

1263663

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Geologist Report / Mud Logs	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

- Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
- Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
- Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i>	PRODUCTION INTERVAL: Top _____ Bottom _____
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:
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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
Wilborn 'A' #1
NE-SW-NW-NW (715' FNL & 440' FWL)
Section 28-16s-13w
Barton County, Kansas

Page 1

5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)
Commenced: July 8, 2015
Completed: July 14, 2015
Elevation: 1961' K.B., 1959' D.F., 1953' G.L.
Casing program: Surface; 8 5/8" @ 514'
Production, 5 1/2" @ 3472'
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 three (3) Drill Stem Tests ran by Trilobite Testing Co.
Electric Log: By Nabors, Dual Induction, Compensated Density/Neutron Log and Micro.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	891	+1070
Base Anhydrite	921	+1040
Heebner	3073	-1112
Toronto	3090	-1129
Douglas	3102	-1141
Brown Lime	3153	-1192
Lansing	3161	-1200
Base Kansas City	3389	-1428
Arbuckle	3398	-1437
Rotary Total Depth	3475	-1514
Log Total Depth	3475	-1514

All tops and zones corrected to Electric Log Measurement

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

TOPEKA SECTION

3020-3040' Limestone, gray, white, fossiliferous, few sub-oomoldic, fair porosity, no shows.

TORONTO SECTION

3090-3096' Limestone, white, tan, finely crystalline, slightly cherty, poor porosity; plus white, chalky, limestone, no shows.

LANSING SECTION

3154-3160' Limestone, tan, oomoldic, fair oomoldic porosity, brown stain, trace of free oil and faint odor in fresh samples.

3190-3197' Limestone, gray, white, oomoldic, scattered oomoldic porosity, brown stain, trace of free oil and faint odor in fresh samples.

3211-3214' Limestone, white, finely crystalline, chalky, scattered pin point porosity, trace brown stain, show of free oi and no odor in fresh samples.

3228-3236' Limestone, tan, oomoldic in part, good oomoldic porosity, good golden brown stain, show of free oil and faint to fair odor in fresh samples.

Drill Stem Test #1 3158-3236

Times: 30-30-45-60

Blow: Strong

**Recovery: 1450' gas in pipe
 262' heavily oil and gas cut mud, trace of water
 (40% gas; 25% oil; 5% water; 30% mud)
 63' muddy gassy watery oil
 (40% gas; 40% oil; 10% water; 10% mud)
 63' muddy water**

**Pressures: ISIP 586 psi
 FSIP 569 psi
 IFP 37-86 psi
 FFP 56-156 psi
 HSH 1534-1529 psi**

3248-3260' Limestone, tan, oomoldic, fair oomoldic porosity, plus white oolitic chert, no shows.

3293-3300' Limestone, cream, gray, tan, oolitic, oomoldic, fair oomoldic porosity, fair stain and saturation, show of free oi and fair odor in fresh samples.

3312-3320' Limestone, white, finely crystalline, few fossiliferous, chalky, poor visible porosity, trace brown stain, trace of free oil and no odor.

3331-3340' Limestone, tan, oolitic, chalky, trace poor stain, no show of free oil and no odor in fresh samples.

3358-3363' Limestone, cream, white, tan, fine and medium crystalline chalky in part, no shows.

Drill Stem Test #2 **3286-3363**

Times: 30-30-45-60

Blow: Strong

Recovery: 2115' gas in pipe
160' muddy gassy oil
(45% gas; 50% oil; 5% mud)
63' heavily oil cut mud
(30% oil; 70% mud)

Pressures: ISIP 1055 psi
FSIP 1042 psi
IFP 37-54 psi
FFP 63-98 psi
HSH 1596-1575 psi

3370-3390' Limestone, tan, gray, finely crystalline, chalky increasingly cherty, poor porosity, trace iron pyrite.

ARBUCKLE SECTION

3398-3403' Dolomite, cream, white, medium crystalline, poor visible porosity, trace stain, no show of free oil and questionable odor.

3403-3413' Dolomite, as above, increase in porosity, few with fair inter-crystalline porosity, brown spotty stain, show of free oil and faint odor in fresh samples.

Drill Stem Test #3 **3386-3413**

Times: 30-30-45-60

Blow: Strong

Recovery: 50' clean oil
820' oil and gas cut muddy water
(5% gas; 25% oil; 60% water; 10% mud)
570' muddy water, trace of oil

Pressures: ISIP 1035 psi
FSIP 1022 psi
IFP 85-360 psi
FFP 367-645 psi
HSH 1635-1003 psi

3413-3426' Dolomite, gray, white, medium crystalline, fair to good inter-crystalline porosity, brown stain, show of free oil and faint to fair odor in fresh samples.

Mai Oil Operations
Wilburn 'A' #1
NE-SW-NW-NW (715' FNL & 440' FWL)
Section 28-16s-13w
Barton County, Kansas

Page 4

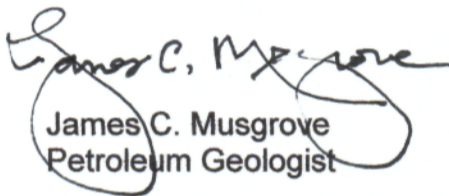
3426-3440'	Dolomite, as above, fair stain and saturation, show of free oil and faint/fair odor in fresh samples.
3440-3460'	Dolomite, white, gray, medium to coarse crystalline, fair inter-crystalline to vuggy type porosity, brown stain, show of free oil and fair odor in fresh samples.
3460-3475'	Dolomite, gray, white, finely crystalline, few cherty, plus white chert, no shows.

Rotary Total Depth	3475
Log Total Depth	3475

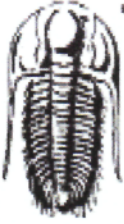
Recommendations:

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

Respectfully yours,


James C. Musgrove
Petroleum Geologist





**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mai Oil Operations
8411 Preston Road Suite 800
Dallas TX 75225+5520
ATTN: Jim Musgrove

28-16s-13w Barton,KS
Wilborn A #1
Job Ticket: 63039 **DST#: 1**
Test Start: 2015.07.11 @ 17:31:00

GENERAL INFORMATION:

Formation: **LKC A-F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:59:30
Time Test Ended: 23:20:30
Interval: **3158.00 ft (KB) To 3236.00 ft (KB) (TVD)**
Total Depth: 3236.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor
Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 58
Reference Elevations: 1963.00 ft (KB)
1953.00 ft (CF)
KB to GR/CF: 10.00 ft

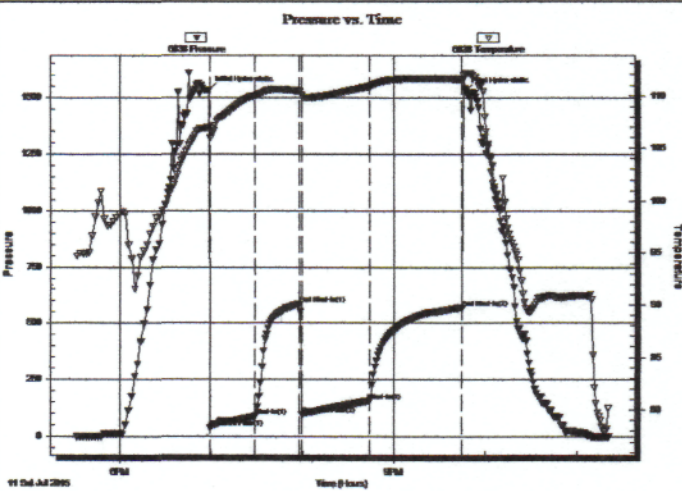
Serial #: 6838

Inside

Press@RunDepth: 156.18 psig @ 3232.19 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.07.11 End Date: 2015.07.11 Last Calib.: 2015.07.11
Start Time: 17:32:00 End Time: 23:20:30 Time On Btm: 2015.07.11 @ 18:58:30
Time Off Btm: 2015.07.11 @ 21:47:00

TEST COMMENT:

IFP 30 Minutes BOB in 8 min
ISI 30 Minutes Blow back built to 1 1/2" died after 20 min
FFP 45 Minutes BOBT in 3 1/2 min
FSI 60 Minutes Blow back built to 10" then died to weak surface and remained throughout



PRESSURE SUMMARY

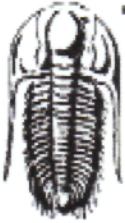
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1534.77	106.88	Initial Hydro-static
1	37.69	105.94	Open To Flow (1)
31	86.65	109.96	Shut-In(1)
60	586.03	110.40	End Shut-In(1)
61	96.02	110.02	Open To Flow (2)
106	156.18	110.89	Shut-In(2)
166	569.69	111.54	End Shut-In(2)
169	1529.91	112.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	1449' GIP	0.00
262.00	GWOCM Water 5% Oil 25% Mud 30% Gas 3.68%	
63.00	GVMCO Water 10% Mud 10% Gas 40% 0.88%	
63.00	GMV Gas 5% Mud 15% Water 80% 0.88	

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mai Oil Operations
8411 Preston Road Suite 800
Dallas TX 75225+5520
ATTN: Jim Musgrove

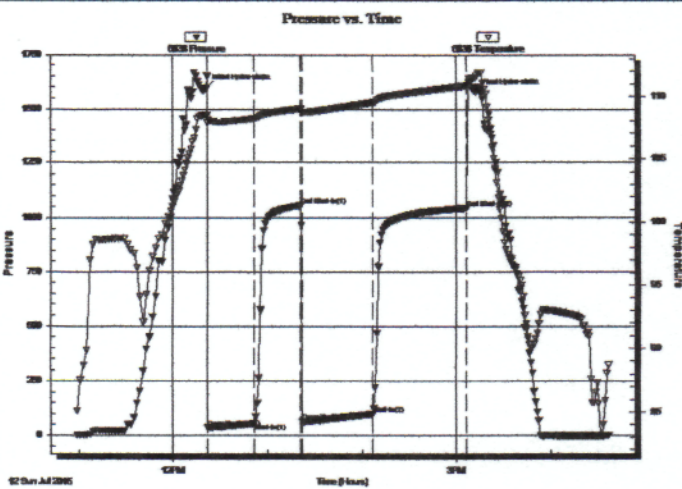
28-16s-13w Barton,KS
Wilborn A #1
Job Ticket: 63040 **DST#: 2**
Test Start: 2015.07.12 @ 10:58:00

GENERAL INFORMATION:

Formation: **LKC H-K**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:22:00
Time Test Ended: 16:37:00
Interval: **3286.00 ft (KB) To 3363.00 ft (KB) (TVD)**
Total Depth: 3363.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 58
Reference Elevations: 1963.00 ft (KB)
1953.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6838 **Inside**
Press@RunDepth: 98.69 psig @ 3359.19 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.07.12 End Date: 2015.07.12 Last Calib.: 2015.07.12
Start Time: 10:59:00 End Time: 16:37:00 Time On Btm: 2015.07.12 @ 12:21:00
Time Off Btm: 2015.07.12 @ 15:12:00

TEST COMMENT: FFP 30 Minutes BOB in 4 1/2 min
ISI 30 Minutes Surface blow back throughout
FFP 45 Minutes BOB in 1 1/2 min
FSI 60 Minutes Surface blow back throughout



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1596.05	108.45	Initial Hydro-static
1	37.00	107.84	Open To Flow (1)
31	54.92	108.19	Shut-In(1)
60	1055.64	109.02	End Shut-In(1)
61	63.09	108.75	Open To Flow (2)
106	98.69	109.52	Shut-In(2)
166	1042.68	110.86	End Shut-In(2)
171	1575.16	111.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2111' GIP	0.00
157.00	VGMCO Mud 5% Gas 45% Oil 50%	2.20
63.00	OCM Oil 30 % Mud 70%	0.88

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. 1840

Date	7-8-15	Sec.	28	Twp.	16	Range	13	County	Barton	State	Ks	On Location	Finish	7:45 PM
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Lease Wilborn A Location Susank, Ks - 100 yds E + 54th

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.	514'
Csg.	8 5/8"	Depth	514'
Tbg. Size		Depth	
Tool		Depth	
Cement Left in Csg.	20'	Shoe Joint	20'
Meas Line		Displace	31 1/2 BLS
Charge To		Maar oil operations	
Cement Amount Ordered		250 60/40 3% CC 2 1/2 Gal	

EQUIPMENT				Common
Pumptrk	17	No.	Cementer	Poz. Mix
			Helper	
Bulktrk	3	No.	Driver	Gel.
			Driver	
Bulktrk	P.W.	No.	Driver	Calcium
			Driver	

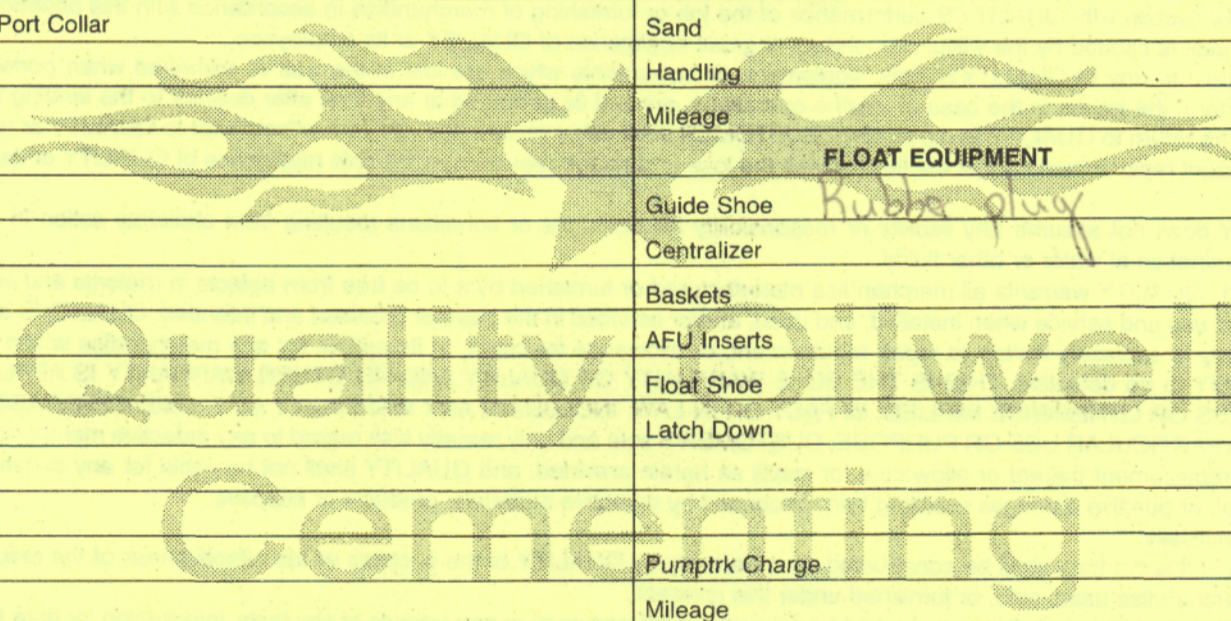
JOB SERVICES & REMARKS		
Remarks:	Cement did Circulate	Hulls
Rat Hole		Salt
Mouse Hole		Flowseal
Centralizers		Kol-Seal
Baskets		Mud CLR 48
D/V or Port Collar		CFL-117 or CD110 CAF 38

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

Pumptrk Charge	
Mileage	

	Tax	
	Discount	
	Total Charge	

X Signature Joy Druce



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

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

No. 1842

Cell 785-324-1041

Date	7-14-15	Sec.	28	Twp.	16	Range	13	County	Barber	State	Ks	On Location		Finish	4:00 AM
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Location Susank, Ks - 1/8 E 54th

Lease Wilborn A Well No. 1 Owner

Contractor Southward #3 To Quality Oilwell Cementing, Inc.

Type Job Production You are hereby requested to rent cementing equipment and furnish

Hole Size 7 7/8" T.D. 3475' Charge To Maio oil operations

Csg. 14# New 5 1/2" Depth 3472' 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. 22.25' Shoe Joint 22.25' Cement Amount Ordered 160 60/40 10% Sol 2% bel

Meas Line Displace 84 B's 1/4# Flowseal 1000 gal Mud Clear 48

EQUIPMENT

Pumptrk 20 No. Cementer Ned Helper Ned Common

Bulktrk 3 No. Driver Chad Poz. Mix

Bulktrk pu No. Driver Rick Gel.

Driver Rick Calcium

JOB SERVICES & REMARKS

Remarks: Halls

Rat Hole Salt

Mouse Hole Flowseal

Centralizers 1-9, 11 Mud CLR 48

Baskets CFL-117 or CD110 CAF 38

D/V or Port Collar Sand

Circulation pump 1000 gal mud Handling

Clear 48 plug 1000 gal mud Mileage

Hook 15 1/2" + mix 13oz cement

Shut down wash pump + lines

Released plug + Displaced oil 84 B's

of H2O Released + held

Lost pressure 7000 psi

Land plug 1,500 #

X Signature [Signature]

Tax
Discount
Total Charge