

Confidentiality Requested:

Yes No

Kansas Corporation Commission Oil & Gas Conservation Division

1153575

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	East West
Address 2:			F6	eet from North /	South Line of Section
City:	State: Z	ip:+	Fe	eet from East /	West Line of Section
Contact Person:			Footages Calculated from I	Nearest Outside Section C	Corner:
Phone: ()			□ NE □ NW	V □SE □SW	
CONTRACTOR: License #			GPS Location: Lat:	, Long: _	
Name:				(e.g. xx.xxxxx)	(e.gxxx.xxxxx)
Wellsite Geologist:			Datum: NAD27	NAD83 WGS84	
Purchaser:			County:		
Designate Type of Completion:			Lease Name:	W	/ell #:
	e-Entry	Workover	Field Name:		
	_		Producing Formation:		
☐ Oil ☐ WSW ☐ D&A	☐ SWD	∐ SIOW □ SIGW	Elevation: Ground:	Kelly Bushing:	:
	GSW	Temp. Abd.	Total Vertical Depth:	Plug Back Total C	Depth:
CM (Coal Bed Methane)	dow	Temp. Abd.	Amount of Surface Pipe Se	et and Cemented at:	Feet
☐ Cathodic ☐ Other (Co	ore, Expl., etc.):		Multiple Stage Cementing	Collar Used? Yes	No
If Workover/Re-entry: Old Well I			If yes, show depth set:		Feet
Operator:			If Alternate II completion, c	cement circulated from:	
Well Name:			feet depth to:	w/	sx cmt.
Original Comp. Date:					
Deepening Re-perf	•	NHR Conv. to SWD	Drilling Fluid Managemer	nt Plan	
☐ Plug Back	Conv. to G		(Data must be collected from the		
Commingled	Pormit #:		Chloride content:	ppm Fluid volume	e: bbls
Dual Completion			Dewatering method used: _		
SWD			Location of fluid disposal if	hauled offsite	
☐ ENHR			1		
GSW	Permit #:		Operator Name:		
_ _			Lease Name:	License #:_	
Spud Date or Date R	eached TD	Completion Date or	Quarter Sec	TwpS. R	East _ West
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:

Page Two



Operator Name:				_ Lease I	Name: _			Well #:	
Sec Twp	S. R	East	West	County	:				
INSTRUCTIONS: Shopen and closed, flow and flow rates if gas to	ring and shut-in press o surface test, along v	ures, whe	ther shut-in pre chart(s). Attach	ssure reac extra shee	hed stati	c level, hydrosta space is neede	tic pressures, b d.	ottom hole temp	erature, fluid recov
Final Radioactivity Lo files must be submitte						ogs must be ema	alled to kcc-well-	logs@kcc.ks.go	v. Digital electronic
Drill Stem Tests Taker (Attach Additional		Y	es No			J	on (Top), Depth		Sample
Samples Sent to Geo	logical Survey	Y	es No		Nam	е		Тор	Datum
Cores Taken Electric Log Run			es No						
List All E. Logs Run:									
				RECORD	Ne				
	0: 11.1					ermediate, product		" 0 1	T 15
Purpose of String	Size Hole Drilled		ze Casing t (In O.D.)	Weig Lbs.		Setting Depth	Type of Cement	# Sacks Used	Type and Percer Additives
			ADDITIONAL	CEMENTI	NG / SQL	JEEZE RECORD			
Purpose:	Depth Top Bottom	Туре	of Cement	# Sacks	Used		Type and	Percent Additives	
Perforate Protect Casing	Top Dottern								
Plug Back TD Plug Off Zone									
1 lug 0 li 20 lio									
Did you perform a hydrau	ulic fracturing treatment	on this well	?			Yes	No (If No, s	skip questions 2 a	nd 3)
Does the volume of the t			-		-			skip question 3)	
Was the hydraulic fractur	ing treatment informatio	n submitted	to the chemical of	disclosure re	gistry?	Yes	No (If No, i	ill out Page Three	of the ACO-1)
Shots Per Foot			RD - Bridge Plug Each Interval Perl				cture, Shot, Ceme	nt Squeeze Recor	rd Depth
						(* *			200
TUBING RECORD:	Size:	Set At:		Packer A	t·	Liner Run:			
		0017111				[Yes N	o	
Date of First, Resumed	Production, SWD or EN	HR.	Producing Meth	nod:	g 🗌	Gas Lift (Other (Explain)		
Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Wat	er B	bls.	Gas-Oil Ratio	Gravity
DIODOCITI	01.05.040			4ETUOD 05	. 00145/	TION:		DDOD! ICT!	
DISPOSITION Solo	ON OF GAS: Used on Lease		N Open Hole	∥ETHOD OF Perf.			mmingled	PRODUCTION	ON INTERVAL:
	bmit ACO-18.)		Other (Specify)		(Submit		mit ACO-4)		

Form	ACO1 - Well Completion
Operator	Mai Oil Operations, Inc.
Well Name	Morgenstern 3
Doc ID	1153575

Tops

Name	Тор	Datum
Anhydrite	899	+1016
Topeka	2851	-936
Heebner	3084	-1169
Toronto	3099	-1184
Brown Lime	3150	-1235
Lansing	3161	-1246
Base Kansas City	3373	-1458
Arbuckle	3405	-1490

Conservation Division Finney State Office Building 130 S. Market, Rm. 2078 Wichita, KS 67202-3802



Phone: 316-337-6200 Fax: 316-337-6211 http://kcc.ks.gov/

Sam Brownback, Governor

Mark Sievers, Chairman Thomas E. Wright, Commissioner Shari Feist Albrecht, Commissioner

July 30, 2013

Allen Bangert Mai Oil Operations, Inc. 8411 PRESTON RD STE 800 DALLAS, TX 75225-5520

Re: ACO1 API 15-009-25841-00-00 Morgenstern 3 NW/4 Sec.17-17S-14W Barton County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully, Allen Bangert

JAMES C. MUSGROVE

Petroleum Geologist 212 Main Street P.O. Box 215 Claflin, KS 67525

Office (620) 588-4250

Res. Claflin (620) 587-3444

Mai Oil Operations Inc. Morgenstern #3 NE-NE-SW-NW (1600' FNL & 1125' FWL) Section 17-17s-14w Barton County, Kansas Page 1

5 1/2" Production Casing Set

Contractor:

Southwind Drilling Co. (Rig #3)

Commenced:

June 11, 2013

Completed:

June 16, 2013

Elevation:

1915' K.B; 1913' D.F; 1907' G.L.

Casing program:

Surface; 8 5/8" @ 899'

Production; 5 1/2" @ 3484'

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 three (3) 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 Log.

Sub-Sea Datum
+1016
+989
-936
-1169
-1184
-1196
-1235
-1246
-1458
-1490
-15770
-1568

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

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

TOPEKA SECTION

2965-2982' Limestone; tan, finely crystalline, fossiliferous, cherty, dense,

trace light brown spotty stain, no free oil and no odor.

3030-3050'

Limestone; cream, tan, finely crystalline, poor scattered porosity, trace brown stain, show of free oil and no odor in fresh samples.

Mai Oil Operations Inc. Morgenstern #3 NE-NE-SW-NW (1600' FNL & 1125' FWL) Section 17-17s-14w Barton County, Kansas Page 2

TORONTO SECTION

3099-3110'

Limestone; tan, finely crystalline, cherty, few fossiliferous, poor

visible porosity, no shows.

LANSING SECTION

3161-3166'

Limestone; tan, finely crystalline, few fossiliferous, chalky, trace

light brown stain, no show of free oil and no odor.

3175-3190'

Limestone; cream, tan, oolitic, oomoldic, poor to fair oomoldic

porosity, light brown stain, show of free oil and faint odor in fresh

samples.

Drill Stem Test #1

3158-3197'

Times:

30-30-45-45

Blow:

Strong

Recovery:

382' gas in pipe

108' gassy muddy oil

(20% gas, 50% oil, 30% mud) 62' heavily oil and gas cut mud (20% gas, 30% oil, 50% mud)

Pressures: ISIP 520

psi

FSIP 519

psi

IFP 42-57 FFP 56-84 psi

psi

HSH 1544-1497

psi

3220-3228'

Limestone; tan, cream, finely crystalline, few fossiliferous, poor

visible porosity, chalky, no visible shows.

3242-3255'

Limestone; tan, finely crystalline, oolitic, oomoldic, scattered

vuggy/oomoldic porosity, light brown stain, show of free oil and

fair odor.

3298-3308'

Limestone; brown/gray, finely crystalline, fossiliferous, poor

visible porosity, no shows.

3311-3324'

Limestone; cream, tan, finely crystalline, chalky, poorly

developed porosity, no show of oil and questionable odor in fresh

samples.

3331-3347'

Limestone; white, cream, oomoldic, chalky in part, scattered

porosity, trace stain, show of free oil and fair odor in fresh

samples.

3351-3370'

Limestone; cream, white, finely crystalline, chalky, black stain, no

show of free oil and no odor.

Mai Oil Operations Inc.

Morgenstern #3

NE-NE-SW-NW (1600' FNL & 1125' FWL)

Section 17-17s-14w Barton County, Kansas

Page 3

ARBUCKLE SECTION

3405-3412' Dolomite; white, gray, finely crystalline, poor intercrystalline

porosity, light brown stain, weak show of free oil and faint odor in

fresh samples.

3412-3420' Dolomite; white/gray, finely crystalline, fair intercrstyalline type

porosity, fair stain, show of free oil and strong odor in fresh

samples.

3428-3450' Dolomite; white, gray, finely crystalline, poor visible porosity, light

brown stain, weak show of free oil and faint odor in fresh

samples.

Drill Stem Test #3

3362-3428'

Times:

30-30-30-30

Blow:

Strong

Recovery:

180' gas in pipe

97' gassy oil

372' oil and gas cut mud (10% gas, 10% oil, 80% mud) 62' oil cut muddy water

(5% oil, 20% water, 75% mud)

Pressures: ISIP

778

psi

FSIP 788 IFP

psi

77-141 FFP 164-213 psi psi

HSH 1710-1664

psi

3450-3470'

Dolomite; white/gray, fine and medium crystalline, scattered

porosity, trace stain, no show of free oil and faint odor in fresh

samples.

3470-3485'

Dolomite; white, finely crystalline, poor porosity, no show.

Rotary Total Depth

3485

Log Total Depth

3483

Recommendations:

5 ½" production casing was set and cemented on the Morgenstern #3.

Respectfully submitted:

⊮yatt Urban and James C.Musgrove,

Petroleum Geologists



DRILL STEM TEST REPORT

Mai Oil Operations

17-17s-14w Barton,KS

8411 Preston Rd Ste 800 Dallas, TX 75225

Morgenstern #3 Job Ticket: 50982

DST#: 1

ATTN: Wyatt Urban

Test Start: 2013.06.14 @ 18:08:27

GENERAL INFORMATION:

Time Tool Opened: 19:34:27

Time Test Ended: 23:59:27

Formation:

Lansing "A-C"

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Initial)

Tester:

Leal Cason

Unit No:

Interval:

3158.00 ft (KB) To 3197.00 ft (KB) (TVD)

1915.00 ft (KB)

Total Depth:

3197.00 ft (KB) (TVD)

Reference Bevations:

1907.00 ft (CF)

Hole Diameter:

KB to GR/CF:

8.00 ft

Serial #: 6798

Press@RunDepth:

7.88 inches Hole Condition: Good

Inside

Capacity:

8000.00 psig

Start Date:

84.30 psig @ 3159.00 ft (KB) End Date:

2013.06.14

Last Calib.:

2013.06.15

Start Time:

2013.06.14 18:08:28

End Time:

23:59:27

Time On Btm: 2013.06.14 @ 19:33:12

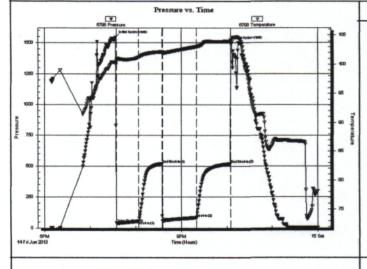
Time Off Btm: 2013.06.14 @ 22:05:27

TEST COMMENT: IF: Strong Blow, BOB in 3 minutes

ISI: N0o Blow Back

FF: Strong Blow, BOB in 1 minute

FSI: No Blow Back



PRESSURE SUMMARY							
Time	Pressure						
(Min.)	(psig)	(deg F)	britial Livera atati				

111110	11000000	10116	7 11 11 10 10 10 11	
(Min.)	(psig)	(deg F)		
0	1544.01	100.40	Initial Hydro-static	
2	41.91	100.48	Open To Flow (1)	
31	56.61	101.25	Shut-In(1)	
62	520.33	102.15	End Shut-In(1)	
63	55.99	101.97	Open To Flow (2)	
107	84.30	103.04	Shut-In(2)	
152	518.70	103.95	End Shut-In(2)	
153	1497.48	104.20	Final Hydro-static	

Recovery

Description	Volume (bbl)
382 GIP	0.00
GSY OCM 20%G 30%O 50%M	0.87
GSY MCO 20%G 30%M 50%O	1.51
	382 GIP GSY OCM 20%G 30%O 50%M

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 50982

Printed: 2013.06.18 @ 10:37:11



DRILL STEM TEST REPORT

Mai Oil Operations

17-17s-14w Barton,KS

8411 Preston Rd Ste 800 Dallas, TX 75225

Morgenstern #3 Job Ticket: 50983

DST#: 2

ATTN: Wyatt Urban

Test Start: 2013.06.15 @ 07:22:22

GENERAL INFORMATION:

Time Tool Opened: 09:23:22

Time Test Ended: 13:28:07

Formation:

Lansing "D-G"

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Leal Cason

Unit No:

45

Reference Bevations:

1915.00 ft (KB) 1907.00 ft (CF)

Gas Rate (Mcf/d)

8.00 ft

Interval: Total Depth:

3204.00 ft (KB) To 3255.00 ft (KB) (TVD)

3255.00 ft (KB) (TVD)

7.88 inches Hole Condition: Good

KB to GR/CF:

Serial #: 6798 Press@RunDepth:

Hole Diameter:

Inside

110.98 psig @ 3205.00 ft (KB)

07:22:23

2013.06.15

Capacity:

8000.00 psig

Start Date: Start Time:

2013.06.15

End Date: End Time:

13:28:07

Last Calib .: Time On Btm:

2013.06.15 2013.06.15 @ 09:23:07

Time Off Btm: 2013.06.15 @ 11:53:37

TEST COMMENT: IF: Weak Blow , Built to 6 1/2 inches

ISI: No Blow Back

FF: Weak Blow , Built to 5 inches

FSI: No Blow Back

Γ		Pressure vs. Time			PI	RESSUR	RE SUMMARY	
		STOS Pressure STOS Temperature Nation Annie Na	·	Time	Pressure	Temp	Annotation	
-	1500		100	(Min.)	(psig)	(deg F)		
-		F	1 100	0	1576.32	98.54	Initial Hydro-static	
	1250 -		1	1	21.80	97.58	Open To Flow (1)	
1			1 05	30	61.88	100.96	Shut-In(1)	
	1000 -	# 1	1.	60	574.64	102.60	End Shut-In(1)	
	2		1 1	60	66.29	102.42	Open To Flow (2)	
1	語 8 5 0. 750 -		1 80 8	105	110.98	103.40	Shut-In(2)	
- [7 1 1 1 1 1 1	1 1	150	565.44	104.61	End Shut-In(2)	
	500 -	Threato Tourses &	= 80	151	1546.07	104.62	Final Hydro-static	
	-		75					
1	250 -		1					
		I Innua	70					
	0 -	insico Co	1 00					
	15 Sat Jun	2013 Time (House)						
1								_

Length (ft)	Description	Volume (bbl)
62.00	MCW 20%M 80%W	0.87
62.00	GSY MCW 15%G 40%M 45%W	0.87
76.00	GSY OCM 10%G 10%O 80%M	1.07

Trilobite Testing, Inc

Ref. No: 50983

Printed: 2013.06.18 @ 10:36:36

Gas Rates Choke (inches) Pressure (psig)



DRILL STEM TEST REPORT

Mai Oil Operations

17-17s-14w Barton,KS

8411 Preston Rd Ste 800 Dallas, TX 75225

Morgenstern #3 Job Ticket: 50984

DST#: 3

ATTN: Wyatt Urban

Test Start: 2013.06.16 @ 03:10:02

GENERAL INFORMATION:

Time Tool Opened: 04:30:17

Time Test Ended: 08:35:17

Formation:

Arbuckle

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Leal Cason

Unit No:

45

1915.00 ft (KB)

Reference Bevations:

1907.00 ft (CF)

KB to GR/CF:

8.00 ft

Interval:

Hole Diameter:

3362.00 ft (KB) To 3428.00 ft (KB) (TVD)

Total Depth:

3428.00 ft (KB) (TVD)

7.88 inches Hole Condition: Good

Serial #: 6798 Inside

212.70 psig @ 3363.00 ft (KB)

End Date:

2013.06.16

Capacity:

8000.00 psig

Start Date: Start Time:

Press@RunDepth:

2013.06.16 03:10:03

End Time:

08:35:17

Last Calib.: Time On Btm:

2013.06.16 2013.06.16 @ 04:22:02

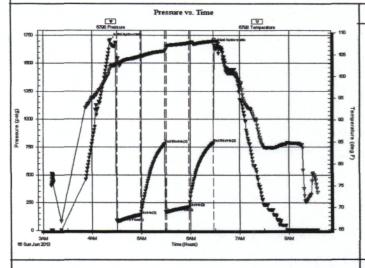
Time Off Btm: 2013.06.16 @ 06:28:47

TEST COMMENT: IF: Strong Blow, BOB in 5 minutes

ISI: NO Blow Back

FF: Fair Blow, BOB in 11 minutes

FSI: No Blow Back



PRESSURE SUMMARY									
Time	Pressure	Temp	Annotation						
(Min.)	(psig)	(deg F)							
0	1710.46	102.24	Initial Hydro-static						
9	77.32	104.28	Open To Flow (1)						
37	141.06	104.63	Shut-In(1)						
67	778.26	105.85	End Shut-In(1)						
69	164.04	106.66	Open To Flow (2)						
97	212.70	107.73	Shut-In(2)						
126	787.72	108.13	End Shut-In(2)						
127	1664.17	108.54	Final Hydro-static						

Recovery

Description	0.00 0.87	
180 GIP		
OWCM 5%O 20%W 75%M		
GOCM 10%G 10%O 80%M	5.22	
GSY Oil 10%G 90%O	1.36	
	180 GIP OWCM 5%O 20%W 75%M GOCM 10%G 10%O 80%M	

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

Trilobite Testing, Inc

Ref. No: 50984

Printed: 2013.06.18 @ 10:35:58

QUALITY OILWELL CEMENTING, INC. Federal Tax I.D.# 20-2886107

/ ,7 ,7 80	c. Twp.	Range -	County	State	On Location	Pinish"
Date 6 12.15	רון ף	14	Barton	Ks	4 4 4 7	8:00 AA
district the district of	: .		Location 281 +	4 JC+	3w. /4	S FIT
Lease MOIGENS	les n w	ell No. 3	Owner			7
Contractor South Line	1 5		To Quality Oil	well Cementing, Inc.		
Type Job Surface			cementer and	by requested to rent I helper to assist own	cementing equipmenter or contractor to d	t and turnish o work as listed.
Hole Size 12 14	T.D.	8991	Charge YY	la: oil		
Csg. 85/4/1	Depth	8991	Street			
Tbg. Size	Depth		City		State	
Tool	Depth			done to satisfaction as	enwo to roisivingue br	agent or contractor
Coment Left in Cog. 30	Shoe Joir	1 3D			sx 60140 39	
Meas Line	Displace		BLS			
EQI	IPMENT		Common /	0		
Pumptrk 6 No. Cementer	Lonnie	w.	Poz. Mix	00		11 X # 1 1 1
Bulktrk /2 No Driver D	sury		Gel.			and the second
Bullank D. U. No. Briver	ck	7 1.	Calcium / 9			
JOB SERVIC	ES & REMARK	(S:	Hulls			
Remarks Comen di	1.	rinbete	Salt	1 4/4		. V
Rat I fole			Flowseal	er a service		
Mouse Hole			Kol-Seal		** ** ** **	
Centralizers	٠.		Mud CLR 48	., .		
Baskets			CFL-117 or C	D110 CAF 38		
D/V or Port Collar	-international Control		Sand	D.		
	THE RESERVE		Handling	the same	Manual Control of the	
	- THE SEAL		Miletin	A CONTRACTOR OF THE PARTY OF TH		
	1980	TOTAL VI		PEDAT EQUIPME	NT	1
			Guide Shoe	THE REAL PROPERTY.	A SECTION	
			Centralizer			
			Baskets			
	-		AFV Inserts	-		
	-			HAN	I Second a	
	A	****	FloatShoe			
			Latch Down	1		
	and the same of th	Water carbon	- L- K	ble plus	Emeticani	
			- Carrier -			
			Pumptrk Char	e Aog Dus	tore	
			Mileage 2/			1 .
The second second					Tax	
	140.				Discount	

7854831087

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107 6930 Phone 785-483-2025 No. Home Office P.O. Box 32 Russell, KS 67665 Cell 785-324-1041 Range County State 115 14 Well No. 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 Charge . Depth Street Depth Tbg. Size The above was done to satisfaction and supervision of owner agent or contractor. Depth Cement Amount Ordered Cement Left in Csg. Shoe Joint Meas Line Displace EQUIPMENT Common No. Cementer Helper Pumptrk S Poz. Mix No. Driver Bulktrk Gel. Bulktrk Calcium JOB SERVICES & REMARKS Hulis Remarks: Sait Rat Hole Flowseal 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

Mileage

Signature

Tax

Discount Total Charge