

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Recompletion Date _____ Date Reached TD _____ Completion Date or Recompletion Date _____

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.20 @ 07:15:00

End Date: 2017.01.20 @ 09:01:00

Job Ticket #: 64661 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:54:16

Jaspar Co. S11-7S-20W Rooks,KS Boss #1 DST # 1 Oread 2017.01.20



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Jaspar Co.
 PO Box 1120
 Hays KS 67601
 ATTN: Jeff Lawler / Shane

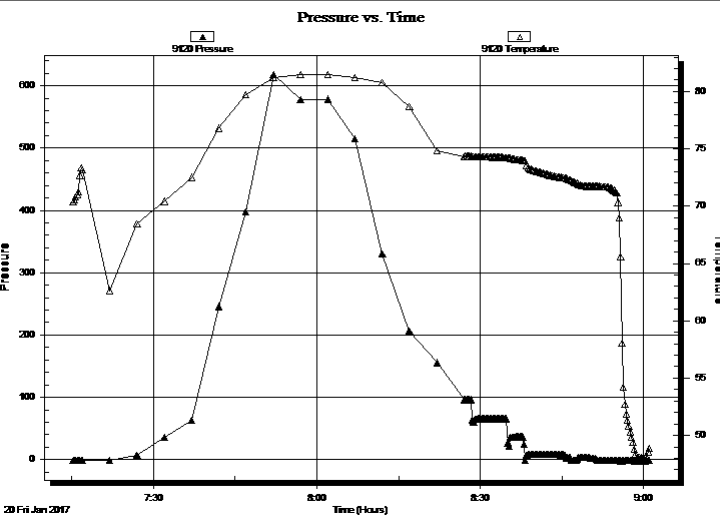
S11-7S-20W Rooks, KS
Boss #1
 Job Ticket: 64661 **DST#: 1**
 Test Start: 2017.01.20 @ 07:15:00

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened:
 Time Test Ended: 09:01:00
 Interval: **3286.00 ft (KB) To 3330.00 ft (KB) (TVD)**
 Total Depth: 3330.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition:
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Spencer J. Staab
 Unit No: 84
 Reference Elevations: 2172.00 ft (KB)
 2164.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 9120 Outside
 Press@RunDepth: psig @ 3292.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.01.20 End Date: 2017.01.20 Last Calib.: 2017.01.20
 Start Time: 07:15:15 End Time: 09:01:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: Did not make it to bottom



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
440.00	Mud 100% M	5.08

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 Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64661 **DST#: 1**
Test Start: 2017.01.20 @ 07:15:00

Tool Information

Drill Pipe:	Length: 3169.00 ft	Diameter: 3.80 inches	Volume: 44.45 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: - bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	lb
Depth to Top Packer:	3286.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	44.00 ft				
Tool Length:	64.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3267.00	
Shut In Tool	5.00			3272.00	
Hydraulic tool	5.00			3277.00	
Packer	5.00			3282.00	20.00 Bottom Of Top Packer
Packer	4.00			3286.00	
Stubb	1.00			3287.00	
Perforations	5.00			3292.00	
Recorder	0.00	8368	Inside	3292.00	
Recorder	0.00	9120	Outside	3292.00	
Change Over Sub	1.00			3293.00	
Drill Pipe	32.00			3325.00	
Change Over Sub	1.00			3326.00	
Bullnose	4.00			3330.00	44.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64661 **DST#: 1**
Test Start: 2017.01.20 @ 07:15:00

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: 77.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
440.00	Mud 100% M	5.079

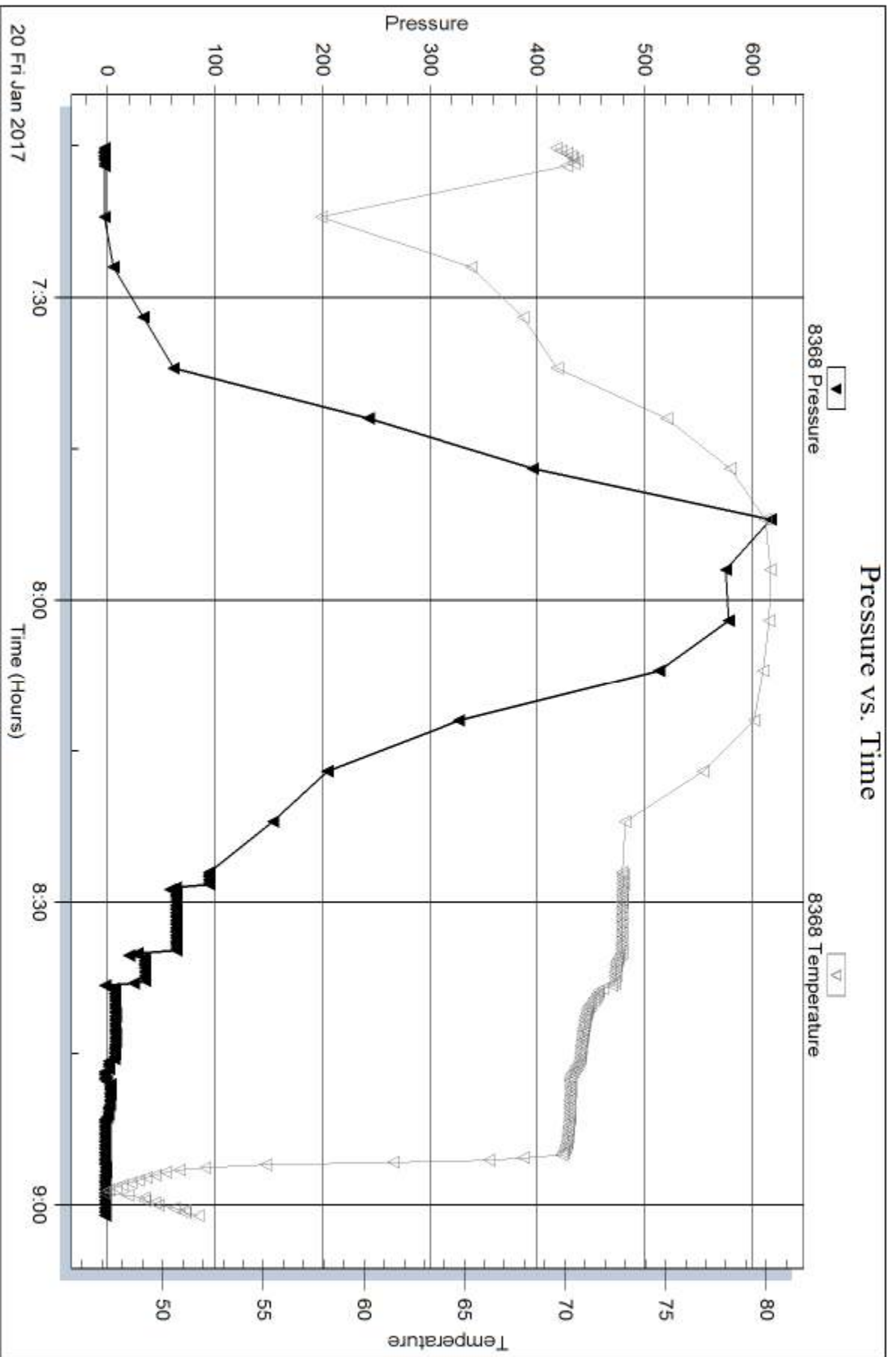
Total Length: 440.00 ft Total Volume: 5.079 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8368

Inside Jasper Co.

Boss #1

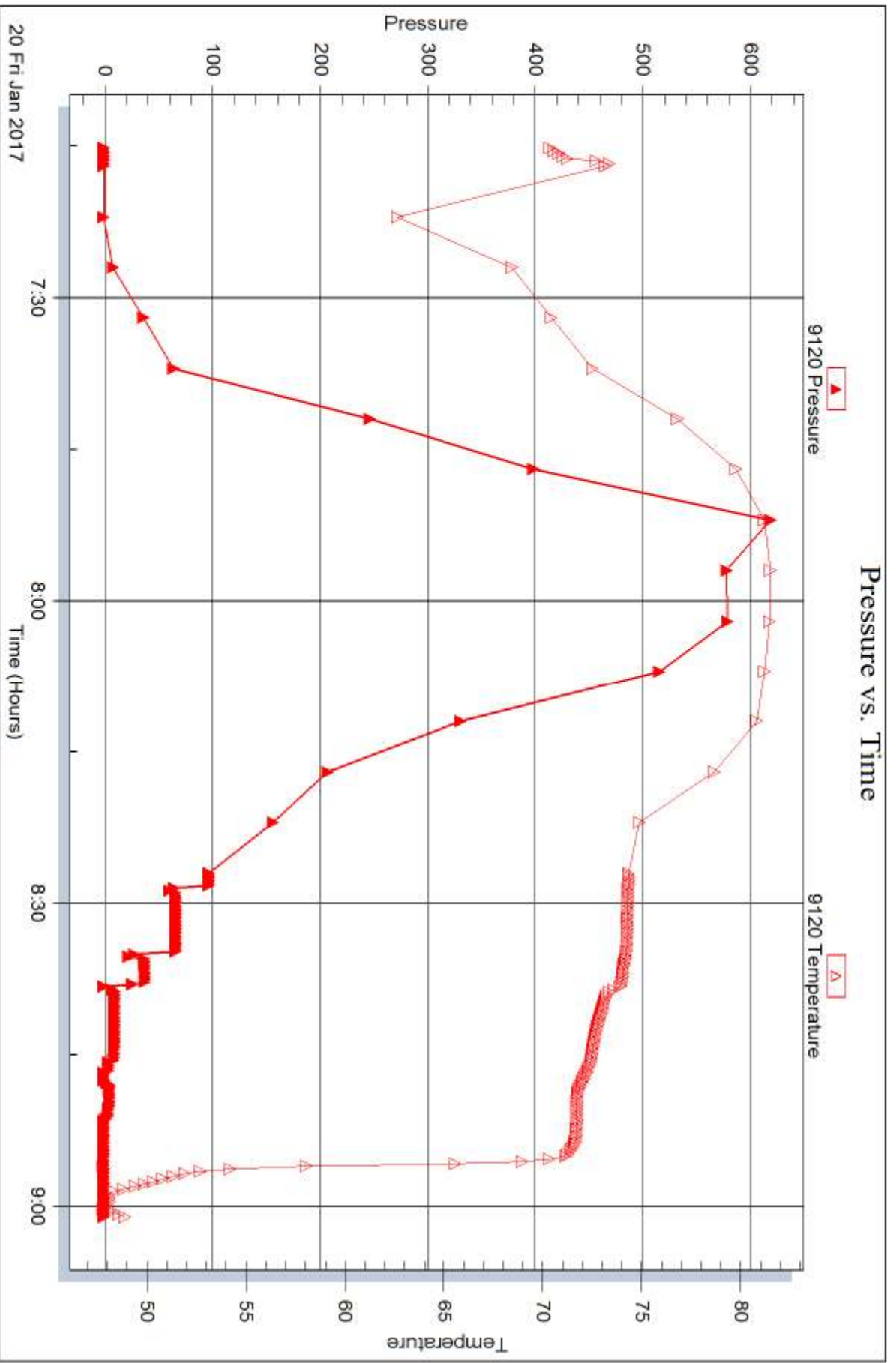
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64661

Printed: 2017.01.26 @ 10:54:17





DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.20 @ 12:58:00

End Date: 2017.01.20 @ 19:26:45

Job Ticket #: 64662 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:53:44

Jaspar Co. S11-7S-20W Rooks,KS Boss #1 DST # 2 Oread 2017.01.20



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Jaspar Co.
 PO Box 1120
 Hays KS 67601
 ATTN: Jeff Lawler / Shane

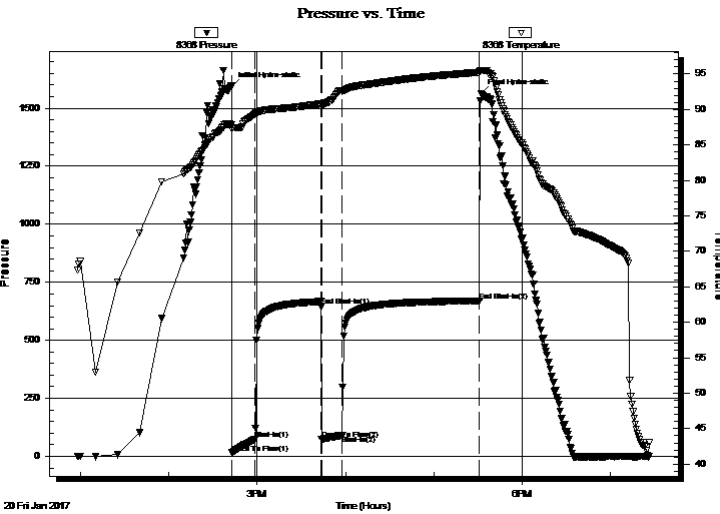
S11-7S-20W Rooks, KS
Boss #1
 Job Ticket: 64662 **DST#: 2**
 Test Start: 2017.01.20 @ 12:58:00

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:43:00
 Time Test Ended: 19:26:45
 Interval: **3286.00 ft (KB) To 3330.00 ft (KB) (TVD)**
 Total Depth: 3330.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition:
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Spencer J. Staab
 Unit No: 84
 Reference Elevations: 2172.00 ft (KB)
 2164.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8368 Inside
 Press@RunDepth: 90.12 psig @ 3292.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.01.20 End Date: 2017.01.20 Last Calib.: 2017.01.20
 Start Time: 12:58:15 End Time: 19:26:45 Time On Btm: 2017.01.20 @ 14:42:45
 Time Off Btm: 2017.01.20 @ 17:32:15

TEST COMMENT: 15-IF-Strong Blow ; Built to 8"
 45-ISI-Very Weak Surface Blow after 37 minutes; Built to 1/8"
 15-FF-Fair Blow ; Built to 5 1/4"
 90-FSI-No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1594.52	87.82	Initial Hydro-static
1	14.69	87.31	Open To Flow (1)
16	71.64	89.31	Shut-In(1)
61	645.80	90.79	End Shut-In(1)
61	73.73	90.65	Open To Flow (2)
75	90.12	92.59	Shut-In(2)
169	669.84	95.25	End Shut-In(2)
170	1562.56	95.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	WGCM 5% W 15% G 80% M	0.22
62.00	WCM 20% W 80% M	0.30
63.00	WCM 40% W 60% M	0.76

* Recovery from multiple tests

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 Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64662 **DST#: 2**
Test Start: 2017.01.20 @ 12:58:00

Tool Information

Drill Pipe:	Length: 3168.00 ft	Diameter: 3.80 inches	Volume: 44.44 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 55000.00 lb
		Total Volume: - bbl		Tool Chased ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3286.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3267.00	
Shut In Tool	5.00			3272.00	
Hydraulic tool	5.00			3277.00	
Packer	5.00			3282.00	20.00 Bottom Of Top Packer
Packer	4.00			3286.00	
Stubb	1.00			3287.00	
Perforations	5.00			3292.00	
Recorder	0.00	8368	Inside	3292.00	
Recorder	0.00	9120	Inside	3292.00	
Change Over Sub	1.00			3293.00	
Drill Pipe	32.00			3325.00	
Change Over Sub	1.00			3326.00	
Bullnose	4.00			3330.00	44.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601

S11-7S-20W Rooks,KS

Boss #1

Job Ticket: 64662

DST#: 2

ATTN: Jeff Lawler / Shane

Test Start: 2017.01.20 @ 12:58:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 51.00 sec/qt
Water Loss: 7.59 in³
Resistivity: ohm.m
Salinity: 500.00 ppm
Filter Cake: inches

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

Oil API: deg API
Water Salinity: 23500 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	WGCM 5% W 15% G 80% M	0.221
62.00	WCM 20% W 80% M	0.305
63.00	WCM 40% W 60% M	0.756

Total Length: 170.00 ft Total Volume: 1.282 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

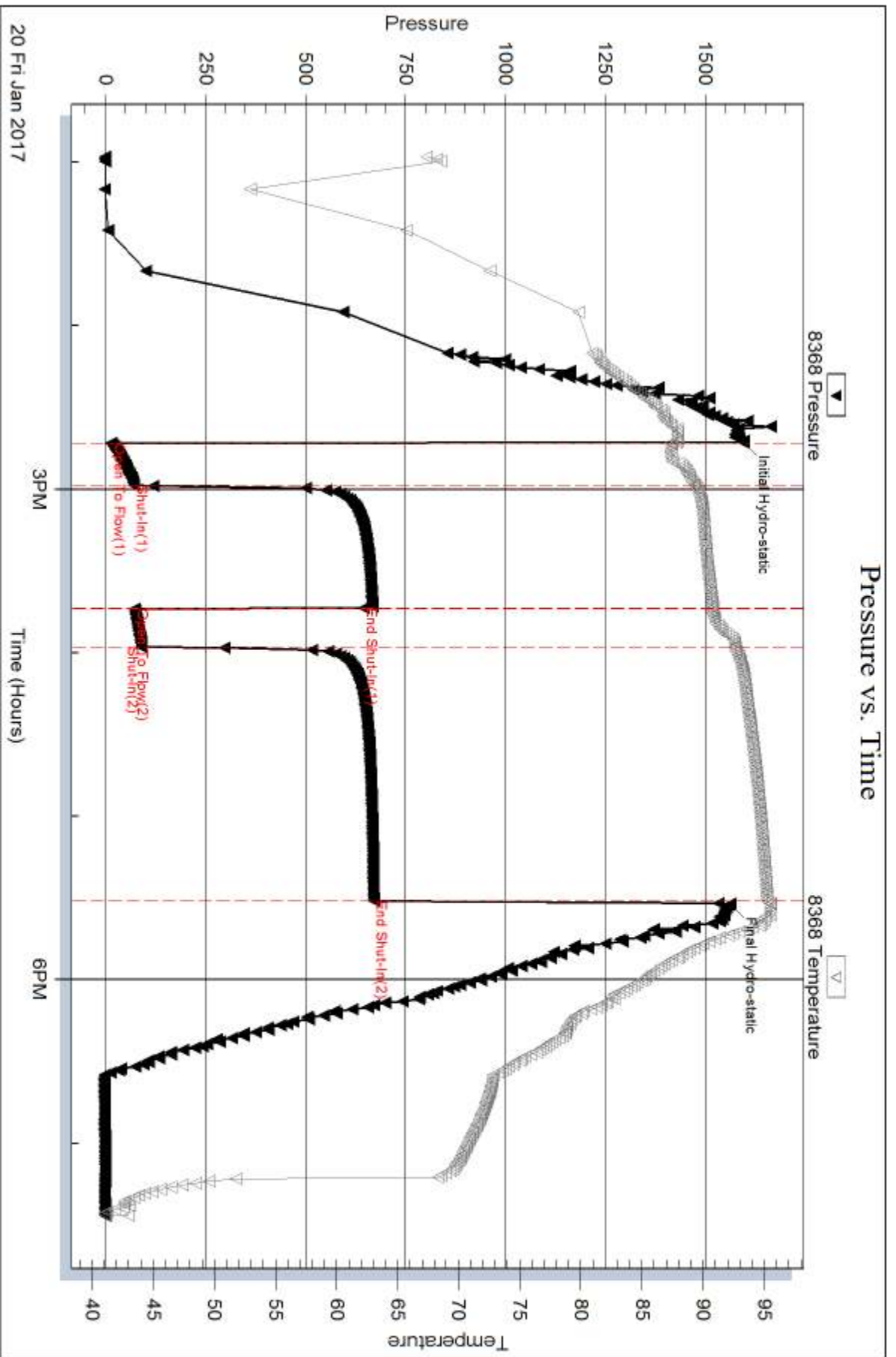
Serial #: 8368

Inside

Jaspar Co.

Boss #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64662

Printed: 2017.01.26 @ 10:53:45

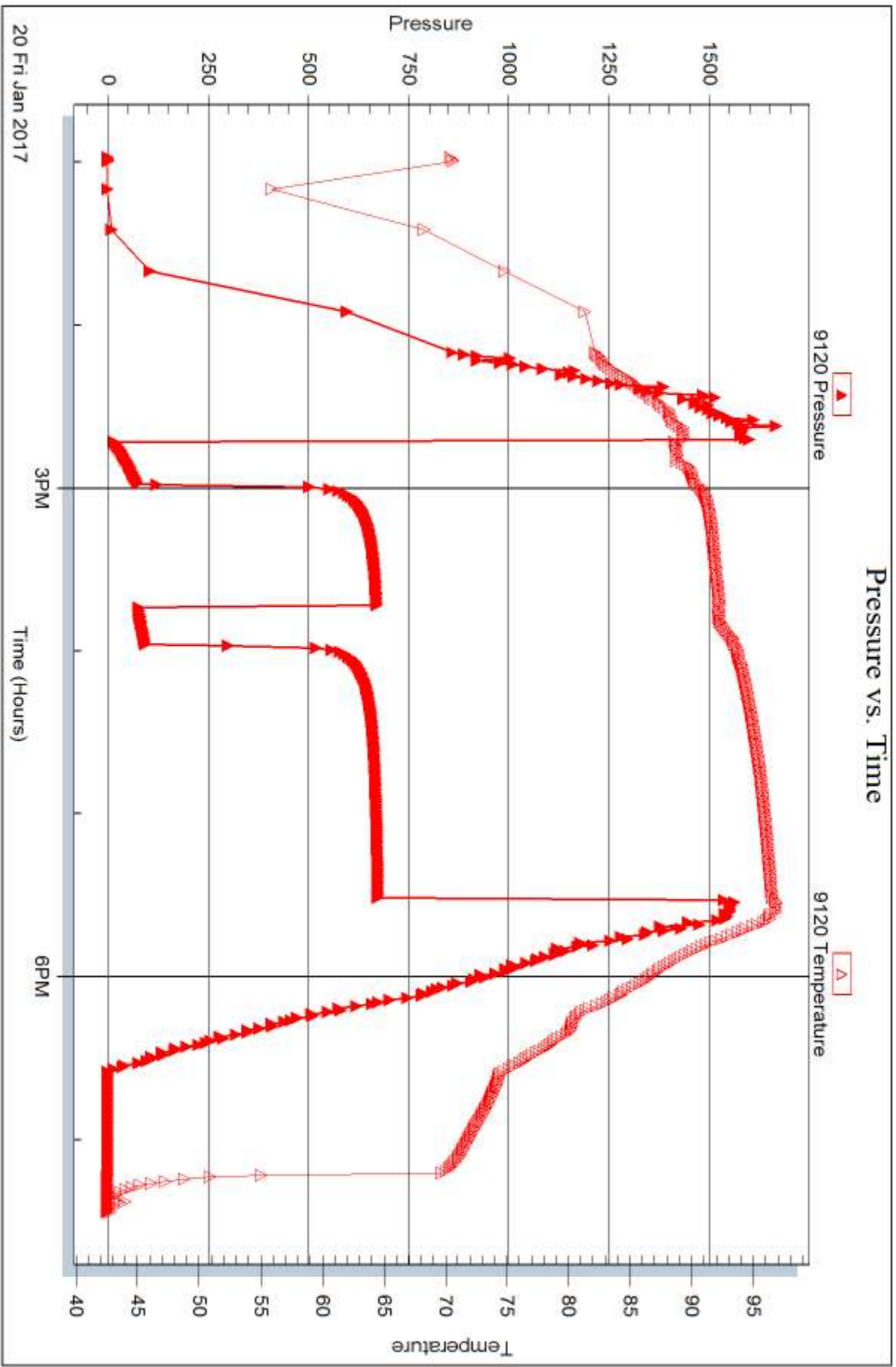
Serial #: 9120

Inside

Jaspar Co.

Boss #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64662

Printed: 2017.01.26 @ 10:53:45



DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.21 @ 05:02:00

End Date: 2017.01.21 @ 07:36:30

Job Ticket #: 64663 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:53:23



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64663 **DST#: 3**
Test Start: 2017.01.21 @ 05:02:00

Tool Information

Drill Pipe:	Length: 3237.00 ft	Diameter: 3.80 inches	Volume: 45.41 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: - bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	37.00 ft			String Weight: Initial	lb
Depth to Top Packer:	3346.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	54.00 ft				
Tool Length:	79.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3322.00	
Shut In Tool	5.00			3327.00	
Hydraulic tool	5.00			3332.00	
Jars	5.00			3337.00	
Packer	5.00			3342.00	25.00 Bottom Of Top Packer
Packer	4.00			3346.00	
Stubb	1.00			3347.00	
Recorder	0.00	8368	Inside	3347.00	
Recorder	0.00	9120	Outside	3347.00	
Perforations	15.00			3362.00	
Change Over Sub	1.00			3363.00	
Drill Pipe	32.00			3395.00	
Change Over Sub	1.00			3396.00	
Bullnose	4.00			3400.00	54.00 Bottom Packers & Anchor

Total Tool Length: 79.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64663 **DST#: 3**
Test Start: 2017.01.21 @ 05:02:00

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: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
400.00	Mud 100% M	4.509

Total Length: 400.00 ft Total Volume: 4.509 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

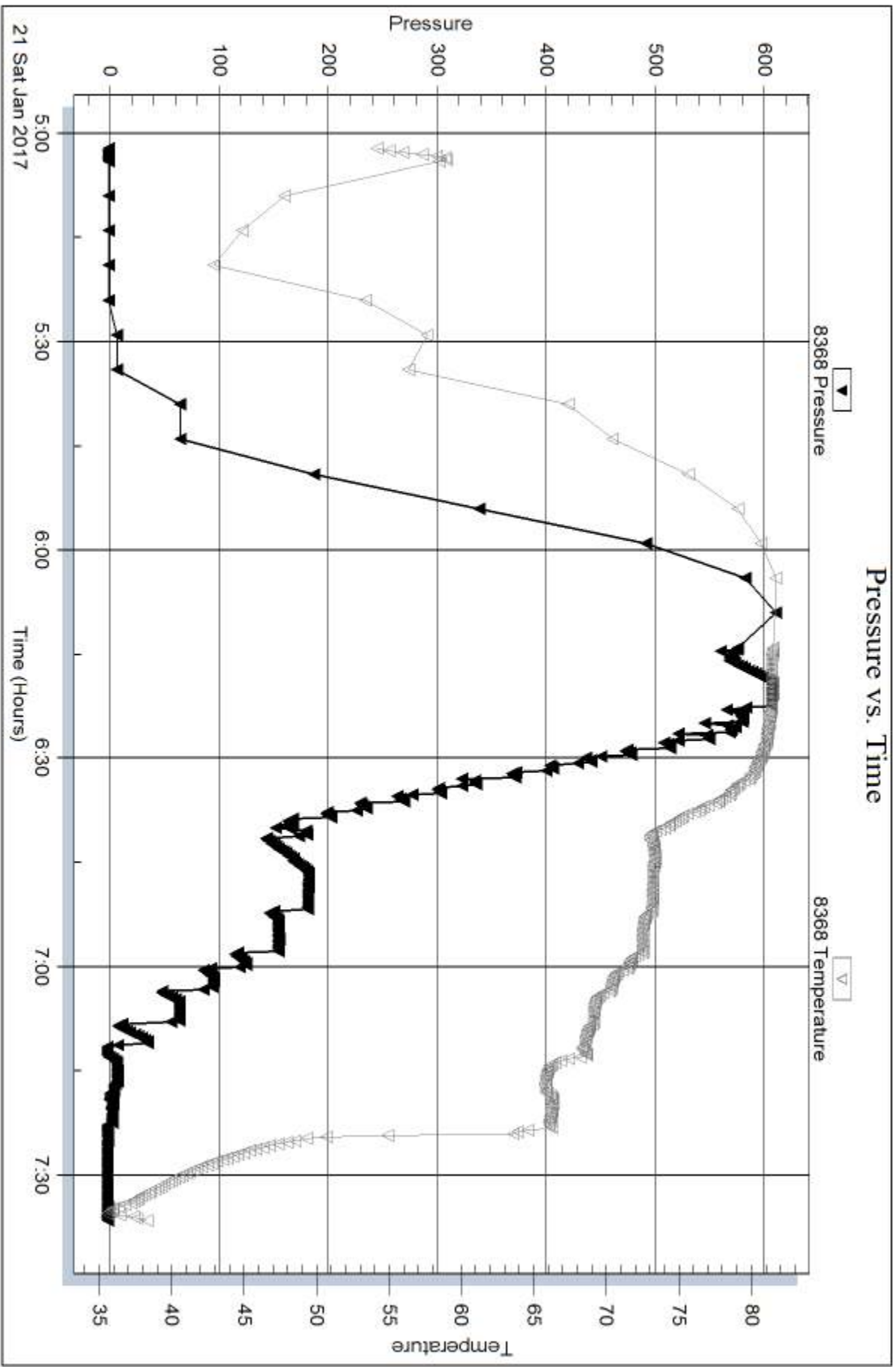
Serial #: 8368

Inside

Jaspar Co.

Boss #1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 64663

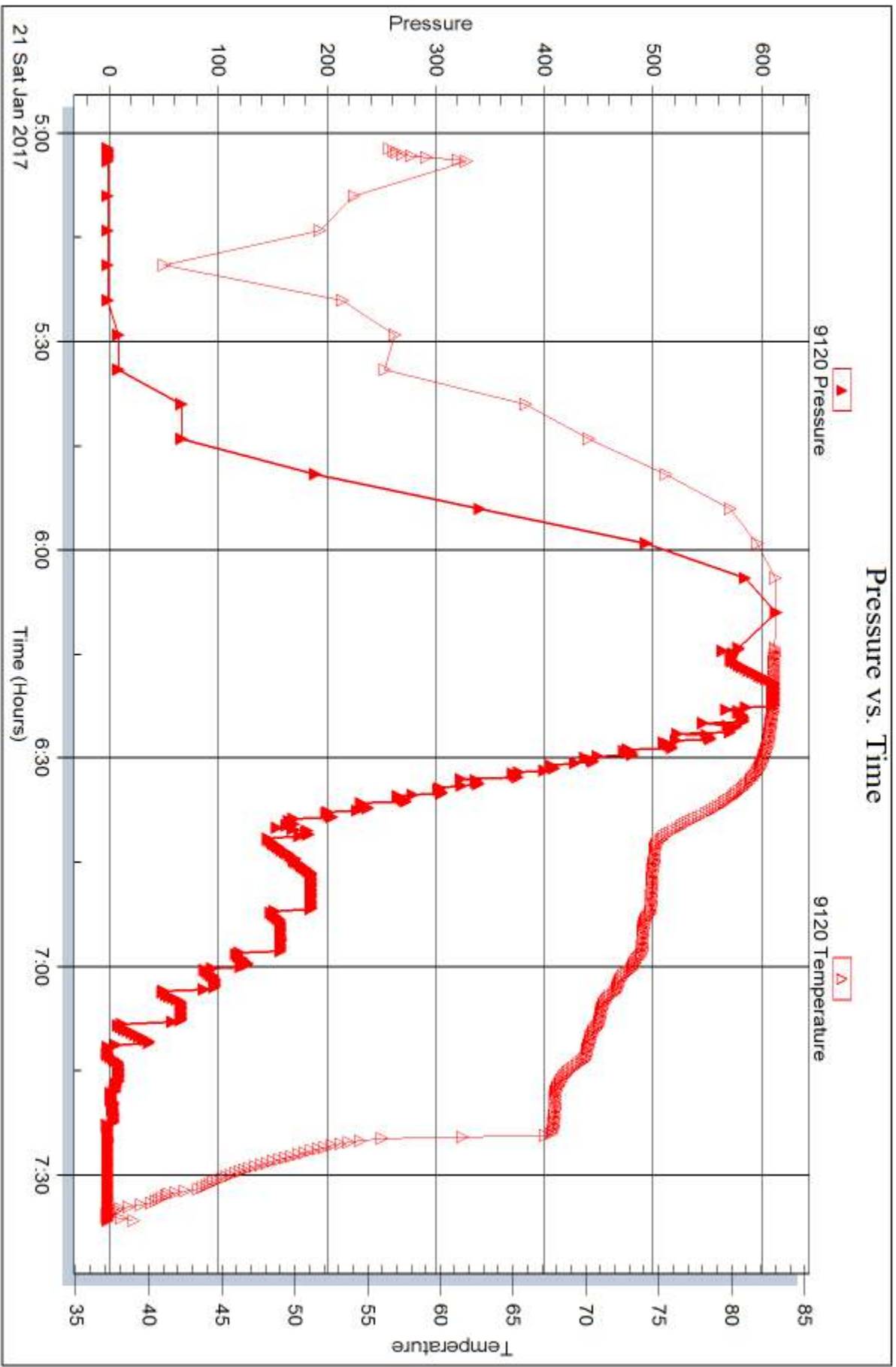
Printed: 2017.01.26 @ 10:53:23

Serial #: 9120

Outside Jasper Co.

Boss #1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 64663

Printed: 2017.01.26 @ 10:53:24



DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.21 @ 10:14:00

End Date: 2017.01.21 @ 16:17:30

Job Ticket #: 64664 DST #: 4

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:52:45



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

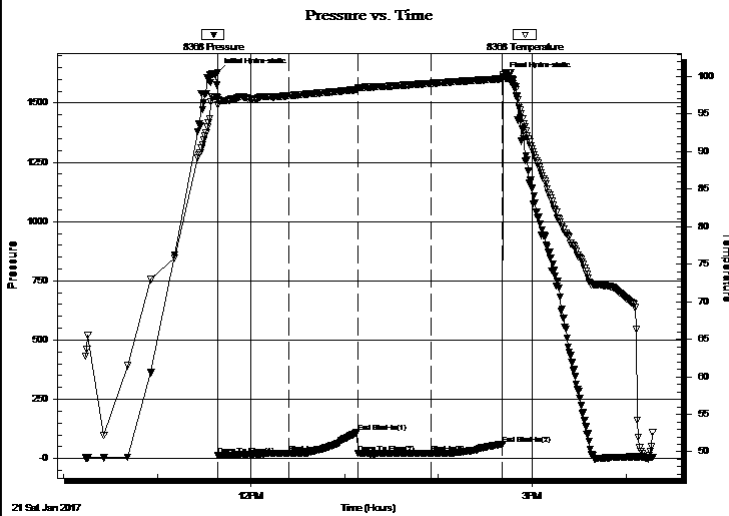
S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64664 **DST#: 4**
Test Start: 2017.01.21 @ 10:14:00

GENERAL INFORMATION:

Formation: **Toronto - LKC 'A'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:39:00
Time Test Ended: 16:17:30
Interval: **3346.00 ft (KB) To 3400.00 ft (KB) (TVD)**
Total Depth: 3330.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition:
Test Type: Conventional Bottom Hole (Reset)
Tester: Spencer J. Staab
Unit No: 84
Reference Elevations: 2172.00 ft (KB)
2164.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8368 Inside
Press@RunDepth: 22.25 psig @ 3347.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.01.21 End Date: 2017.01.21 Last Calib.: 2017.01.21
Start Time: 10:14:15 End Time: 16:17:30 Time On Btm: 2017.01.21 @ 11:38:45
Time Off Btm: 2017.01.21 @ 14:41:30

TEST COMMENT: 45-IF-Very Weak Blow ; Built to 1"
45-ISI-No Blow Back
45-FF-Very Weak Surface Blow ; few bubbles
45-FSI-No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1629.27	97.24	Initial Hydro-static
1	12.32	96.30	Open To Flow (1)
46	22.28	97.46	Shut-In(1)
90	109.02	98.27	End Shut-In(1)
90	22.64	98.32	Open To Flow (2)
137	22.25	99.09	Shut-In(2)
183	60.87	99.71	End Shut-In(2)
183	1613.20	100.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OCM 25% O 75% M	0.15

* Recovery from multiple tests

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 Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64664 **DST#: 4**
Test Start: 2017.01.21 @ 10:14:00

Tool Information

Drill Pipe:	Length: 3229.00 ft	Diameter: 3.80 inches	Volume: 45.29 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	53000.00 lb
			<u>Total Volume:</u>	Tool Chased	2.00 ft
			- bbl	String Weight: Initial	52000.00 lb
Drill Pipe Above KB:	32.00 ft			Final	52000.00 lb
Depth to Top Packer:	3346.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	54.00 ft				
Tool Length:	82.00 ft				
Number of Packers:	1	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
Change Over Sub	1.00			3319.00	
Shut In Tool	5.00			3324.00	
Hydraulic tool	5.00			3329.00	
Jars	5.00			3334.00	
Safety Joint	3.00			3337.00	
Packer	5.00			3342.00	28.00 Bottom Of Top Packer
Packer	4.00			3346.00	
Stubb	1.00			3347.00	
Recorder	0.00	8368	Inside	3347.00	
Recorder	0.00	9120	Outside	3347.00	
Perforations	15.00			3362.00	
Change Over Sub	1.00			3363.00	
Drill Pipe	32.00			3395.00	
Change Over Sub	1.00			3396.00	
Bullnose	4.00			3400.00	54.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64664 **DST#: 4**
Test Start: 2017.01.21 @ 10:14:00

Mud and Cushion Information

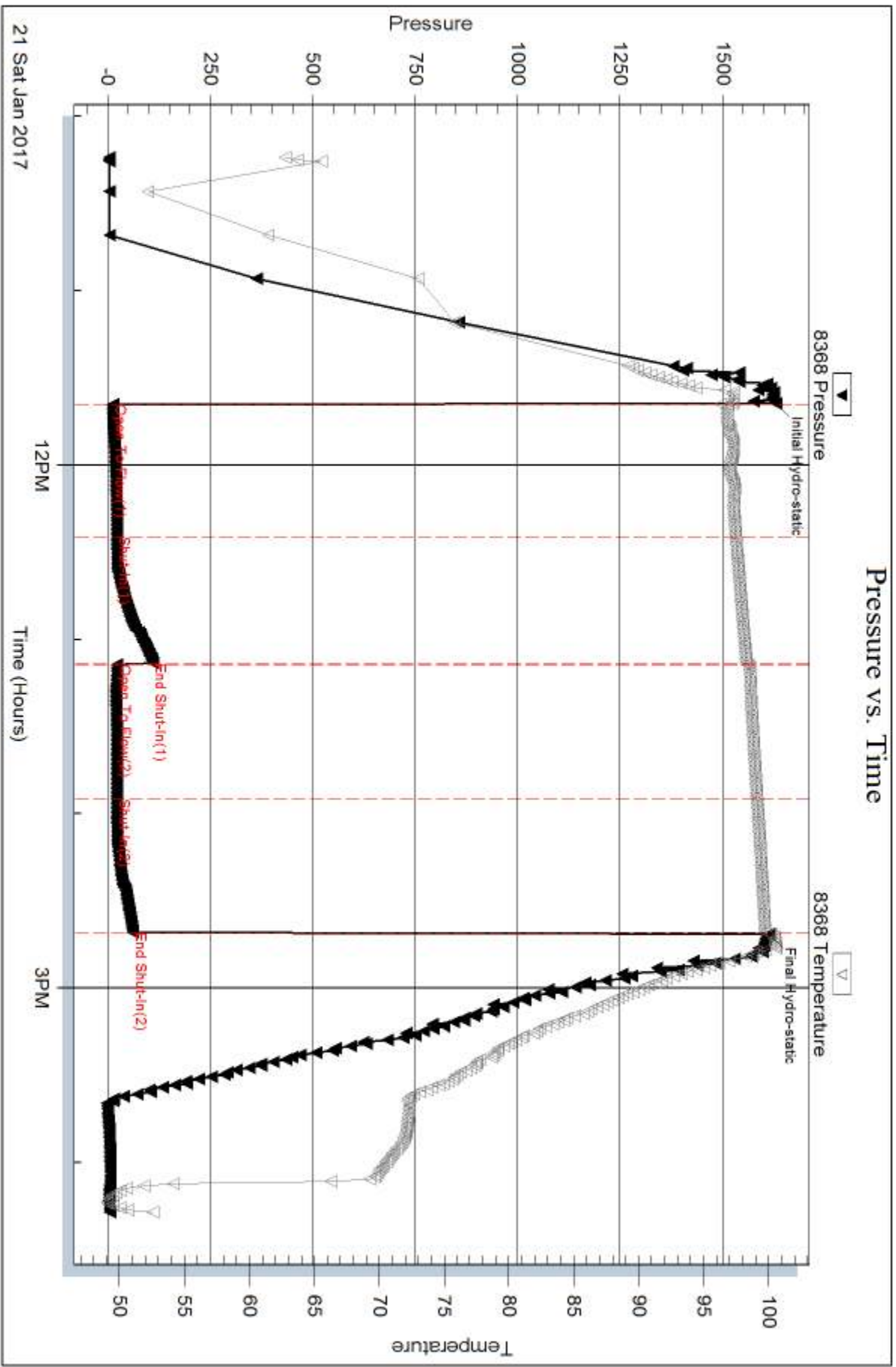
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 750.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OCM 25% O 75% M	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

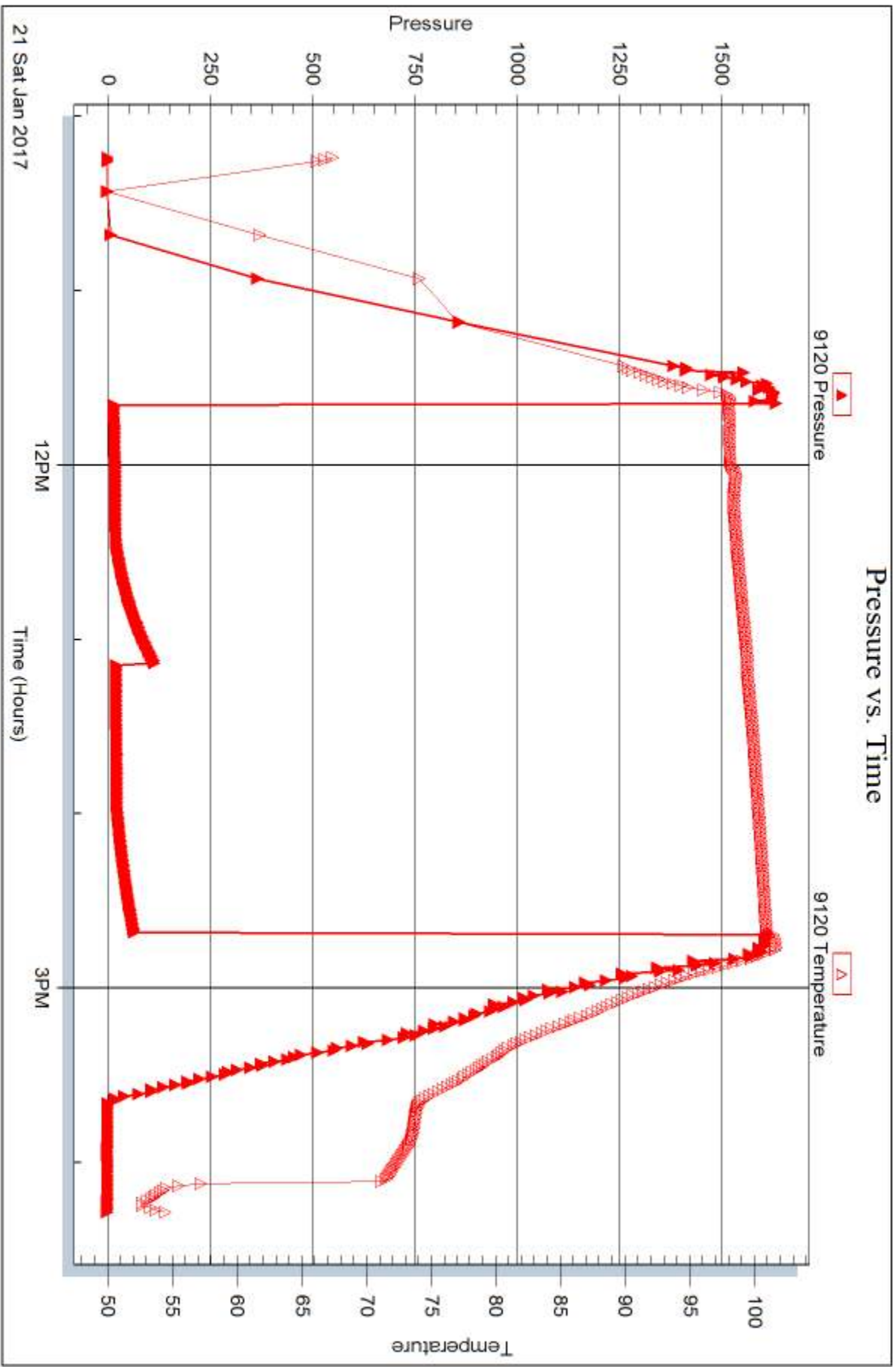


Serial #: 9120

Outside Jasper Co.

Boss #1

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 64664

Printed: 2017.01.26 @ 10:52:46



DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.22 @ 05:46:00

End Date: 2017.01.22 @ 10:33:00

Job Ticket #: 64665 DST #: 5

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:52:18

Jaspar Co. S11-7S-20W Rooks,KS Boss #1 DST # 5 LKC 'E-G' 2017.01.22



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64665 **DST#: 5**
Test Start: 2017.01.22 @ 05:46:00

GENERAL INFORMATION:

Formation: **LKC 'E-G'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:27:00
Time Test Ended: 10:33:00
Interval: **3455.00 ft (KB) To 3494.00 ft (KB) (TVD)**
Total Depth: 3494.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition:
Test Type: Conventional Bottom Hole (Reset)
Tester: Spencer J. Staab
Unit No: 84
Reference Elevations: 2172.00 ft (KB)
2164.00 ft (CF)
KB to GR/CF: 8.00 ft

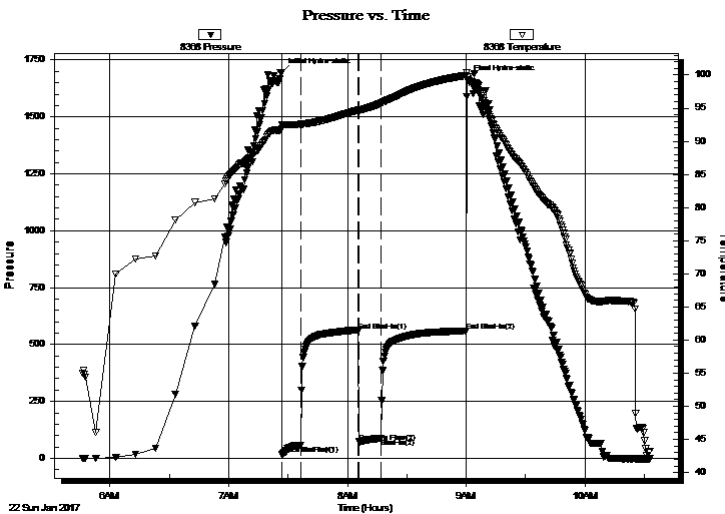
Serial #: 8368

Inside

Press@RunDepth: 89.01 psig @ 3456.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.01.22 End Date: 2017.01.22 Last Calib.: 2017.01.22
Start Time: 05:46:15 End Time: 10:33:00 Time On Btm: 2017.01.22 @ 07:26:45
Time Off Btm: 2017.01.22 @ 09:00:45

TEST COMMENT: 10-IF-Strong Blow ; Built to 7"
30-ISI-No Blow Back
10-FF-Strong Blow ; Built to 6 1/2"
45-FSI-No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1695.63	92.46	Initial Hydro-static
1	17.58	91.92	Open To Flow (1)
10	56.36	92.48	Shut-In(1)
39	560.79	94.73	End Shut-In(1)
39	72.53	94.63	Open To Flow (2)
51	89.01	95.73	Shut-In(2)
94	560.02	99.94	End Shut-In(2)
94	1665.12	99.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	WCM w /scum oil <1% O 10% W 90%M	0.05
117.00	OGMCW 1% O 5% Gas 44% M 50% W	0.63
63.00	OWCM 5% O 15% W 80% M	0.88

* Recovery from multiple tests

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 Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64665 **DST#: 5**
Test Start: 2017.01.22 @ 05:46:00

Tool Information

Drill Pipe:	Length: 3325.00 ft	Diameter: 3.80 inches	Volume: 46.64 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	58000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3455.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	39.00 ft				
Tool Length:	59.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3436.00	
Shut In Tool	5.00			3441.00	
Hydraulic tool	5.00			3446.00	
Packer	5.00			3451.00	20.00 Bottom Of Top Packer
Packer	4.00			3455.00	
Stubb	1.00			3456.00	
Recorder	0.00	8368	Inside	3456.00	
Recorder	0.00	9120	Inside	3456.00	
Perforations	1.00			3457.00	
Change Over Sub	1.00			3458.00	
Drill Pipe	31.00			3489.00	
Change Over Sub	1.00			3490.00	
Bullnose	4.00			3494.00	39.00 Bottom Packers & Anchor

Total Tool Length: 59.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64665 **DST#: 5**
Test Start: 2017.01.22 @ 05:46:00

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:	66000 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 750.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	WCM w/scum oil <1% O 10% W 90%M	0.049
117.00	OGMCW 1% O 5% Gas 44% M 50% W	0.630
63.00	OWCM 5% O 15% W 80% M	0.884

Total Length: 190.00 ft Total Volume: 1.563 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

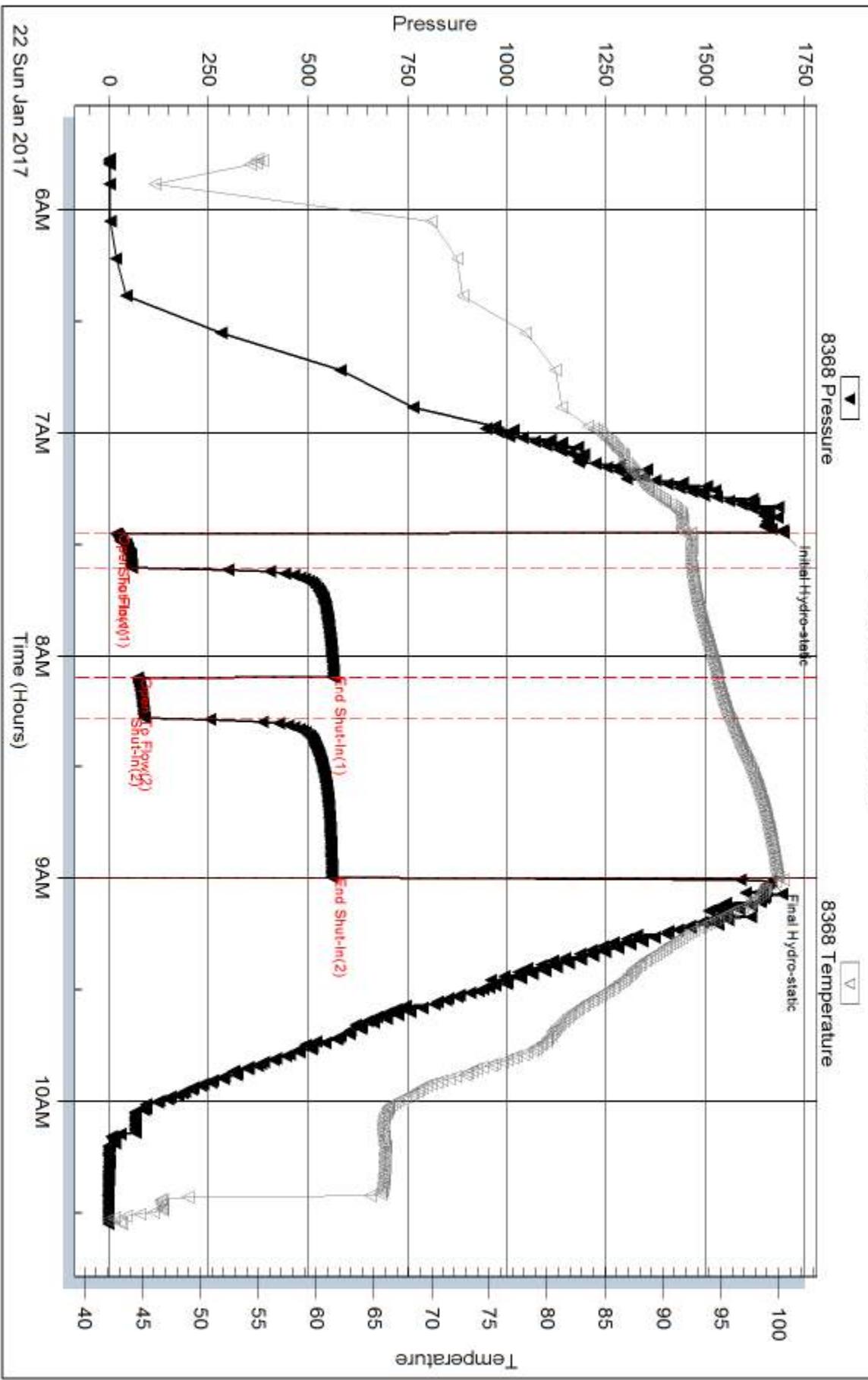
Serial #: 8368

Inside Jasper Co.

Boss #1

DST Test Number: 5

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 64665

Printed: 2017.01.26 @ 10:52:19

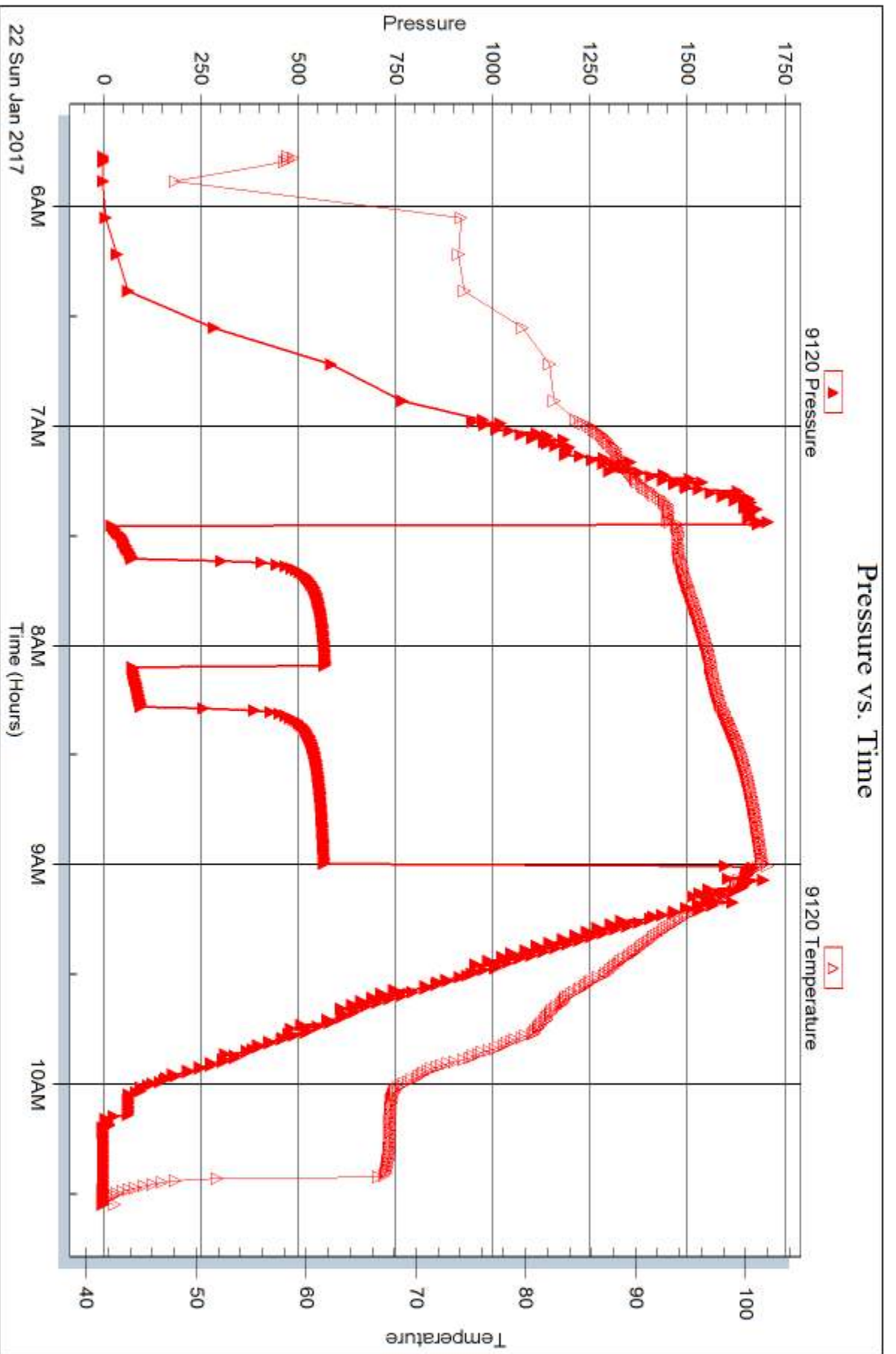
Serial #: 9120

Inside

Jaspar Co.

Boss #1

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 64665

Printed: 2017.01.26 @ 10:52:19



DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.22 @ 23:39:00

End Date: 2017.01.23 @ 03:16:15

Job Ticket #: 64666 DST #: 6

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:51:46

Jaspar Co. S11-7S-20W Rooks,KS Boss #1 DST # 6 LKC '1-' 2017.01.22



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64666 **DST#: 6**
Test Start: 2017.01.22 @ 23:39:00

Tool Information

Drill Pipe:	Length: 3388.00 ft	Diameter: 3.80 inches	Volume: 47.52 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 58000.00 lb
		Total Volume: - bbl		Tool Chased ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3522.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3503.00	
Shut In Tool	5.00			3508.00	
Hydraulic tool	5.00			3513.00	
Packer	5.00			3518.00	20.00 Bottom Of Top Packer
Packer	4.00			3522.00	
Stubb	1.00			3523.00	
Recorder	0.00	8368	Inside	3523.00	
Recorder	0.00	9120	Outside	3523.00	
Perforations	19.00			3542.00	
Change Over Sub	1.00			3543.00	
Drill Pipe	32.00			3575.00	
Change Over Sub	1.00			3576.00	
Bullnose	4.00			3580.00	58.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64666 **DST#: 6**
Test Start: 2017.01.22 @ 23:39:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 35 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.19 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 500.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
600.00	Mud	7.314

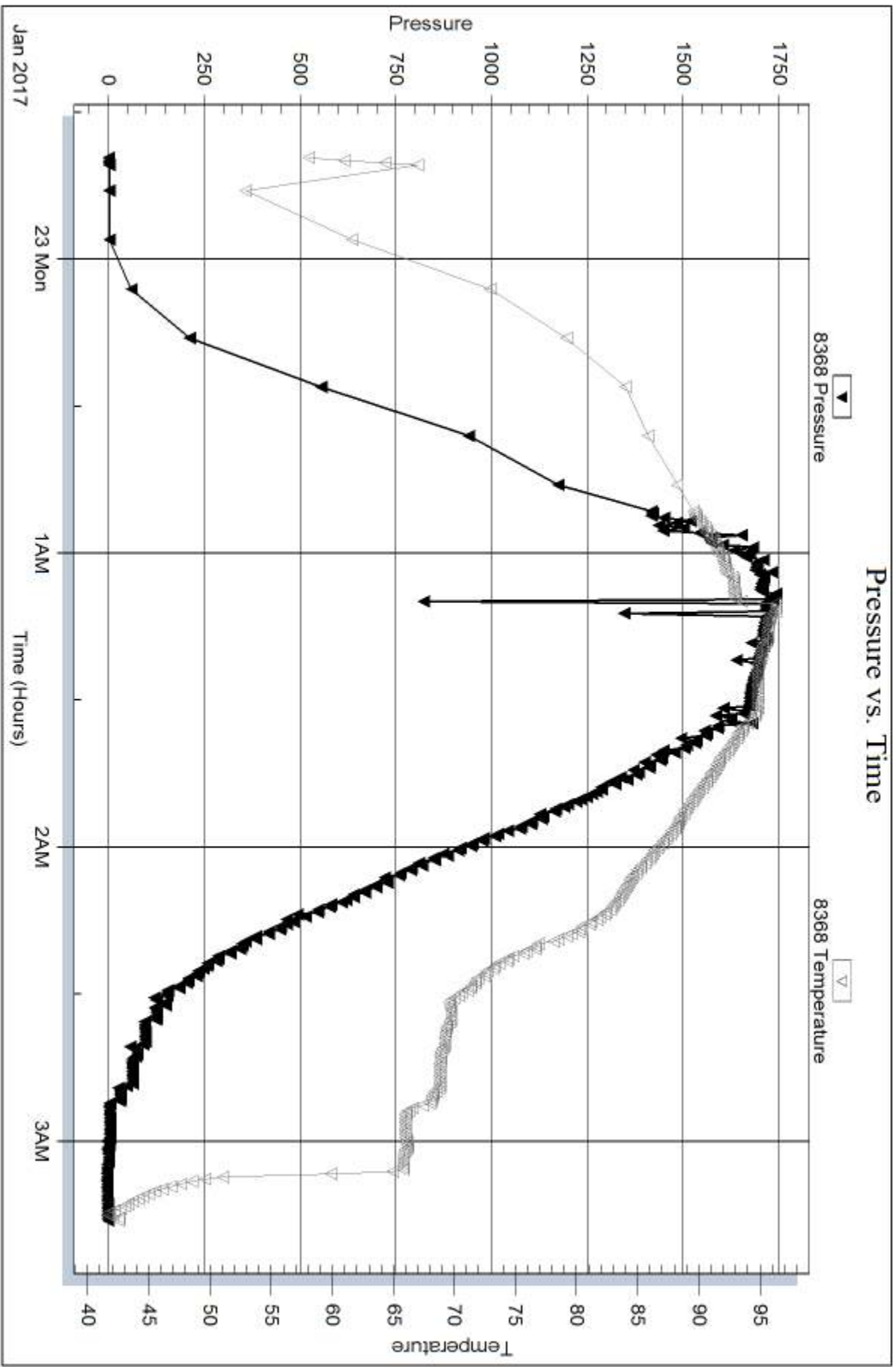
Total Length: 600.00 ft Total Volume: 7.314 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8368

Inside Jasper Co.

Boss #1

DST Test Number: 6

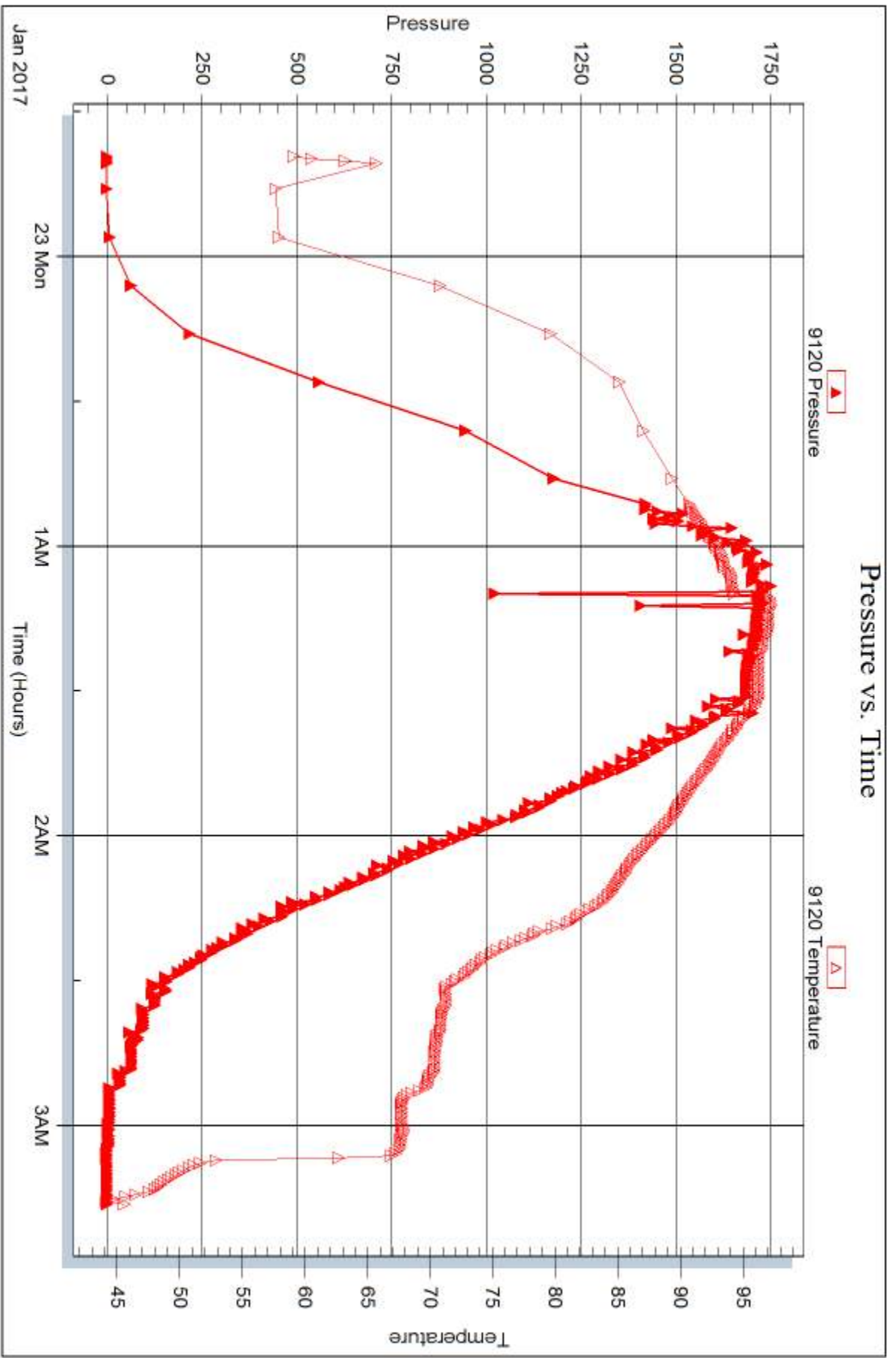


Serial #: 9120

Outside Jasper Co.

Boss #1

DST Test Number: 6





DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.23 @ 03:58:00

End Date: 2017.01.23 @ 11:41:15

Job Ticket #: 64667 DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:50:56

Jaspar Co. S11-7S-20W Rooks,KS Boss #1 DST # 7 LKC 'H.K' 2017.01.23



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64667 **DST#: 7**
Test Start: 2017.01.23 @ 03:58:00

GENERAL INFORMATION:

Formation: **LKC 'H-K'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:01:30
Time Test Ended: 11:41:15
Interval: **3500.00 ft (KB) To 3580.00 ft (KB) (TVD)**
Total Depth: 3330.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Spencer J. Staab
Unit No: 84
Reference Elevations: 2172.00 ft (KB)
2164.00 ft (CF)
KB to GR/CF: 8.00 ft

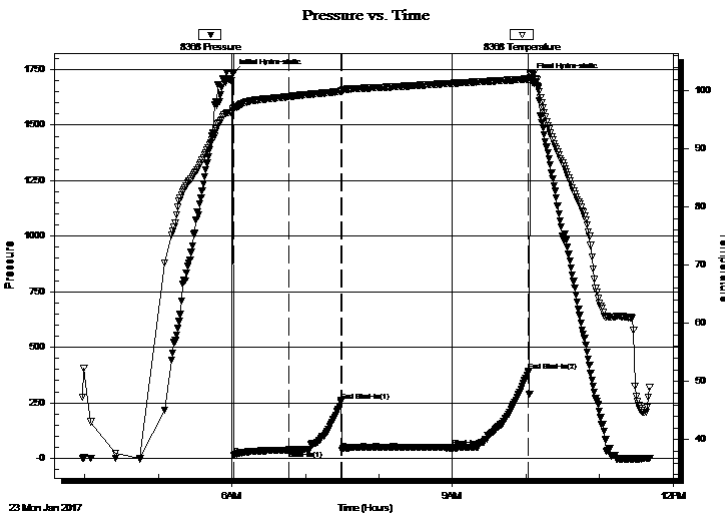
Serial #: 8368

Inside

Press@RunDepth: 48.26 psig @ 3501.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.01.23 End Date: 2017.01.23 Last Calib.: 2017.01.23
Start Time: 03:58:15 End Time: 11:41:15 Time On Btm: 2017.01.23 @ 06:01:00
Time Off Btm: 2017.01.23 @ 10:03:15

TEST COMMENT: 45-IF-Weak Blow ; Built to 2 1/2"
45-ISI-No Blow Back
90-FF-Very Weak Blow ; Built to 1 1/2"
60-FSI-No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1731.85	96.90	Initial Hydro-static
1	15.07	96.99	Open To Flow (1)
46	37.78	98.99	Shut-In(1)
89	259.26	99.94	End Shut-In(1)
89	37.76	99.91	Open To Flow (2)
179	48.26	101.28	Shut-In(2)
241	392.19	102.02	End Shut-In(2)
243	1712.91	102.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Clean Oil 100% O	0.02
65.00	OCM 20% O 80% M	0.32

* Recovery from multiple tests

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 Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64667 **DST#: 7**
Test Start: 2017.01.23 @ 03:58:00

Tool Information

Drill Pipe:	Length: 3388.00 ft	Diameter: 3.80 inches	Volume: 47.52 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	58000.00 lb
			<u>Total Volume:</u>	Tool Chased	ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial	57000.00 lb
Depth to Top Packer:	3500.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	80.00 ft				
Tool Length:	100.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3481.00	
Shut In Tool	5.00			3486.00	
Hydraulic tool	5.00			3491.00	
Packer	5.00			3496.00	20.00 Bottom Of Top Packer
Packer	4.00			3500.00	
Stubb	1.00			3501.00	
Recorder	0.00	8368	Inside	3501.00	
Recorder	0.00	9120	Outside	3501.00	
Perforations	9.00			3510.00	
Change Over Sub	1.00			3511.00	
Drill Pipe	64.00			3575.00	
Change Over Sub	1.00			3576.00	
Bullnose	4.00			3580.00	80.00 Bottom Packers & Anchor

Total Tool Length: 100.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64667 **DST#: 7**
Test Start: 2017.01.23 @ 03:58:00

Mud and Cushion Information

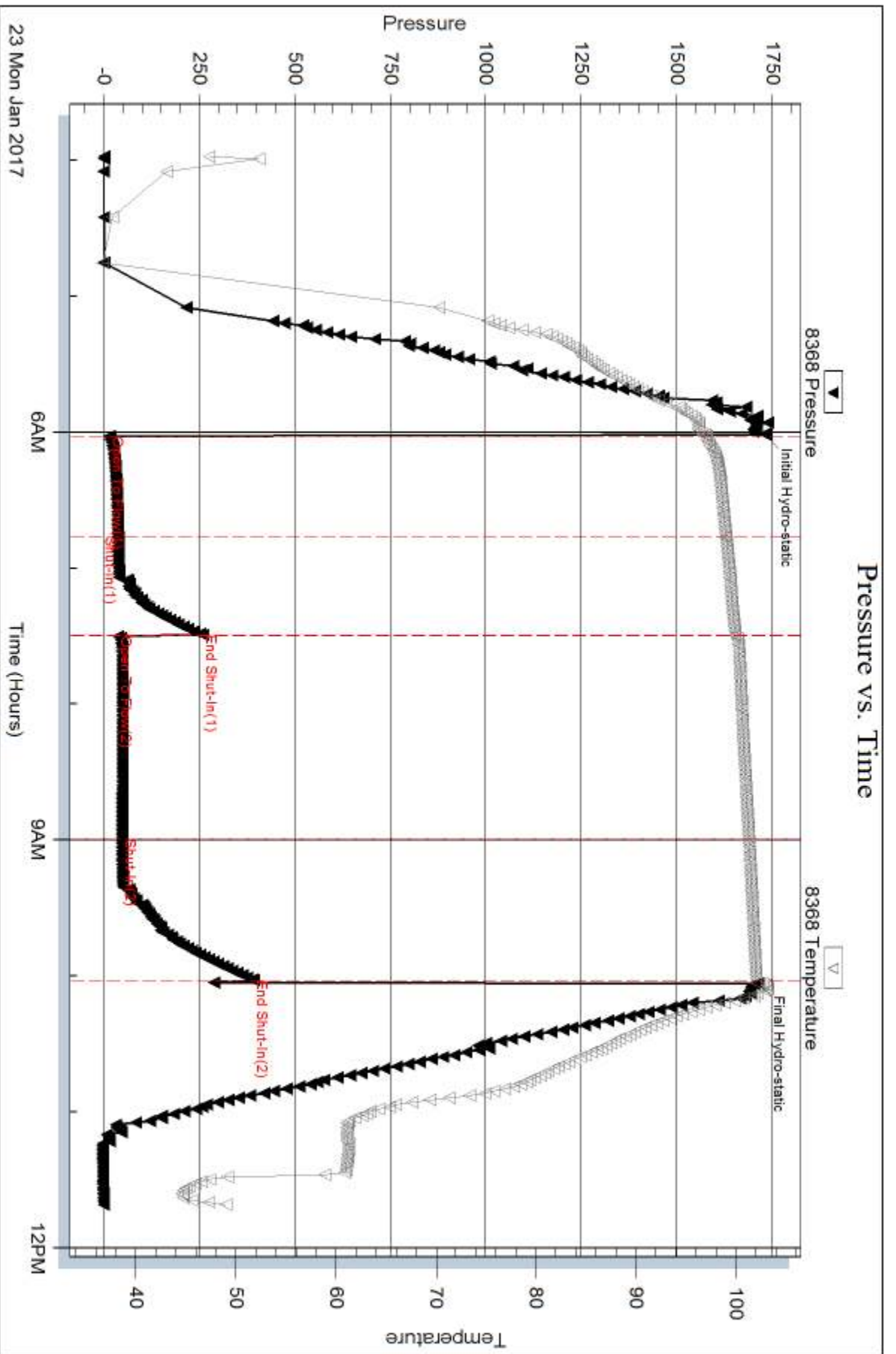
Mud Type: Gel Chem	Cushion Type:	Oil API: 35 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.19 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 500.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Clean Oil 100% O	0.025
65.00	OCM 20% O 80% M	0.320

Total Length: 70.00 ft Total Volume: 0.345 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

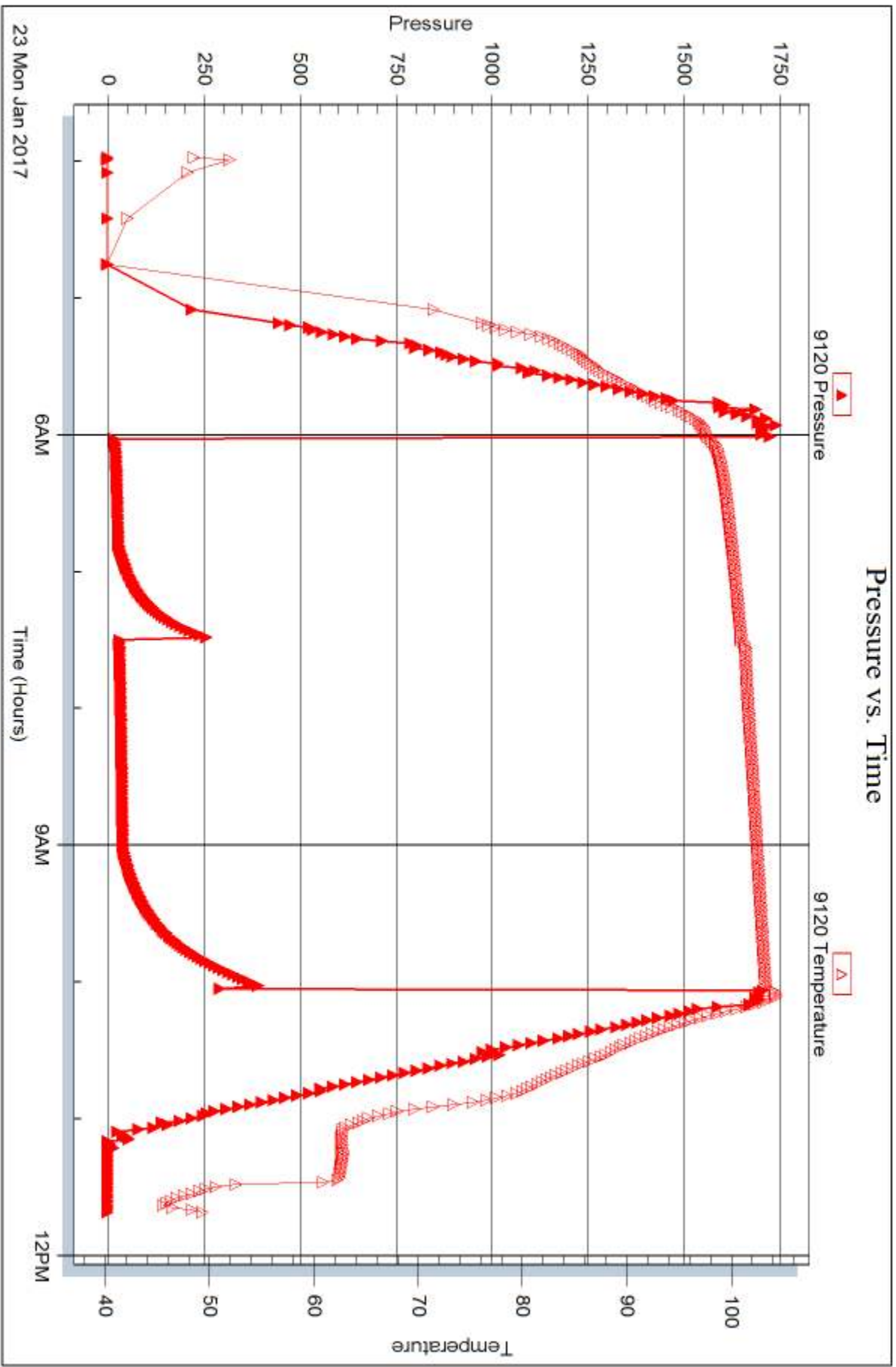


Serial #: 9120

Outside Jasper Co.

Boss #1

DST Test Number: 7



Triobite Testing, Inc

Ref. No: 64667

Printed: 2017.01.26 @ 10:50:57



DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.23 @ 19:25:00

End Date: 2017.01.24 @ 01:51:30

Job Ticket #: 64668 DST #: 8

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:50:29

Jaspar Co.
S11-7S-20W Rooks,KS
Boss #1
DST # 8
LKC.L
2017.01.23



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

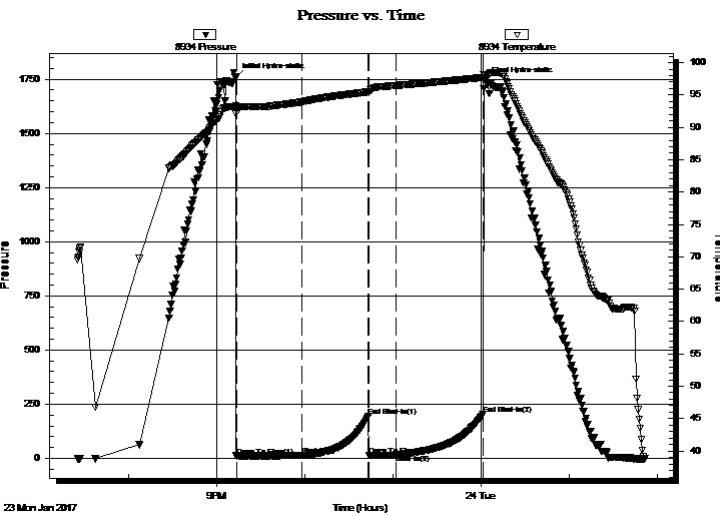
S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64668 **DST#: 8**
Test Start: 2017.01.23 @ 19:25:00

GENERAL INFORMATION:

Formation: **LKC 'L'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:13:15
Time Test Ended: 01:51:30
Interval: **3576.00 ft (KB) To 3595.00 ft (KB) (TVD)**
Total Depth: 3595.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Spencer J. Staab
Unit No: 84
Reference Elevations: 2172.00 ft (KB)
2164.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8934 Outside
Press@RunDepth: 16.29 psig @ 3577.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.01.23 End Date: 2017.01.24 Last Calib.: 2017.01.24
Start Time: 19:25:05 End Time: 01:51:29 Time On Btm: 2017.01.23 @ 21:12:45
Time Off Btm: 2017.01.24 @ 00:02:30

TEST COMMENT: 45-IF-Very Weak Blow ; Built to 3/4"
45-ISI-No Blow
15-FF-No Blow
60-FSI-No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1755.17	93.29	Initial Hydro-static
1	10.35	92.84	Open To Flow (1)
46	12.44	93.94	Shut-In(1)
91	192.77	95.49	End Shut-In(1)
91	13.87	95.41	Open To Flow (2)
110	16.29	96.47	Shut-In(2)
169	204.86	97.71	End Shut-In(2)
170	1740.86	98.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM 3% O 97% M	0.05

* Recovery from multiple tests

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

S11-7S-20W Rooks, KS

Boss #1

Job Ticket: 64668

DST#: 8

ATTN: Jeff Lawler / Shane

Test Start: 2017.01.23 @ 19:25:00

Tool Information

Drill Pipe:	Length: 3451.00 ft	Diameter: 3.80 inches	Volume: 48.41 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume:</u>	Tool Chased	ft
				String Weight: Initial	55000.00 lb
Drill Pipe Above KB:	16.00 ft			Final	55000.00 lb
Depth to Top Packer:	3576.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	19.00 ft				
Tool Length:	39.00 ft				
Number of Packers:	1	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3557.00	
Shut In Tool	5.00			3562.00	
Hydraulic tool	5.00			3567.00	
Packer	5.00			3572.00	20.00 Bottom Of Top Packer
Packer	4.00			3576.00	
Stubb	1.00			3577.00	
Recorder	0.00	8368	Inside	3577.00	
Recorder	0.00	8934	Outside	3577.00	
Perforations	14.00			3591.00	
Bullnose	4.00			3595.00	19.00 Bottom Packers & Anchor
Total Tool Length:	39.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64668 **DST#: 8**
Test Start: 2017.01.23 @ 19:25:00

Mud and Cushion Information

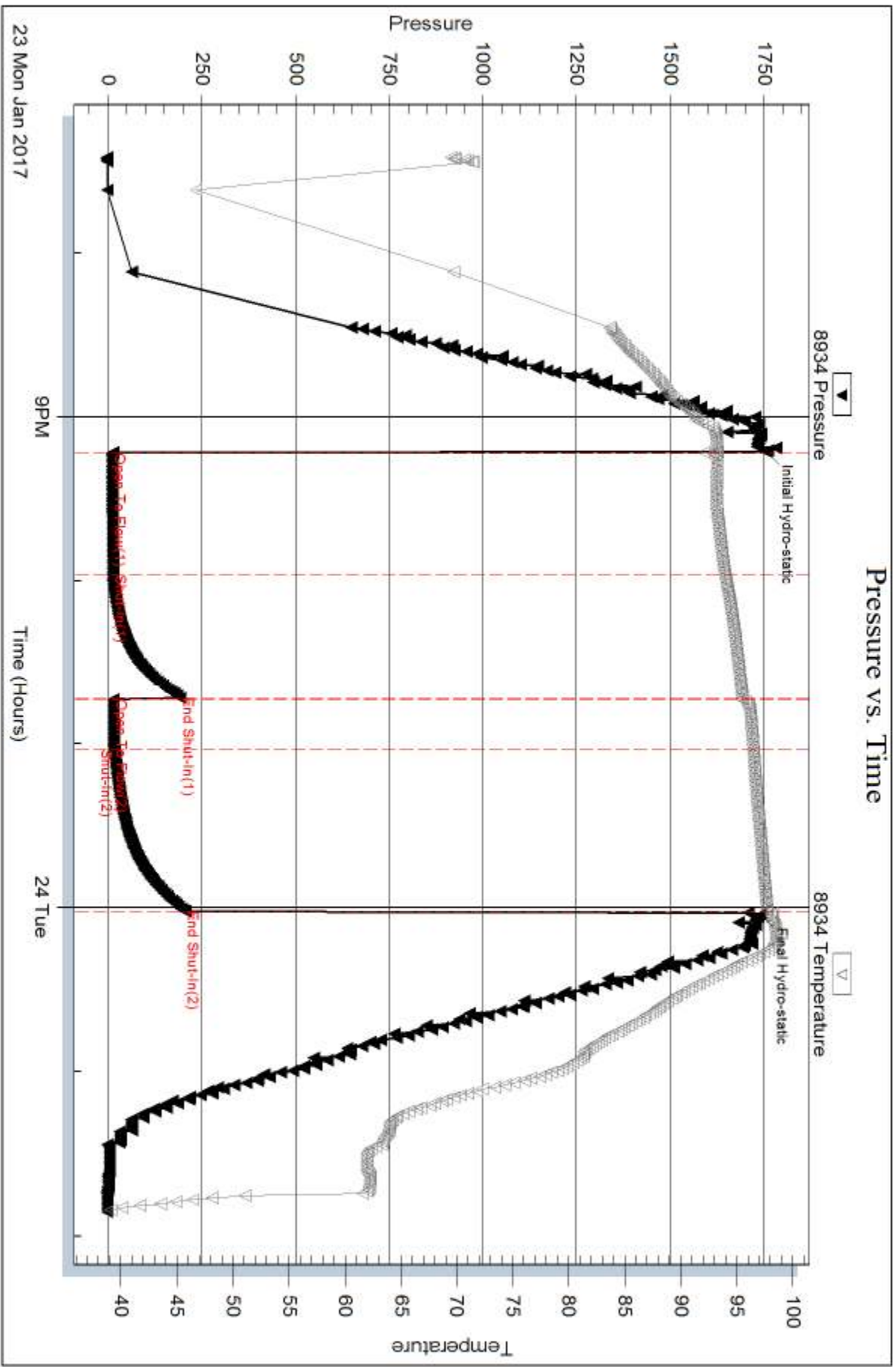
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM 3% O 97% M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:



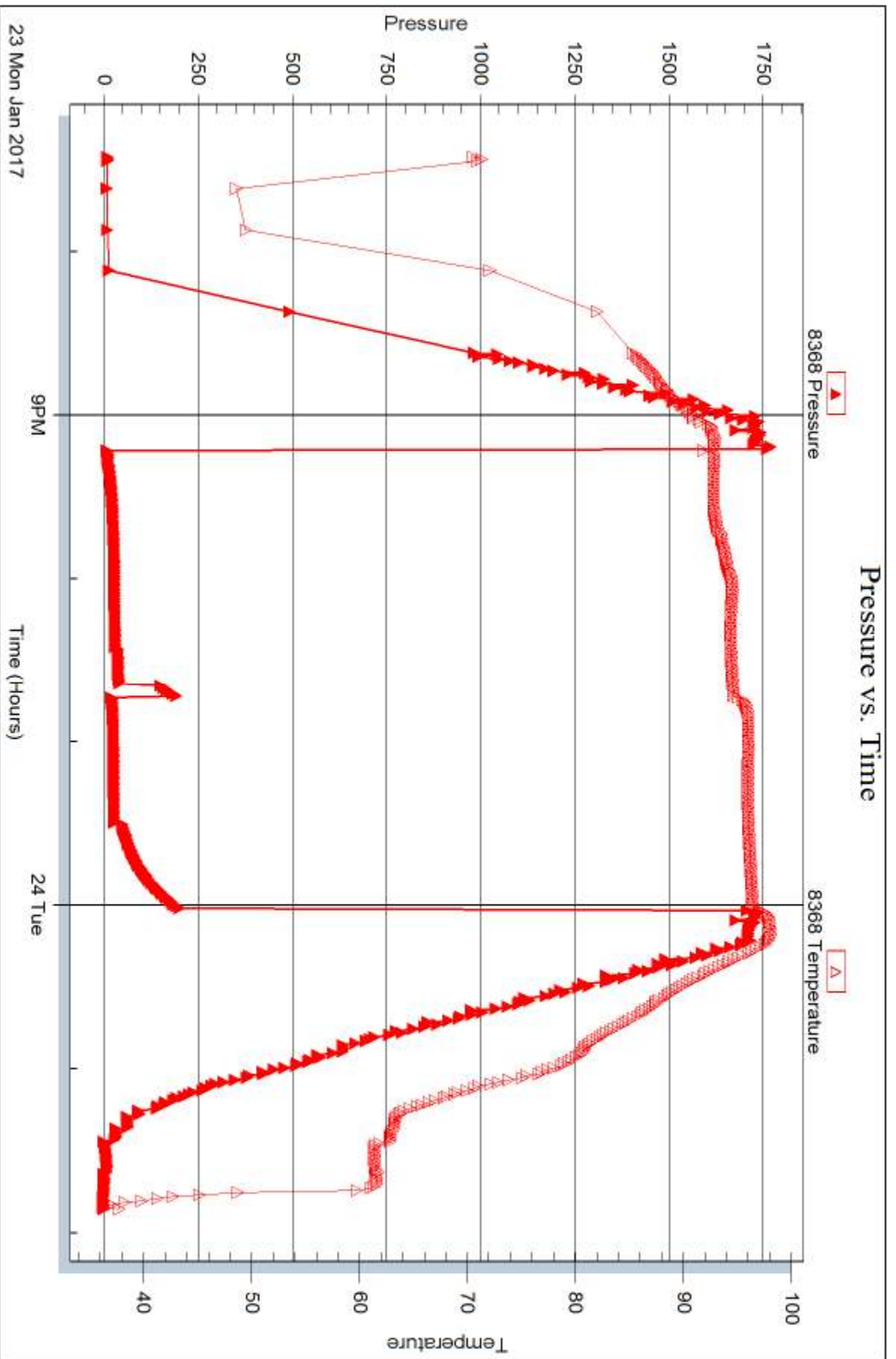
Serial #: 8368

Inside

Jaspar Co.

Boss #1

DST Test Number: 8





DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.24 @ 14:44:00

End Date: 2017.01.24 @ 16:49:15

Job Ticket #: 64669 DST #: 9

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:50:01

Jaspar Co. S11-7S-20W Rooks,KS Boss #1 DST # 9 Arbuckle 2017.01.24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

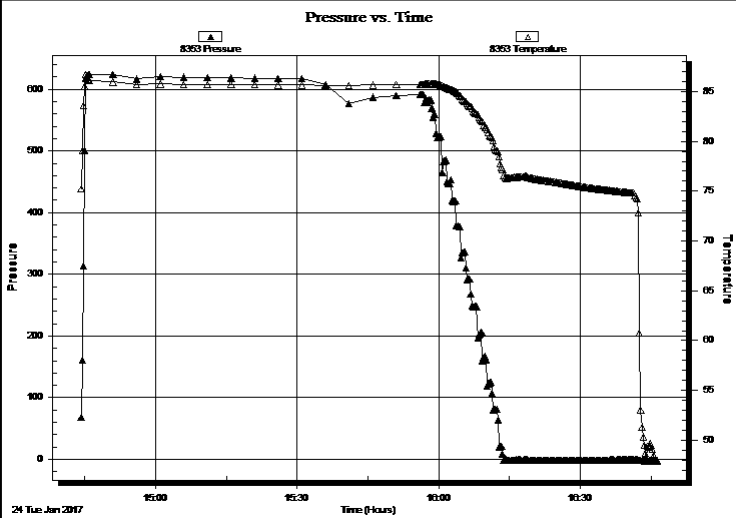
S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64669 **DST#: 9**
Test Start: 2017.01.24 @ 14:44:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 16:49:15
Interval: **3620.00 ft (KB) To 3669.00 ft (KB) (TVD)**
Total Depth: 3669.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition:
Test Type: Conventional Bottom Hole (Reset)
Tester: Spencer J. Staab
Unit No: 84
Reference Elevations: 2172.00 ft (KB)
2164.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8353 Inside
Press@RunDepth: psig @ 3631.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.01.24 End Date: 2017.01.24 Last Calib.: 2017.01.24
Start Time: 14:44:15 End Time: 16:46:15 Time On Btm:
Time Off Btm:

TEST COMMENT: Did not make it to bottom. hit bridge



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

Recovery		
Length (ft)	Description	Volume (bbl)
200.00	Mud 100% M	1.71

* Recovery from multiple tests

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 Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64669 **DST#: 9**
Test Start: 2017.01.24 @ 14:44:00

Tool Information

Drill Pipe:	Length: 3510.00 ft	Diameter: 3.80 inches	Volume: 49.24 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: - bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	lb
Depth to Top Packer:	3620.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	49.00 ft				
Tool Length:	69.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			

Tool Comments:

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

Change Over Sub	1.00			3601.00	
Shut In Tool	5.00			3606.00	
Hydraulic tool	5.00			3611.00	
Packer	5.00			3616.00	20.00 Bottom Of Top Packer
Packer	4.00			3620.00	
Stubb	1.00			3621.00	
Perforations	10.00			3631.00	
Recorder	0.00	8353	Inside	3631.00	
Recorder	0.00	8934	Inside	3631.00	
Change Over Sub	1.00			3632.00	
Drill Pipe	32.00			3664.00	
Change Over Sub	1.00			3665.00	
Bullnose	4.00			3669.00	49.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.

S11-7S-20W Rooks, KS

PO Box 1120
Hays KS 67601

Boss #1

Job Ticket: 64669

DST#: 9

ATTN: Jeff Lawler / Shane

Test Start: 2017.01.24 @ 14:44:00

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:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
200.00	Mud 100% M	1.712

Total Length: 200.00 ft Total Volume: 1.712 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

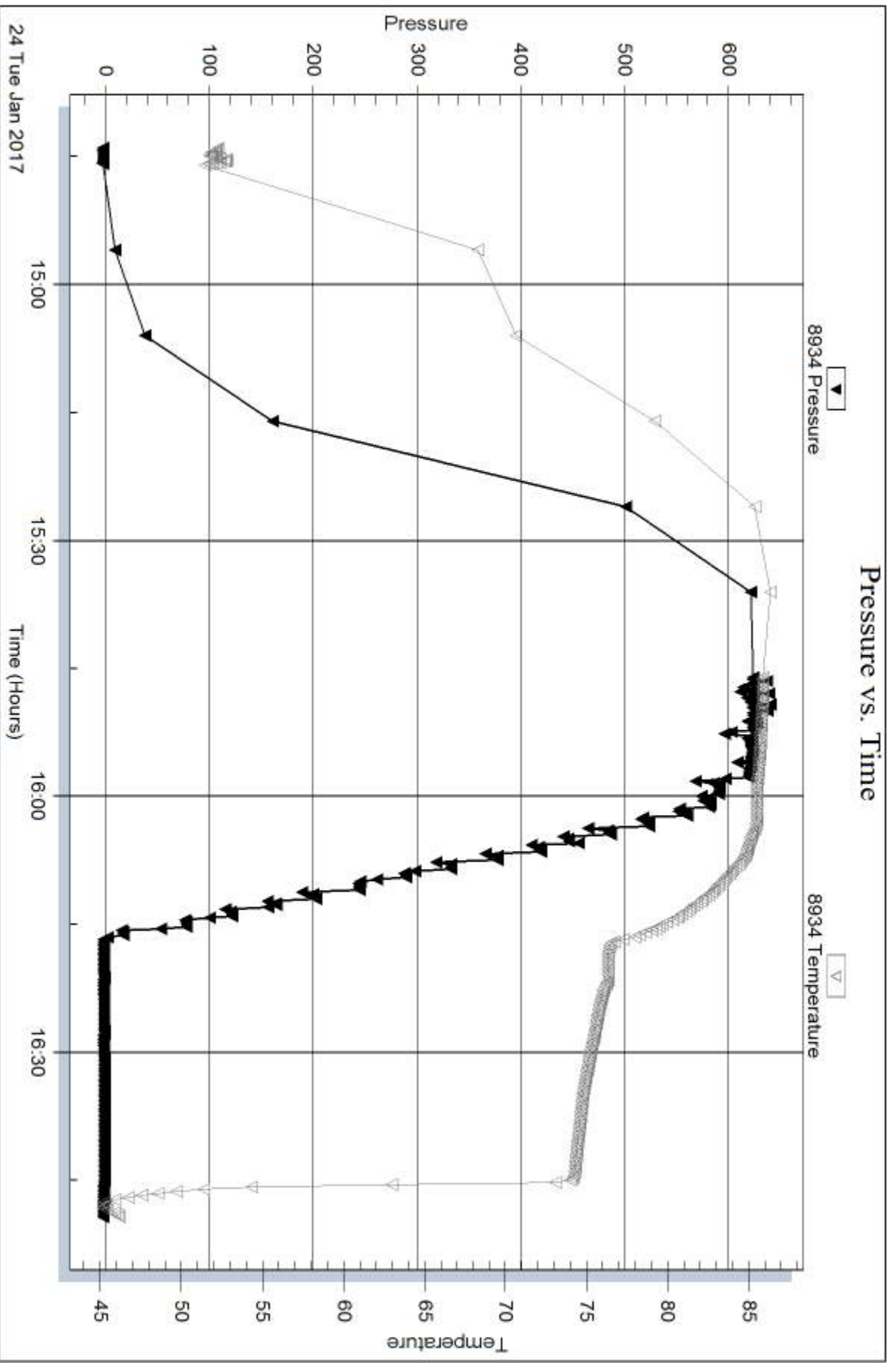
Recovery Comments:

Serial #: 8934

Inside Jasper Co.

Boss #1

DST Test Number: 9

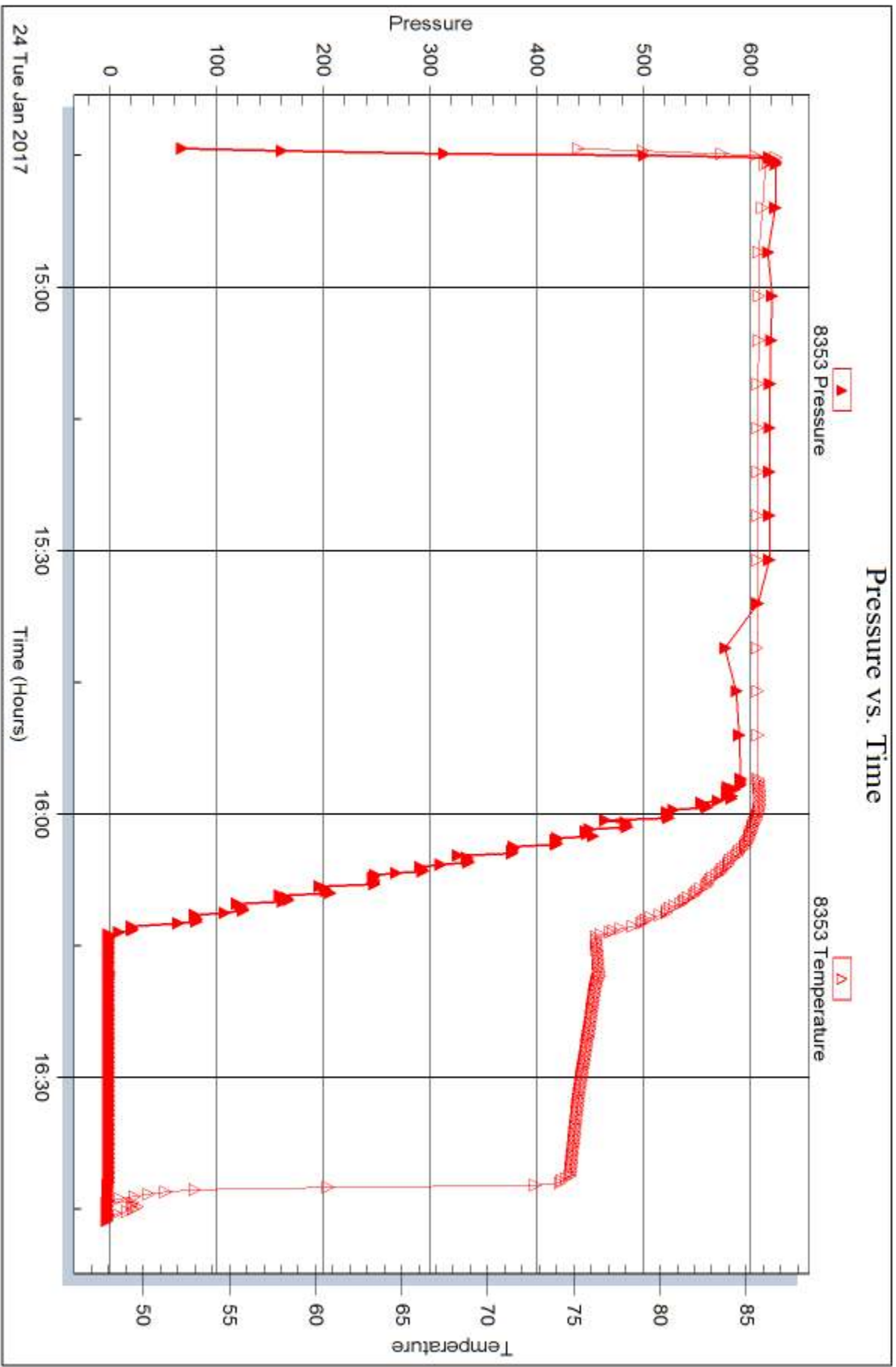


Serial #: 8353

Inside Jasper Co.

Boss #1

DST Test Number: 9



Triobite Testing, Inc

Ref. No: 64669

Printed: 2017.01.26 @ 10:50:02



DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.24 @ 19:49:00

End Date: 2017.01.25 @ 02:27:45

Job Ticket #: 64670 DST #: 10

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:48:51

Jaspar Co. S11-7S-20W Rooks,KS Boss #1 DST # 10 Arbuckle 2017.01.24



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Jaspar Co.
 PO Box 1120
 Hays KS 67601
 ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
 Job Ticket: 64670 **DST#: 10**
 Test Start: 2017.01.24 @ 19:49:00

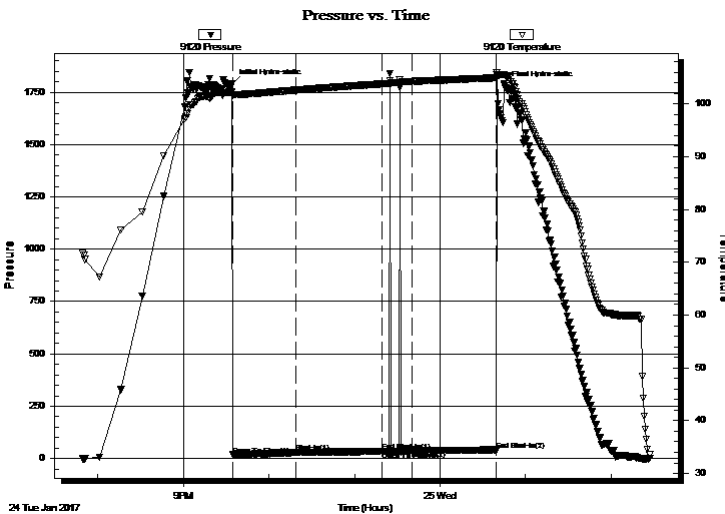
GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:34:30
 Time Test Ended: 02:27:45
 Interval: **3620.00 ft (KB) To 3669.00 ft (KB) (TVD)**
 Total Depth: 3669.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Spencer J. Staab
 Unit No: 84
 Reference Elevations: 2172.00 ft (KB)
 2164.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 9120 Inside
 Press@RunDepth: 37.97 psig @ 3621.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.01.24 End Date: 2017.01.25 Last Calib.: 2017.01.25
 Start Time: 19:49:15 End Time: 02:27:45 Time On Btm: 2017.01.24 @ 21:34:15
 Time Off Btm: 2017.01.25 @ 00:45:30

TEST COMMENT: 45-IF-Very Weak Surface Blow ; Died after 31 minutes
 60-ISI-No Blow Back
 20-FF-No Blow ; Flushed tw ice; still no Blow
 60-FSI-No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1790.95	102.25	Initial Hydro-static
1	17.08	101.59	Open To Flow (1)
45	29.04	102.63	Shut-In(1)
105	32.97	103.78	End Shut-In(1)
105	32.94	103.78	Open To Flow (2)
127	37.97	104.28	Shut-In(2)
186	41.53	104.96	End Shut-In(2)
192	1780.90	105.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 1% O 99% M	0.10

* Recovery from multiple tests

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 Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64670 **DST#: 10**
Test Start: 2017.01.24 @ 19:49:00

Tool Information

Drill Pipe:	Length: 3516.00 ft	Diameter: 3.80 inches	Volume: 49.32 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	37.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3620.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	69.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3601.00	
Shut In Tool	5.00			3606.00	
Hydraulic tool	5.00			3611.00	
Packer	5.00			3616.00	20.00 Bottom Of Top Packer
Packer	4.00			3620.00	
Stubb	1.00			3621.00	
Recorder	0.00	9120	Inside	3621.00	
Recorder	0.00	8934	Inside	3621.00	
Perforations	10.00			3631.00	
Change Over Sub	1.00			3632.00	
Drill Pipe	32.00			3664.00	
Change Over Sub	1.00			3665.00	
Bullnose	4.00			3669.00	49.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64670 **DST#: 10**
Test Start: 2017.01.24 @ 19:49:00

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: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	OCM 1% O 99% M	0.098

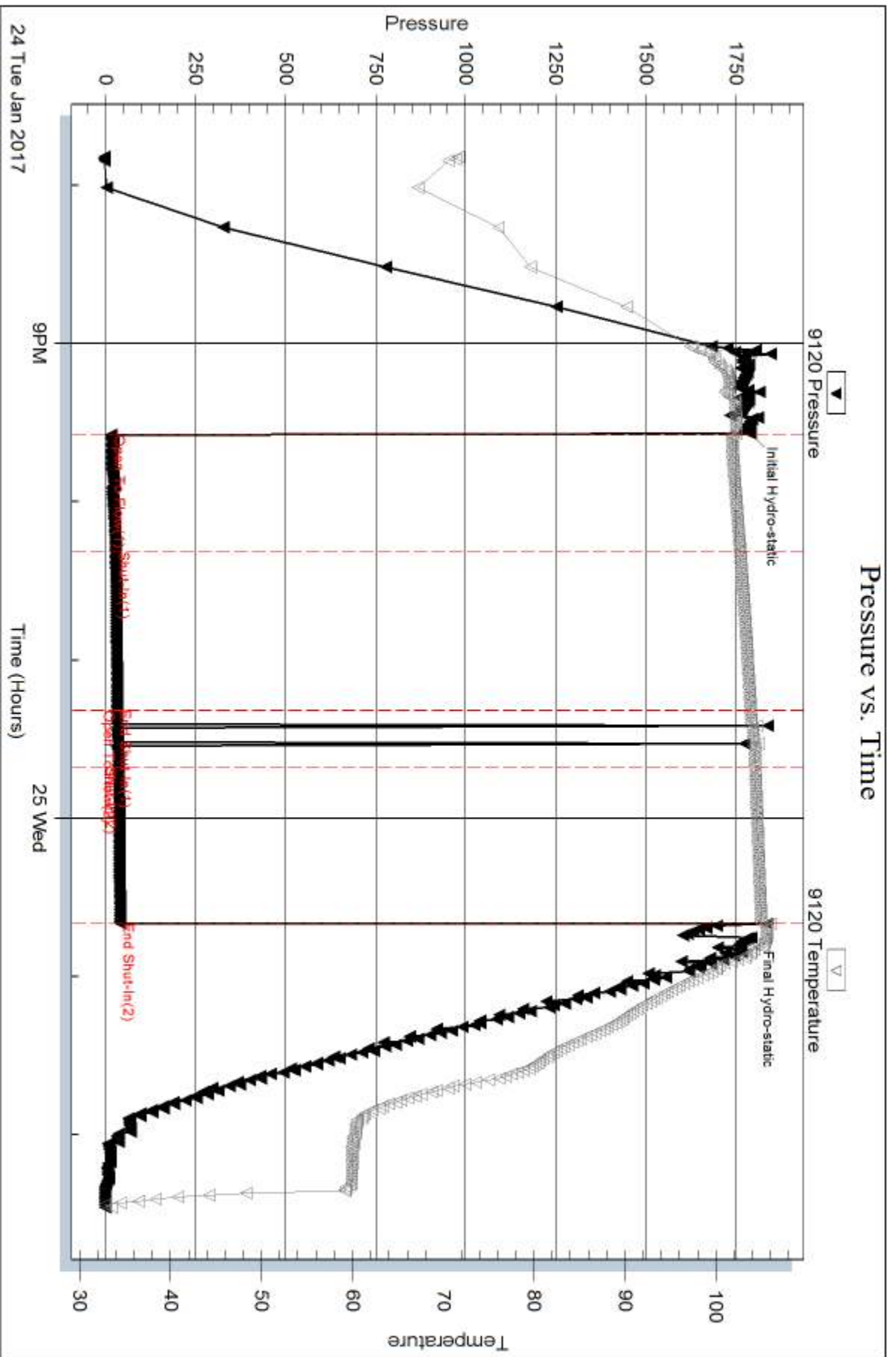
Total Length: 20.00 ft Total Volume: 0.098 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 9120

Inside Jasper Co.

Boss #1

DST Test Number: 10





DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120
Hays KS 67601

ATTN: Jeff Lawler / Shane

Boss #1

S11-7S-20W Rooks,KS

Start Date: 2017.01.25 @ 16:48:00

End Date: 2017.01.25 @ 22:30:15

Job Ticket #: 64671 DST #: 11

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.01.26 @ 10:45:53

Jaspar Co. S11-7S-20W Rooks,KS Boss #1 DST # 11 Arbuckle 2017.01.25



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

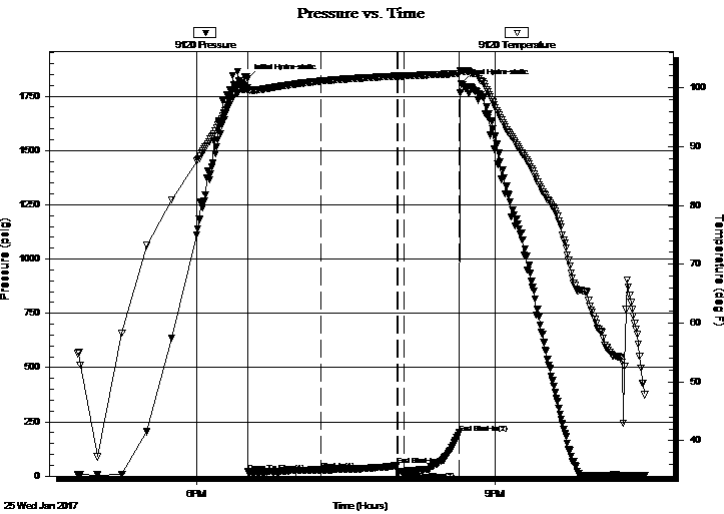
S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64671 **DST#: 11**
Test Start: 2017.01.25 @ 16:48:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:30:45
Time Test Ended: 22:30:15
Interval: **3644.00 ft (KB) To 3678.00 ft (KB) (TVD)**
Total Depth: 3720.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor
Test Type: Conventional Straddle (Reset)
Tester: Spencer J. Staab
Unit No: 84
Reference Elevations: 2172.00 ft (KB)
2164.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 9120 Inside
Press@RunDepth: 23.34 psig @ 3660.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.01.25 End Date: 2017.01.25 Last Calib.: 2017.01.25
Start Time: 16:48:15 End Time: 22:30:15 Time On Btm: 2017.01.25 @ 18:30:30
Time Off Btm: 2017.01.25 @ 20:39:30

TEST COMMENT: 45-IF-Weak Blow ; Built to 1 1/4"
45-ISI-No Blow Back
5-FF-No Blow
30-FSI-No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1832.04	100.01	Initial Hydro-static
1	19.11	99.46	Open To Flow (1)
45	28.83	101.13	Shut-In(1)
91	50.69	101.98	End Shut-In(1)
91	22.29	101.97	Open To Flow (2)
95	23.34	102.01	Shut-In(2)
128	199.86	102.43	End Shut-In(2)
129	1808.89	102.86	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 5% O 95% M	0.10

* Recovery from multiple tests

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 Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64671 **DST#: 11**
Test Start: 2017.01.25 @ 16:48:00

Tool Information

Drill Pipe:	Length: 3515.00 ft	Diameter: 3.80 inches	Volume: 49.31 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3644.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	3678.00 ft				
Interval between Packers:	34.00 ft				
Tool Length:	95.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3625.00	
Shut In Tool	5.00			3630.00	
Hydraulic tool	5.00			3635.00	
Packer	5.00			3640.00	20.00 Bottom Of Top Packer
Packer	4.00			3644.00	
Stubb	1.00			3645.00	
Perforations	15.00			3660.00	
Recorder	0.00	9120	Inside	3660.00	
Recorder	0.00	8934	Outside	3660.00	
Perforations	14.00			3674.00	
Blank Off Sub	1.00			3675.00	
top of s.packer	3.00			3678.00	34.00 Tool Interval
Packer	0.00			3678.00	
Stubb	1.00			3679.00	
Perforations	3.00			3682.00	
Change Over Sub	1.00			3683.00	
Recorder	0.00	8368	Outside	3683.00	
Drill Pipe	32.00			3715.00	
Change Over Sub	1.00			3716.00	
Bullnose	3.00			3719.00	41.00 Bottom Packers & Anchor

Total Tool Length: 95.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co.
PO Box 1120
Hays KS 67601
ATTN: Jeff Lawler / Shane

S11-7S-20W Rooks, KS
Boss #1
Job Ticket: 64671 **DST#: 11**
Test Start: 2017.01.25 @ 16:48:00

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: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	OCM 5% O 95% M	0.098

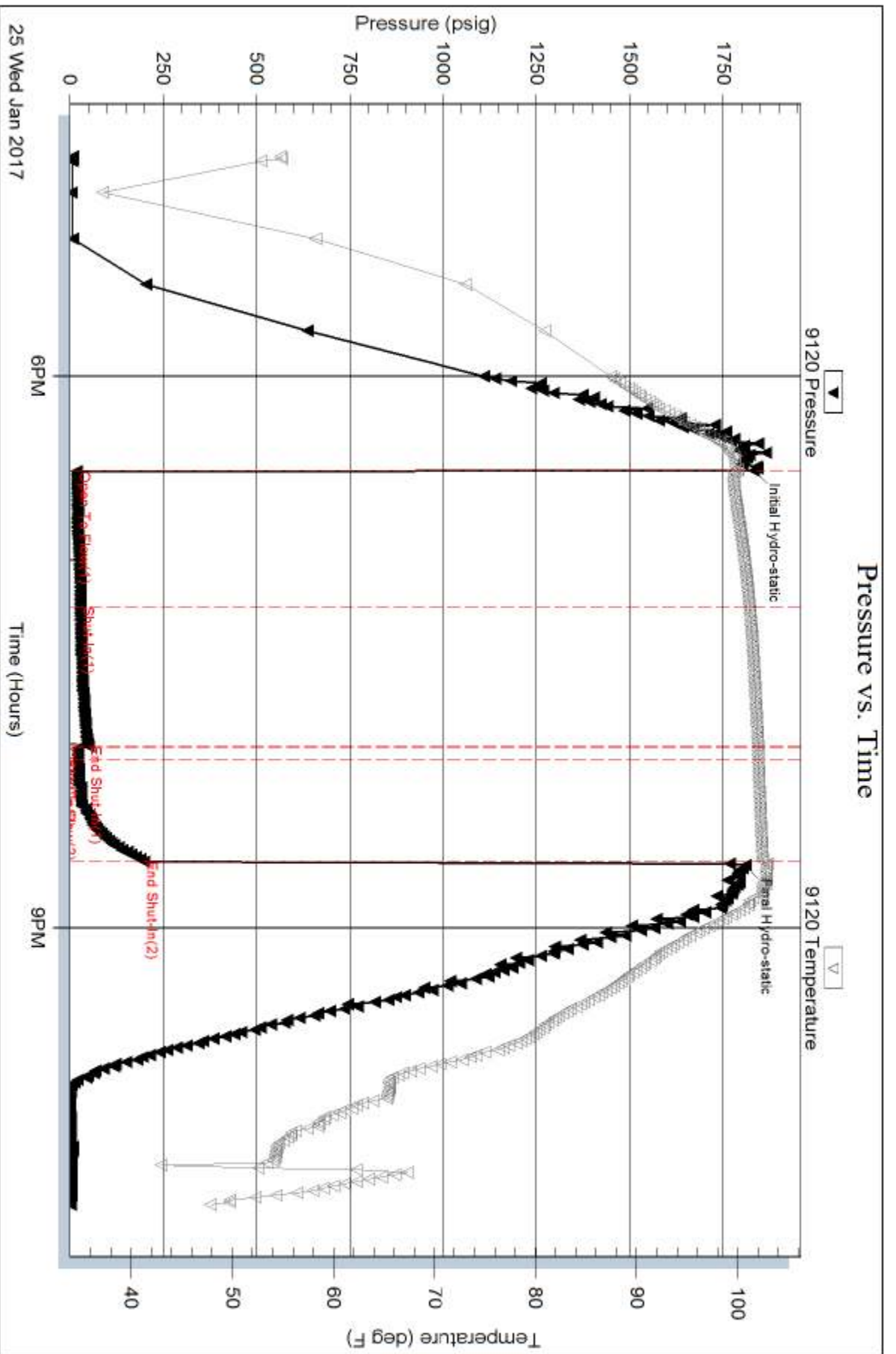
Total Length: 20.00 ft Total Volume: 0.098 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 9120

Inside Jasper Co.

Boss #1

DST Test Number: 11



Trilobite Testing, Inc

Ref. No: 64671

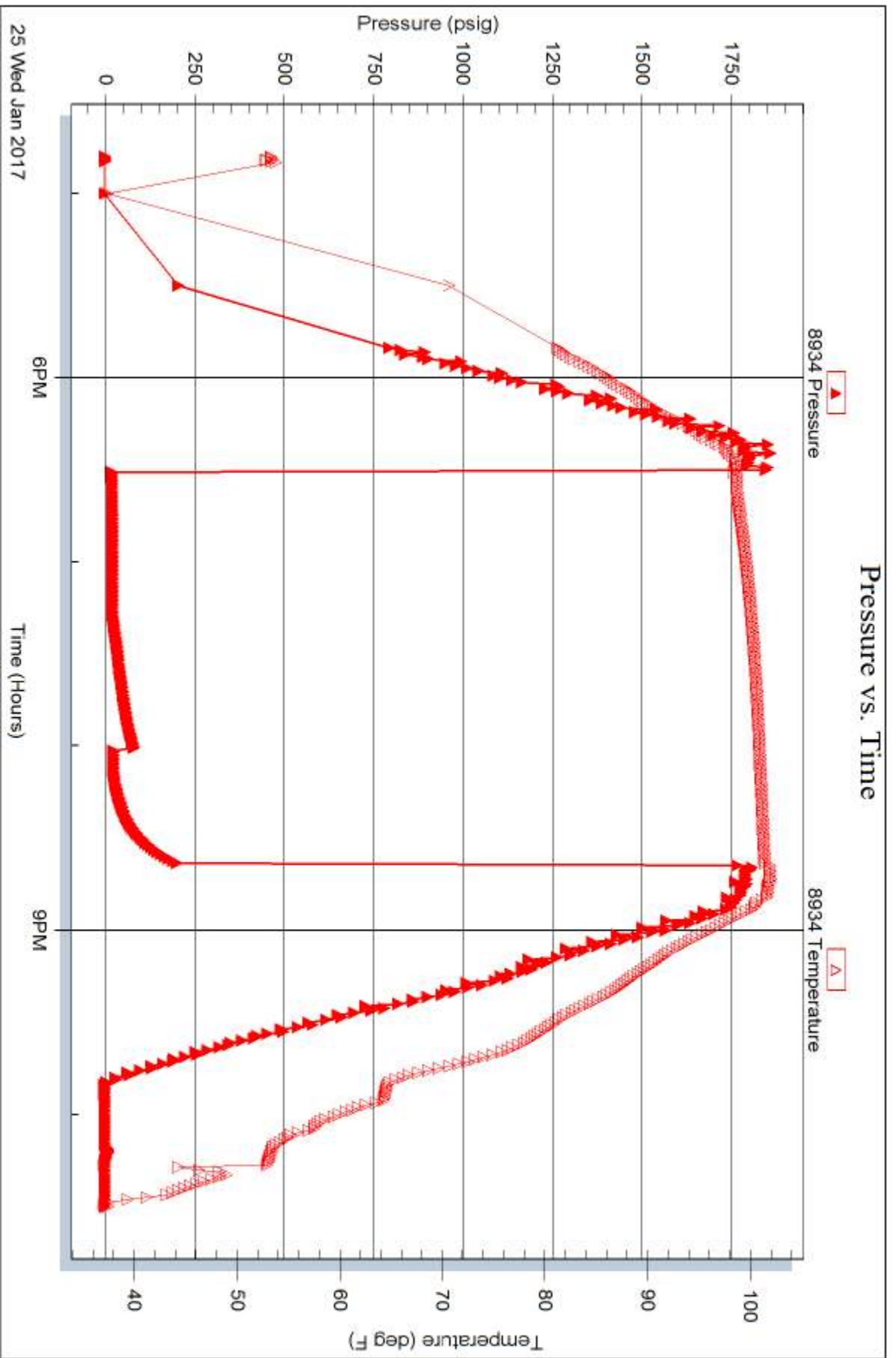
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Serial #: 8934

Outside Jasper Co.

Boss #1

DST Test Number: 11



Trilobite Testing, Inc

Ref. No: 64671

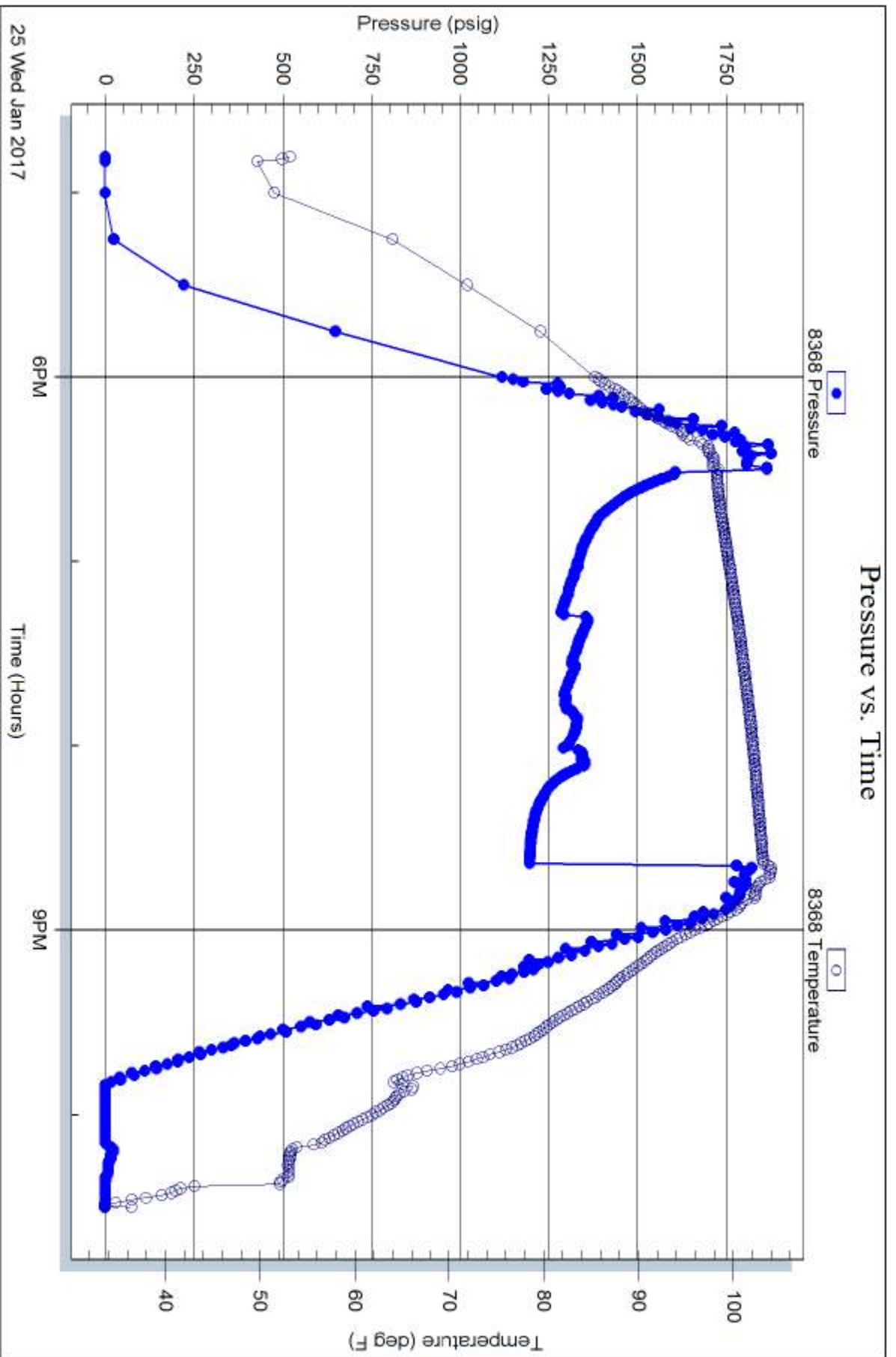
Printed: 2017.01.26 @ 10:45:54

Serial #: 8368

Outside Jasper Co.

Boss #1

DST Test Number: 11





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64661

Well Name & No. Boss #1 Test No. 1 Date 1/20/2017
 Company Jasper Co. Elevation 2193 KB 2185 GL
 Address 1681 Limestone Road South PO BOX 1120 Hays Ks, 67601
 Co. Rep / Geo. Jeff Lawler / Shame Vehige Rig WW #12
 Location: Sec. 11 Twp. 7s Rge. 20w Co. Rooks State Ks

Interval Tested 3286' - 3330 Zone Tested Oread
 Anchor Length 44' Drill Pipe Run 3168 Mud Wt. 8.7
 Top Packer Depth 3281' Drill Collars Run 121 Vis 77
 Bottom Packer Depth 3286' Wt. Pipe Run - WL 7.6
 Total Depth 3330' Chlorides 1,500 ppm System LCM 4#

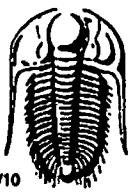
Blow Description 07-
150- **Did not make it to Bottom**
77-
750- **Hit Bridge 20 Stands in**

Rec	Feet of	%gas	%oil	%water	%mud
<u>440</u>	<u>Mud</u>				

Rec Total 440 BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic _____ Test 850 T-On Location 06:00
 (B) First Initial Flow _____ Jars _____ T-Started 07:15
 (C) First Final Flow _____ Safety Joint _____ T-Open _____
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled _____
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out _____
 (F) Second Final Flow _____ Mileage 124 R7 93 Comments Stacked out
 (G) Final Shut-In _____ Sampler _____ 20 Stands in, pulled
 (H) Final Hydrostatic _____ Straddle _____ tool
 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 943
 Accessibility _____ MP/DST Disc't _____
 Sub Total 943

Approved By _____ Our Representative Spencer J. Staal
 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.!!
Thank-you!!



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64662

Well Name & No. Boss #1 Test No. 2 Date 1/20/2017
 Company Jasper Co Elevation 2193 KB 2185 GL
 Address 1681 Limestone Road South PO BOX 1120 Hays Ks, 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig WV Drilling Rig #2
 Location: Sec. 17 Twp. 7S Rge. 20W Co. Rooks State KS

Interval Tested 3286'-3330' Zone Tested Oread
 Anchor Length 44' Drill Pipe Run 3168' Mud Wt. 9.1
 Top Packer Depth 3281' Drill Collars Run 121' Vis 51
 Bottom Packer Depth 3286' Wt. Pipe Run — WL 7.6
 Total Depth 3330 Chlorides 500 ppm System LCM 3#

Blow Description D7 - Strong Blow; Built to 8 inches
DSD - Very Weak Surface Blow after 37 minutes; Built to 8 inches
F7 - Fair Blow; Built to 5 1/4 inches
FSD - No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>WJCM</u>	<u>15</u>	<u>5</u>	<u>80</u>	<u>—</u>
<u>62</u>	<u>WCM</u>	<u>—</u>	<u>20</u>	<u>80</u>	<u>—</u>
<u>63</u>	<u>WCM</u>	<u>—</u>	<u>40</u>	<u>60</u>	<u>—</u>
<u>—</u>	<u>scum of oil on tool</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

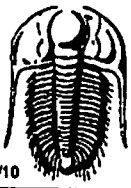
Rec Total 170 BHT 96° Gravity — API RW 431 @ 46° F Chlorides 23,500 ppm

(A) Initial Hydrostatic <u>1594</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>12:25</u>
(B) First Initial Flow <u>14</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>12:58</u>
(C) First Final Flow <u>71</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>14:42</u>
(D) Initial Shut-In <u>645</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>17:30</u>
(E) Second Initial Flow <u>73</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>19:23</u>
(F) Second Final Flow <u>90</u>	<input checked="" type="checkbox"/> Mileage <u>124 RT 93</u>	Comments <u>—</u>
(G) Final Shut-In <u>669</u>	<input type="checkbox"/> Sampler <u>—</u>	<u>—</u>
(H) Final Hydrostatic <u>1562</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Open <u>15</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>1143</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>1143</u>	

Approved By — Our Representative Spencer J. Staal

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Thank-you!!



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64663

Well Name & No. Bas#1 Test No. 3 Date 1/21/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 1681 Limestone Road Smith PO Box 1120 Hays KS 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig WW Drilling Rig #12
 Location: Sec. Jff Twp. 7s Rge. 20w Co. Rooks State KS

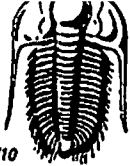
Interval Tested 3346' - 3400' Zone Tested Toronto - LHC 'a'
 Anchor Length 54' Drill Pipe Run 3237' Mud Wt. 9.1
 Top Packer Depth 3341' Drill Collars Run 121 Vis 51
 Bottom Packer Depth 3346' Wt. Pipe Run — WL 7.6
 Total Depth 3400' Chlorides 500 ppm System LCM 3#

Blow Description 27-
 450- Didnot Make it to Bottom
 77-
 750- Hit Bridge

Rec	Feet of	%gas	%oil	%water	%mud		
400	Mud			100			
Rec Total	400	BHT	Gravity	API RW	@	F Chlorides	ppm

(A) Initial Hydrostatic — Test 850 T-On Location 04:13
 (B) First Initial Flow — Jars 250 T-Started 05:02
 (C) First Final Flow — Safety Joint — T-Open —
 (D) Initial Shut-In — Circ Sub — T-Pulled —
 (E) Second Initial Flow — Hourly Standby — T-Out —
 (F) Second Final Flow — Mileage 124 RT 93 Comments Did not Make it to Bottom
 (G) Final Shut-In — Sampler —
 (H) Final Hydrostatic — Straddle —
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Initial Open — Shale Packer
 Initial Shut-In — Extra Packer
 Final Flow — Extra Recorder
 Final Shut-In — Day Standby
 Accessibility
 Sub Total 1193 Sub Total 1193 MP/DST Disc't —

Approved By _____ Our Representative Spencer J. Starb
 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.
 Thank-you!!!



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64664

Well Name & No. Box #1 Test No. 4 Date 1/21/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 1681 Limestone Road South PO BOX 1120 Hays KS 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig WW Drilling Rig #12
 Location: Sec. 11 Twp. 7s Rge. 20w Co. Rooks State KS

Interval Tested 3346' - 3400' Zone Tested Toronto - LKC 'a'
 Anchor Length 54' Drill Pipe Run 3237' Mud Wt. 9.1
 Top Packer Depth 3341' Drill Collars Run 121' Vis 57
 Bottom Packer Depth 3346' Wt. Pipe Run — WL 7.6
 Total Depth 3400' Chlorides 750 ppm System LCM 3#
 Blow Description SD - Very Weak Blow; Built to 1 inch
SD - No Blow Back
77 - Very Weak Surface Blow; few bubbles
7SD - No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>OCM</u>	<u>25</u>		<u>75</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

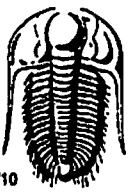
Rec Total 30 BHT 101° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 1629 Test 1050 T-On Location 08:55
 (B) First Initial Flow 12 Jars 250 T-Started 10:14
 (C) First Final Flow 22 Safety Joint _____ T-Open 11:38
 (D) Initial Shut-In 109 Circ Sub _____ T-Pulled 14:38
 (E) Second Initial Flow 22 Hourly Standby _____ T-Out 16:15
 (F) Second Final Flow 22 Mileage 124 R7 93 Comments slide tool 2ft to bottom
 (G) Final Shut-In 60 Sampler _____
 (H) Final Hydrostatic 1613 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 45 Extra Recorder _____ Sub Total 0
 Initial Shut-In 45 Day Standby _____ Total 1393
 Final Flow 45 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 45 Sub Total 1393

Approved By _____ Our Representative Spencer J. Strub

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64665

Well Name & No. Box #1 Test No. 5 Date 1/22/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 1681 Limestone Road South PO BOX 1120 Hays KS 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig WW Drilling Rig #12
 Location: Sec. 11 Twp. 7S Rge. 20W Co. Rooks State KS

Interval Tested 3455'-3494' Zone Tested LKC 'E-J'
 Anchor Length 39' Drill Pipe Run 3325' Mud Wt. 9.1
 Top Packer Depth 3450' Drill Collars Run 121' Vis 57
 Bottom Packer Depth 3455' Wt. Pipe Run - WL 7.6
 Total Depth 3494' Chlorides 750 ppm System LCM 3#

Blow Description J7 - Strong Blow; Built to 7 inches
JSD - No Blow Back
F7 - Strong Blow; Built to 6 1/2 inches
FSD - No Blow Back

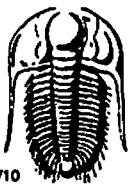
Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>09WCM</u>	<u>5</u>	<u>15</u>	<u>80</u>	
<u>117</u>	<u>09MCMW</u>	<u>5</u>	<u>1</u>	<u>50</u>	<u>44</u>
<u>10</u>	<u>WCM w/scum oil</u>	<u>41</u>	<u>10</u>	<u>90</u>	

Rec Total 190 BHT 100° Gravity - API RW 182 @ 46 °F Chlorides 66,000 ppm
 (A) Initial Hydrostatic 1695 Test 1050 T-On Location 4:25
 (B) First Initial Flow 17 Jars _____ T-Started 5:46
 (C) First Final Flow 56 Safety Joint _____ T-Open 7:26
 (D) Initial Shut-In 560 Circ Sub _____ T-Pulled 9:00
 (E) Second Initial Flow 72 Hourly Standby _____ T-Out 11:32
 (F) Second Final Flow 89 Mileage 124 R7 93
 (G) Final Shut-In 560 Sampler _____
 (H) Final Hydrostatic 1665 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1143

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

MP/DST Disc't _____
 Total 1143
 Sub Total 0

Approved By _____ Our Representative Spencer J. Ahab
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64666

Well Name & No. Box # 1 Test No. 6 Date 1/22/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 1681 Limestone Road South PO BOX 1120 Hays KS 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig W W Drilling Rig #12
 Location: Sec. 21 Twp. 7S Rge. 20W Co. Rooks State KS

Interval Tested 3522' - 3580' Zone Tested LKC 'd-j'
 Anchor Length 58' Drill Pipe Run 3388 Mud Wt. 9.2
 Top Packer Depth 3517' Drill Collars Run 121 Vis 55
 Bottom Packer Depth 3522' Wt. Pipe Run - WL 7.2
 Total Depth 3580' Chlorides 500 ppm System LCM 2 1/2#

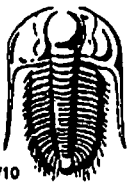
Blow Description 07-
150-
77- Packer failure
750-

Rec	Feet of	%gas	%oil	%water	%mud

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

(A) Initial Hydrostatic _____ Test _____ 850 _____ T-On Location 22:50
 (B) First Initial Flow _____ Jars _____ T-Started 23:39
 (C) First Final Flow _____ Safety Joint _____ T-Open _____
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled _____
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 03:13 1/23/2017
 (F) Second Final Flow _____ Mileage 124 RY 93 _____ Comments Packer Failure
 (G) Final Shut-In _____ Sampler _____ Ruined Shale Packer _____
 (H) Final Hydrostatic _____ Straddle _____ Ruined Packer _____
 Initial Open _____ Shale Packer _____ Extra Copies _____
 Initial Shut-In _____ Extra Packer _____ Sub Total 0
 Final Flow _____ Extra Recorder _____ Total 943
 Final Shut-In _____ Day Standby _____ MP/DST Disc't _____
 Sub Total 943 Accessibility _____

Approved By _____ Our Representative Spencer J. Strub
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64667

Well Name & No. Boss #1 Test No. 7 Date 1/23/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 1681 Limestone Road South PO BOX 1120 Hays Ks 67601
 Co. Rep / Geo. Jeff Laufer / Shane Vehige Rig WU Drilling Rig #12
 Location: Sec. 11 Twp. 7s Rge. 20w Co. Rooks State Ks

Interval Tested 3500' - 3580' Zone Tested LHC 'A-A'
 Anchor Length 80 Drill Pipe Run 3388' Mud Wt. 9.3
 Top Packer Depth 3495' Drill Collars Run 121' Vis 49
 Bottom Packer Depth 3500' Wt. Pipe Run - WL 72
 Total Depth 3580' Chlorides 500 ppm System LCM 2 1/2 #

Blow Description 17 - Weak Blow; Built to 2 1/2 inches
1SD - No Blow Back
77 - Very Weak Blow; Built to 1 and 1/2 inches
7SD - No Blow Back

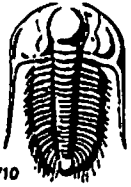
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Clean Oil</u>	<u>100</u>			
<u>65</u>	<u>OCM</u>	<u>20</u>		<u>80</u>	

Rec Total 70 BHT 103° Gravity 35° API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1731 Test 1050 T-On Location 03:15
 (B) First Initial Flow 15 Jars - T-Started 03:58
 (C) First Final Flow 37 Safety Joint - T-Open 06:01
 (D) Initial Shut-In 259 Circ Sub - T-Pulled 10:00
 (E) Second Initial Flow 37 Hourly Standby - T-Out 11:40
 (F) Second Final Flow 48 Mileage 124 RT Comments -
 (G) Final Shut-In 392 Sampler -
 (H) Final Hydrostatic 1712 Straddle -
 Ruined Shale Packer
 Ruined Packer
 Extra Copies

Initial Open 45 Shale Packer 250
 Initial Shut-In 45 Extra Packer -
 Final Flow 90 Extra Recorder -
 Final Shut-In 60 Day Standby -
 Accessibility -
 Sub Total 1300 Total 1300 MP/DST Disc't -

Approved By _____ Our Representative Spencer J. Stal
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64668

Well Name & No. Box #1 Test No. 8 Date 1/23/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 1881 Limestone Road South PO BOX 1120 Hays, KS 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig W W Drilling Rig #12
 Location: Sec. 11 Twp. 7s Rge. 20w Co. Rooks State KS

Interval Tested 3576'-3595' Zone Tested LKC 'L'
 Anchor Length 19' Drill Pipe Run 3451' Mud Wt. 9.3
 Top Packer Depth 3571' Drill Collars Run 121' Vis 49
 Bottom Packer Depth 3576' Wt. Pipe Run — WL 7.2
 Total Depth 3595' Chlorides 500 ppm System LCM 2 1/2 #

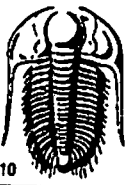
Flow Description 07- Very Weak Blow; Built to 34 inch
050- No Blow
77- No Blow
7SD- No Blow

Sec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OCM</u>	<u>3</u>		<u>97</u>	

Rec Total 10 BHT 98° Gravity — API RW — @ — ° F Chlorides — ppm

A) Initial Hydrostatic 1755 Test 1050 T-On Location 18:15
 B) First Initial Flow 10 Jars — T-Started 19:25
 C) First Final Flow 12 Safety Joint — T-Open 21:12
 D) Initial Shut-In 192 Circ Sub — T-Pulled 00:00 1/24/2017
 E) Second Initial Flow 13 Hourly Standby — T-Out 01:50
 F) Second Final Flow 16 Mileage 124 RT 93 Comments —
 G) Final Shut-In 204 Sampler —
 H) Final Hydrostatic 1740 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1143
 Accessibility — MP/DST-Disc't —
 Sub Total 1143

Approved By _____ Our Representative Spencer J. Staal
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 Thank - you !!



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64669

Well Name & No. Boss #1 Test No. 9 Date 1/24/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 1681 Limestone Road South PO BOX 1120 Hays KS 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig WW Drilling Rig #12
 Location: Sec. 11 Twp. 7s Rge. 20w Co. Rooks State KS

Interval Tested 3620' - 3669' Zone Tested Arbuckle
 Anchor Length 49' Drill Pipe Run 3510 Mud Wt. 9.3
 Top Packer Depth 3615' Drill Collars Run 121 Vis 51
 Bottom Packer Depth 3620' Wt. Pipe Run - WL 76
 Total Depth 3669' Chlorides 1000 ppm System LCM 3 1/2 #

Flow Description 07 -
050 -
77 - Did not Make it to Bottom. Hit Bridge
780 -

Sec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>Mud</u>			<u>100</u>	

Sec Total 200 BHT - Gravity - API RW - @ - °F Chlorides - ppm

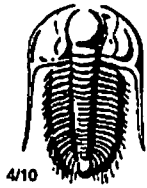
Initial Hydrostatic 850 Test 14:15 T-On Location
 First Initial Flow 14:44 T-Started
 First Final Flow T-Open
 Initial Shut-In T-Pulled
 Second Initial Flow T-Out 16:48
 Second Final Flow
 Final Shut-In 124 RT 93 Mileage
 Final Hydrostatic
 Sampler
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total

Comments Hit Bridge
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total
 Total
 MP/DST Disc't

Approved By _____ Our Representative Spencer J. Furb

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64670

Well Name & No. Boss #1 Test No. 10 Date 1/24/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 168 Limestone Road South PO BOX 1120 Hays KS 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig W9W Drilling Rig #12
 Location: Sec. 11 Twp. 7S Rge. 20W Co. Rooks State KS

Interval Tested 3620' - 3669' Zone Tested Arbuckle
 Anchor Length 49' Drill Pipe Run 3516' Mud Wt. 9.3
 Top Packer Depth 3615' Drill Collars Run 121' Vis 51
 Bottom Packer Depth 3620' Wt. Pipe Run - WL 7.6
 Total Depth 3669 Chlorides 1000 ppm System LCM 3 1/2#

Blow Description 77 - Very Weak Surface Blow; died after 31 minutes
78 - No Blow Back
79 - No Blow; flushed twice; still no Blow
80 - No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>OCM</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 20 BHT 106° Gravity - API RW - @ - °F Chlorides - ppm

- (A) Initial Hydrostatic 1790
- (B) First Initial Flow 17
- (C) First Final Flow 29
- (D) Initial Shut-In 32
- (E) Second Initial Flow 32
- (F) Second Final Flow 37
- (G) Final Shut-In 41
- (H) Final Hydrostatic 1780

- Test 1050
- Jars
- Safety Joint
- Circ Sub
- Hourly Standby
- Mileage 124 RT 93
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1143

T-On Location 18:10
 T-Started 19:49
 T-Open 21:34
 T-Pulled 00:40 1/25/2017
 T-Out 02:26
 Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1143
 MP/DST Disc't _____

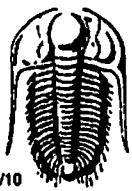
Initial Open 45
 Initial Shut-In 60
 Final Flow 20
 Final Shut-In 60

Approved By _____

Our Representative Spencer J. Staats

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.

Thank you!!



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64671

Well Name & No. Boss #1 Test No. 11 Date 1/25/2017
 Company Jasper Co Elevation 2172 KB 2164 GL
 Address 1681 Limestone Road South PO BOX 1120 Hays KS 67601
 Co. Rep / Geo. Jeff Lawler / Shane Vehige Rig W W Drilling Rig #12
 Location: Sec. 11 Twp. 7N Rge. 20W Co. Rooks State Ks

Interval Tested 3644' - 3678' Zone Tested Arbuckle
 Anchor Length 34' 42' Tail Drill Pipe Run 3515 Mud Wt. 9.3
 Top Packer Depth 3644' Drill Collars Run 121 Vis 53
 Bottom Packer Depth 3678' Wt. Pipe Run — WL 7.6
 Total Depth 3720' Chlorides 1500 ppm System LCM 2 1/2

Blow Description 17 - Weak Blow; built to 1 1/4 inches
1SD - No Blow Back
77 - No Blow
7SD - No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20'</u>	<u>OCM</u>	<u>5</u>		<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20' BHT 103° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1832</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>15:10</u>
(B) First Initial Flow <u>19</u>	<input type="checkbox"/> Jars	T-Started <u>16:48</u>
(C) First Final Flow <u>23</u>	<input type="checkbox"/> Safety Joint	T-Open <u>18:30</u>
(D) Initial Shut-In <u>50</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>20:37</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>22:29</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>124 R7</u> 93	Comments
(G) Final Shut-In <u>199</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1808</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>5</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1743</u>
	Sub Total <u>1743</u>	MP/DST Disc't

Approved By _____ Our Representative Spencer J. Staal
 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.
 Thank you!!



Scale 1:240 Imperial

Well Name: BOSS #1
Surface Location: SW SE NW NW Section 11 - -7S - 20W
Bottom Location:
API: 15-163-24328
License Number: 34903
Spud Date: 1/12/2017 Time: 1:30 PM
Region: ROOKS COUNTY KANSAS
Drilling Completed: 1/25/2017 Time: 8:54 AM
Surface Coordinates: 1265' FNL & 765' FWL
Bottom Hole Coordinates:
Ground Elevation: 2164.00ft
K.B. Elevation: 2172.00ft
Logged Interval: 3000.00ft To: 3720.00ft
Total Depth: 3720.00ft
Formation: LANSING - KANSAS CITY: ARBUCKLE
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

OPERATOR

Company: JASPAR COMPANY
Address: 1681 LIMESTONE ROAD SOUTH
HAYS, KS 67601

Contact Geologist: SHANE VEHIGE
Contact Phone Nbr: (785) 623-6982
Well Name: BOSS #1
Location: SW SE NW NW Section 11 - -7S - 20W
API: 15-163-24328
Pool: Field: WILDCAT
State: KANSAS Country: USA

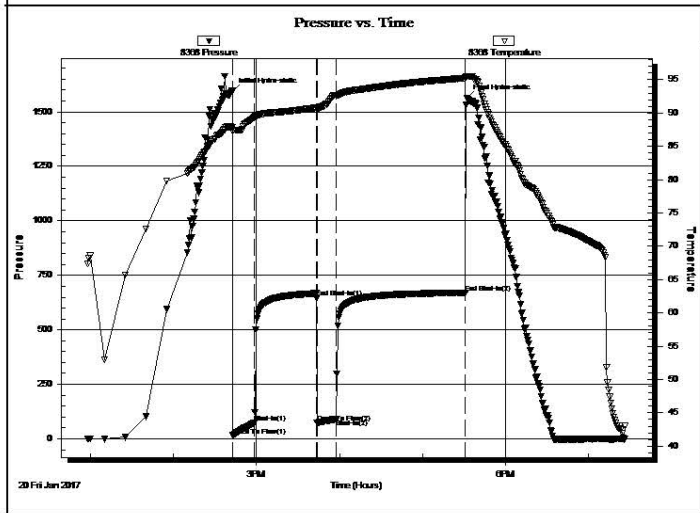
SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: -99.5361621
Latitude: 39.4619289
N/S Co-ord: 1265' FNL
E/W Co-ord: 765' FWL

LOGGED BY



Company: BIG CREEK CONSULTING, INC.
Address: 1909 MAPLE
ELLIS, KS 67637



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1594.52	87.82	Initial Hydro-static
1	14.69	87.31	Open To Flow (1)
16	71.64	89.31	Shut-In(1)
61	645.80	90.79	End Shut-In(1)
61	73.73	90.65	Open To Flow (2)
75	90.12	92.59	Shut-In(2)
169	669.84	95.25	End Shut-In(2)
170	1562.56	95.50	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
45.00	WGCM 5% W 15% G 80% M	0.22
62.00	WCM 20% W 80% M	0.30
63.00	WCM 40% W 60% M	0.76

* Recovery from multiple tests


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

Trilobite Testing, Inc

Ref. No: 64662

Printed: 2017.01.20 @ 23:04:08

DST #3 TORONTO - LKC A 3346' - 3400' *HIT BRIDGE @ 1404' MISRUN*

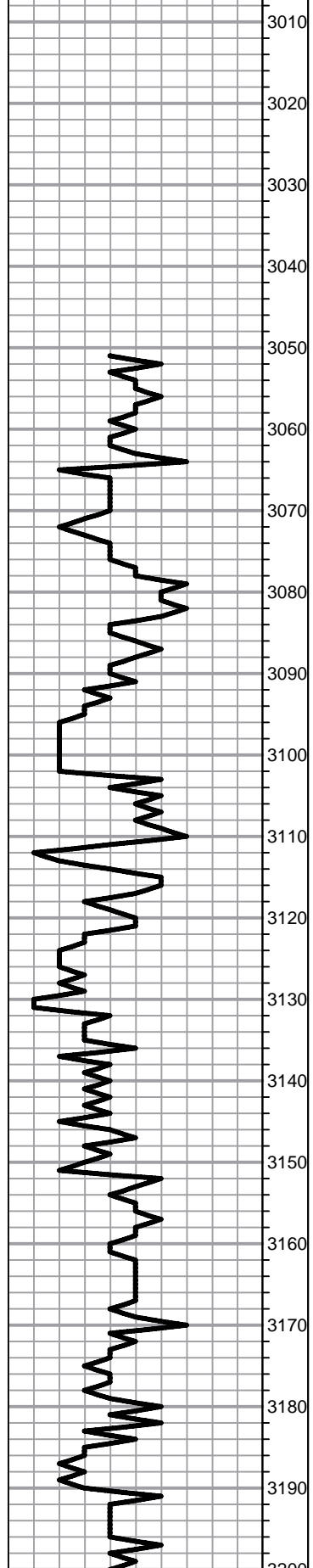
 <p>TRILOBITE TESTING, INC</p>	DRILL STEM TEST REPORT	
	Jaspar Co. 1681 Limestone Road South PO BOX 1120 Hays Ks, 67601 ATTN: Jeff Lawler / Shane V	S11-7S-20W Rooks Co KS Boss #1 Job Ticket: 64663 DST#: 3 Test Start: 2017.01.21 @ 05:02:00

GENERAL INFORMATION:			
Formation:	Toronto- LKC 'A'		
Deviated:	No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened:			Tester: Spencer J. Staab
Time Test Ended:	07:36:30		Unit No: 84
Interval:	3346.00 ft (KB) To	3400.00 ft (KB) (TVD)	Reference Elevations: 2172.00 ft (KB)
Total Depth:	3330.00 ft (KB) (TVD)		2164.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition:	KB to GR/CF: 8.00 ft

Serial #: 8368	Inside		
Press@RunDepth:	psig @	3347.00 ft (KB)	Capacity: 8000.00 psig
Start Date:	2017.01.21	End Date: 2017.01.21	Last Calib.: 2017.01.21
Start Time:	05:02:15	End Time: 07:36:30	Time On Btm:
			Time Off Btm:

TEST COMMENT: Did not make it to bottom. Hit bridge

1:240 Imperial
 0 ROP (min/ft) 5
 0 Gamma (API) 150
 6 Cal (in) 16



0 ROP (min/ft) 5
 0 Gamma (API) 150
 6 Cal (in) 16

1' DRILL TIME THROUGH ANHYDRITE FROM 1740' - 1790'
1' DRILL TIME FROM 3050' - RTD
10' WET/DRY SAMPLES FROM 3100' - RTD

GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 3050' - RTD

8 5/8" SURFACE PIPE SET @ 235' SURVEY 1/2 degree

ANHYDRITE TOP 1744' (+449) E-LOG 1742' (+430)
ANHYDRITE BASE 1780' (+413') E-LOG 1774' (+398)

Lm- Cream Buff, FXLN, fsl bioclastic, fsl fragments & in situ fsl, sctrd XLN porosity, some granular, some gray fn grn Ss stringers, consistent & well consolidated w/ glauconite inclusions

Sh- abundant various dark colored argillaceous clumps, some sl sandy

Lm- Gray Buff, FXLN, dense well cemented trashy high-energy fsl mix, crinoids sctrd XLN porosity, some gummy white & gray clumps

Lm- Gray, VF-FXLN, dense, well cemented, some sctrd fsl fragments, poor vis. porosity, gummy gray clumps

Sh- Maroon Gray, argillaceous clumps & gray Fn grn Ss stringers, micaceous

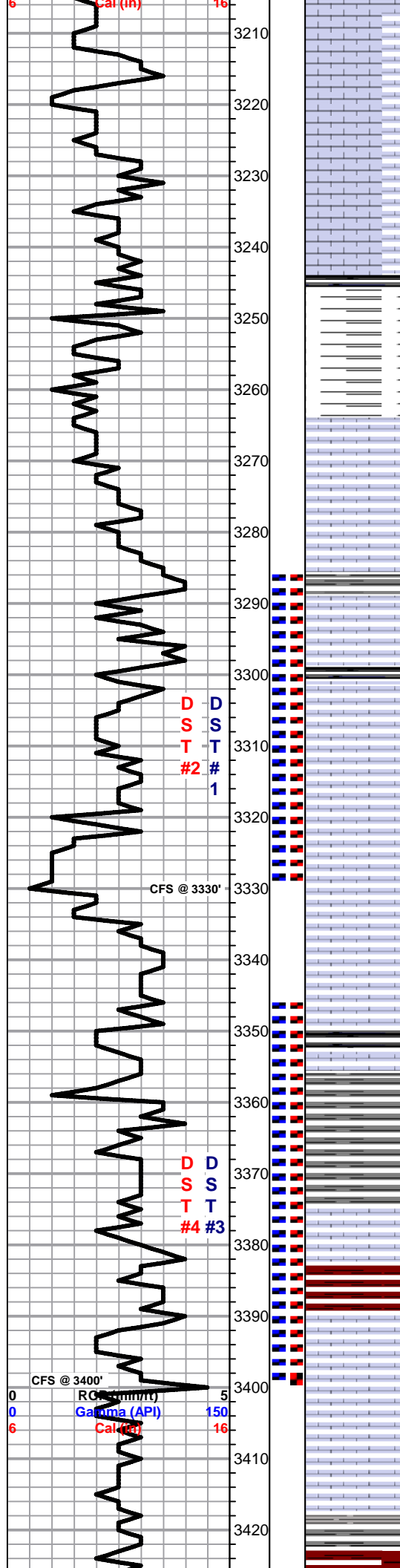
TOPEKA 3152' (-959) E-LOG 3149' (-977) Lm- Cream Tan Buff, VF-FXLN, sctrd fsl, mostly XLN matrix w/ some sl chalky mud supported matrix, all w/ poor vis. to sctrd XLN porosity, barren

Lm- Cream, FXLN, dense, grainy, semi granular & dolomitic like, dense XLN porosity, clean, some soft white chalk

Lm- Buff, FXLN, well cemented, sctrd fsl fragments, dense XLN porosity, few fn grn Ss stringers, well sorted & consolidated, barren

Lm- Cream Off White, FXLN, dense, well cemented, semi granular, dense XLN porosity, some w/ black fsl inclusions, some gummy white chalk

Ss- Dove Gray, Vf grn, well consolidated & sorted, chalky/shaley, some sandy soft gray chalk



Lm- Cream, FXLN, oolitic, massive, well cemented, dense XLN & sctrd secondary reXLN porosity, sctrd clear replacement cementation, vry clean & barren

Lm- Buff, FXLN, dense, fsl, poorly dev. w/ sctrd XLN porosity

Lm- A/A w/ some soft white chalk

Lm- Cream Buff Tan, FXLN, fsl w/ fusulinids, sctrd XLN porosity, some mottled soft white mud supported matrix w/ min. vis. porosity

Sh- Black Maroon Gray, fissile & carbonaceous, gritty, argillaceous

Sh- argillaceous maroon & mint green

Lm- Cream, VF-FXLN, dense, loosely cemented, & sl chalky, micro pyrite inclusions, some soft white chalk

Lm- Tan, VFXLN, sl fsl, dense, well cemented, tight w/ sctrd XLN porosity

Lm- Cream Tan, FXLN, well cemented, grainy w/ definitive grain matrix, massive, dense XLN porosity

Sh- Black, fissile & carbonaceous

Lm- White Off White, FXLN, well developed, fsl & oolitic w/ sctrd ppt to vuggy interoolite porosity, SCTRDRK STN, FSFO, GD ODR, some chalky in part & loosely cemented

Lm- Cream Off White, FXLN, oolitic & fsl, less dev. w/ sctrd XLN porosity, mixed w/ grainy, loosely cemented & semi granular, vry clean & barren

Lm- Cream Off White, FXLN, dense, well cemented, grainy dolomitic Ls w/ dense XLN porosity, sctrd secondary reXLN porosity & sctrd clear replacement cementation, barren w/ soft white chalk

Lm- Lt Gray, VFXLN, well cemented, tight w/ poor vis. porosity, barren

Lm- Cream Tan, FXLN, Fn Grn, tight loosely cemented, heavily mottled, poor vis. porosity

HEEBNER 3349' (-1156) E-LOG 3351' (-1179) Sh- Black Green, fissile & carbonaceous, waxy & dense

Sh- Gray Maroon Green, abundant argillaceous clumps

TORONTO 3377' (-1184) E-LOG 3376' (-1204) Lm- Off White Cream, VF-FXLN, dense, well cemented, sctrd XLN & secondary reXLN porosity, rare fn ppt porosity, SCTRDRK STN, NSFO, NO ODR

Sh- abundant gummy red clumps

LKC 3391' (-1198) E-LOG 3393' (-1221) Lm- Off White, FXLN, mod. well developed oolitic w/ sctrd ppt-vuggy interoolite porosity, DRK STN, TR FO, WK-FR ODR, sctrd reXLN among vugs

Lm- White, FXLN, mostly tight w/ sctrd to dense XLN porosity, vry clean & barren, some chalky in part

Lm- A/A w/ bone white porcelain like cherty Ls & sl influx of white chalk & tan VFXLN, dense w/ no vis. porosity, all barren

Sh- Black Maroon Gray Green, gritty & earthy, some gummy clumps & sl sandy wash

SHORT TRIP
35 STNDS.
SURVEY 3/4 dgr.
STRAP-4.25'

DST #1 OREAD
3286' - 3330'
MISRUN
HIT BRIDGE @
1750'

DST #2 OREAD
3286' - 3330'
15-45-15-90

170' TOTAL FLUID
45' WGCM
(15%G, 5%W,
80%M)
62' WCM
(20%W, 80%M)
63' WCM
(40%W, 60%M)

IFP: 14-71#
FFP: 73-90#
SIP: 645-669#
HYD: 1594-1562#
CHLOR: 23.5K

3308.jpg

DST #3
TORONTO-LKC A
3346' - 3400'
*MISRUN HIT
BRIDGE
@ -1404*

DST #4
TORONTO-LKC A
3346' - 3400'
45-45-45-45

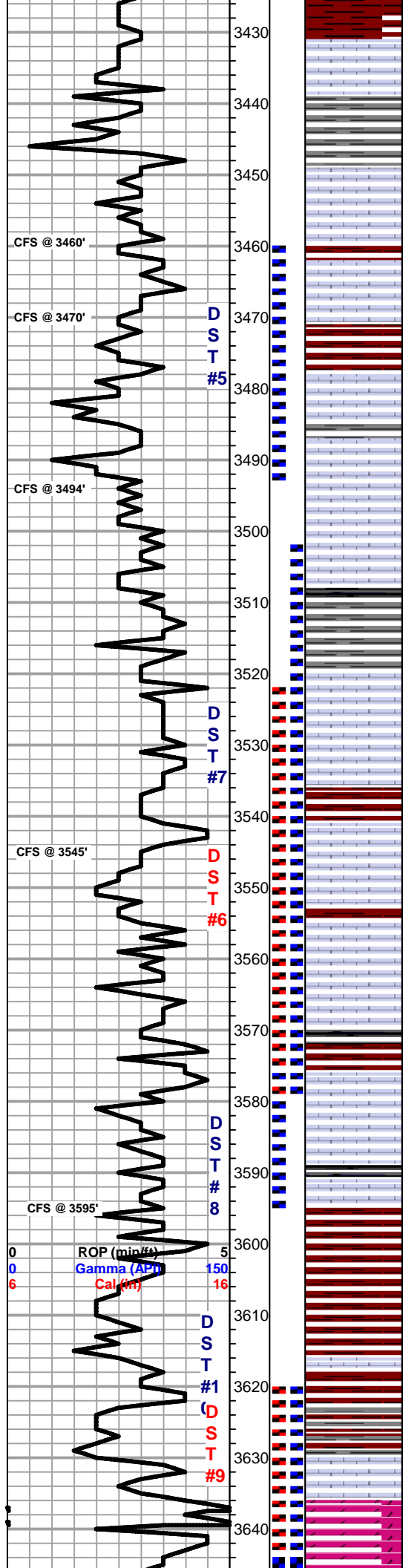
30' OCM
(25%O, 75%M)

IFP: 12-22#
FFP: 22-22#
SIP: 109-60#
HYD: 1629-1613#
BHT: 100 dgr.

3380.jpg

3395.jpg

CFS @ 3400'
Gamma (API) 150
Cal (in) 16



○ Lm- Cream Off White, FXLN, fsl & sl oolitic, poorly developed w/ sctrd XLN porosity & reXLN veins, some sctrd clear replacement cementation, some sl grainy, barren & clean, some loosely cemented mud supported matrix, no vis. stn or show, **TR OF ODR?? 1 PC RARE INTEROOLITE FN PPT POROSITY, VRY LT STN, NO FO, TR LT FLOR??**

● Sh- Maroon Gray Gray, abundant argillaceous wash, gritty & earthy, silty & soft

● Lm- Cream Off White, FXLN, fsl, sctrd development w/ sctrd to dense XLN porosity, LT SCTRD STN, TR FO IN A FEW PCS, TR OF FLAKEY STN IN FEW, NO ODR, few sl chalky in part

○ Lm- Cream Tan, VF-FXLN, dense, well cemented, mostly tight w/ poor vis. porosity, barren

○ Lm- Cream Off White, VF-FXLN, massive, well cemented, sctrd fn ppt & XLN porosity, some chalky in part & soft white chalk, SCTRD DRK STN, TR FO, FNT ODR

○ Lm- Cream Off White, VF-FXLN, well cemented dolomitic Ls w/ consistent XLN porosity, LT SCTRD STN, NSFO, TR ODR, tight cherty Ls w/o vis. porosity, some chalky Ls

Chert/Ls- Cream Tan Bone White, vitreous fresh bedded chert, some fsl, some tight cherty Ls, all w/ no-min. vis. porosity

Lm- Cream Buff, VFXLN, dense well cemented cherty Ls w/ min. vis. porosity, vry clean

Sh- Black Gray, fissile & carbonaceous, gummy wash & clumps

● Lm- Cream Buff Gray, mix of FXLN, poorly dev. w/ sctrd XLN porosity, some loosely cemented & chalky, WK STN, NSFO, NO ODR, VFXLN, & dense, well cemented & mostly tight, sl fsl,

○ Lm- Off White, FXLN, sl oolitic, poorly dev. w/ sctrd XLN porosity, WK SCTRD STN, NSFO, NO ODR

○ Lm- Cream Buff, VF-FXLN, dense & well cemented, fsl & sl oolitic w/ sctrd XLN & fn ppt inter oolite porosity, SCTRD STN, NSFO, WK ODR

Lm- Cream Tan, VFXLN, dense well cemented, tight w/ min. vis. porosity, slick

● Lm- Cream Off White, FXLN, mod. well developed w/ dense XLN & sctrd ppt to sub-uggy porosity, some chalky in part, DRK SCTRD TO SUB-SAT STN, TR FO, FR ODR

○ Lm- Off White, FXLN, oolitic, mod. development w/ sctrd ppt interoolite porosity, SCTRD DRK STN, SHW FO W/ GSY BUBBLES, STRNG ODR

BKC 3592' (-1420) E-LOG 3595' (-1423)

Sh- Maroon Gray Green, gritty & earthy, semi gummy wash, some sandy wash

● Lm- Off White Cream, FXLN, fsl & sl oolitic, poorly dev. w/ sctrd XLN, some sl mottled w/ micro pebble inclusions, clean & barren, some sl cherty Ls

○ Lm/Ss- Cream Semi-Translucent, FXLN, sl fsl, sctrd to dense XLN porosity, some clear replacement cementation, barren, Ss- White, Fn Grn, consolidated & mod. well sorted, light Ca cementation, friable, mature & rounded, SCTRD BLK STN, NSFO, NO ODR, TR WK FLOR.

-3454.jpg

-3475.jpg

-3482.jpg

DST #5 LKC E-G
3455' - 3494'
10-30-10-45
(CHART BELOW)
190' TOTAL FLUID
63' OWC
(5% O, 15% W, 80% M)
117' OGMCW
(5% G, 1% O, 50% W, 44% M)
10' WCM w/ OIL SCUM
(<1% O, 10% W, 90% M)

IFP: 17-56#
FFP: 72-89#
SIP: 560-560#
HYD: 1695-1665#
BHT: 100 deg.

DST #5.jpg

-3538.jpg

-3550.jpg

SHORT TRIP
10 STANDS

DST #6
LKC I - K
322' - 3580'
MISRUN

-3570.jpg

DST #7
LKC H-K
3502' - 3580'
45-45-90-60

70' TOTAL FLUID
5' CLN OIL Gr:35
65' OCM
(20% O, 80% M)

IFP: 15-37#
FFP: 37-48#
SIP: 259-392#
HYD: 1731-1712#
BHT: 103 dgr.

-3586.jpg

DST #7.jpg

DST #8 LKC L
3576' - 3595'
45-45-45-60

10' OCM
(3% O, 97% M)

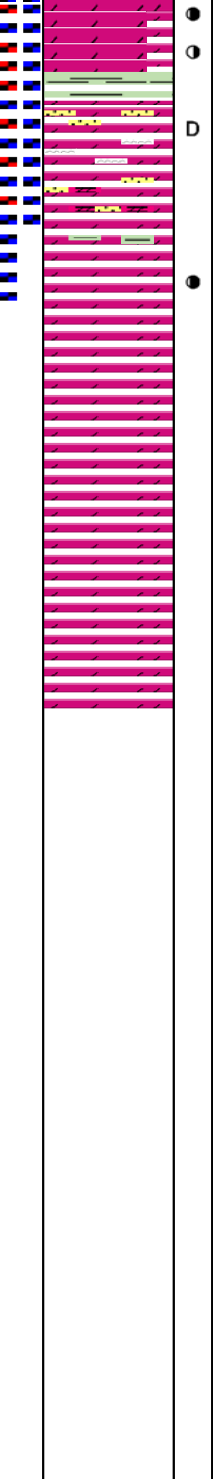
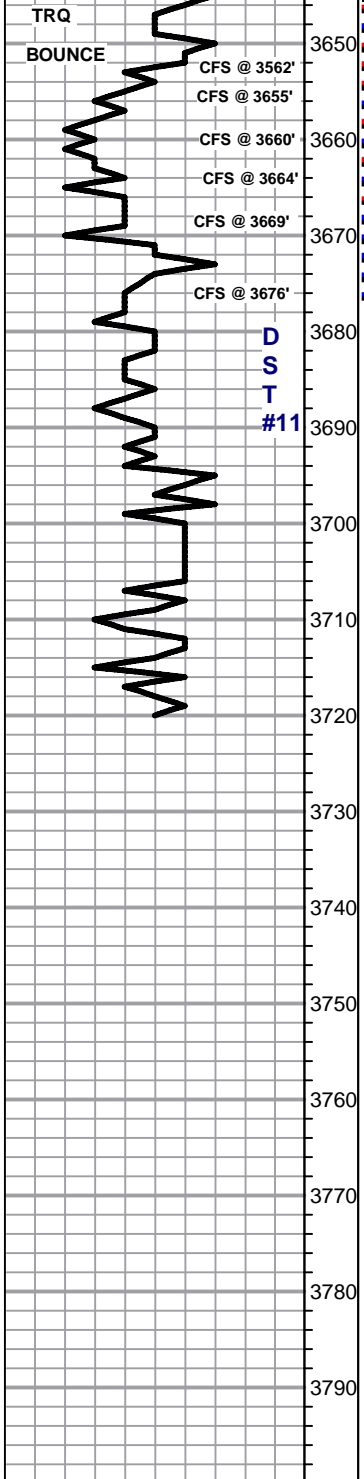
IFP: 10-12#
FFP: 13-16#
SIP: 192-204#
HYD: 1755-1740#
BHT: 98 dgr.

DST #8.jpg

-3635.jpg

-3647.jpg

ARBUCKLE 3646' (-1474) E-LOG 3664' (-1492)



3652' 20"- Dol- Salmon Yellow Cream Off White, F-MEDXLN, mix of colored tight, well cemented w/ dense microXLN porosity & cream-off white mod. well dev. loosely cemented & semi friable w/ consistent dense XLN & fn ppt porosity throughout, SCTD-SUB SAT DRK STN, WK-FR SHW FO, NO ODR, GD STRM WET CUT & BRT FLOR.

40"- Dol- A/A w/ influx of Cream Off White, VF-FXLN, dense, well cemented, mostly tight w/ dense micro XLN porosity, mostly clean & barren w/ few vry sctrd DRK STN, SHW A/A, NO ODR

60"- Dol- influx of colored Dol. (salmon yellow) w/ sctrd mod. dev. some w/ vis. rhombs on one side, tight on the other, SCTRD DRK STN, FR SHW O, NO ODR

3655' 20"- A/A w/ TR ODR

40"- Dol- Cream Off White, mix of FXLN & mod. well dev. MED XLN (~<5% of sample), less dev. barren & clean, mod. dev. w/ some vis. rhombic crystals, ppt porosity, some throughout, DRK STN, FR SHW FO, TR ODR, FR OIL SCUM ON WET CUP

3660' 20"- A/A w/ argillaceous sandy clumps & clay

40"- abundant argillaceous white sandy clumps & fn grn colidated & well sorted friable Ss/sandy dolomite w/ BLK DO STN, NSFO, NO ODR

3664' 40"- Chert- bone white vitreous fresh bedded chert & Sh A/A

3669' 40"- Sh- A/A, Dol- Cream White, mix of loosely cemented & friable sandy dolomite w/ glauconite/chlorite tint/inclusions, few pcs well cemented w/ round qtz. inclusions, all barren, TR ODR??

3676' 40"- Dol- Frosted/White fn-med grn sandy (sub angular) dolomite, friable w/ min. dol. cementation, glauconite inclusions, consolidated w/ moderate sorting, SCTRD TO SAT DRK STN, FR SFO, FO ODR, FR OIL SHEEN ON WET CUP
Sh- Mint Green dense & waxy

3676' 60"- Dol- A/A w/ increasing cementation & competence, sl less stn, ODR A/A

3680"- Dol- Mix of sandy cemented dol A/A & cream off white FXLN, well cemented w/ sub rounded qtz inclusions, SCTRD LT STN, TR FO, WK ODR

3690"- Dol- Cream Tan, FXLN, dense, well cemented, micro XLN porosity, barren

3700"- Dol- Cream Lt Pink/Lt Salmon, FXLN, dense, well cemented, dense XLN porosity, few w/ tr glauconite inclusions, barren

3720' 20"- Dol- Clear Frosted Cream, Med Grn sandy dolomite clusters w/ cream dolomite cementation, consolidated & well sorted, sub-angular, glauconite inclusions, some creal dolomite w/ qtz inclusions, SCTRD BLK DEAD OIL STN, NO SFO, NO ODR

3720' 40"- A/A

3720' 60"- A/A but cream colored dolomite/dolomite cementation

RTD 3720' (-1548) LTD 3712' (-1540) @ 08:54 1/25/2017

3652_60.jpg

3655_40.jpg

DST #9

ARBUCKLE
3620' - 3669'
*HIT BRIDGE
@ 1222"

DST #9.jpg

DST #10

ARBUCKLE
3620' - 3669'
45-60-20-60

20' OCM (1% O)

IFP: 17-29#
FFP: 32-37#
SIP: 32-41#
HYD: 1790-1780#
BHT: 106 dgr.

DST #10.jpg

3676_40.jpg

3676_60.jpg

3720_20.jpg

CFS @ 3720'
SURVEY 1/2 dgr.
TOH TO
ANHYDRITE,
CTCH 30"
TOH FOR LOG

DST #11
(STRADDLE)
ARBUCKLE
3644' - 3678'
45-45-5-30

20' OCM
(5% O, 95% M)

IFP: 19-28#
FFP: 22-23#
SIP: 50-199#
HYD: 1832-1808#
BHT: 102 dgr.

DST #11.jpg

DST #11_...







0.5 mm

3395' X 20



0.5 mm

3454' x 20



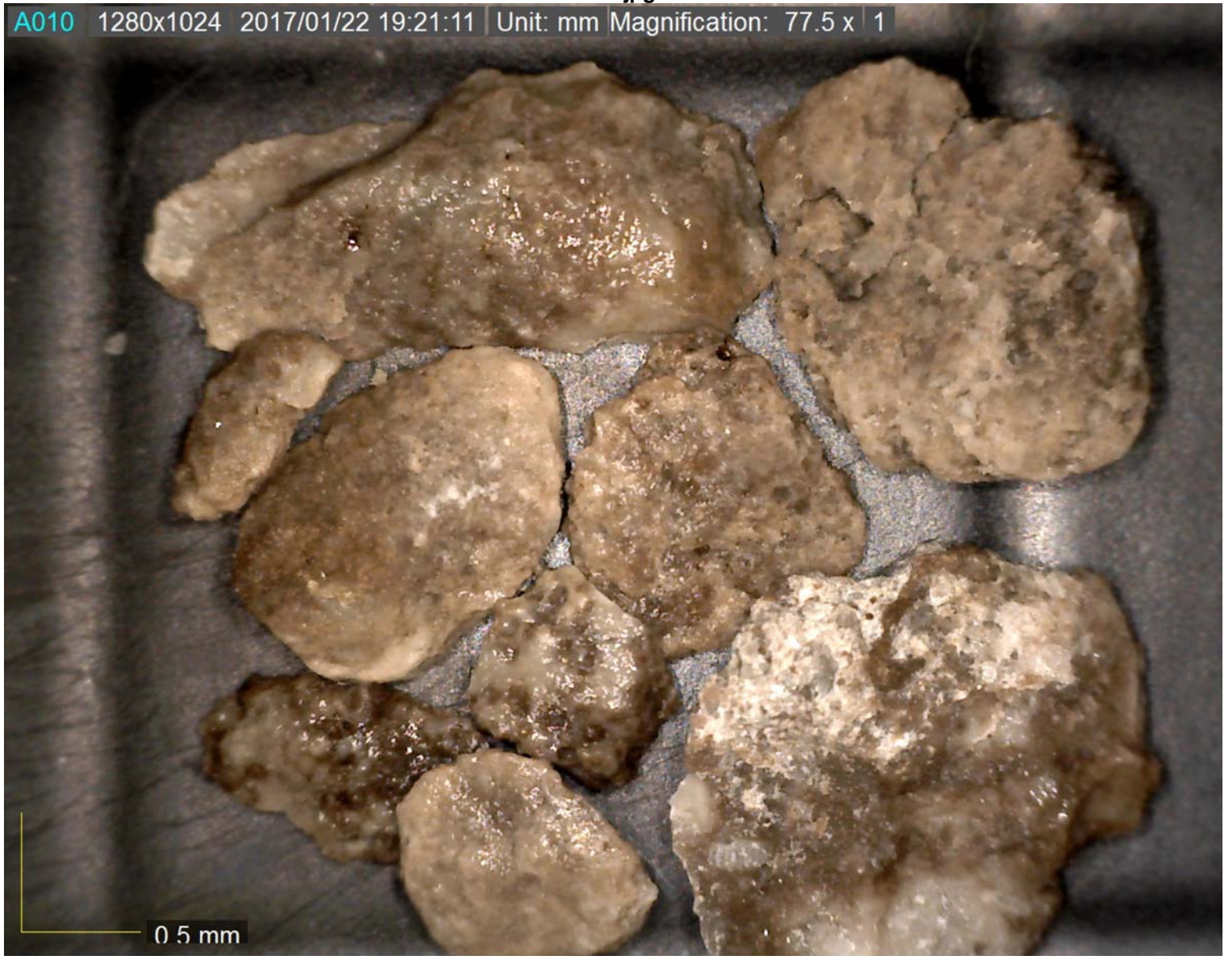
0.5 mm

3475' X 20











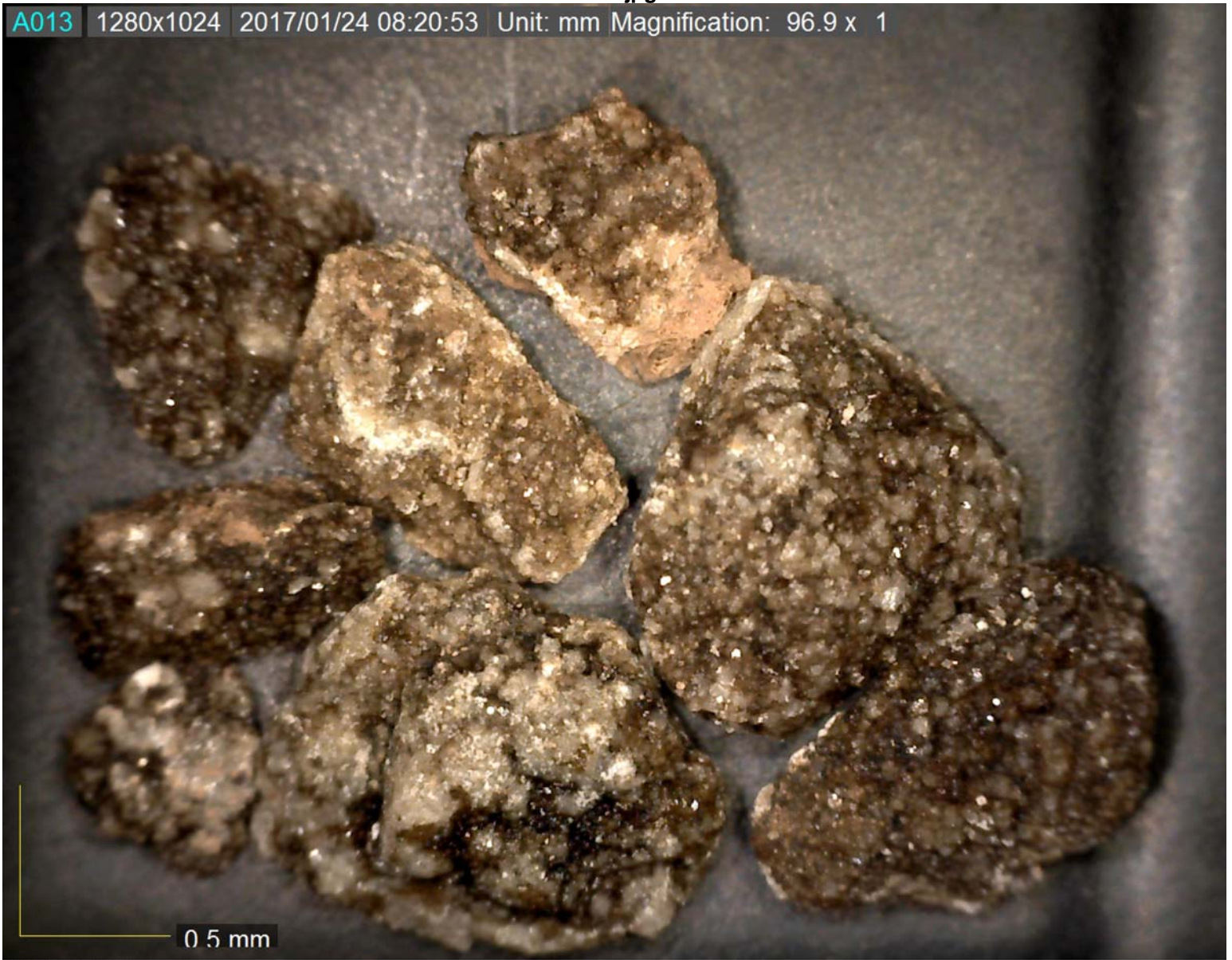
0.5 mm

3586' X 20



3647.jpg

A013 1280x1024 2017/01/24 08:20:53 Unit: mm Magnification: 96.9 x 1



3647' X 25

3652_60.jpg

A014 1280x1024 2017/01/24 09:23:00 Unit: mm Magnification: 116.2 x 1



3652' 60" X 30

3655 40.jpg



3655' 40" X 25'

3676 40.jpg


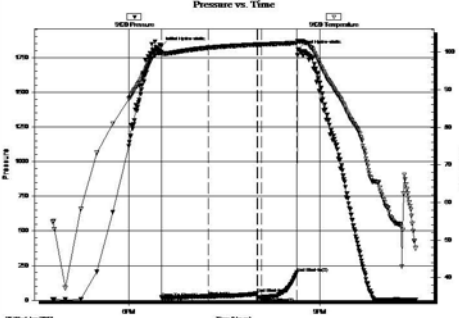


3676 60.jpg



3720 20.jpg



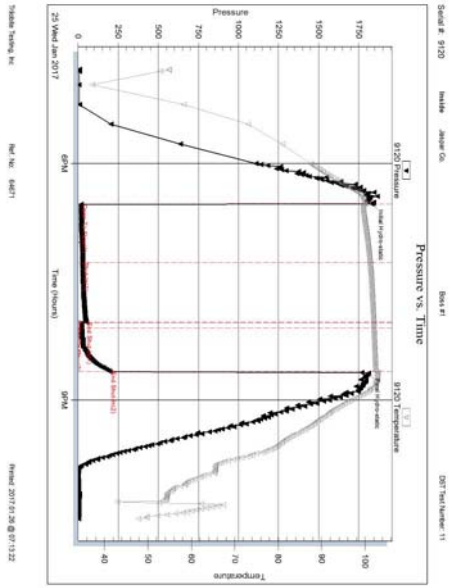
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT				
Jasper Co. 1681 Limestone Road South PO BOX 1120 Hays Ks, 67601 ATTN: Jeff Lawler/ Shane V	S11-7S-20W Rooks Co KS Boss #1 Job Ticket: 64671 DST#: 11 Test Start: 2017.01.25 @ 16:48:00				
GENERAL INFORMATION: Formation: Arbuckle Deviated: No Whipstock: ft (KB) Time Tool Opened: 18:30:45 Time Test Ended: 22:30:15 Test Type: Conventional Straddle (Reset) Tester: Spencer J. Staab Unit No: 84 Interval: 3644.00 ft (KB) To 3678.00 ft (KB) (TVD) Total Depth: 3720.00 ft (KB) (TVD) Reference Elevations: 2172.00 ft (KB) 2164.00 ft (CF) Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 8.00 ft					
Serial #: 9120 Inside Press@RunDepth: 23.34 psig @ 3660.00 ft (KB) Capacity: 8000.00 psig Start Date: 2017.01.25 End Date: 2017.01.25 Last Calib.: 2017.01.25 Start Time: 16:48:15 End Time: 22:30:15 Time On Btm: 2017.01.25 @ 18:30:30 Time Off Btm: 2017.01.25 @ 20:39:30					
TEST COMMENT: 45-IF-Weak Blow ; Built to 1 and 1/4 inches 45-ISI-No Blow Back 5-FF-No Blow 30-FSI-No Blow Back					
 <p style="font-size: small;">25 Wed Jan 2017 Time (Min)</p>	PRESSURE SUMMARY				
	Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	
	0	1832.04	100.01	Initial Hydro-static	
	1	19.11	99.46	Open To Flow (1)	
	45	28.83	101.13	Shut-In(1)	
	91	50.69	101.98	End Shut-In(1)	
	91	22.29	101.97	Open To Flow (2)	
	95	23.34	102.01	Shut-In(2)	
	128	199.86	102.43	End Shut-In(2)	
	129	1808.89	102.86	Final Hydro-static	
Recovery		Gas Rates			
Length (ft)	Description	Volume (bbl)	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
20.00	OCM 5% O 95% M	0.10			

Trilobite Testing, Inc

Ref. No: 64671

Printed: 2017.01.26 @ 07:13:21

DST #11_CHRT.jpg



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 7320

Date	Sec.	Twp.	Range	County	State	On Location	Finish
1-12-17	11	7	20	Reeks	KS		5:30pm

Location Stockton 12w R16 4V HPD 3/4w Sinto

Lease <u>Boss</u>	Well No. <u>1</u>	Owner To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor <u>WW #12</u>		
Type Job <u>Surface</u>		
Hole Size <u>12 1/4</u>	T.D. <u>235</u>	Charge To <u>Jasper Company</u>
Csg. <u>8 5/8</u>	Depth <u>234</u>	Street
Tbg. Size	Depth	City State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. <u>10</u>	Shoe Joint	Cement Amount Ordered <u>150 @ 20 3-1/4 2-6BL</u>
Meas Line	Displace <u>14BL</u>	

EQUIPMENT

Pumptrk <u>20</u>	No. Cementer <u>2</u> Helper <u>1</u>	Common <u>120</u>
Bulktrk	No. Driver <u>1</u>	Poz. Mix <u>30</u>
Bulktrk <u>15</u>	No. Driver <u>1</u> Driver <u>1</u>	Gel. <u>3</u>
		Calcium <u>6</u>

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
<u>8 5/8 Bentonite Est. Circulation mix</u>	Sand
<u>1 50SK & Displace.</u>	Handling <u>159</u>
	Mileage

FLOAT EQUIPMENT

<u>Cement Circulated.</u>	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Pumptrk Charge Surface
Mileage 53

X Signature [Signature]

Tax
Discount
Total Charge

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 7324

Date	1-26-17	Sec.	11	Twp.	7	Range	20	County	Rocks	State	KS	On Location	1:45 PM	Finish	7:30 AM
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Location Stockton 12W 5R 4N 3/4W S into

Lease	BOSS	Well No.	1	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	W W #12				
Type Job	Retain Plug				
Hole Size	7 7/8	T.D.	3720	Charge To	Jasper Company
Csg.		Depth		Street	
Tbg. Size		Depth		City	State
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.		Shoe Joint		Cement Amount Ordered	290 ^{lb} / 40 4-1.62 1/4 #FK

Meas Line	Displace				
EQUIPMENT					
Pumptrk	20 No.	Cementer		Common	174
		Helper	Wick	Poz. Mix	116
Bulktrk	No.	Driver		Gel.	9
Bulktrk	19 No.	Driver	Craig	Calcium	

JOB SERVICES & REMARKS					
Remarks:					
Rat Hole	30SK	Flowseal 70H			
Mouse Hole		Kol-Seal			
Centralizers		Mud CLR 48			
Baskets		CFL-117 or CD110 CAF 38			
D/V or Port Collar		Sand			
	1st 3640 50SK	Handling 299			
	2nd 1760 50SK	Mileage			

FLOAT EQUIPMENT					
	3rd 1070 100SK	Guide Shoe 8 7/8 Dry H/c Plug			
	4th 300 50SK	Centralizer			
	5th 40 10SK	Baskets			
		AFU Inserts			
		Float Shoe			
		Latch Down			

Pumptrk Charge	plug				
Mileage	5.3				
Tax					
Discount					
Total Charge					

X Signature *Cal [Signature]*

