

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
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

Prepared For: **Ritchie Exploration, Inc**

PO Box 783188  
Wichita, KS 67202

ATTN: Kent Matson

### **Wyrill 19A #3**

#### **19-6s-20w Rooks,KS**

Start Date: 2021.11.23 @ 10:48:00

End Date: 2021.11.23 @ 18:25:00

Job Ticket #: 68008                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.11.30 @ 16:55:22



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68008

**DST#: 1**

ATTN: Kent Matson

Test Start: 2021.11.23 @ 10:48:00

## GENERAL INFORMATION:

Formation: **Oread B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:08:30

Time Test Ended: 18:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Day

Unit No: 70

**Interval: 3430.00 ft (KB) To 3448.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 3448.00 ft (KB) (TVD)

2281.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 7.00 ft

**Serial #: 8652 Outside**

Press@RunDepth: 120.17 psig @ 3431.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.11.23

End Date: 2021.11.23

Last Calib.: 2021.11.23

Start Time: 10:48:05

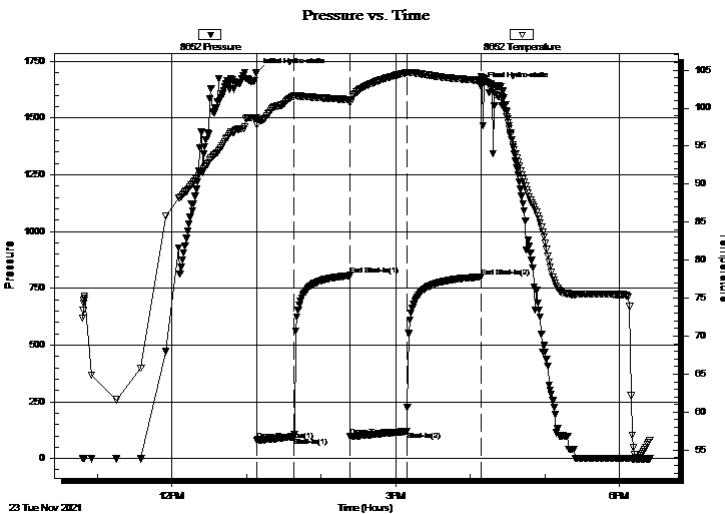
End Time: 18:24:59

Time On Btm: 2021.11.23 @ 13:08:00

Time Off Btm: 2021.11.23 @ 16:09:00

**TEST COMMENT:** IF-30- Built to 5"  
SI1-45- No return  
FF-45- Built to 6"  
SI2-60- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1700.59	98.76	Initial Hydro-static
1	81.39	97.83	Open To Flow (1)
31	95.01	101.58	Shut-In(1)
76	806.72	101.13	End Shut-In(1)
76	97.48	100.70	Open To Flow (2)
121	120.17	104.66	Shut-In(2)
181	800.49	103.67	End Shut-In(2)
181	1638.54	104.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
183.00	HMCW 25% mud 75% water	1.48
20.00	mud 100%	0.28

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68008

**DST#: 1**

ATTN: Kent Matson

Test Start: 2021.11.23 @ 10:48:00

## Tool Information

Drill Pipe:	Length: 3316.00 ft	Diameter: 3.80 inches	Volume: 46.51 bbl	Tool Weight: 2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 47.10 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3430.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	46.00 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			3403.00	
Shut In Tool	5.00			3408.00	
Hydraulic tool	5.00			3413.00	
Jars	5.00			3418.00	
Safety Joint	3.00			3421.00	
Packer	5.00			3426.00	28.00 Bottom Of Top Packer
Packer	4.00			3430.00	
Stubb	1.00			3431.00	
Recorder	0.00	6625	Inside	3431.00	
Recorder	0.00	8652	Outside	3431.00	
perforations	13.00			3444.00	
Bullnose	4.00			3448.00	18.00 Bottom Packers & Anchor

**Total Tool Length: 46.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68008

**DST#: 1**

ATTN: Kent Matson

Test Start: 2021.11.23 @ 10:48:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

65000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
183.00	HMCW 25% mud 75% water	1.483
20.00	mud 100%	0.281

Total Length: 203.00 ft

Total Volume: 1.764 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

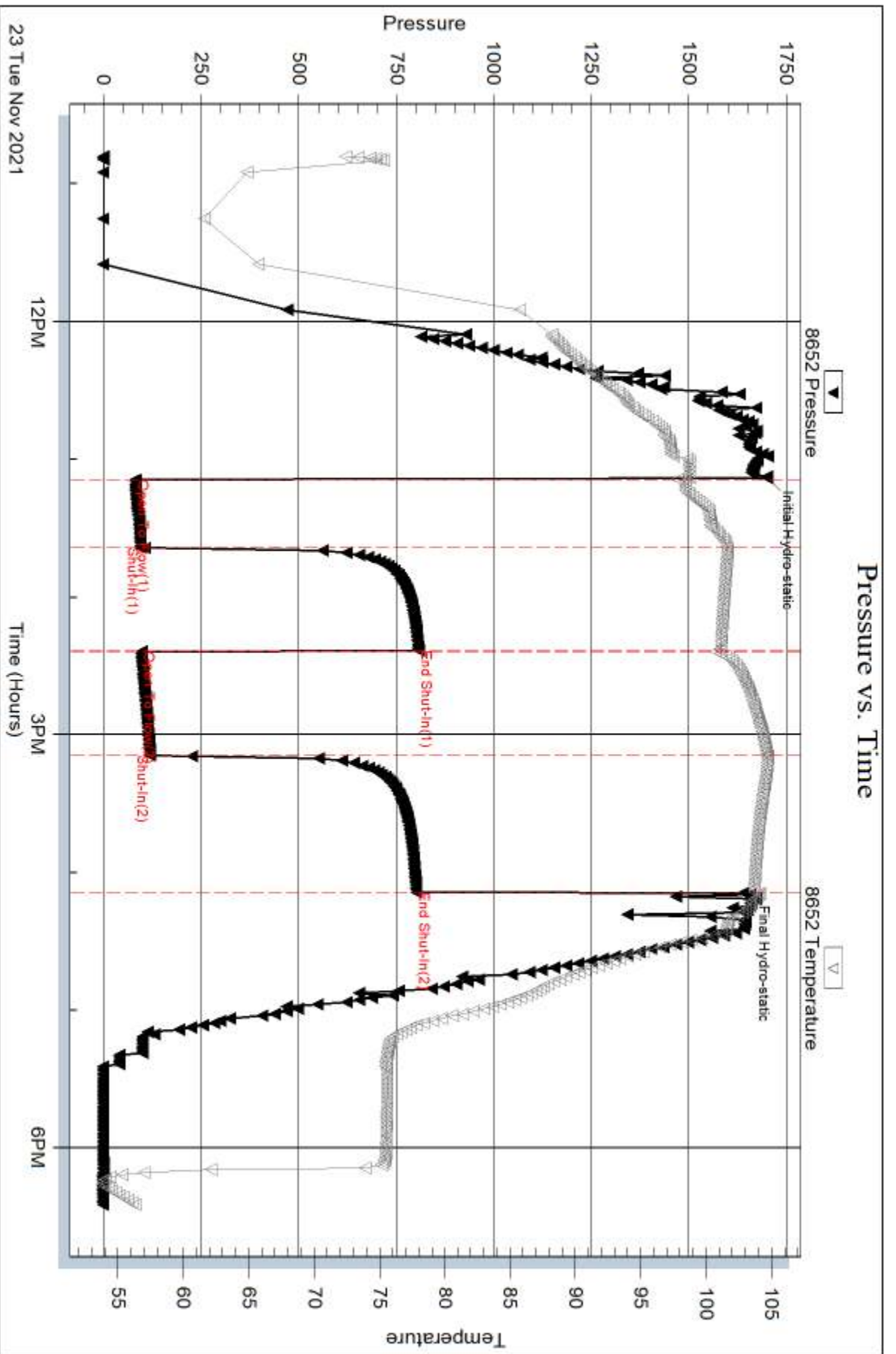
Serial #:

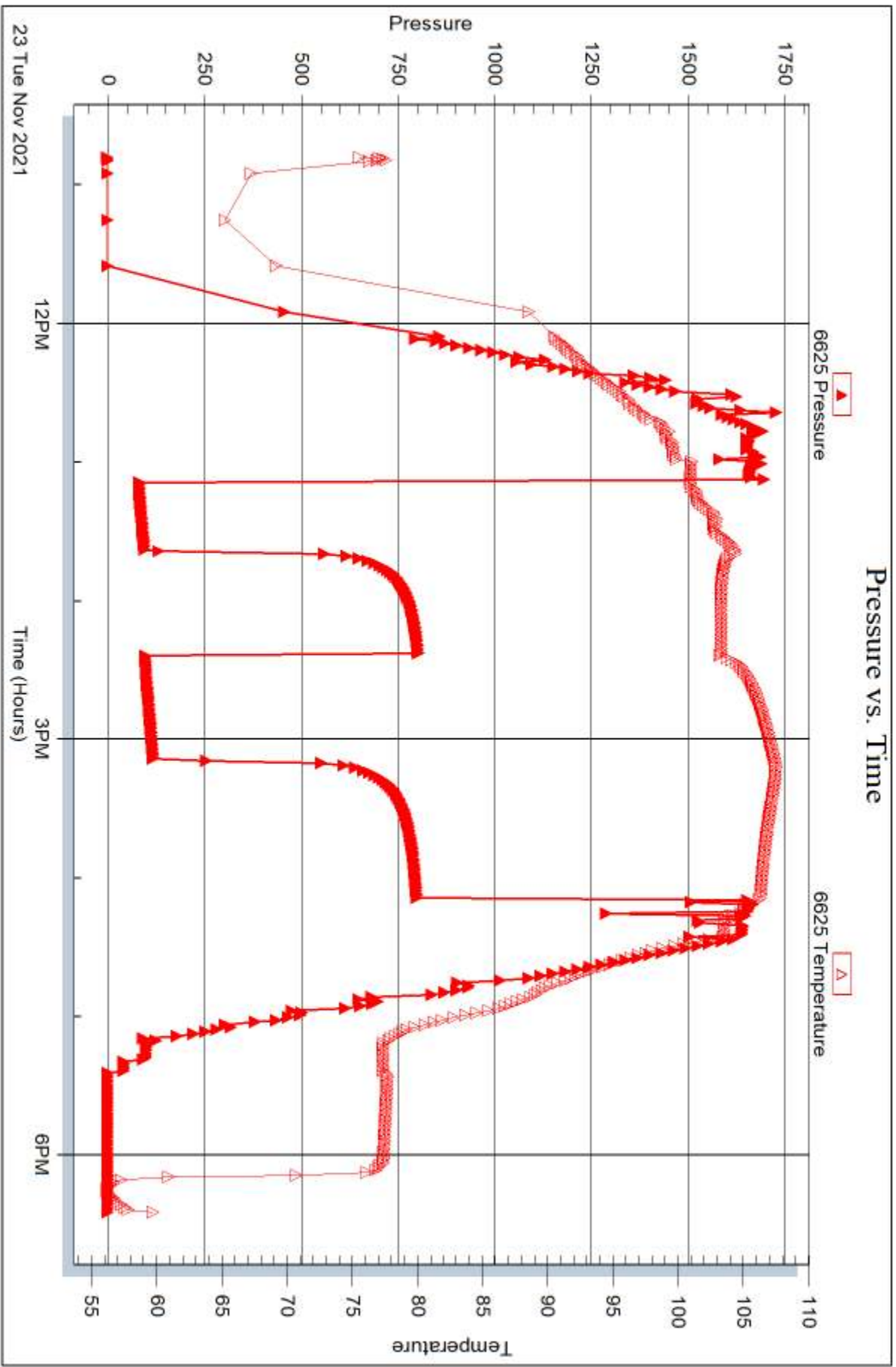
Laboratory Name:

Laboratory Location:

Recovery Comments: 2# LCM









## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

PO Box 783188  
Wichita, KS 67202

ATTN: Kent Matson

### **Wyrill 19A #3**

#### **19-6s-20w Rooks,KS**

Start Date: 2021.11.24 @ 19:25:00

End Date: 2021.11.25 @ 00:41:30

Job Ticket #: 68009                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.11.30 @ 16:14:31

Ritchie Exploration, Inc

19-6s-20w Rooks,KS

Wyrill 19A #3

DST # 2

Toronto - LKC A

2021.11.24



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68009

**DST#: 2**

ATTN: Kent Matson

Test Start: 2021.11.24 @ 19:25:00

## GENERAL INFORMATION:

Formation: **Toronto - LKC A**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:56:15  
 Time Test Ended: 00:41:30  
 Interval: **3484.00 ft (KB) To 3535.00 ft (KB) (TVD)**  
 Total Depth: 3535.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Dustin Day  
 Unit No: 70  
 Reference Elevations: 2288.00 ft (KB)  
 2281.00 ft (CF)  
 KB to GR/CF: 7.00 ft

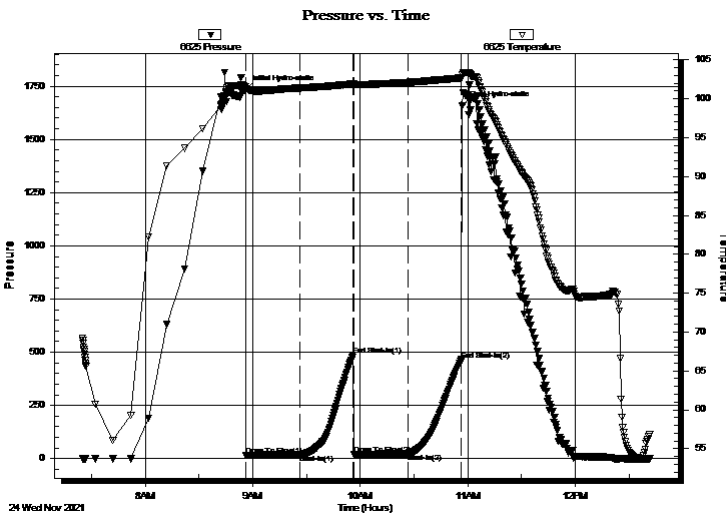
## Serial #: 6625

Inside

Press@RunDepth: 22.77 psig @ 3485.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2021.11.24 End Date: 2021.11.24 Last Calib.: 2021.11.24  
 Start Time: 07:25:05 End Time: 12:41:29 Time On Btm: 2021.11.24 @ 08:56:00  
 Time Off Btm: 2021.11.24 @ 10:57:00

TEST COMMENT: IF-30- Built to 1/4" died to a weak surface blow  
 SI1-30- No return  
 FF-30- No blow  
 SI2-30- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1733.64	101.58	Initial Hydro-static
1	15.51	101.31	Open To Flow (1)
31	19.42	101.38	Shut-In(1)
60	485.02	101.91	End Shut-In(1)
61	19.44	101.89	Open To Flow (2)
91	22.77	102.11	Shut-In(2)
121	464.96	102.69	End Shut-In(2)
121	1659.05	103.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w / oil spots 100% mud	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, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68009

**DST#: 2**

ATTN: Kent Matson

Test Start: 2021.11.24 @ 19:25:00

## Tool Information

Drill Pipe:	Length: 3348.00 ft	Diameter: 3.80 inches	Volume: 46.96 bbl	Tool Weight:	2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: 47.55 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	3484.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	51.00 ft				
Tool Length:	79.00 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			3457.00	
Shut In Tool	5.00			3462.00	
Hydraulic tool	5.00			3467.00	
Jars	5.00			3472.00	
Safety Joint	3.00			3475.00	
Packer	5.00			3480.00	28.00 Bottom Of Top Packer
Packer	4.00			3484.00	
Stubb	1.00			3485.00	
Recorder	0.00	6625	Inside	3485.00	
Recorder	0.00	8652	Outside	3485.00	
perforations	13.00			3498.00	
change Over Sub	1.00			3499.00	
drill Pipe	31.00			3530.00	
change Over Sub	1.00			3531.00	
Bullnose	4.00			3535.00	51.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68009

**DST#: 2**

ATTN: Kent Matson

Test Start: 2021.11.24 @ 19:25:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 55.00 sec/qt

Cushion Volume: bbl

Water Loss: 5.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 2100.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud w / oil spots 100% mud	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

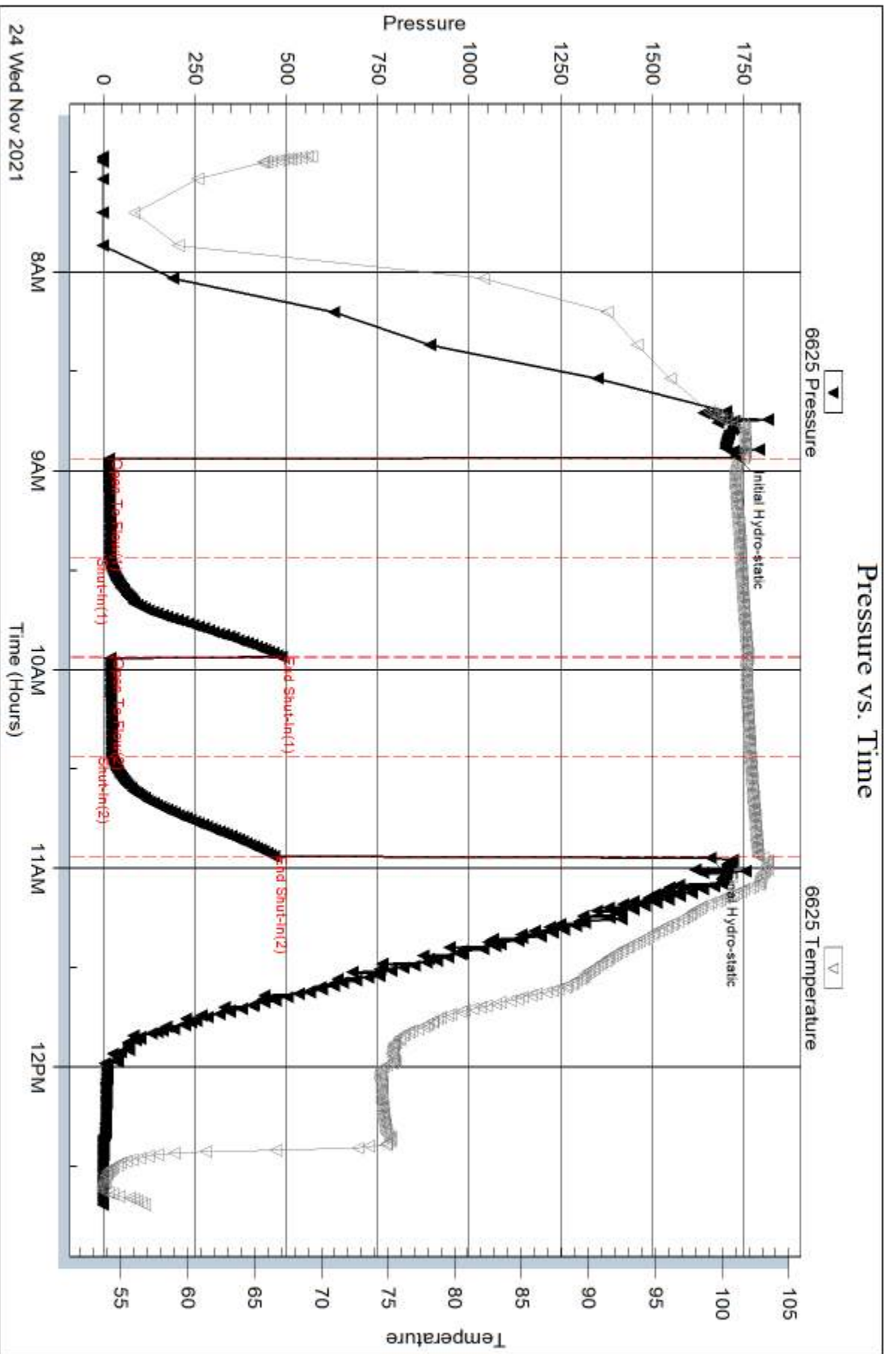
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1# LCM



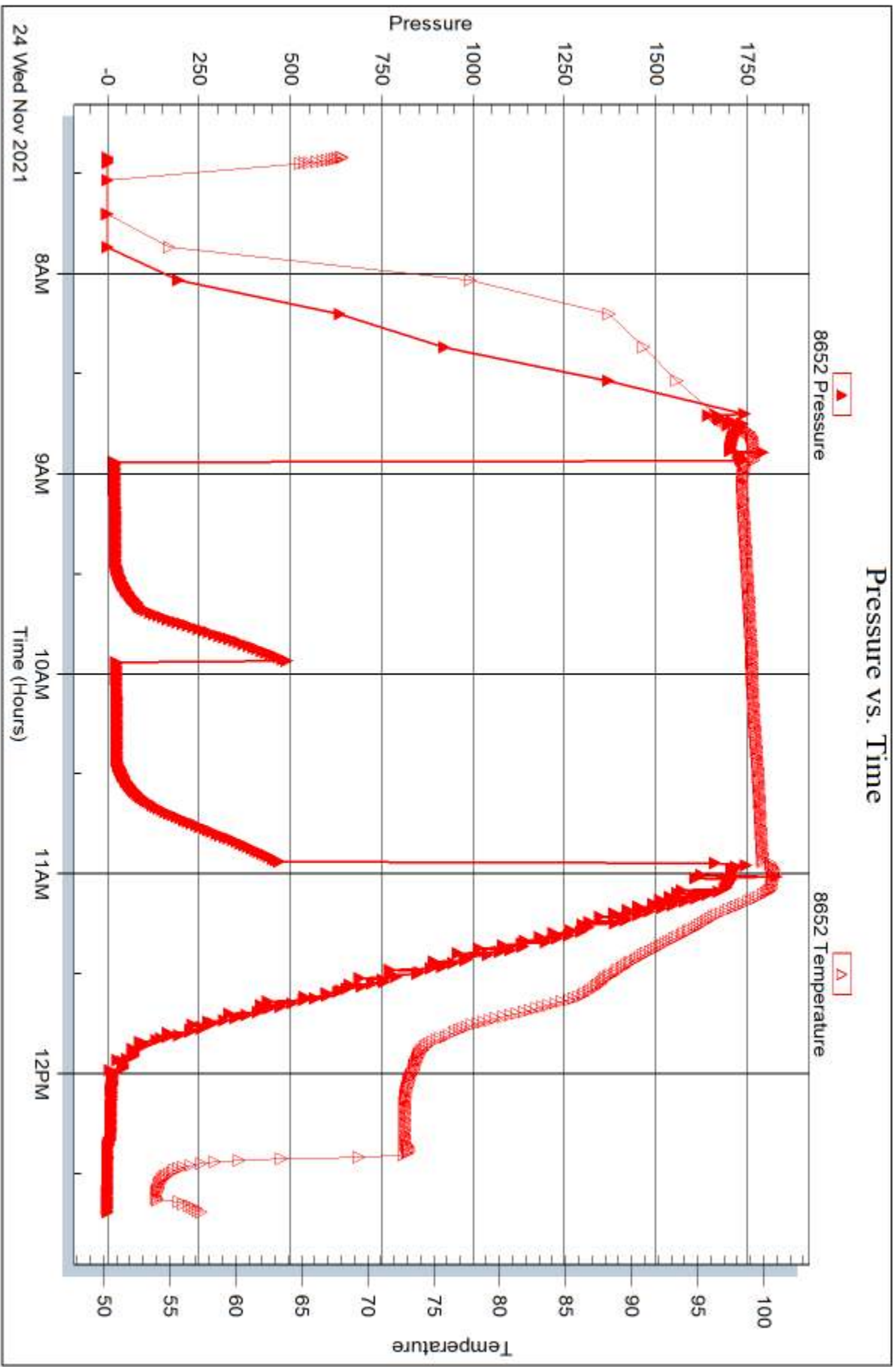


Serial #: 8652

Outside Ritchie Exploration, Inc

Wyrill 19A #3

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

PO Box 783188  
Wichita, KS 67202

ATTN: Kent Matson

### **Wyrill 19A #3**

#### **19-6s-20w Rooks,KS**

Start Date: 2021.11.25 @ 01:25:00

End Date: 2021.11.25 @ 08:12:15

Job Ticket #: 68010                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.11.30 @ 16:06:30



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68010

**DST#: 3**

ATTN: Kent Matson

Test Start: 2021.11.25 @ 01:25:00

## GENERAL INFORMATION:

Formation: **LKC C - F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:08:00

Time Test Ended: 08:12:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Dustin Day

Unit No: 70

**Interval: 3546.00 ft (KB) To 3608.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 3608.00 ft (KB) (TVD)

2281.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 6625**

**Inside**

Press@RunDepth: 229.35 psig @ 3547.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.11.25

End Date:

2021.11.25

Last Calib.:

2021.11.25

Start Time: 01:25:05

End Time:

08:12:14

Time On Btm:

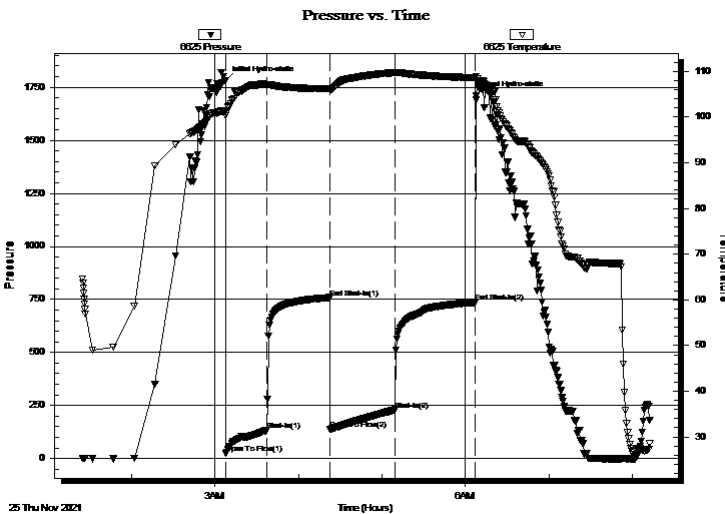
2021.11.25 @ 03:07:30

Time Off Btm:

2021.11.25 @ 06:07:30

**TEST COMMENT:** IF-30- BOB in 15 min, Built to 21"  
SI1-45- No return  
FF-45- BOB in 19 1/2 min, Built to 25"  
SI2-60- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1781.72	101.33	Initial Hydro-static
1	23.45	101.14	Open To Flow (1)
30	134.25	107.13	Shut-In(1)
75	758.44	106.19	End Shut-In(1)
76	138.25	106.10	Open To Flow (2)
122	229.35	109.73	Shut-In(2)
180	735.98	108.61	End Shut-In(2)
180	1708.80	108.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
371.00	MCW 10% mud 90% w ater	4.12
83.00	MW 40% mud 60% w ater	1.16

\* 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, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68010

**DST#: 3**

ATTN: Kent Matson

Test Start: 2021.11.25 @ 01:25:00

## Tool Information

Drill Pipe:	Length: 3410.00 ft	Diameter: 3.80 inches	Volume: 47.83 bbl	Tool Weight:	2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	62000.00 lb
			<u>Total Volume: 48.42 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	3546.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	62.00 ft				
Tool Length:	90.00 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			3519.00	
Shut In Tool	5.00			3524.00	
Hydraulic tool	5.00			3529.00	
Jars	5.00			3534.00	
Safety Joint	3.00			3537.00	
Packer	5.00			3542.00	28.00 Bottom Of Top Packer
Packer	4.00			3546.00	
Stubb	1.00			3547.00	
Recorder	0.00	6625	Inside	3547.00	
Recorder	0.00	8652	Outside	3547.00	
perforations	23.00			3570.00	
change Over Sub	1.00			3571.00	
drill Pipe	32.00			3603.00	
change Over Sub	1.00			3604.00	
Bullnose	4.00			3608.00	62.00 Bottom Packers & Anchor

**Total Tool Length: 90.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68010

**DST#: 3**

ATTN: Kent Matson

Test Start: 2021.11.25 @ 01:25:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
371.00	MCW 10% mud 90% w ater	4.120
83.00	MW 40% mud 60% w ater	1.164

Total Length: 454.00 ft

Total Volume: 5.284 bbl

Num Fluid Samples: 0

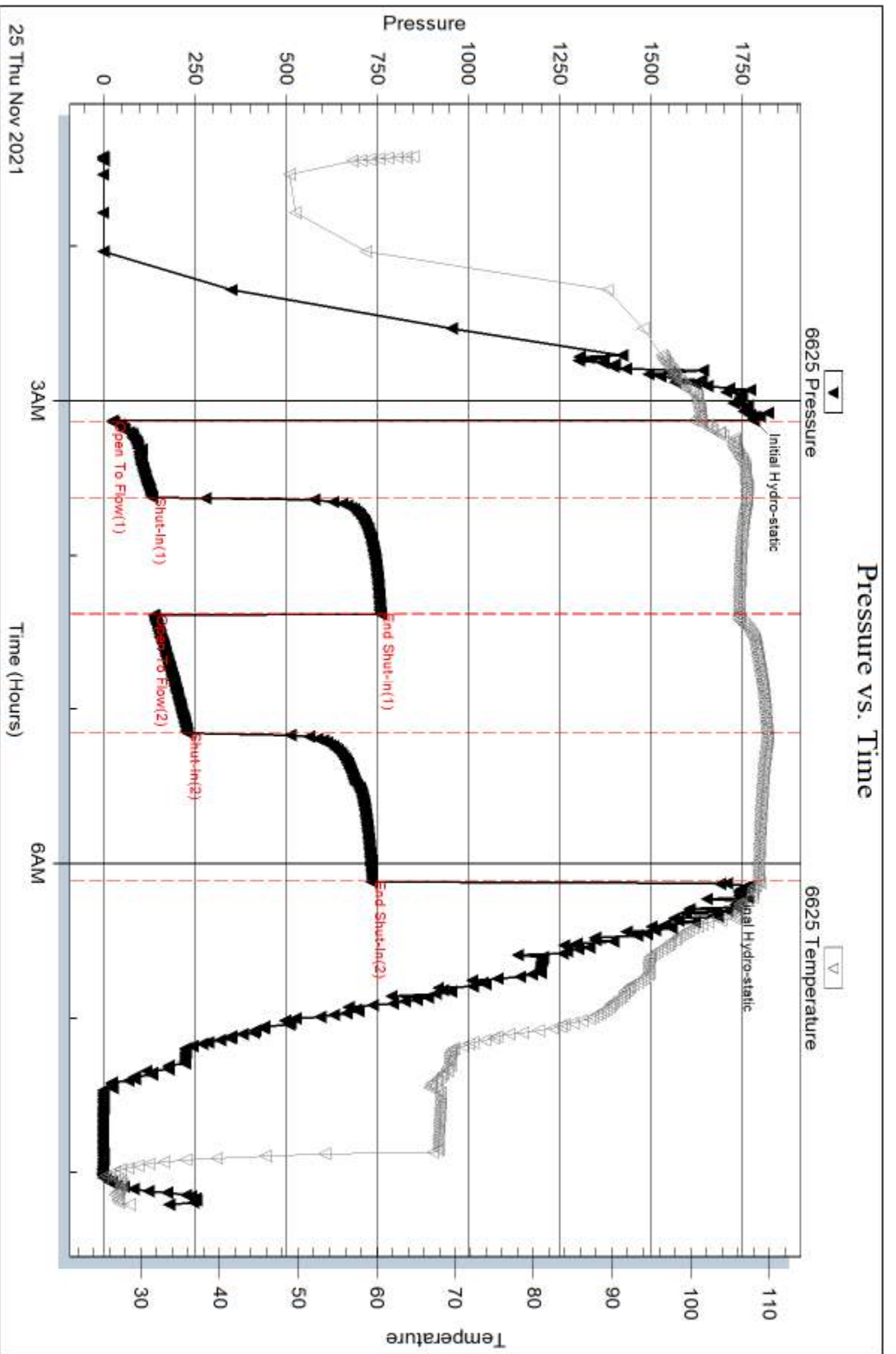
Num Gas Bombs: 0

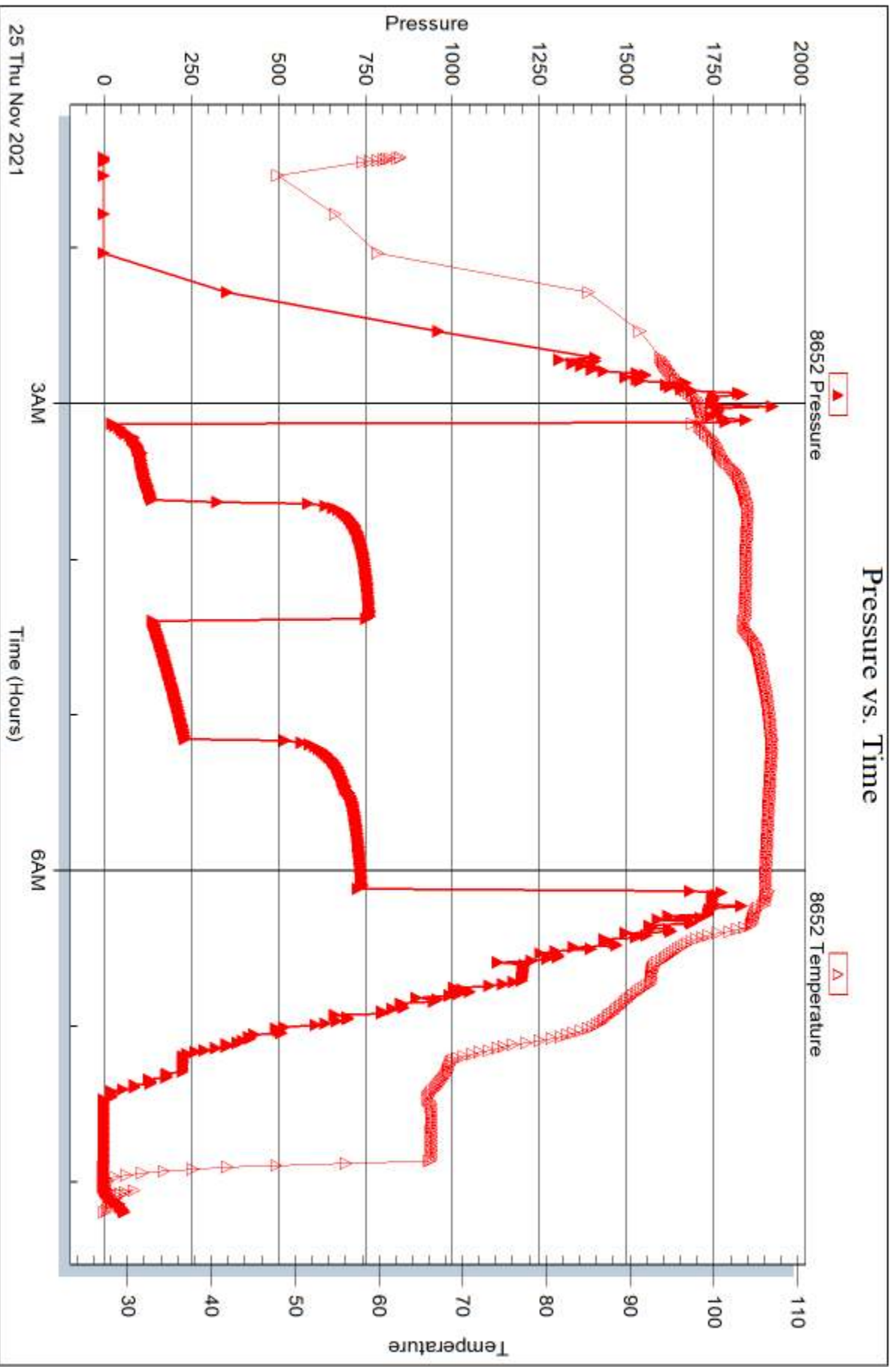
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1# LCM









## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

PO Box 783188  
Wichita, KS 67202

ATTN: Kent Matson

### **Wyrill 19A #3**

#### **19-6s-20w Rooks,KS**

Start Date: 2021.11.25 @ 21:08:00

End Date: 2021.11.26 @ 04:15:15

Job Ticket #: 68011                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.11.30 @ 16:03:56



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68011

**DST#: 4**

ATTN: Kent Matson

Test Start: 2021.11.25 @ 21:08:00

## GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:06:45

Time Test Ended: 04:15:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Dustin Day

Unit No: 70

**Interval: 3626.00 ft (KB) To 3692.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 3692.00 ft (KB) (TVD)

2281.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 6625 Inside**

Press@RunDepth: 144.02 psig @ 3627.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.11.25 End Date: 2021.11.26

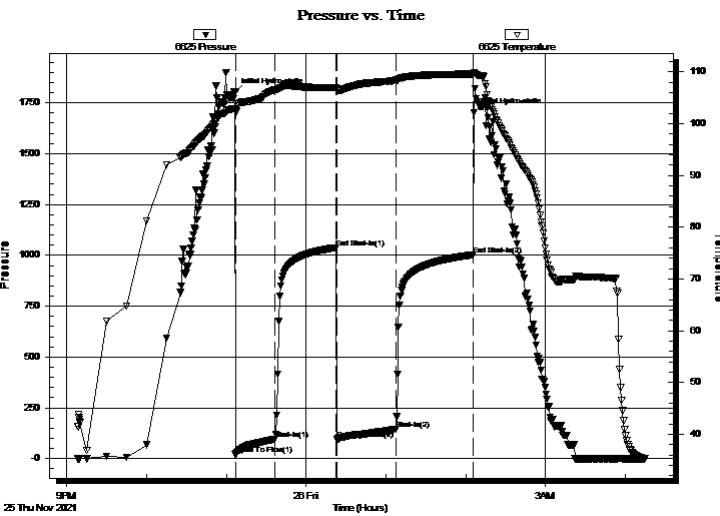
Last Calib.: 2021.11.26

Start Time: 21:08:05 End Time: 04:15:14

Time On Btm: 2021.11.25 @ 23:06:30

Time Off Btm: 2021.11.26 @ 02:06:30

**TEST COMMENT:** IF-30- BOB in 12 min 45 sec., Built to 23"  
SI1-45- No return  
FF-45- BOB in 12 min, Built to 49"  
SI2-60- Built to 1/2"



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1800.65	102.90	Initial Hydro-static
1	19.21	102.59	Open To Flow (1)
31	95.70	106.53	Shut-In(1)
76	1037.93	106.98	End Shut-In(1)
77	95.46	106.72	Open To Flow (2)
121	144.02	108.38	Shut-In(2)
180	1002.96	109.59	End Shut-In(2)
180	1700.84	109.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
119.00	HGMCO 30% gas 40% oil 30% mud	0.59
219.00	GMCO 10% gas 60% oil 30% mud	3.07
0.00	531' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68011

**DST#: 4**

ATTN: Kent Matson

Test Start: 2021.11.25 @ 21:08:00

## Tool Information

Drill Pipe:	Length: 3504.00 ft	Diameter: 3.80 inches	Volume: 49.15 bbl	Tool Weight: 2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 49.74 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3626.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	66.00 ft			
Tool Length:	94.00 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			3599.00	
Shut In Tool	5.00			3604.00	
Hydraulic tool	5.00			3609.00	
Jars	5.00			3614.00	
Safety Joint	3.00			3617.00	
Packer	5.00			3622.00	28.00 Bottom Of Top Packer
Packer	4.00			3626.00	
Stubb	1.00			3627.00	
Recorder	0.00	6625	Inside	3627.00	
Recorder	0.00	8652	Outside	3627.00	
perforations	27.00			3654.00	
change Over Sub	1.00			3655.00	
drill Pipe	32.00			3687.00	
change Over Sub	1.00			3688.00	
Bullnose	4.00			3692.00	66.00 Bottom Packers & Anchor

**Total Tool Length: 94.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68011

**DST#: 4**

ATTN: Kent Matson

Test Start: 2021.11.25 @ 21:08:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 10.00 lb/gal  
Viscosity: 55.00 sec/qt  
Water Loss: 7.18 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 2000.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: 42 deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
119.00	HGMCO 30% gas 40% oil 30% mud	0.585
219.00	GMCO 10% gas 60% oil 30% mud	3.072
0.00	531' GIP	0.000

Total Length: 338.00 ft      Total Volume: 3.657 bbl

Num Fluid Samples: 0

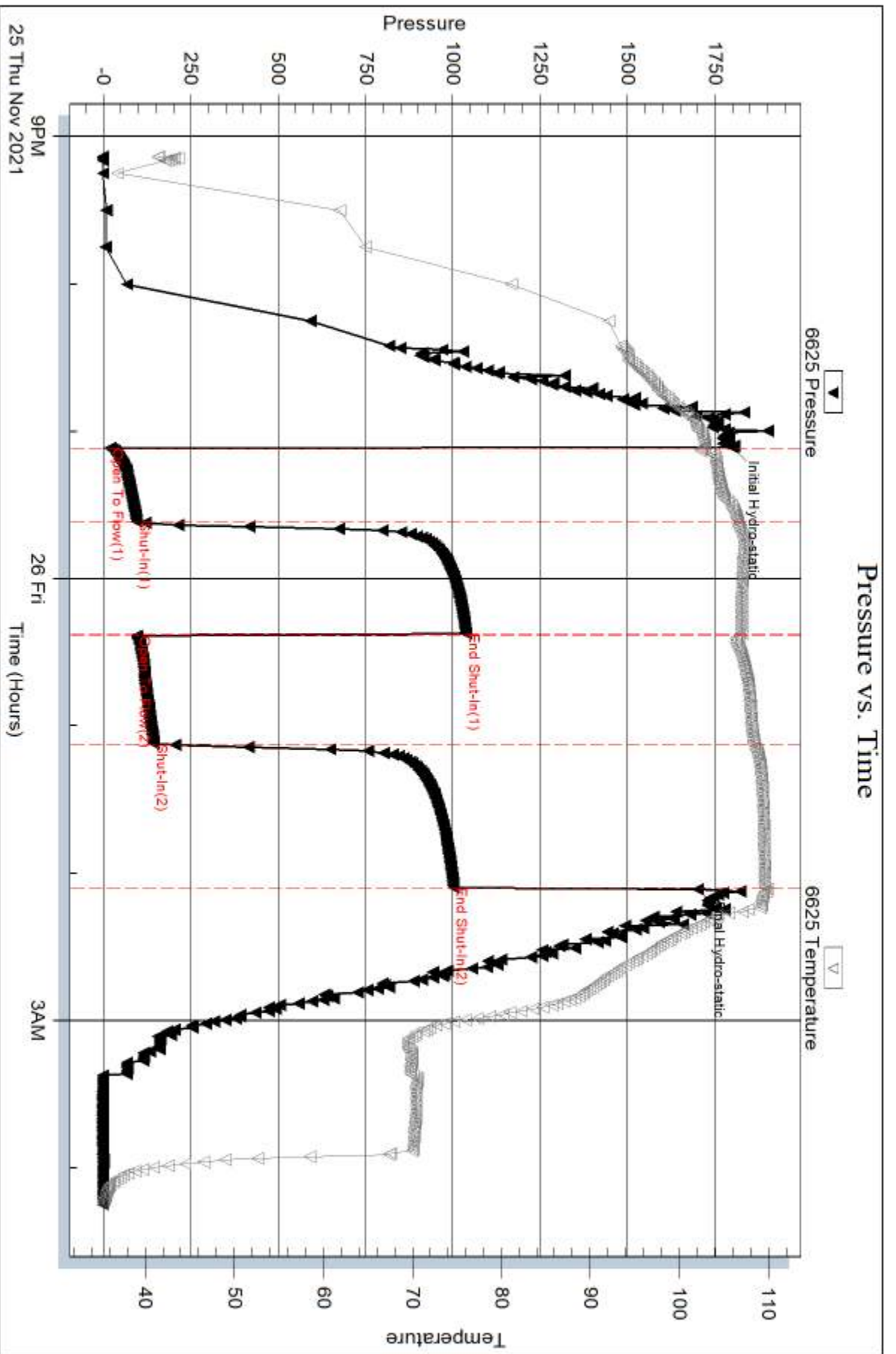
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1# LCM

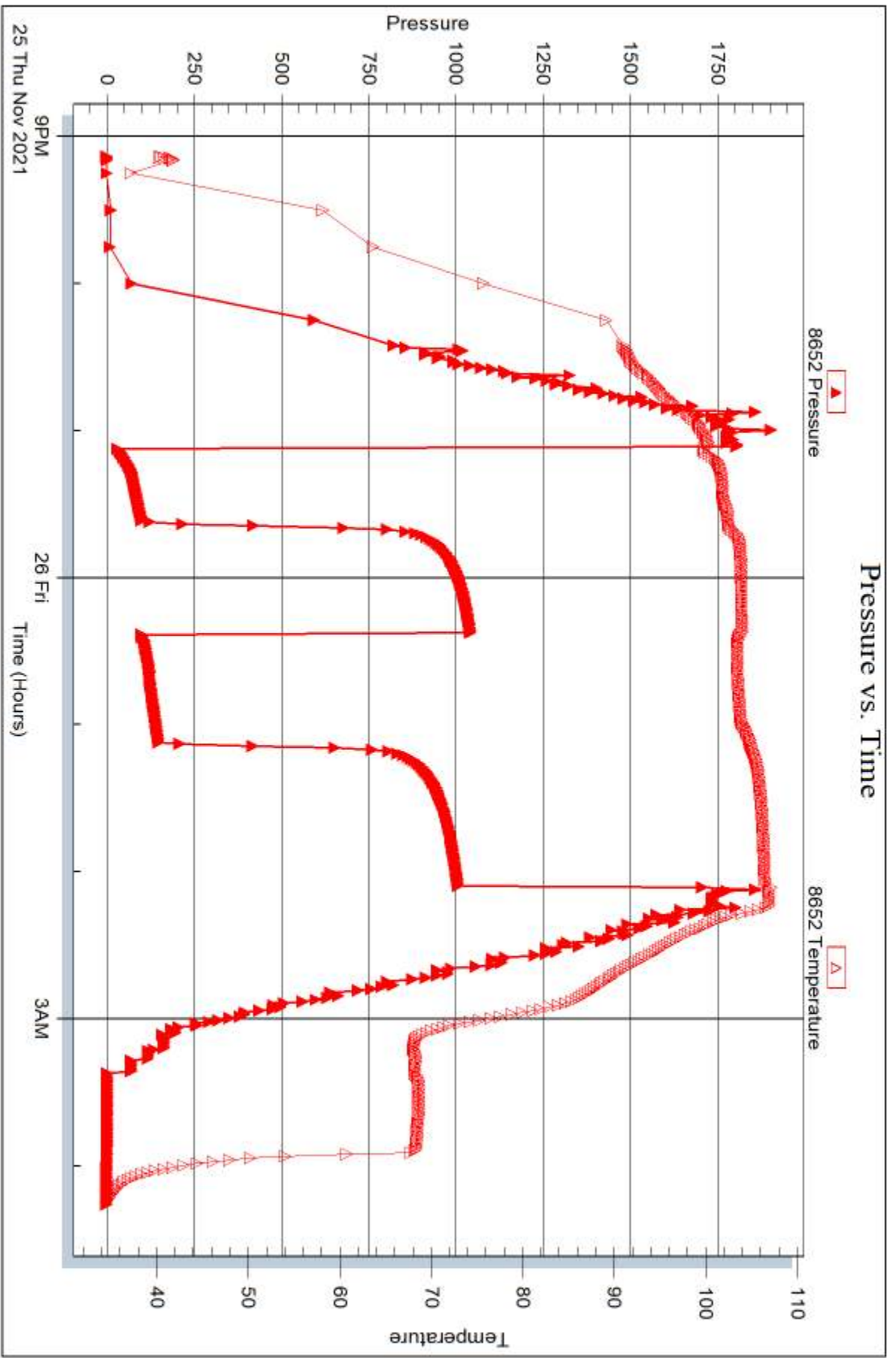


Serial #: 8652

Outside Ritchie Exploration, Inc

Wyrill 19A #3

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 68011

Printed: 2021.11.30 @ 16:03:57



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

PO Box 783188  
Wichita, KS 67202

ATTN: Kent Matson

### **Wyrill 19A #3**

#### **19-6s-20w Rooks,KS**

Start Date: 2021.11.26 @ 14:44:00

End Date: 2021.11.26 @ 21:14:15

Job Ticket #: 68012                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.11.30 @ 15:44:39

Ritchie Exploration, Inc

19-6s-20w Rooks,KS

Wyrill 19A #3

DST # 5

LKC K - Marmaton A

2021.11.26





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68012

**DST#: 5**

ATTN: Kent Matson

Test Start: 2021.11.26 @ 14:44:00

## GENERAL INFORMATION:

Formation: **LKC K - Marmaton A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:20:45

Time Test Ended: 21:14:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Dustin Day

Unit No: 70

**Interval: 3692.00 ft (KB) To 3746.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 3746.00 ft (KB) (TVD)

2281.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8652 Outside**

Press@RunDepth: 25.58 psig @ 3693.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.11.26 End Date: 2021.11.26

Last Calib.: 2021.11.26

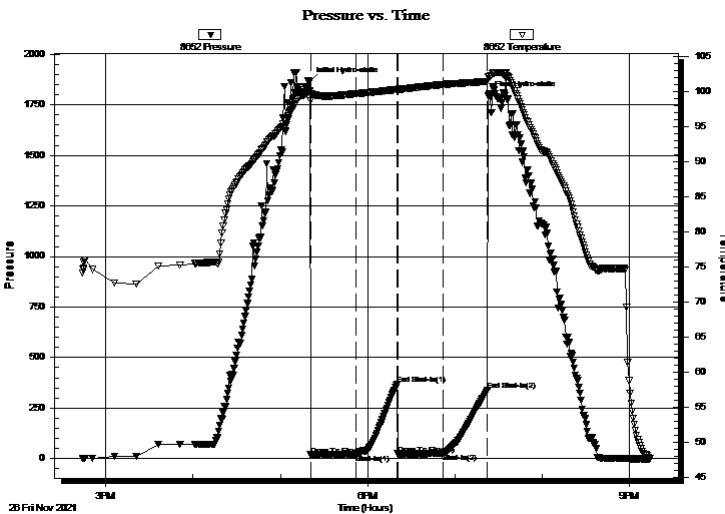
Start Time: 14:44:05 End Time: 21:14:14

Time On Btm: 2021.11.26 @ 17:20:30

Time Off Btm: 2021.11.26 @ 19:23:00

**TEST COMMENT:** IF-30- Built to 1/2", died to a weak surface blow  
SI1-30- No return  
FF-30- No blow  
SI2-30- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1866.18	100.05	Initial Hydro-static
1	18.69	98.66	Open To Flow (1)
32	22.65	99.62	Shut-In(1)
60	365.87	100.24	End Shut-In(1)
61	22.97	100.11	Open To Flow (2)
92	25.58	100.95	Shut-In(2)
122	338.63	101.40	End Shut-In(2)
123	1797.20	102.01	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud	0.01

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68012

**DST#: 5**

ATTN: Kent Matson

Test Start: 2021.11.26 @ 14:44:00

## Tool Information

Drill Pipe:	Length: 3568.00 ft	Diameter: 3.80 inches	Volume: 50.05 bbl	Tool Weight: 2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 50.64 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3692.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

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

Change Over Sub	1.00			3665.00	
Shut In Tool	5.00			3670.00	
Hydraulic tool	5.00			3675.00	
Jars	5.00			3680.00	
Safety Joint	3.00			3683.00	
Packer	5.00			3688.00	28.00 Bottom Of Top Packer
Packer	4.00			3692.00	
Stubb	1.00			3693.00	
Recorder	0.00	6625	Inside	3693.00	
Recorder	0.00	8652	Outside	3693.00	
perforations	15.00			3708.00	
change Over Sub	1.00			3709.00	
drill Pipe	32.00			3741.00	
change Over Sub	1.00			3742.00	
Bullnose	4.00			3746.00	54.00 Bottom Packers & Anchor

**Total Tool Length: 82.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68012

**DST#: 5**

ATTN: Kent Matson

Test Start: 2021.11.26 @ 14:44:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 55.00 sec/qt

Cushion Volume: bbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud	0.010

Total Length: 2.00 ft      Total Volume: 0.010 bbl

Num Fluid Samples: 0

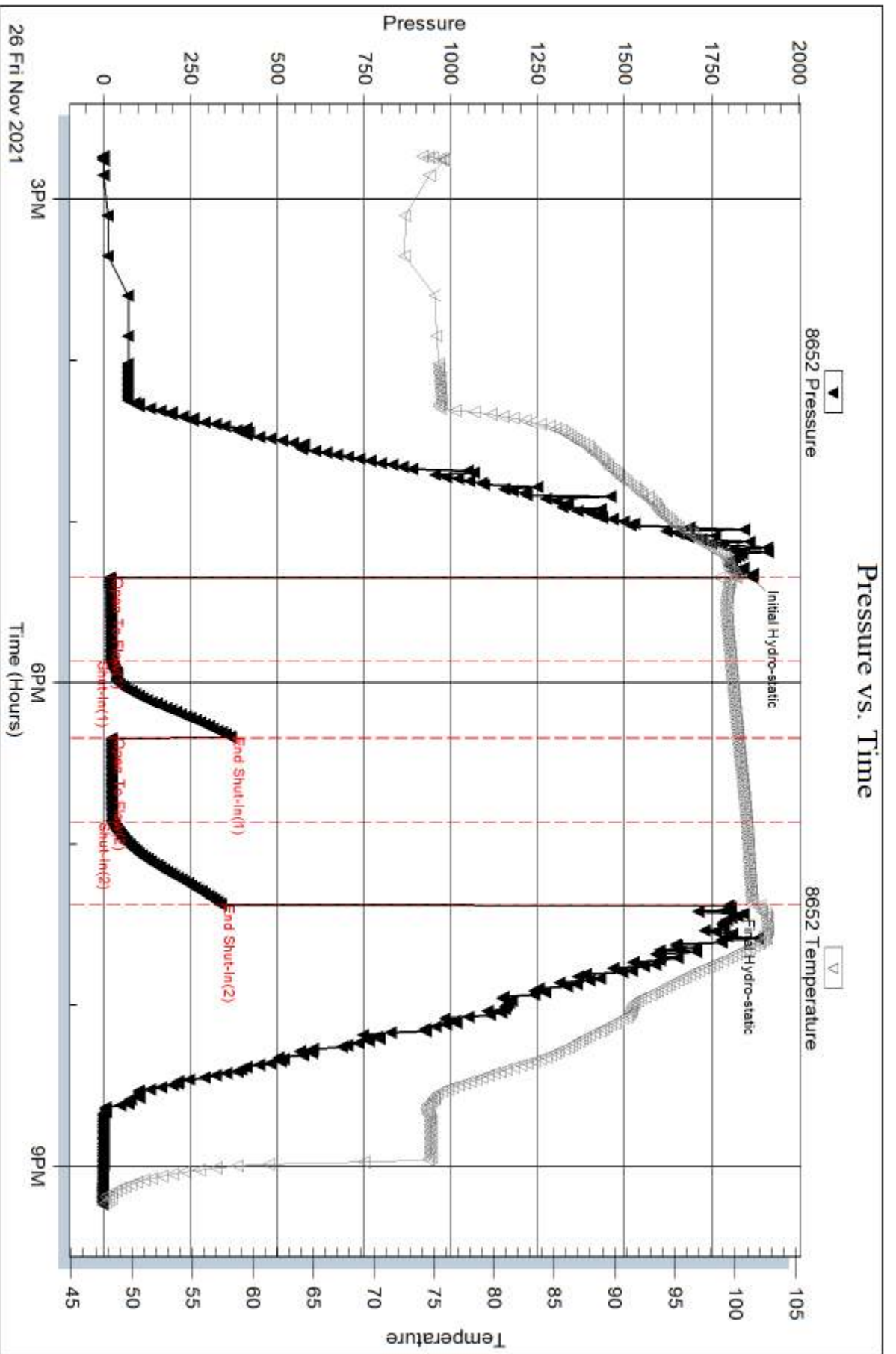
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1# LCM



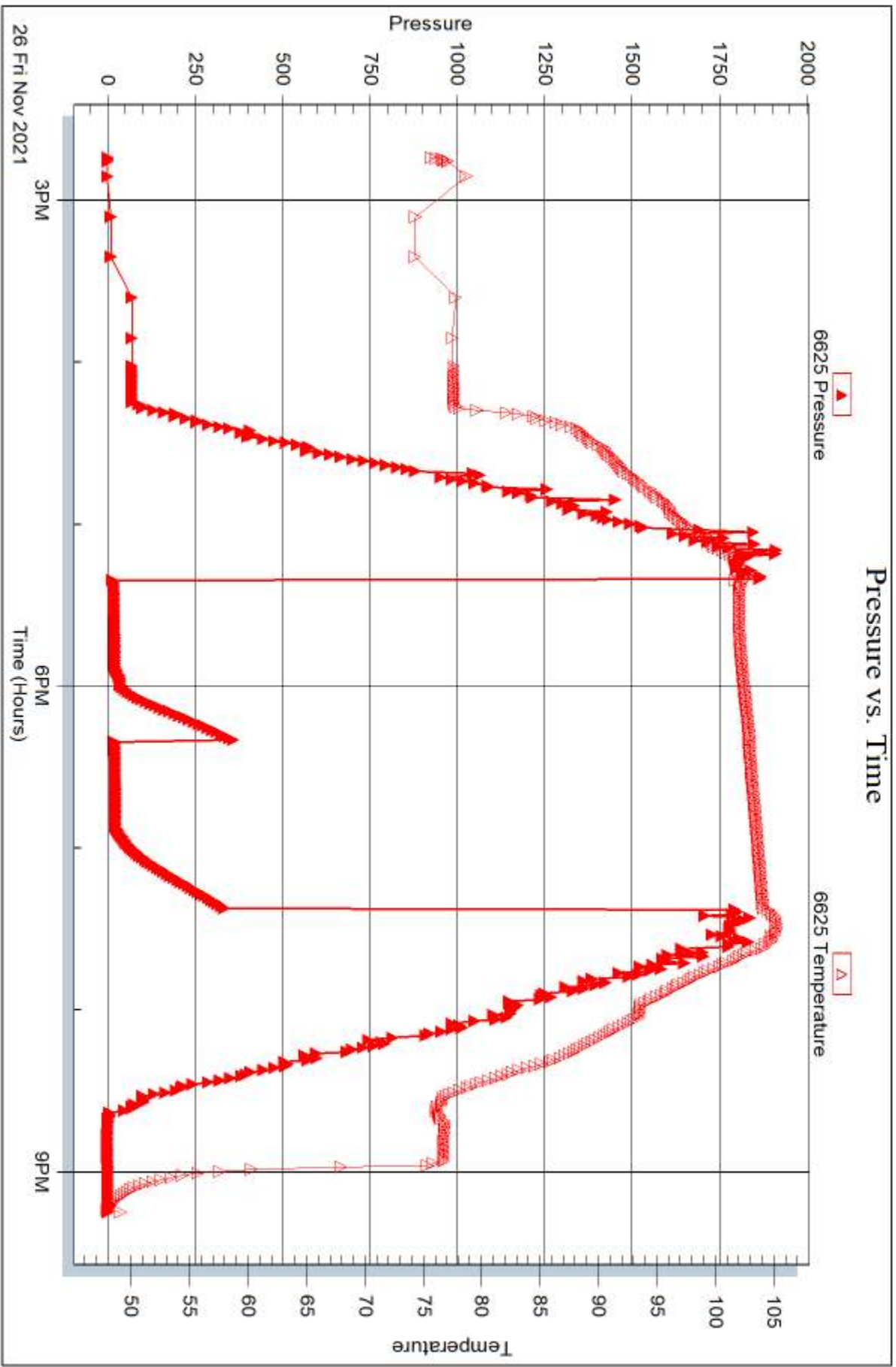
Serial #: 6625

Inside

Ritchie Exploration, Inc

Wyrill 19A #3

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 68012

Printed: 2021.11.30 @ 15:44:43



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

PO Box 783188  
Wichita, KS 67202

ATTN: Kent Matson

### **Wyrill 19A #3**

#### **19-6s-20w Rooks,KS**

Start Date: 2021.11.27 @ 05:25:00

End Date: 2021.11.27 @ 11:39:00

Job Ticket #: 68013                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.11.30 @ 15:30:55



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68013

**DST#: 6**

ATTN: Kent Matson

Test Start: 2021.11.27 @ 05:25:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:48:00

Time Test Ended: 11:39:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Dustin Day

Unit No: 70

**Interval: 3756.00 ft (KB) To 3768.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 3768.00 ft (KB) (TVD)

2281.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8652 Outside**

Press@RunDepth: 74.61 psig @ 3757.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.11.27

End Date:

2021.11.27

Last Calib.:

2021.11.27

Start Time: 05:25:05

End Time:

11:38:59

Time On Btm:

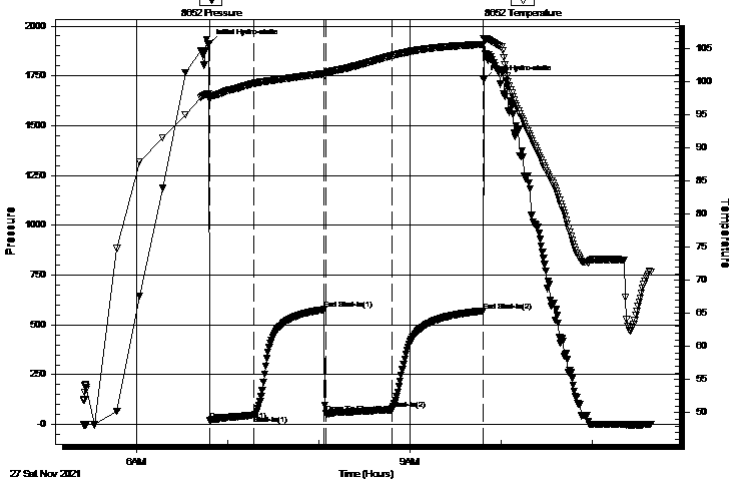
2021.11.27 @ 06:47:45

Time Off Btm:

2021.11.27 @ 09:48:30

**TEST COMMENT:** IF-30- Built to 6"  
SI1-45- No return  
FF-45- Built to 6 1/4"  
SI2-60- No return

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1913.17	98.23	Initial Hydro-static
1	21.41	97.32	Open To Flow (1)
29	46.96	99.70	Shut-In(1)
76	577.24	101.20	End Shut-In(1)
77	54.58	101.24	Open To Flow (2)
121	74.61	103.93	Shut-In(2)
181	570.56	105.62	End Shut-In(2)
181	1730.77	106.52	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
59.00	OWCM 20% oil 20% water 60% mud	0.29
74.00	oil 100%	0.49

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc

PO Box 783188  
Wichita, KS 67202

ATTN: Kent Matson

**19-6s-20w Rooks,KS**

**Wyrill 19A #3**

Job Ticket: 68013

**DST#: 6**

Test Start: 2021.11.27 @ 05:25:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 06:48:00  
 Time Test Ended: 11:39:00  
 Interval: **3756.00 ft (KB) To 3768.00 ft (KB) (TVD)**  
 Total Depth: 3768.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Dustin Day  
 Unit No: 70  
 Reference Elevations: 2288.00 ft (KB)  
 2281.00 ft (CF)  
 KB to GR/CF: 7.00 ft

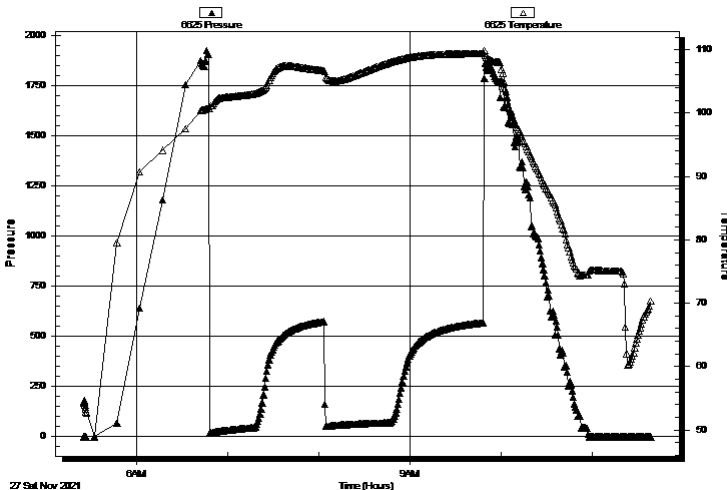
## Serial #: 6625

**Inside**

Press@RunDepth: psig @ 3757.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2021.11.27 End Date: 2021.11.27 Last Calib.: 2021.11.27  
 Start Time: 05:25:05 End Time: 11:38:59 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF-30- Built to 6"  
 SI1-45- No return  
 FF-45- Built to 6 1/4"  
 SI2-60- No return

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
59.00	OWCM 20% oil 20% water 60% mud	0.29
74.00	oil 100%	0.49

## 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, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68013

**DST#: 6**

ATTN: Kent Matson

Test Start: 2021.11.27 @ 05:25:00

## Tool Information

Drill Pipe:	Length: 3631.00 ft	Diameter: 3.80 inches	Volume: 50.93 bbl	Tool Weight: 2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 51.52 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3756.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	40.00 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			3729.00	
Shut In Tool	5.00			3734.00	
Hydraulic tool	5.00			3739.00	
Jars	5.00			3744.00	
Safety Joint	3.00			3747.00	
Packer	5.00			3752.00	28.00 Bottom Of Top Packer
Packer	4.00			3756.00	
Stubb	1.00			3757.00	
Recorder	0.00	6625	Inside	3757.00	
Recorder	0.00	8652	Outside	3757.00	
perforations	7.00			3764.00	
Bullnose	4.00			3768.00	12.00 Bottom Packers & Anchor

**Total Tool Length: 40.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68013

**DST#: 6**

ATTN: Kent Matson

Test Start: 2021.11.27 @ 05:25:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
59.00	OWCM 20% oil 20% w ater 60% mud	0.290
74.00	oil 100%	0.491

Total Length: 133.00 ft

Total Volume: 0.781 bbl

Num Fluid Samples: 0

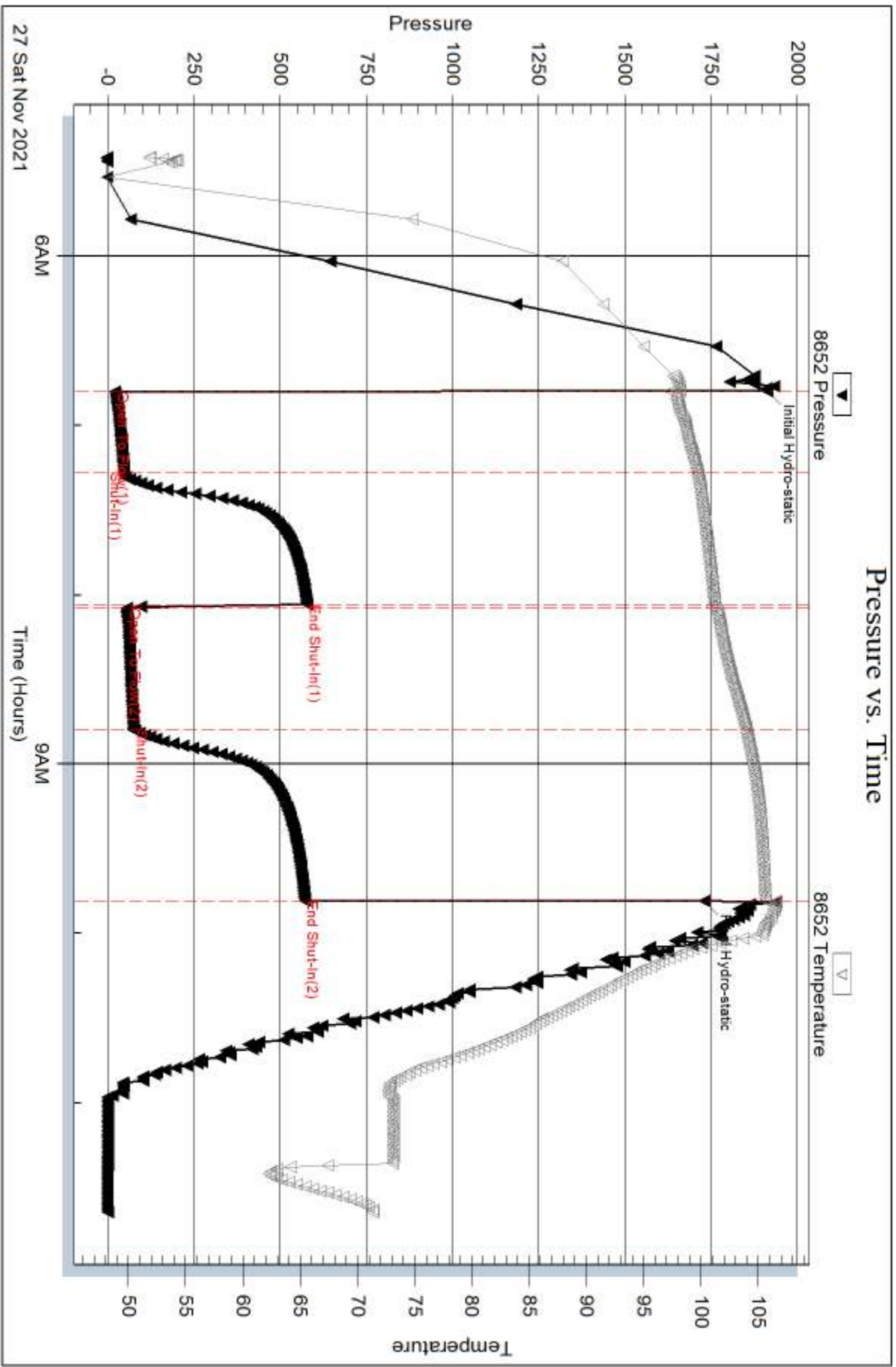
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2# LCM



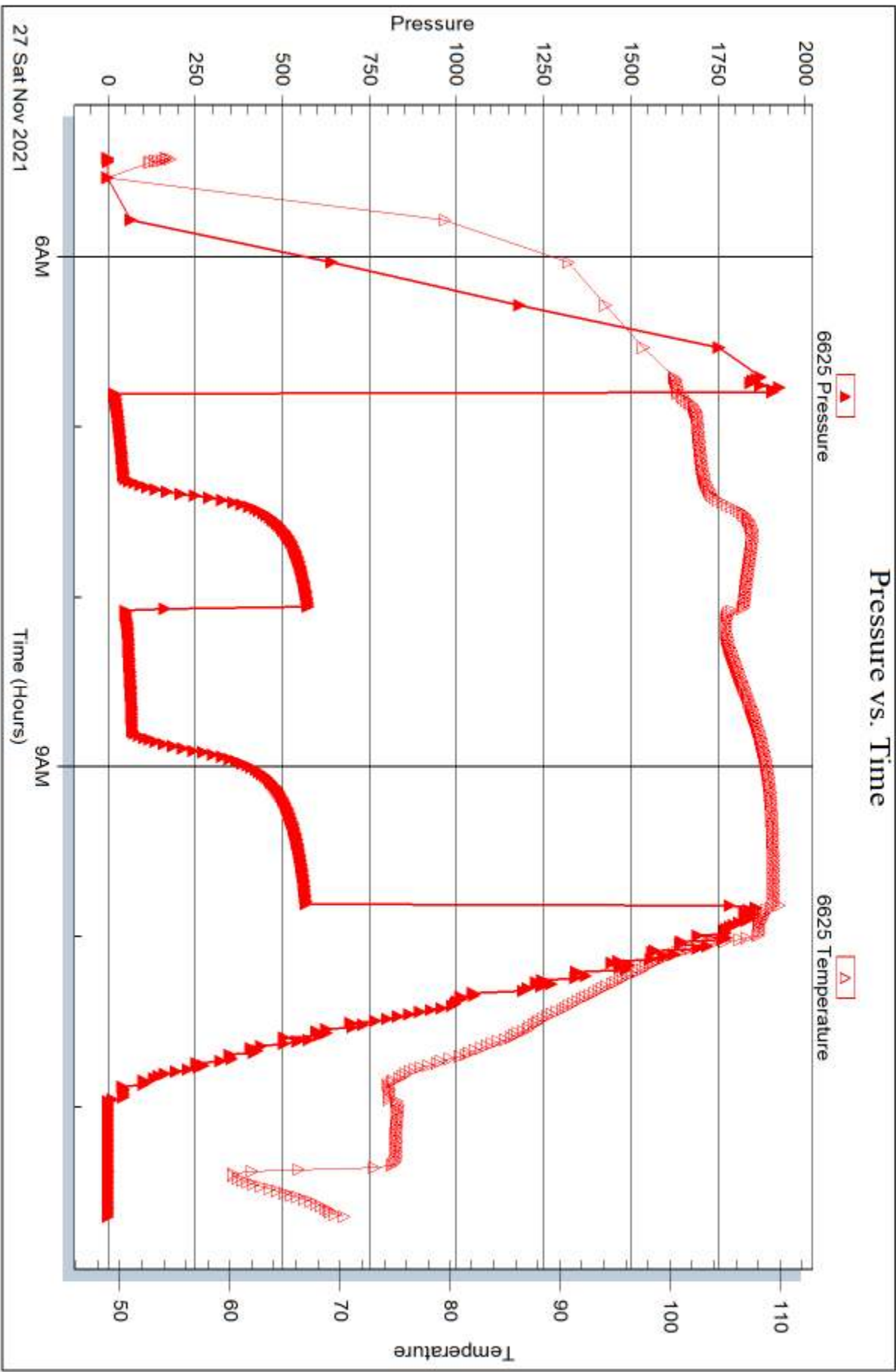
Serial #: 6625

Inside

Richie Exploration, Inc

Wyrill 19A #3

DST Test Number: 6





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

PO Box 783188  
Wichita, KS 67202

ATTN: Kent Matson

### **Wyrill 19A #3**

#### **19-6s-20w Rooks,KS**

Start Date: 2021.11.27 @ 19:15:00

End Date: 2021.11.28 @ 02:19:30

Job Ticket #: 68014                      DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.11.30 @ 15:29:49



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68014

**DST#: 7**

ATTN: Kent Matson

Test Start: 2021.11.27 @ 19:15:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:08:15

Time Test Ended: 02:19:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Dustin Day

Unit No: 70

**Interval: 3769.00 ft (KB) To 3790.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 3790.00 ft (KB) (TVD)

2281.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 6625 Inside**

Press@RunDepth: 98.98 psig @ 3770.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.11.27 End Date: 2021.11.28

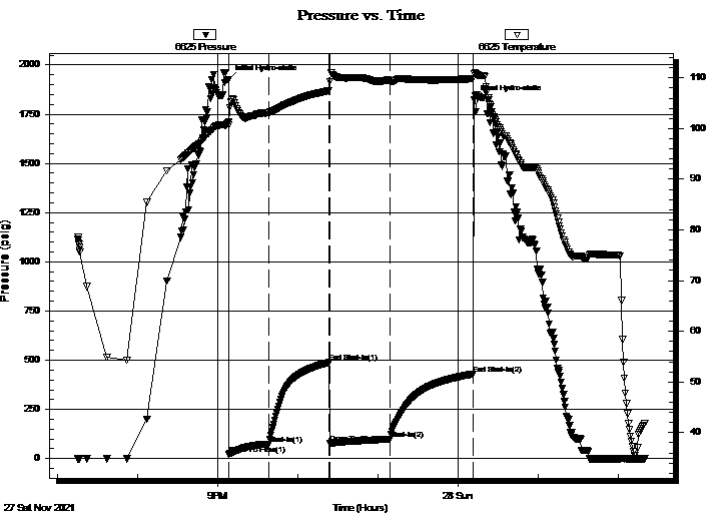
Last Calib.: 2021.11.28

Start Time: 19:15:05 End Time: 02:19:29

Time On Btm: 2021.11.27 @ 21:08:00

Time Off Btm: 2021.11.28 @ 00:12:00

**TEST COMMENT:** IF-30- Built to 8"  
SI1-45- No return  
FF-45- Built to 4 3/4"  
SI2-60- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1926.05	101.24	Initial Hydro-static
1	23.03	100.63	Open To Flow (1)
31	74.21	103.20	Shut-In(1)
76	487.87	107.44	End Shut-In(1)
76	78.37	109.31	Open To Flow (2)
121	98.98	109.43	Shut-In(2)
184	429.48	109.82	End Shut-In(2)
184	1824.09	110.80	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
182.00	HMCW 60% w ater 40% mud	1.47
10.00	oil 100%	0.14

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68014

**DST#: 7**

ATTN: Kent Matson

Test Start: 2021.11.27 @ 19:15:00

**GENERAL INFORMATION:**

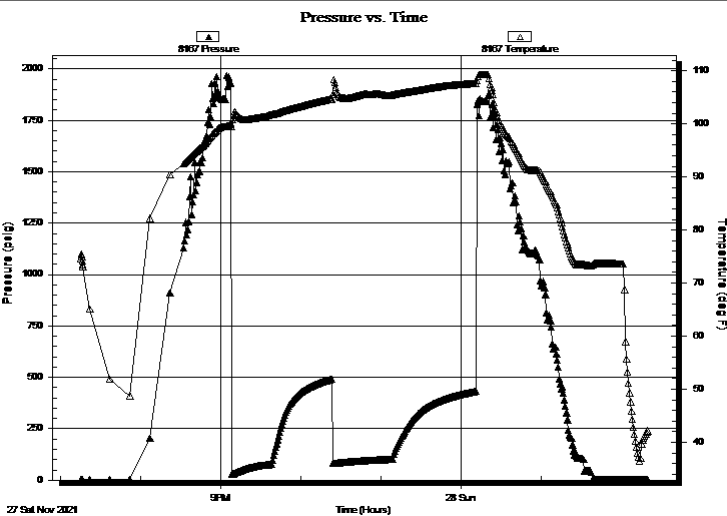
Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 21:08:15  
 Tester: Dustin Day  
 Time Test Ended: 02:19:30  
 Unit No: 70  
 Interval: **3769.00 ft (KB) To 3790.00 ft (KB) (TVD)**  
 Reference Elevations: 2288.00 ft (KB)  
 Total Depth: 3790.00 ft (KB) (TVD)  
 2281.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 7.00 ft

**Serial #: 8167**

**Outside**

Press@RunDepth: psig @ 3770.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2021.11.27 End Date: 2021.11.28 Last Calib.: 2021.11.28  
 Start Time: 19:15:05 End Time: 02:19:29 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF-30- Built to 8"  
 SI1-45- No return  
 FF-45- Built to 4 3/4"  
 SI2-60- No return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
182.00	HMCW 60% water 40% mud	1.47
10.00	oil 100%	0.14

**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, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68014

**DST#: 7**

ATTN: Kent Matson

Test Start: 2021.11.27 @ 19:15:00

## Tool Information

Drill Pipe:	Length: 3631.00 ft	Diameter: 3.80 inches	Volume: 50.93 bbl	Tool Weight:	2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	78000.00 lb
			<u>Total Volume: 51.52 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3769.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	48.00 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			3742.00	
Shut In Tool	5.00			3747.00	
Hydraulic tool	5.00			3752.00	
Jars	5.00			3757.00	
Safety Joint	3.00			3760.00	
Packer	5.00			3765.00	28.00 Bottom Of Top Packer
Packer	4.00			3769.00	
Stubb	1.00			3770.00	
Recorder	0.00	6625	Inside	3770.00	
Recorder	0.00	8167	Outside	3770.00	
perforations	15.00			3785.00	
Bullnose	4.00			3789.00	20.00 Bottom Packers & Anchor

**Total Tool Length: 48.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc

**19-6s-20w Rooks,KS**

PO Box 783188  
Wichita, KS 67202

**Wyrill 19A #3**

Job Ticket: 68014

**DST#: 7**

ATTN: Kent Matson

Test Start: 2021.11.27 @ 19:15:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

85000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
182.00	HMCW 60% water 40% mud	1.469
10.00	oil 100%	0.140

Total Length: 192.00 ft

Total Volume: 1.609 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2# LCM

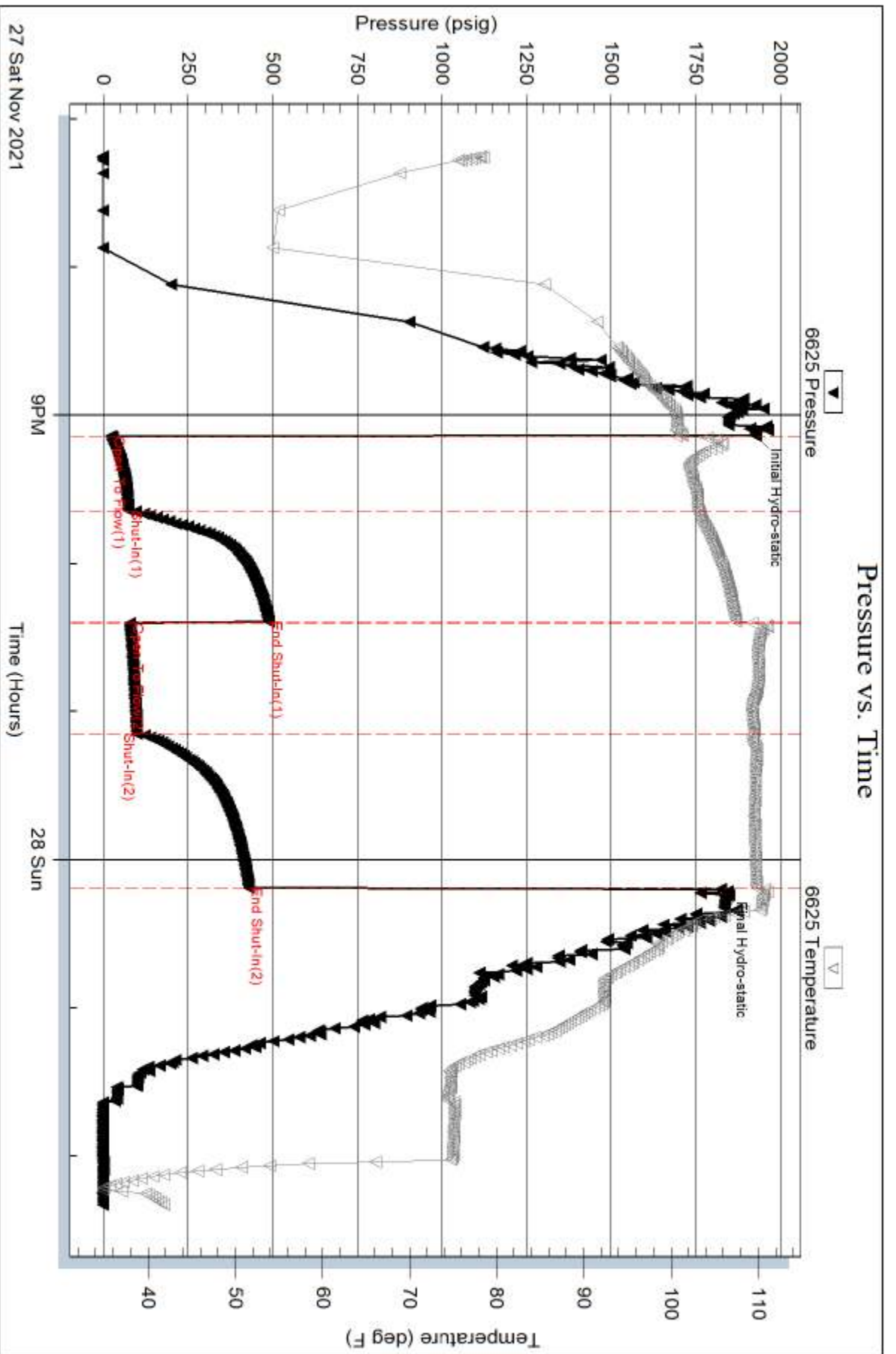
Serial #: 6625

Inside

Richie Exploration, Inc

Wyrill 19A #3

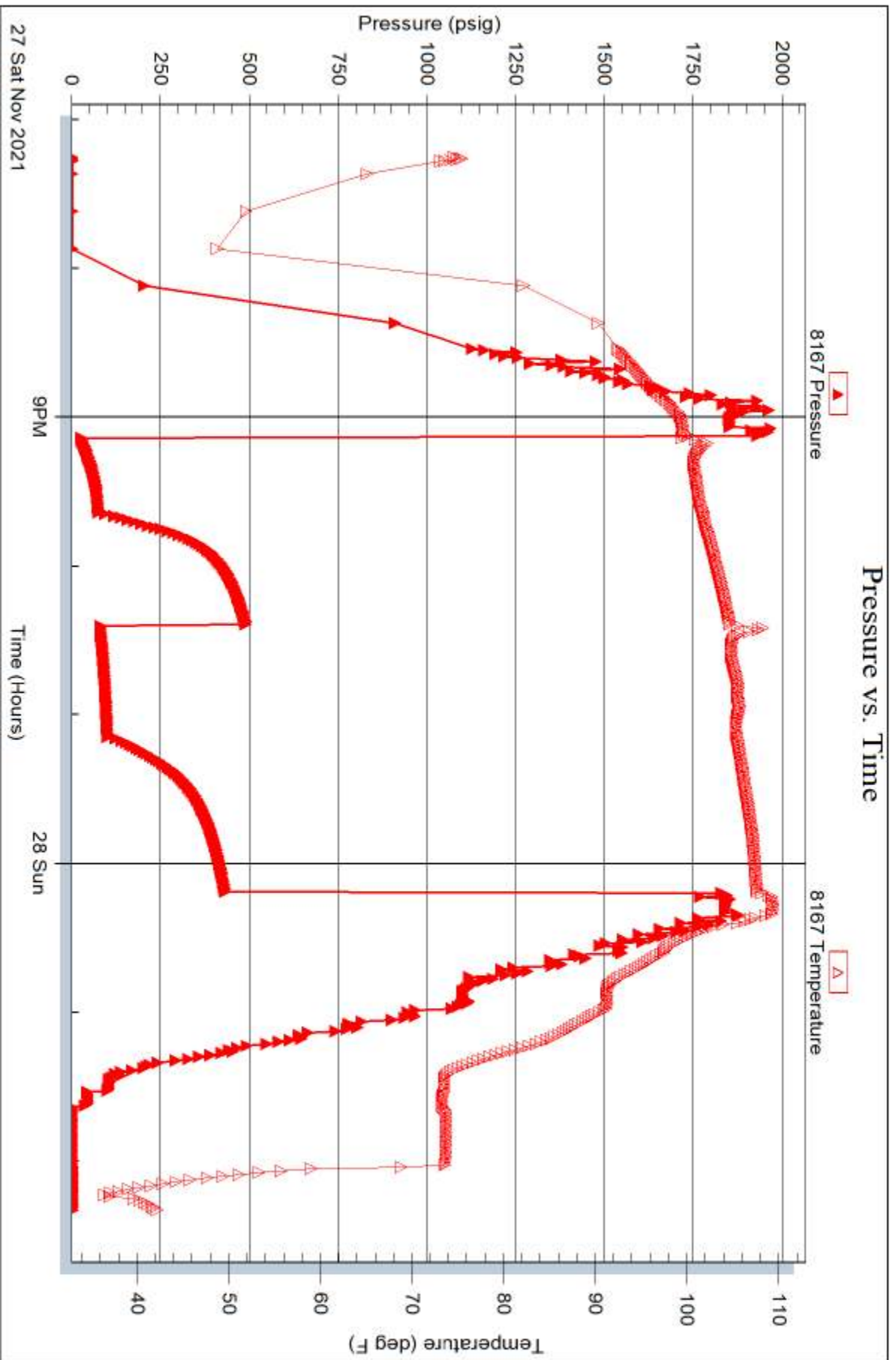
DST Test Number: 7



Trilobite Testing, Inc

Ref. No: 68014

Printed: 2021.11.30 @ 15:29:50





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68008

Well Name & No. Wyroll 19A #3 Test No. 1 Date 11/23/21  
 Company Ritchie Exploration Inc Elevation 2288 KB 2281 GL  
 Address 8100 E 22nd ST N #700 PO Box 783188 Wichita, KS 67202  
 Co. Rep / Geo. Kent Matson Rig STP Drilling  
 Location: Sec. 19 Twp 6 Rge. 20 Co. ROOKS State KS

Interval Tested 3430-3448 Zone Tested Oread B  
 Anchor Length 18 Drill Pipe Run 3316 Mud Wt. 9.1  
 Top Packer Depth 3425 Drill Collars Run 119 Vis 58  
 Bottom Packer Depth 3430 Wt. Pipe Run Ø WL 5.4  
 Total Depth 3448 Chlorides 1000 ppm System LCM 2#

Blow Description IF- Built to 5"  
Siz- No return  
FF- Built to 6"  
Siz- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>183</u>	<u>Hucw</u>			<u>75%</u>	<u>25%</u>
<u>20'</u>	<u>mud</u>				<u>100%</u>

Rec Total 203' BHT 104 Gravity \_\_\_\_\_ API RW .14 @ 60 °F Chlorides 65000 ppm

(A) Initial Hydrostatic <u>1701</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>08:40</u>
(B) First Initial Flow <u>81</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>10:48</u>
(C) First Final Flow <u>95</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:09</u>
(D) Initial Shut-In <u>807</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/A</u>	T-Pulled <u>16:09</u>
(E) Second Initial Flow <u>97</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>18:25</u>
(F) Second Final Flow <u>120</u>	<input checked="" type="checkbox"/> Mileage <u>124</u> <u>155</u>	Comments _____
(G) Final Shut-In <u>800</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1639</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____

Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility _____	Sub Total <u>0</u>
	Sub Total <u>2030</u>	Total <u>2030</u>

Approved By \_\_\_\_\_ Our Representative [Signature]

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

(785) 656-0962





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68009

Well Name & No. Wyrill 19A #3 Test No. 2 Date 11/24/21  
 Company Ritchie Exploration, Inc. Elevation 2288 KB 2781 GL  
 Address 8100 E 22nd ST N #700 PO Box 783188 Wichita, KS 67202  
 Co. Rep / Geo. Kent Matson Rig STP  
 Location: Sec. 19 Twp 6 Rge. 20 Co. Rocks State KS

Interval Tested 3484-3535 Zone Tested Toronto + LKC A  
 Anchor Length 51 Drill Pipe Run 3348 Mud Wt. 9.2  
 Top Packer Depth 3479 Drill Collars Run 119 Vis 55  
 Bottom Packer Depth 3484 Wt. Pipe Run φ WL 6.0  
 Total Depth 3535 Chlorides 2100 ppm System LCM 1#

Blow Description FF- Built to 1/4" died to a weak surface blow  
S14- No return  
FF- No Blow  
S12- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud w/ oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 102 Gravity 1300 API RW @ °F Chlorides ppm  
 (A) Initial Hydrostatic 1734  Test 1300 T-On Location 07:00  
 (B) First Initial Flow 16  Jars 250 T-Started 07:25  
 (C) First Final Flow 19  Safety Joint 75 T-Open 08:56  
 (D) Initial Shut-In 485  Circ Sub N/A T-Pulled 10:56  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 12:41  
 (F) Second Final Flow 23  Mileage 124 155 Comments \_\_\_\_\_  
 (G) Final Shut-In 465  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1659  Straddle \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Initial Open 30  Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Shut-In 30  Day Standby \_\_\_\_\_ Sub Total 0  
 Sub Total 2030  Accessibility \_\_\_\_\_ Total 2030  
 Sub Total 2030 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **68010**

Well Name & No. Wyrill 19A#3 Test No. 3 Date 11/25/21  
 Company Ritchie Exploration, Inc Elevation 2288 KB 2281 GL  
 Address 8100 E 22nd ST N#700 Po Box 783188 Wichita, KS 67202  
 Co. Rep / Geo. Kent Matson Rig STP  
 Location: Sec. 19 Twp 6 Rge. 20 Co. ROOKS State KS

Interval Tested 3546-3608 Zone Tested LKC C-F  
 Anchor Length 62 Drill Pipe Run 3410 Mud Wt. 9.2  
 Top Packer Depth 3541 Drill Collars Run 119 Vis 55  
 Bottom Packer Depth 3546 Wt. Pipe Run Ø WL 60  
 Total Depth 3608 Chlorides 2100 ppm System LCM #

Blow Description IF- BOB in 15 min. Built to 21"

S12- No return

FF- BOB in 19 1/2 min. Built to 25"

S12- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>371</u>	<u>MCW</u>			<u>90</u>	<u>10</u>
<u>83</u>	<u>MW</u>			<u>60</u>	<u>40</u>

Rec Total 454 BHT 109 Gravity \_\_\_\_\_ API RW 14 @ 27 °F Chlorides 12000 ppm

(A) Initial Hydrostatic <u>1782</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>01:00</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>01:25</u>
(C) First Final Flow <u>134</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>03:07</u>
(D) Initial Shut-In <u>758</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/A</u>	T-Pulled <u>06:07</u>
(E) Second Initial Flow <u>138</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>08:12</u>
(F) Second Final Flow <u>229</u>	<input checked="" type="checkbox"/> Mileage <u>124</u> <u>155</u>	Comments _____
(G) Final Shut-In <u>736</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1709</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<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>2030</u>
	Sub Total <u>2030</u>	MP/DST Disc't _____

Approved By \_\_\_\_\_ Our Representative DAT

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. **68011**

Well Name & No. Wyrill 19A#3 Test No. 4 Date 11/25-26/21  
 Company Ritchie Exploration Elevation 2288 KB 2281 GL  
 Address 8100 E 22nd ST N#700 PO BOX 783188 Wichita, KS 67202  
 Co. Rep / Geo. Kent Matson Rig STP  
 Location: Sec. 19 Twp 6 Rge. 20 Co. ROOKS State KS

Interval Tested 3626-3692 Zone Tested LKC H-T  
 Anchor Length 66 Drill Pipe Run 3504 Mud Wt. 92  
 Top Packer Depth 3621 Drill Collars Run 119 Vis 5.5  
 Bottom Packer Depth 3626 Wt. Pipe Run Ø WL 6.0  
 Total Depth 3692 Chlorides 2000 ppm System LCM HF

Blow Description IF- Bob in 12 min 45 sec. built to 23"

S12- No return

FF- Bob in 12 min. built to 49 1/2"

S12- Built to 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>119</u>	<u>4 GMCO</u>	<u>30</u>	<u>40</u>	<u>30</u>	<u>30</u>
<u>219</u>	<u>GMCO</u>	<u>10</u>	<u>60</u>	<u>30</u>	<u>30</u>
<u>    </u>	<u>531' GIP</u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>

Rec Total 338' BHT 109 Gravity 42 API RW      @      °F Chlorides      ppm

(A) Initial Hydrostatic <u>1801</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>20:50</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>21:08</u>
(C) First Final Flow <u>96</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:07</u>
(D) Initial Shut-In <u>1038</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>02:07</u>
(E) Second Initial Flow <u>95</u>	<input type="checkbox"/> Hourly Standby <u>    </u>	T-Out <u>04:15</u>
(F) Second Final Flow <u>144</u>	<input checked="" type="checkbox"/> Mileage <u>124</u> <u>155</u>	Comments <u>    </u>
(G) Final Shut-In <u>1003</u>	<input type="checkbox"/> Sampler <u>    </u>	<u>    </u>
(H) Final Hydrostatic <u>1701</u>	<input type="checkbox"/> Straddle <u>    </u>	<u>    </u>

Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> EM Tool <u>    </u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer <u>    </u>	<input type="checkbox"/> Ruined Shale Packer <u>    </u>
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder <u>    </u>	<input type="checkbox"/> Ruined Packer <u>    </u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>    </u>	<input type="checkbox"/> Extra Copies <u>    </u>
	<input type="checkbox"/> Accessibility <u>    </u>	Sub Total <u>0</u>
	Sub Total <u>2030</u>	Total <u>2030</u>
		MP/DST Disc't <u>    </u>

Approved By      Our Representative DJH

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **68012**

Well Name & No. Wyrill 19A #3 Test No. 5 Date 11/21/21  
 Company Fitchie Exploration Inc. Elevation 2288 KB 2281 GL  
 Address 8100 E 22nd ST N #100 PO BOX 783188 Wichita, KS 67202  
 Co. Rep / Geo. Kent Matson Rig STP  
 Location: Sec. 19 Twp 6 Rge. 20 Co. ROOKS State KS

Interval Tested 3692-3746 Zone Tested LKC K+L + Macmanton A  
 Anchor Length 54' Drill Pipe Run 3568 Mud Wt. 9.2  
 Top Packer Depth 3687 Drill Collars Run 119 Vis SS  
 Bottom Packer Depth 3692 Wt. Pipe Run 6 WL 6.0  
 Total Depth 3746 Chlorides 2000 ppm System LCM 2#

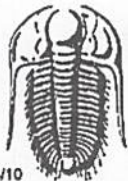
Blow Description IF- Built to 42", died to a weak surface blow  
S11- No return  
FF- No blow  
S12- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud</u>				<u>100</u>

Rec Total 2' BHT 102 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1866</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>14:30</u>
(B) First Initial Flow <u>14</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>14:44</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>17:22</u>
(D) Initial Shut-In <u>366</u>	<input checked="" type="checkbox"/> Circ Sub <u>MA</u>	T-Pulled <u>19:22</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>21:15</u>
(F) Second Final Flow <u>26</u>	<input checked="" type="checkbox"/> Mileage <u>124</u> 155	Comments _____
(G) Final Shut-In <u>339</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> EM Tool _____
(H) Final Hydrostatic <u>1997</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Total <u>2030</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>2030</u>	

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **68013**

Well Name & No. Wyrill 19A#3 Test No. 6 Date 11/27/24  
 Company Ritchie Exploration, Inc Elevation 2288 KB 2281 GL  
 Address 8100 E 22nd ST N#700 PO Box 783188 Wichita, KS 67202  
 Co. Rep / Geo. Kent Matson Rig STP  
 Location: Sec. 19 Twp 6 Rge. 20 Co. Rooks State KS

Interval Tested 3756-3768 Zone Tested Arbuckle  
 Anchor Length 12 Drill Pipe Run 3631 Mud Wt. 9.2  
 Top Packer Depth 3751 Drill Collars Run 119 Vis 54  
 Bottom Packer Depth 3756 Wt. Pipe Run 0 WL 64  
 Total Depth 3768 Chlorides 2000 ppm System LCM 2#

Blow Description IF- Built to 6"

S12- No return

FF- Built to 6 1/4"

S12- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>59</u>	<u>OWCM</u>		<u>20</u>	<u>20</u>	<u>60</u>
<u>74'</u>	<u>oil</u>		<u>100</u>		

Rec Total 133 BHT 106 Gravity 29 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic <u>1913</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>05:10</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>05:25</u>
(C) First Final Flow <u>47</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>06:48</u>
(D) Initial Shut-In <u>577</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/A</u>	T-Pulled <u>09:48</u>
(E) Second Initial Flow <u>55</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>11:39</u>
(F) Second Final Flow <u>75</u>	<input checked="" type="checkbox"/> Mileage <u>124</u> 155	Comments
(G) Final Shut-In <u>571</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1731</u>	<input type="checkbox"/> Straddle	

Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> EM Tool
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Accessibility	Sub Total <u>0</u>
	Sub Total <u>2030</u>	Total <u>2030</u>
		MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Dust Dy

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68014

Well Name & No. Wyrill 19A#3 Test No. 7 Date 11/27-28/21  
 Company Ritchie Exploration, Inc Elevation 2288 KB 2281 GL  
 Address 8100 E 22nd ST N #700 PO BOX 783188 Wichita, KS 67207  
 Co. Rep / Geo. Kent Matson Rig STP  
 Location: Sec. 19 Twp 6 Rge. 20 Co. Rooks State KS

Interval Tested 3769-3790 Zone Tested Arbuckle  
 Anchor Length 21 Drill Pipe Run 3631 Mud Wt. 9.2  
 Top Packer Depth 3764 Drill Collars Run 119 Vis 54  
 Bottom Packer Depth 3769 Wt. Pipe Run Ø WL 64  
 Total Depth 3790 Chlorides 2000 ppm System LCM 2#

Blow Description IF Built to 8"  
SIZ- No Return  
FF Built to 4 3/4"  
SIZ

Rec	Feet of	%gas	%oil	%water	%mud
<u>182</u>	<u>#MCW</u>			<u>60</u>	<u>40</u>
<u>10</u>	<u>oil</u>		<u>100</u>		

Rec Total 192 BHT 111 Gravity 29 API RW 18 @ 37 °F Chlorides 85000 ppm

(A) Initial Hydrostatic <u>1926</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>19:00</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:15</u>
(C) First Final Flow <u>74</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:11</u>
(D) Initial Shut-In <u>488</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/A</u>	T-Pulled <u>00:11</u>
(E) Second Initial Flow <u>78</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>02:22</u>
(F) Second Final Flow <u>99</u>	<input checked="" type="checkbox"/> Mileage <u>124</u> 155 +155	Comments <u>loaded tools after logs</u>
(G) Final Shut-In <u>429</u>	<input type="checkbox"/> Sampler	<u>11/28 @ 16:00</u>
(H) Final Hydrostatic <u>1824</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<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>2185</u>
	Sub Total <u>2185</u>	MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative [Signature]  
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**Scale 1:240 (5"=100') Imperial  
Measured Depth Log**

**Well Name:** WYRILL 19A  
**Well Id:** #3  
**Location:** 1053' FNL, 2092' FEL, NE 1/4 Sec 19-T06S-R20W, Rooks County, Kansas  
**License Number:** API: 15-163-24446 **Region:** Rooks County  
**Spud Date:** 11/19/2021 **Drilling Completed:** 11/28/2021  
**Surface Coordinates:** NAD83  
**Lat:** 39.5215695, **Long:** -99.5917101  
**Bottom Hole Vertical hole**  
**Coordinates:**  
**Ground Elevation (ft):** 2281' **K.B. Elevation (ft):** 2288'  
**Logged Interval (ft):** 3250' **To:** RTD **Total Depth (ft):** 3840'  
**Formation:** Arbuckle at RTD  
**Type of Drilling Fluid:** Chemical

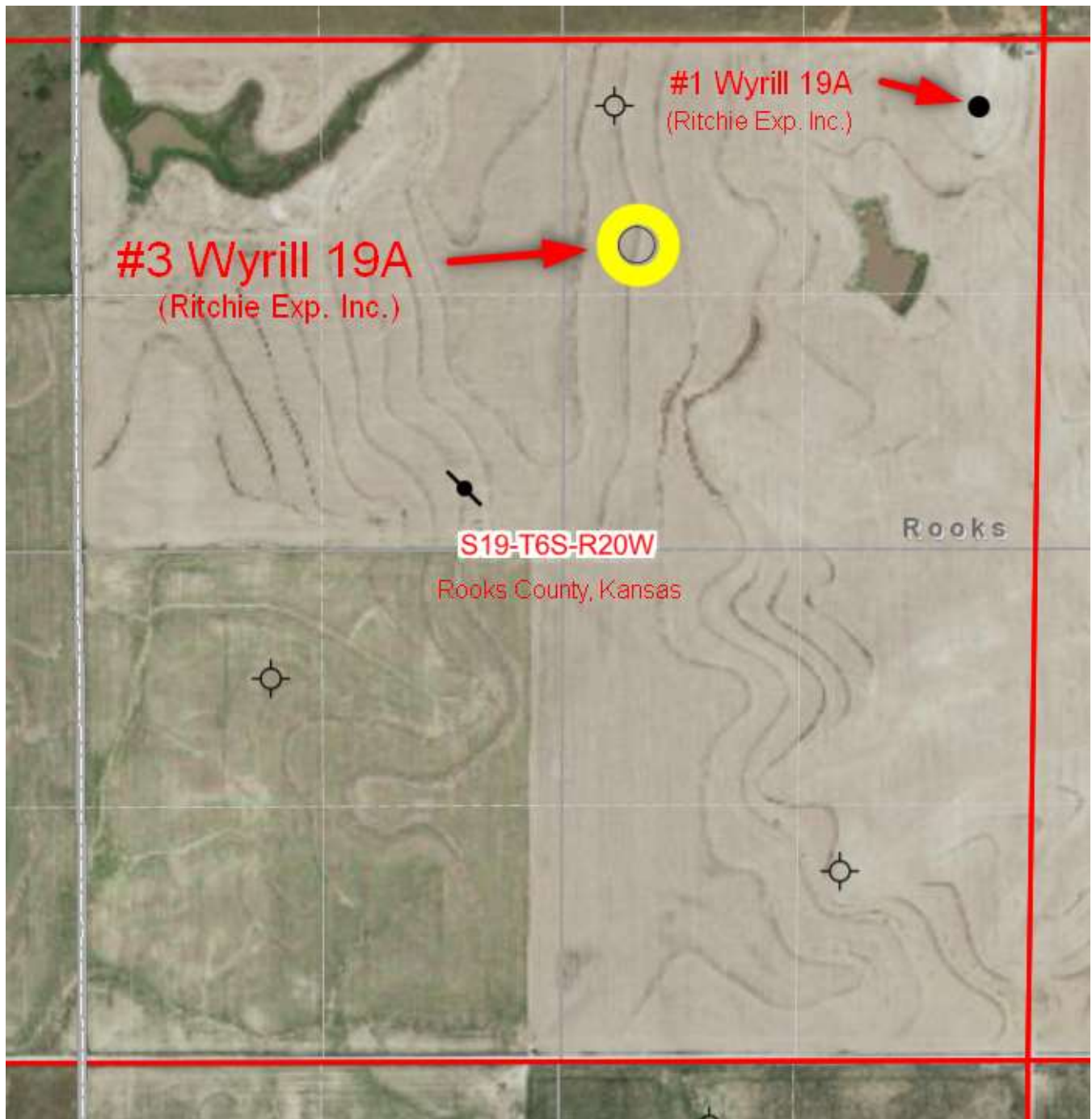
Printed by MudLog from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**OPERATOR**

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

**WELLSITE 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: STP Drilling Company, LLC., Rig #1.

Tool Pusher: Lonnie Lang, 785-769-4153 (cell).

Surface Casing: 8 5/8" set at 214' (KB) w/150sx cement.

Production Casing: Based on field observations of drill cuttings, DST results and electric log evaluation, 5 1/2" production casing was installed.

Mud by: Mud-Co/Service Mud, Inc., Gary Schmidtberger, 785-259-2757 (cell).

DST's by: Trilobite Testing, Dustin Day, 785-259-0056 (cell).

Logs by: Midwest Wireline (DI w/GR, CND, Micro, and Sonic), Tim Martin, 785-625-3858 (office).

RTD= 3840'

LTD= 3838'

## FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Topeka	3280'	-992	3284'	-996
Heebner Shale	3486'	-1198	3485'	-1197
Lansing	3525'	-1237	3524'	-1236
Muncie Creek Shale	3634'	-1346	3633'	-1345
Stark Shale	3694'	-1406	3690'	-1402
Hushpuckney Shale	3710'	-1422	3708'	-1420
Base of KC	3718'	-1430	3716'	-1428
Marmaton	3740'	-1452	3738'	-1450
Arbuckle	3760'	-1472	3761'	-1473
RTD	3840'	-1552		
LTD			3838'	-1550

## 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

	Silty sh
	Sdy dolo
	Silty dolo
	Shy dolo
	Shaly ls

### FOSSIL


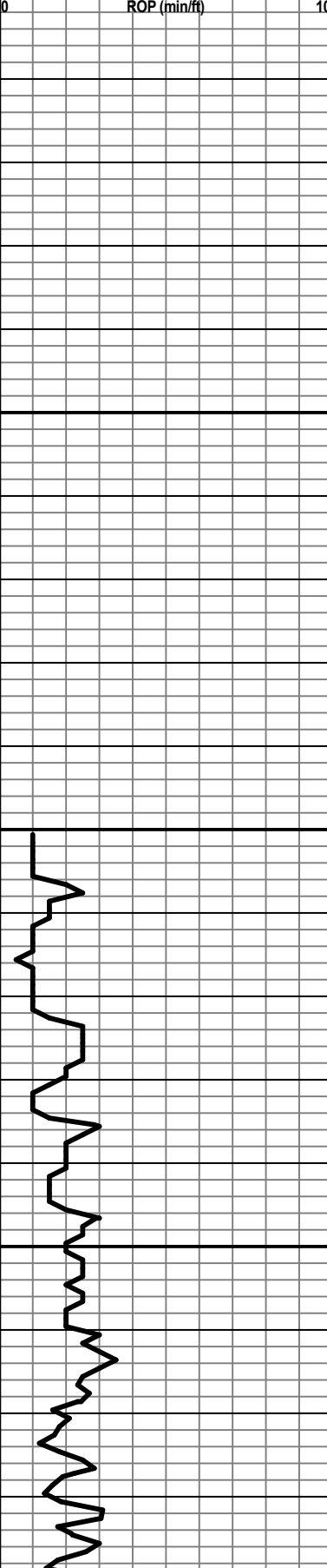
	Algae
	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral
	Crin
	Echin
	Fish
	Foram
	Fossil
	Gastro
	Oolite

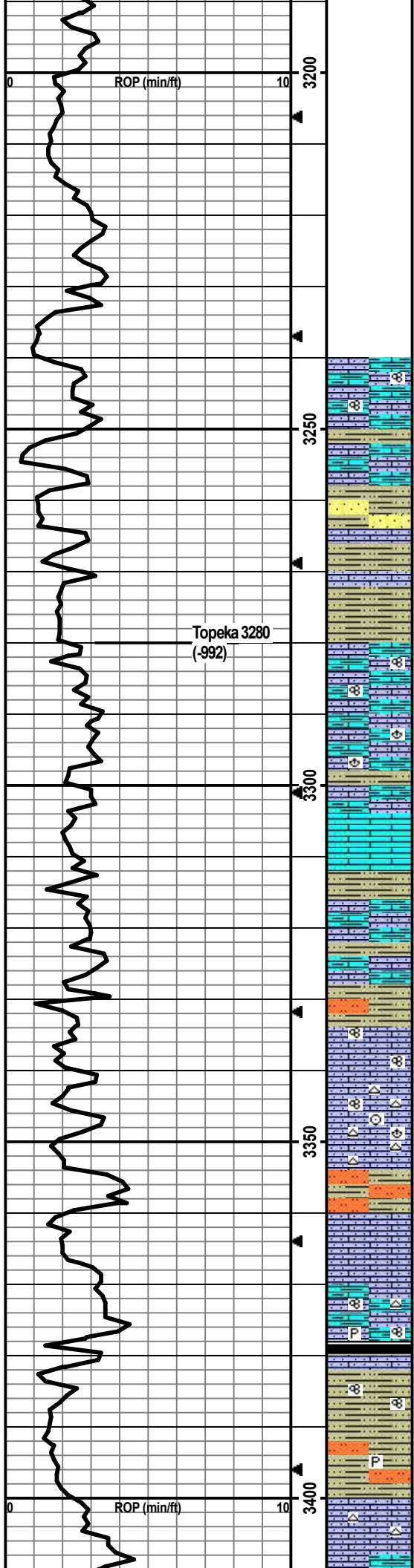
### MINERAL

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

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



<p>Rate of Penetration (ROP) ROP (min/ft) </p>	DEPTH	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks
	<p>0 10 30 3050 3100 3150</p>				<p><b>Morning Report Depth/Activity (7:00 am)</b>  11/19/2021: MIRU/Spud; set surface casing @ 214'KB.  11/20: Drilling @ 650'.  11/21: Drilling @ 2215'.  11/22: Drilling @ 2984'.  11/23: Short tripping for DST #1 @ 3448'.  11/24: TOH w/bit for DST #2 @ 3535'.  11/25: TOH w/test tool for DST #3 @ 3608'.  11/26: Drilling @ 3698'.  11/27: DST#6 @ 3768'.  11/28: Drilling @ 3823. TD @ 3840'; Electric logged.</p> <p>Drilling was conducted with a 7 7/8" tri-cone button bit.</p> <p><b>Anhydrite: Top @ 1874' (+414), Base @ 1907' (+381)</b> (based on drill time).</p> <p><b>ROP Data begins @ 3100' on 11/22/2021. Recorded from drillers geolograph record and geologist's auto-reader switch on geolograph.</b></p> <p>Geologist on location @ 3126', 11/22/2021.</p>	<p>Mud-Co/Service Mud Inc. Check #1 @ 0' predrilling instructions.</p> <p>Mud-Co/Service Mud Inc. Check #2 @ 556' 11/20/21 06:00am  wt vis pH chl  8.3 27 n/a 525  Filt LCM  n/a 0</p> <p>Mud-Co/Service Mud Inc. Check #3 @ 2200' 11/21/21 06:15am  wt vis pH chl  9.4 29 7.0 28000  Filt LCM  n/a 0</p> <p><b>Displaced drilling mud @ 2921'-2934'.</b></p> <p>Mud-Co/Service Mud Inc. Check #4 @ 2962' 11/22/21 05:35am  wt vis pH chl  8.7 59 11.5 800  Filt LCM  5.4 2</p> <p>Mud-Co/Service Mud Inc. Check #5 @ 3448' 11/23/21 05:35am  wt vis pH chl  9.1 58 11.0 1000  Filt LCM  5.4 2</p> <p>Mud-Co/Service Mud Inc. Check #6 @ 3535' 11/24/21 05:00am  wt vis pH chl  9.2 55 10.5 2100  Filt LCM  6.0 1</p> <p>Mud-Co/Service Mud Inc. Check #7 @ 3608' 11/25/21 05:20am  wt vis pH chl  9.5 55 10.0 2000  Filt LCM  7.2 1</p> <p>Mud-Co/Service Mud Inc. Check #8 @ 3692' 11/26/21 05:20am  wt vis pH chl  9.2 55 10.5 2000  Filt LCM  6.0 2</p> <p>Mud-Co/Service Mud Inc. Check #9 @ 3768' 11/27/21 05:08am  wt vis pH chl  9.2 54 10.5 2000  Filt LCM  6.4 2</p> <p>Mud-Co/Service Mud Inc. Check #10 @ 3794' 11/28/21 05:00am  wt vis pH chl  9.3 56 10.0 2000  Filt LCM  6.0 2</p>



Formation tops and lithologies have been adjusted to correlate to the electric log.

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.

Drill cutting samples at 10' intervals start at 3250'.

LS: cm/lt-m gry/lt-m bm/gry mottling, vf-m xtal, vry silty/sndy/arg, smpl vry chalky, foss frags/fusln, no vis por, no odor, ns.

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

SH: lt-m gry, vry silty/sndy, carb, soft-firm. Min SS: lt gry, vf-f, sr-wr, pred qtz, glauc, friable, no odor, ns.

SH: lt-m gry, vry silty/sndy, carb, soft-firm.

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

LS: wht/cm/lt-m gry/lt bm, vf-m xtal, vry silty/sndy/arg, chalky, foss frags/brac, no vis por, no odor, ns.

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

LS: cm/lt gry/lt bm, vf-m xtal, some vry silty/sndy/arg, chalky, foss frags, no vis por, no odor, ns. SH: lt-dk gry/bm, some vry silty/sndy, slt carb, soft-firm.

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

SH: lt gry/bm, vry silty/sndy, carb, soft-firm.

SH: lt-m gry/red-bm/lt green-gry/maroon, vry silty/sndy, carb, soft-firm. Slstn: lt gry, arg, carb, soft.

LS: cm/lt-dk gry-bm, vf-m xtal, vry silty/sndy, chalky, foss frags/fusln/grainy, vf-m in-xtal por, no odor, ns.

LS: wht/cm/lt brn/lt gry, vf-m xtal, vry silty/sndy, chalky, abund wht/cm chert, foss frags/fusln/crin/brac/grainy, 6 pcs w/staining, fo on break, ppt-f (1 pce w/med) in-xtal por, dul yel fluor, gd odor, sfo.

LS: cm/lt brn/lt gry, micro-f xtal, some vry silty/sndy/arg, chalky, wht/cm chert, some ppt-f in-xtal por, no odor, ns.

Slstn: lt gry/gry-bm, vry arg, carb, friable. SH: lt-dk gry, vry silty, carb, soft-firm.

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

LS: cm/lt-m brn/lt gry, vf-m xtal, vry silty/sndy/arg, chalky, min wht/cm chert, pyritic, foss frags/fusln, no vis por, no odor, ns.

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

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

SH: lt-dk gry/green-gry/red-bm, vry silty/sndy, carb, min pyritic, soft-firm, no odor, ns. Min Slstn: lt gry, arg, carb, friable.

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

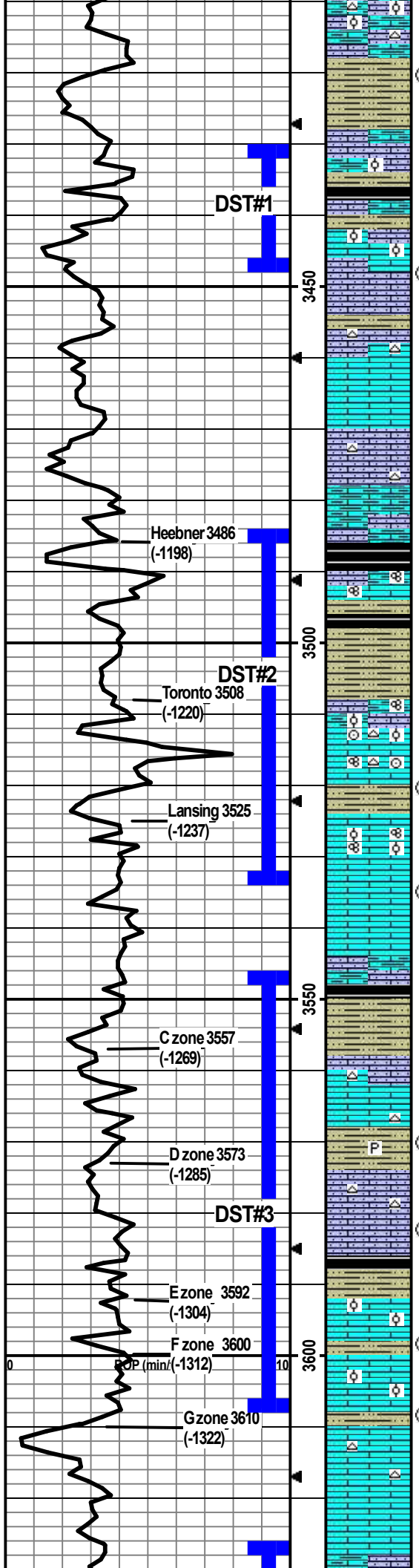
Surf. Residual  
Deg @ Ft  
0.5 @ 215'  
0.75 @ 3448'  
1.0 @ 3840'

DST1) 3430-3448

Oread B-zone

30/45/45/60  
1st blow built to 5"; no BB.  
2nd) blow built to 6"; no BB.  
IFP 81-95#  
ISIP 807#  
FFP 97-120#  
FSIP 800#  
HP 1701-1639#  
Recvd: 183' MCW (25%M, 75%W),  
20' Mud.





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

SH: lt-m gry/red-bm, vry silty/sndy, carb, soft-firm.

SH: lt-dk gry/bm, vry silty/sndy, carb, foss frags, soft-firm.

LS: cm/lt bm, micro-m xtal, some vry silty/sndy, arg, chalky, foss frags/dense ool, no vis por, gd oil odor but no show.

SH: lt-dk gry/bm/lt gry-green, vry silty/sndy, carb, soft-firm.

LS: cm/lt-m bm, micro-m xtal, some silty/sndy, min chalky, foss frags/ool, ~10% of tray w/sfo, vf-m in-xtal/in-ool por, dul yel fluor, stg odor, gsfo.

SH: m-dk gry/lt green-gry/maroon/red-bm, vry silty, carb, soft-firm.

LS: wht/cm/lt-m bm/min gry, micro-m xtal, some silty/sndy, chalky, wht chert, foss frags, no vis por, slt odor assumed from mud system, ns.

LS: wht/cm/lt bm/lt gry, micro-f xtal, some chalky, min foss frags, 10-15% of smpl w/sfo, m-crs in-xtal por, dul yel fluor, stg odor, gd sfo.

LS: cm/lt bm/lt gry, micro-f xtal, some vry sndy/grainy/sugary, chalky, lt gry chert, min foss frags, 8 pcs w/sfo, m-crs in-xtal por, dul yel fluor, stg odor, sfo.

LS: wht/cm/lt gry/dk gry mottling, vf-m xtal, vry chalky, silty/sndy/arg, min glauc, no vis por, gd odor and 4 pcs w/sfo assume from above.

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

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

SH: lt-dk gry/blk, vry silty, carb, firm.

SH: lt-dk gry/lt green/red-bm, some vry silty/sndy, slt carb, soft-firm, no odor.

LS: cm/lt gry/lt bm, micro-m xtal, some silty/sndy/arg, some chalky, lt gry/lt orange chert, foss frags/fusln/crin/ool, 13 pcs w/staining w/fo on break, vf-m in-xtal/in-ool por, dul yel fluor, slt crush odor, sfo.

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

LS: wht/cm/lt bm/lt gry, micro-m xtal, some silty/sndy, chalky, foss frags/fusln/ool, 6 pcs w/staining and fo on break, vf-m in-xtal/in-ool por, dul yel fluor, gd odor, sfo.

LS: wht/cm, micro-f xtal, chalky, dense, no vis por, 4 ool pcs w/show from above, slt odor.

LS: as above w/lt-m gry, vf-m xtal, vry silty/sndy/arg, chalky, foss frags, no vis por, no odor, ns.

SH: m-dk gry/blk/red-bm/gry-green, some silty/sndy, carb, soft-firm.

LS: wht/cm/lt gry, micro-m xtal, min silty/sndy, some chalky, lt gry chert, 7 pcs w/staining w/min fo on break, ppt-f in-xtal por, yel fluor, slt odor, sfo.

SH: lt-m gry/red-bm, silty/sndy, slt carb, pyritic, soft-firm.

LS: cm, micro-f xtal, some silty, cm/lt bm chert, foss frags, 13 pcs w/staining min fo on break, ppt-m in-xtal por, dul yel fluor, slt odor, sfo.

SH: lt-m gry/bm, vry silty/sndy, carb, min LS nod, soft-firm. Smpl has gd odor, some LS w/show assumed from above.

LS: cm/lt bm, micro-f xtal, smpl vry chalky, oolitic, 14 pcs w/staining and fo on break, ppt-m in-xtal/in-ool por, dul yel fluor, gd odor, sfo.

LS: cm, micro-f xtal, some chalky, ool, 20-25% of smpl w/staining, min fo on break, ppt-f in-xtal/in-ool por, dul yel fluor, gd odor, sfo.

LS: wht/cm/lt gry, micro-f xtal, some chalky, min cm chert, min foss frags, no vis por, no odor, ns.

LS: wht/cm/lt gry/min lt bm, micro-f xtal, some silty/arg, min chalky, no vis por, no odor, ns.

CFS @ 3420'  
Stop/20"/40"

Made 39 std wiper trip prior to DST#1.

Pipe strap TOH for DST #1 at 3448' was 1.64' short to the board.

CFS @ 3448'  
Stop/20"/40"

**DST2) 3484-3585 Toronto & Lansing A-zone**

30/30/30/30  
1st blow built to 1/4" died to weak SB; no BB.  
2nd) no blow; no BB.  
IFP 16-19#  
ISIP 485#  
FFP 19-23#  
FSIP 465#  
HP 1734-1659#  
Recvd: 5' Mud w/oil spots.

CFS @ 3520'  
Stop/20"/40"

CFS @ 3535'  
Stop/20"/40"

CFS @ 3570'  
Stop/20"/40"

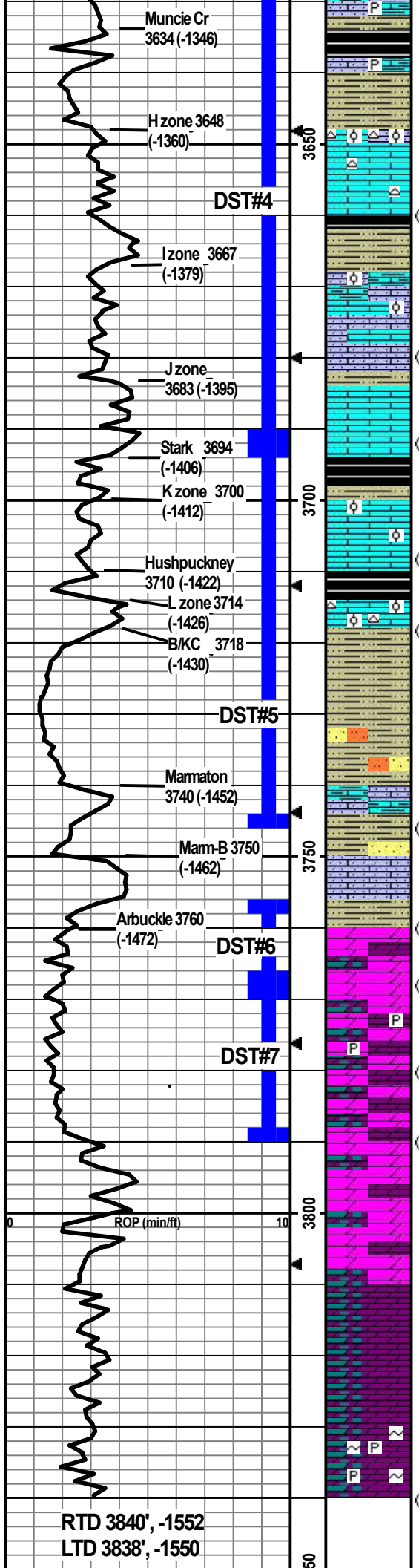
CFS @ 3582'  
Stop/20"/40"

CFS @ 3598'  
Stop/20"/40"

CFS @ 3608'  
Stop/20"/40"

**DST3) 3546-3608 Lansing C, D, E & F Zones**

30/45/45/60  
1st) BOB in 15 min; no BB.  
2nd) BOB in 19.5 min; no BB.



SH: lt-dk gry/blk/maroon/red-bm, some silty, slit carb, soft-firm.  
 LS: cm/lt-dk bm/lt-dk gry/dk gry inclus, micro-m xtal, some silty/sndy/arg, some chalky, pyritic, foss frags, no vis por, no odor, ns.

SH: lt-dk gry/red-brn, vry silty, carb, soft-firm.  
 LS: cm/lt gry-bm, micro-m xtal, some silty/sndy, some chalky, lt-m bm chert, foss frags/ool, 10-15% of smpl w/sfo, ppt-m in-xtal/in-ool por, dul yel fluor, slit odor, sfo.

LS: cm/lt gry, micro-f xtal, some chalky, lt-m bm/lt gry chert, 6 pcs w/staining/fo, ppt-vf in-xtal por, dul yel fluor, no odor, ssfo.

SH: lt-dk gry/blk/lt green/maroon/red-bm, silty, slit carb, soft-firm.

LS: cm/lt bm/lt gry, micro-med xtal, some silty/sndy/arg, chalky, foss frags/ool, 10 pcs w/staining min fo on break, ppt-m in-xtal/in-ool por, dull yel fluor, slit odor, sfo.

LS: cm/min lt gry/lt green-gry, micro-med xtal, min chalky, foss frags, approx 10% of smpl w/staining, some fo on break, ppt-m w/min crs in-xtal por, dul yel fluor, slit odor, gd sfo.

SH: m-dk gry/gry-green/bm/red-bm/maroon, some silty, slit carb, soft-firm.

LS: wht/cm/lt bm, micro-m xtal, some chalky, oolitic, approx 10% of smpl w/sfo, f-crs in-xtal/in-ool por, dul yel fluor, gd odor, gd sfo.

SH: lt-dk gry/red-brn/green/bm/maroon, some silty, slit carb, soft-firm.

LS: cm/lt bm, micro-m xtal, some silty/sndy, some chalky, min pyritic, min cm chert, foss frags/ool, 9 pcs w/sfo, vf-m in-xtal/in-ool por, slit odor, sfo.

SH: lt-dk gry/lt-dk red-bm/lt green/maroon, some silty/sndy, slit carb, soft-firm.

SH: as above w/some slitstn/SS: red-bm, vf-f, arg, friable, no odor, ns.

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

SH: lt-dk gry/bm/red-bm/green/maroon, some vry silty, slit carb, soft-firm. Some SS: wht/cm/red-bm, vf-f, arg, carb, friable.

LS: wht/cm, micro-m xtal, vry silty/sndy, some chalky, some arg, foss frags, 2 pcs w/sfo w/ppt-f in-xtal por, dul yel fluor/cut, no odor, slit sfo.

Dolo: cm, f-crs xtal, some sucrosic, sndy, oolitic/granular tex, +90% of smpl w/sfo, f-crs in-xtal/in-ool por, no fluor, stg odor, gsfo.

Dolo: cm/lt gry/lt bm, f-crs xtal, some vry silty/sndy, ool/granular tex, some sucrosic, some pyritic, +90% of smpl w/sfo, f-crs in-xtal por, no fluor, stg odor, oil floating in smpl water, gsfo.

Dolo: as above, +90% of smpl w/sfo, oil floating in smpl water, stg odor, gsfo.

Dolo: wht/cm, f-crs xtal, some silty/sndy, grainy, ~75% of smple w/show, some bm fluid w/mostly blk tar, no fluor but yel cut, f-crs in-xtal por, gd odor, gd show.

Dolo: cm/pink/lt bm, f-m xtal, some silty/sndy, grainy, ~10% of smpl w/blk tar oil, no fluor but yel cut, ppt-m in-xtal por, gd odor, show tar oil.

Dolo: cm/lt gry/lt bm/pink, vf-f w/min med xtal, vry silty/sndy, grainy, ppt-f in-xtal por, (few pcs w/blk tar oil and slit odor assume from above).

Dolo: wht/cm/pink/lt gry, vf-f w/min med xtal, vry silty/sndy, grainy, most ppt-f in-xtal por w/min med (few pcs w/blk tar oil assume from above), no odor.

Dolo: wht/cm/pink/dk red-bm, vf-m xtal, vry silty/sndy w/crs sand, glauc, pyritic, ppt in-xtal por, no odor, ns.

TD @ 3840'

IFP 23-134#  
 ISIP 758#  
 FFP 138-229#  
 FSIP 736#  
 HP 1782-1709#  
 Recvd: 454' total fluid (MW); 83' MW (40%M, 60%W), 371' MW (10%M, 90%W).

CFS @ 3660'  
 Stop/30"/60

CFS @ 3680'  
 Stop/30"/60

CFS @ 3692'  
 Stop/30"/60

CFS @ 3708'  
 Stop/30"/60

CFS @ 3718'  
 Stop/30"/60

CFS @ 3746'  
 Stop/30"/60

CFS @ 3760'  
 Stop/30"/60

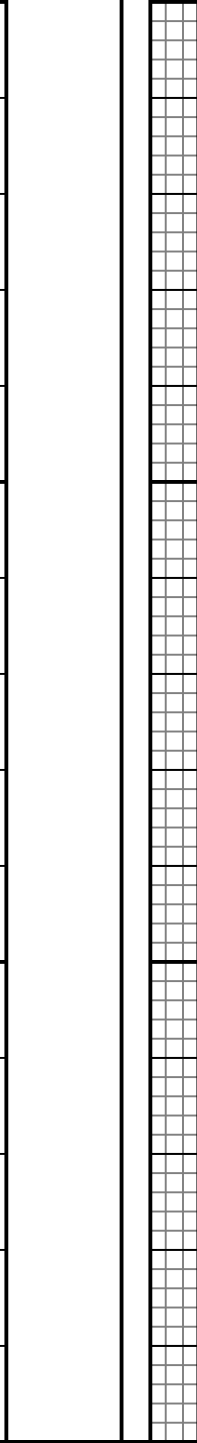
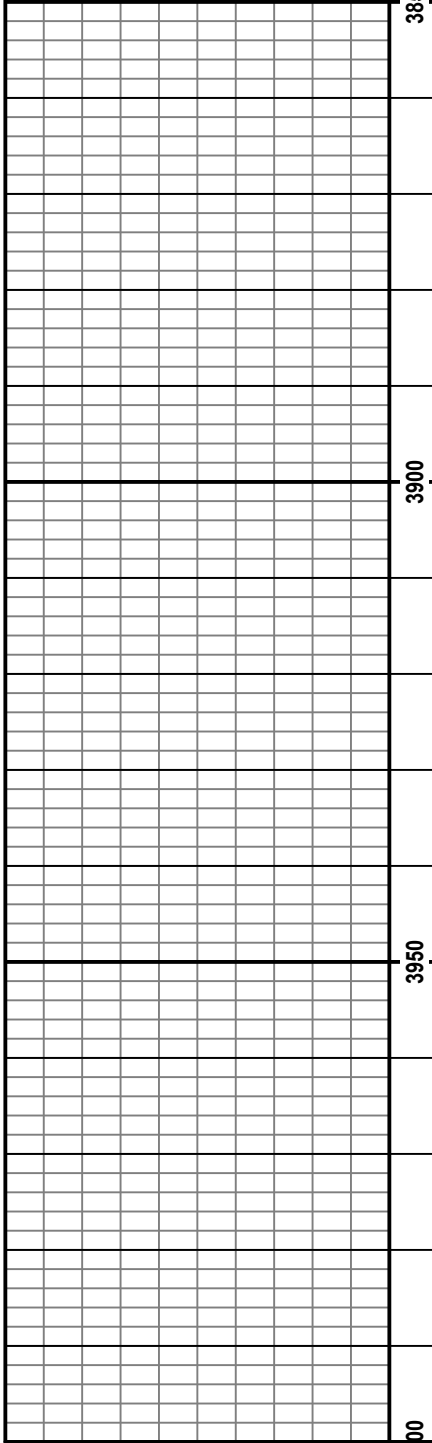
CFS @ 3768'  
 Stop/30"/60

CFS @ 3780'  
 Stop/30"/60

CFS @ 3790'  
 Stop/30"/60

**DST4) 3626-3692 Lansing H, I, & J zones**  
 30/45/45/60  
 1st) BOB in 12.75 min; no BB.  
 2nd) BOB in 12 min; BB built to 1/2".  
 IFP 19-96#  
 ISIP 1038#  
 FFP 95-144#  
 FSIP 1003#  
 HP 1801-1701#  
 Recvd: 531' GIP, 338' total fluid:  
 119' GMO (30%G, 40%O, 30%M),  
 219' GMO (10%G, 60%O, 30%M).

CFS @ 3840'  
 Stop/30"/60"  
 CTCH 1.5 hr, TOH for logging.



**DST5) 3692-3746  
Lansing K & J  
zones, Marm**

**A-zone**

30/30/30/30  
1st blow built to 1/2" died to weak SB; no BB.  
2nd) no blow; no BB.  
IFP 19-23#  
ISIP 366#  
FFP 23-26#  
FSIP 339#  
HP 1866-1797#  
Recvd: 2' Mud.

**DST6) 3756-3768  
Arbuckle**

30/45/45/60  
1st blow built to 6"; no BB.  
2nd) blow built to 6.5"; no BB.  
IFP 21-47#  
ISIP 577#  
FFP 55-75#  
FSIP 571#  
HP 1913-1731#  
Recvd: 133' total fluid: 74' GO (100%O), 59' OWM (20%O, 20%W, 60%M).

**DST7) 3769-3790  
Arbuckle**

30/45/45/60  
1st blow built to 8"; no BB.  
2nd) blow built to 4.75"; no BB.  
IFP 23-74#  
ISIP 488#  
FFP 78-99#  
FSIP 429#  
HP 1926-1824#  
Recvd: 192' total fluid: 10'O (100%O), 182' MW (40%M, 60%W).



**#3 Wyrill 19A**

1,053' FNL & 2,092' FEL

61' S & 112' W of S/2 NW NE Section 19-6S-20W

Rooks County, Kansas

API# 15-163-24446-0000

Elevation: GL: 2,281', KB: 2,288'

Sample Tops

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Anhydrite	1874	+414
B/Anhydrite	1907	+381
Topeka	3280	-992
Heebner	3486	-1198
Toronto	3508	-1220
Lansing	3526	-1238
Muncie	3634	-1346
Stark	3694	-1406
Hush	3710	-1422
BKC	3718	-1430
Marmaton	3740	-1452
Arbuckle	3760	-1472
RTD	3840	-1552

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071  
Cell 785-324-1041

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

No. 2591

Date	11-19-21	Sec.	19	Twp.	6	Range	20	County	ROCK	State	KS	On Location		Finish	6:15 PM
------	----------	------	----	------	---	-------	----	--------	------	-------	----	-------------	--	--------	---------

Location Logan & Deman lot 6N 1W

Lease	WYR 11 19-A	Well No.	3	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	SHP			Charge To	Ritchie Exp
Type Job	SURFACE			Street	
Hole Size	12 1/4	T.D.	215	City	
Csg.	8 3/8	Depth	214	State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool		Depth		Cement Amount Ordered	150A 103-2
Cement Left in Csg.	15	Shoe Joint			

Meas Line		Displace	12 3/4	Common	120
-----------	--	----------	--------	--------	-----

**EQUIPMENT**

Pumptrk	17	No.	Cementor	B. H	Poz. Mix	30
			Helper			
Bulktrk		No.	Driver	Chal	Gel.	3
			Driver			
Bulktrk	14	No.	Driver	Jordan	Calcium	6
			Driver			

**JOB SERVICES & REMARKS**

Remarks:		Hulls	
Rat Hole		Salt	
Mouse Hole		Flowseal	
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
Ran 5 Jts 8 3/8 etc 21 1/2		Sand	
		Handling	159
		Mileage	

**FLOAT EQUIPMENT**

Century 12 1/4		Guide Shoe	
Pump plug w/ 12 3/4 bolts		Centralizer	
Cent did circ.		Baskets	
		AFU Inserts	
		Float Shoe	
		Latch Down	

		Pumptrk Charge	Surface
		Mileage	46

X Signature	Lonnii	Thanks	Tax	
			Discount	
			Total Charge	



CHARGE TO: Ritchie Expirators  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET 34089

PAGE 1 OF 3

SERVICE LOCATIONS: 1. Flays KS  
 2. Ness City KS  
 3.   
 4.   
 REFERRAL LOCATION:   
 WELL/PROJECT NO. # 3  
 LEASE # Myrill 19 A  
 COUNTY/PARISH MOORE  
 RIG NAME/NO.   
 STATE KS CITY   
 TICKET TYPE:  SERVICE  SALES  
 CONTRACTOR STP  
 SHIPPED VIA ET DELIVERED TO LOCATION  
 WELL TYPE Oil WELL CATEGORY Development JOB PURPOSE LONG STALK  
 INVOICE INSTRUCTIONS:   
 DATE 11/23/21 OWNER   
 ORDER NO.   
 WELL PERMIT NO.   
 WELL LOCATION

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE <u>Tex # 111</u>	60	mi			6.00	360.00
578					<u>Pump Change - LONG STALK</u>	1	EA			1500.00	1500.00
281					<u>MUDFLUSH</u>	500	gal			1.50	750.00
221					<u>Liquid Kcl</u>	2	ka			25.00	50.00
290					<u>D-Air</u>	2	ba			42.00	84.00
403					<u>CEMENT BASKET</u>	3	EA	5/2		275.00	825.00
404					<u>Port Collar</u>	1	EA			2500.00	2500.00
406					<u>CATCHDOWN PUG &amp; BATTLE</u>	1	CA			250.00	250.00
407					<u>INSERT FLOORSTOP w/ AWD FLW</u>	1	CA			325.00	325.00
409					<u>TURBUZZER</u>	2	CA			90.00	180.00

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.  
 MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS.  
**X**  
 DATE SIGNED \_\_\_\_\_ TIME SIGNED \_\_\_\_\_  A.M.  P.M.  
**REMIT PAYMENT TO:**  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300  
 SURVEY:  OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?  WE UNDERSTOOD AND MET YOUR NEEDS?  OUR SERVICE WAS PERFORMED WITHOUT DELAY?  WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?  
 ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO  CUSTOMER DID NOT WISH TO RESPOND  
 TOTAL 1319.98

SWIFT OPERATOR: DAVID EDGERTON APPROVAL: \_\_\_\_\_  
 CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES: The customer hereby acknowledges receipt of the materials and services listed on this ticket.  
 Thank You!





JOB LCG

SWIFT Services, Inc.

DATE  
11/28/21

PAGE NO.

CUSTOMER  
KITCHIE EXPLORATION

WELL NO.  
# 3

LEASE  
WYRILL 19 A

JOB TYPE  
LONG STRING

TICKET NO.  
34089

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2100							ON LOCATION
								CSG 5/2 X 15.5 #
								RTO - 3838
								SHOE JT - 21' Baffle @ 3810
								CENTRALIZERS - 2, 3, 5, 7, 47, 49
								BASKETS - 48, 61, 75
								PORT COLLAR - # 48 @ 1856
	2200							START CSG
	1245							Circ ON BIT
	130	2.5	8			0		Plug RAT HOLE - 30 SX
		5.5	12			300		pump MUDFLUSH - 500 GAL
		5.5	20			300		pump KEL SPACER
		4	32			200		pump CMT - 125 SX @ 14.7 ppm
								Drop plug - WASH PEL
	205	6.5	0			300		START Disp
	215	6.5	90.6			900		LAND plug @ 1500 psi
								RELEASE PSI - Dry
								JOB COMPLETE
								THANKS
								DAVID, TED, SETH & JOHN J.





CHARGE TO: Richie Exploration  
 ADDRESS  
 CITY, STATE, ZIP CODE

PAGE 1 OF 1

TICKET 35291

1. SERVICE LOCATIONS 19-A #3 WELL/PROJECT NO. Wygill LEASE Wygill COUNTY/PARISH Knock STATE Ks CITY Loc. DATE 12-9-21 OWNER Same  
 2. 19-A #3 TICKET TYPE  SERVICE CONTRACTOR Hess RIG NAME/NO. 217 SHIPPED VIA CIT DELIVERED TO Loc. ORDER NO.  
 3. WELL TYPE O:1 WELL CATEGORY Development JOB PURPOSE CO. Top Stage WELL PERMIT NO. WELL LOCATION  
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575					MILEAGE #111	60	mi	1			6.00	360.00
573					Pump Service	1	ea	1			1500.00	1500.00
290					O-Hir	3	gal	1			42.00	126.00
581					Service Charge	450	sq ft	1			2.00	900.00
583					Drayage	1179	mi/ks	1			1.00	1179.00
329-8					60140 Poz 8% Gel	225	sk	1			12.00	2700.00
275					Cotton Seed Hulls	3	cks	1			35.00	105.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS.

DATE SIGNED \_\_\_\_\_ TIME SIGNED \_\_\_\_\_  A.M.  P.M.

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR [Signature] APPROVAL [Signature]

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	AGREE	UNDECIDED	DISAGREE
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	

PAGE TOTAL 6,870.00

TOTAL 7975.17

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 12/9/2021 PAGE NO. 1

CUSTOMER *Richie Exploration* WELL NO. *19-A #3* LEASE *Wgrill* JOB TYPE *Cont. Port Collar* TICKET NO. *35291*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	11:00							<i>On Loc. Rig Running tubing Port Collar @ 1865'</i>
	11:55							
								<i>5 1/2 csg. 2 7/8 tubing Test to 1,000psi held open P.C.</i>
		<i>3</i>				<i>600</i>		<i>Pump 3BPM 600psi Start Mixing 60/40 poz 2 1/2 Gal Hulls in first cont.</i>
	12:15		<i>68</i>					<i>Pumped 3<sup>ss</sup> establish circulation 68<sup>ss</sup> pumped. Cement to surface, increase weight</i>
			<i>9.5</i>					<i>Finish mixing 225sks total 150#hulls Displ. 9.5<sup>ss</sup> close P.C.</i>
								<i>Test to 1000psi held Run 10 Joints tubing Reverse out 25<sup>ss</sup> pumped Hole clean wash and rack up truck Job Complete</i>
	1300							

*David Seth Isaac*  
 Roger David Seth Isaac