

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1259885
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
-----------------------------------	-----------------	---

API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1259885

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

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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
----------------	-------	---------	------------	---

Date of First, Resumed Production, SWD or ENHR.	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> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
--	---	---

Form	ACO1 - Well Completion
Operator	Mai Oil Operations, Inc.
Well Name	H-Morgenstern 6
Doc ID	1259885

All Electric Logs Run

CDNL
DIL
Micro
Sonic

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
H. Morgenstern #6
W/2-NW-NW (660' FNL & 330' FWL)
Section 9-16s-13w
Barton County, Kansas

Page 1

5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)
Commenced: June 18, 2015
Completed: June 23, 2015
Elevation: 1945' K.B., 1943' D.F., 1937' G.L.
Casing program: Surface; 8 5/8" @ 515'
Production, 5 1/2" @ 3467'
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 two (2) Drill Stem Tests ran by Trilobite Testing Co.
Electric Log: By Nabors, Dual Induction, Compensated Density/Neutron Log, Micro and Sonic.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	883	+1062
Base Anhydrite	923	+1032
Heebner	3052	-1117
Toronto	3078	-1133
Douglas	3093	-1148
Lansing	3140	-1195
Base Kansas City	3337	-1392
Arbuckle	3388	-1443
Rotary Total Depth	3470	-1525
Log Total Depth	3468	-1523

All tops and zones corrected to Electric Log Measurement

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

TOPEKA SECTION

- 2850-2870' Limestone, cream, tan, finely crystalline, poor inter-crystalline porosity, trace brown edge staining, no free oil and no odor in fresh samples.
- 3000-3036' Limestone, cream, tan, finely crystalline, few fossiliferous, poor visible porosity, chalky in part, no shows.

TORONTO SECTION

- 3079-3088' Limestone, white, cream, finely oolitic, scattered inter-crystalline type porosity, chalky in part, no shows.

LANSING SECTION

- 3141-3146' Limestone, cream, buff, gray, finely crystalline, poor porosity, cherty in part, no shows.
- 3151-3160' Limestone, cream, white, tan, finely crystalline, oolitic, sub-oomoldic, scattered sub-oomoldic type porosity, trace of brown edge staining, no free oil and no odor in fresh samples.
- 3174-3181' Limestone, cream, tan, finely crystalline, oolitic/fossiliferous, poor porosity, cherty in part.
- 3200-3206' Limestone, cream, tan, finely crystalline, oolitic/fossiliferous, poor scattered sub oomoldic porosity, trace brown stain, trace of free oil (predominately dead) and no odor.
- 3215-3222' Limestone, white, gray, tan, finely crystalline, oolitic, poor visible porosity, chalky in part, no shows.
- 3225-3235' Limestone, white, cream, finely crystalline, highly oolitic, oomoldic, fair oomoldic porosity, no shows.
- 3235-3246' Limestone, gray, cream, tan, finely crystalline, oolitic, oomoldic, fair oomoldic porosity, chalky in part, no shows.
- 3256-3266' Limestone, cream, tan, gray, finely crystalline, oolitic, fossiliferous, poorly developed porosity, trace of spotty stain, no show of free oil and faint odor in fresh samples.
- 3280-3290' Limestone, tan, gray, finely crystalline, fossiliferous/oolitic, poor visible porosity, plus gray and tan chert, no shows.
- 3300-3310' Limestone, gray, cream, tan, finely crystalline, few fossiliferous/oolitic, poorly developed porosity, cherty in part, trace brown stain, trace of free oil and faint odor in fresh samples.
- 3310-3318' Limestone, gray, tan, finely crystalline, few fossiliferous, oolitic, poor scattered porosity, spotty golden brown stain, trace of free oil and fair odor in fresh samples.

3318-3330' Limestone, white, cream, tan, finely crystalline, poor to fair inter-crystalline type porosity, golden brown stain, fair to good show of free oil and good odor in fresh samples.

Drill Stem Test #1 **3261-3342**
(Log Measurements 3259-3340)

Times: 30-30-45-60

Blow: Strong

Recovery: 173' gas in pipe
45' clean oil
30' oil cut mud
(10% oil; 90% mud)

Pressures: ISIP 260 psi
FSIP 266 psi
IFP 34-41 psi
FFP 43-57 psi
HSH 1678-1604 psi

ARBUCKLE SECTION

3388-3393' Dolomite, white, light gray, fine and medium crystalline, fair to good inter-crystalline porosity, golden brown to dark brown stain, show of free oil and good odor in fresh samples.

3393-3396' Dolomite, as above.

Drill Stem Test #2 **3353-3398**
(Log Measurements 3351-3396)

Times: 30-45-30-60

Blow: Strong

Recovery: 1575' oil cut mud
(10% oil; 75% water; 15% mud)

Pressures: ISIP 1047 psi
FSIP 1030 psi
IFP 105-465 psi
FFP 498-708 psi
HSH 1625-1616 psi

3396-3410' Dolomite, white, light gray, medium crystalline, good inter-crystalline porosity, spotty dark brown stain, show of free oil and fair odor in fresh samples.

3410-3430' Dolomite, light gray, cream, fine to medium crystalline, fair inter-crystalline to finely vuggy type porosity, dark brown to black stain weak show of free oil and fair odor in fresh samples.

Mai Oil Operations
H. Morgenstern #6
W/2-NW-NW (660' FNL & 330' FWL)
Section 9-16s-13w
Barton County, Kansas

Page 4

3430-3450'	Dolomite, light gray, white, medium to coarse crystalline, poor to fair inter-crystalline porosity, dark brown spotty stain, trace of free oil and faint odor, chalky luster; trace of white/cream chert.
3450-3468'	Dolomite, light gray, white, fine to medium crystalline, poor to fair inter-crystalline porosity, trace stain, trace of tree oil and faint odor, few with chalky luster.

Rotary Total Depth	3470
Log Total Depth	3468

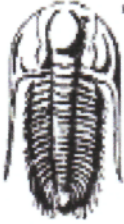
Recommendations:

The 5 ½" production casing was set and cemented on Mai Oil Operations Inc., H. Morgenstern #6.

Respectfully yours,



Kurt Talbott
Petroleum Geologist



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operations
 8411 Preston Road Suite 800
 Dallas TX 75225+5520
 ATTN: Kurt Talbott

9-16s-13w Barton,KS
H-Morgenstern #6
 Job Ticket: 63038 **DST#: 2**
 Test Start: 2015.06.22 @ 20:14:00

GENERAL INFORMATION:

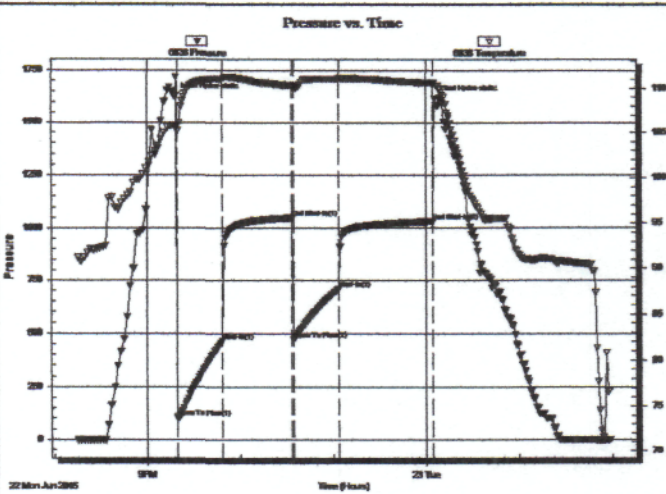
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:19:30
 Time Test Ended: 01:59:00
 Interval: **3353.00 ft (KB) To 3398.00 ft (KB) (TVD)**
 Total Depth: 3398.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 58
 Reference Elevations: 1945.00 ft (KB)
 1937.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6838

Inside

Press@RunDepth: 708.89 psig @ 3394.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.22 End Date: 2015.06.23 Last Calib.: 2015.06.23
 Start Time: 20:15:00 End Time: 01:59:00 Time On Btmr: 2015.06.22 @ 21:18:00
 Time Off Btmr: 2015.06.23 @ 00:05:30

TEST COMMENT: IFP 30 Minutes BOB in 2 minutes
 ISI 45 Minutes No blow back
 FFP 30 Minutes BOB in 3 minutes
 FSI 60 Minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1625.77	105.81	Initial Hydro-static
2	105.60	105.16	Open To Flow (1)
31	465.29	111.02	Shut-In(1)
76	1047.81	110.27	End Shut-In(1)
77	474.30	110.01	Open To Flow (2)
106	708.89	111.00	Shut-In(2)
166	1030.71	110.57	End Shut-In(2)
168	1616.90	110.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1575.00	OCMW Oil 10% Mud 15% Water 75%	22.09

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. 1827

Date	6-18-15	Sec.	9	Twp.	16	Range	13	County	Barton	State	Ks	On Location		Finish	9:15 PM
------	---------	------	---	------	----	-------	----	--------	--------	-------	----	-------------	--	--------	---------

Location Susank, Ks - 3N, 1/2 E, S1 into

Lease	<u>H Morgenstern</u>		Well No.	<u>#6</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>Southwind</u>		#	<u>3</u>	Charge To	<u>Map oil operations</u>	
Type Job	<u>Surface</u>		T.D.	<u>514'</u>	Street		
Hole Size	<u>12 1/4"</u>		Depth	<u>514'</u>	City	State	
Csg.	<u>8 5/8"</u>		Depth		The above was done to satisfaction and supervision of owner agent or contractor.		
Tbg. Size			Depth		Cement Amount Ordered	<u>250 60/40 3% CC 2% Gel</u>	
Tool			Shoe Joint	<u>15'</u>			
Cement Left in Csg.	<u>15'</u>		Displace	<u>31 1/2</u>			

EQUIPMENT

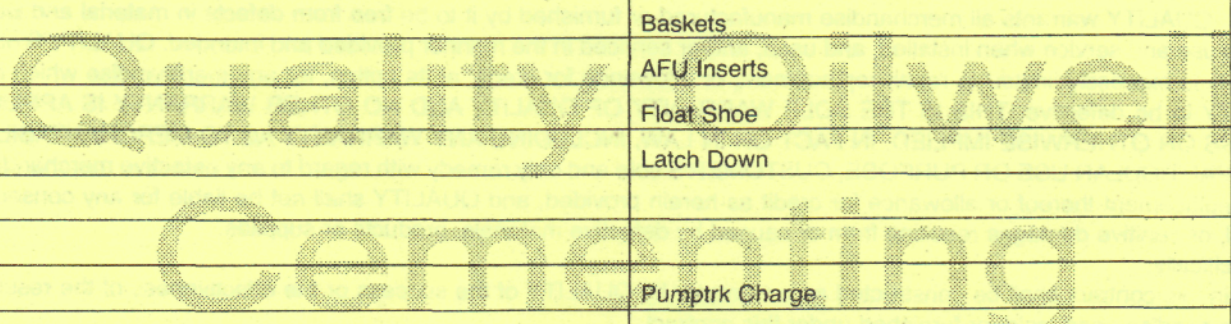
Pumptrk	<u>17</u>	No.	Cementer	<u>Travis</u>	Common
			Helper		Poz. Mix
Bulktrk	<u>3</u>	No.	Driver	<u>David</u>	Gel.
			Driver		Calcium
Bulktrk	<u>piu.</u>	No.	Driver	<u>Rick</u>	

JOB SERVICES & REMARKS

Remarks:	<u>Cement did - Circulate</u>	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	<u>Rubber plug</u>
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	



Pumptrk Charge		Tax
Mileage		Discount
Signature	<u>Jay Miller</u>	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. 1831

Date	6-24-15	Sec.	9	Twp.	16	Range	13	County	Barber	State	Ks	On Location		Finish	12:45 AM		
Lease	H-Morgenstern							Well No.	6	Location Susank, Ks - 30 1/2 E S1 into							
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	Longstring							Charge To Main oil operations									
Hole Size	7 7/8"							T.D.	3468'	Street							
Csg.	5 1/2" New 144							Depth	3465'	City							
Tbg. Size								Depth		State							
Tool								The above was done to satisfaction and supervision of owner agent or contractor.									
Cement Left in Csg.	20.31							Shoe Joint	20.31	Cement Amount Ordered 160 60/40 10% Salt 2% Gel 1/4# Fluor							
Meas Line								Displace	84 BLS	1000 gal mud clear 48							
EQUIPMENT										Common							
Pumptrk	18	No.		Cementer	Cody							Poz. Mix					
				Helper													
Bulktrk	14	No.		Driver	Glen							Gel.					
				Driver													
Bulktrk	pu	No.		Driver	Rick							Calcium					
				Driver													
JOB SERVICES & REMARKS										Hulls							
Remarks:	Salt																
Rat Hole	Flowseal																
Mouse Hole	Kol-Seal																
Centralizers	1-10 Mud CLR 48																
Baskets	pipe on bottom break Circulation CFL-117 or CD110 CAF 38																
D/V or Port Collar	pump 1000 gal mud clear 48 Sand																
Plug	Kathole with 25% Hook to casing Handling																
	+ mix 13oz cement shot down Mileage																
	wash pump lines Released plug +																
	Displaced plug w/ 50 lbs of H ₂ O. Released + hold.																
	FLOAT EQUIPMENT																
	Guide Shoe																
	Centralizer 10																
	Baskets																
	AFU Inserts																
	Float Shoe																
	Latch Down 1																
	Pumptrk Charge																
	Mileage																
	Tax																
	Discount																
	Total Charge																
X Signature	[Signature]																