

Confiden	tiality Requested:
Yes	No

#### KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1199430

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:	SecTwpS. R			
Address 2:	Feet from			
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.xxxxxx) (e.gxxx.xxxxxxx)			
Wellsite Geologist:	Datum: NAD27 NAD83 WGS84			
Purchaser:	County:			
Designate Type of Completion:	Lease Name: Well #:			
☐ New Well ☐ Re-Entry ☐ Workover	Field Name:			
□ Oil □ WSW □ SHOW   □ Gas □ D&A □ ENHR □ SIGW   □ OG □ GSW □ Temp. Abd.   □ CM (Coal Bed Methane) □ Cathodic □ Other (Core, Expl., etc.):    If Workover/Re-entry: Old Well Info as follows:	Producing Formation:  Elevation: Ground: Kelly Bushing: Fellowation: Kelly Bushing: Fellowation: Formation: Fellowation: F			
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 ENHR Conv. to SWD  Plug Back Conv. to GSW Conv. to Producer  Commingled Permit #:  Dual Completion Permit #:  SWD Permit #:	Drilling Fluid Management Plan (Data must be collected from the Reserve Pit)  Chloride content: ppm Fluid volume: bbls  Dewatering method used:  Location of fluid disposal if hauled offsite:			
☐ ENHR         Permit #:           ☐ GSW         Permit #:	Operator Name:			
GSW Permit #:	Lease Name: License #:			
Spud Date or Date Reached TD Completion Date or Recompletion Date Recompletion Date	Quarter         Sec.         Twp.         S. R.         East         West           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 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			Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)  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	BEREXCO LLC
Well Name	Michael 1-23
Doc ID	1199430

# Tops

Name	Тор	Datum
Stone Corral Anhydrite	3190	+94
Anhydrite (base)	3224	+60
Neva	3674	-390
Foraker	3784	-500
Wabaunsee	3944	-660
Topeka	4000	-716
Deer Creek Sand	4034	-750
Oread	4110	-826
Lansing/KS City A	4212	-928
LKC B	4270	-986
LKC C	4330	-1046
LKC D	4377	-1093
LKC E	4418	-1134
LKC F	4456	-1172
RTD	4520	
LTD	4515	-1231

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Michael 1-23
Doc ID	1199430

# 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	309	Common	225	3% cc, 2% gel
Production	7.875	5.50	15.5	4515	Lite & Common	700	10% salt, 2% gel, 4# gilsonite 3/4# floseal

# ALLIED OIL & GAS SERVICES, LLC 062556 Federal Tax I.D. # 20-8651475

REMIT TO P.O. E SOUT		9 TEXAS 760	)92	AA	ELL	SER	VICE POINT:	<u> </u>
DATE 1/9/14	SEC.	TWP.	RANGE, 6	CALL	ED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE Michael	WELL #	102	LOCATION BA	11 .	~ AA .		COUNTY.	STATE
OLD OR NEW (C	100 100 100 100 100		BB WO S	The Plant	1 10114-11	10525 NAG	thurlies	1/25
CONTRACTOR	Beschil	٦ ک	- KJ C		WNER	50-0	<b>-</b> -	
	SurFan				TITUDIC	200		-
HOLE SIZE /2	44	T.D	. 70	C	EMENT -			
CASING SIZE	8218	DE	PTH 310	A	MOUNT OR	dered 22'	S Com	300cc
	<del></del>	. DE	PTH				25	Desal
DRILL PIPE			PTH					
TOOL		Part of the second seco	PTH			22:	14 90	2
PRES. MAX			MIMUM		OMMON	005	@1)2	4022
MEAS, LINE	N CCC	SH	OE JOINT .		OZMIX		-@	060
CEMENT LEFT II PERFS.	N CSU.	-/5			EL	2	@ J	75
DISPLACEMENT	,	18.79		7	HLORIDE_	_8	_@692	-5/2-
DISTLACENTER				A	SC		@	
	EQ	UIPMENT	•				_@	•
							_@ @	
<b>PUMP TRUCK</b>	CEMEN.	411	~ Kyan		<b>4</b>	•	_	- ~~
# 421-281	HELPER	Bes	~ Kyan		•		_ <u> </u>	
BULK TRUCK		11	11 }	-			- @ ·	
# 395	DRIVER	ym	1 Holdings	ire.			@	•
BULK TRUCK	DDIIIDO		, ,			•	@ 1150	>_
#	DRIVER		····	— H	ANDLING	243.3	@ 2-10	6035
				· M	IILEAGE 2	Jan / mil	11.104	1443 52
Ruly Giou	8	EMARKS:	est ligher	. Cener	7	SERVI	TOTAL	lls&
- Stud I'm;					EPTH OF JO	D .		
Cerrent 1	Qil -	Cicun	lati		UMP TRUCK	***************************************	7	~12 32
					XTRA FOOT	and the contract of the state o	@ -	2/2-2
					WEAGE_		@ >2	- 3.85
		Z	Truck Em		IANIFOLD 5		@275	n/c.
		P.	Hontein Chri	ラ _		:	@ 4790	Refe
	1			_			@ <u>·</u> _	-
CHARGE TO:	Yerex a	Ø.				÷		25
STREET							TOTAL	1892
CITY	S	TATE	ZIP					
					]	PLUG & FLOA	T EQUIPMEN	
							_@	
	•			•			_@	
To: Allied Oil &	Gas Serv	rices, LLC	•	-			@	
			nenting equipmer	1ŧ -			@	
and furnish ceme	_		~		•		@	· · · · · · · · · · · · · · · · · · ·
contractor to do done to satisfacti	work as is on and si	s listed. T opervision	he above work work of owner agent o	as r			TOTAL	,
contractor. I hav				~	ል የ ነጋርነ ምል ነ <i>ታ ነን</i>	63	٠	r
TERMS AND CO	ONDITIO	DNS" liste	d on the reverse si	iuv.	ALES TAX (I	_		
						GES 3,57		· · ·
PRINTED NAME				D	ISCOUNT_	2.401.6	3_ if pai	D IN 30 DAYS
SIGNATURE /	Mila	2 F	)	,		6.1756	3 Net.	



# **CEMENTING LOG**

STAGE NO.

- nlelu	1	DAII	_	· · · · · · · · / ) ·	rt 1.	CEMENT DA			
Date 2/9/0	BIANCIA	JAK.		icket No. Lat	)	Spacer Type: Amt		ft³/sk Density	PPC
Lease	harla I			Vell No. 1-23		7311tt.	ONO THOM	The post periody	
County	Quelian			tate K					
Location				ield		LEAD; Pump	Time	hrs. Type Con 3700	cc
CASING DATA	Conductor Surface		<del></del>	Squeeze M		Amt	Sks Yield/	Excess	PPC
Size	Туре	Weig	ght	Collar				_	
								ft <sup>3</sup> /sk Density	
						WATER: Lead	d gals,	/sk Tail gals/sk Total	Bbis
Casing Depths:	Top	w	Bottom			Pump Trucks	Used	R1	
Ousing Departs.	10F					Bulk Equip	N	~/	
							J • Ø		
D.111 Oliver Olive		14/-:	······································	Callara		-			
Open Hole: Size	15/1/	•		Collars P.B. to		Float Equip: N	Manufacturer	A CONTROL OF THE CONT	
CAPACITY FACT	TORS:	^						Depth	
Casing:	8bls/Lin. ft.	0637	Lin. ft./8	ЗЫ	,,_,_,_,,,			Depth	
Open Holes:				3bl		Centralizers:	Quantity	Plugs Top Btm	
Drill Pipe:				361		Stage Collars	·		
Annulus:	Bbls/Lin. ft		Lin. ft./6	3bl		Special Equip	)		
	Bbls/Lin. ft		Lin. ft./E	вы		Disp. Fluid Ty	ps ///	Amt. 18, 19 Bbls. Weight 2	PPO
Perforations:	From.	ft. to		ft. Amt		Mud Type		Weight	PPG
COMPANY DED	RESENTATIVE A	ilo <		-		CEMENTE	8 AC		
	<del></del>						7		
TIME	PRESSUR DRILL PIPE			JID PUMPED   Pumped Per				REMARKS	
AM/PM	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	RATE Bbls Min	P/	Va		
	<del>  </del>					Soloc	al 40 579	Me sit of	
	+				1	long	Car O	reilete	
				2,0		10000			
	0			3/2.11		Pu	& Cones	<i>T</i>	
	4			18.79		1 OL	SSAGRE C	anost	
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	7					151	mo		
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	·								

\_\_\_\_ BBLS.

# ALLIED OIL & GAS SERVICES, LLC 062218 Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93 SOUTHLAK	8999 E, TEXAS 760		1.0.#20-0001410	SEF	RVICE POINT: 	y KS
DATE 2 -20-14 SEC.	TWP.	RANGE 36 W	CALLEDOUT	ON LOCATION		JOB FINISH .
Michael		Bear	wing NTOP	NAA WYD	1:38PM	STATE
LEASE WEL		LOCATION 5,5	2 N W. in	tio	Daylins	
OLD OR NEW Circle of	ie)			17		
CONTRACTOR RANGE		<u> </u>	OWNER 2	ame		
HOLE SIZE 77/8		4520	CEMENT			
CASING SIZE 51/				RDERED 450	1/1/203	not the
TUBING SIZE	DEP			s cen la		12 2 10 00 d D
DRILL PIPE	DEP		5#gila			roges
TOOL	DEP	TH	_			
PRES. MAX		IMUM	COMMON_	25/18	60 1750	-447500
MEAS, LINE		EJOINT42 3	O POZMIX		@	
CEMENT LEFT IN CSG	. 42、36	)	_ GEL	5 of	W@ 2350	11750
PERFS.	3		_ CHLORIDE_		@	
DISPLACEMENT 115	3/4		_ ASC	<del></del>	@	
E	QUIPMENT	•	_site		级 @. 15 95	717750
		Gabri Jone	- 20st		6 @ 2635	685 10
	NTER ZW	Julen Chele	u) -suspine			122500
# 4234281 HELP	ER War	no Maghahi	grande	3.38 7		- 1003 86
BULK TRUCK	<i>Q</i>	9.	Acros 11	ush 12h1	@	740
# 3739310 DRIVI	ER Jherwa	W(765)	_ survigu	1261		70440
BULK TRUCK		<del>-</del>		·	@ @	
# 818+808 DRIVI	ER adam	1 71256	- HANDLING	824,89 cult		2045 73
		•		4.22 Ton X		446160
-	REMARKS:			- Control of the cont		
	culste las	1 100	*		TOTAL	21,1908
6 . 15	2. SES MH	1000	~	cens	I Ó B	
		in wirth work	b1/>	SERV	ICE	
released plug 40	isslaced w	whit will we	DEPTH OF JO	)B		4500
Lift preside 110	2 stratucila	ndes 6 1900#	PUMPTRUCI			771575
	- 0		EXTRA FOOT		@	2 /6 )
		27 F	MILEAGE_/		@ 77	385-00
		Thank Efry	- MANIFOLD_		@ 27500	NI
	•	Kelly Forew	12	1, LV 50	@ 440	NC
~				···	@	
CHARGE TO: BELL	168		-			
STREET					TOTAL	3 150 75
CITY .			-			•
CITY	STATE	ZIP	(FR)	PLUG & FLOA	T EQUIPMEN	T
			AFG Ala	talien	@	2 2 - 00
				wn Aluce		19110
To: Allied Oil & Gas Se	rvices. LLC	et	(10) cont	11 1/ 0	@3700	37000
You are hereby requeste	d to rent ceme	nfing equipment	(20) rocia	Ricely	@ 4650	92000
and furnish cementer an	d helper(s) to	assist owner or		δ	_@	3
contractor to do work as	is listed. The	above work was	•			-
done to satisfaction and	supervision of	Owner agent or			TOTAL	170600
contractor. I have read a	ınd undersland	the "GENERAT		**	AVARD	
TERMS AND CONDIT	IONS" listed	on the reverse side	SALES TAX (I	f Any)		
•	HOWE	1010130 3106.	TOTAL CHAR	$\cap$	047 56	1
PRINTED NAME				A -	>	•
			DICTOTIATO		A har or 1 a-	717 AA W
Z1	11		DISCOUNT _	6,8156	31.92 NG	IN 30 DAYS



# **CEMENTING LOG**

STAGE NO.

	_		^ /				CEMENT DATA:
Lease   Middle	Date 2 - 20	2-14 Distri	ct.MMWW	<u> </u>			Spacer Type: Jupy flush
County Calletters  State A J  Lozio Red F, 5 7 A Valadia  CASING DATA: Conductor   FTA   Squeeze   Noc    State B J 2 Type Nearly Weight   St. 5 Colar  State B J 2 Type Nearly Weight   St. 5 Colar  State B J 2 Type Nearly Weight   St. 5 Colar  Casing Depther Top GAOLUCIA State   Bestion L 15 G G  Casing Depther Top GAOLUCIA State   Bestion L 15 G G  Drill Figer State   Weight   Colfers    Drill Figer State   The Colfers	Company 134	rexco					Amt. 12bb Sks Yield ft³/sk Density PPC
Location   BackMAMPy   MTD   Col   A   Feld						3	
CASING DATA: Conductor   PTA   Squeeze   Misc   Art. \( \frac{15C}{5C} \) Site \( \text{Conductor} \) PTA   Squeeze   Misc   Art. \( \frac{15C}{5C} \) Site \( \text{Conductor} \) PTA   Production \( \text{Conductor} \) Production \( Con			11-to D				
CASING DATA: Conductor   PTA   Squeeze   Niso   Surface   Internetiable   Productor   Type   Chemistry   Color   Type   New York   15 15 Color   Type   New York   Type   Type   New York   Type   Type   New York   Type   Typ				FI FI	ield		
Size 5 1/2 Type	•	,,				. —	Excess
Size 51/2 Type ASA1 Weight 5:5 Coller  Amt 250 Sis Yold 1.42 1:1/sk Density 1/4 PPP WATER Lead gals/sk Total Bb  Casing Depths: Top Advisorableth Bettom 15:07  Bolk Equip. 373-308, 788+324  Dill Pipe. Size  Open Holes Size  T.D. 1c P.B. to 1c  CAMACITY FACTORS:  Shore Type A E L.  Controllers: Bbb/Lin. 1c Lin. 1c/88L  Controllers: Bbb/Lin. 1c Lin. 1c/88L  Dill Pipe. Bibs/Lin. 1c Lin. 1c/88L  Bbb/Lin. 1c Lin. 1c/88L  Stope Collers  Foot Equip: Manufacturer Andestation Duplin  Controllers: Country I/O Plugs Top Birn.  Stope Collers  Bbb/Lin. 1c Lin. 1c/88L  Disp Fluid Type 1.2 Outside Amt. 13/4/80k. Weight PP  Perforations: From 1t to Mad Type 1.2 Outside Amt. 13/4/80k. Weight PP  Perforations: From 1t to Cementer Bubb/Lin  TIME PRESSURES PSI FLUID PUMPED DATA  AM/PM DISP Fluid Fipe ANNULUS TOTAL Pumped Pag RATE  AM/PM DISP Fluid Fipe ANNULUS	CASING DATA						· · · · · · · · · · · · · · · · · · ·
Ant. 250 Ste Yeld 1.1.2 (1748 Consist) 1/2 PY WATER Lead agals/sk Tail gals/sk Toial BB/ WATER Lead agals/sk Tail gals/sk Toial BB/ PRIMITED Stree Colors Galong.  Conting Depths: Top Administration 1.150 \$\overline{A}\$ Pump Trucks Used \$\overline{A}\) 2.3 \$\overline{A}\) 3.73 \$\overline{A}\) 3.0 \$\overline{A}\) 3.73 \$\overline{A}\) 3.0 \$\overline{A}\) 3.73 \$\overline{A}\) 3.0 \$\overline{A}\) 3.73 \$\overline{A}\) 3.0 \$\overline{A}\) 4.150 \$\overline{A}\) 3.0 \$\overline{A}\) 4.150 \$\overline{A}\) 5.0 \$\	5/19	Surface - At.o	intermed	nate ∐ Pr	oduction 💆 Lir	ner 📙	
Cesting Depths: Top Substance Lett   Bettom   1507   Pump Trucks Used   12.3.4.28.1    Bell Pipes Size   Weight   Collers   Copen Holes Size   T.D.   ft. P.B. to   ft. Float Equip: Manufacturer   Depth   Control Pipes Bibly Lin. ft.   10.23.8   Copen Holes Size   T.D.   ft. P.B. to   ft. Float Equip: Manufacturer   Depth   Copen Holes Size   T.D.   Depth   Copen Holes Size   T.D.   Depth   Copen Holes Size   T.D.   Depth   Copen Holes Size   Depth   Copen Holes Size   T.D.   Depth   Copen Holes Size   T.D.   Depth   Copen Holes Size   T.D.   Depth   Copen Holes Size   Depth   Copen	\$1Ze	type	VVei	gnt 131	Collar	•	Ame 7 EO She Viold 1, 4/2 ft3/ck Donaity 14/3- DBG
Casing Depths: Top Show Cleff Bottom 1507  Drill Pipe: Size Weight Collars  Drill Pipe: Size Weight Collars  TD 1c Pib Pipe: Size TD 1c Pipe: S							
Bolk Equip. 3.73 + 3.0 F, 315 + 3.0 L  DIN Pipe. Size Weight Collers Open Hole: Sire TD. It. P.R. to It. Shoe: Type JEGEN Depth Open Hole: Size Blay Lin. ft. 10.23 T Lin. ft./Bbl. Open Hole: Blay Lin. ft. Open Hole: Strage Collers Stage Collect May Remarks NEMARKS NEMARKS  NEMAR						1	yandii. Leed gasy sk feli gosy sk folei bos
Bolk Equip. 3.73 + 3.0 F, 315 + 3.0 L  DIN Pipe. Size Weight Collers Open Hole: Sire TD. It. P.R. to It. Shoe: Type JEGEN Depth Open Hole: Size Blay Lin. ft. 10.23 T Lin. ft./Bbl. Open Hole: Blay Lin. ft. Open Hole: Strage Collers Stage Collect May Remarks NEMARKS NEMARKS  NEMAR	Casing Denths: 3	Top ENDW	rollery l	Bottom 2	1508		Pumo Trucks Used 4234381
Drill Pipe: Size	odonig Dopulo.						
COPATION FOR STREET TO. IT. P.B. to II. P.B. to III. T. to III. T.							
COPATION FOR STREET TO. IT. P.B. to II. P.B. to III. T. to III. T.							
CAPACITY FACTORS:  Casing: Bbbs/Lin. ft.	Drill Pipe: Size _		Weight		Collars		
CAPACITY FACTORS: Casing: Bibls/Lin. ft. 10235 Lin. ft./Bibl. Float: Type 1 Lin. ft./Bibl. Depth Gentralizers Quantity 102 Plugs Top Bitm.  Drill Pipe: Bibls/Lin. ft. Lin. ft./Bibl. Stage Collors  Annolus: Bibls/Lin. ft. Lin. ft./Bibl. Special Equip. 20 Jeans Internation September 20 Jeans Internation Septemb	Open Hole: Size		T.D	ft. i	P.B. to		
Open Holes: Blob/Lin. ft. Lin. ft/Bbl. Centralizers: Quantity \( \textit{LO} \) Piugs Top \( \textit{BIT.} \)  Drill Fipe: Blob/Lin. ft. Lin. ft/Bbl. Special Equip. \( \textit{2.0} \) Annulus: Blob/Lin. ft. Lin. ft/Bbl. Special Equip. \( \textit{2.0} \) Annulus: Blob/Lin. ft. Lin. ft/Bbl. Special Equip. \( \textit{2.0} \) Annulus: Blob/Lin. ft. Lin. ft/Bbl. Special Equip. \( \textit{2.0} \) Annulus: Blob/Lin. ft. Lin. ft/Bbl. Special Equip. \( \textit{2.0} \) Annulus: Blob/Lin. ft. Lin. ft/Bbl. Special Equip. \( \textit{2.0} \) Annulus: Annulus: Prome ft. to ft. Annt. Mud Type \( \textit{MVI Type} \) Lin. ft/Bbl. Annulus From ft. to ft. Annt. Mud Type \( \textit{MVI Type} \) Weight \( \textit{PP} \)  TIME \( \textit{PRESSURES PSI} \)  ANNULUS FULID PUMPED DATA Furne Feriod Blob Min. Annulus Fulid Pumped Fer RATE Fulid Pumped		ORS:				5	Shoe: Type Depth
Drill Pipe: Bble/Lin. ft. Lin. ft/Bbl. Stage Collere Bble/Lin. ft. Lin. ft/Bbl. Special Equip	Casing:	Bbls/Lin. ft	_0238	Lin. ft./E	3b1	F	Float: Type
Annulus: Bbbs/Lin. ft. Lin. ft/Bbl. Lin. ft/Bbl. Lin. ft/Bbl. Lin. ft/Bbl. Lin. ft/Bbl. Disp. Fluid Type	Open Holes:	•					Centralizers: Quantity Plugs Top 8tm
BBIS/Lin. ft. Lin. ft./BBI. Disp. Fluid Type Leated Amt. L3/2/BBIS Weight PP Perforations: From ft. to ft. Amt. Mud Type Weight PP COMPANY REPRESENTATIVE CEMENTER BLOWLY  TIME PRESSURES PSI FLUID PUMPED DATA AM/PM DRILL FIPE ANNULUS TOTAL Pumped Por FATE BBIS Min.  TIME PRESSURES PSI FLUID PUMPED DATA AM/PM DRILL FIPE ANNULUS TOTAL Pumped Por FATE BBIS Min.  TIME PRESSURES PSI FLUID PUMPED DATA AM/PM DRILL FIPE ANNULUS TOTAL Pumped Por FATE BBIS Min.  TIME PRESSURES PSI FLUID PUMPED DATA AM/PM DRILL FIPE ANNULUS TOTAL Pumped Por FATE BBIS Min.  TABLE COMPANY REPRESENTATIVE  AMAZINE COMPANY REMARKS  AMAZINE COMPANY	Drill Pipe:				•		Stage Collars
Perforations: From	Annulus:						Special Equip. 20 Secretal Ocations SCIENCE (12)
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\_\_\_\_\_ PSI BUMP PLUG TO \_



Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks.

Michael #1-23 Job Ticket: 56786

DST#: 1

3284.00 ft (KB)

67206

Reference Elevations:

ATTN: Pete Vollmer

Test Start: 2014.02.14 @ 00:20:00

Tester:

#### **GENERAL INFORMATION:**

Formation: Oread

Deviated: No Test Type: Conventional Bottom Hole (Initial) Whipstock: ft (KB)

Time Tool Opened: 02:46:30 Time Test Ended: 09:06:30

Interval:

Unit No:

4072.00 ft (KB) To 4120.00 ft (KB) (TVD) Total Depth: 4120.00 ft (KB) (TVD)

3271.00 ft (CF) 7.88 inches Hole Condition: Good Hole Diameter:

KB to GR/CF: 13.00 ft

Chuck Kreutzer Jr.

Serial #: 8673 Inside

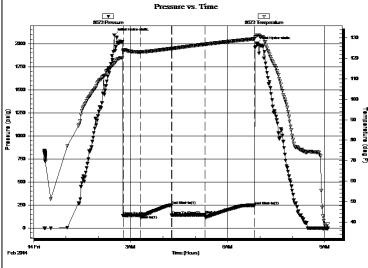
Press@RunDepth: 4073.00 ft (KB) 145.30 psig @ Capacity: 8000.00 psig

Start Date: 2014.02.14 End Date: 2014.02.14 Last Calib.: 2014.02.14 Start Time: 00:20:01 End Time: 09:06:30 Time On Btm: 2014.02.14 @ 02:29:30

Time Off Btm: 2014.02.14 @ 06:53:30

TEST COMMENT: IF: Weak surface blow died in 15 mins.

ISI: No blow back over 60 mins. FF: No blow over 60 mins. FSI: No blow back over 90 mins.



Ī	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
	0	2092.68	117.49	Initial Hydro-static
	17	138.04	124.07	Open To Flow (1)
	49	140.86	123.15	Shut-In(1)
4	106	248.53	124.82	End Shut-In(1)
ij	107	141.86	124.81	Open To Flow (2)
T.	168	145.30	126.89	Shut-In(2)
Temperature (deg F)	260	248.03	129.56	End Shut-In(2)
J	264	2001.44	131.19	Final Hydro-static

PRESSURE SUMMARY

#### Recovery

Description	Volume (bbl)
mud-100%m	0.98
	·

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

Ref. No: 56786 Trilobite Testing, Inc Printed: 2014.02.14 @ 09:39:28



**FLUID SUMMARY** 

Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks.

67206

Michael #1-23 Job Ticket: 56786

DST#: 1

ATTN: Pete Vollmer

Test Start: 2014.02.14 @ 00:20:00

#### **Mud and Cushion Information**

Mud Type: Gel Chem Cushion Type: Oil API: deg API Mud Weight: Cushion Length: Water Salinity: 9.00 lb/gal ft ppm

Viscosity: 55.00 sec/qt Cushion Volume: bbl

Water Loss: 6.00 in<sup>3</sup> Gas Cushion Type:

Resistivity: Gas Cushion Pressure: ohm.m psig

Salinity: 400.00 ppm Filter Cake: 2.00 inches

#### **Recovery Information**

#### Recovery Table

Length ft	Description	Volume bbl
200.00	mud-100%m	0.984

Total Length: 200.00 ft Total Volume: 0.984 bbl

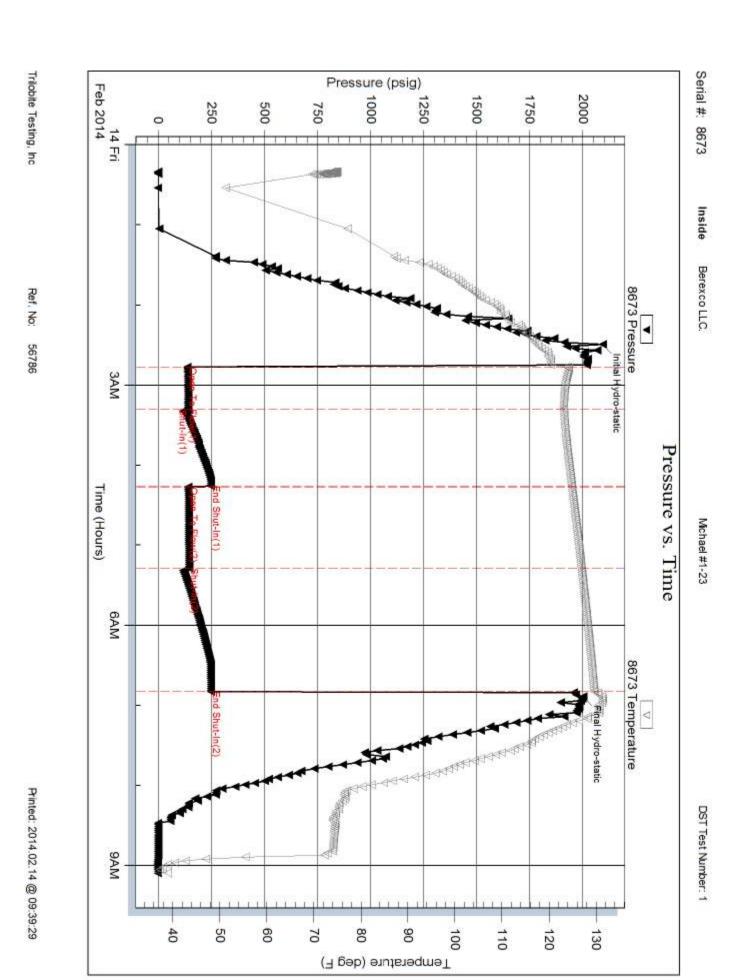
Num Fluid Samples: 0 Num Gas Bombs: Serial #: 0

Laboratory Name: Laboratory Location:

Recovery Comments: Had 12ft. of fill Put w eight on tool. Tool slid, tool opened on slide. Bled off blow. Tool set about 8 ft

higher then i had figured.

Trilobite Testing, Inc Ref. No: 56786 Printed: 2014.02.14 @ 09:39:29





Berexco LLC.

Wichita Ks.

67206

23 1s 36w Rawlins Ks.

Michael #1-23

Unit No:

Job Ticket: 56787

DST#: 2

3271.00 ft (CF)

ATTN: Pete Vollmer

2020 N. Bramblew ood

Test Start: 2014.02.14 @ 17:15:00

#### **GENERAL INFORMATION:**

Formation: Oread

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 19:51:30 Tester: Chuck Kreutzer Jr.

Time Test Ended: 02:28:00

Interval: 4070.00 ft (KB) To 4122.00 ft (KB) (TVD)

Total Depth: 4122.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3284.00 ft (KB)

KB to GR/CF: 13.00 ft

Serial #: 8673 Inside

Press @ RunDepth: 134.47 psig @ 4071.00 ft (KB) Capacity: 8000.00 psig

 Start Date:
 2014.02.14
 End Date:
 2014.02.15
 Last Calib.:
 2014.02.15

 Start Time:
 17:15:01
 End Time:
 02:28:00
 Time On Btm:
 2014.02.14 @ 19:34:00

Time Off Btm: 2014.02.14 @ 23:59:00

PRESSURE SUMMARY

Temp

Annotation

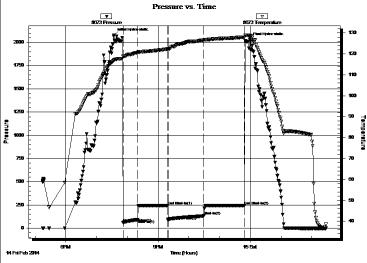
TEST COMMENT: -----10 ft. of fill on bottom. Pushed through 3 ft. Tool opened on last 8 ft. 3 in. blow, bled off.

IF: Weak blow, Built to 1 in. over 10 mins. Started to Die, Weak Surface after 30 mins.

Time

Pressure

ISI: No blow back over 60 mins. FF: No blow over 60 mins.



	(Min.)	(psig)	(deg F)	
	0	2077.06	116.87	Initial Hydro-static
	18	60.95	118.68	Open To Flow (1)
	46	93.63	120.58	Shut-In(1)
	105	245.30	122.25	End Shut-In(1)
1	106	83.77	122.15	Open To Flow (2)
	176	134.47	126.56	Shut-In(2)
•	255	245.36	127.92	End Shut-In(2)
	265	2029.87	128.70	Final Hydro-static

#### Recovery

Length (ft)	Description	Volume (bbl)	
188.00	ocm-50%o50%m	0.92	
50.00 Hocm-35%m65%o		0.25	
* Recovery from multiple tests			

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

_

Trilobite Testing, Inc Ref. No: 56787 Printed: 2014.02.16 @ 06:08:32



**FLUID SUMMARY** 

Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks.

ATTN: Pete Vollmer

67206

Michael #1-23
Job Ticket: 56787

56787 **DST#: 2** 

Test Start: 2014.02.14 @ 17:15:00

**Mud and Cushion Information** 

Mud Type:Gel ChemCushion Type:Oil A Pl:deg A PlMud Weight:9.00 lb/galCushion Length:ftWater Salinity:ppm

Mud Weight:9.00 lb/galCushion Length:ftViscosity:57.00 sec/qtCushion Volume:bbl

6.39 in<sup>3</sup> Gas Cushion Type:

Resistivity: ohm.m Gas Cushion Pressure: psig

Salinity: 400.00 ppm Filter Cake: 2.00 inches

#### **Recovery Information**

Water Loss:

#### Recovery Table

Length ft	Description	Volume bbl
188.00	ocm-50%o50%m	0.925
50.00	Hocm-35%m65%o	0.246

Total Length: 238.00 ft Total Volume: 1.171 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Trilobite Testing, Inc Ref. No: 56787 Printed: 2014.02.16 @ 06:08:33

Trilobite Testing, Inc

Ref. No:

56787

Printed: 2014.02.16 @ 06:08:33



Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks.

67206

ATTN: Pete Vollmer

Michael #1-23

Job Ticket: 56788 DST#: 3

Test Start: 2014.02.15 @ 16:45:00

#### **GENERAL INFORMATION:**

Formation: LKC-A

Deviated: Whipstock: No ft (KB)

Test Type: Conventional Bottom Hole (Reset) Time Tool Opened: 20:00:30 Tester: Chuck Kreutzer Jr.

Time Test Ended: 04:50:30 Unit No:

4154.00 ft (KB) To 4250.00 ft (KB) (TVD) Reference Elevations: 3284.00 ft (KB) Interval:

Total Depth: 4250.00 ft (KB) (TVD) 3271.00 ft (CF)

7.88 inches Hole Condition: Good Hole Diameter: KB to GR/CF: 13.00 ft

Serial #: 8673 Inside

Press@RunDepth: 494.09 psig @ 4155.00 ft (KB) Capacity: 8000.00 psig

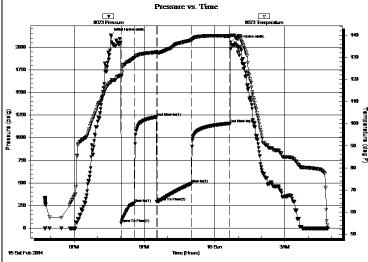
Start Date: 2014.02.15 End Date: 2014.02.16 Last Calib.: 2014.02.16 Start Time: 16:45:01 End Time: 04:50:30 Time On Btm: 2014.02.15 @ 19:33:30 Time Off Btm: 2014.02.16 @ 00:41:30

TEST COMMENT: IF: Strong blow , Built to B.O.B in 10 mins.

ISI: Bled off, Blow back after 5 mins. Built to 3 in. over 60 mins.

FF: Strong blo, Built to B.O.B in 8 mins.

FSI: Bled off, Blow back after 1 min., Built to 3 in. over 90 mins



	PRESSURE SUMIMART			
	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
	0	2131.62	118.75	Initial Hydro-static
	27	57.27	121.33	Open To Flow (1)
	61	277.05	129.83	Shut-In(1)
_	118	1228.00	132.40	End Shut-In(1)
d d	120	296.00	132.05	Open To Flow (2)
Temperature (deg F)	207	494.09	137.86	Shut-In(2)
(d	305	1158.05	139.66	End Shut-In(2)
J	308	2052.02	140.06	Final Hydro-static

PRESSURE SUMMARY

#### Recovery

Length (ft)	Description	Volume (bbl)		
0.00	94ft. of gas in pipe	0.00		
0.00	gravity 19@60*=19 corrected gravity	0.00		
263.00	go-30%g60%o	1.29		
263.00	go-40%g60%o	1.29		
328.00	og-65%g35%o	4.60		
328.00	og-75%g25%o	4.60		
* Recovery from multiple tests				

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

Trilobite Testing, Inc. Ref. No: 56788 Printed: 2014.02.16 @ 06:07:44



**FLUID SUMMARY** 

ppm

DST#: 3

Berexco LLC.

23 1s 36w Rawlins Ks.

Michael #1-23

Serial #:

2020 N. Bramblew ood

Wichita Ks.

Job Ticket: 56788

67206

Test Start: 2014.02.15 @ 16:45:00

Water Salinity:

ATTN: Pete Vollmer

**Mud and Cushion Information** 

Mud Type: Gel Chem Cushion Type: Oil API: 19 deg API

Mud Weight: 10.00 lb/gal Cushion Length: ft Viscosity: 46.00 sec/qt Cushion Volume: bbl

Water Loss: 6.40 in<sup>3</sup> Gas Cushion Type:

Resistivity: ohm.m Gas Cushion Pressure: psig

Salinity: 800.00 ppm
Filter Cake: 2.00 inches

#### **Recovery Information**

#### Recovery Table

Length ft	Description	Volume bbl
0.00	94ft. of gas in pipe	0.000
0.00	gravity 19@60*=19 corrected gravity	0.000
263.00	go-30%g60%o	1.293
263.00	go-40%g60%o	1.293
328.00	og-65%g35%o	4.601
328.00	og-75%g25%o	4.601

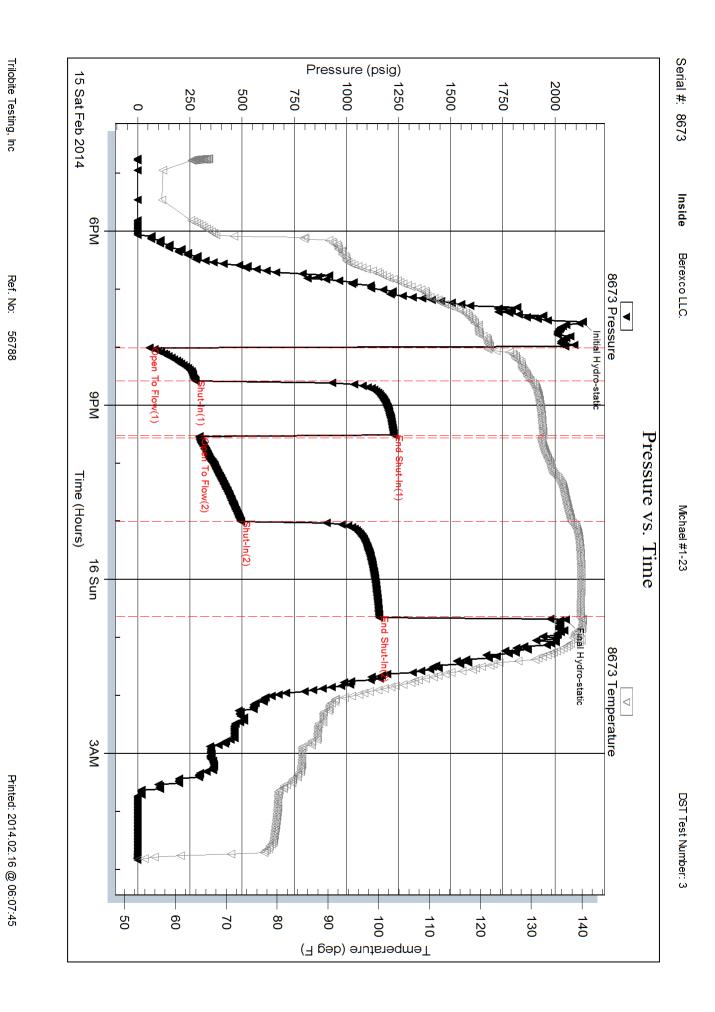
Total Length: 1182.00 ft Total Volume: 11.788 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0

Laboratory Name: Laboratory Location:

Recovery Comments:

Trilobite Testing, Inc Ref. No: 56788 Printed: 2014.02.16 @ 06:07:44





Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks. 67206

Michael #1-23
Job Ticket: 56789

Unit No:

DST#: 4

ATTN: Pete Vollmer

Test Start: 2014.02.16 @ 14:50:00

#### **GENERAL INFORMATION:**

Formation: LKC-B

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:11:30 Tester: Chuck Kreutzer Jr.

Time Test Ended: 00:20:00

Interval: 4228.00 ft (KB) To 4290.00 ft (KB) (TVD)

Total Depth: 4290.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3284.00 ft (KB)

Test Type: Conventional Bottom Hole (Reset)

3271.00 ft (CF)

KB to GR/CF: 13.00 ft

Serial #: 8673 Inside

Press @ RunDepth: 95.78 psig @ 4229.00 ft (KB) Capacity: 8000.00 psig

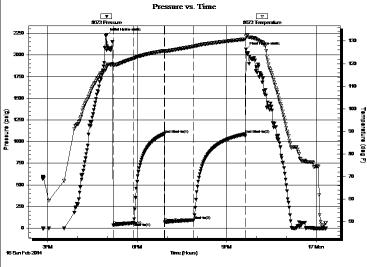
 Start Date:
 2014.02.16
 End Date:
 2014.02.17
 Last Calib.:
 2014.02.17

 Start Time:
 14:50:01
 End Time:
 00:20:00
 Time On Btm:
 2014.02.16 @ 16:58:30

 Time Off Btm:
 2014.02.16 @ 21:38:30

TEST COMMENT: IF: Weak blow, Built to 1 1/2 in. over 30 mins.

ISI: No blow back over 60 mins. FF: No blow over 60 mins. FSI: No blow back over 90 mins.



		PI	RESSUR	RE SUMMARY
1	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
	0	2228.10	118.75	Initial Hydro-static
	13	36.66	119.41	Open To Flow (1)
	54	62.91	122.29	Shut-In(1)
.	116	1090.58	125.69	End Shut-In(1)
	117	71.46	125.03	Open To Flow (2)
	175	95.78	127.60	Shut-In(2)
	278	1087.15	130.77	End Shut-In(2)
"	280	2063.87	131.95	Final Hydro-static

Cac Datas

#### Recovery

Length (ft)	Description	Volume (bbl)	
110.00	Mud w ith oil specs	0.54	
* Recovery from multiple tests			

Oas Mai	.03	
Choko (inchos)	Proceuro (peig)	Gas Pato (Mof/d)

Trilobite Testing, Inc Ref. No: 56789 Printed: 2014.02.17 @ 06:40:01



**FLUID SUMMARY** 

Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks.

67206

ATTN: Pete Vollmer

Michael #1-23

Job Ticket: 56789

DST#: 4

Test Start: 2014.02.16 @ 14:50:00

#### **Mud and Cushion Information**

Mud Type:Gel ChemCushion Type:Oil A Pl:deg A PlMud Weight:9.00 lb/galCushion Length:ftWater Salinity:ppm

Viscosity: 65.00 sec/qt Cushion Volume: bbl

5.60 in<sup>3</sup> Gas Cushion Type:

Gas Cushion Pressure: psig

Salinity: 800.00 ppm Filter Cake: 2.00 inches

#### **Recovery Information**

Water Loss:

Resistivity:

#### Recovery Table

Length ft	Description	Volume bbl
110.00	Mud with oil specs	0.541

Total Length: 110.00 ft Total Volume: 0.541 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

ohm.m

Trilobite Testing, Inc Ref. No: 56789 Printed: 2014.02.17 @ 06:40:02

Trilobite Testing, Inc

Ref. No:

56789

Printed: 2014.02.17 @ 06:40:03



Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks. 67206

Michael #1-23
Job Ticket: 56790

DST#: 5

ATTN: Pete Vollmer

Test Start: 2014.02.17 @ 15:00:00

#### **GENERAL INFORMATION:**

Formation: LKC-C

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 17:11:30 Tester: Chuck Kreutzer Jr.

Time Test Ended: 01:47:30 Unit No:

Interval: 4280.00 ft (KB) To 4380.00 ft (KB) (TVD) Reference Elevations: 3284.00 ft (KB)

Total Depth: 4360.00 ft (KB) (TVD) 3271.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 13.00 ft

Serial #: 8673 Inside

Press@RunDepth: 220.65 psig @ 4281.00 ft (KB) Capacity: 8000.00 psig

 Start Date:
 2014.02.17
 End Date:
 2014.02.18
 Last Calib.:
 2014.02.18

 Start Time:
 15:00:01
 End Time:
 01:47:30
 Time On Btm:
 2014.02.17 @ 16:57:00

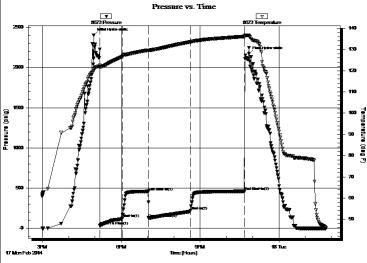
Time Off Btm: 2014.02.17 @ 22:52:00

TEST COMMENT: IF: Fair blow, Built to B.O.B over 20 mins 10 min longer due to the safety chain w rapped around the head.

ISI: Bled over. Weak surfsce blow, Built to 3 in.

FF: Fair blow, Built to BOB in 40 min

FSI:Bled off blow. Weak surface blow built to 3 in died to surface blow



	THEOGOTAL COMMUNICATION			
	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
	0	2401.41	119.91	Initial Hydro-static
	15	30.52	121.59	Open To Flow (1)
	66	126.20	126.50	Shut-In(1)
	125	459.06	129.61	End Shut-In(1)
3	126	128.75	129.50	Open To Flow (2)
	221	220.65	133.50	Shut-In(2)
•	345	460.20	136.06	End Shut-In(2)
9	355	2168.37	136.09	Final Hydro-static

PRESSURE SUMMARY

#### Recovery

Length (ft)	Description	Volume (bbl)		
188.00	gmco-20%g20%m60%o	0.92		
94.00	gmco-25%g10%m65%o	0.46		
282.00	go 20%g 80%o	1.73		
0.00	188' GIP	0.00		
* Recovery from multiple tests				

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

Trilobite Testing, Inc Ref. No: 56790 Printed: 2014.02.18 @ 11:55:29



**FLUID SUMMARY** 

Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks.

67206

ATTN: Pete Vollmer

Michael #1-23

Job Ticket: 56790

DST#: 5

Test Start: 2014.02.17 @ 15:00:00

#### **Mud and Cushion Information**

5.60 in<sup>3</sup>

ohm.m

Mud Type: Gel Chem Cushion Type: Oil API: 35.6 deg API Water Salinity: ppm

Mud Weight: Cushion Length: 10.00 lb/gal ft Viscosity: 80.00 sec/qt Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

600.00 ppm Salinity: Filter Cake: 2.00 inches

#### **Recovery Information**

Water Loss:

Resistivity:

#### Recovery Table

Length ft	Description	Volume bbl
188.00	gmco-20%g20%m60%o	0.925
94.00	gmco-25%g10%m65%o	0.462
282.00	go 20%g 80%o	1.733
0.00	188' GIP	0.000

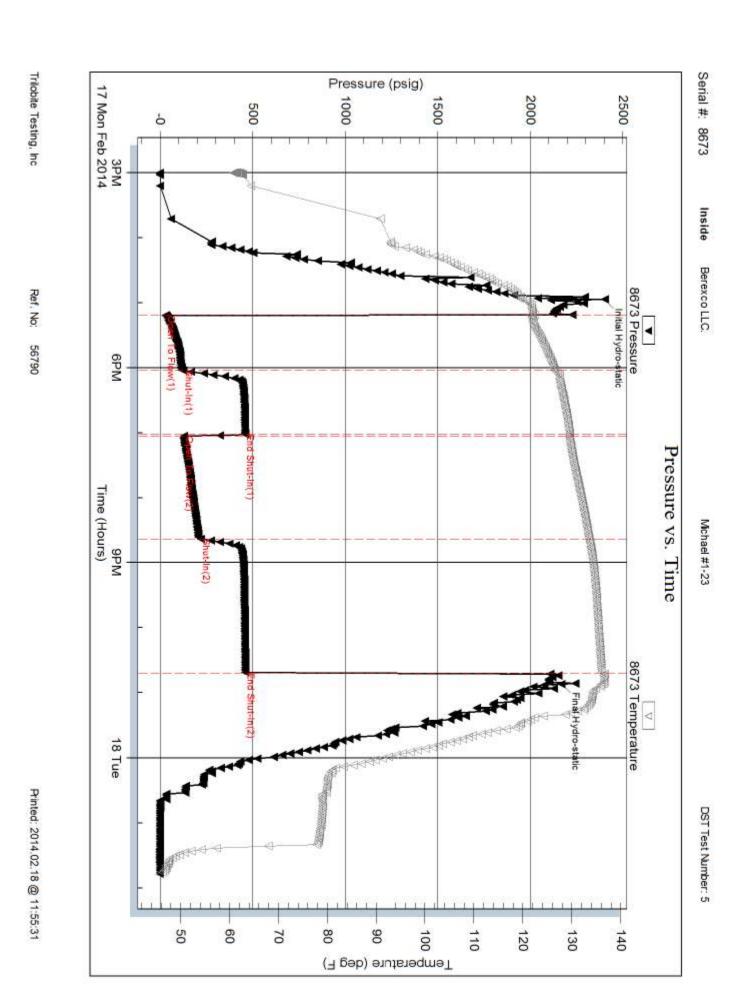
Total Length: 564.00 ft Total Volume: 3.120 bbl

Num Fluid Samples: 0 Num Gas Bombs: Serial #: 0

Laboratory Name: Laboratory Location:

Recovery Comments: 36 @ 64

Trilobite Testing, Inc Ref. No: 56790 Printed: 2014.02.18 @ 11:55:30





Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood Michael #1-23

Wichita Ks. 67206

Job Ticket: 56791

DST#: 6

ATTN: Pete Vollmer

Test Start: 2014.02.18 @ 15:00:00

#### **GENERAL INFORMATION:**

Formation: LKC-D,E

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 17:25:30 Tester: Chuck Kreutzer Jr.

Time Test Ended: 01:06:00 Unit No:

Interval: 4382.00 ft (KB) To 4434.00 ft (KB) (TVD) Reference Elevations: 3284.00 ft (KB)

Total Depth: 4434.00 ft (KB) (TVD) 3271.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 13.00 ft

Serial #: 8673 Inside

Press@RunDepth: 123.98 psig @ 4383.00 ft (KB) Capacity: 8000.00 psig

Start Date: 2014.02.18 End Date: 2014.02.19 Last Calib.: 2014.02.19

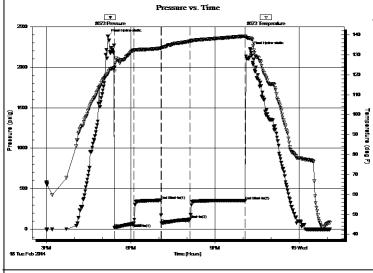
Start Time: 15:00:01 End Time: 01:06:00 Time On Btm:

Time Off Btm: 2014.02.18 @ 17:11:00

PRESSURE SUMMARY

TEST COMMENT: IF: Weak surface blow over 30 mins.

ISI: No blow back FF: No blow FSI: No blow back



Time	Pressure	Temp	Annotation
(Min.)	(psig)	(deg F)	
0	2382.04	120.30	Final Hydro-static
15	20.12	121.71	Open To Flow (1)
56	72.68	132.22	Shut-In(1)
114	359.53	133.27	End Shut-In(1)
115	78.05	133.56	Open To Flow (2)
176	123.98	136.79	Shut-In(2)
294	356.02	139.29	End Shut-In(2)
304	2223.73	138.14	Final Hydro-static

#### Recovery

Length (ft)	Description	Volume (bbl)	
92.00	mud-100%m	0.45	
92.00	vsocm-5%o95%m	0.45	
40.00	socm-30%o70%m	0.20	
* Recovery from multiple tests			

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

Trilobite Testing, Inc Ref. No: 56791 Printed: 2014.02.19 @ 07:52:00



Berexco LLC.

23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks.

Michael #1-23
Job Ticket: 56791

DST#: 6

67206

ATTN: Pete Vollmer

Test Start: 2014.02.18 @ 15:00:00

#### **GENERAL INFORMATION:**

Formation: LKC-D,E

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 17:25:30 Tester: Chuck Kreutzer Jr.

Time Test Ended: 01:06:00 Unit No:

Interval: 4382.00 ft (KB) To 4434.00 ft (KB) (TVD) Reference Elevations: 3284.00 ft (KB)

Total Depth: 4434.00 ft (KB) (TVD) 3271.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 13.00 ft

Serial #: 8651 Outside

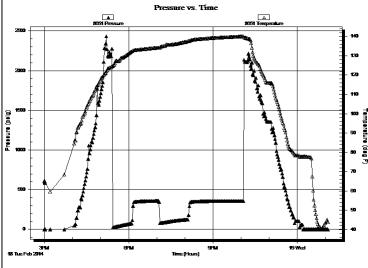
 Press@RunDepth:
 psig
 @
 4383.00 ft (KB)
 Capacity:
 8000.00 psig

Start Date: 2014.02.18 End Date: 2014.02.19 Last Calib.: 2014.02.19

Start Time: 15:00:01 End Time: 01:06:00 Time On Btm: Time Off Btm:

TEST COMMENT: IF: Weak surface blow over 30 mins.

ISI: No blow back FF: No blow FSI: No blow back



PRESSURE S	UMMARY
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	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
₫				
Temperature (deg F)				
J				

#### Recovery

Length (ft)	Description	Volume (bbl)
92.00	mud-100%m	0.45
92.00	vsocm-5%o95%m	0.45
40.00	socm-30%o70%m	0.20
* Recovery from mu	tiple tests	

#### Gas Rates

ssure (psig) Gas Rate (Mcf/d)

Trilobite Testing, Inc Ref. No: 56791 Printed: 2014.02.19 @ 07:52:00



**FLUID SUMMARY** 

Berexco LLC. 23 1s 36w Rawlins Ks.

2020 N. Bramblew ood

Wichita Ks.

67206

ATTN: Pete Vollmer

Michael #1-23

Job Ticket: 56791

DST#: 6

Test Start: 2014.02.18 @ 15:00:00

#### **Mud and Cushion Information**

Mud Type: Gel Chem Cushion Type: Oil API: deg API Mud Weight: Cushion Length: 10.00 lb/gal ft Water Salinity: ppm

Viscosity: 65.00 sec/qt Cushion Volume: bbl

Water Loss: 6.40 in<sup>3</sup> Gas Cushion Type:

Resistivity: Gas Cushion Pressure: ohm.m psig

Salinity: 700.00 ppm Filter Cake: 2.00 inches

#### **Recovery Information**

#### Recovery Table

Length ft	Description	Volume bbl
92.00	mud-100%m	0.452
92.00	vsocm-5%o95%m	0.452
40.00	socm-30%o70%m	0.197

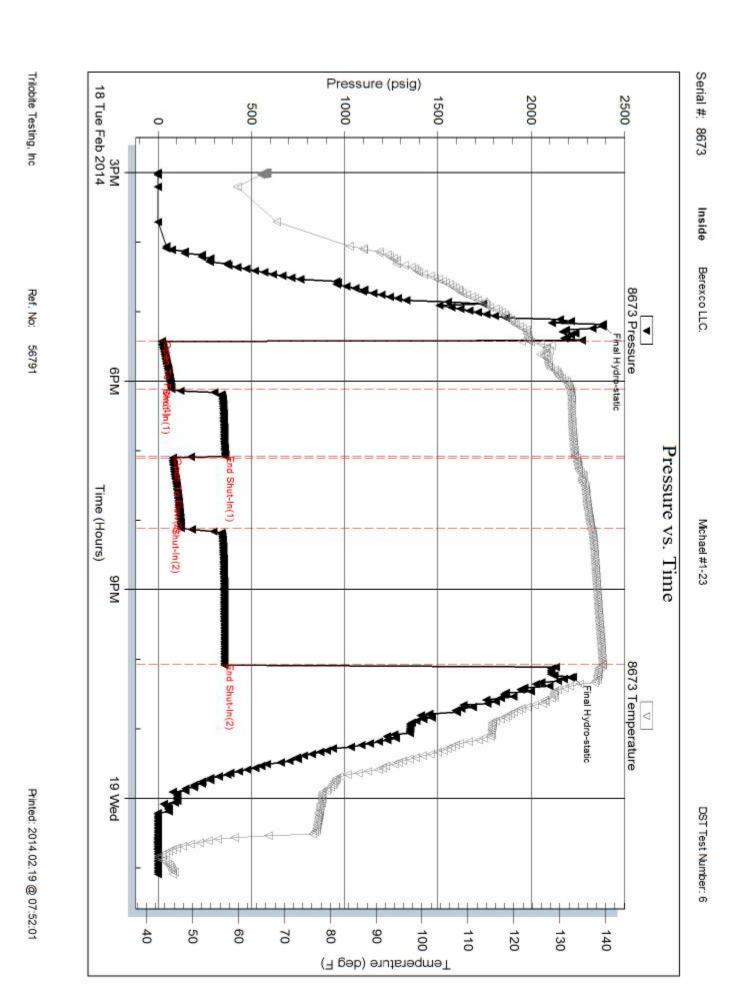
Total Length: 224.00 ft Total Volume: 1.101 bbl

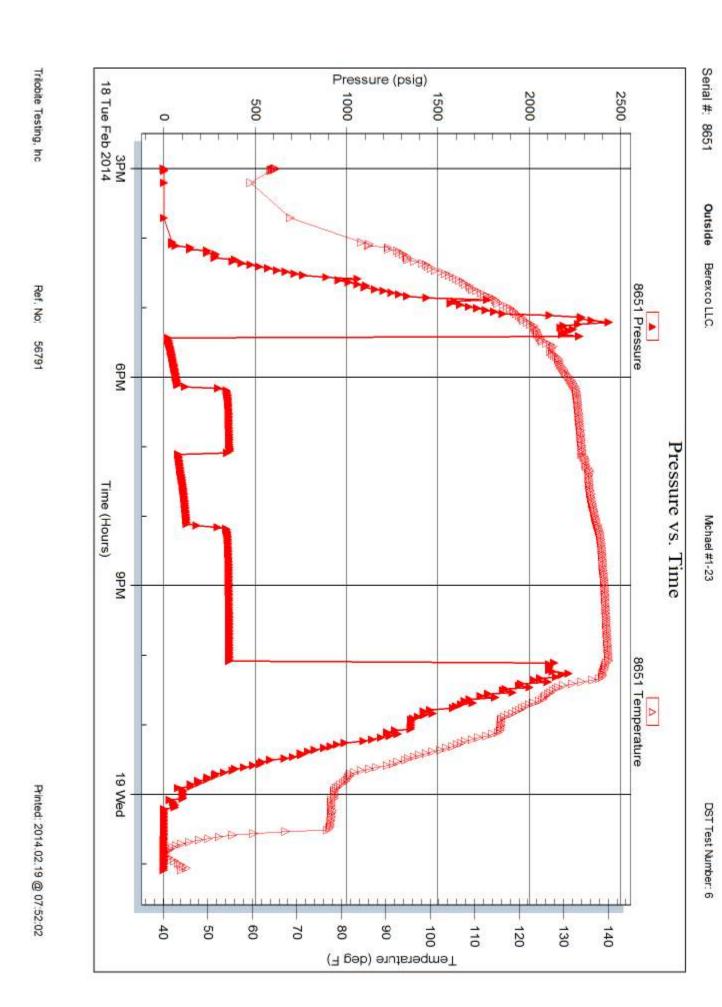
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Trilobite Testing, Inc Ref. No: 56791 Printed: 2014.02.19 @ 07:52:01





# BEREXCO LLC

#### MICHAEL 1-23

#### SW NW NW SEC 23 T1S R36W

# RAWLINS COUNTY, KANSAS

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#### **SUMMARY**

The Berexco LLC Michael 1-23 in Rawlins County, Kansas spud February 9, 2014 and reached a total depth of 4520' on February 9, 2014. Wellsite geological supervision commenced at 3000'. The primary objective was the Pennsylvanian Missourian Lansing-Kansas City carbonate benches, which produce in the East Fork field. Secondary zones of interest were the Foraker and Oread limestones. The Michael 1-23 was drilled using seismic and nearby well control.

Evaluation of the primary zones of interest was by drill stem testing after sample analysis. Six DSTs were run.

#### Foraker, Oread and Lansing-Kansas City

The Foraker was clean, non-porous limestone without shows.

Oread samples were fossiliferous wackestone with poor interparticle porosity, scattered oil staining, and good cuts. DST 1 in the Oread recovered 200 ft of mud. The drill stem test was deemed a misrun because the tool opened and slid 8 ft but ended short of bottom by 7 ft. The test tool was packed off with drill cuttings and cavings. The hole was cleaned by drilling two feet deeper. DST 2 recovered 238 ft of highly oil cut mud.

The Lansing A displayed fair interparticle and vuggy porosity with abundant heavy black oil stain in cuttings. DST 3 recovered 1158 ft of highly gas cut 19 gravity oil.

The Lansing B exhibited fossiliferous packstone and mudstone with poor to trace vuggy porosity, live black oil staining and good cuts. DST 4 recovered 110 ft of mud with spots of oil. The poor flow pressures and wireline logs indicated a non-porous B zone.

The Lansing C displayed abundant live black oil staining, fluorescence, and cut in packstone with fair to poor interparticle and vuggy porosity. DST 5 recovered 564 ft of gassy oil with a slight mud cut at the bottom plus 188 ft of gas in the drill pipe.

The Lansing D was mudstone with black heavy oil staining but no visible porosity. No drill stem testing was warranted in the D zone alone and the decision was made to drill through the E zone and test the D and E zones together. The Lansing E was predominantly non-porous with only trace pin-point vuggy porosity with a scattered show of black oil and cuts. DST 6 recovered 224 ft of mud and very slightly to slightly oil cut mud. The shut-in and flow pressures were low, probably due to depletion from nearby wells in the E zone.

The Lansing F was non-porous limestone with no sample shows.

#### **Oil Well Completion**

 $5\,1\!\!/\!2$  " production casing was run to complete the Michael 1-23 as an oil producer.

Peter J. Vollmer Consulting Wellsite Geologist, WPG #3369 February 2014

#### WELL DATA

OPERATOR: Berexco LLC

2020 North Bramblewood Drive

Wichita, Kansas 67206

WELL NAME: Michael 1-23

SURFACE LOCATION: 990' FNL & 330' FWL

SW NW NW Sec. 23, T1S, R36W

Rawlins County, Kansas

LATITUDE & LONGITUDE: 39.9563496, -101.3346704 (From State, calculated from footages)

BOTTOM HOLE LOCATION: Vertical hole

ELEVATIONS: 3271' GL 3284' KB

API NUMBER: 15-153-20984

BASIN: Mid-Continental Arch

FIELD: East Fork

HOLE SIZE: 12 1/4" to 310'; 7 7/8" to 4520'

CASING: 8 5/8" J-55 24# STC set to 310' KB

SPUD DATE: February 19, 2014

TD DATE: February 9, 2014

TOTAL DEPTH: 4520' Rig TD 4515' Log TD

LAST FORMATION: Pennsylvanian Lansing-Kansas City

WELL STATUS: Ran 5 1/2" production casing

**OPERATOR** 

REPRESENTATIVE: Dana Wreath - Vice President

WELLSITE GEOLOGIST: Peter J. Vollmer

# FORMATION TOPS

Formation KB	Sample Top	Log Top	Log TVD	Log Datum 3284
Pierre Sh	Cased	Cased	N/A	N/A
Niobrara Fm	N/A	1200	1200	+2084
Fort Hays Ls Mbr	N/A	1723	1723	+1561
Carlile Sh	N/A	1770	1770	+1514
Dakota	N/A	2154	2154	+1130
Cheyenne	N/A	2716	2716	+568
Blaine	N/A	3040	3040	+244
Stone Corral Anhydrite	3186	3190	3190	+94
Base Anhydrite	3227	3224	3224	+60
Neva	3671	3674	3674	-390
Foraker	3778	3784	3784	-500
Wabaunsee	3941	3944	3944	-660
Topeka	3994	4000	4000	-716
Deer Creek Sand	4034	4034	4034	-750
Oread	4107	4110	4110	-826
Lansing-Kansas City				
"A"	4212	4212	4212	-928
"B"	4266	4270	4270	-986
"C"	4329	4330	4330	-1046
"D"	4375	4377	4377	-1093
"E"	4417	4418	4418	-1134
"F"	4455	4456	4456	-1172
TD Driller	4520			
TD Logger		4515	4515	-1231

The following descriptions are interpretive. Rig crew members collected unlagged samples from 3500' to 4625' TD. Depths are rig depths except where noted as wireline.

3500' - 3590'	SHALE: reddish orange, firm to soft, fissile to blocky, very silty, sandy in part, non to slightly calcareous, trace light tan Limestone.	
3590' - 3606'	SANDSTONE: light gray to reddish brown, friable to firm, very fine grained grading to silt, sub rounded to rounded, well sorted, calcareous cement, occasional clay filled, no visible porosity no shows.	
3606' - 3671'	SHALE: red, firm to hard, fissile to blocky, very silty, sandy in part, non to slightly calcareous, trace tan Limestone.	
NEVA	SAMPLE TOP: 3671' LOG TOP: 3674' SUBSEA: -390'	
3671' - 3678'	LIMESTONE: white to light gray, firm to hard, chalky, fossil fragments, tight, no shows.	
3678' - 3736'	SHALE: red brown, soft to firm, sub blocky, non calcareous, occasional silty, with interbedded LIMESTONE: white to light gray, firm to hard, cryptocrystalline, tight, no shows.	
3736' - 3748'	LIMESTONE: light gray, hard, cryptocrystalline, very slightly sandy, tight, no shows.	
3748' - 3778'	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional silty.	
FORAKER	SAMPLE TOP: 3778' LOG TOP: 3784' SUBSEA: -500'	
3778' - 3788'	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragment, clean, tight, no show.	
3788' - 3800'	SHALE: gray, firm, blocky, non to slightly calcareous, fossil fragments.	
3800' - 3818'	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragment, algal stain, slightly sandy at base, tight to trace intercrystalline porosity, no shows.	
3818' - 3832'	SANDSTONE: very light gray to white, friable, very fine grained, subangular to subrounded, well sorted, calcareous cement, clay fill, black specks, tight to trace porosity, no shows.	

3832' - 3896'	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional silty,
3632 - 3670	occasional light gray Limestone stringers.
3896' - 3926'	SHALE: dark gray to black, firm, fissile to blocky, non calcareous, carbonaceous in part, fossil fragments(Brachiopods).
WABAUNSEE	SAMPLE TOP: 3941' LOG TOP: 3944' SUBSEA: -660'
3926' - 3950'	LIMESTONE: white to light reddish brown, mottled, soft to firm, cryptocrystalline, chalky texture, red brown SHALE partings, rare fossil fragment, tight, no shows.
3950' - 3982'	SHALE: brown red, soft to firm, blocky, n to slightly calcareous, with interbedded LIMESTONE: white to light gray, occasionally light reddish brown mottling, hard to firm, cryptocrystalline, fossil fragments, tight, no shows.
3982' - 3994'	SHALE: reddish brown, maroon, gray, mottled in part, soft to firm, blocky, non calcareous, moderately to very silty in part.
TOPEKA	SAMPLE TOP: 3994' LOG TOP: 4000' SUBSEA: -716'
3994' - 4002'	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragments (Fusulinids), sparry calcite, trace black dead oil, tight, no shows.
4002' - 4018'	SHALE: gray, firm, platy, non to slightly calcareous, dull luster.
4018' - 4034'	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragments, clear calcite fill in vugs, opaque chert, tight, no shows.
DEER CREEK SAND	SAMPLE TOP: 4034' LOG TOP: 4034' SUBSEA: -750'
4034' - 4053'	SANDSTONE: light gray to light grayish brown, friable to soft, very fine grained, well rounded, well sorted, calcareous, clay filled, plant remains, predominantly loose grains, no visible porosity, no show.
4053' - 4072'	LIMESTONE: white to light reddish brown, mottled, firm to hard, mudstone, very chalky, argillaceous in part, interbedded reddish brown Shale partings, tight, no shows.

4072' - 4107'	SHALE: reddish brown, brownish maroon, gray, mottled in part, firm, blocky, occasional slightly calcareous, non to slightly silty in part, clayey to sticky.
OREAD	SAMPLE TOP: 4107' LOG TOP: 4110' SUBSEA: -826'
4107' - 4130'	LIMESTONE: cream to white, firm to hard, wackestone to packstone, fossil fragments, scattered black to dark brown live oil stain, tight to trace interparticle and vuggy porosity, bright yellowish white fluorescence, immediate blooming yellowish white cuts, with slow streaming cuts, good show.
4130' - 4136'	SHALE: dark gray to black, firm, fissile, slightly to very carbonaceous, non to slightly calcareous, fossil fragments, gas odor.
4136' - 4160'	LIMESTONE: gray to light gray, firm to hard, mudstone, rare fossil, slightly argillaceous in part, tight, no show.
4160' - 4172'	SHALE: reddish brown, gray, firm, blocky, non to slightly calcareous, silty in part.
4172' - 4190'	LIMESTONE: gray to grayish brown, firm, mudstone, argillaceous, gray Shale partings, tight.
4190' - 4212'	SHALE: gray to reddish brown to maroon, firm, blocky, non to slightly calcareous.
LANSING- KANSAS CITY "A"	SAMPLE TOP: 4212' LOG TOP: 4212' SUBSEA: -928'
4212' - 4231'	LIMESTONE: white to cream, firm to hard, mudstone to grainstone, occasional interclasts and peloids, fossil fragment, sandy at base, abundant black heavy oil stain, trace to fair interparticle porosity, trace vuggy porosity, bright yellowish white fluorescence, instant yellowish white cuts, very good show.
4231' - 4232'	SHALE: gray to dark gray, firm, blocky, non to slightly calcareous.
4232' - 4242'	SANDSTONE: white to light gray to light reddish brown, mottled, firm to friable, very fine grained, well rounded, well sorted, calcareous cement, clay filled, clean, tight to poor porosity, no show.
4242' - 4266'	SHALE: dark gray to reddish brown to maroon, firm, blocky, non to slightly calcareous, silty in part.

LANSING-	
KANSAS CITY "B"	SAMPLE TOP: 4266' LOG TOP: 4270' SUBSEA: -986'
4266' - 4284'	LIMESTONE: white, firm to hard, mudstone to packstone, occasional fossil fragments, clear calcareous fracture fill, patchy live heavy black oil, predominant tight with trace intergranular porosity, bright yellowish white fluorescence, instant blooming bright yellowish white cuts, fair show.
4284' - 4298'	SHALE: gray to dark gray, firm, platy to fissile, slightly carbonaceous in part.
4298' - 4310'	LIMESTONE: white to light gray, firm, cryptocrystalline, gray Shale partings, fossil fragments, argillaceous in part, trace pyrite, tight, no show.
4310' - 4329'	SHALE: brown red to gray to maroon, firm, platy, slightly calcareous, silty in part.
LANSING- KANSAS CITY "C"	SAMPLE TOP: 4329' LOG TOP: 4330' SUBSEA: -1046'
4329' - 4344'	LIMESTONE: white, firm, mudstone to packstone, fossil fragments, abundant black heavy oil, poor intergranular and fair vuggy porosity, bright yellowish white fluorescence, instant blooming yellowish white cuts, with slow streaming cuts, good show.
4344' - 4357'	SHALE: gray to dark gray, firm, sub blocky, non to slightly calcareous, fossil fragments.
4357' - 4364'	LIMESTONE: white to dark gray, mottled in part, hard to firm, mudstone to wackestone, fossil, clear calcite fill in vugs, spotty black heavy oil stain, trace intergranular and vuggy porosity, bright yellowish white fluorescence, instant blooming yellowish white cuts, good show.
4364' - 4375'	SHALE: gray, firm, blocky.
LANSING- KANSAS CITY "D"	SAMPLE TOP: 4375' LOG TOP: 4377' SUBSEA: -1093'
4375' - 4386'	LIMESTONE: light gray to white, firm, grainstone to mudstone, fossil fragments, tight to trace intergranular porosity, trace spotty black oil, dull yellow fluorescence, dull yellowish white cut, poor show.
4386' - 4400'	SHALE: dark gray to gray, firm, blocky, white Limestone partings.

4400' - 4417'	SHALE: dark reddish to brown to grayish green to gray, firm, blocky to platy, non calcareous, silty, pyrite, interbedded Limestone.
LANSING- KANSAS CITY "E"	SAMPLE TOP: 4417' LOG TOP: 4418' SUBSEA: -1134'
4417' - 4434'	LIMESTONE: white to light gray, hard to firm, mudstone to wackestone, predominant chalky texture, occasional fossil, patchy black oil specks and stain, tight to trace vuggy porosity, bright yellowish white fluorescence, blooming yellowish white cut, poor to fair show.
4434' - 4455'	SHALE: dark gray to black, firm, blocky, calcareous, fossils, slightly carbonaceous in part, pyrite.
LANSING- KANSAS CITY "F"	SAMPLE TOP: 4455' LOG TOP: 4456' SUBSEA: -1172'
4455' - 4462'	LIMESTONE: cream to white to light gray, firm to hard, mudstone to wackestone, scattered fossil fragments, trace black dead oil, very tight, no shows.
4462' - 4473'	SHALE: dark gray to black, firm, blocky, calcareous, fossil (Brachiopod), carbonaceous in part.
4473' - 4488'	LIMESTONE: cream to white, firm to hard, mudstone, fossil fragment, very chalky, dense, with interbedded dark gray Shale partings, tight, no shows.
4488' - 4520' TD	SHALE: gray to dark gray, firm, platy to blocky, non to very slightly calcareous, fossil fragments, interbedded white to light gray chalky Limestone.

#### **SERVICES**

CONTRACTOR: Beredco Drilling Inc., Rig 2

Toolpusher: Milo Salinas

DRILLING FLUIDS: Morgan Mud, Inc. McCook, ND Mud Type: Freshwater Chemical 308-340-5946

Engineer: Dave Lines

MUD LOGGING: None

WELLSITE GEOLOGY: T. M. McCoy & Co., Inc. Wilson, WY Peter J. Vollmer 307-733-4332

DRILL STEM TESTING: Trilobite Testing, Inc. Hays, KS

Chuck Kreutzer, Jr.

DST 1: 4072' - 4120' Oread DST 2: 4070' - 4122' Oread DST 3: 4154' - 4250' LKC "A" DST 4: 4228' - 4290' LKC "B" DST 5: 4280' - 4364' LKC "C" DST 6: 4382' - 4434' LKC "D" & "E"

DIRECTIONAL DRILLING: None

Pioneer Wireline Services WIRELINE LOGS: Hays, KS 785-625-3858

RAG: Surface casing - TD

Micro: 3500' - TD Engineer: Don Schmidt