KOLAR Document ID: 1733817

Confidentiality Requested:

Yes No

### Kansas Corporation Commission Oil & Gas Conservation Division

Form ACO-1
January 2018
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.:				
Name:	Spot Description:				
Address 1:	SecTwpS. R East West				
Address 2:	Feet from North / South Line of Section				
City: State: Zip:+	Feet from _ East / _ West Line of Section				
Contact Person:	Footages Calculated from Nearest Outside Section Corner:				
Phone: ()	□NE □NW □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: Well #:				
New Well Re-Entry Workover	Field Name:				
	Producing Formation:				
☐ Oil ☐ WSW ☐ SWD	Elevation: Ground: Kelly Bushing:				
☐ Gas ☐ DH ☐ EOR ☐ GSW	Total Vertical Depth: Plug Back Total Depth:				
CM (Coal Bed Methane)	Amount of Surface Pipe Set and Cemented at: Feet				
Cathodic Other (Core, Expl., etc.):	Multiple Stage Cementing Collar Used? Yes No				
If Workover/Re-entry: Old Well Info as follows:	If yes, show depth set: Feet				
Operator:	If Alternate II completion, cement circulated from:				
Well Name:	feet depth to:w/sx cmt.				
Original Comp. Date: Original Total Depth:					
□ Deepening       □ Re-perf.       □ Conv. to EOR       □ Conv. to SWD         □ Plug Back       □ Liner       □ Conv. to GSW       □ Conv. to Producer	Drilling Fluid Management Plan (Data must be collected from the Reserve Pit)				
Commingled Permit #:	Chloride content: ppm Fluid volume: bbls				
Dual Completion Permit #:	Dewatering method used:				
SWD Permit #:	Location of fluid disposal if hauled offsite:				
EOR Permit #:					
GSW Permit #:	Operator Name:				
_	Lease Name: License #:				
Spud Date or Date Reached TD Completion Date or	Quarter Sec. Twp. S. 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 Drill Stem Tests Received						
Geologist Report / Mud Logs Received						
UIC Distribution						
ALT I II III Approved by: Date:						

KOLAR Document ID: 1733817

#### Page Two

Operator Name: _				Lease Name:			Well #:	
Sec Twp.	S. R.	E	ast West	County:				
	flowing and shu	ut-in pressures, v	vhether shut-in pre	ssure reached st	atic level, hydrosta	tic pressures, bot		val tested, time tool erature, fluid recovery,
Final Radioactivity files must be subm						iled to kcc-well-lo	gs@kcc.ks.gov	v. Digital electronic log
Drill Stem Tests Ta			Yes No			on (Top), Depth ar		Sample
Samples Sent to 0	Geological Surv	/ey	Yes No	Na	me		Тор	Datum
Cores Taken Electric Log Run Geologist Report / List All E. Logs Ru	_		Yes No Yes No Yes No					
		B	CASING eport all strings set-c		New Used	ion, etc.		
Purpose of String Size Hole Drilled		Hole	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
			ADDITIONAL	CEMENTING / SO	UEEZE RECORD			
Purpose:		epth T Bottom	ype of Cement	# Sacks Used	ed Type and Percent Additives			
Perforate Protect Casi Plug Back T								
Plug Off Zor								
Did you perform a     Does the volume     Was the hydraulic	of the total base f	fluid of the hydrauli		_	=	No (If No, sk	ip questions 2 an ip question 3) out Page Three	,
Date of first Product Injection:	tion/Injection or R	esumed Production	Producing Meth	nod:	Gas Lift 0	Other (Explain)		
Estimated Production Per 24 Hours	on	Oil Bbls.					Gas-Oil Ratio	Gravity
DISPOS	SITION OF GAS:		N	METHOD OF COMP	LETION:			DN INTERVAL: Bottom
	Sold Used	I on Lease	Open Hole			mmingled mit ACO-4)	Тор	BOROTT
,	,			B.11 B1				
Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid,	Fracture, Shot, Cer (Amount and Kind	menting Squeeze I of Material Used)	Record
TUBING RECORD:	: Size:	Set	Δ+-	Packer At:				
TODING RECORD:	. 3126.	Set	n.	i donei Al.				

Form	ACO1 - Well Completion
Operator	Patterson Energy LLC
Well Name	MUCHMORE-THORNBURG 1
Doc ID	1733817

## All Electric Logs Run

Cement Bond	
Dual Induction	
Neutron	
Micro	

Form	ACO1 - Well Completion
Operator	Patterson Energy LLC
Well Name	MUCHMORE-THORNBURG 1
Doc ID	1733817

## Tops

Name	Тор	Datum
Anhydrite	1982	+577
Base	2020	+539
Heebner	3816	-1257
Lansing	3856	-1297
Muncie Creek	4010	-1451
ВКС	4159	-1600
Marmaton	4206	-1647
Pawnee	4306	-1747
Fort Scott	4371	-1812
Cherokee	4398	-1839
Miss Warsaw	4460	-1901
Miss Osage	4539	-1980
LTD	4594	-2035
RTD	4590	-2031

Form	ACO1 - Well Completion
Operator	Patterson Energy LLC
Well Name	MUCHMORE-THORNBURG 1
Doc ID	1733817

### Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight		Type Of Cement		Type and Percent Additives
Surface	12.25	8.625	23	223	Class A	160	2%g3%cc
Production	7.88	5.5	15.5	4586	Class A	150	10%s5%g

# FRANKS Oilf 3ld Service • 815 Main Street Victoria, KS 67671 • 24 Hour Phone (785) 639-7269

♦ Office Phone (785) 639-3949

♦ Email: franksoilfield@yahoo.com

CKET NUI	MBER	09	71	
LOCATION	Horas	KS		
FOREMAN_	Restor	`		

# **FIELD TICKET & TREATMENT REPORT**

			•	CEMENT	Γ			
DATE	CUSTOMER#	WELI	NAME & NUM	BER	SECTION	TOWNSHIP	RANGE	COUNTY
4-7-23		rivehono	4. Thornb	yr(,	34	153	2/10	Gove.
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CITY		STATE	ZIP CODE	-	203	Protec		<u> </u>
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JOB TYPE 🖘	rfree	HOLE SIZE /	フない	J LOI E DEDTH	2221	CASING SIZE & W	C %/	
CASING DEPTH	223						-	
SI LIBBY WEIGH						CEMENT LEFT in (	OTHER	
	13 Bb/s	DISDI ACEMENI	r pei	MIV DOI		CEMENT LEFT IN	CASING	
REMARKS: S	Car.	DISP EACEMEN	/s	, IVIIA PSI	0 -	RATE	<u> </u>	
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ACCOUNT CODE	QUANTITY	or UNITS	Di	ESCRIPTION of	SERVICES or PRO	DUCT	UNIT PRICE	TOTAL
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							ESTIMATED	
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UINURIZATION	- topo -			TITLE			DATE	

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

# FRANKS Oilfield Service

- ♦ 815 Main Street Victoria, KS 67671 ◆ 24 Hour Phone (785) 639-7269
- ♦ Office Phone (785) 639-3949 ♦ Email: franksoilfield@yahoo.com

0979 TICKET NUMBER LOCATION\_\_\_\_ FOREMAN

# **FIELD TICKET & TREATMENT REPORT**

<u></u>				CEME	NT			- <del></del>
DATE	CUSTOMER #	WE	LL NAME & NUM	IBER	SECTION	TOWNSHIP	RANGE	COUNTY
6-17-23	34088	Michman	e-Thombu	ry #1	34	15	26	Gose
CUSTOMER	Pattoson English	110	•	9	TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDR	RESS	rgy HU.		-		CK	THOOK #	DRIVER
Po	80× 400	• *			108 201	<u> </u>		<del> </del>
CITY		STATE	ZIP CODE	-	201			<del>                                     </del>
Hay	15	RS	6760					
JOB TYPE				→ HOLE DEP	тн	CASING SIZE & V	VEIGHT	<del></del>
CASING DEPTH							OTHER	
SLURRY WEIGH	HT <u>/4-8</u>				l/sk		CASING	
DISPLACEMEN	т							
REMARKS:	Setch M	reture Su	tio on L	Present	4. Run Casing Play RH w	. Cocadala l	he would	
	Pr-0 5	Word Mud	flat /200	BL KCI	· Place RH SI	13050 MHW	100 sv. M	100 sx 00
γ <b>κ</b>	down	hole. W	eshed up s	to pit.	Displaced in	108 502.	& Took to	ISAG PST
		Plus hale						
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4000UNIT	7						<del> </del>	<del></del>
ACCOUNT CODE	QUANTITY	or UNITS	D	ESCRIPTION	of SERVICES or PRO	ODUCT	UNIT PRICE	TOTAL
PCOOS	1		PUMP CHAR	GE				
Maoi	73		MILEAGE					
MODE	7.43 Ta	u)	TMD		_			
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							SALES TAX	
	-		•				ESTIMATED	
							TOTAL	

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

# **Geological Report**

Muchmore-Thornburg #1 2310' FNL & 1650' FEL Sec. 34 T15s R26w Gove County, Kansas



Patterson Energy, LLC.

### **General Data**

Well Data:	Patterson Energy, LLC. Muchmore-Thornburg #1 2310' FNL & 1650' FEL Sec. 34 T15s R26w Gove County, Kansas API # 15-063-22430-0000
Drilling Contractor:	Discovery Drilling, Co., Inc. Rig #4
Geologist:	Jason T Alm
Spud Date:	June 9. 2023
Completion Date:	June 18, 2023
Elevation:	2551' Ground Level 2559' Kelly Bushing
Directions:	Utica, KS. North 4 mi. West 1 mi. North 7/8 mi. West and south into location.
Casing:	223' 8 5/8" surface casing 160 sks Common, 2% Gel, 3% CC
	4586' 5 1/2" production casing 100 sks Standard
Samples:	10' wet and dry, 3650' to RTD
Drilling Time:	3600' to RTD
Electric Logs:	Gemini Wireline "Gus Pfannenstiel" CNL/CDL, DIL, MEL
Drillstem Tests:	None

None

Port Collar @ 1995'

Problems:

Remarks:

### **Formation Tops**

	Patterson Energy, LLC.		
	Muchmore-Thornburg #1		
	Sec. 34 T15s R26w		
Formation	2310' FNL & 1650' FEL		
Anhydrite	1982' +577		
Base	2020' +539		
Heebner	3816' -1257		
Lansing	3856' -1297		
Muncie Creek	4010' -1451		
BKC	4159' -1600		
Marmaton	4206' -1647		
Pawnee	4306' -1747		
Fort Scott	4371' -1812		
Cherokee	4398' -1839		
Miss Warsaw	4460' -1901		
Miss Osage	4539' -1980		
LTD	4594' -2035		
RTD	4590' -2031		

### **Sample Zone Descriptions**

#### **Fort Scott** (4371' -1812): **Not Tested**

Ls – Fine crystalline with poor-fair scattered vuggy porosity, few rocks with light spotted oil stain in porosity, no show of free oil, light odor, much chert, 62 Gas Units.

#### Miss Warsaw (4460' -1901): Not Tested

Dolo – Fine crystalline, sucrosic in part with fair to good vuggy and scattered good inter-crystalline porosity, light to good oil stain in porosity, many rocks with partial to total saturation, fair show of free oil on break and cup, good odor, fair yellow fluorescents, fair to good cut, slight chert, 210 Gas Units.

### **Structural Comparison**

	Patterson Energy, LLC.	Mull Drilling Co		Slawson	
	Muchmore-Thornburg #1	Muchmore-Thornburg Unit #1-34		Deighton A #1	
	Sec. 34 T15s R26w	Sec. 34 T15s R26w		Sec. 26 T15s R26w	
Formation	2310' FNL & 1650' FEL	2445' FNL & 2130' FEL		SW SW NE	
Anhydrite	1982' +577	573	(+4)	579	(-2)
Base	2020' +539	536	(+3)	NA	NA
Heebner	3816' -1257	-1257	(FL)	-1253	(-4)
Lansing	3856' -1297	-1297	(FL)	-1293	(-4)
Muncie Creek	4010' -1451	-1449	<b>(-2)</b>	NA	NA
BKC	4159' -1600	-1598	(-2)	NA	NA
Marmaton	4206' -1647	-1643	(-4)	NA	NA
Pawnee	4306' -1747	-1741	<b>(-6)</b>	NA	NA
Fort Scott	4371' -1812	-1807	(-5)	NA	NA
Cherokee	4398' -1839	-1831	(-8)	NA	NA
Miss Warsaw	4460' -1901	-1896	(-5)	-1905	(+4)
Miss Osage	4539' -1980	-1977	(-3)	NA	NA

### **Summary**

The Muchmore-Thornburg #1 ran structurally as expected. No Drill Stem Tests were conducted. Commercial oil shows were encountered in the Mississippian Warsaw Formation. After all gathered data had been examined the decision was made to run 5 ½ inch production casing to further evaluate the Muchmore-Thornburg #1 well.

#### **Recommended Perforations**

Primary:

Mississippian Warsaw 4486' – 4492'

Before Abandonment:

Fort Scott 4388' – 4395' LKC K 4113' – 4117' LKC J 4083' – 4088'

Respectfully Submitted,

Jason T Alm Hard Rock Consulting, Inc.