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Mai Oil Operations

~~XXXXXXXXXX~~ *L + E Birzer #1*
NW-SE-SW-SW (425' FSL & 785' FWL)

Section 4-17s-13w
Barton County, Kansas
Page 1

5 1/2" Production Casing Set

- Contractor:** Southwind Drilling Co. (Rig #3)
- Commenced:** March 10, 2014
- Completed:** March 15, 2014
- Elevation:** 1891' K.B; 1889' D.F; 1883' G.L.
- Casing program:** Surface; 8 5/8" @ 517'
Production; 5 1/2" @ 3410'
- Sample:** Samples saved and examined 2800' to the Rotary Total Depth.
- Drilling time:** One (1) foot drilling time recorded and kept 2800 ft. 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 Completion and Production Services Co; Dual Induction, Compensated Density/Neutron Log and Micro & Sonic Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	820	+1071
Base Anhydrite	848	+1043
Heebner	3021	-1130
Toronto	3038	-1147
Douglas	3051	-1160
Brown Lime	3101	-1210
Lansing	3117	-1226
Base Kansas City	3334	-1443
Arbuckle	3348	-1457
Rotary Total Depth	3415	-1524
Log Total Depth	3411	-1520

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

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

TOPEKA SECTION

- 2940-2960' Limestone; tan, brown, finely crystalline, few fossiliferous, poor visible porosity, no shows.
- 2966-2990' Limestone; tan, finely crystalline, few fossiliferous, poorly developed porosity, no shows.

TORONTO SECTION

3038-3050' Limestone; cream, finely crystalline, poor visible porosity, no shows and questionable odor in fresh samples.

LANSING SECTION

3117-3125' Limestone; tan, cream, finely crystalline, dense.

3129-3132' Limestone; cream, tan, oolitic, poorly developed porosity, trace black stain, no free oil and no odor.

3137-3150' Limestone; tan, cream, oolitic, few medium crystalline, good intercrystalline porosity, brown stain, show of free oil and no odor.

3158-3166' Limestone; gray, finely crystalline, oolitic, poor scattered porosity, dense, no shows.

3169-3178' Limestone; tan, gray, finely crystalline, scattered pinpoint porosity, black stain, show of free oil and questionable odor in fresh samples.

Drill Stem Test #1 3122-3185' (3118-3181 log measurements)

Times: 30-30-45-45

Blow: Weak

Recovery: 25' mud

Pressures:

ISIP	755	psi
FSIP	728	psi
IFP	11-16	psi
FFP	19-20	psi
HSH	1555-1494	psi

3183-3196' Limestone; tan, oomoldic, poor to fair vuggy to oomoldic porosity, trace poor stain, trace of free oil and faint odor in fresh samples.

3242-3252' Limestone; tan, brown, finely crystalline, few fossiliferous, dense.

3260-3266' Limestone; cream, white, oomoldic, fair oomoldic porosity, few with fair vuggy porosity, light brown stain, show of free oil and faint odor in fresh samples.

3276-3290' Limestone; cream, tan, finely crystalline, few oolitic, poorly developed porosity, no shows.

3305-3310' Limestone; white, cream, chalky, poor scattered porosity, brown stain, no show of free oil and no odor in fresh samples.

MARMATON SECTION

3335-3343' Limestone; tan, cream finely crystalline, few chalky, dense.

3343-3348' Limestone; as above, plus white/orange, opaque chert.

ARBUCKLE SECTION

3348-3359' Dolomite; cream, white, sucrosic, poor to fair intercrystalline porosity, few with scattered fine vuggy porosity, light brown stain, show of free oil and faint odor in fresh samples.

Drill Stem Test #2 3325-3363' (3321-3359 log measurements)

Times: 30-30-45-45

Blow: Strong

**Recovery: 1160' gassy oil
252' heavily oil and mud cut water
(50% oil, 20% water, 30% mud)
126' muddy water**

**Pressures: ISIP 1055 psi
FSIP 1054 psi
IFP 117-388 psi
FFP 412-637 psi
HSH 1661-1615 psi**

3359-3370' Dolomite; light gray and white, fine and medium crystalline, scattered intercrystalline porosity, trace stain, trace of free oil and no odor in fresh samples, few with chalky luster and white boney chert.

3370-3390' Dolomite; white, light gray, fine and medium crystalline, fair intercrystalline porosity, slightly cherty, no shows.

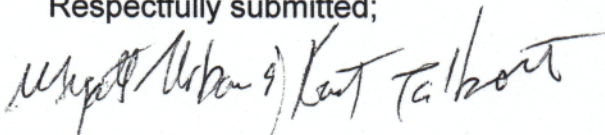
3390-3411' Dolomite; white, as above, plus white, gray, boney chert, no shows.

**Rotary Total Depth 3415
Log Total Depth 3411**

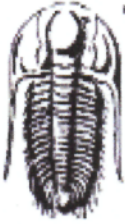
Recommendations:

5 1/2" production casing was set and cemented on the Hoffman Farms #1.

Respectfully submitted;



Wyatt Urban and
Kurt Talbott,
Petroleum Geologists



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations Inc.
8411 Preston Rd STE 800
Dallas, TX 75225
ATTN: Wyatt Urban

4-17S-13W Barton,KS
Hoffman Farms #1
Job Ticket: 56199 **DST#: 1**
Test Start: 2014.03.13 @ 12:11:00

GENERAL INFORMATION:

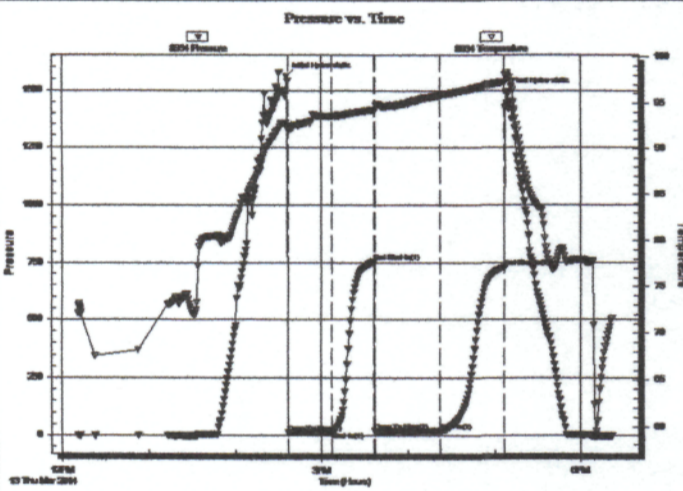
Formation: **LKC A-F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:37:00
Time Test Ended: 18:22:45
Interval: **3122.00 ft (KB) To 3185.00 ft (KB) (TVD)**
Total Depth: 3185.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Tim Phillips
Unit No: 59
Reference Elevations: 1891.00 ft (KB)
1886.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8934

Inside

Press@RunDepth: 20.93 psig @ 3149.00 ft (KB)
Start Date: 2014.03.13 End Date: 2014.03.13
Start Time: 12:11:05 End Time: 18:21:44
Capacity: 8000.00 psig
Last Calib.: 2014.03.13
Time On Btm: 2014.03.13 @ 14:35:45
Time Off Btm: 2014.03.13 @ 17:08:15

TEST COMMENT: IFP- Blow built to 1 1/2"
ISI-Dead no blow back
FF-Blow built to 1 1/2"
FSI- Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1559.86	92.75	Initial Hydro-static
2	11.06	91.92	Open To Flow (1)
32	16.00	93.59	Shut-In(1)
61	755.39	94.30	End Shut-In(1)
62	19.38	94.18	Open To Flow (2)
107	20.93	95.85	Shut-In(2)
152	728.09	97.28	End Shut-In(2)
153	1494.23	98.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	100% M	0.35

Gas Rates

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



**TRIOLOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mai Oil Operations Inc.
8411 Preston Rd STE 800
Dallas, TX 75225
ATTN: Wyatt Urban

4-17S-13W Barton,KS
Hoffman Farms #1
Job Ticket: 56200 **DST#: 2**
Test Start: 2014.03.14 @ 10:53:00

GENERAL INFORMATION:

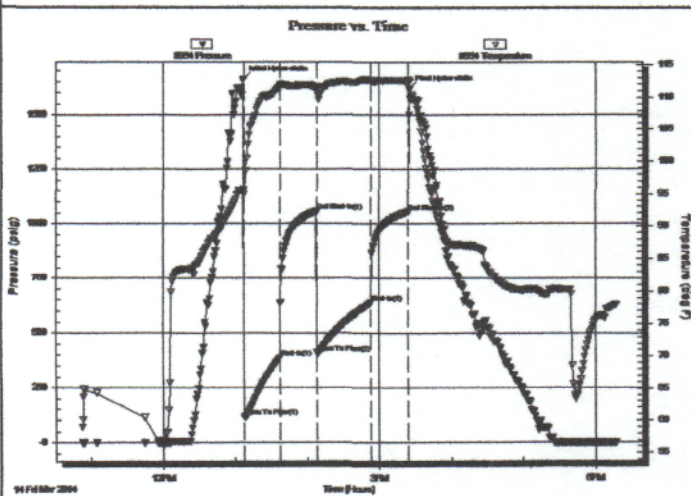
Formation: **Arbuckle**
Deviated: **No Whipstock:** ft (KB)
Time Tool Opened: 13:07:45
Time Test Ended: 18:17:00
Interval: **3325.00 ft (KB) To 3363.00 ft (KB) (TVD)**
Total Depth: **3363.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Good**
Test Type: **Conventional Bottom Hole (Reset)**
Tester: **Tim Phillips**
Unit No: **59**
Reference Elevations: **1891.00 ft (KB)**
1886.00 ft (CF)
KB to GR/CF: **5.00 ft**

Serial #: 8934

Inside

Press@RunDepth: **637.80 psig @ 3360.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2014.03.14** End Date: **2014.03.14** Last Calib.: **2014.03.14**
Start Time: **10:53:05** End Time: **18:16:44** Time On Btm: **2014.03.14 @ 13:07:15**
Time Off Btm: **2014.03.14 @ 15:25:15**

TEST COMMENT: **IFP- BOB in 1 1/2 min**
ISI- Dead n blow back
FF-BOB in 2 min
FSI-Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1661.79	95.62	Initial Hydro-static
1	117.80	95.01	Open To Flow (1)
31	388.78	111.62	Shut-In(1)
61	1055.52	111.48	End Shut-In(1)
61	412.90	111.16	Open To Flow (2)
106	637.80	112.56	Shut-In(2)
138	1054.82	112.47	End Shut-In(2)
138	1615.91	112.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1160.00	GO 20%G, 75%O, 3%W, 2%M	16.27
252.00	WMCO 50%O,20%W,30%G	3.53
126.00	WCM 70%W, 30%M	1.77

* 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. 7124

Date	3-10-14	Sec.	4	Twp.	17	Range	13	County	Barton	State	KS	On Location		Finish	5:30 PM
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Location: Susan K, 35, 14E, Nn2

Lease	Hoffman Farms	Well No.	1	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	Southwind #3				
Type Job	Surface				
Hole Size	12 1/4	T.D.	518	Charge To	Mar Oil
Csg.	8 7/8	Depth	517	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.		Shoe Joint	20	Cement Amount Ordered 225 sx 60/40, 3% cc, 2% gel	

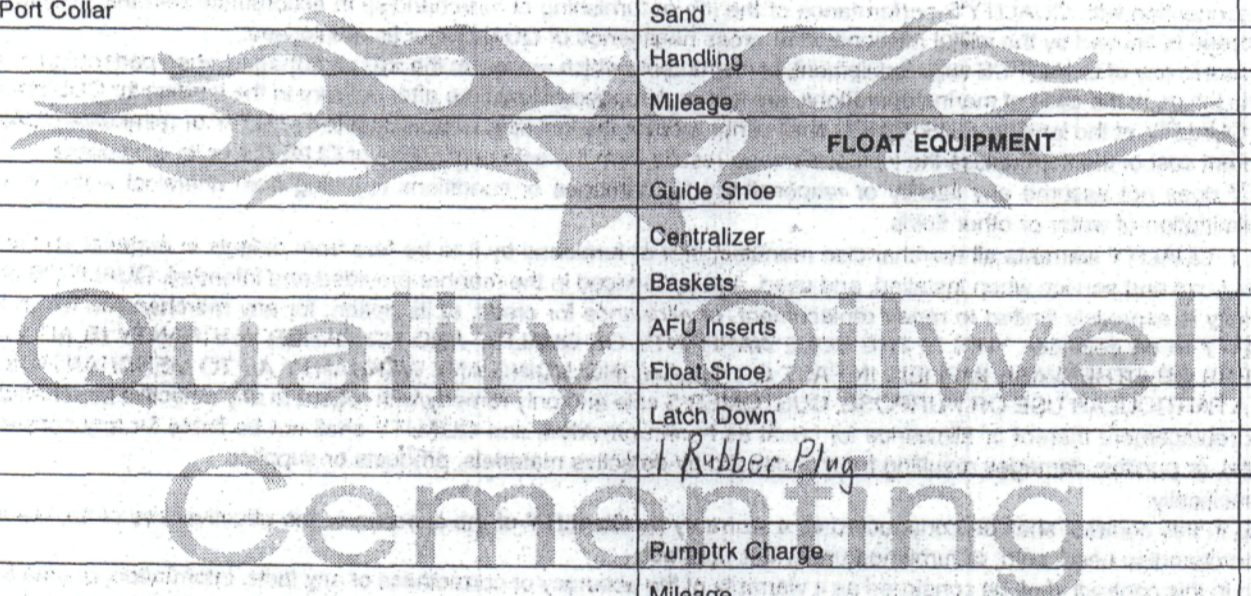
Meas Line	Displace	3 1/2 bbl			
EQUIPMENT			Common		
Pumptrk	5	No.	Cementer		Poz. Mix
			Helper	Lonnie W.	
Bulktrk	1	No.	Driver	David	Gel.
Bulktrk	PU	No.	Driver	Travis	Calcium

JOB SERVICES & REMARKS			Hulls		
Remarks:	Cement did circulate		Salt		
Rat Hole			Flowseal		
Mouse Hole			Kol-Seal		
Centralizers			Mud CLR 48		
Baskets			CFL-117 or CD110 CAF 38		
D/V or Port Collar			Sand		
			Handling		
			Mileage		

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

					Tax
					Discount
					Total Charge

X Signature *Greg Hester*



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. 7132

Date	3-15-14	Sec.	4	Twp.	17	Range	13	County	Barton	State	KS	On Location		Finish	1:45PM
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Location: Susank, 035, 1/4E, N12

Lease	Hoffman Farms	Well No.	1	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	Southwind 3			Charge To	Ma. Oil
Type Job	long string			Street	
Hole Size	7 7/8	T.D.	3415	City	State
Csg.	5 1/2 14#	Depth	3410.12	The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size		Depth		Cement Amount Ordered 160sx 60/40, 10% salt, 2% gel.	
Tool		Depth			
Cement Left in Csg.		Shoe Joint	20.69		

Meas Line	Displace	82.7 bbl	1/4# Flow
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EQUIPMENT				Common
Pumptrk	16	No.	Cementer Helper Billy	Poz. Mix
Bulktrk	3	No.	Driver Ryan	Gel.
Bulktrk	PU	No.	Driver Travis	Calcium

JOB SERVICES & REMARKS

Remarks:	Salt
Rat Hole 30sx	Flowseal
Mouse Hole	Kol-Seal
Centralizers 1,2,3,4,5,6,7,9,10	Mud CLR 48 1,000 gal
Baskets	CFL-117 or CD110 CAF 38
D/V or Port Collar	Sand
Pipe on bottom broke circulation. Pumped 1,000 gal Mud CLR 48 with 10 bbl fw behind it.	Handling
Plugged Rat hole with 30sx. Hooked to 5 1/2	Mileage

FLOAT EQUIPMENT

Mixed 130sx 60/40, 10% salt, 2% gel 1/4# Flow	Guide Shoe
Shut down washed pump and lines. Released plug and displaced with 82.7 bbl fw. Plug landed and held	Centralizer 9 turbos
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Lift pressure 500 psi

Plug landed at 1300 psi

Pumptrk Charge		Tax
Mileage		Discount
Signature	<i>Ben A. Homer</i>	Total Charge