

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
Mai-Krug "L" #1
NE-SW-NE-SW (1814' FSL & 1940' FWL)
Section 15-15s-14w
Russell County, Kansas

Page 1

5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)
Commenced: October 14, 2015
Completed: October 20, 2015
Elevation: 1882' K.B., 1880' D.F., 1874' G.L.
Casing program: Surface; 8 5/8" @ 517'
Production, 5 1/2" @ 3399'
Sample: Samples saved and examined 2350' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 2350' to the Rotary Total Depth.
Measurements: All depths measured from the Kelly Bushing.
Drill Stem Tests: There were five (5) Drill Stem Tests ran by Trilobite Testing Co.
Electric Log: By Casedhole Solutions, Dual Induction, Compensated Density/Neutron Log and Micro.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	905	+977
Base Anhydrite	939	+943
Grand Haven	2446	-564
Dover	2469	-587
2 nd Tarkio Sand	2478	-596
Tarkio Lime	2515	-633
Elmont	2580	-698
Howard	2718	-836
Topeka	2787	-905
Heebner	3017	-1135
Toronto	3035	-1153
Lansing	3081	-1199
Base Kansas City (Mai)	3284	-1402
Arbuckle	3328	-1446
Rotary Total Depth	3400	-1518
Log Total Depth	3402	-1520

All tops and zones corrected to Electric Log Measurement

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

1st TARKIO SAND

2455-2462' Poorly developed – no true sand development.

2nd TARKIO SAND

2478-2490' Sand, gray, grayish, green; very fine grained, micaceous, friable, fair intergranular porosity, trace gas bubbles, no free oil and no odor in fresh samples

3rd TARKIO SAND

2537-2550' Poor sand development – no shows.

TOPEKA SECTION

2810-2820' Limestone, cream, gray, slightly chalky, scattered pin point porosity, predominately dense, no shows.

2937-2950' Limestone, gray, dark gray, fossiliferous, slightly cherty, few chalky, no shows.

2965-2980' Limestone, white, fossiliferous in part, highly chalky, plus white chalk.

2980-3006' Limestone, as above, chalky, plus gray/amber chert.

TORONTO SECTION

3035-3046' Limestone, gray, white, fine to medium crystalline, chalky, trace golden brown stain, no free oil and no odor in fresh samples. Trace gray fossiliferous, chert.

LANSING SECTION

3081-3091' Limestone, tan, white, finely crystalline, chalky, scattered pin point porosity, trace brown stain, trace of free oil and no odor in fresh samples.

3103-3107' Limestone, tan, gray, fine and medium crystalline, few sub-oomoldic, poor visible porosity, questionable edge staining, no free oil and no odor.

3124-3130' Limestone, white, few fossiliferous, chalky, no shows.

3149-3152' Limestone, tan, brown, finely crystalline, few fossiliferous, chalky, brown stain, show of free oil (trace gas bubbles) and faint odor in fresh samples.

3154-3160' Limestone, tan, oolitic, chalky, few cherty, trace golden brown stain, no free oil and no odor in fresh samples.

Drill Stem Test #1 **3082-3172**

Times: 30-30-30-30
Blow: Weak
Recovery: 10' mud, few oil spots
Pressures: ISIP 50 psi
FSIP 40 psi
IFP 19-20 psi
FFP 15-19 psi
HSH 1595-1559 psi

3176-3190' Limestone, tan, oomoldic, fair oomoldic porosity, (barren), plus white chalk.

3202-3210' Limestone, tan, gray, finely crystalline, granular, fair porosity, plus gray chert, no shows.

3227-3237' Limestone, white, tan, fine and medium crystalline, chalky, poor porosity, no shows.

3239-3250' Limestone, white, oolitic, chalky, golden brown stain, trace of free oil and faint odor in fresh samples.

3259-3272' Limestone, gray, cream, oomoldic, fair oomoldic porosity, brown stain and saturation, fair show of free oil and fair to good odor in fresh samples.

Drill Stem Test #2 **3230-3275**

Times: 30-30-30-30
Blow: Weak
Recovery: 15' mud
Pressures: ISIP 366 psi
FSIP 198 psi
IFP 16-19 psi
FFP 20-20 psi
HSH 1674-1635 psi

3295-3300' Limestone, tan, fossiliferous, few cherty, plus tan, fossiliferous, chert, no stain, no free oil and questionable odor in fresh samples.

ARBUCKLE SECTION

3328-3333' Dolomite, gray, medium and coarse crystalline, fair inter-crystalline porosity, fair stain and saturation, fair show of free oil and good odor in fresh samples.

Drill Stem Test #3 **3296-3333**

Times: 30-30-30-30
Blow: Weak
Recovery: 5' clean oil
5' very slightly oil cut mud
(5% oil; 95% mud)
Pressures: ISIP 1077 psi
FSIP 1073 psi
IFP 15-18 psi
FFP 16-24 psi
HSH 1723-1693 psi

3333-3336' Dolomite, as above, fair stain and saturation, fair to good show of free oil and good odor in fresh samples.

Drill Stem Test #4 **3296-3336**

Times: 45-30-45-30
Blow: Fair
Recovery: 65' clean oil
30' very slightly oil cut mud
(5% oil; 95% mud)
Pressures: ISIP 1063 psi
FSIP 1053 psi
IFP 17-34 psi
FFP 38-93 psi
HSH 1729-1655 psi

3336-3344' Dolomite, white and gray, medium and coarse crystalline, fair inter-crystalline porosity, few with fair to good vuggy type porosity, brown stain and saturation, show of free oil and good odor in fresh samples.

Drill Stem Test #5 **3291-3344**

Times: 30-30-45-45

Blow: Strong

Recovery: 360' clean oil
180' slightly oil and gas cut mud
(5% oil; 95% mud)

Pressures: ISIP 993 psi
FSIP 974 psi
IFP 30-117 psi
FFP 125-228 psi
HSH 1731-1673 psi

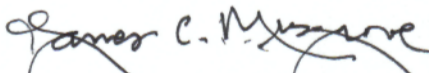
- 3344-3360' Dolomite, as above, decreasing stain, show of free oil, good odor, plus white, chalk.
- 3360-3368' Dolomite, cream, white, finely crystalline, few cherty, dense, plus iron pyrite, no shows.
- 3368-3380' Dolomite, cream, white, medium and coarse crystalline, fair porosity, spotty brown stain, show of free oil and good odor in fresh samples.
- 3380-3402' Dolomite, as above decreasing stain, trace of free oil and faint odor in fresh samples' plus trace of white chert.

Rotary Total Depth 3400
Log Total Depth 3402

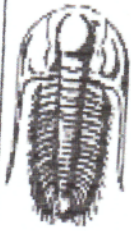
Recommendations:

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

Respectfully yours,


James C. Musgrove
Petroleum Geologist





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

15-15s-14w Russell, KS

Mai-Krug "L" #1

Job Ticket: 64856

DST#: 1

Test Start: 2015.10.17 @ 17:30:00

GENERAL INFORMATION:

Formation: **LISA-T**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:46:45
 Time Test Ended: 23:55:15
 Interval: **3082.00 ft (KB) To 3172.00 ft (KB) (TVD)**
 Total Depth: 3172.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)
 Tester: Brett Dickinson
 Unit No: 81
 Reference Elevations: 1882.00 ft (KB)
 1874.00 ft (CF)
 KR to GR/CF: 8.00 ft

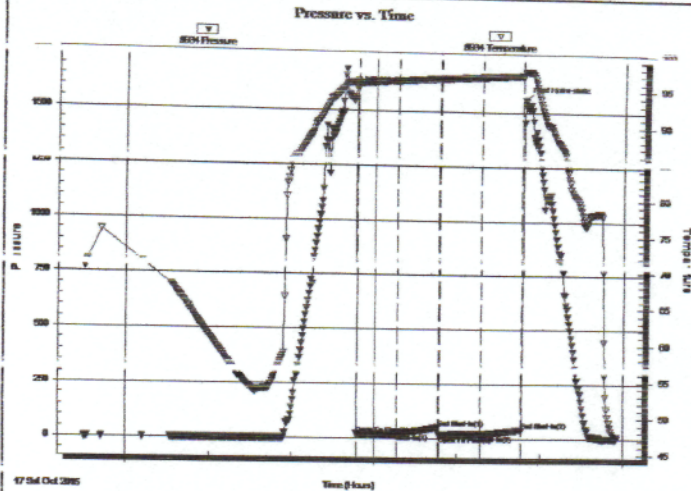
Serial #: 8934

Outside

Press@RunDepth: 19.00 psig @ 3083.00 ft (KB)
 Start Date: 2015.10.17 End Date: 2015.10.17
 Start Time: 17:30:05 End Time: 23:55:14

Capacity: 8000.00 psig
 Last Calib.: 2015.10.17
 Time On Btm: 2015.10.17 @ 20:46:15
 Time Off Btm: 2015.10.17 @ 22:47:45

TEST COMMENT: F-1" blow
 IS-No blow
 FF-weak surface blow died in 15 min
 FOR No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1594.98	96.00	Initial Hydro-static
1	19.47	95.51	Open To Flow (1)
30	20.00	96.14	Shut-In(1)
60	49.99	96.48	End Shut-In(1)
61	15.34	96.48	Open To Flow (2)
61	10.00	96.70	Shut-In(2)
120	40.18	97.06	End Shut-In(2)
122	1558.53	97.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud	0.14

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

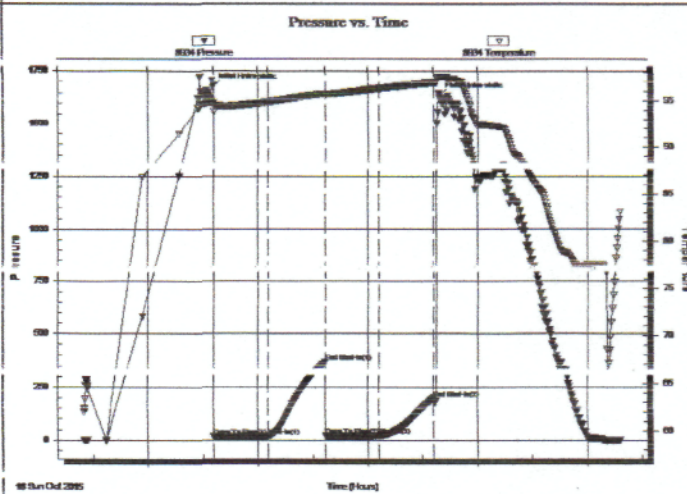
15-15s-14w Russell, KS
Mai-Krug "L" #1
Job Ticket: 64857 **DST#: 2**
Test Start: 2015.10.18 @ 09:25:00

GENERAL INFORMATION:

Formation: **L15 "L"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 10:36:00 Tester: Brett Dickinson
Time Test Ended: 14:18:15 Unit No: 81
Interval: **3230.00 ft (KB) To 3275.00 ft (KB) (TVD)** Reference Elevations: 1882.00 ft (KB)
Total Depth: 3275.00 ft (KB) (TVD) 1874.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8934 Outside
Press@RunDepth: 20.40 psig @ 3231.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.10.18 End Date: 2015.10.18 Last Calib.: 2015.10.18
Start Time: 09:25:05 End Time: 14:18:14 Time On Btrn: 2015.10.18 @ 10:35:15
Time Off Btrn: 2015.10.18 @ 12:39:00

TEST COMMENT: IF-Weak surface blow died in 25 min
ISI-No blow
FF-No blow
CFW-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1674.35	94.77	Initial Hydro-static
1	15.88	93.83	Open To Flow (1)
31	19.17	94.86	Shut-In(1)
62	365.98	95.70	End Shut-In(1)
62	19.59	95.50	Open To Flow (2)
64	20.40	96.34	Shut-In(?)
121	198.23	96.88	End Shut-In(2)
124	1635.02	97.46	Final Hydro-static

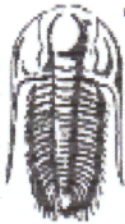
Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud	0.21

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

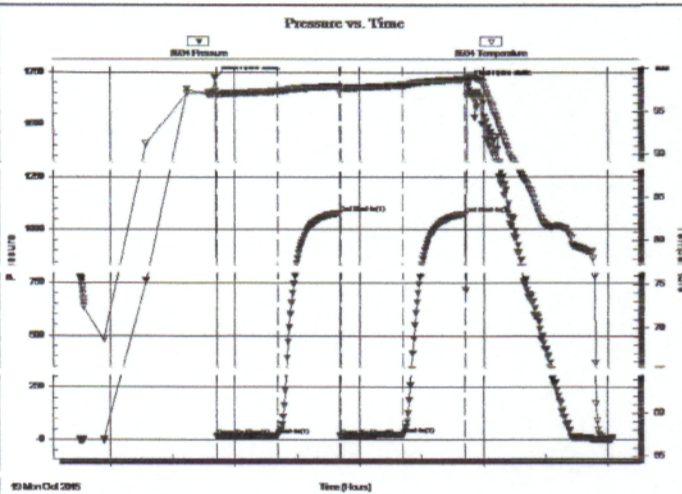
15-15s-14w Russell, KS
Mai-Krug "L" #1
 Job Ticket: 64858 **DST#: 3**
 Test Start: 2015.10.19 @ 01:45:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:51:15
 Time Test Ended: 06:02:00
 Interval: **3296.00 ft (KB) To 3333.00 ft (KB) (TVD)**
 Total Depth: 3333.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brett Dickinson
 Unit No: 81
 Reference Elevations: 1882.00 ft (KB)
 1874.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8934 **Outside**
 Press@RunDepth: 23.58 psig @ 3297.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.10.19 End Date: 2015.10.19 Last Calib.: 2015.10.19
 Start Time: 01:45:05 End Time: 06:01:59 Time On Btm: 2015.10.19 @ 02:50:45
 Time Off Btm: 2015.10.19 @ 04:52:30

TEST COMMENT: IF-1/2" blow
 IS-No blow
 FF-surface blow
 TFF-No blow

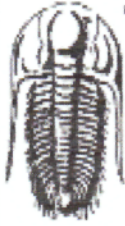


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1723.26	97.45	Initial Hydro-static
1	15.32	96.78	Open To Flow (1)
30	18.35	97.42	Shut-In(1)
60	1077.46	98.00	End Shut-In(1)
61	15.77	97.76	Open To Flow (2)
64	22.58	98.12	Shut-In(?)
121	1073.06	98.81	End Shut-In(2)
122	1692.77	99.04	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	SGO 5%G 95%O	0.07
5.00	VSOCM 5%O 95%M	0.07

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

* Recovery from multiple tests



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

15-15s-14w Russell,KS
Mai-Krug "L"#1
 Job Ticket: 64859 **DST#: 4**
 Test Start: 2015.10.19 @ 10:30:00

GENERAL INFORMATION:

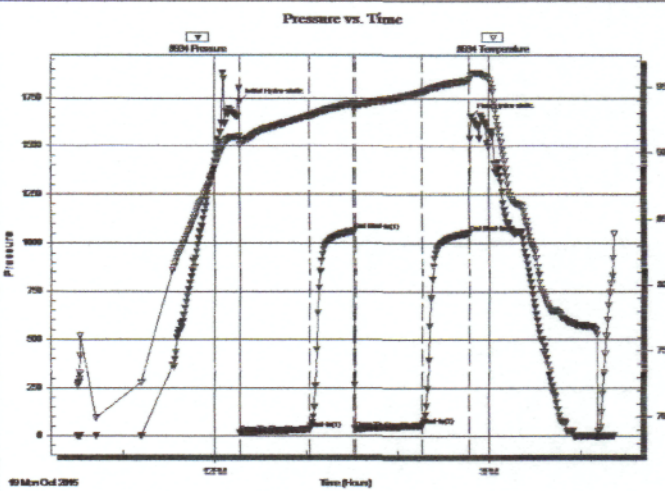
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:16:45
 Time Test Ended: 16:22:15
 Interval: **3296.00 ft (KB) To 3336.00 ft (KB) (TVD)**
 Total Depth: 3336.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brett Dickinson
 Unit No: 81
 Reference Elevations: 1882.00 ft (KB)
 1874.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8934

Outside

Press@RunDepth: 53.18 psig @ 3297.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.10.19 End Date: 2015.10.19 Last Calib.: 2015.10.19
 Start Time: 10:30:05 End Time: 16:22:14 Time On Btmr: 2015.10.19 @ 12:16:15
 Time Off Btmr: 2015.10.19 @ 14:48:00

TEST COMMENT: F-3 1/4" blow
 IS-No blow
 FF-2 1/2" blow
 FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1729.86	91.21	Initial Hydro-static
1	16.59	90.58	Open To Flow (1)
46	33.69	92.79	Shut-In(1)
75	1063.14	93.76	End Shut-In(1)
76	37.76	93.59	Open To Flow (2)
120	53.18	94.64	Shut-In(2)
151	1053.25	95.54	End Shut-In(2)
152	1654.99	95.91	Final Hydro-static

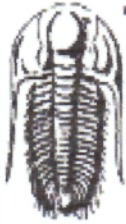
Recovery

Length (ft)	Description	Volume (bbl)
30.00	VSOCM 5%O 95%M	0.42
65.00	GO 15%G 85%)	0.91
0.00	90' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

15-15s-14w Russell,KS
Mai-Krug "L"#1
 Job Ticket: 64861 **DST#: 5**
 Test Start: 2015.10.19 @ 20:30:00

GENERAL INFORMATION:

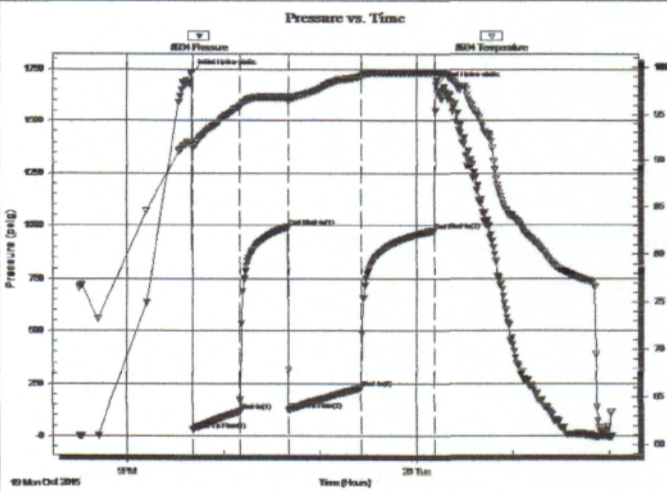
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:41:00
 Time Test Ended: 02:02:00
 Interval: **3297.00 ft (KB) To 3344.00 ft (KB) (TVD)**
 Total Depth: 3344.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brett Dickinson
 Unit No: 81
 Reference Elevations: 1882.00 ft (KB)
 1874.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8934

Outside

Press@RunDepth: 227.81 psig @ 3298.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.10.19 End Date: 2015.10.20 Last Calib.: 2015.10.20
 Start Time: 20:30:05 End Time: 02:01:59 Time On Btm: 2015.10.19 @ 21:40:15
 Time Off Btm: 2015.10.20 @ 00:12:15

TEST COMMENT: IF-BOB in 7 min
 IS-1/2" blow
 FF-BOB in 8 min
 FSI-surface blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1730.61	91.95	Initial Hydro-static
1	30.32	91.32	Open To Flow (1)
30	117.33	95.83	Shut-In(1)
60	992.65	96.79	End Shut-In(1)
61	124.53	96.53	Open To Flow (2)
106	227.81	99.04	Shut-In(2)
151	973.92	99.32	End Shut-In(2)
152	1672.53	99.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	SOCM 5%G 10%O 85%O	2.52
360.00	GO 15% 85%O	5.05
0.00	180' GIP	0.00

* 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. 1641

Date	10-14-15	Sec.	15	Twp.	15	Range	14	County	Russell	State	KS	On Location		Finish	5:45PM	
Lease	Mai-Krug "L"							Well No.	1	Location Russell, KS - S to Winterset Rd, 3/4 W						
Contractor	Southwind							3	Owner Minto							
Type Job	Surface							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.	517'		Charge To		Mai oil operations								
Csg.	8 5/8"		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.	15'		Shoe Joint	15'		Cement Amount Ordered					250 60/40 3% CC 2% Gel					
Meas Line			Displace	31 3/4 BLS												
EQUIPMENT										Common						
Pumptrk	17	No.	Cementer	Trevin		Poz. Mix										
			Helper													
Bulktrk	3	No.	Driver	Nick		Gel.										
			Driver													
Bulktrk	p.m.	No.	Driver	Rick		Calcium										
			Driver													
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 Rubber plug						
										Centralizer						
										Baskets						
										AFU Inserts						
										Float Shoe						
										Latch Down						
										Pumptrk Charge						
										Mileage						
										Tax						
										Discount						
										Total Charge						
X Signature	Jay Brown															

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. 1853

Date	10-20-15	Sec.	15	Twp.	15	Range	14	County	Russell	State	KS	On Location	9:00 PM
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Location *Russell S to Winnesat 1W S 10*

Lease <i>Mini/Krong</i>	Well No. <i>#1</i>	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 <i>Southwind #3</i>		
Type Job <i>Production String</i>		
Hole Size <i>7 7/8</i>	T.D. <i>3400</i>	Charge To <i>Ma Oil</i>
Csg. <i>5 1/2</i>	Depth <i>3400</i>	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. <i>31.32</i>	Shoe Joint <i>31.32</i>	Cement Amount Ordered <i>160 6% 10 10% S.L. 5% bit</i>
Meas Line	Displace <i>82 bbl</i>	

EQUIPMENT

Pumptrk <i>18</i>	No.	Cementer Helper <i>Travis</i>	Common
Bulktrk <i>3</i>	No.	Driver <i>Billy</i>	Poz. Mix
Bulktrk <i>Pu</i>	No.	Driver <i>Brest</i>	Gel.
			Calcium

JOB SERVICES & REMARKS

Remarks:	Salt
Rat Hole <i>30"</i>	Flowseal
Mouse Hole	Kol-Seal
Centralizers	Mud CLR 48 - <i>1000 gal</i>
Baskets	CFL-117 or CD110 CAF 38
D/V or Port Collar	Sand

Ran <i>3400 5 1/2</i> and <i>the</i> <i>Completion</i>	Mileage
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Mix <i>1000 gal Mud Blue</i>	FLOAT EQUIPMENT
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Mix <i>160</i>	Guide Shoe
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Displaced <i>82 bbl</i>	Centralizer - <i>10</i>
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Lift @ <i>700 lbs</i>	Baskets
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Land at @ <i>1400 lbs</i>	AFU Inserts
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Plug held	Float Shoe - <i>1</i>
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	Latch Down - <i>1</i>
--	-----------------------

	Pumptrk Charge
--	----------------

	Mileage
--	---------

		Tax
--	--	-----

		Discount
--	--	----------

		Total Charge
--	--	--------------

X Signature *[Signature]*

