

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	SMITH 'A' 2-21
Doc ID	1474842

All Electric Logs Run

DIL
DUCP
MEL
BHCS

MDCI
 Smith 'A' #2-21
 2310' FSL 330'FEL
 Sec. 21-2S-37W
 3416' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	3298	+118	Flat	3301	+115	-3
B/Anhydrite	3332	+84	-1	3332	+84	-1
Topeka	4124	-708	+2	4118	-702	+8
Oread	4262	-846	+3	4263	-847	+2
Lansing	4339	-923	+2	4340	-924	+1
Stark	4562	-1146	+2	4563	-1147	+1
Mound City	4614	-1198	+1	4614	-1198	+1
Ft Scott	4742	-1326	+2	4742	-1326	+2
Oakley	4817	-1401	Flat	4816	-1400	+1
Mississippian				5040	-1624	NA
RTD	5100					
LTD				5103		

Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

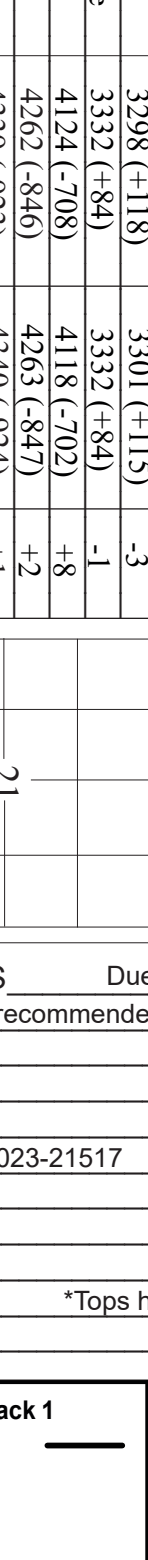
DRILLING TIME AND SAMPLE LOG

COMPANY: **Marlin Drilling Co., Inc.**
LEASE: **Smith "A" #2-21**
FIELD: **Wildcat**
LOCATION: **2101 FSL & 340' FFL**
SEC: **21 TWPSE 2S RGE 37W**
COUNTY: **Cherokee STATE Kansas**
CONTRACTOR: **Marlin Drilling #3**
RUD: **06/27/19 COMP 07/07/19**
SPUD: **5100' LTD 5103'**
MUD UP: **3000' TYPE MUD Chemical**
SAMPLES SAVED FROM: **4020' TO RTD**
DRILLING TIME KEPT FROM: **4000' TO RTD**
SAMPLER EXAMINED FROM: **4020' TO RTD**

ELEVATIONS
KB 3416'
DF _____
GL 3411'
Measurements Are All From Kelly Bushing
CASING
CONDUCTOR 8-5/8" at 369'
SURFACE 5-1/2" at 396'
PRODUCTION 5-1/2" at 396'

ELECTRICAL SURVEYS
CND, DIL, MEL, SWIR
REFERENCE WELL: MDCT - Banister "A" #3-22
Fluorinel Wireline

Formation	Sample Tops	E-log Tops	Strat Pos.
Anhydrite	3298 (+118)	3301 (+115)	-3
Base Anhydrite	3332 (+84)	418 (-702)	-1
Topsak	4262 (+846)	4263 (+847)	-8
Overbed	4329 (+223)	4340 (+21)	-2
Siltstone	4359 (+146)	4361 (+147)	+1
Sand	4614 (+198)	4614 (+198)	+1
Mound City	4742 (+1326)	4742 (+1326)	+2
Oriskany	4817 (+1401)	4816 (+1400)	+1



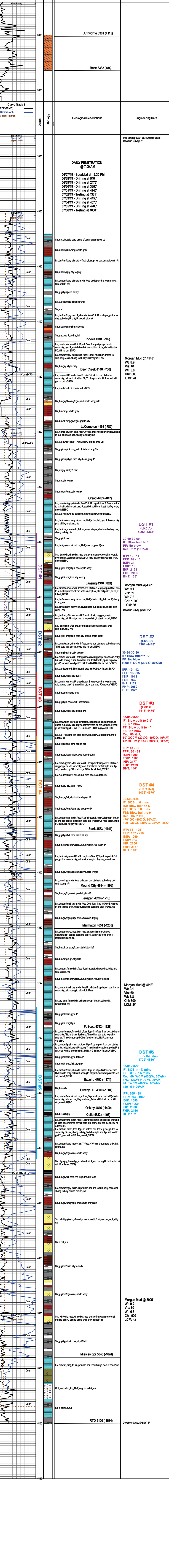
REMARKS Due to fair to good shows of oil in multiple potential pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,

API #15-023-21517

Saman Sharifaie
Petroleum Geologist

*Tops have been adjusted to electric logs



RTD 5100 (-1684)
Deviation Survey @ 5100: 1°



DRILL STEM TEST REPORT

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

250 N. Wate STE 300
Wichita KS 67202

ATTN: Saman Sharifaie

Smith A #2-21

21-2S-37W Cheyenne,KS

Start Date: 2019.07.02 @ 01:11:00

End Date: 2019.07.02 @ 08:43:50

Job Ticket #: 65255 DST #: 1

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

Printed: 2019.07.08 @ 11:56:37



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne, KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65255

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2019.07.02 @ 01:11:00

GENERAL INFORMATION:

Formation: **LKC " A "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:56:10

Time Test Ended: 08:43:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 71

Interval: 4292.00 ft (KB) To 4361.00 ft (KB) (TVD)

Reference Elevations: 3416.00 ft (KB)

Total Depth: 4361.00 ft (KB) (TVD)

3411.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 9.74 psig @ 4293.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.02 End Date: 2019.07.02

Last Calib.: 2019.07.02

Start Time: 01:11:01 End Time: 08:43:50

Time On Btm: 2019.07.02 @ 03:56:00

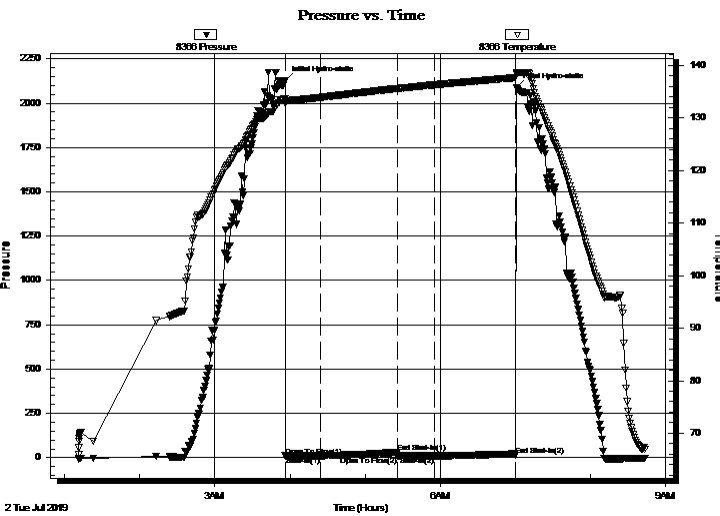
Time Off Btm: 2019.07.02 @ 07:00:50

TEST COMMENT: 30 IF - Blow built to 1" died back to 1/4"

60 ISI - No return

30 FF - No blow

60 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2127.67	133.76	Initial Hydro-static
1	10.39	132.73	Open To Flow (1)
29	10.50	133.93	Shut-In(1)
90	30.60	135.62	End Shut-In(1)
91	9.03	135.62	Open To Flow (2)
120	9.74	136.32	Shut-In(2)
185	13.35	137.67	End Shut-In(2)
185	2086.32	138.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud 100%M	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65255

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2019.07.02 @ 01:11:00

Tool Information

Drill Pipe:	Length: 4106.00 ft	Diameter: 3.80 inches	Volume: 57.60 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 58.47 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4292.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	69.00 ft			
Tool Length:	97.00 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			4269.00	
Hydraulic tool	5.00			4274.00	
Jars	5.00			4279.00	
Safety Joint	3.00			4282.00	
Packer	5.00			4287.00	28.00 Bottom Of Top Packer
Packer	5.00			4292.00	
Stubb	1.00			4293.00	
Recorder	0.00	8353	Inside	4293.00	
Recorder	0.00	8366	Outside	4293.00	
Perforations	32.00			4325.00	
Blank Spacing	33.00			4358.00	
Bullnose	3.00			4361.00	69.00 Bottom Packers & Anchor

Total Tool Length: 97.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65255

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2019.07.02 @ 01:11:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud 100%M	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

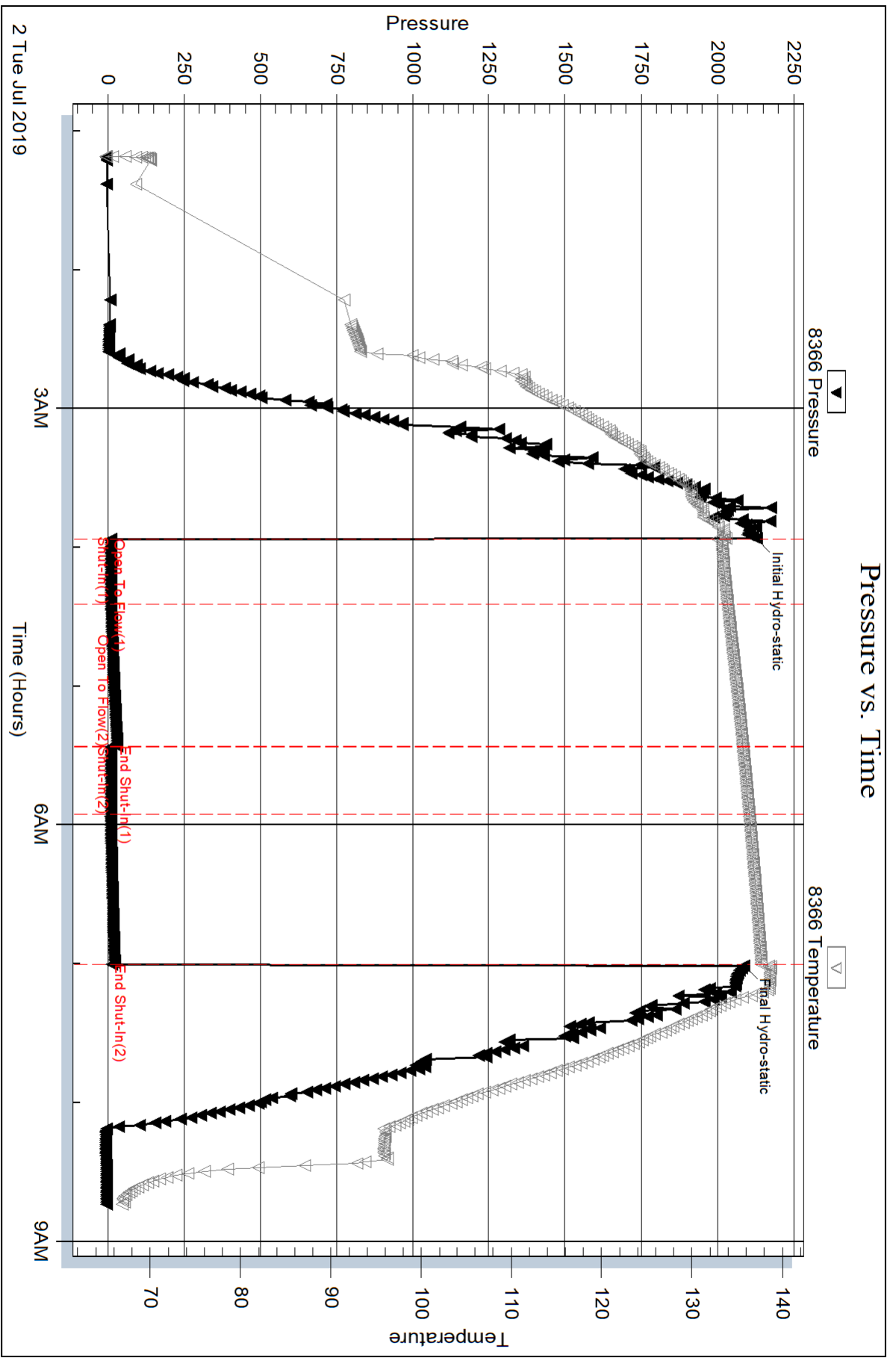
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



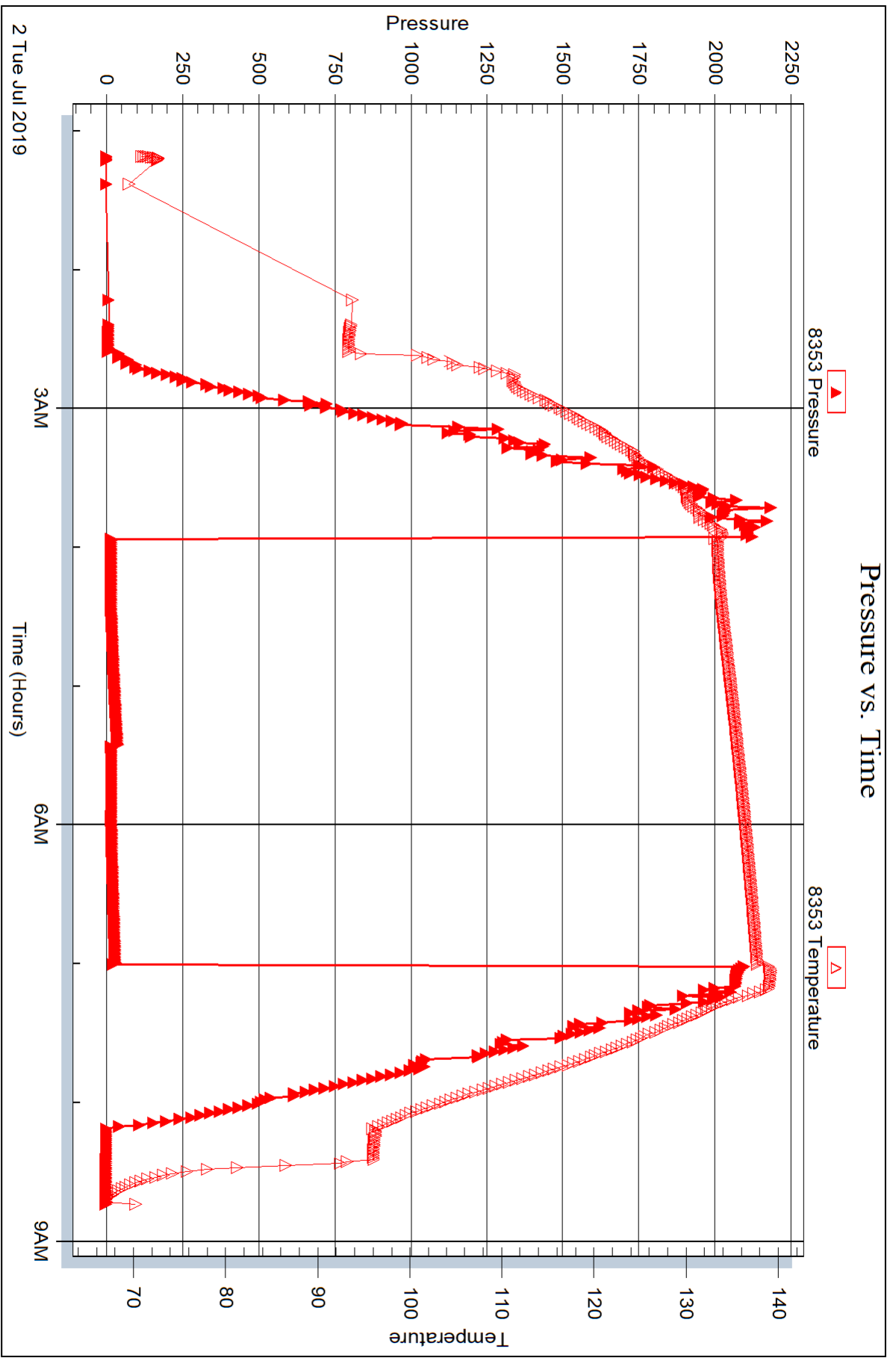
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Smith A #2-21

DST Test Number: 1





DRILL STEM TEST REPORT

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

250 N. Wate STE 300
Wichita KS 67202

ATTN: Saman Sharifaie

Smith A #2-21

21-2S-37W Cheyenne,KS

Start Date: 2019.07.02 @ 17:22:00

End Date: 2019.07.03 @ 01:19:50

Job Ticket #: 65256 DST #: 2

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

Printed: 2019.07.08 @ 11:54:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne, KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65256

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2019.07.02 @ 17:22:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:13:20

Time Test Ended: 01:19:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4361.00 ft (KB) To 4418.00 ft (KB) (TVD)

Reference Elevations: 3416.00 ft (KB)

Total Depth: 4418.00 ft (KB) (TVD)

3411.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366

Outside

Press@RunDepth: 14.76 psig @ 4362.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.02

End Date:

2019.07.03

Last Calib.:

2019.07.03

Start Time: 17:22:01

End Time:

01:19:50

Time On Btm:

2019.07.02 @ 20:13:10

Time Off Btm:

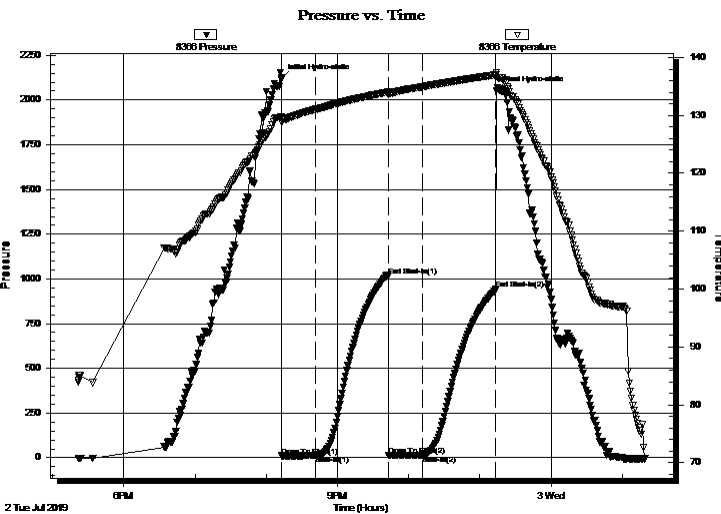
2019.07.02 @ 23:14:00

TEST COMMENT: 30 IF - Blow built to 1/2" died back to 1/4"

60 ISI - No return

30 FF - No blow

60 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2122.22	129.67	Initial Hydro-static
1	10.44	128.85	Open To Flow (1)
29	12.46	131.02	Shut-In(1)
90	1017.63	134.02	End Shut-In(1)
90	13.28	133.55	Open To Flow (2)
119	14.76	134.92	Shut-In(2)
181	941.52	137.00	End Shut-In(2)
181	2052.08	137.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM - 20%o - 80%M	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65256

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2019.07.02 @ 17:22:00

Tool Information

Drill Pipe:	Length: 4168.00 ft	Diameter: 3.80 inches	Volume: 58.47 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 59.34 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4361.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	57.00 ft				
Tool Length:	85.00 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			4338.00	
Hydraulic tool	5.00			4343.00	
Jars	5.00			4348.00	
Safety Joint	3.00			4351.00	
Packer	5.00			4356.00	28.00 Bottom Of Top Packer
Packer	5.00			4361.00	
Stubb	1.00			4362.00	
Recorder	0.00	8353	Inside	4362.00	
Recorder	0.00	8366	Outside	4362.00	
Perforations	20.00			4382.00	
Blank Spacing	33.00			4415.00	
Bullnose	3.00			4418.00	57.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65256

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2019.07.02 @ 17:22:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	OCM - 20%o - 80%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

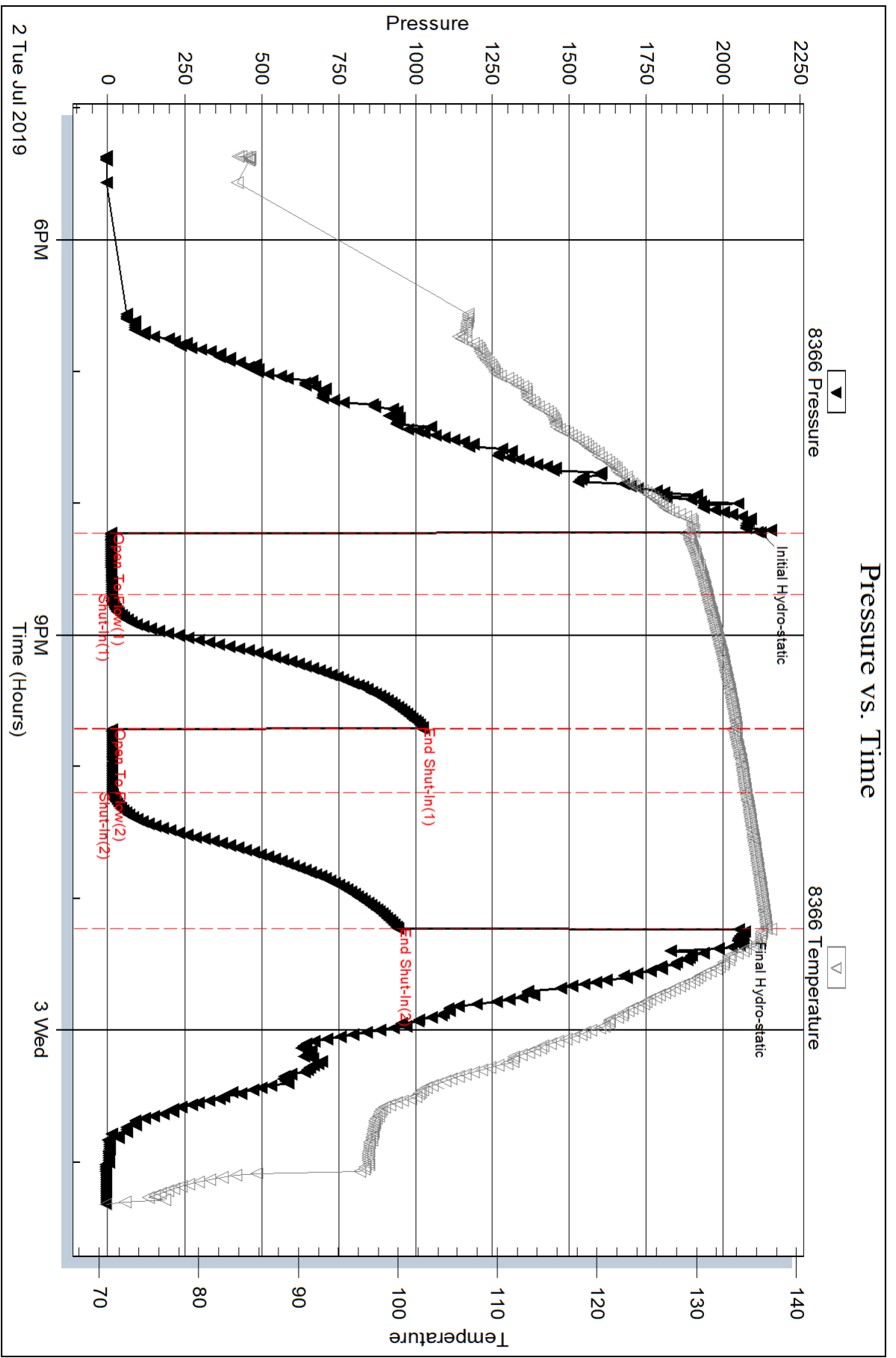
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



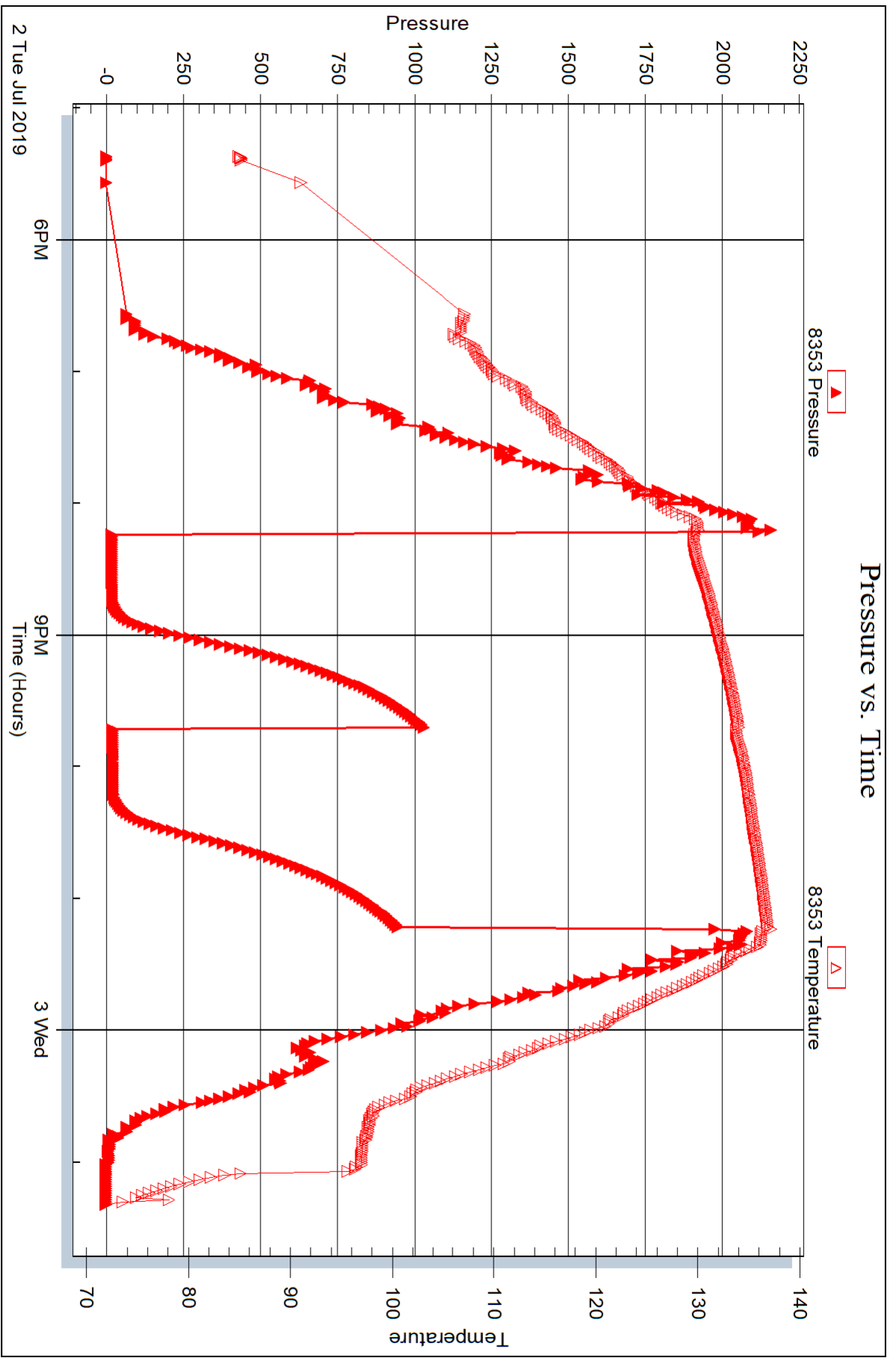
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Smith A #2-21

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 65256

Printed: 2019.07.08 @ 11:54:17



DRILL STEM TEST REPORT

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

250 N. Wate STE 300
Wichita KS 67202

ATTN: Saman Sharifaie

Smith A #2-21

21-2S-37W Cheyenne,KS

Start Date: 2019.07.03 @ 12:16:00

End Date: 2019.07.03 @ 20:31:50

Job Ticket #: 65257 DST #: 3

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

Printed: 2019.07.08 @ 11:53:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne, KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65257

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2019.07.03 @ 12:16:00

GENERAL INFORMATION:

Formation: **LKC " G "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:12:20

Time Test Ended: 20:31:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4418.00 ft (KB) To 4476.00 ft (KB) (TVD)

Reference Elevations: 3416.00 ft (KB)

Total Depth: 4476.00 ft (KB) (TVD)

3411.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366

Outside

Press@RunDepth: 51.46 psig @ 4419.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.03

End Date:

2019.07.03

Last Calib.:

2019.07.03

Start Time: 12:16:01

End Time:

20:31:50

Time On Btm:

2019.07.03 @ 14:12:10

Time Off Btm:

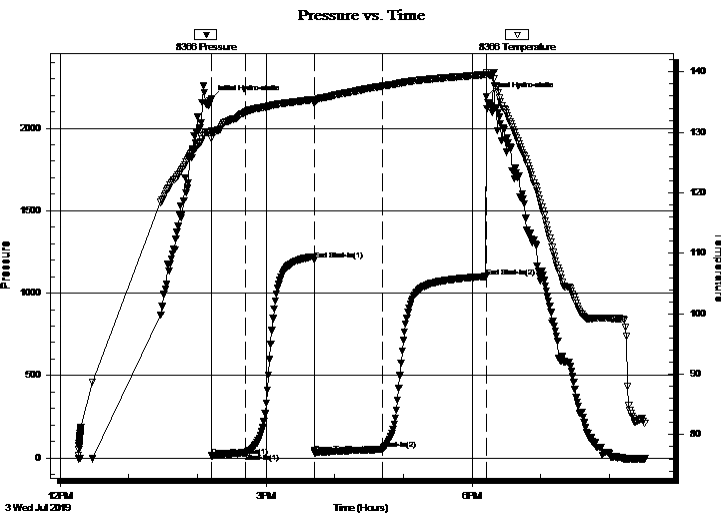
2019.07.03 @ 18:12:50

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

60 ISI - No return

60 FF - Blow built to 4"

90 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2176.51	130.29	Initial Hydro-static
1	12.50	129.00	Open To Flow (1)
30	29.81	133.34	Shut-In(1)
90	1200.17	135.43	End Shut-In(1)
90	30.02	135.06	Open To Flow (2)
150	51.46	137.63	Shut-In(2)
241	1100.30	139.55	End Shut-In(2)
241	2193.10	139.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCM - 20%G - 40%o - 40%M	0.30
40.00	GOCM - 10%G - 30%o - 60%M	0.20
0.00	80' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65257

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2019.07.03 @ 12:16:00

Tool Information

Drill Pipe:	Length: 4230.00 ft	Diameter: 3.80 inches	Volume: 59.34 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4418.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	86.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			4395.00	
Hydraulic tool	5.00			4400.00	
Jars	5.00			4405.00	
Safety Joint	3.00			4408.00	
Packer	5.00			4413.00	28.00 Bottom Of Top Packer
Packer	5.00			4418.00	
Stubb	1.00			4419.00	
Recorder	0.00	8353	Inside	4419.00	
Recorder	0.00	8366	Outside	4419.00	
Perforations	21.00			4440.00	
Blank Spacing	33.00			4473.00	
Bullnose	3.00			4476.00	58.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65257

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2019.07.03 @ 12:16:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	GOCM - 20%G - 40%o - 40%M	0.295
40.00	GOCM - 10%G - 30%o - 60%M	0.197
0.00	80' GIP	0.000

Total Length: 100.00 ft Total Volume: 0.492 bbl

Num Fluid Samples: 0

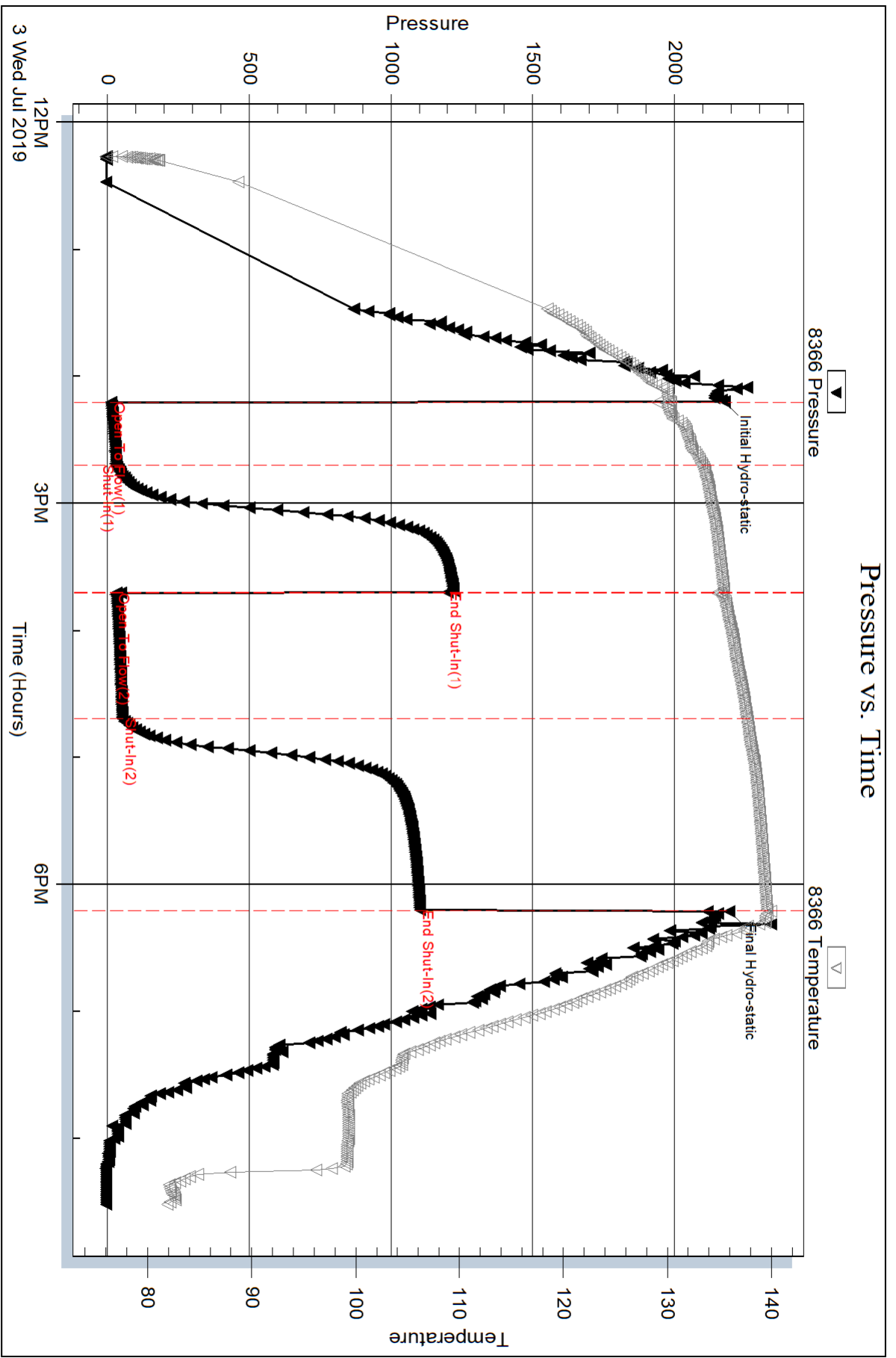
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



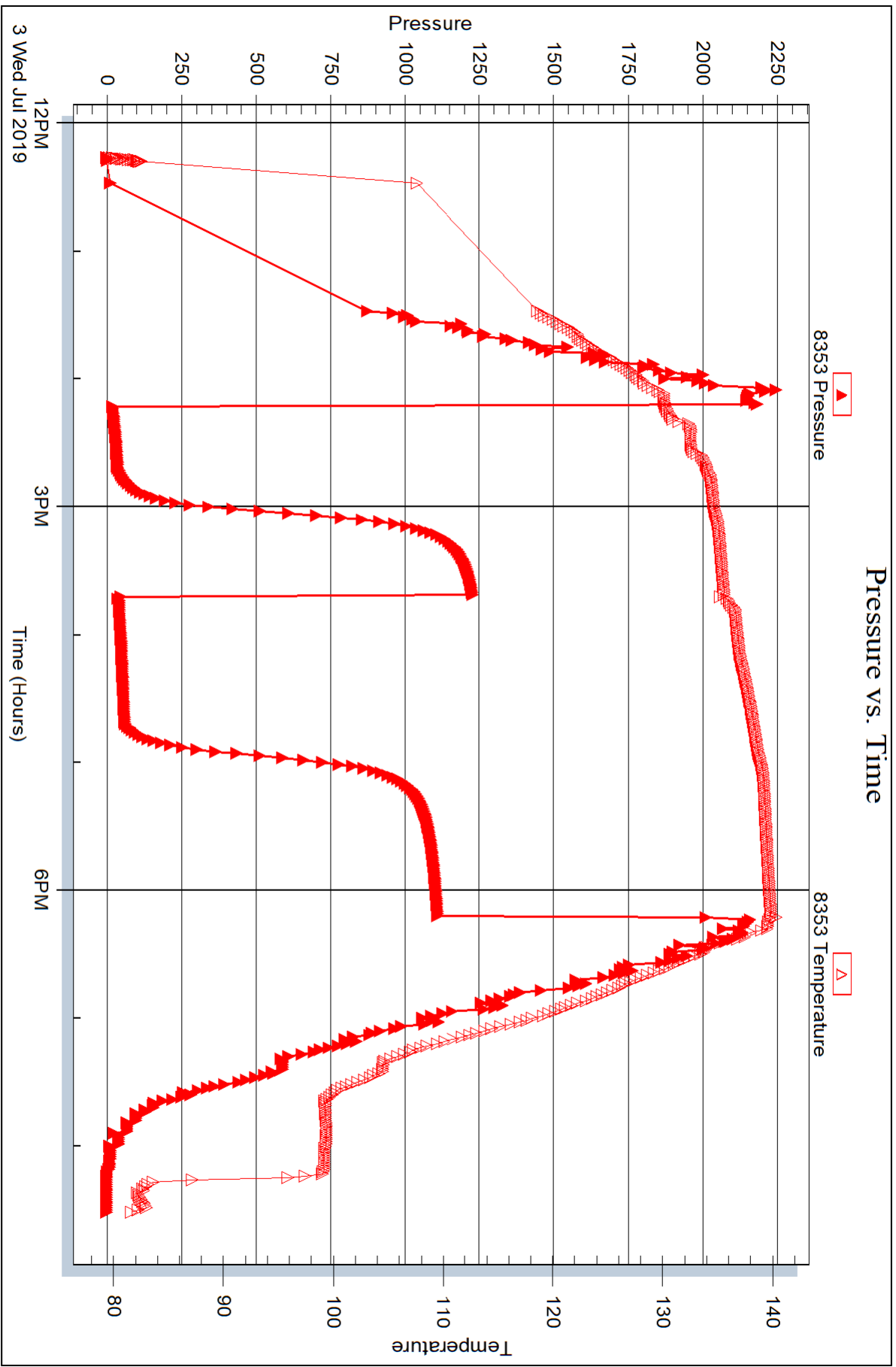
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Smith A #2-21

DST Test Number: 3





DRILL STEM TEST REPORT

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

250 N. Wate STE 300
Wichita KS 67202

ATTN: Saman Sharifaie

Smith A #2-21

21-2S-37W Cheyenne,KS

Start Date: 2019.07.04 @ 09:32:00

End Date: 2019.07.04 @ 18:25:00

Job Ticket #: 65258 DST #: 4

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

Printed: 2019.07.08 @ 11:51:34

Murfin Drilling Co. Inc. 21-2S-37W Cheyenne,KS Smith A #2-21 DST # 4 LKC " H - J " 2019.07.04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne, KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65258

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2019.07.04 @ 09:32:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:47:10

Time Test Ended: 18:25:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4476.00 ft (KB) To 4570.00 ft (KB) (TVD)

Reference Elevations: 3416.00 ft (KB)

Total Depth: 4570.00 ft (KB) (TVD)

3411.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366

Outside

Press@RunDepth: 218.03 psig @ 4477.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.04

End Date:

2019.07.04

Last Calib.:

2019.07.04

Start Time: 09:32:01

End Time:

18:25:00

Time On Btm:

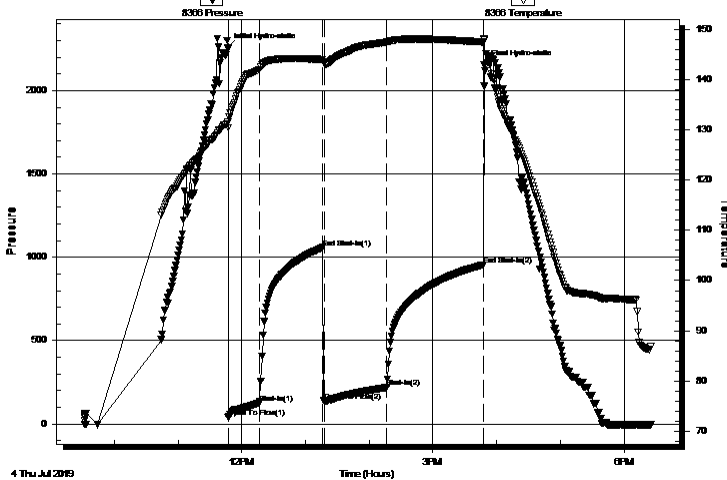
2019.07.04 @ 11:46:50

Time Off Btm:

2019.07.04 @ 15:48:10

TEST COMMENT: 30 IF - BOB @ 6 mins
60 ISI - Return built to 5" died back to 3"
60 FF - BOB @ 8 mins
90 FSI - Return built to 9" died back to 2"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2255.54	131.68	Initial Hydro-static
1	37.87	130.48	Open To Flow (1)
30	124.59	142.07	Shut-In(1)
90	1058.85	144.09	End Shut-In(1)
91	137.12	143.27	Open To Flow (2)
150	218.03	147.53	Shut-In(2)
241	954.65	147.56	End Shut-In(2)
242	2156.56	147.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GMCO - 30%G - 25%M - 45%o	0.59
470.00	GO - 40%G - 60%o	6.07
0.00	1323' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65258

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2019.07.04 @ 09:32:00

Tool Information

Drill Pipe:	Length: 4293.00 ft	Diameter: 3.80 inches	Volume: 60.22 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 61.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4476.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	94.00 ft			
Tool Length:	122.00 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			4453.00	
Hydraulic tool	5.00			4458.00	
Jars	5.00			4463.00	
Safety Joint	3.00			4466.00	
Packer	5.00			4471.00	28.00 Bottom Of Top Packer
Packer	5.00			4476.00	
Stubb	1.00			4477.00	
Recorder	0.00	8353	Inside	4477.00	
Recorder	0.00	8366	Outside	4477.00	
Perforations	25.00			4502.00	
Blank Spacing	65.00			4567.00	
Bullnose	3.00			4570.00	94.00 Bottom Packers & Anchor
Total Tool Length:	122.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65258

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2019.07.04 @ 09:32:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GMCO - 30%G - 25%M - 45%o	0.590
470.00	GO - 40%G - 60%o	6.074
0.00	1323' GIP	0.000

Total Length: 590.00 ft Total Volume: 6.664 bbl

Num Fluid Samples: 0

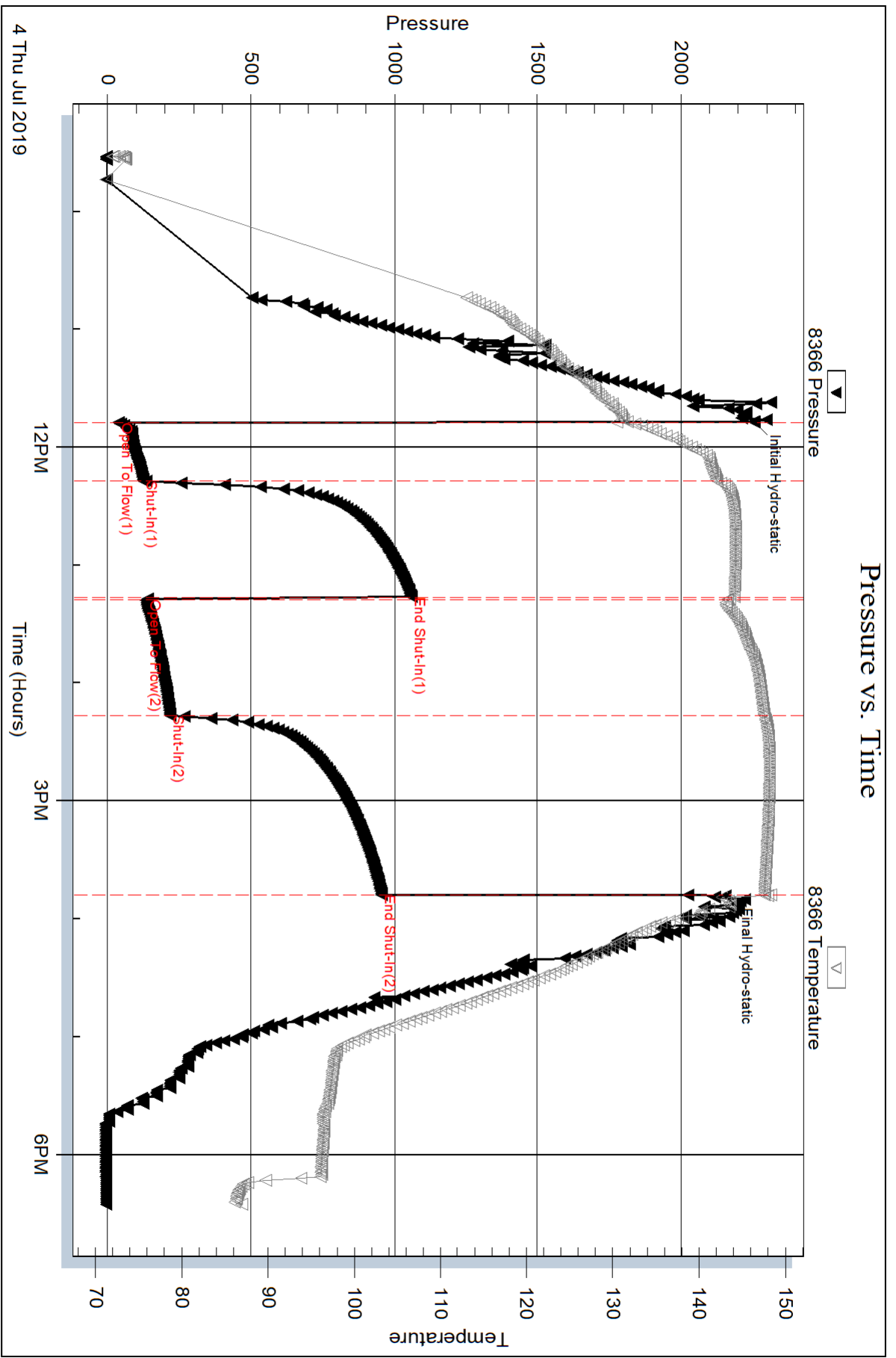
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 38 @ 90 DEG F = 35 COR 60 DEG F



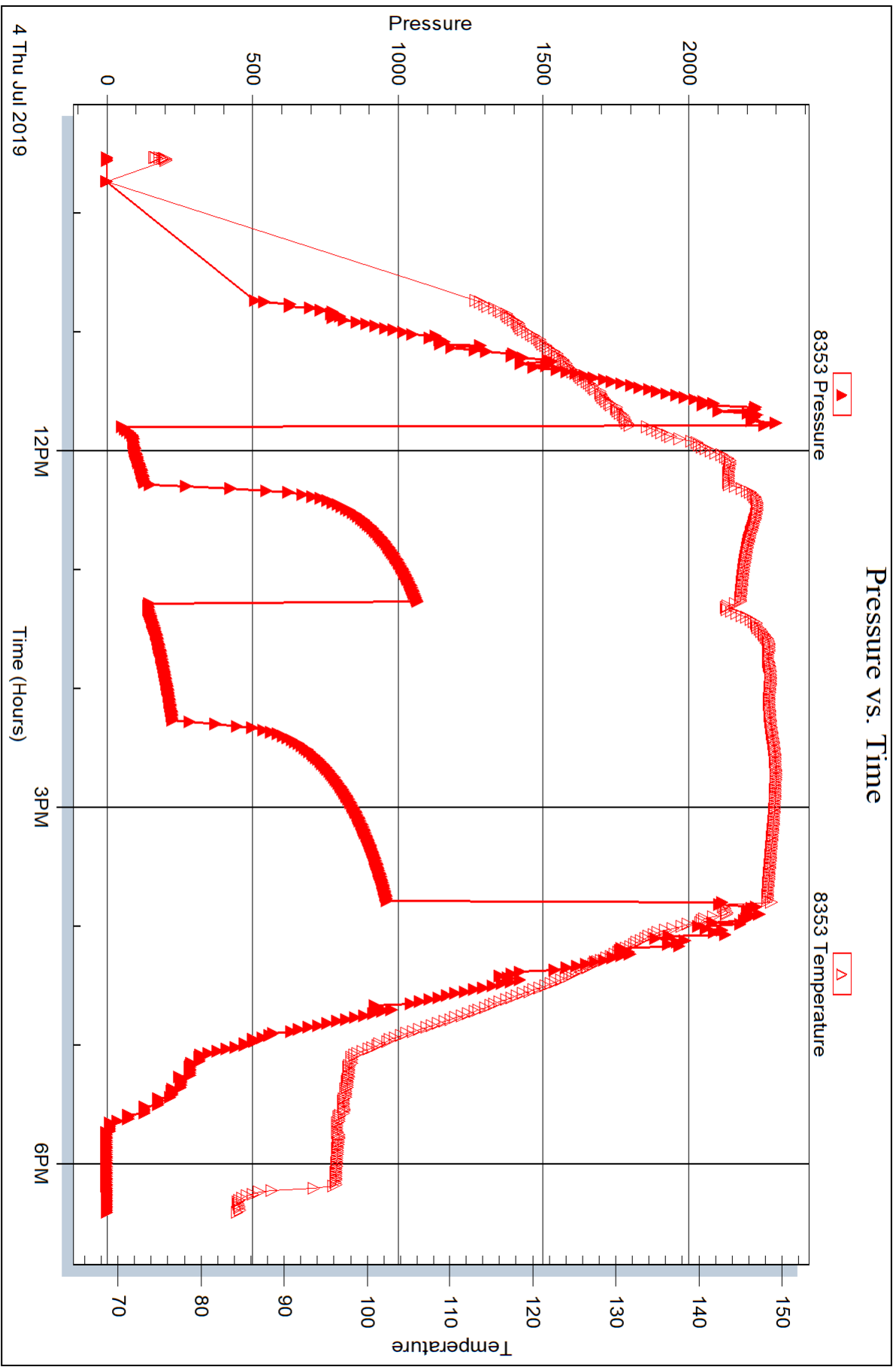
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Smith A #2-21

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 65258

Printed: 2019.07.08 @ 11:51:36



DRILL STEM TEST REPORT

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

250 N. Wate STE 300
Wichita KS 67202

ATTN: Saman Sharifaie

Smith A #2-21

21-2S-37W Cheyenne,KS

Start Date: 2019.07.05 @ 21:05:00

End Date: 2019.07.06 @ 08:01:10

Job Ticket #: 65259 DST #: 5

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

Printed: 2019.07.08 @ 11:48:41



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne, KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65259

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2019.07.05 @ 21:05:00

GENERAL INFORMATION:

Formation: **Ft. Scott - Celia**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:25:40
 Time Test Ended: 08:01:10
 Interval: **4722.00 ft (KB) To 4860.00 ft (KB) (TVD)**
 Total Depth: 4860.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 3416.00 ft (KB)
 3411.00 ft (CF)
 KB to GR/CF: 5.00 ft

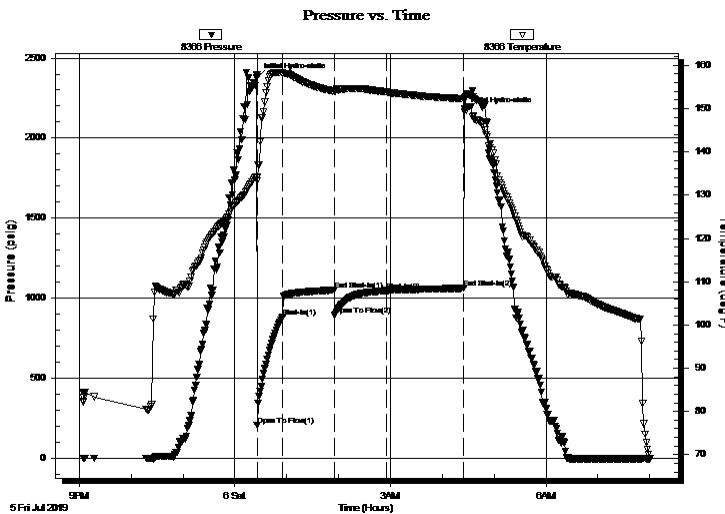
Serial #: 8366

Outside

Press@RunDepth: 1044.72 psig @ 4723.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.07.05 End Date: 2019.07.06 Last Calib.: 2019.07.06
 Start Time: 21:05:01 End Time: 08:01:10 Time On Btm: 2019.07.06 @ 00:25:30
 Time Off Btm: 2019.07.06 @ 04:25:30

TEST COMMENT: 30 IF - BoB @ 1 1/2 mins
 60 ISI - No return
 60 FF - BoB @ 5 mins
 90 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2380.24	134.17	Initial Hydro-static
1	204.66	133.34	Open To Flow (1)
30	880.69	158.18	Shut-In(1)
90	1049.62	153.97	End Shut-In(1)
90	894.32	153.88	Open To Flow (2)
150	1044.72	153.88	Shut-In(2)
240	1060.30	152.28	End Shut-In(2)
240	2166.38	151.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM - 45%W - 55%M	0.30
1769.00	MCW - 10%W - 90%M	23.20
441.00	WCM - 40%W - 60%M	6.19
120.00	Mud 100%M	1.68

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65259

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2019.07.05 @ 21:05:00

Tool Information

Drill Pipe:	Length: 4474.00 ft	Diameter: 3.80 inches	Volume: 62.76 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 237.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 63.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4722.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	138.00 ft			
Tool Length:	166.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			4699.00	
Hydraulic tool	5.00			4704.00	
Jars	5.00			4709.00	
Safety Joint	3.00			4712.00	
Packer	5.00			4717.00	28.00 Bottom Of Top Packer
Packer	5.00			4722.00	
Stubb	1.00			4723.00	
Recorder	0.00	8353	Inside	4723.00	
Recorder	0.00	8366	Outside	4723.00	
Perforations	5.00			4728.00	
Blank Spacing	129.00			4857.00	
Bullnose	3.00			4860.00	138.00 Bottom Packers & Anchor

Total Tool Length: 166.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-2S-37W Cheyenne,KS

250 N. Wate STE 300
Wichita KS 67202

Smith A #2-21

Job Ticket: 65259

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2019.07.05 @ 21:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	WCM - 45%W - 55%M	0.295
1769.00	MCW - 10%W - 90%M	23.202
441.00	WCM - 40%W - 60%M	6.186
120.00	Mud 100%M	1.683

Total Length: 2390.00 ft Total Volume: 31.366 bbl

Num Fluid Samples: 0

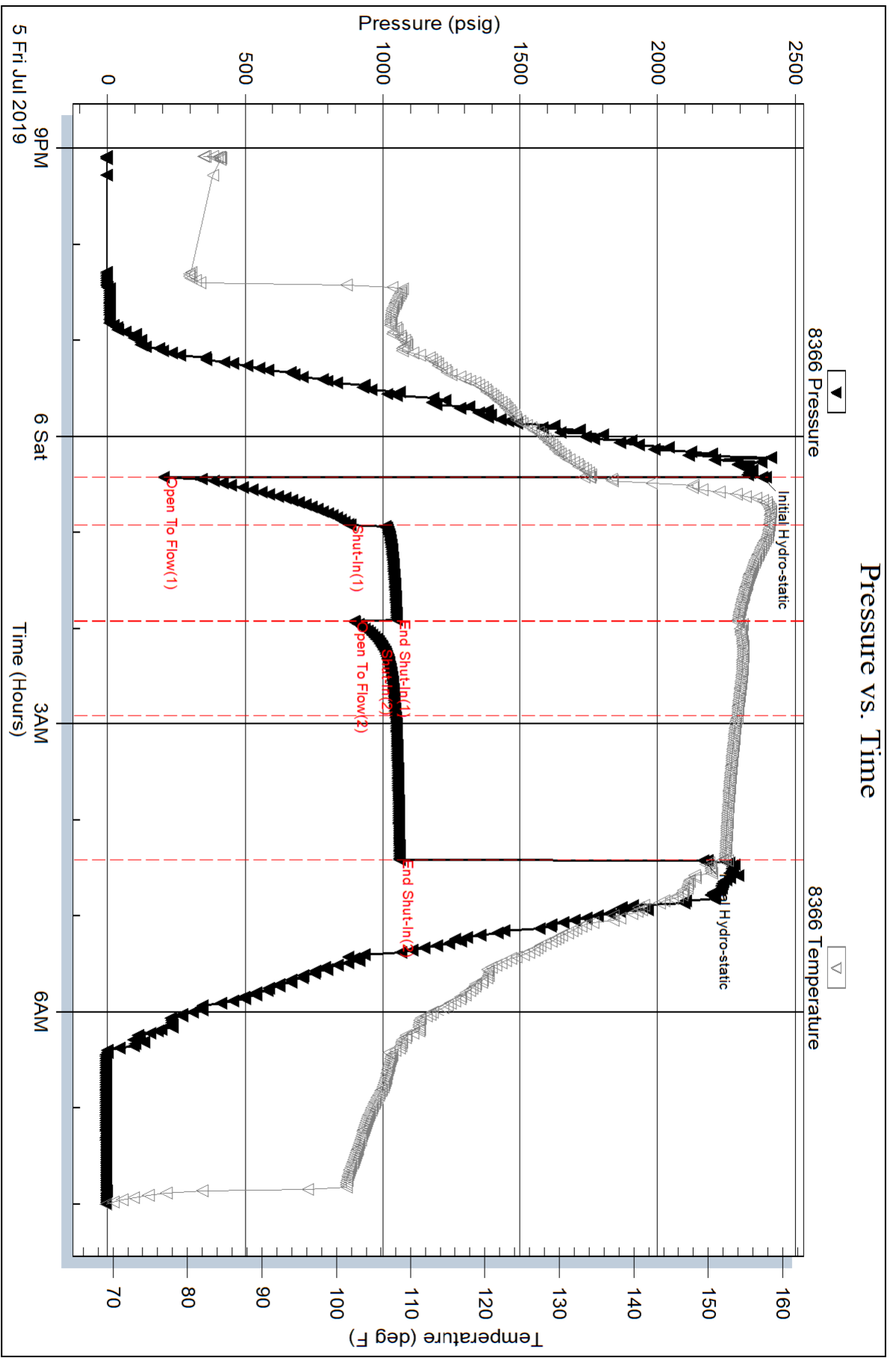
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .285 @ 55 DEG F
Chlorides = 30,000 ppm



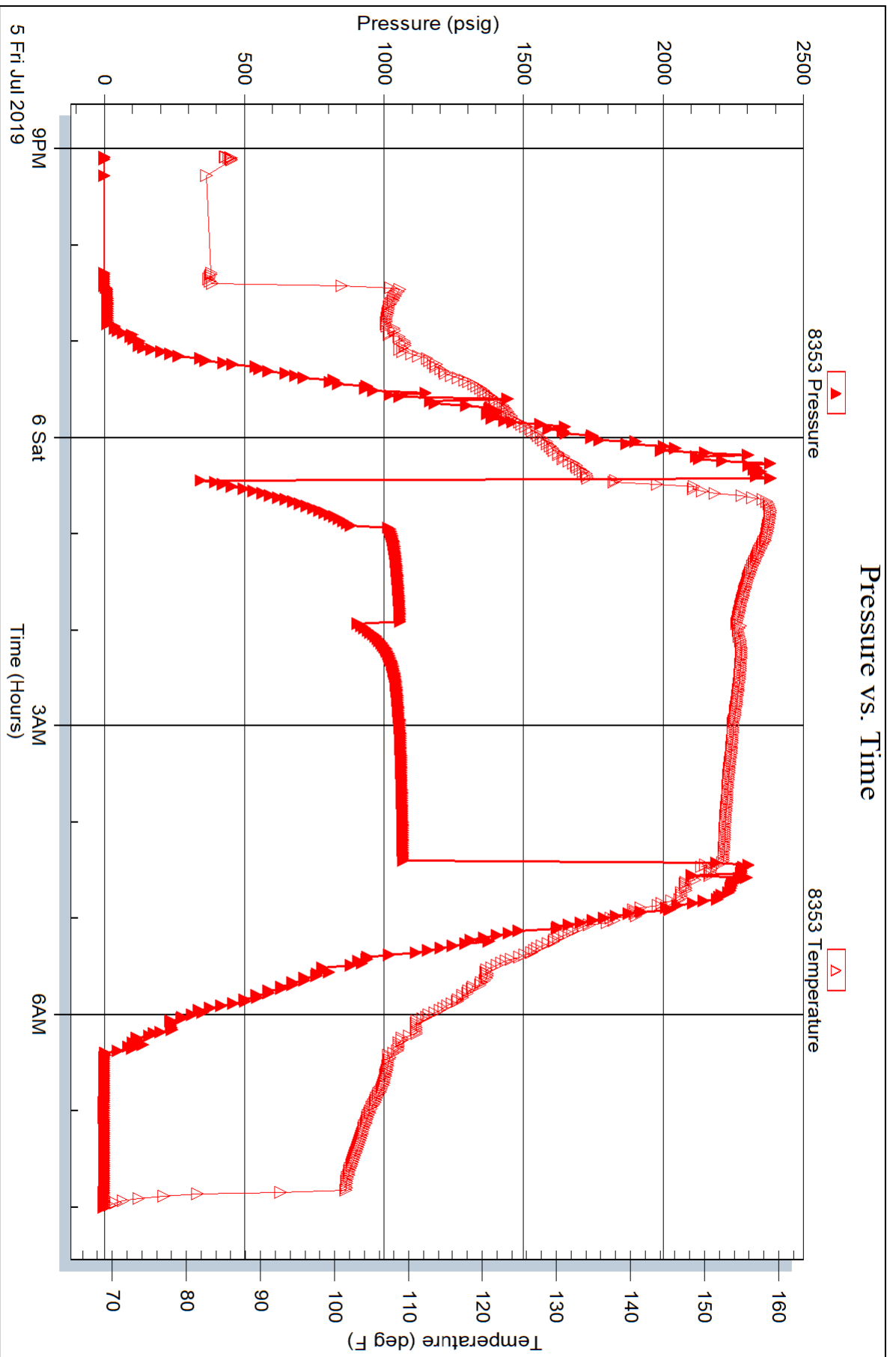
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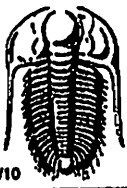
Inside

Murfin Drilling Co. Inc.

Smith A #2-21

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65255

Well Name & No. Smith A #2-21 Test No. 1 Date 1/2/19
 Company Martin Drilling Co. Inc. Elevation 3416 KB 3411 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharitaie Rig Martin #3
 Location: Sec. 21 Twp 25 Rge. 37W Co. Cheyenne State KS

Interval Tested 4292-4361 Zone Tested LKL "A"
 Anchor Length 69' Drill Pipe Run 4106' Mud Wt. 8.9
 Top Packer Depth 4287 Drill Collars Run 177' Vis 64
 Bottom Packer Depth 4292 Wt. Pipe Run 0' WL 5.6
 Total Depth 4361 Chlorides 600 ppm System LCM 4
 Blow Description 30 IF - Blow built to 1" died back to 1/4"
60 ISI - No return
30 FF - No blow
60 FSI - No return

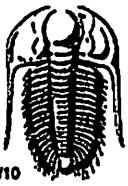
Rec	Feet of	%gas	%oil	%water	%mud
<u>2'</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2' BHT 138° Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>2128</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>00:45</u>
(B) First Initial Flow <u>10</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>01:11</u>
(C) First Final Flow <u>11</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>03:56</u>
(D) Initial Shut-In <u>31</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>07:00</u>
(E) Second Initial Flow <u>9</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>08:45</u>
(F) Second Final Flow <u>10</u>	<input checked="" type="checkbox"/> Mileage <u>120 120 RT</u>	Comments <u>waited on cat</u>
(G) Final Shut-In <u>13</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2086</u>	<input type="checkbox"/> Straddle	
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> EM Tool
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Accessibility	Sub Total <u>0</u>
	Sub Total <u>1745</u>	Total <u>1745</u>
		MP/DST Disc't <u>—</u>

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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65256

Well Name & No. Smith A # 2-21 Test No. 2 Date 1/2/19
 Company Murfin Drilling Co. Inc. Elevation 3416 KB 3411 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin # 3
 Location: Sec. 21 Twp 25 Rge. 37W Co. Cherokee State KS

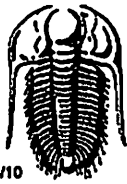
Interval Tested 4361 - 4418 Zone Tested LKC "D"
 Anchor Length 57' Drill Pipe Run 4168' Mud Wt. 9.1
 Top Packer Depth 4356 Drill Collars Run 177' Vls 51
 Bottom Packer Depth 4361 Wt. Pipe Run 0' WL 7.2
 Total Depth 4418 Chlorides 1200 ppm System LCM 3
 Blow Description 30 FF - Blow built to 1/2" died back to 1/4"
60 FSI - No return
30 FF - No blow
60 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>OCM</u>	<u>20</u>		<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 137° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2122</u>	<input checked="" type="checkbox"/> Test 1300	T-On Location <u>17:00</u>
(B) First Initial Flow <u>10</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>17:22</u>
(C) First Final Flow <u>12</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>20:13</u>
(D) Initial Shut-In <u>1018</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>23:13</u>
(E) Second Initial Flow <u>13</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>01:30</u>
(F) Second Final Flow <u>15</u>	<input checked="" type="checkbox"/> Mileage <u>120 RT</u> 120	Comments _____
(G) Final Shut-In <u>942</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2052</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1745</u>
	Sub Total <u>1745</u>	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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65257

Well Name & No. Smith A #2-21 Test No. 3 Date 7/3/19
 Company Martin Drilling Co. Inc. Elevation 3416 KB 3411 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifae Rig Martin #3
 Location: Sec. 21 Twp 25 Rge. 37W Co. Cheyenne State KS

Interval Tested 4418 - 4476 Zone Tested LKC "G"
 Anchor Length 58' Drill Pipe Run 4220' Mud Wt. 9.0
 Top Packer Depth 4413 Drill Collars Run 177' Vis 56
 Bottom Packer Depth 4418 Wt. Pipe Run 0' WL 6.8
 Total Depth 4496 Chlorides 800 ppm System LCM 4
 Blow Description 30 IF - Blow built to 2 1/2"
60 ISI - No return
60 FF - Blow built to 4"
90 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>40'</u>	<u>60CM</u>	<u>10</u>	<u>30</u>	<u>60</u>	<u>0</u>
<u>60'</u>	<u>60CM</u>	<u>20</u>	<u>40</u>	<u>40</u>	<u>0</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 100' BHT 140° Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>2177</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>12:00</u>
(B) First Initial Flow <u>13</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:16</u>
(C) First Final Flow <u>30</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>14:13</u>
(D) Initial Shut-In <u>1200</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>18:12</u>
(E) Second Initial Flow <u>30</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>18:30 20:30</u>
(F) Second Final Flow <u>51</u>	<input checked="" type="checkbox"/> Mileage <u>120 RT</u> 120	Comments _____
(G) Final Shut-In <u>1100</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2193</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1745</u>
	Sub Total <u>1745</u>	MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65258

Well Name & No. Smith A #2-21 Test No. 4 Date 7/10/19
 Company Martin Drilling Co. Inc. Elevation 3416 KB 3411 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Martin #3
 Location: Sec. 21 Twp 25 Rge. 37W Co. Cheyenne State KS

Interval Tested 4476 - 4570 Zone Tested LKC "H-J"
 Anchor Length 94' Drill Pipe Run 4293' Mud Wt. 9.0
 Top Packer Depth 4471 Drill Collars Run 177' Vis 56
 Bottom Packer Depth 4476 Wt. Pipe Run 0' WL 6.8
 Total Depth 4570 Chlorides 800 ppm System LCM 4

Blow Description 30 IFE - BoB @ 6 mins
60 ISE - Return built to 5" died back to 3"
60 FE - BoB @ 8 mins
90 FST - Return built to 9" died back to 2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>470</u>	<u>GO</u>	<u>40</u>	<u>60</u>		
<u>120</u>	<u>GMLC</u>	<u>30</u>	<u>45</u>	<u>25</u>	

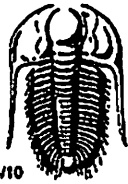
Rec Total 590 BHT 148° Gravity 35 COR 60 API RW @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2256</u>	<input type="checkbox"/> Test <u>1300</u>	T-On Location <u>09:00</u>
(B) First Initial Flow <u>38</u>	<input type="checkbox"/> Jars <u>250</u>	T-Started <u>09:32</u>
(C) First Final Flow <u>125</u>	<input type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>11:47</u>
(D) Initial Shut-In <u>1059</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>15:47</u>
(E) Second Initial Flow <u>137</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>18:30</u>
(F) Second Final Flow <u>218</u>	<input type="checkbox"/> Mileage <u>120</u>	Comments <u>1323' GIP</u>
(G) Final Shut-In <u>955</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2157</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool

Initial Open 30 Shale Packer
 Initial Shut-In 60 Extra Packer
 Final Flow 60 Extra Recorder
 Final Shut-In 90 Day Standby
 Accessibility
 Sub Total 1745 MP/DST Disc't

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65259

Well Name & No. Smith A # 2-21 Test No. 5 Date 7/5/19
 Company Murfin Drilling Co. Inc. Elevation 3416 KB 3411 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifae Rig Murfin # 3
 Location: Sec. 21 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4722-4860 Zone Tested Ft. Scott - Celis
 Anchor Length 138' Drill Pipe Run 4474' Mud Wt. 9.1
 Top Packer Depth 4717 Drill Collars Run 237' Vis 60
 Bottom Packer Depth 4722 Wt. Pipe Run 00' WL 6.8
 Total Depth 4860 Chlorides 800 ppm System LCM 3

Blow Description 30 IF - Bob @ 1 1/2 mins
60 ISI - No return
60 FF - Bob @ 5 mins
90 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>120'</u>	<u>Mud</u>			<u>100</u>	
<u>441'</u>	<u>WCM</u>		<u>40</u>	<u>60</u>	
<u>1769'</u>	<u>MCW</u>		<u>90</u>	<u>10</u>	
<u>60'</u>	<u>WCM</u>		<u>45</u>	<u>55</u>	
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2390' BHT 1520 Gravity — API RW 1285 @ 55 °F Chlorides 30,000 ppm

(A) Initial Hydrostatic <u>2380</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>20:30</u>
(B) First Initial Flow <u>205</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>21:05</u>
(C) First Final Flow <u>881</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:25</u>
(D) Initial Shut-In <u>1050</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>04:24</u>
(E) Second Initial Flow <u>894</u>	<input type="checkbox"/> Hourly Standby <u>1.5h 150</u>	T-Out <u>08:00</u>
(F) Second Final Flow <u>1045</u>	<input checked="" type="checkbox"/> Mileage <u>120 RY</u> <u>120</u>	Comments <u>Waited on lat</u>
(G) Final Shut-In <u>1060</u>	<input type="checkbox"/> Sampler	<u>till 10:00</u>
(H) Final Hydrostatic <u>2166</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool

Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1745</u>
	Sub Total <u>1745</u>	MP/DST Disc't

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