

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 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
--	---

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)*

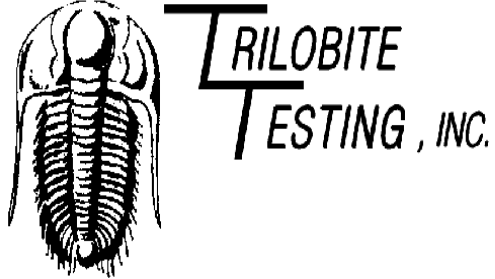
Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water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

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:	
----------------	-------	---------	------------	--





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278

ATTN: Kent Matson

### **Wells-Whitham #1**

### **9-17s-36w Wichita,KS**

Start Date: 2019.06.02 @ 02:20:15

End Date: 2019.06.02 @ 09:54:00

Job Ticket #: 65143                      DST #: 1

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

Printed: 2019.06.11 @ 15:19:59

Ritchie Exploration  
9-17s-36w Wichita,KS  
Wells-Whitham #1  
DST # 1  
Lansing A  
2019.06.02







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E. 22nd. St. N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**9-17s-36w Wichita, KS**  
**Wells-Whitham #1**  
Job Ticket: 65143      **DST#: 1**  
Test Start: 2019.06.02 @ 02:20:15

**Tool Information**

Drill Pipe:	Length: 3795.00 ft	Diameter: 3.80 inches	Volume: 53.23 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 60000.00 lb
			Total Volume: 54.14 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3984.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	64.00 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			3957.00	
Shut In Tool	5.00			3962.00	
Hydraulic tool	5.00			3967.00	
Jars	5.00			3972.00	
Safety Joint	3.00			3975.00	
Packer	5.00			3980.00	28.00      Bottom Of Top Packer
Packer	4.00			3984.00	
Stubb	1.00			3985.00	
Recorder	0.00	8968	Outside	3985.00	
Recorder	0.00	8521	Inside	3985.00	
Perforations	30.00			4015.00	
Bullnose	5.00			4020.00	36.00      Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65143

**DST#: 1**

Test Start: 2019.06.02 @ 02:20:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

18000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.10 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
268.00	ocw m 2%o 30%w 50%m	2.065
310.00	ocmw 5% 20%m 75%w	4.348
372.00	mcw 4%m 96%w	5.218

Total Length: 950.00 ft      Total Volume: 11.631 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

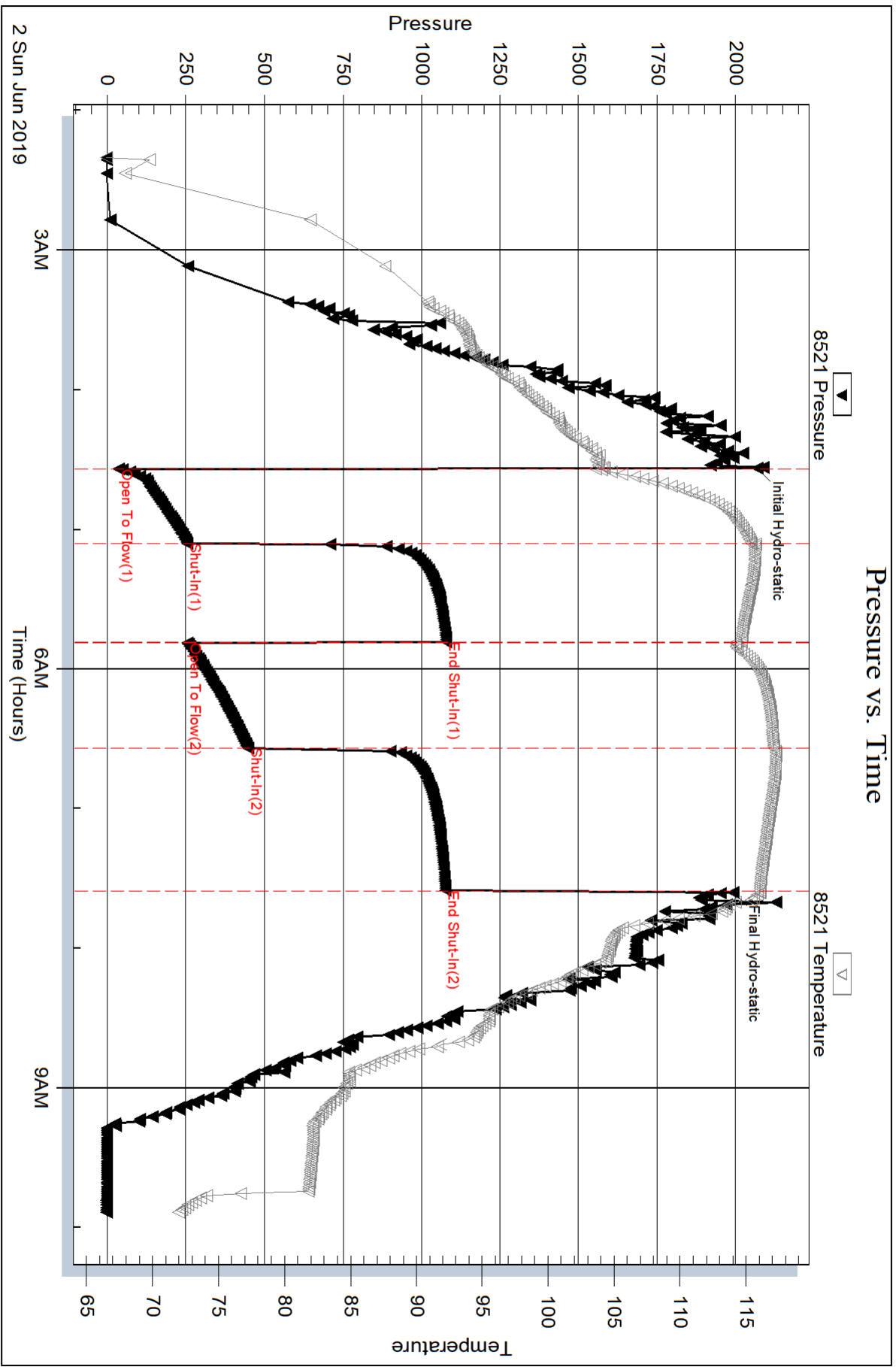
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .496@68.8\*= 18,000 ppm



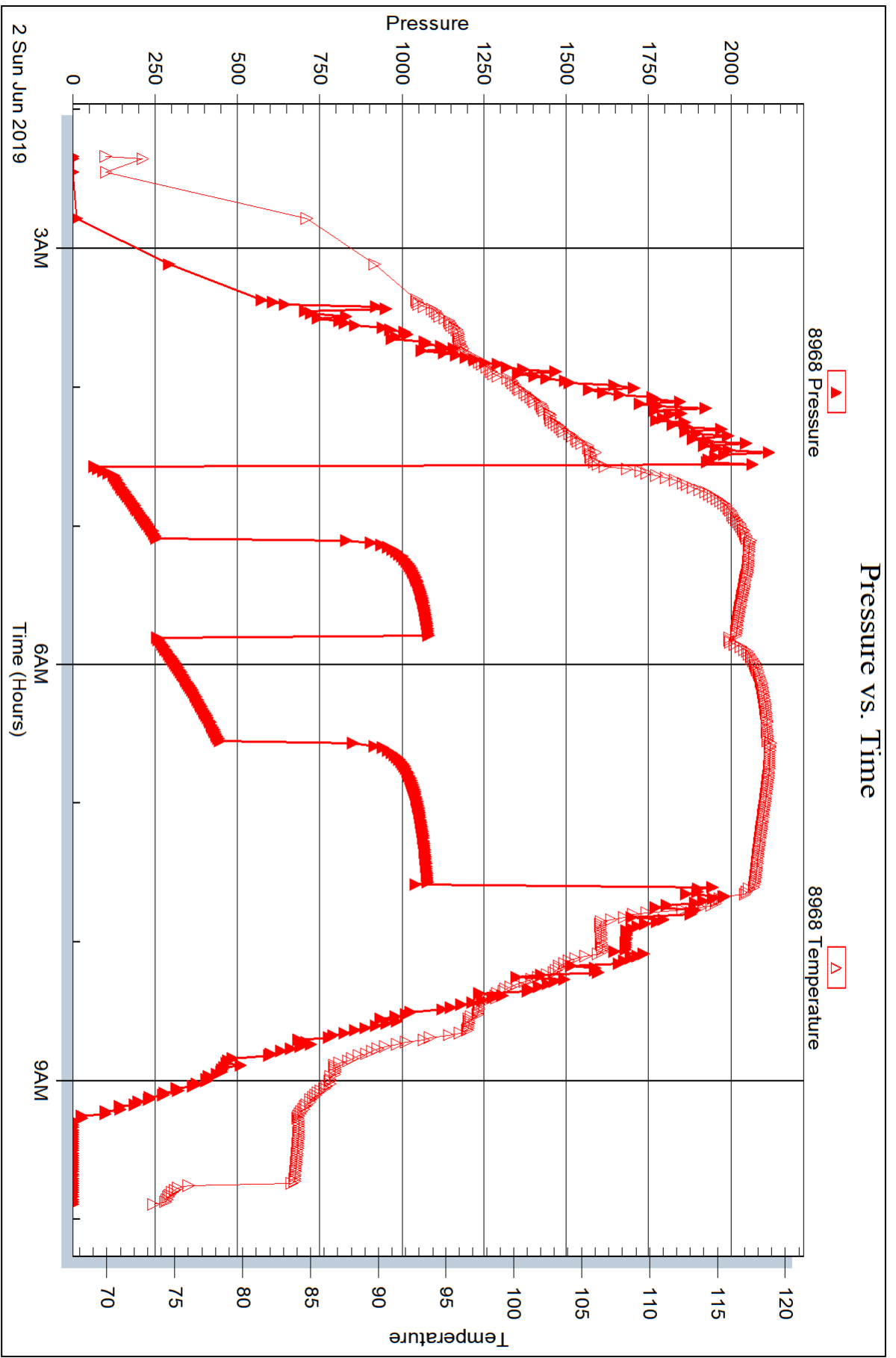


Serial #: 8968

Outside Ritchie Exploration

Wells-Whitham #1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278

ATTN: Kent Matson

### **Wells-Whitham #1**

### **9-17s-36w Wichita,KS**

Start Date: 2019.06.02 @ 22:29:15

End Date: 2019.06.03 @ 05:20:45

Job Ticket #: 65144                      DST #: 2

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

Printed: 2019.06.11 @ 15:19:23



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 E. 22nd. St. N#700  
 Box 783188  
 Wichita KS 67278  
 ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65144

**DST#: 2**

Test Start: 2019.06.02 @ 22:29:15

## GENERAL INFORMATION:

Formation: **LKC D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:26:15  
 Time Test Ended: 05:20:45  
 Interval: **4046.00 ft (KB) To 4070.00 ft (KB) (TVD)**  
 Total Depth: 4070.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 81  
 Reference Elevations: 3295.00 ft (KB)  
 3290.00 ft (CF)  
 KB to GR/CF: 5.00 ft

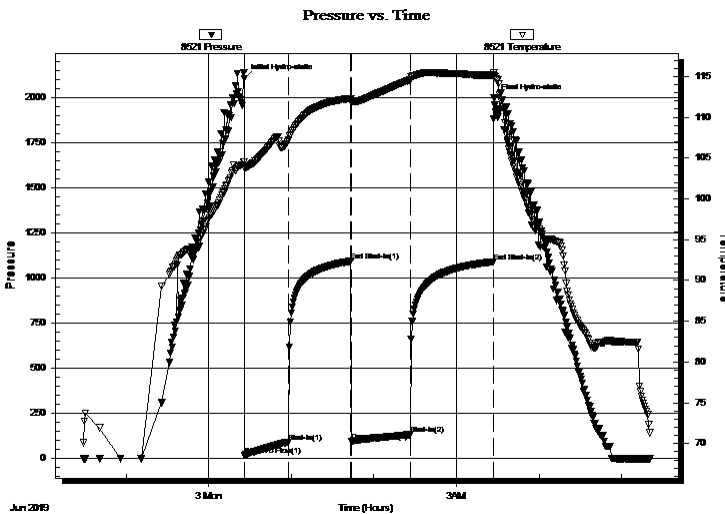
**Serial #: 8521**

**Inside**

Press@RunDepth: 132.53 psig @ 4047.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.06.02 End Date: 2019.06.03 Last Calib.: 2019.06.03  
 Start Time: 22:29:15 End Time: 05:20:45 Time On Btm: 2019.06.03 @ 00:26:00  
 Time Off Btm: 2019.06.03 @ 03:27:15

TEST COMMENT: IF: Built to 4 1/4" blow  
 IS: No return blow  
 FF: Built to 6" blow  
 FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2107.36	104.55	Initial Hydro-static
1	19.43	103.74	Open To Flow (1)
32	92.57	107.20	Shut-In(1)
78	1094.61	112.30	End Shut-In(1)
78	94.92	111.73	Open To Flow (2)
121	132.53	114.57	Shut-In(2)
181	1091.44	115.15	End Shut-In(2)
182	1998.72	115.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
249.00	w cm 5%w 95%m	1.80

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E. 22nd. St. N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65144

**DST#: 2**

Test Start: 2019.06.02 @ 22:29:15

## Tool Information

Drill Pipe:	Length: 3857.00 ft	Diameter: 3.80 inches	Volume: 54.10 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 55.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	4046.00 ft			Final 41000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4019.00	
Shut In Tool	5.00			4024.00	
Hydraulic tool	5.00			4029.00	
Jars	5.00			4034.00	
Safety Joint	3.00			4037.00	
Packer	5.00			4042.00	28.00 Bottom Of Top Packer
Packer	4.00			4046.00	
Stubb	1.00			4047.00	
Recorder	0.00	8968	Outside	4047.00	
Recorder	0.00	8521	Inside	4047.00	
Perforations	19.00			4066.00	
Bullnose	5.00			4071.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 53.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65144

**DST#: 2**

Test Start: 2019.06.02 @ 22:29:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

18500 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.11 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5400.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
249.00	w cm 5%w 95%m	1.798

Total Length: 249.00 ft      Total Volume: 1.798 bbl

Num Fluid Samples: 0

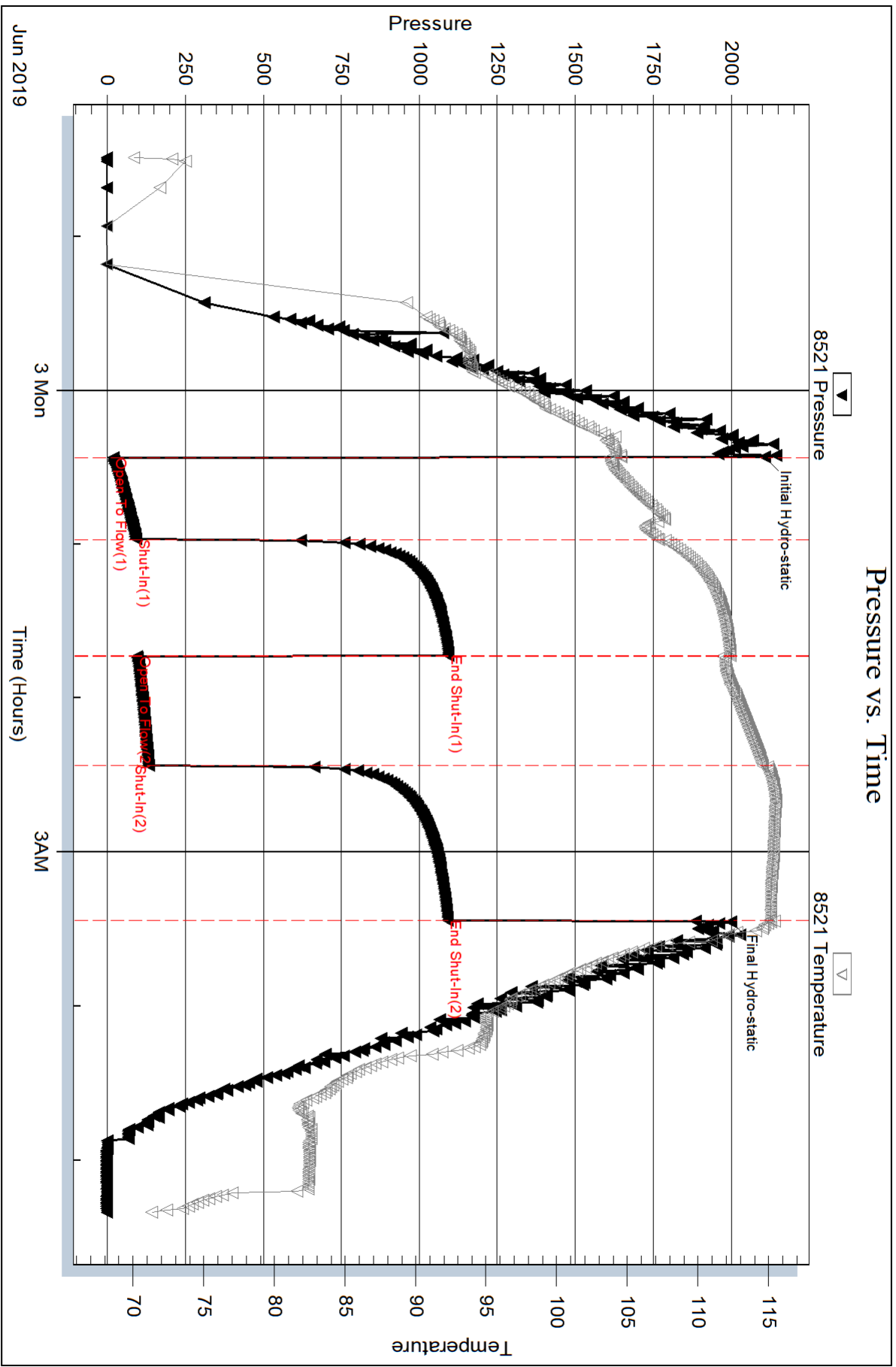
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .512@ 69.3= 18500 ppm



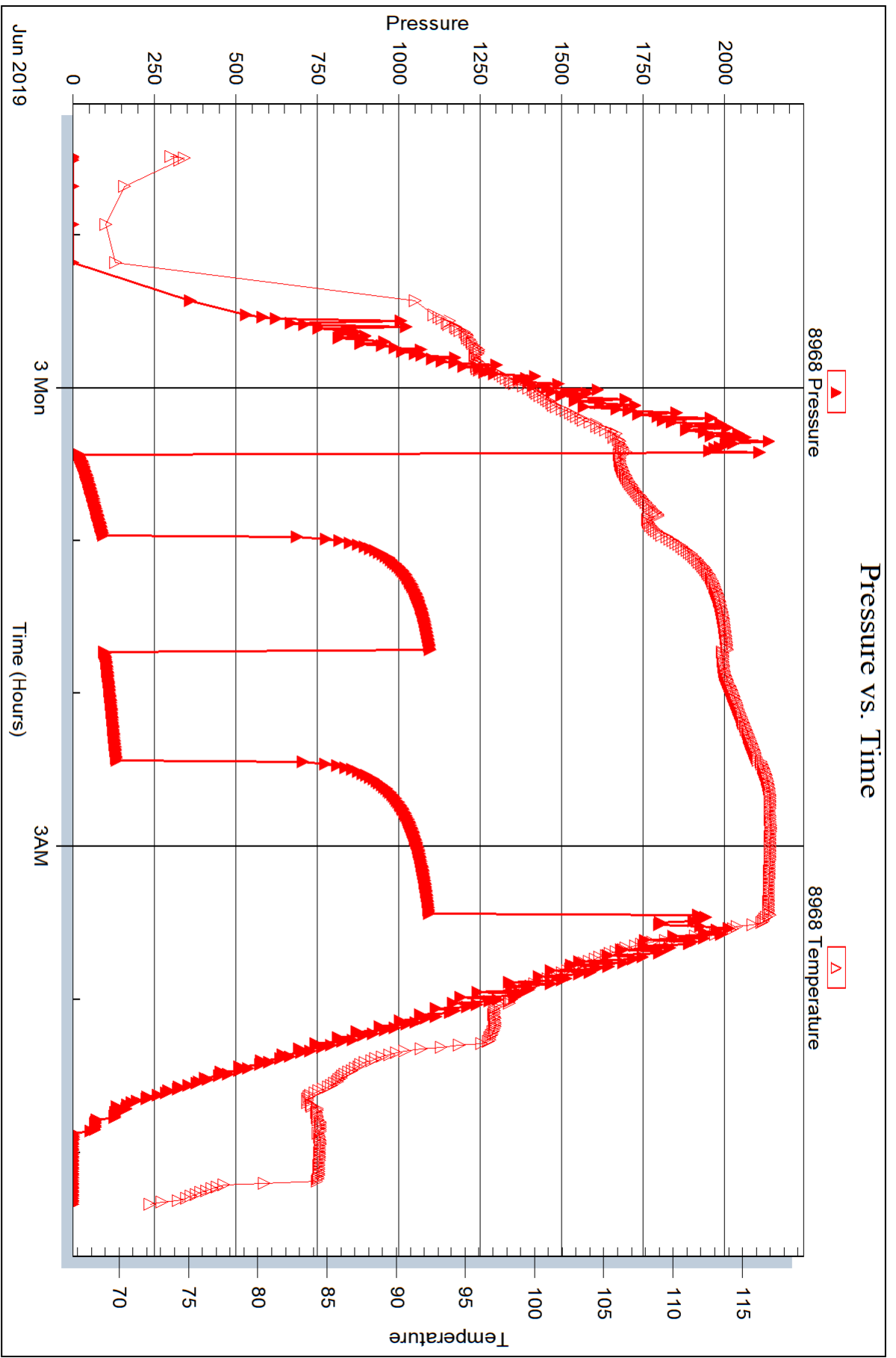


Serial #: 8968

Outside Ritchie Exploration

Wells-Whitham #1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278

ATTN: Kent Matson

### **Wells-Whitham #1**

### **9-17s-36w Wichita,KS**

Start Date: 2019.06.03 @ 15:22:15

End Date: 2019.06.03 @ 22:33:45

Job Ticket #: 65145                      DST #: 3

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

Printed: 2019.06.11 @ 15:17:55

Ritchie Exploration  
9-17s-36w Wichita,KS  
Wells-Whitham #1  
DST # 3  
LKC E-F  
2019.06.03



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration  
8100 E. 22nd. St. N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65145      **DST#: 3**  
Test Start: 2019.06.03 @ 15:22:15

## GENERAL INFORMATION:

Formation: **LKC E-F**  
Deviated: No Whipstock:      ft (KB)  
Time Tool Opened: 17:17:30  
Time Test Ended: 22:33:45  
Interval: **4078.00 ft (KB) To 4120.00 ft (KB) (TVD)**  
Total Depth: 4120.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Mike Roberts  
Unit No: 81  
Reference Elevations: 3295.00 ft (KB)  
3290.00 ft (CF)  
KB to GR/CF: 5.00 ft

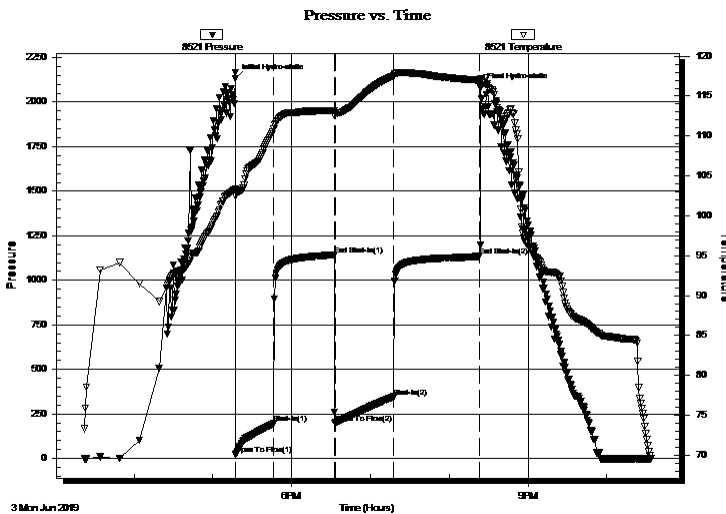
## Serial #: 8521

Inside

Press@RunDepth: 345.99 psig @ 4115.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2019.06.03      End Date: 2019.06.03      Last Calib.: 2019.06.03  
Start Time: 15:22:15      End Time: 22:33:45      Time On Btm: 2019.06.03 @ 17:17:15  
Time Off Btm: 2019.06.03 @ 20:24:00

TEST COMMENT: IF: Built to 18" blow BOB in 17 min.  
IS: No return bow  
FF: Built to 24" blow BOB in 22 min.  
FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2131.83	103.38	Initial Hydro-static
1	23.85	102.53	Open To Flow (1)
30	196.50	110.93	Shut-In(1)
76	1142.27	113.19	End Shut-In(1)
76	198.36	112.85	Open To Flow (2)
121	345.99	117.52	Shut-In(2)
186	1134.75	116.99	End Shut-In(2)
187	2079.95	117.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
496.00	w cm 30%w 70%m	5.26
186.00	mcw 10%m 90%w	2.61

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E. 22nd. St. N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65145

**DST#: 3**

Test Start: 2019.06.03 @ 15:22:15

## Tool Information

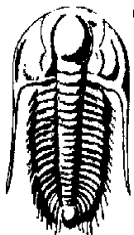
Drill Pipe:	Length: 3888.00 ft	Diameter: 3.80 inches	Volume: 54.54 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 55.45 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	4078.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4051.00	
Shut In Tool	5.00			4056.00	
Hydraulic tool	5.00			4061.00	
Jars	5.00			4066.00	
Safety Joint	3.00			4069.00	
Packer	5.00			4074.00	28.00 Bottom Of Top Packer
Packer	4.00			4078.00	
Stubb	1.00			4079.00	
Perforations	3.00			4082.00	
Change Over Sub	1.00			4083.00	
Drill Pipe	31.00			4114.00	
Change Over Sub	1.00			4115.00	
Recorder	0.00	8968	Outside	4115.00	
Recorder	0.00	8521	Inside	4115.00	
Bullnose	5.00			4120.00	42.00 Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65145

**DST#: 3**

Test Start: 2019.06.03 @ 15:22:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

22000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.70 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6100.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
496.00	w cm 30%w 70%m	5.263
186.00	mcw 10%m 90%w	2.609

Total Length: 682.00 ft      Total Volume: 7.872 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .340@66.9= 22,000 ppm

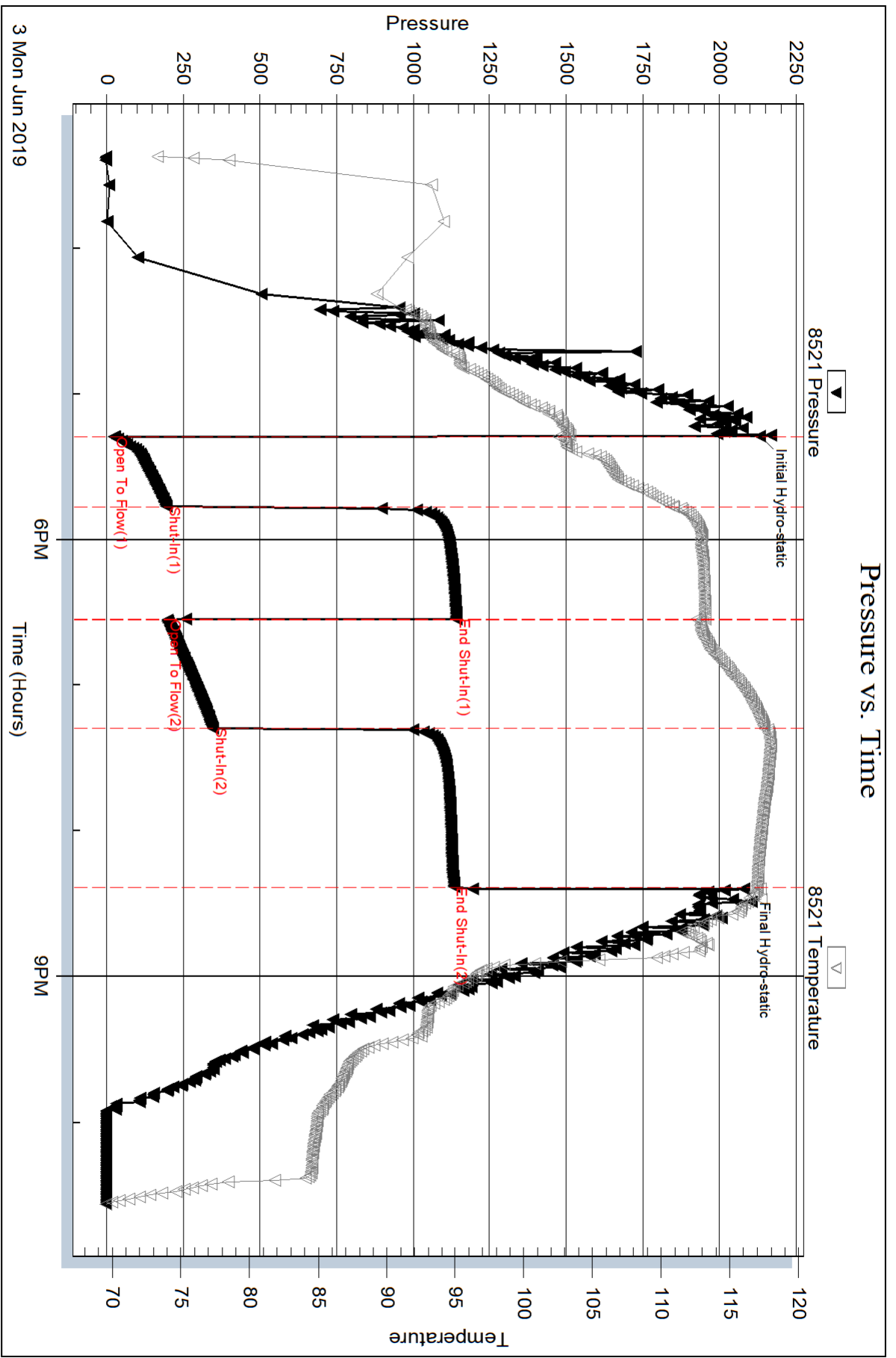
Serial #: 8521

Inside

Ritchie Exploration

Wells-Whitham #1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 65145

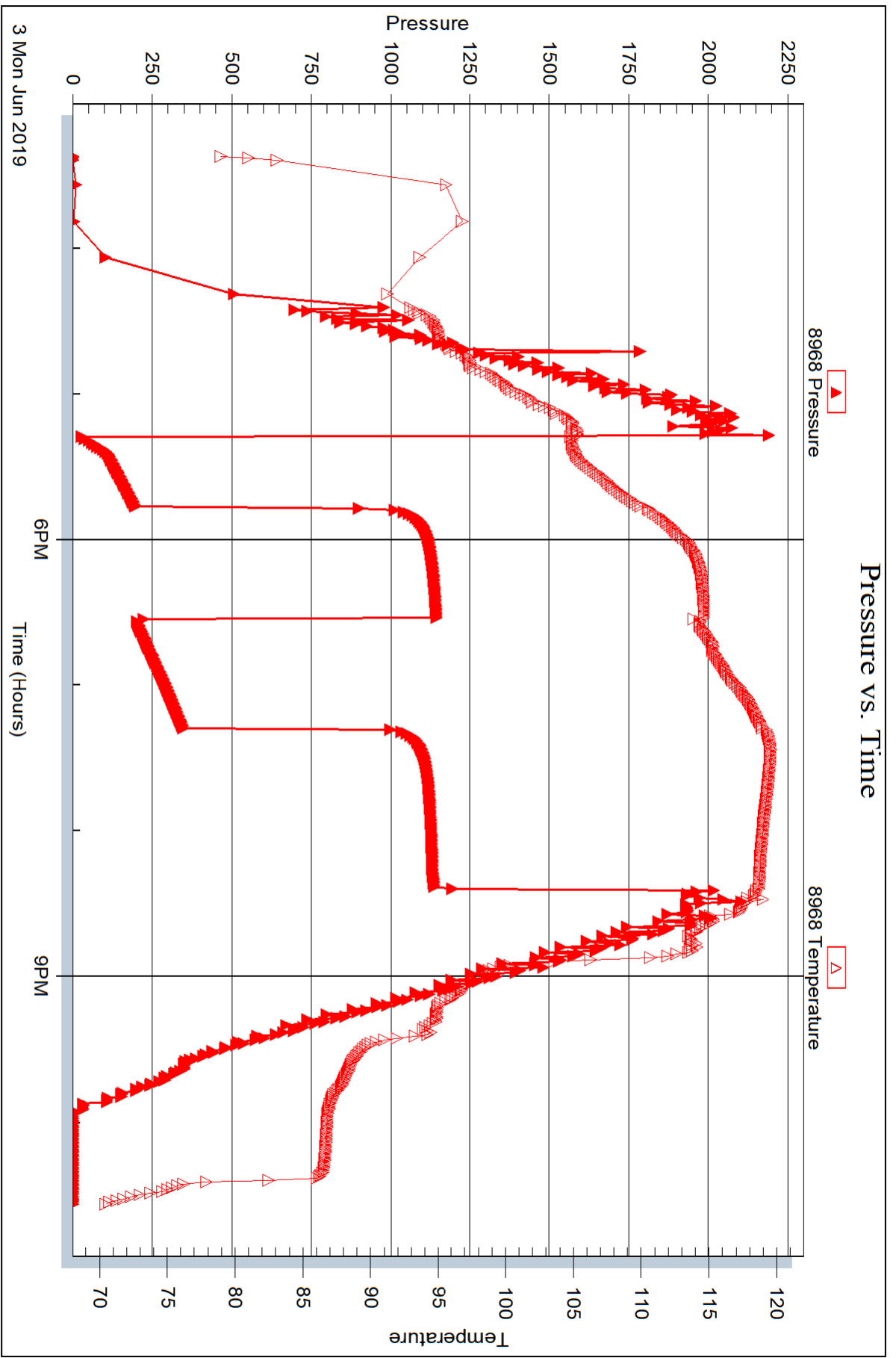
Printed: 2019.06.11 @ 15:17:56

Serial #: 8968

Outside Ritchie Exploration

Wells-Whitham #1

DST Test Number: 3







## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278

ATTN: Kent Matson

### **Wells-Whitham #1**

### **9-17s-36w Wichita,KS**

Start Date: 2019.06.04 @ 14:45:15

End Date: 2019.06.04 @ 21:04:15

Job Ticket #: 65146                      DST #: 4

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

Printed: 2019.06.11 @ 15:17:22

Ritchie Exploration  
9-17s-36w Wichita,KS  
Wells-Whitham #1  
DST # 4  
LKC 1  
2019.06.04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 E. 22nd. St. N#700  
 Box 783188  
 Wichita KS 67278  
 ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65146      **DST#: 4**  
 Test Start: 2019.06.04 @ 14:45:15

## GENERAL INFORMATION:

Formation: **LKC I**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened: 16:48:00  
 Time Test Ended: 21:04:15  
 Interval: **4204.00 ft (KB) To 4230.00 ft (KB) (TVD)**  
 Total Depth: 4230.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 81  
 Reference Elevations: 3295.00 ft (KB)  
 3290.00 ft (CF)  
 KB to GR/CF: 5.00 ft

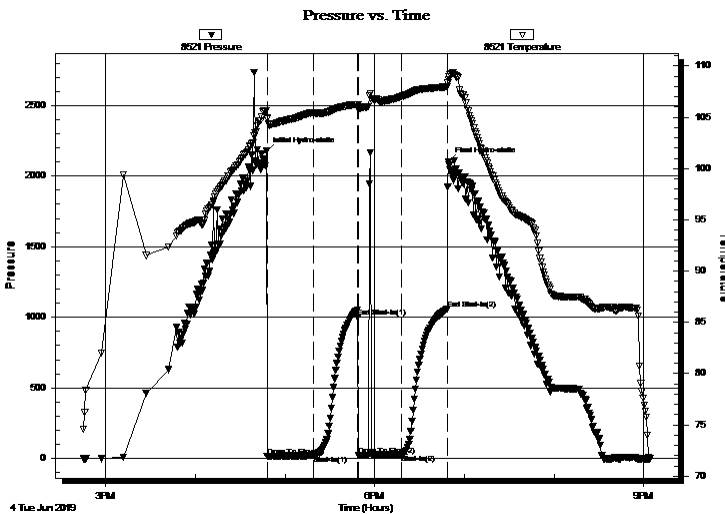
## Serial #: 8521

Inside

Press@RunDepth: 27.66 psig @ 4205.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2019.06.04      End Date: 2019.06.04      Last Calib.: 2019.06.04  
 Start Time: 14:45:15      End Time: 21:04:15      Time On Btm: 2019.06.04 @ 16:47:30  
 Time Off Btm: 2019.06.04 @ 18:49:30

TEST COMMENT: IF: Built to 1/4" blow and died  
 IS: No return blow  
 FF: No blow --flushed tool--no blow  
 FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2174.77	105.68	Initial Hydro-static
1	16.58	104.91	Open To Flow (1)
32	21.14	105.47	Shut-In(1)
62	1002.78	106.24	End Shut-In(1)
62	22.64	105.75	Open To Flow (2)
91	27.66	107.02	Shut-In(2)
122	1061.00	107.99	End Shut-In(2)
122	2098.32	108.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm 2%o 98%m...3" of free oil	0.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E. 22nd. St. N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65146

**DST#: 4**

Test Start: 2019.06.04 @ 14:45:15

## Tool Information

Drill Pipe:	Length: 4015.00 ft	Diameter: 3.80 inches	Volume: 56.32 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 57.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	4204.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4177.00	
Shut In Tool	5.00			4182.00	
Hydraulic tool	5.00			4187.00	
Jars	5.00			4192.00	
Safety Joint	3.00			4195.00	
Packer	5.00			4200.00	28.00 Bottom Of Top Packer
Packer	4.00			4204.00	
Stubb	1.00			4205.00	
Recorder	0.00	8968	Outside	4205.00	
Recorder	0.00	8521	Inside	4205.00	
Perforations	30.00			4235.00	
Bullnose	5.00			4240.00	36.00 Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65146

**DST#: 4**

Test Start: 2019.06.04 @ 14:45:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.71 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	ocm 2%o 98%m...3" of free oil	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

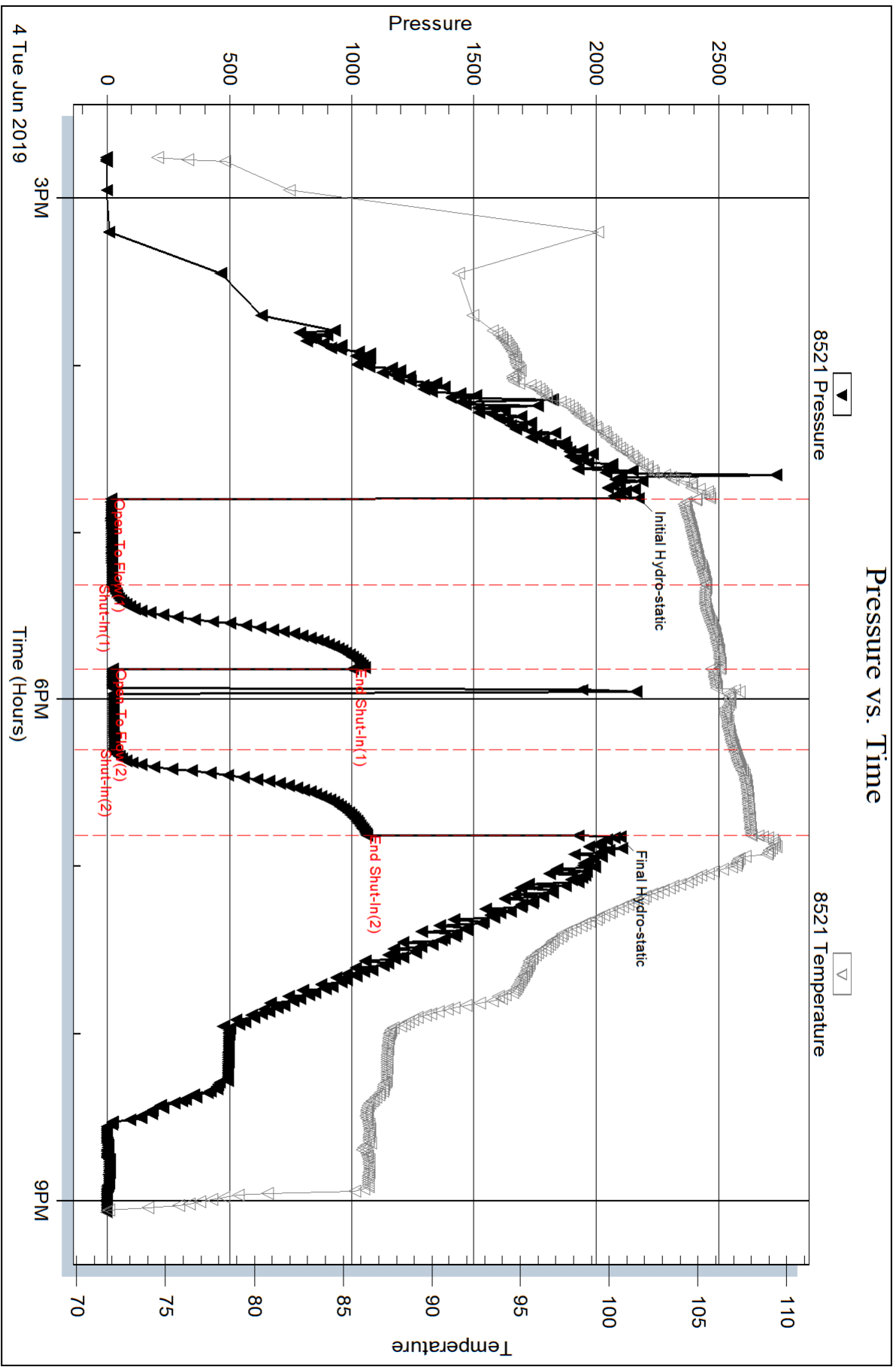
Serial #: 8521

Inside

Ritchie Exploration

Wells-Whitham #1

DST Test Number: 4

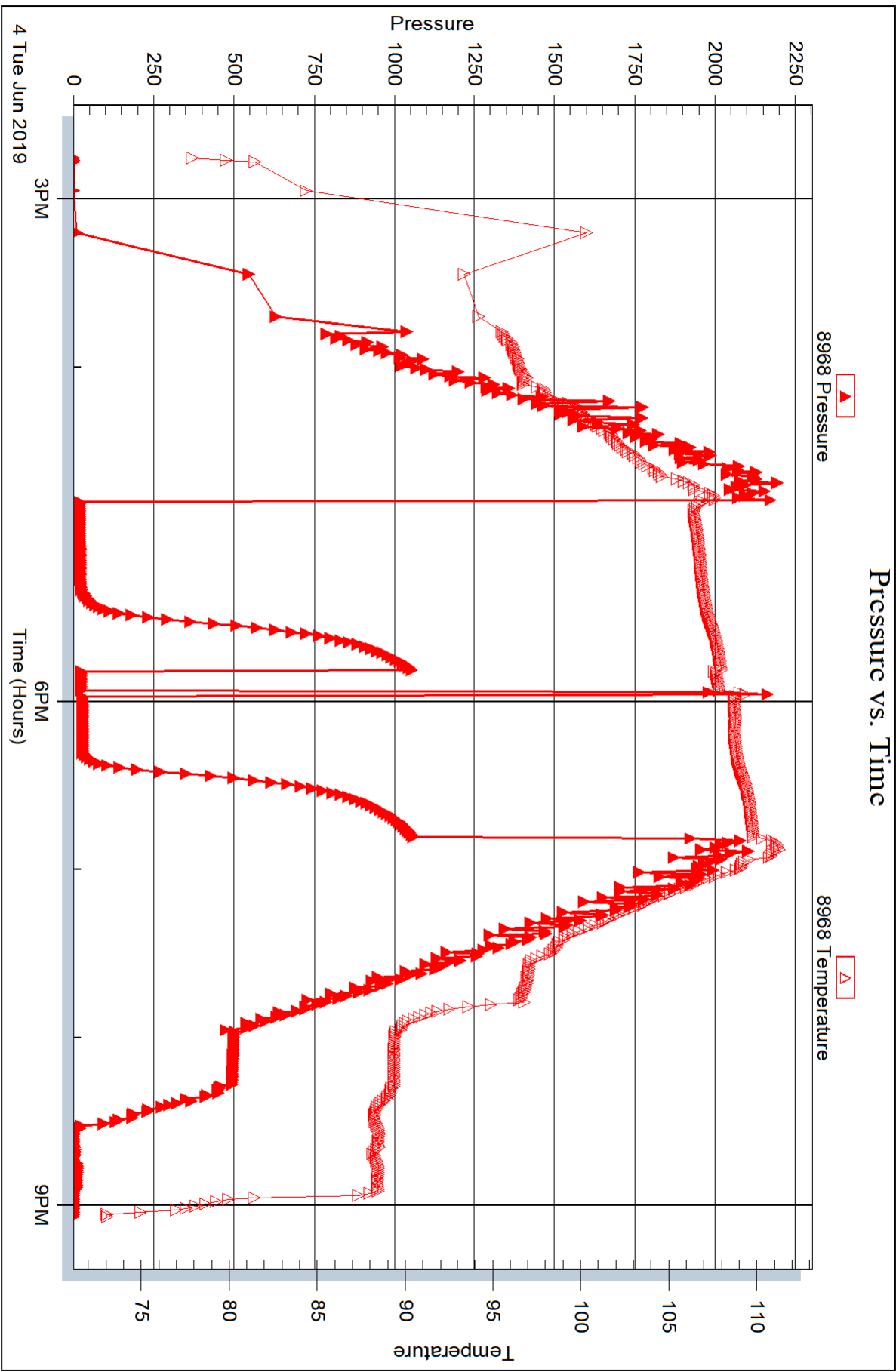


Serial #: 8968

Outside Ritchie Exploration

Wells-Whitham #1

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278

ATTN: Kent Matson

### **Wells-Whitham #1**

### **9-17s-36w Wichita,KS**

Start Date: 2019.06.05 @ 07:02:15

End Date: 2019.06.05 @ 14:26:00

Job Ticket #: 65147                      DST #: 5

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

Printed: 2019.06.11 @ 15:14:54





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 E. 22nd. St. N#700  
 Box 783188  
 Wichita KS 67278  
 ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65147      **DST#: 5**  
 Test Start: 2019.06.05 @ 07:02:15

## GENERAL INFORMATION:

Formation: **LKC J**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 09:21:15  
 Time Test Ended: 14:26:00  
 Interval: **4240.00 ft (KB) To 4262.00 ft (KB) (TVD)**  
 Total Depth: 4262.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 81  
 Reference Elevations: 3295.00 ft (KB)  
 3290.00 ft (CF)  
 KB to GR/CF: 5.00 ft

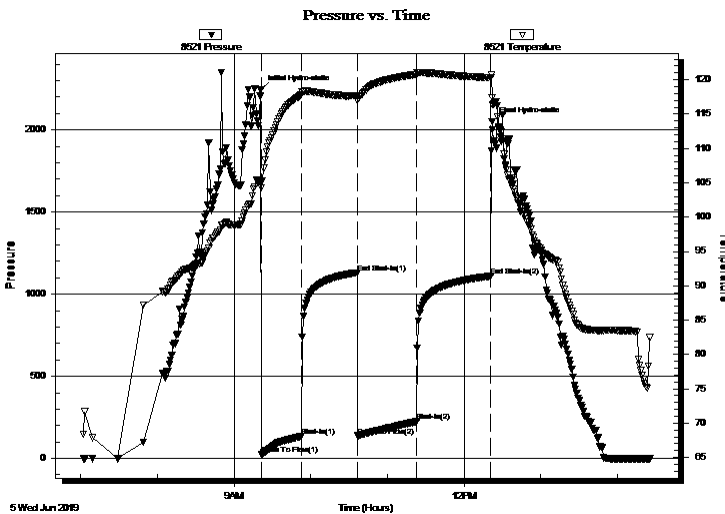
## Serial #: 8521

Inside

Press@RunDepth: 224.40 psig @ 4241.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2019.06.05      End Date: 2019.06.05      Last Calib.: 2019.06.05  
 Start Time: 07:02:15      End Time: 14:26:00      Time On Btm: 2019.06.05 @ 09:21:00  
 Time Off Btm: 2019.06.05 @ 12:21:45

TEST COMMENT: IF: Built to 12 3/4" blow BOB in 26 min.  
 IS: No return blow  
 FF: Built to 16" blow BOB in 32 min.  
 FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2245.47	105.06	Initial Hydro-static
1	23.20	104.24	Open To Flow (1)
32	134.39	117.79	Shut-In(1)
76	1130.78	117.63	End Shut-In(1)
76	137.02	116.96	Open To Flow (2)
122	224.40	120.77	Shut-In(2)
180	1109.70	120.26	End Shut-In(2)
181	2049.23	117.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
310.00	ocmw 4%o 10%m 86%w	2.65
149.00	ocw m 10%o 30%w 60%m	2.09
5.00	Free oil	0.07

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E. 22nd. St. N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65147

**DST#: 5**

Test Start: 2019.06.05 @ 07:02:15

## Tool Information

Drill Pipe:	Length: 4047.00 ft	Diameter: 3.80 inches	Volume: 56.77 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 57.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	4240.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	50.00 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			4213.00	
Shut In Tool	5.00			4218.00	
Hydraulic tool	5.00			4223.00	
Jars	5.00			4228.00	
Safety Joint	3.00			4231.00	
Packer	5.00			4236.00	28.00 Bottom Of Top Packer
Packer	4.00			4240.00	
Stubb	1.00			4241.00	
Recorder	0.00	8968	Outside	4241.00	
Recorder	0.00	8521	Inside	4241.00	
Perforations	16.00			4257.00	
Bullnose	5.00			4262.00	22.00 Bottom Packers & Anchor

**Total Tool Length: 50.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65147

**DST#: 5**

Test Start: 2019.06.05 @ 07:02:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

23000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.72 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
310.00	ocmw 4%o 10%m 86%w	2.654
149.00	ocw m 10%o 30%w 60%m	2.090
5.00	Free oil	0.070

Total Length: 464.00 ft      Total Volume: 4.814 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

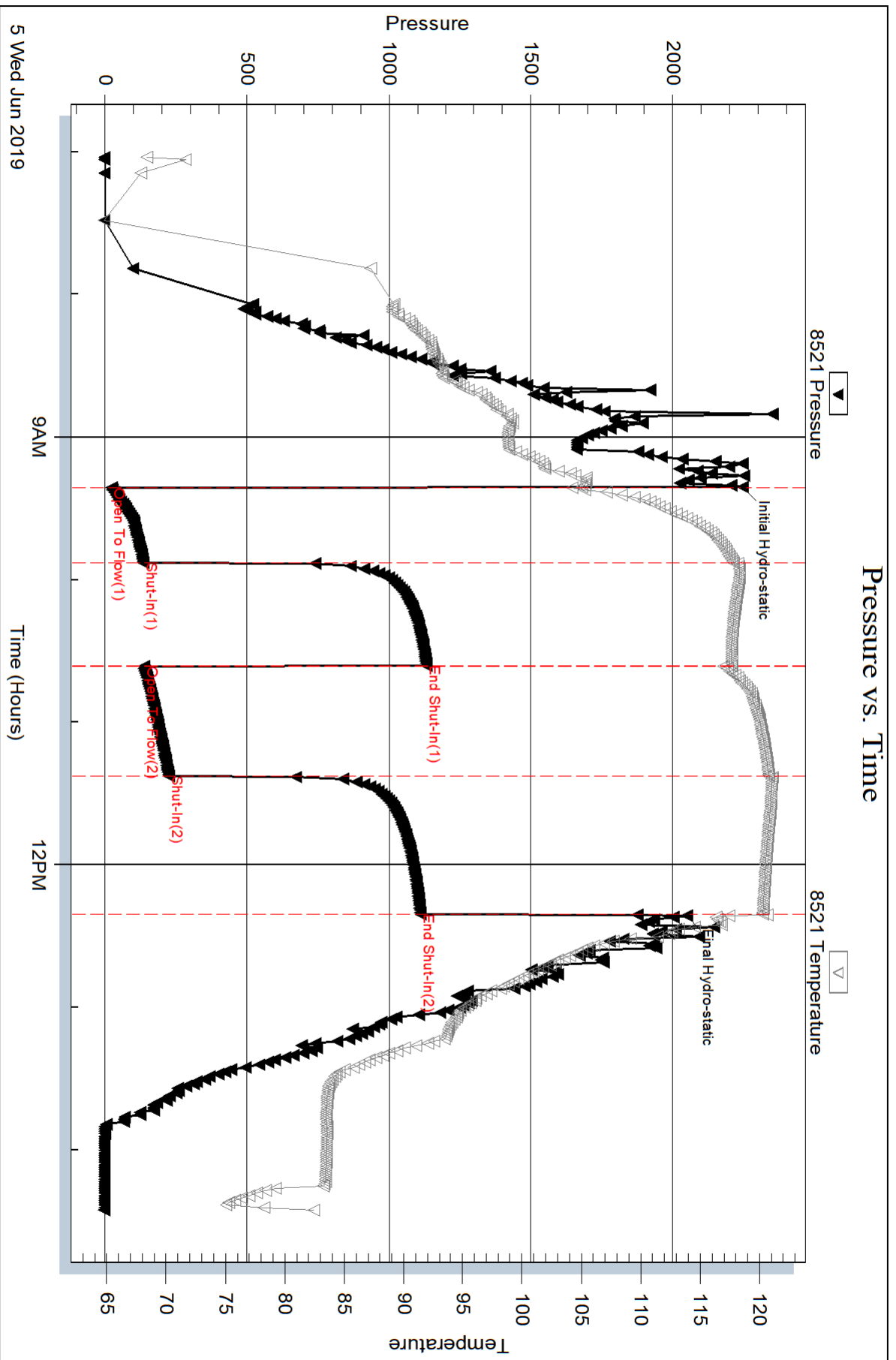
Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .253@101.2= 23000 ppm

API= 22 @ 90 corrected to 25 @ 60

### Pressure vs. Time

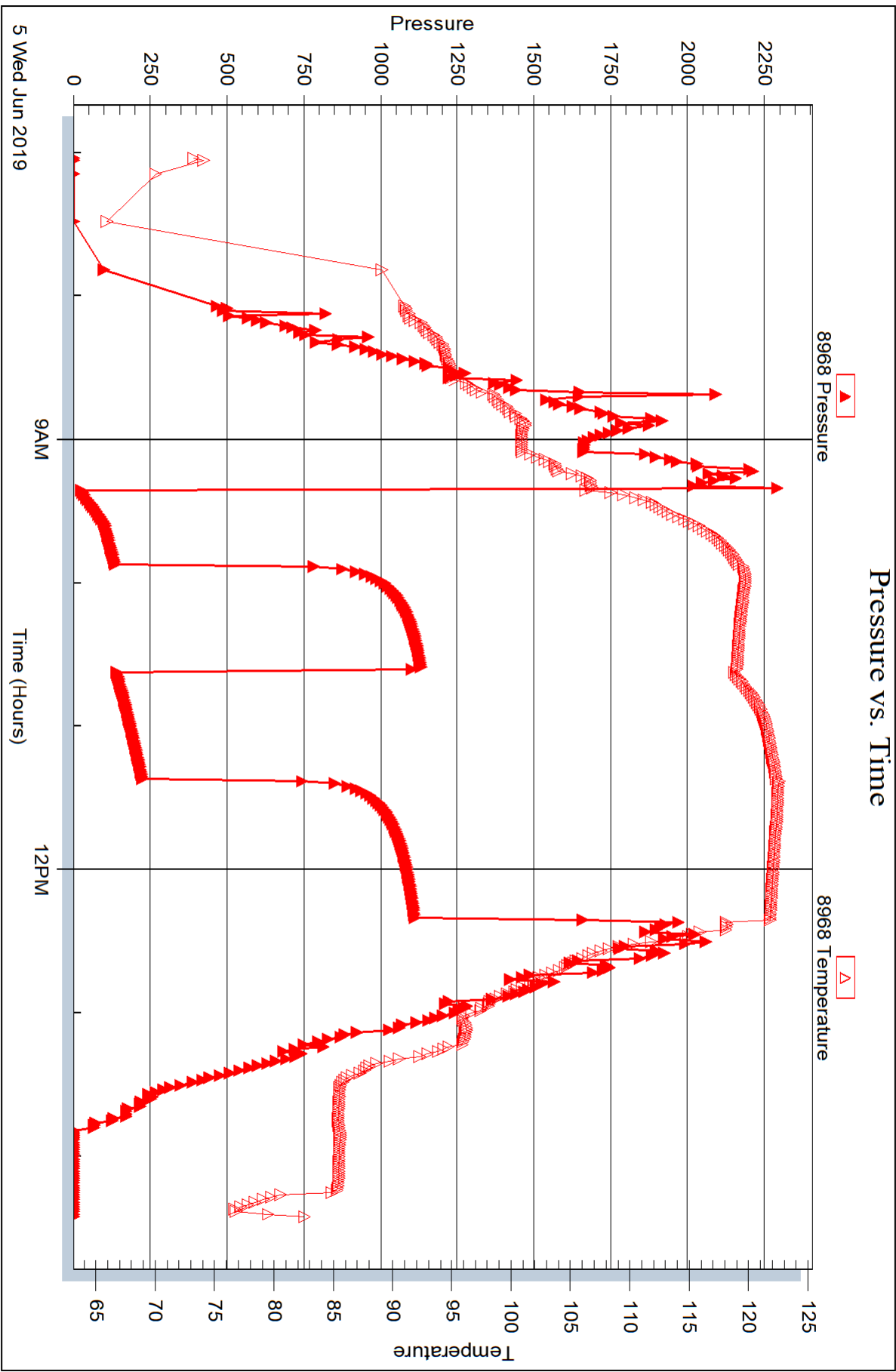


Serial #: 8968

Outside Ritchie Exploration

Wells-Whitham #1

DST Test Number: 5





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278

ATTN: Kent Matson

### **Wells-Whitham #1**

### **9-17s-36w Wichita,KS**

Start Date: 2019.06.05 @ 23:49:15

End Date: 2019.06.06 @ 08:05:45

Job Ticket #: 65148                      DST #: 6

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

Printed: 2019.06.11 @ 15:08:30









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E. 22nd. St. N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**9-17s-36w Wichita, KS**

**Wells-Whitham #1**

Job Ticket: 65148

**DST#: 6**

Test Start: 2019.06.05 @ 23:49:15

## Tool Information

Drill Pipe:	Length: 4060.00 ft	Diameter: 3.80 inches	Volume: 56.95 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.86 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4260.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 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			4233.00	
Shut In Tool	5.00			4238.00	
Hydraulic tool	5.00			4243.00	
Jars	5.00			4248.00	
Safety Joint	3.00			4251.00	
Packer	5.00			4256.00	28.00 Bottom Of Top Packer
Packer	4.00			4260.00	
Stubb	1.00			4261.00	
Recorder	0.00	8968	Outside	4261.00	
Recorder	0.00	8521	Inside	4261.00	
Perforations	24.00			4285.00	
Bullnose	5.00			4290.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.N#700  
Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65148

**DST#: 6**

Test Start: 2019.06.05 @ 23:49:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

23500 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.10 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
310.00	w cm 5%w 95%m	2.654
2418.00	sw 100% sw	33.918

Total Length: 2728.00 ft      Total Volume: 36.572 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

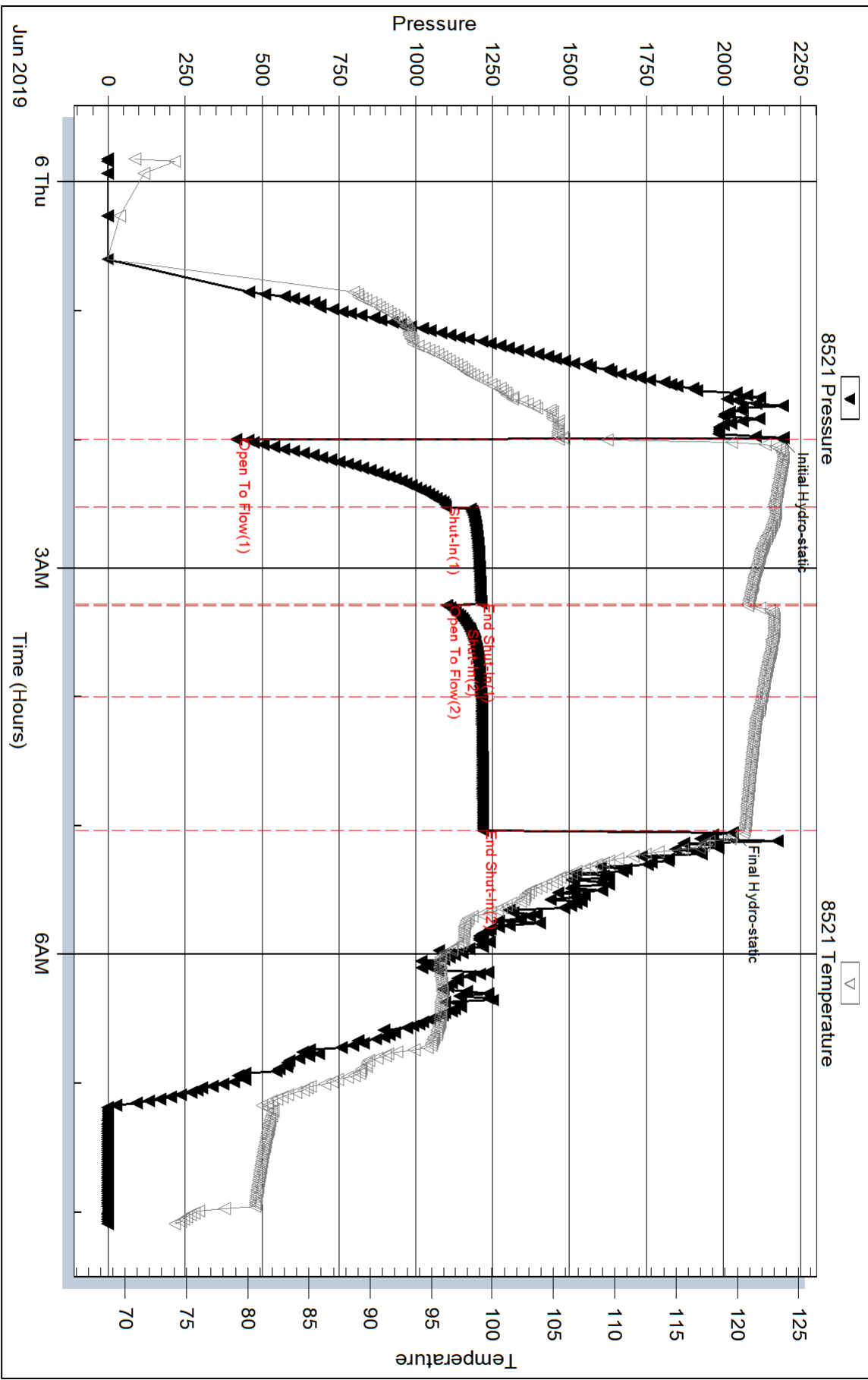
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .513@ 55.7= 23,500 ppm

### Pressure vs. Time

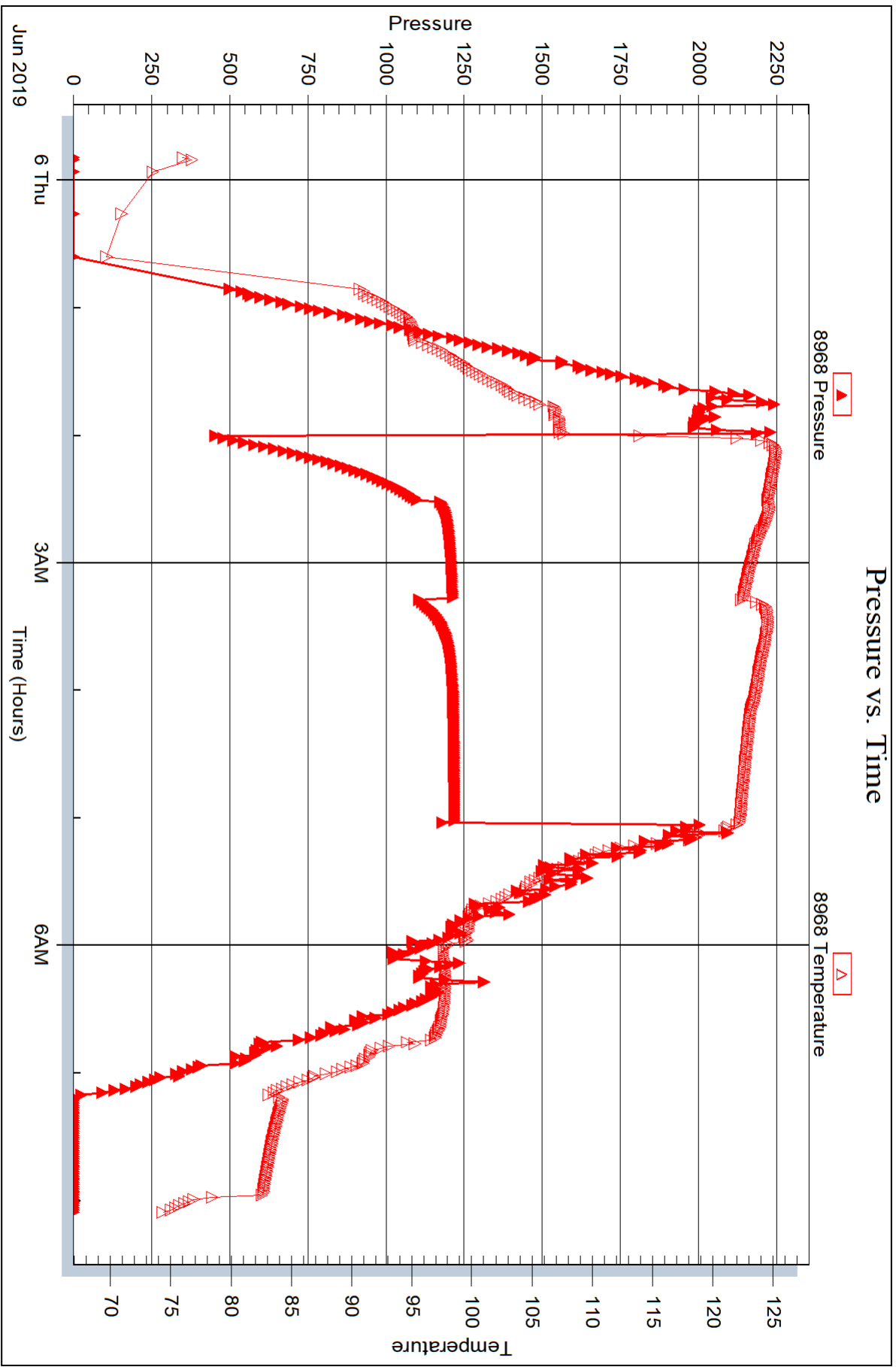


Serial #: 8968

Outside Ritchie Exploration

Wells-Whitham #1

DST Test Number: 6





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E. 22nd. St.  
N#700 Box 783188  
Wichita KS 67278

ATTN: Kent Matson

### **Wells-Whitham #1**

### **9-17s-36w Wichita,KS**

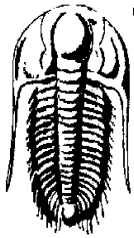
Start Date: 2019.06.06 @ 19:13:15

End Date: 2019.06.07 @ 02:49:15

Job Ticket #: 65149                      DST #: 7

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

Printed: 2019.06.11 @ 15:07:32



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration

**9-17s-36w Wichita, KS**

8100 E. 22nd. St.  
N#700 Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65149

**DST#: 7**

Test Start: 2019.06.06 @ 19:13:15

## GENERAL INFORMATION:

Formation: **LKC L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:47:45

Time Test Ended: 02:49:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 4308.00 ft (KB) To 4345.00 ft (KB) (TVD)**

Reference Elevations: 3295.00 ft (KB)

Total Depth: 4345.00 ft (KB) (TVD)

3290.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8521**

**Inside**

Press@RunDepth: 184.62 psig @ 4309.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.06.06

End Date:

2019.06.07

Last Calib.:

2019.06.07

Start Time:

19:13:15

End Time:

02:49:15

Time On Btm:

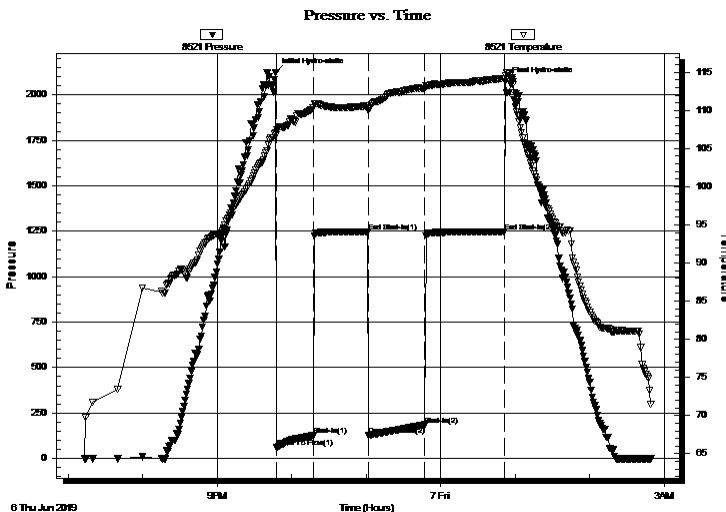
2019.06.06 @ 21:47:15

Time Off Btm:

2019.06.07 @ 00:52:15

**TEST COMMENT:** IF: Built to 6 3/4" blow  
IS: No return blow  
FF: Built to 6 1/4" blow  
FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2124.12	107.09	Initial Hydro-static
1	60.46	106.79	Open To Flow (1)
30	125.33	110.33	Shut-In(1)
75	1246.75	110.59	End Shut-In(1)
75	127.56	109.94	Open To Flow (2)
120	184.62	112.81	Shut-In(2)
185	1246.23	114.17	End Shut-In(2)
185	2075.58	114.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	w cm 3%w 97%m	0.91
186.00	mcw 40%m 60%w	2.61

## Gas Rates

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

\* Recovery from multiple tests







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.  
N#700 Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65149

**DST#: 7**

Test Start: 2019.06.06 @ 19:13:15

## Tool Information

Drill Pipe:	Length: 4109.00 ft	Diameter: 3.80 inches	Volume: 57.64 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 58.55 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4308.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	65.00 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			4281.00	
Shut In Tool	5.00			4286.00	
Hydraulic tool	5.00			4291.00	
Jars	5.00			4296.00	
Safety Joint	3.00			4299.00	
Packer	5.00			4304.00	28.00 Bottom Of Top Packer
Packer	4.00			4308.00	
Stubb	1.00			4309.00	
Recorder	0.00	8968	Outside	4309.00	
Recorder	0.00	8521	Inside	4309.00	
Perforations	31.00			4340.00	
Bullnose	5.00			4345.00	37.00 Bottom Packers & Anchor

**Total Tool Length: 65.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.  
N#700 Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65149

**DST#: 7**

Test Start: 2019.06.06 @ 19:13:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

27000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.55 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 7600.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	w cm 3%w 97%m	0.915
186.00	mcw 40%m 60%w	2.609

Total Length: 372.00 ft      Total Volume: 3.524 bbl

Num Fluid Samples: 0

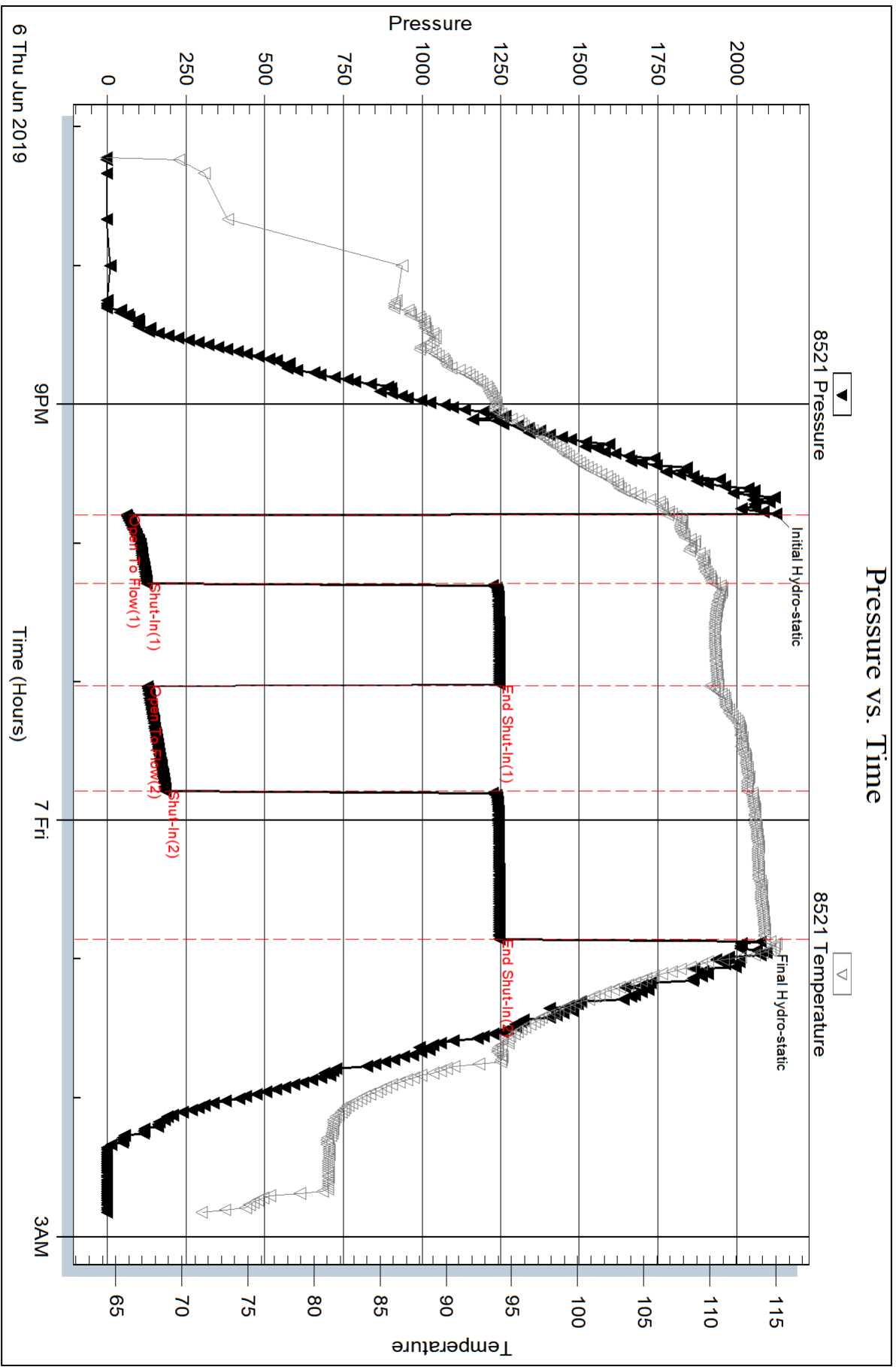
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .432@ 56.3= 27,000 ppm

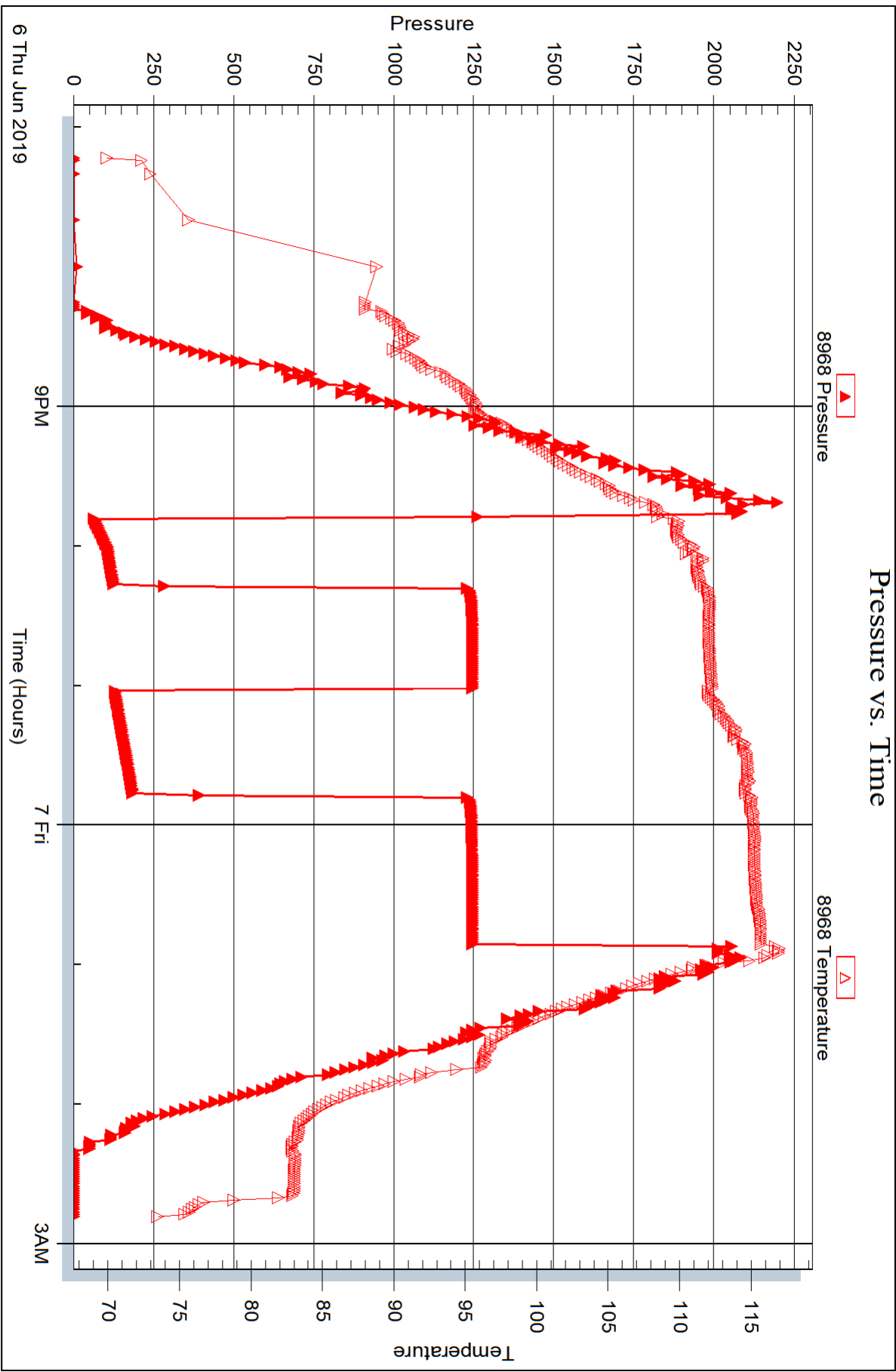


Serial #: 8968

Outside Ritchie Exploration

Wells-Whitham #1

DST Test Number: 7





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E. 22nd. St.  
N#700 Box 783188  
Wichita KS 67278

ATTN: Kent Matson

### **Wells-Whitham #1**

### **9-17s-36w Wichita,KS**

Start Date: 2019.06.07 @ 00:07:15

End Date: 2019.06.07 @ 07:37:45

Job Ticket #: 65150                      DST #: 8

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

Printed: 2019.06.11 @ 15:07:07



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration

**9-17s-36w Wichita, KS**

8100 E. 22nd. St.  
N#700 Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65150

**DST#: 8**

Test Start: 2019.06.07 @ 00:07:15

## GENERAL INFORMATION:

Formation: **Altamont A-B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:24:15

Time Test Ended: 07:37:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 4414.00 ft (KB) To 4470.00 ft (KB) (TVD)**

Reference Elevations: 3295.00 ft (KB)

Total Depth: 4470.00 ft (KB) (TVD)

3290.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8521**

**Inside**

Press@RunDepth: 113.65 psig @ 4450.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.06.07

End Date:

2019.06.08

Last Calib.:

2019.06.08

Start Time: 21:50:00

End Time:

05:20:30

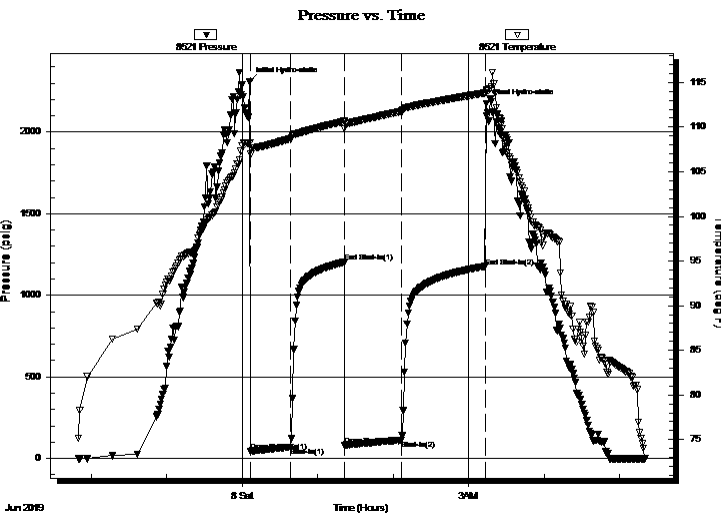
Time On Btm:

2019.06.08 @ 00:06:00

Time Off Btm:

2019.06.08 @ 03:14:15

TEST COMMENT: IF: Built to 1 1/4" blow  
IS: No return blow  
FF: Built to 1" blow  
FS: No return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2310.30	108.24	Initial Hydro-static
1	45.09	106.94	Open To Flow (1)
33	71.75	108.68	Shut-In(1)
75	1201.96	110.66	End Shut-In(1)
76	82.45	109.85	Open To Flow (2)
121	113.65	111.74	Shut-In(2)
188	1177.23	113.81	End Shut-In(2)
189	2174.63	114.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	sl ocm 2 %o 98%m	0.91

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.  
N#700 Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65150

**DST#: 8**

Test Start: 2019.06.07 @ 00:07:15

## Tool Information

Drill Pipe:	Length: 4234.00 ft	Diameter: 3.80 inches	Volume: 59.39 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.30 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4414.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	84.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4387.00	
Shut In Tool	5.00			4392.00	
Hydraulic tool	5.00			4397.00	
Jars	5.00			4402.00	
Safety Joint	3.00			4405.00	
Packer	5.00			4410.00	28.00 Bottom Of Top Packer
Packer	4.00			4414.00	
Stubb	1.00			4415.00	
Perforations	2.00			4417.00	
Change Over Sub	1.00			4418.00	
Drill Pipe	31.00			4449.00	
Change Over Sub	1.00			4450.00	
Recorder	0.00	8968	Outside	4450.00	
Recorder	0.00	8521	Inside	4450.00	
Perforations	15.00			4465.00	
Bullnose	5.00			4470.00	56.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>84.00</b>				





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**9-17s-36w Wichita,KS**

8100 E. 22nd. St.  
N#700 Box 783188  
Wichita KS 67278  
ATTN: Kent Matson

**Wells-Whitham #1**

Job Ticket: 65150

**DST#: 8**

Test Start: 2019.06.07 @ 00:07:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	sl ocm 2 %o 98%m	0.915

Total Length: 186.00 ft

Total Volume: 0.915 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

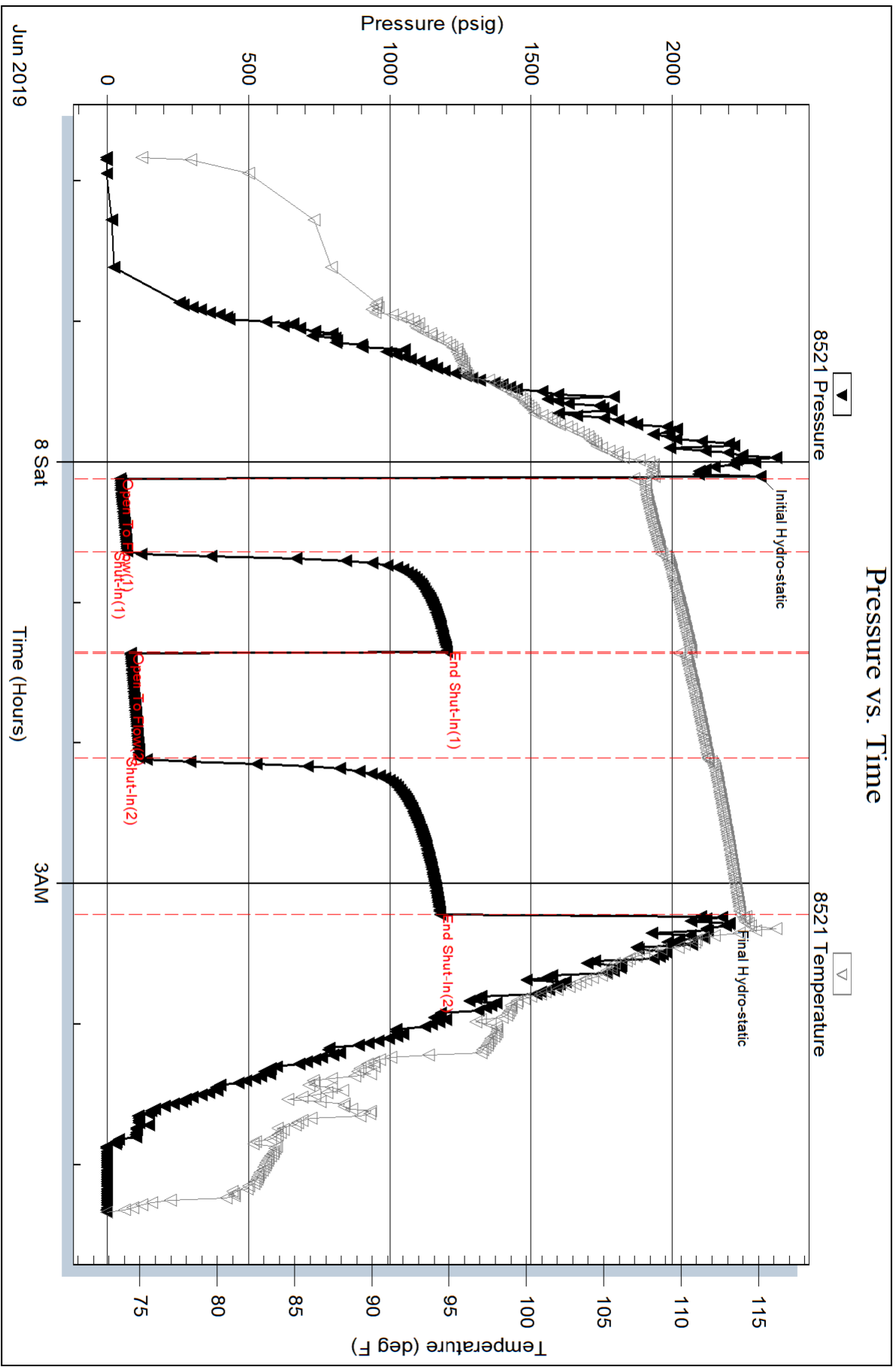
Serial #: 8521

Inside

Ritchie Exploration

Wells-Whitman #1

DST Test Number: 8



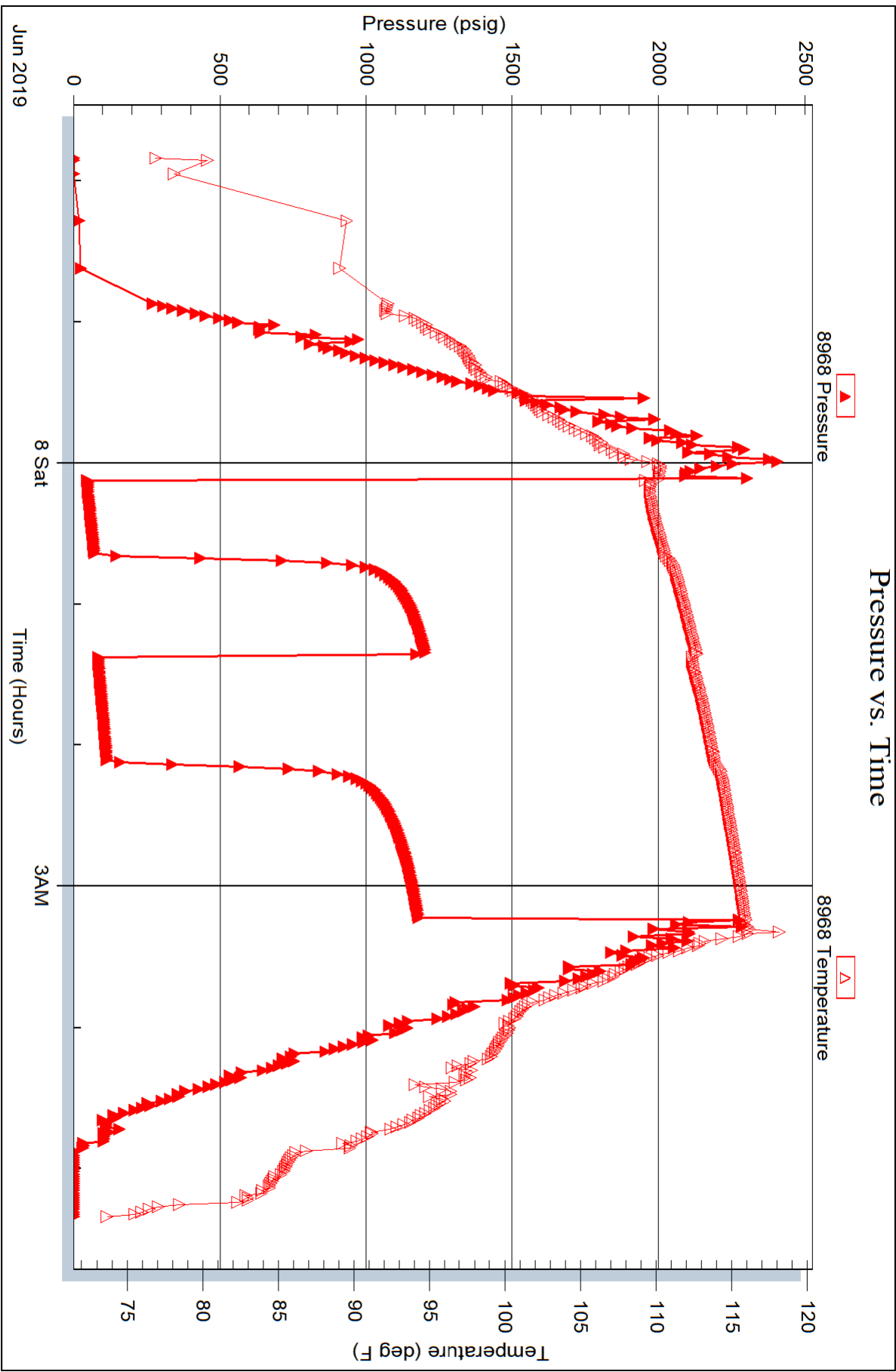
Serial #: 8968

Outside

Ritchie Exploration

Wells-Whitman #1

DST Test Number: 8





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65143

Well Name & No. Wells - Whittham #1 Test No. 1 Date 6-1-19  
 Company Ritchie Exploration Inc Elevation 3295 KB 3290 GL  
 Address 8100 E 22nd St N #700 Box 783188 Wichita KS 67278  
 Co. Rep / Geo. Kent Matson Rig WW 12  
 Location: Sec. 9 Twp 17S Rge. 36W Co. Wichita State KS

Interval Tested 3984-4020 Zone Tested Lansing A  
 Anchor Length 36 Drill Pipe Run 3795 Mud Wt. 8.9  
 Top Packer Depth 3979 Drill Collars Run 186 Vis 58  
 Bottom Packer Depth 3984 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4020 Chlorides 4800 ppm System LCM 3  
 Blow Description IF: Built to 37 1/2" Blow BOB 8min  
IS: No Return Blow  
FF: Built to 45" Blow BOB 10 min  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>268</u>	<u>OCOM 2" Thick oil</u>	<u>2</u>	<u>30</u>	<u>50</u>	
<u>310</u>	<u>OCMW</u>	<u>5</u>	<u>75</u>	<u>20</u>	
<u>372</u>	<u>MCW</u>		<u>96</u>	<u>4</u>	

Rec Total 950 BHT 115 Gravity — API RW 496 @ 68.8 °F Chlorides 18000 ppm

(A) Initial Hydrostatic <u>2067</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>23:30</u>
(B) First Initial Flow <u>36</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>02:20</u>
(C) First Final Flow <u>255</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>04:33</u>
(D) Initial Shut-In <u>1079</u>	<input checked="" type="checkbox"/> Circ Sub <u>NL</u>	T-Pulled <u>07:33</u>
(E) Second Initial Flow <u>255</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>09:54</u>
(F) Second Final Flow <u>447</u>	<input checked="" type="checkbox"/> Mileage <u>BORT 80</u>	Comments
(G) Final Shut-In <u>1076</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1991</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</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>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1705</u>
	Sub Total <u>1705</u>	

Approved By [Signature]

Our Representative [Signature] MP/DST Disc't

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. 65144

Well Name & No. Wells-Whitham #1 Test No. 2 Date 6-2-19  
 Company Ritchie Exploration Inc Elevation 3295 KB 3290 GL  
 Address 8100 E 22<sup>nd</sup> St. N # 700 Box 783188 Wichita KS 67228  
 Co. Rep / Geo. Kent Matson Rig W1112  
 Location: Sec. 9 Twp 17s Rge. 36w Co. Wichita State KS

Interval Tested 4046-4070 Zone Tested Lansing D  
 Anchor Length 24 Drill Pipe Run 3857 Mud Wt. 9.1  
 Top Packer Depth 4041 Drill Collars Run 186 Vis 49  
 Bottom Packer Depth 4046 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4070 Chlorides 5400 ppm System LCM 3  
 Blow Description IF: Built to 4 1/4"  
IS: No Return Blow  
FF: Built to 6"  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>249</u>	<u>WCM</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 249 BHT 115 Gravity 1300 API RW .512 @ 69.3°F Chlorides 18500 ppm  
 Test 1300 T-On Location 21:00  
 Jars 250 T-Started 22:29  
 Safety Joint 75 T-Open 12:26  
 Circ Sub NC T-Pulled 03:26  
 Hourly Standby \_\_\_\_\_ T-Out 05:20  
 Mileage 80 RT 80 Comments \_\_\_\_\_  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1705 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 60

Sub Total 0  
 Total 1705

Approved By \_\_\_\_\_ Our Representative Mike Roberts

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. 65145

Well Name & No. Wells-Whitham #1 Test No. 3 Date 6-3-19  
 Company Ritchie Exploration Inc Elevation 3295 KB 3290 GL  
 Address 8100 E 22nd St N# 700 Box 783188 Wichita KS 67278  
 Co. Rep / Geo. Kent Matson Rig WW 12  
 Location: Sec. 9 Twp 17S Rge. 36W Co. Wichita State KS

Interval Tested 4078-4120 Zone Tested Lansing E-F  
 Anchor Length 42 Drill Pipe Run 3888 Mud Wt. 9.1  
 Top Packer Depth 4073 Drill Collars Run 186 Vis 55  
 Bottom Packer Depth 4078 Wt. Pipe Run 4 WL 8.8  
 Total Depth 4120 Chlorides 6100 ppm System LCM 3  
 Blow Description IF: Built to 18" BOB in 17 Min  
IS: No Return Blow  
FF: Built to 24" BOB in 22 Min  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>496</u>	<u>WCM</u>		<u>30</u>	<u>70</u>	
<u>186</u>	<u>MCW</u>		<u>90</u>	<u>10</u>	

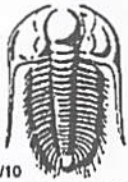
Rec Total 682 BHT 116 Gravity — API RW 1340 @ 66.9°F Chlorides 22000 ppm

(A) Initial Hydrostatic <u>2131</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>14:15</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>15:22</u>
(C) First Final Flow <u>196</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>17:17</u>
(D) Initial Shut-In <u>1142</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>20:17</u>
(E) Second Initial Flow <u>198</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>22:33</u>
(F) Second Final Flow <u>395</u>	<input checked="" type="checkbox"/> Mileage <u>80 RT</u> 80	Comments
(G) Final Shut-In <u>1134</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2079</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> EM Tool
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Day Standby	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Accessibility	Sub Total <u>0</u>
	Sub Total <u>1705</u>	Total <u>1705</u>

Approved By \_\_\_\_\_ Our Representative Mike Rotato

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. 65146

Well Name & No. Wells-Whitham #1 Test No. 4 Date 6-4-19  
 Company Ritchie Exploration Inc Elevation 3295 KB 3290 GL  
 Address 8100 E 22<sup>nd</sup> St. N. # 700 <sup>Box 783188</sup> Wichita KS 67278  
 Co. Rep / Geo. Kent Matson Rig WW12  
 Location: Sec. 9 Twp 17s Rge. 36w Co. Wichita State KS

Interval Tested 4204-4230 Zone Tested Lansing I  
 Anchor Length 26 Drill Pipe Run 4015 Mud Wt. 9.1  
 Top Packer Depth 4199 Drill Collars Run 186 Vis 53  
 Bottom Packer Depth 4204 Wt. Pipe Run Ø WL 8.8  
 Total Depth 4230 Chlorides 7000 ppm System LCM 3  
 Blow Description IF! Built to 1/4" & Died  
IS! No Return Blow  
FF! No Blow -- Flushed tool - No Blow  
FS! No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OCM 3" Free oil</u>	<u>2</u>		<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 107 Gravity 1300 API RW 80 @ 80 °F Chlorides 7000 ppm

(A) Initial Hydrostatic <u>2174</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>14:15</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>14:45</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>16:48</u>
(D) Initial Shut-In <u>1002</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>18:48</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>21:04</u>
(F) Second Final Flow <u>27</u>	<input checked="" type="checkbox"/> Mileage <u>80 RT</u> 80	Comments
(G) Final Shut-In <u>1061</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2098</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</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>1705</u>
	Sub Total <u>1705</u>	MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Mike Polak

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. **65147**

Well Name & No. Wells-Whitham #1 Test No. 5 Date 6-5-19  
 Company Ritchie Exploration Inc Elevation 3295 KB 3290 GL  
 Address 8100 E 22nd St. N #700 Box 783188 Wichita KS 67278  
 Co. Rep / Geo. Kent Matson Rig WLW12  
 Location: Sec. 9 Twp 17S Rge. 36W Co. Wichita State KS

Interval Tested 4240-4262 Zone Tested J  
 Anchor Length 22 Drill Pipe Run 4047 Mud Wt. 9.1  
 Top Packer Depth 4235 Drill Collars Run 186 Vis 53  
 Bottom Packer Depth 4240 Wt. Pipe Run Ø WL 8.8  
 Total Depth 4262 Chlorides 7000 ppm System LCM 3  
 Blow Description IF: Built to 12 3/4 BOB in 26 Min  
IS: No Return Blow  
FF: Built to 16" BOB in 32 Min  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>149 <del>154</del></u>	<u>OCWM - 5' Thick oil</u>	<u>10</u>	<u>30</u>	<u>60</u>	
<u>310</u>	<u>OCMLW</u>	<u>4</u>	<u>86</u>	<u>10</u>	

Rec Total 464 BHT 120 Gravity 25 API RW, ~~410~~ <sup>253</sup> @ 101.4 °F Chlorides 23000 ppm

(A) Initial Hydrostatic 2245  Test 1300 T-On Location 06:15  
 (B) First Initial Flow 23  Jars 250 T-Started 07:02  
 (C) First Final Flow 134  Safety Joint 75 T-Open 09:21  
 (D) Initial Shut-In 1130  Circ Sub NC T-Pulled 12:21  
 (E) Second Initial Flow 137  Hourly Standby \_\_\_\_\_ T-Out 14:26  
 (F) Second Final Flow 224  Mileage 80 RT 80 Comments \_\_\_\_\_  
 (G) Final Shut-In 1109  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2049  Straddle \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1705  
 Sub Total 1705 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative Mike Roberts

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. 65148

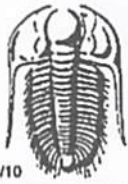
Well Name & No. Wells-Whitham #1 Test No. 6 Date 6-5-19  
 Company Ritchie Exploration Inc Elevation 3295 KB 3290 GL  
 Address 8100 E 22<sup>nd</sup> St. N #700 Box 783188 Wichita KS 67278  
 Co. Rep / Geo. Kent Matson Rig WW12  
 Location: Sec. 9 Twp 17S Rge. 36W Co. Wichita State KS

Interval Tested 4260-4290 Zone Tested K  
 Anchor Length ~~4055~~ 30 Drill Pipe Run 4060 Mud Wt. 9.2  
 Top Packer Depth ~~4255~~ 4255 Drill Collars Run 186 Vis 63  
 Bottom Packer Depth ~~4260~~ 4260 Wt. Pipe Run Ø WL 9.6  
 Total Depth 4290 Chlorides 7000 ppm System LCM 3  
 Blow Description IF: Built to 424' Blow BOB in 1 Min  
IS: No Return Blow  
FF: Built to 63" Blow BOB in 2 Min  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>310</u>	<u>WCM</u>		<u>5</u>	<u>95</u>	
<u>2418</u>	<u>SW</u>		<u>100</u>		

Rec Total 2728 BHT 120 Gravity 1.300 API RW 513 @ 55.7°F Chlorides 23500 ppm  
 Test 1300 T-On Location 23:00  
 Jars 250 T-Started 23:49  
 Safety Joint 75 T-Open 02:00  
 Circ Sub 50 Dropped Bar T-Pulled 05:00  
 Hourly Standby T-Out 08:05  
 Mileage BORT 80 Comments \_\_\_\_\_  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1755 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 60  
 Approved By \_\_\_\_\_ Our Representative Mike Roberts  
 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. 65149

Well Name & No. Wells-Whitham #1 Test No. 7 Date 6-6-19  
 Company Ritchie Exploration Inc Elevation 3295 KB 3290 GL  
 Address 8100 E 22<sup>nd</sup> St. N#700 Box 783188 Wichita KS 67278  
 Co. Rep / Geo. Kent Mason Rig \_\_\_\_\_  
 Location: Sec. 9 Twp 17S Rge. 36W Co. Wichita State KS

Interval Tested 4308-4345 Zone Tested L  
 Anchor Length 37 Drill Pipe Run 4109 Mud Wt. 9.2  
 Top Packer Depth 4303 Drill Collars Run 186 Vis 60  
 Bottom Packer Depth 4308 Wt. Pipe Run Ø WL 9.4  
 Total Depth 4345 Chlorides 7600 ppm System LCM 2  
 Blow Description IF: Built to 6 3/4" Blow  
IS: No Return Blow  
FF: Built to 6 1/4" Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>186</u>	<u>WCM</u>		<u>3</u>	<u>97</u>	
<u>186</u>	<u>MCW</u>		<u>60</u>	<u>40</u>	

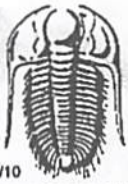
Rec Total 372 BHT 115 Gravity \_\_\_\_\_ API RW 432 @ 56.3/-°F Chlorides 27000 ppm  
 Test 1300 T-On Location 18:25  
 Jars 250 T-Started 19:13  
 Safety Joint 75 T-Open 21:47  
 Circ Sub NC T-Pulled 00:47  
 Hourly Standby \_\_\_\_\_ T-Out 02:49  
 Mileage 80RT 80 Comments Tool Slid  
 Sampler \_\_\_\_\_ 5'  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1705 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 60

Approved By \_\_\_\_\_ Our Representative Mike Robert

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. 65150

Well Name & No. Wells-Whitham #1 Test No. 8 Date 6-7-19  
 Company Ritchie Exploration Inc Elevation 3295 KB 3290 GL  
 Address 8100 E 22nd St. N #700 Box 783488 Wichita KS 67278  
 Co. Rep / Geo. Kent Matson Rig WW12  
 Location: Sec. 9 Twp 17S Rge. 36W Co. Wichita State KS

Interval Tested 4414-4470 Zone Tested Altament A-B  
 Anchor Length 56 Drill Pipe Run 4234 Mud Wt. 9.1  
 Top Packer Depth 4409 Drill Collars Run 186 Vis 48  
 Bottom Packer Depth 4414 Wt. Pipe Run Ø WL 9.6  
 Total Depth 4470 Chlorides 8000 ppm System LCM 3  
 Blow Description IF: Built to 1 1/4" Blow  
IS: No Return Blow  
FF: Built to 1" Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>186</u>	<u>OCM</u>	<u>2</u>		<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 186 BHT 115 Gravity ✓ API RW ✓ @ ✓ F Chlorides ✓ ppm  
 (A) Initial Hydrostatic 2310  Test 1300 T-On Location 19:30  
 (B) First Initial Flow 45  Jars 250 T-Started 21:50  
 (C) First Final Flow 71  Safety Joint 75 T-Open 12:07  
 (D) Initial Shut-In 1201  Circ Sub NC T-Pulled 03:07  
 (E) Second Initial Flow 82  Hourly Standby \_\_\_\_\_ T-Out ~~05:20~~ 05:20  
 (F) Second Final Flow 113  Mileage BORT 80+80 Comments hooked tools at 21:30 6-10-19  
 (G) Final Shut-In 1177  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2174  Straddle \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Day Standby 2.5d 4.75h Sub Total 1600  
 Initial Shut-In 45  Accessibility \_\_\_\_\_ Total 3385  
 Final Flow 45 Sub Total 1785 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 60

Approved By \_\_\_\_\_ Our Representative Mike Roberts

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.



**Scale 1:240 (5"=100') Imperial  
Measured Depth Log**

**Well Name:** WELLS-WHITHAM  
**Well Id:** #1  
**Location:** 2029' FSL, 149' FWL, Sec 09-T17S-R36W, Wichita County, Kansas  
**License Number:** API: 15-203-20358 **Region:** Wichita County  
**Spud Date:** 05/28/2019 **Drilling Completed:** 06/10/2019  
**Surface Coordinates:** Lat: 38.5891722  
Long: -101.3123389  
**Bottom Hole Coordinates:** Vertical hole  
**Ground Elevation (ft):** 3287' **K.B. Elevation (ft):** 3295'  
**Logged Interval (ft):** 3600' **To:** RTD **Total Depth (ft):** 4930'  
**Formation:** Mississippian at RTD  
**Type of Drilling Fluid:** Chemical

Printed by WellSight LogViewer from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**OPERATOR**

**Company:** Ritchie Exploration, Inc.  
**Address:** 8100 E. 22nd Street N., Bldg 700  
Wichita, KS 67226  
316-691-9500

**GEOLOGIST**

**Name:** Kent R. Matson  
**Company:** Matson Geological Services, LLC  
**Address:** 33300 W. 15th Street S.  
Garden Plain, Kansas 67050  
316-644-1975; [kent4m@hotmail.com](mailto:kent4m@hotmail.com)



### COMMENTS

Ritchie Exploration Company Geologist: John Goldsmith, 316-640-0236 (cell).

Contractor: WW Drilling Company, Rig #12.

Tool Pusher: Calvin Pfannenstiel, 785-743-8120 (cell).

Surface Casing: 8 5/8" set at 253' (KB) w/200sx cement.

Production Casing: Based on field observations of drill cuttings, DST results and electric log evaluation, production casing was not installed.

Mud by: Mud-Co/Service Mud, Inc., Tony Maestas, 316-772-6679 (cell) and Matt Smith, 316-640-1039 (cell).

DST's by: Trilobite Testing, Mike Roberts, 785-650-5123 (cell).

Logs by: Pioneer (DI w/GR, CND, Micro, and Sonic), Justin Herrickson, 785-625-3858 (office).

RTD= 4930'

LTD= 4928'

## FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Stotler	3577'	-282	3577'	-282
Heebner Shale	3946'	-651	3946'	-651
Lansing	3992'	-697	3994'	-699
Muncie Creek Shale	4168'	-873	4170'	-875
Stark Shale	4271'	-976	4268'	-973
Hushpuckney Shale	4322'	-1027	4322'	-1027
Base of KC	4362'	-1067	4363'	-1068
Marmaton	4412'	-1117	4406'	-1111
Altamont	4422'	-1127	4417'	-1132
Pawnee	4504'	-1209	4504'	-1209
Myrick Station	4546'	-1251	4550'	-1255
Fort Scott	4560'	-1265	4560'	-1265
Cherokee Shale	4586'	-1291	4587'	-1292
Johnson	4690'	-1395	4691'	-1396
Morrow	4742'	-1447	4739'	-1444
Mississippian	4851'	-1556	4849'	-1554
RTD	4930'	-1635		
LTD			4928'	-1633

## ROCK TYPES

### LITHOLOGY

	Anhy
	Cht
	Coal
	Congl
	Dol
	Gyp
	Lmst
	Salt
	Shale
	Shcol
	Shgy
	Sltst
	Ss
	Carb sh
	Dol
	Dtd
	Gry sh
	Sandy lms
	Shale
	Sltstn
	Shlyslts

	Sitysh
	Sdy dolo
	Silty dolo
	Shy dolo
	Shaly ls


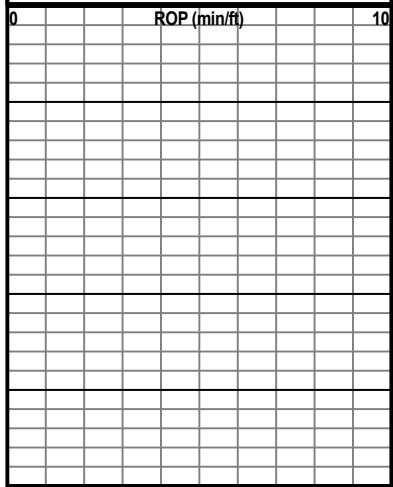
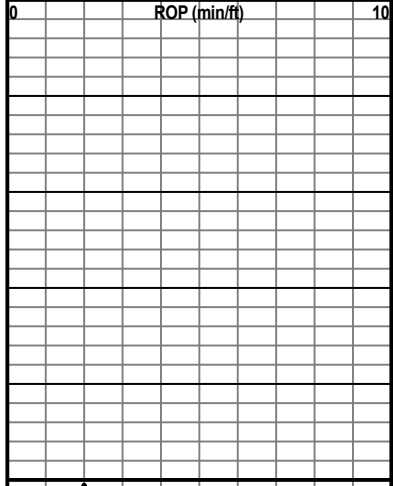
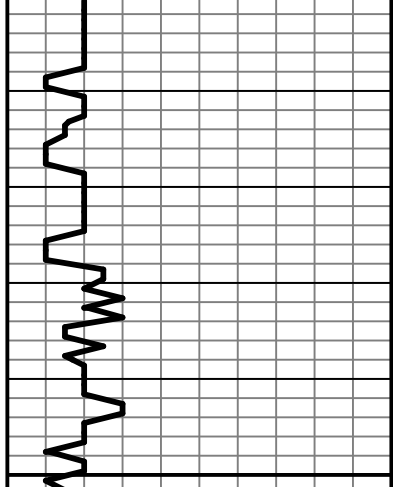
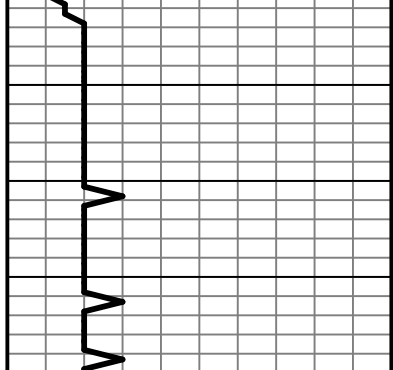
### FOSSIL

	Algae
	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral
	Crin
	Echin
	Fish
	Foram
	Fossil
	Gastro
	Oolite

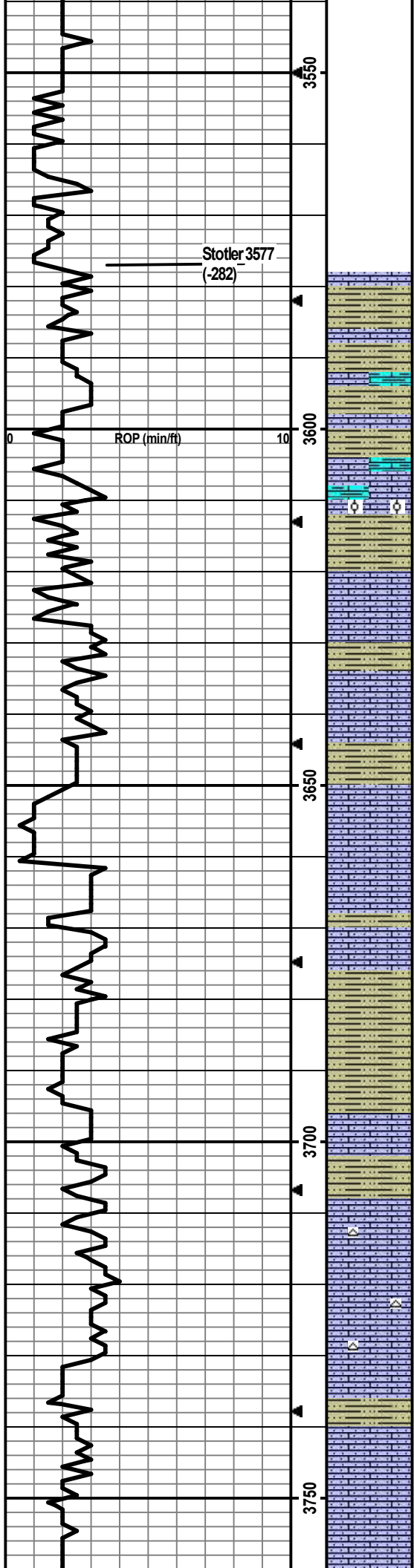
### MINERAL

	Ostra
	Pelec
	Pellet
	Pisolite
	Plant
	Strom
	Fuss
	Oomold
	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtlt
	Dol
	Feldspar

	Ferrpel
	Ferr
	Glau
	Gyp
	Hvymin
	Kaol
	Marl
	Minxl
	Nodule
	Phos
	Pyr
	Salt
	Sandy
	Silt
	Sil
	Sulphur
	Tuff
	Chlorite
	Dol
	Sand
	Sity

<p>Rate of Penetration (ROP) ROP (min/ft) </p>	<p>MD</p>	<p>Lithology</p>	<p>CFS Point</p>	<p>Oil Shows</p>	<p>Geological Descriptions</p>	<p>Remarks</p>
	<p>33 3400</p>			<p><b>Morning Report Depth/Activity (7:00 am)</b>            05/28/2019, Finished MIRU/Spud; set surface casing @253'KB.            05/29, drilling @ 633'.            05/30, drilling @ 2296'.            05/31, drilling @ 3237'.            06/01, drilling @ 3780'.            06/02, DST#1 @ 4020'.            06/03, DST#2 @ 4070'.            06/04, drilling @ 4200'.            06/05, DST#5 @ 4262'.            06/06, DST#6 @ 4290'.            06/07, drilling @ 4365'.            06/08, DST#8 @ 4470'.            06/09, drilling @ 4640'.            06/10, Bit Trip @ 4863'; TD @ 4930' TD; electric logged.</p>	<p><b>Displaced drilling mud @ 3384' - 3394'; 700 bbls.</b></p> <p>Mud-Co/Service Mud Inc. Check #1 @ 0' 05/20/19, predrilling instructions.</p> <p>Mud-Co/Service Mud Inc. Check #2 @ 2393' 05/30/19 08:45am            wt vis pH chl            9.4 32 7 71000            Filt LCM            n/c 3</p> <p>Mud-Co/Service Mud Inc. Check #3 @ 3320' 05/31/19 10:30am            wt vis pH chl            9.8 31 7 45000            Filt LCM            n/c 2</p> <p>Mud-Co/Service Mud Inc. Check #4 @ 3894' 06/01/19 11:40am            wt vis pH chl            8.9 58 11 4800            Filt LCM            7.2 3</p> <p>Mud-Co/Service Mud Inc. Check #5 @ 4020' 06/02/19 11:15am            wt vis pH chl            9.1 49 10.5 5400            Filt LCM            7.2 3</p>	
	<p>3400 3450</p>	<p>Anhydrite: Top @ 2462', Base @ 2479' (based on drill time).</p>		<p>Oil Shows indicator: Left Block 0-10 tray pcs w/show, Middle Block 10-20 tray pcs w/show, Right Block 20+ tray pcs w/show.</p>	<p>Mud-Co/Service Mud Inc. Check #6 @ 4095' 06/03/19 11:15am            wt vis pH chl            9.1 55 10.0 6100            Filt LCM            8.8 3</p> <p>Mud-Co/Service Mud Inc. Check #7 @ 4230' 06/04/19 12:00pm            wt vis pH chl            9.1 53 11.0 7000            Filt LCM            8.8 3</p>	
	<p>3450 3500</p>	<p>ROP Data begins @ 3450' on 05/31/2019</p>		<p>Formation tops and lithologies have been adjusted to correlate to the electric log.</p>	<p>Mud-Co/Service Mud Inc. Check #8 @ 4262' 06/05/19 11:00am            wt vis pH chl            9.2 63 10.5 7000            Filt LCM            9.6 3</p> <p>Mud-Co/Service Mud Inc. Check #9 @ 4290' 06/06/19 11:20am            wt vis pH chl            9.2 60 10.0 7600            Filt LCM            9.6 2</p>	
	<p>3500 4000</p>				<p>Mud-Co/Service Mud Inc. Check #10 @ 4424' 06/07/19 11:20am            wt vis pH chl            9.1 48 10.5 8000            Filt LCM            9.6 3</p> <p>Mud-Co/Service Mud Inc. Check</p>	





**Drill cutting samples at 10' intervals start at 3600'.**

SH: lt-m gry, vry silty, slt carb, soft-fim, no odor, ns. LS: lt-m gry bm, vf-f xtal, vry silty, carb, min foss frags, no vis por, no odor, ns.

SH: m-dk gry, some vry silty, slt carb, soft-fim, no odor, ns. LS: cm/lt-m gry, micro-f xtal, some vry silty, some arg, min foss frags, no vis por, no odor, ns.

SH: lt-dk gry/min lt green-gry, some vry silty, slt carb, soft-fim, no odor, ns. LS: cm/lt gry w/dk gry mottling, vry silty/sndy, arg, no vis por, no odor, ns.

LS: cm/lt bm/gry, micro-m xtal, some vry silty, min foss frags/fine dense ool, no vis por, no odor, ns.

SH: lt-dk gry, vry silty, slt carb, soft-fim, no odor, ns.

LS: cm/lt-m bm/dk gry, micro-m xtal, vry silty/sndy, no vis por, no odor, ns.

SH: lt-dk gry, silty, slt carb, fim, no odor, ns.

LS: cm/lt bm/some dk gry mottling, micro-m xtal, vry silty, some chalky, foss frags, no vis por, no odor, ns.

SH: lt-dk gry/bm, some vry silty, carb, no odor, ns.

LS: cm/lt bm, micro-f xtal, some vry silty, foss frags, no vis por, no odor, ns.

LS: cm/lt bm, micro-m xtal w/some 2ndry xtals, some vry silty, foss frags, no vis por, no odor, ns.

SH: gry-bm, vry silty, carb, soft-fim, no odor, ns.

LS: cm/bm/lt gry, micro-med xtal, silty, arg, foss frags, no vis por, no odor, ns.

SH: lt-med gry, vry silty, slt carb, fim, fissile, no odor, ns.

LS: cm/lt bm/lt gry, micro-med, vry silty/sndy, some chalky, min wht/lt bm chert, foss frags, min ppt-vf in-xtal por, no odor, ns.

SH: lt-dk gry, silty/sndy, carb, fim, no odor, ns.

LS: wht/cm/lt-m bm, micro-med xtal, vry silty, some vry chalky, foss frags, no vis por, no odor, ns.

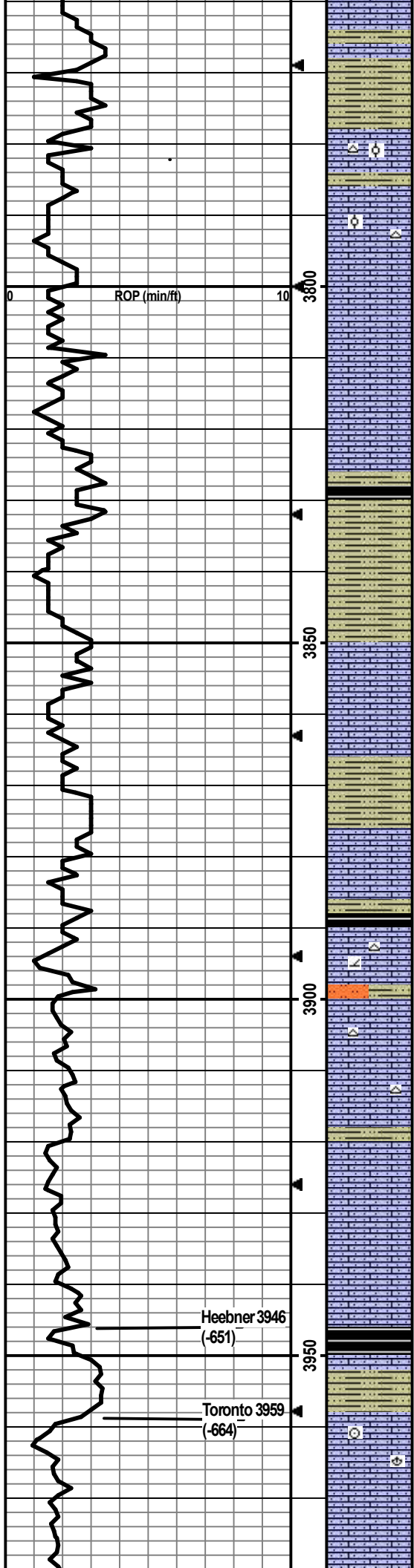
#11 @4470' 06/08/19 10:00am  
wt vis pH chl  
9.1 72 10.0 9000  
Filt LCM  
10.4 2

Mud-Co/Service Mud Inc. Check  
#12 @4733' 06/09/19 04:00pm  
wt vis pH chl  
9.3 70 10.0 9500  
Filt LCM  
10.6 2

Mud-Co/Service Mud Inc. Check  
#13 @4863' 06/10/19 07:00am  
wt vis pH chl  
9.4 80 10.0 9000  
Filt LCM  
10.2 2

**Survey Record  
Deg @ Ft  
0.5 @ 253'  
0.75 @ 4020'  
0.75 @ 4930'**





SH: med-dk gry, some vry silty/sndy, carb, soft-firm, no odor, ns.

LS: cm/lgt gry/bm/dk gry mottling, micro-med xtal, some vry silty/sndy, some chalky, min bm chert, foss frags/some dense crs ool, no vis por, no odor, ns

LS: cm/lgt gry, micro-med xtal, some silty/sndy, some dolomitic, foss frags, min ppt-f in-xtal por, no odor, ns.

SH: lt-dk gry/bm-gry, vry silty, carb, soft-firm, no odor, ns.

SH: lt-dk gry/lt green-gry/bm, silty, carb, soft-firm, no odor, ns.

LS: cm/lgt m bm, micro-m xtal, some vry silty/sndy, some chalky, some arg, foss frags, some ppt-vf in-xtal por, no odor, ns.

SH: lt-med gry/bm, silty, carb, firm, no odor, ns.

LS: cm/lgt gry/bm, micro-med xtal, vry silty/sndy, chalky foss frags, no vis por, no odor, ns.

SH: lt-dk gry/lt gry-bm, vry silty, carb, firm, no odor, ns.

LS: lt-m bm, micro-med xtal, vry silty/sndy, some chalky, some dolo, min wht chert, foss frags, min ppt-f in-xtal por, no odor, ns. Some Sltstr: lt gry/lt bm, pred qtz, arg, friable, no odor, ns.

LS: cm/lgt gry, micro-med xtal, silty/sndy, chalky, wht/cm chert, foss frags/grainy, some ppt-fn in-xtal por, no odor, ns.

LS: cm/lgt gry/gry mottling, micro-med xtal, vry silty/sndy, some vry chalky pcs, foss frags, min ppt-fn in-xtal por, no odor, ns.

LS: cm/lgt gry/some gry mottling, micro-med, vry silty/sndy, some vry chalky, foss frags, no vis por, no odor, ns.

min SH: dk gry/blk, slt carb, firm, fissile, no odor, ns.

LS: cm/lgt gry/some gry mottling, micro-med, vry silty/sndy, some vry chalky, foss frags, no vis por, no odor, ns. Min SH: lt-dk gry, silty, slt carb, firm, no odor, ns.

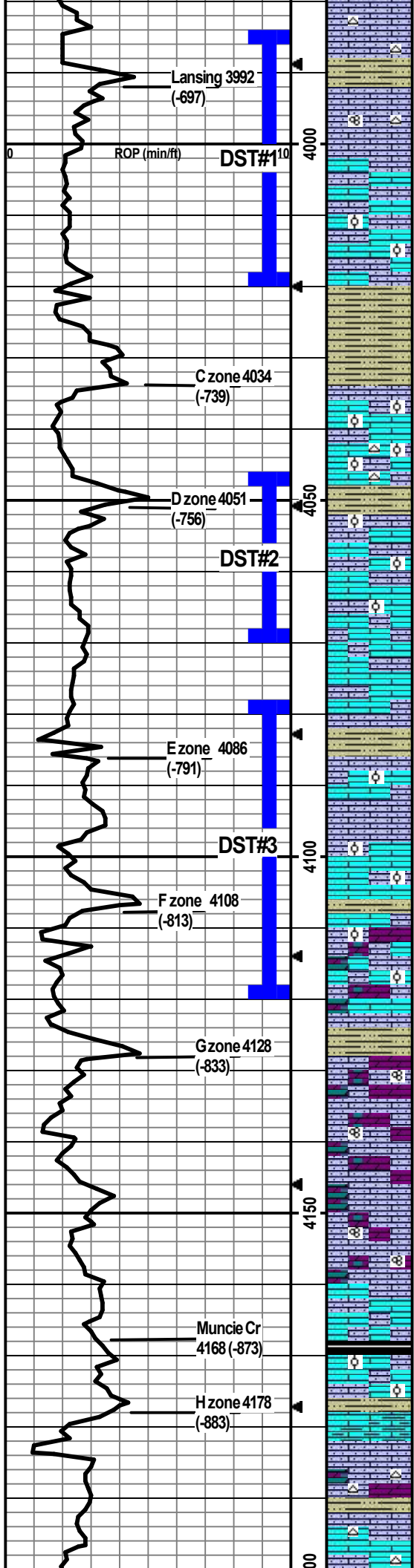
LS: cm/lgt gry/some gry mottling, micro-med xtal, vry silty/sndy, some arg, some chalky, foss frags/crin/brac, min ppt-f in-xtal por, no odor, ns.

LS: cm/lgt gry-bm, micro-med xtal, vry silty/sndy, some vry chalky, foss frags/grainy, ppt-m in-xtal por, no odor, ns.

Made wiper/short trip at the 3894' connection.

**DST1) 3984-4020  
Lansing A-zone**

30/45/45/60  
1st) built to BOB in 8min w/37.5" total blow; no BB.  
2nd) built to BOB in 10min w/45" total blow; no BB.  
IFP 36-255#  
ISIP 1079#  
FFP 255-447#  
FSIP 1076#  
HP 2067-1991#  
Recvd: 950' Total Fluid: 268'  
OWM (2%O, 30%W, 50%M), 310'  
OMW (5%O, 20%M, 75%W), 372'  
MW (4%M, 96%W).



LS: cm/lt gry-bm, micro-med xtal, some vry silty/sndy, some vry chalky, wht chert, foss frags, ppt-med in-xtal por, 2 pcs w/sfo w/dul yel flor, slt crush odor, ssfo.  
 SH: bm/med gry, vry silty, slt carb, soft-firm, no odor, ns.  
 LS: crm/lt brn, micro-med, vry silty/sndy, some chalky, min wht/crm chert, foss frags/min fusln, some fmed in-xtal por, no odor, ns.  
 LS: cm/lt gry, micro-med xtal, some silty/sndy, some chalky, foss frags, 14 pcs w/sfo wf-m in-xtal por w/min crs por, dul yel flor, gd odor, gsfo.  
 LS: cm/lt brn, micro-med xtal, some silty/sndy, some chalky, foss frags/ool, 24 pcs w/sfo wf-crs in-xtal/in-ool por, gd odor, gsfo.  
 SH: lt-dk gry/lt green-gry/bm, some vry silty, slt carb, soft-firm, some fissile, no odor, ns. (Some LS as above, 2 pcs w/sfo assume from above, no odor)  
 LS: crm/lt brn/lt-med gry, micro-med xtal, some silty/sndy, foss frags/dense ool, min pptf in-xtal por/some fn in-oolitic por, 1 pce w/sfo in in-ool por, slt odor, ssfo. SH as above.  
 LS: crm/lt brn, micro-med xtal, some silty/sndy, some chalky, crm/lt gry/wht chert, foss frags/ool, 15 pcs wf-crs in-xtal/in-ool por w/sfo, some fluid oil some thick/tarry, dul yel flor, slt crush odor, sfo. (32 pcs in 60min sample).  
 SH: lt-dk gry, some vry silty, slt carb, soft-firm, no odor, ns.  
 LS: crm/lt brn, micro-med xtal, some sandy, some chalky, foss frags/some grainy/ool, some pyritic, 9 pcs w/sfo wf-fmed/some crs in-xtal/in-ool por, dul yel flor, no odor, sfo.  
 LS: wht/crm/min lt gry, micro-med xtal, some vry sndy, some vry chalky, foss frags/min ool, 2 pcs w/sfo (1 pce w/o, 1 pce w/tar oil), ppt-med in-xtal por, dul yel flor, no odor, ssfo.  
 LS: wht/crm/lt brn, micro-med xtal, some silty/sndy, some chalky, foss frags, no vis por, (2 ool w/sfo assumed from above), no odor, ns.  
 SH: lt-m gry, silty, slt carb, soft-firm, fissile, no odor, ns.  
 LS: crm/min lt gry, micro-med xtal, some silty, some chalky, foss frags/min ool, some f-m in-xtal/in-ool por, 3 pcs w/sfo (2 pcs in in-ool matrix), dul yel flor, slt odor, ssfo.  
 LS: crm/lt-m brn, micro-med xtal, some silty/sndy, some chalky, foss frags/dense chalky ool, 2 pcs w/sfo w/ppt-vf in-xtal por, slt odor, ssfo.  
 LS: wht/crm/lt brn, micro-med xtal, some vry sndy, some dolomitic, foss frags/dense ool, 1 ool pce w/sfo in ppt-f matrix por, dul yel flor, slt crush odor, ssfo.  
 LS: crm/lt brn, vf-f xtal, silty/sndy, dolomitic, f-m in-xtal por, 1 pce w/sfo, dul yel flor, no odor, ssfo.  
 SH: lt-dk gry/brn/mustard yel, some vry silty, slt carb, soft-firm, fissile.  
 LS: wht/crm/min lt gry, vf-med xtal, silty/sndy, some vry chalky, dolomitic, foss frags/fusln, no vis por, no odor, ns.  
 LS: wht/crm, vf-med xtal, some calcite xtals, sandy, some chalky, some dolomitic, foss frags, f-crs in-xtal por, no odor, ns.  
 LS: crm/tan, micro-f w/min med xtal, some sndy, sample vry chalky, dolomitic, foss frags/fusln, some f-m in-xtal por, no odor, ns.  
 LS: crm/lt gry, micro-f xtal w/some 2ndry xtals, some chalky, some silty/sndy, min foss frags, min vf-m in-xtal por, no odor, ns.  
 SH: m-dk gry, silty, slt carb, soft-firm, fissile.  
 LS: lt brn/lt-m gry/some gry mottling, micro-med xtal, some silty/sndy, some arg, some chalky, foss frags/dense ool, no vis por, no odor, ns.  
 LS: crm/tan/lt brn, micro-f xtal, some silty/sndy, some grainy, some chalky, some dolomitic, wht/crm chert, min foss frags, no vis por, no odor, ns.  
 SH: med-dk gry/blk, some silty, slt carb, soft-firm, fissile.  
 LS: wht/crm, mostly micro-f xtal, some silty/sndy, some chalky, min wht/lt gry chert, min foss frags, no vis por, no odor, ns.

CFS @ 3990'  
 Stop/30"/60"

CFS @ 4020'  
 Stop/30"/60"  
**DST2) 4046-4070**  
**Lansing D-zone**  
 30/45/45/60  
 1st SB built to 4.25" blow; no BB.  
 2nd) SB built to 6"; no BB.  
 IFP 19-92#  
 ISIP 1094#  
 FFP 94-132#  
 FSIP 1091#  
 HP 2107-1998  
 Recvd: 249' WM (5%W, 95%M).

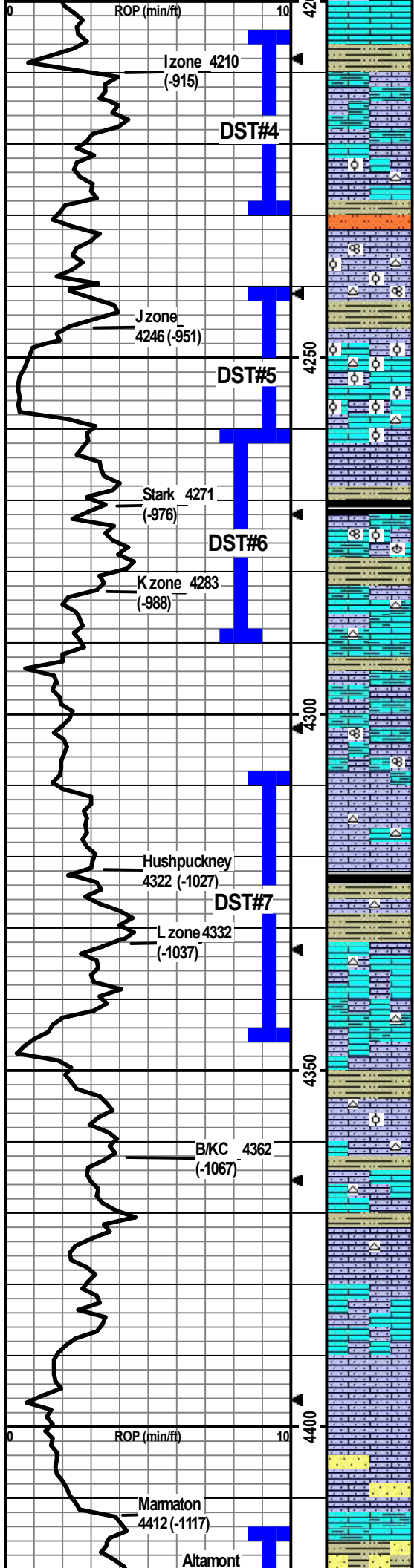
CFS @ 4050'  
 Stop/30"/60"  
 Pipe strap TOH for DST #2 at 4070' was 0.94' short to the board.

CFS @ 4070'  
 Stop/30"/60"

CFS @ 4095'  
 Stop/30"/60"

CFS @ 4120'  
 Stop/30"/60"  
**DST3) 4078-4120**  
**Lansing E & F-zones**  
 30/45/45/60  
 1st built to BOB in 17min w/18" total blow; no BB.  
 2nd) built to BOB in 22min w/24" total blow; no BB.  
 IFP 23-196#  
 ISIP 1142#  
 FFP 198-345#  
 FSIP 1134#  
 HP 2131-2079#  
 Recvd: 682' Total Fluid: 496' WM (30%W, 70%M), 186' MW (10%M, 90%W).

CFS @ 4150'  
 Stop/30"/60"  
**DST4) 4204-4230**  
**Lansing I-zone**  
 30/30/30/30  
 1st built to 1/4" then died; no BB.  
 2nd) no blow - flushed tool - no blow; no BB.  
 IFP 16-21#  
 ISIP 1002#  
 FFP 22-27#  
 FSIP 1061#  
 HP 2174-2098#  
 Recvd: 5' OM (2%O, 98%M)



LS: crm/tan/lt gry, micro-med, some silty/sndy, some chalky, some dolomitic, wht/lt gry chert, min foss frags, no vis, no odor, ns.

SH: med gry/red brn, vry silty/sndy, slt carb, firm, fissile.

LS: crm/lt-m brn/lt-m gry, f-m xtal, vry silty/sndy, arg, min wht/crm chert, foss frags, no vis por, no odor, ns.

LS: crm/lt brn/lt gry/gry mottling, micro-med xtal, some chalky, some sndy, foss frags/some dense ool, min wht chert, 8 pcs w/sfo w/ppt-f w/min med in-xtal por, gd odor, sfo.

60min smpl had 14 pcs w/sfo, f-crs in-xtal/in-ool por, stg odor.

SH: lt-dk gry, silty, slt carb, soft-firm; min sltstn: gry, vf-f, pred qtz, glauc, friable.

LS: crm/lt gry/lt-m brn, micro-med xtal, silty/sndy, chalky, foss frags/fusin/dense ool, min crm/lt gry chert, no vis por, cup odor, 3 pcs in 60min w/sfo, ppt-f in-xtal por, fo on break, yel cut, ssfo.

SH: med-dk gry, some vry silty, soft-firm.

LS: crm/lt gry, f-med xtal, some sndy, some chalky, foss frags w/abund ool, min wht/lt gry chert, 15 pcs w/sfo w/f-crs in-xtal/in-ool por, crs oo-castic por but oil is in matrix, stg odor, dul yel flor, gsfo. Less pcs in 60min sample.

SH: lt-dk gry/lt green-gry/min blk, silty, slt carb, soft-firm, fissile, no odor, ns.

LS: crm/lt gry, micro-m xtal, some silty/sndy, foss frags, no vis por, no odor, ns.

LS: lt-m brn/lt-m gry, micro-med xtal, vry silty/sndy, some chalky, some arg, foss frags/brac/fusin/dense ool, 1 pce w/sfo wf-m in-xtal por, slt odor, ssfo.

LS: crm/lt-med brn/lt gry, micro-med, some silty/sndy, some arg, some chalky, some wht chert, foss frags, 4 pcs w/sfo wf-m in-xtal por, several oil saturated chalk balls in 30min smpl, 60min had abund oil sat chalk balls, gd odor, ns.

Flood of SH: lt-dk gry, lt green-gry, some vry silty, some pyritic, soft-firm, no odor, ns.

LS: crm/lt gry/lt-med brn, micro-med xtal, silty/sndy, some chalky, arg, foss frag, 2 pcs w/sfo wf-m in-xtal por, gd odor, sfo.

LS: crm/lt-gry, micro-med xtal, silty/sndy, vry chalky, arg, foss frags/fusin, 15 pcs w/sfo thk dk brn, f-crs in-xtal por, gd odor, some soft oil sat chalk balls, sfo.

LS: wht/crm/lt gry, micro-med xtal, some silty/sndy, vry chalky, wht/lt gry chert, foss frags, 9 pcs w/sfo thk dk brn w/f-crs in-xtal por, several soft oil sat chalk balls, gd odor, sfo.

SH: med-dk gry/brn, some vry silty, slt carb, soft-firm, fissile.

LS: crm/lt-m brn/gry, micro-med xtal, some chalky, some silty/sndy, foss frags, wht/lt gry chert, 2 pcs w/thk dk brn oil w/f-crs in-xtal por, slt odor, ssfo.

SH: med-dk gry/blk, silty, slt carb, soft-firm, fissile.

LS: crm/lt-med brn/lt gry, micro-med xtal, some chalky, some silty/sndy, foss frags/fusin, wht/lt gry chert, 5 pcs w/th dk brn oil, f-crs in-xtal por, slt odor, sfo.

LS: crm/lt-m brn/lt gry, micro-med xtal, some chalky, some silty/sndy, some arg, foss frags, wht/lt gry chert, 4 pcs w/med-crs in-xtal por w/sfo thk dk brn, slt odor, ssfo.

LS: crm/lt brn/lt gry, micro-med xtal, some silty, some chalky, min wht chert, foss frags/min dense ool, no vis por, no odor, ns. (1 pce w/sfo w/crs por assume from above.)

SH: lt-dk gry/lt green-gry/brn, some vry silty, slt carb, soft-firm, no odor, ns.

LS: lt brn/lt gry/some dk gry mottling, micro-med xtal, few pcs w/crs 2ndry xtals, some silty/sndy, some chalky, some wht chert, foss frags, chert, no vis por, no odor, ns.

LS: crm/lt brn/lt gry-brn, micro-med xtal, silty/sndy, some chalky, min lt brn chert, foss frags, no vis por, no odor, ns.

1 pce in 60min smpl w/sfo, LS w/abund foss, m-crs por, gd odor.

LS: lt-m brn/lt gry, micro-med xtal, some silty/sndy, some chalky, some arg, foss frags, no vis por, no odor, ns.

LS: lt-m brn/lt-m gry, micro-m xtal, vry silty/sndy, some chalky, foss frags, no vis por, no odor, ns.

LS: crm/lt-m brn/gry-brn, micro-m xtal, vry silty/sndy, arg, foss frags, no vis por, no odor, ns. Some SS: lt-m gry/lt brn, vf-f, pred qtz, carb, arg, friable, no odor, ns.

LS: crm/lt-m brn/gry-brn, micro-med xtal, some vry silty/sndy, some arg, foss frags, no vis por, no odor, ns. SS as above, no odor, ns. SH: lt-m gry/brn/mustard yel, vry silty/sndy, soft-firm, no odor, ns.

CFS @ 4210'  
Stop/30"/60"

CFS @ 4230'  
Stop/30"/60"

CFS @ 4245'  
Stop/30"/60"

CFS @ 4262'  
Stop/30"/60"

CFS @ 4290'  
Stop/30"/60"

**DST5) 4240-4262**  
**Lansing J-zone**  
30/45/45/60  
1st) built to BOB in 26min w/12.25" total blow; no BB.  
2nd) built to BOB in 32min w/16" total blow; no BB.  
IFP 23-134#  
ISIP 1130#  
FFP 137-224#  
FSIP 1109#  
HP 2245-2049#  
Recvd: 464' Total Fluid: 5'O, 149' OWM (10%O, 30%W, 60%M), 310' OMM (4%O, 10%M, 86%W).

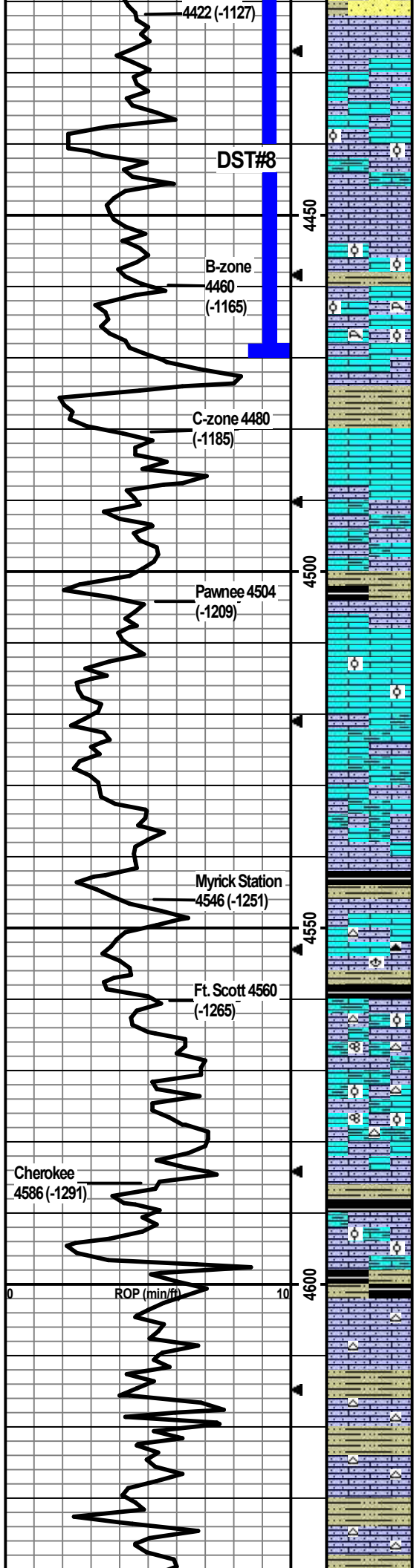
CFS @ 4345'  
Stop/30"/60"

**DST6) 4260-4290**  
**Lansing K-zone**  
30/45/45/60  
1st) built to BOB in 1min w/424" total blow; no BB.  
2nd) built to BOB in 2min w/63" total blow; no BB.  
IFP 416-1099#  
ISIP 1213#  
FFP 1100-1213#  
FSIP 1219#  
HP 2189-2030#  
Recvd: 2728' Total Fluid: 310' WM (5%W, 95%M), 2418' W (100%W).

CFS @ 4380'  
Stop/30"/60"

**DST7) 4308-4345**  
**Lansing L-zone**  
30/45/45/60  
1st) built to 6.75" total blow; no BB.  
2nd) built to 6.25" total blow; no BB.  
IFP 60-125#  
ISIP 1246#  
FFP 127-184#  
FSIP 4216#





LS: w/lt cm/lt brn/gry, micro-m w/some crs xtals, some vry silty/sndy, foss frags, no vis por, no odor, ns. Flood of SH/SS as above.

LS: cm/lt brn/lt gry, micro-m xtal, some vry silty/sndy, foss frags, 1 pce w/staining and sfo on break, ppt-vf in-xtal por, no odor, ssfo. Flood of SH and SS as above.

LS: cm/lt-m brn/lt-m gry, micro-m xtal, vry silty/sndy, some arg, foss frags/dense ool, no vis por, no odor, ns.

SH: lt-m gry/dk maroon, vry silty, soft-firm, fissile.

LS: lt-m gry/lt-m brn/gry-brn, micro-med xtal, some chalky, some silty/sndy, foss frags/min ool, 2 pcs w/staining and fo on break w/ppt-f in-xtal/in-ool por, no odor, ns.

LS: cm/lt-m brn/lt gry, micro-med xtal, some silty/sndy, some chalky, foss frags/dense ool/wht lattice coral, coral has med-crs laminar por, no odor, ns.

LS: lt brn/lt-m gry, micro-med xtal, some vry silty/sndy, min foss frags, no vis por, no odor, ns.

SH: lt-dk gry, some vry silty/sndy, carb, firm, fissile, no odor, ns.

LS: cm/lt-med brn, micro-m w/some crs xtal, some 2ndry xtals, foss frags some abund, min ppt-f in-xtal por, no odor, ns.

LS: cm/lt-m brn/lt-med gry, micro-m w/some crs xtal, some vry silty/sndy, some arg, foss frags, no vis por, no odor, ns.

SH: lt-dk gry/lt brn, silty, carb, soft-firm, fissile.

LS: cm/lt-m brn w/some wht mottling, micro-med xtal, some vry silty/sndy, foss frags, no vis por, no odor, ns.

LS: cm/lt-m brn, micro-m xtal, foss frags/dense ool/grainy, no vis por, no odor, ns.

LS: cm/lt-m brn/lt gry, vf-m xtal, some silty, some chalky, some arg, foss frags, no vis por, no odor, ns.

LS: cm/lt-m brn/lt-m gry, micro-f xtal, some silty, some chalky, some arg, foss frags, no vis por, no odor, ns.

SH: med-dk gry/blk, some silty, slt carb, soft-firm, no odor, ns.

LS: cm/lt-m brn/lt-m gry, micro-med xtal, some silty/sndy, some chalky, foss frags, no vis por, no odor, ns.

LS: cm/lt-m brn/lt-m gry, micro-m xtal, some silty/sndy, some chalky, wht/lt-dk brn chert, foss frags/brac, no vis por, no odor, ns.

SH: med-dk gry/blk, some vry silty, soft-firm, fissile.

LS: lt-med brn/gry/gry mottling, micro-m xtal, some silty/sndy, some chalky, some arg, abund wht/lt gry/lt brn foss chert, arg, abund foss frags/fusln/ool, no vis por, no odor, ns.

LS: cm/lt-m brn/lt-m gry, micro-med xtal, some silty/sndy, some chalky, some arg, wht/lt gry foss chert, foss frags/fusln/ool, no vis por, no odor, ns.

LS: cm/lt-m brn/gry, micro-m xtal, some silty/sndy, some lt gry/lt brn chert, min foss frags, no vis por, no odor, ns.

SH: lt-dk gry/blk, some vry silty, slt carb, soft-firm, no odor, ns.

LS: cm/lt brn/lt gry/gry mottling, micro-med, some silty/sndy, some chalky, some arg, foss frags/dense ool, no vis por, no odor, ns.

SH: lt-dk gry/blk, slt carb, some silty, firm, no odor, ns.

LS: cm/lt-m brn/lt gry, micro-med, some silty/sndy, some chalky, wht/lt brn/lt gry chert, foss frags, no vis por, no odor, ns.

SH: med-dk gry/blk/gry-brn, slt carb, some silty, firm, fissile, no odor, ns.

LS: cm/lt gry/lt brn, micro-m xtal, some silty, lt-brn chert, foss frags, no vis por, no odor, ns.

SH: m-dk gry, some silty, slt carb, soft-firm, fissile, no odor, ns.

LS: cm/lt gry/lt-m brn, micro-m xtal, vry silty, some chalky, lt brn chert, min foss frags, no vis por, no odor, ns.

SH: med-dk gry/dk maroon, some silty, slt carb, firm, fissile, no odor, ns.

LS: cm/lt gry/lt-m brn, micro-med xtal, silty/some vry sndy w/crs snd, some arg, lt brn chert, foss frags, no vis por, no odor, ns.

F SIP 1240R  
HP 2124-2075#  
Recvd: 372' Total Fluid: 186' WM  
(3%W, 97%M), 186' MW (40%M,  
60%W).

CFS @ 4440'  
Stop/30"/60"

**DST#8) 4414-4470  
Altamont A &  
B-zones**

30/45/45/60  
1st) built to 1.25" total blow; no BB.  
2nd) built to 1" total blow; no BB.  
IFP 45-71#  
ISIP 1201#  
FFP 82-113#  
FSIP 1177#  
HP 2310-2174#  
Recvd: 186' OM (2%O, 98%M).

CFS @ 4470'  
Stop/30"/60"

CFS @ 4500'  
Stop/30"/60"

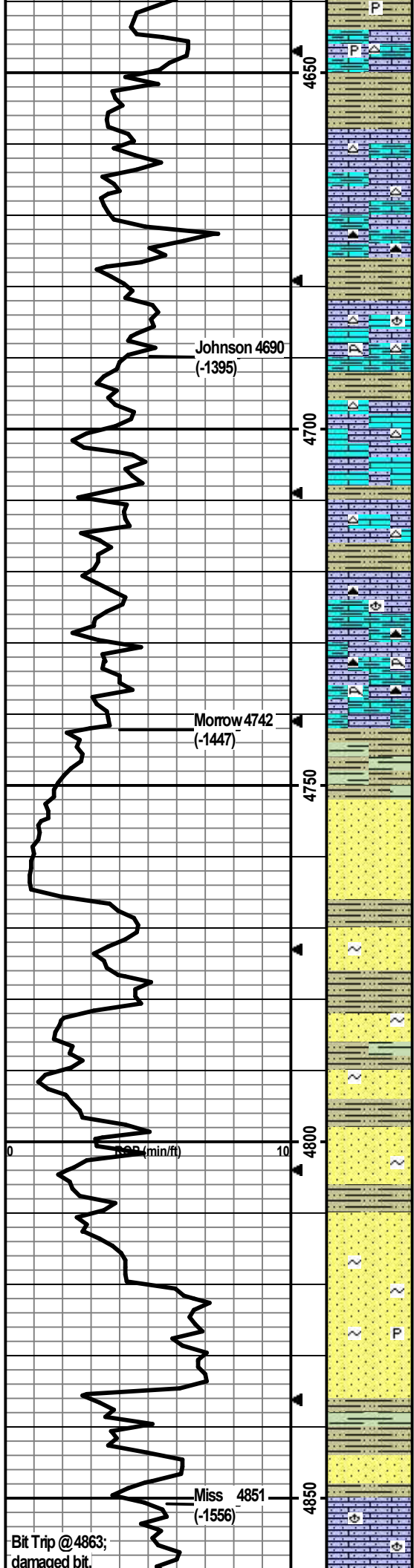
CFS @ 4540'  
Stop/30"/60"

CFS @ 4550'  
Stop/30"/60"

CFS @ 4580'  
Stop/30"/60"

CFS @ 4600'  
Stop/30"/60"

CFS @ 4620'  
Stop/30"/60"



SH: m-dk gry/lt green-gry/dk maroon, some silty, some pyritic, silt carb, firm, no odor, ns.

LS: lt-m brn/lt-m gry, micro-med xtal, some vry silty/sndy, some arg, min lt brn chert, pyritic, foss frags, no vis por, no odor, ns.

SH: lt-dk gry/dk maroon, some silty, silt carb, firm, no odor, ns.

LS: lt-dk brn/m-dk gry, micro-med xtal, some silty, min m-dk brn chert, foss frags, no vis por, no odor, ns.

LS: lt-m brn/gry, micro-med xtal, some vry silty, min chalky, some arg, brn chert, foss frags/some grainy, no vis por, no odor, ns.

LS: lt gry/lt-m brn, micro-m xtal, some silty, some arg, some chalky, dk brn chert, min foss frags, no vis por, no odor, ns.

SH: lt-dk gry/blk, some silty, soft-firm, fissile, no odor, ns.

LS: cm/lt-m brn, micro-med xtal, some 2ndry xtals, some silty, min wht/brn chert, foss frags/brac/coral, no vis por, no odor, ns.

SH: m-dk gry, silty, carb, firm, no odor, ns.

LS: lt-med brn/min gry, micro-m xtal, some silty/sndy, some chalky, some arg, lt gry/brn chert, min foss frags, no vis por, no odor, ns.

LS: lt-m brn/gry-brn, micro-med xtal, some vry silty, min chalky, some foss frags/some grainy, no vis por, no odor, ns.

LS: lt-med brn/gry, some silty, some arg, min foss frags, some lt gry/brn chert, no vis por, no odor, ns.

LS: cm/lt-m brn/lt-dk gry, micro-m xtal, some silty, some chalky, some arg, dk brn/dk gry chert, min foss frags/brac, no vis por, no odor, ns.

LS: cm/lt-m brn/lt-dk gry, micro-m xtal, some silty, some chalky, some arg, dk gry chert, min foss frags/opaque coral, no vis por, no odor, ns.

SH: m-dk gry/lt green-gry/blk, some vry silty, silt carb, firm, no odor, ns. (Flood of LS as above.)

SH: as above w/SS: lt gry, vf-f, pred qtz, friable, no odor, ns

SS: lt gry, vf-f, pred qtz, friable, no odor, ns. Min SH: dk gry/min mustard yel, vry silty, carb, firm-hard, no odor, ns.

SH: m-dk gry, some silty, silt carb, soft-firm, no odor, ns.

SS: lt gry, vf-f, pred qtz, some glauc, friable, no odor, ns.

SH: lt-dk gry/lt green-gry/dk maroon/min mustard yel, some silty, firm, no odor, ns.

SS: wht/lt gry, vf-m, pred qtz, silt glauc, hard, some friable, no vis por, no odor, ns.

SH: lt-dk gry/lt gry-green/lt brn mottling, some vry silty/sndy, silt carb, soft-firm.

SH: lt-dk gry/lt gry-green/brn, silt carb, some silty, firm, no odor, ns. SS: wht/lt gry, f-m, sr-wr, pred qtz, silt glauc, hard, some friable, no vis por, no odor, ns.

SS: wht/lt gry, f-crs, sr-wr, pred qtz, silt glauc, silt pyritic, hard, some friable, no vis por, no odor, ns. SH: as above.

SH: lt-dk gry/green-gry/lt red-brn, some silty, carb, firm, no odor, ns. SS: as above, no odor, ns.

SH: m-dk gry/green-gry/red-brn, some silty/sndy, carb, pyritic, no odor, ns.

SS: wht/lt gry, opaque, f-m, sr-wr, min glauc w/gry inclusions, hard, friable, no odor, ns.

LS: wht/lt-m brn, vf-m xtal, some vry sndy, some vry chalky, some friable, min foss frags/brac, no vis por, no odor, ns. (Flood of SH and SS from above.)

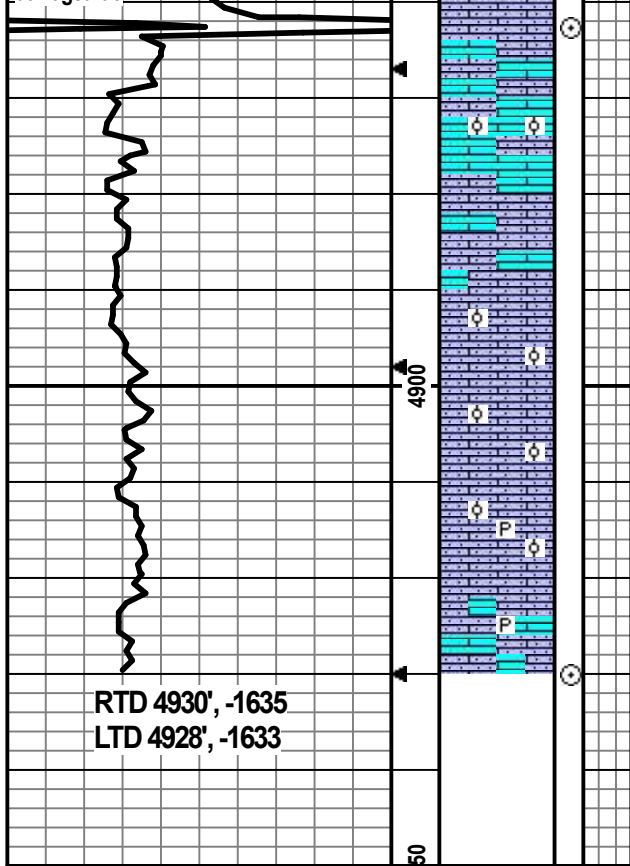
CFS @ 4670'  
Stop/30"/60"

CFS @ 4709'  
Stop/30"/60"

CFS @ 4741'  
Stop/30"/60"

**DST4) 4608-4630**  
**Myrick Station**  
 30/30/30/30  
 1st) WSB built to 1/2", died back to 0.15"; no BB.  
 2nd) No blow, flushed tool, no blow; no BB.  
 IFP 13-15#  
 ISIP 462#  
 FFP 19-26#  
 FSIP 108#  
 HP 2275-2240#  
 Recvd: 1' O, 10' OCM (6%O, 94%M).

Bit Trip @ 4863;  
damaged bit.



LS: cm/lt-m bm/gry, micro-m xtal, some silty/sndy, some chalky, min foss frags, no vis por, no odor, ns.

LS: lt-dk bm/lt gry-bm, micro-m xtal, some 2ndry xtals, some vry silty/sndy, min chalky, foss frags/min dense ool, no vis por, no odor, ns. (Cont flood of SH/SS from above.)

LS: lt-m bm/lt-dk gry-bm, micro-med xtal, some 2ndry xtals, some vry silty/sndy, foss frags, no vis por, no odor, ns.

LS: cm/lt-m bm/min lt-dk gry, micro-med xtal, some vry silty/sndy/chalky/ool, foss frags/chalky ool, no vis por, no odor, ns.

LS: cm/lt-m bm, micro-med xtal, some vry silty/sndy, some chalky, foss frags/dense ool, no vis por, no odor, ns.

LS: cm/lt bm/lt gry bm, micro-med xtal, some vry silty/sndy, some chalky, crushes easily, sit pyritic, foss frags/dense ool, no vis por, no odor, ns.

LS: cm/lt-m bm/min gry, micro-med, some silty/sndy, some vry chalky, some pyritic, some m-dk bm chert, foss frags, no vis por, no odor, ns.

TD @4930'

CFS @4863'  
30"/60"

**Made bit trip @ 4863'.**

CFS @4930'  
Stop/30"/60"  
1.5 hr total, TOH for logging.

RTD 4930', -1635  
LTD 4928', -1633

50



### #1 Wells-Whitham

2,029' FSL & 149' FWL

49' N & 181' W of NW NW SW Section 9-17S-36W

Wichita County, Kansas

API# 15-203-20358-0000

Elevation: GL: 3,287', KB: 3,295'

Sample Tops			Ref. Well
Anhydrite	2462	+833	-7
B/Anhydrite	2479	+816	-6
Stotler	3565	-270	+1
Heebner	3946	-651	-12
Toronto	3959	-664	-12
Lansing	3994	-699	-9
Muncie	4182	-887	-19
Stark	4262	-967	-8
Hush	4312	-1017	-7
BKC	4356	-1061	-10
Marmaton	4412	-1117	-20
Altamont	4426	-1131	-21
Pawnee	4504	-1209	-15
Myrick	4546	-1251	-17
Ft. Scott	4560	-1265	-18
Cherokee	4586	-1291	-18
Johnson	4674	-1379	-12
Morrow	4742	-1447	-18
Mississippian	4851	-1556	-19
RTD	4930	-1635	



PRESSURE PUMPING LLC  
 PO Box 884, Chanute, KS 66720  
 820-431-9210 or 800-467-8676

100557  
 40758

TICKET NUMBER 56053  
 LOCATION Oakley Ks.  
 FOREMAN Cory Davis

FIELD TICKET & TREATMENT REPORT  
 CEMENT

Invoice # 900892

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
5-28-19	7173	Well-Whitham #1	9	17S	36W	Wichita	
CUSTOMER		Pence Ks W to RD 15 4 miles S E. Side		TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS		Ritchie Explor.		731	Kaleb C.	1098	Walt D
P.O. Box 783188				70	Xavier C.	703	Cory D
CITY		STATE		ZIP CODE			
Wichita		KS		67278-3188			

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 253 CASING SIZE & WEIGHT 8 5/8 24#  
 CASING DEPTH 253 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT \_\_\_\_\_ SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 20'  
 DISPLACEMENT 14.3/4 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting, rig down well, run casing to bottom, circ. casing. Hook up to pump truck mix 200SK; common 3% CC. 2% gal wash up + Displace 14.3/4 BBL H2O, Rig down

Cement did circ. 1 BBL to Pit in Cellar

Thank you from Cory & Crew.

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE 0471	1	PUMP CHARGE	1.150 <sup>00</sup>	1.150 <sup>00</sup>
CE 0002	40	MILEAGE	7.15	286 <sup>00</sup>
CE 0711	9.4	Ton mileage Deliver min	1.75	660 <sup>00</sup>
CC 5871	200	Surface Blend II	24 <sup>00</sup>	4,800 <sup>00</sup>
			Subtotal	6,896 <sup>00</sup>
			25% Disc.	1,724 <sup>00</sup>
			Subtotal	5,172 <sup>00</sup>
			SALES TAX	306.00
			ESTIMATED TOTAL	5478.00

Rev'n 3737

AUTHORIZATION [Signature] TITLE [Signature] DATE 5-28-19

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are hereby accepted and confirmed on this form.







PRESSURE PUMPING LLC  
PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

100601  
40800

TICKET NUMBER 56034  
LOCATION Oakley, KS  
FOREMAN Jerry Y

FIELD TICKET & TREATMENT REPORT  
CEMENT

Invoice # 9009425

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
6-10-19	7173	Well - Whitham #1	9	17S	36W	Wichita
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
R. Tech Exp			760	Kaleb C		
Mailing Address			70	Alex H		
P.O. Box 783188			535	Jerry Y		
CITY	STATE	ZIP CODE				
Wichita	KS	67278-3188				

JOB TYPE Plug HOLE SIZE 7 7/8 HOLE DEPTH 4930 CASING SIZE & WEIGHT \_\_\_\_\_  
 CASING DEPTH \_\_\_\_\_ DRILL PIPE 4 1/2 TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 13.8 SLURRY VOL 1.42 WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING \_\_\_\_\_  
 DISPLACEMENT \_\_\_\_\_ DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting & rig up on Well 12 plug as ordered with 280 sks  
60/40 48 1/4 # 10  
50 sks @ 2480'  
80 sks @ 1550'  
50 sks @ 775'  
50 sks @ 280'  
20 sks @ 60'  
30 RH

Thank you  
Jerry & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0451	1	PUMP CHARGE	1900.00	1900.00
CE0002	40	MILEAGE	7.15	286.00
CE0710	12.04	ton mileage delivery	1.75	842.80
CG5829	280 sks	lite blend IV	16.00	4480.00
CC6075	70 #	flashed	3.00	210.00
			Sub total	7718.80
			-25%	1929.70
			Sub total	5789.10
			SALES TAX	298.99
			ESTIMATED TOTAL	6088.09

SCANNED

Rayn 3737 AUTHORIZATION [Signature] TITLE Tool pusher DATE 6-11-19

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.