

JAMES C. MUSGROVE

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

Office (620) 588-4250

Res. Claflin (620) 587-3444

Mai Oil Operations
Clausen #1
SW-NW-NE (990'FNL & 2310' FEL)
Section 25-19s-13w
Barton County, Kansas

Page 1

5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)

Commenced: November 17, 2015

Completed: November 23, 2015

Elevation: 1839' K.B., 1837' D.F., 1831' G.L.

Casing program: Surface; 8 5/8" @ 686
Production, 5 1/2" @ 3475'

Sample: Samples saved and examined 2800' to the Rotary Total Depth.

Drilling time: One (1) foot drilling time recorded and kept 2800' to the Rotary Total Depth.

Measurements: All depths measured from the Kelly Bushing.

Drill Stem Tests: There were four (4) Drill Stem Tests ran by Trilobite Testing Co.

Electric Log: By Casedhole Solutions, Dual Induction, Compensated Density/Neutron Log, Micro and Sonic Logs.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	688	+1151
Base Anhydrite	706	+1133
Heebner	3021	-1182
Toronto	3042	-1203
Douglas	3052	-1213
Brown Lime	3132	-1293
Lansing	3145	-1306
Base Kansas City	3374	-1535
Arbuckle	3388	-1549
Rotary Total Depth	3475	-1636
Log Total Depth	3475	-1636

All tops and zones corrected to Electric Log Measurement

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

TOPEKA SECTION

2960-2980' Limestone, cream, tan, fine and medium crystalline, sucrosic in part, few fossiliferous, poor to fair inter-crystalline porosity, no shows.

TORONTO SECTION

3042-3051' Limestone, cream, tan finely crystalline, few granular and sucrosic, poor inter-crystalline porosity, no shows.

LANSING SECTION

3145-3152' Limestone, white, cream, gray, finely crystalline, oolitic, few fossiliferous, poor inter-crystalline porosity, golden brown stain, trace of free oil and good odor in fresh samples.

3170-3180' Limestone, cream, light gray, finely crystalline, few fossiliferous, poor visible porosity, brown stain, trace of free oil and good odor in fresh samples.

3182-3186' Limestone, cream, light gray, finely crystalline, few fossiliferous, oolitic, poor scattered porosity, trace black stain, no free oil and no odor in fresh samples

Drill Stem Test #1 3134-3189

Times: 30-45-45-60

Blow: Strong

**Recovery: 2172' gas in pipe
120' heavily oil & gas cut mud
(50% oil; 40% mud; 10% gas)**

**Pressures: ISIP 868 psi
FSIP 841 psi
IFP 65-46 psi
FFP 53-70 psi
HSH 1529-1502 psi**

3210-3217' Limestone, tan, light gray, finely crystalline, oolitic, poor scattered porosity, brown spotty stain, no free oil and faint odor in fresh samples.

3218-3226' Limestone, cream, white, finely crystalline, poorly developed pinpoint type porosity, dark brown stain, trace of free oil and faint odor in fresh samples.

3228-3240' Limestone, cream, tan, oolitic, oomoldic, chalky in part, good oomoldic porosity, dark brown stain, no free oil and no odor in fresh samples.

3240-3250 Limestone, cream, tan, oolitic, oomoldic, chalky, trace spotty stain, no free oil or odor in fresh samples.

3276-3280' Limestone, cream, tan, finely crystalline, oolitic, poor visible porosity, dark brown stain, trace of free oil and fair odor in fresh samples.

3294-3302' Limestone, cream, tan, finely crystalline, oolitic, poor to fair porosity, brown stain, show of free oil and fair odor in fresh samples.

- 3311-3322' Limestone, cream, tan, finely crystalline, oolitic, fair vuggy type porosity, brown stain, show of free oil, trace of gas bubbles and fair odor in fresh samples.
- 3343-3350' Limestone, cream, white, finely crystalline, oolitic, poor scattered finely vuggy type porosity, brown spotty stain, no free oil and faint odor in fresh samples.
- 3351-3363' Limestone, tan, light gray, finely crystalline, cherty in part, poor visible porosity, no shows.

Drill Stem Test #2 **3265-3365**

Times: 30-45-45-60

Blow: Strong

Recovery: 2690' gas in pipe
570' clean gassy oil

Pressures: ISIP 966 psi
FSIP 940 psi
IFP 82-157 psi
FFP 181-257 psi
HSH 1690-1628 psi

ARBUCKLE SECTION

- 3388-3399' Dolomite, white, medium crystalline, fair inter-crystalline porosity, golden brown stain, show of free oil and good odor in fresh samples.

Drill Stem Test #3 **3360-3399**

Times: 15-30-15-45

Blow: Strong

Recovery: 3050' gas in pipe
300' clean gassy oil

Pressures: ISIP 1139 psi
FSIP 1127 psi
IFP 991-1018 psi
FFP 1013-995 psi
HSH 1702-1574 psi

- 3399-3408' Dolomite, white, cream, fine to medium crystalline, fair vuggy type porosity, brown stain, good show of free oil and good odor in fresh samples.

Drill Stem Test #4 **3401-3408**

Times: 30-45-30-60

Blow: Strong

Recovery: 240' gassy oil cut muddy water
(10% gas; 30% oil; 40% water; 20% mud)
480' heavily cut muddy water
(40% oil; 40% water; 20% mud)
2100' water

Pressures: ISIP 1157 psi
FSIP 1157 psi
IFP 534-995 psi
FFP 1157-1161 psi
HSH 1682-1616 psi

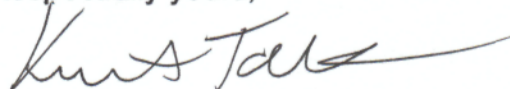
- 3408-3420' Dolomite, cream, white, fine to medium crystalline, poor to fair inter-crystalline porosity, dark brown stain, show of free oil and fair odor in fresh samples.
- 3420-3440' Dolomite, white, fair to medium crystalline, slightly cherty, poorly developed inter-crystalline type porosity, dark brown stain, no free oil and faint odor in fresh samples.
- 3440-3460' Dolomite, white/light gray, medium crystalline, chalky luster, dark brown stain, no free oil and faint odor in fresh samples.
- 3460-3475' Dolomite, white, fine and medium crystalline, poor scattered inter-crystalline porosity, dark brown stain, no free oil and faint odor in fresh samples.

Rotary Total Depth 3475
Log Total Depth 3475

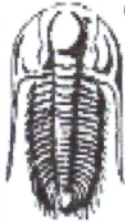
Recommendations:

The 5 1/2" production casing was set and cemented on Mai Oil Operations Inc., Clausen #1.

Respectfully yours,



Kurt Talbott
Petroleum Geologist



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operation
 8411 Preston Rd Ste 80
 Dallas TX 75225+5520
 ATTN: Kurt Talbott

25-19s-13w Barton,KS
Clasen #1
 Job Ticket: 62968 **DST#: 1**
 Test Start: 2015.11.21 @ 05:00:00

GENERAL INFORMATION:

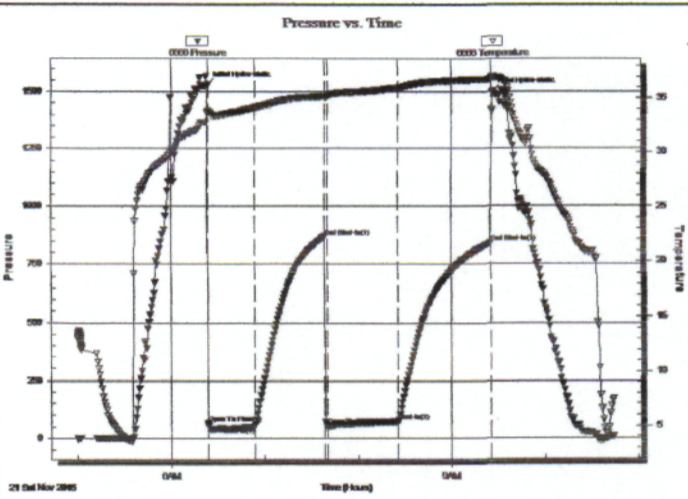
Formation: **LKC A -C**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 06:23:46
 Time Test Ended: 10:44:16
 Test Type: **Conventional Bottom Hole (Initial)**
 Tester: **Jared Scheck**
 Unit No: **55**
 Interval: **3134.00 ft (KB) To 3189.00 ft (KB) (TVD)**
 Total Depth: **3189.00 ft (KB) (TVD)**
 Hole Diameter: inchesHole Condition: **Fair**
 Reference Elevations: **1847.00 ft (KB)**
1839.00 ft (CF)
 KB to GR/CF: **8.00 ft**

Serial #: 6666

Inside

Press@RunDepth: **70.88 psig @ 3173.00 ft (KB)**
 Start Date: **2015.11.21** End Date: **2015.11.21**
 Start Time: **05:00:01** End Time: **10:44:16**
 Capacity: **8000.00 psig**
 Last Calib.: **2015.11.21**
 Time On Btrm: **2015.11.21 @ 06:23:16**
 Time Off Btrm: **2015.11.21 @ 09:25:46**

TEST COMMENT: FP-30 Minutes-BOB in 1 minute
 ISP-45 Minutes-No blow back
 FFP-45 Minutes-BOB in 30 sec
 FSIP-60 Minutes-No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg C)	Annotation
0	1529.94	33.71	Initial Hydro-static
1	65.65	33.87	Open To Flow (1)
31	46.95	34.11	Shut-In(1)
75	868.48	35.15	End Shut-In(1)
77	53.95	35.17	Open To Flow (2)
123	70.88	35.97	Shut-In(2)
182	841.56	36.77	End Shut-In(2)
183	1502.19	36.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GMO 10%gas 40%mud 50%oil	1.68
0.00	2712' gas in pipie	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operation	25-19s-13w Barton,KS
8411 Preston Rd Ste 80 Dallas TX 75225+5520	Clasen #1
ATTN: Kurt Talbott	Job Ticket: 62970 DST#: 3
	Test Start: 2015.11.22 @ 14:30:00

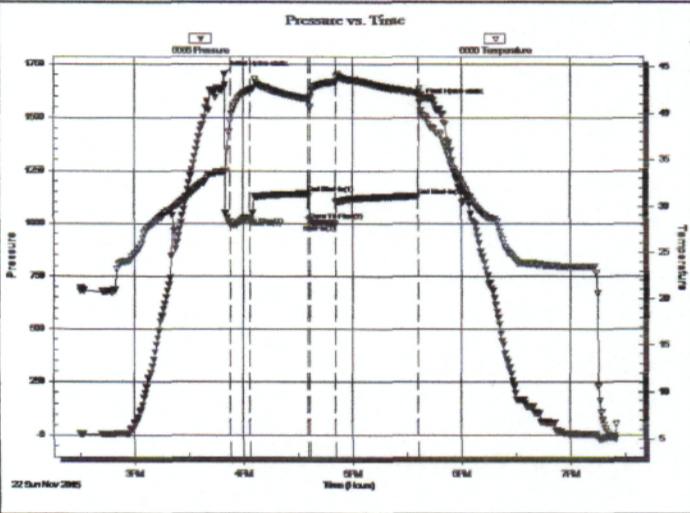
GENERAL INFORMATION:

Formation: Arbuckle	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Jared Scheck
Time Tool Opened: 15:52:31	Unit No: 55
Time Test Ended: 19:26:01	Reference Elevations: 1847.00 ft (KB)
Interval: 3360.00 ft (KB) To 3399.00 ft (KB) (TVD)	1839.00 ft (CF)
Total Depth: 3399.00 ft (KB) (TVD)	KB to GR/CF: 8.00 ft
Hole Diameter: inches Hole Condition: Fair	

Serial #: 6666 Inside

Press@RunDepth: 995.06 psig @ 3366.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2015.11.22 End Date: 2015.11.22	Last Calib.: 2015.11.22
Start Time: 14:30:01 End Time: 19:26:01	Time On Btm: 2015.11.22 @ 15:49:16
	Time Off Btm: 2015.11.22 @ 17:37:01

TEST COMMENT: FFP-15 Minutes-BOB in 10 sec oil to surface in 5 minutes
 ISIP-30 Minutes-Yes blow back
 FFP-15 Minutes-BOB in 1 minutes-- flow ing oil
 FSIP-45 Minutes-Yes blow back



Time (Min.)	Pressure (psig)	Temp (deg C)	Annotation
0	1702.96	33.76	Initial Hydro-static
4	991.15	39.25	Open To Flow (1)
15	1018.14	42.58	Shut-In(1)
47	1139.62	41.55	End Shut-In(1)
48	1013.54	40.74	Open To Flow (2)
62	995.06	43.39	Shut-In(2)
107	1127.84	42.23	End Shut-In(2)
108	1574.58	41.10	Final Hydro-static

Length (ft)	Description	Volume (bbl)
300.00	gas 20% oil 80%	4.21
0.00	GO to surface	0.00

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. 1293

Date	11-17-15	Sec.	25	Twp.	19	Range	13	County	Barton	State	Ks	On Location	Finish	2:00 PM
------	----------	------	----	------	----	-------	----	--------	--------	-------	----	-------------	--------	---------

Lease Clasen Well No. 1 Location Great Bend, Ks - E on S6 Hwy to

Contractor	Southwind #3	Owner	46th Ave
Type Job		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.	
Hole Size	12 1/4"	T.D.	686'
Csg.	8 5/8"	Depth	686'
Tbg. Size		Depth	
Tool		Depth	
Cement Left in Csg.	20'	Shoe Joint	20'
Meas Line		Displace	42 1/4 BLS
			1/4# Flt-seal

EQUIPMENT		Charge To	mai oil operations
Pumptrk	18	No.	
		Cementer Helper	Travis
Bulktrk	4	No.	
		Driver	Billy
Bulktrk	p.u.	No.	
		Driver	Rick

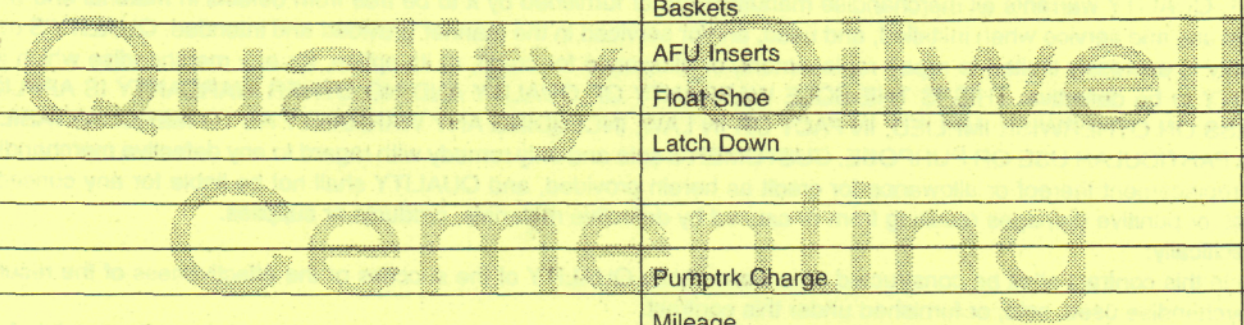
JOB SERVICES & REMARKS		Cement Amount Ordered	350 60/40 3% CC 2% bel
Remarks:	Cement did Circulate	Common	
Rat Hole		Poz. Mix	
Mouse Hole		Gel.	
Centralizers		Calcium	
Baskets		Hulls	
D/V or Port Collar		Salt	

Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	
Mileage	

FLOAT EQUIPMENT	
Guide Shoe	Rubber plug
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	
Mileage	

	Tax	
	Discount	
	Total Charge	

X Signature B. Honner



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. 1299

Date	11-24-15	Sec.	25	Twp.	19	Range	13	County	Barton	State	Ks	On Location		Finish	3:45 AM
Lease								Well No.		Location					
Clasen								1		Great Bend, Ks - E to 40th Ave on 40th Ave					
Contractor								3		Owner					
Southwind										N. Valley, 5/1 into					
Type Job										To Quality Oilwell Cementing, Inc.					
Production										You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Hole Size				T.D.				Charge To							
7 7/8"				3475'				Main oil operations							
Csg.				Depth				Street							
5 1/2" New 14 #				3474'											
Tbg. Size				Depth				City				State			
Tool				Depth				The above was done to satisfaction and supervision of owner agent or contractor.							
Cement Left in Csg.				Shoe Joint				Cement Amount Ordered							
20.99'				20.99'				160 60/100 10% Salt 2% Gel 1/4# Flt = seal							
Meas Line				Displace				.2% Gm block .5% of 1% CAF 38							
				H2O 84 1/4											
EQUIPMENT												Common			
Pumptrk		No.		Cementer				Poz. Mix							
5				Helper		Brett									
Bulktrk		No.		Driver				Gel.							
3				Nick											
Bulktrk		No.		Driver				Calcium							
P.U.				Rick											
JOB SERVICES & REMARKS												Hulls			
Remarks:												Salt			
Rat Hole												Flowseal			
Mouse Hole												Kol-Seal			
Centralizers												Mud CLR 48		1000 gal	
Baskets												CFL-117 or CD110 CAF 38			
D/V or Port Collar												Sand			
plug ball hole at 3058 Hook to casing												Handling			
r mix @ 130 psi cement shift												Mileage			
down with pump + line released plug												FLOAT EQUIPMENT			
r displaced w/ 54 1/4 lbs. Released												Guide Shoe			
held Lift pressure 600 #												Centralizer		12	
Land plugs to 1505 #												Baskets			
												AFU Inserts			
												Float Shoe		1	
												Latch Down		1	
												Pumptrk Charge			
												Mileage			
												Tax			
												Discount			
												Total Charge			
X Signature															
Brett															