



DRILL STEM TEST REPORT

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

250 N. Water,
STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Mears # 1-16

16- 2S -37W Cheyenne,KS

Start Date: 2017.07.08 @ 22:56:00

End Date: 2017.07.09 @ 06:07:50

Job Ticket #: 64189 DST #: 1

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

Printed: 2017.07.14 @ 10:31:50



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64189

DST#: 1

Test Start: 2017.07.08 @ 22:56:00

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:16:00
 Time Test Ended: 06:07:50
 Interval: **4164.00 ft (KB) To 4240.00 ft (KB) (TVD)**
 Total Depth: 4240.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 3371.00 ft (KB)
 3366.00 ft (CF)
 KB to GR/CF: 5.00 ft

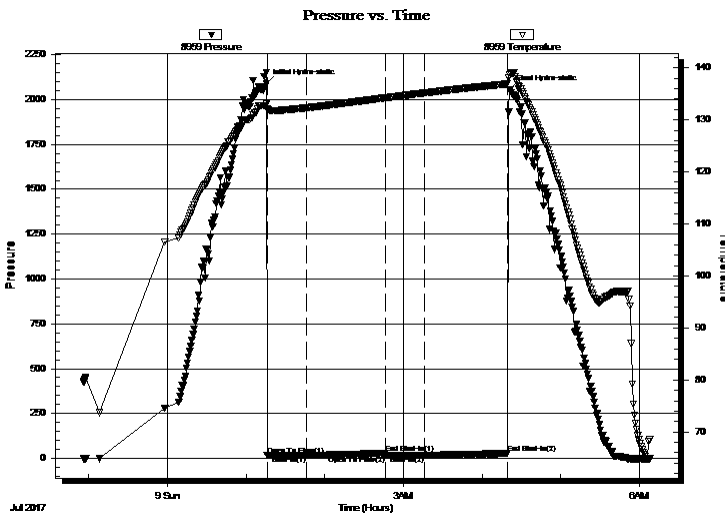
Serial #: 8959

Inside

Press@RunDepth: 17.49 psig @ 4165.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.08 End Date: 2017.07.09 Last Calib.: 2017.07.09
 Start Time: 22:56:01 End Time: 06:07:50 Time On Btm: 2017.07.09 @ 01:15:40
 Time Off Btm: 2017.07.09 @ 04:20:50

TEST COMMENT: 30-IF-Surface blow built to 1/4" & died back to surface blow
 60-ISI-No blow
 30-FF-No blow
 60-FSI-No blow

PRESSURE SUMMARY



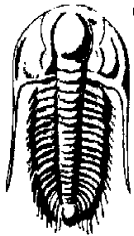
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2090.20	133.01	Initial Hydro-static
1	16.43	132.06	Open To Flow (1)
31	16.22	132.33	Shut-In(1)
91	29.15	134.23	End Shut-In(1)
91	17.40	134.23	Open To Flow (2)
121	17.49	135.19	Shut-In(2)
184	28.40	136.91	End Shut-In(2)
186	2056.59	138.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	100% Mud	0.01

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: Saman Sharifaie

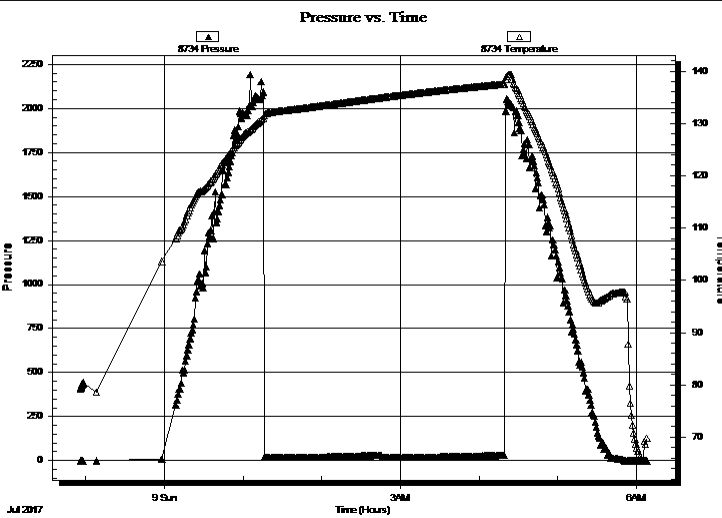
16- 2S -37W Cheyenne,KS
Mears # 1-16
 Job Ticket: 64189 **DST#: 1**
 Test Start: 2017.07.08 @ 22:56:00

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 01:16:00 Tester: Martine Salinas
 Time Test Ended: 06:07:50 Unit No: 82
 Interval: **4164.00 ft (KB) To 4240.00 ft (KB) (TVD)** Reference Elevations: 3371.00 ft (KB)
 Total Depth: 4240.00 ft (KB) (TVD) 3366.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8734 Outside
 Press@RunDepth: psig @ 4165.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.08 End Date: 2017.07.09 Last Calib.: 2017.07.09
 Start Time: 22:56:01 End Time: 06:07:50 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IF-Surface blow built to 1/4" & died back to surface blow
 60-ISI-No blow
 30-FF-No blow
 60-FSI-No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
3.00	100% Mud	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

16- 2S -37W Cheyenne,KS

250 N. Water,
STE 300
Wichita, KS 67202
ATTN: Saman Sharifaie

Mears # 1-16

Job Ticket: 64189

DST#: 1

Test Start: 2017.07.08 @ 22:56:00

Tool Information

Drill Pipe:	Length: 3936.00 ft	Diameter: 3.80 inches	Volume: 55.21 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 56.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4164.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	104.00 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			4141.00	
Hydraulic tool	5.00			4146.00	
Jars	5.00			4151.00	
Safety Joint	3.00			4154.00	
Packer	5.00			4159.00	28.00 Bottom Of Top Packer
Packer	5.00			4164.00	
Stubb	1.00			4165.00	
Recorder	0.00	8959	Inside	4165.00	
Recorder	0.00	8734	Outside	4165.00	
Perforations	37.00			4202.00	
Change Over Sub	1.00			4203.00	
Drill Pipe	31.00			4234.00	
Change Over Sub	1.00			4235.00	
Bullnose	5.00			4240.00	76.00 Bottom Packers & Anchor

Total Tool Length: 104.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64189

DST#: 1

Test Start: 2017.07.08 @ 22:56:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 60.00 sec/qt
Water Loss: 5.57 in³
Resistivity: ohm.m
Salinity: 600.00 ppm
Filter Cake: 2.00 inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	100% Mud	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

Num Fluid Samples: 0

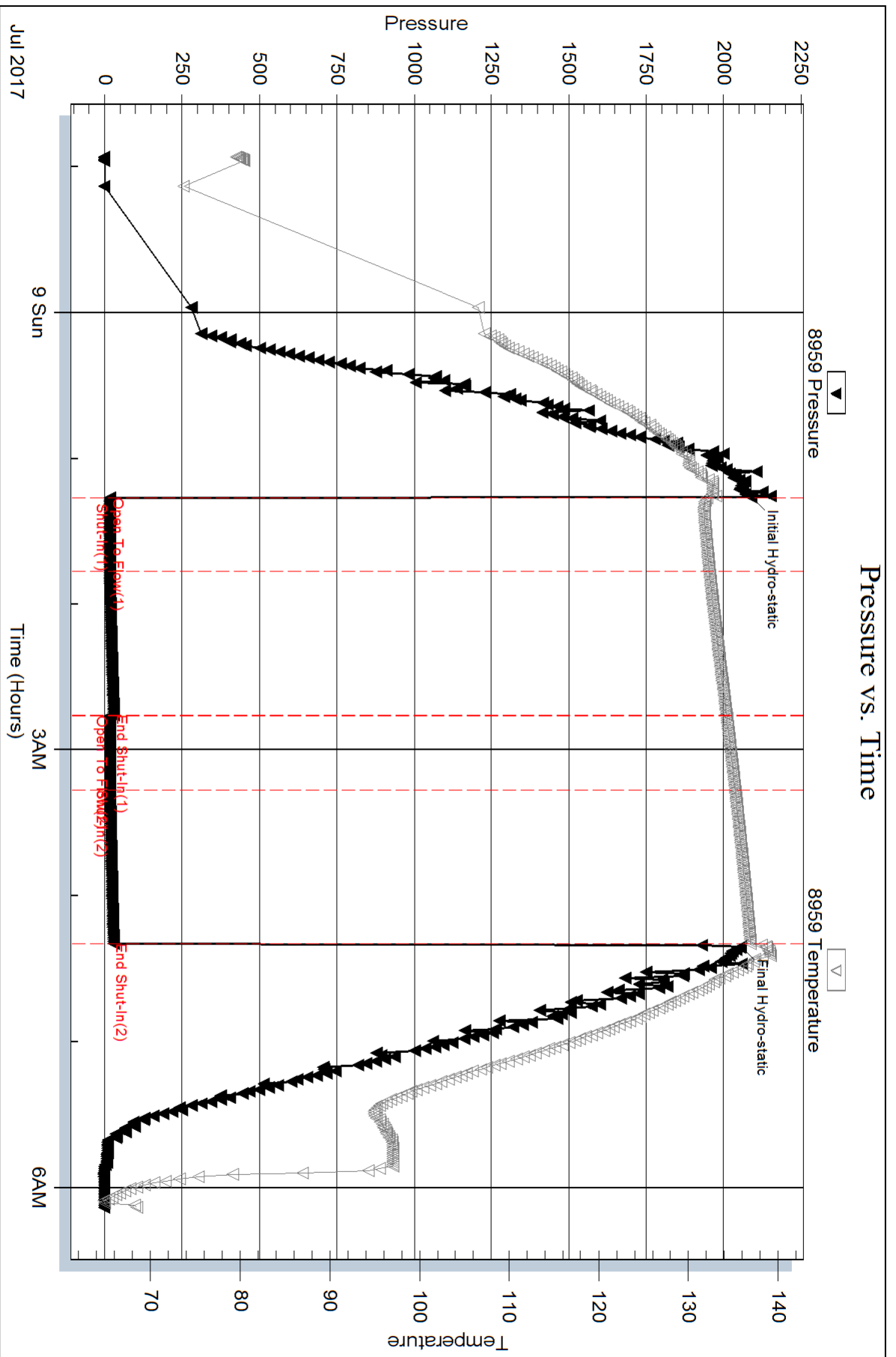
Num Gas Bombs: 0

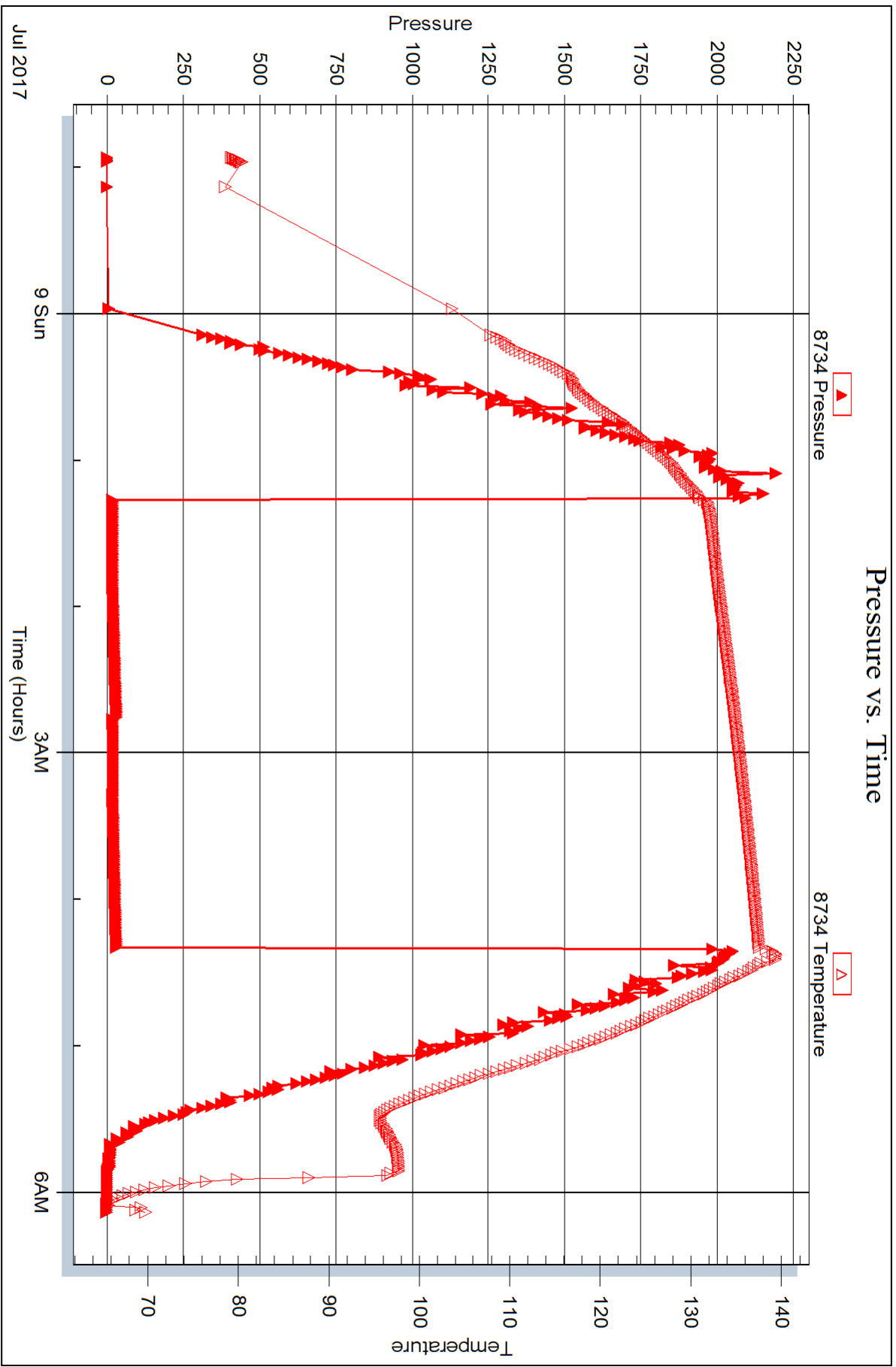
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N. Water,
STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Mears # 1-16

16- 2S -37W Cheyenne,KS

Start Date: 2017.07.09 @ 16:19:00

End Date: 2017.07.09 @ 23:34:09

Job Ticket #: 64191 DST #: 2

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

Printed: 2017.07.14 @ 10:31:23



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64191

DST#: 2

Test Start: 2017.07.09 @ 16:19:00

GENERAL INFORMATION:

Formation: **LKC "A"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:30:10
 Time Test Ended: 23:34:09
 Interval: **4242.00 ft (KB) To 4310.00 ft (KB) (TVD)**
 Total Depth: 4310.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 3371.00 ft (KB)
 3366.00 ft (CF)
 KB to GR/CF: 5.00 ft

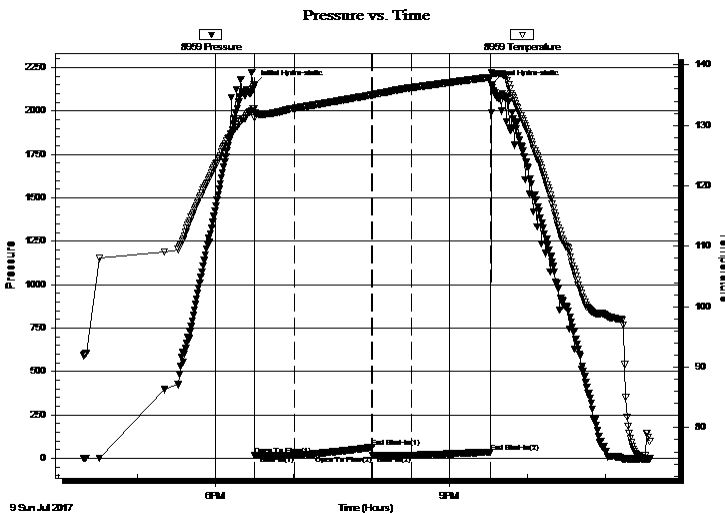
Serial #: 8959

Inside

Press@RunDepth: 17.44 psig @ 4243.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.09 End Date: 2017.07.09 Last Calib.: 2017.07.09
 Start Time: 16:19:01 End Time: 23:34:10 Time On Btm: 2017.07.09 @ 18:30:00
 Time Off Btm: 2017.07.09 @ 21:32:50

TEST COMMENT: 30-IF-Weak blow died @ 18 mins
 60-ISI-No blow
 30-FF-No blow
 60-FSI-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2149.48	132.79	Initial Hydro-static
1	17.28	131.21	Open To Flow (1)
31	16.38	132.82	Shut-In(1)
91	63.85	135.01	End Shut-In(1)
92	17.35	135.01	Open To Flow (2)
121	17.44	136.21	Shut-In(2)
182	36.19	137.94	End Shut-In(2)
183	2153.32	138.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOSM 1%O, 99%M	0.02

* Recovery from multiple tests

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: Saman Sharifaie

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64191

DST#: 2

Test Start: 2017.07.09 @ 16:19:00

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:30:10

Time Test Ended: 23:34:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4242.00 ft (KB) To 4310.00 ft (KB) (TVD)

Reference Elevations: 3371.00 ft (KB)

Total Depth: 4310.00 ft (KB) (TVD)

3366.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8734 Outside

Press@RunDepth: psig @ 4243.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.09

End Date:

2017.07.09

Last Calib.:

2017.07.09

Start Time: 16:19:01

End Time:

23:34:20

Time On Btm:

Time Off Btm:

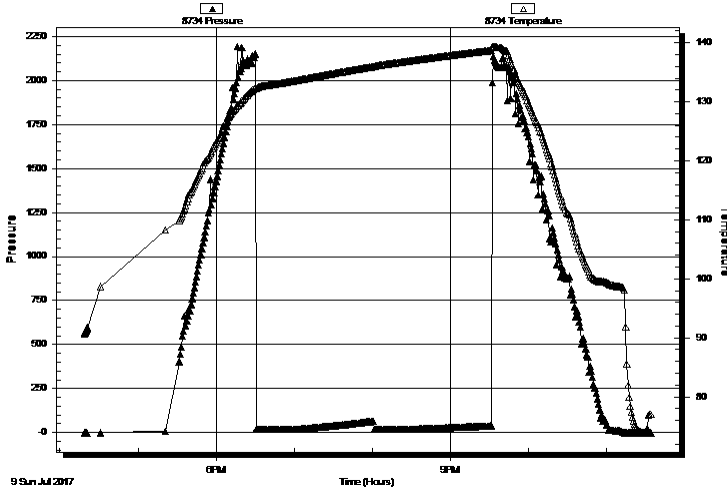
TEST COMMENT: 30-IF-Weak blow died @ 18 mins

60-ISI-No blow

30-FF-No blow

60-FSI-No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOSM 1%O, 99%M	0.02

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
250 N. Water,
STE 300
Wichita, KS 67202
ATTN: Saman Sharifaie

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64191

DST#: 2

Test Start: 2017.07.09 @ 16:19:00

Tool Information

Drill Pipe:	Length: 4028.00 ft	Diameter: 3.80 inches	Volume: 56.50 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 57.51 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4242.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	68.00 ft			
Tool Length:	96.00 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			4219.00	
Hydraulic tool	5.00			4224.00	
Jars	5.00			4229.00	
Safety Joint	3.00			4232.00	
Packer	5.00			4237.00	28.00 Bottom Of Top Packer
Packer	5.00			4242.00	
Stubb	1.00			4243.00	
Recorder	0.00	8959	Inside	4243.00	
Recorder	0.00	8734	Outside	4243.00	
Perforations	29.00			4272.00	
Change Over Sub	1.00			4273.00	
Drill Pipe	31.00			4304.00	
Change Over Sub	1.00			4305.00	
Bullnose	5.00			4310.00	68.00 Bottom Packers & Anchor

Total Tool Length: 96.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64191

DST#: 2

Test Start: 2017.07.09 @ 16:19:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 60.00 sec/qt
Water Loss: 5.98 in³
Resistivity: ohm.m
Salinity: 600.00 ppm
Filter Cake: 2.00 inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	SOSM 1%O, 99%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:

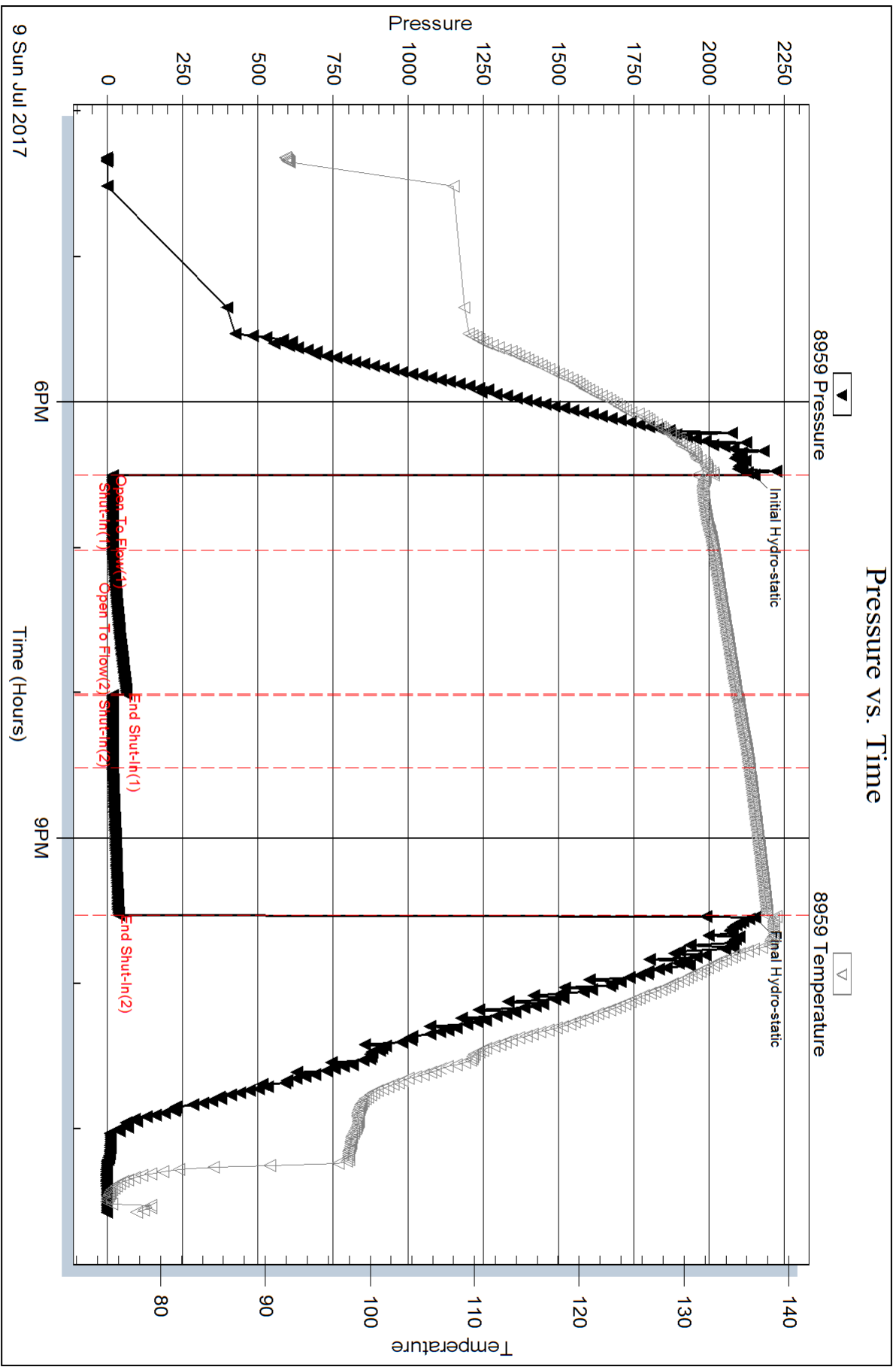
Serial #: 8959

Inside

Murfin Drilling Co. INC

Mears # 1-16

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64191

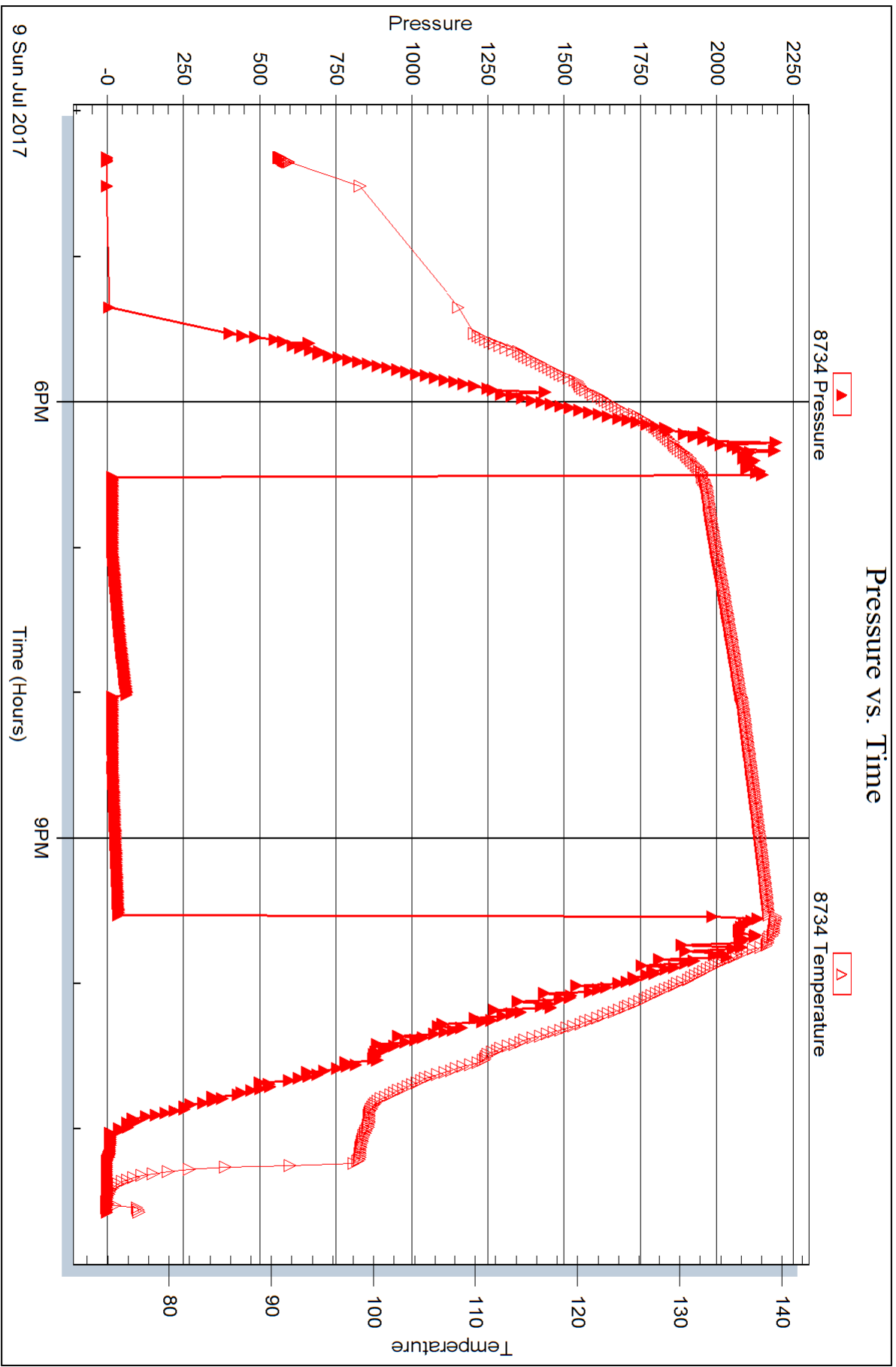
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Serial #: 8734

Outside Murfin Drilling Co. INC

Mears # 1-16

DST Test Number: 2





DRILL STEM TEST REPORT

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

250 N. Water,
STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Mears # 1-16

16- 2S -37W Cheyenne,KS

Start Date: 2017.07.10 @ 11:13:00

End Date: 2017.07.10 @ 17:55:20

Job Ticket #: 64192 DST #: 3

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

Printed: 2017.07.14 @ 10:31:03

Murfin Drilling Co. INC

16- 2S -37W Cheyenne,KS

Mears # 1-16

DST # 3

LKC "B-D"

2017.07.10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64192

DST#: 3

Test Start: 2017.07.10 @ 11:13:00

GENERAL INFORMATION:

Formation: **LKC "B-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:02:10
 Time Test Ended: 17:55:20
 Interval: **4312.00 ft (KB) To 4370.00 ft (KB) (TVD)**
 Total Depth: 4370.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 3371.00 ft (KB)
 3366.00 ft (CF)
 KB to GR/CF: 5.00 ft

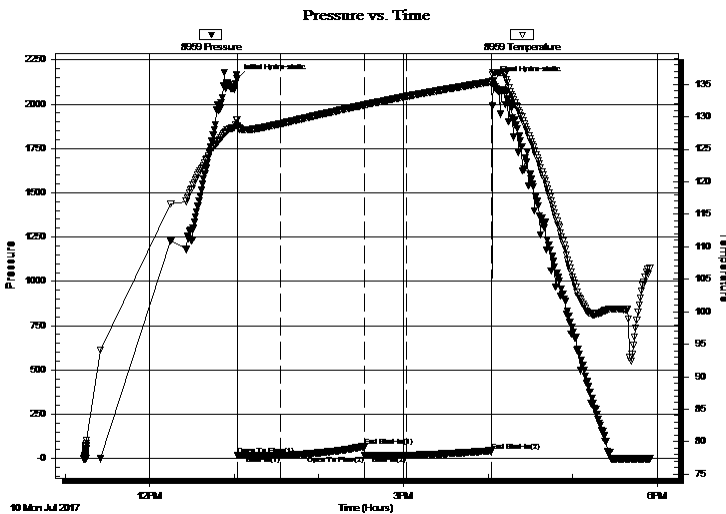
Serial #: 8959

Inside

Press@RunDepth: 17.27 psig @ 4313.00 ft (KB)
 Start Date: 2017.07.10 End Date: 2017.07.10
 Start Time: 11:13:01 End Time: 17:55:20
 Capacity: 8000.00 psig
 Last Calib.: 2017.07.10
 Time On Btm: 2017.07.10 @ 13:02:00
 Time Off Btm: 2017.07.10 @ 16:03:39

TEST COMMENT: 30-IF-Surface blow built to 1/4" and died back to surface blow
 60-ISI- No blow
 30-FF-No blow
 60-FSI-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2145.04	129.52	Initial Hydro-static
1	16.21	128.50	Open To Flow (1)
31	15.98	128.91	Shut-In(1)
91	67.81	131.81	End Shut-In(1)
91	17.84	131.79	Open To Flow (2)
121	17.27	133.14	Shut-In(2)
181	43.16	135.39	End Shut-In(2)
182	2131.24	136.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud	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
250 N. Water,
STE 300
Wichita, KS 67202
ATTN: Saman Sharifaie

16- 2S -37W Cheyenne,KS
Mears # 1-16
Job Ticket: 64192 **DST#: 3**
Test Start: 2017.07.10 @ 11:13:00

Tool Information

Drill Pipe:	Length: 4091.00 ft	Diameter: 3.80 inches	Volume: 57.39 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 72000.00 lb
		Total Volume: 58.40 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4312.00 ft			Final 66000.00 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
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Shut In Tool	5.00			4289.00	
Hydraulic tool	5.00			4294.00	
Jars	5.00			4299.00	
Safety Joint	3.00			4302.00	
Packer	5.00			4307.00	28.00 Bottom Of Top Packer
Packer	5.00			4312.00	
Stubb	1.00			4313.00	
Recorder	0.00	8959	Inside	4313.00	
Recorder	0.00	8734	Outside	4313.00	
Perforations	19.00			4332.00	
Change Over Sub	1.00			4333.00	
Drill Pipe	31.00			4364.00	
Change Over Sub	1.00			4365.00	
Bullnose	5.00			4370.00	58.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

16- 2S -37W Cheyenne,KS
Mears # 1-16
Job Ticket: 64192 **DST#: 3**
Test Start: 2017.07.10 @ 11:13:00

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: bbl		
Water Loss: 5.58 in ³	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
5.00	100% Mud	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:

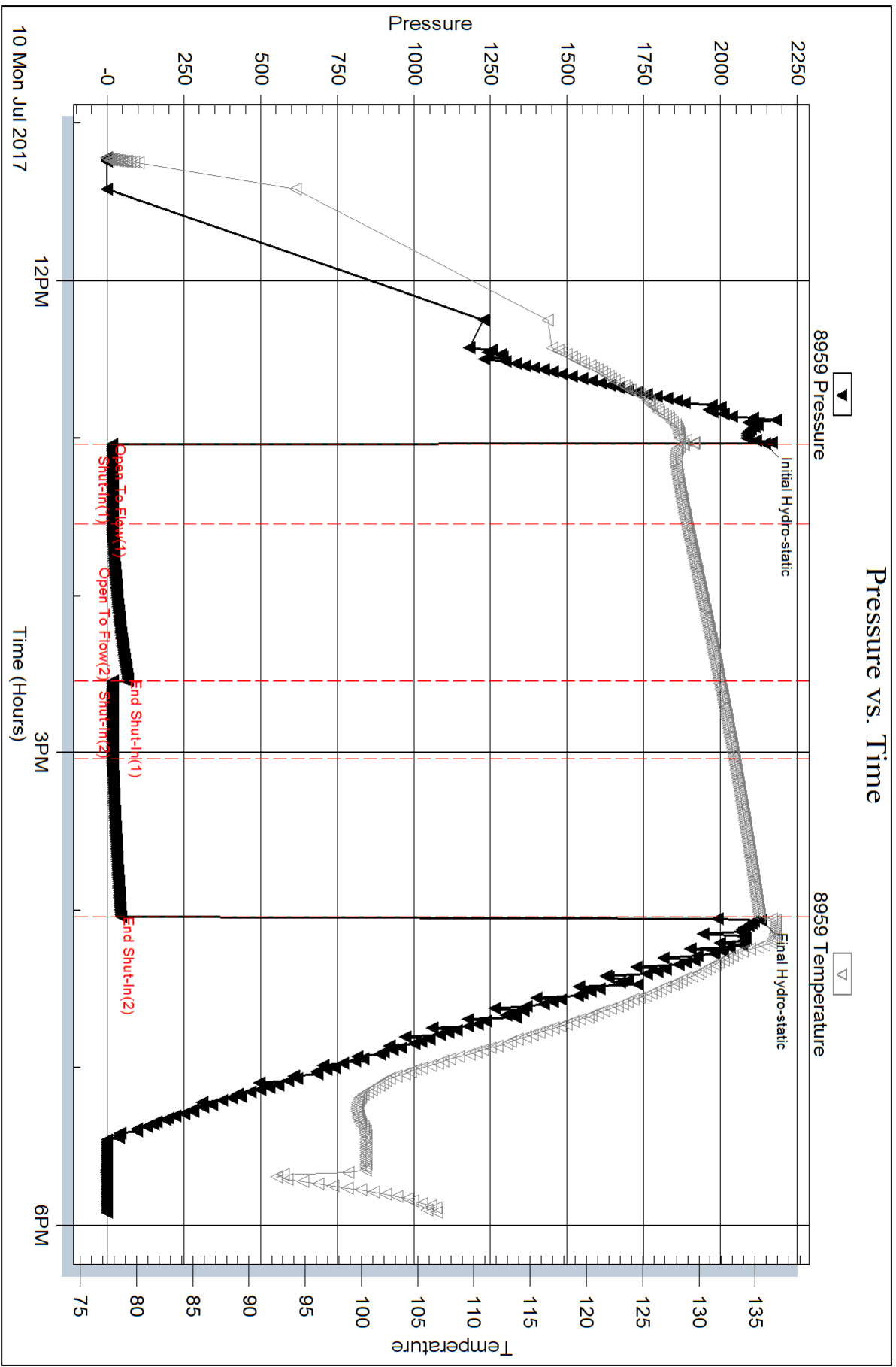
Serial #: 8959

Inside

Murfin Drilling Co. INC

Mears # 1-16

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 64192

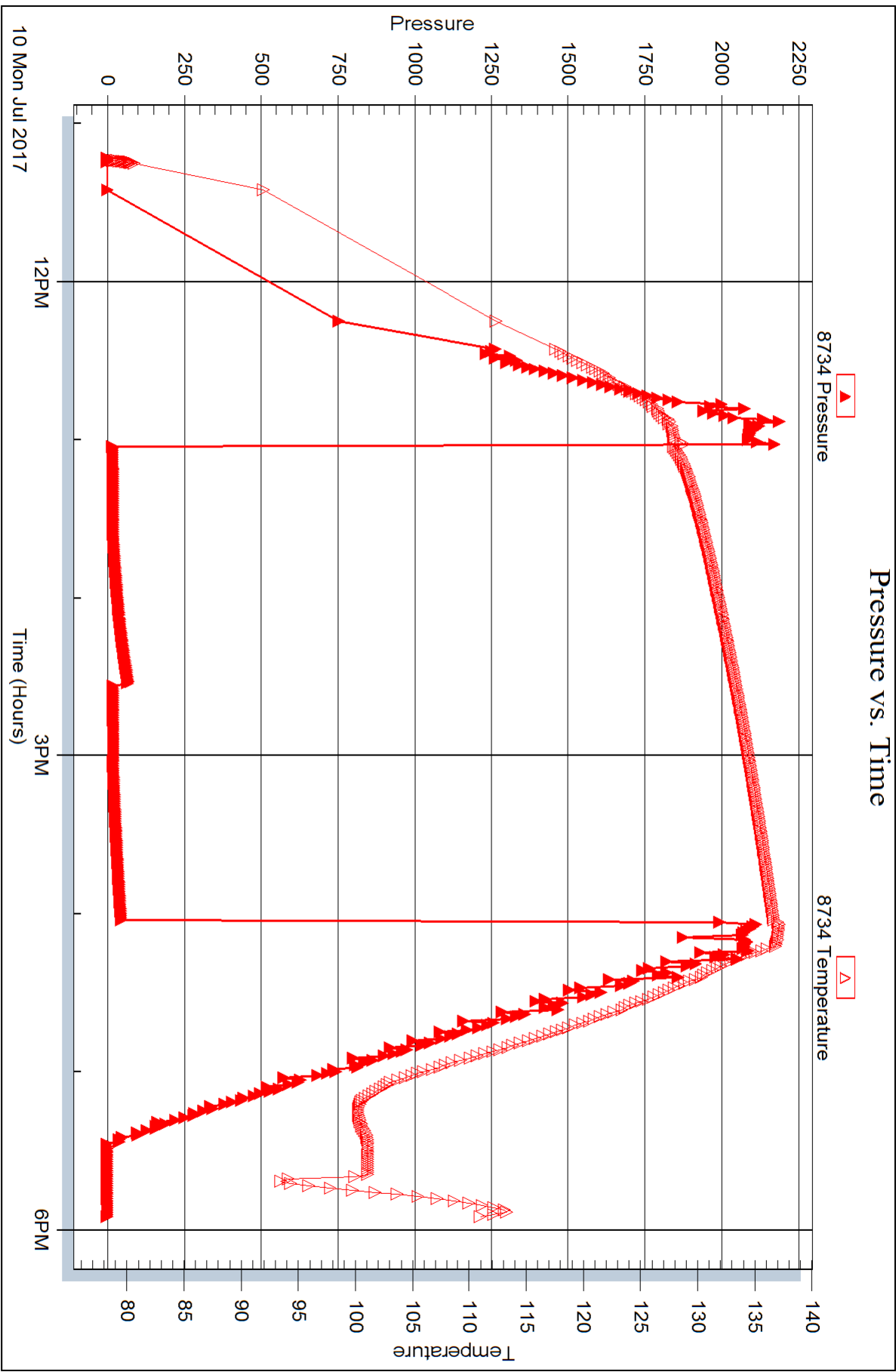
Printed: 2017.07.14 @ 10:31:03

Serial #: 8734

Outside Murfin Drilling Co. INC

Mears # 1-16

DST Test Number: 3





DRILL STEM TEST REPORT

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

250 N. Water,
STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Mears # 1-16

16- 2S -37W Cheyenne,KS

Start Date: 2017.07.11 @ 05:07:00

End Date: 2017.07.11 @ 11:45:09

Job Ticket #: 64193 DST #: 4

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

Printed: 2017.07.14 @ 10:25:33

Murfin Drilling Co. INC
16- 2S -37W Cheyenne,KS
Mears # 1-16
DST # 4
LKC " G "
2017.07.11



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64193

DST#: 4

Test Start: 2017.07.11 @ 05:07:00

GENERAL INFORMATION:

Formation: **LKC " G "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:44:50
 Time Test Ended: 11:45:09
 Interval: **4368.00 ft (KB) To 4440.00 ft (KB) (TVD)**
 Total Depth: 4440.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 3371.00 ft (KB)
 3366.00 ft (CF)
 KB to GR/CF: 5.00 ft

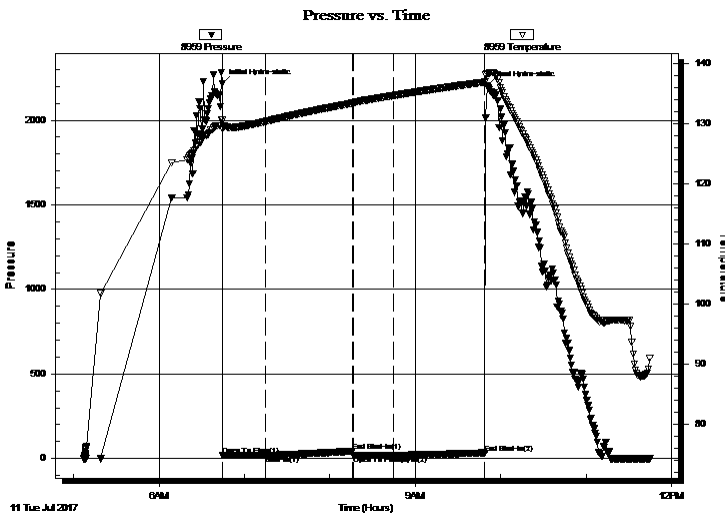
Serial #: 8959

Inside

Press@RunDepth: 18.68 psig @ 4369.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.11 End Date: 2017.07.11 Last Calib.: 2017.07.11
 Start Time: 05:07:01 End Time: 11:45:10 Time On Btm: 2017.07.11 @ 06:44:40
 Time Off Btm: 2017.07.11 @ 09:50:20

TEST COMMENT: 30-IF-Surface blow built to 1/2" and died back to 1/4" @ shut in
 60-ISI-No blow
 30-FF-No blow
 60-FSI-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2216.47	130.60	Initial Hydro-static
1	17.17	129.17	Open To Flow (1)
31	17.46	130.38	Shut-In(1)
92	42.75	133.42	End Shut-In(1)
92	18.85	133.42	Open To Flow (2)
121	18.68	134.70	Shut-In(2)
185	31.88	136.92	End Shut-In(2)
186	2206.20	138.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 5%O, 95%M	0.02

* Recovery from multiple tests

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: Saman Sharifaie

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64193

DST#: 4

Test Start: 2017.07.11 @ 05:07:00

GENERAL INFORMATION:

Formation: **LKC " G "**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 06:44:50
 Tester: Martine Salinas
 Time Test Ended: 11:45:09
 Unit No: 82
Interval: 4368.00 ft (KB) To 4440.00 ft (KB) (TVD)
 Reference Elevations: 3371.00 ft (KB)
 Total Depth: 4440.00 ft (KB) (TVD) 3366.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

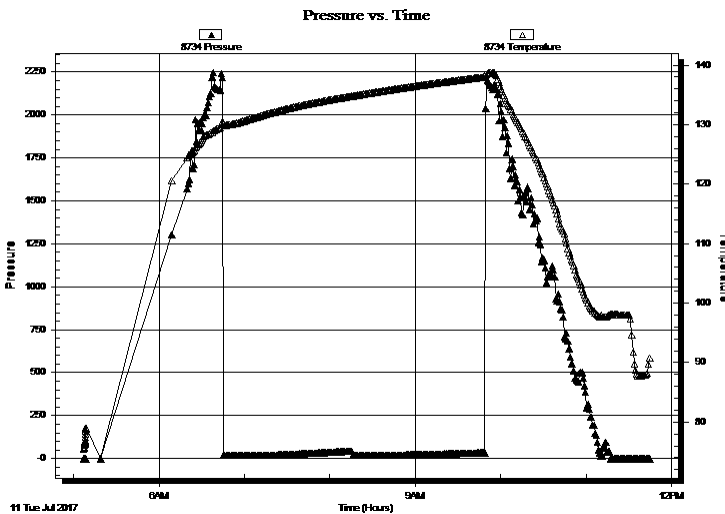
Serial #: 8734

Outside

Press@RunDepth: psig @ 4369.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.07.11 End Date: 2017.07.11 Last Calib.: 2017.07.11
 Start Time: 05:07:01 End Time: 11:45:20 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IF-Surface blow built to 1/2" and died back to 1/4" @ shut in
 60-ISI-No blow
 30-FF-No blow
 60-FSI-No blow

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 5%O, 95%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
250 N. Water,
STE 300
Wichita, KS 67202
ATTN: Saman Sharifaie

16- 2S -37W Cheyenne,KS
Mears # 1-16
Job Ticket: 64193 **DST#: 4**
Test Start: 2017.07.11 @ 05:07:00

Tool Information

Drill Pipe:	Length: 4154.00 ft	Diameter: 3.80 inches	Volume: 58.27 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 59.28 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	4368.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	72.00 ft				
Tool Length:	100.00 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			4345.00	
Hydraulic tool	5.00			4350.00	
Jars	5.00			4355.00	
Safety Joint	3.00			4358.00	
Packer	5.00			4363.00	28.00 Bottom Of Top Packer
Packer	5.00			4368.00	
Stubb	1.00			4369.00	
Recorder	0.00	8959	Inside	4369.00	
Recorder	0.00	8734	Outside	4369.00	
Perforations	33.00			4402.00	
Change Over Sub	1.00			4403.00	
Drill Pipe	31.00			4434.00	
Change Over Sub	1.00			4435.00	
Bullnose	5.00			4440.00	72.00 Bottom Packers & Anchor

Total Tool Length: 100.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

16- 2S -37W Cheyenne,KS
Mears # 1-16
Job Ticket: 64193 **DST#: 4**
Test Start: 2017.07.11 @ 05:07:00

Mud and Cushion Information

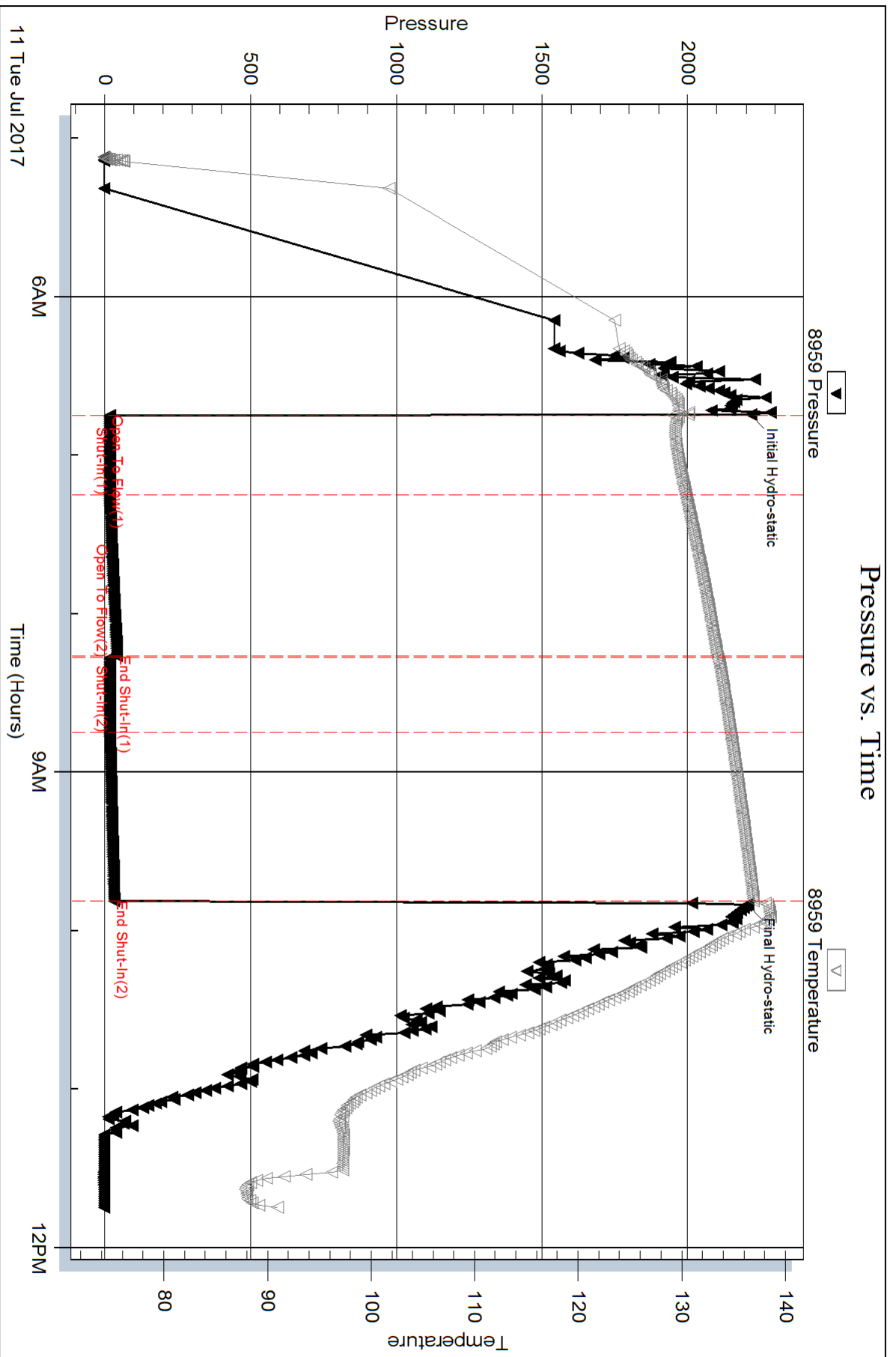
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 70.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM 5%O, 95%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:

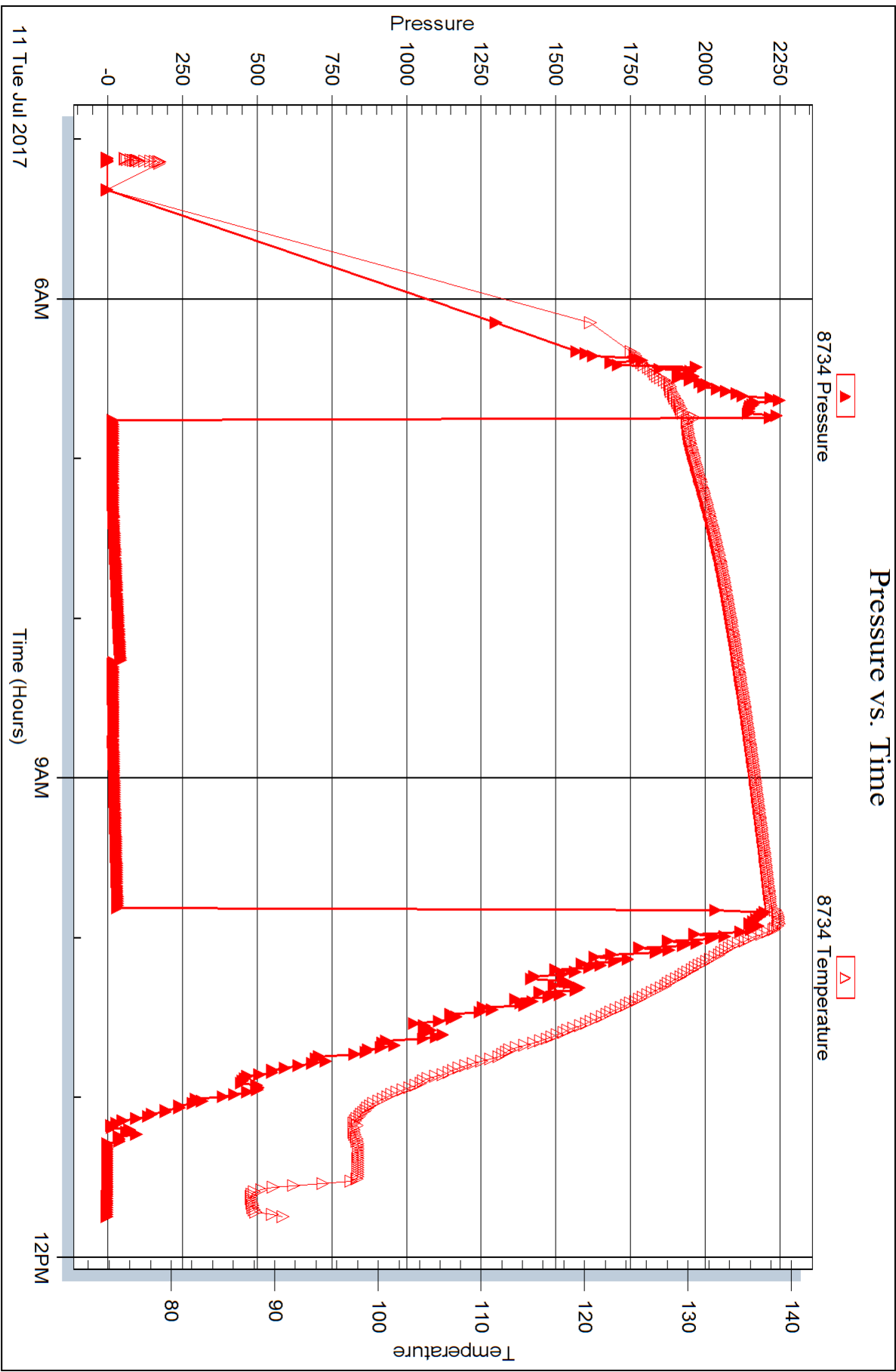


Serial #: 8734

Outside Murfin Drilling Co. INC

Mears # 1-16

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 64193

Printed: 2017.07.14 @ 10:25:34



DRILL STEM TEST REPORT

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

250 N. Water,
STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Mears # 1-16

16- 2S -37W Cheyenne,KS

Start Date: 2017.07.12 @ 01:07:00

End Date: 2017.07.12 @ 09:53:10

Job Ticket #: 64194 DST #: 5

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

Printed: 2017.07.14 @ 10:25:08



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64194

DST#: 5

Test Start: 2017.07.12 @ 01:07:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:24:00

Time Test Ended: 09:53:10

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4428.00 ft (KB) To 4520.00 ft (KB) (TVD)

Reference Elevations: 3371.00 ft (KB)

Total Depth: 4520.00 ft (KB) (TVD)

3366.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8959

Inside

Press@RunDepth: 184.63 psig @ 4429.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.12

End Date:

2017.07.12

Last Calib.:

2017.07.12

Start Time:

01:07:01

End Time:

09:53:10

Time On Btm:

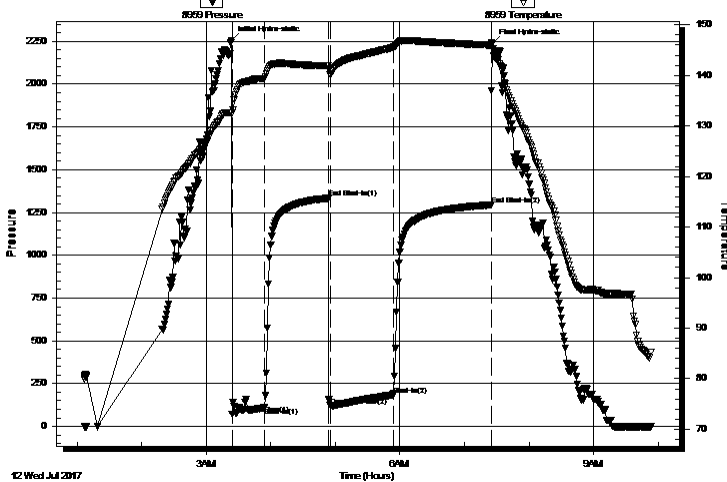
2017.07.12 @ 03:23:10

Time Off Btm:

2017.07.12 @ 07:26:00

TEST COMMENT: 30-IF-BOB @ 10 mins 15 seconds
60-ISI-Blow back built to 7 1/2"
60-FF-BOB @ 7mins 45 seconds
90-FSI-Blow back built to 9 3/4" @ 19 1/2 mins & died back to 7 1/2"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2255.43	132.62	Initial Hydro-static
1	72.11	132.59	Open To Flow (1)
31	108.79	139.37	Shut-In(1)
91	1333.28	141.90	End Shut-In(1)
93	119.79	140.20	Open To Flow (2)
151	184.63	145.58	Shut-In(2)
242	1294.17	145.98	End Shut-In(2)
243	2238.15	145.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
183.00	GOCM 41%G, 22%O, 37%M	0.90
303.00	CGO 7%G, 93%O	4.05
0.00	1556' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

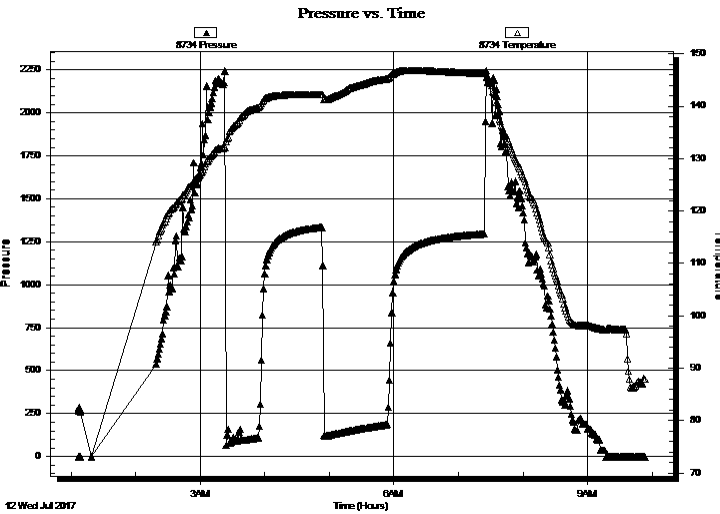
16- 2S -37W Cheyenne,KS
Mears # 1-16
Job Ticket: 64194 **DST#: 5**
Test Start: 2017.07.12 @ 01:07:00

GENERAL INFORMATION:

Formation: **LKC " H - J "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:24:00
Time Test Ended: 09:53:10
Interval: **4428.00 ft (KB) To 4520.00 ft (KB) (TVD)**
Total Depth: 4520.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Martine Salinas
Unit No: 82
Reference Elevations: 3371.00 ft (KB)
3366.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8734 Outside
Press@RunDepth: psig @ 4429.00 ft (KB)
Start Date: 2017.07.12 End Date: 2017.07.12 Capacity: 8000.00 psig
Start Time: 01:07:01 End Time: 09:53:10 Last Calib.: 2017.07.12
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IF-BOB @ 10 mins 15 seconds
60-ISI-Blow back built to 7 1/2"
60-FF-BOB @ 7mins 45 seconds
90-FSI-Blow back built to 9 3/4" @ 19 1/2 mins & died back to 7 1/2"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
183.00	GOCM 41%G, 22%O, 37%M	0.90
303.00	CGO 7%G, 93%O	4.05
0.00	1556' 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

16- 2S -37W Cheyenne,KS

250 N. Water,
STE 300
Wichita, KS 67202
ATTN: Saman Sharifaie

Mears # 1-16

Job Ticket: 64194

DST#: 5

Test Start: 2017.07.12 @ 01:07:00

Tool Information

Drill Pipe:	Length: 4216.00 ft	Diameter: 3.80 inches	Volume: 59.14 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 70000.00 lb
		Total Volume: 60.15 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4428.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	92.00 ft			
Tool Length:	120.00 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			4405.00	
Hydraulic tool	5.00			4410.00	
Jars	5.00			4415.00	
Safety Joint	3.00			4418.00	
Packer	5.00			4423.00	28.00 Bottom Of Top Packer
Packer	5.00			4428.00	
Stubb	1.00			4429.00	
Recorder	0.00	8959	Inside	4429.00	
Recorder	0.00	8734	Outside	4429.00	
Perforations	22.00			4451.00	
Change Over Sub	1.00			4452.00	
Drill Pipe	62.00			4514.00	
Change Over Sub	1.00			4515.00	
Bullnose	5.00			4520.00	92.00 Bottom Packers & Anchor

Total Tool Length: 120.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

16- 2S -37W Cheyenne,KS
Mears # 1-16
Job Ticket: 64194 **DST#: 5**
Test Start: 2017.07.12 @ 01:07:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 35.6 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 70.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.98 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 600.00 ppm		
Filter Cake: 2.00 inches		

Recovery Information

Recovery Table

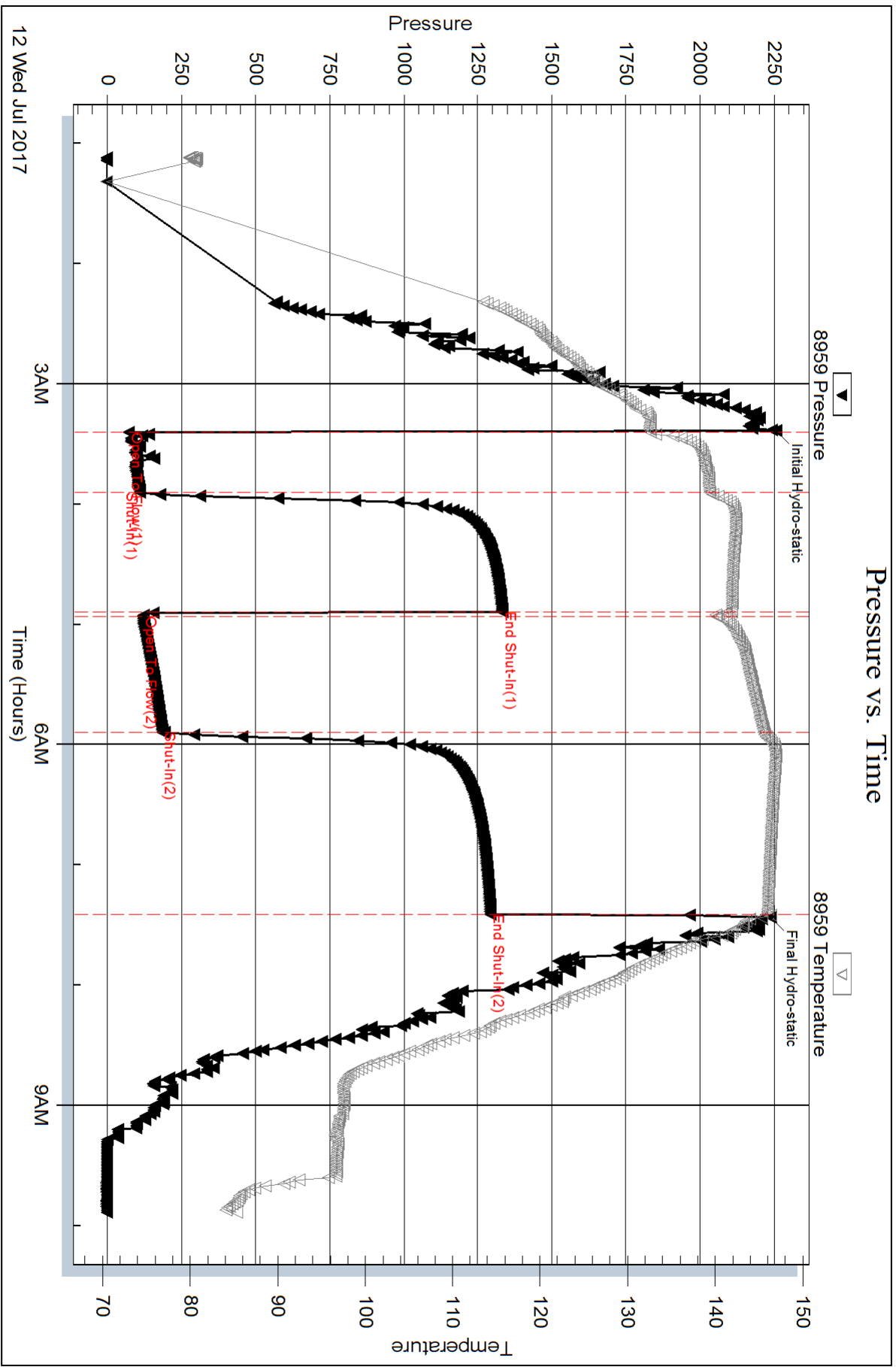
Length ft	Description	Volume bbl
183.00	GOCM 41%G, 22%O, 37%M	0.900
303.00	CGO 7%G, 93%O	4.050
0.00	1556' GIP	0.000

Total Length: 486.00 ft Total Volume: 4.950 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: Gravity of oil = 38 @ 84degs
Gravity corrected to 35.6 @ 60 degs

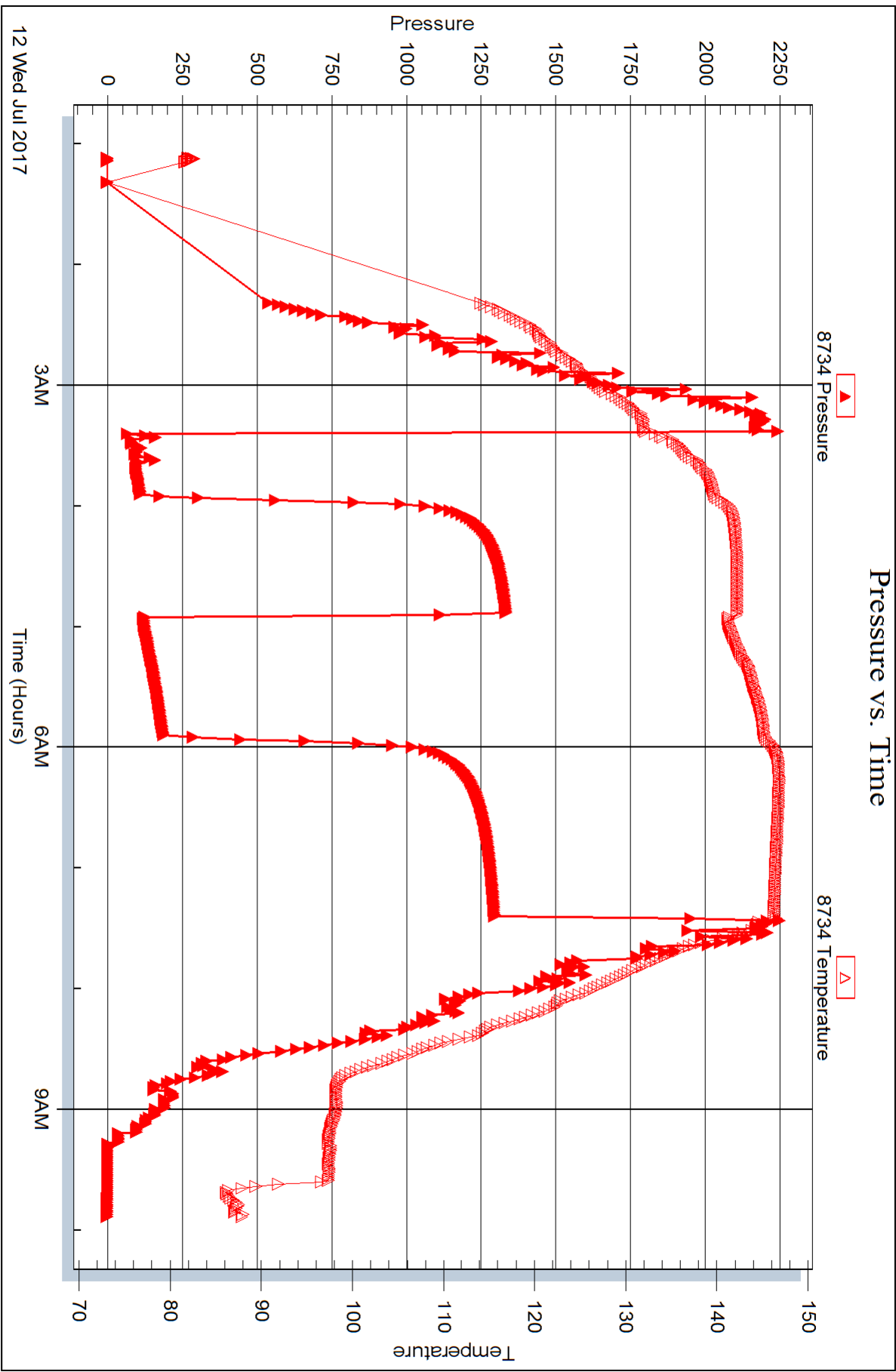


Serial #: 8734

Outside Murfin Drilling Co. INC

Mears # 1-16

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 64194

Printed: 2017.07.14 @ 10:25:09



DRILL STEM TEST REPORT

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

250 N. Water,
STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Mears # 1-16

16- 2S -37W Cheyenne,KS

Start Date: 2017.07.13 @ 11:56:00

End Date: 2017.07.13 @ 17:50:09

Job Ticket #: 64195 DST #: 6

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

Printed: 2017.07.14 @ 10:24:40



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64195

DST#: 6

Test Start: 2017.07.13 @ 11:56:00

GENERAL INFORMATION:

Formation: **Ft.Scott - Breezy Hi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:38:10

Time Test Ended: 17:50:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: **4677.00 ft (KB) To 4770.00 ft (KB) (TVD)**

Reference Elevations: 3371.00 ft (KB)

Total Depth: 4770.00 ft (KB) (TVD)

3366.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8959

Inside

Press@RunDepth: 29.51 psig @ 4678.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.13

End Date:

2017.07.13

Last Calib.:

2017.07.13

Start Time: 11:56:01

End Time:

17:50:10

Time On Btm:

2017.07.13 @ 13:38:00

Time Off Btm:

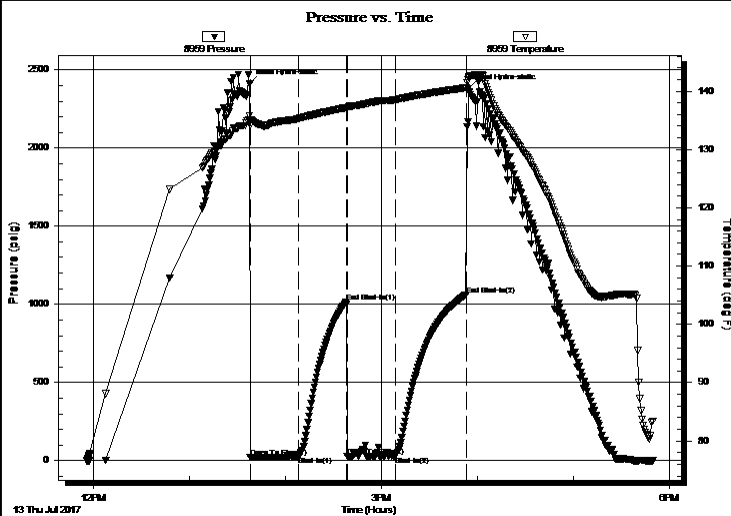
2017.07.13 @ 15:54:40

TEST COMMENT: 30-IF-Surface.blow built to 1/4"

60-ISI-No blow

30-FF-No blow

60-FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2410.77	135.75	Initial Hydro-static
1	19.52	134.15	Open To Flow (1)
31	27.18	135.29	Shut-In(1)
61	1015.53	137.16	End Shut-In(1)
61	25.99	137.00	Open To Flow (2)
91	29.51	138.52	Shut-In(2)
136	1060.98	140.58	End Shut-In(2)
137	2379.43	142.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud	0.02

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

16- 2S -37W Cheyenne,KS

Mears # 1-16

Job Ticket: 64195

DST#: 6

Test Start: 2017.07.13 @ 11:56:00

GENERAL INFORMATION:

Formation: **Ft.Scott - Breezy Hi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:38:10

Time Test Ended: 17:50:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4677.00 ft (KB) To 4770.00 ft (KB) (TVD)

Reference Elevations: 3371.00 ft (KB)

Total Depth: 4770.00 ft (KB) (TVD)

3366.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8734 Outside

Press@RunDepth: psig @ 4678.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.13 End Date: 2017.07.13

Last Calib.: 2017.07.13

Start Time: 11:56:01 End Time: 17:50:10

Time On Btm:

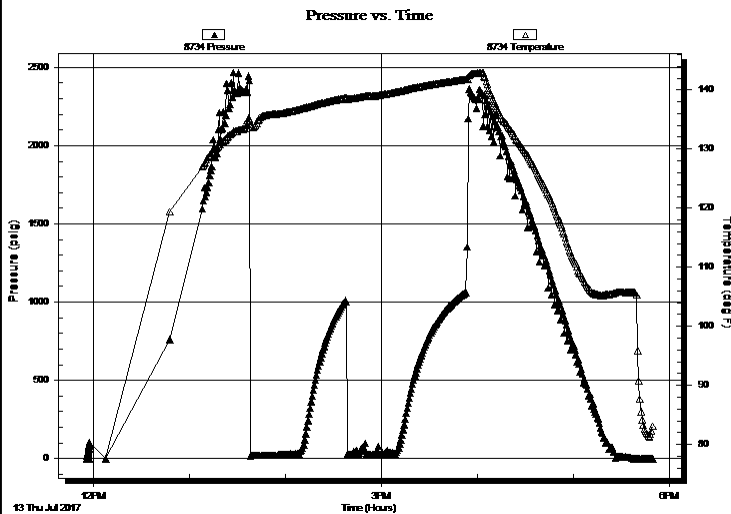
Time Off Btm:

TEST COMMENT: 30-IF-Surface.blow built to 1/4"

60-ISI-No blow

30-FF-No blow

60-FSI-No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud	0.02

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

16- 2S -37W Cheyenne,KS

250 N. Water,
STE 300
Wichita, KS 67202
ATTN: Saman Sharifaie

Mears # 1-16

Job Ticket: 64195

DST#: 6

Test Start: 2017.07.13 @ 11:56:00

Tool Information

Drill Pipe:	Length: 4464.00 ft	Diameter: 3.80 inches	Volume: 62.62 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	72000.00 lb
			<u>Total Volume: 63.63 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4677.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	93.00 ft				
Tool Length:	121.00 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			4654.00	
Hydraulic tool	5.00			4659.00	
Jars	5.00			4664.00	
Safety Joint	3.00			4667.00	
Packer	5.00			4672.00	28.00 Bottom Of Top Packer
Packer	5.00			4677.00	
Stubb	1.00			4678.00	
Recorder	0.00	8959	Inside	4678.00	
Recorder	0.00	8734	Outside	4678.00	
Perforations	23.00			4701.00	
Change Over Sub	1.00			4702.00	
Drill Pipe	62.00			4764.00	
Change Over Sub	1.00			4765.00	
Bullnose	5.00			4770.00	93.00 Bottom Packers & Anchor

Total Tool Length: 121.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

16- 2S -37W Cheyenne,KS
Mears # 1-16
Job Ticket: 64195 **DST#: 6**
Test Start: 2017.07.13 @ 11:56:00

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: 79.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.59 in ³	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
5.00	100% Mud	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:

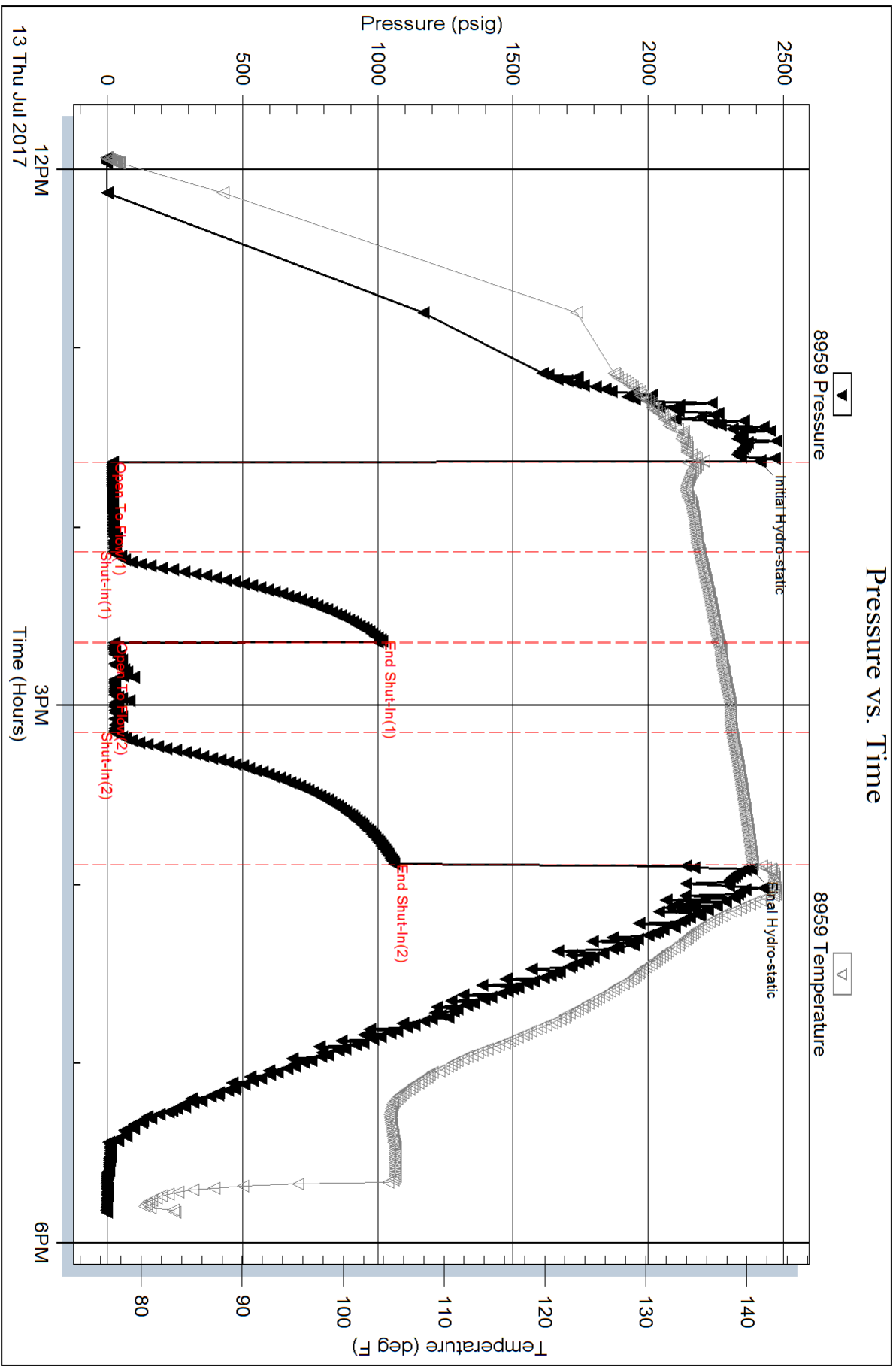
Serial #: 8959

Inside

Murfin Drilling Co. INC

Mears # 1-16

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 64195

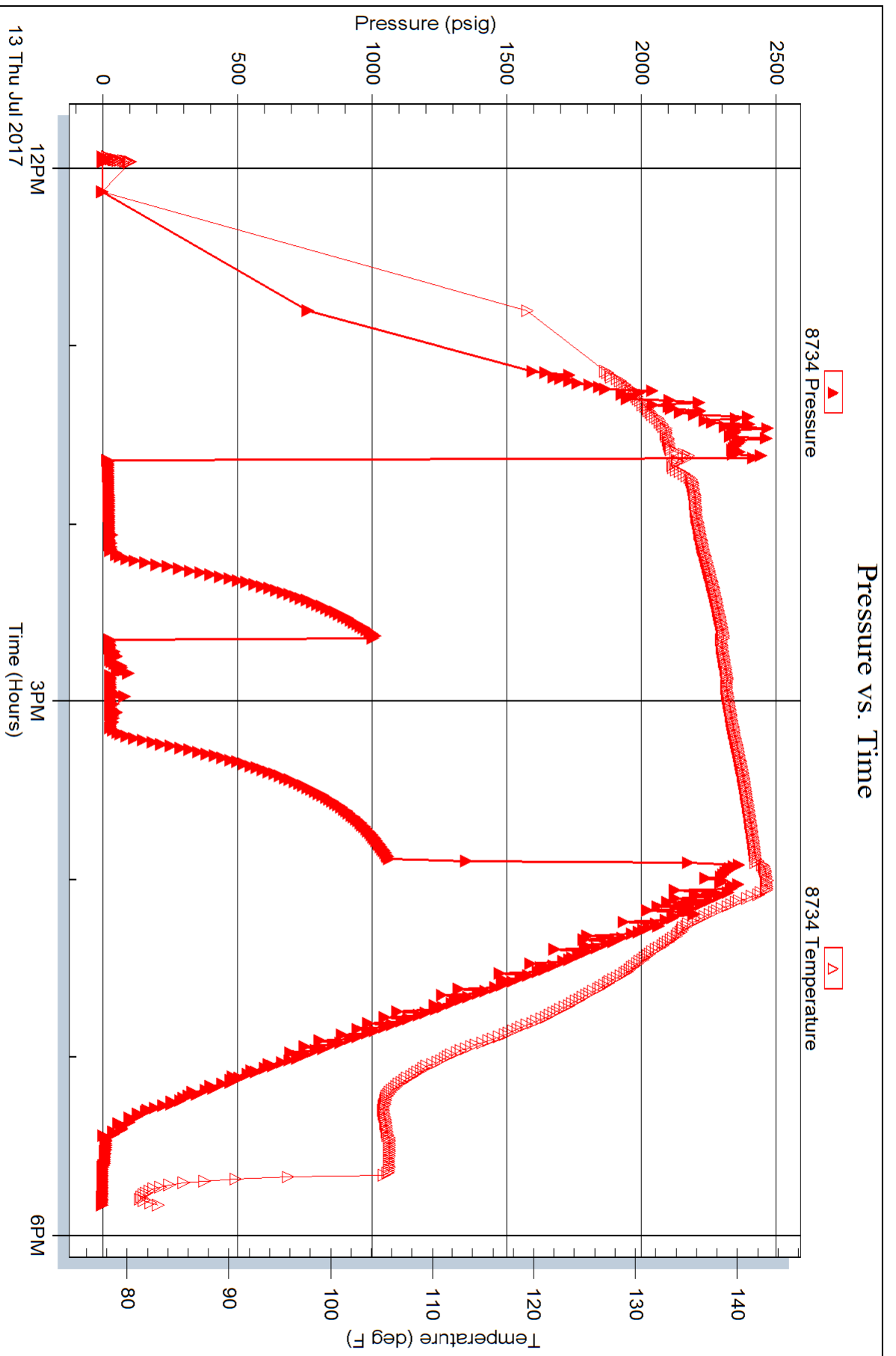
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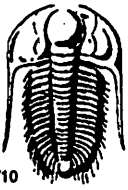
Serial #: 8734

Outside Murfin Drilling Co. INC

Mears # 1-16

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64189

Well Name & No. Mears # 1-16 Test No. 1 Date 7-8-17
 Company Murfin Drilling Co Inc Elevation 3371 KB 3366 GL
 Address 250 N. Water, STE 300, Wichita, KS 67202
 Co. Rep / Geo. Suzanne Sharifaie Rig Murfin #24
 Location: Sec. 16 Twp. 25. Rge. 37W. Co. Cheyenne State KS.

Interval Tested 4164-4240 Zone Tested Oread
 Anchor Length 76' Drill Pipe Run 3936 Mud Wt. 9.2
 Top Packer Depth 4159 Drill Collars Run 205 Vis 60
 Bottom Packer Depth 4164 Wt. Pipe Run — WL 5.6
 Total Depth 4240 Chlorides 600 ppm System LCM 4H

Blow Description IF. S. blow built to 1/4" & diled back to weak S. blow @shut in
ISI. No blow
FF. No blow
FSI. No blow

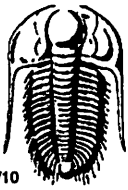
Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Mad</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 3 BHT 139 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2090 Test 1150 T-On Location 20:56 7-8-17
 (B) First Initial Flow 16 Jars 250 T-Started 22:56
 (C) First Final Flow 16 Safety Joint 75 T-Open 01:16
 (D) Initial Shut-In 29 Circ Sub _____ T-Pulled 04:16
 (E) Second Initial Flow 17 Hourly Standby _____ T-Out 06:08 7-19-17
 (F) Second Final Flow 17 Mileage 198 RT. 148.50 Comments _____
 (G) Final Shut-In 28 Sampler _____
 (H) Final Hydrostatic 2057 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1623.50
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1623.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64191

Well Name & No. Mears # 1-16 Test No. 2 Date 7-9-17
 Company Murfin Drilling Co Inc Elevation 3371 KB 3366 GL
 Address 250 N. Water, STE 300, Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaic Rig Murfin #24
 Location: Sec. 16 Twp. 2S. Rge. 37W Co. Cheyenne State KS

Interval Tested 4242-4310 Zone Tested Lansing "A"
 Anchor Length 68' Drill Pipe Run 4028 Mud Wt. 9.1
 Top Packer Depth 4237 Drill Collars Run 205 Vis 60
 Bottom Packer Depth 4242 Wt. Pipe Run — WL 6.0
 Total Depth 4310 Chlorides 600 ppm System LCM 4#

Blow Description IF: Fair S. blow dead @ 18 mins
ISI: No blow
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>505M</u>		<u>1</u>	<u>99</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 139 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

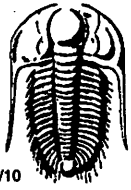
(A) Initial Hydrostatic 2149 Test 1150 T-On Location 15:45
 (B) First Initial Flow 17 Jars 250 T-Started 16:19
 (C) First Final Flow 16 Safety Joint 75 T-Open 18:31
 (D) Initial Shut-In 64 Circ Sub _____ T-Pulled 21:31
 (E) Second Initial Flow 17 Hourly Standby _____ T-Out 23:35
 (F) Second Final Flow 17 Mileage 198 RT 148.50 Comments _____
 (G) Final Shut-In 36 Sampler _____
 (H) Final Hydrostatic 2153 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

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

Sub Total 1623.50

MP/DST Disc't _____

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64192

Well Name & No. Mears # 1-16 Test No. 3 Date 7-10-17
 Company Murfin Drilling Co Inc Elevation 3371 KB 3366 GL
 Address 250 N. Water, STE 300, Wichita, KS 67202
 Co. Rep / Geo. Saman Sherifaie Rig Murfin #24
 Location: Sec. 16 Twp. 25. Rge. 37W Co. Cheyenne State KS

Interval Tested 4312-4370 Zone Tested LKC "B-D"
 Anchor Length 58 Drill Pipe Run 4091 Mud Wt. 9.0
 Top Packer Depth 4307 Drill Collars Run 205 Vis 60
 Bottom Packer Depth 4312 Wt. Pipe Run --- WL 5.6
 Total Depth 4370 Chlorides 600 ppm System LCM 4#

Blow Description IF. S. blow built to 114" & diled back to s. blow @ shut in
ESI - No blow
FF - No blow
FSI - No blow

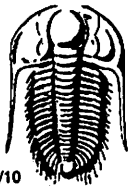
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

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

(A) Initial Hydrostatic <u>2145</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>11:10</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:13</u>
(C) First Final Flow <u>16</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:02</u>
(D) Initial Shut-In <u>68</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>16:02</u>
(E) Second Initial Flow <u>18</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>17:56</u>
(F) Second Final Flow <u>17</u>	<input checked="" type="checkbox"/> Mileage <u>198RT</u> 148.50	Comments _____
(G) Final Shut-In <u>43</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>2131</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>1623.50</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1623.50</u>	

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64193

Well Name & No. Mears #1-1b Test No. 4 Date 7-11-17
 Company Murfin Drilling Co Inc Elevation 3371 KB 3366 GL
 Address 250 N. Water STE 300, Wichita, KS 67202
 Co. Rep / Geo. Saman Sherif Rig Murfin #24
 Location: Sec. 16 Twp. Z.S. Rge. 37W Co. Cheyenne State KS

Interval Tested 4368-4440 Zone Tested LKL "G"
 Anchor Length 72' Drill Pipe Run 4154 Mud Wt. 9.0
 Top Packer Depth 4363 Drill Collars Run 205 Vis 70
 Bottom Packer Depth 4368 Wt. Pipe Run — WL 5.6
 Total Depth 4440 Chlorides 600 ppm System LCM 44

Blow Description IF. S. blow built to 1/2" & died back to 1/4" @ shut in
ISI. No blow
FF. No blow
FSI. No blow

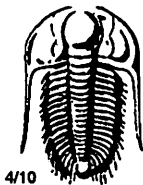
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OSM</u>		<u>5</u>	<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 138 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2216 Test 1150 T-On Location 04:55
 (B) First Initial Flow 17 Jars 250 T-Started 05:07
 (C) First Final Flow 17 Safety Joint 75 T-Open 06:45
 (D) Initial Shut-In 43 Circ Sub _____ T-Pulled 09:45
 (E) Second Initial Flow 19 Hourly Standby _____ T-Out 11:46
 (F) Second Final Flow 19 Mileage 198 RT 148.50 Comments _____
 (G) Final Shut-In 32 Sampler _____
 (H) Final Hydrostatic 2206 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1623.50
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1623.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64194

Well Name & No. Mears # 1-16 Test No. 5 Date 7-12-17
 Company Murfin Drilling Co Inc Elevation 3371 KB 3366 GL
 Address 250 N. Water, STE 360, Wichita, KS 67202
 Co. Rep / Geo. Samen Sharifajir Rig Murfin #24
 Location: Sec. 16 Twp. 25. Rge. 37W Co. Cherokee State KS

Interval Tested 4428-4520 Zone Tested LKC "H-5"
 Anchor Length 92' Drill Pipe Run 4216 Mud Wt. 9.0
 Top Packer Depth 4423 Drill Collars Run 205 Vis 70
 Bottom Packer Depth 4428 Wt. Pipe Run — WL 6.0
 Total Depth 4520 Chlorides 600 ppm System LCM 44

Blow Description IF · S. blow built to B.O.B (12 inches) @ 10 mins 15 seconds.
ISI · Blowback built to 7 1/2 inches
FF · S. blow built to B.O.B (12 inches) @ 7 mins 45 seconds
FSI · Blowback built to 9 3/4" @ 19 1/2 mins + died back to 7 1/2"

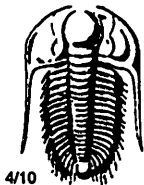
Rec	Feet of	%gas	%oil	%water	%mud
<u>183</u>	<u>Feet of GOCM</u>	<u>41</u>	<u>22</u>	<u>37</u>	
<u>303</u>	<u>Feet of CGO</u>	<u>7</u>	<u>93</u>		
<u>0</u>	<u>Feet of 1556' GIP</u>	<u>100</u>			

Rec Total 486 BHT 145 Gravity 35.6 API RW @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2255 Test 1150 T-On Location 00:19
 (B) First Initial Flow 72 Jars 250 T-Started 01:07
 (C) First Final Flow 109 Safety Joint 75 T-Open 03:24
 (D) Initial Shut-In 1333 Circ Sub — T-Pulled 07:24
 (E) Second Initial Flow 120 Hourly Standby — T-Out 09:53
 (F) Second Final Flow 185 Mileage 198RT 148.50
 (G) Final Shut-In 1294 Sampler —
 (H) Final Hydrostatic 2238 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1623.50
 Accessibility — MP/DST Disc't —
 Sub Total 1623.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64195

Well Name & No. Mears #1-16 Test No. 6 Date 7-13-17
 Company Murfin Drilling Co Inc Elevation 3371 KB 3366 GL
 Address 250 N. Water, STE 300, Wichita, KS 67202
 Co. Rep / Geo. Saman Sharif Rig Murfin #24
 Location: Sec. 16 Twp. 2S. Rge. 37W. Co. Cheyenne State KS

Interval Tested 4677-4770 Zone Tested Ft Scott, Breezy Hill
 Anchor Length 93' Drill Pipe Run 4464 Mud Wt. 9.1
 Top Packer Depth 4672 Drill Collars Run 205 Vis 79
 Bottom Packer Depth 4677 Wt. Pipe Run — WL 5.6
 Total Depth 4770 Chlorides 600 ppm System LCM 4#

Blow Description IF - S. blow built to 1/4"
ISI - No blow
FF - No blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</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	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 142 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2411</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>11:10</u>
(B) First Initial Flow <u>26</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:56</u>
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:31</u>
(D) Initial Shut-In <u>1016</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>15:54</u>
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>17:51</u>
(F) Second Final Flow <u>30</u>	<input checked="" type="checkbox"/> Mileage <u>198 RT</u> 148.50	Comments _____
(G) Final Shut-In <u>1061</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>2379</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby _____	Total <u>1623.50</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1623.50</u>	

Approved By _____ Our Representative [Signature]

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