cut. (pieces of sharp cherts)

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MISSISSIPPI (cont.)

4369-72' KB Cream to tan, finely crystalline, dense, dolomite.
Fair to good show of free oil in fair "vuggy" porosity,
no odor, good stain, and a strong cut.

DRILL STEM TEST #5 4356' to 4372' KB 16' Anchor

Blow: Slow build to 1" -- died in 27 min.

Times: Open 30, Closed 45, Open 0, Closed 0.

Recovered: 20' Mud w/ show of oil.

Pressures: IH 2206# IF 31 - 37# ISIP 1168#
FH 2179# FF -- FSIP --

ROTARY TOTAL DEPTH 4372 (-1837)

Due to close well control, it was decided that further testing (deeper) in the Mississippi would only yield SW. There were 3 different zones (2 Lansing & 1 below the B/KC) that had slight or very slight shows of free oil. None of them were associated with a drilling break and not worth testing.

It was also decided that due to the closed well control & logs available, we did not need to log the Marie #1. Therefore, the Marie #1 was plugged on November 29, 2008.

Sincerely
James C. Hess
Geologist

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