Confidentiality Requested:

Yes No

### Kansas Corporation Commission Oil & Gas Conservation Division

1244938

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 #			API No. 15	
Name:			Spot Description:	
Address 1:			Sec	TwpS. R
Address 2:			Feet	from North / South Line of Sectio
City: St	ate: Zip	D:+	Feet	from East / West Line of Section
Contact Person:			Footages Calculated from Ne	earest Outside Section Corner:
Phone: ()			□ NE □ NW	☐ SE ☐ SW
CONTRACTOR: License #			GPS Location: Lat:	, Long:
Name:				g. xx.xxxxx) (e.gxxx.xxxxx)
Wellsite Geologist:			Datum: NAD27 NAD27	
Purchaser:			County:	
Designate Type of Completion:			Lease Name:	Well #:
New Well Re-	·Fntrv	Workover	Field Name:	
	_		Producing Formation:	
☐ Oil ☐ WSW	SWD	SIOW	Elevation: Ground:	Kelly Bushing:
☐ Gas ☐ D&A ☐ OG	☐ ENHR	☐ SIGW ☐ Temp. Abd.	Total Vertical Depth:	Plug Back Total Depth:
CM (Coal Bed Methane)	G3W	Temp. Abd.	Amount of Surface Pipe Set a	and Cemented at: Fee
Cathodic Other (Core	Expl etc.)		Multiple Stage Cementing Co	
If Workover/Re-entry: Old Well Inf				Fee
Operator:				nent circulated from:
Well Name:			, ,	w/sx cm
Original Comp. Date:			loot doparto.	
	_	NHR Conv. to SWD		
Deepening Re-perf. Plug Back	Conv. to GS		Drilling Fluid Management F (Data must be collected from the	
Commingled	Permit #:		Chloride content:	ppm Fluid volume: bbl
Dual Completion	Permit #:		Dewatering method used:	
SWD	Permit #:		Location of fluid disposal if ha	auled offsite:
☐ ENHR	Permit #:		One water Name .	
GSW	Permit #:			
				License #:
Spud Date or Date Rea	iched TD	Completion Date or		TwpS. R
Recompletion Date		Recompletion Date	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 I II Approved by: Date:						

1244938	

Sec. Top, S. R.	Operator Name:			Lease Name:			_ Well #:	
popen and closed, flowing and shul-in pressures, whether shuf-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recover and flow rate is given to under sets, along with final hardy. Attach extra sheet if more space is needed.  Final Baddectivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs @kcc ks.gov. Digital electronic libes must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).  Dial Stem Tests Talvan  (Attach Additions/ Sheets)  Samples Sent to Geological Survey  (Attach Additions/ Sheets)  Additions/ Sent Sent Sent Sent Sent Sent Sent Sent	Sec Twp	S. R	East West	County:				
CASING RECORD   New   Used   Name   Top   Datum   Sample	open and closed, flow	ing and shut-in press	sures, whether shut-in p	ressure reached sta	tic level, hydrosta	atic pressures, bot		
ADDITIONAL CEMENTING / SOUEEZE RECORD  Purpose of String  ADDITIONAL CEMENTING / SOUEEZE RECORD  Purpose  ADDITIONAL CEMENTING / SOUEEZE RECORD  Purpose  ADDITIONAL CEMENTING / SOUEEZE RECORD  Purpose  Top Bottom  ADDITIONAL CEMENTING / SOUEEZE RECORD  Purpose  Perforate  Protect Casing Pup Bott To Pup Bottom  Protect Casing Pup Bott To Pup Bottom  Protect Casing Pup Bott To Pup Bott To Pup Bottom  Protect Casing Pup Bott To Pup Bottom  Protect Casing Pup Bott To Pup Bottom  Protect Casing Pup Bott To Pup Bott To Pup Bottom  Protect Casing Pup Bottom Protect Casing Pup Bottom Protect Casing Pup Bottom Protect Casing Pup Bottom Pup Bottom Protect Casing Pup Bottom Pu						ailed to kcc-well-lo	gs@kcc.ks.go	v. Digital electronic lo
Samples Sent to Geological Survey   Yes			Yes No			on (Top), Depth ar		
CASING RECORD New Used  Report all strings set-conductor, surface, intermediate, production, etc.  Purpose of String Size Hole Set (in O.D.) Size Casing Weight Setting Type of Jr Sacks Type and Percent Additives  ADDITIONAL CEMENTING / SQUEEZE RECORD  Purpose: Perforate Product Casing Product Casing Production and String Product Casing Product Casin	Samples Sent to Geo	logical Survey	☐ Yes ☐ No	Nar	ne		Тор	Datum
CASING RECORD  New								
Purpose of String	List All E. Logs Run:							
Purpose of String  Size Hote						tion etc		
ADDITIONAL CEMENTING / SQUEZE RECORD  Purpose:	Purpose of String		Size Casing	Weight	Setting	Type of		
Purpose: Perforate Protect Casing Prug Back TD Prug Off Zone  Did you perform a hydraulic fracturing treatment on this well? Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Shots Per Foot  PERFORATION RECORD - Bridge Plugs SetType Specify Footage of Each Interval Perforated  Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)  Depth  Date of First, Resumed Production, SWD or ENHR.  Producing Method: Flowing Pumping Gas Lift Other (Explain)  DISPOSITION OF GAS:  METHOD OF COMPLETION: PRODUCTION INTERVAL:  METHOD OF COMPLETION: PRODUCTION INTERVAL:		Drilled	Set (In O.D.)	Lbs. / Ft.	Depth	Cement	Used	Additives
Purpose: Perforate Protect Casing Pilug Back TD Pilug Oif Zone  Did you perform a hydraulic fracturing treatment on this well? Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Shots Per Foot  PERFORATION RECORD - Bridge Plugs SetType Specify Footage of Each Interval Perforated  Date of First, Resumed Production, SWD or ENHR.  Producing Method: Flowing Pumping Gas Lift Other (Explain)  PESITIAN OF GAS:  METHOD OF COMPLETION: PRODUCTION INTERVAL:  PRODUCTION INTERVAL:								
Purpose:     Perforate     Protect Casing     Plug Back TD     Plug Off Zone  Did you perform a hydraulic fracturing treatment on this well?  Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Vas the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Shots Per Foot  PERFORATION RECORD - Bridge Plugs SetTtype Specify Footage of Each Interval Perforated  Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)  Depth  TUBING RECORD:  Size: Set At: Packer At: Liner Run:    Producing Method:   Flowing   Pumping   Gas Lift   Other (Explain)    Production Per 24 Hours    PRODUCTION INTERVAL:								
Purpose:     Perforate     Protect Casing     Plug Back TD     Plug Off Zone  Did you perform a hydraulic fracturing treatment on this well?  Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Vas the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Shots Per Foot  PERFORATION RECORD - Bridge Plugs SetTtype Specify Footage of Each Interval Perforated  Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)  Depth  TUBING RECORD:  Size: Set At: Packer At: Liner Run:    Producing Method:   Flowing   Pumping   Gas Lift   Other (Explain)    Production Per 24 Hours    PRODUCTION INTERVAL:   PRODUCTION INTERVAL:								
Purpose:     Perforate     Protect Casing     Plug Back TD     Plug Off Zone  Did you perform a hydraulic fracturing treatment on this well?  Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Vas the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Shots Per Foot  PERFORATION RECORD - Bridge Plugs SetTtype Specify Footage of Each Interval Perforated  Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)  Depth  TUBING RECORD:  Size: Set At: Packer At: Liner Run:    Producing Method:   Flowing   Pumping   Gas Lift   Other (Explain)    Production Per 24 Hours    PRODUCTION INTERVAL:   PRODUCTION INTERVAL:			ADDITIONA	AL CEMENTING / SC	UEEZE RECORD	)		I
Perforate Protect Casing Plug Back TD Plug Off Zone  Did you perform a hydraulic fracturing treatment on this well?  Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?   Yes   No	Purpose:						Percent Additives	
Plug Back TD Plug Off Zone Plug Zone Plug Off Zone Plug Zone Plug Off Zo		Top Bottom	71					
Did you perform a hydraulic fracturing treatment on this well?    Oces the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?   Yes	Plug Back TD							
Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?	Plug Off Zone							
Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?	Did vou perform a hvdrau	ulic fracturing treatment	on this well?		Yes	□ No (If No. sk	ip questions 2 ar	nd 3)
Shots Per Foot		_		exceed 350,000 gallon				,
Specify Footage of Each Interval Perforated (Amount and Kind of Material Used)  Depth  TUBING RECORD: Size: Set At: Packer At: Liner Run: Yes No  Date of First, Resumed Production, SWD or ENHR. Producing Method: Gas Lift Other (Explain)  Estimated Production Oil Bbls. Gas Mcf Water Bbls. Gas-Oil Ratio Gravity  DISPOSITION OF GAS: METHOD OF COMPLETION: PRODUCTION INTERVAL:  Vented Sold Used on Lease Open Hole Perf. Dually Comp. Commingled	Vas the hydraulic fractur	ing treatment information	n submitted to the chemica	al disclosure registry?	Yes	No (If No, fill	out Page Three	of the ACO-1)
TUBING RECORD: Size: Set At: Packer At: Liner Run: Yes No  Date of First, Resumed Production, SWD or ENHR. Producing Method: Gas Lift Other (Explain)  Estimated Production Oil Bbls. Gas Mcf Water Bbls. Gas-Oil Ratio Gravity  DISPOSITION OF GAS: METHOD OF COMPLETION: PRODUCTION INTERVAL:  Vented Sold Used on Lease Open Hole Perf. Dually Comp. Commingled	Shots Per Foot							
Date of First, Resumed Production, SWD or ENHR.  Producing Method: Flowing Pumping Gas Lift Other (Explain)  Estimated Production Per 24 Hours  DISPOSITION OF GAS:  WETHOD OF COMPLETION: Vented Sold Used on Lease  Open Hole Perf. Dually Comp. Commingled		<u> </u>	Footage of Each Interval Po	errorated	(2	Amount and Kind of Ma	iteriai Used)	Depth
Date of First, Resumed Production, SWD or ENHR.  Producing Method: Flowing Pumping Gas Lift Other (Explain)  Estimated Production Per 24 Hours  DISPOSITION OF GAS:  WETHOD OF COMPLETION: Vented Sold Used on Lease  Open Hole Perf. Dually Comp. Commingled								
Date of First, Resumed Production, SWD or ENHR.  Producing Method: Flowing Pumping Gas Lift Other (Explain)  Estimated Production Per 24 Hours  DISPOSITION OF GAS:  METHOD OF COMPLETION: Vented Sold Used on Lease  Open Hole Perf. Dually Comp. Commingled								
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Date of First, Resumed Production, SWD or ENHR.  Producing Method: Flowing Pumping Gas Lift Other (Explain)  Estimated Production Per 24 Hours  DISPOSITION OF GAS:  METHOD OF COMPLETION: Vented Sold Used on Lease  Open Hole Perf. Dually Comp. Commingled								
Date of First, Resumed Production, SWD or ENHR.  Producing Method: Flowing Pumping Gas Lift Other (Explain)  Estimated Production Per 24 Hours  DISPOSITION OF GAS:  WETHOD OF COMPLETION: Vented Sold Used on Lease  Open Hole Perf. Dually Comp. Commingled	TURING RECORD	Size <sup>.</sup>	Set At:	Packer Δ+·	Liner Run			
Estimated Production Per 24 Hours  Oil Bbls. Gas Mcf Water Bbls. Gas-Oil Ratio Gravity  DISPOSITION OF GAS:  Vented Sold Used on Lease Open Hole Perf. Dually Comp. Commingled	. SSING FILOURD.	0.20.	ourn.	I donot At.	Line Hun.	Yes No		
Per 24 Hours  DISPOSITION OF GAS:  METHOD OF COMPLETION:  PRODUCTION INTERVAL:  Vented Sold Used on Lease Open Hole Perf. Dually Comp. Commingled	Date of First, Resumed	Production, SWD or EN			Gas Lift	Other (Explain)		
Vented Sold Used on Lease Open Hole Perf. Dually Comp. Commingled		Oil	Bbls. Gas	Mcf Wa	ater E	Bbls. (	Gas-Oil Ratio	Gravity
Vented Sold Used on Lease Open Hole Perf. Dually Comp. Commingled	DISPOSITIO	ON OF GAS:		METHOD OF COMP	ETION.		PRODUCTIO	ON INTERVAL:
(Cubmit ACO 5) (Cubmit ACO 4)			Open Hole	Perf. Dua	ly Comp. Co		1110000110	ZIT IITI EI IVAE.
(Submit ACO-4) (Submit ACO-4) (Submit ACO-4)			Other (Specify)	(Submi	t ACO-5) (Sul	bmit ACO-4)		

Form	ACO1 - Well Completion
Operator	Mai Oil Operations, Inc.
Well Name	Hammeke "B" 5
Doc ID	1244938

### Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight		Type Of Cement		Type and Percent Additives
Surface	12.25	8.625	23	649	60-40POZ		2% gel, 3% CC
Production	7.875	5.5	14	3698	60-40 POZ	160	2% gel

### 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 Hammeke B #5 NE-SW-NW-SE (1810' FSL & 2000' FEL) Section 21-21s-12w Stafford County, Kansas

Page 1

### 5 1/2" Production Casing Set

Contractor:

Southwind Drilling Co. (rig #3)

Commenced:

February 6, 2015

Completed:

February 12, 2015

Elevation:

1852' K.B., 1850' D.F., 1844' G.L.

Casing program:

Surface; 8 5/8" @ 649'

Production, 5 1/2" @ 3698'

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

Log.

Formation	Log Depth	Sub-Sea Datum
		,
Anhydrite	651	+1201
Base Anhydrite	671	+1181
Heebner	3117	-1265
Toronto	3137	-1285
Douglas	3150	-1278
Brown Lime	3251	-1399
Lansing	3263	-1411
Base Kansas City	3480	-1628
Viola	3490	-1638
Simpson Shale	3513	-1661
Arbuckle	3561	-1709
Rotary Total Depth	3700	-1848
Log Total Depth	3700	-1848

All tops and zones corrected to Electric Log Measurement

Mai Oil Operations Hammeke B #5 NE-SW-NW-SE (1810' FSL & 2000' FEL) Section 21-21s-12w Stafford County, Kansas

Page 2

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

### **TOPEKA SECTION**

2900-3116'

No shows of oil and/or gas was noted in drilling of the Topeka Section

(see attached samples log/geologist report)

### **TORONTO SECTION**

3137-3148'

Limestone, cream, finely crystalline, cherty in part, poorly developed porosity, black stain, no free oil and no odor in fresh samples.

### **LANSING SECTION**

3263-3275'	Limestone, cream, tan, finely crystalline, chalky, poor visible porosity, no shows.
3281-3293'	Limestone, cream, finely crystalline, slightly cherty, poor porosity, no shows.
3301-3313'	Limestone, cream, white, finely crystalline, cherty, poor porosity, questionable stain, no free oil and no odor in fresh samples.
3321-3326'	Limestone, cream, fine and medium crystalline, cherty in part, poor visible porosity, no shows.
3330-3340'	Limestone, as above, few oolitic, no shows, scattered porosity.
3344-3350'	Limestone, cream, finely crystalline, chalky, scattered inter-crystalline porosity, trace stain, show of free oil and no odor in fresh samples.
3390-3400'	Limestone, white, cream, finely crystalline, cherty, poor visible porosity, no shows.
3407-3414'	Limestone, as above, chalky, dense.
3423-3428'	Limestone, white/gray, cream, finely crystalline, oolitic, scattered porosity, good black stain, no free oil and no odor in fresh samples.
3441-3452'	Limestone, white/cream, finely crystalline, chalky in part, no shows.
3461-3473'	Limestone, white, cream; finely crystalline, chalky, trace gray/white chert, questionable edge staining, no free oil and no odor in fresh samples.

### **VIOLA SECTION**

3490-3511'

Chert, white/gray, boney, fresh, poor visible porosity, black stain, trace of free oil and no odor in fresh samples.

### **ARBUCKLE SECTION**

3561-3571'

Dolomite, tan, finely crystalline, sucrosic, scattered pinpoint porosity, brown stain, show of free oil and fair odor in fresh samples.

Mai Oil Operations Hammeke B #5 NE-SW-NW-SE (1810' FSL & 2000' FEL) Section 21-21s-12w Stafford County, Kansas

Page 3

3571-3585'

Dolomite, tan, cream, finely crystalline, few medium crystalline, sucrosic in part; golden brown stain, show of free oil and fair odor in fresh samples.

### **Drill Stem Test #1**

3505-3585

Times:

30-30-45-45

Blow:

Strong

Recovery:

122' oil cut mud (30% oil, 70% mud) 126' oil & gas cut mud (50% gas; 30% oil; 20% mud)

189' oil & gas cut mud

(60% gas; 30% oil; 10% mud) 63' heavily oil & gas cut mud (55% gas; 40% oil; 5% mud)

63' oil & gas cut mud

(80% gas; 15% oil; 5% mud)

Pressures: ISIP

ISIP 746 psi FSIP 712 psi

FSIP 712 psi IFP 226-174 psi FFP 186-239 psi HSH 1735-1687 psi

3585-3596'

Dolomite, tan, cream, medium crystalline, good inter-crystalline to vuggy type porosity, good stain, good show of free oil and strong odor in fresh samples.

3556-3615'

Dolomite, cream, white, fine and medium crystalline, good golden brown stain, good show of free oil and good odor in fresh samples.

### **Drill Stem Test #2**

3587-3615

Times:

30-30-45-60

Blow:

Strong; gas to surface 23 mins into initial shut in,

**TSTM** 

Recovery:

882' clean gassy oil

Pressures: ISIP

SIP 924 psi

FSIP 939 psi IFP 120-174 psi FFP 192-332 psi HSH 1720-1619 psi

3616-3635'

Dolomite, white, finely crystalline, few medium crystalline, sucrosic in part, good inter-crystalline and vuggy type porosity, fair stain, good show of free oil and good odor in fresh samples.

Mai Oil Operations Hammeke B #5 NE-SW-NW-SE (1810' FSL & 2000' FEL) Section 21-21s-12w Stafford County, Kansas

Page 4

### **Drill Stem Test #3**

3615-3637

Times:

30-30-45-60

Blow:

Strong, gas to surface on opening of final flow period,

TSTM.

Recovery:

126' oil, trace of water (90% oil, 10% mud)

252' heavily oil cut gassy water (30% gas; 60% oil; 10% mud) 1638' heavily oil and gas cut water (10% gas; 80% oil; 10% mud) 63' oil and gas cut water (55% gas; 15% oil; 30% mud)

321' muddy water

Pressures: ISIP 947 psi **FSIP 976** psi IFP 445-766 psi

FFP 798-945 psi HSH 1749-1642 psi

3640-3660'

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

3660-3680'

Dolomite, as above, fair/good stain, show of free oil and strong odor in

fresh samples.

3680-3700'

Dolomite, cream, tan, finely crystalline, fair to medium crystalline, fair inter-crystalline porosity, dark brown stain; show of free oil and good odor in fresh samples (free oil floating on top of the sample cups)

**Rotary Total Depth** Log Total Depth

Recommendations:

3700 3700

The 5 ½" production casing was set and cemented on Mai Oil Operation Inc., Hammeke B #5.

Respectfully yours,

Clint Musgrove

Petroleum Geologist



### DRILL STEM TEST REPORT

Mai Oil Operations

8411 Preston Rd STE 800 Dallas TX 75225-5520

ATTN: Jim Musgrove

21-21s-12w Stafford,KS

Hammeke "B" #5

Job Ticket: 61978

DST#: 1

Test Start: 2015.02.10 @ 00:35:00

### GENERAL INFORMATION:

Formation:

Arbuckle

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Initial)

Tester:

Shane Konzem

Unit No:

56

1852.00 ft (KB)

Reference Bevations:

1844.00 ft (CF)

KB to GR/CF:

8.00 ft

Hole Diameter:

Start Date:

Start Time:

Time Tool Opened: 03:10:30

Time Test Ended: 08:00:00

Interval: 3505.00 ft (KB) To 3585.00 ft (KB) (TVD)
Total Depth: 3585.00 ft (KR) (TVD)

7.88 inches Hole Condition: Poor

2015.02.10

00:36:00

Serial #: 6806 Press@RunDepth: Inside

239.05 psig @ 3581.24 ft (KB)

End Date: End Time:

2015.02.10

08:00:00

Capacity:

8000.00 psig

Last Calib.:

2015.02.10

Time On Btm: 2015.02.10 @ 03:07:30
Time Off Btm: 2015.02.10 @ 05:52:30

TEST COMMENT: IFP 30 Minutes. BOB in 12 minutes. ISI 30 Minutes. 1"blow back. FFP 45 Minutes. BOB in 6 minutes.

FSI 45 3"blow back. Gas to surface 20 minutes into shut in.

			Pressu	uc vs. Time		
		0900 Pressure			CSSC Temperature	
١		-	F+			1
ł	(fell)		-		MAZ	-1-
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			11 1	1	!	<b>1</b>
1	250		1	0	-	
1					1	1.
	•			1		
1	90 Tue F	d-2005	···	ien (Hours)	OPM	
L						

PRESSURE SUMMARY								
Time	Pressure	Temp	Annotation					
(Min.)	(psig)	(deg F)						
0	1737.52	100.80	Initial Hydro-static					
3	226.59	100.96	Open To Flow (1)					
33	174.90	101.28	Shut-In(1)					
63	746.30	102.77	End Shut-In(1)					
64	186.74	102.75	Open To Flow (2)					
109	239.05	104.37	Shut-In(2)					
160	712.90	106.09	End Shut-In(2)					
165	1687.45	107.27	Final Hydro-static					
	(Min.) 0 3 33 63 64 109 160	Time (Min.) (psig) 0 1737.52 3 226.59 33 174.90 63 746.30 64 186.74 109 239.05 160 712.90	Time (psig) (deg F) 0 1737.52 100.80 3 226.59 100.96 33 174.90 101.28 63 746.30 102.77 64 186.74 102.75 109 239.05 104.37 160 712.90 106.09					

### Recovery

Length (ft)	Description	Volume (bbl)
127.00	OCM 30% oil, 70% mud	1.78
126.00	GMCO 50% gas, 30% oil, 20% mud	1.77
189.00	VGMCO 60% gas, 30% oil, 10% mud	2.65
63.00	VGSMCO 55% gas, 40% oil, 5% mud	0.88
63.00	VGMCO 80% gas, 15% oil, 5% mud	0.88

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 61978

Printed: 2015.02.12 @ 09:43:13



### DRILL STEM TEST REPORT

Mai Oil Operations

8411 Preston Rd STE 800 Dallas TX 75225-5520

ATTN: Jim Musgrove

21-21s-12w Stafford,KS

Hammeke "B" #5

Job Ticket: 61979

DST#: 2

Test Start: 2015.02.10 @ 14:43:00

### GENERAL INFORMATION:

Time Tool Opened: 15:55:30

Time Test Ended: 20:58:00

Formation:

Interval:

Total Depth:

Hole Diameter:

Arbuckle

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Initial)

Tester:

Shane Konzem

56

Unit No:

1852.00 ft (KB)

Reference Elevations:

1844.00 ft (CF)

KB to GR/CF:

8.00 ft

Serial #: 6806 Press@RunDepth: Inside

3615.00 ft (KB) (TVD)

332.63 psig @ 3611.00 ft (KB)

Capacity:

8000.00 psig

Start Date:

2015.02.10 14:44:00

7.88 inches Hole Condition: Poor

3587.00 ft (KB) To 3615.00 ft (KB) (TVD)

End Date: 2015.02.10

Last Calib.:

2015.02.10

Start Time:

End Time:

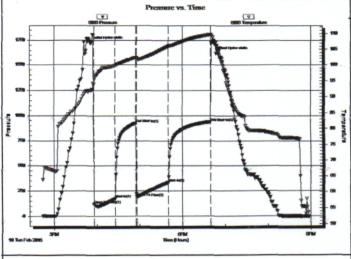
20:58:00

Time On Btm: Time On Btm: 2015.02.10 @ 15:51:30 Time Off Btm: 2015.02.10 @ 18:47:30

2015.02.10 @ 15:51:30

TEST COMMENT: IFP 30 Minutes. BOB in 1 minute and 20 seconds. ISI 30 Minutes. BOB in 20 minutes. GTS at 23 minutes. FFP 45 Minutes. BOB in 3 minutes and 10 Seconds.

FSI 60 Minutes. BOB



	PRESSURE SUMMARY								
	Time	Pressure	Temp	Annotation					
	(Min.)	(psig)	(deg F)						
	0	1720.92	91.99	Initial Hydro-static					
	4	120.10	93.89	Open To Flow (1)	ŀ				
	34	174.21	99.73	Shut-In(1)					
	63	924.98	102.38	End Shut-In(1)					
70,7	65	192.18	102.26	Open To Flow (2)					
Temperature	109	332.63	105.94	Shut-In(2)					
2	168	939.33	109.70	End Shut-In(2)					
	176	1619.70	107.27	Final Hydro-static					
	-43 .				l				
	}				ŀ				
_									

Length (ft)	Description	Volume (bbl)		
882.00	100% clean gassy oil.	12.37		

Recovery

Gas Rates

Choke (inches) Pressure (psig)

Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 61979

Printed: 2015.02.12 @ 09:42:47



### DRILL STEM TEST REPORT

Mai Oil Operations

21-21s-12w Stafford,KS

8411 Preston Rd STE 800 Dallas TX 75225-5520

Hammeke "B" #5 Job Ticket: 61980

DST#: 3

ATTN: Jim Musgrove

Test Start: 2015.02.11 @ 02:35:00

### GENERAL INFORMATION:

Time Tool Opened: 04:25:30

Time Test Ended: 10:26:30

Formation:

Arbuckle

Deviated:

Interval:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Initial)

Unit No:

Shane Konzem

Tester:

56

KB to GR/CF:

1852.00 ft (KB)

Reference Bevations:

1844.00 ft (CF)

Total Depth:

3615.00 ft (KB) To 3637.00 ft (KB) (TVD)

3637.00 ft (KB) (TVD) 7.88 inches Hole Condition: Poor

8.00 ft

Hole Diameter:

Serial #: 6806

Press@RunDepth:

Inside

945.29 psig @

02:36:00

3633.00 ft (KB)

Capacity:

8000.00 psig

Start Date: Start Time:

2015.02.11

End Date:

End Time:

2015.02.11 10:26:30

Last Calib.: Time On Btm: 2015.02.11

2015.02.11 @ 04:20:30 Time Off Btm: 2015.02.11 @ 07:14:30

TEST COMMENT: IFP 30 Minutes. BOB in 20 seconds. ISI 30 Minutes. BOB in 15 minutes. FFP 45 Minutes. BOB in 40 seconds. GTS FSI 60 Minutes. BOB in 25 minutes.

# Pressure vs. Time

	PRESSURE SUMMARY						
1	Time	Pressure	Temp	Annotation			
١	(Min.)	(psig)	(deg F)				
Į	0	1749.19	94.45	Initial Hydro-static			
I	5	445.70	101.92	Open To Flow (1)			
I	34	766.56	113.00	Shut-In(1)			
١.	65	947.26	112.30	End Shut-In(1)			
	66	798.23	112.37	Open To Flow (2)			
	111	945.29	112.86	Shut-In(2)			
	170	976.74	112.50	End Shut-In(2)			
1	174	1642.42	109.92	Final Hydro-static			
1							
1							
1							
1							
1							

### Recovery Description Volume (bbl) Length (ft) WO 10% w ater, 90% oil 1.77 126.00 3.53 252.00 GWO 30% gas, 10% w ater, 60% oil 22.98 1638.00 GWO 10% gas, 10% w ater, 80% oil 63.00 VGOW 55% gas, 15% oil, 30% water 0.88 126.00 MW 5% mud, 95% w ater 1.77 100% water 2.65 189.00

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

Trilobite Testing, Inc.

Ref. No: 61980

Printed: 2015.02.12 @ 09:39:26

# 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. 1210

Service and the o	Sec.	Twp.	Range	(	County	State	On Location	Finish		
Date 2:6:15	21	21	12	St	ford	KS		2:300 m.		
The state of the s	Location (25%) Bend 1) 5 170RD (0F GAD 1/21)						v i			
Lease Hammelle B Well No.5				Owner						
Contractor Southwind #3			To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish							
Type Job Surface					cementer and helper to assist owner or contractor to do work as listed.					
Hole Size 12/4	Tr. emie	T.D. 6	,49	A TORRES	Charge Mai &					
Csg. 8-5/8		Depth	049		Street	Street				
Tbg. Size	4 9.0	Depth	Lustria iku ta sto	ni hion	City State					
Tool	in a	Depth		1	The above wa	s done to satisfaction ar	nd supervision of owner	agent or contractor.		
Cement Left in Csg. 4	0'	Shoe J			Cement Amo	ount Ordered 400	60/10 31-6621	162 1 3 DO		
Meas Line		Displac	ce 39 3/4	BL		COMPANY OF THE PARTY OF THE PAR	TOMES TO THE STATE OF	Contract Con		
JANES CONTRACTOR OF	EQUIPM	ENT	hericaue so dev	Interlige	Common	tekar i sar dirediga	attakal makasa ka			
Pumptrk / No. Ceme Helper					Poz. Mix		The face time of the			
Bulktrk Driver		9			Gel.	Melowie in the				
Bulktrk A No. Driver		e			Calcium	Alagos orbitanto las				
JOB SE	RVICES	& REMA	RKS	· with	Hulls		LLO BUYATY ME			
Remarks:				2410	Salt	Marine 1 - 1 ton, one				
Rat Hole					Flowseal		Table of the second			
Mouse Hole					Kol-Seal					
Centralizers					Mud CLR 48					
Baskets	prising or	element,	e antonios	,llow a	CFL-117 or CD110 CAF 38					
D/V or Port Collar		-488a-			Sand					
3-5/8 on batt	rail f	247	i Warmen		Handling					
mox 40051(4.1)	Mar	PL	6	» /	Mileage					
A	7		<b>-</b>		FLOAT EQUIPMENT					
1 ement 1	JAKI)	40	0		Guide Shoe					
					Centralizer					
authina.				Baskets 2-5/2 Ribber Plus						
					AFU Inserts					
					Float Shoe					
					Latch Down					
				Thins easie		Percent present Light				
				Pumptrk Charge						
				Mileage						
and the second second	io i mercio i en	Y VO., rich	Appropriate the second	2017	incolai hana.	age than the	Tax	The second second		
1	901 101				CHARLES SHE		Discount			
Signature July 19	vei :	citinia	in instinuential i	E 46 ()	i and deligant.		Total Charge			
		-			The state of the state of			the Town or with the		

# 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. 1129

0011700-024-1041							
Date 2-12-15 Sec.	Twp. Range	Sto	County	State	On Location	6:15AM	
A CONTRACTOR SAME	a	Locatio	on Great	- Bend Xs -	115 to 170	Rd, 6E+	
Lease Hammeke D Well No. 5			Owner 60 Rd, 1/2 N WITHTO				
Contractor Southwind	3	· aug	To Quality Oilwell Cementing, Inc.				
Type Job Longstring	W. S.	10.00	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 77/2	T.D. 37001	Min t	Charge Mai oil operations				
Csg. 5%" New 14H	Depth 36981	4.00	Street	district the large trape.			
Tbg. Size	Depth	r mari	City		State	The same of the sa	
Tool	Depth	1-	The above wa	s done to satisfaction an	nd supervision of owner	agent or contractor.	
Cement Left in Csg. 00.15	Shoe Joint 201/	5	Cement Amo	ount Ordered 160	69/40 10/65	salt 2/2 Get	
Meas Line	Displace 89 3/4 B	365	14.4 Flo.	-seal - 1000	Gal Mud Cle	as 48	
EQUIPM		Concession.	Common				
Pumptrk No. Cementer Helper	114		Poz. Mix	La		centres, th	
Bulktrk Driver 14/0	500		Gel.	faring and the second		77.5	
Bulktrk p, U. No. Driver Driver	- ick		Calcium	sifasge sevi uran me	aris discussion is	And the state of t	
JOB SERVICES	& REMARKS		Hulls				
Remarks:	Kobal Riving Makeying	ALIG.	Salt	WUD house malls	des fisionalher is 200	and the second second	
Rat Hole		1 11 15.3	Flowseal				
Mouse Hole	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Kol-Seal				
Centralizers   -   13 -   4			Mud CLR 48				
Baskets Pipe on bottom break Circulati			CFL-117 or CD110 CAF 38				
DN or Port Collar Dump 1000 gal mud Clear 48			Sand				
place Rathole with 30gg Hask to 50"			Handling				
Carry 1305 Cement			Mileage				
Shut I down wash own p + thes			FLOAT EQUIPMENT				
Keleased plucy *	9%6	Guide Shoe					
04 420 1			Centralizer	tuibo's	13		
Keloused + he	11	alife de la	Baskets			SECTION CONTRACTOR	
in the second		- 111	AFU Inserts		77 77 100		
Lift Dressure	500 H		Float Shoe	MA A FA A	A 104 (C. 1947)	18.000 1000 1000	
			Latch Down				
Land plua to	1600 #	Shiring	restal so le		Restaura agrania and	4 6 4	
		10000				Problem of the Property	
ESTONIA WE COL	Pumptrk Cha	arge					
Kara a da de la compania de de la compania del compania del compania de la compania del compania	The life of the second	4	Mileage	The state of the s			
TO REAL PROPERTY OF THE PROPERTY OF	n'io-management di antigra	6 Akali	Interested France	ART BARY IN BY	Tax	The state of	
11			Carlo mi		Discount	111111111111111111111111111111111111111	
Signature This	in the same	-	and a state of	described to the second	Total Charge		