KOLAR Document ID: 1364888

Confiden	tiality Re	quested:
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 -		WELL &	IEASE
VVELL	nisioni ·	DESCRIP		LEASE

Spud Date or Date Reached TD Completion Recompletion Date Recomplet Recomplet	
	QuarterSecTwpS. R East West
GSW Permit #:	Lease Name: License #:
EOR Permit #:	Operator Name:
SWD Permit #:	
Dual Completion Permit #:	
Commingled Permit #:	
	Chloride content: ppm Fluid volume: bbls
Deepening Re-perf. Conv. to EOR Co	Drive to SWD Drilling Fluid Management Plan Drive to Producer (Data must be collected from the Reserve Pit)
Original Comp. Date: Original Total Depth:	
Well Name:	feet depth to:w/sx cmt.
Operator:	
If Workover/Re-entry: Old Well Info as follows:	If yes, show depth set: Feet
Cathodic Other (Core, Expl., etc.):	Multiple Stage Cementing Collar Used?
CM (Coal Bed Methane)	Amount of Surface Pipe Set and Cemented at: Feet
OG GSW	Total Vertical Depth: Plug Back Total Depth:
Gas DH EOR	Elevation: Ground: Kelly Bushing:
	Producing Formation:
New Well Re-Entry Workove	
Designate Type of Completion:	Lease Name: Well #:
Purchaser:	
Wellsite Geologist:	
Name:	
CONTRACTOR: License #	GPS Location: Lat:, Long:
Phone: ()	
Contact Person:	Footages Calculated from Nearest Outside Section Corner:
City: State: Zip:	_+ Feet from East / West Line of Section
Address 2:	Feet from North / South Line of Section
Address 1:	S. R East West
Name:	Spot Description:
OPERATOR: License #	API No.:

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: 1364888

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 Taken			1		L	og Forn	nation (Top), De	pth and	d Datum	Sample		
(Attach Additional Sheets)				N	lame)			Тор	Datum		
Samples Sent to Geological Survey Cores Taken Electric Log Run Geologist Report / Mud Logs List All E. Logs Run:		vey		∕es ∟ Νο ∕es □ Νο ∕es □ Νο ∕es □ Νο	1							
			Rep	CASI ort all strings	NG RECO		Nev		duction, etc.			
Purpose of String		ze Hole Drilled	Si	ze Casing et (In O.D.)		Weight _bs. / Ft.		Setting Depth	Type o Cemei		# Sacks Used	Type and Percent Additives
Purpose: Depth		Turo	ADDITIONAL Type of Cement		NTING / S	Sed Type and Percent Additives						
Perforate	Тор	Bottom	тур	e of Cement	#0				туре	anu re	Acent Additives	
Protect Casing Plug Back TD Plug Off Zone												
1. Did you perform a hydraulic fracturing treatment on this well? Yes No (If No, skip questions 2 and 3) 2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No (If No, skip question 3) 3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No (If No, skip question 3) Date of first Production/Injection or Resumed Production/ Producing Method: No Other (Explain)												
Estimated Production Oil E Per 24 Hours		bls.	ls. Gas Mcf		,	Water Bbls. Gas-Oil Ratio		Gravity				
DISPOSITION OF GAS:							COMPLETION: PRODUCTION INTER			N INTERVAL: Bottom		
Vented Sold Used on Lease (If vented, Submit ACO-18.)			Open Hole Perf.			Dually Comp. Commingled (Submit ACO-5) (Submit ACO-4)						
Shots Per Perforation Perforation Foot Top Bottom		Bridge Plug Bridge Plu Type Set At				,	Acid, Fracture, Sho (Amount ar		enting Squeeze of Material Used)	Record		
TUBING RECORD:	Size:		Set At:		Packer	At:						

Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	SISTERS 1-23
Doc ID	1364888

Perforations

Shots Per Foot	Perforation Top	Perforation Bottom	BridgePlugTyp e	BridgePlugSet At	Material Record
4	4442	4444	CIBP	4430	none
4	4394	4396			250 gal 15% MCA
4	4332	4335			Ac 4332-35, 4337-41, 4328-30 w/ 250 gal 15% MCA
4	4337	4341			
4	4328	4330			
4	4280	4282			250 gal 15% MCA
4	4234	4244			250 gal 15% MCA
4	4198	4200			250 gal 15% MCA, SQZ:50 sx Class A w/ Halad in 20 sx

Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	SISTERS 1-23
Doc ID	1364888

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	20	266	Class A		2% gel, 3% CC 1/4#/sk flocele
Production	7.875	5.5	15.5	4541	EA-2	125	7#sk gilsonite, 1/4#/sk flocele

Thank You!						Usurial Huchn more	
		listed on this ticket.	receipt of the materials and services listed on this ticket		MATERIALS AND SERVICES The customer hereby acknowledges	CUSTOMER ACCEPTANC	
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тіскет 30320	TIC				Larson Engineering	CHARGE TO: ADDRESS	SW

JÓB LC)G				SWII	T Seu	uices. Inc	DATE PAGENO.
CUSTOM	ER		WELL NO.	2	LEASE		JOB TYPE 878 Surface	TICKET NO 30320
CHART	Engline	HATE	VOLUME (BBL) (CL)	PUMPS	PRESS	iure (PSI)	F	BATION AND MATERIALS
NO.	0100	(BPM)	(BBL) (CAL)	T C	TUBING	CASING	1 1	8% 20*
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	020	412	40			AU	Mix IDUSHS DIU 27	% Gel 3% cc @ 14.7 pg
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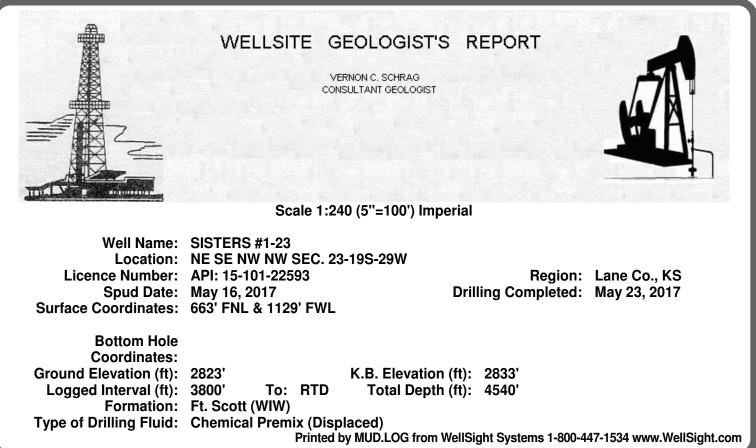
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. . . . DATE PAGE NO. SWIFT Services, Inc. 23 MULY 17 JOB LOG WELL NO. 1-23 LEASESisters CUSTØMER LONG STRING 30377 LADOON Engineering PRESSURE (PSI) CHART TIME RATE VOLUME PUMPS DESCRIPTION OF OPERATION AND MATERIALS NO. (BPM) (BBL) (GAL) TC TUBING CASING 175565 EA-2 centres 4# Flocale, 7# Flocale. 52×15.5 to asing to 4541' TD 4542 PC-244-1_ 2230 on loc TRK-114 Drop ball- ciewlate - ROTATE 225B 200 Punp 15 bbl KCL fluid 200 Punp 500gal flocheak 200 Punp 5 bbl KCL fluide NAY 24 0000 15 ų 12 5 Plug RH - MH 30sk - 20sk 4 0005 200 Mix 64-2 cenent 1253 @ 15.3 pp <u> 39</u> 4 0012 Drop latch down plug/ worth out Pung & Line 200 Displace plug 6/4 004D 6.4 45 400 64 100 . 400 1600 Land plug Git Ollo 07 Release pressure toteled. - dried up wash truck 0105 Rack up 0125 job complete Houte Blaine, Flint & 19200 0125

Service Locations 1	vices, Inc.	۸ с 23	Wes	ZIP CO	Distars	COUNTY/PARISH Lane RIG NAME/NO. # 2	STATE IS SHIPPI VIA L Coll -		ion		OR	TE 5-26-17 IDER NO.	ж 1	3057	8
REFERRAL LOCATION	INVOICE INSTRUC	TIONS			angement i Cen	THE YEAR AND						lighton-	<u>, 25</u>	IN W, S	int.
PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	LOC	ACCT) DF		DESCRIPTION		ΟΤΥ.	U/M	QTY.	UM	UNIT		ANOUNT	
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5-26-17			P.M.		785-798			USTOMER DID	NOT WISH			TOTAL		5022	16
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`	Javid Huchy													THUNK	ou

JOBLO						SWIF	T Seri	vices. Inc. DATE PAGENO. 5-26-17 (
CUSTOM			WELL NO.	צו		LEASE	1	JOB TYPE TICKET NO.
CHART	Engine TIME	BATE	VOLUME		MPS	LEASE S PRESSI	JRE (PSI)	DESCRIPTION OF OPERATION AND MATERIALS
NO.		(BPM)	(BBL) (GAL)	T	C	TUBING	CASING	
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	·							mix 190sks SMD w/ 14# Ao @ 11.2 pp Circulate coment to surface * 20 sks x
		352	75			400		Displace Cement
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						 		Thank You Dave Preston Shane
			<u> </u>					Ubue Moston Dhane
			<u> </u>					



OPERATOR:

Company: Larson Engineering Inc. Address: 562 West State Road 4 Olmitz, KS 67564-8561

DRILLING CONTRACTOR:

Southwind Drilling Co., Rig #8

DP 4.5" XH (16.6#); DC 6-1/4" x 2-3/8" x 496', Kelly 40.00', Tool Joint 5.5"; Bit: HA-23X, 7-7/8", standard jets 14-14-14; rpm 80, WOB 35k; Kelly Bushing 10' above ground level; Bill Sanders (tool pusher), Doug Roberts (daylight driller).

CASING:

Ran 6 jts new 8-5/8" 20# R3 STC 8rd csg. Tallied 253', set @ 266' KB.

Ran 107 jts new 5-1/2" 15.5# R3 LTC 8rd csg. Tallied 4545.16', set @ 4541' KB.

CIRCULATION SYSTEM:

Continental EMSCO D-300, duplex, 6 x 14 (from 2145'), 60 spm, Chemical, premix, earth pits, MudCo/Service Mud, Inc., Jason Whiting

OPEN HOLE LOGS:

DN, DI (SP), ML, No Sonic; stacked tools, 5" detail LTD-3600; 2" DI to suface casing; Pioneer Wireline Services, Hays, KS, LTD 4542'.

DRILL STEM TESTS:

None.														
ROP (min/ft) Five Ten	DST	Lithology	Porosity and Show	Depth	Geological Descriptions	F	'G (ur ïfty)ne	nits)			l Ga	6		
0 ROP 1	5					0				Hot	Wire			_1(
				3800		-			TOP				_	_

		e		-T.O.	H. AT :	2145'	TO SW	AP M	UD PU	MPS.		
9:21 am 05/21.					HYDF NHY		2162 2193					
			LS: grayish-brn, sli spotted dk gray; vf-xtal; v-sli granular; poor porosity; N.S.									
			LS: as above.									
S		3850	LS: It brown, off-white; mic-xtal; chalky; no visible porosity; N.S.									
			LS: It-md brown; vf-xtal; dense; sli shaley in part; trc fine moldic porosity; N.S., 3870.									
			LS: It brown to off white chalky portions; mic-vf xtal; trc sulfides; no visible porosity; N.S.									
			Shale: black; few chips 3890. LS: dk brown; vf-xtal; dense; N.S.									
			LS: It gray; vf-xtal; dense; v-sli. granular; trc coarse spar; no visible porosity; N.S.									
	ø	3900	LS: v-lt brown; vf-xtal; finely oolitic in part; tight pin-point porosity; N.S.; 3910.									
		ŝ	LS: It-grayish brown; vf-xtal; dense; no visible									
			porosity; N.S. LS: It-md grayish brown; vf-xtal; dense; no visible									
			porosity; N.S.									
5			LS: off white; mic-xtal; v-chalky; N.S.									
			LS: dk grayish brown; vf-xtal; black shale laminations; some black shale w/lime grains and streaks; N.S.									
		3950										
			HEEBNER 3957 (-1124) Shale: black; carbon; only few chips 3970. Shale: green, greenish gray; calcareous in part; trc									
			siltstone; LS: white to It brown; mic-vf xtal; dense to chalky in				AT C R, DO				: TRIP O	UTFEW
Ž			part; dull mineral fluor; no visible poroisty; N.S., few chips 3990.									
			LS: white to It brown; mic-vf xtal; mostly dense; no visible porosity; dull fluor; N.S. 4000.									
		4000	Shale: green, gray; trc coarse pyrite.									
0 ROP 15		40	LS: It brown; vf-xtal; minor chalk; trc white to brown, opaq. chert, no visible porosity; v-dull fluor, N.S.	0				Hot-	Wire			100
			LS: It brown to gray; vf-xtal; dense; v-sli fluor., no									
			visible porosity; N.S. Shale: dk gray; trc black chert; 4040.									
B-zone			LS: dk grayish brown; vf-xtal; dense; N.S. Shale: gray, calcareous;									
			LS: It brown; vf-xtal; sli oolitic; dense; v-tight int ool porosity at best; v-dull fluor., N.S.									
		4050										
			LS: It brown; vf-xtal; dense; minor opaq. chert; no visible porosity; N.S.									
			LS: It-md brown to grayish-brn; vf-xtal; dense; blocky; no visible porosity; N.S.									
			blocky; no visible porosity; N.S. LS: as above.									
			LS: It-md brown; vf-xtal; fine vug porosity; v-sli fllour., spotted dry stain, no visible oil, trc 4100,									
			1-2% 4110. LS: It-md brown; vf-xtal; dense to chalky; platey; no visible porosity; N.S.									
		4100	LS: It brown; mic-vf xtal; trc oolitic; white, opaq.									
• \$	•		cherts; chalky portions; v-fine vug por., trc spotted dry stain, no fluor.									
G-zone	•		LS: It-md brown; vf-xtal w/scattered med-xtal, imbedded calcites; med to coarse oomoldic porosity; dull mineral fluor., trc pin- point spotted oil stain; no									
•			visible oil; 99.9% barren, 4150, possible float ?									
•			LS: as above; N.S. LS: It grayish-brown; vf-xtal; dense; sli oolitic; no									
		4150	visible porosity; N.S.									
		,	LS: grayish brown to gray; vf-xtal; dense; sli chalky in part; no visible porosity; N.S.									
				-								
S			LS: as above; trc grayish brown, opaq. chert; N.S.									
			MUNCIE CREEK 4183 (-1350) Shale: black; carbonaceous; 4200. LS: It-md grayish brown; trc black pellets; vf-xtal;									
			v-sli. fos-frag; trc opaq. chert; no visible porosity; N.S.	-GEO	LOGR		CABLE	HUN	G UP /	AFTER		4192.—
0 ROP 15	•	4200	LS: v-lt brown; vf-xtal; scattered fine-med., sli drusy vug porosity; spotted dry stain; only dull fluor., no visible oil; 1% 4210.	0				Hot-	Wire			100
	•		LS: It brown to gray; vf-xtal; trc rhombic calcites; few chips fine vug por. w/spotted dry stains; no visible oil; 4230.									
			Shale: gray, black; 4230. LS: dk brown; vf-xtal, dense, platey; N.S.									
•	•		LS: md-dk brown to gray; vf-xtal; fine vug porosity, speckled wet stain; no visible oil; v-sli fluor. at best; 4240.									
. }	•		LS: It-dk brown to gray; vf-xtal; trc fine vug porosity w/stains as above; no visible oil;									
		4250										
J-zone		,	LS: It-md grayish brown; vf-xtal; coarse oom porosity; spotted brown to black wet stains; v-sli. S.O., weak fluor., much barren por., 4280, decr 4290.	, 								
			LS: as above.									
			LS: gray; vf-xtal; dense, platey; chalky in part; no visible porosity; N.S.									
Stark			STARK SH 4287 (-1454)									
	•		Shale: black; carbon., few chips 4300. LS: dk brown; vf-xtal; dense; N.S. LS: gray; vf-xtal; distinctive med-grains; fair int gran por, speckled wet stain; also fine viug w/spotted									
		4300	gran. por., speckled wet stain; also fine vug w/spotted stains; scattered soft chalk, dull fluor., no visible oil, 4310.									
• }			LS: gray; vf-xtal; dense to sli chalky; few chips fine									
	•		vug porosity; spotted stains; no visible oil; possible float ? HUSHPUCKNEY 4325 (-1492)									
• • • • • • • • • • • • • • • • • • •	•		Shale: black; carbonaceous; trc 4340, 4350. LS: gray-brown; vf-xtal; mostly dense; trc med~crs vug por. w/spotted stains; no visible oil; no crystall;									
	•		4340, 4350. LS: It grayish brown, vf-xtal contacting dk gray, m-xtal which appears altered, w/ fair int xtal & drusy vug									
		4350	por., spotted wet stain w/very sli. show oil; dull fluor., few chips 4360, 4370.									
		4	LS: grayish-brown w/lt gray chalky parts; vf-xtal;	E								
			LS: grayish-brown wit gray chaiky parts; vr-xtai; dense; no visible porosity; N.S.									
			LS: grayish brown; vf-xtal; decr chalk; no visible porosity; N.S.									
			LS: It grayish brown; vf-xtal; dense to sli chalky in part; no visible porosity; N.S.									
			Shale: green, gray;									
0 ROP 15		4400		0				Hot-	Wire			100
			Shale: gray, green, trc maroon; washes 4440 sample	GEO	LOGR	APH	KICKE	D IN L	ATE			
$\boldsymbol{<}$			gray; Note: trc wet stain, 4430, 4440, has very poor dry stain at best; is probably float.									
•			LS: It gray-brown; vf-xtal; chalky; no visble porosity; N.S.									
Altamont			LS: It brown; vf-xtal; trc fine drusy vug por., It brn									
		4450	stain, w/soft fluor. chalk, no visible oil, 2-5% dry stains & fluor. at 4460 sample, decr 4470 to trace.									
		4	LS: It gray to off-white; mic-vf xtal; sli chalky; includes pink-white mottled trans. cherts; v-fine vug									
			porosity; N.S., 4470. LS: It-md grayish brown; vf-xtal; dense; smokey									
			chert; scattered fine vug por., N.S. Shale: dk gray to black;									
Pawnee			PAWNEE 4480 (-1647) LS: It-md grayish brown; vf-xtal; trc white opaq chert; v-fine vug porosity; N.S.									
			LS: It gray; mic-vf xtal; chalky; no visible porosity; N.S.									
		4500	N.S. Shale: black; 4520. LS: dk gray-brn; vf-xtal; dense; N.S.									
Myrick			Shale: green, gray; LS: It-gray to white; mic-vf xtal; It gray, sli fos,									
			semi-opaq. chert; tight fine vug porosity; N.S. Shale: black; carbonaceous; much; 4540.									
Ft. Scott			FT. SCOTT 4527 (-1694) LS: dk grayish-brn; vf-xtal; coarsely oolitic in part;									
4540-0			no visible porosity; N.S., 30 min. ROTARY TOTAL DEPTH 4540 (-1707)	-								
		550	× - /	PION	IEER I	LTD 4	542'					
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