

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

Confidentiality Requested:
 Yes No

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	Samson 'A' 1-24
Doc ID	1573795

All Electric Logs Run

DIL
DUCP
MEL
BHCS



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Bob Stolzle

Samson 'A' #1-24

24-4s-33w Rawlins KS

Start Date: 2015.05.12 @ 02:41:00

End Date: 2015.05.12 @ 12:06:30

Job Ticket #: 65044 DST #: 1

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

Printed: 2015.05.18 @ 11:58:56



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 250 N. Water STE 300
 Wichita, KS 67202
 ATTN: Bob Stolzle

24-4s-33w Rawlins KS

Samson 'A' #1-24

Job Ticket: 65044 **DST#: 1**
 Test Start: 2015.05.12 @ 02:41:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:14:15
 Time Test Ended: 12:06:30
 Interval: **3893.00 ft (KB) To 3960.00 ft (KB) (TVD)**
 Total Depth: 3960.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3004.00 ft (KB)
 2999.00 ft (CF)
 KB to GR/CF: 5.00 ft

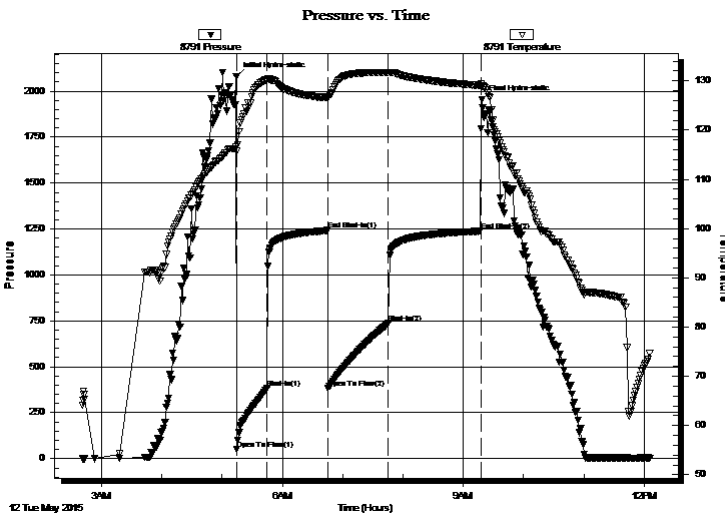
Serial #: 8791

Inside

Press@RunDepth: 737.23 psig @ 3894.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.05.12 End Date: 2015.05.12 Last Calib.: 2015.05.12
 Start Time: 02:41:05 End Time: 12:06:30 Time On Btm: 2015.05.12 @ 05:14:00
 Time Off Btm: 2015.05.12 @ 09:18:30

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 4 1/2 min.
 60 - IS: Blow back built to 1/2"
 60 - FF: Blow built to BOB at 5 1/2 min.
 90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2081.43	116.57	Initial Hydro-static
1	51.56	115.70	Open To Flow (1)
31	382.63	130.30	Shut-In(1)
91	1244.49	126.54	End Shut-In(1)
92	382.02	126.52	Open To Flow (2)
152	737.23	131.72	Shut-In(2)
244	1238.35	129.08	End Shut-In(2)
245	1956.29	128.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1077.00	SMCW 96%w, 4%m	12.84
250.00	MW w /hint of oil 60%w, 40%m	3.51
223.00	WM w /hint of oil 57%m, 43%w	3.13

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 65044

DST#: 1

ATTN: Bob Stolzle

Test Start: 2015.05.12 @ 02:41:00

Tool Information

Drill Pipe:	Length: 3642.00 ft	Diameter: 3.80 inches	Volume: 51.09 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: 249.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 52.31 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3893.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	95.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3870.00	
Hydraulic tool	5.00			3875.00	
Jars	5.00			3880.00	
Safety Joint	3.00			3883.00	
Packer	5.00			3888.00	28.00 Bottom Of Top Packer
Packer	5.00			3893.00	
Stubb	1.00			3894.00	
Recorder	0.00	8791	Inside	3894.00	
Recorder	0.00	8366	Outside	3894.00	
Perforations	26.00			3920.00	
Blank Spacing	33.00			3953.00	
Perforations	4.00			3957.00	
Bullnose	3.00			3960.00	67.00 Bottom Packers & Anchor

Total Tool Length: 95.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 65044

DST#: 1

ATTN: Bob Stolzle

Test Start: 2015.05.12 @ 02:41:00

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:

62000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1077.00	SMCW 96%w , 4%m	12.839
250.00	MW w /hint of oil 60%w , 40%m	3.507
223.00	WM w /hint of oil 57%m, 43%w	3.128

Total Length: 1550.00 ft Total Volume: 19.474 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

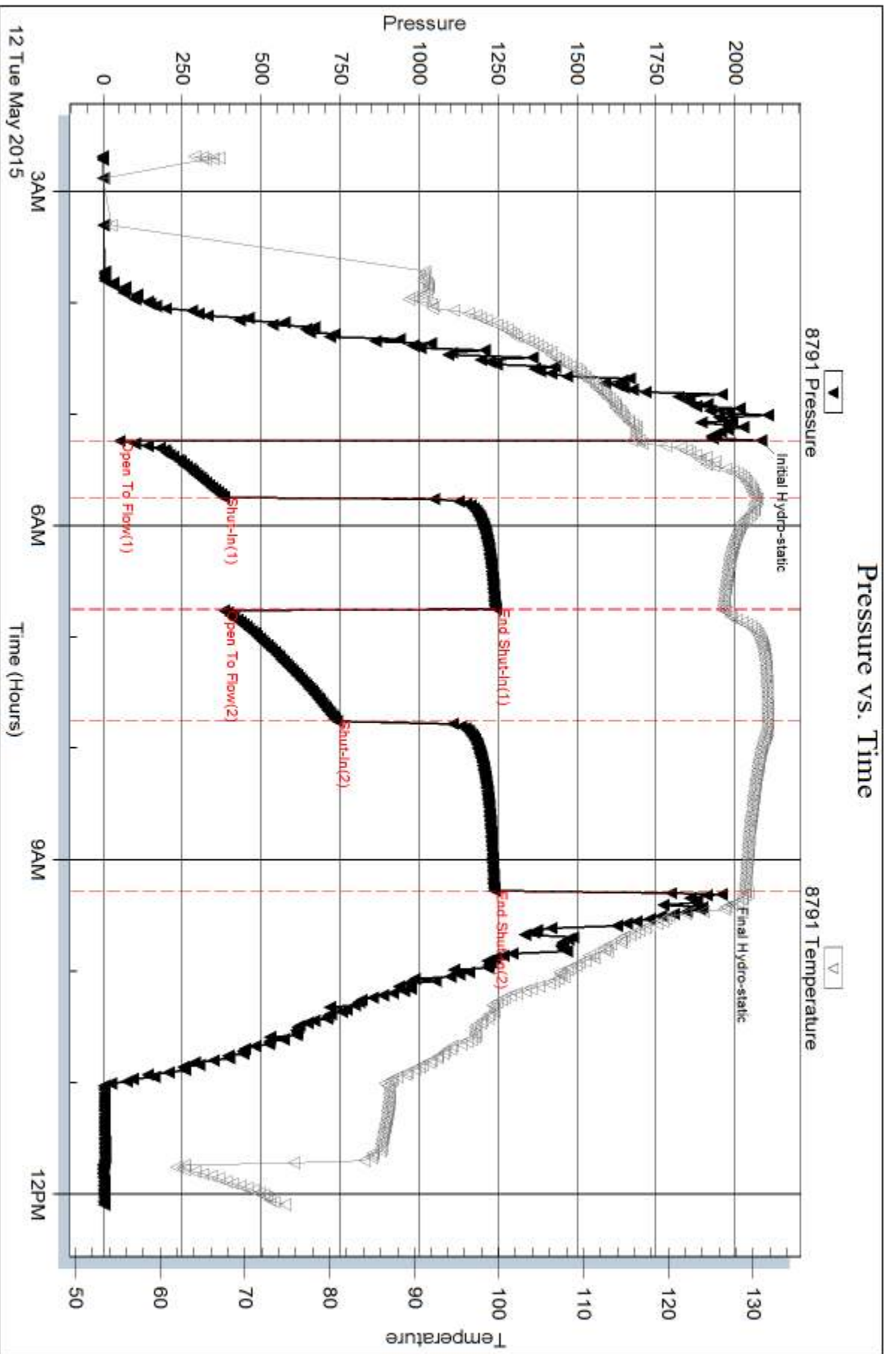
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .127 ohms @ 69.5 deg F

Chlorides = 62,000 ppm

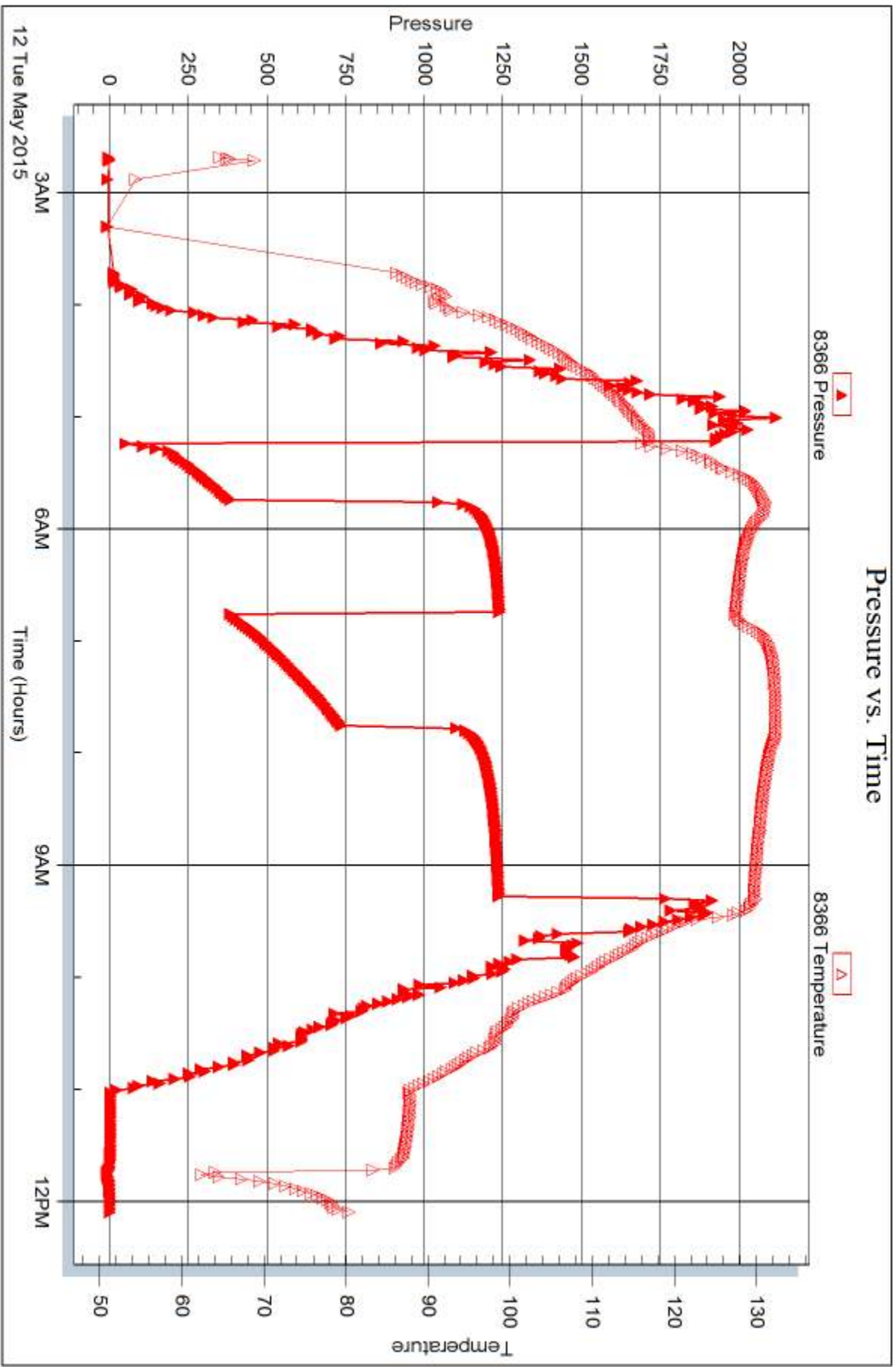


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Sanson 'A' #1-24

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65044

Printed: 2015.05.18 @ 11:58:58



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Bob Stolzle

Samson 'A' #1-24

24-4s-33w Rawlins KS

Start Date: 2015.05.12 @ 20:40:00

End Date: 2015.05.13 @ 04:30:15

Job Ticket #: 65045 DST #: 2

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

Printed: 2015.05.18 @ 11:58:31



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Bob Stolzle

24-4s-33w Rawlins KS

Samson 'A' #1-24

Job Ticket: 65045

DST#: 2

Test Start: 2015.05.12 @ 20:40:00

GENERAL INFORMATION:

Formation: **LKC "B - D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:08:30

Time Test Ended: 04:30:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 3960.00 ft (KB) To 4005.00 ft (KB) (TVD)

Reference Elevations: 3004.00 ft (KB)

Total Depth: 4005.00 ft (KB) (TVD)

2999.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8791

Inside

Press@RunDepth: 58.17 psig @ 3961.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.05.12

End Date:

2015.05.13

Last Calib.: 2015.05.13

Start Time: 20:40:05

End Time:

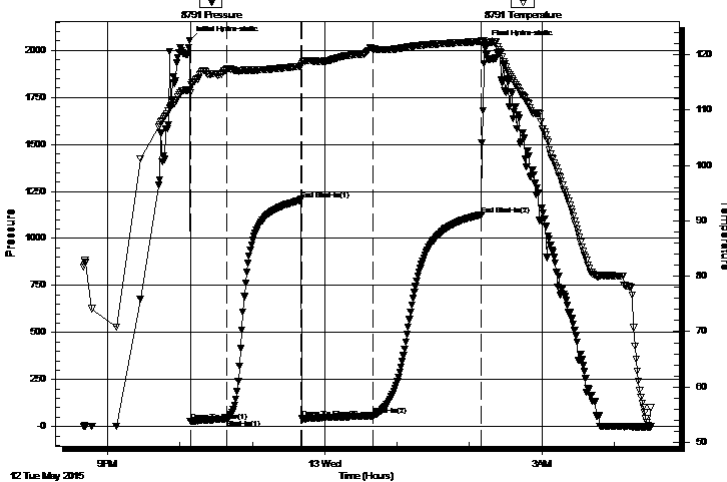
04:30:14

Time On Btm: 2015.05.12 @ 22:08:15

Time Off Btm: 2015.05.13 @ 02:13:00

TEST COMMENT: 30 - IF: 1/2" Blow at open, built to 1 3/4"
60 - IS: No blow back
60 - FF: Blow started around 25 min., built to 1"
90 - FS: No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2053.00	113.59	Initial Hydro-static
1	28.40	113.19	Open To Flow (1)
30	40.04	117.24	Shut-In(1)
92	1203.49	117.92	End Shut-In(1)
93	42.14	118.41	Open To Flow (2)
152	58.17	121.08	Shut-In(2)
242	1126.96	122.38	End Shut-In(2)
245	2029.03	122.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
64.00	OCM 82% m, 13% o, 5% g	0.31
10.00	SMCO 88% o, 7% g, 5% m	0.05
0.00	GIP = 50'	0.00

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.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 65045

DST#: 2

ATTN: Bob Stolzle

Test Start: 2015.05.12 @ 20:40:00

Tool Information

Drill Pipe:	Length: 3704.00 ft	Diameter: 3.80 inches	Volume: 51.96 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: 249.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.18 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3960.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 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
Shut In Tool	5.00			3937.00	
Hydraulic tool	5.00			3942.00	
Jars	5.00			3947.00	
Safety Joint	3.00			3950.00	
Packer	5.00			3955.00	28.00 Bottom Of Top Packer
Packer	5.00			3960.00	
Stubb	1.00			3961.00	
Recorder	0.00	8791	Inside	3961.00	
Recorder	0.00	8366	Outside	3961.00	
Perforations	8.00			3969.00	
Blank Spacing	33.00			4002.00	
Bullnose	3.00			4005.00	45.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 65045

DST#: 2

ATTN: Bob Stolzle

Test Start: 2015.05.12 @ 20:40:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 56.00 sec/qt
Water Loss: 8.38 in³
Resistivity: ohm.m
Salinity: 4700.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 25.2 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
64.00	OCM 82% <i>m</i> , 13% <i>o</i> , 5% <i>g</i>	0.315
10.00	SMCO 88% <i>o</i> , 7% <i>g</i> , 5% <i>m</i>	0.049
0.00	GIP = 50'	0.000

Total Length: 74.00 ft Total Volume: 0.364 bbl

Num Fluid Samples: 0

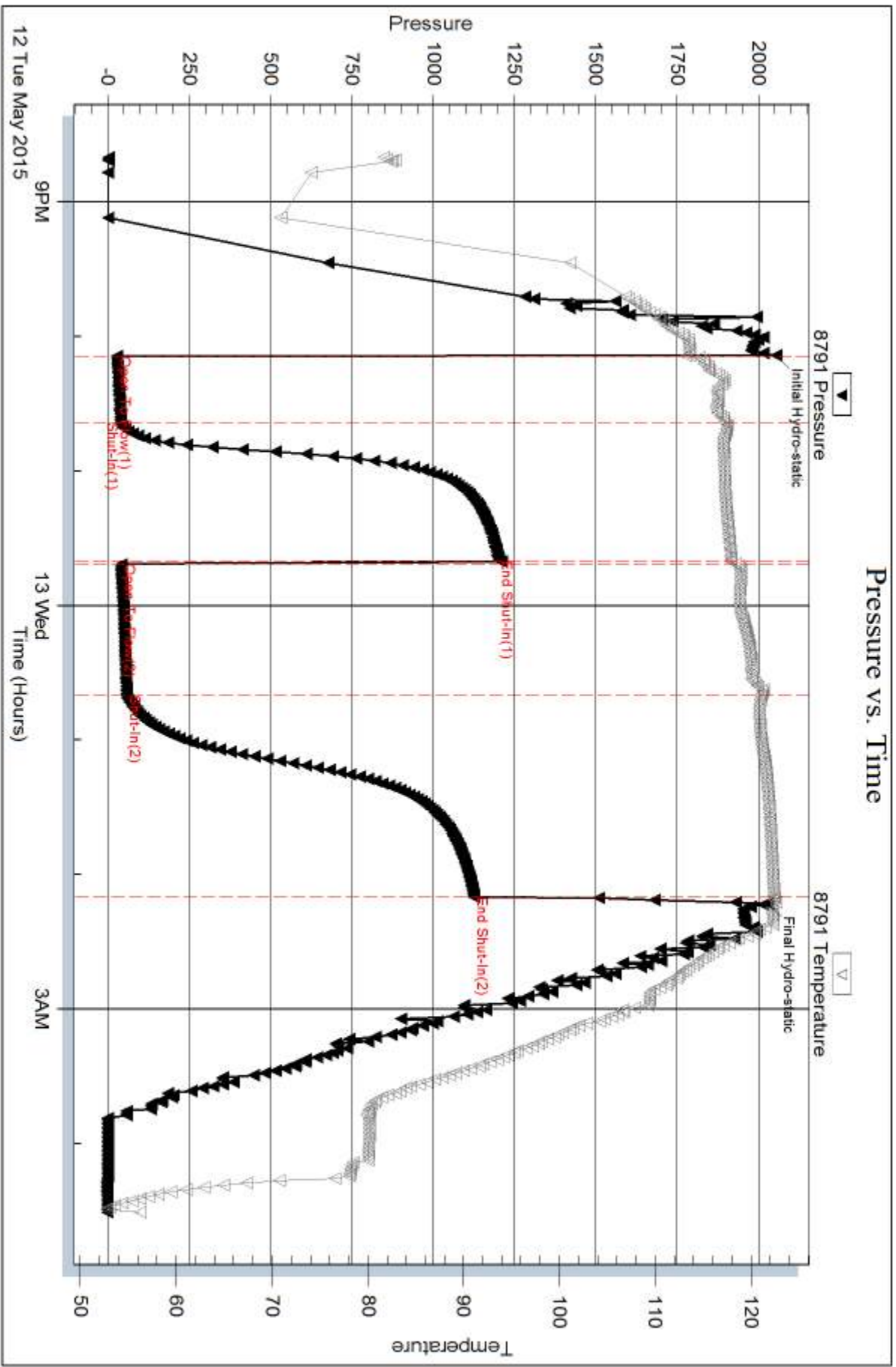
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 25 api @ 58 deg F
Corrected Gravity = 25.2 api

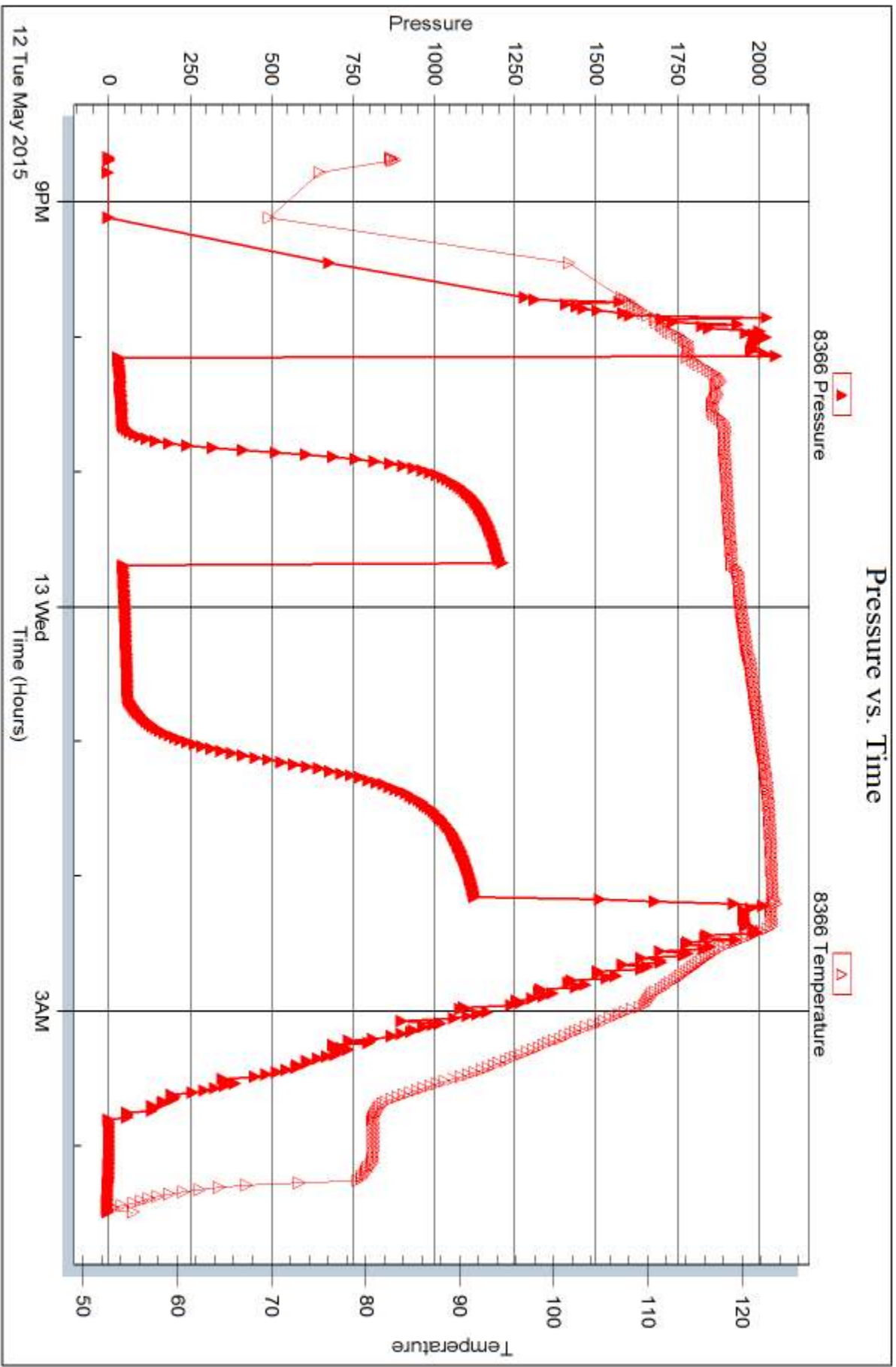


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Sanson 'A' #1-24

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 65045

Printed: 2015.05.18 @ 11:58:32



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Bob Stolze

Samson 'A' #1-24

24-4s-33w Rawlins KS

Start Date: 2015.05.13 @ 12:54:00

End Date: 2015.05.13 @ 20:17:15

Job Ticket #: 62209 DST #: 3

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

Printed: 2015.05.18 @ 11:58:07

Murfin Drilling Co., Inc.
24-4s-33w Rawlins KS
Samson 'A' #1-24
DST # 3
LKC " F & G"
2015.05.13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 62209

DST#: 3

ATTN: Bob Stolzle

Test Start: 2015.05.13 @ 12:54:00

GENERAL INFORMATION:

Formation: **LKC " F & G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:07:00

Time Test Ended: 20:17:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 83

Interval: 3998.00 ft (KB) To 4035.00 ft (KB) (TVD)

Reference Elevations: 3004.00 ft (KB)

Total Depth: 4035.00 ft (KB) (TVD)

2999.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366

Outside

Press@RunDepth: 443.73 psig @ 3999.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.05.13

End Date: 2015.05.13

Last Calib.: 2015.05.13

Start Time: 12:54:05

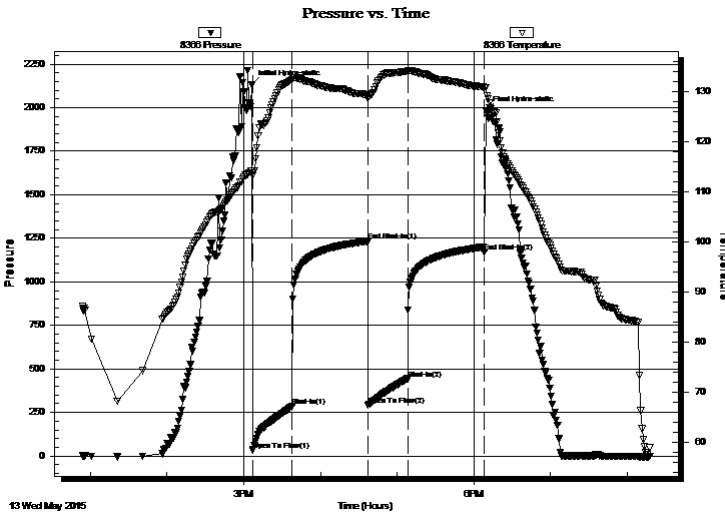
End Time: 20:17:14

Time On Btm: 2015.05.13 @ 15:06:15

Time Off Btm: 2015.05.13 @ 18:09:15

TEST COMMENT: 30 - IF - Strong surface blow built to BOB in 6 min.
60 - ISI - Real weak surface blow stayed for the 60 min.
30 - FF - Strong surface blow built to BOB in 8 min.
60 - FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2129.74	114.23	Initial Hydro-static
1	33.54	113.17	Open To Flow (1)
32	284.37	132.28	Shut-In(1)
91	1233.27	129.08	End Shut-In(1)
91	291.75	128.60	Open To Flow (2)
122	443.73	133.97	Shut-In(2)
182	1170.81	130.77	End Shut-In(2)
183	1981.85	130.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
564.00	MCW - 10M - 90W	5.64
189.00	WCM - 50M - 50W	2.65
166.00	WCM - 40W - 60M	2.33

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 62209

DST#: 3

ATTN: Bob Stolzle

Test Start: 2015.05.13 @ 12:54:00

Tool Information

Drill Pipe:	Length: 3736.00 ft	Diameter: 3.80 inches	Volume: 52.41 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: 249.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 53.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3998.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3975.00	
Hydraulic tool	5.00			3980.00	
Jars	5.00			3985.00	
Safety Joint	3.00			3988.00	
Packer	5.00			3993.00	28.00 Bottom Of Top Packer
Packer	5.00			3998.00	
Stubb	1.00			3999.00	
Recorder	0.00	8791	Inside	3999.00	
Recorder	0.00	8366	Outside	3999.00	
Perforations	33.00			4032.00	
Bullnose	3.00			4035.00	37.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 62209

DST#: 3

ATTN: Bob Stolzle

Test Start: 2015.05.13 @ 12:54:00

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:

46000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
564.00	MCW - 10M - 90W	5.643
189.00	WCM - 50M - 50W	2.651
166.00	WCM - 40W - 60M	2.329

Total Length: 919.00 ft Total Volume: 10.623 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

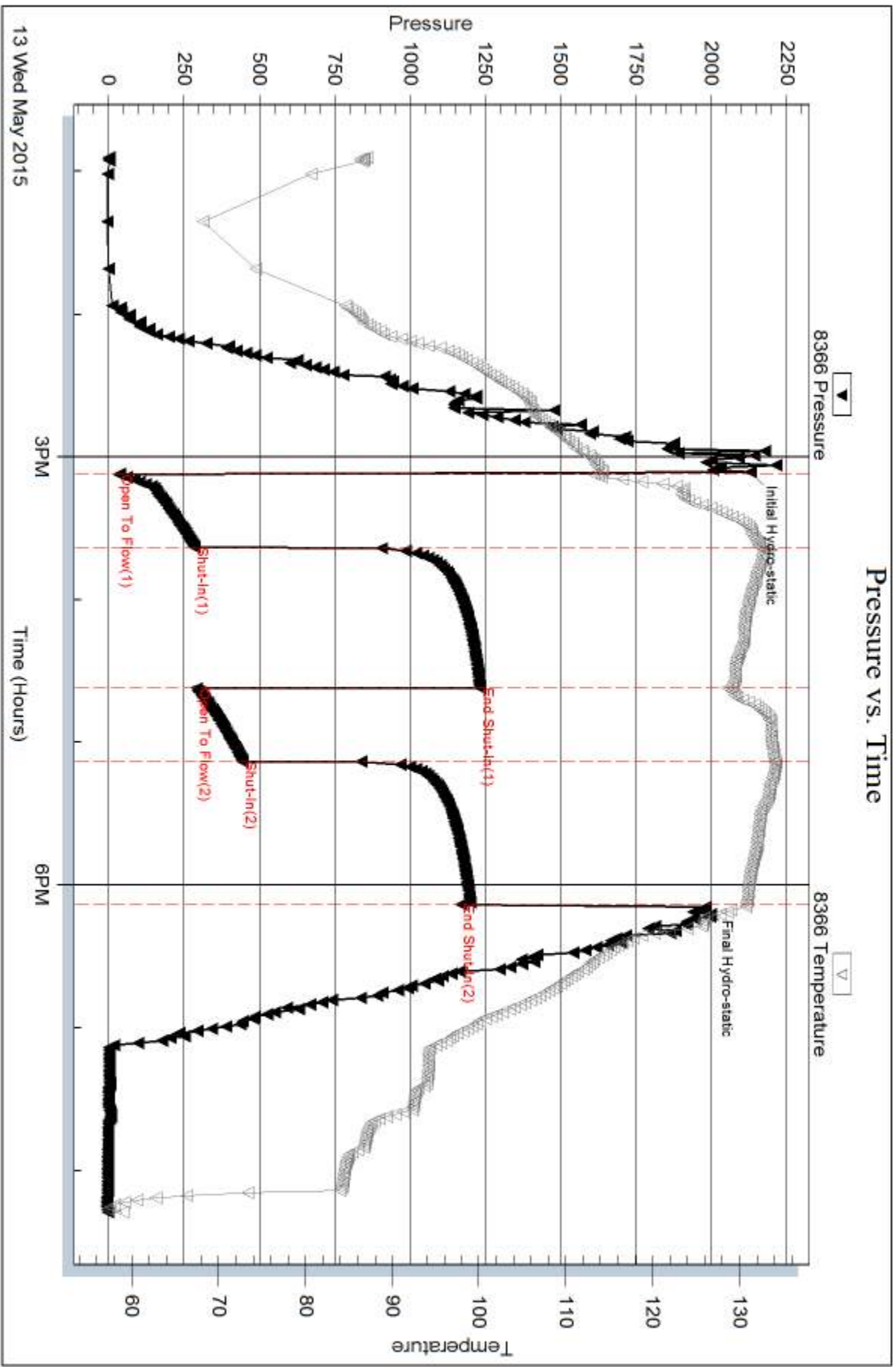
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API RW - .24 @ 61 DEG.

Chlorides - 46000 ppm



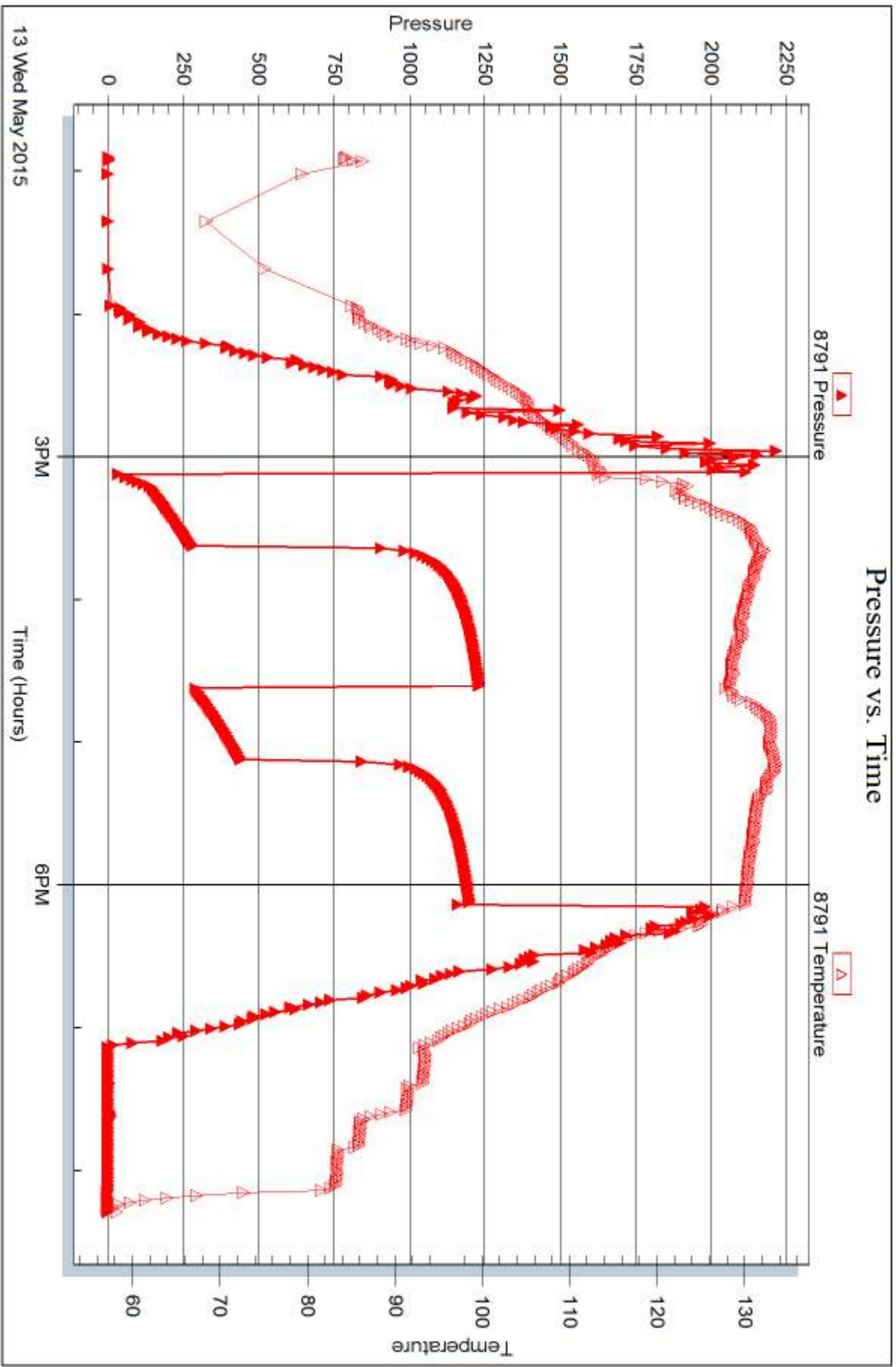
Serial #: 8791

Inside

Murfin Drilling Co., Inc.

Sanson 'A' #1-24

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 62209

Printed: 2015.05.18 @ 11:58:08



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Bob Stolzle

Samson 'A' #1-24

24-4s-33w Rawlins KS

Start Date: 2015.05.14 @ 07:38:00

End Date: 2015.05.14 @ 16:07:45

Job Ticket #: 62210 DST #: 4

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

Printed: 2015.05.18 @ 11:57:44



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 62210

DST#: 4

ATTN: Bob Stolzle

Test Start: 2015.05.14 @ 07:38:00

GENERAL INFORMATION:

Formation: **LKC "H & J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:09:45

Time Test Ended: 16:07:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 83

Interval: 4046.00 ft (KB) To 4125.00 ft (KB) (TVD)

Reference Elevations: 3004.00 ft (KB)

Total Depth: 4125.00 ft (KB) (TVD)

2999.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 1107.14 psig @ 4047.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.05.14

End Date:

2015.05.14

Last Calib.: 2015.05.14

Start Time: 07:38:05

End Time:

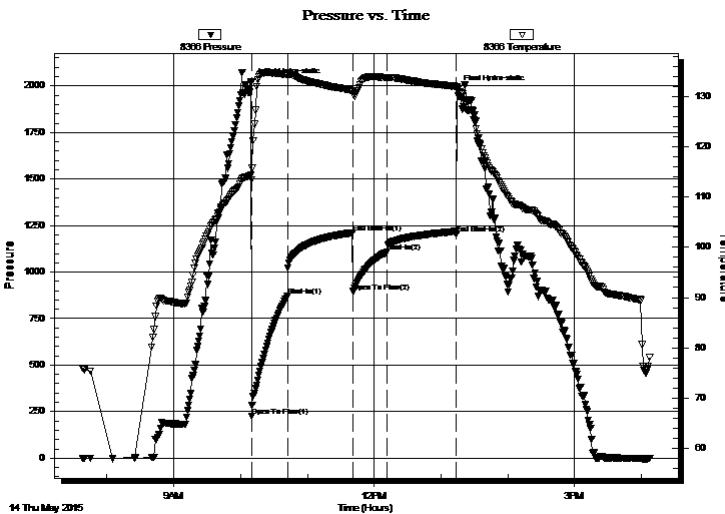
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Time On Btm: 2015.05.14 @ 10:09:30

Time Off Btm: 2015.05.14 @ 13:14:15

TEST COMMENT: 30 - IF - Strong surface blow built to BOB in 2 min.
60 - ISI - No return
30 - FF - Strong surface blow built to BOB in 3 min.
60 - FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2019.97	114.34	Initial Hydro-static
1	223.69	113.48	Open To Flow (1)
33	870.49	134.37	Shut-In(1)
91	1210.97	131.17	End Shut-In(1)
92	895.80	131.00	Open To Flow (2)
122	1107.14	133.71	Shut-In(2)
185	1205.07	131.99	End Shut-In(2)
185	1981.41	131.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
879.00	MCW - 5M - 95W	10.06
945.00	MCW - 10M - 90W	13.26
567.00	MUD - 100M	7.95

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 62210

DST#: 4

ATTN: Bob Stolzle

Test Start: 2015.05.14 @ 07:38:00

Tool Information

Drill Pipe:	Length: 3799.00 ft	Diameter: 3.80 inches	Volume: 53.29 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: 249.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 54.51 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4046.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	79.00 ft			
Tool Length:	107.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4023.00	
Hydraulic tool	5.00			4028.00	
Jars	5.00			4033.00	
Safety Joint	3.00			4036.00	
Packer	5.00			4041.00	28.00 Bottom Of Top Packer
Packer	5.00			4046.00	
Stubb	1.00			4047.00	
Recorder	0.00	8791	Inside	4047.00	
Recorder	0.00	8366	Outside	4047.00	
Perforations	10.00			4057.00	
Change Over Sub	1.00			4058.00	
Drill Pipe	63.00			4121.00	
Change Over Sub	1.00			4122.00	
Bullnose	3.00			4125.00	79.00 Bottom Packers & Anchor

Total Tool Length: 107.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Samson 'A' #1-24

Job Ticket: 62210

DST#: 4

ATTN: Bob Stolzle

Test Start: 2015.05.14 @ 07:38:00

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:

42000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
879.00	MCW - 5M - 95W	10.062
945.00	MCW - 10M - 90W	13.256
567.00	MUD - 100M	7.954

Total Length: 2391.00 ft Total Volume: 31.272 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

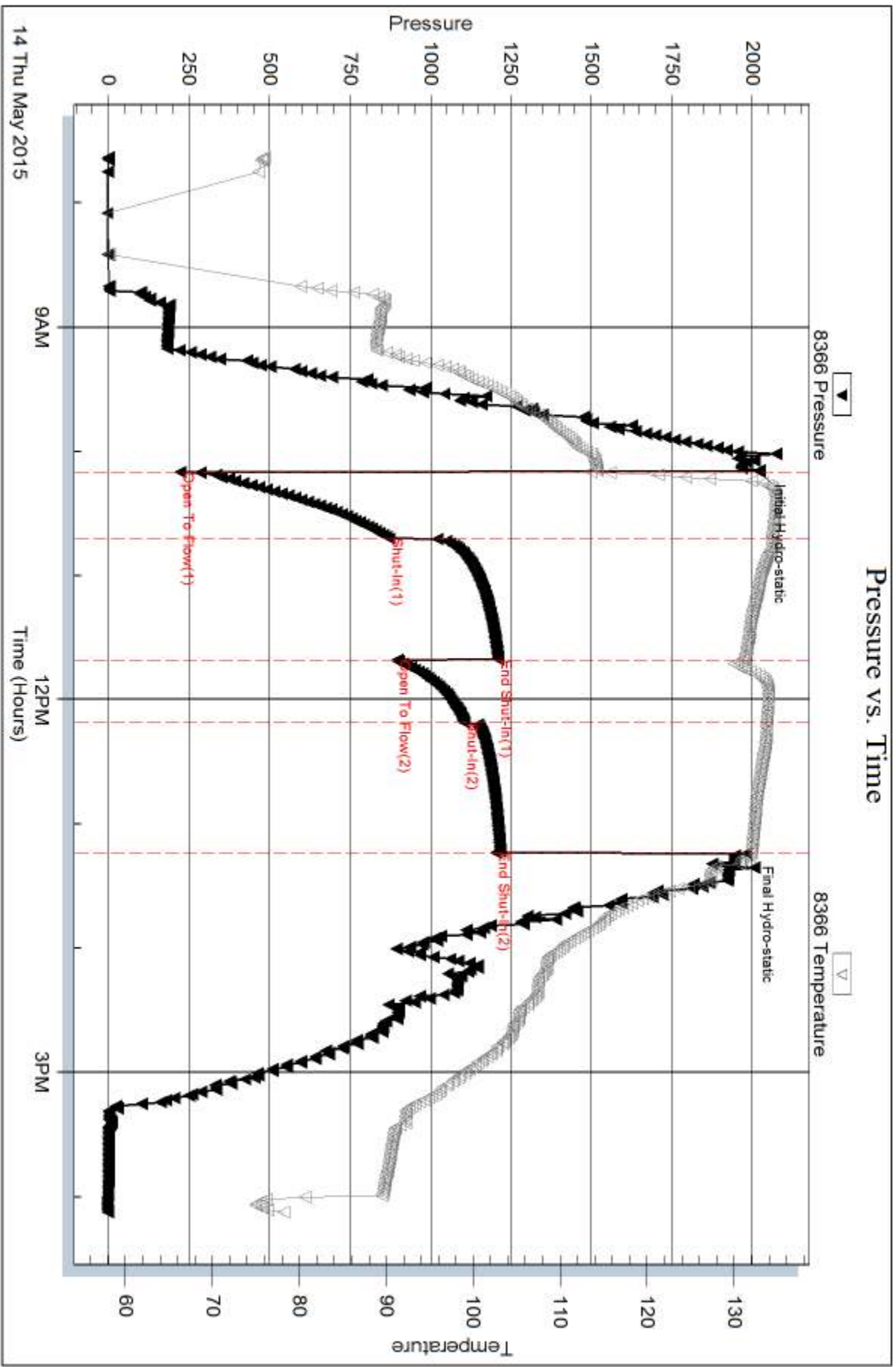
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API RW .16 @ 86 DEG

Chlorides - 42000



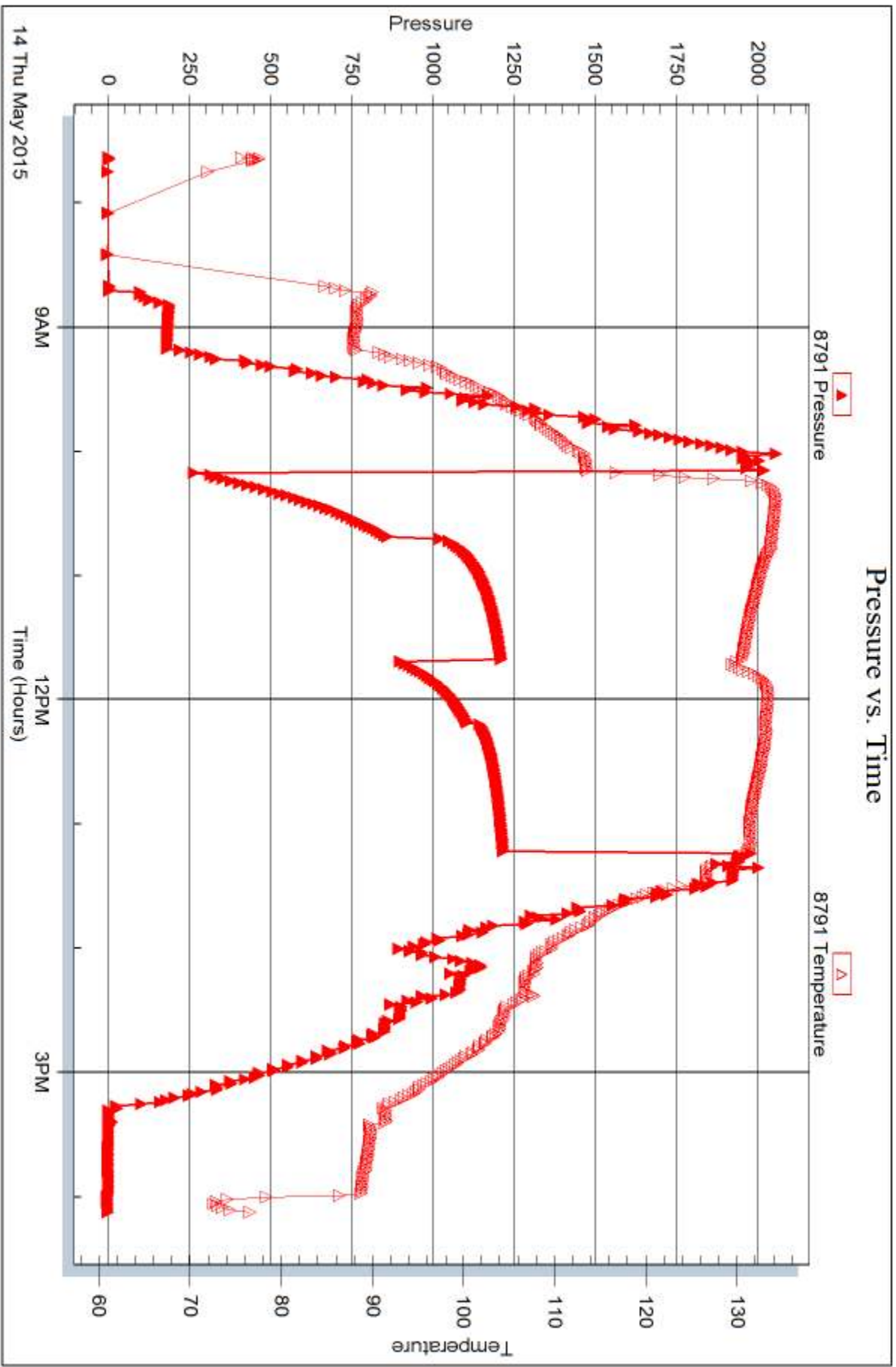
Serial #: 8791

Inside

Murfin Drilling Co., Inc.

Sanson 'A' #1-24

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 62210

Printed: 2015.05.18 @ 11:57:45



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65044**

Well Name & No. Samson 'A' #1-24 Test No. 1 Date 5-12-15
 Company Murfin Drilling Co. Inc. Elevation 3004 KB 2999 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Bob Stolze Rig Murfin #7
 Location: Sec. 24 Twp. 4s Rge. 33w Co. Rawlins State KS

Interval Tested 3893 - 3960 Zone Tested Toronto - Lans "A"
 Anchor Length 67 Drill Pipe Run 3642 Mud Wt. 9.1
 Top Packer Depth 3888 Drill Collars Run 249 Vis 58
 Bottom Packer Depth 3893 Wt. Pipe Run - WL 7.6
 Total Depth 3960 Chlorides 4100 ppm System LCM 8

Blow Description IF: Blow built to BOB(11") at 4 1/2 min.
ISI: Blowback built to 1/2"
FF: Blow built to BOB at 5 1/2 min.
FSI: No blowback

Rec	Feet of	%gas	Hint	%oil	%water	%mud
<u>223</u>	<u>wm w/hint of oil</u>			<u>43</u>	<u>57</u>	
<u>250</u>	<u>mw w/hint of oil</u>			<u>60</u>	<u>40</u>	
<u>1077</u>	<u>SMCW</u>			<u>96</u>	<u>4</u>	

Rec Total 1550 BHT 129 Gravity API RW .127 @ 69.5 °F Chlorides 62,000 ppm

(A) Initial Hydrostatic 2081 Test 1050 T-On Location 1:30
 (B) First Initial Flow 52 Jars 250 T-Started 2:41
 (C) First Final Flow 383 Safety Joint 75 T-Open 5:14
 (D) Initial Shut-In 1244 Circ Sub ? T-Pulled 9:17
 (E) Second Initial Flow 382 Hourly Standby 0? .25h 20 T-Out 12:00
 (F) Second Final Flow 737 Mileage 68RT 68 Comments _____
 (G) Final Shut-In 1238 Sampler _____
 (H) Final Hydrostatic 1956 Straddle _____

Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1463

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1463
 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. **65045**

Well Name & No. Samson 'A' #1-24 Test No. 2 Date 5-12-15
 Company Murfin Drilling Co. Inc. Elevation 3004 KB 2999 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Bob Stolzle Rig Murfin #7
 Location: Sec. 24 Twp. 4s Rge. 33w Co. Rawlins State KS

Interval Tested 3960 - 4005 Zone Tested Lans. "B-D"
 Anchor Length 45 Drill Pipe Run 3704 Mud Wt. 9.3
 Top Packer Depth 3955 Drill Collars Run 249 Vis 56
 Bottom Packer Depth 3960 Wt. Pipe Run - WL 8.4
 Total Depth 4005 Chlorides 4700 ppm System LCM 8
 Blow Description IF: 1/2" Blow at open, built to 1 3/4"
ISI: No blowback
FF: Blow started around 25 min, built to 1"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>SMCO</u>	<u>7</u>	<u>88</u>	<u>-</u>	<u>5</u>
<u>64</u>	<u>OCM</u>	<u>5</u>	<u>13</u>	<u>-</u>	<u>82</u>
	<u>6IP=50'</u>				

Rec Total 74 BHT 122 Gravity 25.2 API RW @ °F Chlorides ppm
 (A) Initial Hydrostatic 2053 Test 1150 T-On Location 20:15
 (B) First Initial Flow 28 Jars 250 T-Started 20:40
 (C) First Final Flow 40 Safety Joint 75 T-Open 22:08
 (D) Initial Shut-In 1203 Circ Sub _____ T-Pulled 2:10
 (E) Second Initial Flow 42 Hourly Standby _____ T-Out 4:25
 (F) Second Final Flow 58 Mileage 68RT 68 Comments _____
 (G) Final Shut-In 1127 Sampler _____
 (H) Final Hydrostatic 2029 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1443 MP/DST Disc't _____

Approved By _____

Our Representative James Winder

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62209

Well Name & No. Samson 'A' #1-24 Test No. 3 Date 5-13-15
 Company Murfin Drilling Co. Inc. Elevation 3004 KB 2999 GL
 Address 250 N. Water STE 300, Wichita, KS, 67202
 Co. Rep / Geo. Bob Stolze Rig Murfin #7
 Location: Sec. 24 Twp. 4S Rge. 33W Co. Rawlins State KS

Interval Tested 3998 - 4035' Zone Tested Lansing "F&G"
 Anchor Length 37' Drill Pipe Run 3736 Mud Wt. 9.3
 Top Packer Depth 3993' Drill Collars Run 249 Vis 50
 Bottom Packer Depth 3998' Wt. Pipe Run 0 WL 8
 Total Depth 4035' Chlorides 6000 ppm System LCM #8
 Blow Description IF - Strong surface blow built to BOB in 6 min.
ISI - real weak surface blow stayed for the 60 min.
FF - Strong surface blow built to BOB in 8 min.
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>166</u>	<u>WCM</u>			<u>40%</u>	<u>60%</u>
<u>189</u>	<u>WCM</u>			<u>50%</u>	<u>50%</u>
<u>564</u>	<u>MLW</u>			<u>90%</u>	<u>10%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 919 BHT 131 Gravity - API RW 124 @ 61 °F Chlorides 46,000 ppm

(A) Initial Hydrostatic <u>2130</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>12:05pm</u>
(B) First Initial Flow <u>34</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:54pm</u>
(C) First Final Flow <u>284</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:07pm</u>
(D) Initial Shut-In <u>1233</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>6:08pm</u>
(E) Second Initial Flow <u>292</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>8:17pm</u>
(F) Second Final Flow <u>444</u>	<input checked="" type="checkbox"/> Mileage <u>68 RT</u> <u>68</u>	Comments
(G) Final Shut-In <u>1171</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1982</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>1543</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1543</u>	

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62210

Well Name & No. Samson 'A' #1-24 Test No. 4 Date 5-14-15
 Company Murfin Drilling Co., Inc. Elevation 3004 KB 2999 GL
 Address 250 N Water STE 300, Wichita, KS, 67202
 Co. Rep / Geo. Bob Stolzie Rig Murfin #7
 Location: Sec. 24 Twp. 4S Rge. 33w Co. Rawlins State KS

Interval Tested 4046'-4125' Zone Tested LKC "H4J"
 Anchor Length 79' Drill Pipe Run 3799 Mud Wt. 9.1
 Top Packer Depth 4041' Drill Collars Run 249 Vis 49
 Bottom Packer Depth 4046' Wt. Pipe Run Ø WL 8
 Total Depth 4125' Chlorides 5500 ppm System LCM #6

Blow Description IF-Strong surface blow built to BOB in 2 min.
ISI- No return
FF-Strong surface blow built to BOB in 3 min.
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>567</u>	<u>mud</u>				<u>100%</u>
<u>945</u>	<u>mcw</u>			<u>90%</u>	<u>10%</u>
<u>879</u>	<u>mcw</u>			<u>95%</u>	<u>5%</u>

Rec Total 2391 BHT 132 Gravity → API RW 16 @ 86 °F Chlorides 42,000 ppm
 (A) Initial Hydrostatic 2020 Test 1150 T-On Location 6:20am
 (B) First Initial Flow 224 Jars 250 T-Started 7:38am
 (C) First Final Flow 870 Safety Joint 75 T-Open 10:10 am
 (D) Initial Shut-In 1211 Circ Sub N/C T-Pulled 1:14 pm
 (E) Second Initial Flow 896 Hourly Standby _____ T-Out 4:08pm
 (F) Second Final Flow 1107 Mileage 68RT 68 Comments _____
 (G) Final Shut-In 1205 Sampler _____
 (H) Final Hydrostatic 1981 Straddle _____
 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 1543 MP/DST Disc't _____

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

Summary of Changes

Lease Name and Number: Samson 'A' 1-24

API/Permit #: 15-153-21132-00-00

Doc ID: 1573795

Correction Number: 1

Approved By: Karen Ritter

Field Name	Previous Value	New Value
Approved By	NAOMI JAMES	Karen Ritter
Approved Date	06/22/2015	05/21/2021

Summary of Attachments

Lease Name and Number: Samson 'A' 1-24

API: 15-153-21132-00-00

Doc ID: 1573795

Correction Number: 1

Attachment Name