

27-11-19W

15-051-25035

27-11s-19w

ORIGINAL

Mai Oil Operations  
4514 Cole Ave. Ste. 804 LB 30  
Dallas, Texas 75205

GEOLOGICAL REPORT

Vine "C" No. 1  
580' FSL & 900' FEL  
Section 27, Twp. 11 South  
Rge. 19 West  
Ellis County, Kansas

June 18, 2000

Mai Oil Operations  
4514 Cole Ave. Ste. 804 LB 30  
Dallas, Texas 75205

## GEOLOGICAL REPORT:

Vine "C" No. 1  
590' FSL & 900 FEL  
27-11S-19W  
Ellis County, Kansas

## CONTRACTOR:

Vonfeldt Drilling Co. Rig No. 1  
Russell, Kansas 67665

## DRILLING COMMENCED:

June 6, 2000

## DRILLING COMPLETED:

June 17, 2000

## CASING RECORD:

8 5/8 set at 243' with 165 sx.  
5 1/2 set at 3668'.

## DRILLING TIME:

By Geolograph.  
1' intervals plotted and recorded  
from 2900' to 3670' R.T.D.

## SAMPLES:

10' intervals from 3000' to 3670'  
R.T.D.

## LOGS:

Dual-Induction, Compensated  
Neutron Density Log with Sonic  
ELI Wireline Services  
Hays, Kansas 67601

## DRILL STEM TESTS:

3 by Trilobite Testing LLC  
Hays, Kansas 67601

## MUD:

Chemical Mud  
Andy's Mud & Chemical  
Hays, Kansas 67601

## ELEVATION:

Central Kansas Surveying  
& Mapping Inc.  
Kelly Bushing 2110'  
Ground Level 2105'  
Measurements from K.B.

FORMATION TOPS

<u>FORMATION</u>	<u>SAMPLE DEPTH</u>	<u>LOG DATUM</u>
*Anhydrite	1408	1408 +702
*Base-Anhydrite	1449	1444 +666
Topeka	3066	3062 -952
Heebner	3294	3288 -1178
Toronto	3311	3306 -1196
Lansing-Kansas City	3334	3328 -1218
Base-Kansas City	3561	3554 -1444
Simpson	3598	3592 -1482
Arbuckle	3613	3608 -1498
Rotary Total Depth	3670	3668 -1558
*Drillers Tops		

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Lithology: Zones of Interest

NOTE: All sample descriptions are corrected to log measurements.

Topeka 3062 -Top (-952)  
3092-3100

LS; White to light gray, fine grained to  
crystalline porosity with scattered dark stain.  
Slight show of free oil and fair odor.

Plattsmouth  
3252-58

LS; White, fine to medium crystalline, slightly  
fossiliferous and chalky. Poor porosity with  
no show. Trace of white chert.

Toronto 3306-09	LS;	White, fine to medium crystalline porosity with scattered dark stain. Very slight show of free oil and faint odor.
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Tested by D.S.T. No. 1

Lansing-Kansas City 3328-Top (-1218)

3328-30 A Zone	LS;	White, fine crystalline and dense. Poor porosity with no show.
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3375-78 C Zone	LS;	White to light gray, very fine crystalline, dense to chalky. Trace of stain in poor porosity. Cherty. No free oil or odor.
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3400-03 F Zone	LS;	White, crystalline and slightly fossiliferous. Poor porosity with a trace of stain. Cherty. No free oil or odor.
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3408-11 G Zone	LS;	White, poor fossil cast porosity with a trace of stain. Cherty. No free oil or odor.
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3460-64 H Zone	LS;	White to light gray, crystalline, dense to chalky. No visible porosity. Cherty.
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3484-85 I Zone	LS;	White to buff, very fine crystalline and dense. Trace of poor chalky porosity with no show.
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3498-3500 J Zone	LS;	White to buff, very fine crystalline and dense. Trace of poor chalky porosity with no show.
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3523-28 K Zone	LS;	White, chalky porosity with no show.
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3546-47 L Zone	LS;	White to buff, fine crystalline, dense to chalky.
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Base-Kansas City 3554 (-1444)

Lithology: Page 3

Simpson 3592 (-1482)  
3592-98

Dol; White to light gray, fine grain with included rounded Quartz grains. Very tight porosity with no show.

Arbuckle 3608 (-1498)  
3608-10

Dol; Buff, good medium crystalline porosity with dark stain. Good show of free oil, and good odor. Some vugular porosity with included Quartz grains.

Tested by D.S.T. No.2

3610-20

Dol; Buff, fair to poor medium crystalline porosity with dark stain. Fair show of free oil and good odor.

Tested by D.S.T. No. 2 & 3

3628-30

Sh; Green-waxy.

3630-34

Dol; Buff, fair medium crystalline porosity with spotty dark stain. Fair show of free oil and good odor.

Tested by D.S.T. No. 3

3634-68

Dol; Buff to white, fine to medium crystalline porosity with decreasing shows with depth-spotty stain. Fair shows of free oil and good odor.

Rotary Total Depth 3670 (-1560)

Log Total Depth 3668 (-1558)

## DRILL STEM TESTS

Drill Stem Test No. 1 3292-2220 Toronto

Time Interval: 45-45-45-45

Blow: First Open- weak 1/2" blow throughout  
Second Open- weak 12" blow throughout

Recovery: 105 feet of muddy water (80%w, 5% m)

Pressures:

IHMP: 1603#	IFP: 55# - 66#
ISIP: 800#	FFP: 77# - 88#
FSIP: 691#	BHT: 83 F
FHMP: 1571#	

Mud Properties: Viscosity: 47      Weight: 9.2      Water loss: 10.4

Drill Stem Test No. 2 3591-3621 Arbuckle

Time Interval: 30-30-30-30

Blow: First Open - weak to strong blow in 7 min  
Second Open - weak to strong blow 9 min.

Recovery: 630' of clean oil  
120' of slightly muddy gassy oil (6% g, 90% o, 4% m)  
60' of muddy gassy oil (5% g, 55% o, 40% m)  
810' of total fluid-120' gas in pipe

Pressures:

IHMP: 1777#	IFP: 77# - 198#
ISIP: 1147#	FFP: 242# - 352#
FSIP: 1147#	BHT: 106 F
FHMP: 1766#	Gravity: 26 Degrees

Mud Properties: Viscosity: 45      Weight: 9.5      Water loss: 8.8

## DRILL STEM TESTS CONT

Drill Stem Test No. 3 3623-3645 Arbuckle

Time Interval: 30-30-30-30

Blow: First Open - strong blow in 3 min  
Second Open - strong blow in 8 min

Recovery: 105' oil cut muddy water (10% o, 50% w, 40% m)  
120' oil cut muddy water (5% o, 92% w, 3% m)  
1325' slightly oil cut water (3% o, 97% w)  
1550' of total fluid

Pressures:

IHMP: 1831#	IFP: 99# - 473#
ISIP: 1169#	FFP: 517# - 702#
FSIP: 1169#	BHT: 67 F
FHMP: 1831#	

Mud Properties: Viscosity: 42      Weight: 9.6      Water loss: 8.8

## REMARKS AND RECOMMENDATIONS

The Mai Oil Operations Vine "C" No. 1 ran 5 feet higher on the top of the Arbuckle than the Green Oil Operations No. 1 Vine "B" located in the SE-NE-SE (27-11S-19W).

The log tops on the Vine "C" No. 1 were all 5'-7' higher than the sample tops. For that reason all sample descriptions were corrected to log measurements. Drill stem test intervals should be moved up at least 5 feet also.

The Topeka 30 foot zone contained shows with a drill stem test started but the rig was down for cat head repair for close to 48 hrs. so it was decided not to test since the formation would have been damaged.

The Lansing-Kansas City contained no commercial shows of oil.

The top few feet of the Arbuckle contained good shows of oil and tested positive as 5 1/2 casing was set to test the Arbuckle.

das/DMS

Respectfully Submitted,

A handwritten signature in dark ink, appearing to read "David M. Shumaker". The signature is fluid and cursive, with the first name "David" being the most prominent.

David M. Shumaker  
Petroleum Geologist