

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
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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)*

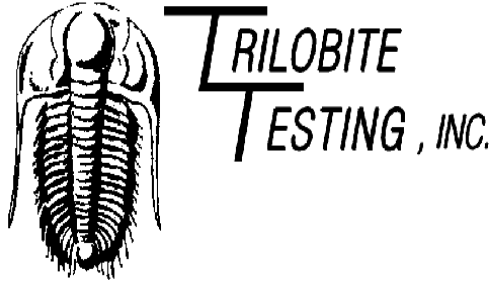
Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water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

**Larry B #1**

**29 9s 19w Rooks,KS**

Start Date: 2018.04.27 @ 12:43:00

End Date: 2018.04.27 @ 18:12:50

Job Ticket #: 65175                      DST #: 1

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

Printed: 2018.05.01 @ 16:12:35



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**29 9s 19w Rooks, KS**  
**Larry B #1**  
Job Ticket: 65175      **DST#: 1**  
Test Start: 2018.04.27 @ 12:43:00

## GENERAL INFORMATION:

Formation: **LKC E - F**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 15:19:20  
Time Test Ended: 18:12:50  
Interval: **3418.00 ft (KB) To 3442.00 ft (KB) (TVD)**  
Total Depth: 3442.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2155.00 ft (KB)  
2150.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Spencer Staab/Cade G  
Unit No: 65

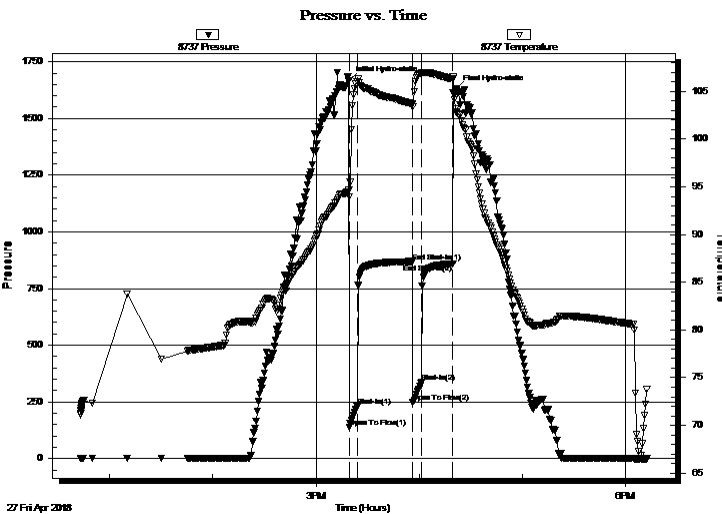
## Serial #: 8737

Outside

Press@RunDepth: 335.06 psig @ 3419.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2018.04.27      End Date: 2018.04.27      Last Calib.: 2018.04.27  
Start Time: 12:43:01      End Time: 18:12:50      Time On Btm: 2018.04.27 @ 15:19:10  
Time Off Btm: 2018.04.27 @ 16:21:30

TEST COMMENT: IF- BOB in 2 min. Built to 35"  
IS- No blow back  
FF- BOB in 2 1/2 min. built to 30"  
FS- No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1665.97	94.64	Initial Hydro-static
1	139.75	93.97	Open To Flow (1)
5	231.88	106.07	Shut-In(1)
37	867.51	103.68	End Shut-In(1)
38	248.59	103.44	Open To Flow (2)
43	335.06	106.89	Shut-In(2)
61	859.32	106.30	End Shut-In(2)
63	1629.16	102.91	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
600.00	Water 100%W	7.37
120.00	WCM 10%W 90%M	1.68

## 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

**29 9s 19w Rooks, KS**  
**Larry B #1**  
Job Ticket: 65175      **DST#: 1**  
Test Start: 2018.04.27 @ 12:43:00

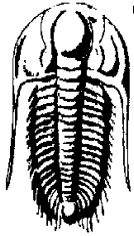
### Tool Information

Drill Pipe:	Length: 3302.00 ft	Diameter: 3.80 inches	Volume: 46.32 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose: 54000.00 lb
			<u>Total Volume: 46.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3418.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3399.00	
Shut In Tool	5.00			3404.00	
Hydraulic tool	5.00			3409.00	
Packer	5.00			3414.00	20.00      Bottom Of Top Packer
Packer	4.00			3418.00	
Stubb	1.00			3419.00	
Recorder	0.00	8653	Inside	3419.00	
Recorder	0.00	8737	Outside	3419.00	
Perforations	20.00			3439.00	
Bullnose	3.00			3442.00	24.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jaspar Co.

**29 9s 19w Rooks,KS**

PO Box 1120  
Hays, KS 67601

**Larry B #1**

Job Ticket: 65175

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2018.04.27 @ 12:43:00

## 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:

65000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
600.00	Water 100%W	7.369
120.00	WCM 10%W 90%M	1.683

Total Length: 720.00 ft

Total Volume: 9.052 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

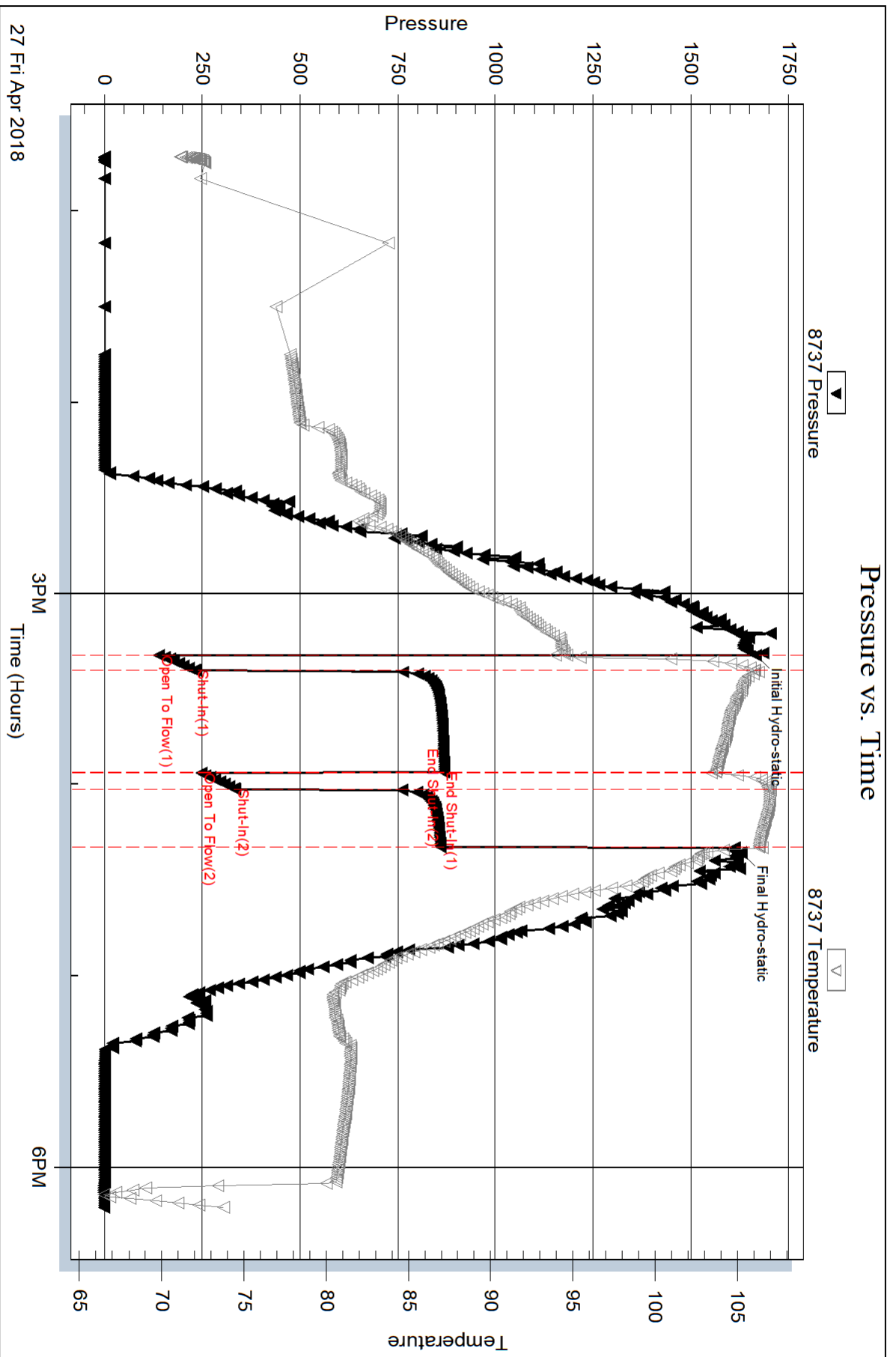
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: LCM 2#



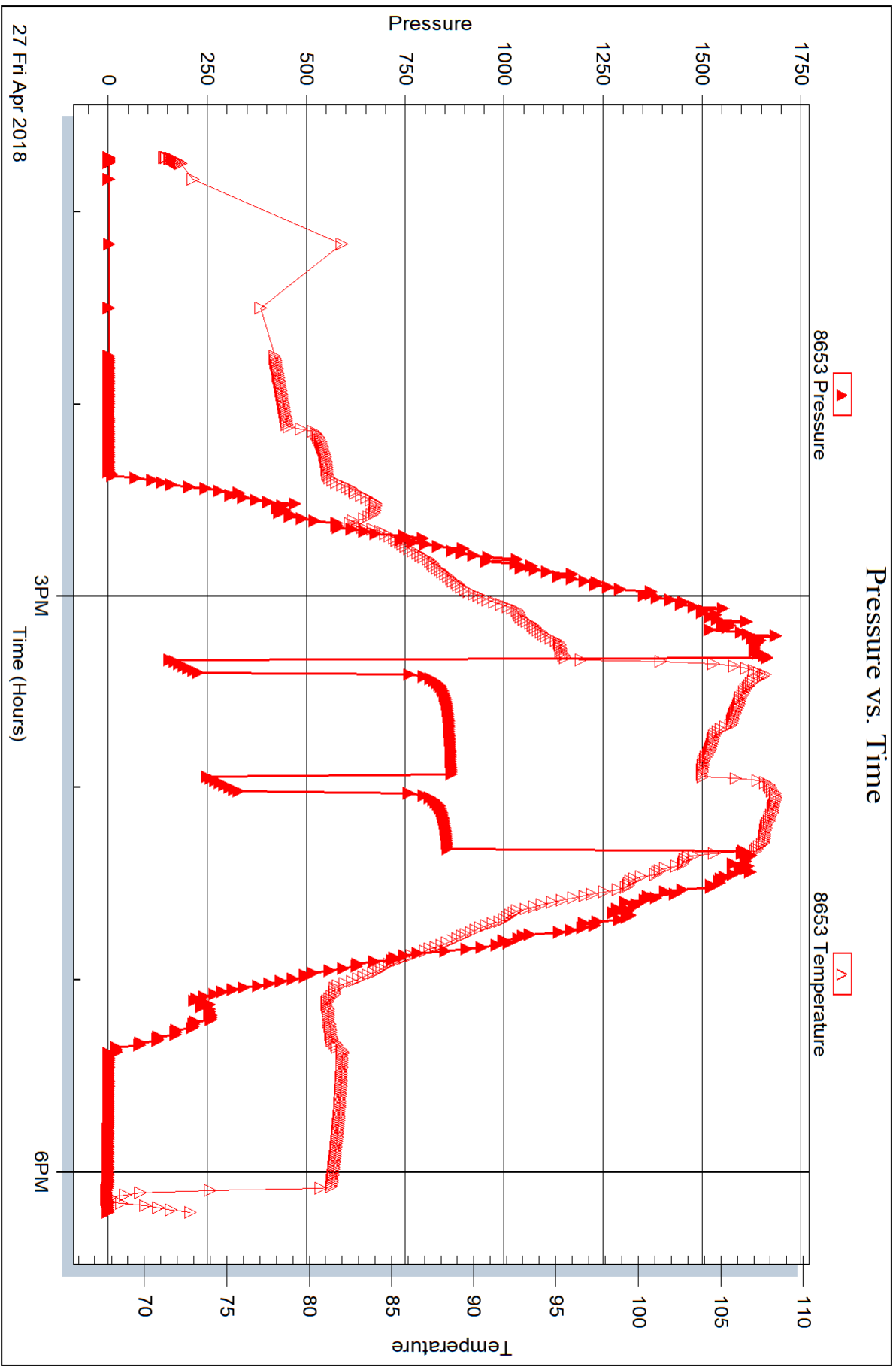


Serial #: 8653

Inside Jasper Co.

Larry B#1

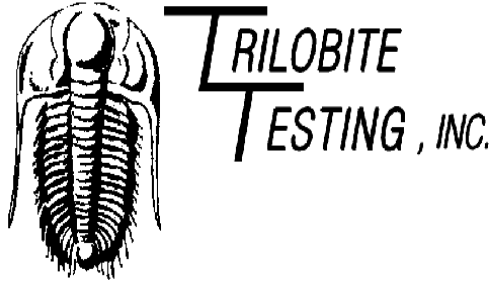
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 65175

Printed: 2018.05.01 @ 16:12:36



## DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120  
Hays, KS 67601

ATTN: Jeff Lawler

**Larry B #1**

**29 9s 19w Rooks,KS**

Start Date: 2018.04.28 @ 05:46:00

End Date: 2018.04.28 @ 10:54:30

Job Ticket #: 63275                      DST #: 2

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

Printed: 2018.05.01 @ 16:12:11

Jaspar Co. 29 9s 19w Rooks,KS Larry B #1 DST # 2 LKC I - J 2018.04.28



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**29 9s 19w Rooks, KS**  
**Larry B #1**  
 Job Ticket: 63275      **DST#: 2**  
 Test Start: 2018.04.28 @ 05:46:00

## GENERAL INFORMATION:

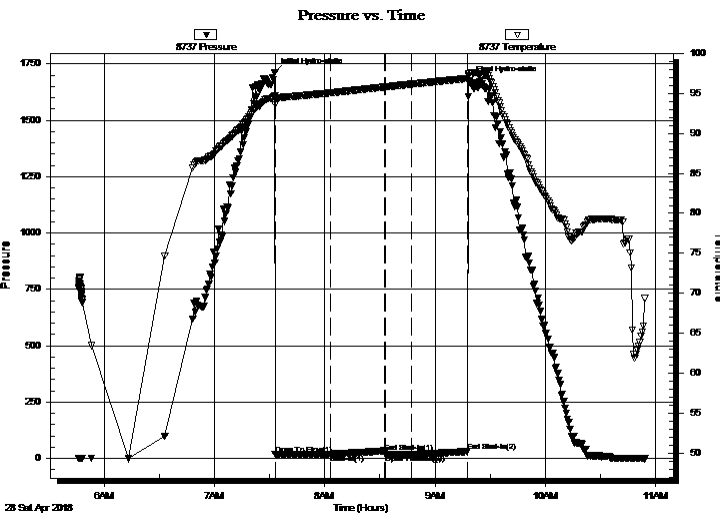
Formation: **LKC I - J**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:33:00  
 Time Test Ended: 10:54:30  
 Interval: **3491.00 ft (KB) To 3530.00 ft (KB) (TVD)**  
 Total Depth: 3442.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer Staab/Cade G  
 Unit No: 65  
 Reference Elevations: 2155.00 ft (KB)  
 2150.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8737

Outside

Press@RunDepth: 18.96 psig @ 3492.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2018.04.28      End Date: 2018.04.28      Last Calib.: 2018.04.28  
 Start Time: 05:46:01      End Time: 10:54:30      Time On Btm: 2018.04.28 @ 07:32:50  
 Time Off Btm: 2018.04.28 @ 09:18:30

TEST COMMENT: IF- Surface blow, built to 1/4"  
 IS- No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1712.34	94.66	Initial Hydro-static
1	18.29	93.64	Open To Flow (1)
31	18.57	95.08	Shut-In(1)
60	28.51	95.82	End Shut-In(1)
60	17.33	95.81	Open To Flow (2)
75	18.96	96.17	Shut-In(2)
105	29.97	96.87	End Shut-In(2)
106	1675.60	97.44	Final Hydro-static

## Recovery

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

\* 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

**29 9s 19w Rooks, KS**  
**Larry B #1**  
Job Ticket: 63275      **DST#: 2**  
Test Start: 2018.04.28 @ 05:46:00

**Tool Information**

Drill Pipe:	Length: 3366.00 ft	Diameter: 3.80 inches	Volume: 47.22 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 47.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3491.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3472.00	
Shut In Tool	5.00			3477.00	
Hydraulic tool	5.00			3482.00	
Packer	5.00			3487.00	20.00      Bottom Of Top Packer
Packer	4.00			3491.00	
Stubb	1.00			3492.00	
Recorder	0.00	8653	Inside	3492.00	
Recorder	0.00	8737	Outside	3492.00	
Perforations	35.00			3527.00	
Bullnose	3.00			3530.00	39.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>59.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jaspar Co.

**29 9s 19w Rooks,KS**

PO Box 1120  
Hays, KS 67601

**Larry B #1**

Job Ticket: 63275

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2018.04.28 @ 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:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
3.00	Mud 100%M	0.015

Total Length: 3.00 ft      Total Volume: 0.015 bbf

Num Fluid Samples: 0

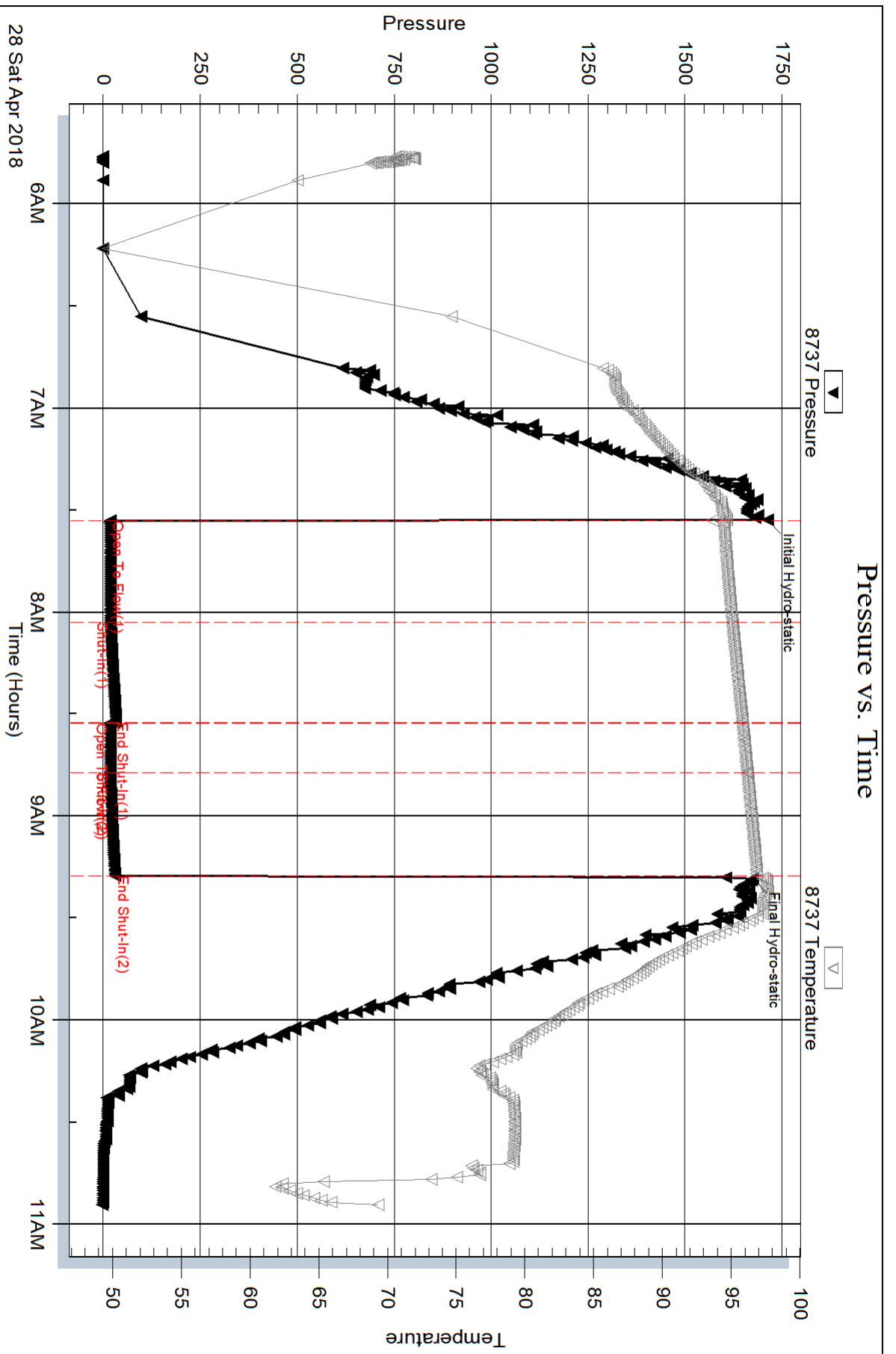
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



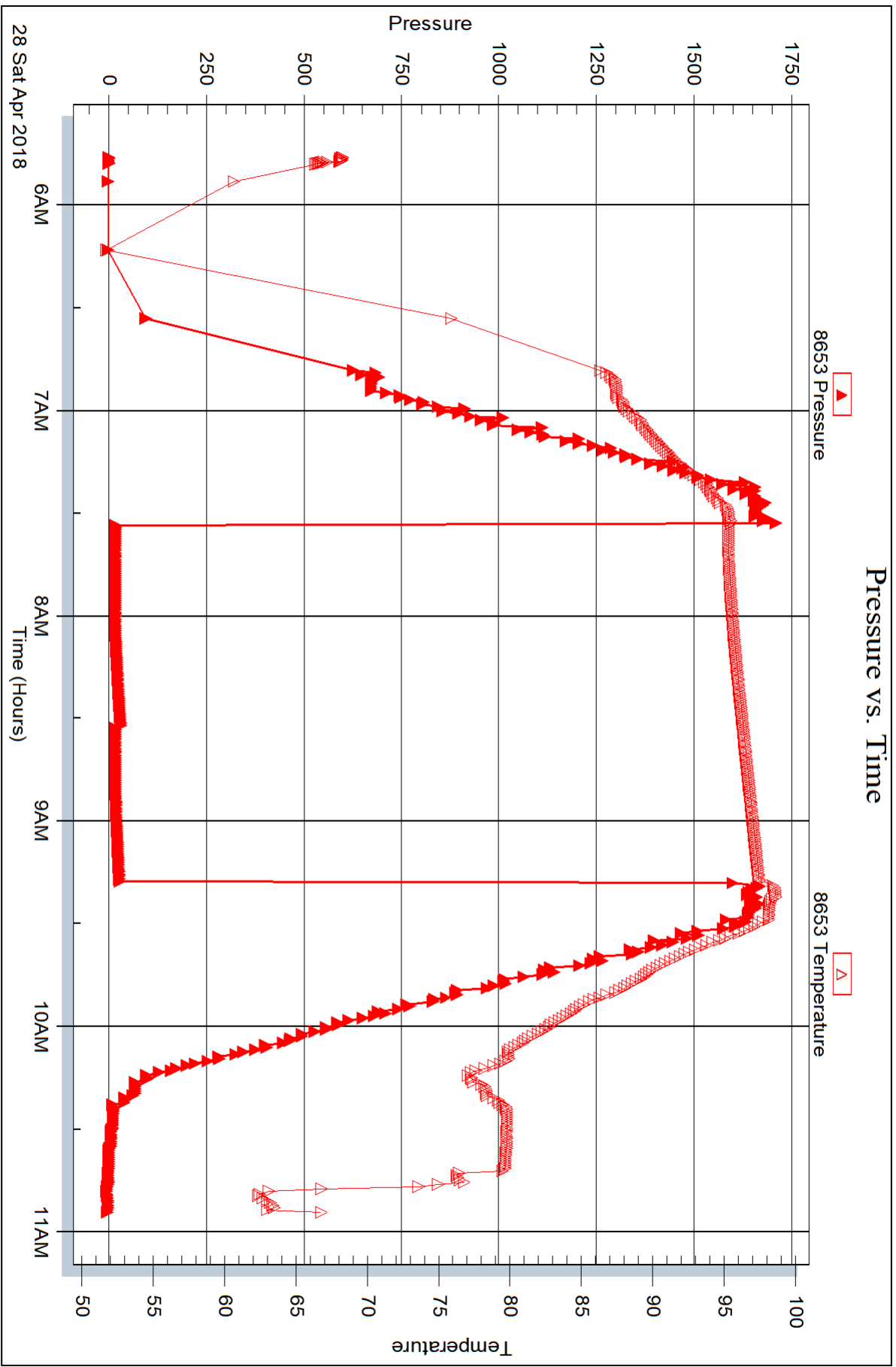


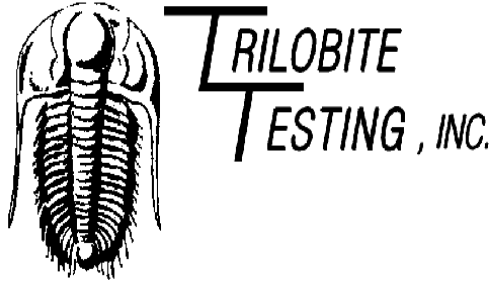
Serial #: 8653

Inside Jasper Co.

Larry B#1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120  
Hays, KS 67601

ATTN: Jeff Lawler

**Larry B #1**

**29 9s 19w Rooks,KS**

Start Date: 2018.04.28 @ 23:23:22

End Date: 2018.04.29 @ 03:26:52

Job Ticket #: 64001                      DST #: 3

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

Printed: 2018.05.01 @ 16:11:46

Jaspar Co.  
29 9s 19w Rooks,KS  
Larry B #1  
DST # 3  
Arbuckle  
2018.04.28







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**29 9s 19w Rooks, KS**  
**Larry B #1**  
Job Ticket: 64001      **DST#: 3**  
Test Start: 2018.04.28 @ 23:23:22

**Tool Information**

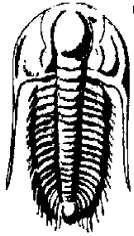
Drill Pipe:	Length: 3430.00 ft	Diameter: 3.80 inches	Volume: 48.11 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose:	48000.00 lb
			<u>Total Volume: 48.68 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	3536.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	66.00 ft				
Tool Length:	86.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			3517.00	
Shut In Tool	5.00			3522.00	
Hydraulic tool	5.00			3527.00	
Packer	5.00			3532.00	20.00      Bottom Of Top Packer
Packer	4.00			3536.00	
Stubb	1.00			3537.00	
Perforations	1.00			3538.00	
Change Over Sub	1.00			3539.00	
Recorder	0.00	8653	Inside	3539.00	
Recorder	0.00	8737	Outside	3539.00	
Drill Pipe	32.00			3571.00	
Change Over Sub	1.00			3572.00	
Perforations	27.00			3599.00	
Bullnose	3.00			3602.00	66.00      Bottom Packers & Anchor

**Total Tool Length: 86.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jaspar Co.

**29 9s 19w Rooks,KS**

PO Box 1120  
Hays, KS 67601

**Larry B #1**

Job Ticket: 64001

**DST#: 3**

ATTN: Jeff Lawler

Test Start: 2018.04.28 @ 23:23:22

## 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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	Mud	1.057

Total Length: 150.00 ft

Total Volume: 1.057 bbl

Num Fluid Samples: 0

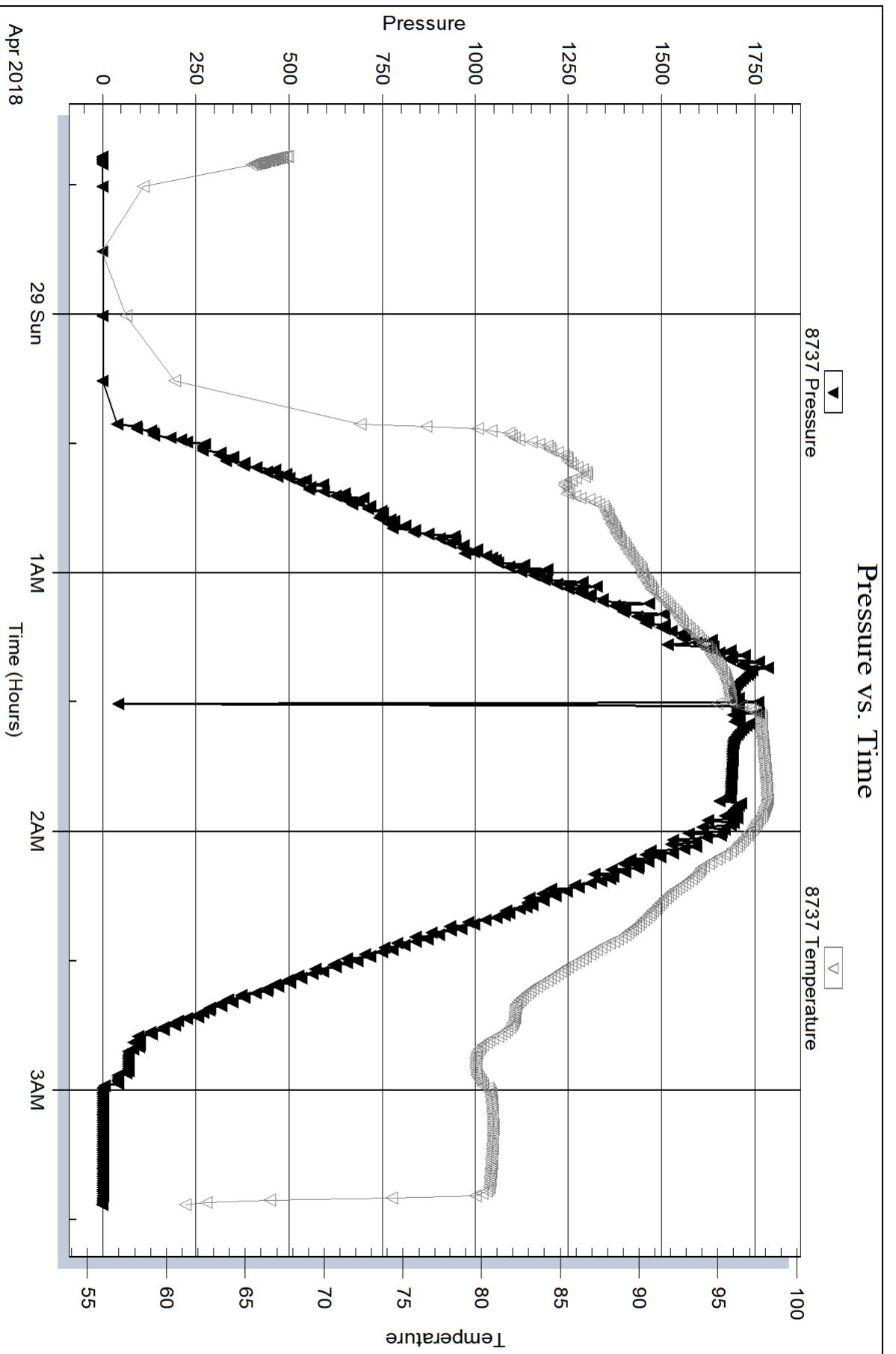
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

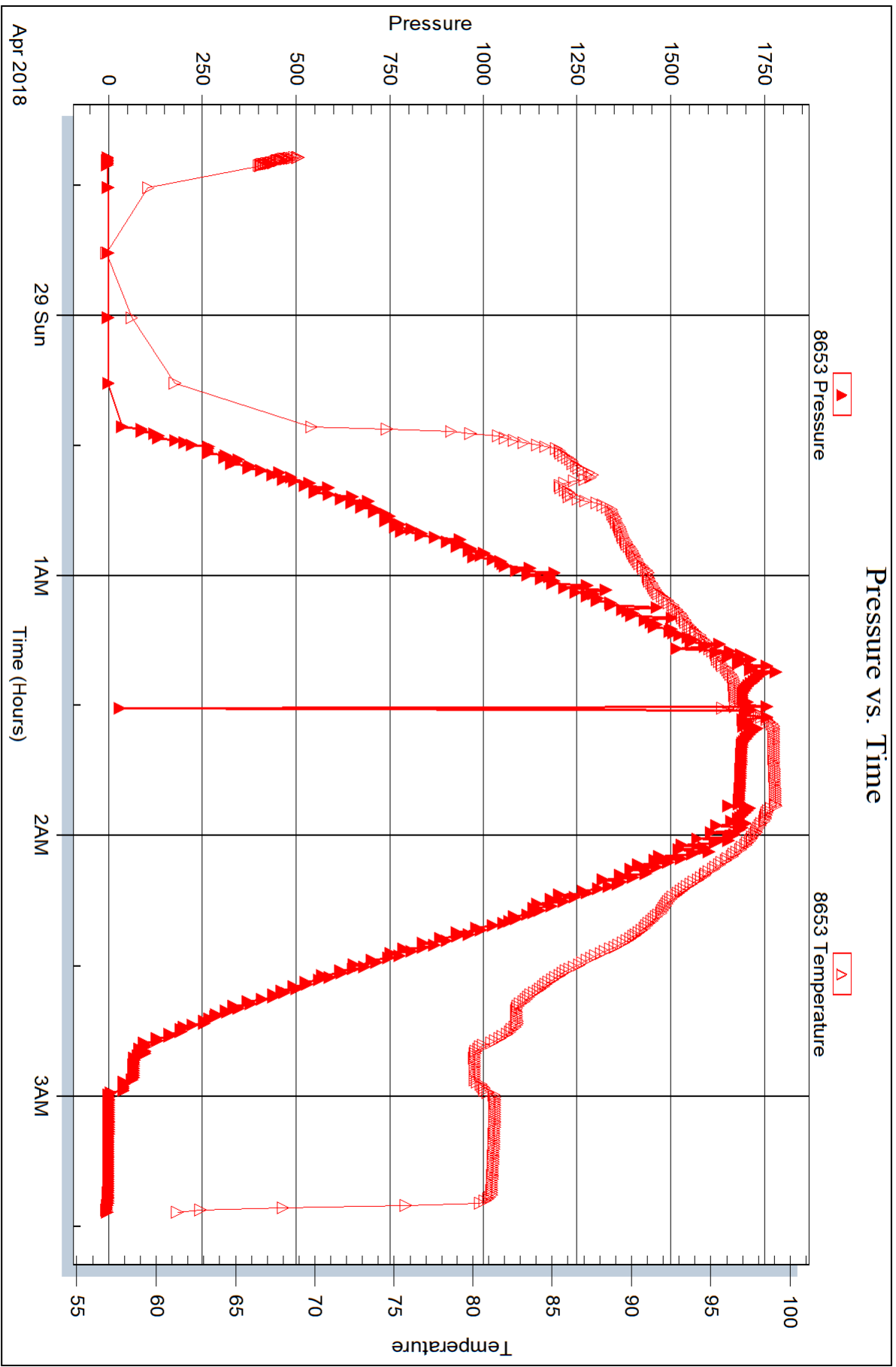


Serial #: 8653

Inside Jasper Co.

Larry B#1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 64001

Printed: 2018.05.01 @ 16:11:47





## DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120  
Hays, KS 67601

ATTN: Jeff Lawler

**Larry B #1**

**29 9s 19w Rooks,KS**

Start Date: 2018.04.29 @ 08:42:00

End Date: 2018.04.29 @ 15:28:30

Job Ticket #: 64002                      DST #: 4

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

Printed: 2018.05.01 @ 16:11:14

Jaspar Co.  
29 9s 19w Rooks,KS  
Larry B #1  
DST # 4  
Arbuckle  
2018.04.29



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

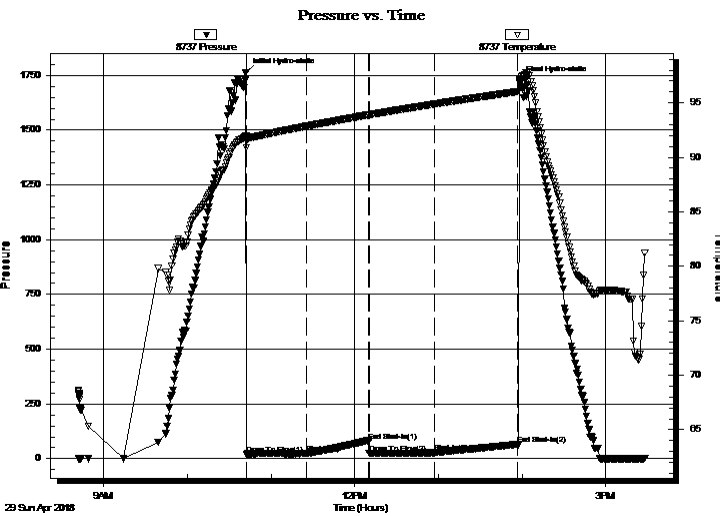
**29 9s 19w Rooks, KS**  
**Larry B #1**  
Job Ticket: 64002      **DST#: 4**  
Test Start: 2018.04.29 @ 08:42:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 10:42:10  
Time Test Ended: 15:28:30  
Interval: **3550.00 ft (KB) To 3603.00 ft (KB) (TVD)**  
Total Depth: 3603.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Spencer Staab/Cade G  
Unit No: 65  
Reference Elevations: 2155.00 ft (KB)  
2150.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8737      Outside**  
Press@RunDepth: 27.47 psig @ 3553.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2018.04.29      End Date: 2018.04.29      Last Calib.: 2018.04.29  
Start Time: 08:42:01      End Time: 15:28:30      Time On Btm: 2018.04.29 @ 10:42:00  
Time Off Btm: 2018.04.29 @ 13:58:09

TEST COMMENT: IF- Surface blow ; Built to 3/4"  
ISI-No Return  
FF-Surface Blow  
FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1763.26	91.96	Initial Hydro-static
1	21.70	90.89	Open To Flow (1)
44	24.08	92.86	Shut-In(1)
89	80.83	93.90	End Shut-In(1)
89	25.81	93.87	Open To Flow (2)
136	27.47	94.89	Shut-In(2)
195	65.74	96.03	End Shut-In(2)
197	1725.84	96.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
4.00	SOCM 5%O 95%M	0.02
1.00	CO 100%O	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**29 9s 19w Rooks, KS**  
**Larry B #1**  
Job Ticket: 64002      **DST#: 4**  
Test Start: 2018.04.29 @ 08:42:00

**Tool Information**

Drill Pipe:	Length: 3429.00 ft	Diameter: 3.80 inches	Volume: 48.10 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose:	48000.00 lb
			<u>Total Volume: 48.67 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	3550.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	73.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			3531.00	
Shut In Tool	5.00			3536.00	
Hydraulic tool	5.00			3541.00	
Packer	5.00			3546.00	20.00      Bottom Of Top Packer
Packer	4.00			3550.00	
Stubb	1.00			3551.00	
Perforations	1.00			3552.00	
Change Over Sub	1.00			3553.00	
Recorder	0.00	8653	Inside	3553.00	
Recorder	0.00	8737	Outside	3553.00	
Drill Pipe	32.00			3585.00	
Change Over Sub	1.00			3586.00	
Perforations	14.00			3600.00	
Bullnose	3.00			3603.00	53.00      Bottom Packers & Anchor

**Total Tool Length: 73.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jaspar Co.

**29 9s 19w Rooks,KS**

PO Box 1120  
Hays, KS 67601

**Larry B #1**

Job Ticket: 64002

**DST#: 4**

ATTN: Jeff Lawler

Test Start: 2018.04.29 @ 08:42:00

## 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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
4.00	SOCM 5%O 95%M	0.020
1.00	CO 100%O	0.005

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

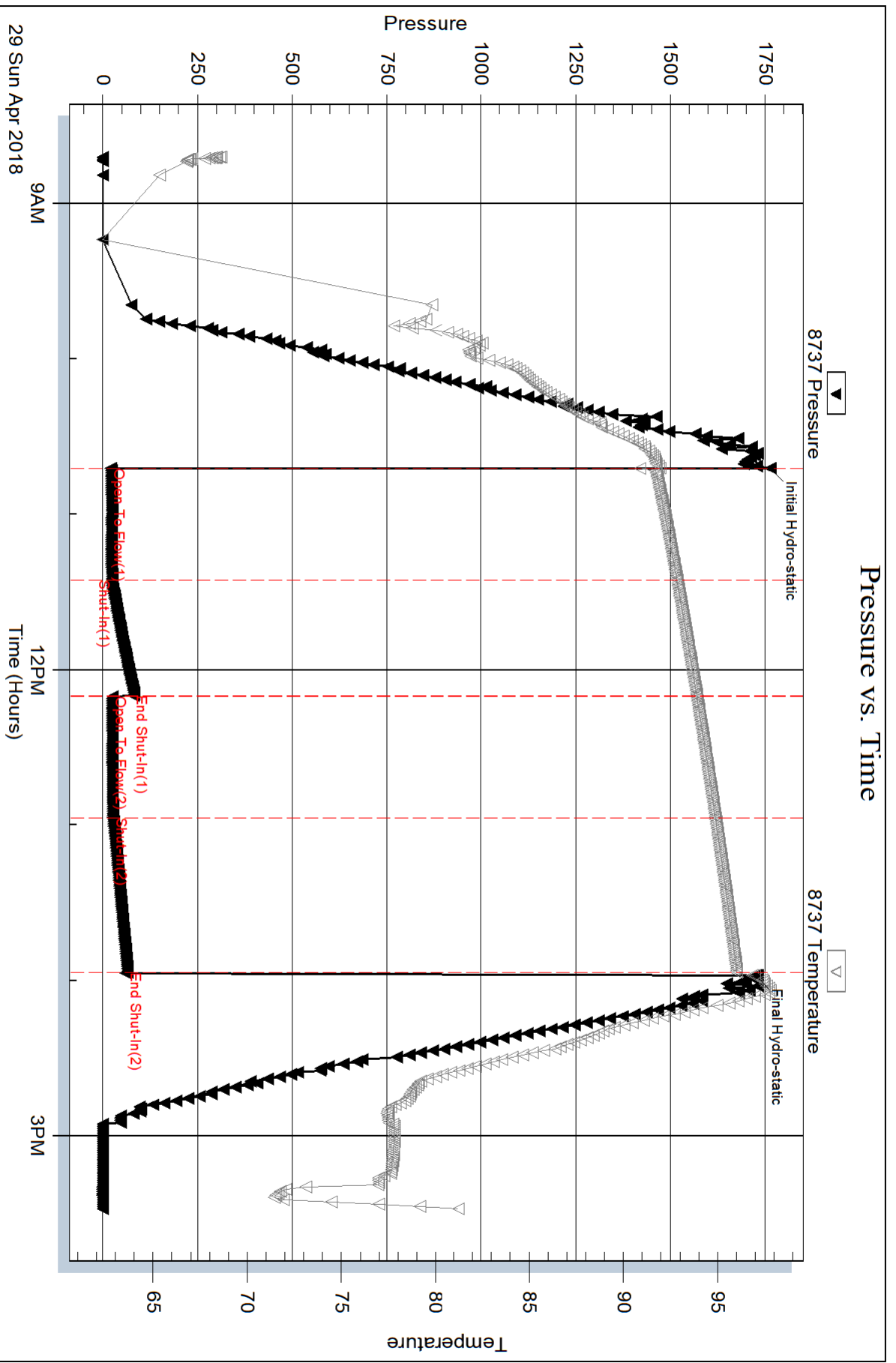
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

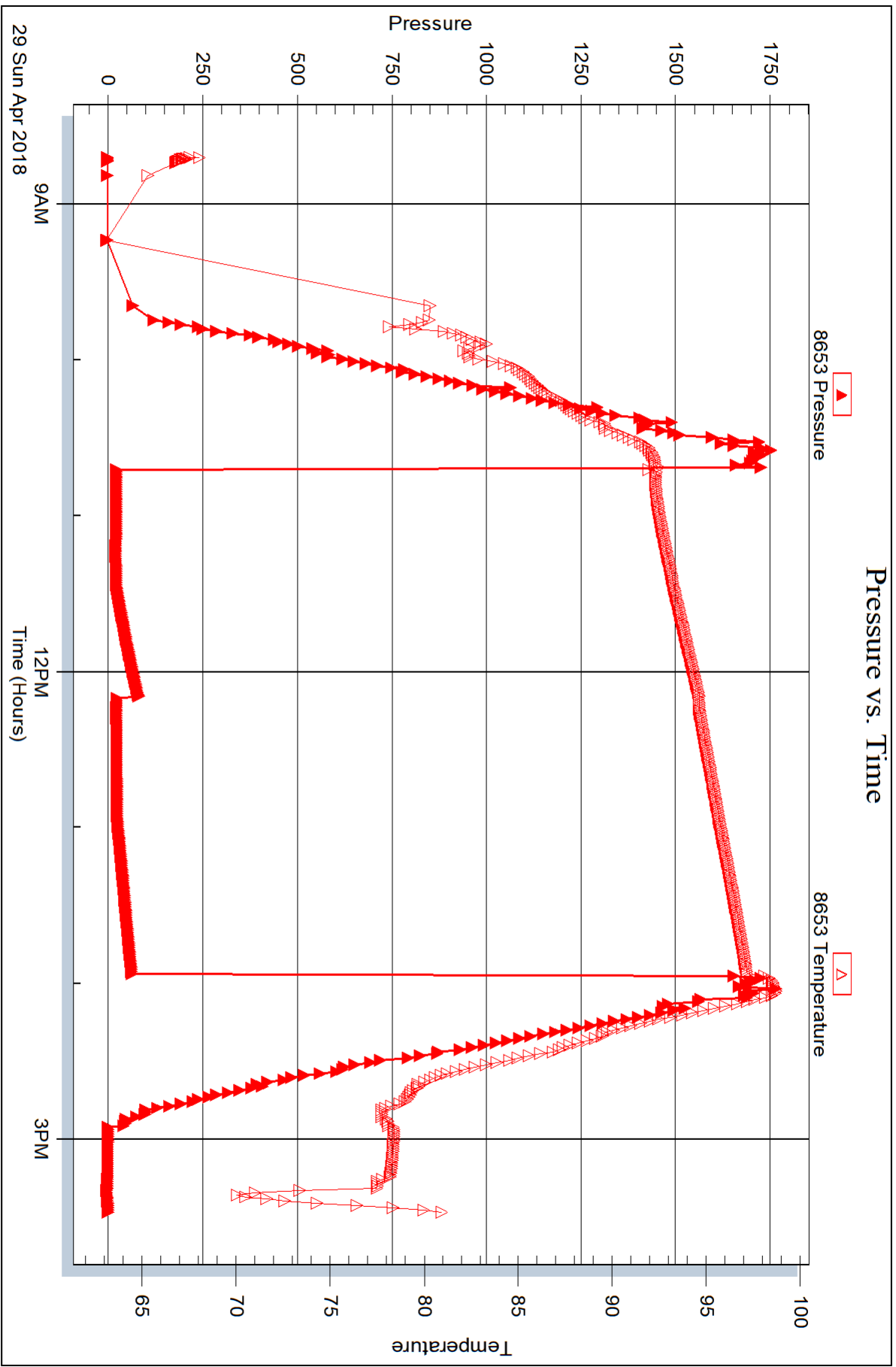


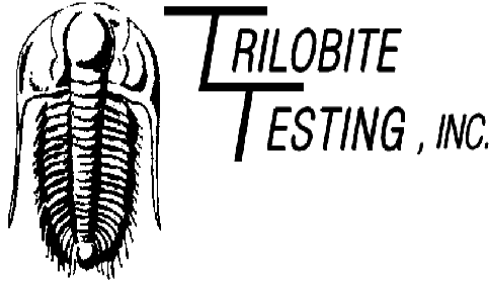
Serial #: 8653

Inside Jasper Co.

Larry B#1

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Jaspar Co.**

PO Box 1120  
Hays, KS 67601

ATTN: Jeff Lawler

**Larry B #1**

**29 9s 19w Rooks,KS**

Start Date: 2018.04.30 @ 08:00:00

End Date: 2018.04.30 @ 14:08:39

Job Ticket #: 64003                      DST #: 5

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

Printed: 2018.05.01 @ 16:10:43

Jaspar Co.  
29 9s 19w Rooks,KS  
Larry B #1  
DST # 5  
Arbuckle  
2018.04.30





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**29 9s 19w Rooks, KS**  
**Larry B #1**  
 Job Ticket: 64003 **DST#: 5**  
 Test Start: 2018.04.30 @ 08:00:00

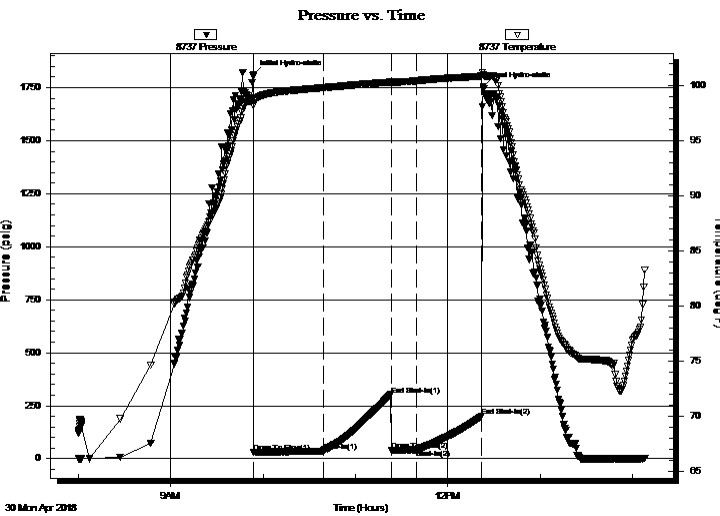
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:53:50  
 Time Test Ended: 14:08:39  
 Interval: **3552.00 ft (KB) To 3616.00 ft (KB) (TVD)**  
 Total Depth: 3442.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Straddle (Reset)  
 Tester: Spencer Staab/Cade G  
 Unit No: 65  
 Reference Elevations: 2155.00 ft (KB)  
 2150.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8737 Below (Straddle)

Press@RunDepth: 42.30 psig @ 3618.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.04.30 End Date: 2018.04.30 Last Calib.: 2018.04.30  
 Start Time: 08:00:01 End Time: 14:08:40 Time On Btm: 2018.04.30 @ 09:53:40  
 Time Off Btm: 2018.04.30 @ 12:23:09

TEST COMMENT: IF- Weak blow ; built to 1 1/4"  
 FF- No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1811.30	98.96	Initial Hydro-static
1	29.90	98.18	Open To Flow (1)
46	37.39	99.82	Shut-In(1)
90	302.15	100.33	End Shut-In(1)
90	40.95	100.14	Open To Flow (2)
106	42.30	100.44	Shut-In(2)
149	200.13	100.87	End Shut-In(2)
150	1754.05	101.01	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 50%O 50%M	0.02
10.00	SOCM 5%O 95%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  
ATTN: Jeff Lawler

**29 9s 19w Rooks, KS**  
**Larry B #1**  
Job Ticket: 64003      **DST#: 5**  
Test Start: 2018.04.30 @ 08:00:00

**Tool Information**

Drill Pipe:	Length: 3428.00 ft	Diameter: 3.80 inches	Volume: 48.09 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose: 50000.00 lb
		Total Volume: 48.66 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3552.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	3616.00 ft			
Interval between Packers:	64.00 ft			
Tool Length:	174.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3528.00	
Shut In Tool	5.00			3533.00	
Hydraulic tool	5.00			3538.00	
Blank Spacing	5.00			3543.00	
Packer	5.00			3548.00	25.00      Bottom Of Top Packer
Packer	4.00			3552.00	
Stubb	1.00			3553.00	
Perforations	10.00			3563.00	
Change Over Sub	1.00			3564.00	
Recorder	0.00	8653	Inside	3564.00	
Recorder	0.00	8646	Outside	3564.00	
Drill Pipe	32.00			3596.00	
Change Over Sub	1.00			3597.00	
Perforations	15.00			3612.00	
Blank Off Sub	1.00			3613.00	
Blank Spacing	3.00			3616.00	64.00      Tool Interval
Packer	1.00			3617.00	
Stubb	1.00			3618.00	
Recorder	0.00	8737	Below	3618.00	
Perforations	15.00			3633.00	
Change Over Sub	1.00			3634.00	
Drill Pipe	63.00			3697.00	
Change Over Sub	1.00			3698.00	
Bullnose	3.00			3701.00	85.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>		<b>174.00</b>			



**TRILOBITE**  
TESTING, INC.

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jaspar Co.

**29 9s 19w Rooks,KS**

PO Box 1120  
Hays, KS 67601

**Larry B #1**

Job Ticket: 64003

**DST#: 5**

ATTN: Jeff Lawler

Test Start: 2018.04.30 @ 08:00:00

## 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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OCM 50%O 50%M	0.025
10.00	SOCM 5%O 95%M	0.049

Total Length: 15.00 ft      Total Volume: 0.074 bbl

Num Fluid Samples: 0

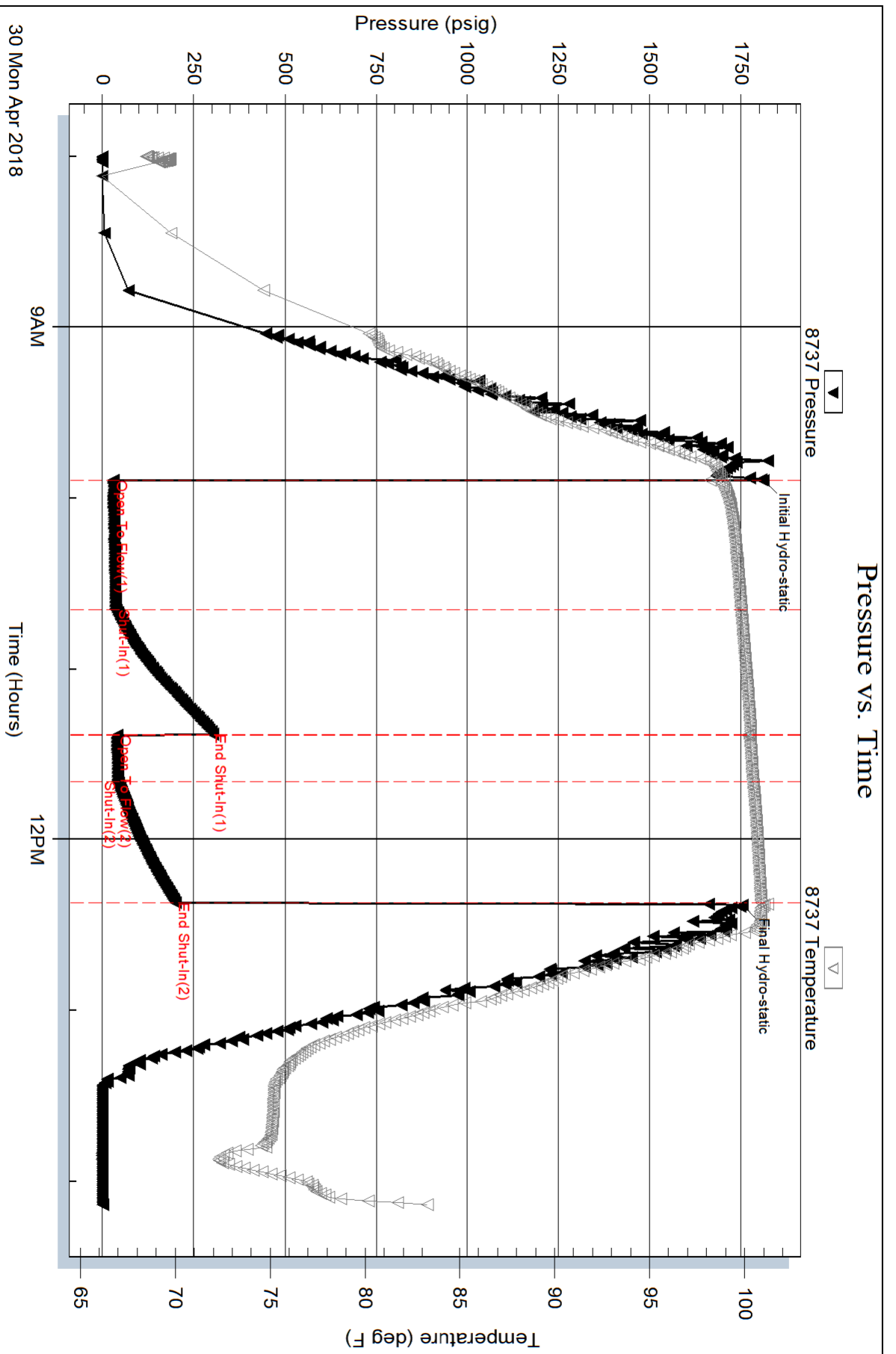
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

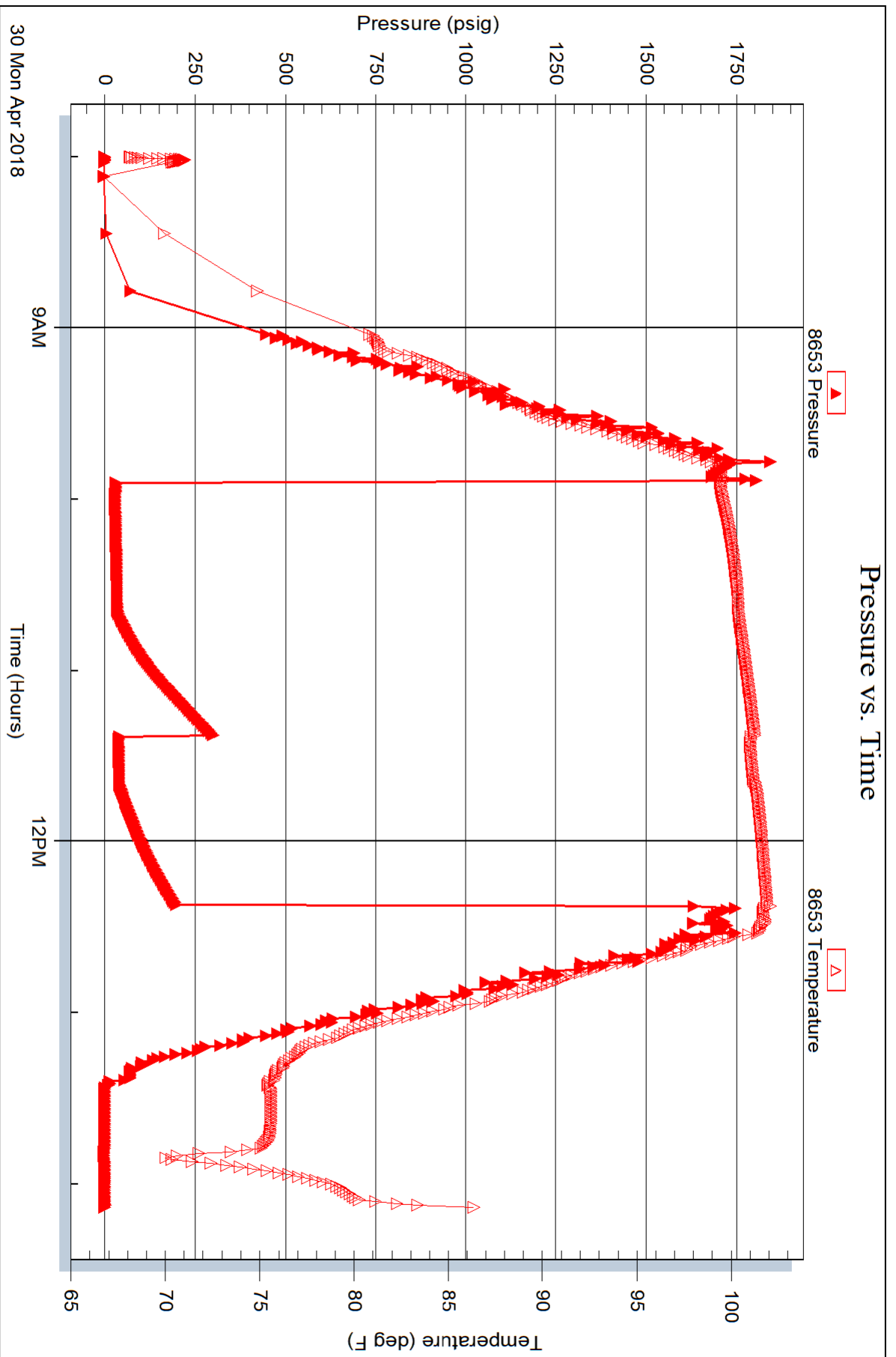


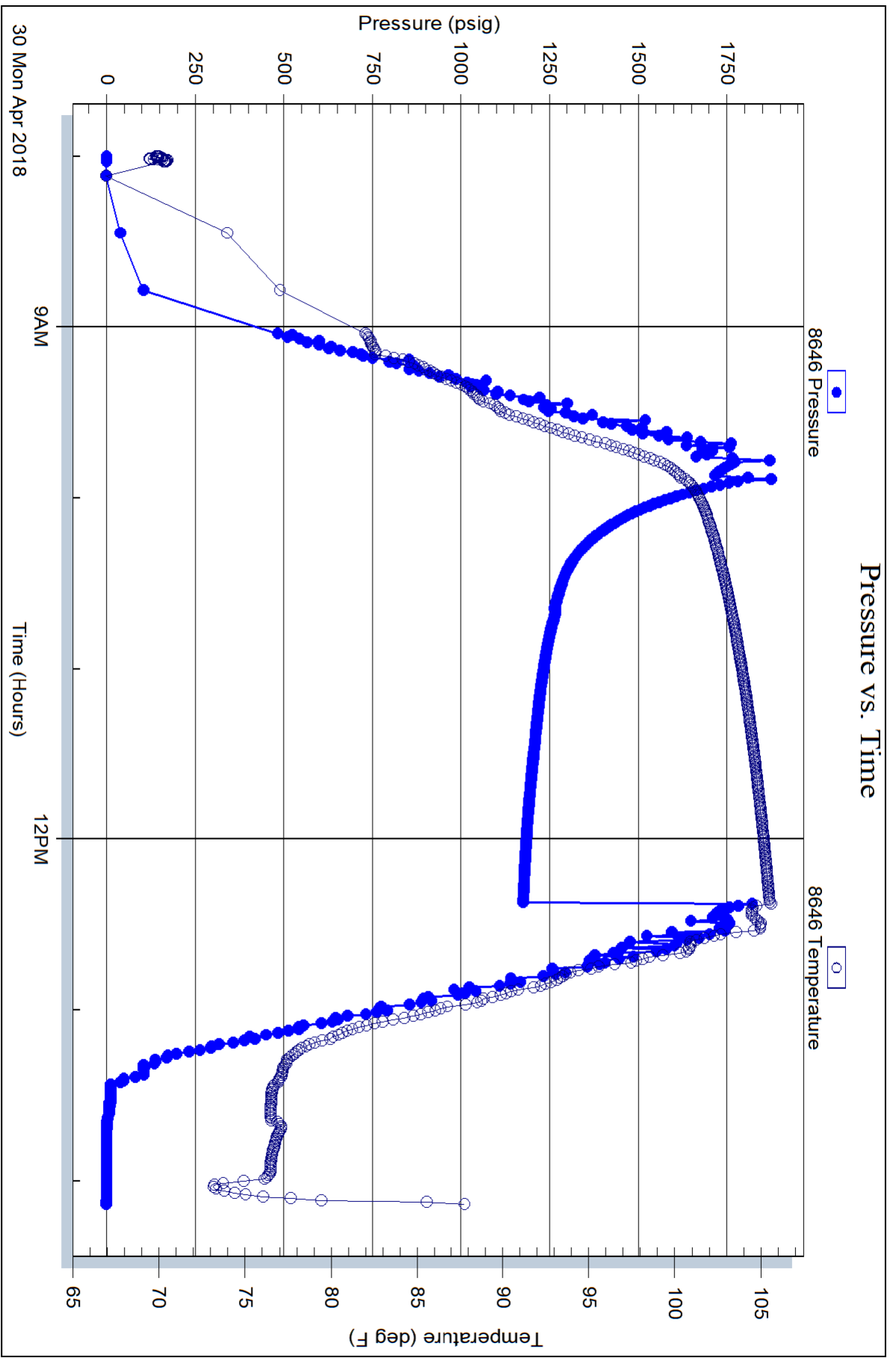
Serial #: 8653

Inside Jasper Co.

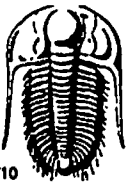
Larry B#1

DST Test Number: 5









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65176

Well Name & No. Larry B #1 Test No. 1 Date 4-27-18  
 Company Jospar Co. Elevation 2155 KB 2150 GL  
 Address PO Box 1120 Hays, Ks 67601  
 Co. Rep / Geo. Jeff Lawler Rig WW #8  
 Location: Sec. 29 Twp. 9<sup>s</sup> Rge. 19<sup>w</sup> Co. Rooks State KS

Interval Tested 3418-3442 Zone Tested LKC E+F  
 Anchor Length 24 Drill Pipe Run 3300 Mud Wt. 9  
 Top Packer Depth 3413 Drill Collars Run 115 Vis 53  
 Bottom Packer Depth 3418 Wt. Pipe Run — WL 7.6  
 Total Depth 3442 Chlorides 3500 ppm System LCM 2H  
 Blow Description IF - BOB in 2min Built to 35 in  
ISF NO blow back  
FF - BOB in 2 1/2 min Built to 30 in  
FSF NO blow back

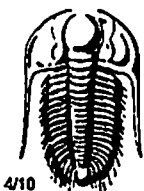
Rec	Feet of	%gas	%oil	%water	%mud
<u>600</u>	<u>Water</u>		<u>100</u>		
<u>120</u>	<u>Water cut mud</u>		<u>10</u>	<u>90</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total \_\_\_\_\_ BHT 102° Gravity 1050 API RW 115 @ 84° F Chlorides 65000 ppm

(A) Initial Hydrostatic 1665  Test 1050 T-On Location 17:15  
 (B) First Initial Flow 139  Jars \_\_\_\_\_ T-Started 17:43  
 (C) First Final Flow 231  Safety Joint \_\_\_\_\_ T-Open 15:19  
 (D) Initial Shut-In 867  Circ Sub \_\_\_\_\_ T-Pulled 16:29  
 (E) Second Initial Flow 248  Hourly Standby \_\_\_\_\_ T-Out 18:16  
 (F) Second Final Flow 335  Mileage 74 RT 74  
 (G) Final Shut-In 859  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1679  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 5  
 Initial Shut-In 30  
 Final Flow 5  
 Final Shut-In 15  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1124  
 Sub Total 1124  
 Sub Total \_\_\_\_\_  
 Sub Total \_\_\_\_\_

Comments \_\_\_\_\_  
 Sub Total 0  
 Total 1124.00  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Code (Cashrod) / Special 67002  
 TriLOBITE TESTING INC. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63275

Well Name & No. Larry B #1 Test No. 2 Date 4-28-18  
 Company Taspar Co. Elevation 2155 KB 2150 GL  
 Address PO Box 1120 Hays, KS 67601  
 Co. Rep / Geo. Jeff Lawler Rig WW #8  
 Location: Sec. 29 Twp. 9<sup>s</sup> Rge. 19<sup>w</sup> Co. ROCKE State KS

Interval Tested 3491 - 3530 Zone Tested LKC I-J  
 Anchor Length 39' Drill Pipe Run 3366 Mud Wt. 9  
 Top Packer Depth 3486 Drill Collars Run 115 Vis 53  
 Bottom Packer Depth 3491 Wt. Pipe Run — WL 7.6  
 Total Depth 3530 Chlorides 3500 ppm System LCM #  
 Blow Description IF - Surface Blow; Built to 14 in  
ISI - NO Blow back  
FF - NO Blow  
FSI - NO Blow

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

Rec Total \_\_\_\_\_ BHT 97° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

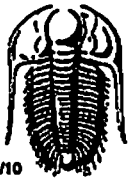
(A) Initial Hydrostatic 1712  Test 1050 T-On Location 05:02  
 (B) First Initial Flow 18  Jars \_\_\_\_\_ T-Started 05:46  
 (C) First Final Flow 18  Safety Joint \_\_\_\_\_ T-Open 07:32  
 (D) Initial Shut-In 28  Circ Sub \_\_\_\_\_ T-Pulled 09:17  
 (E) Second Initial Flow 17  Hourly Standby \_\_\_\_\_ T-Out 10:54  
 (F) Second Final Flow 18  Mileage 74 RT Comments \_\_\_\_\_  
 (G) Final Shut-In 29  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1675  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 15  
 Final Shut-In 30

Sub Total 1124

MP/DST Disc't \_\_\_\_\_

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64001

Well Name & No. Larry B #1 Test No. 3 Date 4-28-18  
 Company Jasper Co. Elevation 2155 KB 2150 GL  
 Address PO Box 1120 Hays, KS 67601  
 Co. Rep / Geo. Jeff Lawler Rig LWW#8  
 Location: Sec. 29 Twp 9S Rge. 19W Co. ROCKS State KS

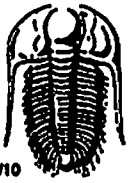
Interval Tested 3536-3602 Zone Tested Arbuckle  
 Anchor Length 66' Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.1  
 Top Packer Depth 3531 Drill Collars Run 115' Vis 50  
 Bottom Packer Depth 3536 Wt. Pipe Run \_\_\_\_\_ WL 7.6  
 Total Depth 3602 Chlorides 16000 ppm System LCM 2#  
 Blow Description FF -  
F5I -  
FF - Packer Failure  
F5I -

Rec	Feet of	%gas	%oil	%water	%mud
<u>150'</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 150' BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic \_\_\_\_\_  Test 850 T-On Location 02:55  
 (B) First Initial Flow \_\_\_\_\_  Jars \_\_\_\_\_ T-Started 23:23  
 (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 74 RT Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic \_\_\_\_\_  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 924.00  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 924

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64002

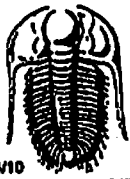
Well Name & No. Larry B #1 Test No. 4 Date 4-29-18  
 Company Jasper Co. Elevation 2155 KB 2150 GL  
 Address PO Box 1120 Hays, KS 67601  
 Co. Rep / Geo. Jeff Lawler Rig WWT#8  
 Location: Sec. 29 Twp 9s Rge. 19w Co. Rooks State Ks

Interval Tested 3550' - 3603' Zone Tested Arbuckle  
 Anchor Length 53' Drill Pipe Run 3429' Mud Wt. 9.1  
 Top Packer Depth 3545 Drill Collars Run 115' Vis 50  
 Bottom Packer Depth 3550 Wt. Pipe Run - WL 7.6  
 Total Depth 3603 Chlorides 6000 ppm System LCM 2H  
 Blow Description IF - Surface Blow; Built to 3/4"  
ISL - -  
EF - -  
FSL - -

Rec	Feet of	%gas	%oil	%water	%mud
<u>4</u>	<u>50CM</u>		<u>5</u>	<u>95</u>	
<u>1</u>	<u>60</u>		<u>100</u>		

Rec Total 6 BHT 96" ± Gravity - API RW @ F Chlorides ppm  
 (A) Initial Hydrostatic 1763  Test 1050 T-On Location 08:30  
 (B) First Initial Flow 21  Jars - T-Started 08:48  
 (C) First Final Flow 24  Safety Joint - T-Open 10:41  
 (D) Initial Shut-In 80  Circ Sub - T-Pulled 13:55  
 (E) Second Initial Flow 25  Hourly Standby - T-Out 15:28  
 (F) Second Final Flow 27  Mileage 74 RT Comments -  
 (G) Final Shut-In 65  Sampler -  
 (H) Final Hydrostatic 1725  Straddle -  
 Ruined Shale Packer -  
 Ruined Packer -  
 Extra Copies -  
 Initial Open 45  Shale Packer X 2 500  
 Initial Shut-In 45  Extra Packer -  
 Final Flow 45  Extra Recorder - Sub Total 0  
 Final Shut-In 60  Day Standby - Total 1624  
 Accessibility - MP/DST Disc't -  
 Sub Total 1624

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64003

Well Name & No. Larry B#1 Test No. 5 Date 4-30-18  
 Company Vaspar Co Elevation 2155 KB 2150 GL  
 Address PO BOX 1120 Hays KS 67601  
 Co. Rep / Geo. Jeff Lawler Rig WW 8  
 Location: Sec. 29 Twp 9S Rge. 19W Co. Rooks State KS

Interval Tested 3552-3616 84 gal Zone Tested Arbuckle  
 Anchor Length 64 Drill Pipe Run 3428 Mud Wt. 9.1  
 Top Packer Depth 3552 Drill Collars Run 115 Vis 50  
 Bottom Packer Depth 3616 Wt. Pipe Run \_\_\_\_\_ WL 7.6  
 Total Depth 3700 Chlorides 6000 ppm System LCM 1 1/2 #

Blow Description IF - Weak Blow, Built to 1 1/4"  
ISD - No Blow  
77 - No Blow  
78 - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>0cm</u>		<u>50</u>		<u>50</u>
<u>10</u>	<u>50cm</u>		<u>5</u>		<u>95</u>
____	____		____		____
____	____		____		____
____	____		____		____

Rec Total 15 BHT 96° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

- (A) Initial Hydrostatic 1811
- (B) First Initial Flow 29
- (C) First Final Flow 37
- (D) Initial Shut-In 308
- (E) Second Initial Flow 40
- (F) Second Final Flow 47
- (G) Final Shut-In 200
- (H) Final Hydrostatic 1754

- Test 1050
- Jars \_\_\_\_\_
- Safety Joint \_\_\_\_\_
- Circ Sub \_\_\_\_\_
- Hourly Standby \_\_\_\_\_
- Mileage 74 RT
- Sampler \_\_\_\_\_
- Straddle 600
- Shale Packer X2 500
- Extra Packer \_\_\_\_\_
- Extra Recorder \_\_\_\_\_
- Day Standby \_\_\_\_\_
- Accessibility \_\_\_\_\_
- Sub Total 2224

T-On Location 06:30  
 T-Started 08:00  
 T-Open 9:58  
 T-Pulled 12:28  
 T-Out 14:08  
 Comments loaded tools  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 2224.00  
 MP/DST Disc't \_\_\_\_\_

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 30 15  
 Final Shut-In 45

Approved By \_\_\_\_\_ Our Representative Code Gerhard / Spencer Stover  
 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.

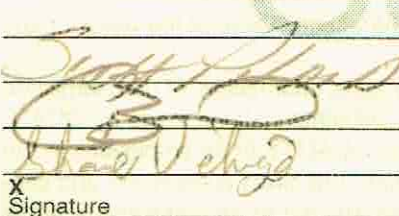
# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 811

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-1-18	29	9	19	Rooks	KS		12:45 AM
Lease <u>Larry B</u>				Well No. <u>11</u>		Owner	
Contractor <u>W/W #8</u>				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.			
Type Job <u>Production string</u>				Charge To <u>Jasper</u>			
Hole Size <u>7 7/8</u>		T.D. <u>3706</u>		Street			
Csg. <u>5 1/2 15.5'</u>		Depth <u>3700</u>		City			
Tbg. Size		Depth		State			
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Cement Left in Csg. <u>42.24</u>		Shoe Joint <u>42.24</u>		Cement Amount Ordered <u>150 lb Salt 5/Gilsonite</u>			
Meas Line		Displace <u>87 BC</u>		<u>450 89/10 QMDC 1/4" Fto 500g mod clear</u>			
<b>EQUIPMENT</b>							
Pumptrk <u>20</u>	No.	Cementer <u>Craig</u>	Common				
		Helper <u>Brett</u>	Poz. Mix				
Bulktrk <u>15</u>	No.	Driver <u>Jack</u>	Gel.				
Bulktrk <u>19</u>	No.	Driver <u>Jordan</u>	Calcium				
<b>JOB SERVICES &amp; REMARKS</b>							
Remarks:				Hulls			
Rat Hole <u>30SK</u>				Salt			
Mouse Hole				Flowseal			
Centralizers				Kol-Seal			
Baskets				Mud CLR 48			
D/V or Port Collar				CFL-117 or CD110 CAF 38			
<u>5 1/2 sev 3700 Basket @ 3057</u>				Sand			
<u>Best Circulation Pump 500g mod clear</u>				Handling			
<u>Plug Rathok with 30SK</u>				Mileage			
<u>Cement 5 1/2 with 570SK</u>				<b>FLOAT EQUIPMENT</b>			
<u>Clear Lines &amp; Displace Plug</u>				Guide Shoe			
<u>Plug landed @ 2000'</u>				Centralizer <u>7</u>			
<u>Cement Circulation</u>				Baskets <u>6</u>			
				AFU Inserts			
				Float Shoe <u>1</u>			
				Latch Down <u>1</u>			
				Pumptrk Charge			
				Mileage			
Signature  Steve V. Hays				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. 805

Date	4-23-18	Sec.	29	Twp.	9	Range	19	County	Rooks	State	KS	On Location		Finish	10:15 p.m.
Location								Zunch 1N 1/2W S4T0							

Lease	Larry B	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	WW #8			Charge To	Jasper Company
Type Job	Surface			Street	
Hole Size	12 1/4	T.D.	260	City	
Csg.	8 5/8	Depth	259	State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool		Depth		Cement Amount Ordered	150 80/20 3/4 2 1/2 GEL
Cement Left in Csg.	10'	Shoe Joint			
Meas Line		Displace	15 1/2 BCL		

**EQUIPMENT**

Pumptrk	20	No.	Cementor	Common	120
			Helper	Poz. Mix	30
Bulktrk		No.	Driver	Gel.	3
			Driver	Calcium	2
Bulktrk	30	No.	Driver		
			Driver		

**JOB SERVICES & REMARKS**

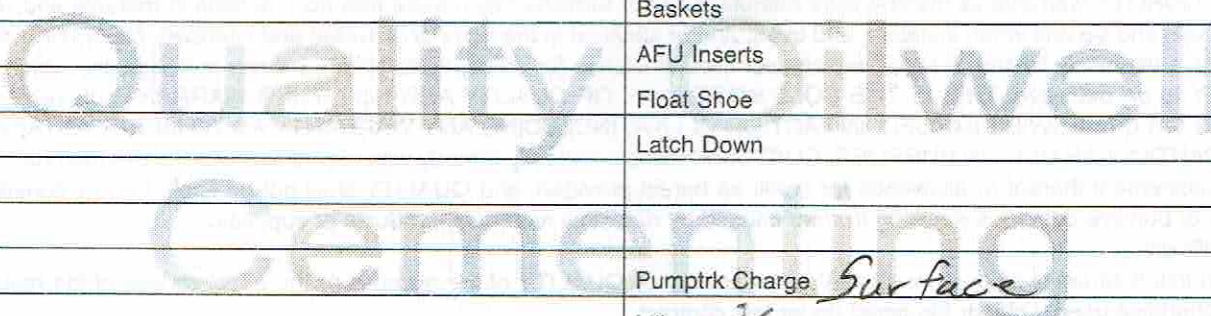
Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port/Collar	CFL-117 or CD110 CAF 38
8 5/8 on bottom. Best Circulation Mix 150 sack Displace.	Sand
	Handling 159
	Mileage

**FLOAT EQUIPMENT**

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

	Pumptrk Charge	Surface
	Mileage	36
	Tax	
	Discount	
	Total Charge	

X Signature *Scott P. [unclear]*



# JASPAR COMPANY INC.

Scale 1:240 Imperial

Well Name: LARRY B #1  
Surface Location: SE SW NE NW Sec. 29 - 9S - 19W  
Bottom Location:  
API: 15-163-24355  
License Number: 34903  
Spud Date: 4/23/2018 Time: 3:45 PM  
Region: ROOKS COUNTY KANSAS  
Drilling Completed: 4/29/2018 Time: 12:00 AM  
Surface Coordinates: 1005' FNL & 1810 FWL  
Bottom Hole Coordinates:  
Ground Elevation: 2150.00ft  
K.B. Elevation: 2155.00ft  
Logged Interval: 2950.00ft To: 3706.00ft  
Total Depth: 3700.00ft  
Formation: LANSING - KANSAS CITY; ARBUCKLE  
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

## OPERATOR

Company: JASPAR COMPANY, INC.  
Address: P. O. BOX 1120  
HAYS, KS 67637

Contact Geologist: SHANE VEHIGE  
Contact Phone Nbr: (785) 623-6982

Well Name: LARRY B #1  
Location: SE SW NE NW Sec. 29 - 9S - 19W  
API: 15-163-24355

Pool:  
State: KANSAS  
Field: UNKNOWN  
Country: USA

## SURFACE CO-ORDINATES

Well Type: Vertical  
Longitude: -99.4682145  
Latitude: 39.2458912  
N/S Co-ord: 1005' FNL  
E/W Co-ord: 1810 FWL

## LOGGED BY



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



Phone Nbr: (785) 259-3737  
 Logged By: GEOLOGIST

Name: JEFF LAWLER

**CONTRACTOR**

Contractor: WW DRILLING, LLC  
 Rig #: 8  
 Rig Type: MUD ROTARY  
 Spud Date: 4/23/2018  
 TD Date: 4/29/2018  
 Rig Release: 5/1/2018  
 Time: 3:45 PM  
 Time: 12:00 AM  
 Time: 4:45 AM

**ELEVATIONS**

K.B. Elevation: 2155.00ft  
 K.B. to Ground: 5.00ft  
 Ground Elevation: 2150.00ft

**NOTES**


AFTER LOG ANALYSIS IT WAS DECIDED TO RUN 5 1/2" PRODUCTION CASING AND FURTHER EVALUTATE ZONES OF INTEREST UPON COMPLETION WITH PERFORATION AND ACIDAZTION.

RESPECTFULLY SUBMITTED,  
 JEFF LAWLER

**WELL COMPARISON SHEET**

FORMATION	LARRY B #1				W2 SESE 20-9-19				OWWO P&A 2-11-08				HELLAR DRILLING CO.				CLINTON OIL CO.				ICER ADDIS			
	KB		GL		KB		2146		KB		2137		KB		2141		KB		2132		KB		2132	
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	LOG CORR.	SMPL. CORR.	DEPTH	DATUM	LOG CORR.	SMPL. CORR.	DEPTH	DATUM	LOG CORR.	SMPL. CORR.	DEPTH	DATUM	LOG CORR.	SMPL. CORR.	DEPTH	DATUM	LOG CORR.	SMPL. CORR.
	LOG TOPS				SAMPLE TOPS				LOG				LOG				LOGS				LOG			
ANHYDRITE TOP	1560	595	1557	598	1546	600	- 5	- 2	1536	601	- 6	- 3	1540	601	- 6	- 3	1535	597	- 2	+ 1				
BASE	1591	564	1597	558	1585	561	+ 3	- 3					1581	560	+ 4	- 2								
TOPEKA	3109	-954	3103	-948	3094	-948	- 6	+ 0					3093	-952	- 2	+ 4	3093	-961	+ 7	+ 13				
HEEBNER SHALE	3311	-1156	3308	-1153	3296	-1150	- 6	- 3	3293	-1156	+ 0	+ 3	3298	-1157	+ 1	+ 4	3301	-1169	+ 13	+ 16				
TORONTO	3333	-1178	3331	-1176	3320	-1174	- 4	- 2					3319	-1178	+ 0	+ 2	3323	-1191	+ 13	+ 15				
LKC	3353	-1198	3352	-1197	3341	-1195	- 3	- 2	3323	-1186	- 12	- 11	3339	-1198	+ 0	+ 1	3341	-1209	+ 11	+ 12				
BKC	3571	-1416	3567	-1412	3557	-1411	- 5	- 1					3559	-1418	+ 2	+ 6	3561	-1429	+ 13	+ 17				
CONGLOMERATE													3584	-1443			3589	-1457						
ARBuckle	3606	-1451	3600	-1445	3582	-1436	- 15	- 9	3580	-1443	- 8	- 2	3586	-1445	- 6	+ 0	3599	-1467	+ 16	+ 22				
TOTAL DEPTH	3706	-1551	3700	-1545	3599	-1453	- 98	- 92	3663	-1526	- 25	- 19	3624	-1483	- 68	- 62	3619	-1487	- 64	- 58				

**DST #1 LKC E-F 3418' - 3442'**



**DRILL STEM TEST REPORT**

Jaspar Co. **29 9s 19w**

PO Box 1120 **Larry B #1**  
 Hays, Kansas 67601 Job Ticket: 65175 **DST#: 1**

ATTN: Jeff Lawler Test Start: 2018.04.27 @ 12:43:00

**GENERAL INFORMATION:**

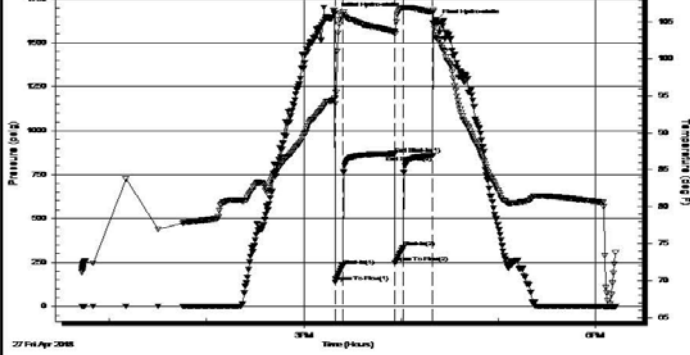
Formation: **LKC E&F**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 15:19:20  
 Time Test Ended: 18:12:50  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Spencer Staab/Cade G  
 Unit No: 65  
 Interval: **3418.00 ft (KB) To 3442.00 ft (KB) (TVD)**  
 Total Depth: 3442.00 ft (KB) (TVD)  
 Reference Elevations: 2155.00 ft (KB)  
 2150.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: 335.06 psig @ 3419.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.04.27 End Date: 2018.04.27 Last Calib.: 2018.04.27  
 Start Time: 12:43:01 End Time: 18:12:50 Time On Btm: 2018.04.27 @ 15:19:10  
 Time Off Btm: 2018.04.27 @ 16:21:30

**TEST COMMENT:** IF- BOB in 2 min. Built to 35in  
 ISI- No blow back  
 FF- BOB in 2 1/2 min. built to 30in  
 FSI- No blow back

Pressure vs. Time		PRESSURE SUMMARY			
Time	Pressure	Temp	Annotation		



(Min.)	(psig)	(deg F)	
0	1665.97	94.64	Initial Hydro-static
1	139.75	93.97	Open To Flow (1)
5	231.88	106.07	Shut-In(1)
37	867.51	103.68	End Shut-In(1)
38	248.59	103.44	Open To Flow (2)
43	335.06	106.89	Shut-In(2)
61	859.32	106.30	End Shut-In(2)
63	1629.16	102.91	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
600.00	Water 100%W	7.37
120.00	WCM 10%W 90% M	1.68

### Gas Rates

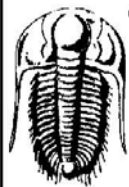
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 65175

Printed: 2018.04.27 @ 20:08:18

## DST #2 LKC I - J 3491' - 3530'



**TRILOBITE TESTING, INC.**

### DRILL STEM TEST REPORT

Jaspar Co.  
PO Box 1120  
Hays, Kansas 67601  
ATTN: Jeff Lawler

**29 9s 19w**  
**Larry B #1**  
Job Ticket: 63275 **DST#: 2**  
Test Start: 2018.04.28 @ 05:46:00

#### GENERAL INFORMATION:

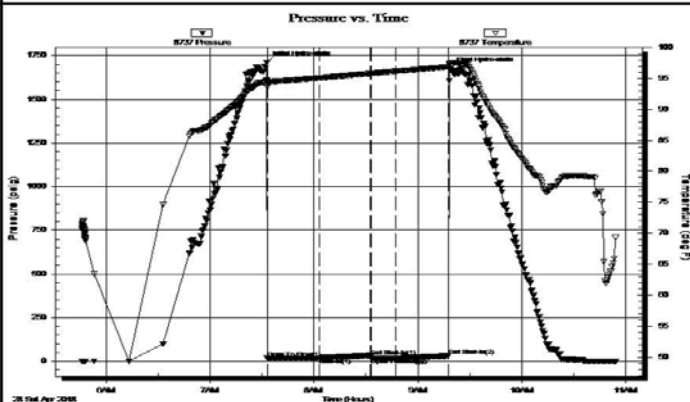
Formation: **LKC I-J**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 07:33:00  
Time Test Ended: 10:54:30  
Interval: **3491.00 ft (KB) To 3530.00 ft (KB) (TVD)**  
Total Depth: 3442.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Spencer Staab/Cade G  
Unit No: 65  
Reference Elevations: 2155.00 ft (KB)  
2150.00 ft (CF)  
KB to GR/CF: 5.00 ft

#### Serial #: 8737

#### Outside

Press@RunDepth: 18.96 psig @ 3492.00 ft (KB)  
Start Date: 2018.04.28 End Date: 2018.04.28  
Start Time: 05:46:01 End Time: 10:54:30  
Capacity: 8000.00 psig  
Last Calib.: 2018.04.28  
Time On Btm: 2018.04.28 @ 07:32:50  
Time Off Btm: 2018.04.28 @ 09:18:30

TEST COMMENT: IF- Surface blow, built to 1/4 in  
ISI- No blow back  
FSI No blow



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1712.34	94.66	Initial Hydro-static
1	18.29	93.64	Open To Flow (1)
31	18.57	95.08	Shut-In(1)
60	28.51	95.82	End Shut-In(1)
60	17.33	95.81	Open To Flow (2)
75	18.96	96.17	Shut-In(2)
105	29.97	96.87	End Shut-In(2)
106	1675.60	97.44	Final Hydro-static

Recovery

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

\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 63275

Gas Rates

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

Printed: 2018.04.28 @ 12:23:37

DST #3 ARBUCKLE 3536' - 3602'



**TRILOBITE TESTING, INC.**

DRILL STEM TEST REPORT

Jaspar Co.  
 PO Box 1120  
 Hays, Kansas 67601  
 ATTN: Jeff Lawler

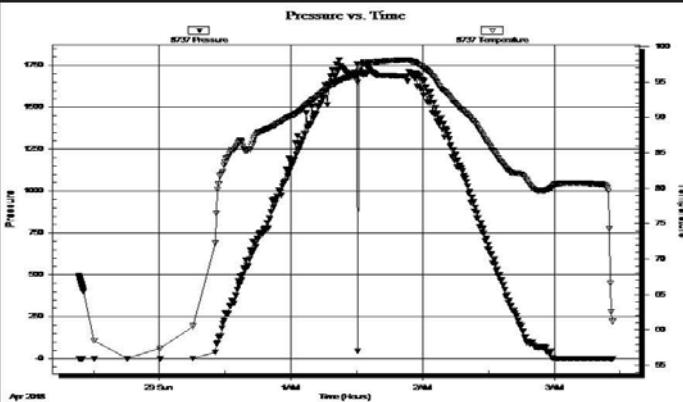
**29 9s 19w**  
**Larry B #1**  
 Job Ticket: 64001      **DST#: 3**  
 Test Start: 2018.04.28 @ 23:23:22

GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened:  
 Time Test Ended: 03:26:52  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer Staab/Cade G  
 Unit No: 65  
**Interval: 3536.00 ft (KB) To 3602.00 ft (KB) (TVD)**  
 Total Depth: 3442.00 ft (KB) (TVD)  
 Reference Elevations: 2155.00 ft (KB)  
 2150.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

**Serial #: 8737 Outside**  
 Press@RunDepth: psig @ 3539.00 ft (KB)  
 Start Date: 2018.04.28      End Date: 2018.04.29  
 Start Time: 23:23:23      End Time: 03:26:52  
 Capacity: 8000.00 psig  
 Last Calib.: 2018.04.29  
 Time On Btm:  
 Time Off Btm:

TEST COMMENT: Packer Failure



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
150.00	Mud	1.06

\* Recovery from multiple tests

Trilobite Testing, Inc


Ref. No: 64001

Gas Rates

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

Printed: 2018.04.29 @ 16:14:21

**DST #4 ARBUCKLE 3550' - 3603'**

 <p><b>TRILOBITE TESTING, INC.</b></p>	<b>DRILL STEM TEST REPORT</b>	
	Jaspar Co. PO Box 1120 Hays, Kansas 67601 ATTN: Jeff Lawler	<b>29 9s 19w</b> <b>Larry B #1</b> Job Ticket: 64002 <b>DST#: 4</b> Test Start: 2018.04.29 @ 08:42:00

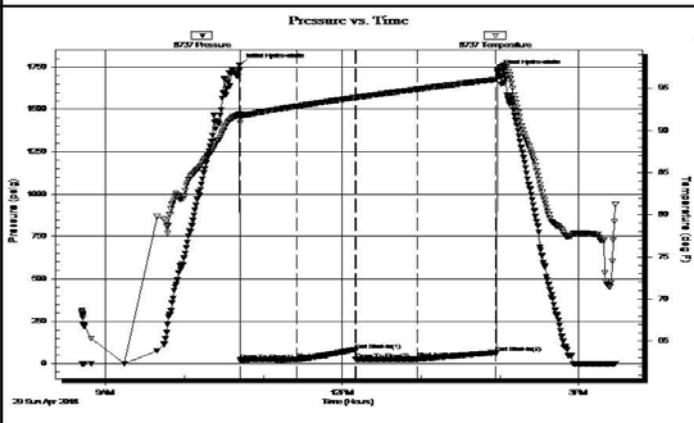
**GENERAL INFORMATION:**

Formation: <b>ar buckle</b> Deviated: No Whipstock: ft (KB) Time Tool Opened: 10:42:10 Time Test Ended: 15:28:30 <b>Interval: 3550.00 ft (KB) To 3603.00 ft (KB) (TVD)</b> Total Depth: 3603.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair	Test Type: Conventional Bottom Hole (Reset) Tester: Spencer Staab/Cade G Unit No: 65 Reference Elevations: 2155.00 ft (KB) 2150.00 ft (CF) KB to GR/CF: 5.00 ft
---	--

**Serial #: 8737      Outside**

Press@RunDepth: 27.47 psig @ 3553.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2018.04.29	Last Calib.: 2018.04.29
Start Time: 08:42:01	Time On Btm: 2018.04.29 @ 10:42:00
End Date: 2018.04.29	Time Off Btm: 2018.04.29 @ 13:58:09
End Time: 15:28:30	

**TEST COMMENT:** IF- Surface blow ; Built to 3/4"  
 ISI-No Return  
 FF-Surface Blow  
 FSI-No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1763.26	91.96	Initial Hydro-static
1	21.70	90.89	Open To Flow (1)
44	24.08	92.86	Shut-In(1)
89	80.83	93.90	End Shut-In(1)
89	25.81	93.87	Open To Flow (2)
136	27.47	94.89	Shut-In(2)
195	65.74	96.03	End Shut-In(2)
197	1725.84	96.97	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
4.00	SOCM 5%O 95%M	0.02
1.00	OO 100%O	0.00

\* Recovery from multiple tests

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

**ROCK TYPES**

Cht vari	Dolsec	shale, gry	shale, red
Congl	Lmst fw7>	Carbon Sh	Ss
Dolprim	shale, grn	Shblk	

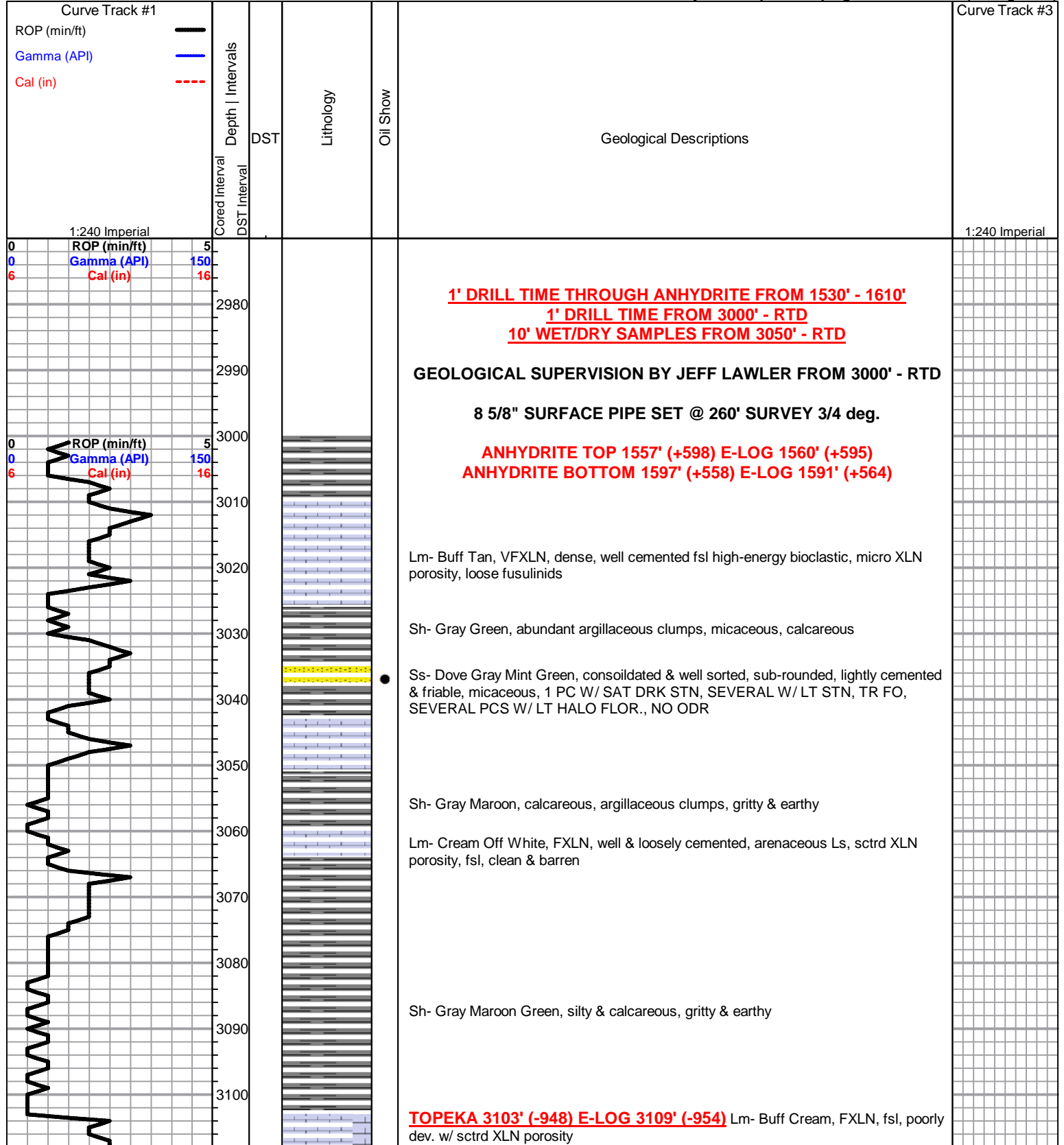
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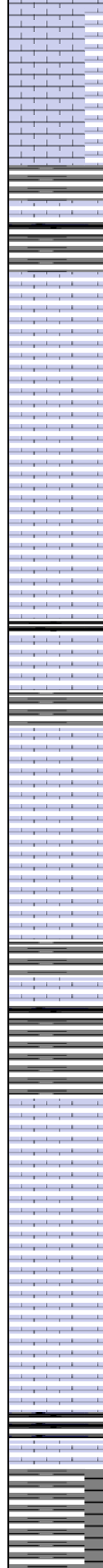
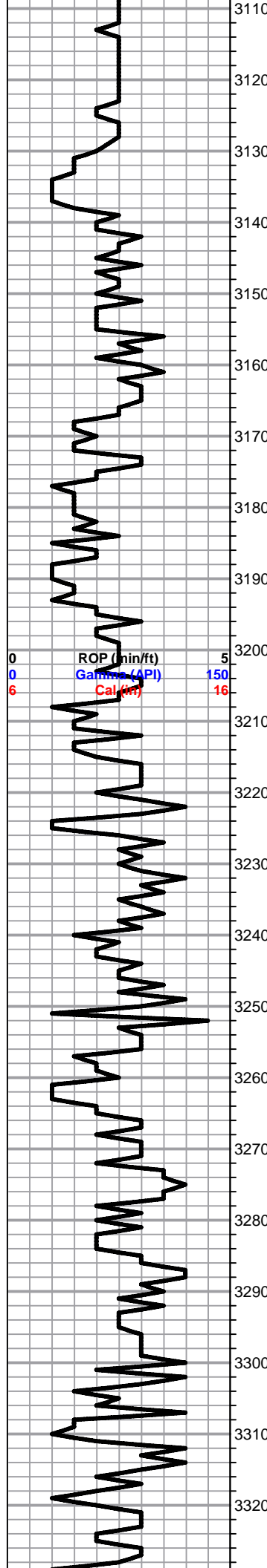
**STRINGER**  
 Chert

**OTHER SYMBOLS**

- MISC**
- Daily Report
  - Digital Photo
  - Document
  - Folder
  - Link
  - Vertical Log File
  - Horizontal Log File
  - Core Log File
  - Drill Cuttings Rpt

- DST**
- DST Int
  - DST alt





Lm- VFXLN, dense, vry well cemented no vis. porosity, much soft white chalk

Lm- Cream Buff, FXLN, dense, well cemetented, sctrd vry fn ppt & XLN porosity, barren

Sh- Black Gray, fissile & carbonaceous, argillaceous clumps

Lm- Cream, FXLN, chalky in part, fsl, poorly dev. w/ sctrd inter fsl XLN porosity, tight

Lm- Cream Tan, VF-FXLN, dense, well cemented, poorly dev. & fsl w/ sctrd XLN porosity

Lm- A/A w/ abundant soft white chalk

Lm- soft white chalk

Lm- Tan, FXLN, massive, oolitic, poorly dev. w/ dense XLN porosity, clear replacement interXLN cementation, barren

Sh- Black Dove Gray, fissile & carbonaceous, abundant argillaceous wash

Lm- Cream, VFXLN, tight & dense, poor vis. porosity, clean & barren

Lm- Cream Off White, FXLN, fsl w/ fusulinids, sctrd XLN porosity, barren

Lm- Gray, FXLN, Fn Grn, trashy high-energy mix w/ fsl fragments, poorly dev. w/ sctrd XLN porosity, some chalky in part

Sh- Black Gray Maroon Green, argillaceous wash, calcareous

● Lm- Buff Cream, FXLN, dense & well cemented, sctrd fn ppt porosity, DRK STN, HVY OIL, FR SHW FO, NO ODR

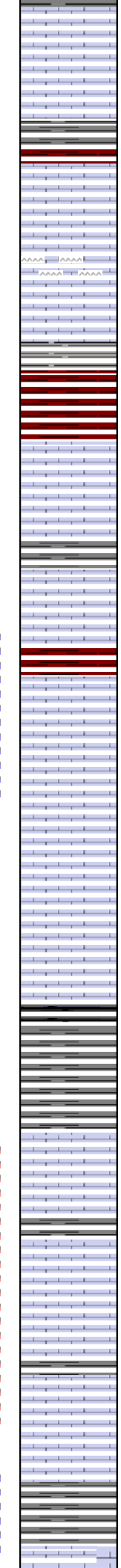
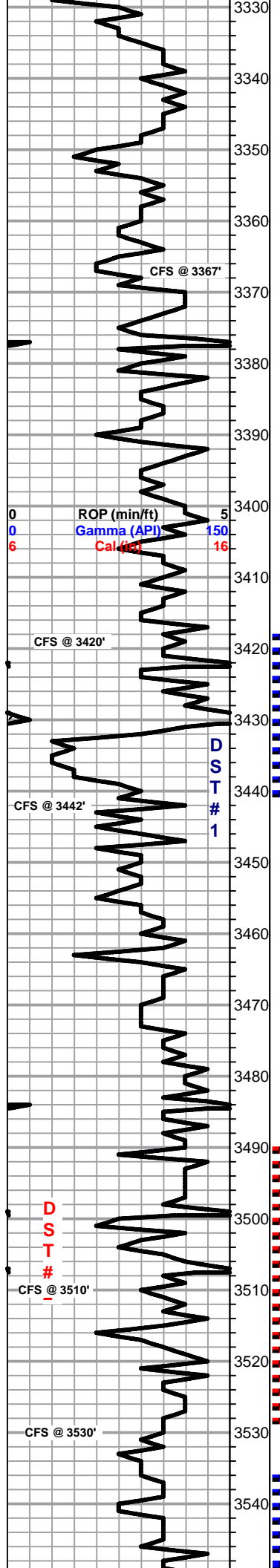
● Lm- Cream, FXLN, fsl, well cemented, massive, sctrd ppt inter fsl porosity, SCTRD DRK STN, HVY, FR SHW FO, WK ODR, much soft chalk

Lm- Cream Buff, VFXLN, dense, well cemented, fsl w/ fusulinids, cherty Ls w/ no vis. porosity

Lm- Cream Off White, VF-FXLN, dense, well cemented & tight w/ poor vis. porosity, sctrd mottling

**HEEBNER 3308' (-1153) E-LOG 3311' (-1156)** Sh- Black, fissile & carbonaceous

Sh- Gray White, abundant argillaceous wash & soft white chalk



**3330** Lm- Cream Off White, F-MedXLN, fsl & oolitic, massive, mostly consistent fn ppt & XLN porosity, DRK STN, SL SFO, WK-FR ODR

**3340** Lm- White Off White, FXLN Vf Grn, tight mix of clean pristine Ls, chalky in part, & soft white chalk, clean & barren

**3350** Sh- Maroon Gray Green, gritty & earthy, argillaceous wash

**3360** **LKC 3351' (-1197) E-LOG 3353' (-1198)** Lm- Off White, F-MEDXLN, oolitic w/ sctrd dev. from mostly tight w/ clear replacement cementation & min. vis. porosity, & mod. dev. w/ ppt inter oolite porosity, SCTRD DRK STN, TR FO, WK ODR

**3370** Chert- Milky White, fresh bedded vitreous chert w/o vis. porosity, soft white chalk

**3380** Lm- Drk Gray, FXLN, sl fsl trashy high-energy bioclastic w/ min. vis. porosity

**3390** Sh- Black Maroon Green Gray, fissile, dense, argillaceous gray wash

**3400** Lm- Cream Off White, mix of VF-FXLN, some sl fsl & oolitic, tight w/ sctrd XLN porosity, & tight VFXLN, dnse & well cemented, poor vis. porosity, all clean & barren

**3410** Sh- Maroon Green, gritty & earthy

**3420** Lm- Cream Off White, FXLN, sl fsl, sctrd ppt & XLN inter fsl porosity, LT SCTRD STN, NO SFO, LT SULPHURIC ODR??

**3430** Lm- Buff Gray, VFXLN, vry well cemented, tight w/ min. vis. porosity, barren

**3440** Lm- Tan, VFXLN, massive, vry dense, well cemented, oolitic, dense fn ppt inter oolite & secondary reXLN porosity & sctrd clear replacement cementation, SCTRD DRK STN, LT SHW FO, FR ODR, some soft white chalk

**3450** Lm- Cream Off White, FXLN, well cemented, poorly dev. fsl w/ sctrd fn ppt & XLN porosity, SCTRD LT STN, NSFO, FR ODR

**3460** Lm- Cream Off White, FXLN, fsl & oolitic, tight w/ sctrd micro XLN & XLN porosity, some well cemented, mostly loosely cemented & chalky in part, much soft white chalk, clean & barren

**3470** Lm- A/A Chert- Milky Gray, fresh bedded sl fsl vitreous chert

**3480** Sh- Black Maroon, fissile & carbonaceous, gritty & earthy

**3490** Sh- Gray Green, argillaceous wash, dense & waxy

**3500** Lm- Cream Off White, FXLN, sl fsl, poorly dev. & mostly tight w/ sctrd micro XLN porosity, much soft white chalk, clean & barren

**3510** Lm- Buff, FXLN, fsl, dense & well cemented, tight w/ poor vis. porosity, barren

**3520** Lm- Tan, VF-FXLN, dense, well cemented, sctrd micro XLN & XLN porosity, LT SCTRD STN, NSFO, TR ODR

**3530** Lm- Cream Off White, FXLN, oolitic, sctrd fn ppt interoolite porosity, SCTRD LT STN, NSFO, FR ODR

**3540** Lm- Cream Off White, FXLN, dense, well cemented & mostly tight w/ sctrd XLN porosity, clean & barren

**3550** Lm- Cream Off White, FXLN, sl fsl, poorly dev. w/ sctrd XLN porosity, clean & barren

**3560** Sh- Black Maroon Gray, fissile & carbonaceous, argillaceous wash

**3570** Lm- Cream Tan, VF-FXLN, dense, well cemented, mostly tight w/ poor vis. porosity,

**SHORT TRIP SURVEY 1 deg STRAP -0.94'**

**DST #1 LKC E-F 3418' - 3442' 5-30-5-15**

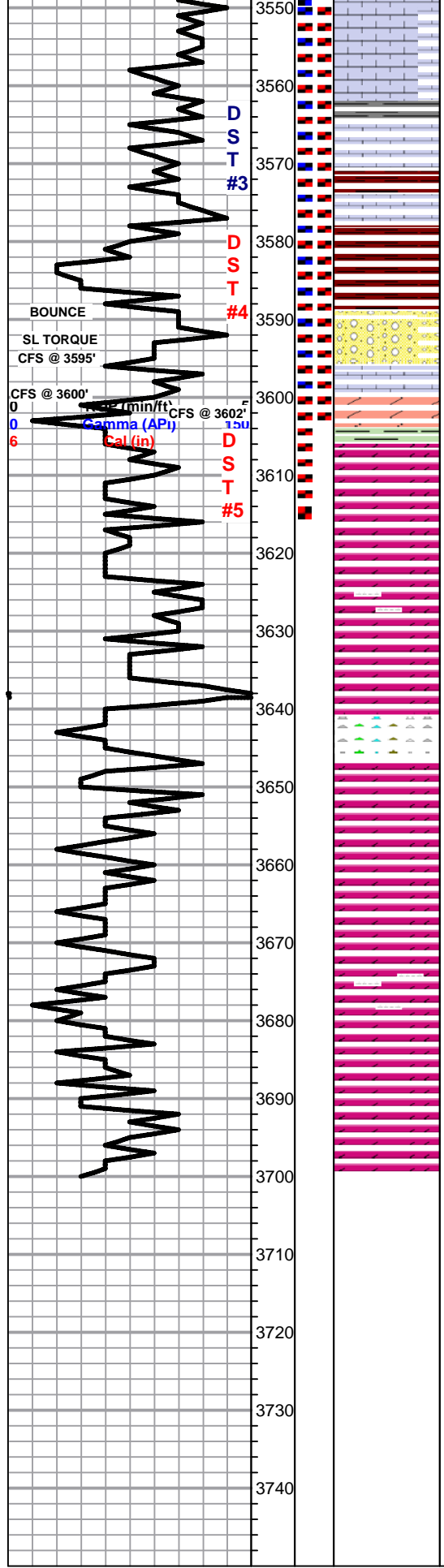
**720' TOTAL FLUID 120' WCM (10%W, 90%M) 600' WATER CHLOR: 65K Rw: .115**

**IFP: 139-231# FFP: 248-335# SIP: 867-859# BHT: 93 deg.**

**DST #2 LKC I-J 3491' - 3530' 30-30-15-30**

**3' MUD**

**IFP: 18-18# FFP: 17-18# SIP: 28-29#**



much soft white chalk

Lm- Off White, FXLN, dense, well cemented poorly dev. w/ poor XLN porosity, sl oolitic, some loosely cemented & chalky in part, pristine & barren

**BKC 3567' (-1412) E-LOG 3571' (-1416)** Sh- Red Green White, abundant argillaceous wash & sandy shale/shaley Ss

Lm- Cream, Fn Grn, sl unconsolidated & chalky oolitic mix, mud supported matrix

Sh- Red Green, abundant argillaceous wash & clumps

A/A, w/ fresh bedded chert & conglomerate Ls, trashy, clastic

Lm- Off White, Fn Grn, loosely cemented & chalky sandy Ls w/ consistent intergranular porosity, barren

**ARBUCKLE 3600' (-1445) E-LOG 3606' (-1451) 40"**-Dol- Cream Tan, Med XLN, well dev. w/ consistent ppt inter XLN porosity, rhombic, semi-sucrosic, DRK SUB-SAT STN, GD SFO, GD ODR

**60"**- Dol- Off White, FXLN, dense, well cemented, sl less dev. w/ consistent micro XLN & fn ppt porosity, DRK STN, FR SFO, GD ODDR

Dol- Tan Cream Lt Pink, VF-FXLN, mix of tight clean & barren w/ micro XLN porosity, A/A, & tan w/ pink tint, F-M XLN w/ micro XLN & XLN porosity, SCTRD DRK STN, SHW FO, FR ODR (possible carryover?)

Chert/Dol- White Cream, mix of VF-FXLN, tight w/ micro porosity, barren, & bone white fresh bedded chert w/o vis. porosity

Dol- Cream Off White, VFXLN, dense, tight w/ consistent micro XLN porosity, clean & baren

Chert- Golden Brown, oolitic fresh bedded chert w/o vis. porosity

Dol- Cream Tan Lt Pink, FXLN, dense, well cemented oolitic dolomite, few pcs of sl cherty dolomite, all w/ dense XLN porosity, few pcs of oomoldic w/ vuggy porosity, all barren

Dol- oomoldic A/A w/ BLK DEAD STN, NSFO, ODR (probable carryover from above)

Dol- Lt Pink, infulx of VF-FXLN, dense, well cemented & tight w/ micro XLN porosity, few pcs w/ sub-rounded qtz inclusions, barren

Dol/Chert- Cream Off White, mix of oolitic/oomoldic w/ micro XLN & vuggy porosity, BLK DEAD OIL STN, DRK SCTRD STN, TR FO, FR ODR (rank sulphuric odor)

Dol- Off White, FXLN, dense, loose & well cemented, inconspicuous spks of glauconite, micro XLN porosity, rounded fn grn qtz inclusions, barren

A/A w/ BLACK DEAD OIL STN, NSFO, WK SULPHURIC ODR

**RTD 3700' (-1545) LTD 3706' (-1551) @ 23:45 APRIL 29, 2018**

DST 5\_FLD.jpg  
DST 5\_STRD PKR.jpg

**DST #3**  
**ARBUCKLE**  
**3536' - 3602**  
**MISRUN**

**DST #4**  
**ARBUCKLE**  
**3550' - 3603'**  
**45-45-45-60**

**5' TOTAL FLUID**  
**4' SL OCM**  
**(5% O, 95% M)**  
**1' CLEAN OIL**

**IFP: 21-24#**  
**FFP: 25-27#**  
**SIP: 80-65#**


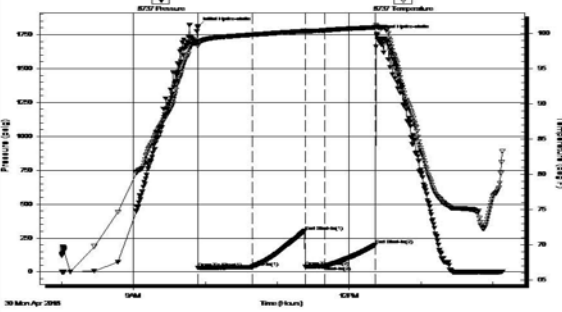
**DST #5**  
**ARBUCKLE**  
**(STRADDLE)**  
**3552' - 3616'**

**15' TOTAL FLUID**  
**5' OCM**  
**(50% O, 50% M)**  
**10' SOCM**  
**(5% O, 95% M)**

**IFP: 29-37#**  
**FFP: 40-42#**  
**SIP: 302-200#**  
**BHT: 101**

**SURVEY 1.25 deg**



 <b>TRILOBITE TESTING, INC.</b>	<b>DRILL STEM TEST REPORT</b>																																						
Jaspar Co. PO Box 1120 Hays, Kansas 67601 ATTN: Jeff Lawler		<b>29 9s 19w</b> <b>Larry B #1</b> Job Ticket: 64003 <b>DST#: 5</b> Test Start: 2018.04.30 @ 08:00:00																																					
<b>GENERAL INFORMATION:</b>																																							
Formation: <b>Arbuckle</b> Deviated: No Whipstock:                      ft (KB) Time Tool Opened: 09:53:50 Time Test Ended: 14:08:39		Test Type: Conventional Straddle (Reset) Tester: Spencer Staab/Cade G Unit No: 65																																					
Interval: <b>3552.00 ft (KB) To 3616.00 ft (KB) (TVD)</b> Total Depth: 3442.00 ft (KB) (TVD) Hole Diameter: 7.88 inches-Hole Condition: Fair		Reference Elevations: 2155.00 ft (KB) 2150.00 ft (CF) KB to GR/CF: 5.00 ft																																					
<b>Serial #: 8737 Below (Straddle)</b>																																							
Press@RunDepth: 42.30 psig @ 3618.00 ft (KB) Start Date: 2018.04.30      End Date: 2018.04.30 Start Time: 08:00:01      End Time: 14:08:40		Capacity: 8000.00 psig Last Calib.: 2018.04.30 Time On Btm: 2018.04.30 @ 09:53:40 Time Off Btm: 2018.04.30 @ 12:23:09																																					
TEST COMMENT: IF- Weak blow ; built to 1 1/4" FF- No blow																																							
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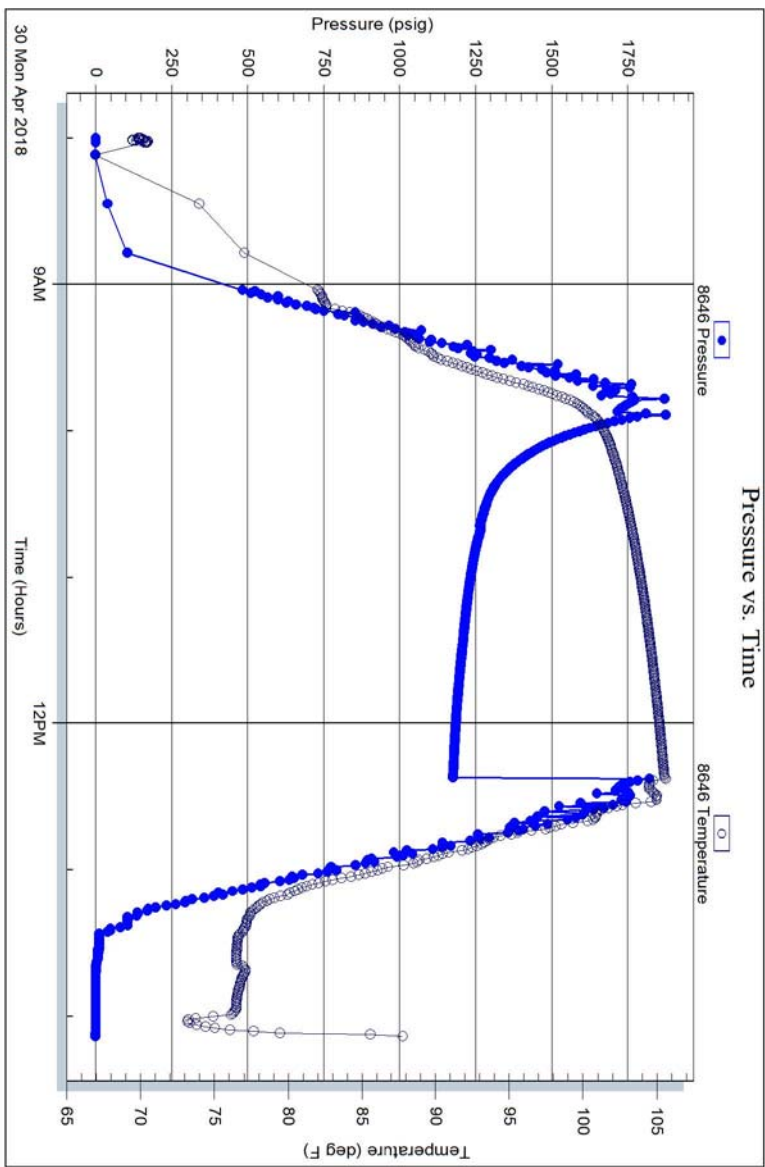
Serial #: 8646

Outside

Jasper Co.

Larry B#1

DST Test Number: 5



Trioble Testing, Inc

Ref No: 64003

Printed: 2018 04 30 @ 16:17:19