KOLAR Document ID: 1552776

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:	
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	Total Vertical Depth: Plug Back Total Depth:
☐ OG ☐ GSW	Amount of Surface Pipe Set and Cemented at: Feet
CM (Coal Bed Methane)	
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)
Described	Chloride content: ppm Fluid volume: bbls
☐ Commingled Permit #:	Dewatering method used:
SWD Permit #:	Location of fluid disposal if hauled offsite:
EOR Permit #:	Location of fluid disposal if flauled offsite.
GSW Permit #:	Operator Name:
	Lease Name: License #:
Spud Date or Date Reached TD Completion Date or	Quarter Sec 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 Drill Stem Tests Received
Geologist Report / Mud Logs Received
UIC Distribution
ALT I II Approved by: Date:

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Page Two

Operator Name:					Lease Nam	ne:			Well #:		
Sec Tw	pS	S. R	Eas	st West	County:						
	l, flowing an	d shut-in press	sures, wh	ether shut-in pre	ssure reached	static	level, hydrostat	ic pressures, bo		val tested, time tool erature, fluid recovery,	
Final Radioactivi files must be sub							s must be emai	led to kcc-well-l	ogs@kcc.ks.gov	v. Digital electronic log	
Drill Stem Tests (Attach Addit		1		Yes No		Lo	g Formation	n (Top), Depth a		Sample	
Samples Sent to	Geological	Survey		Yes No		Name			Тор	Datum	
Cores Taken Electric Log Run Geologist Report List All E. Logs F	t / Mud Logs	s		Yes No Yes No Yes No							
			Rep	CASING	RECORD [New e, interr		on, etc.			
Purpose of St	tring	Size Hole Drilled		Size Casing let (In O.D.)	Weight Lbs. / Ft.		Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives	
				ADDITIONAL	CEMENTING /	SQUE	EZE RECORD				
Purpose: Perforate		Depth Top Bottom	Тур	Type of Cement # Sacks Us			Type and Percent Additives				
Protect Ca											
Plug Off Z											
Did you perform Does the volume Was the hydraul	e of the total I	base fluid of the	hydraulic f	fracturing treatment		-	Yes s? Yes Yes	No (If No, s	kip questions 2 ar kip question 3) Il out Page Three		
Date of first Produ Injection:	iction/Injection	n or Resumed Pr	roduction/	Producing Meth	od:	Пе	ias Lift O	ther <i>(Explain)</i>			
Estimated Product Per 24 Hours		Oil	Bbls.		Mcf	Water			Gravity		
DISPO	OSITION OF	GAS:		N	METHOD OF CO	MPLET	ION:			ON INTERVAL:	
Vented		Used on Lease		Open Hole		Oually C Submit A		mingled	Тор	Bottom	
,	ed, Submit AC					1					
Shots Per Foot	Perforation Top	on Perfor Bott		Bridge Plug Type	Bridge Plug Set At		Acid,		ementing Squeeze and of Material Used)		
TUBING RECORI	D: S	ize:	Set At	: -	Packer At:						

Form	ACO1 - Well Completion
Operator	Patterson Energy LLC
Well Name	MUSENBERG C 9
Doc ID	1552776

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement		Type and Percent Additives
Surface	12.25	8.625	23	267	Common	180	80/20 3% CC
Production	7.875	5.5	17	3308	Common	175	10% Salt

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. 1388

Sec.	Twp. Range	County State On Location	Finish				
Date 9.520 7	17 9 511	sworth K5	8:00 Am				
374,3 73	Loca	tion Holvand 3E 13					
Lease Musenbera	Well No. 9	Owner					
Contractor Munkin #20		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment	and from the				
Type Job Surface		cementer and helper to assist owner or contractor to do	work as listed.				
Hole Size 1214	T.D. 270	Charge Patterson Friend					
Csg. 858	Depth 26>	Street					
Tbg. Size	Depth	City	9 m:				
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor					
Cement Left in Csg. 15	Shoe Joint	Cement Amount Ordered / 80 8920 3 / 42	2/652				
Meas Line	Displace 14BL		*				
EQUIPM		Common / 45					
Pumptrk / Helper	aig	Poz. Mix 35					
Bulktrk No. Driver Driver		Gel3	2 19				
Bulktrk 9 No. Driver Driver		Calcium 7					
JOB SERVICES	& REMARKS	Hulls					
Remarks:		Salt					
Rat Hole		Flowseal					
Mouse Hole		Kol-Seal					
Centralizers		Mud CLR 48					
Baskets		CFL-117 or CD110 CAF 38					
D/V or Port Collar		Sand					
8 9/8 on bottom Bs	t-Circulation	Handling/90					
Mix 1805K + Displace	e.	Mileage					
1		FLOAT EQUIPMENT 505/8 Swage					
Cement inco	4400.	Guide Shoe					
		Centralizer	1 13t S 10 10 -				
	· · · · · · · · · · · · · · · · · · ·	Baskets					
		AFU Inserts					
		Float Shoe					
		Latch Down					
		Pumptrk Charge Surface	,				
** * * * * * * * * * * * * * * * * * *		Mileage 40					
		Discount Tax					
		Discount	En les				
X Signature		Total Charge	N -				

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. 1392

Sec. Twp. Range County State On Location Finish Date 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. Charge To Hole Size T.D. Csq. Depth Street Tbg. Size Depth City Tool Depth The above was done to satisfaction and supervision of owner agent or contractor. Cement Amount Ordered Shoe Joint Meas Line Displace EQUIPMENT Common / Cementer Pumptrk Helper Poz. Mix Driver Bulktrk Gel. Driver Driver Bulktrk Catcium Driver JOB SERVICES & REMARKS Hulls Remarks: Salt Rat Hole 3 Flowseal Mouse Hole 20 32 Kol-Seal 750# Centralizers Mud CLR 48 500 92 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 Orad String Pumptrk Charge Mileage Thanks Tax Discount X Signature Am Wendey Total Charge

AUSTIN B. KLAUS Cell 785.650.3629 **PO BOX 352** Work 785.483.3145 Russell, KS 67665 austin.klaus@johnofarmer.com **Ext 225** Scale 1:240 (5"=100') Imperial Measured Depth Log Well Name: Musenberg C #9 API: 15-053-21372-00-00 Location: Ellsworth County Region: Kansas Drilling Completed: 09/09/2020 License Number: Spud Date: 09/04/2020 Surface Coordinates: 460' FSL & 330' FWL

Section 7 - Township 17 South - Range 9 West

Bottom Hole Vertical well w/ minimal deviation, same as above Coordinates: Ground Elevation (ft): 1,779 K.B. Elevation (ft): 1,790
Logged Interval (ft): 2,400 To: RTD Total Depth (ft): 3,310'
Formation: Lansing-Kansas City - Arbuckle
Type of Drilling Fluid: Chemical (Andy's Mud)
Printed by StripLog from WellSight Systems 1-800-447-1534 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 Musenberg C #9 well was drilled by Murfin Drilling Company Inc. Rig #20 (Tool Pusher: Greg Condren). Musenberg C #9 was discovered via 3D seismic survey. Rock samples were collected and evaluated from 2,450'- 3310'. Oil shows were encountered in the Oread, Lansing G, J, K, and Arbuckle. Structurally, the Heebner top was picked 5' high to the comparison well, 660' to the northeast (Musenberg C #1 - 1963-2010). Structure remained consistent throughout the LKC and below, which resulted in an Arbuckle top picked 4' high to the comparison well. 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 Musenberg C #9 on 9/10/2020 9/10/2020. **ROCK TYPES** Shgy Sltst Ss Till Anhy

Bent

Co Co Co

Cht Clyst Coal Congl Gyp
Igne
Lmst
Meta Mrlst
Salt
Shale
Shcol Curve Track 1 ROP (min/ft)
Gas (units)
Gamma (API) **Geological Descriptions** DST/Mud/Survey The open-hole logging was performed by Mr. Casey Patterson with Gemini Wireline, LLC (Hays, KS). Logs included: Compensated Density Neutron, Dual Induction, and Microresistivity. Formation tops and datums from the open-hole logs include the following: Formation E-Log Datum Anhydrite 518 1272 Heebner 2770 -980 3186 -1396 3234 -1444 3310 -1520 Arbuckle Weight: 8.5 Vis: 52 Sh: It-drk gry, scat brn Sh: It-drk gry Sh: It-drk gry, scat brn Ls: It gry, fn-sub xIn, DNS Sh: It-drk gry, scat brn Ls: tan-gry, fn-sub xln, scat fossil, mostly DNS Ls: tan-gry, fn xln, scat fossil, mostly DNS, scat chert Ls: tan-It gry, fn xln, scat int xln porosity, NSFO Ls: tan-lt gry, fn-sub xln, mostly DNS, NSFO, scat sh: It gry, soft Ls: tan-gry, fn-sub xln, scat fossil, mostly DNS, NSFO Ls: tan-lt gry, fn-sub xln, mostly DNS Ls: off wh-tan, fn xln, scat foss, poor-fair int fossil and int vuggy porosity, scat oil stn in porosity, SSFO, sl-fair odor, fair yel fluor Ls: tan-lt gry, fn-sub xln, mostly DNS, scat chert Heebner 2775' (-985) Sh: blk, carb, fissile Sh: It-drk gry Toronto 2800' (-1010) Ls: off wh-tan, fn xln, poor int xln porosity, NSFO Ls: off wh-tan-gry, fn-sub xln, mostly DNS, scat chert-off wh Ss: It gry, fn-vry fn grn, rnd, fairly friable, scat sh: Sh: It gry, soft, scat ss: ala Brown Lime 2890' (-1100) Ls: off wh-tan, fn xln, poor int xln porosity, NSFO Sh: It-drk gry Lansing 2909' (-1119) Ls: off wh-tan, fn xln, ool, fair-good oom porosity, barren Ls: off wh-tan, fn xln, poor int xln porosity, NSFO Sh: It-drk gry Ls: off wh-tan, fn xln, ool, fair-good oom porosity, barren Sh: It-drk gry Ls: tan-lt gry, fn xln, poor int xln porosity, NSFO Ls: tan-lt gry, fn xln, scat int xln porosity, NSFO Sh: It-drk gry Ls: off wh-tan, fn xln, mostly DNS, NFSO Ls: off wh-tan, fn xln, ool, fair-good oom porosity, scat-fair oil stn, fair odor, fair yel fluor Ls: off wh-tan, fn xln, ool, fair-good oom porosity, scat oil stn, sl-fair odor, fair yel fluor Ls: off wh-tan-lt gry, fn xln, poor int xln porosity, NSfO Sh: drk gry-blk Ls: tan-lt gry, DNS, scat cha
Sh: lt-drk gry Ls: off wh-tan-lt gry, fn xln, scat foss, poor int xln porosity, scat chalk, NSFO Ls: tan-lt gry, fn xln, poor int xln porosity, mostly DNS, scat chalk, NSFO Ls: off wh-tan, fn xln, ool, fair-good oom porosity, scat-fair oil stn, VSSFO, fair odor, sl-fair yel fluor Sh: It-drk gry Ls: off wh-tan, fn xln, poor int xln porosity, scat chert, NSFO Sh: drk gry-blk Ls: off wh-tan, fn xln, poor-fair int xln & scat int part porosity, scat oil stn, VSSFO, dull yel fluor Sh: drk gry-blk Ls: off wh-tan, fn xln, scat foss, poor int xln porosity, scat chert, NSFO Ls: off wh-tan, fn xln, poor int xln porosity, NSFO, Scat sh: drk brn B/KC 3189' (-1399) Sh: It-drk gry Sh: drk gry-brn, scat ls: tan-lt gry, DNS Ls: It tan-gry, fn-sub xln, scat sh: drk gry-brn Arbuckle 3234' (-1444) Dolo: off wh-tan, fn xln, fair sucrosic xln porosity, fair oil sat, VSSFO, fair-good odor, sl-fair yel fluor Dolo: off wh-tan, fn xln, poor-fair sucrosic xln porosity, fair oil sat, VSSFO, sl-fair odor, fair yel fluor Dolo: off wh-tan, fn-md xln, poor-fair int xln porosity, fair oil sat, VSSFO, sl-fair odor, sl-dull yel fluor Dolo: off wh-tan, md-crs xln, poor-fair int xln porosity, sl oil sat, VSSFO, sl odor, dull yel fluor Dolo: off wh-tan, md-crs xln, poor int xln porosity, mostly barren, scat chert-off wh Dolo: off wh-tan, md-crs xln, poor int xln porosity, mostly DNS, barren