



DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

3DR Unit #1

14-7S-19W Rooks,KS

Start Date: 2019.01.05 @ 21:30:00

End Date: 2019.01.06 @ 02:09:30

Job Ticket #: 65387 DST #: 1

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

Printed: 2019.01.11 @ 09:33:42



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

14-7S-19W Rooks,KS

3DR Unit #1

Job Ticket: 65387

DST#: 1

Test Start: 2019.01.05 @ 21:30:00

GENERAL INFORMATION:

Formation: **LKC C - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:02:45

Time Test Ended: 02:09:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3175.00 ft (KB) To 3215.00 ft (KB) (TVD)

Reference Elevations: 1956.00 ft (KB)

Total Depth: 3215.00 ft (KB) (TVD)

1951.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8673 Outside

Press@RunDepth: 13.41 psig @ 3176.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.01.05

End Date: 2019.01.06

Last Calib.: 2019.01.06

Start Time: 21:30:05

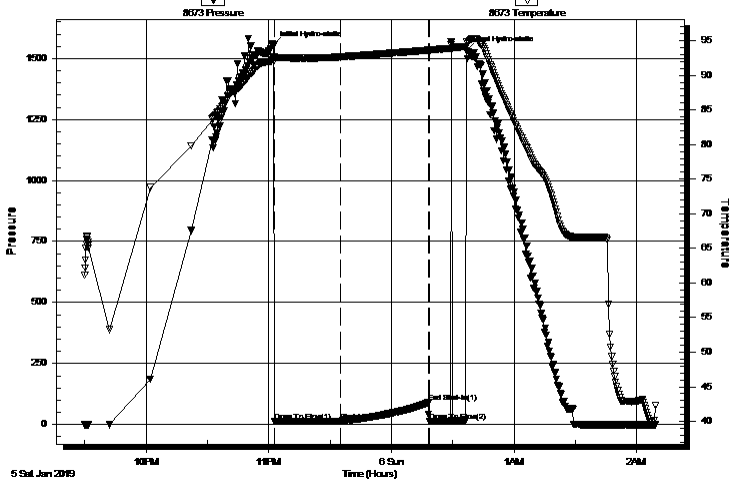
End Time: 02:09:29

Time On Btm: 2019.01.05 @ 23:02:30

Time Off Btm: 2019.01.06 @ 00:36:45

TEST COMMENT: 30 - IFP - No Surface Blow
45 - ISI - No Return
FFP - Opened tool for 10 min. No Surface blow , Flushed Tool bubbled, Pulled Tool

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1554.62	92.68	Initial Hydro-static
1	11.91	92.13	Open To Flow (1)
33	13.41	92.67	Shut-In(1)
76	89.25	93.64	End Shut-In(1)
76	12.92	93.64	Open To Flow (2)
95	1531.88	94.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM - 100%- Oil Spots	0.02

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Jaspar Co.
 PO Box 1120
 Hays, Ks 67601

ATTN: Jeff Lowler

14-7S-19W Rooks, KS

3DR Unit #1

Job Ticket: 65387

DST#: 1

Test Start: 2019.01.05 @ 21:30:00

GENERAL INFORMATION:

Formation: **LKC C - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:02:45

Time Test Ended: 02:09:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3175.00 ft (KB) To 3215.00 ft (KB) (TVD)

Reference Elevations: 1956.00 ft (KB)

Total Depth: 3215.00 ft (KB) (TVD)

1951.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8360 Outside

Press@RunDepth: psig @ 3176.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.01.05

End Date:

2019.01.06

Last Calib.:

2019.01.06

Start Time: 21:30:05

End Time:

02:09:29

Time On Btm:

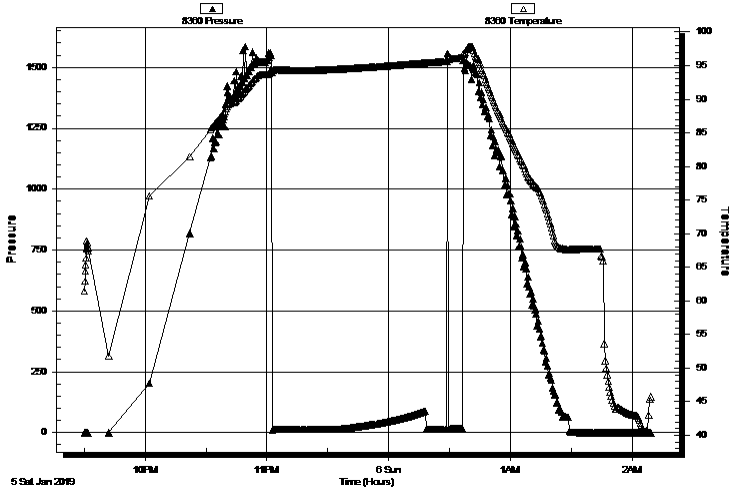
Time Off Btm:

TEST COMMENT: 30 - IFP - No Surface Blow

45 - ISI - No Return

FFP - Opened tool for 10 min. No Surface blow , Flushed Tool bubbled, Pulled Tool

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM - 100%- Oil Spots	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65387 **DST#: 1**
Test Start: 2019.01.05 @ 21:30:00

Tool Information

Drill Pipe:	Length: 3045.39 ft	Diameter: 3.25 inches	Volume: 31.25 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 119.61 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 31.84 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3175.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	60.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3160.00	
Hydraulic tool	5.00			3165.00	
Packer	5.00			3170.00	20.00 Bottom Of Top Packer
Packer	5.00			3175.00	
Stubb	1.00			3176.00	
Recorder	0.00	8673	Outside	3176.00	
Recorder	0.00	8360	Outside	3176.00	
perforations	36.00			3212.00	
Bullnose	3.00			3215.00	40.00 Bottom Packers & Anchor
Total Tool Length:	60.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.

14-7S-19W Rooks,KS

PO Box 1120
Hays, Ks 67601

3DR Unit #1

Job Ticket: 65387

DST#: 1

ATTN: Jeff Lowler

Test Start: 2019.01.05 @ 21:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	OSM - 100% _m - Oil Spots	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

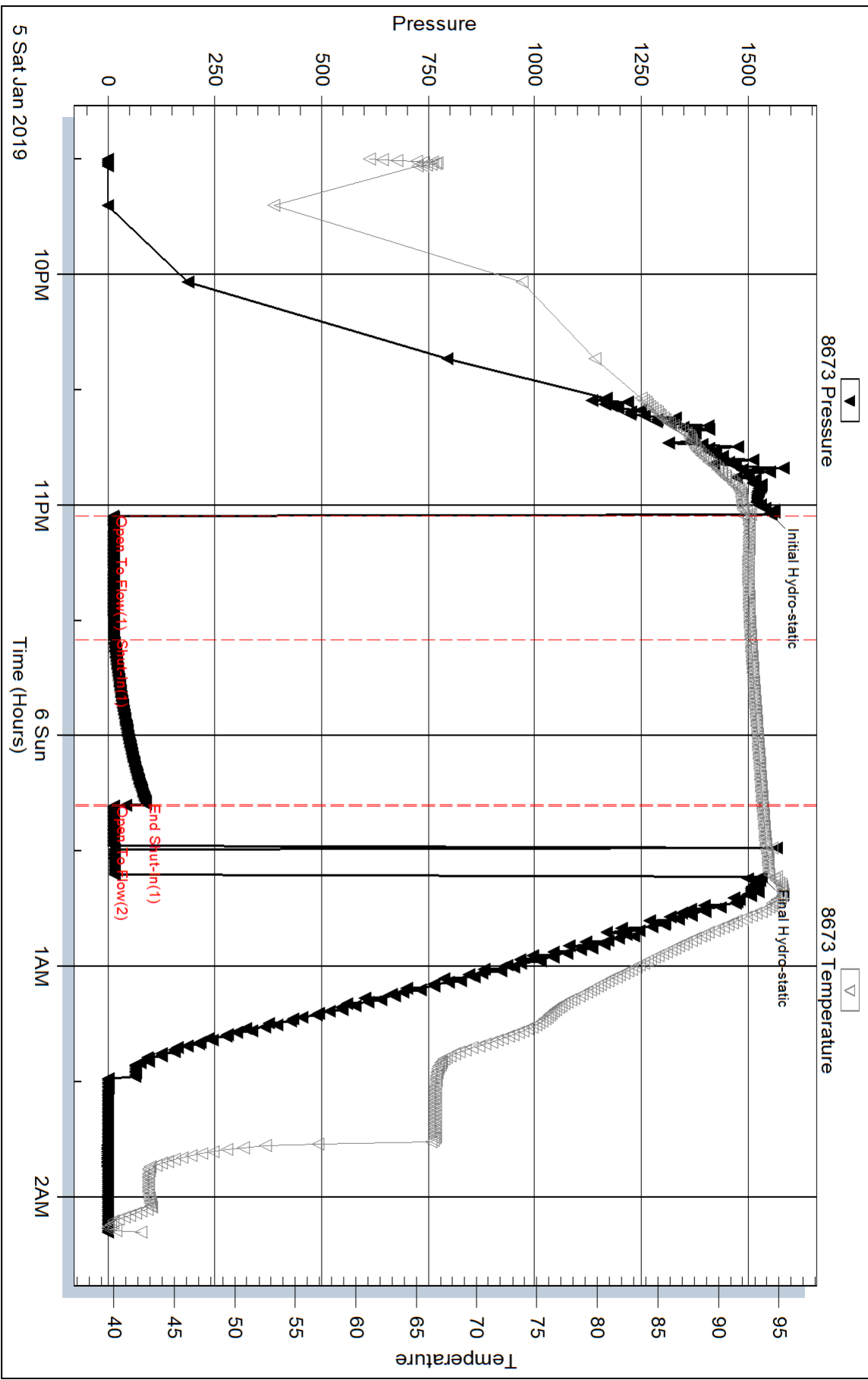
Serial #:

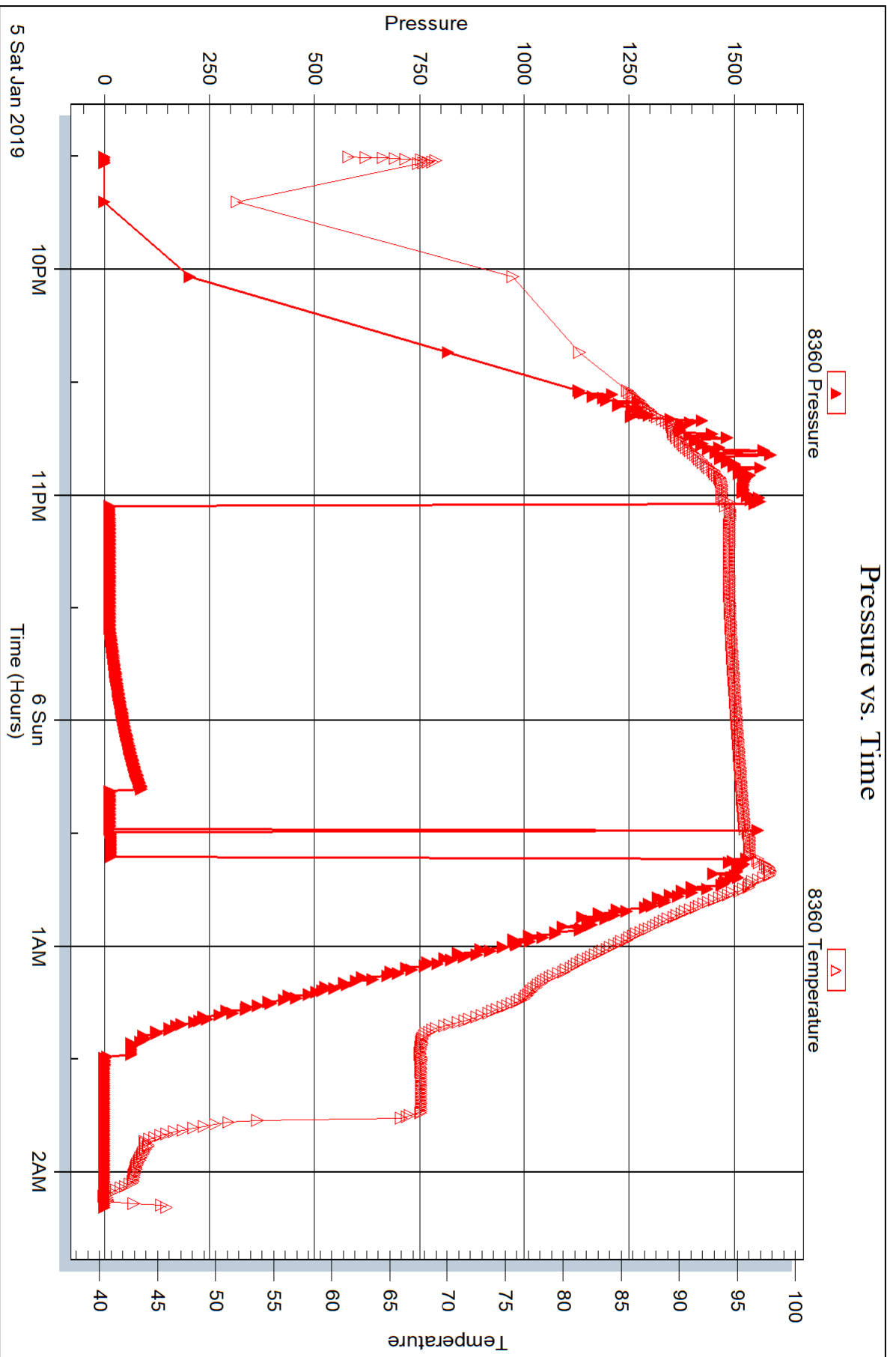
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

3DR Unit #1

14-7S-19W Rooks,KS

Start Date: 2019.01.06 @ 08:19:00

End Date: 2019.01.06 @ 13:52:30

Job Ticket #: 65388 DST #: 2

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

Printed: 2019.01.11 @ 09:33:15



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65388 **DST#: 2**
Test Start: 2019.01.06 @ 08:19:00

GENERAL INFORMATION:

Formation: **Lansing E&F**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:45:00
 Time Test Ended: 13:52:30
 Interval: **3214.00 ft (KB) To 3242.00 ft (KB) (TVD)**
 Total Depth: 3242.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Royal Fisher
 Unit No: 77
 Reference Elevations: 1956.00 ft (KB)
 1951.00 ft (CF)
 KB to GR/CF: 5.00 ft

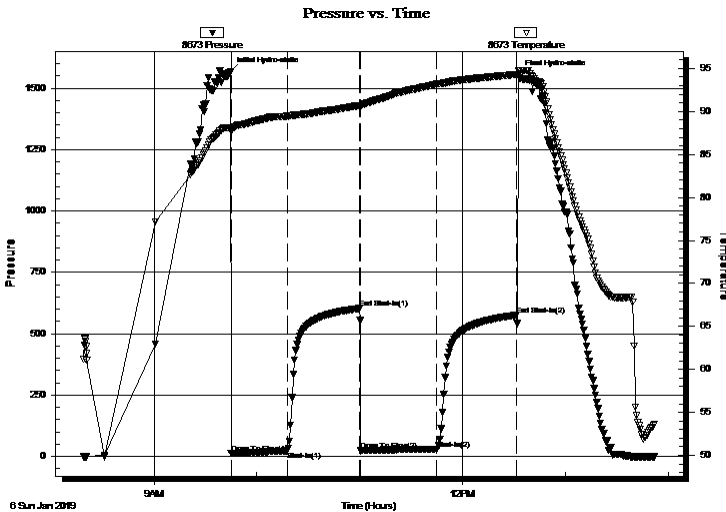
Serial #: 8673

Outside

Press@RunDepth: 30.51 psig @ 3215.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.01.06 End Date: 2019.01.06 Last Calib.: 2019.01.06
 Start Time: 08:19:05 End Time: 13:52:29 Time On Btm: 2019.01.06 @ 09:44:45
 Time Off Btm: 2019.01.06 @ 12:32:30

TEST COMMENT: 30 - IFP - Surface blow built up to 1 1/4"
 45 - ISI - No Return
 45 - FFP - Stayed at a weak surface blow throughout
 45 - FSI - Got a faint return 35 mins. into shut in.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1568.09	88.17	Initial Hydro-static
1	12.26	87.62	Open To Flow (1)
33	22.67	89.44	Shut-In(1)
76	602.87	90.70	End Shut-In(1)
76	23.94	90.57	Open To Flow (2)
121	30.51	93.18	Shut-In(2)
167	575.83	94.31	End Shut-In(2)
168	1554.19	94.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	OSWM - Oil Spots - 2%w - 98%m	0.22

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Jaspar Co.
 PO Box 1120
 Hays, Ks 67601

ATTN: Jeff Lowler

14-7S-19W Rooks,KS

3DR Unit #1

Job Ticket: 65388

DST#: 2

Test Start: 2019.01.06 @ 08:19:00

GENERAL INFORMATION:

Formation: **Lansing E&F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:45:00

Time Test Ended: 13:52:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3214.00 ft (KB) To 3242.00 ft (KB) (TVD)

Reference Elevations: 1956.00 ft (KB)

Total Depth: 3242.00 ft (KB) (TVD)

1951.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8360

Outside

Press@RunDepth: psig @ 3215.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.01.06

End Date:

2019.01.06

Last Calib.:

2019.01.06

Start Time: 08:19:05

End Time:

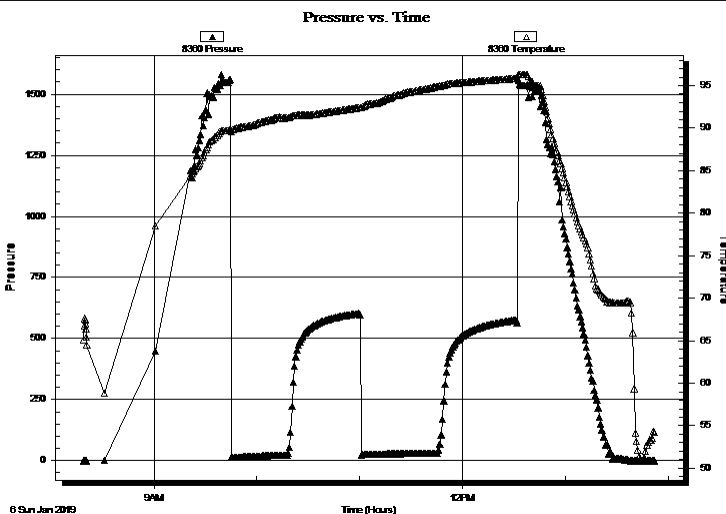
13:52:29

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IFP - Surface blow built up to 1 1/4"
 45 - ISI - No Return
 45 - FFP - Stayed at a weak surface blow throughout
 45 - FSI - Got a faint return 35 mins. into shut in.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
45.00	OSWM - Oil Spots - 2%w - 98%m	0.22

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65388 **DST#: 2**
Test Start: 2019.01.06 @ 08:19:00

Tool Information

Drill Pipe:	Length: 3107.39 ft	Diameter: 3.25 inches	Volume: 31.88 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 119.61 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 32.47 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	3214.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	28.00 ft				
Tool Length:	48.00 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			3199.00	
Hydraulic tool	5.00			3204.00	
Packer	5.00			3209.00	20.00 Bottom Of Top Packer
Packer	5.00			3214.00	
Stubb	1.00			3215.00	
Recorder	0.00	8673	Outside	3215.00	
Recorder	0.00	8360	Outside	3215.00	
perforations	24.00			3239.00	
Bullnose	3.00			3242.00	28.00 Bottom Packers & Anchor
Total Tool Length:	48.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.

14-7S-19W Rooks,KS

PO Box 1120
Hays, Ks 67601

3DR Unit #1

Job Ticket: 65388

DST#: 2

ATTN: Jeff Lowler

Test Start: 2019.01.06 @ 08:19:00

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	OSWM - Oil Spots - 2%w - 98%m	0.221

Total Length: 45.00 ft Total Volume: 0.221 bbl

Num Fluid Samples: 0

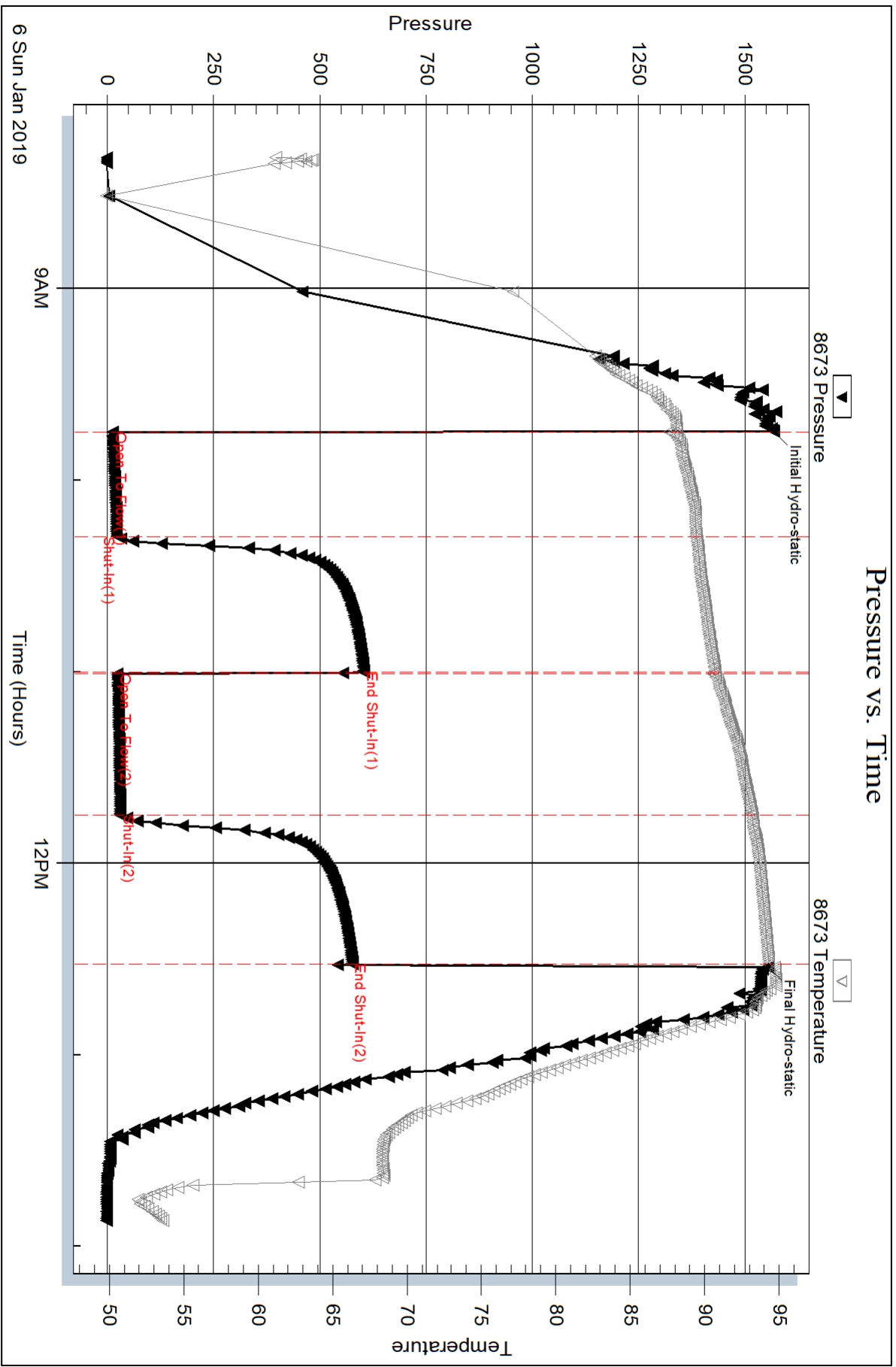
Num Gas Bombs: 0

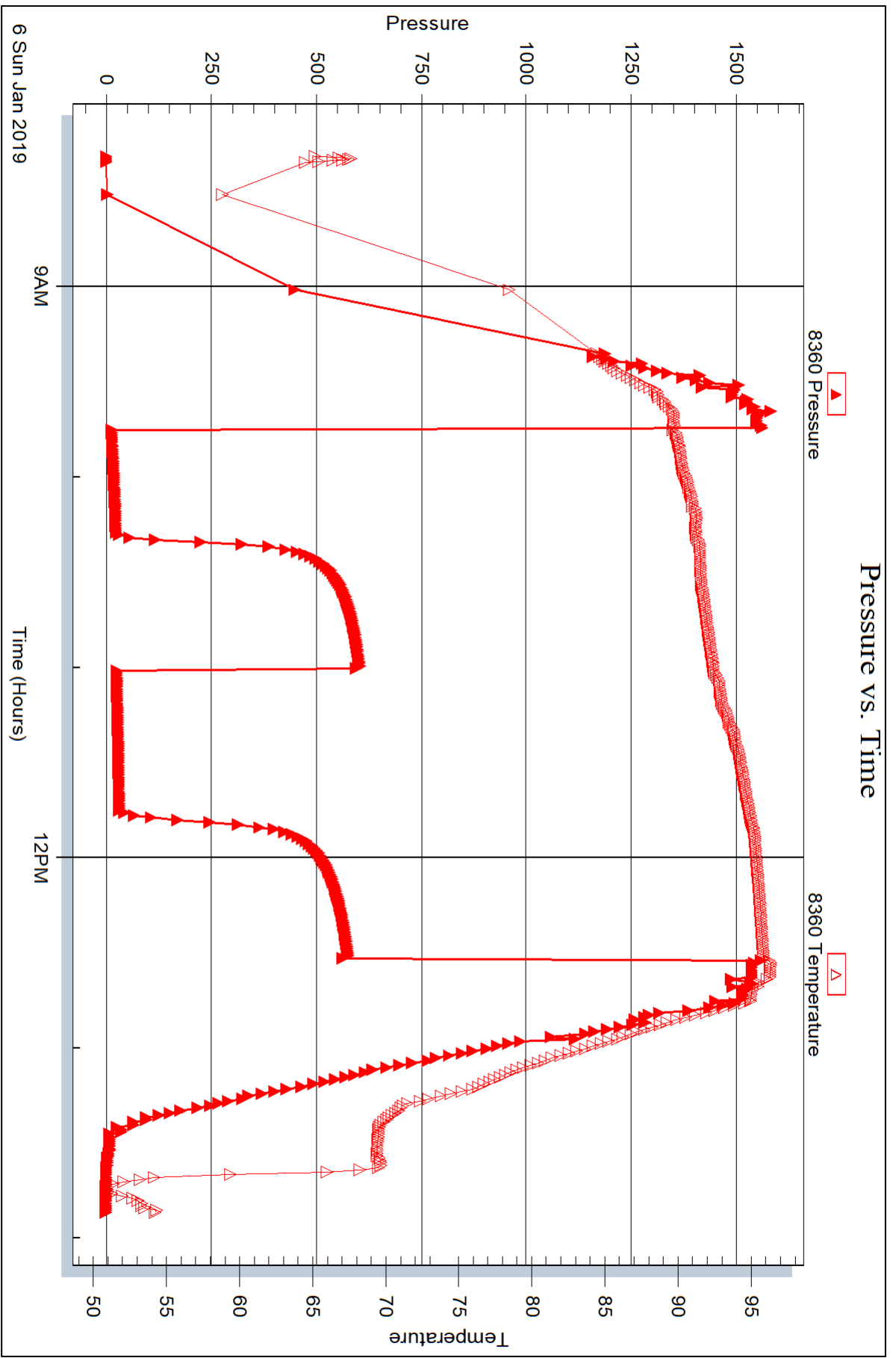
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

3DR Unit #1

14-7S-19W Rooks,KS

Start Date: 2019.01.06 @ 19:38:00

End Date: 2019.01.07 @ 01:42:30

Job Ticket #: 65389 DST #: 3

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

Printed: 2019.01.11 @ 09:30:17

Jaspar Co. 14-7S-19W Rooks,KS 3DR Unit #1 DST # 3 LKC - G 2019.01.06



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

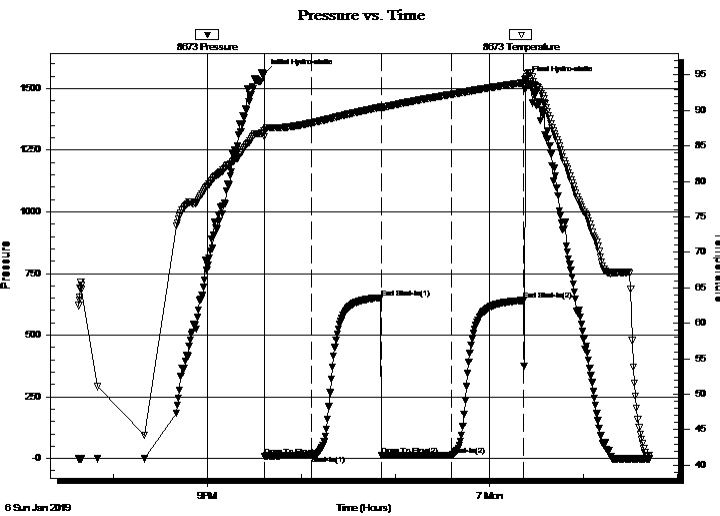
14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65389 **DST#: 3**
Test Start: 2019.01.06 @ 19:38:00

GENERAL INFORMATION:

Formation: **LKC - G**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:36:30
Time Test Ended: 01:42:30
Interval: **3240.00 ft (KB) To 3253.00 ft (KB) (TVD)**
Total Depth: 3253.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77
Reference Elevations: 1956.00 ft (KB)
1951.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8673 Outside
Press@RunDepth: 13.87 psig @ 3241.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.01.06 End Date: 2019.01.07 Last Calib.: 2019.01.07
Start Time: 19:38:05 End Time: 01:42:29 Time On Btm: 2019.01.06 @ 21:36:15
Time Off Btm: 2019.01.07 @ 00:23:15

TEST COMMENT: 30 - IFP - Surface blow slowly built to almost 3/4"
45 - ISI - No Return
45 - FFP - A very faint surface blow started 28 mins into open then died back off
45 - FSI - No Return



PRESSURE SUMMARY

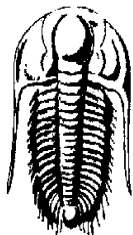
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1558.89	87.16	Initial Hydro-static
1	9.52	86.29	Open To Flow (1)
31	12.09	88.24	Shut-In(1)
75	652.07	90.47	End Shut-In(1)
76	11.79	90.21	Open To Flow (2)
120	13.87	92.25	Shut-In(2)
166	641.22	93.91	End Shut-In(2)
167	1531.19	94.49	Final Hydro-static

Recovery

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

Gas Rates

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

**TRILOBITE
TESTING, INC.****DRILL STEM TEST REPORT**

Jaspar Co.

PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

14-7S-19W Rooks, KS**3DR Unit #1**

Job Ticket: 65389

DST#: 3

Test Start: 2019.01.06 @ 19:38:00

GENERAL INFORMATION:Formation: **LKC - G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:36:30

Time Test Ended: 01:42:30

Interval: 3240.00 ft (KB) To 3253.00 ft (KB) (TVD)

Total Depth: 3253.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Reference Elevations: 1956.00 ft (KB)

1951.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8360**Outside**

Press@RunDepth: psig @ 3241.00 ft (KB)

Start Date: 2019.01.06

End Date: 2019.01.07

Start Time: 19:38:05

End Time: 01:42:44

Capacity: 8000.00 psig

Last Calib.: 2019.01.07

Time On Btm:

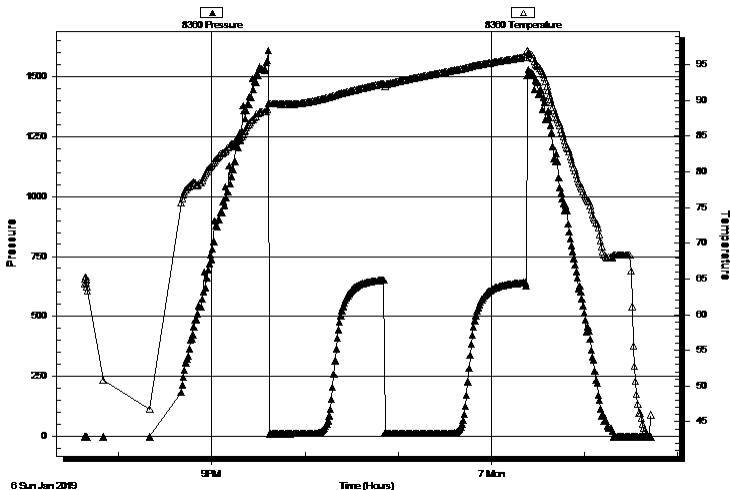
Time Off Btm:

TEST COMMENT: 30 - IFP - Surface blow slowly built to almost 3/4"

45 - ISI - No Return

45 - FFP - A very faint surface blow started 28 mins into open then died back off

45 - FSI - No Return

Pressure vs. Time**PRESSURE SUMMARY**

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

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65389 **DST#: 3**
Test Start: 2019.01.06 @ 19:38:00

Tool Information

Drill Pipe:	Length: 3107.90 ft	Diameter: 3.25 inches	Volume: 31.89 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 119.61 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume: 32.48 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.51 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3240.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	13.00 ft				
Tool Length:	33.00 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			3225.00	
Hydraulic tool	5.00			3230.00	
Packer	5.00			3235.00	20.00 Bottom Of Top Packer
Packer	5.00			3240.00	
Stubb	1.00			3241.00	
Recorder	0.00	8673	Outside	3241.00	
Recorder	0.00	8360	Outside	3241.00	
perforations	9.00			3250.00	
Bullnose	3.00			3253.00	13.00 Bottom Packers & Anchor
Total Tool Length:	33.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.

14-7S-19W Rooks,KS

PO Box 1120
Hays, Ks 67601

3DR Unit #1

Job Ticket: 65389

DST#: 3

ATTN: Jeff Lowler

Test Start: 2019.01.06 @ 19:38:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud - 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

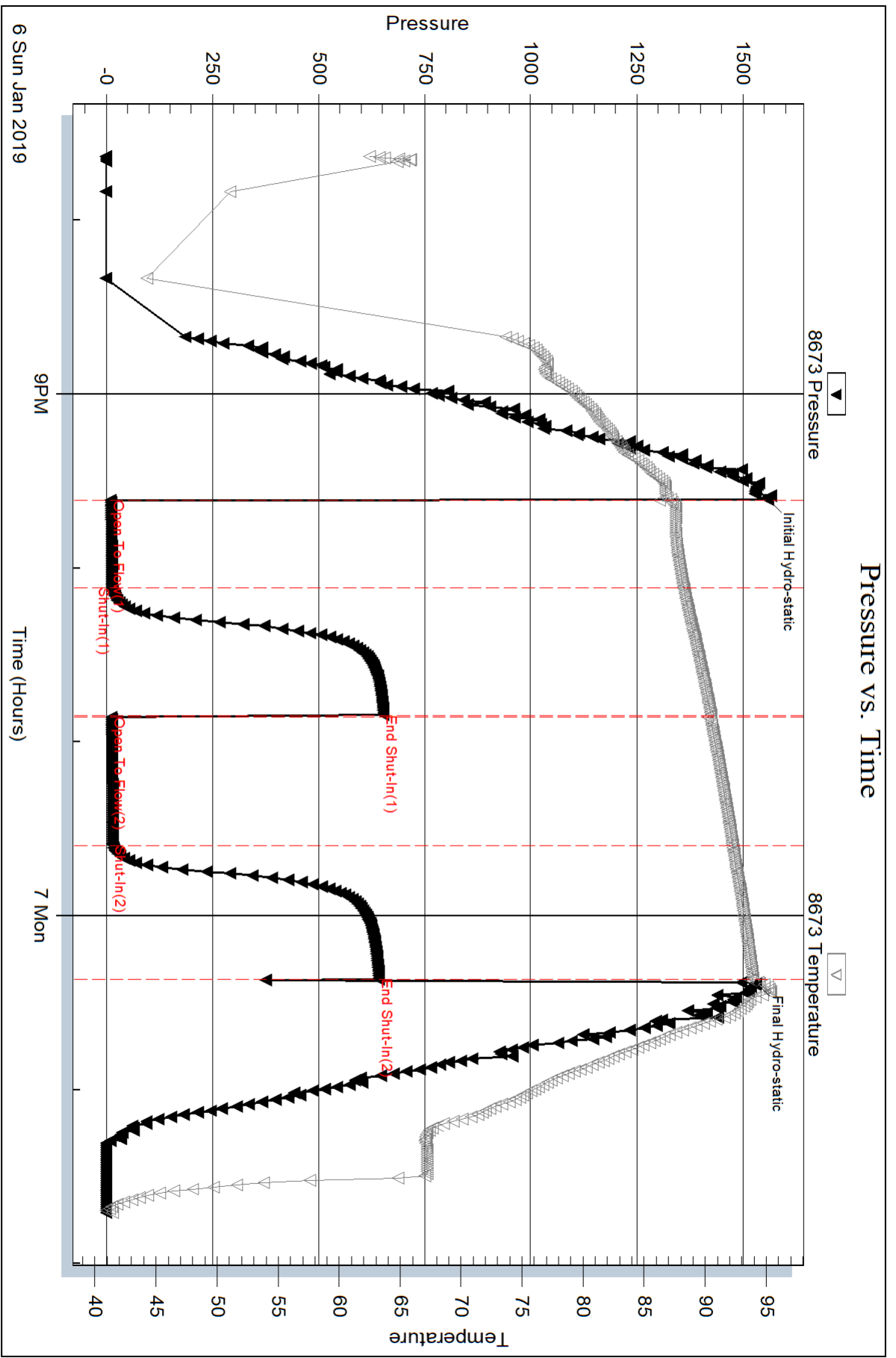
Num Gas Bombs: 0

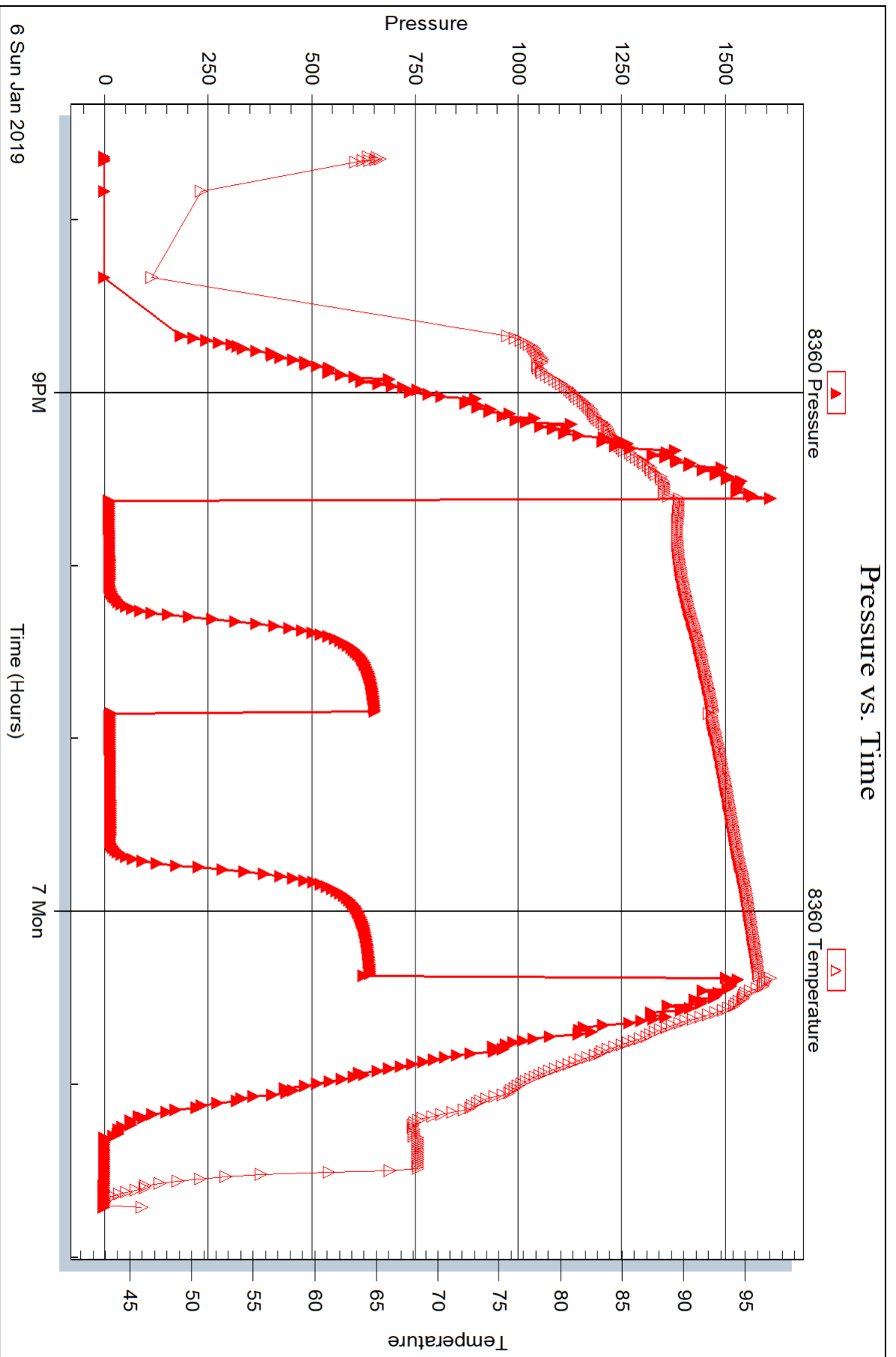
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

3DR Unit #1

14-7S-19W Rooks,KS

Start Date: 2019.01.07 @ 14:37:00

End Date: 2019.01.07 @ 21:11:45

Job Ticket #: 65390 DST #: 4

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

Printed: 2019.01.11 @ 09:24:07

Jaspar Co. 14-7S-19W Rooks,KS 3DR Unit #1 DST #4 LKC H-L 2019.01.07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Jaspar Co.
 PO Box 1120
 Hays, Ks 67601
 ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
 Job Ticket: 65390 **DST#: 4**
 Test Start: 2019.01.07 @ 14:37:00

GENERAL INFORMATION:

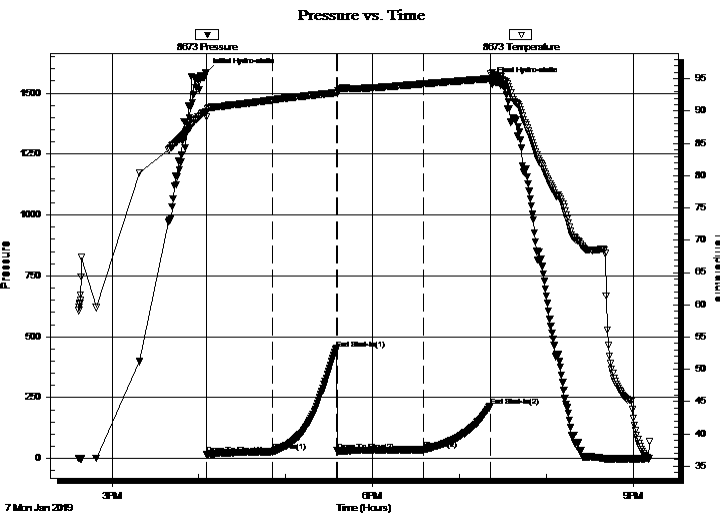
Formation: **LKC H-L**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:05:15
 Time Test Ended: 21:11:45
 Interval: **3267.00 ft (KB) To 3371.00 ft (KB) (TVD)**
 Total Depth: 3371.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Royal Fisher
 Unit No: 77
 Reference Elevations: 1956.00 ft (KB)
 1951.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8673

Outside

Press@RunDepth: 36.20 psig @ 3268.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.01.07 End Date: 2019.01.07 Last Calib.: 2019.01.07
 Start Time: 14:37:05 End Time: 21:11:44 Time On Btm: 2019.01.07 @ 16:05:00
 Time Off Btm: 2019.01.07 @ 19:21:45

TEST COMMENT: 45 - IFP - Surface blow gradually built up to 1 1/2"
 45 - ISI - No Return
 60 - FFP - Weak surface blow started 3 mins. in and built up to 1 1/4"
 45 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1585.46	89.96	Initial Hydro-static
1	16.81	89.04	Open To Flow (1)
46	28.21	91.74	Shut-In(1)
90	451.36	92.84	End Shut-In(1)
91	31.93	92.73	Open To Flow (2)
151	36.20	94.22	Shut-In(2)
197	215.27	95.01	End Shut-In(2)
197	1548.56	95.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
59.00	OCM - 35%oil - 65%mud	0.29

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays, Ks 67601

14-7S-19W Rooks,KS

3DR Unit #1

Job Ticket: 65390

DST#: 4

ATTN: Jeff Lowler

Test Start: 2019.01.07 @ 14:37:00

GENERAL INFORMATION:

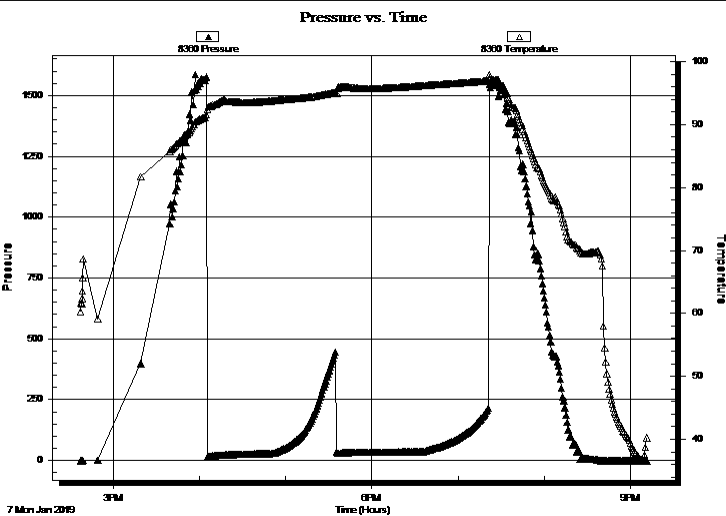
Formation: **LKC H-L**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:05:15
 Time Test Ended: 21:11:45
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Royal Fisher
 Unit No: 77
 Interval: **3267.00 ft (KB) To 3371.00 ft (KB) (TVD)**
 Reference Elevations: 1956.00 ft (KB)
 Total Depth: 3371.00 ft (KB) (TVD)
 1951.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 8360

Outside

Press@RunDepth: psig @ 3268.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.01.07 End Date: 2019.01.07 Last Calib.: 2019.01.07
 Start Time: 14:37:05 End Time: 21:11:44 Time On Btm:
 Time Off Btm:

TEST COMMENT: 45 - IFP - Surface blow gradually built up to 1 1/2"
 45 - ISI - No Return
 60 - FFP - Weak surface blow started 3 mins. in and built up to 1 1/4"
 45 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
59.00	OCM - 35%oil - 65%mud	0.29

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65390 **DST#: 4**
Test Start: 2019.01.07 @ 14:37:00

Tool Information

Drill Pipe:	Length: 3138.76 ft	Diameter: 3.25 inches	Volume: 32.21 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 119.61 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 32.80 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	11.37 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3267.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	104.00 ft				
Tool Length:	124.00 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			3252.00	
Hydraulic tool	5.00			3257.00	
Packer	5.00			3262.00	20.00 Bottom Of Top Packer
Packer	5.00			3267.00	
Stubb	1.00			3268.00	
Recorder	0.00	8673	Outside	3268.00	
Recorder	0.00	8360	Outside	3268.00	
perforations	5.00			3273.00	
Change Over Sub	1.00			3274.00	
Drill Pipe	93.00			3367.00	
Change Over Sub	1.00			3368.00	
Bullnose	3.00			3371.00	104.00 Bottom Packers & Anchor

Total Tool Length: 124.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65390 **DST#: 4**
Test Start: 2019.01.07 @ 14:37:00

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: 44.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: 1.00 inches			

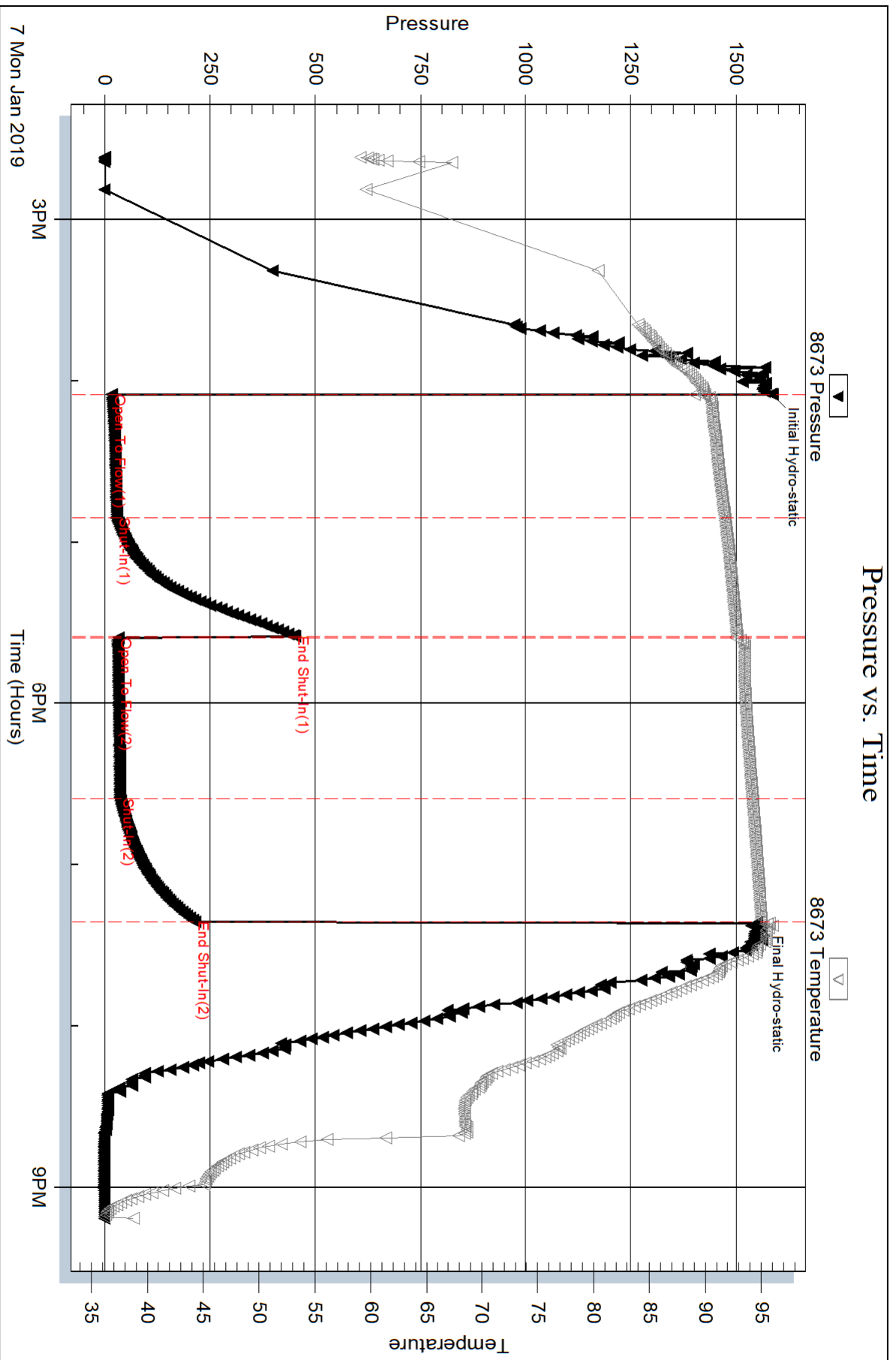
Recovery Information

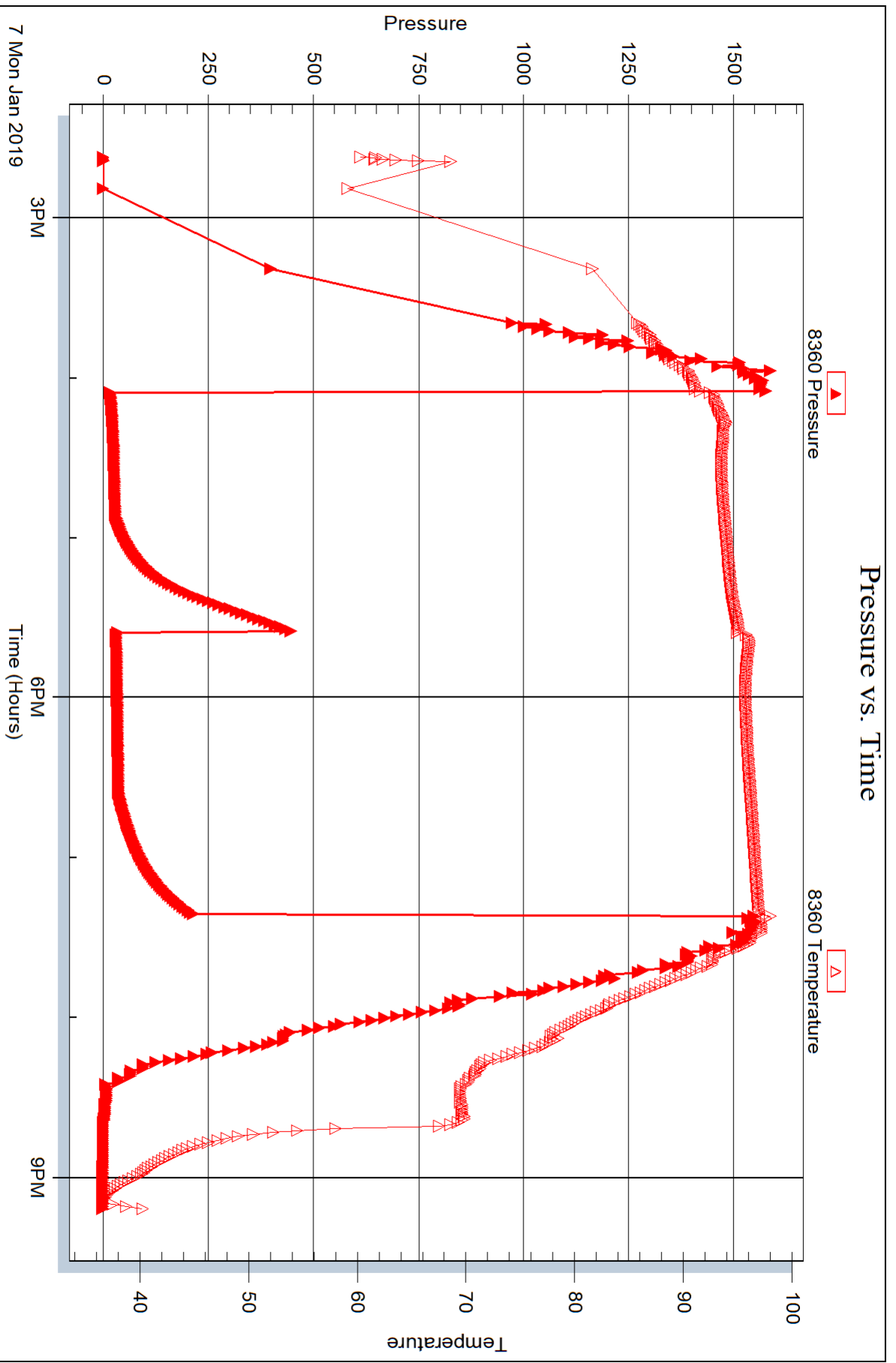
Recovery Table

Length ft	Description	Volume bbl
59.00	OCM - 35%oil - 65%mud	0.290

Total Length: 59.00 ft Total Volume: 0.290 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

3DR Unit #1

14-7S-19W Rooks,KS

Start Date: 2019.01.08 @ 17:30:05

End Date: 2019.01.08 @ 21:53:44

Job Ticket #: 65391 DST #: 5

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

Printed: 2019.01.11 @ 09:27:08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Jaspar Co.
 PO Box 1120
 Hays, Ks 67601
 ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
 Job Ticket: 65391 **DST#: 5**
 Test Start: 2019.01.08 @ 17:30:05

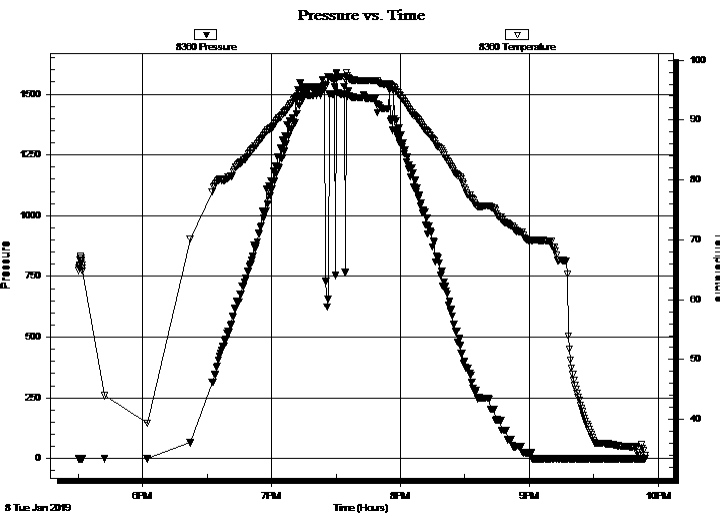
GENERAL INFORMATION:

Formation: **Toronto**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Initial)
 Time Tool Opened: Tester: Royal Fisher
 Time Test Ended: 21:53:44 Unit No: #77
 Interval: **3106.00 ft (KB) To 3155.00 ft (KB) (TVD)** Reference Elevations: 1956.00 ft (KB)
 Total Depth: 3552.00 ft (KB) (TVD) 1951.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8360 Inside

Press@RunDepth: psig @ 3107.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.01.08 End Date: 2019.01.08 Last Calib.: 2019.01.09
 Start Time: 17:30:05 End Time: 21:53:44 Time On Btm:
 Time Off Btm:

TEST COMMENT: IFP - Packer failure, tried reseting tool three times pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
527.00	Mud - 100%m	4.77

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Jaspar Co.
 PO Box 1120
 Hays, Ks 67601

14-7S-19W Rooks,KS

3DR Unit #1

Job Ticket: 65391 **DST#: 5**

ATTN: Jeff Lowler

Test Start: 2019.01.08 @ 17:30:05

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 21:53:44

Test Type: Conventional Straddle (Initial)

Tester: Royal Fisher

Unit No: #77

Interval: 3106.00 ft (KB) To 3155.00 ft (KB) (TVD)

Total Depth: 3552.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1956.00 ft (KB)

1951.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8678 Below (Straddle)

Press@RunDepth: psig @ 3180.00 ft (KB)

Start Date: 2019.01.08

End Date: 2019.01.08

Start Time: 17:30:05

End Time: 21:53:44

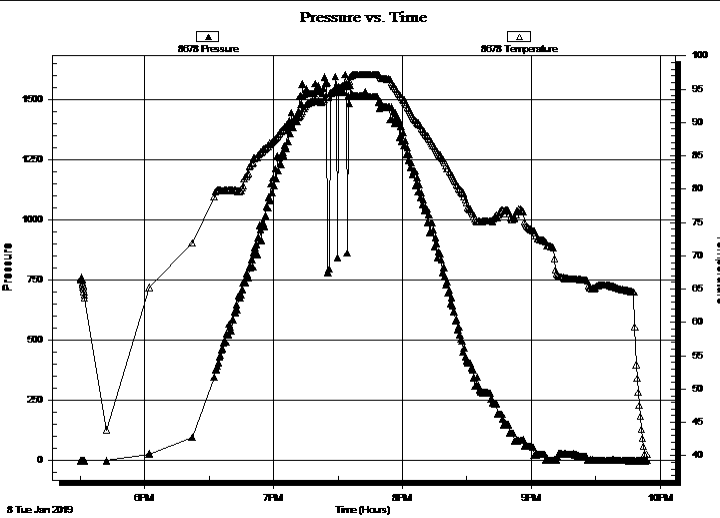
Capacity: 8000.00 psig

Last Calib.: 2019.01.09

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP - Packer failure, tried resetting tool three times pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
527.00	Mud - 100% m	4.77

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

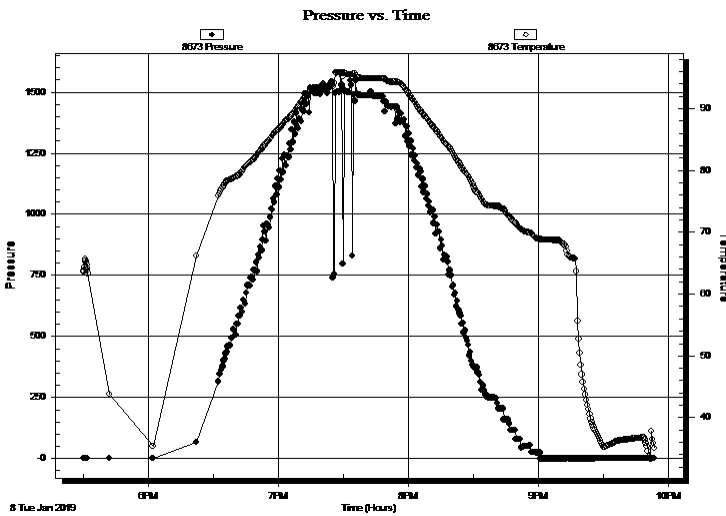
14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65391 **DST#: 5**
Test Start: 2019.01.08 @ 17:30:05

GENERAL INFORMATION:

Formation: **Toronto**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 21:53:44
Interval: **3106.00 ft (KB) To 3155.00 ft (KB) (TVD)**
Total Depth: 3552.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Straddle (Initial)
Tester: Royal Fisher
Unit No: #77
Reference Elevations: 1956.00 ft (KB)
1951.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8673 Inside
Press@RunDepth: psig @ 3107.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.01.08 End Date: 2019.01.08 Last Calib.: 2019.01.09
Start Time: 17:30:05 End Time: 21:53:44 Time On Btm:
Time Off Btm:

TEST COMMENT: IFP - Packer failure, tried resetting tool three times pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
527.00	Mud - 100% _m	4.77

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14-7S-19W Rooks,KS
3DR Unit #1
Job Ticket: 65391 **DST#: 5**
Test Start: 2019.01.08 @ 17:30:05

Tool Information

Drill Pipe:	Length: 2983.39 ft	Diameter: 3.25 inches	Volume: 30.61 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 119.61 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 55000.00 lb
			Total Volume: 31.20 bbl	Tool Chased 4.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3106.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	3559.00 ft			
Interval between Packers:	453.00 ft			
Tool Length:	473.00 ft			
Number of Packers:	3	Diameter:	6.75 inches	

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3091.00	
Hydraulic tool	5.00			3096.00	
Packer	5.00		Inside	3101.00	20.00 Bottom Of Top Packer
Packer	5.00			3106.00	
Stubb	1.00			3107.00	
Recorder	0.00	8673	Inside	3107.00	
Recorder	0.00	8360	Inside	3107.00	
Perforations	12.00			3119.00	
Change Over Sub	1.00			3120.00	
Drill Pipe	31.00			3151.00	
Change Over Sub	1.00			3152.00	
Stubb	3.00		Outside	3155.00	
Packer - Shale	5.00		Outside	3160.00	
Stubb	1.00			3161.00	
Perforations	18.00			3179.00	
Change Over Sub	1.00			3180.00	
Recorder	0.00	8678	Below	3180.00	
Drill Pipe	375.00		Below	3555.00	
Change Over Sub	1.00			3556.00	
Bullnose	3.00			3559.00	453.00 Bottom Packers & Anchor

Total Tool Length: 473.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.

14-7S-19W Rooks,KS

PO Box 1120
Hays, Ks 67601

3DR Unit #1

Job Ticket: 65391

DST#: 5

ATTN: Jeff Lowler

Test Start: 2019.01.08 @ 17:30:05

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
527.00	Mud - 100%m	4.768

Total Length: 527.00 ft Total Volume: 4.768 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

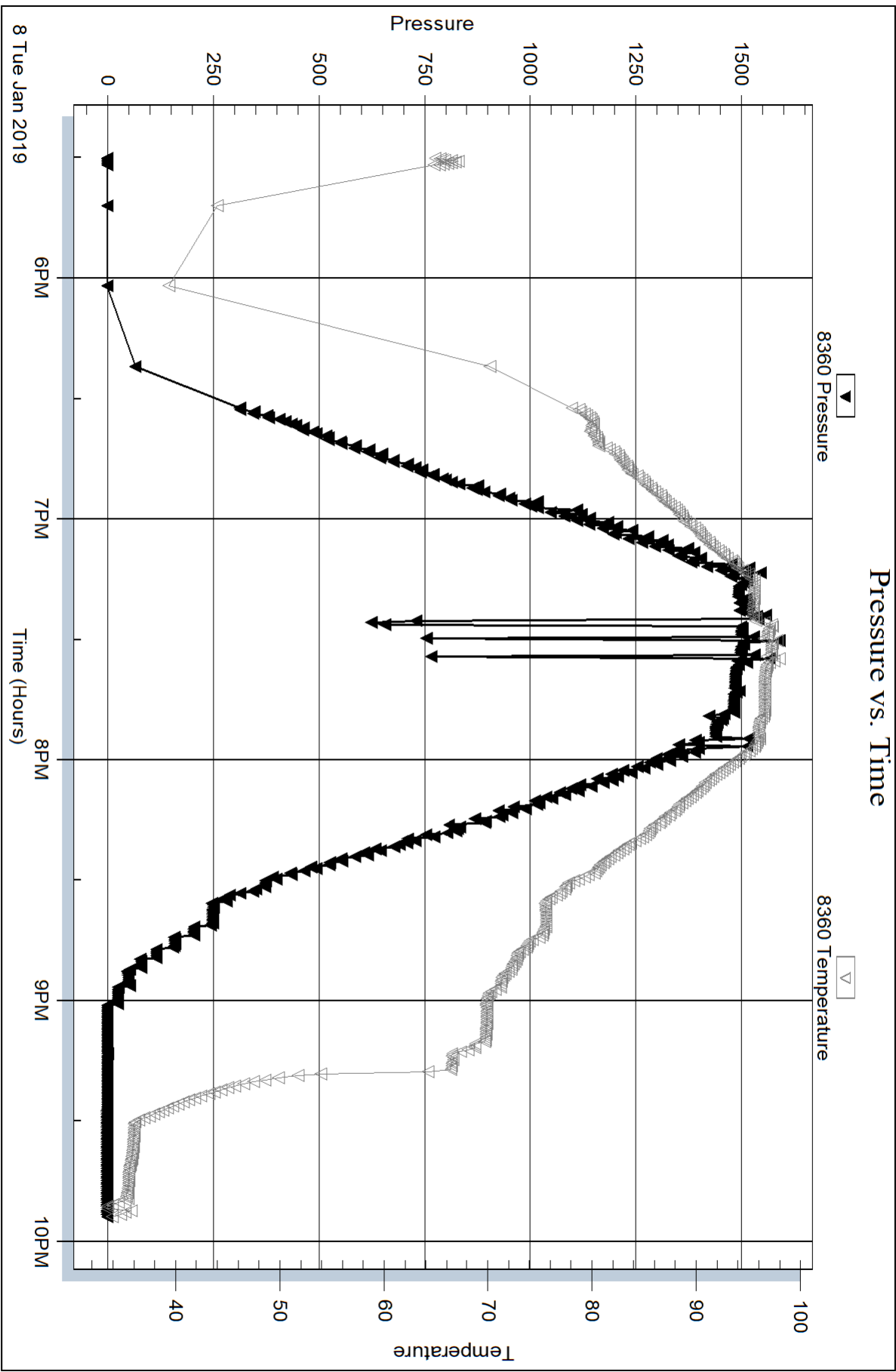
Serial #: 8360

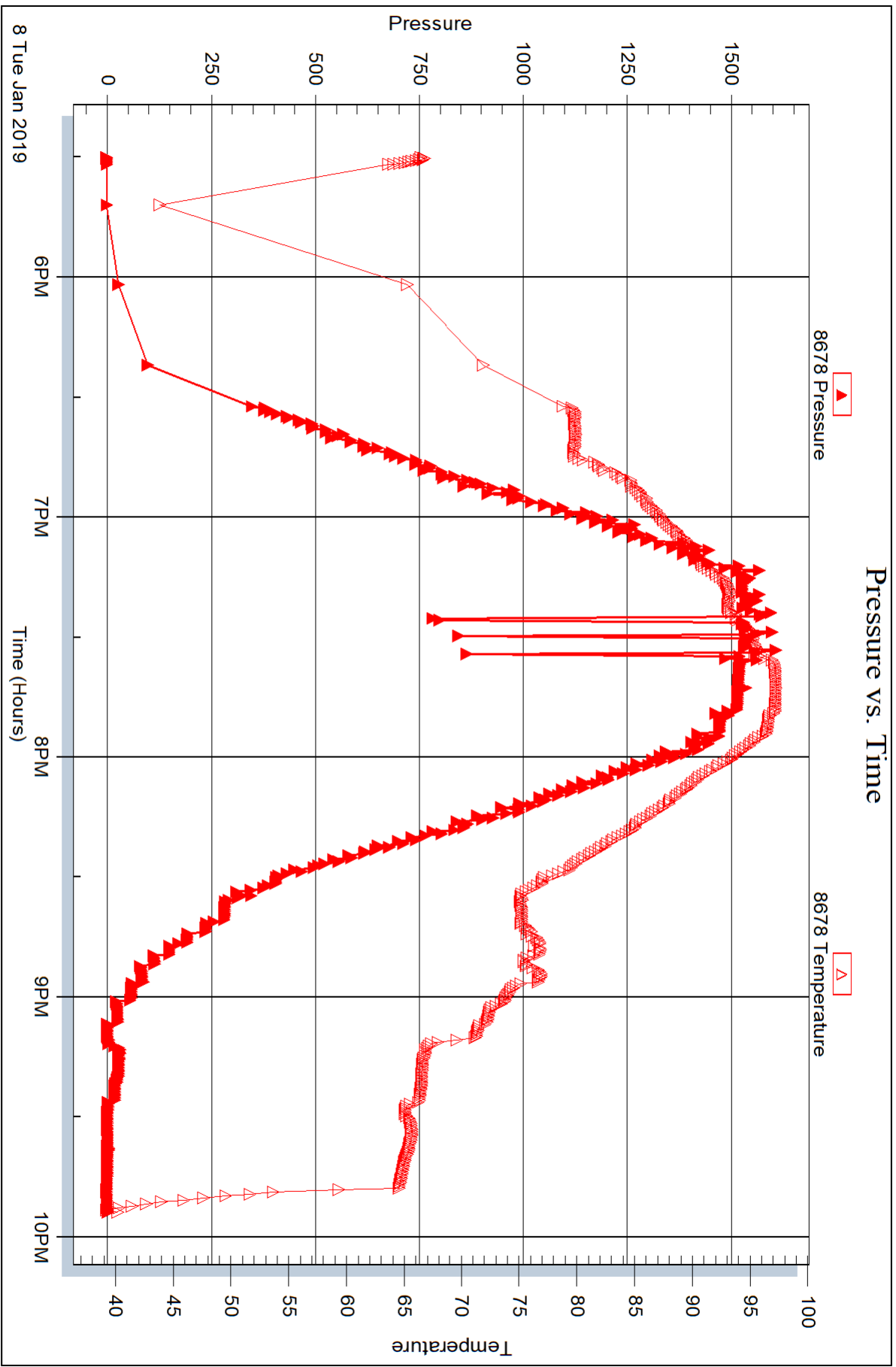
Inside

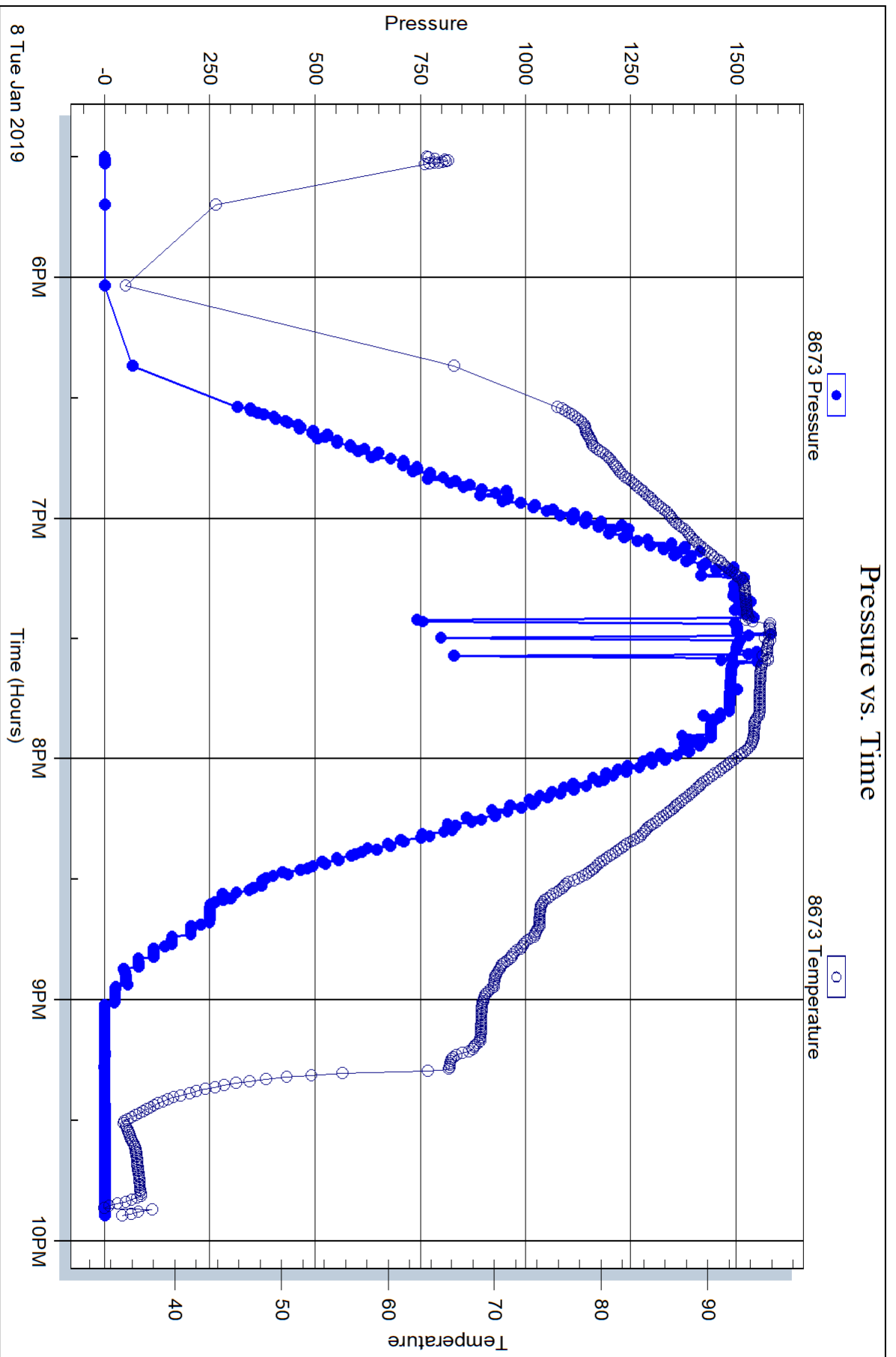
Jaspar Co.

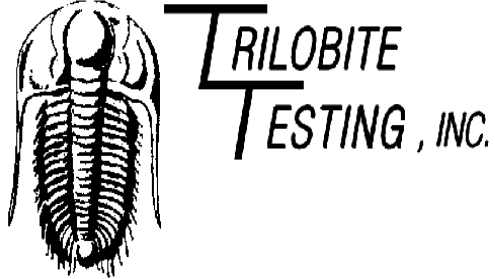
3DR Unit #1

DST Test Number: 5









DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

3DR Unit #1

14 - 7S - 19W

Start Date: 2019.01.08 @ 12:02:00

End Date: 2019.01.08 @ 18:49:00

Job Ticket #: 65392 DST #: 6

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

Printed: 2019.01.11 @ 09:22:11

Jaspar Co. 14 - 7S - 19W 3DR Unit #1 DST # 6 Toronto 2019.01.08



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays, Ks 67601

ATTN: Jeff Lowler

14 - 7S - 19W

3DR Unit #1

Job Ticket: 65392

DST#: 6

Test Start: 2019.01.08 @ 12:02:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:46:15

Time Test Ended: 18:49:00

Test Type: Conventional Straddle (Initial)

Tester: Royal Fisher

Unit No: #77

Interval: **3103.00 ft (KB) To 3169.00 ft (KB) (TVD)**

Reference Elevations: 1956.00 ft (KB)

Total Depth: 3552.00 ft (KB) (TVD)

1951.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8673

Inside

Press@RunDepth: 248.30 psig @ 3104.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.01.09

End Date:

2019.01.09

Last Calib.:

2019.01.09

Start Time:

12:02:05

End Time:

18:48:59

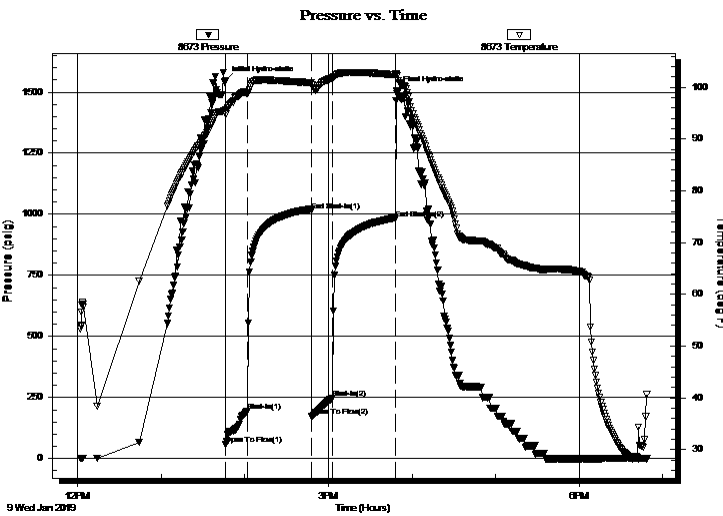
Time On Btm:

2019.01.09 @ 13:46:00

Time Off Btm:

2019.01.09 @ 15:49:00

TEST COMMENT: 15 - IFI - BOB in 3 mins
45 - ISI - BOB in 14 mins
15 - FFP - BOB in 5 mins.
45 - FSI - BOB in 20 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1548.40	95.73	Initial Hydro-static
1	57.65	94.81	Open To Flow (1)
16	193.35	98.81	Shut-In(1)
62	1016.36	100.84	End Shut-In(1)
62	172.30	100.49	Open To Flow (2)
77	248.30	101.81	Shut-In(2)
122	981.56	102.38	End Shut-In(2)
123	1504.77	102.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
258.00	Free Oil - 100%o	2.01
248.00	MCO - 70%o - 30% m	2.54
124.00	MCO - 75%o - 25% m	1.27
62.00	GMCO - 25%g - 25% m - 50%o	0.64

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14 - 7S - 19W
3DR Unit #1
Job Ticket: 65392 **DST#: 6**
Test Start: 2019.01.08 @ 12:02:00

GENERAL INFORMATION:

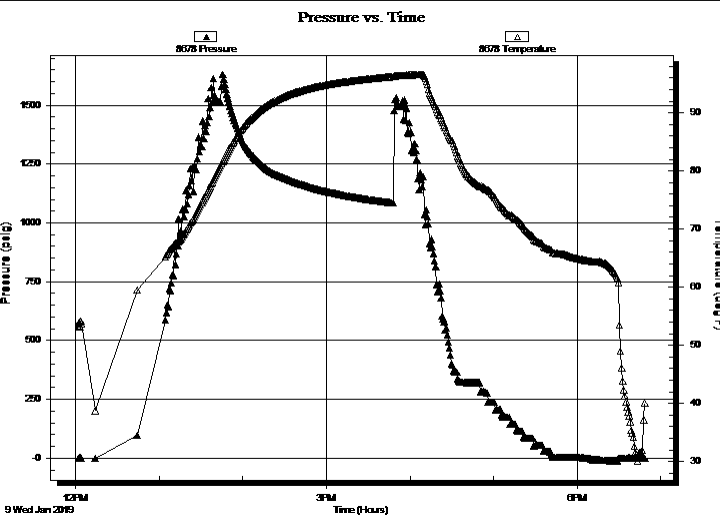
Formation: **Toronto**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Initial)
 Time Tool Opened: 13:46:15 Tester: Royal Fisher
 Time Test Ended: 18:49:00 Unit No: #77
Interval: 3103.00 ft (KB) To 3169.00 ft (KB) (TVD) Reference Elevations: 1956.00 ft (KB)
 Total Depth: 3552.00 ft (KB) (TVD) 1951.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8678

Below (Straddle)

Press@RunDepth: psig @ 3176.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.01.09 End Date: 2019.01.09 Last Calib.: 2019.01.09
 Start Time: 12:02:05 End Time: 18:48:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15 - IFI - BOB in 3 mins
 45 - ISI - BOB in 14 mins
 15 - FFP - BOB in 5 mins.
 45 - FSI - BOB in 20 min.



PRESSURE SUMMARY

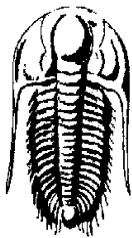
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
258.00	Free Oil - 100%o	2.01
248.00	MCO - 70%o - 30% m	2.54
124.00	MCO - 75%o - 25% m	1.27
62.00	GMCO - 25%g - 25% m - 50%o	0.64

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Jaspar Co.

14 - 7S - 19W

PO Box 1120
Hays, Ks 67601

3DR Unit #1

Job Ticket: 65392

DST#: 6

ATTN: Jeff Lowler

Test Start: 2019.01.08 @ 12:02:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:46:15

Time Test Ended: 18:49:00

Interval: 3103.00 ft (KB) To 3169.00 ft (KB) (TVD)

Total Depth: 3552.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Straddle (Initial)

Tester: Royal Fisher

Unit No: #77

Reference Elevations: 1956.00 ft (KB)

1951.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8360 Inside

Press@RunDepth: psig @ 3104.00 ft (KB)

Start Date: 2019.01.09

End Date: 2019.01.09

Capacity: 8000.00 psig

Last Calib.: 2019.01.09

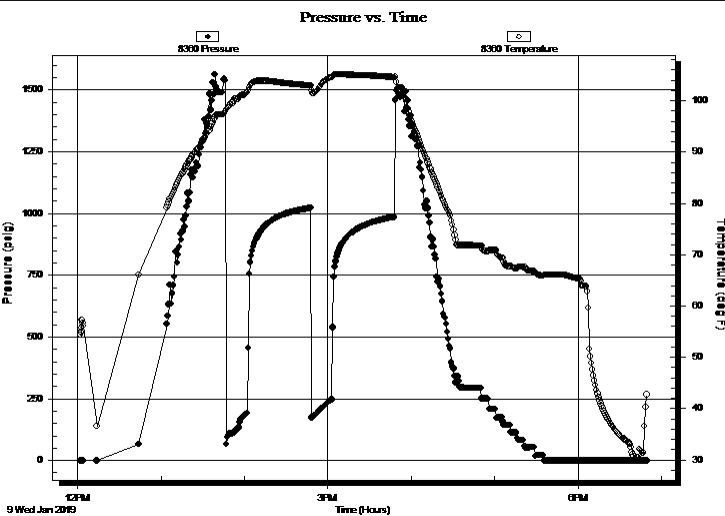
Start Time: 12:02:05

End Time: 18:49:14

Time On Btm:

Time Off Btm:

TEST COMMENT: 15 - IFI - BOB in 3 mins
45 - ISI - BOB in 14 mins
15 - FFP - BOB in 5 mins.
45 - FSI - BOB in 20 min.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
258.00	Free Oil - 100%o	2.01
248.00	MCO - 70%o - 30% m	2.54
124.00	MCO - 75%o - 25% m	1.27
62.00	GMCO - 25%g - 25% m - 50% o	0.64

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co.
PO Box 1120
Hays, Ks 67601
ATTN: Jeff Lowler

14 - 7S - 19W
3DR Unit #1
Job Ticket: 65392 **DST#: 6**
Test Start: 2019.01.08 @ 12:02:00

Tool Information

Drill Pipe:	Length: 2976.39 ft	Diameter: 3.25 inches	Volume: 30.54 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 119.61 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 55000.00 lb
		Total Volume: 31.13 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3103.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	3555.00 ft			
Interval between Packers:	452.00 ft			
Tool Length:	472.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			3088.00	
Hydraulic tool	5.00			3093.00	
Packer	5.00		Inside	3098.00	20.00 Bottom Of Top Packer
Packer	5.00			3103.00	
Stubb	1.00			3104.00	
Recorder	0.00	8673	Inside	3104.00	
Recorder	0.00	8360	Inside	3104.00	
Perforations	28.00			3132.00	
Change Over Sub	1.00			3133.00	
Drill Pipe	31.00			3164.00	
Change Over Sub	1.00			3165.00	
Stubb	3.00		Outside	3168.00	
Packer - Shale	5.00		Outside	3173.00	
Stubb	1.00			3174.00	
Blank Off Sub	1.00			3175.00	
Change Over Sub	1.00			3176.00	
Recorder	0.00	8678	Below	3176.00	
Drill Pipe	375.00		Below	3551.00	
Change Over Sub	1.00			3552.00	
Bullnose	3.00			3555.00	452.00 Bottom Packers & Anchor

Total Tool Length: 472.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.

14 - 7S - 19W

PO Box 1120
Hays, Ks 67601

3DR Unit #1

Job Ticket: 65392

DST#: 6

ATTN: Jeff Lowler

Test Start: 2019.01.08 @ 12:02:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
258.00	Free Oil - 100%o	2.008
248.00	MCO - 70%o - 30%m	2.545
124.00	MCO - 75%o - 25%m	1.272
62.00	GMCO - 25%g - 25%m - 50%o	0.636

Total Length: 692.00 ft

Total Volume: 6.461 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

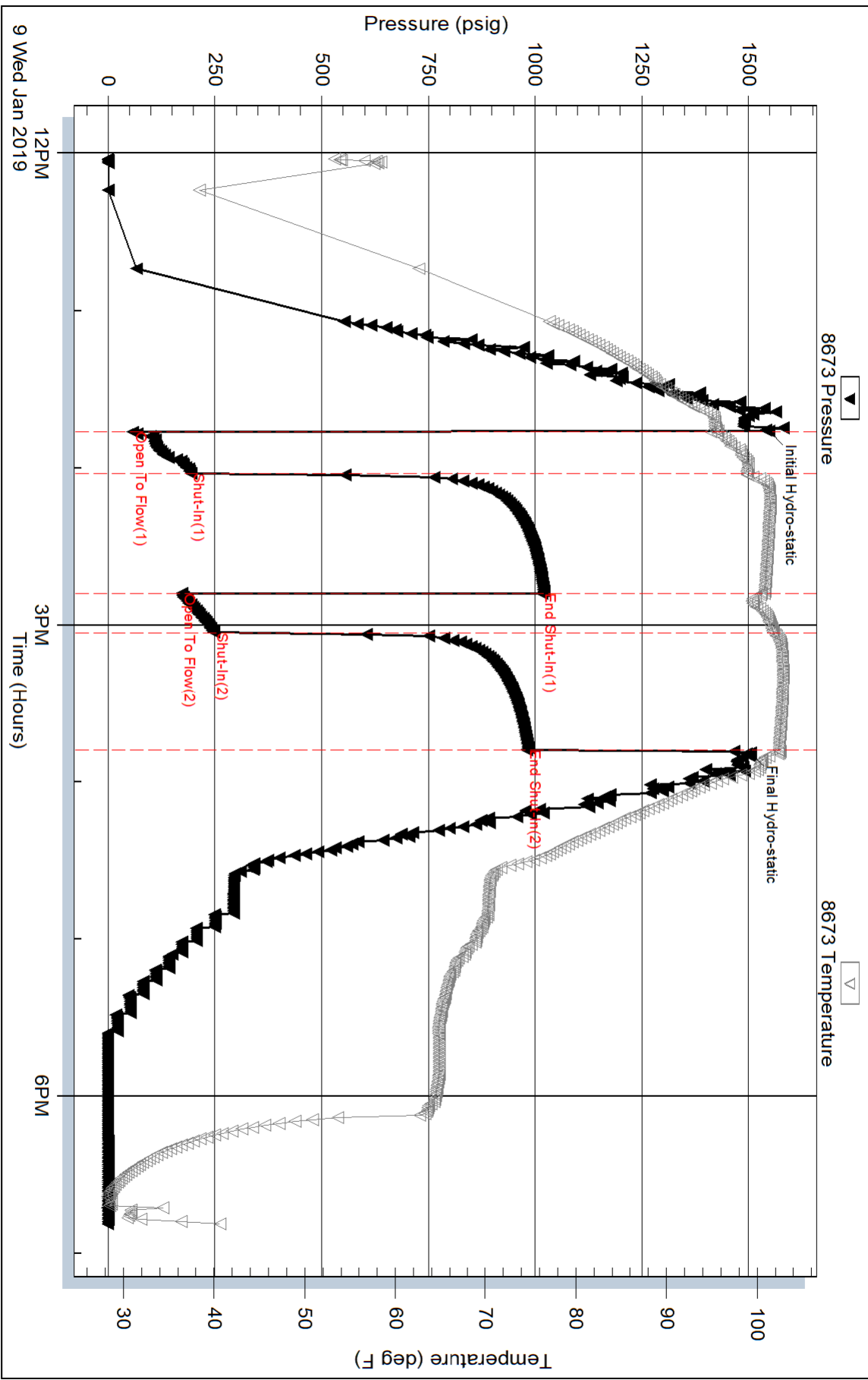
Serial #:

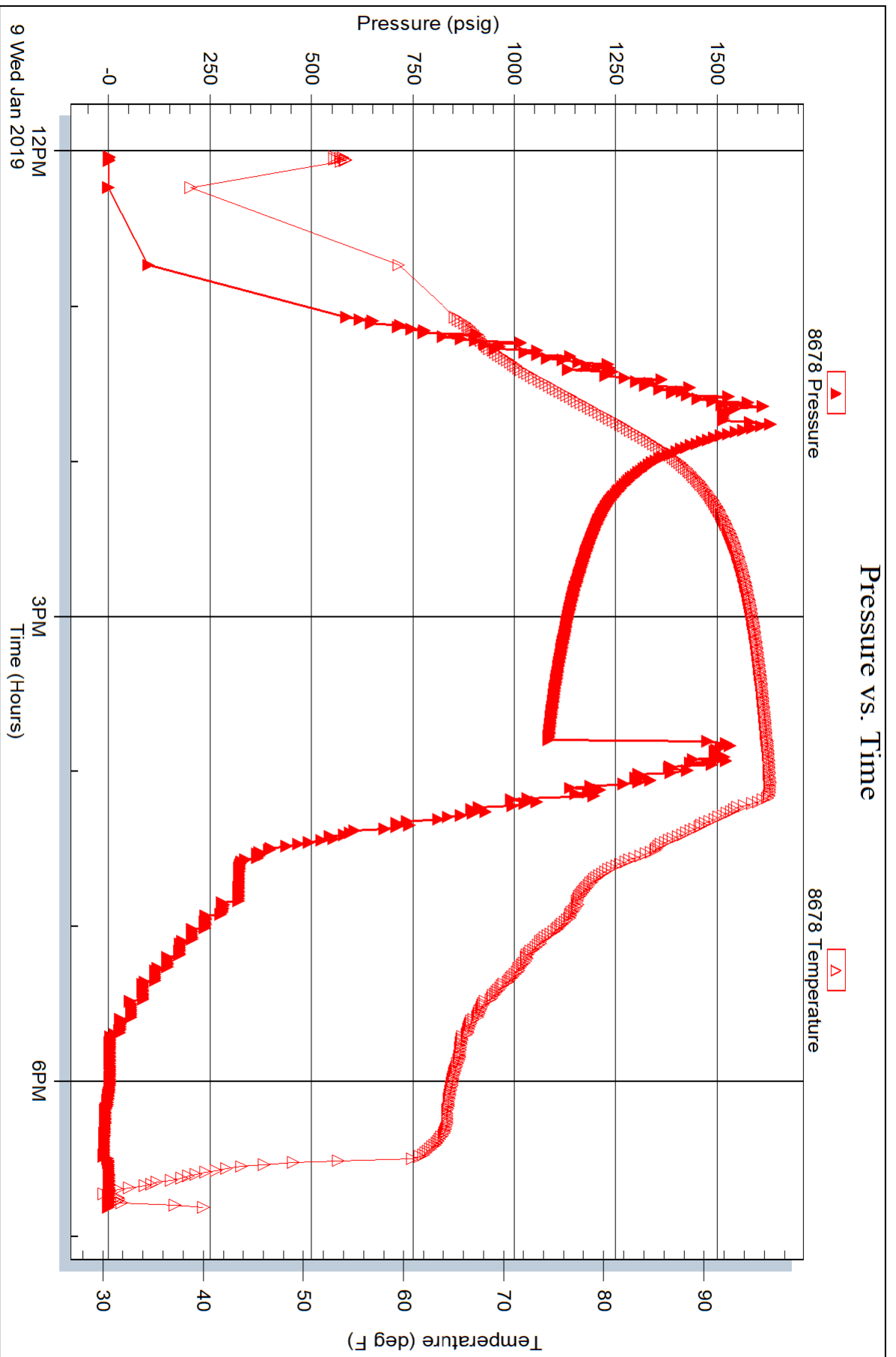
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



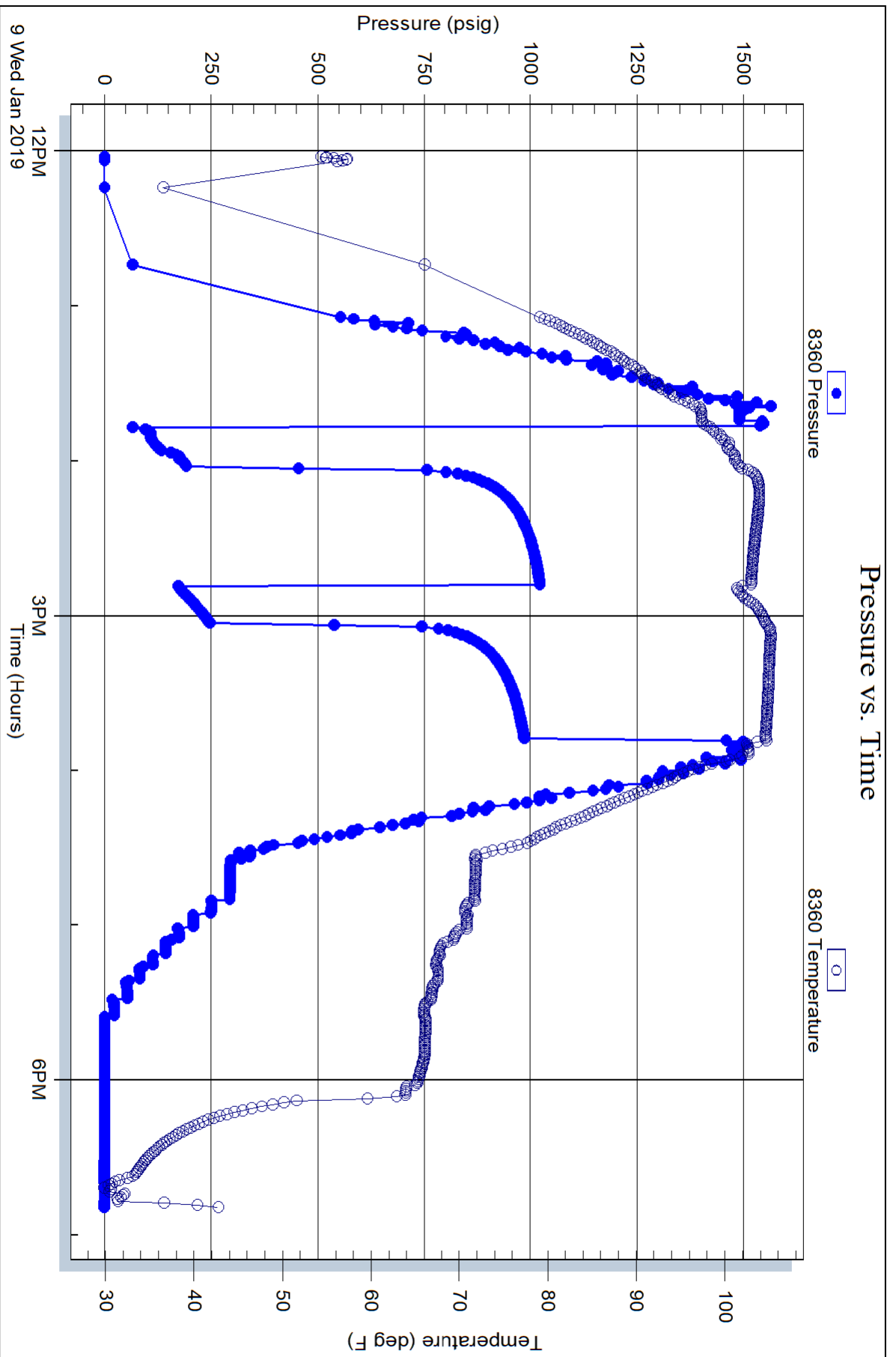


Serial #: 8360

Inside Jasper Co.

3DR Unit #1

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65387

Well Name & No. 3DA Unit #1 Test No. 1 Date 1-5-19
 Company Jasper Co., Inc. Elevation 1956 KB 1951 GL
 Address PO Box 1120 Hays Ks 67601
 Co. Rep / Geo. Jeff Lawler Rig WJW #8
 Location: Sec. 14 Twp 7S Rge. 19W Co. Rooks State Ks

Interval Tested 3175'-3215' Zone Tested Lansing C+D
 Anchor Length 40' Drill Pipe Run 3045.39' Mud Wt. 8.9
 Top Packer Depth 3170' Drill Collars Run 119.11' Vls 51
 Bottom Packer Depth 3175' Wt. Pipe Run 0 WL 8
 Total Depth 3215' Chlorides 1500 ppm System LCM 2#

Blow Description IFP - No surface blow
ISI - No Return
IFP - open tool for 10 mins. No blow, flushed tool bubbled on open pulled tool
ISI.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>OSM</u>	<u>Spots</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

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

- (A) Initial Hydrostatic 1555
- (B) First Initial Flow 12
- (C) First Final Flow 13
- (D) Initial Shut-In 89
- (E) Second Initial Flow 12
- (F) Second Final Flow _____
- (G) Final Shut-In _____
- (H) Final Hydrostatic 1532

- Test 1050
- Jars _____
- Safety Joint _____
- Circ Sub _____
- Hourly Standby _____
- Mileage 196 R/T 100rt
- Sampler _____
- Straddle _____
- Shale Packer _____
- Extra Packer _____
- Extra Recorder _____
- Day Standby _____
- Accessibility _____

T-On Location 7:10pm
 T-Started 9:30pm
 T-Open 11:03pm
 T-Pulled 12:45am
 T-Out 2:10am

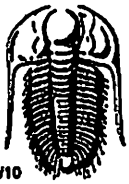
Comments got stuck on location
had to wait for cat to
get to katwalk

Initial Open 30
 Initial Shut-In 45
 Final Flow 10
 Final Shut-In _____

EM Tool _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1150

Approved By _____ Our Representative Jeff Lawler MP/DST Disc't _____

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. 65388

Well Name & No. 3DR Unit #1 Test No. 2 Date 1-16-19
 Company Jasper Co. Inc. Elevation 1956 KB 1951 GL
 Address PO Box 1120 Hays ks 67701
 Co. Rep / Geo. Jeff Lawler Rig WW#8
 Location: Sec. 14 Twp 7S Rge. 19W Co. Rocks State ks

Interval Tested 3214'-3242' Zone Tested E+F
 Anchor Length 28' Drill Pipe Run 3107.39' Mud Wt. 9.2
 Top Packer Depth 3209' Drill Collars Run 119.61' Vis 48
 Bottom Packer Depth 3214' Wt. Pipe Run 0 WL 8
 Total Depth 3242' Chlorides 1500 ppm System LCM 2#

Blow Description IFP - Surface blow built up to 1 1/4"
ISI - No return
FFP - Surface blow stayed at a weak blow through out
FFI - Got a faint return about 35mins into the shut in

Rec	Feet of	%gas	Spots	%oil	%water	%mud
<u>45'</u>	<u>OSWM</u>				<u>2</u>	<u>98</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

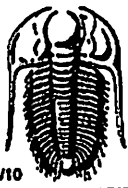
Rec Total 45' BHT 94°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1568 Test 1050 T-On Location 8:05 am
 (B) First Initial Flow 12 Jars _____ T-Started 8:19 am
 (C) First Final Flow 23 Safety Joint _____ T-Open 9:45 am
 (D) Initial Shut-In 1203 Circ Sub _____ T-Pulled 12:30 pm
 (E) Second Initial Flow 24 Hourly Standby _____ T-Out 1:53 pm
 (F) Second Final Flow 31 Mileage 194 R/T 100 Comments _____
 (G) Final Shut-In 5710 Sampler _____
 (H) Final Hydrostatic 1554 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 45 Extra Packer _____
 Final Flow 45 Extra Recorder _____
 Final Shut-In 45 Day Standby _____
 Sub Total 1150 Accessibility _____
 Sub Total 1150 EM Tool _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1150
 MP/DST Disc't _____

Approved By _____ Our Representative Paul Lawler

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. 65389

Well Name & No. 3DR Unit #1 Test No. 3 Date 1-6-19
 Company Jasper Co. Inc. Elevation 19546 KB 19541 GL
 Address PO Box 1120 Hays Ks 67601
 Co. Rep / Geo. Jeff Lawler Rig WW#8
 Location: Sec. 14 Twp 7S Rge. 19W Co. Rooks State Ks

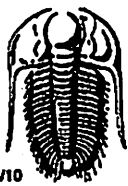
Interval Tested 3240'-3253' Zone Tested LHC-G
 Anchor Length 13' Drill Pipe Run 3107.90' Mud Wt. 9.2
 Top Packer Depth 3235' Drill Collars Run 119.61 Vis 48
 Bottom Packer Depth 3240' Wt. Pipe Run 0 WL 8
 Total Depth 3253' Chlorides 1500 ppm System LCM 2#
 Blow Description IFP Surface blow slowly built to almost 3/4"
ISI - No Return
FFP Surface blow started a very faint blow 28 mins in then died
FSI - No Return

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 94°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1559 Test 1050 T-On Location 8:05am 1-6-19
 (B) First Initial Flow 10 Jars _____ T-Started 7:38 pm
 (C) First Final Flow 12 Safety Joint _____ T-Open 9:31 pm
 (D) Initial Shut-In 652 Circ Sub _____ T-Pulled 12:21 am
 (E) Second Initial Flow 12 Hourly Standby _____ T-Out 1:43 am
 (F) Second Final Flow 14 Mileage 196 B/T Comments _____
 (G) Final Shut-In 641 Sampler _____ stayed on location
 (H) Final Hydrostatic 1531 Straddle _____ EM Tool _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1050
 Sub Total 1050 MP/DST Disc't _____

Approved By _____ Our Representative Jeff Lawler
 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. 65390

Well Name & No. 3DR Unit #1 Test No. 4 Date 1-7-19
 Company Jasper Co. Inc. Elevation 1956 KB 1951 GL
 Address PO Box 1120 Hays, ks 67601
 Co. Rep / Geo. Jeff Lawler Rig WW#8
 Location: Sec. H Twp 7S Rge. 19W Co. Roob's State ks

Interval Tested 3267-3371 Zone Tested LHC-H-L
 Anchor Length 104 Drill Pipe Run 3138.76 Mud Wt. 9
 Top Packer Depth 3262' Drill Collars Run 119.61 Vis 44
 Bottom Packer Depth 3267' Wt. Pipe Run 0 WL 8
 Total Depth 3371' Chlorides 500 ppm System LCM 1 1/2 #
 Blow Description IFP - Surface blow gradually built up to 1 1/2" ISI - No Return
FFP - Weak surface blow started 3 mins in and built up to 1/4" FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>59'</u>	<u>OCM</u>	<u>35</u>		<u>105</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

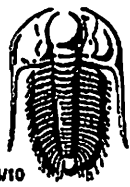
Rec Total 59' BHT 959' Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 585 Test 1050 T-On Location 2:11 pm
 (B) First Initial Flow 16 Jars _____ T-Started 2:37 pm
 (C) First Final Flow 28 Safety Joint _____ T-Open 4:05 pm
 (D) Initial Shut-In 451 Circ Sub _____ T-Pulled 7:20 pm
 (E) Second Initial Flow 31 Hourly Standby _____ T-Out 9:12 pm
 (F) Second Final Flow 310 Mileage 19 1/2 B/T 100 Comments _____
 (G) Final Shut-In 215 Sampler _____
 (H) Final Hydrostatic 548 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 10
 Final Shut-In 45

Sub Total 1150 MR/DST Disc't _____
 Total 1150

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65391

Well Name & No. 30A Unit #1 Test No. 5 Date 1-8-19
 Company Jordan Co. Inc. Elevation 1956 KB PS1 GL
 Address PO Box 1120 Hays ks 67601
 Co. Rep / Geo. Jeff Lawler Rig WW#8
 Location: Sec. 14 Twp 2S Rge. RW Co. Rooks State ks

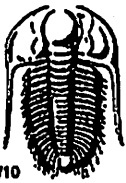
Interval Tested 3106'-355' Zone Tested Heebner
 Anchor Length 49' Drill Pipe Run 2983.39 Mud Wt. 9.2
 Top Packer Depth 3101' Drill Collars Run 119.61 Vls 53
 Bottom Packer Depth 3106' Wt. Pipe Run 0 WL 26
 Total Depth 3552' Chlorides 1000 ppm System LCM 4#
 Blow Description JFP - packer failure, tried resetting packer 3 times

Rec	Feet of	%gas	%oil	%water	%mud
<u>527'</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 527' BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic _____ Test Packer Failure T-On Location 5:30 pm
 (B) First Initial Flow _____ Jars 850 T-Started 6:47 pm
 (C) First Final Flow _____ Safety Joint _____ T-Open 8:41 pm
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled 9:00 pm
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 11:11 pm
 (F) Second Final Flow _____ Mileage 196 R/T 100 Comments _____
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic _____ Straddle 600
 Shale Packer 250 EM Tool _____
 Extra Packer _____ Ruined Shale Packer _____
 Extra Recorder _____ Ruined Packer _____
 Day Standby _____ Extra Copies _____
 Accessibility _____ Sub Total 0
 Sub Total 1800 Total 1800 MP/DST Disc'n _____

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65392

Well Name & No. 3DR Unit #1 Test No. 6 Date 1-8-19
 Company Gaspar Co. Inc Elevation 956 KB 1951 GL
 Address PO Box 1120 Hays KS 67601
 Co. Rep / Geo. Jeff Lawler Rig WW#8
 Location: Sec. 14 Twp 7S Rge. 19W Co. Rocks State KS

Interval Tested 303'-3169' Zone Tested Toronto
 Anchor Length 660 Drill Pipe Run 2976.39 Mud Wt. 9.2
 Top Packer Depth 3098' Drill Collars Run 119.61 Vis 53
 Bottom Packer Depth 3103 Wt. Pipe Run 0 WL 76
 Total Depth 3552' Chlorides 1000 ppm System LCM 4#

Blow Description IFP - surface blow built to bottom of the bucket in 3mins
IST - return built to bottom of the bucket in 14mins
FFP - surface blow to bottom of the bucket in 5mins
FST - return blow from bottom of the bucket in

Rec	Feet of	%gas	%oil	%water	%mud
<u>258</u>	<u>Free Oil</u>	<u>100</u>			
<u>248</u>	<u>MCO</u>	<u>70</u>			<u>30</u>
<u>124</u>	<u>MCO-75</u>	<u>75</u>			<u>25</u>
<u>62</u>	<u>Gmco</u>	<u>25</u>	<u>50</u>		<u>25</u>
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 692 BHT 102°F Gravity 31.060° API RW @ ° F Chlorides ppm

- (A) Initial Hydrostatic 1548
- (B) First Initial Flow 58
- (C) First Final Flow 123
- (D) Initial Shut-In 1010
- (E) Second Initial Flow 172
- (F) Second Final Flow 248
- (G) Final Shut-In 981
- (H) Final Hydrostatic 1535

- Test 1050
- Jars
- Safety Joint
- Circ Sub
- Hourly Standby
- Mileage 19/0 RT
- Sampler
- Straddle 600
- Shale Packer 250
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1900

T-On Location 5:30pm
 T-Started 12:02am
 T-Open 1:46am
 T-Pulled 3:46am
 T-Out 6:50am

Comments _____
 EM Tool
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1900
 MP/DST Disc't _____

Initial Open 15
 Initial Shut-In 45
 Final Flow 15
 Final Shut-In 45

Approved By _____ Our Representative [Signature]

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