

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Soucie Kriss #1-14

14-10-34W Thomas, KS

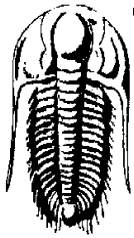
Start Date: 2019.08.25 @ 00:23:00

End Date: 2019.08.25 @ 09:40:49

Job Ticket #: 64375 DST #: 1

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

Printed: 2019.08.28 @ 08:36:27



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

14-10-34W Thomas, KS

Soucie Kriss #1-14

Job Ticket: 64375

DST#: 1

Test Start: 2019.08.25 @ 00:23:00

GENERAL INFORMATION:

Formation: **LKC "H-I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:18:30

Time Test Ended: 09:40:49

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

Interval: 4295.00 ft (KB) To 4368.00 ft (KB) (TVD)

Total Depth: 4368.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3217.00 ft (KB)

3209.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8734 Outside

Press@RunDepth: 109.58 psig @ 4296.00 ft (KB)

Start Date: 2019.08.25

End Date:

2019.08.25

Start Time: 00:23:01

End Time:

09:40:49

Capacity: 8000.00 psig

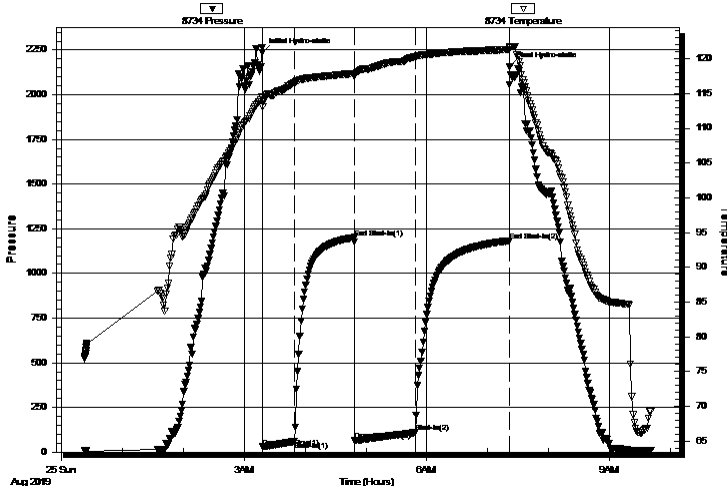
Last Calib.: 2019.08.25

Time On Btm: 2019.08.25 @ 03:18:20

Time Off Btm: 2019.08.25 @ 07:21:39

TEST COMMENT: 30-IF-Surface blow built to 2 1/2"
60-ISI-No blow back
60-FF-Weak s.blow @ 3 mins built to 2"
90-FSI-No blow back

Pressure vs. Time



PRESSURE SUMMARY

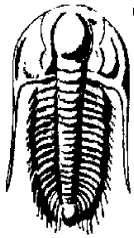
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2237.29	114.44	Initial Hydro-static
1	28.75	113.10	Open To Flow (1)
32	59.56	116.57	Shut-In(1)
91	1201.26	117.89	End Shut-In(1)
91	64.61	117.46	Open To Flow (2)
151	109.58	120.28	Shut-In(2)
243	1182.77	121.33	End Shut-In(2)
244	2158.10	121.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	OSWCM 3%O, 37%W, 60%M	0.74

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

14-10-34W Thomas, KS

Soucie Kriss #1-14

Job Ticket: 64375

DST#: 1

Test Start: 2019.08.25 @ 00:23:00

GENERAL INFORMATION:

Formation: **LKC "H-I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:18:30

Time Test Ended: 09:40:49

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

Interval: 4295.00 ft (KB) To 4368.00 ft (KB) (TVD)

Total Depth: 4368.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3217.00 ft (KB)

3209.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8959 Inside

Press@RunDepth: psig @ 4296.00 ft (KB)

Start Date: 2019.08.25

End Date:

2019.08.25

Start Time: 00:23:01

End Time:

09:40:40

Capacity: 8000.00 psig

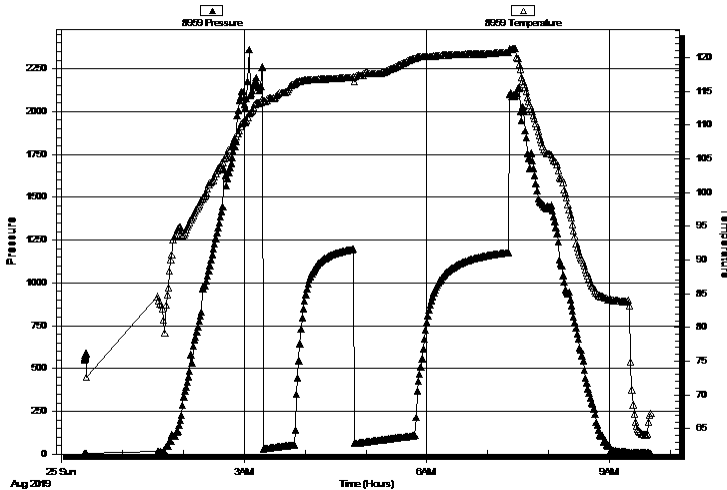
Last Calib.: 2019.08.25

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF-Surface blow built to 2 1/2"
60-ISI-No blow back
60-FF-Weak s.blow @ 3 mins built to 2"
90-FSI-No blow back

Pressure vs. Time



PRESSURE SUMMARY

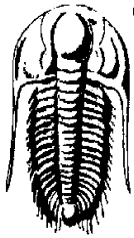
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
-------------	-----------------	--------------	------------

Recovery

Length (ft)	Description	Volume (bbl)
150.00	OSWCM 3%O, 37%W, 60%M	0.74

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

14-10-34W Thomas, KS

250 N. Water STE 300
Wichita, KS 67202

Soucie Kriss #1-14

Job Ticket: 64375

DST#: 1

ATTN: Robert Hendrix

Test Start: 2019.08.25 @ 00:23:00

Tool Information

Drill Pipe:	Length: 4105.00 ft	Diameter: 3.80 inches	Volume: 57.58 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 72000.00 lb
			Total Volume: 58.49 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4295.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	101.00 ft			
Number of Packers:	2	Diameter:	6.75 inches	

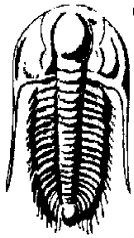
Tool Comments: Pulled 18K over STWT coming off bottom

Tool Description

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

Shut In Tool	5.00			4272.00	
Hydraulic tool	5.00	1113		4277.00	
Jars	5.00	01-07		4282.00	
Safety Joint	3.00	-001		4285.00	
Packer	5.00			4290.00	28.00 Bottom Of Top Packer
Packer	5.00			4295.00	
Stubb	1.00			4296.00	
Recorder	0.00	8959	Inside	4296.00	
Recorder	0.00	8734	Outside	4296.00	
Perforations	34.00			4330.00	
Change Over Sub	1.00			4331.00	
Drill Pipe	31.00			4362.00	
Change Over Sub	1.00			4363.00	
Bullnose	5.00			4368.00	73.00 Bottom Packers & Anchor

Total Tool Length: 101.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

14-10-34W Thomas, KS

250 N. Water STE 300
Wichita, KS 67202

Soucie Kriss #1-14

Job Ticket: 64375

DST#: 1

ATTN: Robert Hendrix

Test Start: 2019.08.25 @ 00:23:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

40000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	OSWCM 3%O, 37%W, 60%M	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:

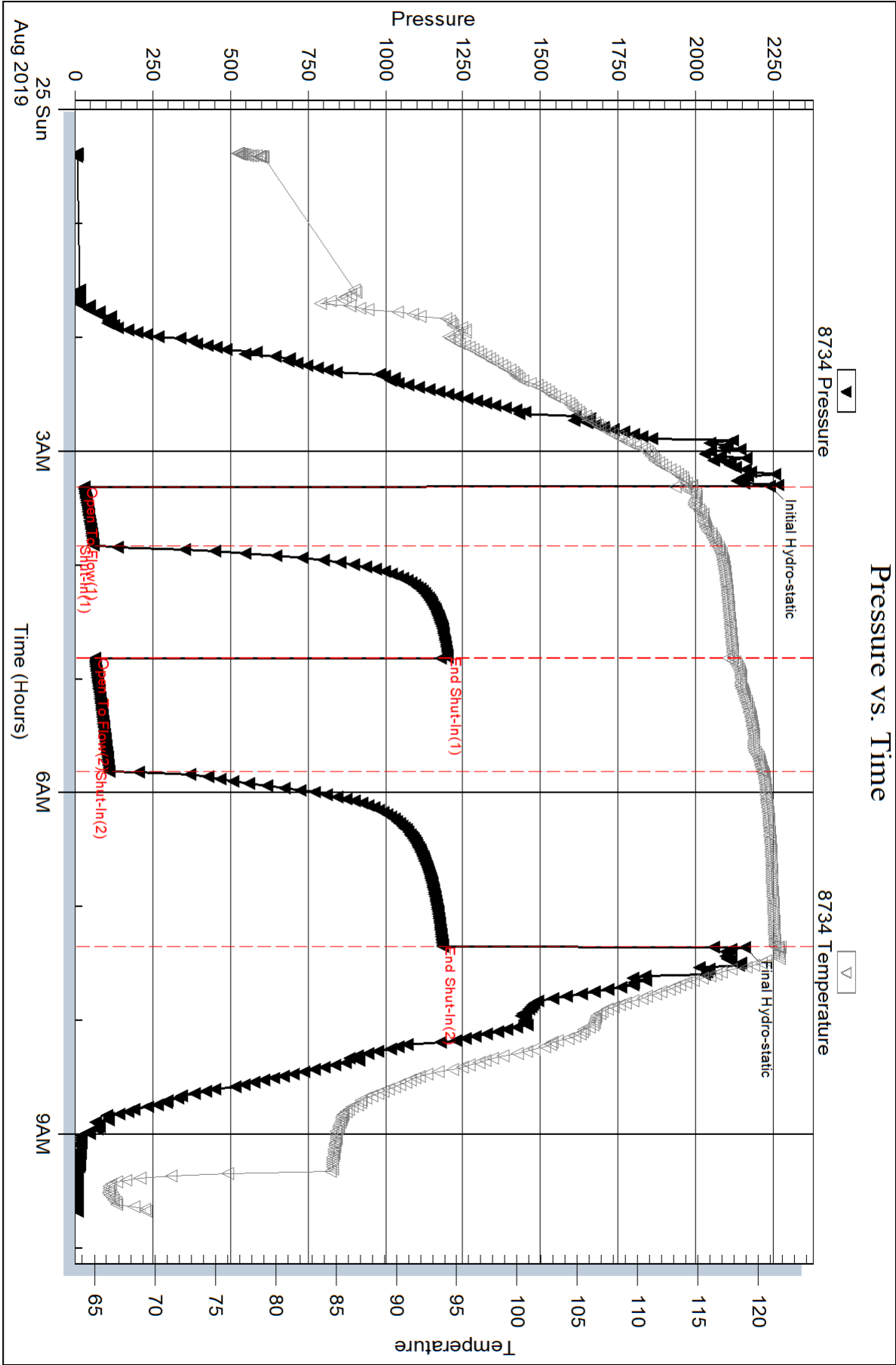
Recovery Comments: RW= .197 @ 68.5 degs = 40,000PPM

Serial #: 8734

Outside Murfin Drilling Co Inc

Soucie Kriss #1-14

DST Test Number: 1



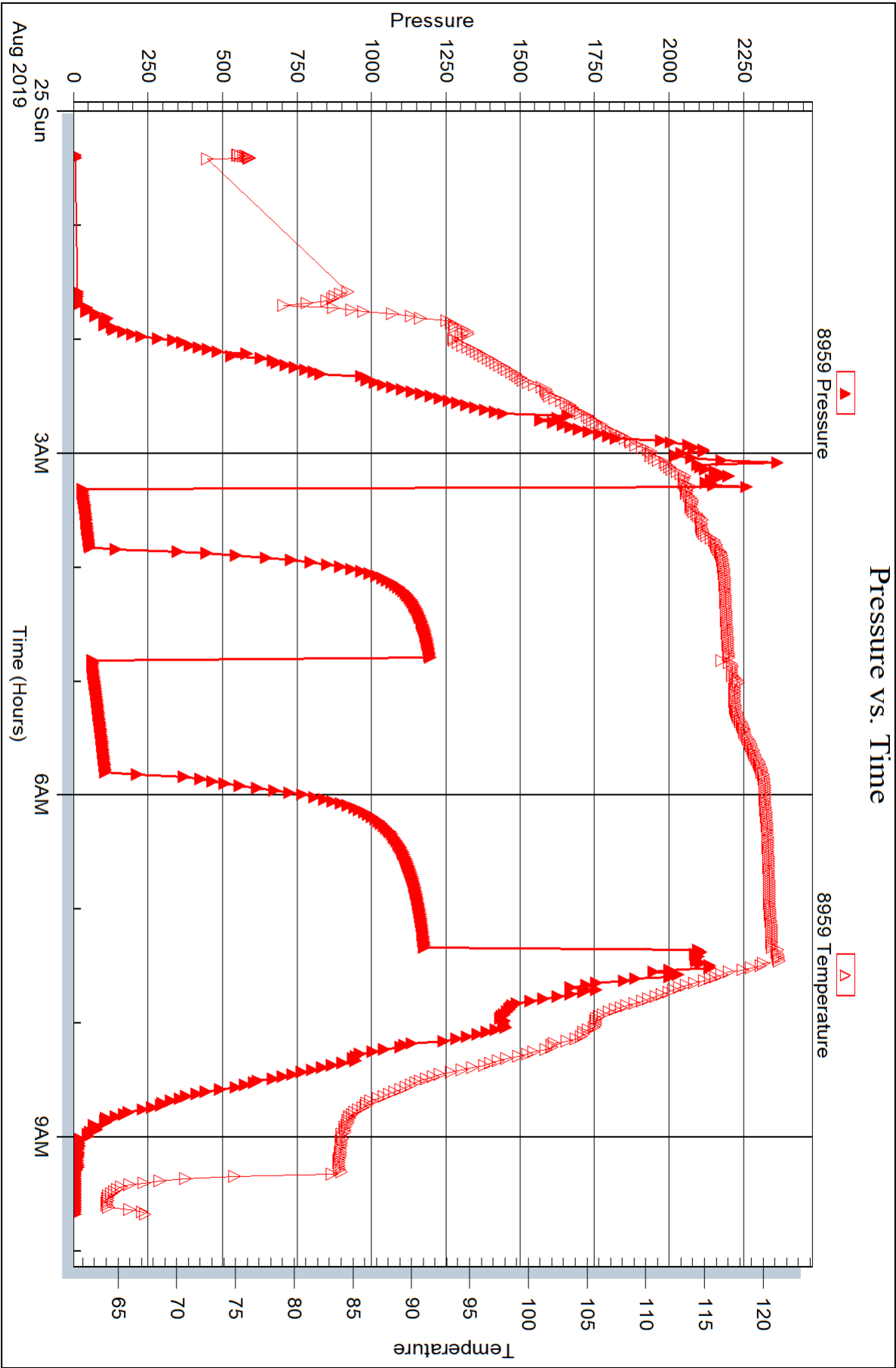
Serial #: 8959

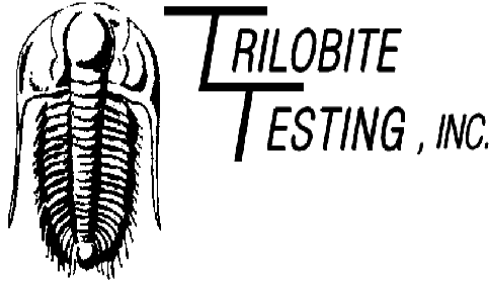
Inside

Murfin Drilling Co Inc

Soucie Kriss #1-14

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Soucie Kriss #1-14

14-10-34W Thomas, KS

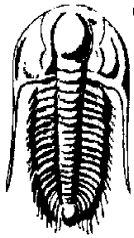
Start Date: 2019.08.27 @ 08:34:00

End Date: 2019.08.27 @ 16:16:30

Job Ticket #: 65551 DST #: 2

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

Printed: 2019.08.28 @ 08:35:55



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

14-10-34W Thomas, KS

Soucie Kriss #1-14

Job Ticket: 65551

DST#: 2

Test Start: 2019.08.27 @ 08:34:00

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:55:00

Time Test Ended: 16:16:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4684.00 ft (KB) To 4736.00 ft (KB) (TVD)

Total Depth: 4736.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3217.00 ft (KB)

3209.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8734 Outside

Press@RunDepth: 34.78 psig @ 4685.00 ft (KB)

Start Date: 2019.08.27

End Date:

2019.08.27

Start Time: 08:34:01

End Time:

16:16:30

Capacity: 8000.00 psig

Last Calib.: 2019.08.27

Time On Btm: 2019.08.27 @ 10:54:50

Time Off Btm: 2019.08.27 @ 13:58:09

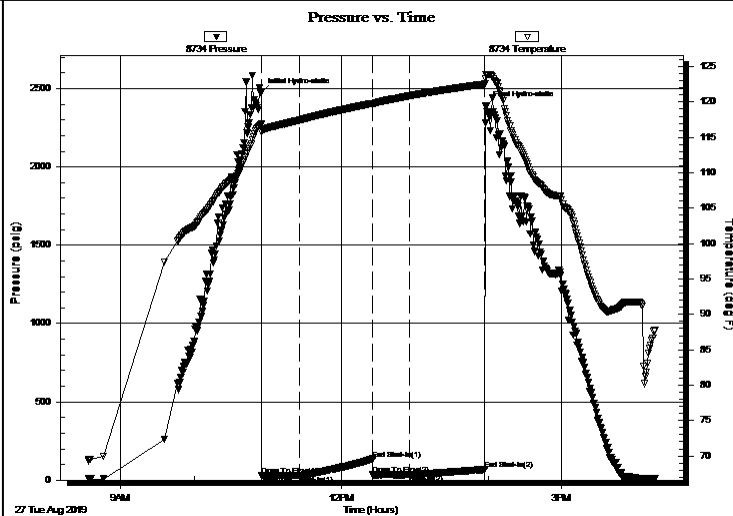
TEST COMMENT: 30-IF-Surface blow built to 1/2" @ 13 mins & decreased to 1/4"

60-ISI-No blow back

30-FF-No blow

60-FSI-No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2475.29	116.86	Initial Hydro-static
1	29.29	115.75	Open To Flow (1)
32	28.95	117.44	Shut-In (1)
91	135.19	119.80	End Shut-In (1)
92	34.65	119.76	Open To Flow (2)
122	34.78	120.87	Shut-In (2)
183	67.40	122.52	End Shut-In (2)
184	2388.84	123.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 4%O, 96%M	0.02

Gas Rates

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

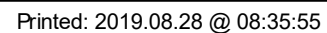
* Recovery from multiple tests

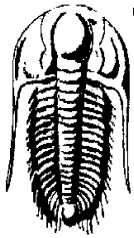


Test Start: 2019.08.27 @ 08:34:00

KB to GR/CF: 8.00 ft

60-FSI-No blow back





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

14-10-34W Thomas, KS

250 N. Water STE 300
Wichita, KS 67202

Soucie Kriss #1-14

Job Ticket: 65551

DST#: 2

ATTN: Robert Hendrix

Test Start: 2019.08.27 @ 08:34:00

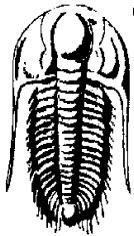
Tool Information

Drill Pipe:	Length: 4481.00 ft	Diameter: 3.80 inches	Volume: 62.86 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume:	63.77 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4684.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	80.00 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			4661.00	
Hydraulic tool	5.00	1113		4666.00	
Jars	5.00	01-07		4671.00	
Safety Joint	3.00	-001		4674.00	
Packer	5.00			4679.00	28.00 Bottom Of Top Packer
Packer	5.00			4684.00	
Stubb	1.00			4685.00	
Recorder	0.00	8959	Inside	4685.00	
Recorder	0.00	8734	Outside	4685.00	
Perforations	13.00			4698.00	
Change Over Sub	1.00			4699.00	
Drill Pipe	31.00			4730.00	
Change Over Sub	1.00			4731.00	
Bullnose	5.00			4736.00	52.00 Bottom Packers & Anchor

Total Tool Length: 80.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

14-10-34W Thomas, KS

250 N. Water STE 300
Wichita, KS 67202

Soucie Kriss #1-14

Job Ticket: 65551

DST#: 2

ATTN: Robert Hendrix

Test Start: 2019.08.27 @ 08:34:00

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: 62.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6100.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM 4%O, 96%M	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

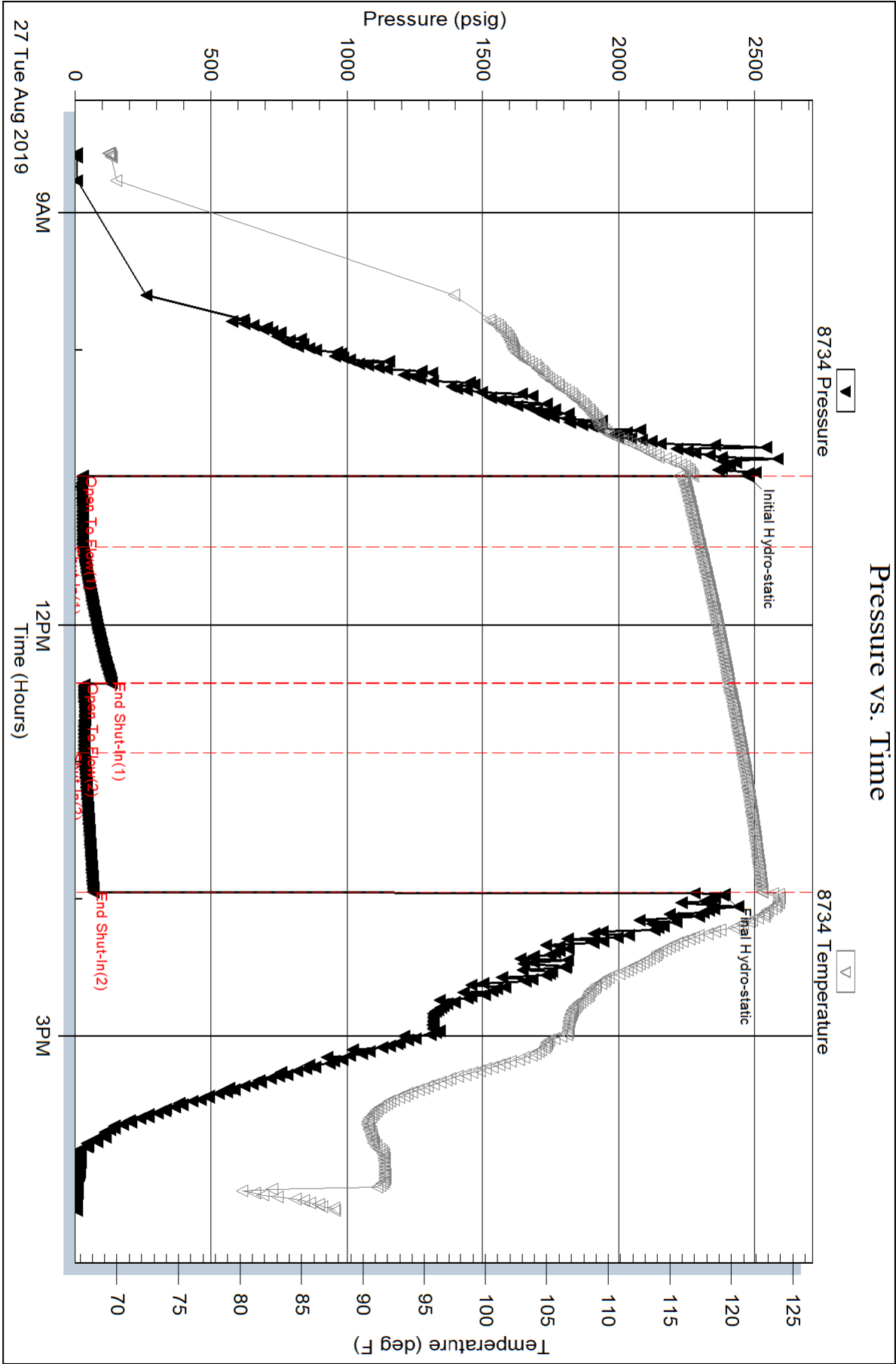
Serial #: 8734

Outside

Murfin Drilling Co Inc

Source Kriss #1-14

DST Test Number: 2



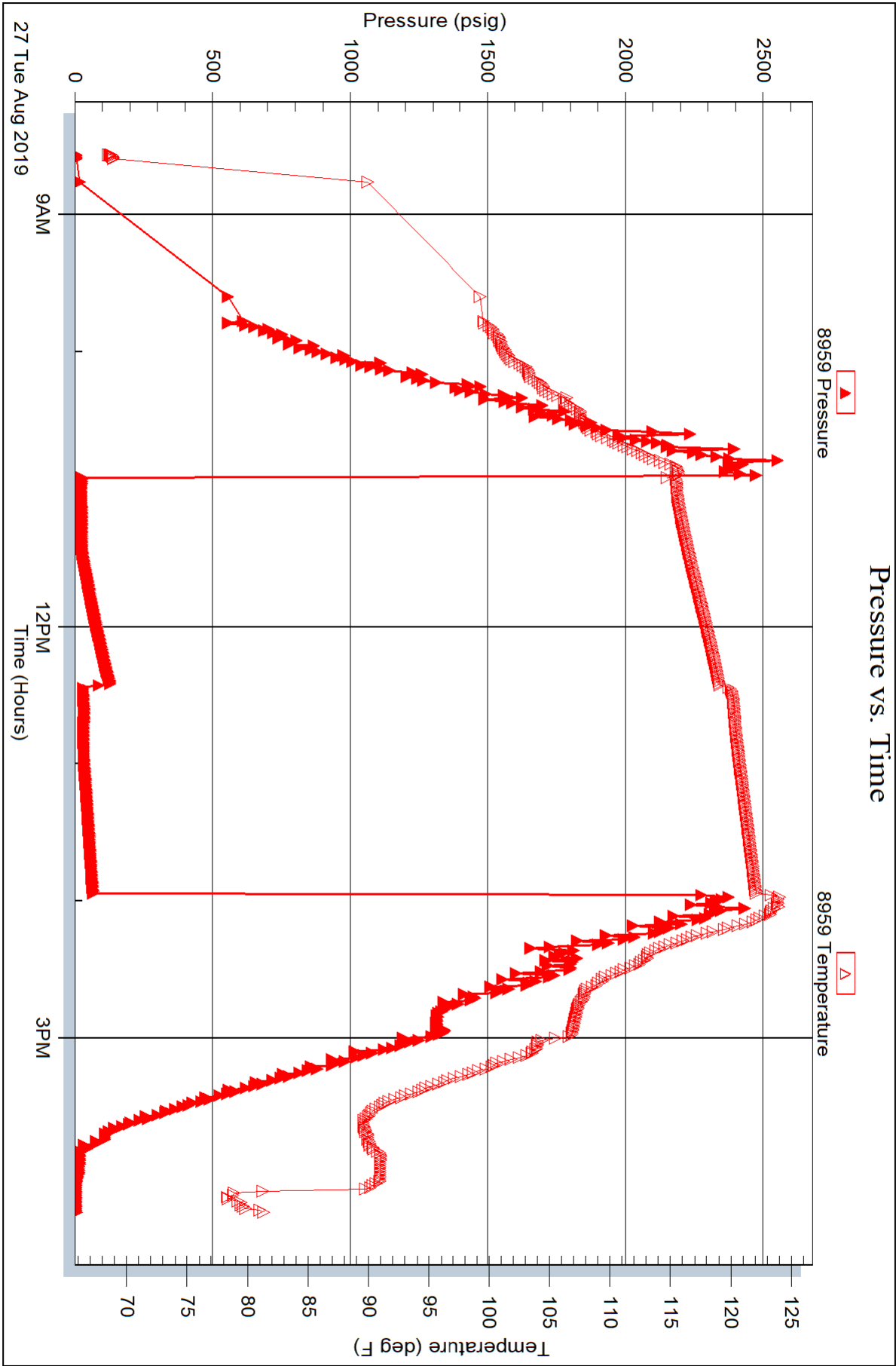
Serial #: 8959

Inside

Murfin Drilling Co Inc

Soucie Kriss #1-14

DST Test Number: 2





**TRILOBITE
TESTING INC.**

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64375**

Well Name & No. Soucie Kris Unit #1-14 Test No. 1 Date 8-24-19
 Company Murfin Drilling Co Inc Elevation 3217 KB 3205 GL
 Address 250 N. Water STE 300, Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig WW #112
 Location: Sec. 14 Twp 10 Rge. 34W Co. Thomas State KS

Interval Tested 4295 - 4368 Zone Tested Lansing "H-I"
 Anchor Length 73' Drill Pipe Run 4105 Mud Wt. 9.2
 Top Packer Depth 4290 Drill Collars Run 186 Vis 60
 Bottom Packer Depth 4295 Wt. Pipe Run — WL 8.0
 Total Depth 4368 Chlorides 5200 ppm System LCM 2H

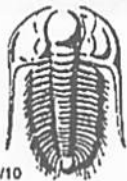
Blow Description IF - S. blow built to 2 1/2"
ISF - No blowback
FF - Weak S. blow @ 3 min built to 2"
FSI - No blowback

Rec <u>150</u>	Feet of <u>0.5 INCM</u>	%gas <u>3</u>	%oil <u>37</u>	%water <u>60</u>	%mud
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 122 Gravity — API RW .197 @ 68.5 °F Chlorides 40,000 ppm
 (A) Initial Hydrostatic 2237 ☒ Test 1300 T-On Location 22:00
 (B) First Initial Flow 29 ☒ Jars 250 T-Started 00:23
 (C) First Final Flow 60 ☒ Safety Joint 75 T-Open 03:18
 (D) Initial Shut-In 1201 ☐ Circ Sub — T-Pulled 07:18
 (E) Second Initial Flow 65 ☐ Hourly Standby — T-Out 09:41
 (F) Second Final Flow 110 ☒ Mileage 134 RT. 134 Comments Pulled 18K over STWT
 (G) Final Shut-In 1183 ☐ Sampler — Coming off bottom.
 (H) Final Hydrostatic 2158 ☐ Straddle —

Initial Open 30 ☐ Ruined Shale Packer —
 Initial Shut-In 60 ☐ Ruined Packer —
 Final Flow 60 ☐ Extra Packer —
 Final Shut-In 90 ☐ Extra Recorder — Sub Total 0
☐ Day Standby — Total 1759
☐ Accessibility — MP/DST Disc't —
 Sub Total 1759

Approved By RT 8.1/19 Our Representative Mark Johnson
 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. 65551

Well Name & No. Sourie Kriss Unit #1-14 Test No. 2 Date 8-27-19
 Company Murfin Drilling Co Inc. Elevation 3217 KB 3209 GL
 Address 250 N. Water, STE 300, Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig WIN # 112
 Location: Sec. 14 Twp 10 Rge 34W. Co. Thomas State KS.

Interval Tested 4684-4736 Zone Tested Johnson Zone.
 Anchor Length 52' Drill Pipe Run 4481 Mud Wt. 9.3
 Top Packer Depth 4679 Drill Collars Run 186 Vis 62
 Bottom Packer Depth 4684 Wt. Pipe Run — WL 8.4
 Total Depth 4736 Chlorides 6100 ppm System LCM 2#

Blow Description IF-S blow built to 1/2" @ 13 mins & decreased to 1/4"

ISI - No blowback

FF - No blow

FSI - No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>25M</u>	<u>4</u>		<u>96</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 124 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2475
 (B) First Initial Flow 29
 (C) First Final Flow 29
 (D) Initial Shut-In 135
 (E) Second Initial Flow 35
 (F) Second Final Flow 35
 (G) Final Shut-In 67
 (H) Final Hydrostatic 2389

☒ Test 1300
☒ Jars 250
☒ Safety Joint 75
☐ Circ Sub —
☐ Hourly Standby —
☒ Mileage 134 RT. 134
☐ Sampler —
☐ Straddle —
☐ Shale Packer —
☐ Extra Packer —
☐ Extra Recorder —
☒ Day Standby 1.5d 7.25h
☐ Accessibility —
 Sub Total 1759

T-On Location 07:10
 T-Started 08:34
 T-Open 10:55
 T-Pulled 13:55
 T-Out 16:16
 Comments Tools loaded @ 17:00
☐ EM Tool —
☐ Ruined Shale Packer —
☐ Ruined Packer —
☐ Extra Copies —
 Sub Total 316.67
 Total 2075.67
 MP/DST Disc't —

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

Approved By RLD-M

Our Representative Murfin Drilling Co

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.