

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. 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
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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) (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	BANISTER 'B' 1-22
Doc ID	1427509

All Electric Logs Run

DIL
DUCP
MEL
BHCS

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	BANISTER 'B' 1-22
Doc ID	1427509

Perforations

Shots Per Foot	Perforation Top	Perforation Bottom	BridgePlugType	BridgePlugSet At	Material Record
4	4330	4336			1200 gals 20% MCA
4	4394	4398			150 gals, 600 gals, 20% MCA, 20 balls
4	4402	4408			150 gals, 600 gals, 20% MCA, 20 balls
4	4498	4506			300 gals 20% MCA, 900 gals
4	4737	4741			600 gals 20% MCA, 15 ball sealers
4	4748	4752			600 gals 20% MCA, 15 ball sealers

TREATMENT REPORT



HURRICANE SERVICES INC

Customer:	Murfin Drilling Inc	Date:	9/10/2018	Ticket #:	ICT1366
Field Rep:	Nathan Witt				
Address:	PO Box 661				
City, State:	Colby, KS				
County, Zip:	67701				

Field Order No.:		Open Hole:		Perf Depths (ft)	Perfs
Well Name:	Banister B 1-22	Casing Depth:	4945		
Location:	Cheyenne KS	Casing Size:	5 1/2		
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 Via:		Total Depth:	4950		
				Total Perfs	0

TIME	INJECTION RATE		PRESSURE		REMARKS	PROP (lbs)	HCL (gls)	FLUID (bbls)
	FLUID	N2/CO2	STP	ANNULUS				
4:00 PM					Arrive on location			
4:06 PM					Safety meeting			
4:10 PM					Rig up			
5:20 PM					Rig runs casing			
6:20 PM					Circulate			
6:50 PM					Run casing			
7:30 PM					Casing on bottom. Circulate 1 hr. Ball thru @			
8:15 PM	5.5		240.0		Pump 500 gls of Mudflush			12.00
8:20 PM	2.0		50.0		Plug MH and RH with 50 sks			23.00
8:25 PM	5.5		280.0		Mix 250 sks H Con 2.56 Yield			114.00
8:36 PM	5.5		220.0		Mix 200 sks H Long 1.50 Yield			53.50
9:15 PM	5.5				Release plug and displace			117.00
10:00 PM					Plug land @ 1900. Final lift was 1400			
10:15 PM					Wash up			
10:19 PM					Rig down			
10:30 PM					Depart			
					Turbos on 1-13 34 44 Baskets on 11-35-45			
TOTAL:								319.50

SUMMARY			
Max Fl. Rate	Avg Fl. Rate	Max PSI	Avg PSI
5.5	4.8	280.0	197.5

PRODUCTS USED

300 sacks H-con, 200 sacks of H-long

Treater: Dave Retzlloff

Customer: [Signature]

MDCI
 Banister 'B' #1-22
 2210' FSL 1980'FWL
 Sec. 22-2S-37W
 3414' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	3293	+121	-1	3284	+130	+8
B/Anhydrite	3328	+86	-4	3323	+91	+1
Topeka	4113	-699	-2	4110	-696	+1
Oread	4254	-840	-1	4251	-837	+2
Lansing	4332	-918	-5	4330	-916	-3
Stark	4563	-1149	-8	4559	-1145	-4
Mound City	4609	-1195	-4	4606	-1192	-1
Ft Scott	4732	-1318	-1	4736	-1322	-5
Oakley	4807	-1393	-1	4803	-1389	+3
Mississippian	NR			NR		
RTD	4950					
LTD				4948		

Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY: **Martin Drilling Co., Inc.**
LEASE: **Banister "A" #1-22**

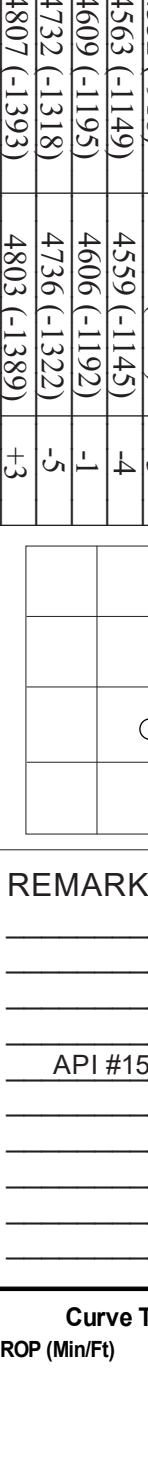
FIELD: **Widewater**
LOCATION: **2210 FSL & 1980 FEL**
SEC: **22** TWP: **2S** RGE: **37W**
COUNTY: **Cherokee** STATE: **Kansas**
CONTRACTOR: **Martin Drilling #3**
RTPD: **09/30/18** COMP: **09/10/18**
SUD: **4950'** TYPE MUD: **4948'**
MUD UP: **3000'** LIME MUD: **Chemical**

SAMPLES SAVED FROM: **4010'** TO RTD
DRILLING TIME KEPT FROM: **4000'** TO RTD
SAMPLES EXAMINED FROM: **4010'** TO RTD
GEOLOGICAL SUPERVISION FROM: **3600'**

CONDUCTOR: **8-5/8" at 367'**
SURFACE: **5-1/2" at 4945'**
ELECTRICAL SURVEYS: **ELC**
CND, DJL, MEL, SMC
REFERENCE WELL: **MDCT - Banister "A" #1-22**
Fletcher Wellbore

ELEVATIONS
KB: **3414'**

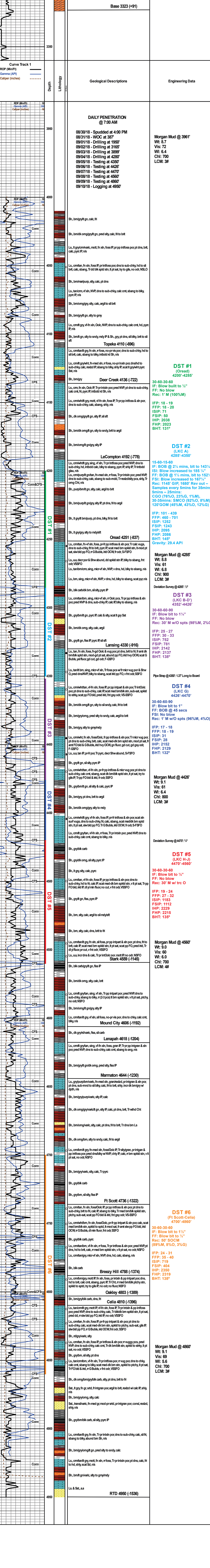
Formation	Sample Tops	E-log Tops	Stand Feet
Anhydrite	3293 (-121)	3284 (+130)	-8
Base Anhydrite	3328 (+96)	3323 (+91)	-1
Toguski	4113 (+69)	4110 (+66)	-1
Orebed	4251 (+84)	4251 (+84)	-2
Oriskany	4332 (+95)	4330 (+93)	-2
Start	4363 (+129)	4359 (+145)	-4
Mound City	4609 (+195)	4606 (+192)	-1
Ft Scott	4732 (+318)	4736 (+322)	+5
Oriskany	4807 (+393)	4803 (+389)	-5



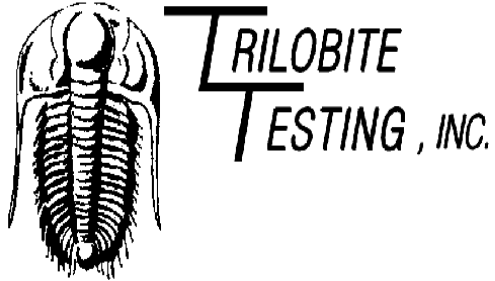
REMARKS: Due to fair to good shows of oil in multiple potential pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,
API #15-023-21493
Saman Sharifaie
Petroleum Geologist

*Tops have been adjusted to electric logs



API #15-023-21493



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie / AI

Bannister 'B' #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.04 @ 12:41:00

End Date: 2018.09.04 @ 19:28:45

Job Ticket #: 64081 DST #: 1

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

Printed: 2018.09.11 @ 09:08:52



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64081

DST#: 1

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.04 @ 12:41:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:41:45

Time Test Ended: 19:28:45

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: 4200.00 ft (KB) To 4285.00 ft (KB) (TVD)

Reference Elevations: 3419.00 ft (KB)

Total Depth: 4285.00 ft (KB) (TVD)

3414.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 20.10 psig @ 4201.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.04

End Date:

2018.09.04

Last Calib.: 2018.09.04

Start Time: 12:41:05

End Time:

19:28:44

Time On Btm: 2018.09.04 @ 14:41:30

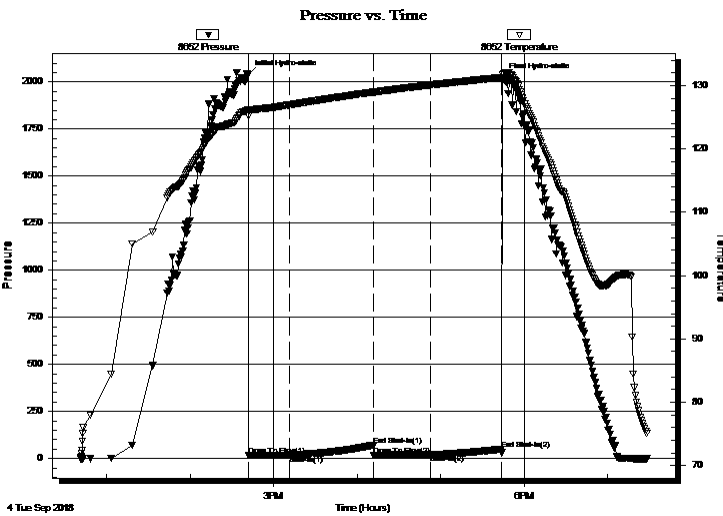
Time Off Btm: 2018.09.04 @ 17:44:45

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to about 1/2"

60 - IS: No blow back

30 - FF: No blow

60 - FS: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.27	126.25	Initial Hydro-static
1	17.94	125.19	Open To Flow (1)
30	18.68	126.96	Shut-In(1)
90	71.22	128.97	End Shut-In(1)
91	17.97	128.95	Open To Flow (2)
131	20.10	130.09	Shut-In(2)
183	50.24	131.28	End Shut-In(2)
184	2023.02	131.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64081

DST#: 1

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.04 @ 12:41:00

Tool Information

Drill Pipe:	Length: 3979.00 ft	Diameter: 3.80 inches	Volume: 55.81 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: 20000.00 lb
Drill Collar:	Length: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 56.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4200.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	85.00 ft			
Tool Length:	114.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4172.00	
Shut In Tool	5.00			4177.00	
Hydraulic tool	5.00			4182.00	
Jars	5.00			4187.00	
Safety Joint	3.00			4190.00	
Packer	5.00			4195.00	29.00 Bottom Of Top Packer
Packer	5.00			4200.00	
Stubb	1.00			4201.00	
Recorder	0.00	6625	Inside	4201.00	
Recorder	0.00	8652	Outside	4201.00	
Perforations	16.00			4217.00	
Blank Spacing	64.00			4281.00	
Perforations	1.00			4282.00	
Bullnose	3.00			4285.00	85.00 Bottom Packers & Anchor

Total Tool Length: 114.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64081

DST#: 1

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.04 @ 12:41:00

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: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.75 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud 100%	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

Num Fluid Samples: 0

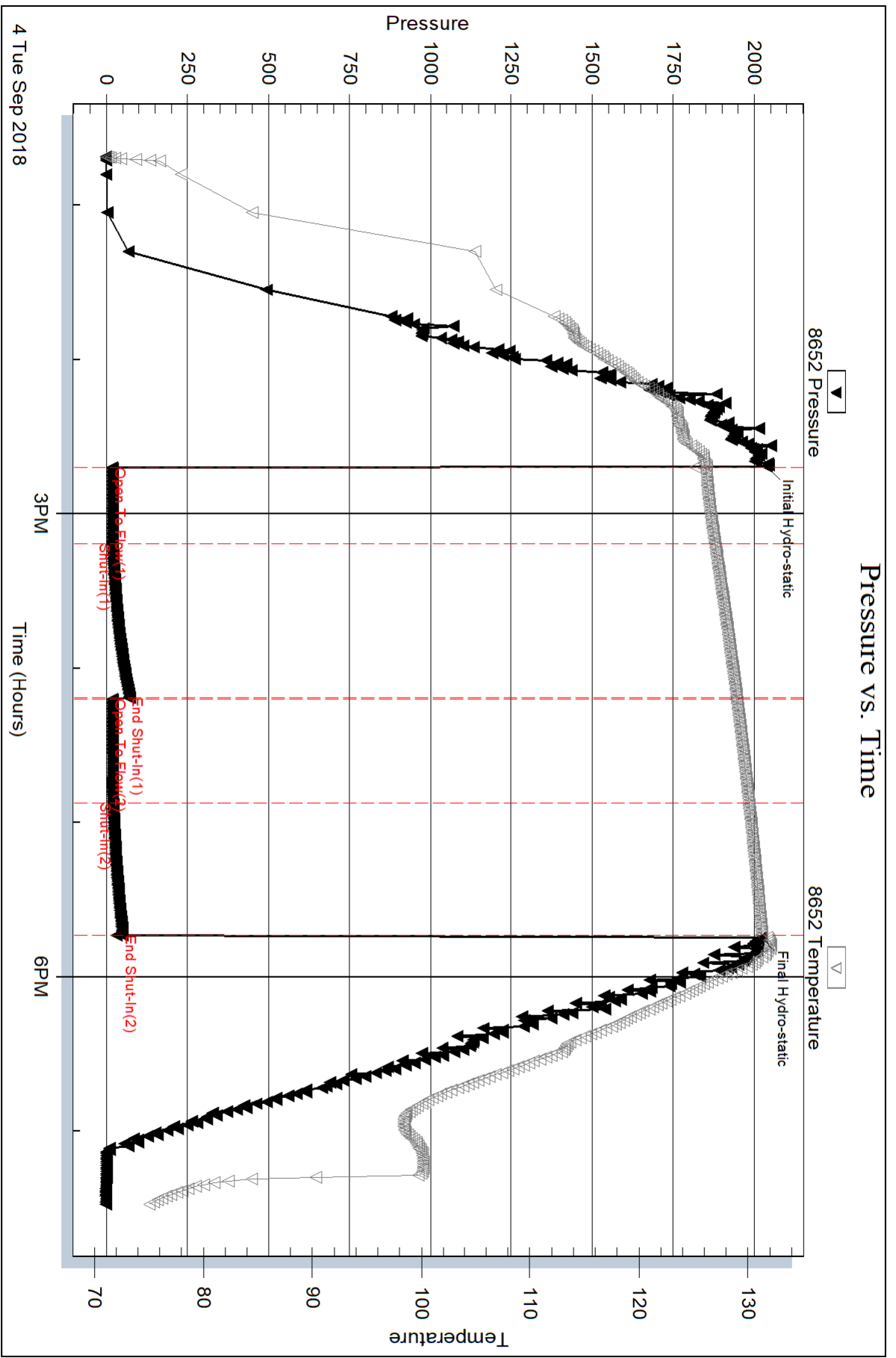
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



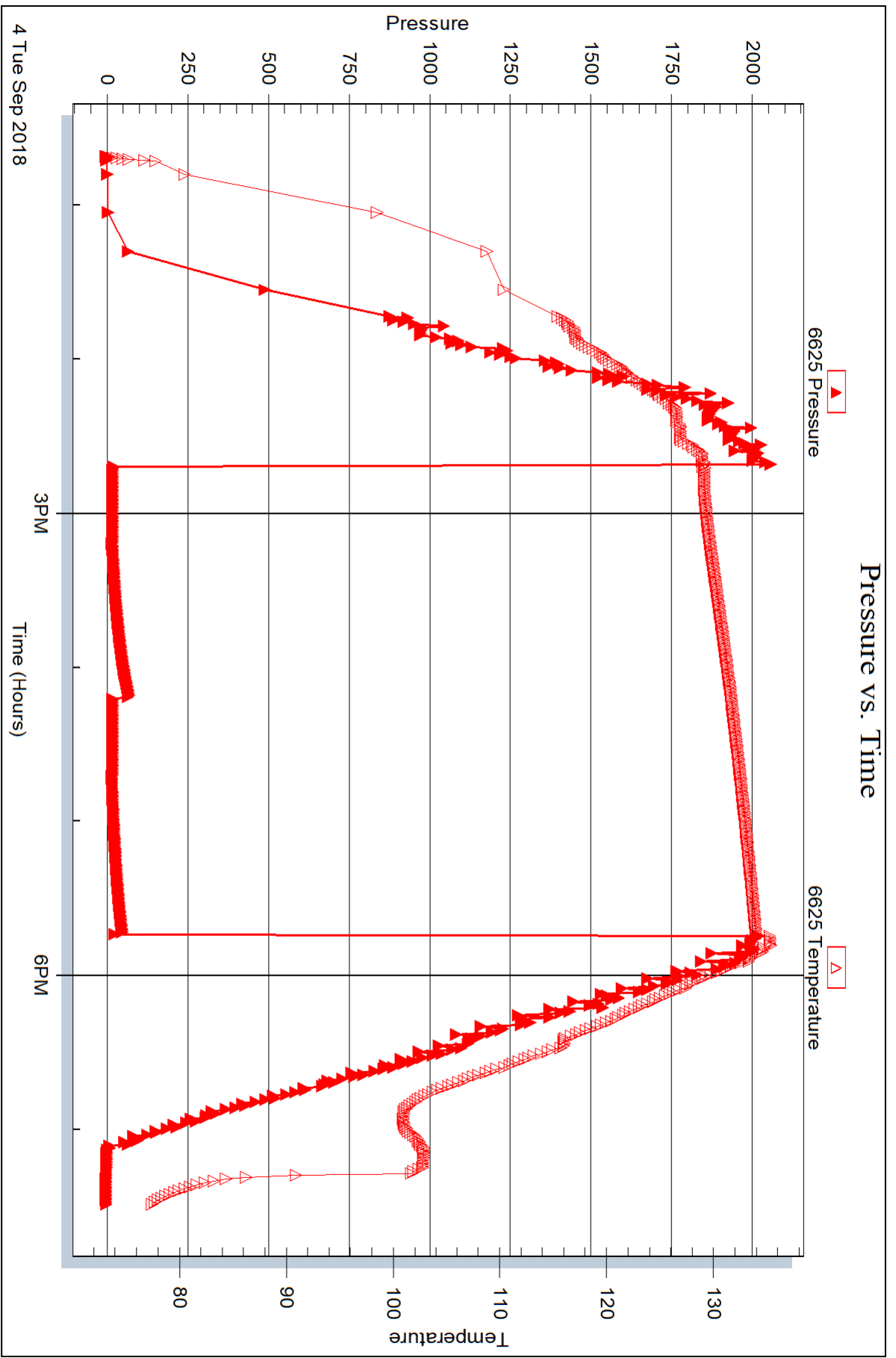
Serial #: 6625

Inside

Murfin Drilling Co., Inc

Bannister 'B' #1-22

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64081

Printed: 2018.09.11 @ 09:08:53



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie / AI

Bannister 'B' #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.05 @ 06:14:00

End Date: 2018.09.05 @ 16:00:15

Job Ticket #: 64082 DST #: 2

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

Printed: 2018.09.11 @ 09:08:24



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64082

DST#: 2

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.05 @ 06:14:00

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:50:00

Time Test Ended: 16:00:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4285.00 ft (KB) To 4350.00 ft (KB) (TVD)

Reference Elevations: 3419.00 ft (KB)

Total Depth: 4350.00 ft (KB) (TVD)

3414.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 700.71 psig @ 4286.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.05 End Date: 2018.09.05

Last Calib.: 2018.09.05

Start Time: 06:14:05 End Time: 16:00:15

Time On Btm: 2018.09.05 @ 08:49:45

Time Off Btm: 2018.09.05 @ 11:58:15

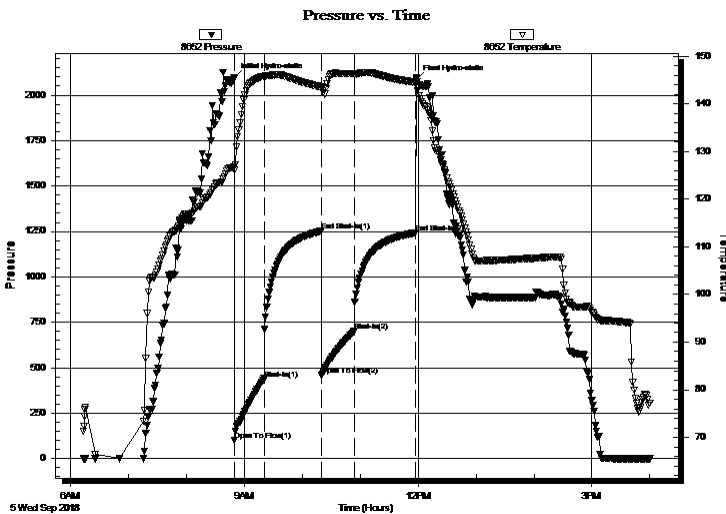
TEST COMMENT: 30 - IF: Blow built to BOB (11") at 2 1/4 min., built to 143 1/4"

60 - IS: Blow increased from 143 1/4" to 185 1/4"

34 - FF: Blow built to BOB at 1 1/2 min., built to 152 1/4"

60 - FS: Blow increased from 152 1/4" to 167 1/4"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2094.61	126.79	Initial Hydro-static
1	100.58	126.10	Open To Flow (1)
31	438.93	145.81	Shut-In(1)
91	1251.86	143.56	End Shut-In(1)
91	460.15	143.47	Open To Flow (2)
125	700.71	146.32	Shut-In(2)
188	1242.76	144.53	End Shut-In(2)
189	2086.34	144.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GOM 45% m, 43% o, 12% g	0.59
1680.00	Rev Out - samples every 5 min for 35 min	22.77
0.00	5 min - 25 min CGO 76% o, 23% g, 1% m	0.00
0.00	30 min - 35 min SMCO 92% o, 8% m	0.00
0.00	GIP = 1145'	0.00

* 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

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64082

DST#: 2

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.05 @ 06:14:00

Tool Information

Drill Pipe:	Length: 4072.00 ft	Diameter: 3.80 inches	Volume: 57.12 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: 20000.00 lb
Drill Collar:	Length: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 58.14 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4285.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	94.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4257.00	
Shut In Tool	5.00			4262.00	
Hydraulic tool	5.00			4267.00	
Jars	5.00			4272.00	
Safety Joint	3.00			4275.00	
Packer	5.00			4280.00	29.00 Bottom Of Top Packer
Packer	5.00			4285.00	
Stubb	1.00			4286.00	
Recorder	0.00	6625	Inside	4286.00	
Recorder	0.00	8652	Outside	4286.00	
Perforations	26.00			4312.00	
Blank Spacing	33.00			4345.00	
Perforations	2.00			4347.00	
Bullnose	3.00			4350.00	65.00 Bottom Packers & Anchor

Total Tool Length: 94.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64082

DST#: 2

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.05 @ 06:14:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29.4 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GOM 45% _m , 43% _o , 12% _g	0.590
1680.00	Rev Out - samples every 5 min for 35 min	22.773
0.00	5 min - 25 min CGO 76% _o , 23% _g , 1% _m	0.000
0.00	30 min - 35 min SMCO 92% _o , 8% _m	0.000
0.00	GIP = 1145'	0.000

Total Length: 1800.00 ft Total Volume: 23.363 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

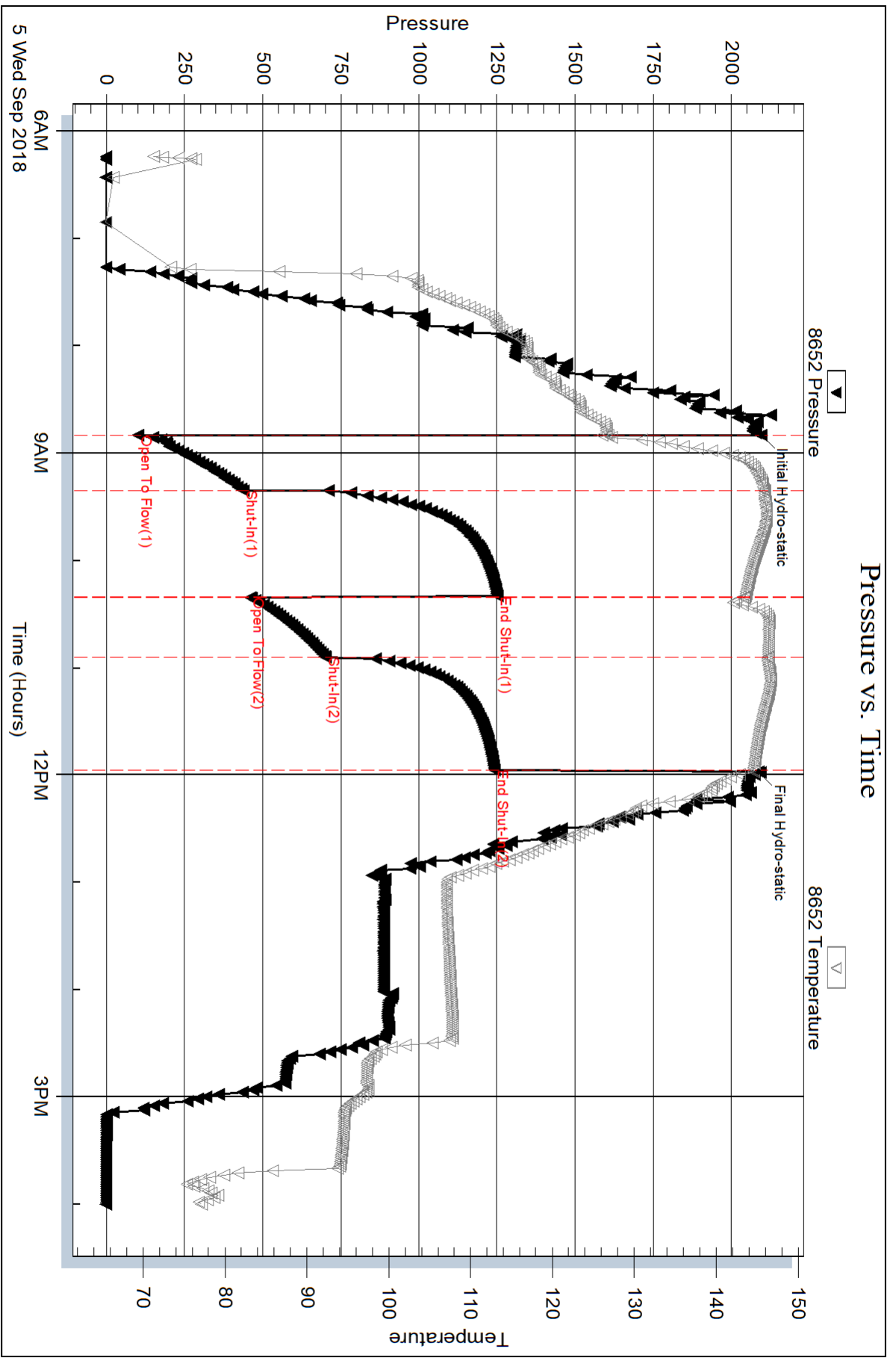
Recovery Comments: Gravity = 31.2 api @ 78 deg F Corrected Gravity = 29.4 api

Serial #: 8652

Outside Murfin Drilling Co., Inc

Bannister 'B' #1-22

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64082

Printed: 2018.09.11 @ 09:08:25

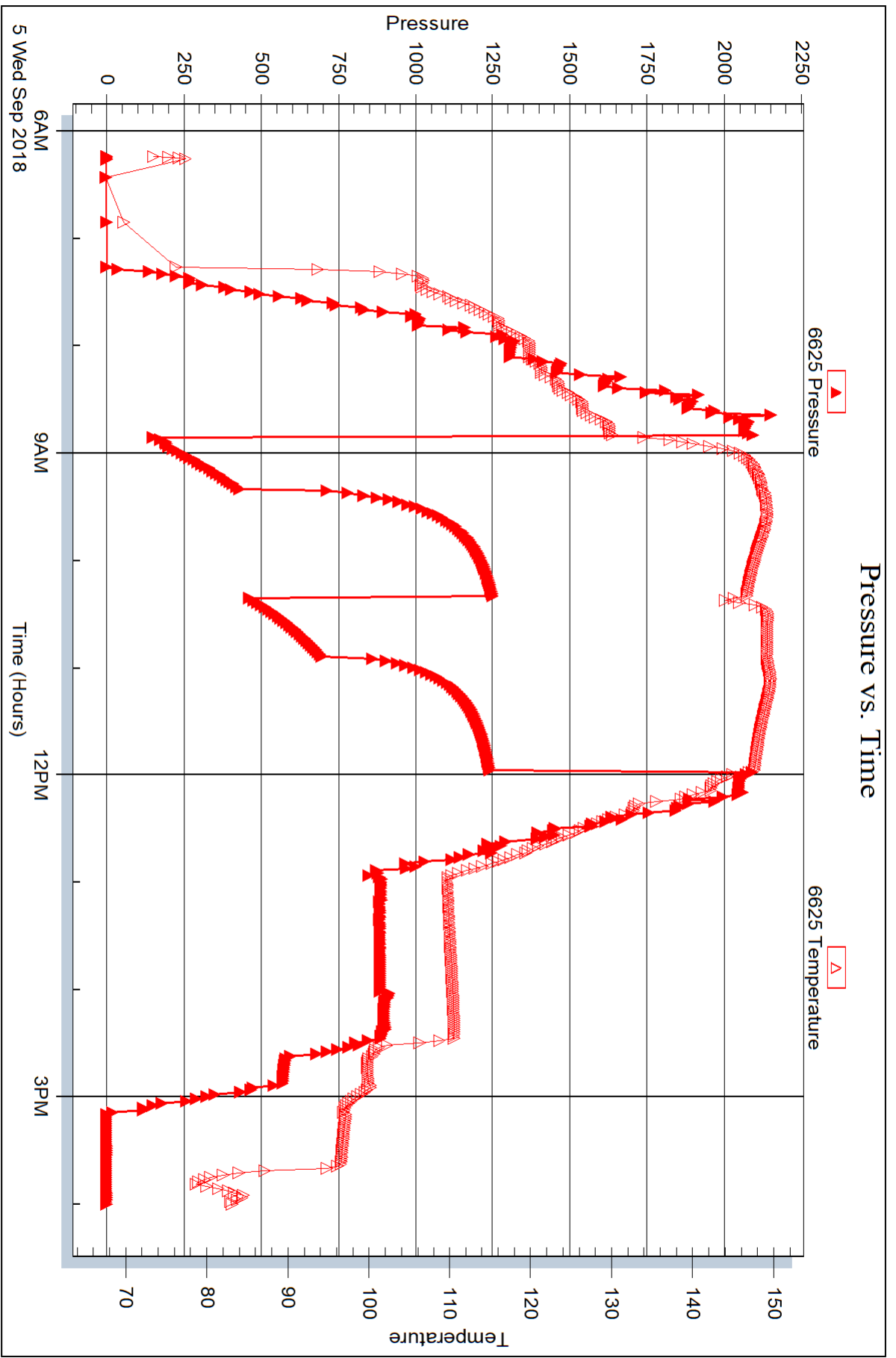
Serial #: 6625

Inside

Murfin Drilling Co., Inc

Bannister 'B' #1-22

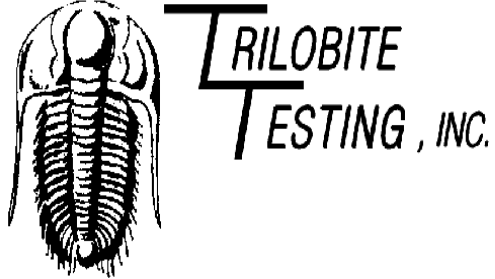
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64082

Printed: 2018.09.11 @ 09:08:25



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie / AI

Bannister 'B' #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.06 @ 03:02:00

End Date: 2018.09.06 @ 11:12:30

Job Ticket #: 64083 DST #: 3

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

Printed: 2018.09.11 @ 09:07:58



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64083

DST#: 3

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.06 @ 03:02:00

GENERAL INFORMATION:

Formation: **LKC "B - D Prime"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:18:30
 Time Test Ended: 11:12:30
 Interval: **4352.00 ft (KB) To 4426.00 ft (KB) (TVD)**
 Total Depth: 4426.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3419.00 ft (KB)
 3414.00 ft (CF)
 KB to GR/CF: 5.00 ft

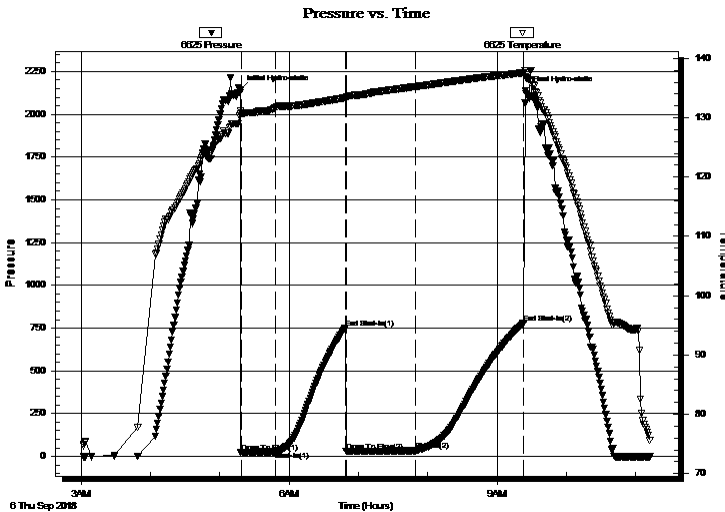
Serial #: 6625

Inside

Press@RunDepth: 33.36 psig @ 4353.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.06 End Date: 2018.09.06 Last Calib.: 2018.09.06
 Start Time: 03:02:05 End Time: 11:12:29 Time On Btm: 2018.09.06 @ 05:18:00
 Time Off Btm: 2018.09.06 @ 09:24:45

TEST COMMENT: 30 - IF: 1" Blow at open, built to about 1 1/4"
 60 - IS: No blow back
 60 - FF: No blow
 90 - FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2141.91	131.11	Initial Hydro-static
1	24.65	130.75	Open To Flow (1)
31	26.90	131.70	Shut-In(1)
91	751.55	133.39	End Shut-In(1)
92	30.09	133.55	Open To Flow (2)
152	33.36	135.27	Shut-In(2)
246	781.41	137.61	End Shut-In(2)
247	2136.76	136.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud w /Oil spots 98%m, 2%o	0.15

* 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

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64083

DST#: 3

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.06 @ 03:02:00

Tool Information

Drill Pipe:	Length: 4133.00 ft	Diameter: 3.80 inches	Volume: 57.98 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: 20000.00 lb
Drill Collar:	Length: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 59.00 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4352.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.00 ft			
Tool Length:	103.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4324.00	
Shut In Tool	5.00			4329.00	
Hydraulic tool	5.00			4334.00	
Jars	5.00			4339.00	
Safety Joint	3.00			4342.00	
Packer	5.00			4347.00	29.00 Bottom Of Top Packer
Packer	5.00			4352.00	
Stubb	1.00			4353.00	
Recorder	0.00	6625	Inside	4353.00	
Recorder	0.00	8652	Outside	4353.00	
Perforations	5.00			4358.00	
Blank Spacing	65.00			4423.00	
Bullnose	3.00			4426.00	74.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64083

DST#: 3

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.06 @ 03:02:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud w /Oil spots 98% _m , 2% _o	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

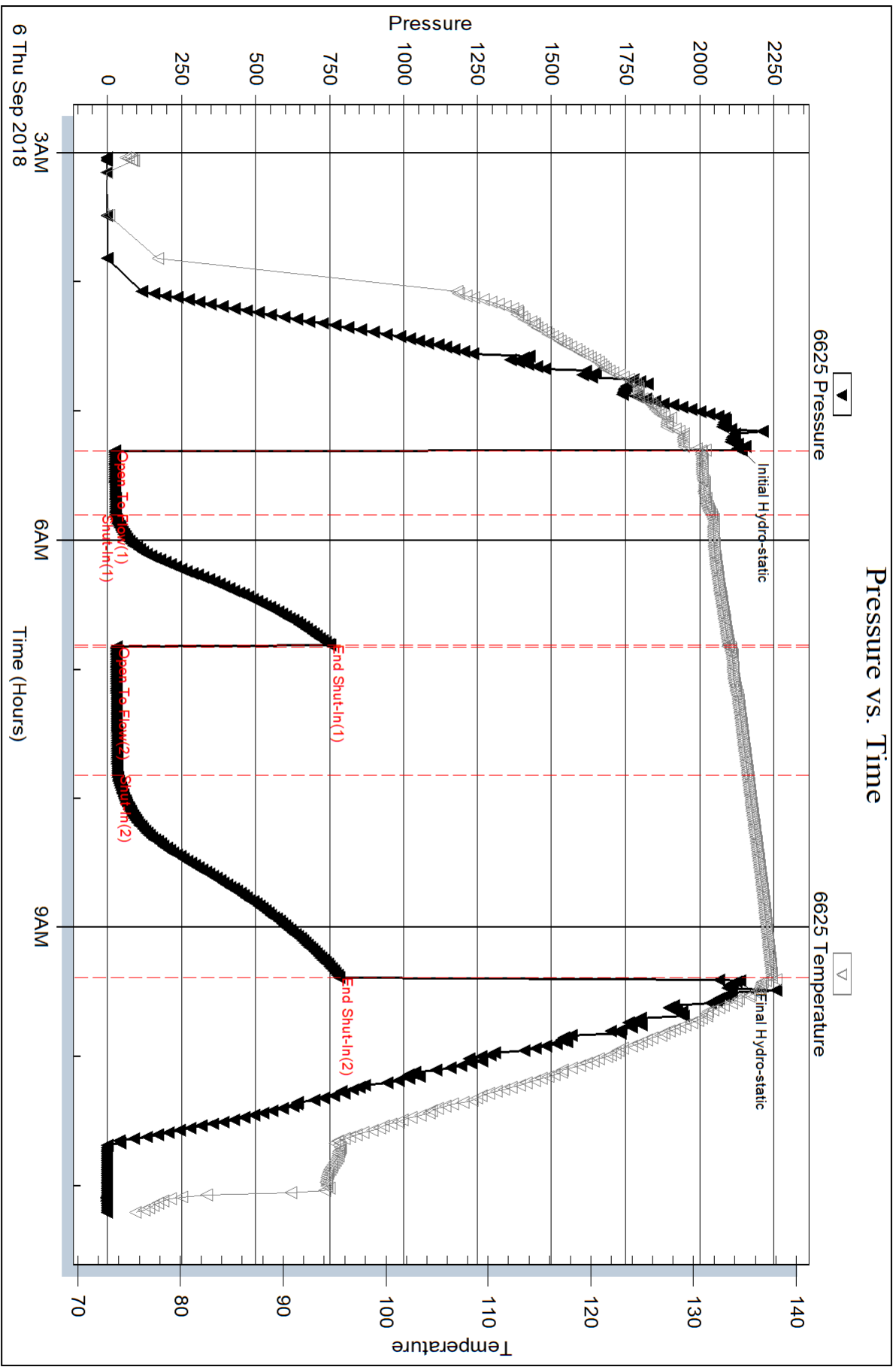
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

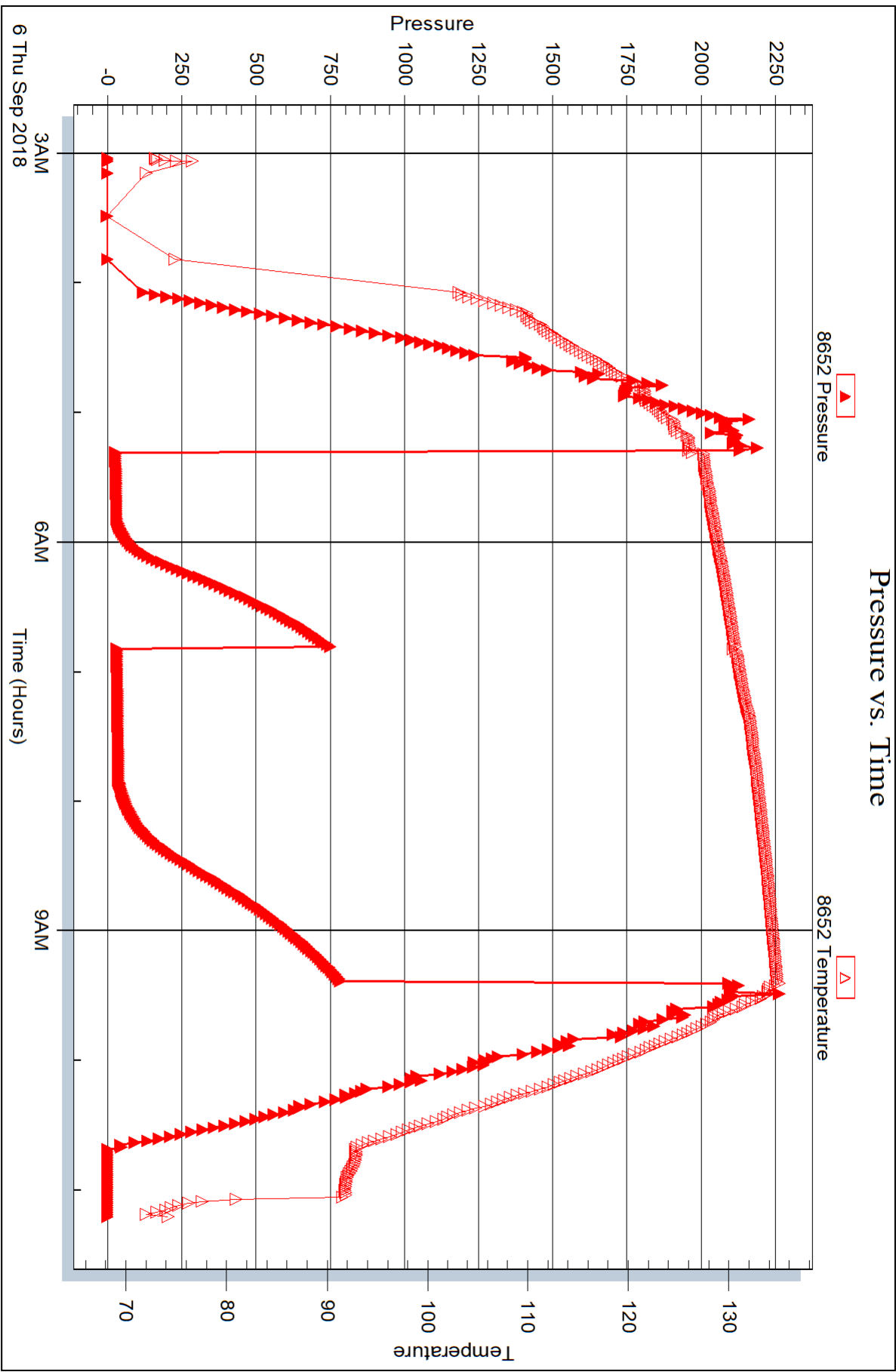


Serial #: 8652

Outside Murfin Drilling Co., Inc

Bannister 'B' #1-22

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie / AI

Bannister 'B' #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.06 @ 20:17:00

End Date: 2018.09.07 @ 04:27:15

Job Ticket #: 64084 DST #: 4

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

Printed: 2018.09.11 @ 09:07:30



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc
 250 N. Water STE 300
 Wichita, KS 67202
 ATTN: Saman Sharifaie / AI

22-2s-37w Cheyenne, KS

Bannister 'B' #1-22

Job Ticket: 64084 **DST#: 4**
 Test Start: 2018.09.06 @ 20:17:00

GENERAL INFORMATION:

Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:25:00
 Time Test Ended: 04:27:15
 Interval: **4426.00 ft (KB) To 4470.00 ft (KB) (TVD)**
 Total Depth: 4470.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3419.00 ft (KB)
 3414.00 ft (CF)
 KB to GR/CF: 5.00 ft

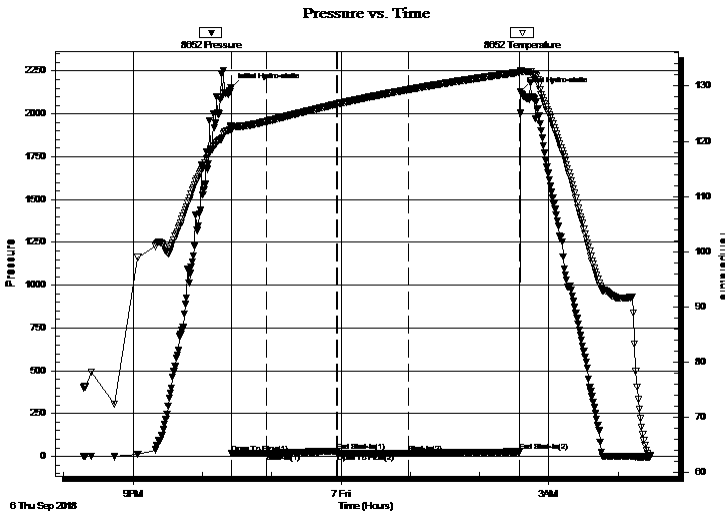
Serial #: 8652

Outside

Press@RunDepth: 18.86 psig @ 4427.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.06 End Date: 2018.09.07 Last Calib.: 2018.09.07
 Start Time: 20:17:05 End Time: 04:27:14 Time On Btm: 2018.09.06 @ 22:24:45
 Time Off Btm: 2018.09.07 @ 02:35:30

TEST COMMENT: 30 - IF: 1/2" Blow at open, built to almost 1"
 60 - IS: No blow back
 60 - FF: No blow
 90 - FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2152.06	122.81	Initial Hydro-static
1	17.12	121.87	Open To Flow (1)
31	18.19	123.58	Shut-In(1)
92	31.11	126.72	End Shut-In(1)
92	17.60	126.73	Open To Flow (2)
154	18.86	129.35	Shut-In(2)
250	27.87	132.49	End Shut-In(2)
251	2129.34	132.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud w /oil spots 96%m, 4%o	0.00

* 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

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64084

DST#: 4

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.06 @ 20:17:00

Tool Information

Drill Pipe:	Length: 4197.00 ft	Diameter: 3.80 inches	Volume: 58.87 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: 20000.00 lb
Drill Collar:	Length: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 59.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4426.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4398.00	
Shut In Tool	5.00			4403.00	
Hydraulic tool	5.00			4408.00	
Jars	5.00			4413.00	
Safety Joint	3.00			4416.00	
Packer	5.00			4421.00	29.00 Bottom Of Top Packer
Packer	5.00			4426.00	
Stubb	1.00			4427.00	
Recorder	0.00	6625	Inside	4427.00	
Recorder	0.00	8652	Outside	4427.00	
Perforations	5.00			4432.00	
Blank Spacing	33.00			4465.00	
Perforations	2.00			4467.00	
Bullnose	3.00			4470.00	44.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64084

DST#: 4

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.06 @ 20:17:00

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud w /oil spots 96% _m , 4% _o	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

Num Fluid Samples: 0

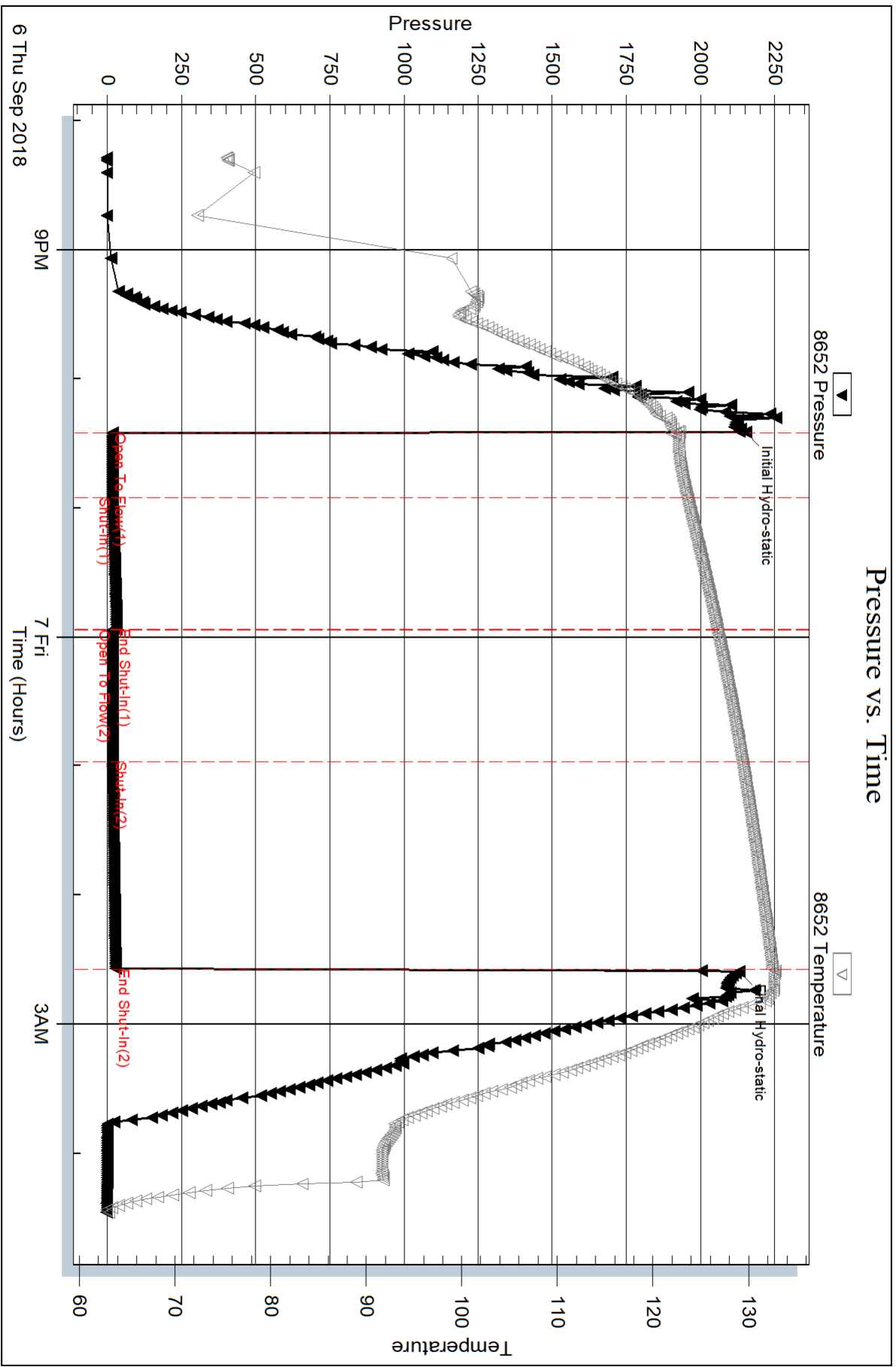
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



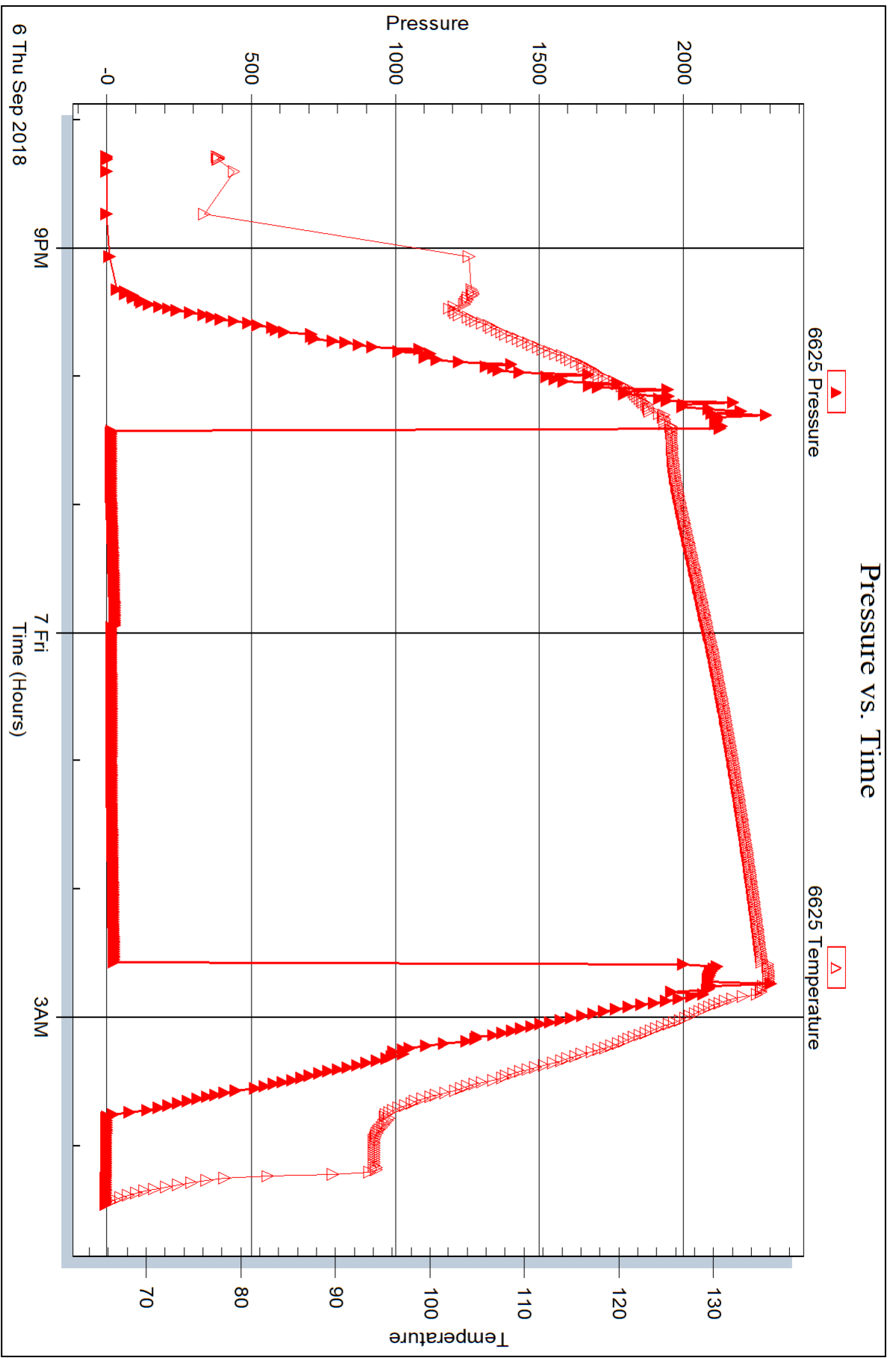
Serial #: 6625

Inside

Murfin Drilling Co., Inc

Bannister 'B' #1-22

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 64084

Printed: 2018.09.11 @ 09:07:31



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie / AI

Bannister 'B' #1-22

22-2s-37w Cheyenne,KS

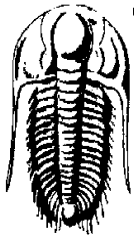
Start Date: 2018.09.07 @ 20:30:00

End Date: 2018.09.08 @ 03:44:45

Job Ticket #: 64085 DST #: 5

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

Printed: 2018.09.11 @ 09:03:20



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64085

DST#: 5

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.07 @ 20:30:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:44:00

Time Test Ended: 03:44:45

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4470.00 ft (KB) To 4560.00 ft (KB) (TVD)

Reference Elevations: 3419.00 ft (KB)

Total Depth: 4560.00 ft (KB) (TVD)

3414.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 31.62 psig @ 4471.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.07

End Date:

2018.09.08

Last Calib.:

2018.09.08

Start Time: 20:30:05

End Time:

03:44:44

Time On Btm:

2018.09.07 @ 22:43:45

Time Off Btm:

2018.09.08 @ 01:48:45

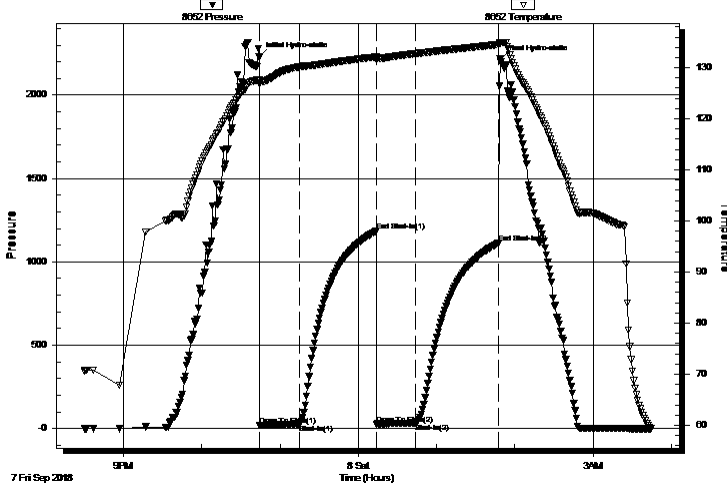
TEST COMMENT: 30 - IF: Blow built to 1/2"

60 - IS: No blow back

30 - FF: No blow

60 - FS: No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2228.92	127.68	Initial Hydro-static
1	18.67	126.81	Open To Flow (1)
31	23.82	130.14	Shut-In(1)
90	1183.45	132.13	End Shut-In(1)
91	26.69	131.56	Open To Flow (2)
120	31.62	132.75	Shut-In(2)
184	1111.56	134.55	End Shut-In(2)
185	2214.91	134.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud w /trace oil	0.15

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

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64085

DST#: 5

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.07 @ 20:30:00

Tool Information

Drill Pipe:	Length: 4258.00 ft	Diameter: 3.80 inches	Volume: 59.73 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: 20000.00 lb
Drill Collar:	Length: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 60.75 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4470.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	119.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4442.00	
Shut In Tool	5.00			4447.00	
Hydraulic tool	5.00			4452.00	
Jars	5.00			4457.00	
Safety Joint	3.00			4460.00	
Packer	5.00			4465.00	29.00 Bottom Of Top Packer
Packer	5.00			4470.00	
Stubb	1.00			4471.00	
Recorder	0.00	6625	Inside	4471.00	
Recorder	0.00	8652	Outside	4471.00	
Perforations	20.00			4491.00	
Blank Spacing	65.00			4556.00	
Perforations	1.00			4557.00	
Bullnose	3.00			4560.00	90.00 Bottom Packers & Anchor

Total Tool Length: 119.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64085

DST#: 5

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.07 @ 20:30:00

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: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud w /trace oil	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

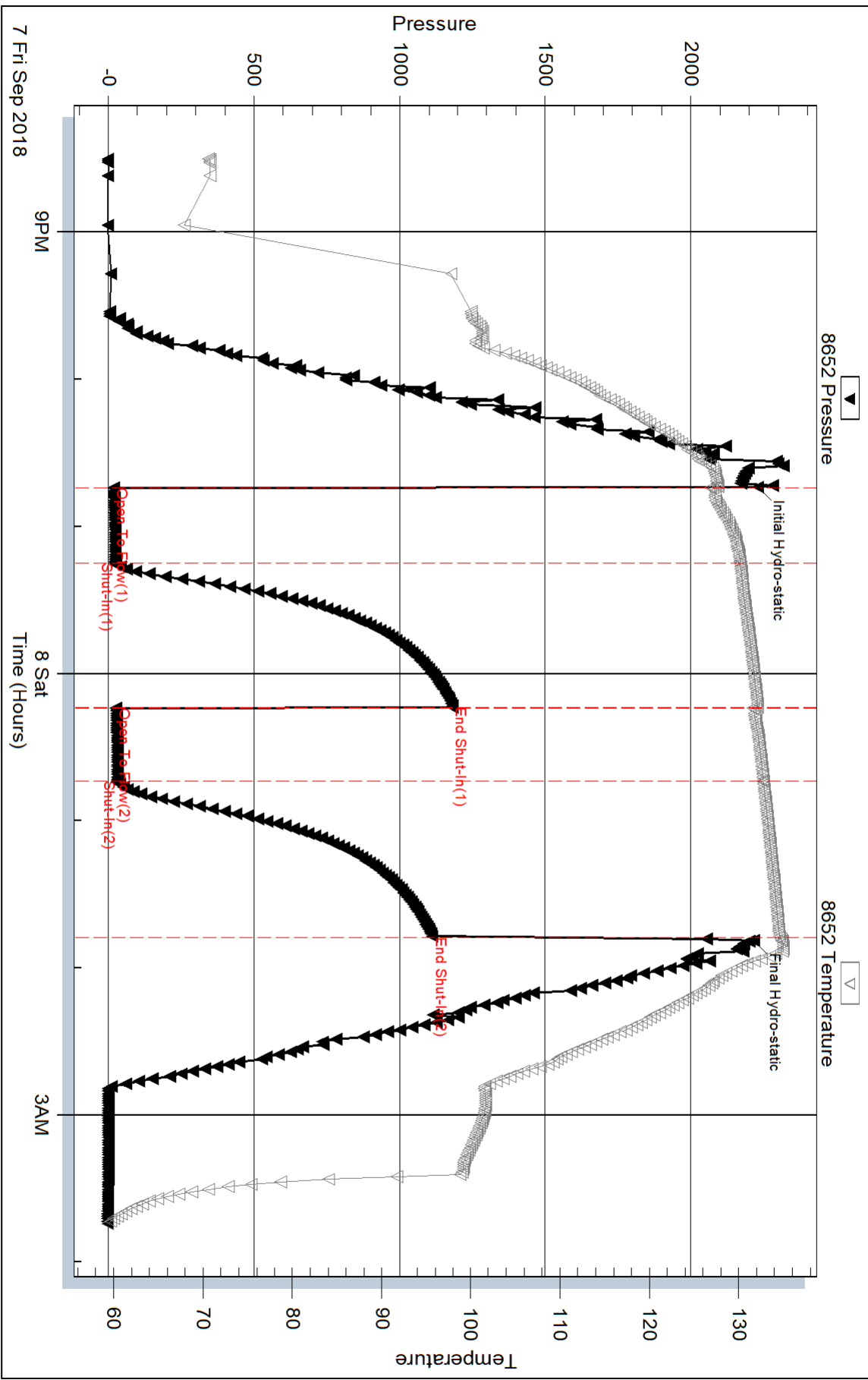
Serial #: 8652

Outside Murfin Drilling Co., Inc

Bannister 'B' #1-22

DST Test Number: 5

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 64085

Printed: 2018.09.11 @ 09:03:21

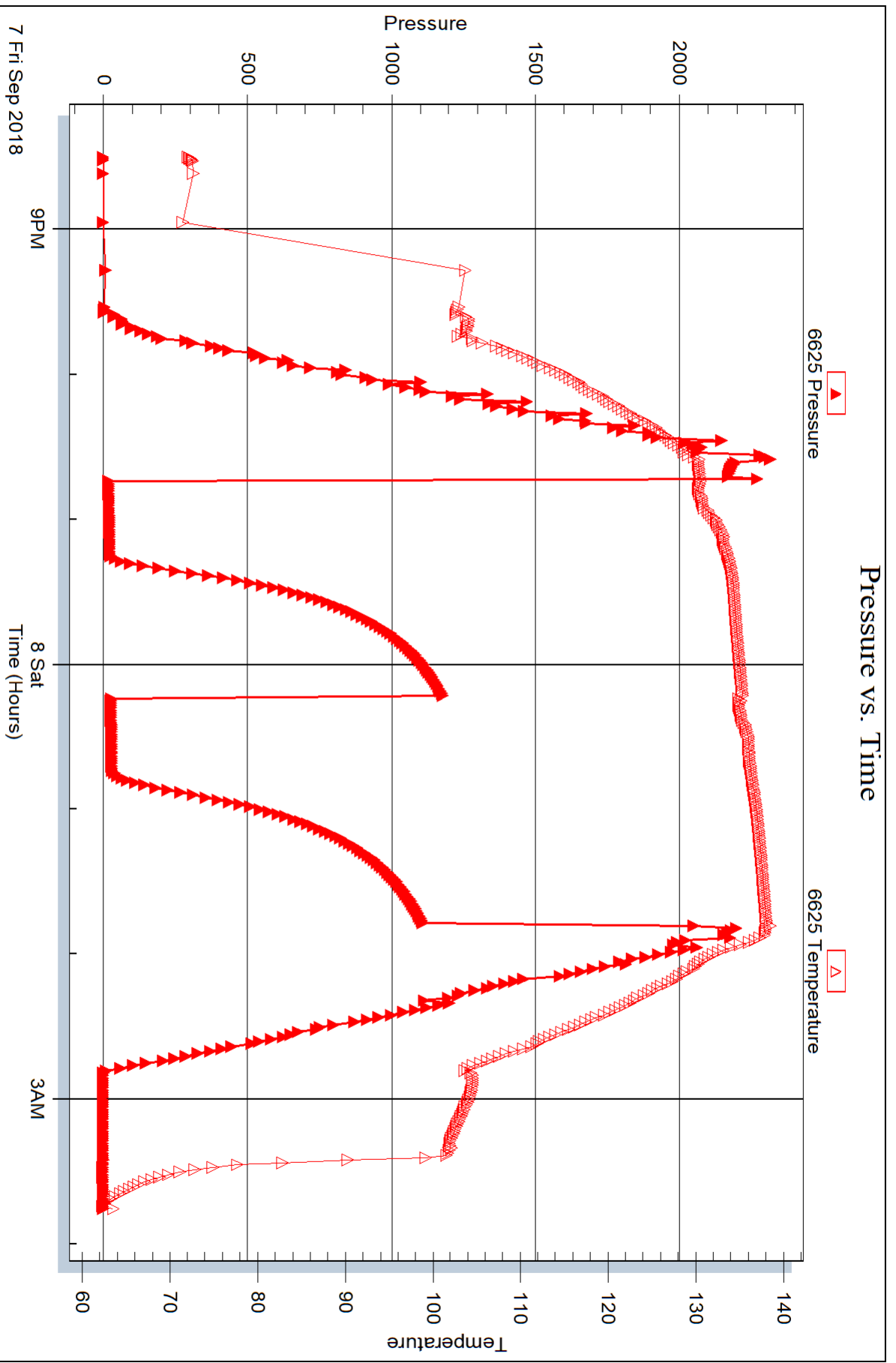
Serial #: 6625

Inside

Murfin Drilling Co., Inc

Bannister 'B' #1-22

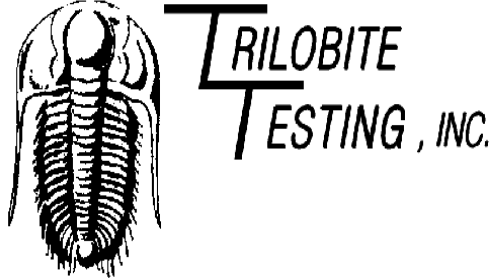
DST Test Number: 5



Triobite Testing, Inc

Ref. No: 64085

Printed: 2018.09.11 @ 09:03:21



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie / AI

Bannister 'B' #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.09 @ 10:04:00

End Date: 2018.09.09 @ 17:37:45

Job Ticket #: 64086 DST #: 6

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

Printed: 2018.09.11 @ 09:02:14



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc
 250 N. Water STE 300
 Wichita, KS 67202
 ATTN: Saman Sharifaie / AI

22-2s-37w Cheyenne, KS

Bannister 'B' #1-22

Job Ticket: 64086 **DST#: 6**
 Test Start: 2018.09.09 @ 10:04:00

GENERAL INFORMATION:

Formation: **Ft. Scott - Celia**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:21:45
 Time Test Ended: 17:37:45
 Interval: **4700.00 ft (KB) To 4860.00 ft (KB) (TVD)**
 Total Depth: 4860.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3419.00 ft (KB)
 3414.00 ft (CF)
 KB to GR/CF: 5.00 ft

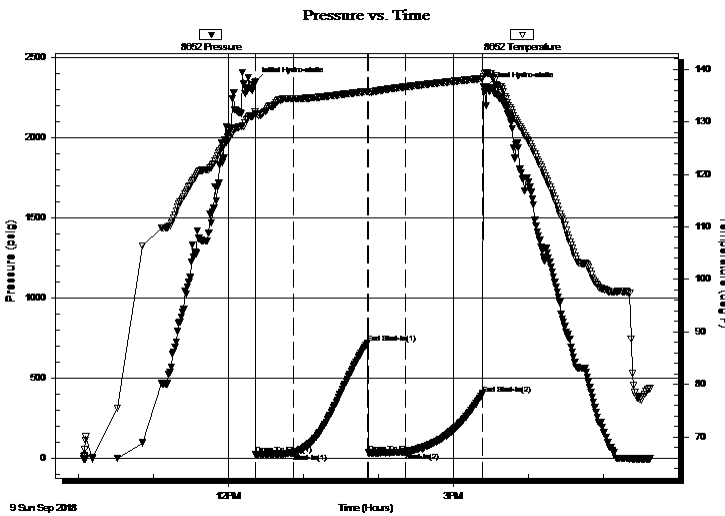
Serial #: 8652

Outside

Press@RunDepth: 39.80 psig @ 4701.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.09 End Date: 2018.09.09 Last Calib.: 2018.09.09
 Start Time: 10:04:05 End Time: 17:37:44 Time On Btm: 2018.09.09 @ 12:21:30
 Time Off Btm: 2018.09.09 @ 15:26:45

TEST COMMENT: 30 - IF: Blow built to 1 1/2"
 60 - IS: No blow back
 30 - FF: Blow built to 1/2"
 60 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2350.31	131.97	Initial Hydro-static
1	23.91	131.23	Open To Flow (1)
31	30.92	134.42	Shut-In(1)
90	718.89	135.80	End Shut-In(1)
91	35.24	135.72	Open To Flow (2)
120	39.80	136.66	Shut-In(2)
182	403.98	138.25	End Shut-In(2)
186	2319.40	139.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	SOCM 89% _m , 8% _o , 3% _g	0.25

* 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

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64086

DST#: 6

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.09 @ 10:04:00

Tool Information

Drill Pipe:	Length: 4474.00 ft	Diameter: 3.80 inches	Volume: 62.76 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: 20000.00 lb
Drill Collar:	Length: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 63.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4700.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	160.00 ft			
Tool Length:	189.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4672.00	
Shut In Tool	5.00			4677.00	
Hydraulic tool	5.00			4682.00	
Jars	5.00			4687.00	
Safety Joint	3.00			4690.00	
Packer	5.00			4695.00	29.00 Bottom Of Top Packer
Packer	5.00			4700.00	
Stubb	1.00			4701.00	
Recorder	0.00	6625	Inside	4701.00	
Recorder	0.00	8652	Outside	4701.00	
Perforations	25.00			4726.00	
Blank Spacing	129.00			4855.00	
Perforations	2.00			4857.00	
Bullnose	3.00			4860.00	160.00 Bottom Packers & Anchor

Total Tool Length: 189.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Bannister 'B' #1-22

Job Ticket: 64086

DST#: 6

ATTN: Saman Sharifaie / AI

Test Start: 2018.09.09 @ 10:04:00

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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	SOCM 89%m, 8%o, 3%g	0.246

Total Length: 50.00 ft Total Volume: 0.246 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

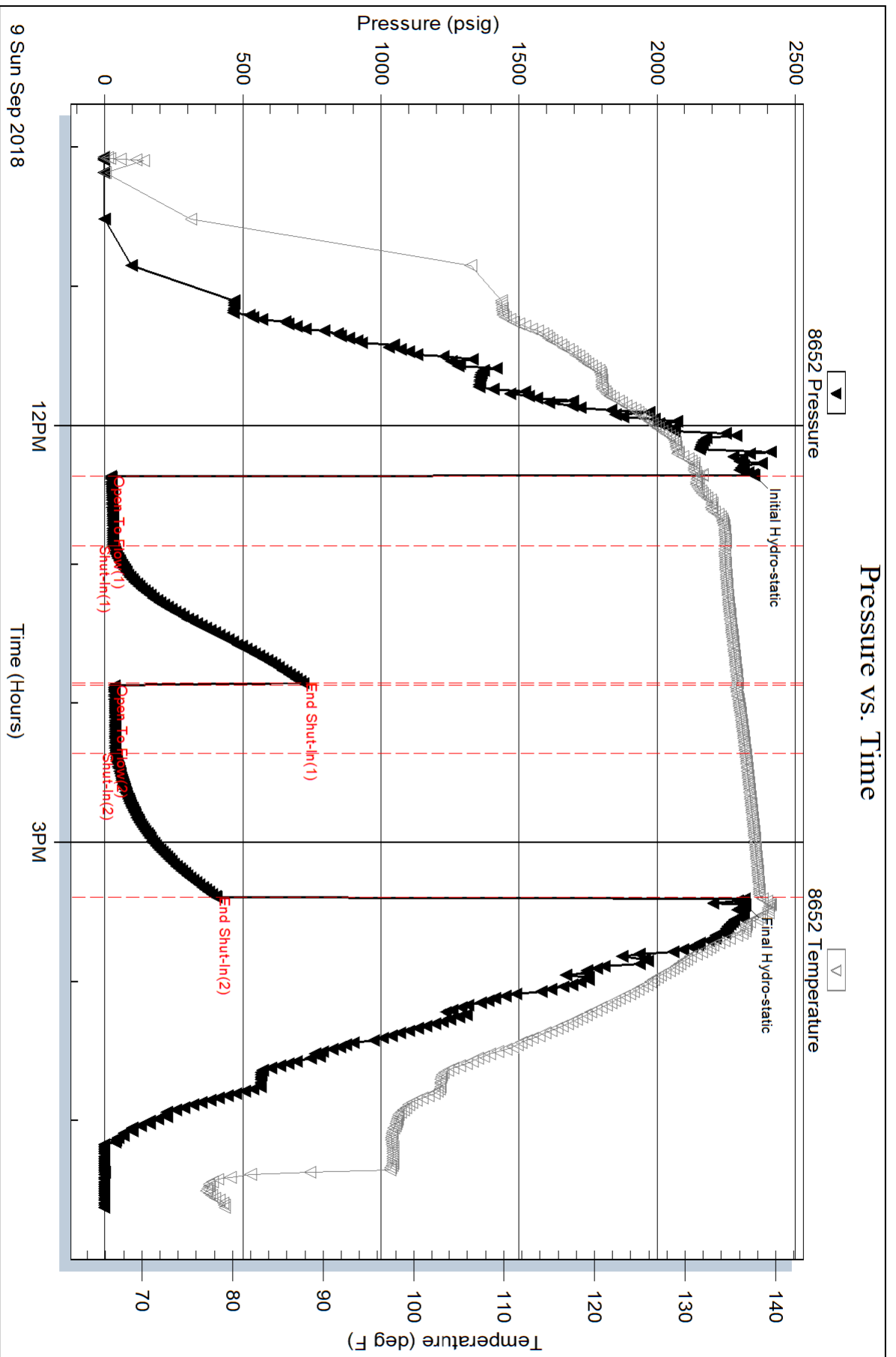
Recovery Comments:

Serial #: 8652

Outside Murfin Drilling Co., Inc

Bannister 'B' #1-22

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 64086

Printed: 2018.09.11 @ 09:02:15

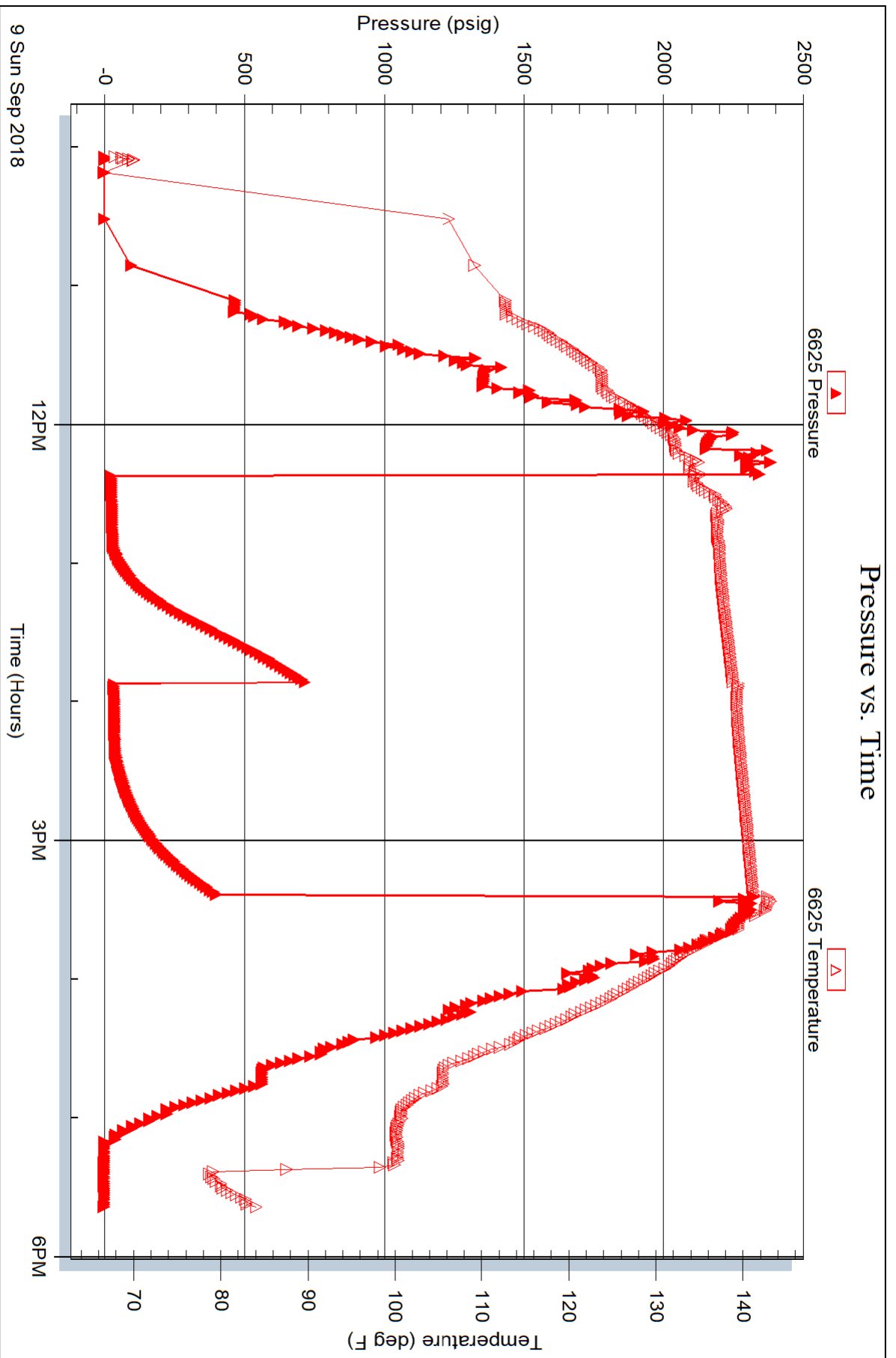
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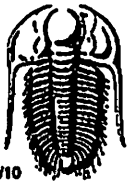
Inside

Murfin Drilling Co., Inc

Bannister 'B' #1-22

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64081

Well Name & No. Banister 'B' #1-22 Test No. 1 Date 9-4-18
 Company Murfin Drilling Co. Inc Elevation 3419 KB 3414 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie / Alex Young Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37w Co. Cheyenne State Ks

Interval Tested 4200 - 4285 Zone Tested Oread
 Anchor Length 85 Drill Pipe Run 3979 Mud Wt. 8.8
 Top Packer Depth 4195 Drill Collars Run 207 Vls 61
 Bottom Packer Depth 4200 Wt. Pipe Run - WL 6.8
 Total Depth 4285 Chlorides 900 ppm System LCM 3

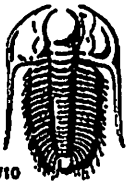
Blow Description IF: 1/4" Blow at open built to about 1/2"
ISI: No blowback
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</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 Total 1 BHT 131 Gravity 1150 API RW @ °F Chlorides ppm
 (A) Initial Hydrostatic 2038 Test 1150 T-On Location 12:10
 (B) First Initial Flow 18 Jars 250 T-Started 12:41
 (C) First Final Flow 19 Safety Joint 75 T-Open 14:41
 (D) Initial Shut-In 71 Circ Sub _____ T-Pulled 17:43
 (E) Second Initial Flow 18 Hourly Standby _____ T-Out 19:25
 (F) Second Final Flow 20 Mileage 114RT 114 Comments _____
 (G) Final Shut-In 50 Sampler _____
 (H) Final Hydrostatic 2023 Straddle _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Shale Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 60 Extra Recorder _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1589
 Sub Total 1589 MP/DST Disc't _____

Approved By _____ Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64082

Well Name & No. Banister "B" #1-22 Test No. 2 Date 9-5-18
 Company Murfin Drilling Co., Inc. Elevation 3419 KB 3414 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sbarifaie / Alex Young Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37W Co. Cheyenne State KS

Interval Tested 4285 - 4350 Zone Tested LKC "A"
 Anchor Length 65 Drill Pipe Run 4072 Mud Wt. 9.0
 Top Packer Depth 4280 Drill Collars Run 207 Vls 57
 Bottom Packer Depth 4285 Wt. Pipe Run - WL 6.4
 Total Depth 4350 Chlorides 800 ppm System LCM 3

Blow Description IF: Blow built to BOB (11") at 2 1/4 min, built to 143 1/4"
ISI: Blow increased from 143 1/4" to 185 1/4"
FF: Blow built to BOB at 1 1/2 min, built to 152 1/4"
FSI: Blow increased from 152 1/4" to 167 1/4"

Rec	Feet of	%gas	%oil	%water	%mud
Revout <u>1680</u>	Feet of <u>samples Every 5 min for 35 min</u>				
Rec <u>5 min - 25 min</u>	Feet of <u>CEO</u>	<u>23</u>	<u>76</u>		<u>1</u>
Rec <u>30 min - 35 min</u>	Feet of <u>SMCO</u>	<u>-</u>	<u>92</u>	<u>-</u>	<u>8</u>
Rec <u>120</u> ^{Below} _{Sub}	Feet of <u>GOM</u>	<u>12</u>	<u>43</u>		<u>45</u>
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 1800 BHT 145 Gravity 29.4 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2095
 (B) First Initial Flow 101
 (C) First Final Flow 439
 (D) Initial Shut-In 1252
 (E) Second Initial Flow 460
 (F) Second Final Flow 701
 (G) Final Shut-In 1243
 (H) Final Hydrostatic 2086

Test 1150
 Jars 250
 Safety Joint 75
 Circ Sub drop bar 50
 Hourly Standby _____
 Mileage 114 RT 114
 Sampler _____
 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1649

T-On Location 5:00
 T-Started 6:14
 T-Open 8:50
 T-Pulled 11:57
 T-Out 15:55

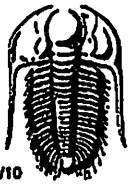
Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1649
 MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 36 34 (wait a few minutes on Rig)
 Final Shut-In 60

Approved By _____

Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64083

Well Name & No. Banister 'B' #1-22 Test No. 3 Date 9-6-18
 Company Murfin Drilling Co. Inc Elevation 3419 KB 3414 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie / Alex Young Rig Murfin #3
 Location: Sec. 22 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4352 - 4426 Zone Tested LKC "B - D" prime
 Anchor Length 74 Drill Pipe Run 4133 Mud Wt. 9.0
 Top Packer Depth 4347 Drill Collars Run 207 Vis 57
 Bottom Packer Depth 4352 Wt. Pipe Run - WL 6.4
 Total Depth 4426 Chlorides 800 ppm System LCM 3

Blow Description IF: 1" Blow at open, built to about 1/4"
ISI: No blowback
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Mud w/oil spots</u>	<u>2</u>		<u>98</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 30 BHT 137 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2142
 (B) First Initial Flow 25
 (C) First Final Flow 27
 (D) Initial Shut-In 752
 (E) Second Initial Flow 30
 (F) Second Final Flow 33
 (G) Final Shut-In 781
 (H) Final Hydrostatic 2137

Test 1150
 Jars 250
 Safety Joint 75
 Circ Sub _____
 Hourly Standby _____
 Mileage 114 RT 114
 Sampler _____
 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1589

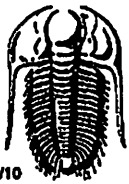
T-On Location 2:40
 T-Started 3:02
 T-Open 5:18
 T-Pulled 9:23
 T-Out 11:10

Comments tool chased 1' to bottom at open - lost 2" mud 1" surge blow
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1589
 MP/DST Disc't _____

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

Approved By _____ Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64084

Well Name & No. Banister 'B' #1-22 Test No. 4 Date 9-6-18
 Company Murfin Drilling Co. Inc. Elevation 3419 KB 3414 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie / Alex Young Rig Murfin #3
 Location: Sec. 22 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4426 - 4470 Zone Tested LKC "G"
 Anchor Length 44 Drill Pipe Run 4197 Mud Wt. 9.1
 Top Packer Depth 4421 Drill Collars Run 207 Vis 55
 Bottom Packer Depth 4426 Wt. Pipe Run - WL 6.4
 Total Depth 4470 Chlorides 800 ppm System LCM 3

Blow Description IF: 1/2" Blow at open, built to almost 1"
ISI: No blowback
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Mud w/oil spots</u>		<u>4</u>		<u>96</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 1 BHT 133 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2152
 (B) First Initial Flow 17
 (C) First Final Flow 18
 (D) Initial Shut-In 31
 (E) Second Initial Flow 18
 (F) Second Final Flow 19
 (G) Final Shut-In 28
 (H) Final Hydrostatic 2129

Test 1150
 Jars 250
 Safety Joint 75
 Circ Sub _____
 Hourly Standby _____
 Mileage 114 RT 114
 Sampler _____
 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1589

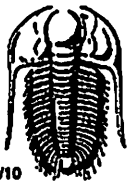
T-On Location 19:35 9/6
 T-Started 20:17
 T-Open 22:25
 T-Pulled 2:34
 T-Out 4:25 9/7

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1589
 MP/DST Disc't _____

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

Approved By _____ Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64085

Well Name & No. Banister 'B' #1-22 Test No. 5 Date 9-7-18
 Company Murfin Drilling Co. Inc Elevation 3419 KB 3414 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie / Alex Young Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4470 - 4560 Zone Tested LKC "H-J"
 Anchor Length 90 Drill Pipe Run 4258 Mud Wt. 9.0
 Top Packer Depth 4465 Drill Collars Run 207 Vis 6.5
 Bottom Packer Depth 4470 Wt. Pipe Run - WL 6.0
 Total Depth 4560 Chlorides 700 ppm System LCM 5

Blow Description IF: Blow built to 1/2"
ISI: No blowback
FF: No blow
FSI: No blow

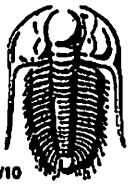
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Mud w/trace oil</u>	<u>trace</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 135 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2229 Test 1150 T-On Location 19:35 9/1
 (B) First Initial Flow 19 Jars 250 T-Started 20:30
 (C) First Final Flow 24 Safety Joint 75 T-Open 22:44
 (D) Initial Shut-In 1183 Circ Sub _____ T-Pulled 1:47
 (E) Second Initial Flow 27 Hourly Standby _____ T-Out 3:45 9/8
 (F) Second Final Flow 32 Mileage 114RT 114
 (G) Final Shut-In 1112 Sampler _____
 (H) Final Hydrostatic 2215 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 30 Extra Copies _____
 Final Shut-In 60 Extra Recorder _____
 Sub Total 0 Day Standby _____
 Total 1589 Accessibility _____
 Sub Total 1589 MP/DST Disc't _____

Approved By _____ Our Representative James Winder
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64086

Well Name & No. Banister 'B' #1-22 Test No. 6 Date 9-9-18
 Company Murfin Drilling Co. Inc Elevation 3419 KB 3414 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie / Alex Young Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4700 - 4860 Zone Tested Ft. Scott - Celia
 Anchor Length 160 Drill Pipe Run 4474 Mud Wt. 9.1
 Top Packer Depth 4695 Drill Collars Run 207 Vis 69
 Bottom Packer Depth 4700 Wt. Pipe Run - WL 5.6
 Total Depth 4860 Chlorides 700 ppm System LCM 3

Blow Description IF: Blow built to 1 1/2"
ISI: No blowback
FF: Blow built to 1/2"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>50</u>	<u>Socm</u>	<u>3</u>	<u>8</u>	<u>89</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 50 BHT 138 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2350
 (B) First Initial Flow 24
 (C) First Final Flow 31
 (D) Initial Shut-In 719
 (E) Second Initial Flow 35
 (F) Second Final Flow 40
 (G) Final Shut-In 404
 (H) Final Hydrostatic 2319

Test 1150
 Jars 250
 Safety Joint 75
 Circ Sub _____
 Hourly Standby _____
 Mileage 114RT 114
 Sampler _____
 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1589

T-On Location 8:45
 T-Started 10:04
 T-Open 12:21
 T-Pulled 15:23
 T-Out 17:35

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1589
 MP/DST Disc't _____

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

Approved By _____ Our Representative James Blinder

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