



DRILL STEM TEST REPORT

Prepared For: **Bickle Energies LLC**

PO Box 816
Hays, KS 67601

ATTN: Keath Reavis

Avery #14-1

14-5S-37W Cheyenne,KS

Start Date: 2018.06.24 @ 09:50:00

End Date: 2018.06.24 @ 17:49:39

Job Ticket #: 64182 DST #: 1

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

Printed: 2018.06.28 @ 14:38:50



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies LLC

14-5S-37W Cheyenne, KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64182

DST#: 1

ATTN: Keath Reavis

Test Start: 2018.06.24 @ 09:50:00

GENERAL INFORMATION:

Formation: **Toronto - Lansing A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:07:40

Time Test Ended: 17:49:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

Interval: 4156.00 ft (KB) To 4216.00 ft (KB) (TVD)

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4216.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8959

Inside

Press@RunDepth: 131.77 psig @ 4157.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.24

End Date:

2018.06.24

Last Calib.:

2018.06.24

Start Time: 09:50:01

End Time:

17:49:40

Time On Btm:

2018.06.24 @ 12:07:20

Time Off Btm:

2018.06.24 @ 15:21:50

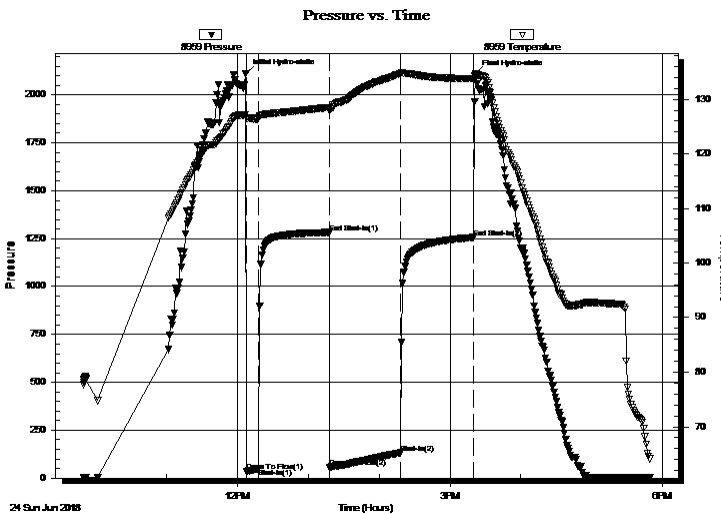
TEST COMMENT: 10-IF-Surface blow built to 4"

60-ISI-No blow

60-FF-Surface blow built to B.O.B (12 inches) @ 47 mins

60-FSI-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.93	127.24	Initial Hydro-static
1	35.40	126.52	Open To Flow (1)
11	49.92	126.56	Shut-In(1)
71	1281.99	128.50	End Shut-In(1)
71	56.55	127.87	Open To Flow (2)
131	131.77	134.75	Shut-In(2)
193	1255.71	133.77	End Shut-In(2)
195	2108.63	134.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
242.00	OS/HMCW 4%O, 38%M, 59%W	3.39
1.00	CO 100%	0.01

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies LLC

14-5S-37W Cheyenne, KS

PO Box 816
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Avery #14-1

Job Ticket: 64182 **DST#: 1**

ATTN: Keath Reavis

Test Start: 2018.06.24 @ 09:50:00

GENERAL INFORMATION:

Formation: **Toronto - Lansing A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:07:40

Time Test Ended: 17:49:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

Interval: 4156.00 ft (KB) To 4216.00 ft (KB) (TVD)

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4216.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8734 Outside

Press@RunDepth: psig @ 4157.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.24 End Date: 2018.06.24

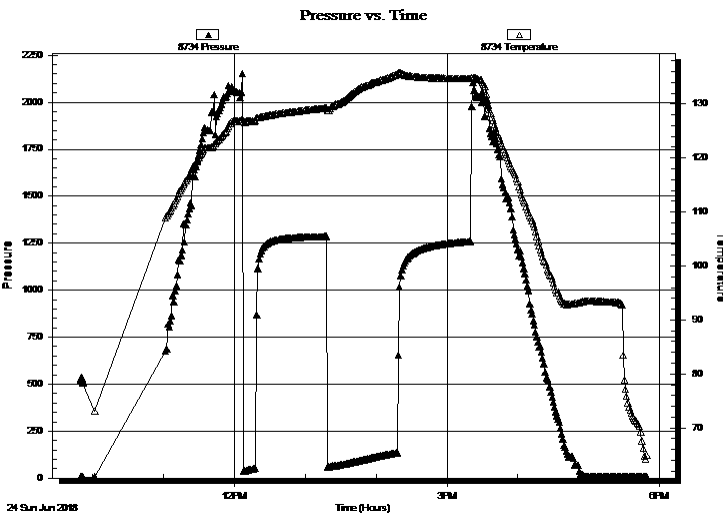
Last Calib.: 2018.06.24

Start Time: 09:50:01 End Time: 17:49:40

Time On Btm:

Time Off Btm:

TEST COMMENT: 10-IF-Surface blow built to 4"
60-ISI-No blow
60-FF-Surface blow built to B.O.B (12 inches) @ 47 mins
60-FSI-No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
242.00	OS/HMCW 4%O, 38%M, 59%W	3.39
1.00	CO 100%	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bickle Energies LLC

14-5S-37W Cheyenne,KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64182

DST#: 1

ATTN: Keath Reavis

Test Start: 2018.06.24 @ 09:50:00

Tool Information

Drill Pipe:	Length: 4150.00 ft	Diameter: 3.80 inches	Volume: 58.21 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 58.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4156.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	92.00 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			4129.00	
Hydraulic tool	5.00			4134.00	
Jars	5.00			4139.00	
EM Tool	4.00			4143.00	
Safety Joint	3.00			4146.00	
Packer	5.00			4151.00	32.00 Bottom Of Top Packer
Packer	5.00			4156.00	
Stubb	1.00			4157.00	
Recorder	0.00	8959	Inside	4157.00	
Recorder	0.00	8734	Outside	4157.00	
Perforations	20.00			4177.00	
Change Over Sub	1.00			4178.00	
Drill Pipe	32.00			4210.00	
Change Over Sub	1.00			4211.00	
Bullnose	5.00			4216.00	60.00 Bottom Packers & Anchor

Total Tool Length: 92.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Bickle Energies LLC

14-5S-37W Cheyenne,KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64182

DST#: 1

ATTN: Keath Reavis

Test Start: 2018.06.24 @ 09:50:00

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: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.55 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
242.00	OS/HMCW 4%O, 38%M, 59%W	3.395
1.00	CO 100%	0.014

Total Length: 243.00 ft Total Volume: 3.409 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

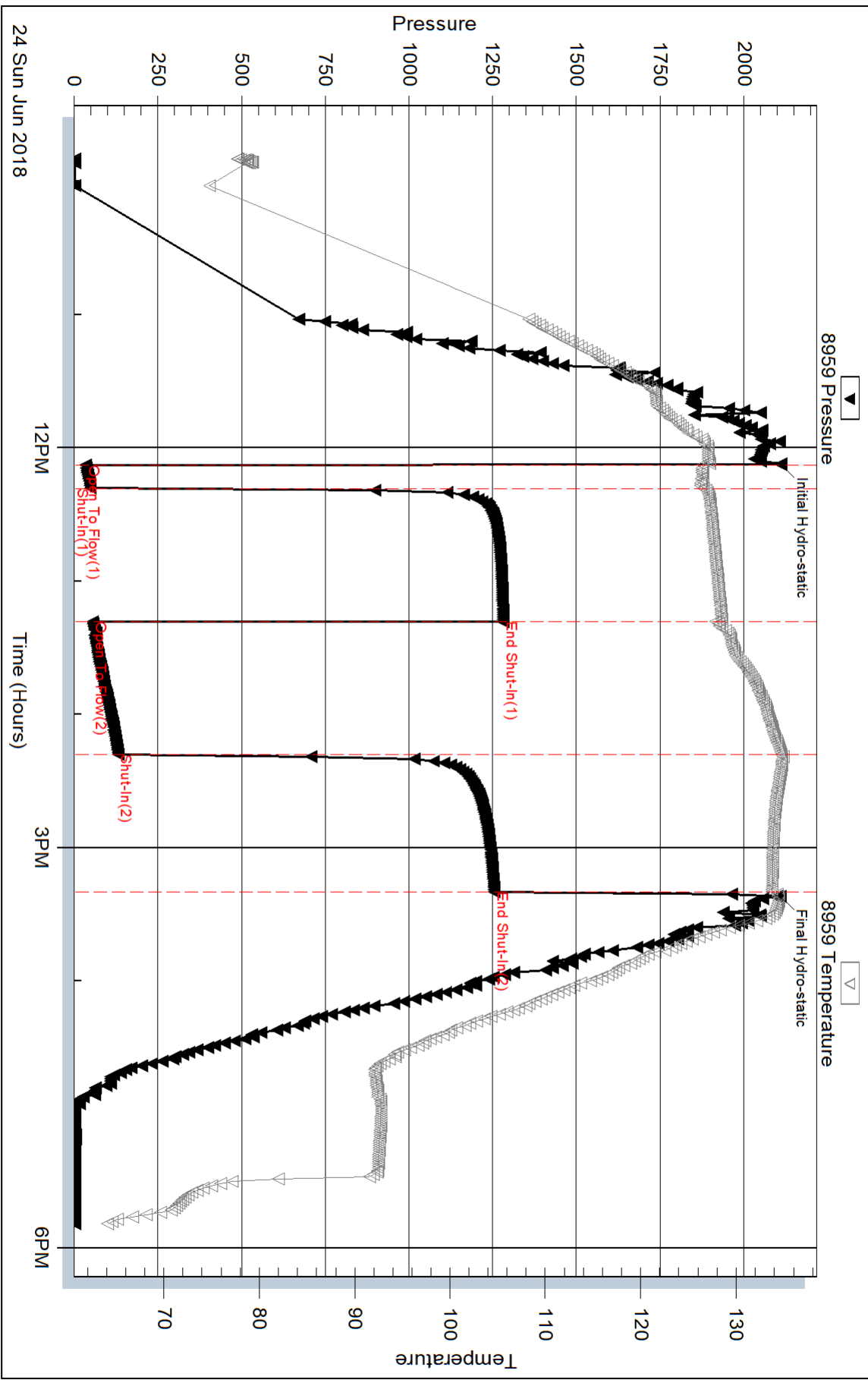
Laboratory Name:

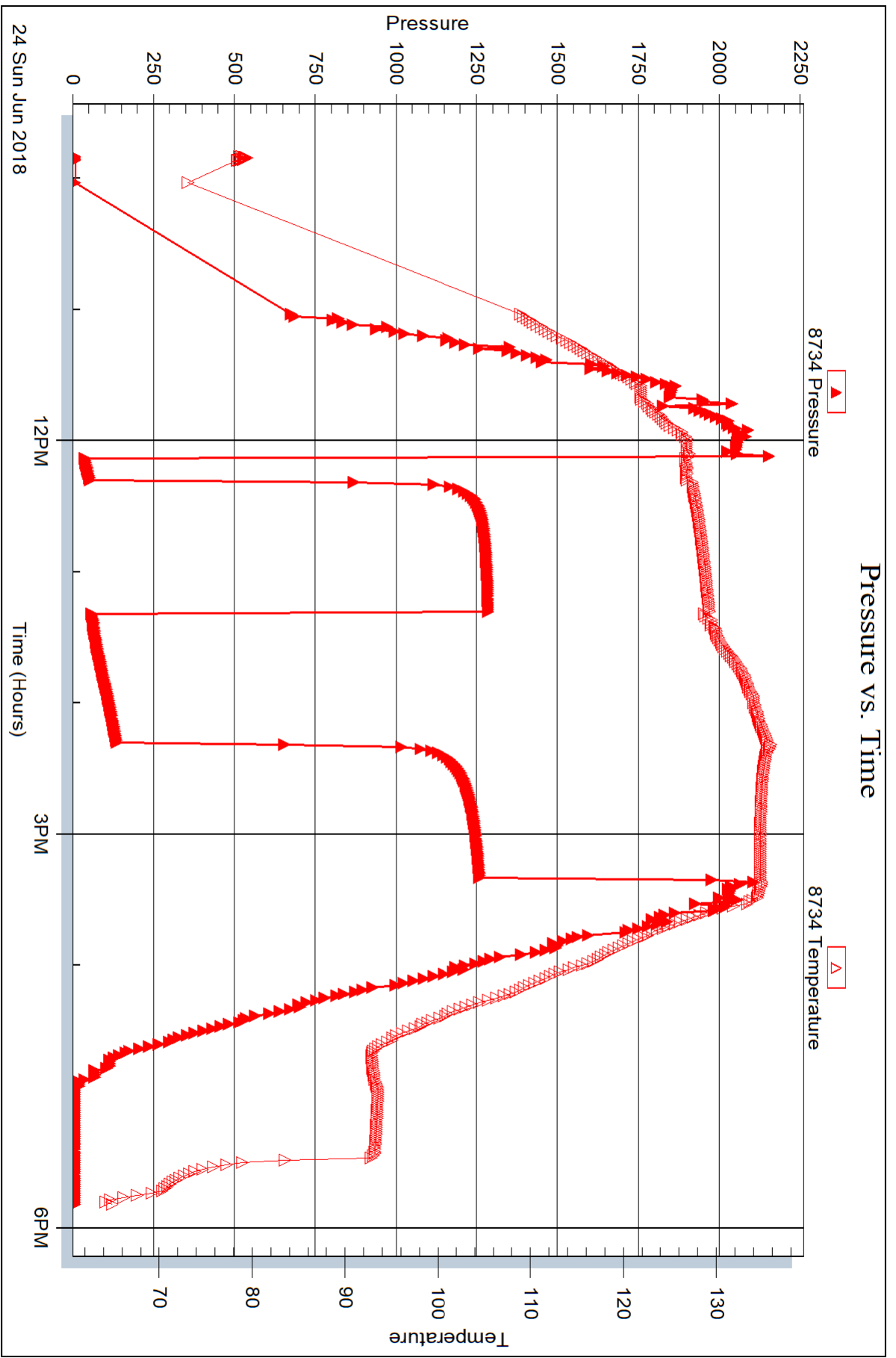
Laboratory Location:

Recovery Comments: RW= .210 @ 63.3 degs = 40,000 ppm

Not enough oil to catch a gravity

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Bickle Energies LLC**

PO Box 816
Hays, KS 67601

ATTN: Keath Reavis

Avery #14-1

14-5S-37W Cheyenne,KS

Start Date: 2018.06.25 @ 11:06:00

End Date: 2018.06.25 @ 17:34:39

Job Ticket #: 64183 DST #: 2

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

Printed: 2018.06.28 @ 14:37:55



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies LLC

14-5S-37W Cheyenne, KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64183

DST#: 2

ATTN: Keath Reavis

Test Start: 2018.06.25 @ 11:06:00

GENERAL INFORMATION:

Formation: **LKC "F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:33:10

Time Test Ended: 17:34:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4249.00 ft (KB) To 4307.00 ft (KB) (TVD)

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4307.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8959

Inside

Press@RunDepth: 51.15 psig @ 4250.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.25

End Date:

2018.06.25

Last Calib.:

2018.06.25

Start Time: 11:06:01

End Time:

17:34:40

Time On Btm:

2018.06.25 @ 12:33:00

Time Off Btm:

2018.06.25 @ 15:31:00

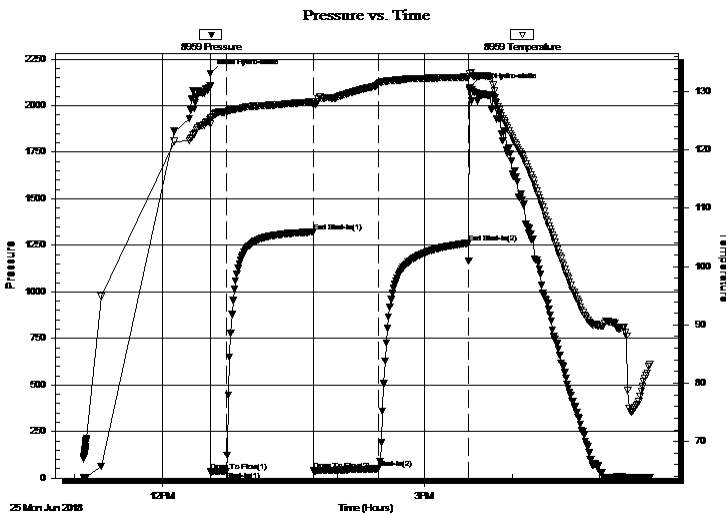
TEST COMMENT: 10-IF-Surface blow built to 3/4"

60-ISI-No blow

45-FF-Surface blow @ 8 mins built to 1 1/2"

60-FSI-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2173.59	125.43	Initial Hydro-static
1	34.62	124.44	Open To Flow (1)
11	37.56	126.54	Shut-In(1)
71	1321.67	128.25	End Shut-In(1)
71	40.08	127.73	Open To Flow (2)
116	51.15	131.32	Shut-In(2)
177	1262.40	132.50	End Shut-In(2)
178	2095.58	133.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
68.00	SOSM 1%O, 99%M	0.95

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bickle Energies LLC

14-5S-37W Cheyenne,KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64183

DST#: 2

ATTN: Keath Reavis

Test Start: 2018.06.25 @ 11:06:00

Tool Information

Drill Pipe:	Length: 4245.00 ft	Diameter: 3.80 inches	Volume: 59.55 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 59.55 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4249.00 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: Opened tool and slid to bottom 4'
bled off floor manifold 1 min

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4226.00	
Hydraulic tool	5.00			4231.00	
Jars	5.00			4236.00	
Safety Joint	3.00			4239.00	
Packer	5.00			4244.00	28.00 Bottom Of Top Packer
Packer	5.00			4249.00	
Packer - Shale	0.00			4249.00	
Stubb	1.00			4250.00	
Recorder	0.00	8959	Inside	4250.00	
Recorder	0.00	8734	Outside	4250.00	
Perforations	19.00			4269.00	
Change Over Sub	1.00			4270.00	
Drill Pipe	31.00			4301.00	
Change Over Sub	1.00			4302.00	
Bullnose	5.00			4307.00	58.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Bickle Energies LLC

14-5S-37W Cheyenne,KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64183

DST#: 2

ATTN: Keath Reavis

Test Start: 2018.06.25 @ 11:06:00

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: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.56 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
68.00	SOSM 1%O, 99%M	0.954

Total Length: 68.00 ft Total Volume: 0.954 bbl

Num Fluid Samples: 0

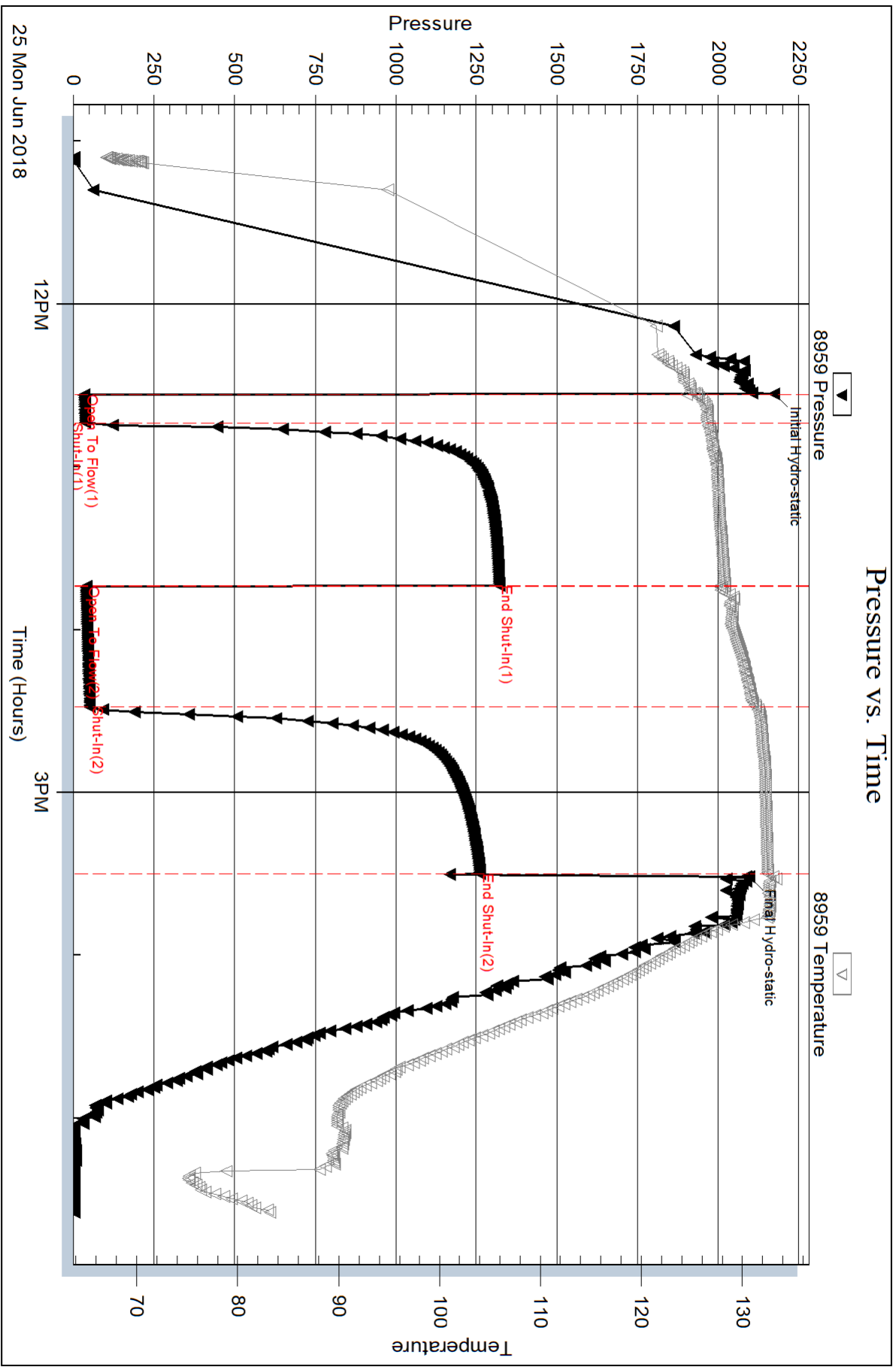
Num Gas Bombs: 0

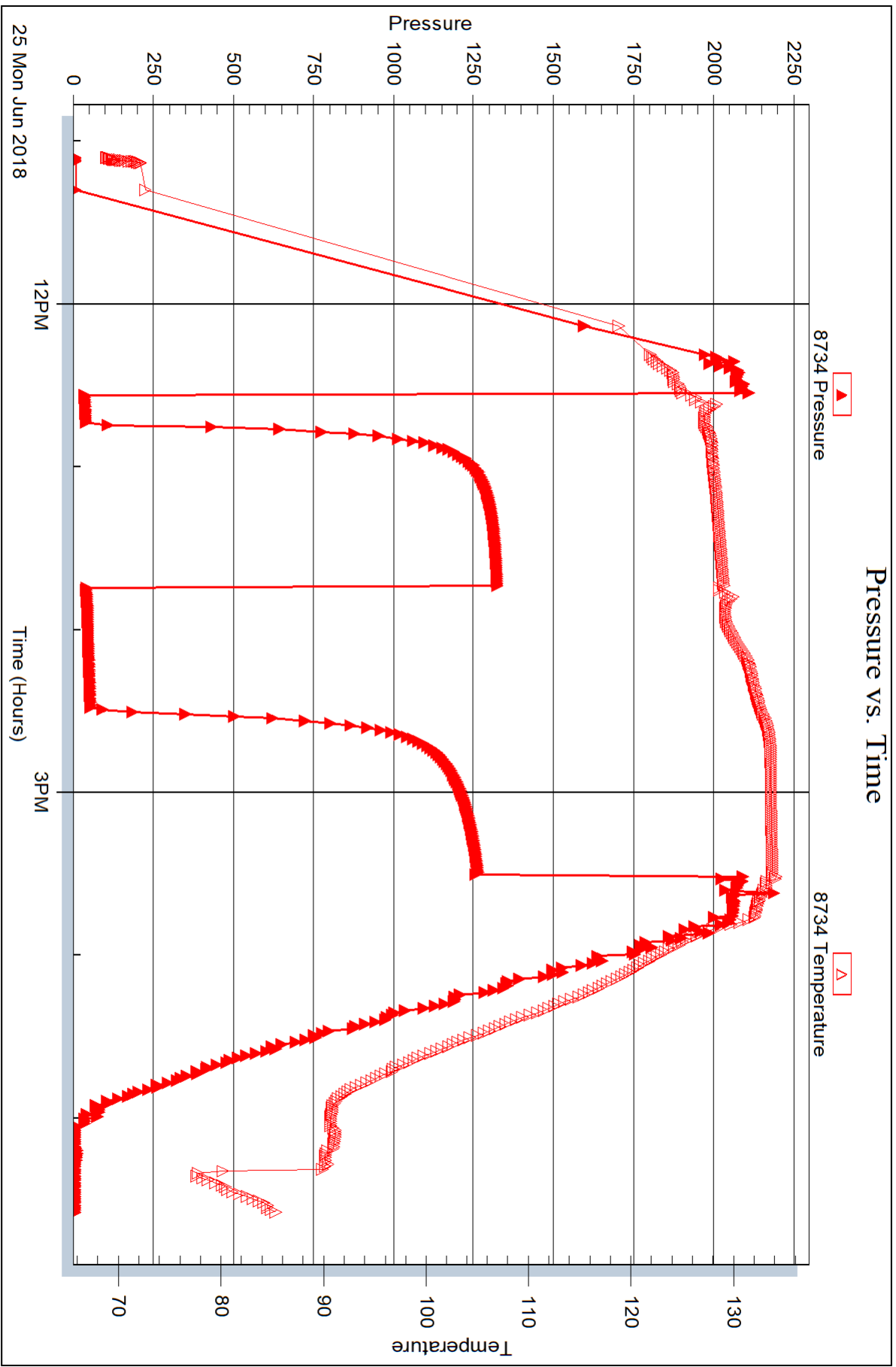
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Opened tool and slid to bottom 4'
bled off floor manifold 1 mins







DRILL STEM TEST REPORT

Prepared For: **Bickle Energies LLC**

PO Box 816
Hays, KS 67601

ATTN: Keath Reavis

Avery #14-1

14-5S-37W Cheyenne,KS

Start Date: 2018.06.26 @ 11:54:00

End Date: 2018.06.26 @ 18:59:20

Job Ticket #: 64184 DST #: 3

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

Printed: 2018.06.28 @ 14:37:29

Bickle Energies LLC
14-5S-37W Cheyenne,KS
Avery #14-1
DST # 3
LKC "J"
2018.06.26



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Bickle Energies LLC

14-5S-37W Cheyenne, KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64184

DST#: 3

ATTN: Keath Reavis

Test Start: 2018.06.26 @ 11:54:00

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:49:50

Time Test Ended: 18:59:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4360.00 ft (KB) To 4414.00 ft (KB) (TVD)

Total Depth: 4414.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3327.00 ft (KB)

3322.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8959

Inside

Press@RunDepth: 66.27 psig @ 4361.00 ft (KB)

Start Date: 2018.06.26

End Date:

2018.06.26

Start Time: 11:54:01

End Time:

18:59:20

Capacity: 8000.00 psig

Last Calib.: 2018.06.26

Time On Btm: 2018.06.26 @ 13:49:10

Time Off Btm: 2018.06.26 @ 17:04:30

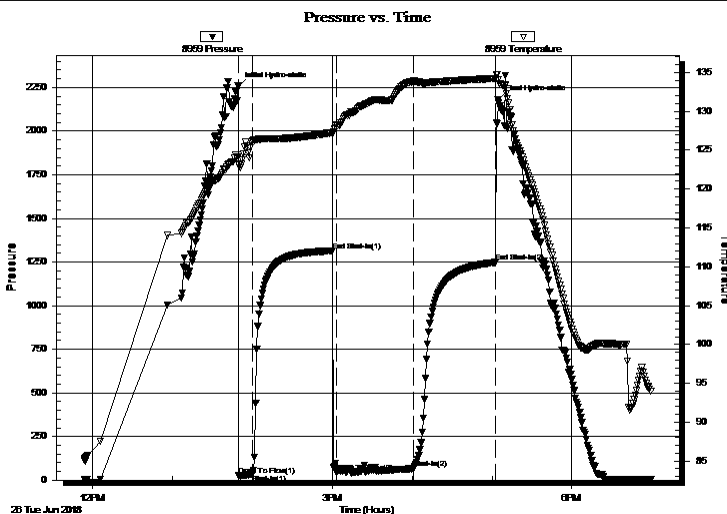
TEST COMMENT: 10-IF-Surface blow built to 2 "

60-ISI-No blow

45-FF-Surface blow @ 1 mins built to 9"

60-FSI-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2256.91	124.17	Initial Hydro-static
1	24.75	123.19	Open To Flow (1)
11	34.93	126.21	Shut-In(1)
71	1314.20	127.28	End Shut-In(1)
75	43.96	128.25	Open To Flow (2)
132	66.27	133.88	Shut-In(2)
194	1248.33	134.23	End Shut-In(2)
196	2179.91	134.74	Final Hydro-static

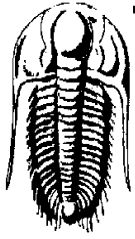
Recovery

Length (ft)	Description	Volume (bbl)
63.00	SOCM 8%O, 92%M	0.88
31.00	GOC/WCM 3%G, 15%O, 22%W, 60%M	0.43
1.00	CO 100%O	0.01

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies LLC

14-5S-37W Cheyenne, KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64184

DST#: 3

ATTN: Keath Reavis

Test Start: 2018.06.26 @ 11:54:00

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:49:50

Time Test Ended: 18:59:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4360.00 ft (KB) To 4414.00 ft (KB) (TVD)

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4414.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8734 Outside

Press@RunDepth: psig @ 4361.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.26

End Date:

2018.06.26

Last Calib.:

2018.06.26

Start Time: 11:54:01

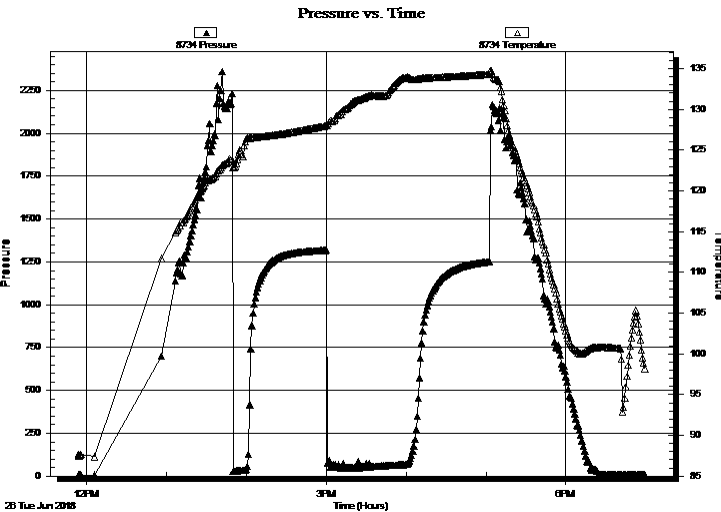
End Time:

18:59:20

Time On Btm:

Time Off Btm:

TEST COMMENT: 10-IF-Surface blow built to 2 "
60-ISI-No blow
45-FF-Surface blow @ 1 mins built to 9"
60-FSI-No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
63.00	SOCM 8%O, 92%M	0.88
31.00	GOC/WCM 3%G, 15%O, 22%W, 60%M	0.43
1.00	CO 100%O	0.01

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bickle Energies LLC

14-5S-37W Cheyenne, KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64184

DST#: 3

ATTN: Keath Reavis

Test Start: 2018.06.26 @ 11:54:00

Tool Information

Drill Pipe:	Length: 4338.00 ft	Diameter: 3.80 inches	Volume: 60.85 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4360.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4337.00	
Hydraulic tool	5.00			4342.00	
Jars	5.00			4347.00	
Safety Joint	3.00			4350.00	
Packer	5.00			4355.00	28.00 Bottom Of Top Packer
Packer	5.00			4360.00	
Stubb	1.00			4361.00	
Recorder	0.00	8959	Inside	4361.00	
Recorder	0.00	8734	Outside	4361.00	
Perforations	15.00			4376.00	
Change Over Sub	1.00			4377.00	
Drill Pipe	31.00			4408.00	
Change Over Sub	1.00			4409.00	
Bullnose	5.00			4414.00	54.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bickle Energies LLC

14-5S-37W Cheyenne,KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64184

DST#: 3

ATTN: Keath Reavis

Test Start: 2018.06.26 @ 11:54:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

20000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	SOCM 8%O, 92%M	0.884
31.00	GOC/WCM 3%G, 15%O, 22%W, 60%M	0.435
1.00	CO 100%O	0.014

Total Length: 95.00 ft Total Volume: 1.333 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

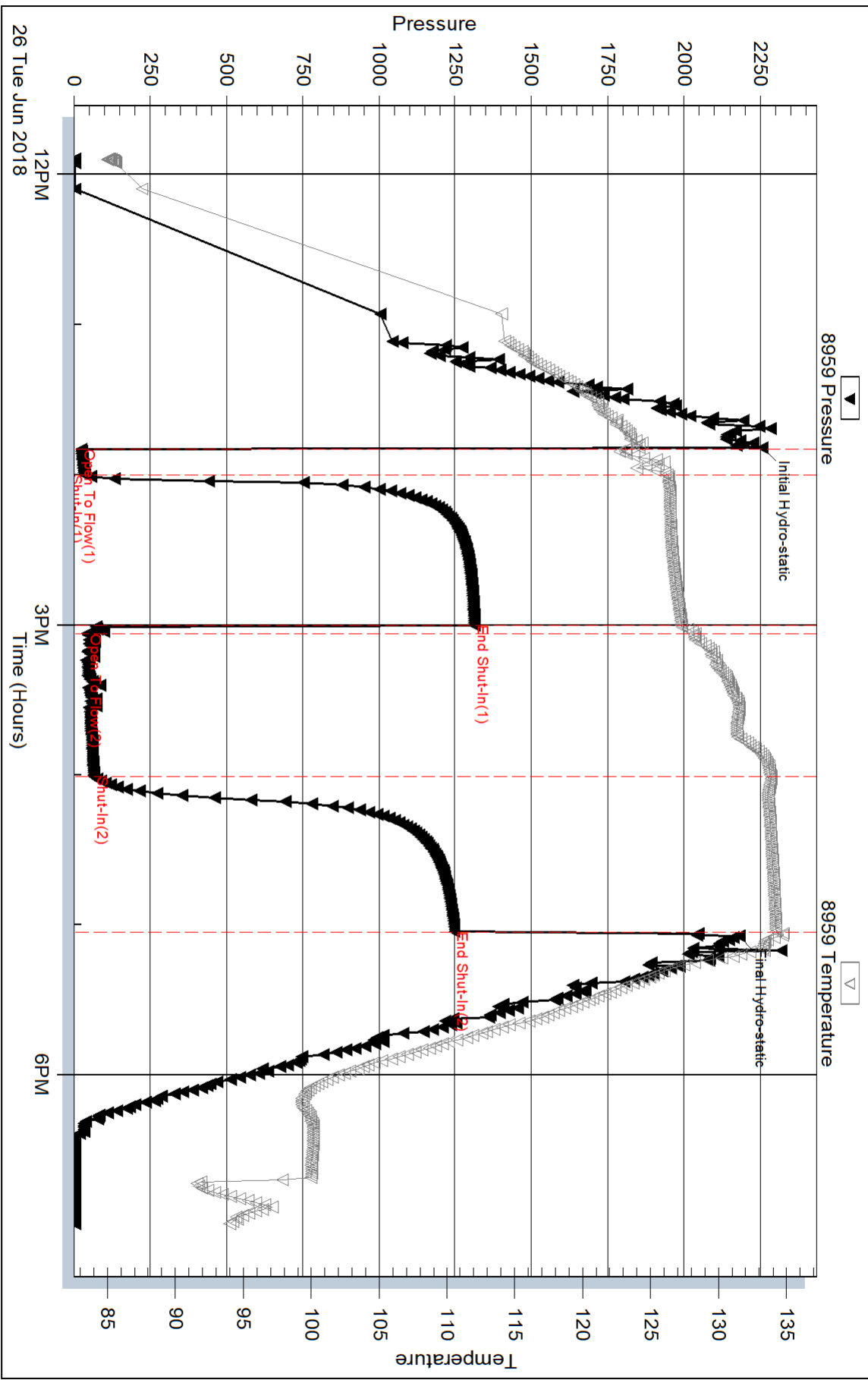
Serial #:

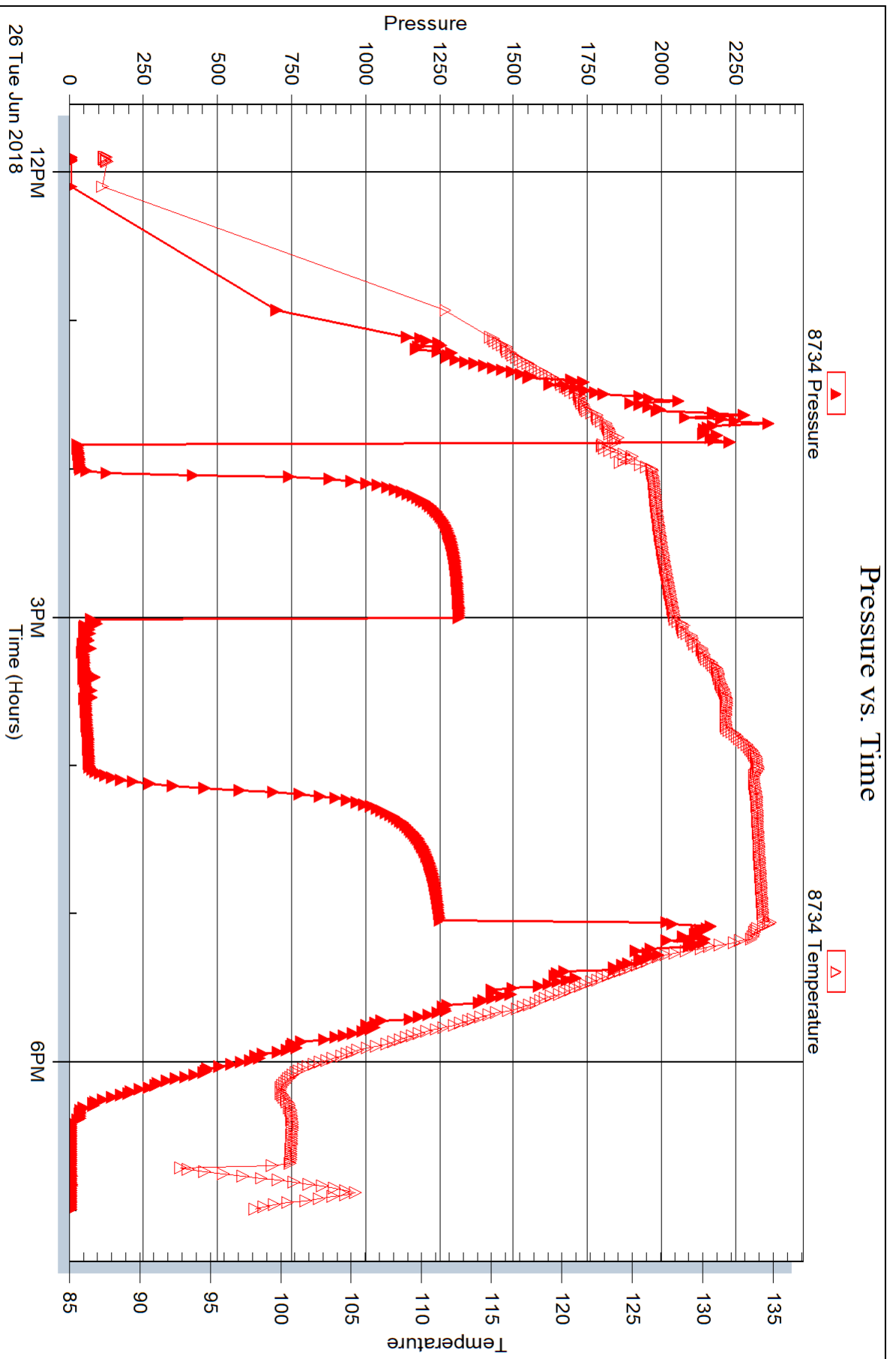
Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.285 @ 87.2 degs=20,000PPM

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Bickle Energies LLC**

PO Box 816
Hays, KS 67601

ATTN: Keath Reavis

Avery #14-1

14-5S-37W Cheyenne,KS

Start Date: 2018.06.27 @ 22:10:00

End Date: 2018.06.28 @ 07:34:19

Job Ticket #: 64185 DST #: 4

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

Printed: 2018.06.28 @ 14:36:35



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Bickle Energies LLC

14-5S-37W Cheyenne, KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64185

DST#: 4

ATTN: Keath Reavis

Test Start: 2018.06.27 @ 22:10:00

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:02:30

Time Test Ended: 07:34:19

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4580.00 ft (KB) To 4615.00 ft (KB) (TVD)

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4615.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8959 Inside

Press@RunDepth: 1224.51 psig @ 4581.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.27

End Date:

2018.06.28

Last Calib.:

2018.06.28

Start Time: 22:10:01

End Time:

07:34:19

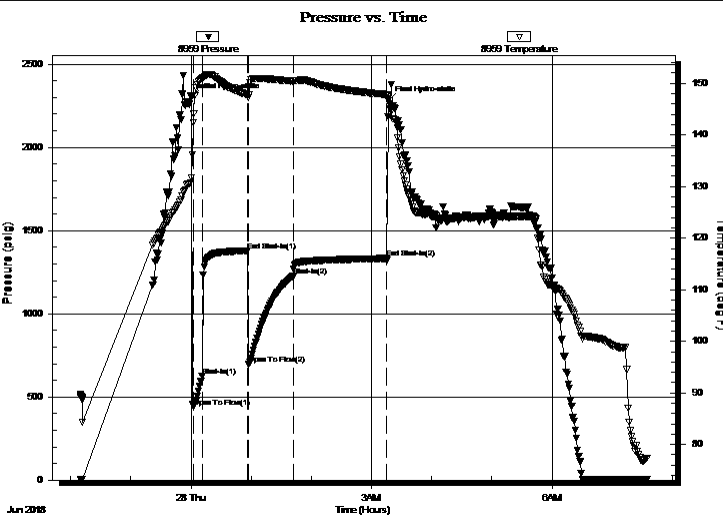
Time On Btm:

2018.06.28 @ 00:00:40

Time Off Btm:

2018.06.28 @ 03:16:50

TEST COMMENT: 10-IF-5" blow built to B.O.B (12 inches) @ 45 secs (blow increased to 265")
60-ISI-Blow back built to B.O.B (12 inches) @ 4 mins (blow increased to 335")
60-FF-Blow built to B.O.B (12 inches) @ 45 secs (blow increased to 340")
60-FSI-No blow (blow decreased to 336")



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2302.19	131.76	Initial Hydro-static
2	440.60	142.37	Open To Flow (1)
11	626.64	150.81	Shut-In(1)
56	1378.42	147.79	End Shut-In(1)
57	694.80	147.27	Open To Flow (2)
102	1224.51	150.43	Shut-In(2)
195	1332.94	147.84	End Shut-In(2)
197	2283.10	146.69	Final Hydro-static

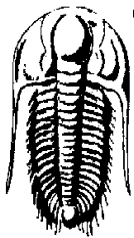
Recovery

Length (ft)	Description	Volume (bbl)
127.00	GOCM 20%G, 25%O, 55%M	1.78
2954.00	CGO 25%G, 75%O Reversed	41.44
221.00	CGO 16%G, 84%O	3.10
0.00	GTS	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies LLC

PO Box 816
Hays, KS 67601

ATTN: Keath Reavis

14-5S-37W Cheyenne, KS

Avery #14-1

Job Ticket: 64185 **DST#: 4**

Test Start: 2018.06.27 @ 22:10:00

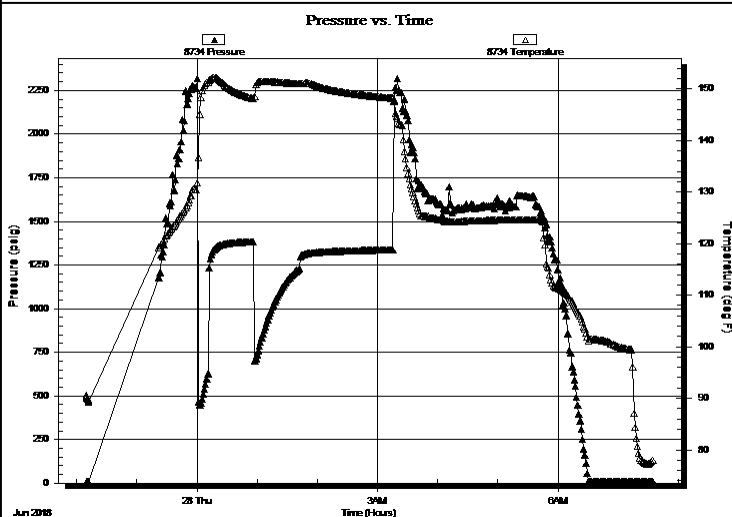
GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:02:30
Time Test Ended: 07:34:19
Interval: 4580.00 ft (KB) To 4615.00 ft (KB) (TVD)
Total Depth: 4615.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Martine Salinas
Unit No: 82
Reference Elevations: 3327.00 ft (KB)
3322.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8734 Outside

Press@RunDepth: psig @ 4581.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.06.27 End Date: 2018.06.28 Last Calib.: 2018.06.28
Start Time: 22:10:01 End Time: 07:34:30 Time On Btm:
Time Off Btm:

TEST COMMENT: 10-IF-5" blow built to B.O.B (12 inches) @ 45 secs (blow increased to 265")
60-ISI-Blow back built to B.O.B (12 inches) @ 4 mins (blow increased to 335")
60-FF-Blow built to B.O.B (12 inches) @ 45 secs (blow increased to 340")
60-FSI-No blow (blow decreased to 336")



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
127.00	GOCM 20%G, 25%O, 55%M	1.78
2954.00	CGO 25%G, 75%O Reversed	41.44
221.00	CGO 16%G, 84%O	3.10
0.00	GTS	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bickle Energies LLC

14-5S-37W Cheyenne,KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64185

DST#: 4

ATTN: Keath Reavis

Test Start: 2018.06.27 @ 22:10:00

Tool Information

Drill Pipe:	Length: 4556.00 ft	Diameter: 3.80 inches	Volume: 63.91 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 92000.00 lb
			<u>Total Volume: 63.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4580.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	67.00 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			4553.00	
Hydraulic tool	5.00			4558.00	
Jars	5.00			4563.00	
EM Tool	4.00			4567.00	
Safety Joint	3.00			4570.00	
Packer	5.00			4575.00	32.00 Bottom Of Top Packer
Packer	5.00			4580.00	
Stubb	1.00			4581.00	
Recorder	0.00	8959	Inside	4581.00	
Recorder	0.00	8734	Outside	4581.00	
Perforations	29.00			4610.00	
Bullnose	5.00			4615.00	35.00 Bottom Packers & Anchor

Total Tool Length: 67.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bickle Energies LLC

14-5S-37W Cheyenne,KS

PO Box 816
Hays, KS 67601

Avery #14-1

Job Ticket: 64185

DST#: 4

ATTN: Keath Reavis

Test Start: 2018.06.27 @ 22:10:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34.6 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
127.00	GOCM 20%G, 25%O, 55%M	1.781
2954.00	CGO 25%G, 75%O Reversed	41.437
221.00	CGO 16%G, 84%O	3.100
0.00	GTS	0.000

Total Length: 3302.00 ft Total Volume: 46.318 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

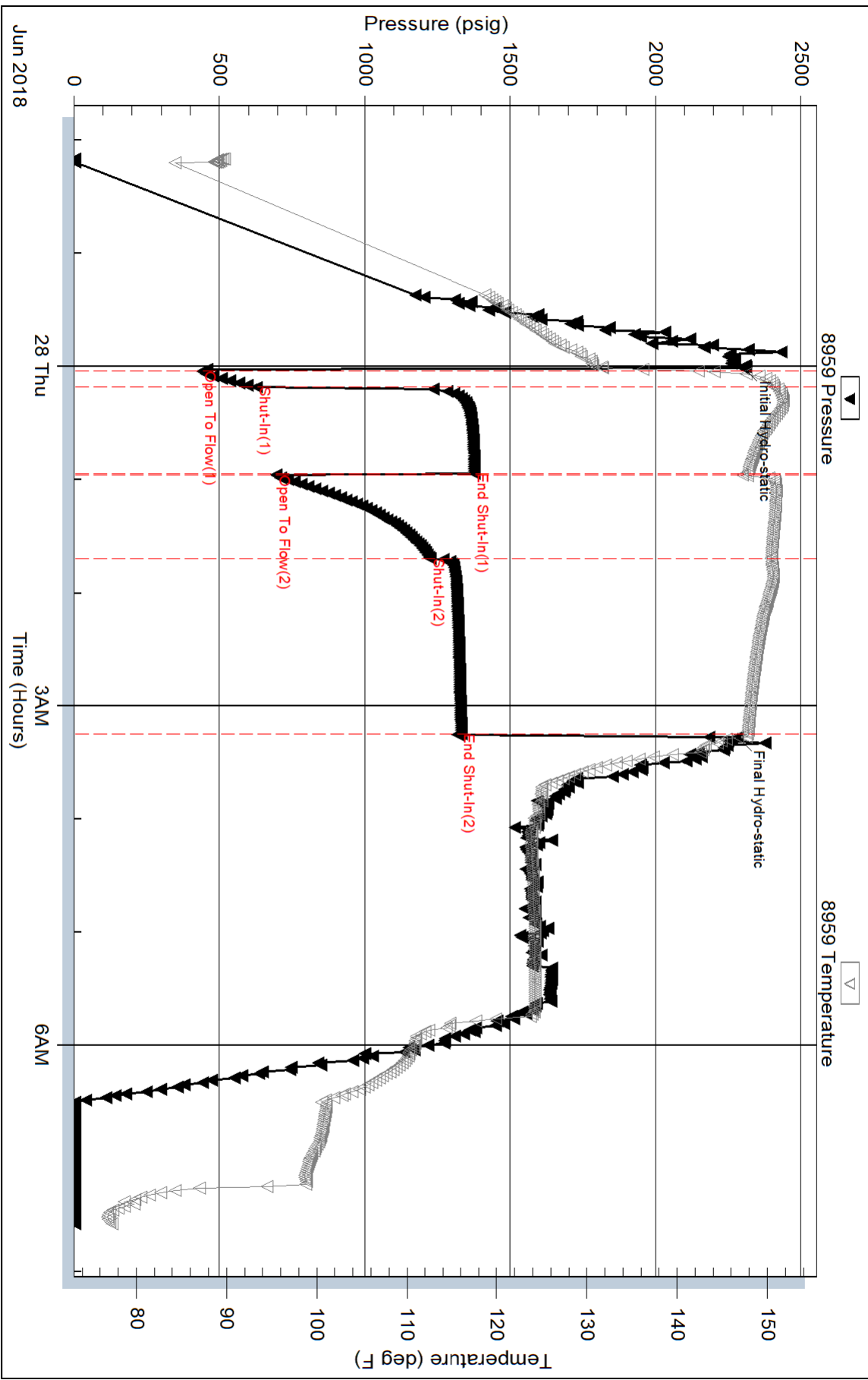
Laboratory Name:

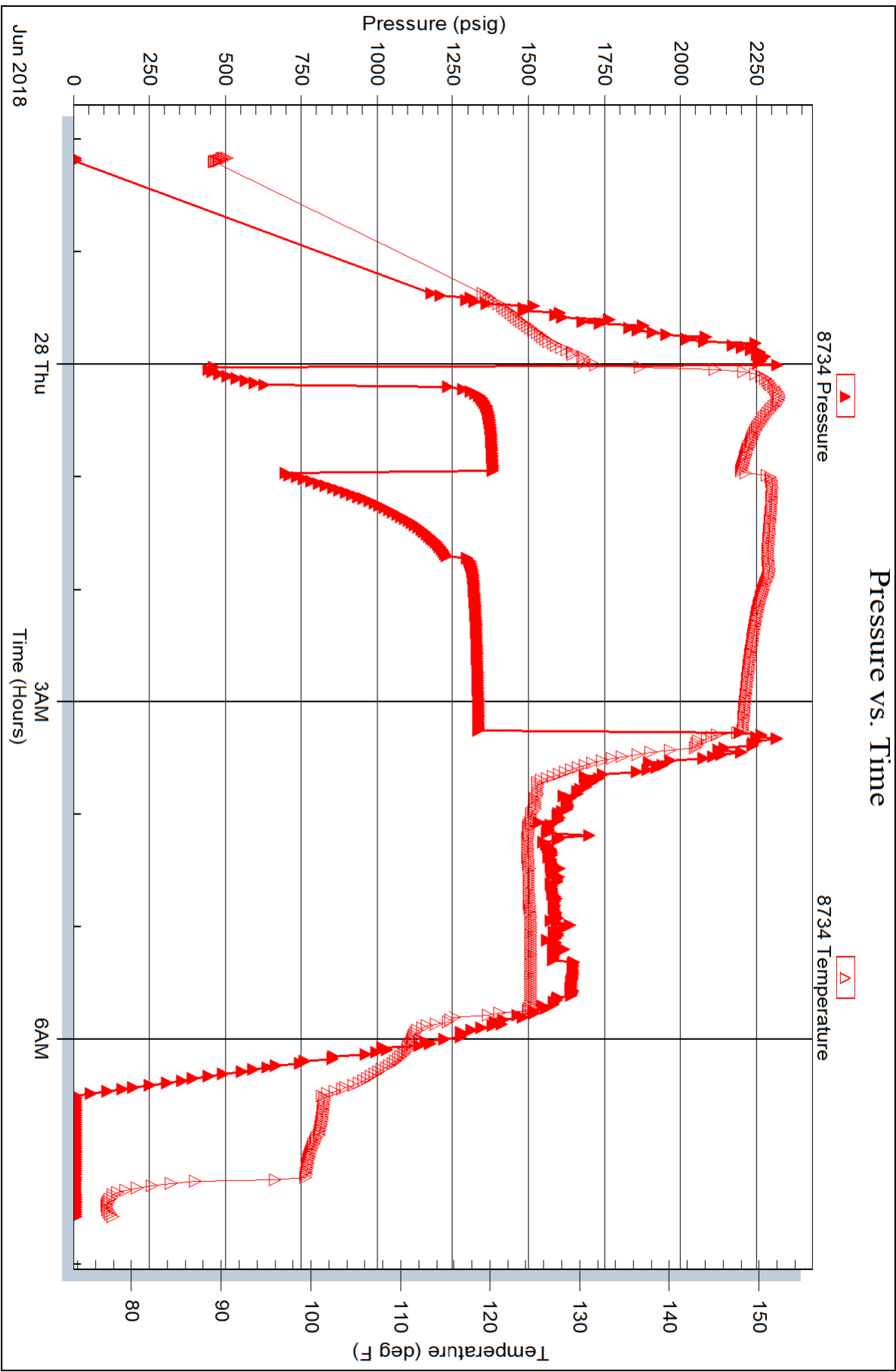
Laboratory Location:

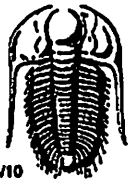
Recovery Comments: Gravity of oil = 36 @ 74 degs

Gravity corected to 34.6 @ 60 degs

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64182

Well Name & No. Avery # 14-1 Test No. 1 Date 06-24-18
 Company Bickle Energies, LLC Elevation 3327 KB 3322 GL
 Address P.O. Box 816 Hays, KS 67601
 Co. Rep / Geo. Keith Preavis Rig LD #1
 Location: Sec. 14 Twp 5S. Rge. 37W. Co. Cheyenne State KS.

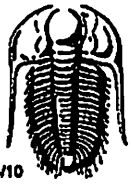
Interval Tested 4156-4216 Zone Tested Toronto/Lansing A
 Anchor Length 60 Drill Pipe Run 4150 Mud Wt. 9.3
 Top Packer Depth 4151 Drill Collars Run — Vis 45
 Bottom Packer Depth 4156 Wt. Pipe Run — WL 7.6
 Total Depth 4216 Chlorides 560 ppm System LCM 24
 Blow Description IF-S. blow built to 4"
ISI - No blow
FF-S. blow @ 2 mins built to B.O.B (12 inches) @ 47 mins.
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>242</u>	<u>05/HWEM</u>	<u>4</u>	<u>58</u>	<u>38</u>	
<u>1</u>	<u>CO</u>	<u>106</u>			

Rec Total 243 BHT 134 Gravity — API RW .210 @ 63.3 °F Chlorides 40,000 ppm

(A) Initial Hydrostatic 2110 Test 1150 T-On Location 08:15
 (B) First Initial Flow 35 Jars 250 T-Started 09:50
 (C) First Final Flow 50 Safety Joint 75 T-Open 12:08
 (D) Initial Shut-In 1282 Circ Sub — T-Pulled 15:18
 (E) Second Initial Flow 57 Hourly Standby — T-Out 17:50
 (F) Second Final Flow 132 Mileage 140 RT 140
 (G) Final Shut-In 1256 Sampler —
 (H) Final Hydrostatic 2109 Straddle —
 Shale Packer — Ruined Shale Packer —
 Extra Packer — Ruined Packer —
 Extra Recorder — Extra Copies —
 Day Standby — Sub Total 0
 Accessibility — Total 1615
 Sub Total 1615 MP/DST Disc't —

Approved By _____ Our Representative [Signature]
 Triobite 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.



TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64183

Well Name & No. Avery #14-1 Test No. 2 Date 06-25-18
 Company Bickle Energies LLC Elevation 3327 KB 3322 GL
 Address P.O. Box 816 Hays, KS 67601
 Co. Rep / Geo. Keith Reavis Rig LD#1
 Location: Sec. 14 Twp 5S. Rge. 37W. Co. Cheyenne State KS.

Interval Tested 4249-4307 Zone Tested LKC D, E & F
 Anchor Length 58' Drill Pipe Run 4245 Mud Wt. 9.3
 Top Packer Depth 4244 Drill Collars Run — Vis 45
 Bottom Packer Depth 4249 (shale) Wt. Pipe Run — WL 7.6
 Total Depth 4307 Chlorides 500 ppm System LCM 1#

Blow Description IF - 5. blow built to 3/4"
ISI - No blow
FF - 5. blow @ 8 mins built to 1 1/2"
FSI - No blow

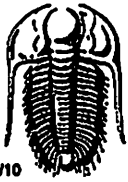
Rec	Feet of	%gas	%oil	%water	%mud
<u>68</u>	<u>505M</u>	<u>1</u>		<u>99</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 68 BHT 133 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2174 Test 1150 T-On Location 10:50
 (B) First Initial Flow 35 Jars 250 T-Started 11:06
 (C) First Final Flow 38 Safety Joint 75 T-Open 12:33
 (D) Initial Shut-In 1322 Circ Sub _____ T-Pulled 15:28
 (E) Second Initial Flow 40 Hourly Standby _____ T-Out 17:35
 (F) Second Final Flow 51 Mileage 140 RT 140 Comments Opened tool & slid 4'
 (G) Final Shut-In 1262 Sampler _____ to bottom, bled off flowmeter fold
 (H) Final Hydrostatic 2096 Straddle _____ 1 min.
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1865
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1865

Approved By Keith Reavis Our Representative [Signature]

Triobite 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. 64184

Well Name & No. Avery #14-1 Test No. 3 Date 06-26-18
 Company Bickle Energies-LLC Elevation 3327 KB 3322 GL
 Address P.O. Box 816 Hays, KS 67601
 Co. Rep / Geo. Keith Reavis Rig LD#1
 Location: Sec. 14 Twp S.S. Rge. 37W. Co. Cherokee State KS

Interval Tested 4360-4414 Zone Tested LKC J
 Anchor Length 54 Drill Pipe Run 4338 Mud Wt. 9.3
 Top Packer Depth 4355 Drill Collars Run --- Vls 58
 Bottom Packer Depth 4360 Wt. Pipe Run --- WL 7.2
 Total Depth 4414 Chlorides 750 ppm System LCM 1H
 Blow Description IF - S. blow built to 2"
IST - No blow
FF - S. blow @ 1 min built to 9"
EST - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>68</u>	<u>SOCM</u>	<u>8</u>		<u>92</u>	
<u>32</u>	<u>GOC/WCM</u>	<u>3</u>	<u>15</u>	<u>22</u>	<u>60</u>
<u>1</u>	<u>CO</u>	<u>100</u>			

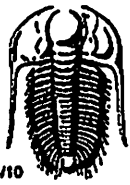
Rec Total 95 BHT 135 Gravity _____ API RW 285 @ 87.2 °F Chlorides 20,000 ppm
 (A) Initial Hydrostatic 2257 Test 1150 T-On Location 09:40
 (B) First Initial Flow 25 Jars 250 T-Started 11:54
 (C) First Final Flow 35 Safety Joint 75 T-Open 13:50
 (D) Initial Shut-In 1314 Circ Sub _____ T-Pulled 17:00
 (E) Second Initial Flow 44 Hourly Standby _____ T-Out 19:00
 (F) Second Final Flow 66 Mileage 140 RT 140 Comments _____
 (G) Final Shut-In 1248 Sampler _____
 (H) Final Hydrostatic 2180 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1615

Initial Open 10
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 60

Sub Total 0
 Total 1615
 MP/DST Disc't _____

Approved By Keith Reavis Our Representative Matt Salinas

Tribolite 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. 64185

Well Name & No. Avery #14-1 Test No. 4 Date 6-27-18
 Company Bickle Energies LLC Elevation 3327 KB 3322 GL
 Address P.O. Box 816 Hays, KS 67601
 Co. Rep / Geo. Keith Beavis Rig LD#1
 Location: Sec. 14 Twp SS. Rge. 37W. Co. Cheyenne State KS.

Interval Tested 4580 - 4615 Zone Tested Pawnee
 Anchor Length 35 Drill Pipe Run 4556 Mud Wt. 9.3
 Top Packer Depth 4575 Drill Collars Run — Vls 51
 Bottom Packer Depth 4580 Wt. Pipe Run — WL 8.8
 Total Depth 4615 Chlorides 750 ppm System LCM 3H
 Blow Description TS - blow built to B.O.B (12 inches) @ 45 Secs (blow increased to 265")
ISI - Blow back built to B.O.B (12 inches) @ 4 mins (blow increased to 335")
FF - blow built to B.O.B @ 45 secs (blow increased to 340")
FST - No blow (Blow decreased to 336")

Rec	Feet of	%gas	%oil	%water	%mud
<u>127</u>	<u>CGCM</u>	<u>20</u>	<u>25</u>	<u>55</u>	
<u>2954</u>	<u>CGO (Reversed)</u>	<u>25</u>	<u>75</u>		
<u>221</u>	<u>CGO</u>	<u>16</u>	<u>84</u>		
<u>0</u>	<u>1292' GIP (Gas to Surface)</u>				

Rec Total 3302 BHT 147 Gravity 34.6 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2302 Test 1150 T-On Location 21:00
 (B) First Initial Flow 441 Jars 250 T-Started 22:10
 (C) First Final Flow 627 Safety Joint 75 T-Open 00:01
 (D) Initial Shut-In 1378 Circ Sub Diag Bar 50 T-Pulled 03:11
 (E) Second Initial Flow 695 Hourly Standby — T-Out 07:35
 (F) Second Final Flow 1225 Mileage 140 RT 140 Comments Tools loaded @ 08:30
 (G) Final Shut-In 1333 Sampler —
 (H) Final Hydrostatic 2283 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1665
 Accessibility — MP/DST Disc't —
 Sub Total 1665

Approved By [Signature] Our Representative [Signature]

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