KOLAR Document ID: 1591293

Confiden	tiality 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:	
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: ()	
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:
	Elevation: Ground: Kelly Bushing:
	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?
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	Drilling Fluid Management Plan
Plug Back Liner Conv. to GSW Conv. to Producer	(Data must be collected from the Reserve Pit)
_	Chloride content: ppm Fluid volume: bbls
Commingled Permit #:	Dewatering method used:
Dual Completion Permit #:	
SWD Permit #:	Location of fluid disposal if hauled offsite:
EOR Permit #:	Operator Name:
GSW Permit #:	License #:
	Quarter Sec Two S B Fast West
Spud Date or Date Reached TD Completion Date or Becompletion Date Becompletion Date Becompletion 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: 1591293

Operator Nam	ne:			Lease Name:	Well #:
Sec	Twp	S. R	East West	County:	

Page Two

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 Take	en		<u> </u>	/es 🗌 No	1		L	og Forn	nation (Top), De	pth and	d Datum	Sample
(Attach Additiona	al Sheets)		(N	lame)			Тор	Datum	
Cores Taken Electric Log Run Geologist Report / M List All E. Logs Run:	Aud Logs	vey		res No res No res No res No								
			Rep	CASI ort all strings	NG RECO	RD	Nev	w Used	duction, etc.			
Purpose of String	Siz	ze Hole Drilled	Si	ze Casing et (In O.D.)		Weight _bs. / Ft.		Setting Depth	Type o Cemei	of nt	# Sacks Used	Type and Percent Additives
Purpose:		Depth	Turo	ADDITIO		NTING / S	SQU	EEZE RECC)RD	and Pa	vraant Additivaa	
Perforate	Тор	Bottom	тур	e of Cement	#0				туре	anu re	Acent Additives	
Plug Back TD Plug Off Zone	J 											
 Did you perform a h Does the volume of Was the hydraulic fractional first Production 	nydraulic fractu the total base racturing treat	uring treatmen e fluid of the hy ment informat Resumed Prov	it on this y ydraulic fi ion subm duction/	well? racturing treat itted to the ch Producing Flowing	ment exceed emical discle Method:	I 350,000 g psure regis mping	galloi stry?	Gas Lift	S No (If J S No (If J S No (If J S No (If J S Other (Explain)	No, skip No, skip No, fill c	o questions 2 an o question 3) out Page Three o	d 3) of the ACO-1)
Estimated Production Per 24 Hours	1	Oil B	bls.	Gas	Mcf	,	Wate	r	Bbls.	Ga	as-Oil Ratio	Gravity
DISPOSIT	TION OF GAS	S:			METHO		1PLE	TION:			PRODUCTIC	N INTERVAL:
Vented Sold Used on Lease (If vented, Submit ACO-18.)				Open Hole	Perf.	Di (Su	ually Ibmit	Comp ACO-5)	Commingled (Submit ACO-4)		100	
Shots Per Perforation Perforation Foot Top Bottom		ion n	n Bridge Plug Type		e Plug t At		,	Acid, Fracture, Sho (Amount ar	ot, Cem nd Kind d	enting Squeeze of Material Used)	Record	
TUBING RECORD:	Size:		Set At:		Packer	At:						

Form	ACO1 - Well Completion
Operator	Patterson Energy LLC
Well Name	ZWILLICH 1
Doc ID	1591293

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	286	80/20	180	3%cc 2% gil
Production	7.875	5.5	17	3269	common	200	10% salt 5% gil

T. BERENS CONSULTING LLC 1493 TOULON AVENUE HAYS KS 67601 785-639-5727 tberens@ruraltel.net

Patterson Energy Zwillich #1 660' FNL & 2310' FEL Sec 23-17S-9W Ellsworth Co.

> GL 1775' KB 1786'

6/13 /2021: T.D. 3270'. Prepare to run 5 ¹/₂" Production Casing. Tallied in the hole with 77 joints of New Midwestern Pipework's 5 ¹/₂", 8rd,17# R-3 LTC casing and float shoe. Tagged up on TD at 3270'and set pipe at 3269' 1' off bottom. Latched down @ 3227'marked joint @ 2829' & shoe joint 42.37'. Turbolizer/centrilizers @3227',3097',2976',2845' & 2703'. Rigged up Quality Oilwell Cementing Inc. cemented with12 barrels of mud flush, 10 barrels of fresh water then 150 sacks of common, 10% salt, 5% gilsonite. Displaced with 74 3/4 barrels of fresh water, had good circulation. Landed plug at 4:45 PM with 1600#, 800# lift pressure & latch down held. Plug rat hole with 30 sacks and mouse hole with 20 sacks, set slips & released rig.

Equipment on location 4 joints tallied 151.77'

Ran pipe as follows.

Float Shoe	1.00'
Shoe Joint	42.37'
76 joints of 5 ½"	3215.15'
Depth Below KB	10.00'
Depth Landed	3268.52'

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

Phone 785-483-1071

Home Office P.O. Box 32 Russell, KS 67665

No. 2269

Cell 785-324-1041									
	Sec.	Twp.	Range		County	State	On Location	Finish	
Date 013-2	23	12	9	A	Sworth	KS		7.455~	
				Locati	ion Lomain	el'IZE	Sinto	. 1	
Lease 719,11,10	2	V	Vell No. [Owner				
Contractor Mundin			U		To Quality Oi	Iwell Cementing, Inc.	i		
Type Job Product	tion 5-	mina			cementer and	by requested to rent	cementing equipmer	o work as listed.	
Hole Size 7 7/8		TDR	220		Charge	Detterson	Fragment.		
Csg. 51/2 1	>#<	Depth	3269		Street		=1100		
Tbg. Size	Į.	Depth			City		State		
Tool	· · · ·	Depth			The above was	s done to satisfaction a	nd supervision of owner	r agent or contractor.	
Cement Left in Csg.	12.37	Shoe Jo	bint 42.3	;7	Cement Amo	unt Ordered 200	om 10:1. 541	+ 51.41/2011+	
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sa na she de	EQUIPI	AENT		1	Common 2	20			
Pumptrk 1 > No. Cem	enter er	ais			Poz. Mix	f. Sul			
Bulktrk No. Drive	er Dau	sil .			Gel.				
Bulktrk 9 No. Drive	er 7	oni			Caleium Kr	1 1 cal,			
JOB S	ERVICES	& REMAR	RKS		Hulls	- Jac			
Remarks:					Salt 14				
Rat Hole 385K					Flowseal	24			
Mouse Hole 20512					Kol-Seal 750 #				
Centralizers					Mud CLR 48	500			
Baskets			1 3 ₇ >	33) Mar	CFL-117 or C	D110 CAF 38			
D/V or Port Collar					Sand				
51/2 SPTB.	326	7. Ro	AAM	,	Handling 2	21			
3226 Byrl	Recel	ation	Demit	>	Mileage		· · · · ·		
500 as March	9 Mea	rail	FX KC2			FLOAT EQUIPM	ENT S1/2		
Plain Rathe	les V	Walse	hele		Guide Shoe				
Cemert 5	N/Z /	1917h	1.5051	٢.	Centralizer	5			
Clear line	S& D	2 s Ala	y Dha	~	Baskets				
Phon land el	81500	æ.			AFU Inserts				
					Float Shoe	1		-	
					Latch Down	1			
			1						
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					Pumptrk Cha	rae Amol St	14121		
					Mileage 43	- processi	1		
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Date 6/9/21 State Twp. Range County State On Location Finish Date 6/9/21 23 17 9 Elisworth Kansson 5':304 Lease Zwillich Wall No. Location Loraite 1/2 E 5':70 Contractor Multin Wall No. Loraite 1/2 E 5':70 Contractor Multin Wall No. Loraite 1/2 E 5':70 Contractor Multin Wall No. 1 Owner To Ouslip Olivell Comenting, Inc. Contractor Multin TD. 28:7 Point Destine Edited Common or contractor to do work as listee Tool Size Depth Qit Size Edited Common Size Tool Depth Qit Size Tool Common /4/5 Cament Lin In Csa, 20' Bob Joint Common /4/5 Edited Common Pumetk /f No Depth Qit Poz. Mix 3.5 Edited Common Builter No Depth Gai. Sate Edited Common Builters No Depth Qit Poz. Mix 3.5 Edited Common Builters No Depth Common /4/5 Edited Common	Phone 785-483-1071 Cell 785-324-1041	Home Office P.	O. Box 32 Rus	sell, KS 67665	No.	2240
Lasse Zwillich Weil No. 1 Contractor Markin Drilling Weil No. 1 Contractor Markin Drilling Voluent Commenting equipment and turnish contractor Markin Drilling Voluent Commenting equipment and turnish to Quality Divert Commenting equipment and turnish comment of a contractor to do work as lister to Quality Divert Commenting equipment and turnish comment of the period States owner or contractor to do work as lister to Quality Divert Commenting equipment and turnish comment of the period States The shore was done to satisfaction and supervision of owner agent or contractor comment Lett in Csq. 201 Shoe Joint 200 Common /4/S Pumptrk 10 No. Comment To Amark S Bulktr Q No. Comment Amark S Bulktr Q No. Comment To Amark S Bulktr Q No. Comment Amark S B	Sec. Date 6/8/21 23	Twp. Range	County Ellsworth	State Kansas	On Location	Finish 5:30pm
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	A 1		1	nawky	Discount	
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AUSTIN B. KLAUS

Call 705 (50 5	2420		р	O DOV 252
Cell 785.050.2	0029		P	U DUA 352
Work 785.483	.3145		Russe	ll, KS 67665
Ext 225		austin.klau	ls@johnof	armer.com
			J	
	Scale 1:24	0 (5"=100') Imperial		
	Measu	ired Depth Log		
Well Name:	Zwillich #1			
API:	15-053-21376-00-00			
Location:	Ellsworth County			
License Number:			Region:	Kansas
Spud Date:	6/8/2021	Drill	ling Completed:	6/12/2021
Surface Coordinates:	660' FNL & 2,310' FEL			
Dettern Hele	Section 23, Township 1	/ South, Range 9 We	St	
Bottom Hole	vertical well w/ minimal	deviation, same as a	evodi	
Coordinates:	4 775	K P Elevation (ft)	1 796	
l ogged Interval (ft):	2/00 To: PTD	Total Depth (ft):	3 270	
Eugged Interval (II).	LKC-Arbuckle	i otal Deptil (it).	5,270	
Type of Drilling Fluid:	Chemical (Mud Co.)			
- , po o - 2	Printed	by StripLog from WellSig	ght Systems 1-800-4	47-1534 www.WellSight.com
			-	_

OPERATOR

Company: Patterson Energy, LLC Address: PO Box 400 Hays, KS 67601

GEOLOGIST

Name: Austin Klaus Company: John O. Farmer, Inc. Address: PO Box 352 Russell, KS 67665

Comments

The Zwillich #1 well was drilled by Murfin Drilling Company Inc. Rig #20 (Tool Pusher: Arturo Cabezas).

Drilling time was recorded and rock samples were collected and evaluated from 2,400' - 3,270'. Oil shows were encountered in the Lansing/Kansas City B, F, G, K and Arbuckle. Structurally, the LKC top was picked 6' high to the comparison well, located approx. 1300' west (Dees #8 - Rama Operating Co., Inc.; 1984). Structure thickened below the B/KC and the Arbuckle top was picked flat to the comparison well at a -1392 subsea. In reference to the plugged wells 330' north (Melchert #4) and 330' south (Melchert #5), the Zwillich #1 was 14' high and 3' high respectively, at the Arbuckle formation. After comprehensive evaluation of all oil shows, electric logs, and structural position, it was decided that 5-1/2" production casing be set to further evaluate the Zwillich #1 on June 13, 2021.











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