Confidentiality Requested: Yes No

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

1236012

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:	
Address 2:	Feet from North / South Line of Section
City: State: Zip:+	Feet from East / West Line of Section
Contact Person:	Footages Calculated from Nearest Outside Section Corner:
Phone: ()	
CONTRACTOR: License #	GPS Location: Lat:, Long:
Name:	(e.g. xx.xxxx) (e.gxxx.xxxx)
Wellsite Geologist:	Datum: NAD27 NAD83 WGS84
Purchaser:	County:
Designate Type of Completion:	Lease Name: Well #:
New Well Re-Entry Workover	Field Name:
	Producing Formation:
	Elevation: Ground: Kelly Bushing:
Gas D&A ENHR SIGW	Total Vertical Depth: Plug Back Total Depth:
OG GSW Temp. Abd.     CM (Coal Bed Methane)	Amount of Surface Pipe Set and Cemented at: Feet
Cathodic Other (Core, Expl., etc.):	Multiple Stage Cementing Collar Used? Yes No
If Workover/Re-entry: Old Well Info as follows:	If yes, show depth set: Feet
Operator:	If Alternate II completion, cement circulated from:
Well Name:	feet depth to:w/sx cmt.
Original Comp. Date: Original Total Depth:	
Deepening Re-perf. Conv. to ENHR Conv. to SWD	Drilling Fluid Management Plan
Plug Back Conv. to GSW Conv. to Producer	(Data must be collected from the Reserve Pit)
	Chloride content: ppm Fluid volume: bbls
Commingled     Permit #:       Dual Completion     Permit #:	Dewatering method used:
SWD     Permit #:	Location of fluid disposal if hauled offsite:
ENHR     Permit #:	
GSW         Permit #:	Operator Name:
	Lease Name: License #:
Spud Date or Date Reached TD Completion Date or	Quarter Sec TwpS. R East _ West
Recompletion Date Recompletion Date Recompletion Date	County: Permit #:

## AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

## Submitted Electronically

KCC Office Use ONLY						
Confidentiality Requested						
Date:						
Confidential Release Date:						
Wireline Log Received						
Geologist Report Received						
UIC Distribution						
ALT I II Approved by: Date:						

	Page Two	1236012
Operator Name:	Lease Name:	Well #:
Sec TwpS. R East _ West	County:	
INCTRUCTIONS. Show important tang of formations papatrated	Dotail all coros Roport all	final conject of drill stome tasts giving interval tasted, time tool

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken (Attach Additional She	eets)	Yes No		🗌 Lo	g Formatio	on (Top), Depth an		Sample
Samples Sent to Geolog	ical Survey	Yes No		Name			Тор	Datum
Cores Taken Electric Log Run		☐ Yes ☐ No ☐ Yes ☐ No						
List All E. Logs Run:								
			NG RECORD	New				
		Report all strings s	set-conductor, su	rface, interr	mediate, producti	on, etc.		
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weig Lbs. /		Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
		ADDITIO	NAL CEMENTIN	IG / SQUE	EZE RECORD			
Purpose: Perforate	Depth Top Bottom	Type of Cement	# Sacks	Used		Type and Pe	ercent Additives	
Protect Casing Plug Back TD								

Did you perform a hydraulic	fracturing treatment	on this well?		Yes	No	(If No, skip questions 2 and 3)
Does the volume of the total	base fluid of the hyd	Iraulic fracturing treatment ex	ceed 350,000 gallons?	Yes	No	(If No, skip question 3)
Was the hydraulic fracturing	treatment informatio	n submitted to the chemical o	disclosure registry?	Yes	No	(If No, fill out Page Three of the ACO-1)

Plug Off Zone

Shots Per Foot		PERFORATION Specify For		RD - Bridge P Each Interval F		e			ement Squeeze Record d of Material Used)	Depth
TUBING RECORD:	Si	ze:	Set At:		Packer	r At:	Liner F		No	
Date of First, Resumed	Product	ion, SWD or ENHF	۶.	Producing M	lethod:	ping	Gas Lift	Other (Explain)		
Estimated Production Per 24 Hours		Oil Bb	ls.	Gas	Mcf	Wate	er	Bbls.	Gas-Oil Ratio	Gravity
									T	
DISPOSITI	ON OF (	GAS:			METHOD	OF COMPLE	TION:		PRODUCTION IN	FERVAL:
Vented Solo		Used on Lease		Open Hole	Perf.	Uually (Submit)	Comp. 4 <i>CO-5)</i>	Commingled (Submit ACO-4)		
(If vented, Su	bmit ACC	D-18.)		Other (Specify)		•	,	. ,		

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Makings 1-18
Doc ID	1236012

All Electric Logs Run

DIL	
DUCP	
MEL	
BHCS	

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Makings 1-18
Doc ID	1236012

## Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement		Type and Percent Additives
Surface	12.2500	8.6250	23	261	Common	280	3% CC



## DRILL STEM TEST REPORT

Prepared For:

**Murfin Drilling Co. Inc** 

250 N. Water Ste 300 Wichita KS 67202

ATTN: Keith Reavis

## Makings #1-18

## 18-4s-33w Rawlings,KS

 Start Date:
 2014.10.26 @ 19:08:00

 End Date:
 2014.10.27 @ 03:32:09

 Job Ticket #:
 57748
 DST #: 1

Trilobite Testing, Inc 1515 Commerce Parkway Hays, KS 67601 ph: 785-625-4778 fax: 785-625-5620 **Murfin Drilling Co. Inc** 

18-4s-33w Rawlings,KS

Makings #1-18

DST # 1

Toronto / LKC

.. A

2014.10.26

RILOBITE	DRILL STEM TES	ST REP	ORT				
	Murfin Drilling Co. Inc		18-49	s-33w F	Rawlings	,KS	
ESTING , I	250 N. Water Ste 300 Wichita KS 67202			<b>ings #1</b> icket: 577		DST#	
	ATTN: Keith Reavis				14.10.26 @	-	
GENERAL INFORMATION:							
Formation:Toronto / LKCDeviated:NoWhipstocTime Tool Opened:21:44:55Time Test Ended:03:32:09			Test 1 Teste Unit N	r: W	onventional /ill MacLear 1		lole (Initial)
Total Depth: 4040.00 ft (KB)	<b>4040.00 ft (KB) (TVD)</b> (TVD) Jole Condition: Good		Refer	ence ⊟ev KB to	vations: GR/CF:	3098.0	00 ft (KB) 00 ft (CF) 00 ft
Serial #:       8674       Inside         Press@RunDepth:       20.83 ps         Start Date:       2014.10.2         Start Time:       19:08:0         TEST COMMENT:       IF- Weak Sur         ISI- No Blow       FF- No Blow         FF- No Blow       FF- No Blow	6 End Date: 0 End Time:	2014.10.27 03:32:09	Capacity: Last Calib.: Time On Bt Time Off B	tm: 20	2 014.10.26 @ 014.10.27 @	2014.10.2 ② 21:44:4	0
FSI- No Blow Pressure			PRE	ESSURI	E SUMM/	ARY	
2000	574 Temperate 574 Temperate 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Time (Min.) 0 1	Pressure (psig) 2004.80 16.66		Annotatio Initial Hydro Open To Fl	o-static	
		31 92 92	18.51 859.00 19.92	116.35 118.03	Shut-In(1) End Shut-In Open To Fl	ı(1)	
		92 123 185 185	20.83 779.61 1899.83	119.89	Shut-In(2) End Shut-Ir Final Hydro		
0	27 Min 3%d						
Recove	У		·	Gas	Rates		
Length (ft) Description 5.00 100%mud	Volume (bbl) 0.02			Choke (ind	ches) Pressur	re (psig)	Gas Rate (Mcf/d)

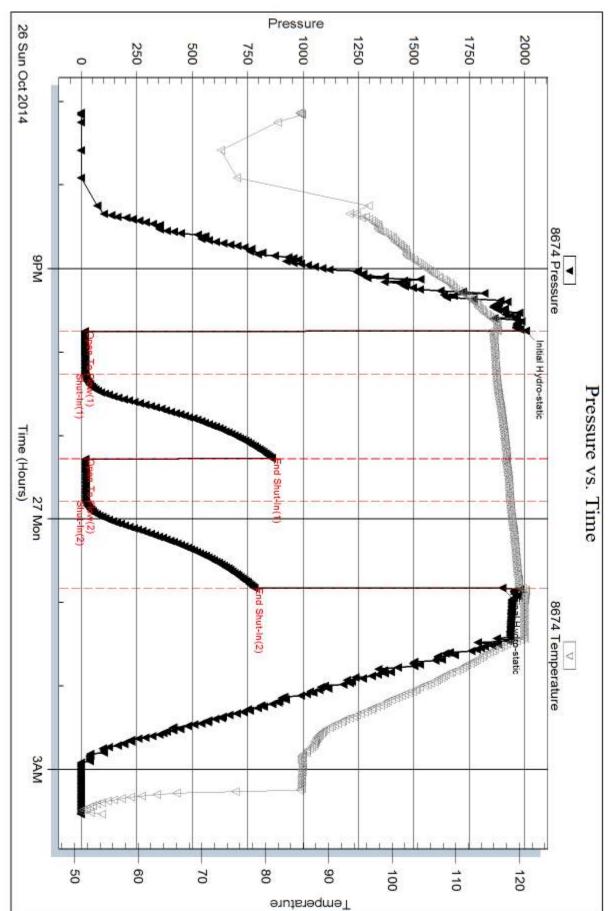
	DRILL STEM TES	ST REP	ORT			
RILOBITE	Murfin Drilling Co. Inc		18-4s-33v	v Rawling	js,KS	
ESTING, INC	250 N. Water Ste 300 Wichita KS 67202		Makings	#1-18		
			Job Ticket:		DST#	
	ATTN: Keith Reavis		Test Start:	2014.10.26 @	2 19:08:00	
GENERAL INFORMATION:						
Formation: <b>Toronto / LKC " A</b> Deviated: No Whipstock: Time Tool Opened: 21:44:55 Time Test Ended: 03:32:09	ft (KB)		Test Type: Tester: Unit No:	Convention Will MacLea 71		<del>l</del> ole (Initial)
Interval:3986.00 ft (KB) To4Total Depth:4040.00 ft (KB) (THole Diameter:7.88 inches Hol			Reference K	Elevations: B to GR/CF:	3098.0	00 ft (KB) 00 ft (CF) 00 ft
Serial #: 8355OutsidePress@RunDepth:psigStart Date:2014.10.26Start Time:18:58:05	@ 3987.00 ft (KB) End Date: End Time:	2014.10.27 03:32:48	Capacity: Last Calib.: Time On Btm: Time Off Btm:		8000.0 2014.10.2	10 psig 27
TEST COMMENT: IF- Weak Surfact ISI- No Blow FF- No Blow FSI- No Blow Pressure vs. 7	Time	1	PRESSI			
5355 Phose 500 500 500 500 500 500 500	Stor Temporaure Stor Temporaure 100 100 100 100 100 100 100 10	Time (Min.)	Pressure Temp (psig) (deg f	Annotat		
Recovery				Gas Rates		
Length (ft)         Description           5.00         100%mud	Volume (bbl) 0.02		Chol	e (inches) Press	sure (psig)	Gas Rate (Mcf/d)

	OBITE				REPOR	λ I	TOOL DIAGR
		Murfin I	Drilling Co. Inc	;		18-4s-33w Rawlin	gs,KS
	STI <mark>NG</mark> , INC	250 N.	Water Ste 30	0		Makings #1-18	
		Wichita	KS 67202			Job Ticket: 57748	DST#:1
		ATTN:	Keith Reavis	i		Test Start: 2014.10.26	@ 19:08:00
Fool Information		ļ					
Drill Pipe: Lengtl	n: 3806.00 ft	Diameter:	3.80 in	ches Volume:	53.39 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe: Lengtl	n: 0.00 ft	Diameter:	0.00 in	ches Volume:	0.00 bbl	Weight set on Packe	er: 30000.00 lb
Drill Collar: Lengtl	n: 177.00 ft	Diameter:	2.25 in	ches Volume:	0.87 bbl	Weight to Pull Loose	: 16000.00 lb
Drill Pipe Above KB:	24.00 ft			Total Volume:	54.26 bbl	Tool Chased	ft
Depth to Top Packer:	24.00 ft 3986.00 ft					String Weight: Initial	
Depth to Bottom Packer:	5900.00 ft					Final	58000.00 lb
nterval betw een Packer							
ool Length:	81.00 ft						
lumber of Packers:	2	Diameter:	6.75 in	ches			
Tool Comments:							
Tool Description	Le		Serial No.	Position		Accum. Lengths	
Fool Description	Le	1.00	Serial No.	Position	3960.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool	Le	1.00 5.00	Serial No.	Position	3960.00 3965.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool	Le	1.00 5.00 5.00	Serial No.	Position	3960.00 3965.00 3970.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool lars	Le	1.00 5.00 5.00 5.00	Serial No.	Position	3960.00 3965.00 3970.00 3975.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint	Le	1.00 5.00 5.00 5.00 2.00	Serial No.	Position	3960.00 3965.00 3970.00 3975.00 3977.00		Rottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer	Le	1.00 5.00 5.00 5.00 2.00 5.00	Serial No.	Position	3960.00 3965.00 3970.00 3975.00 3977.00 3982.00	Accum. Lengths	Bottom Of Top Packe
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer	Le	1.00 5.00 5.00 5.00 2.00 5.00 4.00	Serial No.	Position	3960.00 3965.00 3970.00 3975.00 3977.00 3982.00 3986.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb	Le	1.00 5.00 5.00 5.00 2.00 5.00	Serial No.	Position	3960.00 3965.00 3970.00 3975.00 3977.00 3982.00		Bottom Of Top Packe
Fool Description Change Over Sub Shut In Tool Hydraulic tool Hars Safety Joint Packer Packer Stubb Recorder	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00			3960.00 3965.00 3970.00 3975.00 3977.00 3982.00 3986.00 3987.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer Packer Stubb Recorder Recorder	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00	8355	Outside	3960.00 3965.00 3970.00 3975.00 3977.00 3982.00 3986.00 3987.00 3987.00		Bottom Of Top Pack
Tool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer Packer Stubb Recorder Recorder Recorder Perforations	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 0.00	8355	Outside	3960.00 3965.00 3970.00 3975.00 3977.00 3982.00 3986.00 3987.00 3987.00		Bottom Of Top Pack
	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 14.00	8355	Outside	3960.00 3965.00 3970.00 3975.00 3975.00 3982.00 3982.00 3986.00 3987.00 3987.00 3987.00 4001.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer Packer Stubb Recorder Recorder Perforations Change Over Sub Drill Pipe	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 14.00 1.00	8355	Outside	3960.00 3965.00 3970.00 3975.00 3977.00 3982.00 3986.00 3987.00 3987.00 3987.00 4001.00 4002.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb Recorder Recorder Recorder Perforations Change Over Sub	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 14.00 1.00 32.00	8355	Outside	3960.00 3965.00 3970.00 3975.00 3975.00 3982.00 3982.00 3987.00 3987.00 3987.00 4001.00 4002.00 4034.00	27.00	Bottom Of Top Packe Bottom Packers & Ancho

		DRI	LL STEM TES	ST REPORT	Г		FLUID SI	JMMAR
111	TRILOBITE TESTING , INC	Murfin	Drilling Co. Inc		18-4s-33w	Rawlings,	(S	
	ESTING , INC		Water Ste 300 a KS 67202		<b>Makings</b> Job Ticket: {		DST#: 1	
CD .		ATTN:	Keith Reavis			2014.10.26 @ 19	_	
Nud and Cu	shion Information							
• •	el Chem		Cushion Type:			Oil A PI:		deg API
Nud Weight:	9.00 lb/gal		Cushion Length:		ft	Water Salinity:		ppm
/iscosity:	56.00 sec/qt		Cushion Volume		bbl			
Nater Loss: Resistivity:	8.14 in <sup>3</sup> ohm.m		Gas Cushion Ty Gas Cushion Pro		ncia			
Salinity: Filter Cake:	1000.00 ppm 2.00 inches		Gas Cushion Fr	255010.	psig			
Recovery In	formation							
			Recovery Tab	le		7		
	Leng ft	th	Description		Volume bbl			
		5.00	100%mud		0.02	5		
	Total Length:	5	.00 ft Total Volume	e: 0.025 bbl				
	Num Fluid Sam Laboratory Nar Recovery Com	ne:	Num Gas Bo Laboratory L		Serial #	ŧ		

Ref. No: 57748

Trilobite Testing, Inc



Makings #1-18

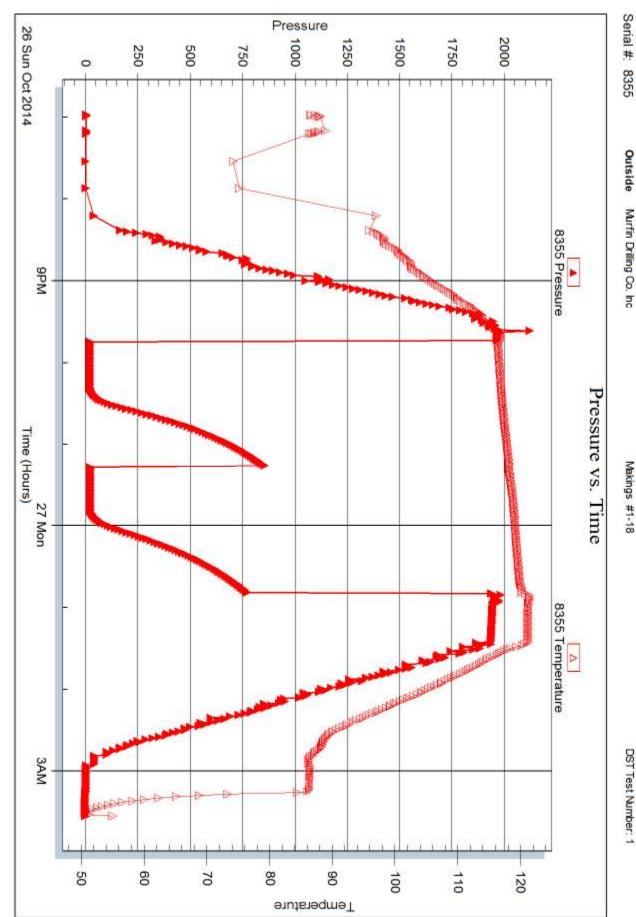
Serial #: 8674

Inside

Murfin Drilling Co. Inc

Ref. No: 57748

Trilobite Testing, Inc



Makings #1-18



## DRILL STEM TEST REPORT

Prepared For:

**Murfin Drilling Co. Inc** 

250 N. Water Ste 300 Wichita KS 67202

ATTN: Keith Reavis

## Makings #1-18

## 18-4s-33w Rawlings,KS

 Start Date:
 2014.10.27 @ 13:06:00

 End Date:
 2014.10.27 @ 20:21:54

 Job Ticket #:
 57749
 DST #:
 2

Trilobite Testing, Inc 1515 Commerce Parkway Hays, KS 67601 ph: 785-625-4778 fax: 785-625-5620

RILOBITE	DRILL STEM TES	ST REP	ORT				
	Murfin Drilling Co. Inc		18-4	ls-33w	Rawlings	s,KS	
ESTING , INC	250 N. Water Ste 300 Wichita KS 67202			kings #			
				Ticket: 57		DST#:2	
	ATTN: Keith Reavis		Test	Start: 20	)14.10.27 @	13:06:00	
GENERAL INFORMATION:							
Formation:LKC "B - D "Deviated:NoWhipstock:Time Tool Opened:15:22:40Time Test Ended:20:21:54	ft (KB)		Test Teste Unit I	er:	Conventional Will MacLear 71	l Bottom Hole	(Reset)
nterval: 4042.00 ft (KB) To 40			Refe	rence Ele	evations:	3103.00 f	
Total Depth: 4080.00 ft (KB) (T						3098.00 f	. ,
Hole Diameter: 7.88 inches Hole	e Condition: Good			KB I	o GR/CF:	5.00 f	L
Serial #: 8674 Inside			<b>Car</b> = = <sup>14</sup>			0000.00	
Press@RunDepth: 19.64 psig Start Date: 2014.10.27	@ 4046.00 ft (KB) End Date:	2014.10.27	Capacity: Last Calib			۶000.00 β 2014.10.27	osig
Start Time: 13:06:00	End Time:	20:21:54	Time On E Time Off E	Stm: 2	2014.10.27 ( 2014.10.27 (		
FF- No Blow FSI- No Blow Pressure vs. T			PR	ESSUF		ARY	
T 8674 Pressure	5674 Temperature	Time	Pressure	Temp	Annotatio		
2000	115	(Min.) 0	(psig) 2027.78	(deg F) 114.34	Initial Hydro	-static	
	110	1	18.39	113.31	Open To Fl		
		33	19.44	114.25	Shut-In(1)	(4)	
	95	93 93	86.39 18.55		End Shut-In Open To Fl		
	50	93 124	19.64	116.91	Shut-In(2)		
759		191	44.89	118.64	End Shut-In		
700 500 500 500 500 500 500 500		<sup>≇</sup> 191 192			End Shut-Ir Final Hydro		
		191	44.89	118.64 119.61			
590 279 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		191	44.89	118.64 119.61	Final Hydro	static	Rate (Mct/d)
76kn Od 2014 76kn Od 2014 776kn Od 2014 7777 7777 7777 7777777 7777777777		191	44.89	118.64 119.61 Ga	Final Hydro	static	Rate (Mcf/d)
resolution resolu	GPM	191	44.89	118.64 119.61 Ga	Final Hydro	static	Rate (Mcf/d)
resolution resolu	GPM	191	44.89	118.64 119.61 Ga	Final Hydro	static	Rate (Mcf/d)
resolution resolu	GPM	191	44.89	118.64 119.61 Ga	Final Hydro	static	Rate (Mcf/d)
7 Mar Oct 2014 33 Terre (Hans)	GPM	191	44.89	118.64 119.61 Ga	Final Hydro	static	Rate (Mcf/d)

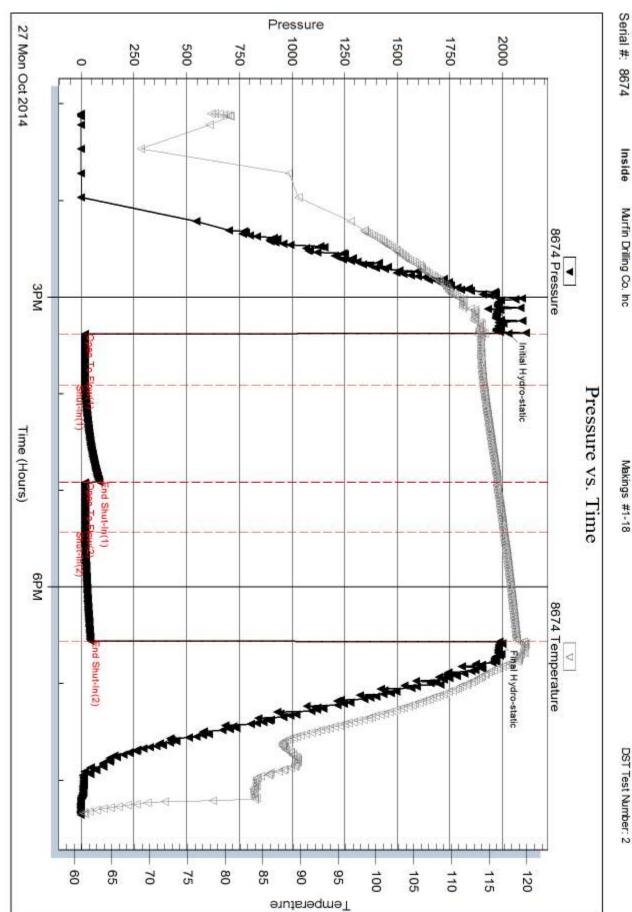
	DRILL STEM TES	ST REP	ORT		
TRILOBITE	Murfin Drilling Co. Inc		18-4s	-33w Rawlin	gs,KS
ESTING , INC	250 N. Water Ste 300 Wichita KS 67202			ngs #1-18	
				:ket: 57749	DST#:2
	ATTN: Keith Reavis		Test S	tart: 2014.10.27	@ 13:06:00
GENERAL INFORMATION:					
Formation:LKC "B-D"Deviated:NoWhipstock:Time Tool Opened:15:22:40Time Test Ended:20:21:54	ft (KB)		Test T Tester Unit No	Will MacLe	nal Bottom Hole (Reset) ean
Interval:4042.00 ft (KB) To4Total Depth:4080.00 ft (KB) (1Hole Diameter:7.88 inches Ho			Refere	RE Elevations:	3103.00 ft (KB) 3098.00 ft (CF) 5.00 ft
Serial #: 8355 Outside					
Press@RunDepth: psig			Capacity:		8000.00 psig
Start Date:         2014.10.27           Start Time:         13:06:05	End Date: End Time:	2014.10.27 20:23:14	Last Calib.: Time On Btr	n:	2014.10.27
			Time Off Bt		
FF- No Blow FSI- No Blow Pressure vs.			PRE	SSURE SUM	MARY
8355 Pressure		Time	Pressure	Temp Annota	
2000 1779 1789 1799		(Min.)	(psig) (	deg F)	
Recovery				Gas Rates	
Length (ft) Description	Volume (bbl)			Choke (inches) Pres	ssure (psig) Gas Rate (Mcf/d)
3.00 100%mud	0.01				
* Recovery from multiple tests					
I COOVERY II OTTITIUITI DIE LESIS		1			

ALC NA L			DRI	LL STE	MTEST	REPOF	RT	TOOL DIAGRA
	RILUE	BITE TING , INC	Murfin I	Drilling Co. Inc	0		18-4s-33w Rawling	s,KS
	ES1	TING , INC		Water Ste 30	0		Makings #1-18	
			Wichita	KS 67202			Job Ticket: 57749	DST#:2
N.S.Y			ATTN:	Keith Reavis	6		Test Start: 2014.10.27 @	0 13:06:00
Tool Informatio	on		ļ					
Drill Pipe:	Length:	3870.00 ft	Diameter:	3.80 ir	nches Volume:	54.29 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 ir	nches Volume:	0.00 bbl	Weight set on Packer	32000.00 lb
Drill Collar:	Length:	177.00 ft	Diameter:	2.25 ir	nches Volume:	0.87 bbl	Weight to Pull Loose:	18000.00 lb
	KD.	22.22.41			Total Volume:	55.16 bbl	Tool Chased	ft
Drill Pipe Above ł Depth to Top Pac		32.00 ft 4042.00 ft					String Weight: Initial	60000.00 lb
Depth to Bottom I		4042.00 ft					Final	600000.0 lb
nterval between		38.00 ft						
Tool Length:	i i ackeis.	65.00 ft						
Number of Packe	ers:	2	Diameter:	6.75 ir	nches			
		-	2.0	00				
Tool Comments:								
	on	Le	ngth (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Tool Descriptio		Le	<b>ngth (ft)</b> 1.00	Serial No.	Position	<b>Depth (ft)</b> 4016.00	Accum. Lengths	
Tool Descriptic		Lei		Serial No.	Position		Accum. Lengths	
<b>Tool Descriptio</b> Change Over Sul Shut In Tool		Le	1.00	Serial No.	Position	4016.00	Accum. Lengths	
<b>Tool Descriptic</b> Change Over Sul Shut In Tool Hydraulic tool		Lei	1.00 5.00	Serial No.	Position	4016.00 4021.00	Accum. Lengths	
<b>Tool Descriptio</b> Change Over Sul Shut In Tool Hydraulic tool Jars		Le	1.00 5.00 5.00	Serial No.	Position	4016.00 4021.00 4026.00	Accum. Lengths	
<b>Tool Descriptio</b> Change Over Sul Shut In Tool Hydraulic tool Jars Safety Joint		Le	1.00 5.00 5.00 5.00	Serial No.	Position	4016.00 4021.00 4026.00 4031.00	Accum. Lengths	Bottom Of Top Packe
<b>Tool Descriptic</b> Change Over Sul Shut In Tool Hydraulic tool Jars Safety Joint Packer		Le	1.00 5.00 5.00 5.00 2.00	Serial No.	Position	4016.00 4021.00 4026.00 4031.00 4033.00		Bottom Of Top Packe
<b>Tool Descriptio</b> Change Over Sul Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer		Le	1.00 5.00 5.00 5.00 2.00 5.00	Serial No.	Position	4016.00 4021.00 4026.00 4031.00 4033.00 4038.00		Bottom Of Top Packe
Fool Description Change Over Sul Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb		Le	1.00 5.00 5.00 2.00 5.00 4.00	Serial No.	Position	4016.00 4021.00 4026.00 4031.00 4033.00 4038.00 4042.00		Bottom Of Top Packe
Tool Description Change Over Sul Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb Perforations		Lei	1.00 5.00 5.00 5.00 2.00 5.00 4.00 1.00	Serial No.	Position	4016.00 4021.00 4026.00 4031.00 4033.00 4038.00 4042.00 4043.00		Bottom Of Top Packe
Tool Description Change Over Sull Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb Perforations Recorder		Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 3.00			4016.00 4021.00 4026.00 4031.00 4033.00 4038.00 4042.00 4043.00 4046.00		Bottom Of Top Packe
Tool Description Change Over Sull Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Packer Stubb Perforations Recorder Recorder		Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 3.00 0.00	8355	Outside	4016.00 4021.00 4026.00 4031.00 4033.00 4038.00 4042.00 4042.00 4046.00 4046.00		Bottom Of Top Packe
Tool Comments: <b>Tool Descriptio</b> Change Over Sul Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Packer Stubb Perforations Recorder Perforations Bullnose		Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 3.00 0.00	8355	Outside	4016.00 4021.00 4026.00 4031.00 4033.00 4038.00 4042.00 4042.00 4046.00 4046.00	27.00	Bottom Of Top Packe

11 X N -		DRI	LL STEM TEST RE	EPORT	-	F	LUID S	JMMAR
120	TESTING , INC	Murfin	Drilling Co. Inc		18-4s-33w	Rawlings,K	S	
	ESTING , INC		Water Ste 300 a KS 67202		<b>Makings</b> Job Ticket: 5		DST#:2	
WV '		ATTN:	Keith Reavis			2014.10.27 @ 13	-	
lud and Cu	ushion Information	ļ						
lud Type: G	el Chem		Cushion Type:			Oil API:		deg API
lud Weight:	9.00 lb/gal		Cushion Length:		ft	Water Salinity:		ppm
iscosity:	50.00 sec/qt		Cushion Volume:		bbl			
/ater Loss:	9.15 in <sup>3</sup>		Gas Cushion Type:					
esistivity: alinity: ilter Cake:	ohm.m 1500.00 ppm 2.00 inches		Gas Cushion Pressure:		psig			
ecovery In	formation							
		.41-	Recovery Table		Mahara	7		
	Leng ft	Ith	Description		Volume bbl			
		3.00	100%mud		0.01	5		
	Total Length:	3	.00 ft Total Volume:	0.015 bbl				
	Num Fluid Sam Laboratory Nar Recovery Com	ne:	Num Gas Bombs: ( Laboratory Location:	0	Serial #			

Ref. No: 57749

Trilobite Testing, Inc



Makings #1-18

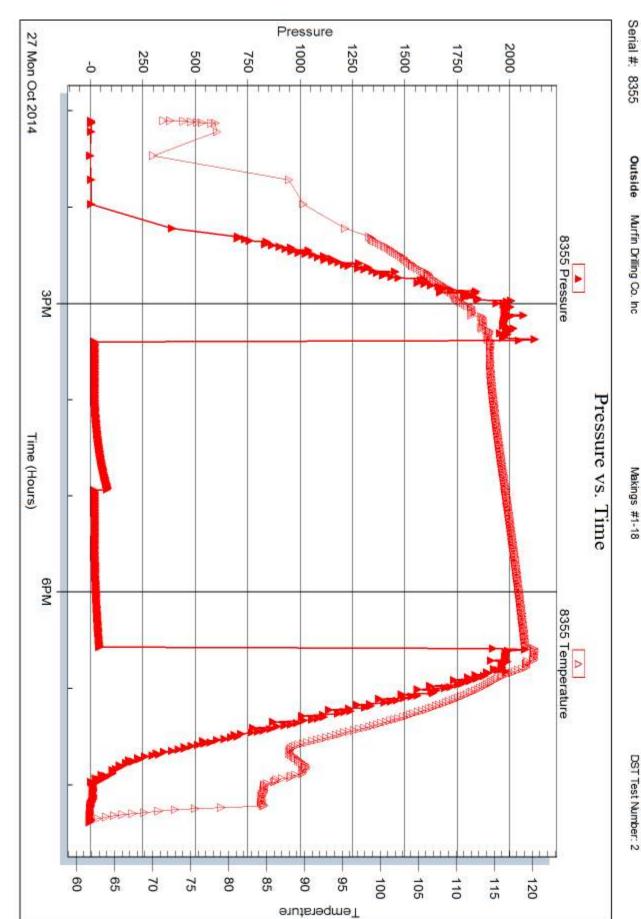
DST Test Number: 2

Inside

Murfin Drilling Co. Inc

Ref. No: 57749

Trilobite Testing, Inc



Makings #1-18



## DRILL STEM TEST REPORT

Prepared For:

Murfin Drilling Co. Inc

250 N. Water Ste 300 Wichita KS 67202

ATTN: Keith Reavis

## Makings #1-18

## 18-4s-33w Rawlings,KS

 Start Date:
 2014.10.28 @ 07:08:00

 End Date:
 2014.10.28 @ 14:31:54

 Job Ticket #:
 57750
 DST #:
 3

Trilobite Testing, Inc 1515 Commerce Parkway Hays, KS 67601 ph: 785-625-4778 fax: 785-625-5620 Murfin Drilling Co. Inc

RILOBITE	DRILL STEM TES	ST REP	ORT				
	Murfin Drilling Co. Inc		18-4	s-33w	Rawlings	s,KS	
ESTING , INC	250 N. Water Ste 300 Wichita KS 67202			tings #		DOT "	_
	ATTN: Keith Reavis			īcket: 57 Start: 20	750 )14.10.28 @	<b>DST#:</b> 07:08:00	3
GENERAL INFORMATION:							
Formation:LKC "F-G"Deviated:NoWhipstock:Time Tool Opened:09:11:10Time Test Ended:14:31:54	ft (KB)		Test Teste Unit N	er: V	Conventiona Will MacLear 71		le (Reset)
Interval:4082.00 ft (KB) To412Total Depth:4126.00 ft (KB) (TVHole Diameter:7.88 inches Hole			Refer	rence Ele KB te	evations: o GR/CF:	3103.00 3098.00 5.00	ft (CF)
Serial #: 8674 Inside Press@RunDepth: 38.50 psig ( Start Date: 2014.10.28 Start Time: 07:08:00 TEST COMMENT: IF- 1/2'' Blow Died ISI- No Blow FF- No Blow FSI- No Blow	End Date: End Time:	2014.10.28 14:31:54	Capacity: Last Calib. Time On B Time Off E	tm: 2	2014.10.28 ( 2014.10.28 (	-	
Pressure vs. Tr	те	1	DD		RESUMM		
Treptor Treptor	EPH Temperature T	Time (Min.) 0 1 35 95 96 127 186 187	Pressure	Temp (deg F) 110.61 109.25 113.96 116.55	Annotation Initial Hydro Open To Fl Shut-In(1) End Shut-Ir Open To Fl	on o-static low (1) n(1) low (2) n(2)	
Recovery			· ·	Gas	s Rates		
Length (ft)         Description           10.00         100% mud	Volume (bbl) 0.05			Choke (ir	nches) Pressu	re (psig) G	as Rate (Mcf/d)
* Recovery from multiple tests Trilobite Testing, Inc	Ref. No: 57750			Drintodi	2014.10.31	@ 10:04:41	

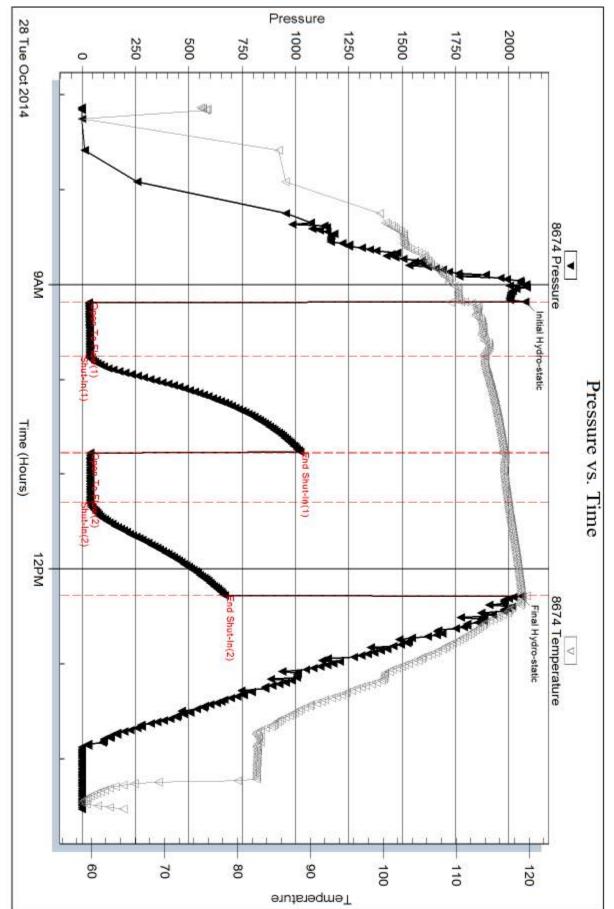
	DRILL STEM TES	T REPO	ORT			
RILOBITE	Murfin Drilling Co. Inc		18-4s-33\	w Rawling	s,KS	
ESTING , INC	250 N. Water Ste 300		Makings	#1-18		
	Wichita KS 67202		Job Ticket:	57750	DST#:3	6
	ATTN: Keith Reavis		Test Start:	2014.10.28 @	07:08:00	
GENERAL INFORMATION:						
Formation:LKC " F - G "Deviated:NoWhipstock:Time Tool Opened:09:11:10Time Test Ended:14:31:54	ft (KB)		Test Type: Tester: Unit No:	Convention Will MacLea 71		e (Reset)
Interval:4082.00 ft (KB) To41Total Depth:4126.00 ft (KB) (TVHole Diameter:7.88 inches Hole				Elevations: B to GR/CF:	3103.00 3098.00 5.00	ft (CF)
Serial #: 8355OutsidePress@RunDepth:psigStart Date:2014.10.28Start Time:07:08:05TEST COMMENT:IF- 1/2" Blow DiedISI- No BlowFF- No BlowFSI- No BlowFSI- No Blow	End Date: End Time:	2014.10.28 14:33:29	Capacity: Last Calib.: Time On Btm: Time Off Btm:		8000.00 2014.10.28	psig
Pressure vs. T	ime			URE SUMM		
200 170 170 170 170 170 170 170 1	500 Tempendare 500 Tempendare	Time (Min.)	Pressure Tem (psig) (deg		ion	
Recovery			(	Gas Rates		
Length (ft)         Description           10.00         100%mud	Volume (bbl) 0.05		Cho	ke (inches) Press	ure (psig) Ga	s Rate (Mcf/d)
* Recovery from multiple tests Trilobite Testing, Inc	Ref. No: 57750		Drinta	ed: 2014.10.3 <sup>,</sup>	1 @ 10.04.14	

	BITE			EM TEST			TOOL DIAGR
RILO		Murfin [	Drilling Co. Ir	IC		18-4s-33w Rawlin	ngs,KS
I ES	TING , INC	250 N.	Water Ste 3	00		Makings #1-18	
		Wichita	KS 67202			Job Ticket: 57750	DST#:3
1.57		ATTN:	Keith Reav	is		Test Start: 2014.10.28	8 @ 07:08:00
Fool Information		ļ					
Drill Pipe: Length:	3902.00 ft	Diameter:	3.80 i	nches Volume:	54.73 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe: Length:	0.00 ft	Diameter:	0.00 i	nches Volume:	0.00 bbl	Weight set on Pack	ker: 28000.00 lb
Drill Collar: Length:	177.00 ft	Diameter:	2.25 i	nches Volume:	0.87 bbl	Weight to Pull Loos	e: 8000.00 lb
	24.00 ft			Total Volume:	55.60 bbl	Tool Chased	ft
Drill Pipe Above KB: Depth to Top Packer:	24.00 ft 4082.00 ft					String Weight: Initia	
Depth to Bottom Packer:	4082.00 ft					Fina	al 60000.00 lb
nterval betw een Packers:							
ool Length:	71.00 ft						
Number of Packers:	2	Diameter:	6.75 i	nches			
Fool Comments:							
			OstistNa	Desition	D4h (64)	a sum la suda	
Fool Description	Le	• • •	Serial No.	Position		Accum. Lengths	
Fool Description	Le	1.00	Serial No.	Position	4056.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool	Le	1.00 5.00	Serial No.	Position	4056.00 4061.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool	Le	1.00 5.00 5.00	Serial No.	Position	4056.00 4061.00 4066.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool Jars	Le	1.00 5.00 5.00 5.00	Serial No.	Position	4056.00 4061.00 4066.00 4071.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint	Le	1.00 5.00 5.00 5.00 2.00	Serial No.	Position	4056.00 4061.00 4066.00 4071.00 4073.00		Pottom Of Tan Part
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer	Le	1.00 5.00 5.00 5.00 2.00 5.00	Serial No.	Position	4056.00 4061.00 4066.00 4071.00 4073.00 4078.00	Accum. Lengths	Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer	Le	1.00 5.00 5.00 2.00 5.00 4.00	Serial No.	Position	4056.00 4061.00 4066.00 4071.00 4073.00 4078.00 4082.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb	Le	1.00 5.00 5.00 5.00 2.00 5.00	Serial No.	Outside	4056.00 4061.00 4066.00 4071.00 4073.00 4078.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb Recorder	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00			4056.00 4061.00 4066.00 4071.00 4073.00 4078.00 4082.00 4083.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer Packer Stubb Recorder Recorder	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00	8355	Outside	4056.00 4061.00 4066.00 4071.00 4073.00 4078.00 4082.00 4083.00		Bottom Of Top Pack
Tool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer Packer Stubb Recorder Recorder Recorder Perforations	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 0.00	8355	Outside	4056.00 4061.00 4066.00 4071.00 4073.00 4078.00 4082.00 4083.00 4083.00		Bottom Of Top Pack
Fool Description         Change Over Sub         Shut In Tool         Hydraulic tool         Hydraulic tool         Bars         Safety Joint         Packer         Packer         Stubb         Recorder         Recorder         Parforations         Change Over Sub	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 0.00 5.00	8355	Outside	4056.00 4061.00 4066.00 4071.00 4073.00 4078.00 4082.00 4083.00 4083.00 4083.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer Packer Stubb Recorder Recorder Perforations Change Over Sub Drill Pipe	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 5.00 1.00	8355	Outside	4056.00 4061.00 4066.00 4071.00 4073.00 4078.00 4082.00 4083.00 4083.00 4083.00 4088.00 4089.00		Bottom Of Top Pack
Tool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Packer Stubb Recorder Recorder Perforations Change Over Sub Drill Pipe Change Over Sub Bullnose	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 5.00 1.00 31.00	8355	Outside	4056.00 4061.00 4066.00 4071.00 4073.00 4078.00 4082.00 4083.00 4083.00 4083.00 4083.00 4083.00 4089.00 4120.00	27.00	Bottom Of Top Pack

	ITE	DRILL	STEM TEST R	EPORT	-		FLUID S	UMMAR
	ITE ING , INC	Murfin Drilling	g Co. Inc		18-4s-33v	Rawlings,	٢S	
ESTI	NG , INC	250 N. Water	r Ste 300		Makings #1-18			
		Wichita KS 6	7202		Job Ticket:		DST#: 3	
NSV .		ATTN: Keith	n Reavis		Test Start:	2014.10.28 @ 0	7:08:00	
lud and Cushion Info	ormation							
lud Type: Gel Chem			Cushion Type:			Oil API:		deg API
lud Weight: 9.00 lb	-		Cushion Length:		ft	Water Salinity:		ppm
iscosity: 50.00 s			Cushion Volume:		bbl			
/ater Loss: 9.14 in			Gas Cushion Type:					
,	hm.m		Gas Cushion Pressure:		psig			
alinity: 1500.00 p liter Cake: 2.00 in								
ecovery Information								
1	· · ·		Recovery Table			7		
	Length ft		Description		Volume bbl			
	1	0.00 1009	%mud		0.04	9		
Tota	al Length:	10.00 ft	Total Volume:	0.049 bbl				
Nur	m Fluid Samples	s: 0	Num Gas Bombs:	0	Serial	#:		
Lab	ooratory Name:		Laboratory Location:					
	ooratory Name: covery Commer		Laboratory Location:					
			Laboratory Location:					
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Ref. No: 57750

Trilobite Testing, Inc



Makings #1-18

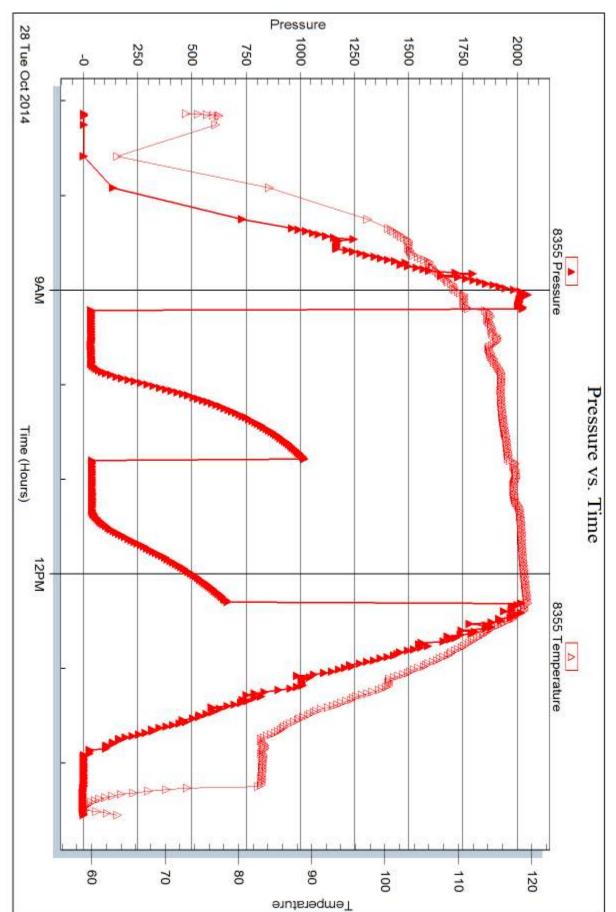
Serial #: 8674

Inside

Murfin Drilling Co. Inc

Ref. No: 57750

Trilobite Testing, Inc



Outside Murfin Drilling Co. Inc

Serial #: 8355

Makings #1-18



## DRILL STEM TEST REPORT

Prepared For:

Murfin Drilling Co. Inc

250 N. Water Ste 300 Wichita KS 67202

ATTN: Keith Reavis

## Makings #1-18

## 18-4s-33w Rawlings,KS

 Start Date:
 2014.10.29 @ 02:08:00

 End Date:
 2014.10.29 @ 12:10:55

 Job Ticket #:
 58702
 DST #: 4

Trilobite Testing, Inc 1515 Commerce Parkway Hays, KS 67601 ph: 785-625-4778 fax: 785-625-5620 Murfin Drilling Co. Inc

	DRILL STEM TES		ORT		
	Murfin Drilling Co. Inc		18-4s-	-33w Rawl	ings,KS
ESTING ,			Makir	ngs #1-18	
	Wichita KS 67202		Job Tic	ket: 58702	DST#:4
	ATTN: Keith Reavis		Test St	art: 2014.10.2	29 @ 02:08:00
GENERAL INFORMATION:					
Formation:LKC "H - J "Deviated:NoWhipstoTime Tool Opened:04:36:10Time Test Ended:12:10:55	ck: ft (KB)		Test Ty Tester: Unit No	Will Mac	tional Bottom Hole (Reset) cLean
Total Depth: 4220.00 ft (KE	<b>4220.00 ft (KB) (TVD)</b> ) (TVD) Hole Condition: Good		Refere	nce Elevations KB to GR/C	3098.00 ft (CF)
Serial #: 8674 Inside Press@RunDepth: 1324.52 p Start Date: 2014.10 Start Time: 02:08 TEST COMMENT: IE- Surface	29 End Date:	2014.10.29 12:10:55	Capacity: Last Calib.: Time On Btn Time Off Btr		8000.00 psig 2014.10.29 0.29 @ 04:34:25 0.29 @ 08:41:39
ISI- No Blow FF- Weak S FSI- No Blov	urface Blow Built to BOB in 5min Died /				
Pressu: T 8674 Pressure	e vs. Time 8674 Temperature	Time	··	SSURE SU	MMARY otation
		(Min.)	(psig) (d	leg F)	
	- 120	0	1 1		Hydro-static To Flow (1)
1500	110	33		33.03 Shut-I	n(1)
		94		30.02 End S	
		94 153	1 1	29.23 Shut-I	
		247 248	1 1		hut-ln(2) -lydro-static
23 West Oct 2014 Tim					
Recov	ery		, ł	Gas Rate	25
Length (ft) Description	. ,			Choke (inches)	Pressure (psig) Gas Rate (Mcf/d)
1500.00 GMCW 3%g 4%m					
630.00         GMCW 3%g 20%n           441.00         GWCM 3%g 45%w					
257.00         WCM 33%w         67%r					
* Recovery from multiple tests					
Trilobite Testing, Inc	Ref. No: 58702	-		Printed: 2014 1	0.31 @ 10:03:48

Trilobite Testing, Inc

Ammation:       LKC * H - J*         Deviated:       No       Whipstock:       ft (KB)       Test: Type:       Conventional Bottom Hole (Reset):         Time Tool Opencie:       1:33:00 ft (KB) To       422:00 ft (KB) (TVD)       Reference Elevations:       303:00 ft (KB)         Tool Dameter:       7.88 Inches/Hole Condition:       Good       KB to GRICE:       300:00 ft (KB)         Start Table:       2014.10.29       End Date:       2014.10.29       End Date:       2014.10.29         Start Table:       202:00 ft (KB) TO 20:00:05       End Time:       12:12:45       Time On Btm:       Time Of Btm:         TEST COMMENT:       F:       Surface Blow 5° Buil to BOB in 45sec Slid 8' to Botom       Back to 3 1/4"       Time Of Btm:         TSI No Blow       F:       No Biow       Time Of Btm:       Time Of Btm:         Tore on Buth       F:       Surface Blow Buil to BOB in 5min Ded Back to 3 1/4"       Time Of Btm:         F:Si No Blow       F:       Surface Blow Buil to BOB in 5min Ded Back to 3 1/4"       Time Of Btm:         Tore on Buth       Time Of Btm:       Case Rates       Surface Blow Buil to BOB in 5min Ded Back to 3 1/4"         F:Si No Blow       Time Of Btm:       Case Rates       Surface Blow Buil to BOB in 45sec Slid 8' to Botom         Bio Opencie:       Surface B		DRILL STEM TES	T REPO	RT		
Wichlie KS 67202     Job Tickit: 58702     DSTF.4       ATTN: Keith Reavis     Test Start: 2014.10.29 @ 02.08.00       SENERAL INFORMATION:     Test Start: 2014.10.29 @ 02.08.00       Semilarity in the observation of the second start in the second		Murfin Drilling Co. Inc		18-4s-33w	Rawlings,K	S
ATTX: Keith Reavis     ATTX: Keith Reavis     ATTX: Keith Reavis     Test Start: 2014.10.29 @ 02:08:00   SENERAL INFORMATION:     Transition:     LKG * H - J*     Available Line Start: 2014.10.29 @ 02:08:00  SENERAL INFORMATION:     Transition:     LKG * H - J*     Available Line Start: 2014.10.29 @ 02:08:00  Seneration:     Attack and the start of the start interval interv	ESTING, I			Makings #	#1-18	
SERVERAL INFORMATION:       Serveration:       LKC * H - J *         Weidate:       No       Wilpstock:       ft (KB)       Test Type:       Conventional Bottom Hole (Reset)         The Tool Opened:       04/38:10       Test Type:       Conventional Bottom Hole (Reset)         The Tool Opened:       04/38:10       Test Type:       Conventional Bottom Hole (Reset)         The Tool Opened:       04/38:10       Test Type:       Conventional Bottom Hole (Reset)         The Tool Opened:       04/38:10       Test Type:       Conventional Bottom Hole (Reset)         The Tool Opened:       04/38:10       Test Type:       Structure         The Tool Opened:       04/38:10       Test Type:       Structure         Weinbart       7.88 Incheshole Condition:       Good       KB to GRUCE:       8000.00 psig         Stant Tame:       02/08:05       End Time:       12:12:45       Time On Birx:       Time Of Birx:         TEST COMMENT:       F- Surface Blow S* Built to BOB in 45sec: Slid 5' to Bottom       St. No Biow       Time:       12''''         FW Weak Surface Blow       Surface Blow       Surface Blow       Time Of Birx:       Time Of Birx:         Time:       The Surface Blow       Surface Blow       Surface Blow       Surface Blow         FW Weak Surfac		Wichita KS 67202		Job Ticket: 5	8702	DST#:4
Ammation:       LKC * H - J*         Deviated:       No       Whipstock:       ft (KB)       Test: Type:       Conventional Bottom Hole (Reset):         Time Tool Opencie:       1:33:00 ft (KB) To       422:00 ft (KB) (TVD)       Reference Elevations:       303:00 ft (KB)         Tool Dameter:       7.88 Inches/Hole Condition:       Good       KB to GRICE:       300:00 ft (KB)         Start Table:       2014.10.29       End Date:       2014.10.29       End Date:       2014.10.29         Start Table:       202:00 ft (KB) TO 20:00:05       End Time:       12:12:45       Time On Btm:       Time Of Btm:         TEST COMMENT:       F:       Surface Blow 5° Buil to BOB in 45sec Slid 8' to Botom       Back to 3 1/4"       Time Of Btm:         TSI No Blow       F:       No Biow       Time Of Btm:       Time Of Btm:         Tore on Buth       F:       Surface Blow Buil to BOB in 5min Ded Back to 3 1/4"       Time Of Btm:         F:Si No Blow       F:       Surface Blow Buil to BOB in 5min Ded Back to 3 1/4"       Time Of Btm:         Tore on Buth       Time Of Btm:       Case Rates       Surface Blow Buil to BOB in 5min Ded Back to 3 1/4"         F:Si No Blow       Time Of Btm:       Case Rates       Surface Blow Buil to BOB in 45sec Slid 8' to Botom         Bio Opencie:       Surface B		ATTN: Keith Reavis		Test Start: 2	014.10.29 @ 02	:08:00
Beviated:       No       Whipstock:       ft (KB)       Test Flags:       Test Flags:       Test Flags:       Test: Huis MacLean         Ime Tool Opened:       04:38:10       Test::       VIII MacLean       Unit No:       71         Interval:       4133.00 ft (KB) To       4220.00 ft (KB) (TVD)       Beference Elevations:       3103.00 ft (KB)         Otal Depth:       2:200 ft (KB) (TVD)       Beference Elevations:       3103.00 ft (KB)         Sterial #:       8355       Outside       S096.00 ft (CF)       50.00 ft         Sterial #:       2014.10.29       End Date:       2014.10.29       Last Calib:       2014.10.29         Sterial #:       2014.10.29       End Date:       2014.10.29       Time Ori Bitri       Time Ori Bitri         EST COMMENT:       F: Surface Blow 5" Built to BOB in 5min Ded Back to 3 14"       Time Ori Bitri       Time Ori Bitri         F:       Veak Surface Blow Built to BOB in 5min Ded Back to 3 14"       Time Ori Bitri       Time Ori Bitri         F:       No Blow       Time Ori Bitri       Time Ori Bitri       Time Ori Bitri         Gas Rates       Cone (torke)       Rescovery       Case Rates         Image: ft	GENERAL INFORMATION:					
Obtail Depth::       4220.00 ff (KB) (TVD)       3098.00 ff (CF)         She in the shole Condition:       Good       KB to GRUE:       5.00 ft         She in the shole Condition:       Good       KB to GRUE:       5.00 ft         She in the shole Condition:       Good       Capacity:       8000.00 psig         Shart Date:       2014.10.29       Last Callo::       2014.10.29         Shart Time:       02.08.05       End Time:       12:12.45       Time Of Blm:         TEST COMMENT:       F: Surface Blow Built to BOB in 45sec Sild 8' to Bottom       SH* No Blow       Pressure       Time Of Blm:         TSH: No Blow       FF: Weak Surface Blow Built to BOB in 5min Ded Back to 3 1/4"       Pressure       Time (ref Bin:       Pressure       Time (reg F)       Annotation         Maximum       Maximum       Maximum       Maximum       Case Rates       Start (red)       Start		ft (KB)		Tester:	Will MacLean	ttom Hole (Reset)
hess@RunDepth: psig @ 4140.00 ft (KB) Capacity: 8000.00 psig biart Date: 2014.10.29 End Date: 2014.10.29 Last Calib: 2014.10.29 Last Calib: 2014.10.29 Last Calib: 2014.10.29 Time On Bitrix Time Off Bitrix TEST COMMENT: F- Surface Blow 5° Built to BOB in 45sec Sid B' to Bottom IS: No Blow FF- No Blow TEST COMMENT: F- Surface Blow 5° Built to BOB in 5min Died Back to 3 1/4° FS- No Blow Tessure the surface Blow Built to BOB in 5min Died Back to 3 1/4° Time Off Bitrix Off Bitrix Time Off Bitrix Off Bitrix Time Off Bitrix Off	Total Depth: 4220.00 ft (KB)	(TVD)			:	3098.00 ft (CF)
Sł No Blow FF: Weak Surface Blow Built to BOB in 5mn Died Back to 3 1/4" FS: No Blow Time PRESSURE SUMMARY Time (psig) (deg F) Annotation Annotation Annotation Min.) Chole (inches) Pressure (psig) Gas Rates Chole (inches) Pressure (psig) Gas Rate (Mick)	Press@RunDepth: psi Start Date: 2014.10.2	9 End Date:		Last Calib.: Time On Btm:		
Image: Non-basic state         Image: Non-basic state<	ISI- No Blow FF- Weak Sur FSI- No Blow	face Blow Built to BOB in 5min Died				<i></i>
Image: Contract of the second seco			Time			Y
Length (ft)         Description         Volume (bbl)           1500.00         GMCW 3%g 4%m 93%w         19.43           630.00         GMCW 3%g 20%m 77%w         8.84           441.00         GWCM 3%g 45%w 52%m         6.19           257.00         WCM 33%w 67%m         3.61				· · ·		
1500.00       GMCW 3%g 4%m 93%w       19.43         630.00       GMCW 3%g 20%m 77%w       8.84         441.00       GWCM 3%g 45%w 52%m       6.19         257.00       WCM 33%w 67%m       3.61         Image: Comparison of the system of the syst	Recover	У		Ga	as Rates	
630.00       GMCW 3%g 20%m 77%w       8.84         441.00       GWCM 3%g 45%w 52%m       6.19         257.00       WCM 33%w 67%m       3.61				Choke (	(inches) Pressure (p	sig) Gas Rate (Mcf/d)
441.00       GWCM 3%g 45%w 52%m       6.19         257.00       WCM 33%w 67%m       3.61						
257.00 WCM 33%w 67%m 3.61						
* Recovery from multiple tests						
* Recovery from multiple tests						
	* Recovery from multiple tests					

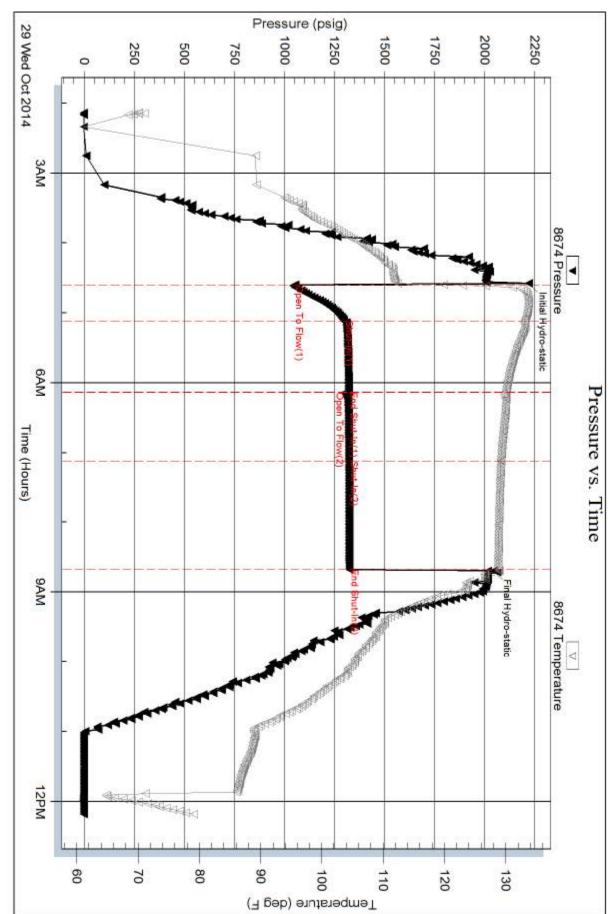
Trilobite Testing, Inc

$(\mathcal{A} \to \mathcal{A}) \to \mathcal{A}$	BITE			EM TEST			TOOL DIAGR
		Murfin I	Drilling Co. In	С		18-4s-33w Rawlir	ngs,KS
I ES	TING , INC	250 N.	Water Ste 30	00		Makings #1-18	
		Wichita	KS 67202			Job Ticket: 58702	DST#:4
191		ATTN:	Keith Reavi	is		Test Start: 2014.10.29	0 @ 02:08:00
Tool Information		Į					
Drill Pipe: Length:	3967.00 ft	Diameter:	3.80 i	nches Volume:	55.65 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe: Length:	0.00 ft	Diameter:	0.00 i	nches Volume:	0.00 bbl	Weight set on Pack	er: 36000.00 lb
Drill Collar: Length:	177.00 ft	Diameter:	2.25 i	nches Volume:	0.87 bbl	Weight to Pull Loos	e: 10000.00 lb
Drill Pipe Above KB:	32.00 ft			Total Volume:	56.52 bbl	Tool Chased	ft
Depth to Top Packer:	32.00 ft 4139.00 ft					String Weight: Initia	
Depth to Bottom Packer:	4139.00 ft					Fina	I 70000.00 lb
nterval betw een Packers							
ool Length:	108.00 ft						
Number of Packers:	2	Diameter:	6.75 i	nches			
Faal Commonto:							
Tool Comments:							
Fool Description	Le	ngth (ft)	Serial No.	Position		Accum. Lengths	
Fool Description	Le	1.00	Serial No.	Position	4113.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool	Le	1.00 5.00	Serial No.	Position	4113.00 4118.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool	Le	1.00 5.00 5.00	Serial No.	Position	4113.00 4118.00 4123.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool Jars	Le	1.00 5.00 5.00 5.00	Serial No.	Position	4113.00 4118.00 4123.00 4128.00	Accum. Lengths	
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint	Le	1.00 5.00 5.00 5.00 2.00	Serial No.	Position	4113.00 4118.00 4123.00 4128.00 4130.00		Bottom Of Ton Pack
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer	Le	1.00 5.00 5.00 5.00 2.00 5.00	Serial No.	Position	4113.00 4118.00 4123.00 4128.00 4130.00 4135.00	Accum. Lengths	Bottom Of Top Pack
<b>Fool Description</b> Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer	Le	1.00 5.00 5.00 5.00 2.00 5.00 4.00	Serial No.	Position	4113.00 4118.00 4123.00 4128.00 4128.00 4130.00 4135.00 4139.00		Bottom Of Top Pack
Fool Comments: Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb Recorder	Le	1.00 5.00 5.00 5.00 2.00 5.00	Serial No.	Position	4113.00 4118.00 4123.00 4128.00 4130.00 4135.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb Recorder	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00			4113.00 4118.00 4123.00 4128.00 4128.00 4130.00 4135.00 4139.00 4140.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer Packer Stubb Recorder Recorder	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00	8355	Outside	4113.00 4118.00 4123.00 4128.00 4128.00 4135.00 4135.00 4139.00 4140.00 4140.00		Bottom Of Top Pack
Fool Description         Change Over Sub         Shut In Tool         Hydraulic tool         ars         Safety Joint         Packer         Packer         Stubb         Recorder         Recorder         Parforations	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 0.00	8355	Outside	4113.00 4118.00 4123.00 4128.00 4130.00 4135.00 4139.00 4140.00 4140.00		Bottom Of Top Pack
Fool Description         Change Over Sub         Shut In Tool         Hydraulic tool         Hydraulic tool         Hars         Safety Joint         Packer         Packer         Stubb         Recorder         Recorder         Parforations         Change Over Sub	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 0.00 10.00	8355	Outside	4113.00 4118.00 4123.00 4128.00 4128.00 4130.00 4135.00 4139.00 4140.00 4140.00 4140.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool lars Safety Joint Packer Packer Stubb Recorder Recorder Perforations Change Over Sub Drill Pipe	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 10.00 1.00	8355	Outside	4113.00 4118.00 4123.00 4128.00 4128.00 4135.00 4135.00 4139.00 4140.00 4140.00 4140.00 4150.00 4151.00		Bottom Of Top Pack
Fool Description Change Over Sub Shut In Tool Hydraulic tool Jars Safety Joint Packer Packer Stubb	Le	1.00 5.00 5.00 2.00 5.00 4.00 1.00 0.00 10.00 1.00 63.00	8355	Outside	4113.00 4118.00 4123.00 4128.00 4135.00 4135.00 4139.00 4140.00 4140.00 4140.00 4150.00 4151.00 4214.00	27.00	Bottom Of Top Pack

			LL STEM TEST REPO		FI	UID SUMMAR
SEN 1	TRILOBITE	Murfin	Drilling Co. Inc	18-4s-33	w Rawlings,KS	
	ESTING , INC		Water Ste 300	Makings	s #1-18	
		Wichita	a KS 67202	Job Ticket	58702	DST#:4
NOV.		ATTN:	Keith Reavis	Test Start:	2014.10.29 @ 02:0	00:80
Aud and C	ushion Information	<b>I</b>				
	el Chem		Cushion Type:		Oil API:	deg API
/lud Weight:	9.00 lb/gal		Cushion Length:	ft	Water Salinity:	32000 ppm
/iscosity:	46.00 sec/qt		Cushion Volume:	bbl		
Vater Loss:	9.16 in³		Gas Cushion Type:			
Resistivity:	ohm.m		Gas Cushion Pressure:	psig		
Salinity:	2600.00 ppm					
ilter Cake:	2.00 inches					
Recovery lı	nformation					
			Recovery Table			
	Lenç		Description	Volume		
	ft		ļ	bbl		
		1500.00	GMCW 3%g 4%m 93%w	19.4		
		630.00	GMCW 3%g 20%m 77%w	8.8	37	
		441.00	GWCM 3%g 45%w 52%m	6.1		
		257.00	WCM 33%w 67%m	3.6	605	
	Total Length:	2828	0.00 ft Total Volume: 38.057	' bbl		
	Num Fluid Sam	ples: 0	Num Gas Bombs: 0	Seria	l #:	
	Laboratory Na	me:	Laboratory Location:			
	Recovery Com	ments: Al	Pl is .123 @ 66f = 32000			

Ref. No: 58702

Trilobite Testing, Inc



Murfin Drilling Co. Inc

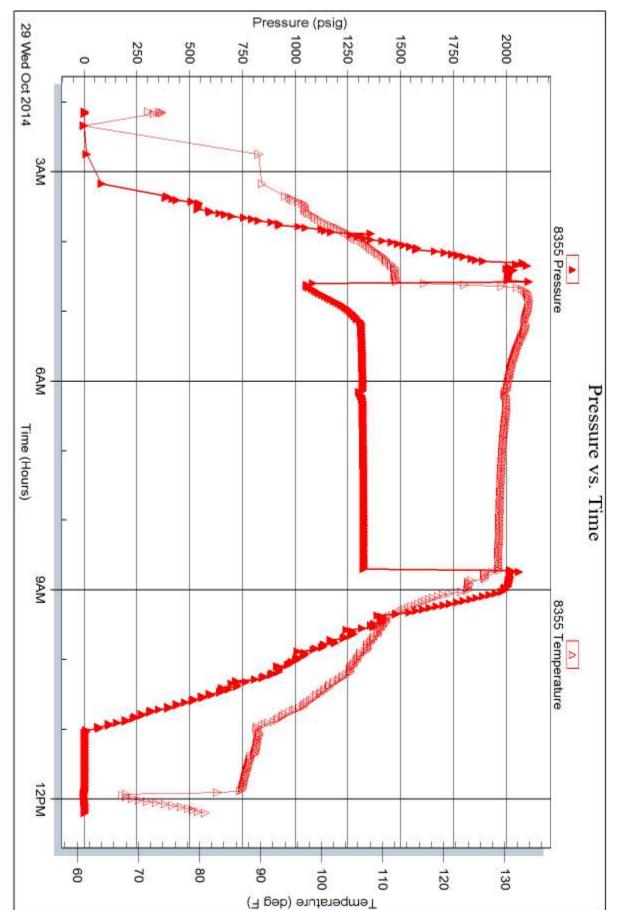
Serial #: 8674

Inside

Makings #1-18

Ref. No: 58702

Trilobite Testing, Inc



Outside Murfin Drilling Co. Inc

Serial #: 8355

Makings #1-18

4/10 RILOBITE ESTING INC. 1515 Commerce Parkway	• Hays, Kansas 67601	NO.	<b>Ticket</b> 57748	
Well Name & No. Makings #1-18 Company Murtin Drilling Co In Address 250 Nr Water Ste 3 Co. Rep/Geo. Keith Reavis	Test No Elevati 00 W.ch.ta RS Rig_	21.0	_Date <u>10-25</u> _KB_ <u>3098</u>	GL
Location: Sec Twp	Rge. <u>33</u> W Co. <u>R</u>	awlings	State	5
nterval Tested <u>3986 - 4040</u> Anchor Length <u>54</u> Top Packer Depth <u>3982</u> Bottom Packer Depth <u>3986</u> Total Depth <u>4040</u> Blow Description <u>TE - Weak Surface</u>	Zone Tested <u>Torento</u> Drill Pipe Run <u>3806</u> Drill Collars Run <u>177</u> Wt. Pipe Run <u>0</u> Chlorides <u>1000</u>		Mud Wt. <u>9.1</u> Vis <u>56</u> WL <u>8-2</u> LCM <u>4/6</u>	
FF- No Blow FF- No Blow FSI- No Blow Rec_ 5_ Feet of Aud	%g:	as %oil	%water	100 %mud
Rec Feet of	%g	as %oil	%water	%mud
Rec Feet of	%g	as %oil	%water	%mud
Rec Feet of	%g	as %oil	%water	%mud
Rec Feet of	%g	as %oil	%water	%mud
Rec Total	Test 1250   Jars 250   Jars 75   Circ Sub 1////////////////////////////////////	T-On I T-Star T-Ope T-Pull T-Out T-Out T-Out Comm 117.80 I R I R I R I R I R I R I R I R I R I R	n <u>21:44</u> ed <u>00:49</u> <u>3:32</u> nents <u>Motul</u> uined Shale Packer_ uined Packer uined Packer <u></u> xtra Copies <u></u> fotal <u>0</u>	
12	Day Standby Accessibility Sub Total1692.80 Our Bepreser	MP/E	DST (	Disc't

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

RILOBITE TESTING INC	y ∙ Hays, Kansas 67601	Tes NO.	t Ticket 57749	
Well Name & No. <u>McKings</u> #1-18 Company <u>Murtin Drilling Constant</u> Address <u>250 N. Water Ste</u> Co. Rep/Geo. <u>Keith Reaus</u>	Test N Eleva 300 Wichita 12 Rge. 33W Co. Zone Tested <u>LKC</u> Drill Pipe Run <u>3870</u> Drill Collars Run <u>177</u> Wt. Pipe Run 0	tion 3/03 6 67202 Mertin 7 Rawlings B-D"		GL
Blow Description <u>TF-Weck Surface</u> <u>TSI-No Blow</u> <u>FF-No Blow</u> <u>FST-No Blow</u>				
Rec Feet of		gas %oil	%water 100	
Rec Feet of		gas %oil	%water	%mud
Rec Feet of		gas %oil	%water	%mud
Rec Feet of		gas %oil	%water	%mud
Rec Feet of		gas %oil	%water	%mud
Rec Total	1000		F Chlorides	ppm
(A) Initial Hydrostatic 2027	Test 1250		Location 12:04	
(B) First Initial Flow		T-Star	10 - 0	
(C) First Final Flow19	5 Safety Joint 75	Т-Оре	11.07	
(D) Initial Shut-In <u>56</u>	Circ Sub MC	T-Pull	00.71 51	,
(E) Second Initial Flow	Hourly Standby	T-Out	)	
(F) Second Final Flow	Mileage 188 R/T	117.80 Com	nents	
(G) Final Shut-In	Sampler	T	lotel	
(H) Final Hydrostatic	Straddle			
	Shale Packer		uined Shale Packer	
Initial Open			uined Packer	
Initial Shut-In CO	Extra Packer		xtra Copies Total 1692.80	
20	Extra Recorder			
1.0			144	
Final Shut-In	Accessibility	MP/[	OST Disc't	
	Sub Total 1692.80			
Approved By	Our Represe	ntative Www		

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

RILOBITE			Fest 1	<b>Ficket</b>	
4/10 ESTING INC. 1515 Commerce Parkway	• Hays, Kansas 6760	1	NO.	57750	
Company Martin Drilling Co. In	300 Wichter H	Test No Elevation3/03 2567202		Date <u>/0·28-1</u> кв <u>3098</u>	<u>Ч</u> GL
Co. Rep/Geo. Keith Reavis	_ Rge33W	Rig_Murtin Co. Rawlings	1/	State KS	
	Zone Tested	NO CN			
Interval Tested <u>4082 - 4126</u>		3902	Mi	ud Wt. 9.2	
Anchor Length <u>49</u>	Drill Collars Run		Vis	100	
Top Packer Depth <u>4078</u>	Wt. Pipe Run	0	W	da	
Bottom Packer Depth 4082	Chlorides/ S C	D ppm Sys		M 216	
Total Depth			bettom		
Blow Description $1F - 2 Blow Diz$	a in i min	Ora Je	Degom		
FE - No Blow					
FET by al				10.4	
Rec 10 Feet of Mud		%gas	%oil	%water 10	⊃ %mud
Rec         Feet of		%gas	%oil	%water	%mud
Rec         Feet of		%gas	%oil	%water	%mud
Rec         Feet of		%gas	%oil	%water	%mud
Rec Feet of		%gas	%oil	%water	%mud
1.	Gravity	API RW@	°F C	hlorides	ppm
(A) Initial Hydrostatic 2677	D Test 1250		T-On Loca	ation 6:44	
(B) First Initial Flow 32	Jars 250		T-Started	7:08	
(C) First Final Flow36	Safety Joint 75	5	T-Open	9.11	
(D) Initial Shut-In [ 6 2 ]	Circ Sub	10	T-Pulled _	12:17	
(E) Second Initial Flow77	Hourly Standby		T-Out		
(F) Second Final Flow	Mileage 189	R/T 117.80	Comment	S	
(G) Final Shut-In 667	Sampler		Mo	teD	
(H) Final Hydrostatic 2053	G Straddle		1.	d Shale Packer	
	Shale Packer	1		d Packer	
Initial Open	Extra Packer			Copies	
Initial Shut-In	Extra Recorder _		Sub Total	0	
Final Flow	Day Standby		Total1	692.80	
Final Shut-In	Accessibility Sub Total169	2.80	MP/DST	Disc't	
		/	1		

Approved By \_\_\_\_\_\_ Our Representative \_\_\_\_\_\_ Wr MV Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

4/10 RILOBITE ESTING INC. 1515 Commerce Parkway	
Well Name & No. Makings H1-18 Company Murtin Drilling Co-Inc Address 250 IV, Water Ste 30	Test No. <u>PST 44</u> Date <u>10-29-14</u> Elevation <u>3103</u> KB <u>3098</u> GL <u>D Wichita KS 67202</u> Rig <u>Murtin 77</u>
Co. Rep / Geo. <u>Keith Reaus</u> Location: Sec. <u>18</u> Twp. <u>45</u>	Rge. 33W Co. Rawlings State KS
Interval Tested <u>4139 - 4220</u> Anchor Length <u>81</u> Top Packer Depth <u>4135</u> Bottom Packer Depth <u>4139</u> Total Depth <u>4220</u> Blow Description <u>TF-SurfaceBlow 51' Bus</u>	Zone Tested $\underline{LRC}^{(r)} \underline{H-J}^{(r)}$ Drill Pipe Run $\underline{396.7}$ Mud Wt. $\underline{9.1}$ Drill Collars Run $\underline{177}$ Vis $\underline{46}$ Wt. Pipe Run $\underline{0}$ WL $\underline{9.2}$ Chlorides $\underline{2600}$ ppm System LCM $\underline{21b}$ $\underline{175cc}$ Stid 8' for Bettom
ISI-No Blow	Built to BOB in Spain Died Back to 3.14"
Rec_257 Feet of WCM	%gas %oil 33 %water (07 %mud
Rec <u>44</u> Feet of <u>C-WCM</u>	3%gas %oil 77%water 20%mud
Rec 630 Feet of 6-MCW	3%gas %oil 77%water 20%mud 3%gas '%oil 93 55%water 425%mud
Rec <u>1500</u> Feet of <u>GMC W</u> Rec Feet of	%gas %oil %water %mud
Rec         Feet of           Rec Total         2828         BHT	Gravity API RW , 123 @ 66 °F Chlorides 32 000 ppm
(A) Initial Hydrostatic 2219	Test 1250 T-On Location 1.40
(B) First Initial Flow 10246	Jars 250 T-Started 2:08
(C) First Final Flow 1299	Safety Joint 75 T-Open 436
(D) Initial Shut-In 1322	Circ Sub MC T-Pulled 8:41
(E) Second Initial Flow304	Høurly Standby     T-Out 12:10
(F) Second Final Flow	Mileage 188 RIT 117.80 Comments
(G) Final Shut-In 13.26	117 00 Hetch
(H) Final Hydrostatic <u>2044</u>	Loaded tools 10/30
	Straddle     Ruined Shale Packer
Initial Open	Shale Packer      Ruined Packer
	Extra Packer Extra Copies
Initial Shut-In	Extra Recorder Sub Total
Final Flow <u>60</u>	Day Standby Total 1810.60
Final Shut-In	Accessibility MP/DST Disc't Sub Total

	Company: Address:	<b>OPERATOR</b> Murfin Drilling Company 250 N. Water Suite 300 Wichita, KS 67202		
	Contact Geologist: Contact Phone Nbr: Well Name: Location:	Shauna Gunzelman 316-267-3241 Makings #1-18 Sec. 18 - T4S - R33W		
	API: Pool: State:	15-153-21072-0000 Kansas	Field: Country:	Wildcat USA
		DRILLING COMPANY, WICHITA, KANSAS		
	Well Name:	Scale 1:240 Imperial Makings #1-18		
	Surface Location: Bottom Location: API:	Sec. 18 - T4S - R33W 15-153-21072-0000		
	License Number: Spud Date:	30606 10/23/2014	Time:	3:45 PM
	Region: Drilling Completed: Surface Coordinates:	Rawlins County 10/30/2014 1100' FSL & 330' FWL	Time:	5:10 PM
	Bottom Hole Coordinates: Ground Elevation: K.B. Elevation: Logged Interval: Total Depth: Formation: Drilling Fluid Type:	3098.00ft 3103.00ft 3740.00ft 4720.00ft Mississippian Chemical/Fresh Water Gel	To:	4720.00ft
[		SURFACE CO-ORDINATES	3	
	Well Type: Longitude: Latitude: N/S Co-ord:	Vertical 1100' FSL		
	E/W Co-ord:	330' FWL		
		LOGGED BY		
		Keith Reavis		
		Consulting Geologist		
	Company: Address:	Keith Reavis, Inc. 3420 22nd Street Great Bend, KS 67530		
	Phone Nbr: Logged By:	620-617-4091 KLG #136	Name:	Keith Reavis
		CONTRACTOR		
	Contractor: Rig #: Rig Type:	Murfin Drilling Company 7 mud rotary		
	Spud Date: TD Date: Rig Release:	10/23/2014 10/30/2014	Time: Time: Time:	3:45 PM 5:10 PM

**ELEVATIONS** 

Ground Elevation: 3098.00ft

Time:

5.00ft K.B. to Ground:

Rig Release:

K.B. Elevation:

3103.00ft

NOTES

Due to negative results of DST's #1 - #4 and subsequent electrical log analysis, it was determined by the operator that the Makings #1-18 be plugged and abandoned as a dry test.

The samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

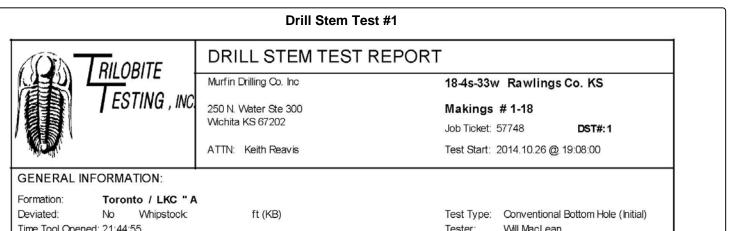
Respectfully submitted, Keith Reavis

## Murfin Drilling Company daily drilling report

DATE	7:00 AM DEPTH	REMARKS
0/25/2014		Geologist Keith Reavis on location @ 1900 hrs, 3730 ft, tripping bit, out with PDC and in with button, resume drilling
0/26/2014	3894	drilling ahead, Topeka, Deer Creek, Lecompton, Heebner, Toronto, Lansing shows in Toronto and Lansing A warrant test, short trip, TOH w/bit in w/tools
0/27/2014	4040	complete DST #1, successful test, TIH w/bit, resume drilling, B & D zones, show in B warrants test, TOH for DST #2, in w/tools, conduct and complete DST#2, successful test, TIH w/bit
0/28/2014	4126	resume drilling, run test across E, F and G, TOH w/bit, in w/tools, conduct DST #3, successful test, out w/tools, in w/bit, resume drilling, show in H and J warrant test, TOH w/bit
0/29/2014	4220	in hole w/tools, conducting DST #4, complete DST #4 successful test, back in hole w/bit, resume drilling, lower KC, Marmaton
0/30/2014	4482	drilling ahead, Pawnee, Ft. Scott, Cherokee, Mississippian, TD @ 4720 ft, 1710 hrs, short trip, ctch, TOH for logs, conducting logging operations
0/31/2014	4710	conduct and complete logging operations, geologist off location 0330 hrs

# Murfin Drilling Company well comparison sheet

		DRILLING	WELL		COMPARISON WELL					
	N	DC - Maki	ngs #1-1	.8	MDC - Morgan #1-17					
		1100' FSL	& 330'	FWL		660' FSL & 2310' FEL				
	Sec 18-T45-R33W					Sec 17-T	45-R33W			
							Structural			
	3103	KB			3049	KB	Relati	onship		
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log		
Topeka	3819	-716	3825	-722	3782	-733	17	11		
Lecompton	3923	-820	3928	-825	3884	-835	15	10		
Oread	3965	-862	3972	-869	3926	-877	15	8		
Heebner	3988	-885	3992	-889	3950	-901	16	12		
Toronto	4018	-915	4026	-923	3980	-931	16	8		
Lansing	4029	-926	4036	-933	3991	-942	16	9		
Lansing G	4119	-1016	4128	-1025	4080	-1031	15	6		
Stark	4219	-1116	4224	-1121	4179	-1130	14	9		
Base KC	4267	-1164	4271	-1168	4229	-1180	16	12		
Pawnee	4400	-1297	4403	-1300	4362	-1313	16	13		
Cherokee	4468	-1365	4474	-1371	4432	-1383	18	12		
Mississippian	4643	-1540	4642	-1539	4618	-1569	29	30		
Total Depth	4720	-1617	4728	-1625	4690	-1641	24	16		



Time Tool Opened: 21:44:55 Time Test Ended: 03:32:09	Tester: Will MacLean Unit No: 71
Interval:         3986.00 ft (KB) To         4040.00 ft (KB) (TV D)           Total Depth:         4040.00 ft (KB) (TV D)         4040.00 ft (KB) (TV D)           Hole Diameter:         7.88 inches Hole Condition:         Good	Reference Bevations:         3103.00         ft (KB)           3098.00         ft (CF)           KB to GR/OF:         5.00         ft
Start Time: 19:08:00 End Time: TEST COMMENT: IF- Weak Surface Blow 1/4" ISI- No Blow FF- No Blow	Capacity:         8000.00         psig           2014.10.27         Last Calib.:         2014.10.27           03:32:09         Time On Btm:         2014.10.26 @ 21:44:40           Time Off Btm:         2014.10.27 @ 00:49:39
FSE No Blow	PRESSURE SUMMARY           Time         Pressure (psig)         Temp (deg F)         Annotation           0         2004.80         116.59         Initial Hydro-static           1         16.66         115.42         Open To Flow (1)           31         18.51         116.35         Shut-In(1)           92         859.00         118.03         End Shut-In(1)           92         19.92         117.64         Open To Flow (2)           123         20.83         118.52         Shut-In(2)           185         779.61         119.89         End Shut-In(2)           185         1899.83         120.41         Final Hydro-static

Recovery					Ga	s Rat	es	
Description	Volume (bbl)				Choke (i	nches)	Pressure (psig)	GasRate (Mcf/d)
100%mud	0.02							
	Description	Description Volume (bbl)	Description Volume (bbl)	Description Volume (bbl)	Description Volume (bb)	Description Volume (bbl) Choke (i	Description Volume (bbl) Choke (inches)	Description Volume (bbl) Choke (inches) Pressure (psig)

	Drill Stem	Test #2				
	DRILL STEM TES	T REP	ORT			
RILOBITE	Murfin Drilling Co. Inc		18-	4s-33w	Rawlings Co	o. KS
ESTING , INC	250 N. Water Ste 300 Wichita KS 67202			<b>kings #</b> Ticket: 57		DST#:2
	ATTN: Keith Reavis		Tes	t Start: 20	14.10.27 @ 13:	06:00
GENERAL INFORMATION:	1					
Formation:     LKC " B - D "       Deviated:     No     Whipstock:       Time Tool Opened:     15:22:40       Time Test Ended:     20:21:54	ft (KB)		Tes		Vill MacLean	ttom Hole (Reset)
Interval:4042.00 ft (KB) To4Total Depth:4080.00 ft (KB) (THole Diameter:7.88 inchesHol			Ref	erence Bev KB to		3103.00 ft (KB) 3098.00 ft (CF) 5.00 ft
Serial #:         8674         Inside           Press@RunDepth:         19.64 psig           Start Date:         2014.10.27           Start Time:         13:06:00	End Date:	2014.10.27 20:21:54	Capacity Last Calil Time On Time Off	b.: Btm: 2		
FSI- No Blow Pressure vs.	Time 80% Topodare	-			E SUMMAR	Y
The Delaward State			Pressure (psig) 2027.78 18.39 19.44 86.39 18.55 19.64 44.89 1985.30	113.31 114.25 116.09 116.05 116.91 118.64	Annotation Initial Hydro-sta Open To Flow of Shut-In(1) End Shut-In(1) Open To Flow of Shut-In(2) End Shut-In(2) Final Hydro-sta	(1) (2)
Recovery					Rates	
Length (ft)     Description       3.00     100%mud	Volume (bbl) 0.01			Choke (in	ches) Pressure (pr	sig) Gas Rate (Mcf/d)
* Recovery from multiple tests						

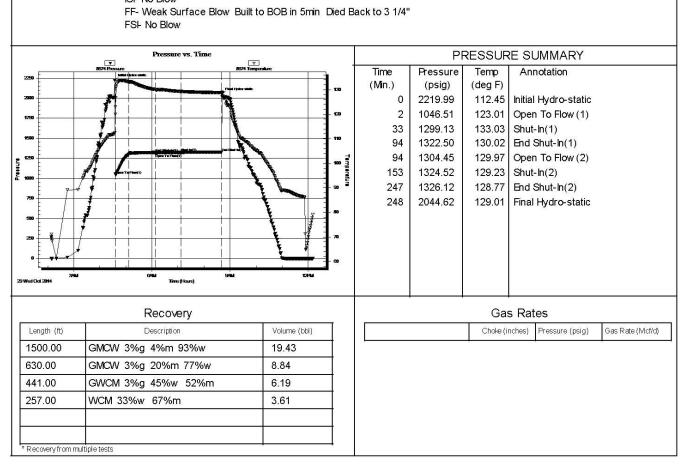
## Drill Stem Test #3

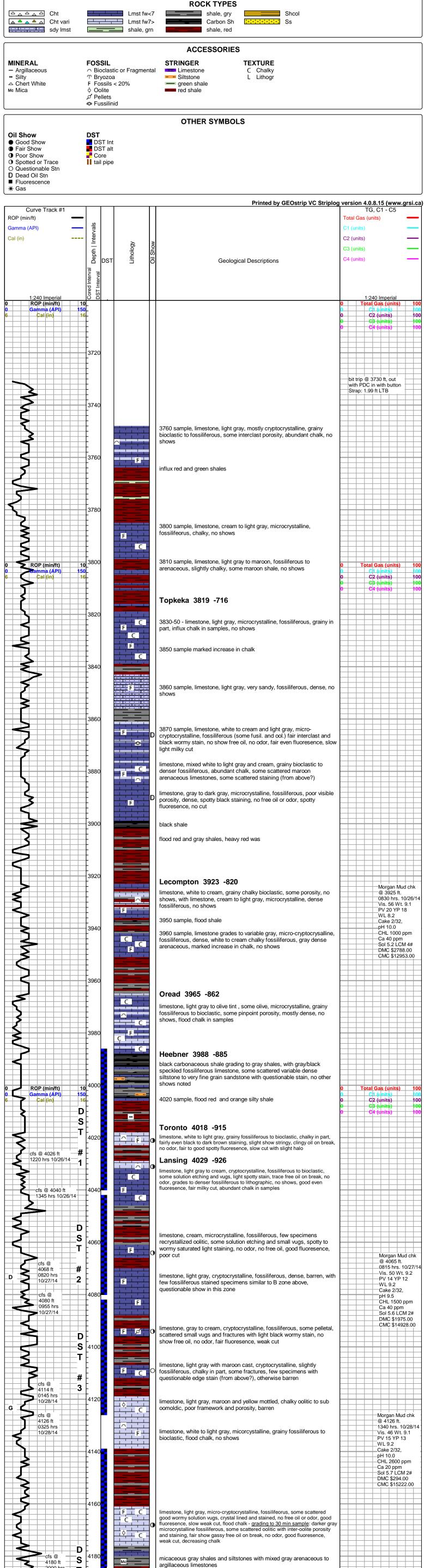
10h		DRILL STEM TEST	REPORT
		Murfin Drilling Co. Inc	18-4s-33w Rawlings Co. KS
	ESTING , INC.	250 N. Water Ste 300	Makings #1-18

					IVId	ikiliys #	+ 1-10		
		Wichita KS 6720	)2		Job	Ticket: 57	7750	DST#: 3	3
Nov .		ATTN: Keith Re	eavis		Tes	t Start: 20	014.10.28 (	@ 07:08:00	
GENERAL INFOR	MATION:	ļ							
Formation: LK	C"F-G"								
Deviated: No	Whipstock:	ft (KB	3)		Tes	t Type:	Conventior	al Bottom Ho	e (Reset)
Time Tool Opened: 09	:11:10				Tes	ter:	Will MacLe	an	
Time Test Ended: 14					Uni	t No:	71		
Interval: 4082.		126.00 ft (KB) (TV	D)		Ref	erence 🖽	evations.	3103.00	ft (KB)
	126.00 ft (KB) (T	27 1233/28	0,		i tei		svalions.	3098.00	
Hole Diameter:		e Condition: Good				KD +	to GR/CF:	5.00	
Hole Diameter.	7.00 Incheshor	e condition. Good				KB I	OGR/CF.	5.00	п
Serial #: 8674	Inside								
Press@RunDepth:	38.50 psig	@ 4083.00 ft	(KB)		Capacity	r:		8000.00	psia
Start Date:	2014.10.28	End Date:	N	2014.10.28	Last Cali			2014.10.28	
Start Time:	07:08:00	End Time:		14:31:54	Time On		2014 10 29	2014:10:20 3 @ 09:10:55	
Start HIN.	07.00.00			17.01.04	Time Off			0 @ 03.10.33 8 @ 12:17:09	
						DITI.	2014.10.20	12.17.09	
	FSI- No Blow Pressure vs. 7				P	RESSUF	RE SUMM	/ARY	
<b>V</b> 8674 Pre	sure	7 8674 Temperature	10	Time	Pressure	Temp	Annotat	ion	
2000				(Min.)	(psig)	(deg F)			
_ 1			- 110	0	2077.77	110.61	Initial Hyd	lro-static	
1750				່  1	32.07	109.25	Open To	Flow (1)	
100	i i		- 100	35	36.00	113.96	and an and a strength of the s	)	
			( <b>-</b>	95	1021.72	116.55	End Shut	-ln(1)	
			- 90	96	37.22	116.25	Open To	Flow (2)	
1000				127	38.50	117.09	Shut-In(2	)	
			Street 1	96 127 186	667.09	118.97	End Shut	-ln(2)	
750		Fail Black Set (2)	÷ - 80	<sup>3</sup> 187	2053.61	119.64	Final Hyd	ro-static	
500							7		
	1								
270									
₀ <del>[                                   </del>	tennation tennat								
5 75 Tue Dai 2014	AM Time (Hours)	12714							
	inic (RLP)								
	Recovery					Ga	s Rates		
Length (ft)	Description	Vo	olume (bbl)			Choke (	inches) Pres	sure (psig) Ga	as Rate (Mcf/d)
	mud	0.	.05			4	4		
10.00 100%	an an ann an All	0.00	10.170.0						
10.00 100%		I		1					
10.00 100%									
10.00 100%									
10.00 100%									
10.00 100%									
10.00 100%									
10.00 100%									

## Drill Stem Test #4

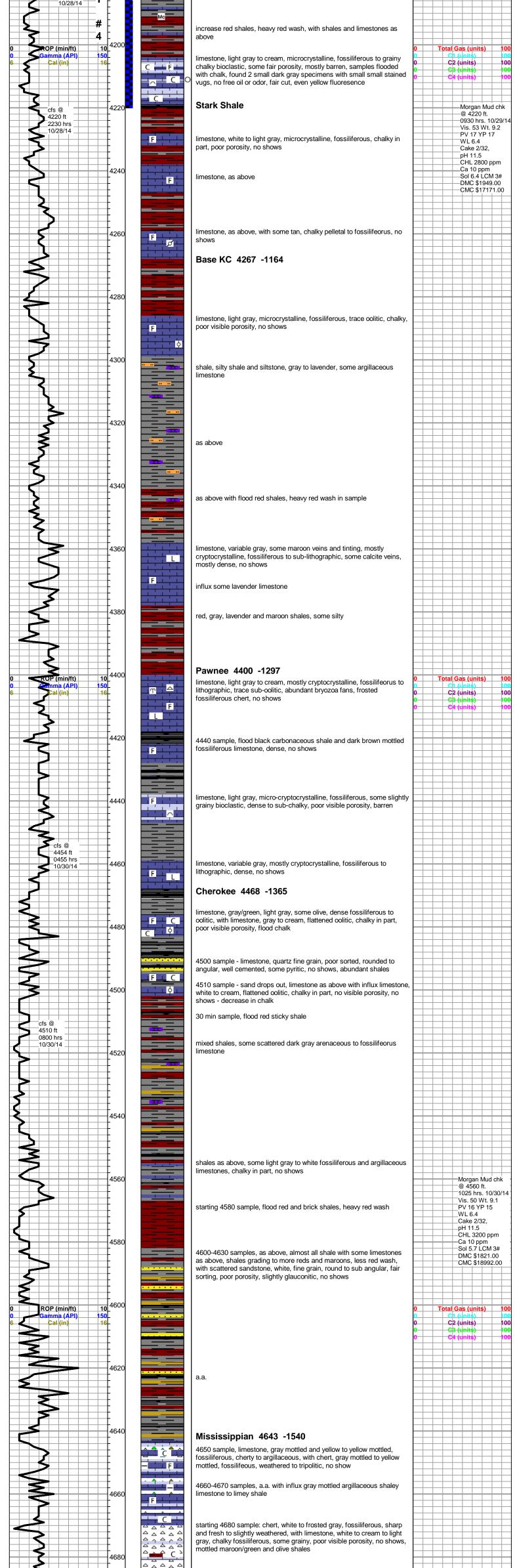
RILOBITE	Murfin Drilling Co. Inc		18-4s-33v	w Rawlings	Co. KS	
ESTING , #	250 N. Water Ste 300		Makings	# 1-18		
	Wichita KS 67202		Job Ticket:	58702	DST#:4	
KOX .	ATTN: Keith Reavis		Test Start:	2014.10.29 @	02:08:00	
GENERAL INFORMATION:	-					
Formation: LKC "H-J"						
Deviated: No Whipstock	k: ft (KB)		Test Type:	Conventiona	Bottom Hol	e (Reset)
Time Tool Opened: 04:36:10			Tester:	Will MacLear	1	
Time Test Ended: 12:10:55			Unit No:	71		
Interval: 4139.00 ft (KB) To	4220.00 ft (KB) (TVD)		Reference	⊟evations:	3103.00	ft (KB)
Total Depth: 4220.00 ft (KB)	(TVD)				3098.00	ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good		к	B to GR/CF:	5.00	ft
Serial #: 8674 Inside						
Press@RunDepth: 1324.52 psi	ig @ 4140.00 ft (KB)		Capacity:		8000.00	psig
Start Date: 2014.10.2	29 End Date:	2014.10.29	Last Calib.:	:	2014.10.29	
Start Time: 02:08:0	00 End Time:	12:10:55	Time On Btm:	2014.10.29 (	@ 04:34:25	
			Time Off Btm:	2014.10.29 @	D. 00.44.20	





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		+ + -	
		gan Mu	d chk
		gan iviud 3925 ft.	
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+ +		56 Wt.	
		20 YP 1	9. i 8
+ + -		8.2	0
+ + -			
+ +-		ke 2/32,	
+ +		10.0	
	CH	L 1000 p	pm
	Ca	40 ppm	
+ +-	Sol	5.2 LCN	14#
		C \$2788	.00
	CM	C \$1295	3.00
	CM	C \$2788 C \$1295	3.00
	CM	C \$1295	3.00
	CM	C \$1295	3.00
	CM	C \$1295	3.00
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-         -           -         -		Units)	
		Units)	
-         -           -         -		Units)	
	otal Gas ( C ( (uni C (	Image: state	
	Image: Control of the second	Image: state	
	otal Gas ( Ct (h) C2 (h) C2 (h) C2 (h) C3 (h	u         u           u         u	
	otal Gas ( C (u) C (u	units) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	100 100 100 100 100 100 100 100 100 100
	otal Gas ( Cd (uni C2 (uni C3 (uni C4	Units) (units) (t) (t) (t) (t) (t) (t) (t) (t	100 100 100 100 100 100 100 100 100 100
	otal Gas ( C 1 (uni C 2 (uni C 2 (uni C 4 (uni C	units) (units) (s) (s) (s) (s) (s) (s) (s) (	100 100 100 100 100 100 100 100 100 100
	otal Gas ( Ct (h) C2 (h) C2 (h) C2 (h) C3 (h	units) units) (1) (1) (1) (1) (1) (1) (1) (1	100 100 100 100 100 100 100 100 100 100
	otal Gas ( Ct (ln) Ct (ln)	units) (units) (s) (s) (s) (s) (s) (s) (s) (	100 100 100 100 100 100 100 100 100 100

			S	Sol 5 DMC	0 p 5.6 l 2 \$1 2 \$1	LCN 975	.00	
			@ 1: P C D C S D	2 41 340 is. 4 /L 9 ake H 10 HL a 20 ol 5 MC	2/3	ft. . 10 Vt. 9 2, 2, 0 pp 0 m CM 04.0	/28/ ).1 5 0m 2# 0	'14 '
ay								



4700	as above, abundant mottled maroon/green and olive shales, with some olive argillaceous fossiliferous limestones, no shows			
4720 - - -	Rotary TD 4720 ft. @ 1710 hrs 10/30/14 Pioneer Wireline TD 4728 ft Complete logging operations 0315 hrs 10/31/14			



PO Box 93999 Southlake, TX 76092

Voice: (817) 546-7282 Fax: (817) 246-3361

## Bill To:

Murfin Drlg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

acct Phod-me

# INVOICE

Invoice Number: 1466 18 Invoice Date: Oct 23, 2014 Page: 1

Federal Tax I.D.#: 20-8651475

Custo	omer ID	Field Ticket #		nt Terms	
AND COMPANY OF A DOUBLE OF A DOUBLE OF A	urfin	63782	and the second sec	0 Days	
Job L	ocation	Camp Location	Service Date	Due	Date 👘 👘
KS	\$1-01	Oakley	Oct 23, 2014	11/2	2/14
Quantity	// Item	Description		Unit Price	Amount
	ELLNAME	Makings #1-8			
280.00 CE	MENT MATERIALS	Class A Common		17.90	5,012.00
790.00 CE	MENT MATERIALS	6 Chloride		1.10	869.00
	EMENT SERVICE	Cubic Feet Charge		2.48	729.12
	EMENT SERVICE	Ton Mileage Charge		2.75	1,863.81
	EMENT SERVICE	Surface		1,512.25	1,512.25
	EMENT SERVICE	Pump Truck Mileage		7.70	385.00
	EMENT SERVICE	Manifold Rental		275.00	275.00
l	EMENT SERVICE	Light Vehicle Mileage		4.40	220.00
	EMENT SUPERVISO	0			
	QUIPMENT OPERA	•			
		5 Subtotal			10,866.18
ALL PRICES	ARE NET, PAYABL	F Sales Tax			464.60
INVOICE.	1 1/2% CHARGED	Total Invoice Amount			11,330.78
THEREAFT	ER. IF ACCOUNT IS	S Payment/Credit Applied			
CURRENT,	TAKE DISCOUNT C	BU TOTAL			11,330.78
<b>\$</b>	3,803.16 V	35 1			3803.1
NIL Y IF P	AID ON OR BEFORI öv 22, 2014			ON AR	7527.

26,10

# ALLIED OIL & GAS SERVICES, LLC 063782

Federal Tax I.D.	# 20-8651475			
EMIT TO P.O. BOX 93999 SOUTHLAKE, TEXAS 76092			E POINT: <u>Osh le</u>	<u> </u>
ATE 10/23/14 B 4 35	LLED OUT ON LOC		B START	JOB FINISH
	to Raw Masco Rel 1	K X	will as_	<u></u>
LD OK NERO(Circle one) /W 14 5 E	<u>~10</u>			
CONTRACTOR MULTIN 7	OWNER Same			
YPE OF JOB Sudan				
HOLESIZE 12/14 T.D. 24	CEMENT		20	-
CASING SIZE 85/8 DEPTH 24	AMOUNT ORDERED	2800	sm 30	IOCC
UBING SIZE DEPTH				
DRILL PIPE DEPTH				
TOOL DEPTH	COMMON_280	5) a	1722	500
PRES. MAX MINIMUM MEAS, LINE SHOE JOINT	POZMIX	»%	, <u>, , , , , , , , , , , , , , , , , , </u>	<u>~~</u> 10
CEMENT LEFT IN CSG. 5'	GEL			
PERFS.	CHLORIDE		110	869
DISPLACEMENT 15.5%	ASC			·
EQUIPMENT		@		
TAOU WINAY			<u>ه</u>	
PUMPTRUCK CEMENTER Ale BLIGS	Malecia OTI	<u>csta V</u>	<u>ð</u>	Traic
		- 100°	<sup>2</sup> \	
BULK TRUCK	72058.3		/	
ASD DRIVER Jam S(JO)				
ULK TRUCK	<u> </u>	@	@	·
DRIVER	100 - 200	<u>22 (</u>	242	200/2-
· · · · · · · · · · · · · · · · · · ·	HANDLING 299 MILEAGE 227 700/2	C. B. C.C.	® <u>ለ</u> 5 70 እ	100281-
REMARKS: Der Cay, Cicuder, Mix Convert - Displaces Sturt : ~	Coront	SERVICE	TOTAL	, <u> </u>
	DEPTH OF JOB			
event did arealater	PUMP TRUCK CHAR	GE	150	25
	EXTRA FOOTAGE	(	<u> </u>	
	MILEAGE 57	2	0 2-0-	3852
Theffer	MANIFOLD	0	@U117	2)5-2
Hom Kerity Tuen S	5		9 <u>4 72</u> 9	and the
CHARGE TO: Ale Grand Anilling Comment	1		1	· · · · · · · · · · · · · · · · · · ·
STREET	(1744.81	1/35 8	) <sub>total</sub>	4,985.18
CITYSTATEZIP	PLUG &	& FLOAT P	equipmen	T
			@	
			©	
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			TOTAL	
contractor. I have read and understand the "GENERAL				
TERMS AND CONDITIONS" listed on the reverse side.	SALES TAX (If Any) -			
I DAMO AND COMPLETIONO IISICO ON INCICORESIOC.		10 81	218	
57 1. 571	TOTAL CHARGES	10,00	<u>er / 0</u>	
PRINTED NAME FRED Willingar	DISCOUNT 2. 202	3.16/3	02/F PA	D IN 30 DAYS
IN I				
		* , / *	( ) I I	/
SIGNATURE DI LUI	TOTAL CHARGES	063.0	Net	;

.



PO Box 93999 Southlake, TX 76092

Voice: (817) 546-7282 Fax: (817) 246-3361

BIII To:

Murfin Drlg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

acet Prod-me

## INVOICE

Invoice Number: 1467 45 Invoice Date: Oct 31, 2014 Page: 1

Federal Tax I.D.#: 20-8651475

Ci	Istomer ID		Field Ticket #	and the second	nt Terms	
	Murfin		64219		80 Days	
Jo	b Location		Camp Location	Service Date	Due	Date
	KS1-03		Oakley	Oct 31, 2014	11/3	0/14
Quantity	ltem	55252	Description		Unit Price	Amount
	WELLNAME	<u>(298827)</u>	Makings #1-18			<u>Anioann</u>
	CEMENT MATERIAL		60/40/4% Gei Blend		18.92	4,824.60
	CEMENT MATERIAL		Flo Seal		2.97	190.08
	CEMENT SERVICE		Cubic Feet Charge		2.48	679.20
1	CEMENT SERVICE		Ton Mileage Charge		2.75	1,571.60
	CEMENT SERVICE	- i	Plug to Abandon		2,483.59	2,483.59
	CEMENT SERVICE		Pump Truck Mileage		7.70	385.00
	CEMENT SERVICE		Light Vehicle Mileage		4.40	220.00
	EQUIPMENT SALES		8-5/8 Dry Hole Plug		110.00	110.00
1	CEMENT SUPERVIS		Andrew Forslund			
i	EQUIPMENT OPER		Kevin Ryan			
		l				
			Subtotal			10,464.07
	ES ARE NET, PAYAE FOLLOWING DATE		Sales Tax			826.66
INVOIC	E. 1 1/2% CHARGEL	)	Total Invoice Amount			11,290.73
	TER. IF ACCOUNT		Payment/Credit Applied			
CURREN	T, TAKE DISCOUNT	OF V	TOTAL			11,290.73
\$	3,623,92	J <b>'</b>		<u></u>	<u></u>	
	PAID ON OR BEFOI	RE			() -	- 3623.92 <i>1666</i> .81
	Nov 30, 2014				X1	• 446 · 51

# ALLIED OIL & GAS SERVICES, LLC 06-32-19 Federal Tax 1.D. # 20-8651475

REMIT TO P.O. BOX 93999 SOUTHLAKE, TEXAS 76092		SERV	ICE POINT	<b>~</b> 4 .
	······	<u> </u>		7
DATE 10-31-14 18 14 RANGE C	ALLED OUT	ON LOCATION	JOB START	JOB FINISH
makings		Sicona	COUNTY	STATE
LEASE WELL# / -10 LOCATION COLOY	22N 141	345	Roustin	
OLD OR NEW (Circle one)		• • •		
CONTRACTOR PALETFIN 7	OWNER .		-	
TYPE OF JOB	UWINER J	ame_		
HOLE SIZE 71/ T.D.	CEMENT			
CASING SIZE DEPTH	AMOUNT ORL	ERED 255	Sec. 64	24959el.
TUBING SIZE // DEPTH	14 FLD-541	4	515 170	1 <u>411981.</u>
DRILL PIPE 1/12 DEPTH 2830	-{		· · ·	
TOOL DEPTH	·····			
PRES. MAX MINIMUM	COMMON		@	
MEAS. LINE SHOE JOINT			_@	
CEMENT LEFT IN CSG.	GEL		@	
PERFS.	CHLORIDE		@	· · · · · · · · · · · · · · · · · · ·
DISPLACEMENT	ASC		@	
EQUIPMENT		L	 @	· · · · · · · · · · · · · · · · · · ·
	0/4040/19/19	- 255513		1192415
PUMPTRUCK CEMENTER Andrew Forstund	, <del>, , , , , , , , , , , , , , , , , , </del>		@	- ZJERECZ
	FLO-SEOL	Lyth	@2.87	190,08
# 4.31 HELPER Kevin Kyan	· · · · · · · · · · · · · · · · · · ·		@	· persen
BULK TRUCK	Donology	Viela	@	30H.Go
# SHS DRIVER OSCOL (TWD) BULK TRUCK	. /	1 ·····	. @	
· · · · · · · · · · · · · · · · · · ·	1755	131 352	]@	
# DRIVER	HANDLING 2	73182	@2148	639,19
	MILEAGE 2.7	R Bilinita	11,43700	1571,62
REMARKS:				·
50 54 0 2800		CEDVII.	C17	
100 5/5 0, 2050'		SERVI	CP2	
STI SKI @ 310	DEPTH OF JOE	28	201	
10 SKS @ 40'	PUMPTRUCK		16.2	2483.59
15 std marse hole	EXTRA FOOTA		@	1900 D.T.
30 sts hat hale	MILEAGE			285.00
	MANIFOLD		_@_ <u></u> @	000700
Thank you	Lichtvehi	cir	@440	220.00
The Product of the second	<u>Stephen</u>		@	<u>Marce</u>
CHARGE TO: MOLENF.in	1.			
	//	268.7979	SEL	5,33940
STREET		0		<u></u>
CITYSTATEZIP	_			
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	LUG & FLOAT	L EQUIPME	NT .
	828			
	1 Dry Hole	? play	@	110,00
			@	
To: Allied Oil & Gas Services, LLC.			@	
You are hereby requested to rent comenting equipment			@	
and furnish cementer and helper(s) to assist owner or			@	
contractor to do work as is listed. The above work was				
	¢ - · · =	$\langle - \gamma \rangle$	ፐብፕላ፣	$-\frac{10000}{2}$
done to satisfaction and supervision of owner agent or			10101	a mandaland and a second
contractor. I have read and understand the "GENERAL	SALES TAX (II	(Anv)		
CLUDAR AND CONTRACTOR AND A DATA AND A DATA AND A DATA AND A DATA				
TERMS AND CONDITIONS" listed on the reverse side.		1. 1. 11	1. 82	
ж	TOTAL CHAR	GES 10,464	<u>.0%</u>	· · · · · · · · · · · · · · · · · · ·
PRINTED NAME FTGED LILLAN	TOTAL CHAR	GES 10,464 ,693.92 ( ;	. <u>0)</u> 333 ) d da	

6,840.15 Net

16 Ans PRINTED NAMI SIGNATURE

Makings #1-18 Daily Drilling Report Page Two

- 10/30/14 Depth 4480'. Cut 260'. DT: None. CT: 9¼ hrs. Dev.: None.
- 10/31/14 RTD: 4720'. Cut 240'. DT: None. CT: 13<sup>3</sup>/<sub>4</sub> hrs. Dev.: 1° @ 4720'. HC @ 6:15PM 10/30. Pioneer logged 10:45PM 10/30 4:00AM 10/31. LTD: 4728'.
- 11/1/14 RTD: 4720'. CT: 9½ hrs. Allied PLUGGED hole (9:30AM 12:30PM 10/31) as follows using 60/40Poz, 4%Gel, ¼#Floseal, 50sxs @ 2830', 100sxs @ 2050', 50sxs @ 310', 10sxs @ 40', 30sxs RH, 15sxs MH. Orders: Pat Bedore KCC Hays. RR @ 4:30PM 10/31. FINAL REPORT

		Morgan #1-17 660' FSL 2310'FEL Sec. 17-4S-33W 3049' KB						
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	2819	+284	Flat	2814	+289	+5	2765	+284
B/Anhydrite	2848	+255	+6	2850	+253	+4	2800	+249
Topeka	3819	-716	+16	3825	-722	+10	3781	-732
Heebner	3988	-885	+17	3992	-889	+13	3951	-902
Lansing	4029	-926	+15	4036	-933	+8	3990	-941
Stark	4219	-1116	+14	4224	-1121	+9	4179	-1130
BKC	4267	-1164	+17	4271	-1168	+13	4230	-1181
Pawnee	4400	-1297	+15	4402	-1299	+13	4361	-1312
Cherokee	4468	-1365	+19	4474	-1371	+13	4433	-1384
Mississippi	4643	-1540	+29	4642	-1539	+30	4618	-1569
RTD	4720						4686	
LTD				4728			4690	