

JAMES C. MUSGROVE

Petroleum Geologist, LLC

212 Main Street

P.O. Box 215

Clafin, KS 67525

Office (620) 588-4250

Res. Clafin (620) 587-3444

Mai Oil Operations
Hammeke B #4
NE-SE-SW-SE (640' FSL& 1360' FEL)
Section 21-21s-12w
Stafford County, Kansas

Page 1

5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)

Commenced: January 5, 2015

Completed: January 11, 2015

Elevation: 1852' K.B., 1850' D.F., 1844' G.L.

Casing program: Surface; 8 5/8" @ 643'
Production, 5 1/2" @ 3699'

Sample: Samples saved and examined 2900' to the Rotary Total Depth.

Drilling time: One (1) foot drilling time recorded and kept 2900' to the Rotary Total Depth.

Measurements: All depths measured from the Kelly Bushing.

Drill Stem Tests: There were two (2) Drill Stem Tests ran by Trilobite Testing Co.

Electric Log: By Nabors, Dual Induction, Compensated Density/Neutron Log and Micro Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	644	+1208
Base Anhydrite	666	+1186
Heebner	3113	-1261
Toronto	3134	-1282
Douglas	3141	-1289
Brown Lime	3246	-1394
Lansing	3257	-1406
Base Kansas City	3480	-1628
Viola	3490	-1634
Simpson Shale	3514	-1662
Arbuckle	3564	-1712
Rotary Total Depth	3700	-1848
Log Total Depth	3700	-1848

All tops and zones corrected to Electric Log Measurement

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

TOPEKA SECTION

2900-3113' No shows of oil and/or gas was noted in drilling of the Topeka Section (see attached samples log/geologist report)

TORONTO SECTION

3134-3144 Limestone, tan, gray, cream finely crystalline, few fossiliferous, poor visible porosity, no shows.

LANSING SECTION

3252-3259' Limestone, cream, tan, finely crystalline, oolitic, poor scattered porosity, chalky, no shows.

3277-3285' Limestone, cream, tan, white, finely crystalline, oolitic/fossiliferous, chalky, poor scattered porosity, trace spotty stain, no show of free oil or odor in fresh samples.

3296-3310' Limestone, cream, tan, finely crystalline, slightly cherty in part, dense.

3328-3337' Limestone, white, cream, finely crystalline, scattered inter-crystalline porosity, oolitic, chalky, spotty dark brown to black stain, no show of free oil and no odor in fresh samples.

3340-3350' Limestone, white, cream, oolitic, sub-oomoldic, scattered oomoldic/vuggy type porosity, dark brown stain, show of free oil and very faint odor in fresh samples.

3350-3370' Limestone, cream, light gray, finely crystalline, oolitic, scattered porosity, chalky, dark brown stain, no show of free oil and no odor.

3398-3410' Limestone, white, cream, light gray, finely crystalline, poor visible porosity, no shows.

3420-3433' Limestone, as above, no shows.

3440-3450' Limestone, white, light gray, oolitic, poor scattered porosity, plus chert, white/cream, boney, no shows.

3462-3475' Limestone, as above, no shows.

VIOLA SECTION

3685-3514' Chert, white, gray, fresh, trace stain, no free oil and no odor in fresh samples.

SIMPSON SECTION

3533-3545' Sand, white/cream, very fine grained, trace poor stain, no free oil and no odor in fresh samples.

ARBUCKLE SECTION

- 3566-3570' Dolomite, tan, fine to medium crystalline, poorly developed porosity, trace brown stain, show of free oil and faint odor in fresh samples.
- 3572-3578' Dolomite, tan, gray, medium crystalline, fair inter-crystalline porosity, fair stain and saturation, good show of free oil and good odor in fresh samples.
- 3586-3593' Dolomite, light gray, cream, fine and medium crystalline, sucrosic in part, fair inter-crystalline porosity, brown stain, good show of free oil and good odor in fresh samples.

Drill Stem Test #1 3507-3593

Times: 30-30-45-60

Blow: Strong, gas to surface 4 mins into initial shut in, T.S.T.M.

**Recovery: 930' gas in pipe
283' gassy muddy oil
(20% gas; 60% oil; 20% mud)
1828' gassy oil
(25% gas; 75% oil)
441' gassy muddy oil
(10% gas; 30% mud; 60% oil)**

**Pressures: ISIP 1070 psi
FSIP 1077 psi
IFP 711-769 psi
FFP 803-964 psi
HSH 1839-1760 psi**

- 3606-3610' Dolomite, white, medium crystalline, good inter-crystalline to vuggy type porosity; fair to good stain and saturation, good show of free oil and good odor in fresh samples, plus trace white/cream boney chert.
- 3610-3616' Dolomite, cream tan, medium crystalline, fair inter-crystalline finely vuggy type porosity, brown stain and saturation, good show of free oil and good odor in fresh samples, plus chert, as above.

Drill Stem Test #2

3594-3616

Times: 30-45-30-30

Blow: Strong, gas to surface 16 mins into initial shut in,

**Recovery: 1256' gas in pipe
2197' gassy oil
124' gassy muddy oil
(10% gas; 70% oil; 20% mud)
1828' gassy oil**

**Pressures: ISIP 942 psi
FSIP 980 psi
IFP 497-661 psi
FFP 739-836 psi
HSH 1866-1808 psi**

- 3616-3626' Dolomite, tan, fine to medium crystalline, fair inter-crystalline porosity, brown stain/saturation, show of free oil and fair odor in fresh samples, plus chert, tan, cream, boney.
- 3626-3640' Dolomite, cream, tan, fine and medium crystalline, good inter-crystalline and vuggy type porosity, golden brown to dark brown stain, show of free oil and fair odor in fresh samples. Trace white boney chert.
- 3640-3660' Dolomite, cream, tan, light gray, fine to medium crystalline, poor inter-crystalline porosity, trace brown to black stain, trace of free oil and faint odor, plus chert as above.
- 3660-3680' Dolomite, cream, tan, fine and medium crystalline, poor to fair inter-crystalline porosity, few with good vuggy type porosity, dark brown to black stain, trace of free oil and faint odor; chalky luster in few pieces plus chert as above.
- 3680-3700' Dolomite, cream, light gray, tan, fine to medium crystalline, poor to fair inter-crystalline porosity, black stain, weak show of free oil and faint odor. Trace white/cream, boney chert.

**Rotary Total Depth 3700
Log Total Depth 3700**

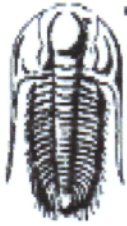
Recommendations:

The 5 1/2" production casing was set and cemented on Mai Oil Operation Inc., Hammeke B #4.

Respectfully yours,



Kurt Talbott
Petroleum Geologist



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations
 8411 Preston Rd Ste 800
 Dallas, TX 75225
 ATTN: Kurt Talbott

21-21s-12w Stafford,KS

Hammeke B #4

Job Ticket: 59894 **DST#: 1**
 Test Start: 2015.01.09 @ 19:41:31

GENERAL INFORMATION:

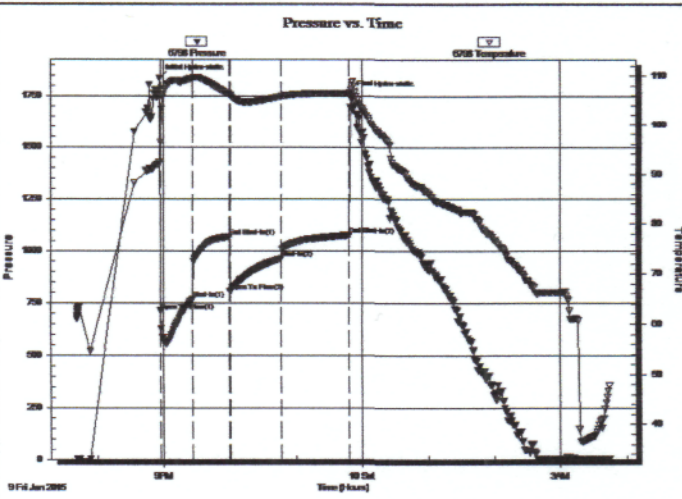
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:57:16
 Time Test Ended: 03:44:16
 Interval: **3507.00 ft (KB) To 3593.00 ft (KB) (TVD)**
 Total Depth: 3593.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 1852.00 ft (KB)
 1844.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6798

Inside

Press@RunDepth: 964.04 psig @ 3508.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.01.09 End Date: 2015.01.10 Last Calib.: 2015.01.10
 Start Time: 19:41:32 End Time: 03:44:16 Time On Btm: 2015.01.09 @ 20:56:16
 Time Off Btm: 2015.01.09 @ 23:49:46

TEST COMMENT: IF: Strong Blow, BOB in 30 seconds
 IS: GTS 4 minutes into Bleed Off, BOB Blow Back in 9 minutes
 FF: Strong Blow, GTS immediate, BOB in 30 seconds, Gas TSTM
 FS: BOB Blow Back in 15 minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1838.98	92.38	Initial Hydro-static
1	711.15	96.43	Open To Flow (1)
30	769.37	109.45	Shut-In(1)
64	1070.01	106.16	End Shut-In(1)
64	803.38	106.01	Open To Flow (2)
110	964.04	105.75	Shut-In(2)
172	1076.92	106.38	End Shut-In(2)
174	1759.70	107.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	930 GIP	0.00
441.00	GMCO 10%G 30%M 60%O	6.19
1828.00	GSY Oil 25%G 75%O	25.64
283.00	GMCO 20%G 20%M 60%O	3.97

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mai Oil Operations
8411 Preston Rd Ste 800
Dallas, TX 75225
ATTN: Kurt Talbott

21-21s-12w Stafford,KS
Hammeke B #4
Job Ticket: 59895 **DST#: 2**
Test Start: 2015.01.10 @ 11:28:45

GENERAL INFORMATION:

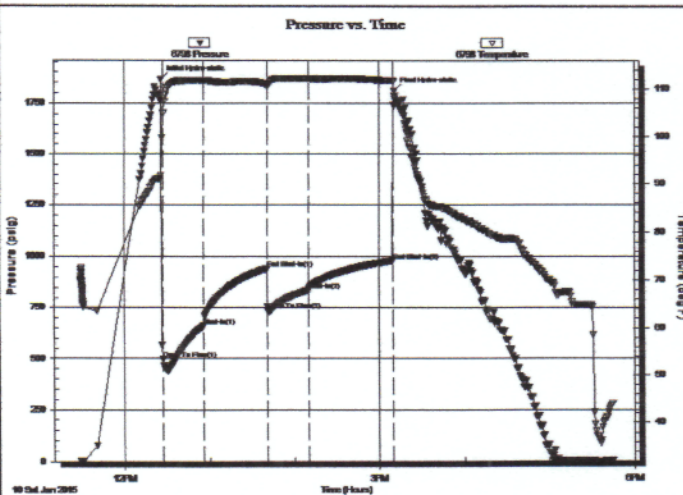
Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:27:15
Time Test Ended: 17:45:00
Interval: **3594.00 ft (KB) To 3616.00 ft (KB) (TVD)**
Total Depth: 3616.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 1852.00 ft (KB)
1844.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6798

Inside

Press@RunDepth: 836.57 psig @ 3595.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.01.10 End Date: 2015.01.10 Last Calib.: 2015.01.10
Start Time: 11:28:46 End Time: 17:45:00 Time On Btm: 2015.01.10 @ 12:25:45
Time Off Btm: 2015.01.10 @ 15:10:30

TEST COMMENT: IF: Strong Blow, BOB in 30 seconds
IS: GTS 16 minutes, BOB Blow Back in 12 minutes
FF: GTS immediate, TSTM BOB in 30 seconds
FSI: 8 inch Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1866.02	91.77	Initial Hydro-static
2	497.36	105.05	Open To Flow (1)
30	661.49	111.85	Shut-In(1)
75	942.12	110.87	End Shut-In(1)
76	739.47	110.65	Open To Flow (2)
104	836.57	112.15	Shut-In(2)
164	980.47	111.81	End Shut-In(2)
165	1807.76	108.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	1256 GIP	0.00
124.00	GSY MCO 10%G 20%M 70%O	1.74
2197.00	GSY Oil 20%G 80%O	30.82

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. T112

Date	1-6-15	Sec.	21	Twp.	21	Range	12	County	Stafford	State	Ks	On Location		Finish	2:15 AM
------	--------	------	----	------	----	-------	----	--------	----------	-------	----	-------------	--	--------	---------

Lease Hammekee B Well No. 4 Location Great Bend, Ks - 115, 65, 1/2 N, W/5

Contractor Southwind #3 Owner To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job Surface Charge To Maio oil operations

Hole Size 12 1/4" T.D. 643' Street

Csg. 8 5/8" Depth 643' City

Tbg. Size Depth City State

Tool Depth The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 20' Shoe Joint 20' Cement Amount Ordered 400 60140 30/cc 2% Gel

Meas Line Displace 39 1/2 Bls 1/2 # Flt - real

EQUIPMENT

Pumptrk	16	No.	Cementer		Common
			Helper	<u>Billy</u>	Poz. Mix
Bulktrk	4	No.	Driver	<u>Chad</u>	Gel.
Bulktrk	p.u.	No.	Driver	<u>Rick</u>	Calcium

JOB SERVICES & REMARKS

Remarks: Cement did Circulate

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

FLOAT EQUIPMENT

Guide Shoe Rubber plug

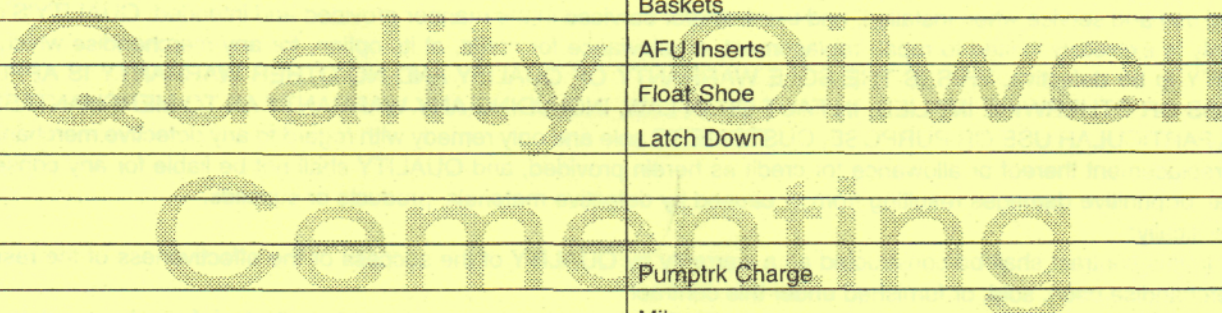
Centralizer

Baskets

AFU Inserts

Float Shoe

Latch Down



Pumptrk Charge

Mileage

Signature Jay Brown

Tax

Discount

Total Charge

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 789

Date	1-11-11	Sec.	21	Twp.	21	Range	12	County	Stafford	State	KS	On Location	3:00 PM
------	---------	------	----	------	----	-------	----	--------	----------	-------	----	-------------	---------

Location Green Bend 11S 6E 1/4 N Winc

Lease <u>Hammeke B</u>	Well No. <u>4</u>	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor <u>Southward #3</u>			
Type Job <u>Production string</u>			
Hole Size <u>7 7/8</u>	T.D. <u>3700</u>	Charge To	<u>Mn 0.1</u>
Csg. <u>5 1/2</u>	Depth <u>3696'</u>	Street	
Tbg. Size	Depth	City	State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg. <u>21.68</u>	Shoe Joint <u>21.69'</u>	Cement Amount Ordered	<u>160 6 3/4 3/4 gal 10 7/8 gal</u>
Meas Line	Displace <u>89 3/4 bbl</u>		<u>1/4 E 1/2</u>

EQUIPMENT

Pumptrk <u>5</u>	No.	Cementer Helper <u>David</u>		Common			
Bulktrk <u>15</u>	No.	Driver <u>Doug</u>		Poz. Mix			
Bulktrk <u>Pu</u>	No.	Driver <u>Brett</u>		Gel.			
				Calcium			

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole <u>30 sks</u>	Salt
Mouse Hole	Flowseal
Centralizers - <u>1-11 + 13-15</u>	Kol-Seal
Baskets	Mud CLR 48 - <u>1000 gal</u>
D/V or Port Collar	CFL-117 or CD110 CAF 38
	Sand
	Handling
<u>Run 3696' 5 1/2" + Est Cir</u>	Mileage
<u>Mixed 1000 Gal Mud Flush</u>	<u>5 1/2"</u> FLOAT EQUIPMENT
<u>Plugged Rat hole</u>	Guide Shoe
<u>Mixed 130 sk down 5 1/2"</u>	Centralizer - <u>14</u>
<u>Displaced 89 3/4 bbl</u>	Baskets
	AFU Inserts
<u>Life pressure 600 lbs</u>	Float Shoe - <u>1</u>
<u>Landed @ 1200 lbs</u>	Latch Down - <u>1</u>
<u>Plug held</u>	
	Pumptrk Charge
	Mileage
	Tax
	Discount
	Total Charge

X Signature Burt Hansen