

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ 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

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

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

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**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](mailto: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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, 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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

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

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	KAMLA 1-36
Doc ID	1417959

All Electric Logs Run

DIL
DUCP
MEL
BHCS



**TREATMENT REPORT**



**HURRICANE SERVICES INC**

Customer:	Murfin Drilling Inc.	Date:	6/11/2018	Ticket No.:	ICT1090
Field Rep:	Greg Condren				
Address:	PO Box 861				
City, State:	Colby, KS				
County, Zip:	Thomas 67701				

Field Order No.:		Open Hole:	303	Perf Depths (ft)	Perfs
Well Name:	Kamla #1-36	Casing Depth:	302.72		
Location:	Cheyenne	Casing Size:	8 5/8		
Formation:		Tubing Depth:			
Type of Service:	Cement	Tubing Size:			
Well Type:	Oil	Liner Depth:			
Age of Well:	New	Liner Size:			
Packer Type:		Liner Top:			
Packer Depth:		Liner Bottom:			
Treatment Vlt:	Cement	Total Depth:			
				Total Perfs	0

TIME	INJECTION RATE		PRESSURE		REMARKS	PROP (lbs)	HCL (gls)	FLUID (bbls)	
	FLUID	N2/CO2	STP	ANNULUS					
5:50 PM					Depart Oakley Yard				
7:26 PM					Arrive On Location				
8:20 PM					Safety Meeting				
8:26 PM					Spot Equipment And Rig Up				
9:24 PM					Rig Starts Out Of Hole				
9:56 PM					Rig Starts Running Casing 7 Joints				
11:20 PM					Casing On Bottom And Break Circulation				
11:30 PM	3.5		120.0		Pump Water Ahead			10.00	
11:33 PM	4.0		80.0		Mix 330 Sks Class A 3% CC 2% Gel 1/4 Flo Seal 14.8ppg 1.41 Yls			63.80	
11:52 PM	4.0		105.0		Start Displacement			18.00	
12:01 AM			120.0		End Displacement				
12:10 AM					Rig Down And Wash Up				
					Cement Did Circulate 10 EBLs To Pit				
					Thanks, Dane Ramiro, Lupe				
TOTAL:									81.80

**SUMMARY**

Max Fl. Rate	Avg Fl. Rate	Max PSI	Avg PSI
4.0	3.8	120.0	105.0

**PRODUCTS USED**

Treater: Dane Deteloff

Customer: Greg Condren

TREATMENT REPORT



HURRICANE SERVICES INC

Customer: <b>Murfin Drilling Inc</b>	Date: <b>6/22/2018</b>	Ticket #: <b>ICT1127</b>
Field Rep: <b>Greg Condryn</b>		
Address:		
City, State:		
County, Zip:		

Field Order No.:	Open Hole:	Foot Depths (ft)	Perfs
Well Name: <b>Kamla 1-38</b>	Casing Depth:		
Location: <b>cheyenne</b>	Casing Size:		
Formation:	Tubing Depth:		
Type of Service: <b>pta</b>	Tubing Size:		
Well Type: <b>oil</b>	Lines Depth:		
Age of Well: <b>new</b>	Liner Size:		
Packer Type:	Liner Top:		
Packer Depth:	Liner Bottom:		
Treatment Via: <b>cement</b>	Total Depth:		
		Total Perfs	<b>0</b>

TIME	INJECTION RATE		PRESSURE		REMARKS	PROP (lbs)	NGL (gls)	FLUID (Units)
	FLUID	N2/CO2	STP	ANNULUS				
6:00 PM					Arrive on location			
7:30 PM					Safety Meeting			
7:45 PM					Rig up equipment			
8:19 PM	4.5		180.0		Mix 60 Sk 60/40 poz 4% gel .25 flo at 3310 feet and displace	38.00		
8:28 PM					Rig pulls pipe			
9:00 PM	4.5		220.0		Mix 100 Sk at 2615 feet and displace	29.00		
9:17 PM					Rig pulls pipe			
10:30 PM	3.5		100.0		Mix 60 Sk at 360 and displace	3.00		
10:55 PM					Rig pulls pipe			
11:10 PM	1.5		100.0		Drop plug at 40 feet			
11:30 PM	1.5		90.0		Mix 10 sks at 40 feet 15 sks MH and 80 Sks RH	10.00		
11:46 PM					Rig Down			
					Thanks Dane and crew			
TOTAL:						79.00		

SUMMARY			
Max Fl. Rate	Avg Fl. Rate	Max PSI	Avg PSI
4.5	3.1	220.0	138.0

PRODUCTS USED

Treater: Dane Rotchhoff

Customer: Greg Condryn

MDCI  
 Kamla  
 330FSL 1030FEL  
 Sec. 36-T2S-R38W  
 3414' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3294	+120	+6	3294	+120	+6
B/Anhydrite	3329	+85	+9	3329	+85	+9
Topeka	4129	-715	+10	4128	-714	+11
Oread	4278	-864	+7	4274	-860	+11
Lansing	4348	-934	+10	4347	-933	+11
Stark	4578	-1164	+10	4575	-1161	+13
Mound City	4628	-1214	+11	4624	-1210	+15
Ft Scott	4754	-1340	+18	4756	-1342	+16
Oakley	4836	-1422	+10	4833	-1419	+13
Mississippian	5064	-1650	----	5058	-1644	----
RTD	5100					
LTD				5099		

# Robert D. Hendrix

## Petroleum Geologist

### GEOLOGIST'S REPORT

#### DRILLING TIME AND SAMPLE LOG

COMPANY **Murfin Drilling Co. Inc.**

LEASE **Kamla #1-36**

FIELD **Wildcat**

LOCATION **3307si & 10307el**

SEC **36** TWP **2S** RGE **38W**

COUNTY **Cheyenne** STATE **Kansas**

CONTRACTOR **Murfin Drilling Co. Inc. Rig #3**

SPUD **6/11/2018** COMP **6/22/2018**

RTD **5100** LWD **5099**

MUD UP **3856** TYPE MUD **Chemical**

SAMPLES SAVED FROM **4040** TO **TD**

DRILLING TIME KEPT FROM **4040** TO **TD**

SAMPLES EXAMINED FROM **4040** TO **TD**

GEOLOGICAL SUPERVISION FROM **3945**

GEOLOGIST ON WELL **Robert D. Hendrix**

FORMATION TOPS

ELECTRIC LOG

SAMPLE

ANHYDRITE

HEEBNER SHALE

LANSING

STARK SHALE

MOUND CLV

FT SCOTT

OAKLEY

MISSISSIPPI

ELEVATIONS

KB **3414**

DF

GL **3409**

Measurements Are All From **Kelly Bushing**

CASING

CONDUCTOR

SURFACE **8-5/8" at 303'**

PRODUCTION **NA**

ELECTRICAL SURVEYS

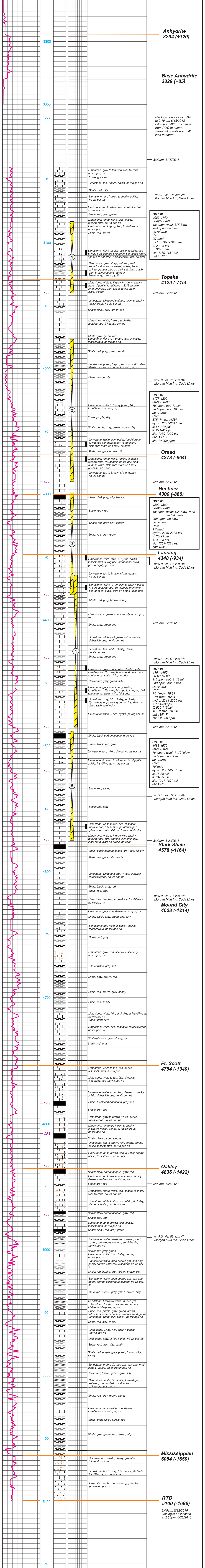
Micro Log Status

Compared to previous Data Induction

API# **15-023-21486**

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	3294 (+120)	3294 (+120)
Heebner Shale	4130 (-716)	4129 (-715)
Lansing	4302 (-888)	4300 (-886)
Stark Shale	4348 (+934)	4348 (+934)
Mound Clv	4578 (+1161)	4578 (+1161)
Et Scott	4628 (+1211)	4628 (+1214)
Oakley	4756 (+1342)	4754 (+1340)
Mississippi	4833 (+1416)	4836 (+1422)
	5058 (+1644)	5064 (+1650)

REMARKS:







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Kamla #1-36**

#### **36-2S-38W Cheyenne,KS**

Start Date: 2018.06.15 @ 19:37:00

End Date: 2018.06.16 @ 04:14:10

Job Ticket #: 64177                      DST #: 1

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

Printed: 2018.06.25 @ 10:38:28



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**36-2S-38W Cheyenne, KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64177

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2018.06.15 @ 19:37:00

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:10:00

Time Test Ended: 04:14:10

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

**Interval: 4083.00 ft (KB) To 4140.00 ft (KB) (TVD)**

Reference Elevations: 3414.00 ft (KB)

Total Depth: 4140.00 ft (KB) (TVD)

3409.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959 Inside**

Press@RunDepth: 34.50 psig @ 4084.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.15

End Date:

2018.06.16

Last Calib.:

2018.06.16

Start Time:

19:37:01

End Time:

04:14:10

Time On Btm:

2018.06.15 @ 23:09:10

Time Off Btm:

2018.06.16 @ 02:15:00

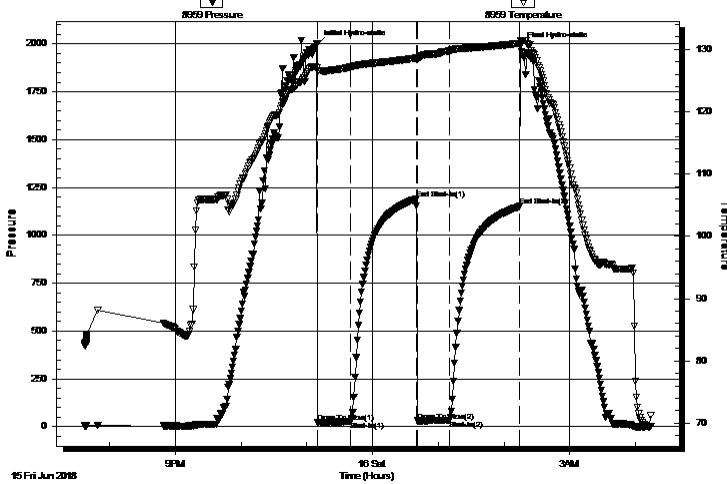
TEST COMMENT: 30-IF-Surface blow built to 3/4"

60-ISI-No blow

30-FF-No blow

60-FSI-No blow

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1997.42	127.09	Initial Hydro-static
1	23.18	126.52	Open To Flow (1)
31	27.56	127.18	Shut-In(1)
91	1189.07	128.58	End Shut-In(1)
92	29.96	128.54	Open To Flow (2)
122	34.50	129.79	Shut-In(2)
186	1151.17	130.95	End Shut-In(2)
186	1986.32	131.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	100% Mud	0.10

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**36-2S-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64177

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2018.06.15 @ 19:37:00

## Tool Information

Drill Pipe:	Length: 3886.00 ft	Diameter: 3.80 inches	Volume: 54.51 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 55.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4083.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	87.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4060.00	
Hydraulic tool	5.00			4065.00	
Jars	5.00			4070.00	
Safety Joint	3.00			4073.00	
Packer	5.00			4078.00	28.00 Bottom Of Top Packer
Packer	5.00			4083.00	
Stubb	1.00			4084.00	
Recorder	0.00	8959	Inside	4084.00	
Recorder	0.00	8734	Outside	4084.00	
Perforations	20.00			4104.00	
Change Over Sub	1.00			4105.00	
Drill Pipe	31.00			4136.00	
Change Over Sub	1.00			4137.00	
Bullnose	5.00			4142.00	59.00 Bottom Packers & Anchor

**Total Tool Length: 87.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**36-2S-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64177

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2018.06.15 @ 19:37:00

## 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:

ppm

Viscosity: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.96 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	100% Mud	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8959

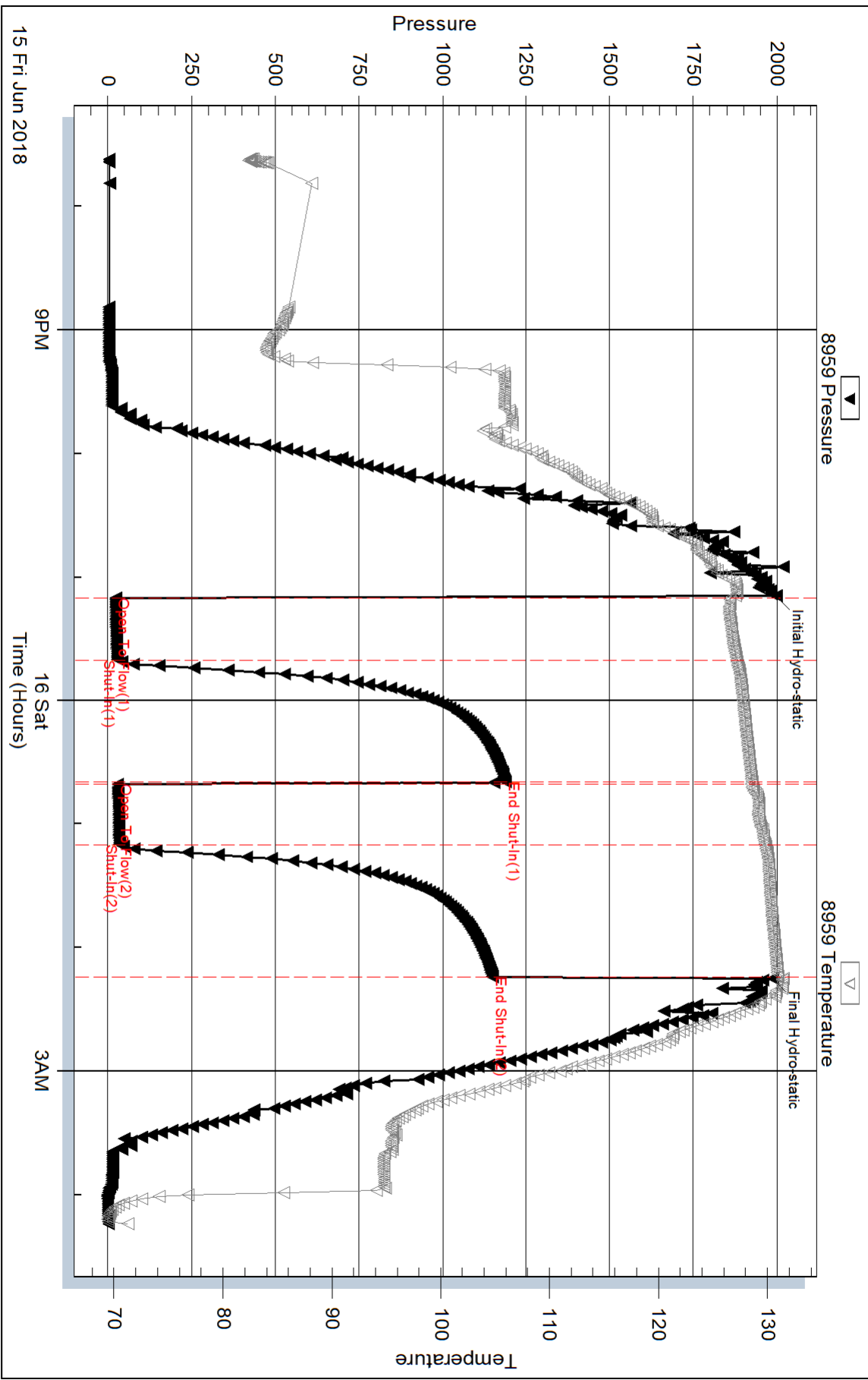
Inside

Murfin Drilling Co Inc

Karnla #1-36

DST Test Number: 1

### Pressure vs. Time

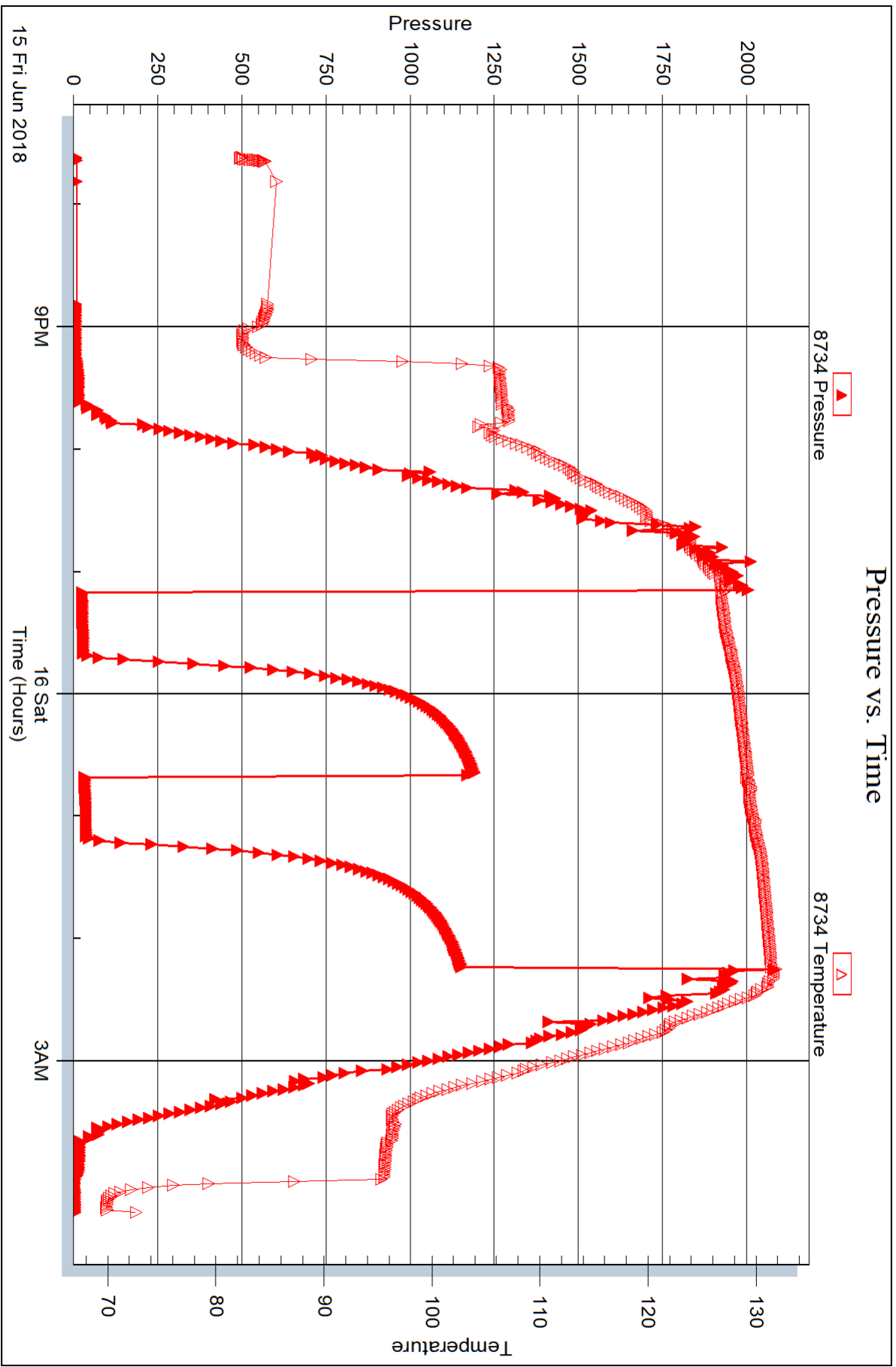


Serial #: 8734

Outside Murfin Drilling Co Inc

Karnla #1-36

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Kamla #1-36**

#### **36-2S.-38W Cheyenne,KS**

Start Date: 2018.06.16 @ 22:23:00

End Date: 2018.06.17 @ 06:41:39

Job Ticket #: 64178                      DST #: 2

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

Printed: 2018.06.25 @ 10:34:35

Murfin Drilling Co Inc

36-2S.-38W Cheyenne,KS

Kamla #1-36

DST # 2

Le Compton / Oread

2018.06.16





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64178

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2018.06.16 @ 22:23:00

## GENERAL INFORMATION:

Formation: **Le Compton / Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:22:20

Time Test Ended: 06:41:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4177.00 ft (KB) To 4290.00 ft (KB) (TVD)**

Reference Elevations: 3414.00 ft (KB)

Total Depth: 4290.00 ft (KB) (TVD)

3409.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959**

**Inside**

Press@RunDepth: 412.13 psig @ 4178.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.16

End Date: 2018.06.17

Last Calib.: 2018.06.17

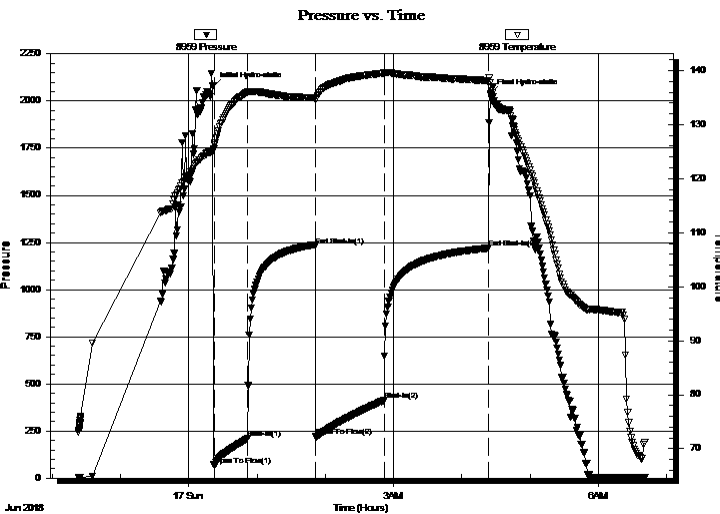
Start Time: 22:23:01

End Time: 06:41:40

Time On Btm: 2018.06.17 @ 00:21:20

Time Off Btm: 2018.06.17 @ 04:25:09

**TEST COMMENT:** 30-IF-BOB (12 inches) @ 11 mins (blow increased to 27 1/2")  
60-ISI-No blow (blow decreased to 24 3/4")  
60-FF-BOB (12 inches) @ 16 mins (blow increased to 37 1/2")  
90-FSI-No blow (blow decreased to 32 1/4")



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2077.47	125.27	Initial Hydro-static
1	65.76	126.17	Open To Flow (1)
31	209.83	135.99	Shut-In(1)
90	1230.21	134.94	End Shut-In(1)
91	220.80	134.51	Open To Flow (2)
151	412.13	139.53	Shut-In(2)
243	1220.21	138.15	End Shut-In(2)
244	2041.02	137.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
875.00	HMCW 36%M, 64% W	10.64

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64178

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2018.06.16 @ 22:23:00

## Tool Information

Drill Pipe:	Length: 3976.00 ft	Diameter: 3.80 inches	Volume: 55.77 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 56.65 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4177.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	113.00 ft			
Tool Length:	141.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4154.00	
Hydraulic tool	5.00			4159.00	
Jars	5.00			4164.00	
Safety Joint	3.00			4167.00	
Packer	5.00			4172.00	28.00 Bottom Of Top Packer
Packer	5.00			4177.00	
Stubb	1.00			4178.00	
Recorder	0.00	8959	Inside	4178.00	
Recorder	0.00	8734	Outside	4178.00	
Perforations	10.00			4188.00	
Change Over Sub	1.00			4189.00	
Drill Pipe	95.00			4284.00	
Change Over Sub	1.00			4285.00	
Bullnose	5.00			4290.00	113.00 Bottom Packers & Anchor

**Total Tool Length: 141.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64178

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2018.06.16 @ 22:23:00

## 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:

10000 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
875.00	HMCW 36%M, 64% W	10.643

Total Length: 875.00 ft      Total Volume: 10.643 bbl

Num Fluid Samples: 0

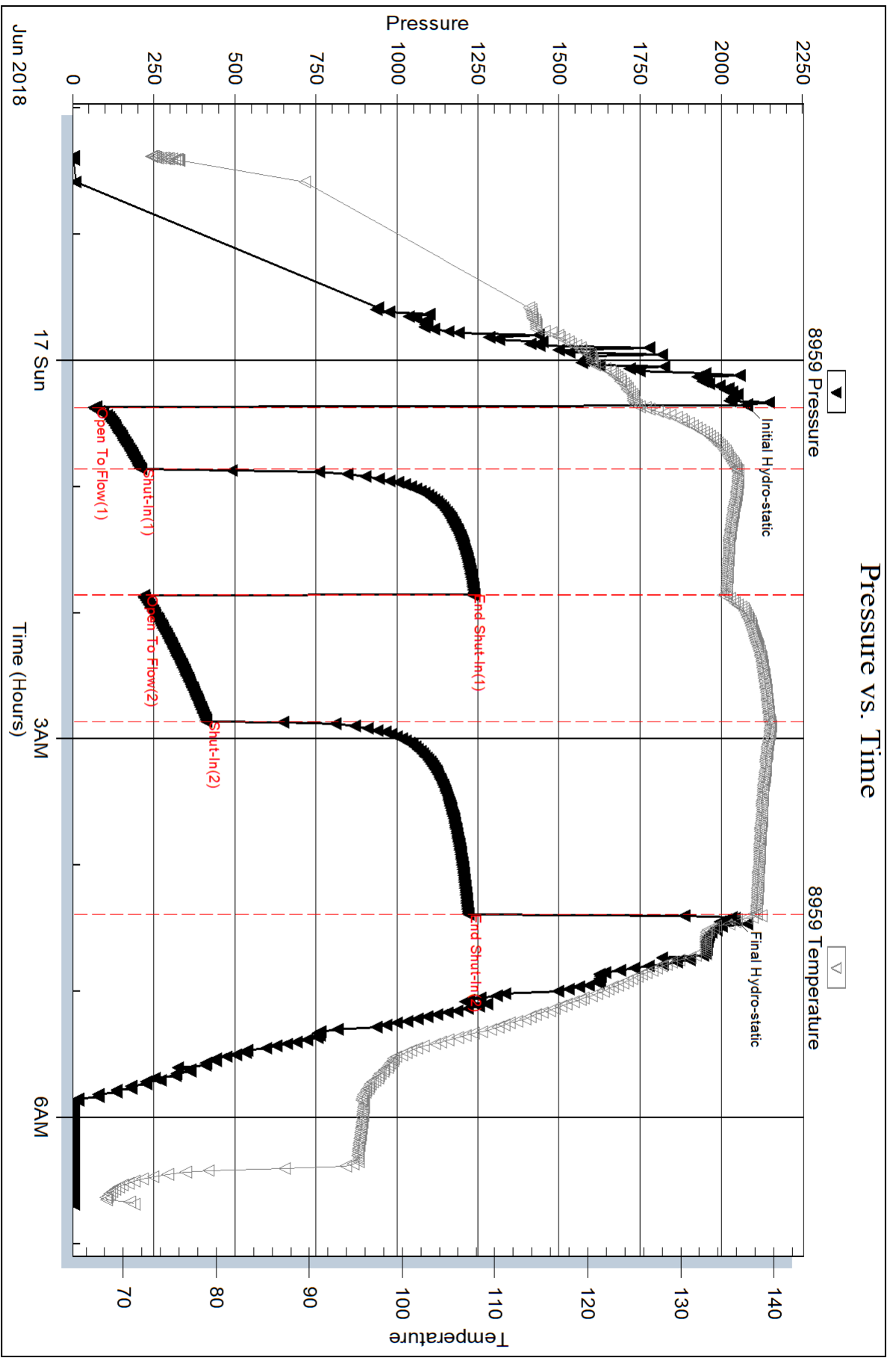
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .72 @ 63 degs = 10,000 PPM

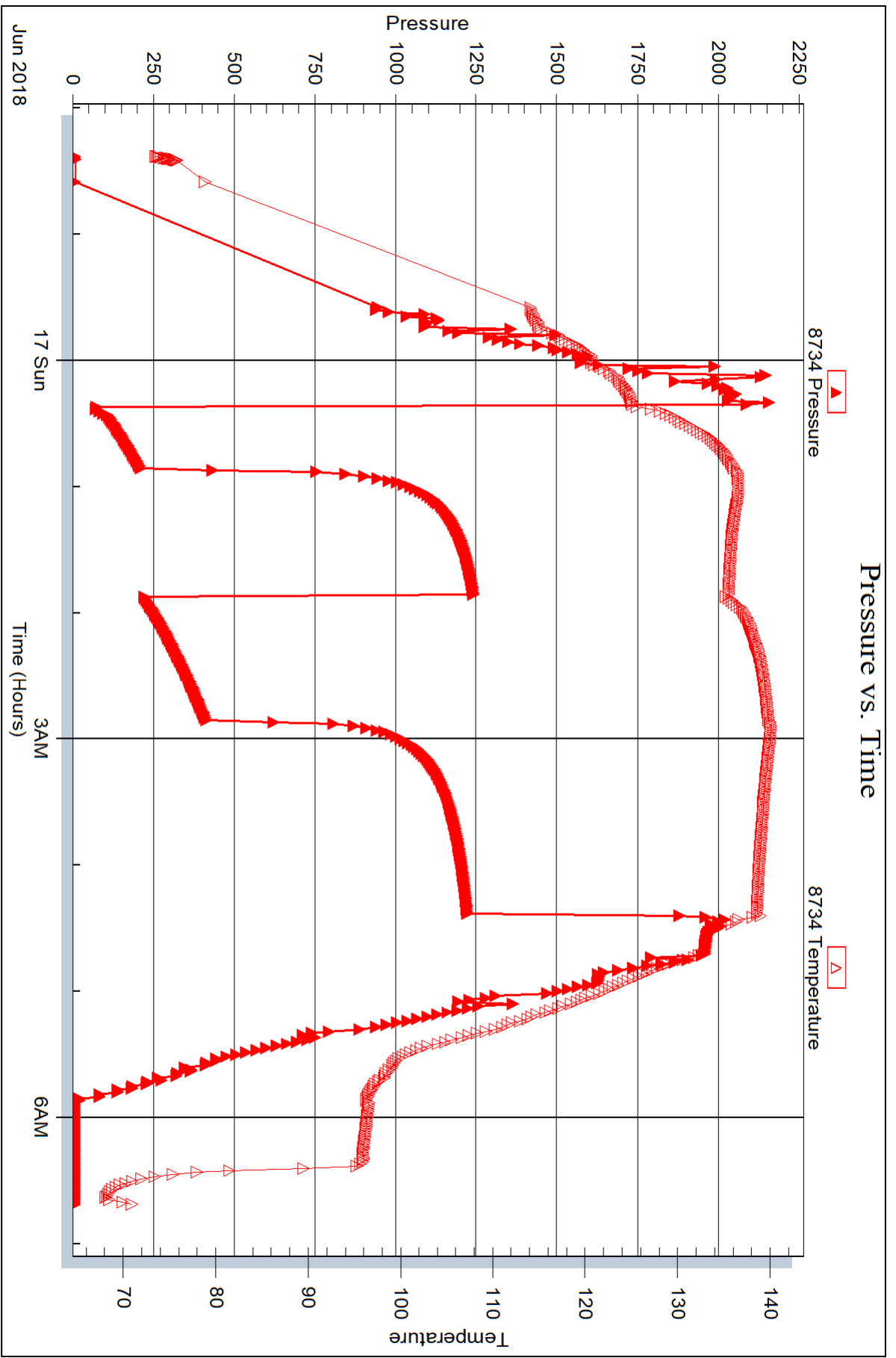


Serial #: 8734

Outside Murfin Drilling Co Inc

Karnla #1-36

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Kamla #1-36**

#### **36-2S.-38W Cheyenne,KS**

Start Date: 2018.06.17 @ 19:40:00

End Date: 2018.06.18 @ 02:59:20

Job Ticket #: 64179                      DST #: 3

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

Printed: 2018.06.25 @ 10:33:58



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64179

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2018.06.17 @ 19:40:00

## GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:05:00

Time Test Ended: 02:59:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4299.00 ft (KB) To 4380.00 ft (KB) (TVD)**

Reference Elevations: 3414.00 ft (KB)

Total Depth: 4380.00 ft (KB) (TVD)

3409.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959**

**Inside**

Press@RunDepth: 38.20 psig @ 4300.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.17

End Date:

2018.06.18

Last Calib.:

2018.06.18

Start Time: 19:40:01

End Time:

02:59:20

Time On Btm:

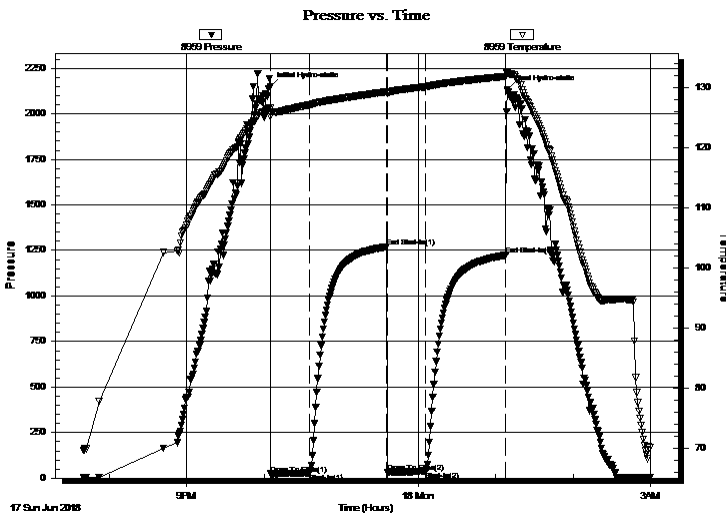
2018.06.17 @ 22:04:50

Time Off Btm:

2018.06.18 @ 01:09:00

**TEST COMMENT:** 30-IF-Surface blow built to 1/2" & died @ shut in  
60-ISI-No blow  
30-FF-No blow  
60-FSI-No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2148.61	126.54	Initial Hydro-static
1	22.65	125.12	Open To Flow (1)
31	29.12	127.09	Shut-In(1)
91	1269.25	129.28	End Shut-In(1)
91	33.06	128.93	Open To Flow (2)
121	38.20	130.12	Shut-In(2)
183	1224.10	131.83	End Shut-In(2)
185	2133.08	132.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	100% Mud	0.07

## Gas Rates

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

\* Recovery from multiple tests







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64179

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2018.06.17 @ 19:40:00

## Tool Information

Drill Pipe:	Length: 4103.00 ft	Diameter: 3.80 inches	Volume: 57.55 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 58.43 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4299.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	81.00 ft			
Tool Length:	109.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4276.00	
Hydraulic tool	5.00			4281.00	
Jars	5.00			4286.00	
Safety Joint	3.00			4289.00	
Packer	5.00			4294.00	28.00 Bottom Of Top Packer
Packer	5.00			4299.00	
Stubb	1.00			4300.00	
Recorder	0.00	8959	Inside	4300.00	
Recorder	0.00	8734	Outside	4300.00	
Perforations	10.00			4310.00	
Change Over Sub	1.00			4311.00	
Drill Pipe	63.00			4374.00	
Change Over Sub	1.00			4375.00	
Bullnose	5.00			4380.00	81.00 Bottom Packers & Anchor

**Total Tool Length: 109.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64179

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2018.06.17 @ 19:40:00

### 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:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	100% Mud	0.074

Total Length: 15.00 ft      Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

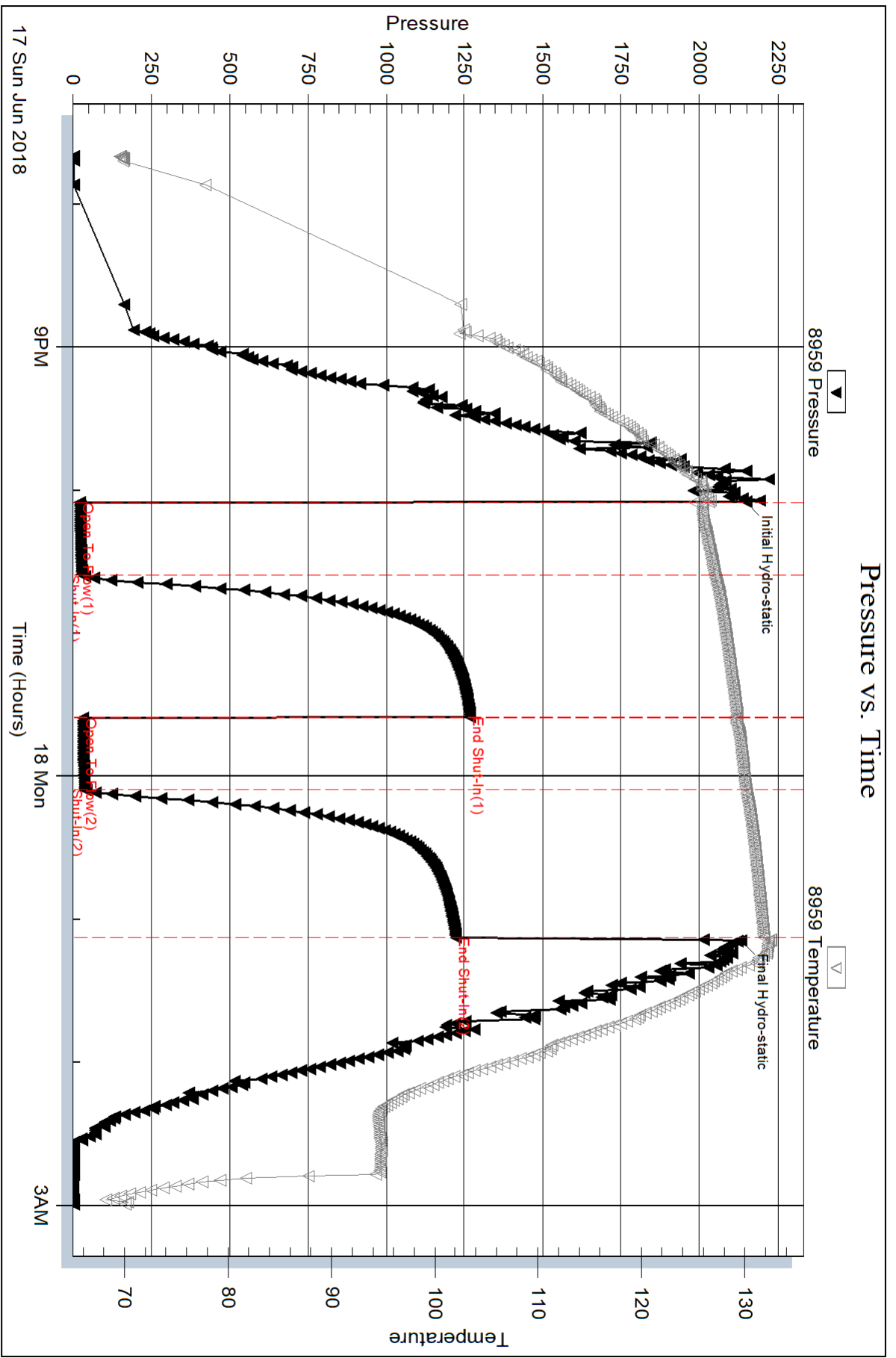
Serial #: 8959

Inside

Murfin Drilling Co Inc

Karnla #1-36

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 64179

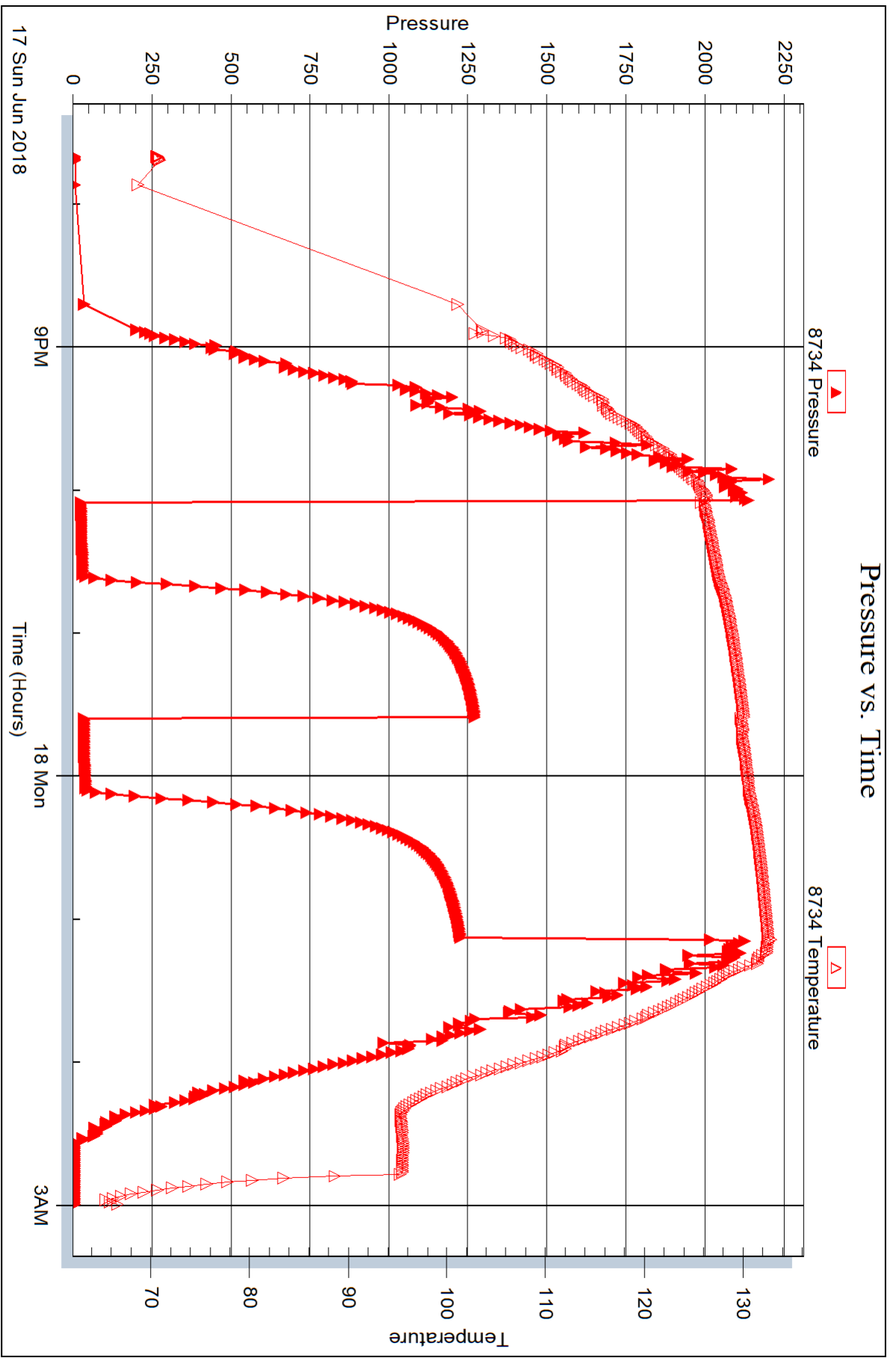
Printed: 2018.06.25 @ 10:33:59

Serial #: 8734

Outside Murfin Drilling Co Inc

Karnla #1-36

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 64179

Printed: 2018.06.25 @ 10:33:59



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Kamla #1-36**

#### **36-2S.-38W Cheyenne,KS**

Start Date: 2018.06.18 @ 19:25:00

End Date: 2018.06.19 @ 04:39:40

Job Ticket #: 64180                      DST #: 4

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

Printed: 2018.06.25 @ 10:30:21



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64180

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2018.06.18 @ 19:25:00

## GENERAL INFORMATION:

Formation: **LKC "D - G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:33:20

Time Test Ended: 04:39:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4364.00 ft (KB) To 4485.00 ft (KB) (TVD)**

Reference Elevations: 3414.00 ft (KB)

Total Depth: 4485.00 ft (KB) (TVD)

3409.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959**

**Inside**

Press@RunDepth: 715.42 psig @ 4365.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.18

End Date: 2018.06.19

Last Calib.: 2018.06.19

Start Time: 19:25:01

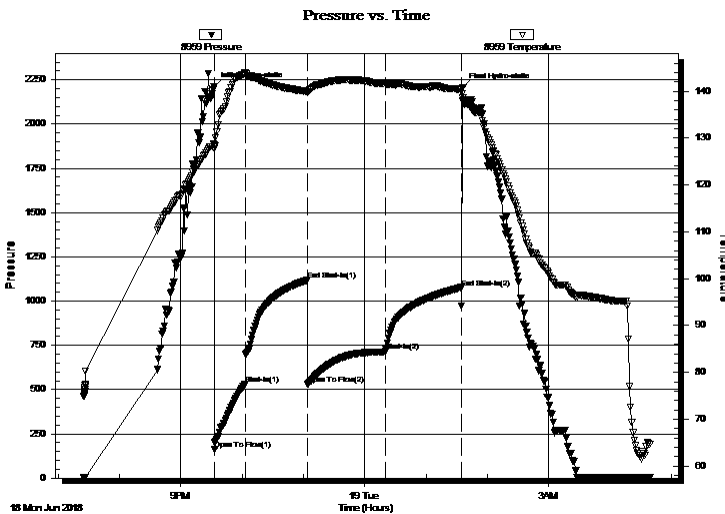
End Time: 04:39:40

Time On Btm: 2018.06.18 @ 21:32:40

Time Off Btm: 2018.06.19 @ 01:36:00

**TEST COMMENT:** 30-IF-BOB (12 inches) @ 3 1/2 mins (blow increased to 92 1/2")  
60-ISI-No blow (blow decreased to 78")  
60-FF-BOB (12 inches) @ 7 mins (blow increased to 48")  
90-FSI-No blow (blow decreased to 35 3/4")

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2213.60	128.50	Initial Hydro-static
1	161.10	128.25	Open To Flow (1)
31	530.22	143.96	Shut-In(1)
91	1118.06	139.96	End Shut-In(1)
92	529.28	139.82	Open To Flow (2)
168	715.42	141.55	Shut-In(2)
242	1076.10	140.44	End Shut-In(2)
244	2204.57	138.67	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
751.00	MCW 19%M, 81%W	8.90
819.00	WCM 16%W, 84%M	11.49

## Gas Rates

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

\* Recovery from multiple tests







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64180

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2018.06.18 @ 19:25:00

## Tool Information

Drill Pipe:	Length: 4165.00 ft	Diameter: 3.80 inches	Volume: 58.42 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 59.30 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4364.00 ft			Final	69000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	121.00 ft				
Tool Length:	149.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4341.00	
Hydraulic tool	5.00			4346.00	
Jars	5.00			4351.00	
Safety Joint	3.00			4354.00	
Packer	5.00			4359.00	28.00 Bottom Of Top Packer
Packer	5.00			4364.00	
Stubb	1.00			4365.00	
Recorder	0.00	8959	Inside	4365.00	
Recorder	0.00	8734	Outside	4365.00	
Perforations	19.00			4384.00	
Change Over Sub	1.00			4385.00	
Drill Pipe	94.00			4479.00	
Change Over Sub	1.00			4480.00	
Bullnose	5.00			4485.00	121.00 Bottom Packers & Anchor

**Total Tool Length: 149.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64180

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2018.06.18 @ 19:25:00

## 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:

22000 ppm

Viscosity: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
751.00	MCW 19%M, 81%W	8.904
819.00	WCM 16%W, 84%M	11.488

Total Length: 1570.00 ft      Total Volume: 20.392 bbl

Num Fluid Samples: 0

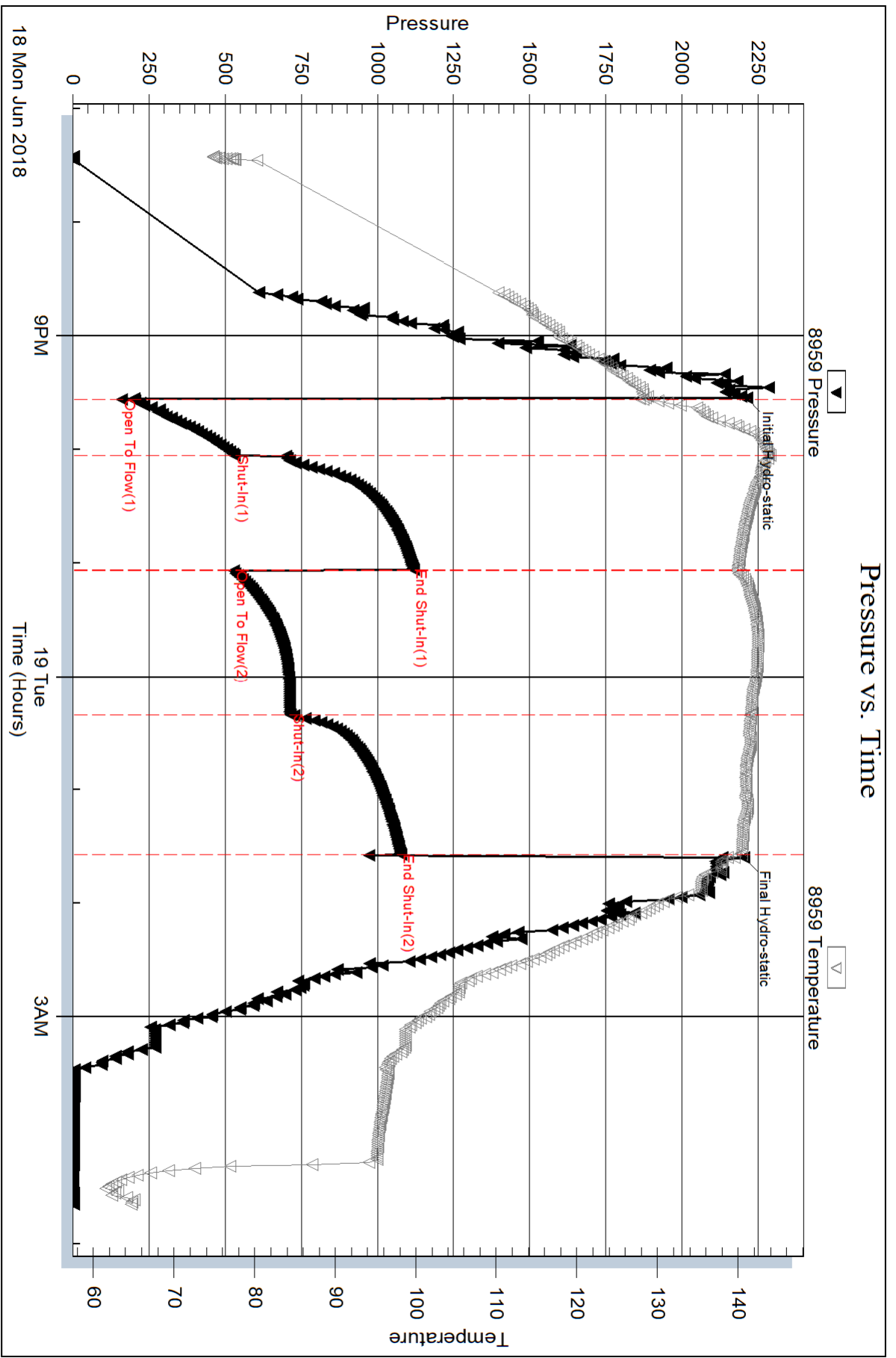
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .400 @ 58.7= 22,000 PPM

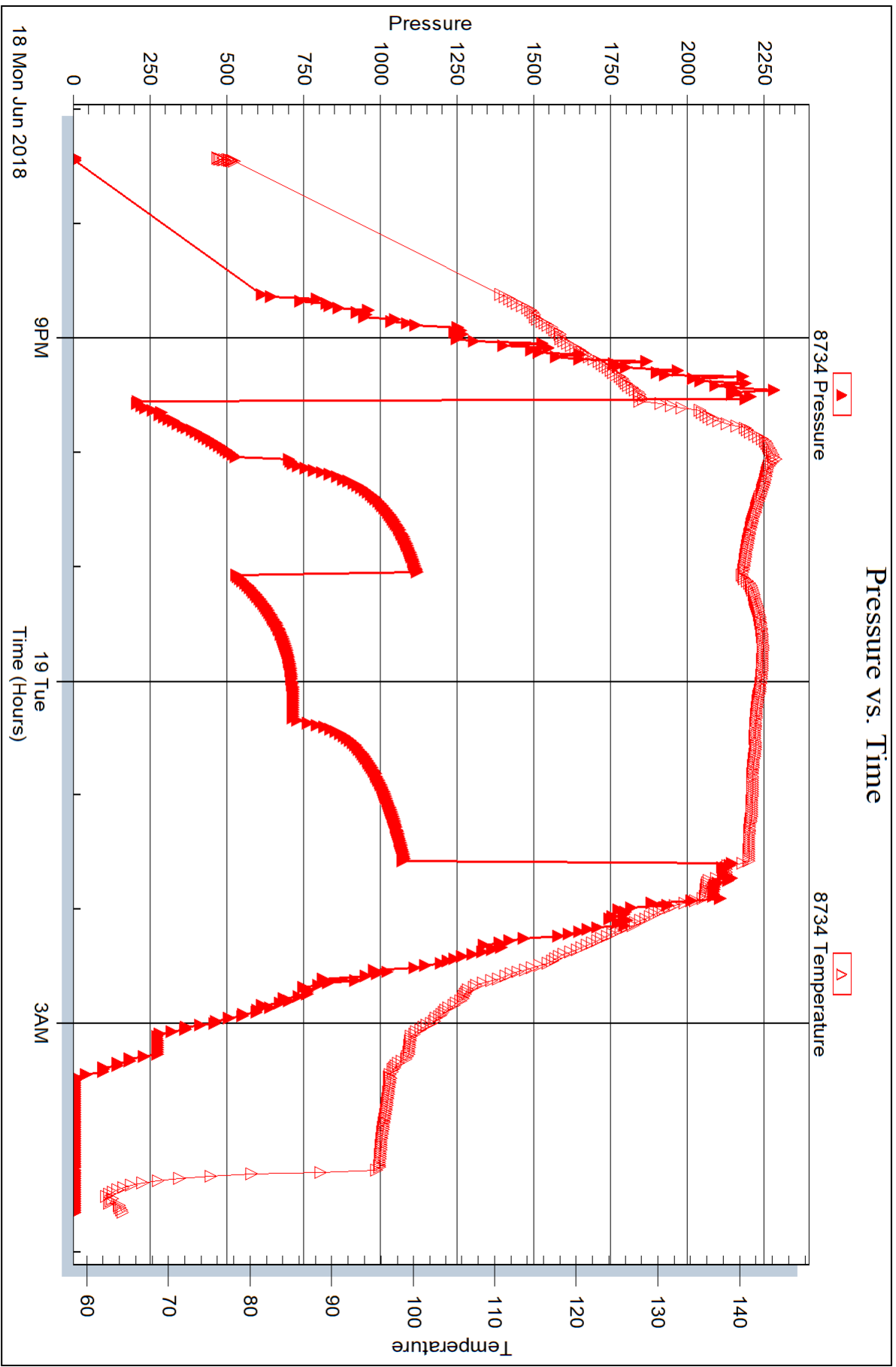


Serial #: 8734

Outside Murfin Drilling Co Inc

Karnla #1-36

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 64180

Printed: 2018.06.25 @ 10:30:22



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Kamla #1-36**

#### **36-2S.-38W Cheyenne,KS**

Start Date: 2018.06.19 @ 21:49:00

End Date: 2018.06.20 @ 05:28:20

Job Ticket #: 64181                      DST #: 5

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

Printed: 2018.06.25 @ 10:21:44

Murfin Drilling Co Inc  
36-2S.-38W Cheyenne,KS  
Kamla #1-36  
DST # 5  
LKC "H - J"  
2018.06.19



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64181

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2018.06.19 @ 21:49:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:43:00

Time Test Ended: 05:28:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4488.00 ft (KB) To 4575.00 ft (KB) (TVD)**

Reference Elevations: 3414.00 ft (KB)

Total Depth: 4575.00 ft (KB) (TVD)

3409.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959**

**Inside**

Press@RunDepth: 35.49 psig @ 4489.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.19

End Date:

2018.06.20

Last Calib.:

2018.06.20

Start Time: 21:49:01

End Time:

05:28:20

Time On Btm:

2018.06.20 @ 00:42:50

Time Off Btm:

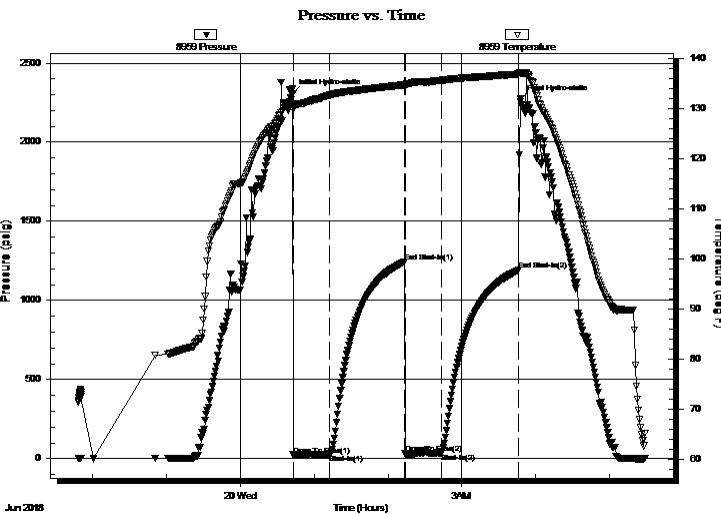
2018.06.20 @ 03:47:20

**TEST COMMENT:** 30-IF-Surface blow built to 1 1/2"

60-ISI-No blow

30-FF-No blow

60-FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2307.48	131.12	Initial Hydro-static
1	24.77	129.84	Open To Flow (1)
30	28.37	132.69	Shut-In(1)
91	1244.55	134.76	End Shut-In(1)
92	30.90	134.52	Open To Flow (2)
121	35.49	135.66	Shut-In(2)
184	1191.35	136.89	End Shut-In(2)
185	2271.28	137.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	100% Mud	0.05

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64181

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2018.06.19 @ 21:49:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:43:00

Time Test Ended: 05:28:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4488.00 ft (KB) To 4575.00 ft (KB) (TVD)**

Reference Elevations: 3414.00 ft (KB)

Total Depth: 4575.00 ft (KB) (TVD)

3409.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: psig @ 4489.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.19

End Date:

2018.06.20

Last Calib.:

2018.06.20

Start Time: 21:49:01

End Time:

05:28:20

Time On Btm:

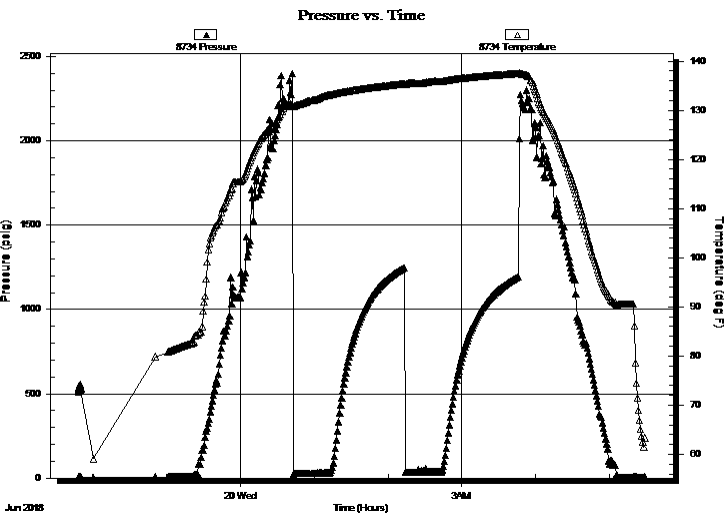
Time Off Btm:

**TEST COMMENT:** 30-IF-Surface blow built to 1 1/2"

60-ISI-No blow

30-FF-No blow

60-FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	100% Mud	0.05

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64181

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2018.06.19 @ 21:49:00

## Tool Information

Drill Pipe:	Length: 4289.00 ft	Diameter: 3.80 inches	Volume: 60.16 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 61.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4488.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	87.00 ft			
Tool Length:	115.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

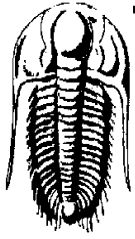
Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4465.00	
Hydraulic tool	5.00			4470.00	
Jars	5.00			4475.00	
Safety Joint	3.00			4478.00	
Packer	5.00			4483.00	28.00 Bottom Of Top Packer
Packer	5.00			4488.00	
Stubb	1.00			4489.00	
Recorder	0.00	8959	Inside	4489.00	
Recorder	0.00	8734	Outside	4489.00	
Perforations	16.00			4505.00	
Change Over Sub	1.00			4506.00	
Drill Pipe	63.00			4569.00	
Change Over Sub	1.00			4570.00	
Bullnose	5.00			4575.00	87.00 Bottom Packers & Anchor

**Total Tool Length: 115.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**36-2S.-38W Cheyenne,KS**

250 N Water STE 300  
Wichita, KS 67202

**Kamla #1-36**

Job Ticket: 64181

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2018.06.19 @ 21:49:00

## 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:

ppm

Viscosity: 73.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% Mud	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

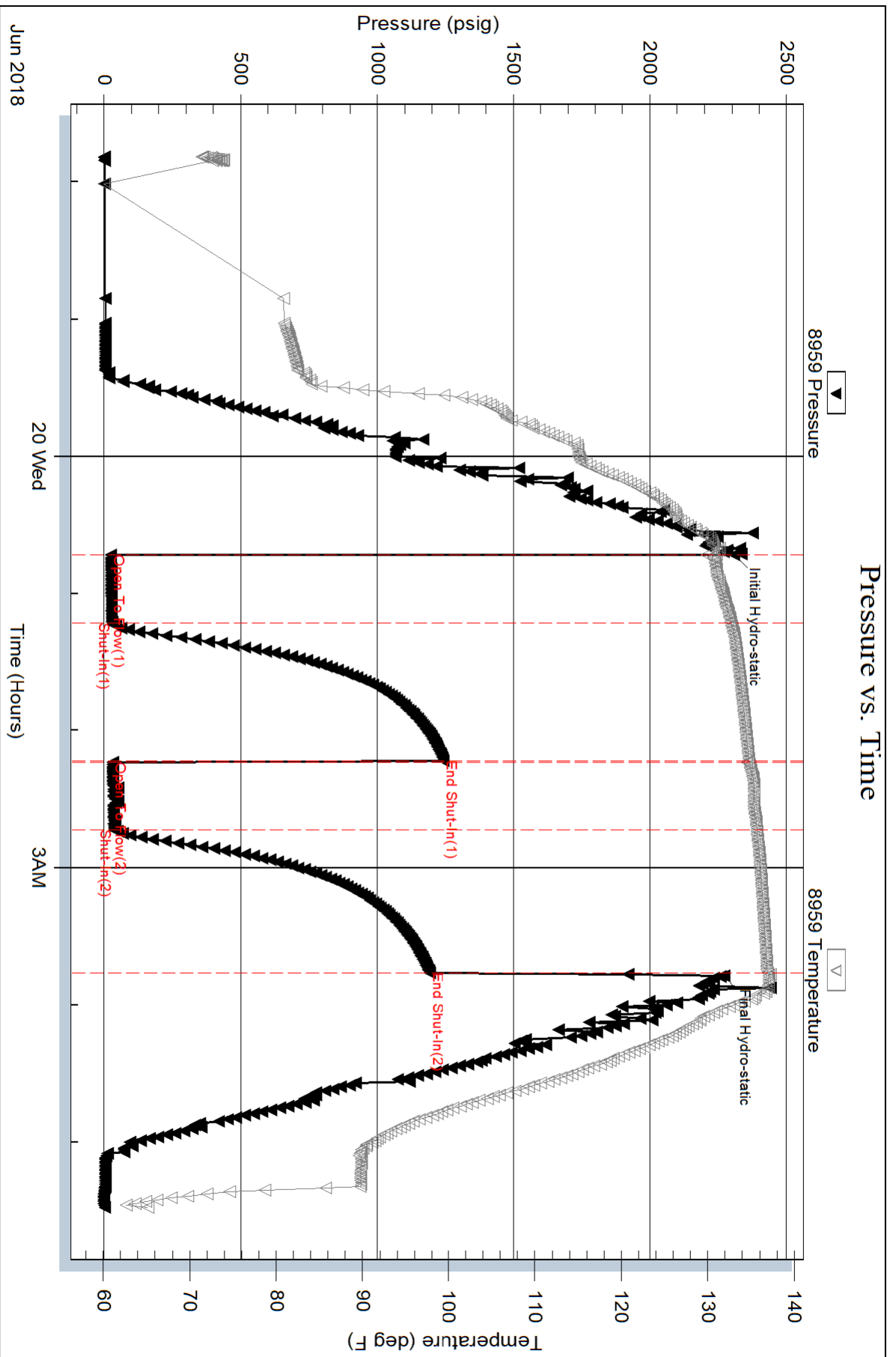
Serial #: 8959

Inside

Murfin Drilling Co Inc

Karnla #1-36

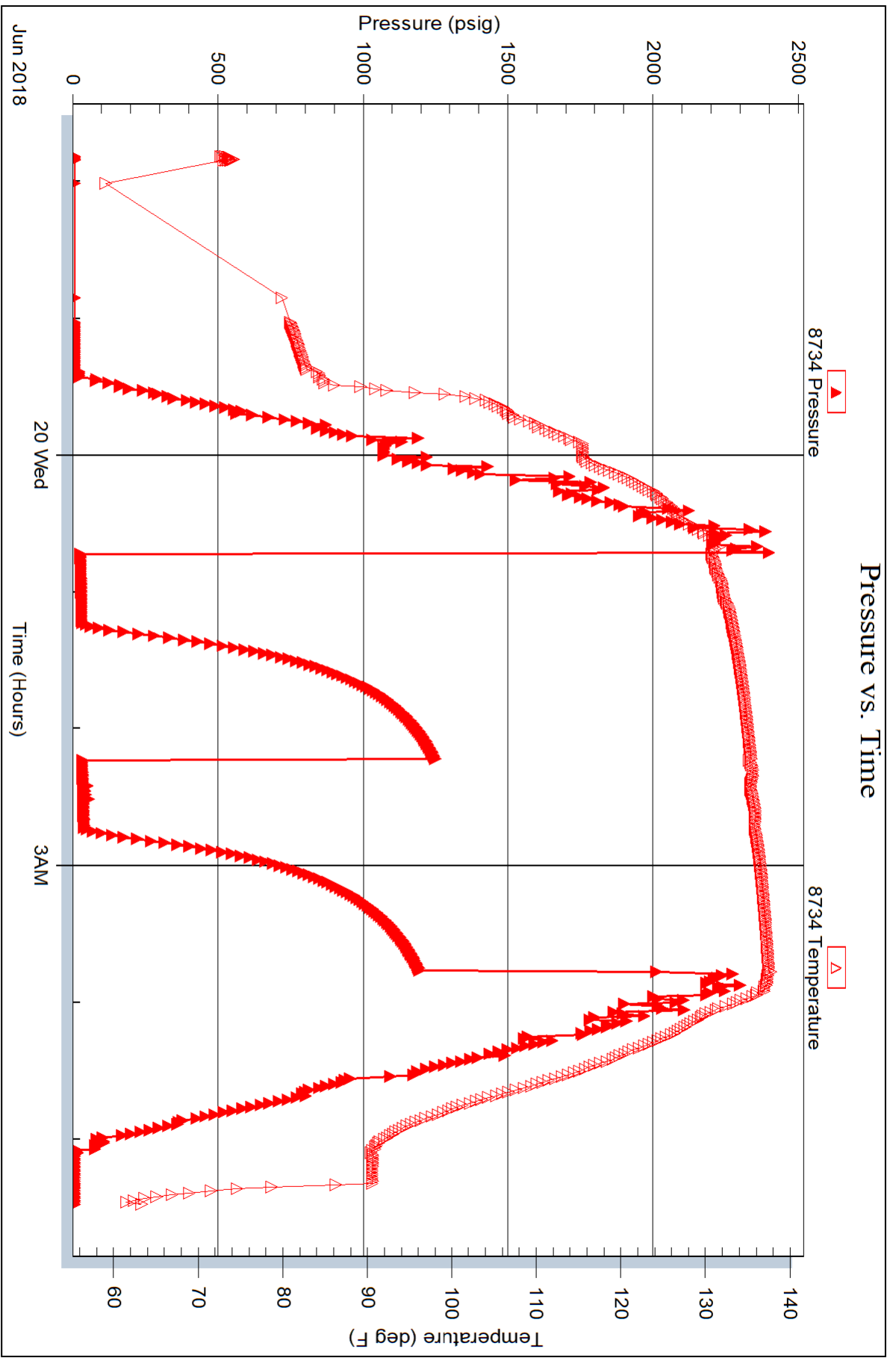
DST Test Number: 5

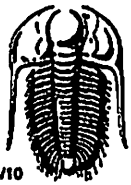


Trilobite Testing, Inc

Ref. No: 64181

Printed: 2018.06.25 @ 10:21:45





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64177

Well Name & No. Kamla #1-36 Test No. 1 Date 06-15-18  
 Company Murfin Drilling Co Inc Elevation 3414 KB 3409 GL  
 Address 250 N. Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 36 Twp 2S Rge. 38W Co. Cheyenne State KS

Interval Tested 4083-4140 Zone Tested Topeka  
 Anchor Length 57 Drill Pipe Run 3886 Mud Wt. 8.9  
 Top Packer Depth 4078 Drill Collars Run 179 Vis 75  
 Bottom Packer Depth 4083 Wt. Pipe Run — WL 6.0  
 Total Depth 4140 Chlorides 800 ppm System LCM 4#  
 Blow Description IF - S. blow built to 3/4"  
ISI - No blow  
FF - No blow  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud</u>			<u>100</u>	
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

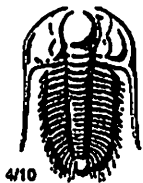
Rec Total 20 BHT 131 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1997  Test 1150 T-On Location 18:15  
 (B) First Initial Flow 23  Jars 250 T-Started 19:37  
 (C) First Final Flow 28  Safety Joint 75 T-Open 23:10  
 (D) Initial Shut-In 1189  Circ Sub \_\_\_\_\_ T-Pulled 02:10  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 04:15  
 (F) Second Final Flow 35  Mileage 125 RT 125  
 (G) Final Shut-In 1151  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1986  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Sub Total 1600

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Sub Total 0  
 Total 1600  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative [Signature]  
 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.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64178

Well Name & No. Kamla #1-36 Test No. 2 Date 06-16-18  
 Company Murfin Drilling Co Inc Elevation 3414 KB 3409 GL  
 Address 250 N. Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 36 Twp 2S Rge. 38W Co. Cheyenne State KS

Interval Tested 4177-4290 Zone Tested Le Compton/Oread  
 Anchor Length 113' Drill Pipe Run 3976 Mud Wt. 9.0  
 Top Packer Depth 4172 Drill Collars Run 179 Vis 68  
 Bottom Packer Depth 4177 Wt. Pipe Run — WL 6.4  
 Total Depth 4290 Chlorides 800 ppm System LCM 4#

Blow Description IF .S. blow built to B.O.B (12 inches) @ 11 mins (blow increased to 27 1/2")  
ISI .No blow (blow decreased to 24 3/4")  
FF .S. blow built to B.O.R (12 inches) @ 16 mins (blow increased to 37 1/2")  
FSI .No blow (blow decreased to 32 1/4")

Rec	Feet of	%gas	%oil	%water	%mud
<u>875</u>	<u>HMCW</u>		<u>64</u>	<u>36</u>	
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

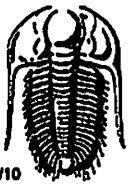
Rec Total 875 BHT 137 Gravity 72 API RW 63 °F Chlorides 10000 ppm

(A) Initial Hydrostatic 2077  Test 1150 T-On Location 21:55  
 (B) First Initial Flow 66  Jars 250 T-Started 22:23  
 (C) First Final Flow 710  Safety Joint 75 T-Open 00:22  
 (D) Initial Shut-In 1230  Circ Sub \_\_\_\_\_ T-Pulled 04:22  
 (E) Second Initial Flow 221  Hourly Standby \_\_\_\_\_ T-Out 06:42  
 (F) Second Final Flow 412  Mileage 125 RT 125 Comments \_\_\_\_\_  
 (G) Final Shut-In 1220  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2041  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1600  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1600

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64179

Well Name & No. Karla # 1-36 Test No. 3 Date 06-17-18  
 Company Murfin Drilling Co Inc Elevation 3414 KB 3409 GL  
 Address 250 N. Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 36 Twp 25. Rge. 38W. Co. Cheyenne State KS.

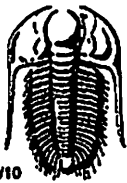
Interval Tested 4299 - 4380 Zone Tested Lansing A  
 Anchor Length 81' Drill Pipe Run 4103 Mud Wt. 9.1  
 Top Packer Depth 4294 Drill Collars Run 179 Vis 65  
 Bottom Packer Depth 4299 Wt. Pipe Run — WL 6.0  
 Total Depth 4380 Chlorides 700 ppm System LCM 4#  
 Blow Description IF. S. blow built to 1/2" & died @ shut in  
ISE: No blow  
FF: No blow  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud</u>			<u>100</u>	
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 15 BHT 133 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2149</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>18:50</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:40</u>
(C) First Final Flow <u>29</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>22:05</u>
(D) Initial Shut-In <u>1269</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>01:05</u>
(E) Second Initial Flow <u>33</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>03:00</u>
(F) Second Final Flow <u>38</u>	<input checked="" type="checkbox"/> Mileage <u>125 RT</u> <u>125</u>	Comments _____
(G) Final Shut-In <u>1224</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>2133</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1600</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1600</u>	

Approved By Robert Hendrix Our Representative John Salinas  
 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.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64180

Well Name & No. Kamla H-1-36 Test No. 4 Date 06-18-18  
 Company Murfin Drilling Co Inc Elevation 3414 KB 3409 GL  
 Address 250 N Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 36 Twp 2S. Rge. 38W Co. Cheyenne State KS

Interval Tested 4364-4485 Zone Tested Lansing "D-G"  
 Anchor Length 121' Drill Pipe Run 4165 Mud Wt. 9.1  
 Top Packer Depth 4359 Drill Collars Run 179 Vls 66  
 Bottom Packer Depth 4364 Wt. Pipe Run — WL 6.4  
 Total Depth 4485 Chlorides 800 ppm System LCM 4#

Blow Description IF: S. blow built to B.O.R (12 inches) @ 3 1/2 min (blow increased to 92 1/2")  
ISI: No blow (blow decreased to 78")  
FF: S. blow built to B.O.R (12 inches) @ 7 mins (blow increased to 48")  
FSI: No blow (blow decreased to 35 3/4")

Rec	Feet of	%gas	%oil	%water	%mud
<u>751</u>	<u>MCW</u>		<u>81</u>	<u>19</u>	
<u>819</u>	<u>WCM</u>		<u>16</u>	<u>84</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1570 BHT 139 Gravity — API RW .406 @ 58.7 °F Chlorides 22,000 ppm

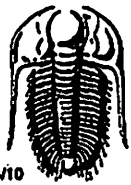
(A) Initial Hydrostatic 2214  Test 1150 T-On Location 17:40  
 (B) First Initial Flow 161  Jars 250 T-Started 19:25  
 (C) First Final Flow 530  Safety Joint 75 T-Open 21:33  
 (D) Initial Shut-In 1118  Circ Sub — T-Pulled 01:33  
 (E) Second Initial Flow 529  Hourly Standby 1h 80 T-Out 04:40  
 (F) Second Final Flow 715  Mileage 125 RT 125  
 (G) Final Shut-In 1076  Sampler —  
 (H) Final Hydrostatic 2205  Straddle —  
 Shale Packer —  
 Extra Packer —  
 Extra Recorder —  
 Day Standby —  
 Accessibility —

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Sub Total 1680  
 Total 1680  
 MP/DST Disc't —

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64181

Well Name & No. Kamla H-1-36 Test No. 5 Date 06-19-18  
 Company Murfin Drilling Co Inc Elevation 3414 KB 3409 GL  
 Address 250 N. Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin H3  
 Location: Sec. 36 Twp 2S. Rge. 38W Co. Cherokee State KS.

Interval Tested 4488-4575 Zone Tested Lansing "H-J"  
 Anchor Length 87 Drill Pipe Run 4289 Mud Wt. 9.2  
 Top Packer Depth 4483 Drill Collars Run 179 Vis 73  
 Bottom Packer Depth 4488 Wt. Pipe Run — WL 6.4  
 Total Depth 4575 Chlorides 1100 ppm System LCM 4#  
 Blow Description IF-S. blow built to 1 1/2"  
ISE - No blow  
FF - No blow  
ESI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>			<u>100</u>	
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 10 BHT 137 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2307  Test 1150 T-On Location 19:00  
 (B) First Initial Flow 25  Jars 250 T-Started 21:49  
 (C) First Final Flow 28  Safety Joint 75 T-Open 00:43  
 (D) Initial Shut-In 1245  Circ Sub \_\_\_\_\_ T-Pulled 03:43  
 (E) Second Initial Flow 31  Hourly Standby \_\_\_\_\_ T-Out 05:29  
 (F) Second Final Flow 35  Mileage 125 RT. 250 Comments Tools loaded @ 19:25  
 (G) Final Shut-In 1191  Sampler \_\_\_\_\_ 6-22-18  
 (H) Final Hydrostatic 2271  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 800  
 Day Standby 1.5d 23h Total 2525  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1725

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60

Approved By [Signature] Our Representative [Signature]

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