Confidentiality Requested:

Yes No

# KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1241761

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

_ API No. 15
_ Spot Description:
Feet from North / South Line of Section
Feet from East / West Line of Section
Footages Calculated from Nearest Outside Section Corner:
□NE □NW □SE □SW
, Long:
(e.g. xx.xxxxxx) (e.gxxx.xxxxxx)
Datum: NAD27 NAD83 WGS84
County:
Lease Name: Well #:
Field Name:
Producing Formation:
Elevation: Ground: Kelly Bushing:
Total Vertical Depth: Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to:w/sx cmt.
Drilling Fluid Management Plan
Chloride content:ppm Fluid volume:bbls
Dewatering method used:
Location of fluid disposal if hauled offsite:
Operator Name:
_
Lease Name: License #:
Quarter Sec.         TwpS. 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 III Approved by: Date:

Page Two

1241761

Operator Name:			Lease Name:			Well #:	
Sec Twp	S. R	East West	County:				
open and closed, flow	ring and shut-in pressu	ormations penetrated. Dres, whether shut-in preith final chart(s). Attach	ssure reached stati	c level, hydrosta	tic pressures, bott		
		tain Geophysical Data a r newer AND an image f		gs must be ema	iled to kcc-well-lo	gs@kcc.ks.gov	v. Digital electronic log
Drill Stem Tests Taker (Attach Additional S		Yes No			on (Top), Depth an		Sample
Samples Sent to Geo	logical Survey	☐ Yes ☐ No	Nam	9		Тор	Datum
Cores Taken Electric Log Run		Yes No					
List All E. Logs Run:							
		0.0000					
		CASING Report all strings set-o	RECORD Ne conductor, surface, inte		ion, etc.		
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Durmaga	Depth		CEMENTING / SQU	EEZE RECORD			
Purpose: Perforate	Top Bottom	Type of Cement	# Sacks Used		Type and P	ercent Additives	
Protect Casing Plug Back TD							
Plug Off Zone							
Did you perform a hydrou	ulia fracturing tractment or	a this well?		Yes	No (If No, ski	n quantiana 2 an	(d 2)
	ulic fracturing treatment or otal base fluid of the hydra	aulic fracturing treatment ex	ceed 350,000 gallons?	= =	= ' '	p questions 2 an p question 3)	u 3)
Was the hydraulic fractur	ring treatment information	submitted to the chemical o	disclosure registry?	Yes	No (If No, fill	out Page Three	of the ACO-1)
Shots Per Foot		N RECORD - Bridge Plug			cture, Shot, Cement		
	Specify Fo	ootage of Each Interval Perf	orated	(Ai	mount and Kind of Ma	terial Used)	Depth
TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run:	Yes No		l
Date of First, Resumed	Production, SWD or ENH	R. Producing Meth		Gas Lift C	Other <i>(Explain)</i>		
Estimated Production Per 24 Hours	Oil B		Mcf Wate			as-Oil Ratio	Gravity
DISPOSITIO	ON OF GAS:		METHOD OF COMPLE	TION:		PRODUCTIO	DN INTERVAL:
Vented Sold		Open Hole	Perf. Dually	Comp. Cor	mmingled	1110000110	TO THE LANGE.
	bmit ACO-18.)	Other (Specify)	(Submit A	ACO-5) (Sub	mit ACO-4)		

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Owens Trust 1-19
Doc ID	1241761

# Tops

Name	Тор	Datum
Niobrara	1096	+2087
Ft. Hays	1620	+1563
Carlile Sh.	1677	+1506
Dakota	1894	+1289
Cheyenne	2583	+600
Blaine	2941	+242
Cedar Hills	3020	+163
Stone Corral Anhydrite	3142	+41
Anhydrite (base)	3177	+ 6
Chase Limestone	3342	-159
Neva	3599	-416
Red Eagle	3662	-479
Foraker	3716	-533
Wabaunsee	3832	-649
Topeka	3938	-755
Deer Creek Lime	4017	-834
Oread	4071	-888
Heebner Sh.	4102	-919
Lansing/KS City A	4147	-964
LKC B	4210	-1027
LKC C	4261	-1078
LKC D	4302	-1119
LKC E	4350	-1167
LKC F	4392	-1209

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Owens Trust 1-19
Doc ID	1241761

# Tops

Name	Тор	Datum
Pawnee	4546	-1363
Ft. Scott	4580	-1397
Cherokee	4632	-1449
RTD	4750	-1567
LTD	4746	-1571

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	Owens Trust 1-19
Doc ID	1241761

# 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	310	Common	2% gel, 3% cc
Production	7.875	5.50	15.50	4525	Lite & Common	10% salt, 2% gel, 5# Gilsonite



# ALLIED OIL & GAS SERVICES, LLC 064827 Federal Tax I.D. # 20-8651475

SOUTHLAKE, TEXAS 76092		50	CEPOINT:	7/5
DATE 11-26-19 19 13 38 w	ALLED OUT ON L	ocation 5 g.m.	JOB START	JOB FINISH
	LNO State Tie	: خ	Cheyenne.	STATE
	Winto		<u> </u>	
CONTRACTOR Beredio	OWNER Sam	٤		
TYPE OF JOB Surface				
HOLE SIZE 1274 T.D. 310	CEMENT	20.	- 1 -	
CASING SIZE 85/K DEPTH 308	AMOUNT ORDERE	2000	SKS (on	23/100
TUBING SIZE DEPTH	11.gel			
DRILL PIPE DEPTH TOOL DEPTH	,		<del></del>	
TOOL DEPTH PRES. MAX MINIMUM	2010101 1	1001.0	01700	4027.50
MEAS. LINE SHOE JOINT	COMMON	() () () () () () () () () () () () () (	@ <u>//. 7/7</u> @	100/100
CEMENT LEFT IN CSG. 15	GEL Z	1777	@ . <i>50</i>	211.50
PERFS.		35 H	@ 1.10	128,50
DISPLACEMENT 18,5 66/ H20	ASC		@ <u></u>	1/20/20
EQUIPMENT			@	
25/OH MINIT		٠, مر ،	. @	
PUMPTRUCK CEMENTER Paul Placer	Malerial 7	arcoll	@	5473750
			@ 1	
# 120 HELPER TUR Plipse / Juan 3 BULK TRUCK	1 1/53/10	1151	7@ <u>/</u>	
well that paring ()	1	1 -	@	
BULK TRUCK	*		@	-
# DRIVER Shawn Totro	bitter to contain the later and a second relative to the second relative to the second	0.5		·
- mush fatt	HANDLING AND			603.38
min e e marci	MILEAGE 11:10 for	54.50 mi	× 3.75	1526.25
REMARKS:			TOTAL	•
mry 225 slcs				
Displace w/ water		SERVIC	Œ	
cement did circ	DEPTH OF JOB		7	10'
	PUMP TRUCK CHAI	ROE		512.25
	EXTRA FOOTAGE			.) 1/2/10-0
			<b>@</b>	
		50	@	32500
Thank You.	MILEAGE MIHV	(c)	@ 7.75 @ N/C_	385000
		(c)	@ 7.70	385,00 275=00 N/C
Paul + Crew	MILEAGE M/HV MANIFOLD Javes	(c)	@ 7.75 @ N/C_	385,00 375,00 N/C
Paul + Crew	MILEAGE M/HV MANIFOLD Javes	(c)	@ 7.76 @ N/C_ @ 4.40 @	NIC
CHARGETO: BETCKTO	MILEAGE M/HV MANIFOLD Javes	(c)	@ 7.76 @ N/C_ @ 4.40 @	NIC
CHARGETO: BETCKTO STREET	MILEAGE M/HV MANIFOLD Javes	(c)	@ 7.76 @ N/C_ @ 4.40 @	385,00 275-00 N/C
CHARGETO: BETCKTO	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.76 @ N/E_ @ 4.40 @	<u>N/C</u>
CHARGETO: BETCKTO STREET	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.76 @ N/C_ @ 4.40 @	<u>N/C</u>
CHARGETO: BETCKTO STREET	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.76 @ N/C @ 4.40 @ TOTAL	<u>N/C</u>
CHARGETO: BETCKTO STREET	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.76 @ N/E_ @ 4.40 @	<u>N/C</u>
CHARGETO: BETCKTO  STREET STATE ZIP	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.76 @ N/C_ @ 4.40 @ TOTAL EQUIPMEN @	<u>N/C</u>
CHARGETO: DECENTO  STREET STATE ZIP  To: Allied Oil & Gas Services, LLC.	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.76 @ N/C @ 4.40 @ TOTAL EQUIPMEN @	<u>N/C</u>
CHARGETO: DETCX/TO  STREET STATE ZIP  To: Allied Oil & Gas Services, LLC. You are hereby requested to rent cementing equipment	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.75 @ N/C_ @ 4.40 @ TOTAL EQUIPMEN @ @	<u>N/C</u>
CHARGETO: DETCX/TO  STREET	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.76 @ N/C @ 4.40 @ TOTAL EQUIPMEN @	<u>N/C</u>
CHARGE TO: DEFCENTO  STREET  CITY STATE ZIP  To: Allied Oil & Gas Services, LLC. You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.75 @ N/C_ @ 4.40 @ TOTAL EQUIPMEN @ @ @	<u>N/C</u>
CHARGE TO: DETCX/TO  STREET	MILEAGE MILLU  MANIFOLD Sweet	33/31	@ 7.75 @ N/C_ @ 4.40 @ TOTAL EQUIPMEN @ @	<u>N/C</u>
CHARGETO: DETCKTO  STREET	MILEAGE MILLU  MANIFOLD Sweet  MILU  PLUG	50 50 8 50 8 50 8 50 8 50 8 50 8 50 8 5	@ 7.75 @ N/C_ @ 4.40 @ TOTAL EQUIPMEN @ @ @	<u>N/C</u>
CHARGE TO: DETCX/TO  STREET	MILEAGE MILLU  MANIFOLD JAZZO  MILU  PLUG  SALES TAX (If Any).	50 50 & FLOAT	@ 7.76 @ N/C @ 4.40 @ TOTAL EQUIPMEN @ @ @ @	<u>N/C</u>
CHARGETO: DETCKTO  STREET  CITY STATE ZIP  To: Allied Oil & Gas Services, LLC.  You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.	MILEAGE MILLU  MANIFOLD Sweet  MILU  PLUG	50 50 & FLOAT	@ 7.76 @ N/C @ 4.40 @ TOTAL EQUIPMEN @ @ @ @	<u>N/C</u>
CHARGETO: DETCKTO  STREET  CITY STATE ZIP  To: Allied Oil & Gas Services, LLC.  You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.	MILEAGE MILLU  MANIFOLD JACO  MILLU  PLUG  SALES TAX (If Any).  TOTAL CHARGES	33/37/2 & FLOAT	@ 7.76 @ N/C @ 4.40 @ TOTAL EQUIPMEN @ @ @	1 006.88
CHARGETO: DETCKTO  STREET	MILEAGE MILLU  MANIFOLD JAZZA  MILLU  PLUG  PLUG  TOTAL CHARGES _  DISCOUNT 2 77	33/37/3 & FLOAT	PAIL  PAIL	1,006.88
CHARGETO: DETCKTO  STREET  CITY STATE ZIP  To: Allied Oil & Gas Services, LLC.  You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.	MILEAGE MILLU  MANIFOLD JAZZA  MILLU  PLUG  PLUG  TOTAL CHARGES _  DISCOUNT 2 77	33/37/3 & FLOAT	@ 7.76 @ N/C @ 4.40 @ TOTAL EQUIPMEN @ @ @	1 006.88



# CEMENTING LOG

STAGE NO.

Date 11-	26-14 Dist	uici Oakl	en KS	. Ticket No. LY &	47	CEMENT DA		·	
Company_	bereveo i	/c	1	Rig Beredeo				ft³/sk Density	DD
Lease				. Well No				n / 3k Density	FF
County	Chevenne	<del> </del>		State KS					
Location .	19-1-38	<u> </u>		Field		LEAD: Pump	Time	hrs, Type	
				<b></b>				Excess	
CASING		_	PTA 🗌	Squeeze 🔲 🐧		Amt		It <sup>3</sup> /sk Density	PP.
0	Surface	=		Production 🔲 L		TAIL: Pump T	īme	hrs. Type Com 3	<del></del>
Size	Type N	ow w	eight	Collar		2% 04	2./	Event	
-			4			Amt	25 Sks Yield 11:	36 It 3/sk Density 15.0	& ppc
•						WATER: Lead	6:5 gals/sl	k Tail gals/sk Total 34.0 e	1 Bbl
Casing De	oths: Top	KB	Bottom ,	308		Pump Trucks	Used 120 - 72	ler / Juan 3	
						Bulk Equip<	566/595	- Arthony & Shaw	, 7
Drill Pipe: S	iza	Waiah		Collors			-		
Open Hole:	Size 12 1/4	T.D	310 11	Collars P.B. to	ft.	Float Equin: M	lanufacturer		
CAPACITY	FACTORS:							Depth	
Casing:	Bbls/Lin. ft	,0637	Lin. ft./	'8bl				Depth	
Open Holes		-		'Bbl				rgs Top Btm	
Drill Pipe:			-	'Bbl				go Top Offit	
Annulus:				Bbl		Special Equip.			
				Bbl		Disp. Fluid Typ	e water	Amt /Bi ST_ Bbls. Weight	PPG
Perforations				ft. Amt		Mud Type		Weight	
COMPANY	REPRESENTATIVE					CEMENTER	Tow I Do	eaver	
TIME	PRESSU	IRES PSI	FL	UID PUMPED I	DATA				
_ AM PH	A DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	RATE Bbls Min.		<b>.</b>	REMARKS	
						,  -/-	8/d Satex	y meeting	
2130						Strive	tement		
	004	-	34.82	3189	7	<del></del>		9 15-7	
			1.0	1 //// (2)		Stop	coment		
	0		10.0	44.82	<u> </u>	Ing.	sh-up pul	up & lines	
	300		8.5	23.29	10		stace w/ w	in York	
3.00						Sho	t-in swedg	s.l.	
W						1	rent all a		•
~									<del></del>
							1 3011 N		
-00-00-00-00-00-00-00-00-00-00-00-00-00			•		GENERAL	-			
				- E-Marine Colorida Company and a second and					
						Hola	Soletym	eeting	•
								, , ,	
			0/1000000 100		######################################			Thank	1
								,	
Patholica material formation	WEEK AND							1.00,1	

# ALLIED OIL & GAS SERVICES, LLC 064834

Federal Tex J.D	,#20-8651475	,		
REMIT TO P.O. BOX 93999		SERV	ACE POINTS.	
Southlake, Texas 76092	•	52.4	Oakl	ear LS
SEC. TWE RANGE IC				
DATE J-C-14 SEC. 19 TWR S RANGE 37 N	ALLED OUT	ON LOCATION	JOH START	JOB FINISH
Owas -	<u> </u>		COUNTY	I <u>M:DDs.67.</u> State
FRASE INSECT 1-11 FOCUTION DIVID	14 N 102	re line.	Cheverile	<u>ľž</u> s \
OLD OR (YEV) Circle one) 2 E 3 55 W	Jinto			<u> </u>
CONTRACTOR ROTERIES 2	<b>∵</b> ∵		1.00	0,
	OWNER De	<u>ne _</u>	<u> </u>	
HOLESIZE 7718 TD. 4750	čirova raktór			
CASINO SIZE 5/2 DEPTH 1525	CEMENT	USD	1.1.	1-2/21 5
TUBING SIZE DEPTH	AMOUNT ORDI	TRED 700	3/3/1/c	
DRILL PIPE DEPTH	101 8014	5 dallsonde	9505k	<u>5 (00</u>
TOOL DEPTH	+ 14 Ex 15 ( ) T	es gresonas		
PRES. MAX MINIMUM	COMMON	250sk	a 17.9n	4475.00
MEAS, LINE SHOE JOINT 42	POZMIX		**************************************	7
CEMENT LEFT IN CSG. 43	GEL	470 9	0.00	235.00
PERFS.	CHLORIDE		_@	
DISPLACEMENT 1010.10 6 100	ASC			
EQUIP <u>ME</u> NT	Lite	<u> 450 sl.s</u>	.@. <u>19.89                                   </u>	8750.50
	Flo-scal	<u>336 =</u>	.@ <u>2.77</u>	1003.86
PUMPTRUCK CEMENTER \ a_1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<u> </u>	1360* 1250*	_@ <u>.67</u>	884.00
# 100 HELPER WAY FLOSATIONS	<u> </u>	1400-	. <u>@ _78</u>	1992-00
# 1000 DRIVER OFFICE Grow 3	Matrical	Total	<u>.@</u>	76 725.3
	5/99	24/3/4	-j~	with the second state of the second
is Coordon's marketing		the state of the s	· · · · · · · · · · · · · · · · · · ·	
# 890/24 DRIVER J-GITY (TUS)	HANDLING 83	5,24-443.	. © <del>3</del> .48	2046.60
	MILEAGE 34.	3 to 15 85 0 mi	¥2.75	4720.3/
			· .	
REMARKS:	< b		TÖTAL	
REMARKS: Run Pine / Floor Proposed	30		TÖTAL	<del></del>
Dall through @ Jobs, circ I he, mix 30 5ks	1716,50	SERVIC		<del>- ; · ;</del>
Run Pine / Floor equip, Drop ball, proper to all through @ 700, circ I hr, mix 30 sks in E. H., mix 20 sks	1716,50	ŞERVIÇ		· · · · · · · · · · · · · · · · · · ·
Run Pipe / Flood equip, Drop ball, proper ball through @ 30 sts in M.H. Mr. 400sts live tail in 250 sts (om, work-up to	DEPTH OF JOB			<del></del> _
Run Pine / Floor equip, Drop ball, proper to all through @ 700, circ I hr, mix 30 sks in E. H., mix 20 sks	DEPTH OF JOB PUMP TRUCK C	HARGE		5'
Run Pipe / Flood equip, Drop ball, proper ball through @ 30 sts in M.H. Mr. 400sts live tail in 250 sts (om, work-up to	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAGE	HARGE	UB 457: 2.2	765.75
Run Pipe Floot equip, Drop ball, pringed to all through @ 30 sts in E. H., mix 30 sts in M. H., mix 400sts lite tail is 250 sts (om, works up to pt release plus, displace ut water plus	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (N)	Harge DB HV 50	457.76	765.75
Run Pipe Floot equip, Drop ball, pringed to all through @ 30 sts in E. H., mix 30 sts in M. H., mix 400sts lite tail is 250 sts (om, works up to pt release plus, displace ut water plus	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (N) MANIFOLD	HARGB DB HV 50	457.76 @ 77.76	765.75
Run Pipe Florit equip, Drop hall, pringed to all through @ Job, circ I hr, mix 30 sks in E. H., mix 20 sks in M. H., Mix 400sks live, tail is 250 sts (om, works up to pit release phys. displace w/ works phys. displace w/ works phys. dist land @ 2100 1 16th 1250 the coment dist circ (20 bb) to pit	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (N)	HARGB DB HV 50	457.76	765.75
Run Pipe Florit equip, Drop hall, pringed to all through @ Job, circ I hr, mix 30 sks in E. H., mix 20 sks in M. H., Mix 400sks live, tail is 250 sts (om, works up to pit release phys. displace w/ works phys. displace w/ works phys. dist land @ 2100 1 16th 1250 the coment dist circ (20 bb) to pit	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (N) MANIFOLD	HARGB DB HV 50	457.76 @ 77.76	765.75
Run Pine Florit equip, Drop ball, pringed to all through @ Job, circ I hr, mix 30 sks in E.H., mix 20 sks in M.H., Mix 400sks live, tail in 250 sts (om, work-up to pit release plus, displace w/ worker plus did land @ Blos Lift 1250 the coment did circ (2006) to pit ?  CHARGETO: Deservo IIC	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (A) MANIFOLD (A)	HARGE JE HV 50 Yad 50	457.76 @ 77.76 @ 440	765.75 385.00 N/C
Run Pine Floot equip, Drep ball, property Dell through @30 sts in M. H. Mix 400 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 400 street i	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (A) MANIFOLD (A)	HARGE JE HV 50 Yad 50	457.76 @ 77.76 @ 440	765.75 385.00 N/C
Run Pine Floot equip, Drep ball, property Dell through @30 sts in M. H. Mix 400 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 400 street i	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (A) MANIFOLD (A)	HARGE JE HV 50 Yad 50	457.76 @ 77.76 @ 440	765.75
Run Pine Florit equip, Drop ball, pringed to all through @ Job, circ I hr, mix 30 sks in E.H., mix 20 sks in M.H., Mix 400sks live, tail in 250 sts (om, work-up to pit release plus, displace w/ worker plus did land @ Blos Lift 1250 the coment did circ (2006) to pit ?  CHARGETO: Deservo IIC	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (N) MANIFOLD A MILEA	HARGE JE HV 50 Yad 50	2 4522 	765.75 385.00 N/C N/C 99/7.23
Run Pine Floot equip, Drep ball, property Dell through @30 sts in M. H. Mix 400 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 400 street i	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (N) MANIFOLD A MILEAGE (N)	HARGE	2 452.  9 77.76  9 440  2 TOTAL	765.75 385.00 N/C N/C 99/7.23
Run Pine Floot equip, Drep ball, property Dell through @30 sts in M. H. Mix 400 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 400 street i	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAG MILEAGE (N) MANIFOLD A MILEAGE (N) PL	HARGE BEACH STO	2 452.  9 77.76  9 440  2 TOTAL	385.00 385.00 NIC 10)
Run Pine Floot equip, Drep ball, property Dell through @30 sts in M. H. Mix 400 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 30 sts in R. H., Mix 400 street i	DEPTH OF JOB PUMP TRUCK OF EXTRA FOOTACE MILEAGE (N) MANIFOLD A MILEAGE (N) PL AAI PL AAI	HARGE  HV 50  Vac S 50  UG & FLOAT	2 4522	385.00 385.00 N/C 10 99/7.73 545.00
Run Pipe   Floor equip, Drop ball, pringed be II through @ Job   circ   hr mix 30 sts   in R. H. mix 30 sts   in R. H. mix 30 sts   in R. H. mix 400 sts   little through 250 sts (om, works up to pit release plug did land @ Jloo   1,6+1600   coment clid circ (30 bb) to pit   coment clid circ (30 bb) to pit   coment clid circ (30 bb) to pit   crop ent crop   coment clid circ (30 bb) to pit   crop ent crop   coment clid circ (30 bb) to pit   crop ent crop   coment clid circ (30 bb) to pit   crop ent crop   coment clid circ (30 bb) to pit   crop ent crop   coment clid circ (30 bb) to pit   crop ent crop	DEPTH OF JOB PUMP TRUCK OF EXTRA FOOTACE MILEAGE (N) MANIFOLD A MILEAGE (N) PL AAI PL AAI	HARGE BEACH STO	2 4522 @ 77.76 @ 440 @ 1000 BOULPMEN' Jbber ( 5	385.00 385.00 N/C N/C 99/7.23 545.00 660.00
Run Pine   Floor equip. Drop hall, proper to all through (2000) circ   hr. 100 x 30 x 100	DEPTH OF JOB PUMP TRUCK O EXTRA FOOTAC MILEAGE (N) MANIFOLD A MILEAGE (N) PL ACTOR Float Latendana	HARGE  HV 50  Lead 50  UG & FLOAT  Short  Log Asiy	2 4522 @ 77.76 @ 440 @ 1000 BOULPMEN' Jbber ( 5	385.00 385.00 N/C 10 99/7.73 545.00
Run Pine Flort requip. Drep hall, proper hall threech (2000), circ Inc. mix 30 sts in R. H. mix 400sts live half so sts in M. H. mix 400sts live half so sts in M. H. mix 400sts live half land (300sts) from under plug did land (300sts) in R. H. world coment child circ (300sts) to pile three child circ (300sts) t	DEPTH OF JOB PUMP TRUCK OF EXTRA FOOTACE MILEAGE IN) MANIFOLD IN M	HARGE  HV 50  Lead 50  UG & FLOAT  Short  Log Asiy	2 4522 @ 77.76 @ 440 % TOTAL EQUIPMENT (S	385.00 385.00 N/C N/C 99/7.23 545.00 660.00
Run Pine Float Pewip, Drep hall, proper hall through (2000), circ l hr, mix 30 sts in R. H., mix 20 sts in M. H., mix 400sts like, tail in 250 sts (em., under plug die land (2006) 1 (ft) lutto committed did circ (2006) to pith remark (2006) to a state of pith remark (2006) to a state o	DEPTH OF JOB PUMP TRUCK OF EXTRA FOOTACE MILEAGE IN) MANIFOLD IN M	HARGE  HV 50  Vaci 50  UG & FLOAT  DAY ASIY  HO 20	2 4522 @ 77.76 @ 440 @ 57.00 @ 57.00 @ 57.00 @ 682.00	365.00 365.00 N/C N/C 1/C 99/7.23 545.00 660.00 570.00 1780.00
Run Pine Float Pewip. Drep hall, proper to all Phreugh (2000), circ I hr, mix 30 sts in R. H., mix 20 sts in M. H. Mix 400sts like hard so also better the worker plus did land allow lift livery committed of the land allow lift lift livery committed of the land allow lift lift livery committed of the Reference o	DEPTH OF JOB PUMP TRUCK OF EXTRA FOOTACE MILEAGE (N) MANIFOLD A- MILEAGE (N) M	HARGE  HV 50  Fact  SO  UG & FLOAT  Shot  ASIY  COS 20	2 452.  @ 77.76  @ 440  @ 77.76  @ 440  @ 57.00  @ 57.00  @ 57.00  @ 68.00	365.00 365.00 N/C N/C 1/C 99/7.23 545.00 660.00 570.00 1780.00
Run Pine Florit Pavin. Drep hall, proper hall through (2000), circ hr, mix 30 sts in E.H., mix 30 sts in M.H., mix 400sts like hail in 250 sts (om, works up to pit release phia, displace where plus and Lifthern comment of the Circ (30 bb) to pitch child circ (30 bb) to pitch comment and circ (30 bb) to pitch comment and furnish cerenter and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL"	DEPTH OF JOB PUMP TRUCK OF EXTRA FOOTACE MILEAGE (N) MANIFOLD A- MILEAGE (N) M	HARGE  HV 50  Fact  SO  UG & FLOAT  Shot  ASIY  COS 20	2 452.  @ 77.76  @ 440  @ 77.76  @ 440  @ 57.00  @ 57.00  @ 57.00  @ 68.00	385.00 385.00 N/C N/C 99/7.23 545.00 660.00
Run Pine Float Pewip. Drep hall, proper to all Phreugh (2000), circ I hr, mix 30 sts in R. H., mix 20 sts in M. H. Mix 400sts like hard so also better the worker plus did land allow lift livery committed of the land allow lift lift livery committed of the land allow lift lift livery committed of the Reference o	PLASTAX (If A	HARGE BEAR STONE S	2 4522 @ 77.76 @ 440 Z TOTAL EQUIPMENT DEV ( S @ 57.00 @ 57.00 @ 67.00	365.00 365.00 N/C N/C 1/C 99/7.23 545.00 660.00 570.00 1780.00
Run Pine Florit Pavin. Drep hall, proper hall through (2000), circ hr, mix 30 sts in E.H., mix 30 sts in M.H., mix 400sts like hail in 250 sts (om, works up to pit release phia, displace where plus and Lifthern comment of the Circ (30 bb) to pitch child circ (30 bb) to pitch comment and circ (30 bb) to pitch comment and furnish cerenter and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL"	PLASTAX (If A	HARGE BEAR STONE S	2 4522 @ 77.76 @ 440 Z TOTAL EQUIPMENT DEV ( S @ 57.00 @ 57.00 @ 67.00	365.00 365.00 N/C N/C 1/C 99/7.23 545.00 660.00 570.00 1780.00
To: Allied Oil & Gas Services, LLC.  You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.	PLANTED SALES TAX (IF A TOTAL CHARGE)	HARGE HOAT SO	2 4522 © 77.76 © 4.40 EQUIPMENT S 57.00 © 57.00 © 67.00 © 67.00 © 67.00	385.00 385.00 11/2 99/7.23 545.00 545.00 1180.00 1180.00
Run Pine Florit Pavin. Drep hall, proper hall through (2000), circ hr, mix 30 sts in E.H., mix 30 sts in M.H., mix 400sts like hail in 250 sts (om, works up to pit release phia, displace where plus and Lifthern comment of the Circ (30 bb) to pitch child circ (30 bb) to pitch comment and circ (30 bb) to pitch comment and furnish cerenter and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL"	PUMP TRUCK OF EXTRA FOOTACE MILEAGE MILEAGE MILEAGE MILEAGE MILEAGE MILEAGE MANIFOLD AND ACTUAL CHARGE MILEAGE	HARGE	#57.76  #7.76  #457.76  #457.76  #57.7	385.00 385.00 11/2 99/7.23 545.00 545.00 1180.00 1180.00
To: Allied Oil & Gas Services, LLC.  You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.	PUMP TRUCK OF EXTRA FOOTACE MILEAGE MILEAGE MILEAGE MILEAGE MILEAGE MILEAGE MANIFOLD AND ACTUAL CHARGE MILEAGE	HARGE HOAT SO	#57.76  #7.76  #457.76  #457.76  #57.7	385.00 385.00 11/2 99/7.23 545.00 545.00 1180.00 1180.00

# ALLIED OIL & GAS SERVICES, LLC 064834 Federal Tax 1.D, #20-8651476

REMIT TO P.O. BOX 93999	SERVICE POINTS
SOUTHLAKE, TEXAS 76092	Oakley KS
DATE JOLUNIA SEC. 9 TWP. S RANGE 37 W	ALLED OUT ON LOCATION JOB START JOB FINISH
LEASE OWAS WELL 1-19 LOCATION BIEN C	COUNTY STATE
OLD OR (EW) (Circle one)	THE STATE WITE, Chayenne KS
	2 into
CONTRACTOR Keredies 2 TYPE OF 10B Visited in	OWNER Dame
HOLESIZE 7718 T.D. 4750	CEMENT
CASING SIZE 51/2 DEPTH \(\frac{1}{2}\) DEPTH \(\frac{1}{2}\) DEPTH	AMOUNT ORDERED 450 SES // 60/40
DOLL FOR	Stige 1 9/4 Floscal, 250 sks Com
TOOL DEPTH	101 8014, 5 gilsonde, 21 gel
PRES. MAX MINIMUM	COMMON 250sk @ 17.90 4475.00
MEAS, LINE SHOE JOINT 40'	POZMIX @ 77.70 7778.00
CEMENT LEFT IN CSG. 49	GEL 470 9 0 . 50 23500
PERFS.	CHLORIDE@
DISPLACEMENT 1010.10 bb 100	ASC@
EQUIPMENT	Lite 450x15 @ 19.89 8950.50
- PR	Self 1300 @ 163 884.50
PUMPTRUCK CEMENTER Las SORAVED	
# 180 HELPER OLY FLOS Ton 3	-613-448 1200- @ '48 1292.00
# 600 DRIVER GEORGE Grant 3	Matrial Total 0 16 7753;
BULK TRUCK	- (5/99.24/,3/2/0
# 890/241 DRIVER Jacky (Tus)	WANTS THE CO. C. L. A. 3
7 (4.5)	HANDLING \$15.34 443 @ 3.48 2046.60 MILEAGE 34.23 6.6555m v 2.75 47.20.38
_ REMARKS:	MILEAGE 34.23/EASTON, Y2.75 4720.37
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Thank is.	MANIFOLD Head @ W/C.
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CHARGE TO: Deceyco IIc	
STREET	BB 24. 49/3/2 TOTAL 29/223
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	HCIA CLASSICAL NODE (S 10)
	Latendoug oly Assy @ 372.00
To: Allied Oil & Gas Services, LLC.	[en re   xcrs 10 @ 57.00 570.00
You are hereby requested to rent cementing equipment	Keep Sunteres 20 0 82.00 1780.00
and furnish cementer and helper(s) to assist owner or	/
contractor to do work as is listed. The above work was	(1,102.65/3/2) TOTAL 3,555.00
done to satisfaction and supervision of owner agent or	(1,102.65/3/2) TOTAL 3,355@)
contractor. I have read and understand the "GENERAL	SALES TAX (If Any) 1656. 91
TERMS AND CONDITIONS" listed on the reverse side.	20 201/ 09
PRINTER WAY	TOTAL CHARGES 30, 246.09  DISCOUNT 9, 376.28/3/8 IF PAID IN 30 DAYS  26,869.80 Net.
PRINTED NAME	DISCOUNT 7, 3 16.00/3/8 IF PAID IN 30 DAYS
manufacture of discourse	20,869.80 Net.
SIGNATURE ( ) ( ) VOLVES	



# CEMENTING LOG STAGE NO.

Company.	<u>Bet Bato</u>			Rig <u>Reradic</u>	يج د	Amt	:Sks Yield	It <sup>3</sup> /ak Density	
Lease(')	wens .		_	Well No.	9	<u> </u>	<u> </u>		
County	<u>hezenne</u>			State <u>KS</u>	<u> </u>			<u></u>	
Location	9-1-3	7		Field		LEAD: Pump	Time	hrs. Type (48/47)	18/190
				_	<del></del>	<u>-</u> 7/4 *	F10-502	Front	
CASING DATA			PTA 🔲	-	Nisc 🔲	<u> ۱۹۸۸ - ۲۰۲</u>	D Sks Yleki_/.	20 N'/sk Dansity 12.5	
51/2	Şurface		diate 🔲 🏻 r	Production 🔟 L	iner 🔲	TAIL: Pump 1	Time	hrs. Type <u></u>	s'/selt
Size	Тура <i><b>/</b>_/</i>	<i>есэ</i> We	ight <b>LS</b> S	Coller	<u> </u>	<u>5 gils</u>		Excess	
		_	·	,	<u> </u>	گــلتــ Amu	Sks Yield/	10/sk Density	STPPG
						WATER: Lend	J <b>∕0\</b> 7 gāls/s	k Tail مع 27 gals/sk Total	Bbla
	7	<u> </u>		4525			170	<del>/ / <del>*</del></del>	
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							600-6006		-
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Open Holes:				'8b),				Depth ugs Top Btm	<del></del>
Drill Pipe;				Вы		centrelizers: C Stage Collars		-B- (Ah	<u> </u>
Annulus:				Вы			20 1000	t scratelors	
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Berexco LLC.

19-1S-37W

2020 N. Bramblew ood Wichita Ks 67206

Owen Trust #1-19

Job Ticket: 61012

DST#: 1

ATTN: Pete Vollmer

Test Start: 2014.11.29 @ 17:44:00

#### GENERAL INFORMATION:

Formation: Oread

Interval:

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:40:15 Time Test Ended: 03:05:45

4018.00 ft (KB) To 4090.00 ft (KB) (TVD)

Total Depth: 4090.00 ft (KB) (TVD)

7.88 inches Hole Condition: Good Hole Diameter:

Test Type: Conventional Bottom Hole (Initial) Tester:

#54

Royal Fisher

Reference Elevations:

Unit No:

3183.00 ft (KB)

3170.00 ft (CF)

KB to GR/CF: 13.00 ft

Serial #: 6753 Outside

Press@RunDepth: 4019.00 ft (KB) 24.41 psig @ Capacity: 8000.00 psig

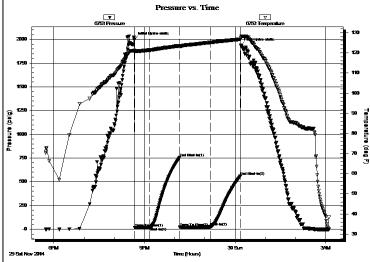
Start Date: 2014.11.29 End Date: 2014.11.30 Last Calib.: 2014.11.30 Start Time: 17:44:05 End Time: 2014.11.29 @ 20:40:00 03:05:45 Time On Btm:

2014.11.30 @ 00:10:45 Time Off Btm:

DDECCLIDE CLIMMADY

TEST COMMENT: 30 - IF - Surface blow built to 3/4"

60 - ISI - No Return 60 - FF - No Surface blow 60 - FSI - No Return



		PI	RESSUR	RE SUMMARY
	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
	0	1998.72	121.10	Initial Hydro-static
	1	16.33	120.48	Open To Flow (1)
	31	19.22	121.43	Shut-In(1)
4	90	754.68	123.54	End Shut-In(1)
emp	91	20.52	123.18	Open To Flow (2)
ratura	150	24.41	125.16	Shut-In(2)
Temperature (deg F)	211	559.47	126.78	End Shut-In(2)
9	211	1936.29	127.52	Final Hydro-static

#### Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM - 100M - Oil spots	0.02

Gas Rat	es	
Choko (inchos)	Proceuro (peig)	Cas Pato (Mof/d)

Ref. No: 61012 Trilobite Testing, Inc. Printed: 2014.11.30 @ 05:41:55



**FLUID SUMMARY** 

Berexco LLC.

19-1S-37W

2020 N. Bramblew ood

Owen Trust #1-19

Serial #:

Wichita Ks 67206

Job Ticket: 61012 DST#: 1

ATTN: Pete Vollmer Test Start: 2014.11.29 @ 17:44:00

**Mud and Cushion Information** 

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

Mud Weight: Cushion Length: 9.00 lb/gal Water Salinity: ft ppm

Viscosity: 51.00 sec/qt Cushion Volume: bbl

Water Loss:  $6.40 in^3$ Gas Cushion Type:

Resistivity: 0.00 ohm.m Gas Cushion Pressure: psig

Salinity: 700.00 ppm Filter Cake: 2.00 inches

**Recovery Information** 

Recovery Table

Volume Length Description ft bbl 5.00 OSM - 100M - Oil spots 0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0

Laboratory Name: Laboratory Location:

Recovery Comments:

Ref. No: 61012 Printed: 2014.11.30 @ 05:41:56 Trilobite Testing, Inc

Trilobite Testing, Inc

Ref. No: 61012

Printed: 2014.11.30 @ 05:41:56



Berexco LLC.

19-1S-37W

2020 N. Bramblew ood Wichita Ks 67206

ATTN: Pete Vollmer

Owen Trust #1-19

Job Ticket: 61013

Test Start: 2014.11.30 @ 21:44:00

**GENERAL INFORMATION:** 

Formation: LKC - 'B'

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

Time Tool Opened: 01:16:45
Time Test Ended: 08:57:45
Time Test Ended: 08:57:45
Time Test Ended: 08:57:45
Time Test Ended: 08:57:45

Interval: 4170.00 ft (KB) To 4240.00 ft (KB) (TVD)

Total Depth: 4240.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3183.00 ft (KB)

3170.00 ft (CF)

DST#: 2

KB to GR/CF: 13.00 ft

Serial #: 6753 Outside

Press@RunDepth: 264.95 psig @ 4171.00 ft (KB) Capacity: 8000.00 psig

 Start Date:
 2014.11.30
 End Date:
 2014.12.01
 Last Calib.:
 2014.12.01
 2014.12.01

 Start Time:
 21:44:05
 End Time:
 08:57:45
 Time On Btm:
 2014.12.01 @ 06:19:15

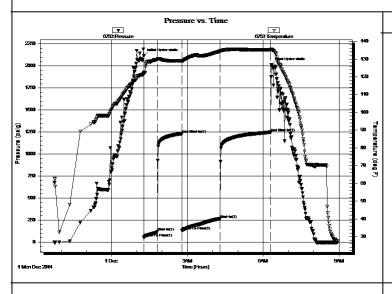
 Time Off Btm:
 2014.12.01 @ 06:19:15

TEST COMMENT: 30 - IF - Surface blow built to 8"

60 - ISI - No Return

90 - FF - Surface blow started 4 mins. in and built to 10 1/2"

120 - FSI - No Return



	PRESSURE SUMMA			
ne	Pressure	Temp	Annotation	

Time	Pressure	Temp	Annotation
(Min.)	(psig)	(deg F)	
0	2113.94	122.59	Initial Hydro-static
1	50.15	121.54	Open To Flow (1)
32	121.08	129.67	Shut-In(1)
91	1227.45	129.11	End Shut-In(1)
91	131.33	128.63	Open To Flow (2)
181	264.95	134.31	Shut-In(2)
302	1248.96	135.30	End Shut-In(2)
303	2011.38	135.58	Final Hydro-static

#### Recovery

Description	Volume (bbl)
OCWM - 55M - 30W - 15o	0.84
OCM - 65M - 35o	0.89
OCM - 80M - 20o	0.92
	OCWM - 55M - 30W - 150 OCM - 65M - 350

#### Gas Rates

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

Trilobite Testing, Inc Ref. No: 61013 Printed: 2014.12.01 @ 11:03:56



**FLUID SUMMARY** 

ppm

Berexco LLC. 19-1S-37W

2020 N. Bramblew ood Owen Trust #1-19

Wichita Ks 67206 Job Ticket: 61013 **DST#:2** 

ATTN: Pete Vollmer Test Start: 2014.11.30 @ 21:44:00

**Mud and Cushion Information** 

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

Mud Weight: 9.00 lb/gal Cushion Length: ft Water Salinity:

Viscosity: 62.00 sec/qt Cushion Volume: bbl

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

Resistivity: 0.00 ohm.m Gas Cushion Pressure: psig

Salinity: 800.00 ppm Filter Cake: 2.00 inches

#### **Recovery Information**

#### Recovery Table

Length ft	Description	Volume bbl
170.00	OCWM - 55M - 30W - 150	0.836
180.00	OCM - 65M - 35o	0.885
180.00	OCM - 80M - 20o	0.918

Total Length: 530.00 ft Total Volume: 2.639 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Trilobite Testing, Inc Ref. No: 61013 Printed: 2014.12.01 @ 11:03:57

30

40

50

60

70

80

Temperature (deg F)

90

100

110

130

120

140



Prepared For: Berexco LLC.

2020 N. Bramblewood Wichita Ks 67206

ATTN: Pete Vollmer

#### Owen Trust #1-19

# 19-1S-37W

Start Date: 2014.12.01 @ 20:25:00 End Date: 2014.12.02 @ 08:24:45 Job Ticket #: 61014 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.04 @ 10:42:22



Berexco LLC.

19-1S-37W

2020 N. Bramblew ood Wichita Ks 67206

ATTN: Pete Vollmer

Owen Trust #1-19

Job Ticket: 61014

Test Start: 2014.12.01 @ 20:25:00

GENERAL INFORMATION:

Formation: KCL - 'C'

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

Time Tool Opened: 23:43:45 Tester: Royal Fisher Time Test Ended: 08:24:45 Unit No: #54

4238.00 ft (KB) To 4290.00 ft (KB) (TVD) Interval:

Reference Elevations: 3183.00 ft (KB) Total Depth: 4290.00 ft (KB) (TVD)

3170.00 ft (CF)

DST#: 3

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

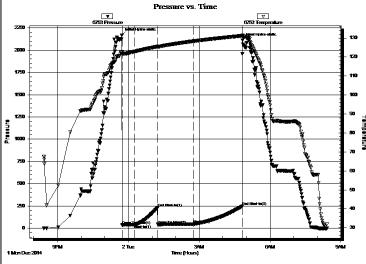
Serial #: 6753 Outside

Press@RunDepth: 46.98 psig @ 4239.00 ft (KB) Capacity: 8000.00 psig

Start Date: 2014.12.01 End Date: 2014.12.02 Last Calib.: 2014.12.02 Start Time: 20:25:05 End Time: 08:24:45 Time On Btm: 2014.12.01 @ 23:43:30 Time Off Btm: 2014.12.02 @ 04:50:00

TEST COMMENT: 30 - IF - Surface blow built to 2"

60 - ISI - Return started in 10 mins, and built to 1 1/4" 90 - FF - Surface blow started in 5 mins, and built to 1 3/4" 120 - FSI - Return started in 13 mins, and built to 1 1/4"



	PRESSURE SUMMARY				
	Time	Pressure	Temp	Annotation	
	(Min.)	(psig)	(deg F)		
	0	2167.56	122.55	Initial Hydro-static	
	1	36.22	121.60	Open To Flow (1)	
	32	40.53	122.93	Shut-In(1)	
	91	228.98	125.48	End Shut-In(1)	
Ī	91	42.33	125.34	Open To Flow (2)	
Temperature	181	46.98	128.32	Shut-In(2)	
2	306	246.42	131.17	End Shut-In(2)	
	307	2112.05	131.22	Final Hydro-static	

#### Recovery

Length (ft)	Description	Volume (bbl)
15.00	OSM - 100M - Oil spots	0.07

Gas Rat	es	
Choke (inches)	Pressure (nsin)	Gas Rate (Mcf/d)

Trilobite Testing, Inc. Ref. No: 61014 Printed: 2014.12.04 @ 10:42:22



Berexco LLC. 19-1S-37W

2020 N. Bramblew ood Wichita Ks 67206

Owen Trust #1-19

Job Ticket: 61014

DST#: 3

ATTN: Pete Vollmer Test Start: 2014.12.01 @ 20:25:00

GENERAL INFORMATION:

Formation: KCL - 'C'

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

Time Tool Opened: 23:43:45 Tester: Royal Fisher Time Test Ended: 08:24:45 Unit No: #54

Interval: 4238.00 ft (KB) To 4290.00 ft (KB) (TVD)

Reference Elevations: 3183.00 ft (KB) Total Depth: 4290.00 ft (KB) (TVD)

3170.00 ft (CF)

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

Serial #: 8368

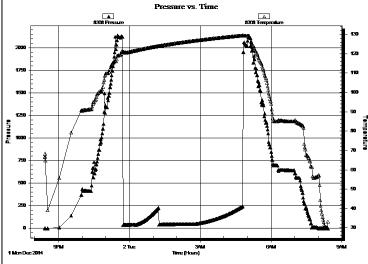
Press@RunDepth: ft (KB) Capacity: 8000.00 psig psig @

Start Date: 2014.12.02 Last Calib.: 2014.12.02 2014.12.01 End Date:

Start Time: 20:25:05 End Time: Time On Btm: 08:24:45 Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to 2"

60 - ISI - Return started in 10 mins, and built to 1 1/4" 90 - FF - Surface blow started in 5 mins, and built to 1 3/4" 120 - FSI - Return started in 13 mins, and built to 1 1/4"



	PRESSURE SUMMARY			
	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
1				
Temperation				
		1		i l

DDECCLIDE CLIMMADY

#### Recovery

Description	Volume (bbl)
OSM - 100M - Oil spots	0.07
	·

Gas Rat	es	
Choke (inches)	Pressure (nsin)	Gas Rate (Mcf/d)

Trilobite Testing, Inc. Ref. No: 61014 Printed: 2014.12.04 @ 10:42:22



**FLUID SUMMARY** 

ppm

Berexco LLC.

19-1S-37W

2020 N. Bramblew ood Wichita Ks 67206

Owen Trust #1-19

Job Ticket: 61014

Serial #:

DST#: 3

ATTN: Pete Vollmer

Test Start: 2014.12.01 @ 20:25:00

**Mud and Cushion Information** 

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

Mud Weight: Cushion Length: 9.00 lb/gal ft Viscosity: 55.00 sec/qt Cushion Volume: bbl

Water Loss: 6.79 in<sup>3</sup>Gas Cushion Type:

Resistivity: 0.00 ohm.m Gas Cushion Pressure: psig

Salinity: 1000.00 ppm Filter Cake: 2.00 inches

#### **Recovery Information**

#### Recovery Table

Length ft	Description	Volume bbl
15.00	OSM - 100M - Oil spots	0.074

15.00 ft Total Volume: 0.074 bbl Total Length:

Num Fluid Samples: 0 Num Gas Bombs: 0

Laboratory Name: Laboratory Location:

Recovery Comments:

Ref. No: 61014 Printed: 2014.12.04 @ 10:42:23 Trilobite Testing, Inc

Trilobite Testing, Inc

Ref. No: 61014

Printed: 2014.12.04 @ 10:42:23



Berexco LLC.

19-1S-37W

2020 N. Bramblew ood Wichita Ks 67206

Owen Trust #1-19

Job Ticket: 61015

DST#: 4

ATTN: Pete Vollmer Test Start: 2014.12.03 @ 02:45:00

#### **GENERAL INFORMATION:**

Formation: KCL - 'D & E

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

Time Tool Opened: 04:54:30 Time Test Ended: 12:54:45

Unit No: #54

Tester:

3183.00 ft (KB)

4280.00 ft (KB) To 4380.00 ft (KB) (TVD) 4380.00 ft (KB) (TVD)

Reference Elevations: 3170.00 ft (CF)

Royal Fisher

KB to GR/CF: 13.00 ft

7.88 inches Hole Condition: Good Hole Diameter:

Serial #: 6753 Outside

Interval:

Total Depth:

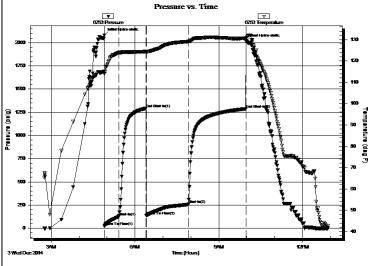
Press@RunDepth: 258.25 psig @ 4281.00 ft (KB) Capacity: 8000.00 psig

Start Date: 2014.12.03 End Date: 2014.12.03 Last Calib.: 2014.12.03 Start Time: 02:45:05 End Time: 12:54:45 Time On Btm: 2014.12.03 @ 04:54:15 Time Off Btm: 2014.12.03 @ 09:59:00

TEST COMMENT: 30 - IF - Surface blow built to 11"

60 - ISI - No Return

90 - FF - Surface blow built to bottom of the bucket in 30 mins. 120 - FSI - Return Started in 20 mins and built to 1 1/2"



	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
	0	2081.60	115.18	Initial Hydro-static
	1	23.38	113.93	Open To Flow (1)
	31	125.42	123.98	Shut-ln(1)
_	90	1292.96	124.53	End Shut-In(1)
Temperature (deg F)	90	135.11	124.13	Open To Flow (2)
ratura	181	258.25	129.15	Shut-In(2)
œ e	305	1288.07	130.59	End Shut-In(2)
9	305	2014.01	130.85	Final Hydro-static

PRESSURE SUMMARY

#### Recovery

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

Trilobite Testing, Inc Ref. No: 61015 Printed: 2014.12.03 @ 14:52:55



**FLUID SUMMARY** 

Berexco LLC. 19-1S-37W

2020 N. Bramblew ood Wichita Ks 67206 Owen Trust #1-19

Job Ticket: 61015

DST#:4

ATTN: Pete Vollmer

Test Start: 2014.12.03 @ 02:45:00

**Mud and Cushion Information** 

Mud Type:Gel ChemCushion Type:Oil API:deg APIMud Weight:9.00 lb/galCushion Length:ftWater Salinity:ppm

Viscosity: 54.00 sec/qt Cushion Volume: bbl

Water Loss: 8.39 in<sup>3</sup> Gas Cushion Type:

Resistivity: 0.00 ohm.m Gas Cushion Pressure: psig

Salinity: 800.00 ppm Filter Cake: 2.00 inches

#### **Recovery Information**

#### Recovery Table

	Length ft	Description	Volume bbl
	439.00	GMCO - 25M - 50o - 25G	2.159
ĺ	150.00	GHMCO - 40M - 40o - 20G	1.307

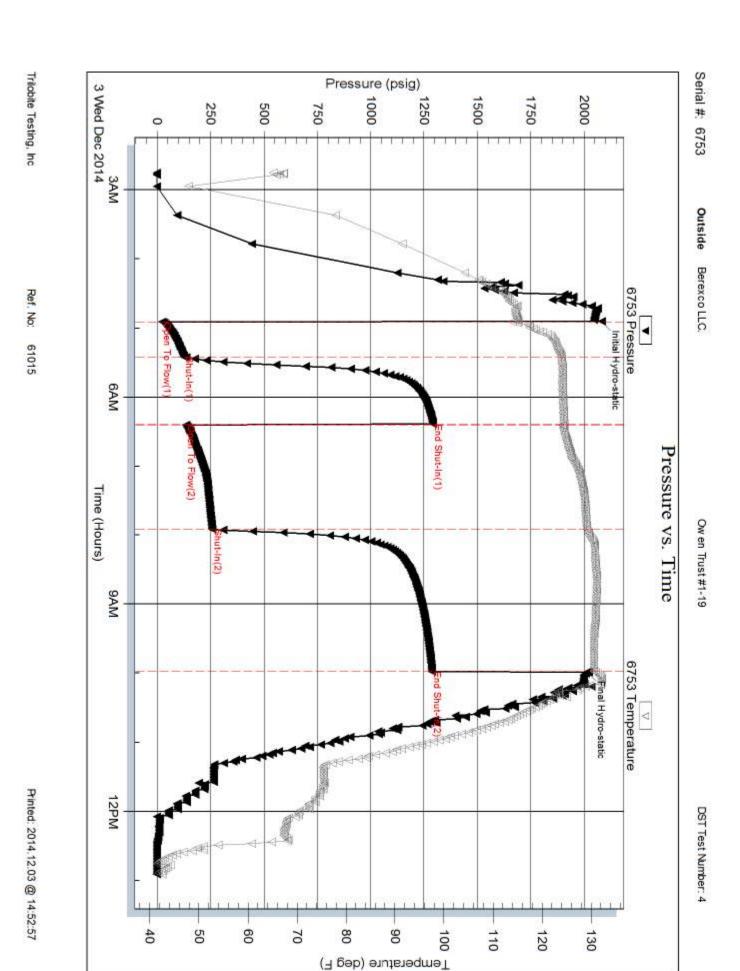
Total Length: 589.00 ft Total Volume: 3.466 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Trilobite Testing, Inc Ref. No: 61015 Printed: 2014.12.03 @ 14:52:56





Berexco LLC.

19-1S-37W

2020 N. Bramblew ood Wichita Ks 67206

Owen Trust #1-19

Job Ticket: 61016

ATTN: Pete Vollmer Test Start: 2014.12.04 @ 06:34:00

#### **GENERAL INFORMATION:**

Formation: Paw nee

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

Time Tool Opened: 08:51:30 Tester: Royal Fisher Time Test Ended: 14:36:45 Unit No: #54

4518.00 ft (KB) To 4564.00 ft (KB) (TVD) Interval:

Total Depth: 4564.00 ft (KB) (TVD)

7.88 inches Hole Condition: Good Hole Diameter:

Reference Elevations: 3183.00 ft (KB)

3170.00 ft (CF)

DST#: 5

KB to GR/CF: 13.00 ft

Serial #: 6753 Outside

Press@RunDepth: 19.65 psig @ 4519.00 ft (KB) Capacity: 8000.00 psig

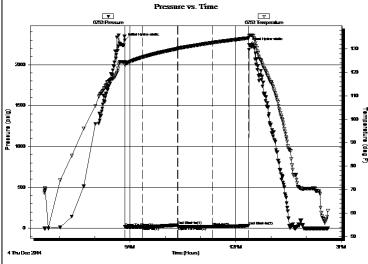
Start Date: 2014.12.04 End Date: 2014.12.04 Last Calib.: 2014.12.04 Start Time: 06:34:05 End Time: 14:36:44 Time On Btm: 2014.12.04 @ 08:51:15

Time Off Btm: 2014.12.04 @ 12:23:00

PRESSURE SUMMARY

TEST COMMENT: 30 - IF - Surface blow built to 1/2" and then died to a weak surface blow

60 - ISI - No Return 60 - FF - No Surface blow 60 - FSI - No Return



	FRESSURE SUIVINART			
Ī	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
	0	2299.50	124.20	Initial Hydro-static
	1	16.25	123.06	Open To Flow (1)
	30	17.75	126.46	Shut-In(1)
4	90	39.90	130.07	End Shut-In(1)
in a	90	18.18	130.10	Open To Flow (2)
ature	150	19.65	132.68	Shut-In(2)
Temperature (deg F)	211	31.62	134.64	End Shut-In(2)
)	212	2244.15	135.64	Final Hydro-static

#### Recovery

Description	Volume (bbl)
OSM - 100M - Oil Spots	0.02
	·

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

Trilobite Testing, Inc Ref. No: 61016 Printed: 2014.12.04 @ 17:30:40



**FLUID SUMMARY** 

ppm

DST#: 5

Berexco LLC. 19-1S-37W

2020 N. Bramblew ood

Wichita Ks 67206 Job Ticket: 61016

ATTN: Pete Vollmer Test Start: 2014.12.04 @ 06:34:00

Owen Trust #1-19

**Mud and Cushion Information** 

2.00 inches

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

Mud Weight: Cushion Length: 9.00 lb/gal ft Water Salinity:

Viscosity: 58.00 sec/qt Cushion Volume: bbl

Water Loss: 6.00 in<sup>3</sup> Gas Cushion Type: 0.00 ohm.m Gas Cushion Pressure:

Resistivity: psig Salinity: 600.00 ppm

**Recovery Information** 

Filter Cake:

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM - 100M - Oil Spots	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

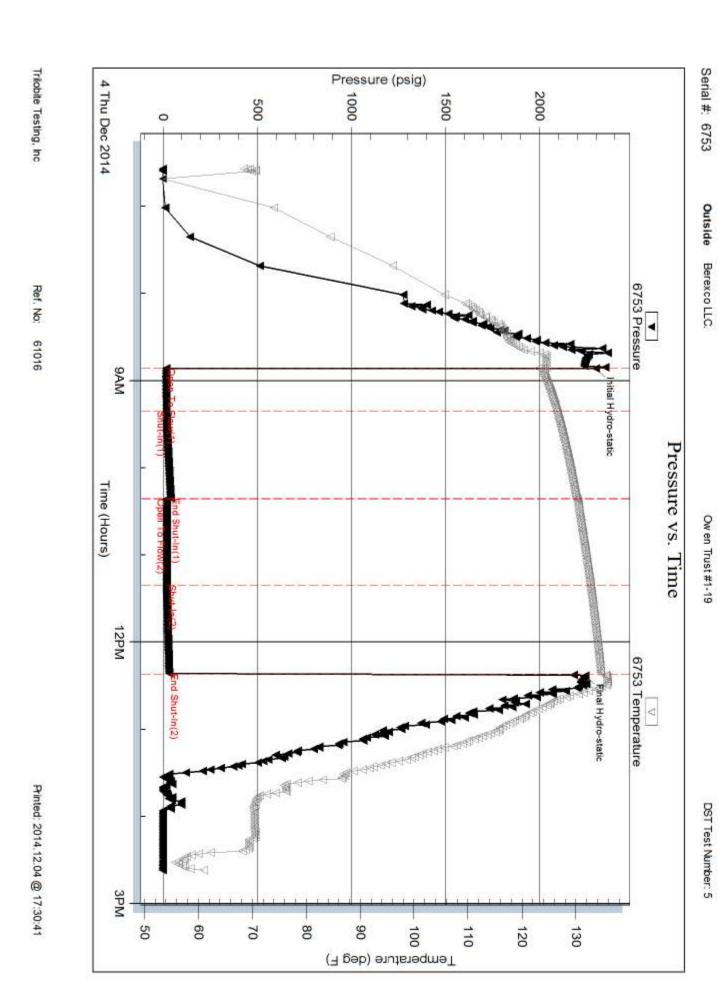
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name:

Recovery Comments:

Laboratory Location:

Trilobite Testing, Inc Ref. No: 61016 Printed: 2014.12.04 @ 17:30:41



# BEREXCO LLC

# **OWENS TRUST 1-19**

# E/2 W/2 NE NW SEC 19 T1S R37W

# CHEYENNE COUNTY, KANSAS

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WELL DATA	2
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LITHOLOGY & SHOWS	4
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DRILL STEM TESTS	13
MUD REPORTS	23

Berexco LLC Owens Trust 1-19

#### **SUMMARY**

The Berexco LLC Owens Trust 1-19 in Cheyenne County, Kansas spud November 25, 2014 and reached a total depth of 4750' on December 5, 2014. Wellsite geological supervision commenced at 3000'. The primary objectives of the wildcat were the Pennsylvanian Missourian Lansing-Kansas City limestones. Secondary zones of interests were the Foraker, Oread, and Pawnee limestones. The Owens Trust 1-19 was drilled using seismic and nearby well control.

On-site evaluation was by drill stem testing after sample analysis and consideration of structural position. Five DSTs were run.

#### Foraker, Wabaunsee, Topeka, and Oread

The Foraker was clean non-porous limestone with no sample shows. Minor oil shows in tight limestone were found in the Wabaunsee and Topeka but these did not merit drill stem testing. Oread samples were fossiliferous grainstone and mudstone with trace interparticle and vuggy porosity, scattered black oil staining, live oil in vugs, and good cuts. DST 1 in the Oread recovered 5 ft of oil spotted mud.

#### Lansing-Kansas City, Pawnee, and Cherokee

Minor oil shows and no visible porosity were observed in the Lansing-Kansas City A.

DST 2 in the B recovered 530 ft of oil cut mud. Poor interparticle and vuggy porosity with spotty black oil stain were observed in cuttings.

DST 3 in the C recovered 15 ft of oil spotted mud. Samples displayed scattered black oil stain, good fluorescence and cuts, but only poor porosity. During DST 3 drilling fluid was lost above the test tool. After the test more fluid was lost for a total of 50 bbl. It is believed the fluid was lost in the B porosity.

DST 4 in the combined D and E recovered 589 ft of gas and mud cut oil. The D was mudstone with very poor shows and no visible porosity. No DST was warranted in the D alone. The E samples displayed very spotty oil stain with good fluorescence and cut from oolitic grainstone and mudstone.

The F was nonporous limestone with no sample shows.

DST 5 in the Pawnee recovered 10 ft of drilling mud with very poor flow pressures from chalky mudstone and occasional grainstone with minor porosity and shows.

The Fort Scott was nonporous limestone. The Cherokee displayed dead oil staining in nonporous chalky limestone and tight sandstone.

#### **Oil Well Completion**

After wireline logs 5 1/2" production casing was run for completion of the Owens Trust 1-19 as an oil well.

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

#### WELL DATA

OPERATOR: Berexco LLC

2020 North Bramblewood Drive

Wichita, Kansas 67206

WELL NAME: Owens Trust 1-19

SURFACE LOCATION: 660' FNL & 1830' FWL

E/2 W/2 NE NW Sec. 19, T1S, R37W

Cheyenne County, KS

LATITUDE & LONGITUDE: 39.9577495, -101.5158958 (From State, calculated from footages)

BOTTOM HOLE LOCATION: Vertical hole

ELEVATIONS: 3170' GL 3183' KB

API NUMBER: 15-023-21416

BASIN: Mid-Continental Arch

FIELD: Wildcat

HOLE SIZE: 12 1/4" to 310'; 7 7/8" to 4750'

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

SPUD DATE: November 25, 2014

TD DATE: December 5, 2014

TOTAL DEPTH: 4750' Rig TD 4746' Log TD

LAST FORMATION: Pennsylvanian Cherokee

WELL STATUS: Ran 5 ½" production casing

**OPERATOR** 

REPRESENTATIVE: Dana Wreath - Vice President

WELLSITE GEOLOGIST: Peter J. Vollmer

# FORMATION TOPS

Formation KB	Sample Top	Log Top	Log TVD	Log Subsea 3183
Pierre Sh	Cased	Cased	N/A	N/A
Niobrara Fm	N/A	1096	1096	+2087
Fort Hays Ls Mbr	N/A	1620	1620	+1563
Carlile Sh	N/A	1677	1677	+1506
Dakota	N/A	1894	1894	+1289
Cheyenne	N/A	2583	2583	+600
Blaine	N/A	2941	2941	+242
Cedar Hills	N/A	3020	3020	+163
Stone Corral Anhydrite	3145	3142	3142	+41
Base Anhydrite	3179	3177	3177	+6
Chase Limestone	3347	3342	3342	-159
Neva	3605	3599	3599	-416
Red Eagle	3665	3662	3662	-479
Foraker	3719	3716	3716	-533
Wabaunsee	3832	3832	3832	-649
Topeka	3933	3938	3938	-755
Deer Creek Lime	4009	4017	4017	-834
Oread	4075	4071	4071	-888
Heebner Sh	4104	4102	4102	-919
Lansing-Kansas City				
"A"	4154	4147	4147	-964
"B"	4216	4210	4210	-1027
"C"	4269	4261	4261	-1078
"D"	4310	4302	4302	-1119
"E"	4356	4350	4350	-1167
"F"	4399	4392	4392	-1209
Pawnee	4547	4546	4546	-1363
Ft Scott	4586	4580	4580	-1397
Cherokee	4638	4632	4632	-1449
TD Duillon	4750			
TD Driller	4750	1716	1716	1562
TD Logger		4746	4746	-1563

The following descriptions are interpretive. Rig crew members collected unlagged samples from 3500' to 4750' TD. Depths are rig depths except where noted as wireline.

3500' - 3538'	SHALE: light reddish brown to reddish orange, firm to soft, fissile to subblocky, very silty, sandy in part, non to slightly calcareous.
3538' - 3554'	LIMESTONE: white to light gray to light brown, occasional reddish brown mottled, firm to hard, mudstone, occasional fossil fragments, chalky, slightly argillaceous in part, reddish brown Shale partings, tight, no show.
3554' - 3605'	SHALE: reddish brown to brownish orange, soft to firm, sub blocky, non calcareous, occasional silty, with interbedded LIMESTONE: white to light gray, firm to hard, mudstone, tight, no shows.
NEVA	SAMPLE TOP: 3605' LOG TOP: 3599' SUBSEA: -416'
3605' - 3613'	LIMESTONE: white to light gray, hard, mudstone, slightly chalky, fossil fragments, occasional black Algal stain, tight, no show.
3613' - 3618'	SANDSTONE: very light gray to white, friable to firm, very fine grained, sub rounded to rounded, well sorted, calcareous cement, predominant clay filled/matrix, no visible porosity, no shows.
3618' - 3655'	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional moderately to very silty.
3655' - 3665'	SANDSTONE: reddish brown to light gray to light brown, friable, very fine grained, subrounded to subangular, fair to well sorted, weak calcareous cement, predominant clay fill, no visible porosity, no shows.
RED EAGLE	SAMPLE TOP: 3665' LOG TOP: 3662' SUBSEA: -479'
3665' - 3684'	LIMESTONE: light gray to tan to light grayish brown, hard, mudstone to wackestone, scattered fossil fragments, occasional black Algal material, occasional slightly argillaceous, occasional reddish brown SHALE partings, tight, no shows.
3684' - 3719'	SHALE: reddish brown to light brown, soft to firm, subblocky, non calcareous, occasional moderately to very silty, Sandstone stringers.

FORAKER	SAMPLE TOP: 3719' LOG TOP: 3716' SUBSEA: -533'
3719' - 3724'	LIMESTONE: light gray to dark gray to tan, mottled in part, hard, packstone to grainstone, fragmented in part, abundant fossil fragments, dark gray pellets, tight, no shows.
3724' - 3732'	SHALE: dark gray to gray, firm, subfissile, non calcareous.
3732' - 3758'	LIMESTONE: white to light gray to light brown, firm to hard, wackestone to packstone, fragment texture, fossil fragments, abundant opaque to light tan chert, tight, no shows.
3758' - 3768'	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.
3768' - 3780'	SHALE: reddish brown to light grayish orange, mottled, soft to firm, subblocky, non calcareous, occasional silty, occasional light gray chalky Limestone stringers.
3780' - 3792'	SHALE: dark gray to gray, firm, platy to fissile, non to slightly calcareous, occasional slightly carbonaceous, pyrite.
3792' - 3832'	SHALE: reddish brown to light gray to light orange, mottled, soft to firm, sub blocky, non calcareous, occasional silty, gummy to clayey, occasional light gray chalky Limestone stringers.
WABAUNSEE	SAMPLE TOP: 3832' LOG TOP: 3832' SUBSEA: -649'
3832' - 3862'	LIMESTONE: white to light gray, with occasional light reddish brown mottled, soft to hard, mudstone to wackestone, occasional chalky texture, reddish brown SHALE interbeds, occasional fossil fragments, trace black heavy oil material (dead oil), no visible porosity, no fluorescence, residual slow pale green white cut.
3862' - 3902'	SHALE: reddish brown to very light gray, occasional mottled, soft to firm, sub blocky, non calcareous, gummy to sticky.
3902' - 3933'	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional moderately to very silty, occasional Silty to Sandy stringers, gummy to sticky.

TOPEKA	SAMPLE TOP: 3933' LOG TOP: 3938' SUBSEA: -755'
3933' - 3940'	LIMESTONE: white to light gray, with light reddish brown mottled, soft to firm, grainstone, ooliths, fossil fragments, spotty black dead oil material, no visible porosity, no shows.
3940' - 3950'	SHALE: gray to dark gray, firm, platy to fissile, non to slightly calcareous, dull.
3950' - 3972'	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragments, opaque chert, occasional dark gray SHALE stringers, tight, no shows.
3972' - 4009'	SHALE: reddish brown to light gray to lavender, soft to firm, sub blocky, non calcareous, occasional silty, clayey, occasional white Limestone stringers.
DEER CREEK LIME	SAMPLE TOP: 4009' LOG TOP: 4017' SUBSEA: -834'
4009' - 4020'	LIMESTONE: white to light gray, hard to firm, mudstone, chalky, fossil fragments (Fusilinid), rare black dead oil (Algal stain), tight, no shows.
4020' - 4075'	SHALE: reddish brown, brownish maroon, gray grain to lavender, firm, blocky, occasional slightly calcareous, very slightly silty in part, occasional thin SANDSTONE stringers, waxy in part, occasional clayey to sticky, occasional LIMESTONE: light brown, hard, mudstone, tight, no shows.
OREAD	SAMPLE TOP: 4075' LOG TOP: 4071' SUBSEA: -888'
4075' - 4086'	LIMESTONE: very light gray to white, firm to hard, mudstone to grainstone, fossil fragments (Brachiopod, Fusulinids), occasional ooliths, occasional patchy black heavy oil stain, black free oil in vugs, predominant tight to trace interparticle porosity and vuggy porosity, bright yellowish white fluorescence, immediate blooming yellowish white cuts, with slow streaming yellowish white cuts, good show.
4086' - 4104'	LIMESTONE: white to light gray, firm to hard, mudstone, chalky, occasional fossil, occasional pyrite, tight, no show.

HEEBNER SH	SAMPLE TOP: 4104' LOG TOP: 4102' SUBSEA: -919'
4104' - 4108'	SHALE: dark gray to black, firm, fissile, slightly carbonaceous in part, non to slightly calcareous, pyrite.
4108' - 4114'	LIMESTONE: gray to light gray, firm to hard, mudstone, black dead oil, tight, no show.
4114' - 4154'	SHALE: gray to reddish brown to maroon, variegated, firm, blocky, non to slightly calcareous, occasional silty.
LANSING– KANSAS CITY "A"	SAMPLE TOP: 4154' LOG TOP: 4147' SUBSEA: -964'
4154' - 4160'	LIMESTONE: white to light gray to cream, hard, mudstone to wackestone, rare fossil fragments, few pieces with spotty black oil stain, no visible porosity, bright yellowish white fluorescence, instant blooming yellowish white cuts, limited fair show with no porosity.
4160' - 4182'	LIMESTONE: gray to light gray to cream, hard, mudstone, occasional fossil, predominant chalky texture, clean, tight, no show.
4182' - 4184'	SANDSTONE: white to light gray to light brown, firm to friable, very fine grained, well rounded, well sorted, calcareous cement, clay filled, clean, no visible porosity, no show.
4184' - 4216'	SHALE: reddish brown, soft to firm, subblocky, non to slightly calcareous, clayey, occasional argillaceous LIMESTONE stringers.
LANSING– KANSAS CITY "B"	SAMPLE TOP: 4216' LOG TOP: 4210' SUBSEA: -1027'
4216' - 4230'	LIMESTONE: white to very light gray, firm to hard, grainstone to wackestone, occasional fossil fragment, rare ooliths, occasional free live heavy black oil, predominant tight with trace intergranular porosity and trace vuggy porosity, bright yellowish white fluorescence, instant blooming bright yellowish white cuts, good show from limited pieces.
4230' - 4238'	LIMESTONE: white to light gray, hard, mudstone, occasional fossil, chalky texture, dark gray Shale partings, tight, no show.
4238' - 4245'	SHALE: gray to dark gray, firm to hard, blocky to fissile, calcareous, disseminated pyrite.

4245' - 4253'	SILTSTONE: light brown to reddish brown, friable to soft, argillaceous matrix, slightly calcareous.
4253' - 4269'	SHALE: dark reddish brown to gray, soft to firm, blocky to platy, n calcareous, disseminated pyrite.
LANSING-	
KANSAS CITY "C"	SAMPLE TOP: 4269' LOG TOP: 4261' SUBSEA: -1078'
4269' - 4290'	LIMESTONE: white to very light gray, firm to hard, grainstone to mudstone, fossil fragments, ooliths, occasional free live black oil, occasional trace intergranular porosity and trace vuggy porosity, bright yellowish white fluorescence, instant blooming bright yellowish white cuts, good show, no show at base.
4290' - 4398'	SHALE: dark gray to gray, firm, fissile to blocky, non to slightly calcareous, slightly carbonaceous in part, pyrite, Limestone stringers.
4298' - 4302'	LIMESTONE: white, hard, mudstone, tight.
4302' - 4310'	SHALE: reddish brown to gray, firm, blocky, non calcareous.
LANSING-	
KANSAS CITY "D"	SAMPLE TOP: 4310' LOG TOP: 4302' SUBSEA: -1119'
4310' - 4322'	LIMESTONE: light gray to white, firm, mudstone to wackestone, fossil fragment, very chalky texture, trace black oil stain, no visible porosity, occasional yellowish white fluorescence, moderate streaming yellowish white cuts from a few cuttings.
4322' - 4340'	SHALE: dark gray to gray to reddish brown, firm, fissile to blocky, non to slightly calcareous, slightly carbonaceous in part, pyrite, Limestone stringers.
4340' - 4344'	SANDSTONE: light brown, hard, very fine grained grading to silt, rounded, well sorted, clay fill, tight, no shows.
4344' - 4356'	SHALE: reddish brown, soft to firm, subblocky, non to slightly calcareous, clayey, occasional Siltstone and SANDSTONE stringers.

LANSING– KANSAS CITY "E"	SAMPLE TOP: 4356' LOG TOP: 4350' SUBSEA: -1167'
4356' - 4370'	LIMESTONE: white to very light gray, firm to hard, mudstone to grainstone, peloids, fossil fragments, occasional patchy black oil stain, occasional free oil in micro vugs, trace to fair interparticle and vuggy porosity, bright yellowish white fluorescence, immediate blooming yellowish white cuts, fair show.
4370' - 4376'	SHALE: dark gray to gray to black, firm, blocky, calcareous, very to slightly carbonaceous in part, trace pyrite.
4376' - 4391'	SILTSTONE: maroon to light brown, friable, grading to very fine grained sand, clay fill, tight, no show.
4391' - 4399'	SHALE: dark reddish brown to reddish brown to maroon, firm, blocky to platy, non calcareous, moderately to very silty.
LANSING– KANSAS CITY "F"	SAMPLE TOP: 4399' LOG TOP: 4392' SUBSEA: -1209'
4399' - 4407'	LIMESTONE: white to light gray, firm to hard, mudstone, very chalky texture, occasional fossil fragments, occasional sandy, trace black dead oil specks, tight, no shows.
4407' - 4420'	SHALE: gray to dark gray to black to reddish brown, firm, platy, n to slightly calcareous, occasional slightly carbonaceous, trace pyrite, plant remains.
4420' - 4426'	LIMESTONE: white to light gray, firm to hard, mudstone, slightly chalky texture, fossil fragments, tight, no shows.
4426' - 4454'	SHALE: brownish red, firm, blocky, non calcareous, with interbedded white Limestone stringers.
4454' - 4460'	LIMESTONE: white to cream, with reddish brown mottled, mudstone, fossil, chalky, occasional reddish brown SHALE partings, tight, no shows.
4460' - 4482'	SHALE: dark reddish brown, firm to hard, blocky to platy, non calcareous, moderately to very silty.
4482' - 4490'	LIMESTONE: white to cream to light gray, mudstone, sandy, chalky, occasional reddish brown SHALE partings, tight, no shows.
4490' - 4507'	SHALE: brownish red, firm, blocky, non calcareous, with interbedded white Limestone stringers.
4507' - 4522'	LIMESTONE: light gray to white to cream, hard, cryptocrystalline, fossil fragments, gray Shale partings, tight, no shows.

4522' - 4547'	SHALE: gray to dark gray to dark gray green, hard to firm, sub blocky, non to slightly calcareous.
PAWNEE	SAMPLE TOP: 4547' LOG TOP: 4546' SUBSEA: -1363'
4547' - 4570'	LIMESTONE: white to cream to very light gray, firm to hard, grainstone to mudstone, occasional peloids, fossil fragment, trace live black oil stain, trace vuggy porosity, trace interparticle porosity, occasional live black oil in micro vugs, bright yellowish white fluorescence, instant blooming yellowish white cuts, good show from a few cuttings.
4570' - 4586'	SHALE: gray to dark gray to black, hard to firm, sub blocky to fissile, non calcareous, fossil (Brachiopod), carbonaceous in part.
FORT SCOTT	SAMPLE TOP: 4586' LOG TOP: 4580' SUBSEA: -1397'
4586' - 4610'	LIMESTONE: light gray to light brown, firm, mudstone, rare fossil fragment, chalky, trace patchy black dead oil stain, no visible porosity, no shows.
4610' - 4620'	SHALE: gray to dark gray, firm, blocky to fissile, occasional carbonaceous at top, disseminated pyrite, occasional coal.
4620' - 4638'	LIMESTONE: white to light gray to cream, firm to hard, mudstone to wackestone, chalky, fossil fragments, occasional very sandy, tight, no shows.
CHEROKEE	SAMPLE TOP: 4638' LOG TOP: 4632' SUBSEA: -1449'
4638' - 4650'	SHALE: black to dark gray to gray, firm, blocky to fissile, occasional carbonaceous, trace pyrite, plant remains, thin black slightly argillaceous Coal stringers.
4650' - 4670'	LIMESTONE: white to light gray, firm to hard, mudstone to wackestone, occasional fossil fragment (Brachiopod), slightly sandy in part, slightly argillaceous in part, light gray Shale stringers, tight, no shows.
4670' - 4684'	LIMESTONE: gray to light gray, firm to hard, mudstone to wackestone, very chalky, occasional fossil fragment (Brachiopod), slightly argillaceous in part, opaque chert, tight, no shows.

4684' - 4714'	SHALE: gray to dark gray, firm, platy, non to slightly calcareous, occasional slightly carbonaceous, pyrite, occasional LIMESTONE: white, hard, mudstone, dead oil, tight, no show.
4714' - 4728'	SANDSTONE: white to very light gray, friable to very hard, fine grained, well rounded, well sorted, weak siliceous cement, occasional black dead oil specks, tight, no shows.
4728' - 4744'	SHALE: gray to dark gray, firm, platy, non to slightly calcareous, occasional slightly carbonaceous, pyrite, with Limestone stringer, white, mudstone, sandy, chalky, dead oil, tight, no show.
4744' - 4750' TD	SANDSTONE: white, very friable, very fine grained, rounded, well sorted, weak calcareous cement, no visible porosity, no shows.

#### **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, Dave Korte

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

Royal Fisher 785- 625-4778

DST 1: 4018' - 4090' Oread DST 2: 4170' - 4240' LKC "B" DST 3: 4238' - 4290' LKC "C" DST 4: 4280' - 4380' LKC "D & E" DST 5: 4518' - 4564' Pawnee

DIRECTIONAL DRILLING: None

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

RAG: Surface casing - TD

Micro-resistivity, Sonic: 3500' - TD

Daylon Kerr