

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	ARGABRIGHT 1-24
Doc ID	1369906

All Electric Logs Run

DIL
DUCP
MEL
BHCS

MDCI
 Argabright #1-24
 1980' FSL 330'FWL
 Sec. 24-3S-34W
 2897' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	2622	+275	-18	2624	+273	-20
B/Anhydrite	2660	+237	-18	2662	+235	-20
Topeka	3613	-716	-17	3610	-713	-14
Oread	3770	-873	-23	3761	-864	-14
Lansing	3822	-925	-18	3819	-922	-15
Stark	4010	-1023	-14	4012	-1115	-16
Mound City	4058	-1161	-14	4057	-1160	-13
Ft Scott	4184	-1287	-12	4186	-1289	-14
Oakley	4255	-1358	-14	4259	-1362	-16
Mississippi	4420	-1523	-20	4420	-1523	-20
RTD	4520	-1623				
LTD				4520	-1623	

TREATMENT REPORT



HURRICANE SERVICES INC

Customer: Murfin Drilling Co.Inc.	Date: 10/23/2017	Ticket No.: 100820
Field Rep: Arturo		
Address:		
City, State:		
County, Zip:		

Field Order No.: 100820	Open Hole:	Perf Depths (ft)	Perfs
Well Name: Arabright #1-24	Casing Depth: 218'.36		
Location: Atwood	Casing Size: 8 5/8 23 LB		
Formation:	Tubing Depth:		
Type of Service: Surface	Tubing Size:		
Well Type: Oil	Liner Depth:		
Age of Well: New	Liner Size:		
Packer Type:	Liner Top:		
Packer Depth:	Liner Bottom:		
Treatment Via: Casing	Total Depth: 220'		
		Total Perfs	0

TIME	INJECTION RATE		PRESSURE		REMARKS	PROP (lbs)	HCL (gls)	FLUID (bbls)
	FLUID	N2/CO2	STP	ANNULUS				
4:45 PM					Called Out			
8:45 PM					On Location Rig Making Short Trip			
					Hold Safety Meeting Spot & Set Up Trucks			
9:30 PM					Start Casing			
10:10 PM					Casing On Bottom			
10:25 PM					Hook Up To Casing & Break Circulation W/Rig			
10:40 PM	4.0		100.0		Start Pumping H2O			10.00
10:43 PM	4.0		250.0		Start Mix & Pump 195 Sacks Common 2%Gel 3% CC			48.00
	4.0		200.0		Start Displacement H2O			12.50
11:00 PM			250.0		Close Valve on Casing			
					Good Circulation Thru Job			
					Circulate 6 BBI's To Pit			
					Wash Up Truck & Rack Up Truck			
					Off Location			
					Thank You			
					Please Call Again			
					Todd Brad Cody			
TOTAL:								70.50

SUMMARY

Max Fl. Rate	Avg Fl. Rate	Max PSI	Avg PSI
4.0	4.0	250.0	200.0

PRODUCTS USED

195 Sacks Common 2% Gel 3% CC

Treater: Todd Seba

Customer: Arturo



9407
929

TICKET NUMBER 53642
 LOCATION Dalley KS
 FOREMAN Walter Dinkel

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice #811688

620-431-9210 or 800-467-8676

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
11-1-17	5406	Argabright 1-24	24	2-S	34 W	Rawlins
CUSTOMER		MurFin Drly Co.				
MAILING ADDRESS		Colby W, to MM 219 1 West 4N-6W 1/4-1/4	TRUCK #	DRIVER	TRUCK #	DRIVER
CITY		Russell	753	Travis Williams		
STATE		KS	772-7127	Kieth Carswell		
ZIP CODE		67665				

JOB TYPE PTA HOLE SIZE 7 7/8 HOLE DEPTH 4550' CASING SIZE & WEIGHT _____
 CASING DEPTH _____ DRILL PIPE 4 1/2" 2650' TUBING _____ OTHER _____
 SLURRY WEIGHT 13.5 SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT in CASING _____
 DISPLACEMENT _____ DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety Meeting, rig up on MurFin #24, Plug & Release

50-Skts @ 2650'
 100-Skts @ 1850' 2.55 Skts 60% 40ppm, 4% loc
 50-Skts @ 270' 1/4" # Fla-Seal
 10-Skts @ 40'
 30-Skts in RH
 15-Skts in RH
 Thank You
 Walt & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
Ceo 451	1	PUMP CHARGE	1,900.00	1,900.00
Ceo 002	50	MILEAGE	7.15	357.50
Ceo 710	10.97	Tax Mileage Delivery	1.75	960.00
1451 CC5829	255-Skts	Lite Weight-Blend V	16.00	4,080.00
CC 6025	64 #	Fla-Seal	3.00	192.00
CP 8228	1	8.5/8 Wooden Plug	165.00	165.00
				7,654.50
			Less 35% Disc	2679.08
				4975.42
			SALES TAX	237.93
			ESTIMATED TOTAL	5213.36

SCANNED

Authorization [Signature] TITLE T.P. DATE 11/01/17

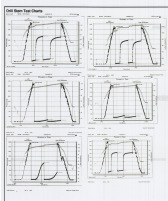
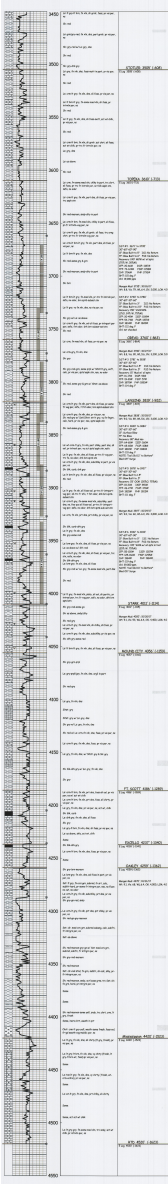
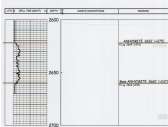
I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

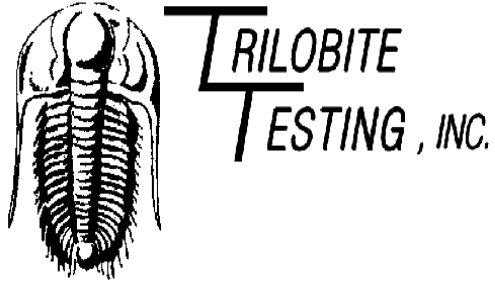
Well Information	
Well Name	...
Well No.	...
Well Type	...
Well Status	...
Well Depth	...
Well Diameter	...
Well Completion	...
Well Location	...
Well Operator	...
Well Date	...

Time	Pressure	Temperature	Flow Rate
00:00
00:05
00:10
00:15
00:20
00:25
00:30
00:35
00:40
00:45
00:50
00:55
01:00

Notes

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DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Argabright #1-24

24-3s-34w Rawlins,KS

Start Date: 2017.10.26 @ 18:26:00

End Date: 2017.10.27 @ 02:48:30

Job Ticket #: 64695 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.11.02 @ 10:28:29



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64695

DST#: 1

ATTN: Jeff Christian

Test Start: 2017.10.26 @ 18:26:00

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:48:00

Time Test Ended: 02:48:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 78

Interval: 3671.00 ft (KB) To 3735.00 ft (KB) (TVD)

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3735.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8845 Outside

Press@RunDepth: 124.14 psig @ 3672.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.26

End Date:

2017.10.27

Last Calib.: 2017.10.27

Start Time: 18:26:05

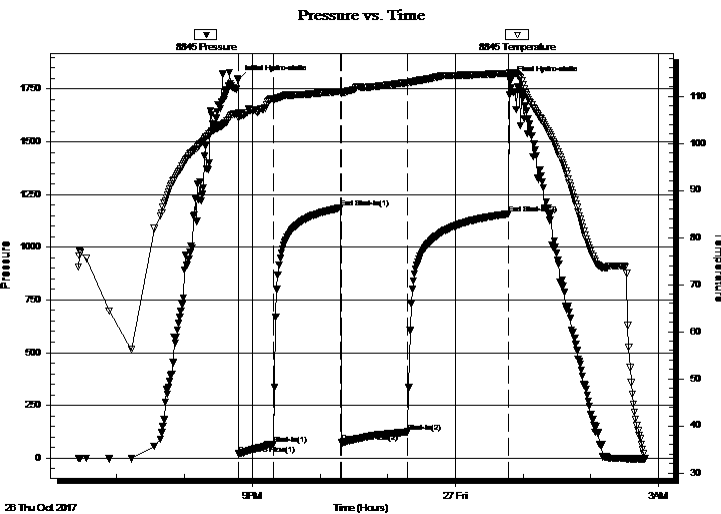
End Time:

02:48:29

Time On Btm: 2017.10.26 @ 20:47:45

Time Off Btm: 2017.10.27 @ 00:48:30

TEST COMMENT: IF: 5" blow
IS: No return.
FF: 6" blow.
FSI: No return.



PRESSURE SUMMARY

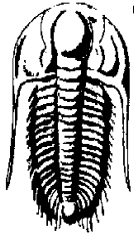
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.82	106.39	Initial Hydro-static
1	20.34	105.43	Open To Flow (1)
32	65.65	109.39	Shut-In(1)
91	1187.30	110.99	End Shut-In(1)
91	73.19	110.61	Open To Flow (2)
150	124.14	112.81	Shut-In(2)
239	1158.18	114.83	End Shut-In(2)
241	1791.86	114.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
240.00	mcw 30m 70w (oil specs)	1.50

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64695

DST#: 1

ATTN: Jeff Christian

Test Start: 2017.10.26 @ 18:26:00

Tool Information

Drill Pipe:	Length: 3466.00 ft	Diameter: 3.80 inches	Volume: 48.62 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 49.63 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3671.00 ft			Final	61000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	64.00 ft				
Tool Length:	91.00 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			3645.00	
Shut In Tool	5.00			3650.00	
Hydraulic tool	5.00			3655.00	
Jars	5.00			3660.00	
Safety Joint	2.00			3662.00	
Packer	5.00			3667.00	27.00 Bottom Of Top Packer
Packer	4.00			3671.00	
Stubb	1.00			3672.00	
Recorder	0.00	8365	Inside	3672.00	
Recorder	0.00	8845	Outside	3672.00	
Perforations	27.00			3699.00	
Change Over Sub	1.00			3700.00	
Drill Pipe	31.00			3731.00	
Change Over Sub	1.00			3732.00	
Bullnose	3.00			3735.00	64.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64695

DST#: 1

ATTN: Jeff Christian

Test Start: 2017.10.26 @ 18:26:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
240.00	mcw 30m 70w (oil specs)	1.499

Total Length: 240.00 ft Total Volume: 1.499 bbl

Num Fluid Samples: 0

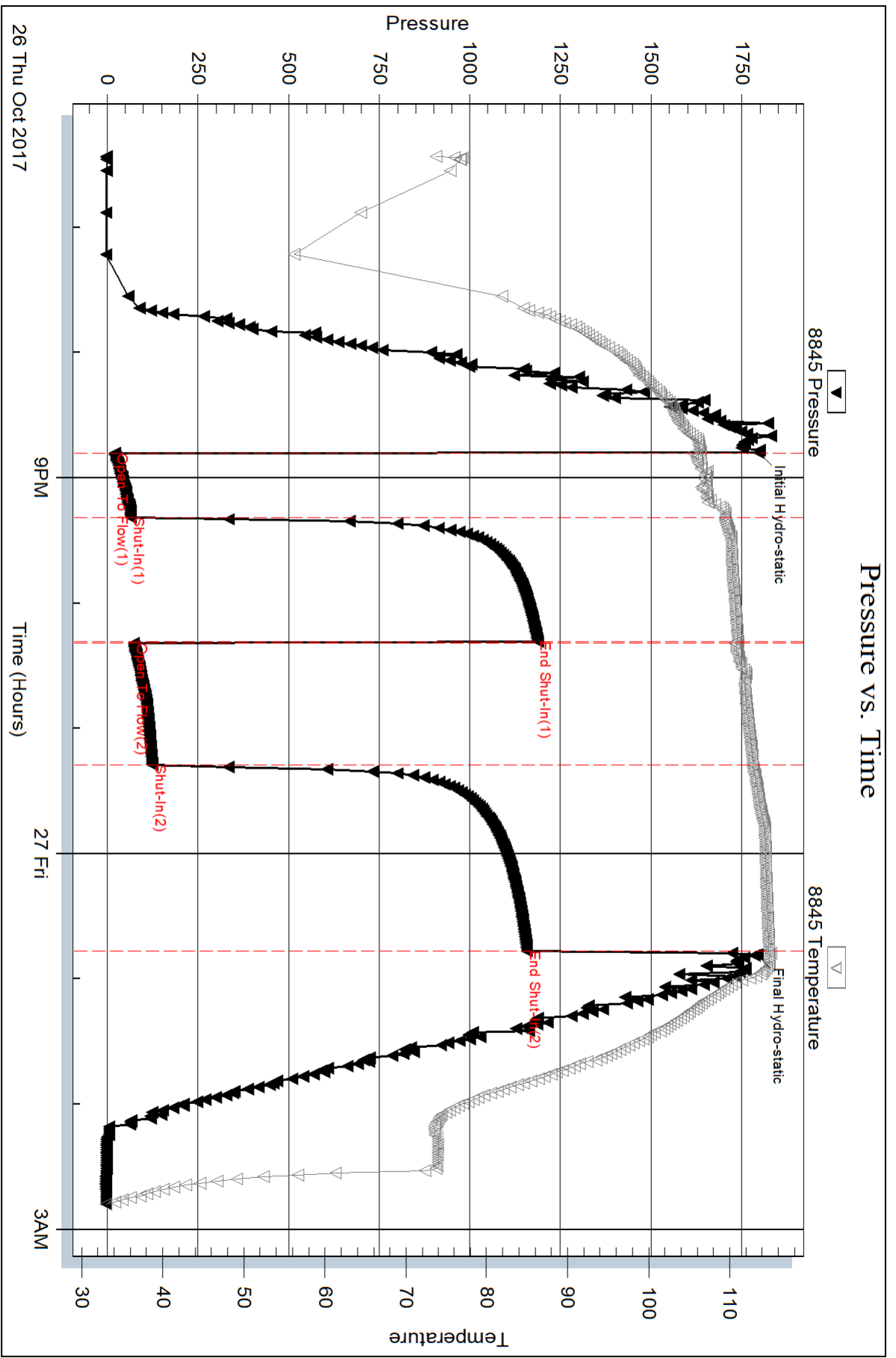
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .457 @ 56f = 19000ppm



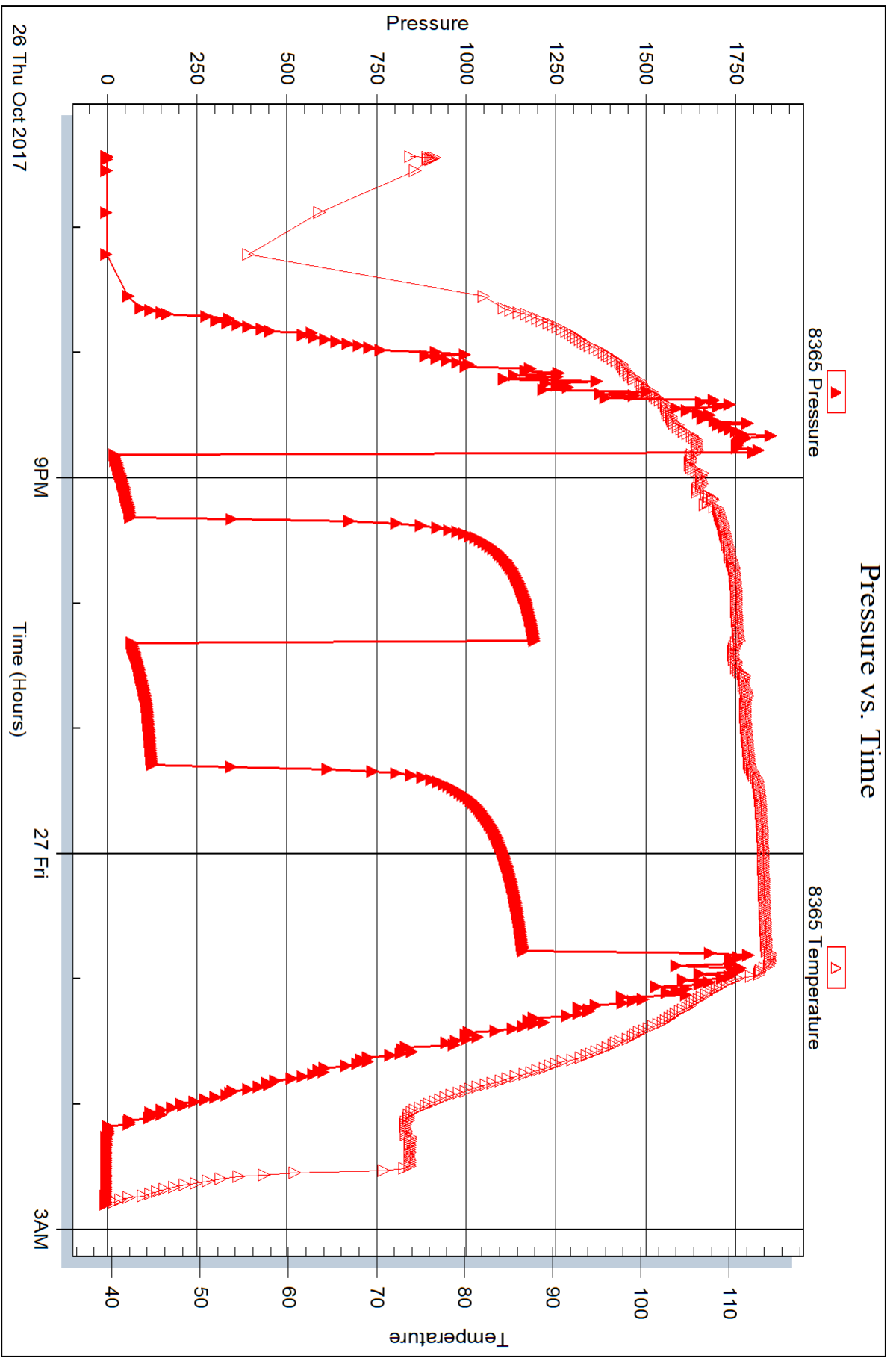
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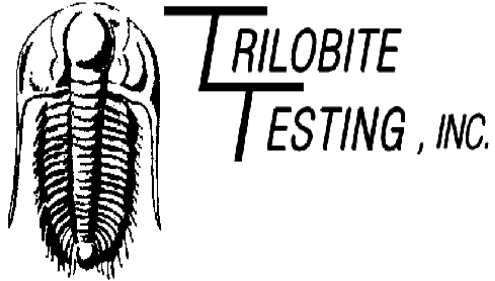
Inside

Murfin Drilling Co.

Argabright #1-24

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Argabright #1-24

24-3s-34w Rawlins,KS

Start Date: 2017.10.27 @ 10:18:00

End Date: 2017.10.27 @ 17:31:30

Job Ticket #: 64696 DST #: 2

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

Printed: 2017.11.02 @ 10:28:06



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-3s-34w Rawlins, KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64696

DST#: 2

ATTN: Jeff Christian

Test Start: 2017.10.27 @ 10:18:00

GENERAL INFORMATION:

Formation: **Lower Lecompton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:35:15

Time Test Ended: 17:31:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 3730.00 ft (KB) To 3780.00 ft (KB) (TVD)

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3780.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8845 Outside

Press@RunDepth: 74.04 psig @ 3731.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.27 End Date: 2017.10.27

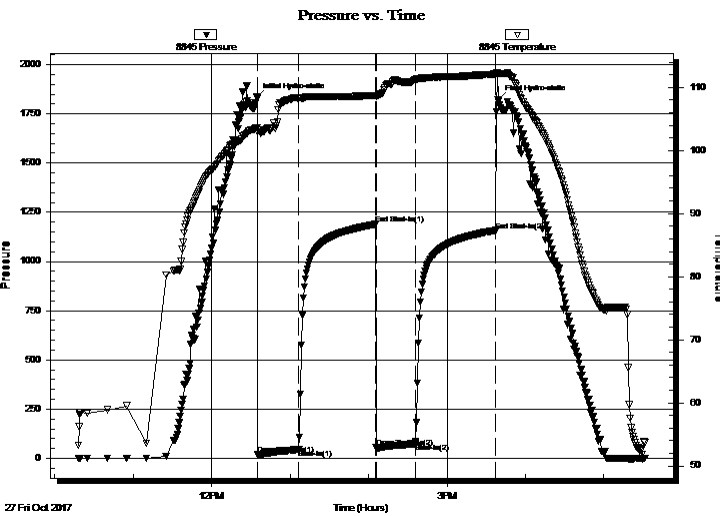
Last Calib.: 2017.10.27

Start Time: 10:18:05 End Time: 17:31:29

Time On Btm: 2017.10.27 @ 12:34:15

Time Off Btm: 2017.10.27 @ 15:39:00

TEST COMMENT: IF: 3" blow.
IS: No return.
FF: 2 1/2" blow.
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1834.14	103.66	Initial Hydro-static
1	19.82	102.93	Open To Flow (1)
33	45.28	108.31	Shut-In(1)
91	1188.62	108.74	End Shut-In(1)
92	54.15	108.52	Open To Flow (2)
122	74.04	111.24	Shut-In(2)
183	1157.38	112.12	End Shut-In(2)
185	1820.22	112.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	sow cm 1o 24w 75m	0.74

* 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.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64696

DST#: 2

ATTN: Jeff Christian

Test Start: 2017.10.27 @ 10:18:00

Tool Information

Drill Pipe:	Length: 3530.00 ft	Diameter: 3.80 inches	Volume: 49.52 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 50.53 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3730.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	77.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

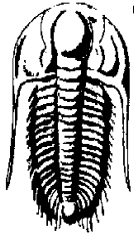
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3704.00	
Shut In Tool	5.00			3709.00	
Hydraulic tool	5.00			3714.00	
Jars	5.00			3719.00	
Safety Joint	2.00			3721.00	
Packer	5.00			3726.00	27.00 Bottom Of Top Packer
Packer	4.00			3730.00	
Stubb	1.00			3731.00	
Recorder	0.00	8365	Inside	3731.00	
Recorder	0.00	8845	Outside	3731.00	
Perforations	13.00			3744.00	
Change Over Sub	1.00			3745.00	
Drill Pipe	31.00			3776.00	
Change Over Sub	1.00			3777.00	
Bullnose	3.00			3780.00	50.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64696

DST#: 2

ATTN: Jeff Christian

Test Start: 2017.10.27 @ 10:18:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	sow cm 1o 24w 75m	0.738

Total Length: 150.00 ft

Total Volume: 0.738 bbl

Num Fluid Samples: 0

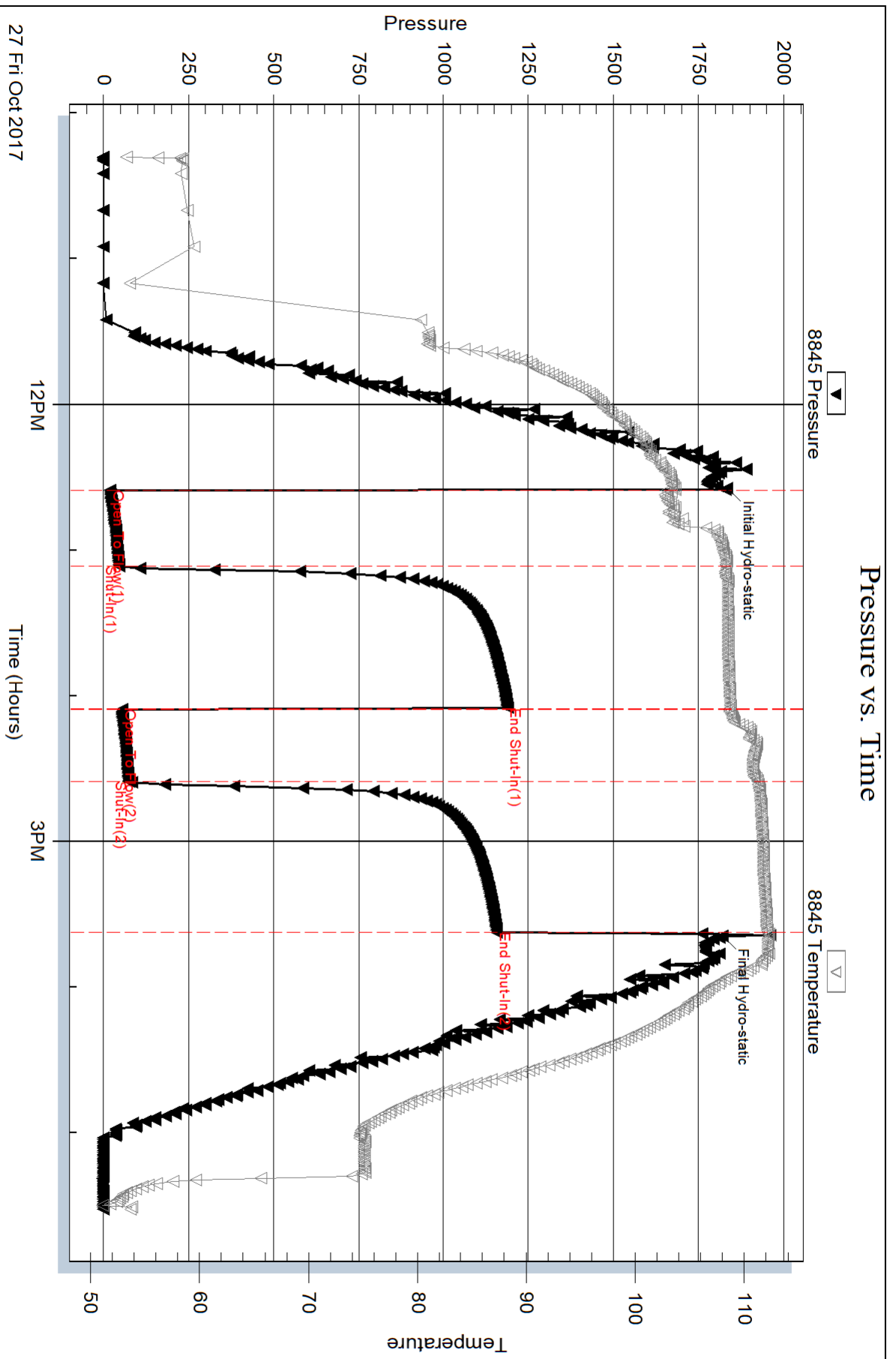
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



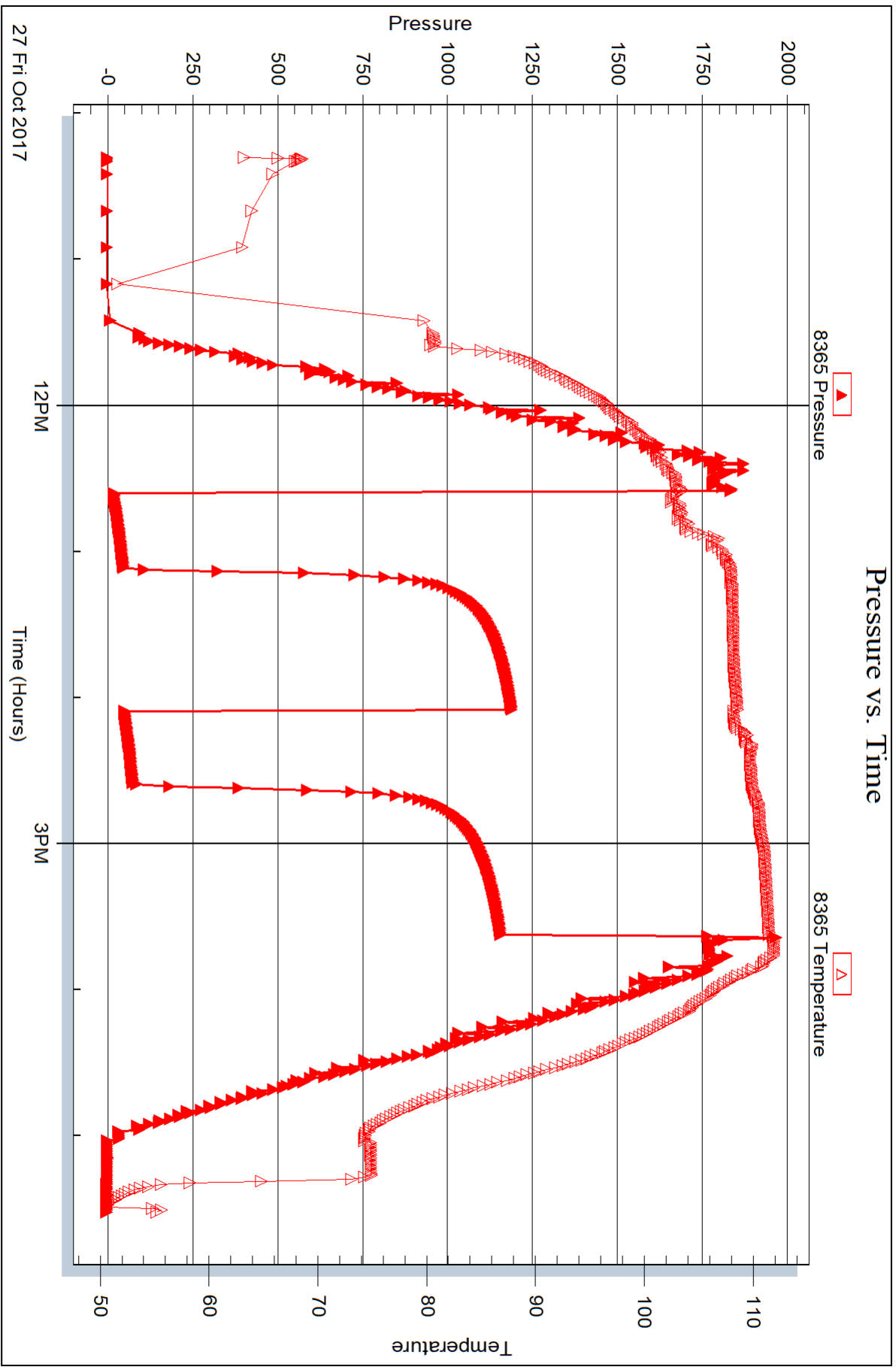
Serial #: 8365

Inside

Murfin Drilling Co.

Argabright #1-24

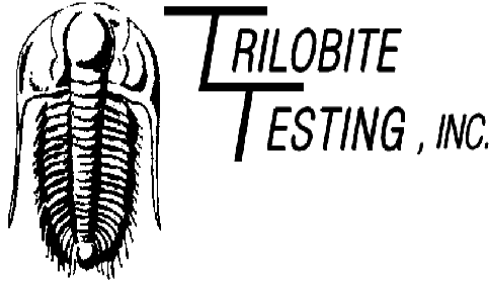
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 64696

Printed: 2017.11.02 @ 10:28:07



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Argabright #1-24

24-3s-34w Rawlins,KS

Start Date: 2017.10.28 @ 02:18:00

End Date: 2017.10.28 @ 09:23:10

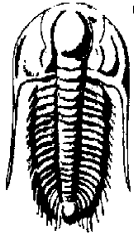
Job Ticket #: 64697 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.11.02 @ 10:27:41



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-3s-34w Rawlins, KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64697

DST#: 3

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 02:18:00

GENERAL INFORMATION:

Formation: **LKC A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:32:56

Time Test Ended: 09:23:10

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 3781.00 ft (KB) To 3838.00 ft (KB) (TVD)

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3838.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8365

Inside

Press@RunDepth: 20.47 psig @ 3782.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.28

End Date: 2017.10.28

Last Calib.: 2017.10.28

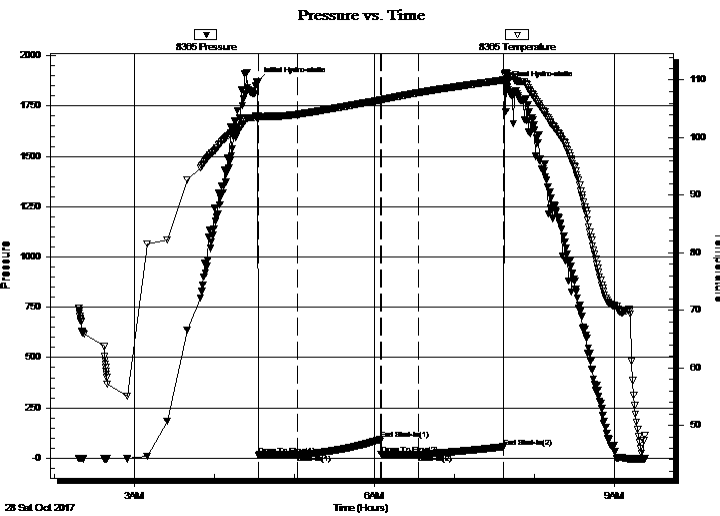
Start Time: 02:18:05

End Time: 09:23:11

Time On Btm: 2017.10.28 @ 04:32:26

Time Off Btm: 2017.10.28 @ 07:37:56

TEST COMMENT: IF: 1 1/2" blow .
IS: No return.
FF: 1/2" blow .
FSI: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1869.76	103.73	Initial Hydro-static
1	16.17	103.32	Open To Flow (1)
30	17.29	104.04	Shut-In(1)
92	93.10	106.51	End Shut-In(1)
93	19.43	106.53	Open To Flow (2)
121	20.47	107.81	Shut-In(2)
185	56.61	109.98	End Shut-In(2)
186	1853.37	111.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	mud 100m (oil specs)	0.07
0.00	Gassy Odor	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.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64697

DST#: 3

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 02:18:00

Tool Information

Drill Pipe:	Length: 3558.00 ft	Diameter: 3.80 inches	Volume: 49.91 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 50.92 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3781.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	84.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3755.00	
Shut In Tool	5.00			3760.00	
Hydraulic tool	5.00			3765.00	
Jars	5.00			3770.00	
Safety Joint	2.00			3772.00	
Packer	5.00			3777.00	27.00 Bottom Of Top Packer
Packer	4.00			3781.00	
Stubb	1.00			3782.00	
Recorder	0.00	8365	Inside	3782.00	
Recorder	0.00	8845	Outside	3782.00	
Perforations	20.00			3802.00	
Change Over Sub	1.00			3803.00	
Drill Pipe	31.00			3834.00	
Change Over Sub	1.00			3835.00	
Bullnose	3.00			3838.00	57.00 Bottom Packers & Anchor

Total Tool Length: 84.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64697

DST#: 3

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 02:18:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 85.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	mud 100m (oil specs)	0.074
0.00	Gassy Odor	0.000

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

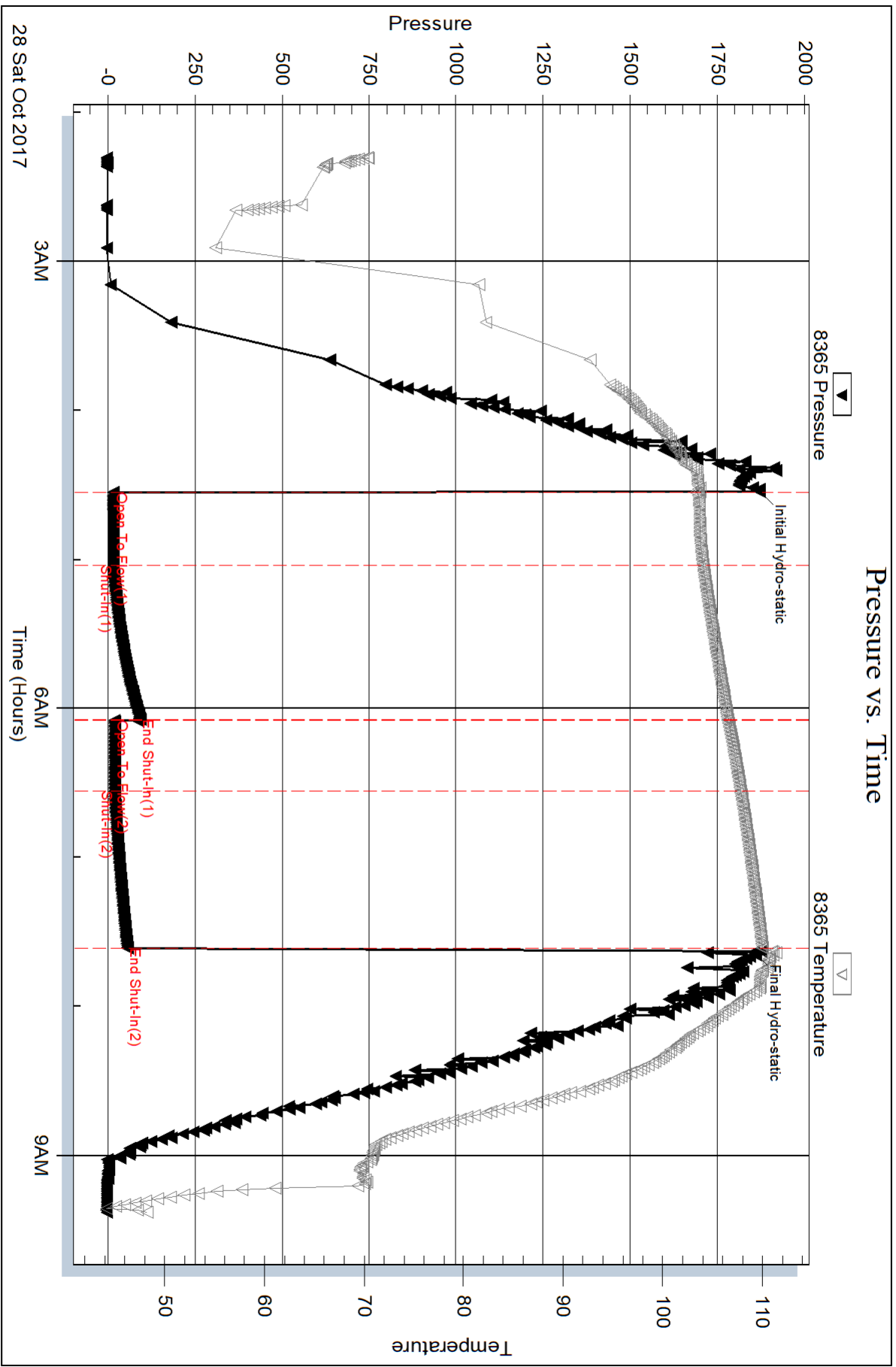
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

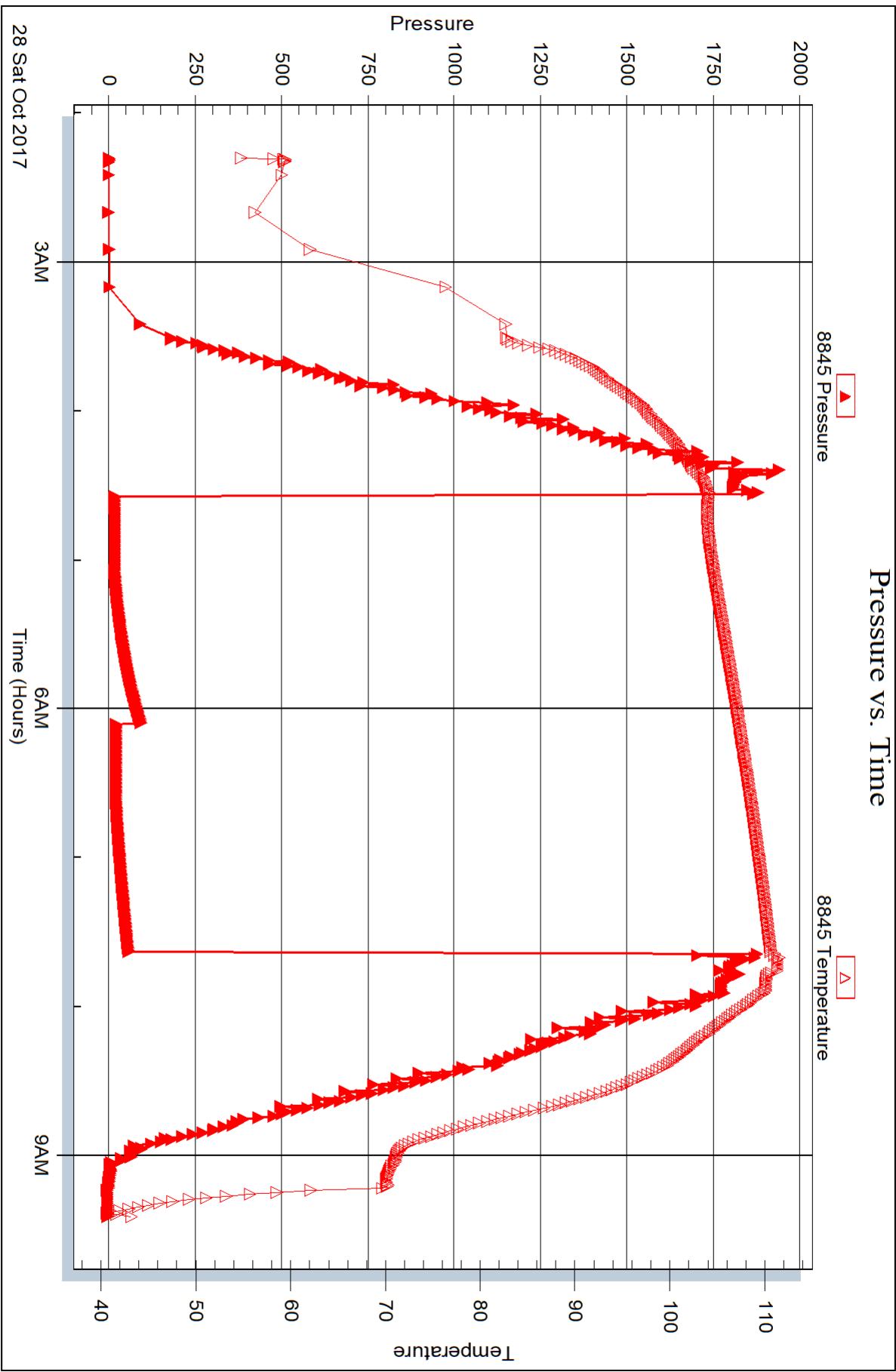


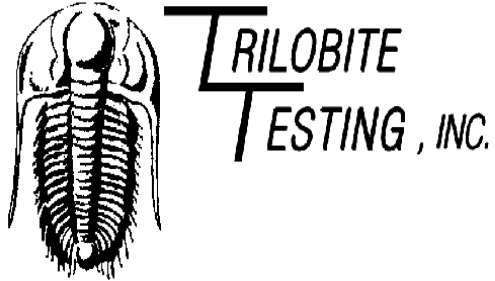
Serial #: 8845

Outside Murfin Drilling Co.

Argabright #1-24

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Argabright #1-24

24-3s-34w Rawlins,KS

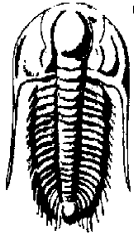
Start Date: 2017.10.28 @ 17:11:00

End Date: 2017.10.29 @ 00:24:30

Job Ticket #: 64698 DST #: 4

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

Printed: 2017.11.02 @ 10:27:17



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-3s-34w Rawlins, KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64698

DST#: 4

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 17:11:00

GENERAL INFORMATION:

Formation: **LKC B - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:34:30

Time Test Ended: 00:24:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 3830.00 ft (KB) To 3884.00 ft (KB) (TVD)

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3884.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8845 Outside

Press@RunDepth: 65.49 psig @ 3831.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.28

End Date:

2017.10.29

Last Calib.:

2017.10.29

Start Time: 17:11:05

End Time:

00:24:29

Time On Btm:

2017.10.28 @ 19:34:15

Time Off Btm:

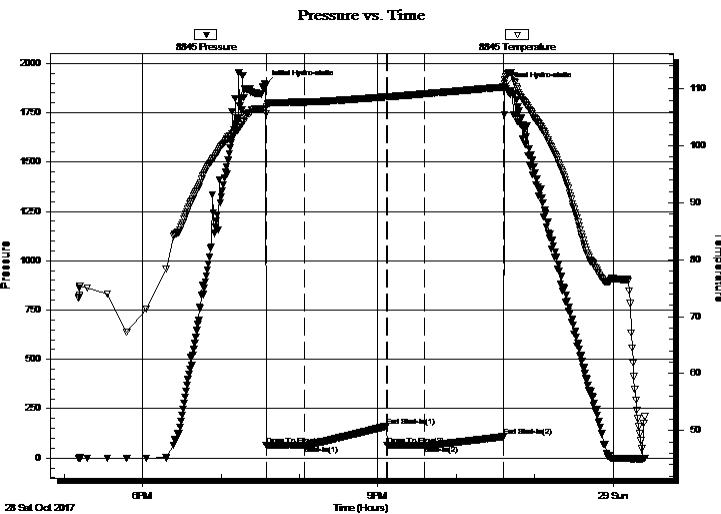
2017.10.28 @ 22:37:15

TEST COMMENT: IF: Tool slid 12', mud fell 10', bled off excess blow . - Surface blow remainder of open.

IS: No return.

FF: No blow .

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1892.41	106.60	Initial Hydro-static
1	64.20	105.65	Open To Flow (1)
30	64.63	107.69	Shut-In(1)
93	160.18	108.61	End Shut-In(1)
93	64.87	108.59	Open To Flow (2)
122	65.49	109.12	Shut-In(2)
182	107.65	110.31	End Shut-In(2)
183	1880.72	111.61	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	mud 100m	0.39

* 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.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64698

DST#: 4

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 17:11:00

Tool Information

Drill Pipe:	Length: 3620.00 ft	Diameter: 3.80 inches	Volume: 50.78 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 51.79 bbl</u>	Tool Chased 12.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3830.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3804.00	
Shut In Tool	5.00			3809.00	
Hydraulic tool	5.00			3814.00	
Jars	5.00			3819.00	
Safety Joint	2.00			3821.00	
Packer	5.00			3826.00	27.00 Bottom Of Top Packer
Packer	4.00			3830.00	
Stubb	1.00			3831.00	
Recorder	0.00	8365	Inside	3831.00	
Recorder	0.00	8845	Outside	3831.00	
Perforations	17.00			3848.00	
Change Over Sub	1.00			3849.00	
Drill Pipe	31.00			3880.00	
Change Over Sub	1.00			3881.00	
Bullnose	3.00			3884.00	54.00 Bottom Packers & Anchor

Total Tool Length: 81.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64698

DST#: 4

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 17:11:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	mud 100m	0.393

Total Length: 80.00 ft Total Volume: 0.393 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

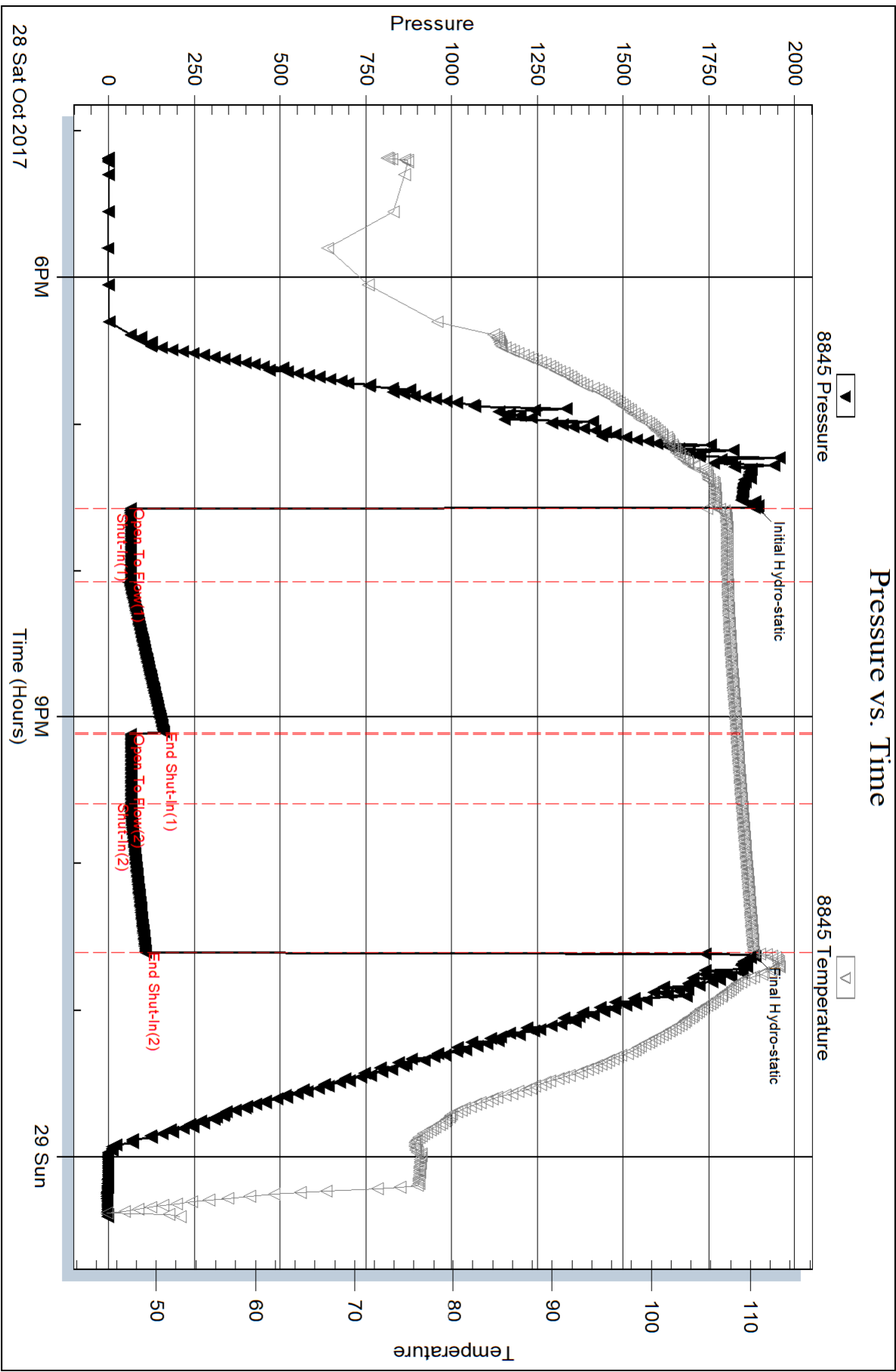
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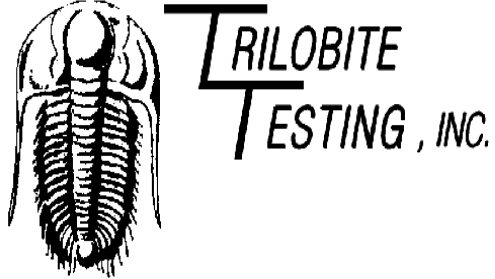
Serial #: 8845

Outside Murfin Drilling Co.

Argabright #1-24

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Argabright #1-24

24-3s-34w Rawlins,KS

Start Date: 2017.10.29 @ 08:59:00

End Date: 2017.10.29 @ 15:42:00

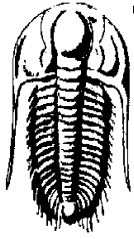
Job Ticket #: 64699 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.11.02 @ 10:26:45



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-3s-34w Rawlins, KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64699

DST#: 5

ATTN: Jeff Christian

Test Start: 2017.10.29 @ 08:59:00

GENERAL INFORMATION:

Formation: **LKC F - G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:50:00

Time Test Ended: 15:42:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 3878.00 ft (KB) To 3927.00 ft (KB) (TVD)

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3927.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8845 Outside

Press@RunDepth: 26.84 psig @ 3879.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.29

End Date:

2017.10.29

Last Calib.:

2017.10.29

Start Time: 08:59:05

End Time:

15:41:59

Time On Btm:

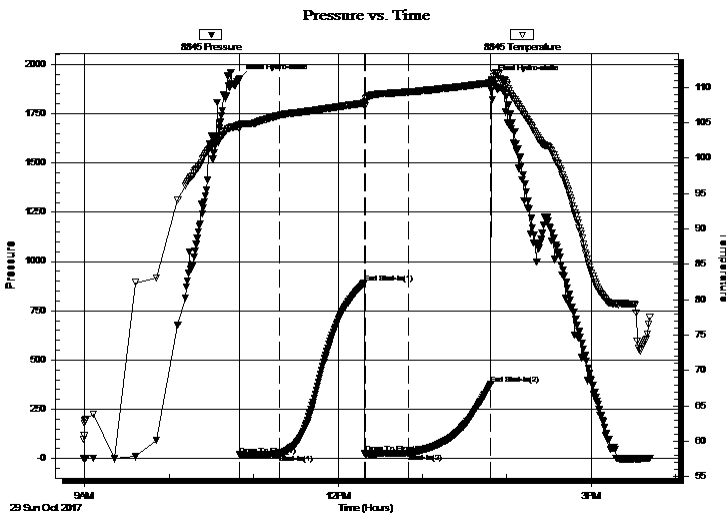
2017.10.29 @ 10:49:45

Time Off Btm:

2017.10.29 @ 13:49:15

TEST COMMENT: IF: 1 1/2" blow .
IS: No return.
FF: 1/2" blow .
FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1925.48	104.64	Initial Hydro-static
1	18.35	104.13	Open To Flow (1)
29	21.02	106.05	Shut-In(1)
89	890.85	107.79	End Shut-In(1)
90	26.20	107.93	Open To Flow (2)
121	26.84	109.35	Shut-In(2)
179	377.70	110.64	End Shut-In(2)
180	1921.84	110.75	Final Hydro-static

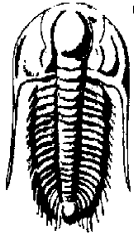
Recovery

Length (ft)	Description	Volume (bbl)
25.00	ocm 30o 70m	0.12

* 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.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64699

DST#: 5

ATTN: Jeff Christian

Test Start: 2017.10.29 @ 08:59:00

Tool Information

Drill Pipe:	Length: 3654.00 ft	Diameter: 3.80 inches	Volume: 51.26 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 52.27 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3878.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	49.00 ft				
Tool Length:	76.00 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			3852.00	
Shut In Tool	5.00			3857.00	
Hydraulic tool	5.00			3862.00	
Jars	5.00			3867.00	
Safety Joint	2.00			3869.00	
Packer	5.00			3874.00	27.00 Bottom Of Top Packer
Packer	4.00			3878.00	
Stubb	1.00			3879.00	
Recorder	0.00	8365	Inside	3879.00	
Recorder	0.00	8845	Outside	3879.00	
Perforations	12.00			3891.00	
Change Over Sub	1.00			3892.00	
Drill Pipe	31.00			3923.00	
Change Over Sub	1.00			3924.00	
Bullnose	3.00			3927.00	49.00 Bottom Packers & Anchor

Total Tool Length: 76.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 64699

DST#: 5

ATTN: Jeff Christian

Test Start: 2017.10.29 @ 08:59:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 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: 3800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
25.00	ocm 30o 70m	0.123

Total Length: 25.00 ft Total Volume: 0.123 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

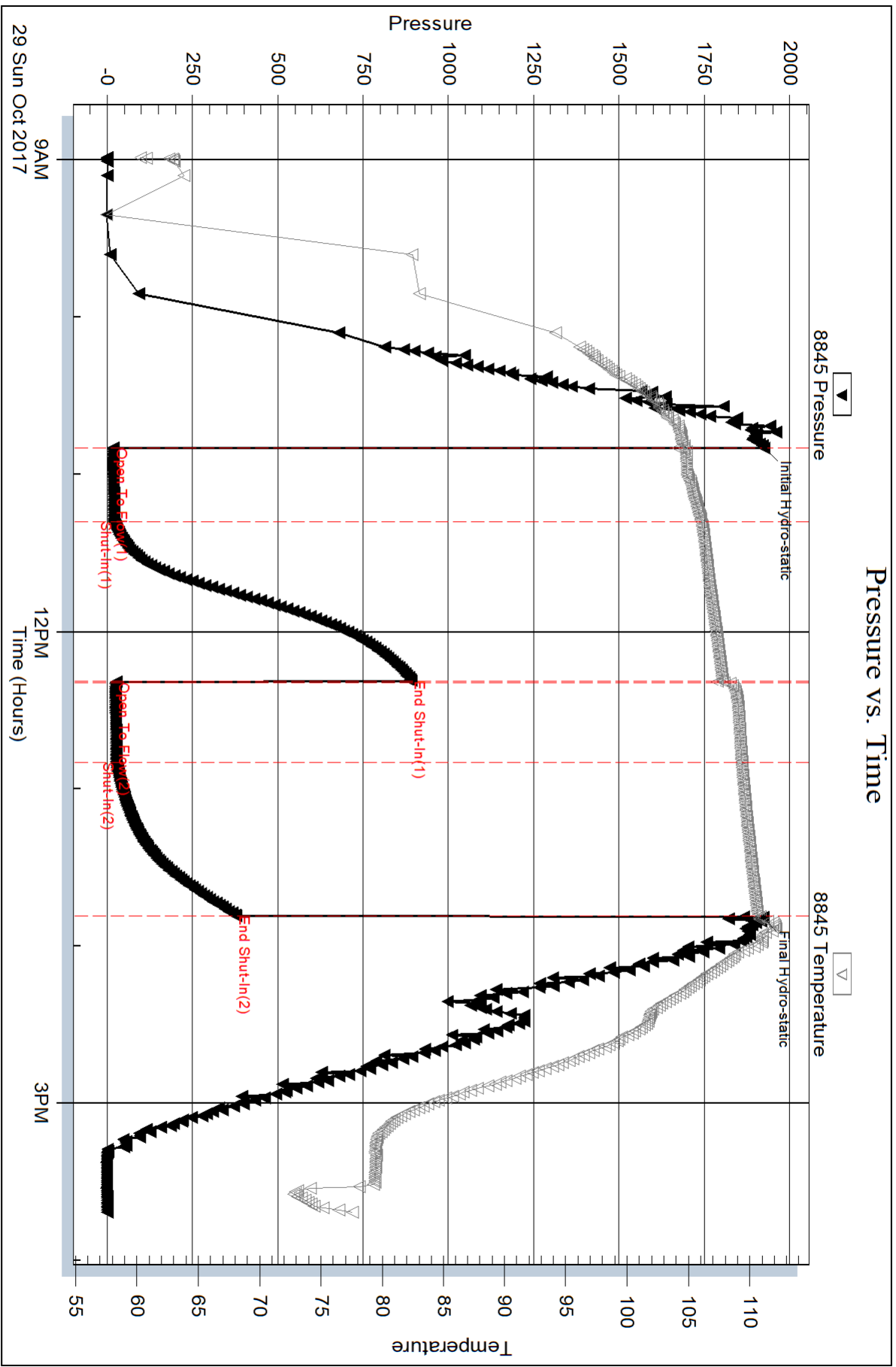
Recovery Comments:

Serial #: 8845

Outside Murfin Drilling Co.

Argabright #1-24

DST Test Number: 5



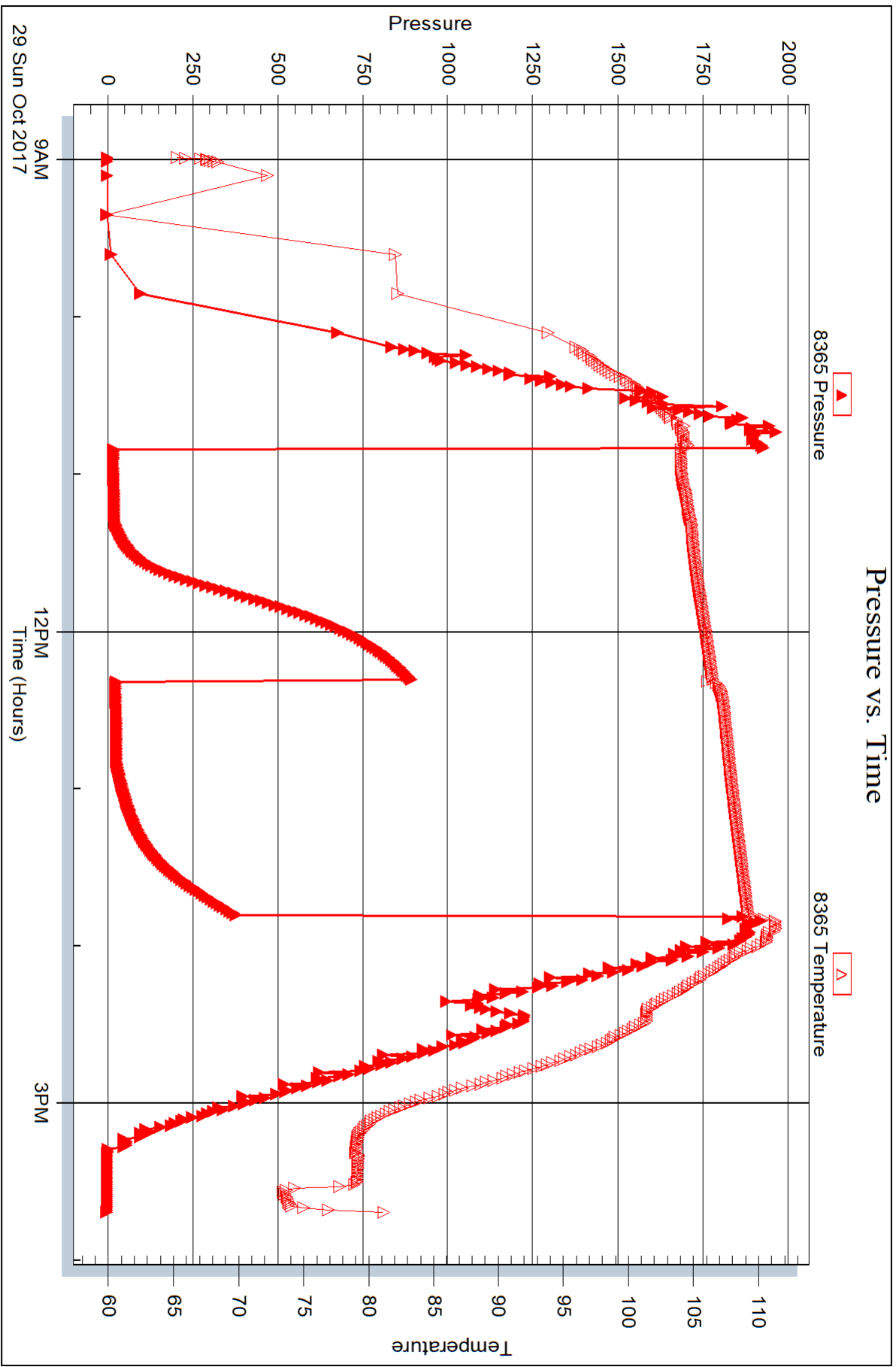
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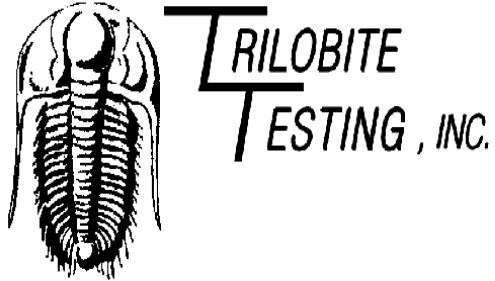
Inside

Murfin Drilling Co.

Argabright #1-24

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Argabright #1-24

24-3s-34w Rawlins,KS

Start Date: 2017.10.30 @ 04:16:00

End Date: 2017.10.30 @ 12:30:15

Job Ticket #: 63700 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.11.02 @ 10:25:55

Murfin Drilling Co. 24-3s-34w Rawlins,KS Argabright #1-24 DST # 6 LKC H - J 2017.10.30



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

24-3s-34w Rawlins, KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 63700

DST#: 6

ATTN: Jeff Christian

Test Start: 2017.10.30 @ 04:16:00

GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:27:45

Time Test Ended: 12:30:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 3932.00 ft (KB) To 4010.00 ft (KB) (TVD)

Reference Elevations: 2897.00 ft (KB)

Total Depth: 4010.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8845 Outside

Press@RunDepth: 165.77 psig @ 3933.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.30

End Date: 2017.10.30

Last Calib.: 2017.10.30

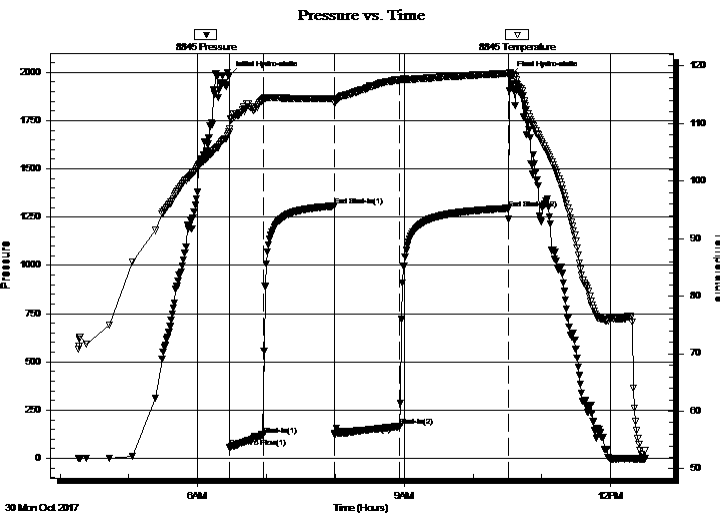
Start Time: 04:16:05

End Time: 12:30:14

Time On Btm: 2017.10.30 @ 06:27:15

Time Off Btm: 2017.10.30 @ 10:32:30

TEST COMMENT: IF: 5" blow.
IS: No return.
FF: 8" blow.
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.39	108.48	Initial Hydro-static
1	55.40	108.98	Open To Flow (1)
30	119.50	114.14	Shut-In(1)
92	1307.22	114.27	End Shut-In(1)
93	125.09	113.51	Open To Flow (2)
149	165.77	117.51	Shut-In(2)
244	1295.02	118.61	End Shut-In(2)
246	1983.81	118.83	Final Hydro-static

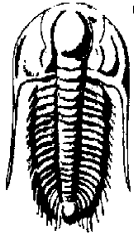
Recovery

Length (ft)	Description	Volume (bbl)
315.00	w cm 25w 75m (oil spots in tool)	2.55

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.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 63700

DST#: 6

ATTN: Jeff Christian

Test Start: 2017.10.30 @ 04:16:00

Tool Information

Drill Pipe:	Length: 3716.00 ft	Diameter: 3.80 inches	Volume: 52.13 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.14 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3932.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	78.00 ft			
Tool Length:	105.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

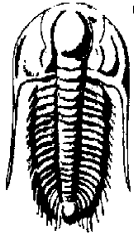
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3906.00	
Shut In Tool	5.00			3911.00	
Hydraulic tool	5.00			3916.00	
Jars	5.00			3921.00	
Safety Joint	2.00			3923.00	
Packer	5.00			3928.00	27.00 Bottom Of Top Packer
Packer	4.00			3932.00	
Stubb	1.00			3933.00	
Recorder	0.00	8365	Inside	3933.00	
Recorder	0.00	8845	Outside	3933.00	
Perforations	9.00			3942.00	
Change Over Sub	1.00			3943.00	
Drill Pipe	63.00			4006.00	
Change Over Sub	1.00			4007.00	
Bullnose	3.00			4010.00	78.00 Bottom Packers & Anchor

Total Tool Length: 105.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

24-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Argabright #1-24

Job Ticket: 63700

DST#: 6

ATTN: Jeff Christian

Test Start: 2017.10.30 @ 04:16:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

29000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	w cm 25w 75m (oil spots in tool)	2.551

Total Length: 315.00 ft Total Volume: 2.551 bbl

Num Fluid Samples: 0

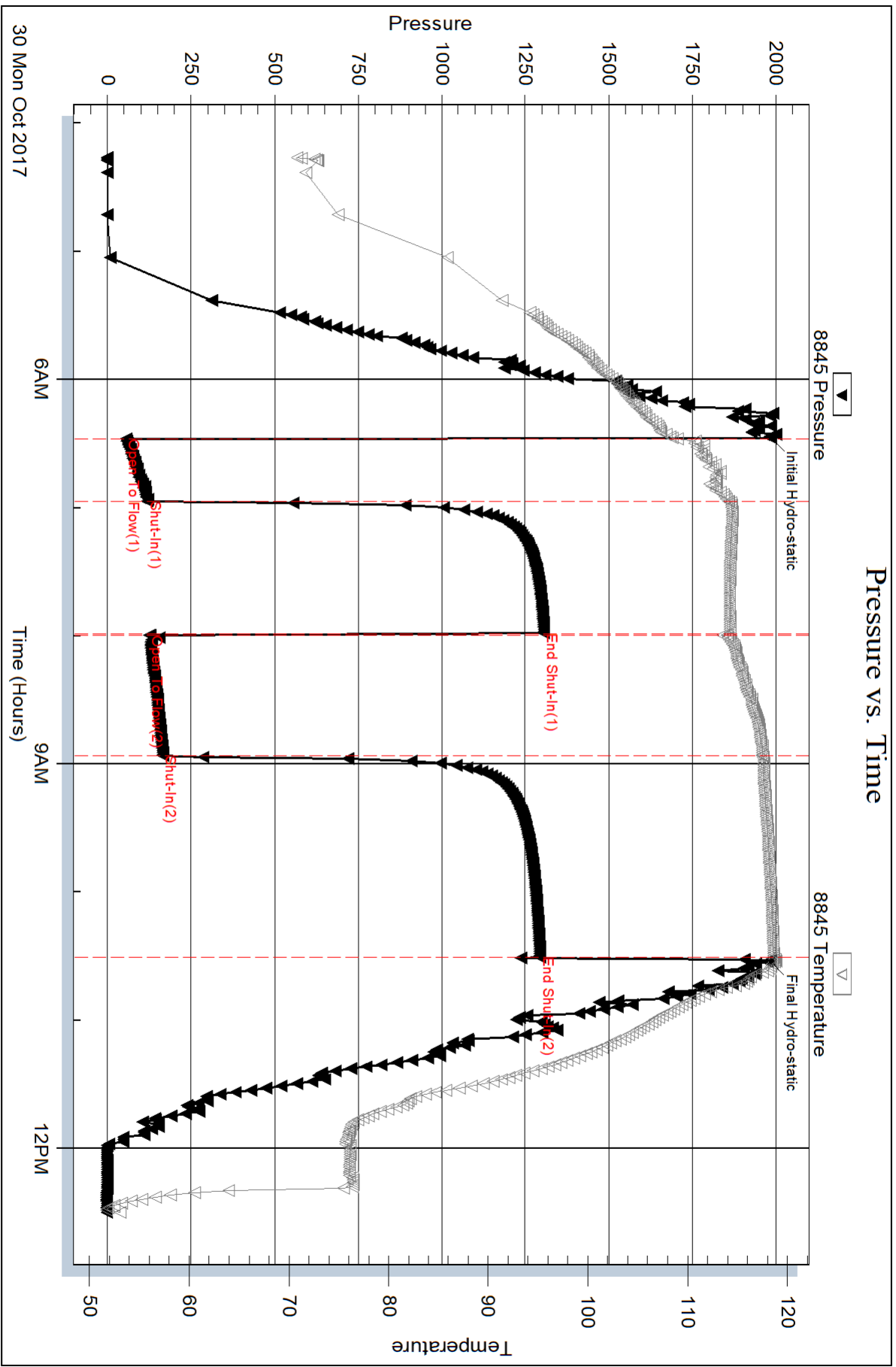
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: took on some mud w hen sliding to bottom
rw is .291 @ 57f = 29000ppm



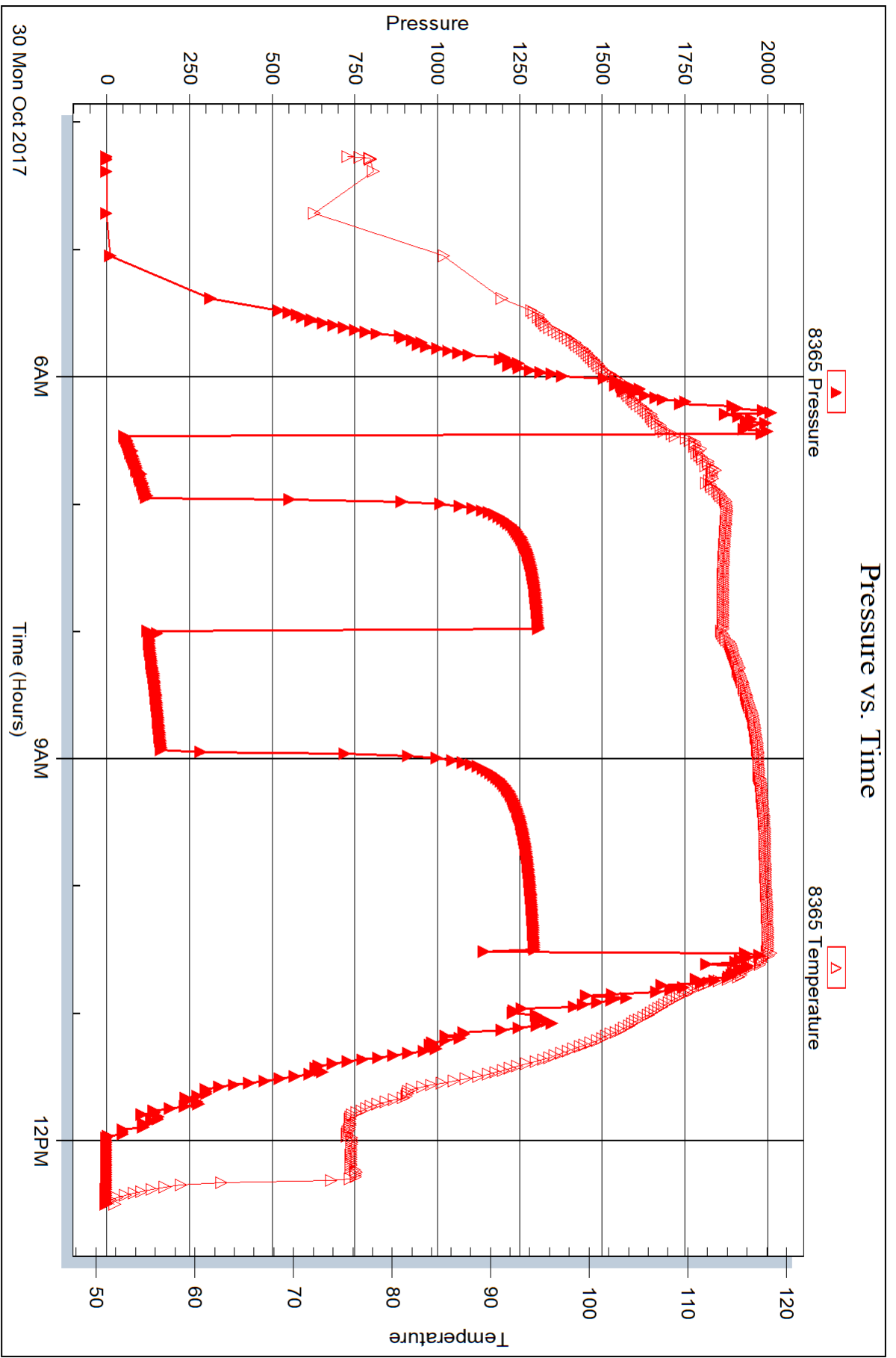
Serial #: 8365

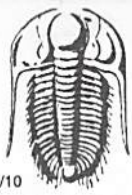
Inside

Murfin Drilling Co.

Argabright #1-24

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64695**

Well Name & No. Argabright #1-24 Test No. 1 Date 10/27/2017
 Company Murfin Drilling Co, Inc Elevation 2897 KB 2892 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin 24
 Location: Sec. 24 Twp. 3S Rge. 34W Co. Rawlins State Ks

Interval Tested 3671 - 3735 Zone Tested Topeka
 Anchor Length 64' Drill Pipe Run 3466 Mud Wt. 8.9
 Top Packer Depth 3666 Drill Collars Run 205 Vis 75
 Bottom Packer Depth 3671 Wt. Pipe Run Ø WL 6.4
 Total Depth 3735 Chlorides 2,000 ppm System LCM 4#
 Blow Description IF 5" blow
ISI No return.
FF 6" blow
FST No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>240</u>	<u>MCW</u>		<u>76</u>	<u>30</u>	
	<u>6th Specks</u>				

Rec Total 240 BHT 115 Gravity — API RW 147 @ 56 °F Chlorides 19000 ppm

(A) Initial Hydrostatic <u>1796</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1630</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1826</u>
(C) First Final Flow <u>66</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2049</u>
(D) Initial Shut-In <u>1187</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>0049</u>
(E) Second Initial Flow <u>73</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0249</u>
(F) Second Final Flow <u>124</u>	<input checked="" type="checkbox"/> Mileage <u>61 rt 45.75</u>	Comments
(G) Final Shut-In <u>1158</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1792</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>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>1420.75</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1420.75</u>	

Approved By _____ Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64696**

Well Name & No. Argabright # 1-24 Test No. 2 Date 10/27/2017
 Company Murfin Drilling Co, Inc Elevation 2897 KB 2892 GL
 Address 250 N Water Ste 300 Wichita, Ks 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin 24
 Location: Sec. 24 Twp. 3 S Rge. 34 W Co. Rawlins State Ks

Interval Tested 3730 - 3780 Zone Tested Lwr Leocompton
 Anchor Length 50' Drill Pipe Run 3530 Mud Wt. 8.9
 Top Packer Depth 3725 Drill Collars Run 205 Vis 75
 Bottom Packer Depth 3730 Wt. Pipe Run Ø WL 5.6
 Total Depth 3780 Chlorides 3200 ppm System LCM 5#
 Blow Description IF 3" blow
ISF No return.
FF 2 1/2" blow.
FSI No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>50 wcm</u>		<u>1</u>	<u>24</u>	<u>75</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 150 BHT 112 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1834</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1000</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1018</u>
(C) First Final Flow <u>45</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1236</u>
(D) Initial Shut-In <u>1189</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1406</u>
(E) Second Initial Flow <u>54</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1732</u>
(F) Second Final Flow <u>74</u>	<input checked="" type="checkbox"/> Mileage <u>45.75</u>	Comments
(G) Final Shut-In <u>1157</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1820</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>1420.75</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1420.75</u>	

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64697**

Well Name & No. Argabright # 1-24 Test No. 3 Date 10/28/2017
 Company Murfin Drilling Co, Inc Elevation 2897 KB 2892 GL
 Address 250 N Water Ste 300 Wichita, Ks 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin 24
 Location: Sec. 24 Twp. 3s Rge. 34w Co. Rawlins State Ks

Interval Tested 3781-3838 Zone Tested LKC A
 Anchor Length 57 Drill Pipe Run 3538 Mud Wt. 8.9
 Top Packer Depth 3776 Drill Collars Run 205 Vis 85
 Bottom Packer Depth 3781 Wt. Pipe Run Ø WL 5.6
 Total Depth 3838 Chlorides 3200 ppm System LCM 4#

Blow Description IF: 1 1/2" blow
ISI: No return.
FF: ~~A~~ 1/2" blow
FSF: No return.

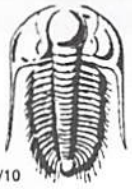
Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>MOD (oil specs)</u>			<u>100</u>	
	<u>Gassy odor</u>				

Rec Total 15 BHT 114 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1870</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0130</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0218</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0435</u>
(D) Initial Shut-In <u>93</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>0735</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0925</u>
(F) Second Final Flow <u>20</u>	<input checked="" type="checkbox"/> Mileage <u>45.75</u>	Comments
(G) Final Shut-In <u>57</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1853</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	
	<input type="checkbox"/> Extra Packer	
	<input type="checkbox"/> Extra Recorder	
	<input type="checkbox"/> Day Standby	
	<input type="checkbox"/> Accessibility	
Initial Open <u>30</u>	Sub Total <u>0</u>	
Initial Shut-In <u>60</u>	Total <u>1420.75</u>	
Final Flow <u>30</u>	MP/DST Disc't	
Final Shut-In <u>60</u>	Sub Total <u>1420.75</u>	

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64698**

4/10

Well Name & No. Argabright #1-24 Test No. 4 Date 10/28/2017
 Company Murkin Drilling Co, Inc Elevation 2897 KB 2892 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murkin 24
 Location: Sec. 24 Twp. 3s Rge. 34w Co. Rawlins State KS

Interval Tested 3830 - 3884 Zone Tested LKC B-D
 Anchor Length 54' Drill Pipe Run 3620 Mud Wt. 9.0
 Top Packer Depth 3825 Drill Collars Run 205 Vis 75
 Bottom Packer Depth 3830 Wt. Pipe Run Ø WL 5.6
 Total Depth 3884 Chlorides 3600 ppm System LCM 4#
 Blow Description IF: Tool slid 10', Mud fell 10', Surface blow
ISI: No return.
FF: No blow
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>MOO</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 80 BHT 110 Gravity — API RW — @ —° F Chlorides — ppm
 (A) Initial Hydrostatic 1892 Test 1050 T-On Location 1700
 (B) First Initial Flow 64 Jars 250 T-Started 193 1711
 (C) First Final Flow 65 Safety Joint 75 T-Open 1935
 (D) Initial Shut-In 160 Circ Sub N/C T-Pulled 2235
 (E) Second Initial Flow 65 Hourly Standby _____ T-Out 0025
 (F) Second Final Flow 65 Mileage 45.75 Comments _____
 (G) Final Shut-In 108 Sampler _____
 (H) Final Hydrostatic 1881 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 60 Day Standby _____
 Accessibility _____
 Sub Total 1420.75 Sub Total 0
 Total 1420.75 MP/DST Disc't _____

Approved By _____ Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64699**

Well Name & No. Argabright #1-24 Test No. 5 Date 10/29/2017
 Company Martin Drilling Co, Inc Elevation 2897 KB 2892 GL
 Address 250 N Water Ste 300 Wichita, Ks 67202
 Co. Rep / Geo. Jeff Christian Rig Martin 2+
 Location: Sec. 24 Twp. 3s Rge. 34w Co. Rawlins State Ks

Interval Tested 3878-3927 Zone Tested LKC F&G
 Anchor Length 49 Drill Pipe Run 3654 Mud Wt. 9.6
 Top Packer Depth 3873 Drill Collars Run 205 Vis 65
 Bottom Packer Depth 3878 Wt. Pipe Run 0 WL 6.0
 Total Depth 3927 Chlorides 3800 ppm System LCM 4#

Blow Description IF: 1 1/2" blow
ISI: No return
FF: 1/2" blow
FSI: No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>25</u>	<u>OCM</u>		<u>30</u>	<u>70</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 25 BHT 111 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>1925</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0830</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0859</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1049</u>
(D) Initial Shut-In <u>891</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1349</u>
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1542</u>
(F) Second Final Flow <u>27</u>	<input checked="" type="checkbox"/> Mileage <u>45.75</u>	Comments
(G) Final Shut-In <u>378</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1922</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>1420.75</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1420.75</u>	

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64700**

Well Name & No. Argabright #1-24 Test No. 6 Date 10/30/2017
 Company Murfin Drilling Co, Inc Elevation 2897 KB 2892 GL
 Address 250 N Water Ste 300 Wichita, Ks 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin 24
 Location: Sec. 24 Twp. 3s Rge. 34w Co. Rawlins State Ks

Interval Tested 3932 - 4010 Zone Tested LKC H & J
 Anchor Length 78' Drill Pipe Run 3716 Mud Wt. 9.0
 Top Packer Depth 3927 Drill Collars Run 205 Vis .60
 Bottom Packer Depth 3932 Wt. Pipe Run 0 WL 6.0
 Total Depth 4010 Chlorides 3800 ppm System LCM 4#
 Blow Description TF: 5" blow.
ISI: No return.
FF: 8" blow.
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>315</u>	<u>ncw</u>		<u>25</u>	<u>75</u>	
	<u>oil spots in tool</u>				

Rec Total 315 BHT 119 Gravity — API RW 291 @ 57°F Chlorides 29000 ppm
 (A) Initial Hydrostatic 1984 Test 1150 T-On Location 0330
 (B) First Initial Flow 55 Jars 250 T-Started 0416
 (C) First Final Flow 120 Safety Joint 75 T-Open 0627
 (D) Initial Shut-In 1307 Circ Sub N/C T-Pulled 1027
 (E) Second Initial Flow 125 Hourly Standby _____ T-Out 1230
 (F) Second Final Flow 166 Mileage X2 45.75+45.75 Comments Backed up tool
 (G) Final Shut-In 1295 Sampler _____ @ 1500 10/31
 (H) Final Hydrostatic 1984 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Extra Packer _____
 Initial Shut-In 60 Extra Recorder _____
 Final Flow 60 Day Standby _____
 Final Shut-In 90 Accessibility NO
 Sub Total 1566.5
 Sub Total 0
 Total 1566.50
 MP/DST Disc't _____

Approved By _____ Our Representative _____

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