

Confidentiality Requested:

Yes  No

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

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

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

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

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

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

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

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Recompletion Date \_\_\_\_\_ Date Reached TD \_\_\_\_\_ Completion Date or Recompletion Date \_\_\_\_\_

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

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

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

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

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

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

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

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

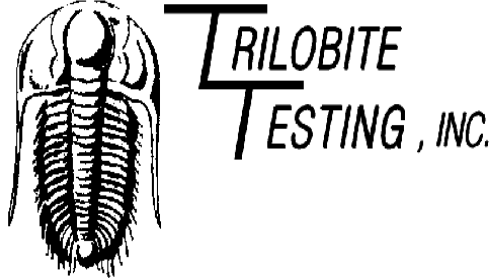
Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water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

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

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

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700  
Wichita, KS 67278

ATTN: John Goldsmith

### **KSR-Schneweis #1**

### **12-27S-24W Ford,KS**

Start Date: 2019.02.22 @ 08:11:00

End Date: 2019.02.22 @ 15:35:02

Job Ticket #: 64900                      DST #: 1

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

Printed: 2019.02.27 @ 11:54:56







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E 22nd St N #700  
Wichita, KS 67278  
ATTN: John Goldsmith

**12-27S-24W Ford,KS**  
**KSR-Schneweis #1**  
Job Ticket: 64900      **DST#: 1**  
Test Start: 2019.02.22 @ 08:11:00

**Tool Information**

Drill Pipe:	Length: 4749.00 ft	Diameter: 3.80 inches	Volume: 66.62 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
		Total Volume: 66.62 bbl		Tool Chased ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4766.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 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
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Shut In Tool	5.00			4745.00	
Hydraulic tool	5.00			4750.00	
Jars	5.00			4755.00	
Safety Joint	2.00			4757.00	
Packer	5.00			4762.00	26.00      Bottom Of Top Packer
Packer	4.00			4766.00	
Stubb	1.00			4767.00	
Recorder	0.00	8672	Inside	4767.00	
Recorder	0.00	6751	Outside	4767.00	
Perforations	20.00			4787.00	
Bullnose	3.00			4790.00	24.00      Bottom Packers & Anchor

**Total Tool Length: 50.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration

**12-27S-24W Ford,KS**

8100 E 22nd St N #700  
Wichita, KS 67278

**KSR-Schneweis #1**

Job Ticket: 64900

**DST#: 1**

ATTN: John Goldsmith

Test Start: 2019.02.22 @ 08:11:00

### 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:

48000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: 0.02 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	300 GIP	0.000
90.00	GMOCW 20%G 14%M 20%O 46%W	1.262

Total Length: 90.00 ft      Total Volume: 1.262 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

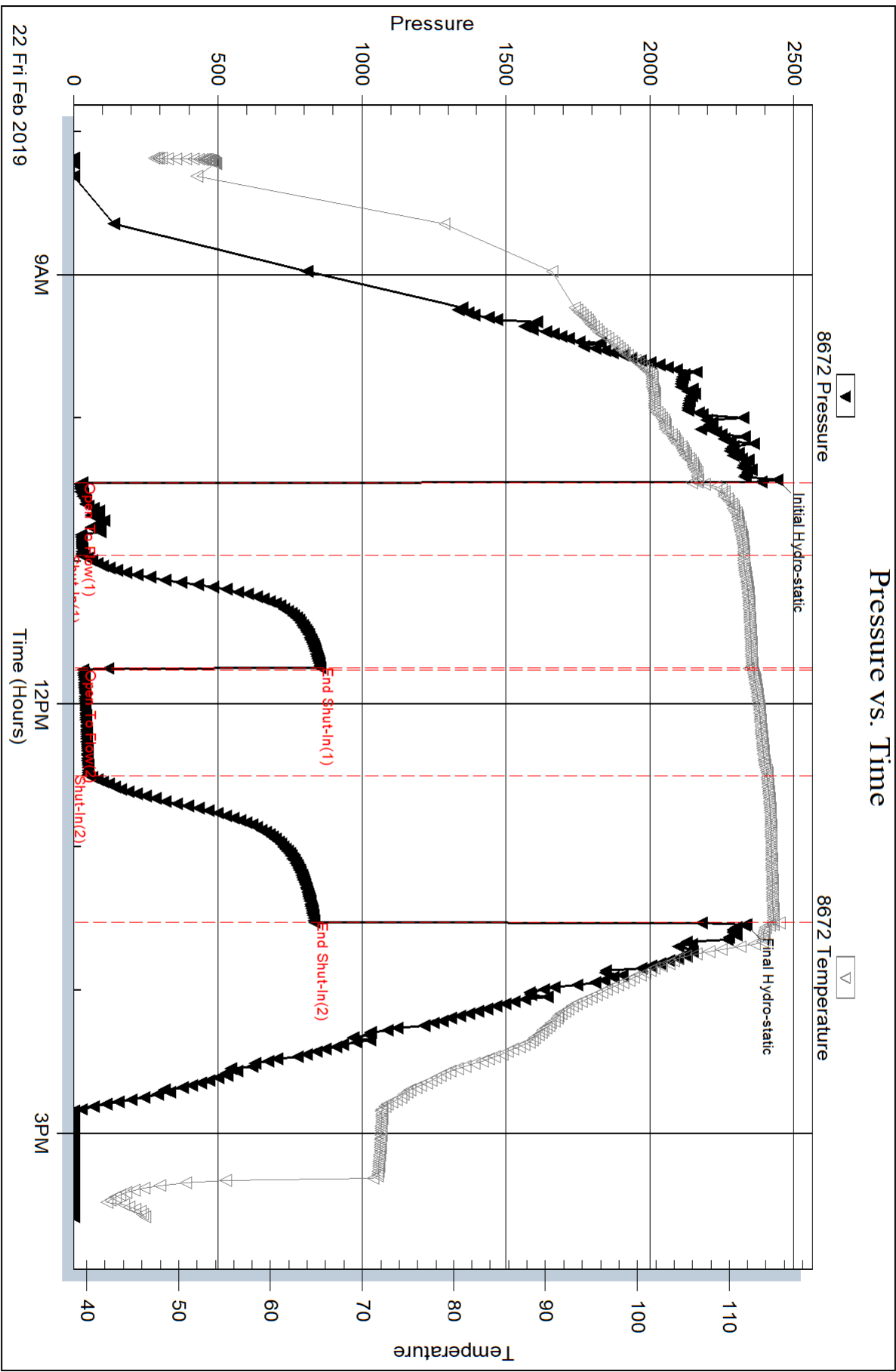
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW was .24 @ 45 degrees



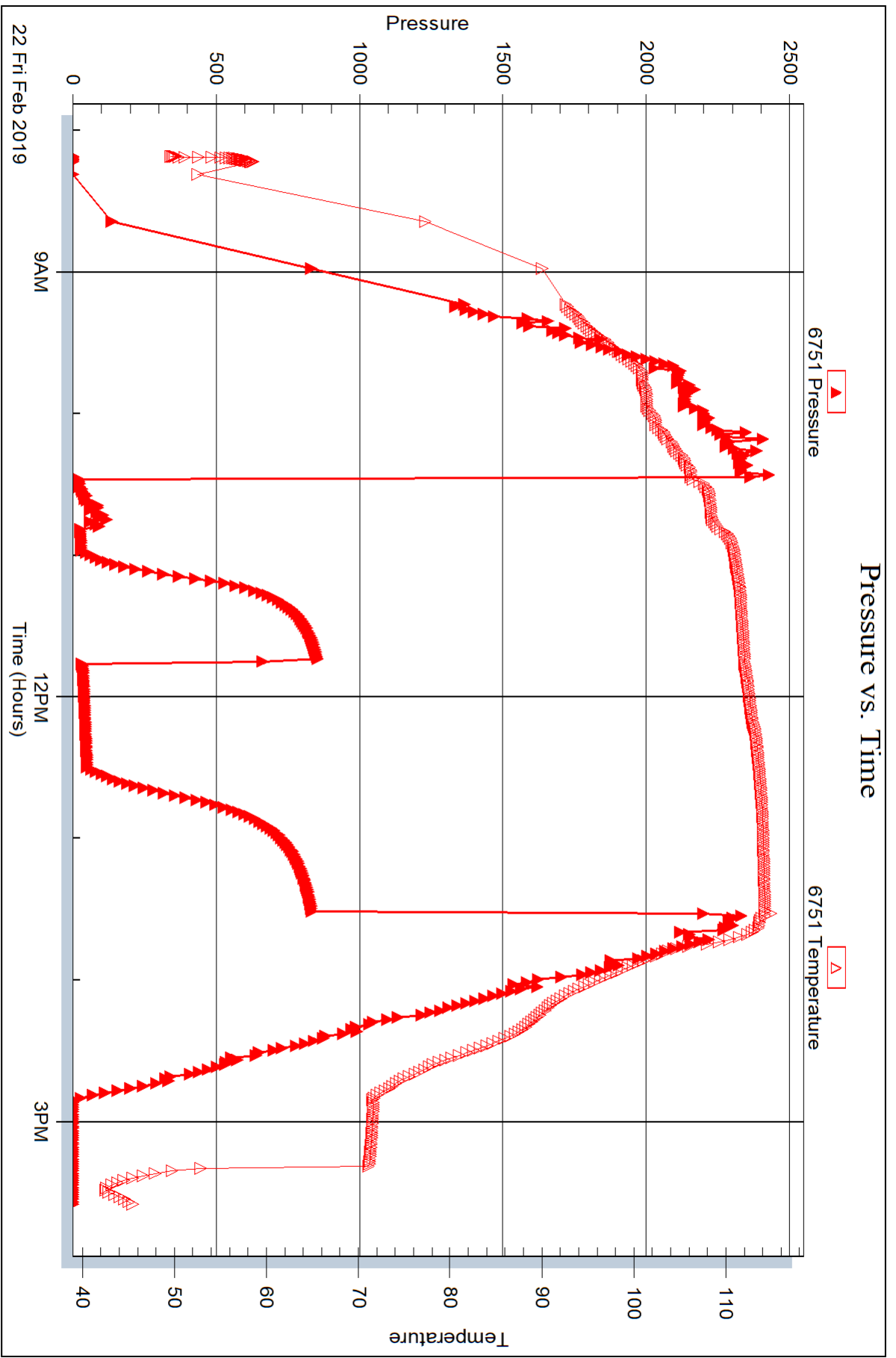


Serial #: 6751

Outside Ritchie Exploration

KSR-Schneuw eis #1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700  
Wichita, KS 67278

ATTN: John Goldsmith

### **KSR-Schneweis #1**

### **12-27S-24W Ford,KS**

Start Date: 2019.02.23 @ 11:30:00

End Date: 2019.02.23 @ 18:40:02

Job Ticket #: 64951                      DST #: 2

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

Printed: 2019.02.27 @ 11:54:31

Ritchie Exploration  
12-27S-24W Ford,KS  
KSR-Schneweis #1  
DST # 2  
Huck  
2019.02.23



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration  
8100 E 22nd St N #700  
Wichita, KS 67278  
ATTN: John Goldsmith

**12-27S-24W Ford,KS**  
**KSR-Schneweis #1**  
Job Ticket: 64951      **DST#: 2**  
Test Start: 2019.02.23 @ 11:30:00

## GENERAL INFORMATION:

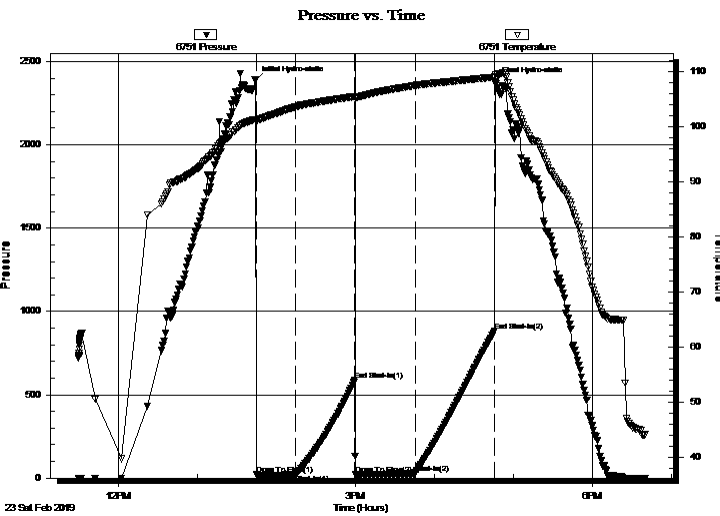
Formation: **Huck**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 13:45:02  
Time Test Ended: 18:40:02  
Interval: **4840.00 ft (KB) To 4918.00 ft (KB) (TVD)**  
Total Depth: 4918.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Leal Cason  
Unit No: 74  
Reference Elevations: 2440.00 ft (KB)  
2428.00 ft (CF)  
KB to GR/CF: 12.00 ft

## Serial #: 6751

Outside

Press@RunDepth: 27.06 psig @ 4841.00 ft (KB) Capacity: psig  
Start Date: 2019.02.23 End Date: 2019.02.23 Last Calib.: 2019.02.23  
Start Time: 11:30:01 End Time: 18:40:02 Time On Btm: 2019.02.23 @ 13:44:17  
Time Off Btm: 2019.02.23 @ 16:46:47

TEST COMMENT: IF: Fair Blow , BOB in 27 minutes, Built to 15"  
IS: No Blow Back  
FF: Strong Blow , BOB Immediate, Built to 61"  
FS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2387.06	101.41	Initial Hydro-static
1	20.45	101.04	Open To Flow (1)
31	21.16	103.68	Shut-In(1)
76	585.89	105.52	End Shut-In(1)
76	21.60	105.43	Open To Flow (2)
122	27.06	107.55	Shut-In(2)
182	882.42	109.11	End Shut-In(2)
183	2376.39	109.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	726 GIP	0.00
30.00	OCM 20%O 80%M	0.42

\* 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  
Wichita, KS 67278  
ATTN: John Goldsmith

**12-27S-24W Ford,KS**  
**KSR-Schneweis #1**  
Job Ticket: 64951      **DST#: 2**  
Test Start: 2019.02.23 @ 11:30:00

**Tool Information**

Drill Pipe:	Length: 4843.00 ft	Diameter: 3.80 inches	Volume: 67.93 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 67.93 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4840.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	78.00 ft			
Tool Length:	104.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			4819.00	
Hydraulic tool	5.00			4824.00	
Jars	5.00			4829.00	
Safety Joint	2.00			4831.00	
Packer	5.00			4836.00	26.00      Bottom Of Top Packer
Packer	4.00			4840.00	
Stubb	1.00			4841.00	
Recorder	0.00	8672	Inside	4841.00	
Recorder	0.00	6751	Outside	4841.00	
Perforations	3.00			4844.00	
Change Over Sub	1.00			4845.00	
Drill Pipe	63.00			4908.00	
Change Over Sub	2.00			4910.00	
perforations	5.00			4915.00	
Bullnose	3.00			4918.00	78.00      Bottom Packers & Anchor

**Total Tool Length: 104.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**12-27S-24W Ford,KS**

8100 E 22nd St N #700  
Wichita, KS 67278

**KSR-Schneweis #1**

Job Ticket: 64951

**DST#: 2**

ATTN: John Goldsmith

Test Start: 2019.02.23 @ 11:30:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7100.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	726 GIP	0.000
30.00	OCM 20%O 80%M	0.421

Total Length: 30.00 ft      Total Volume: 0.421 bbl

Num Fluid Samples: 0

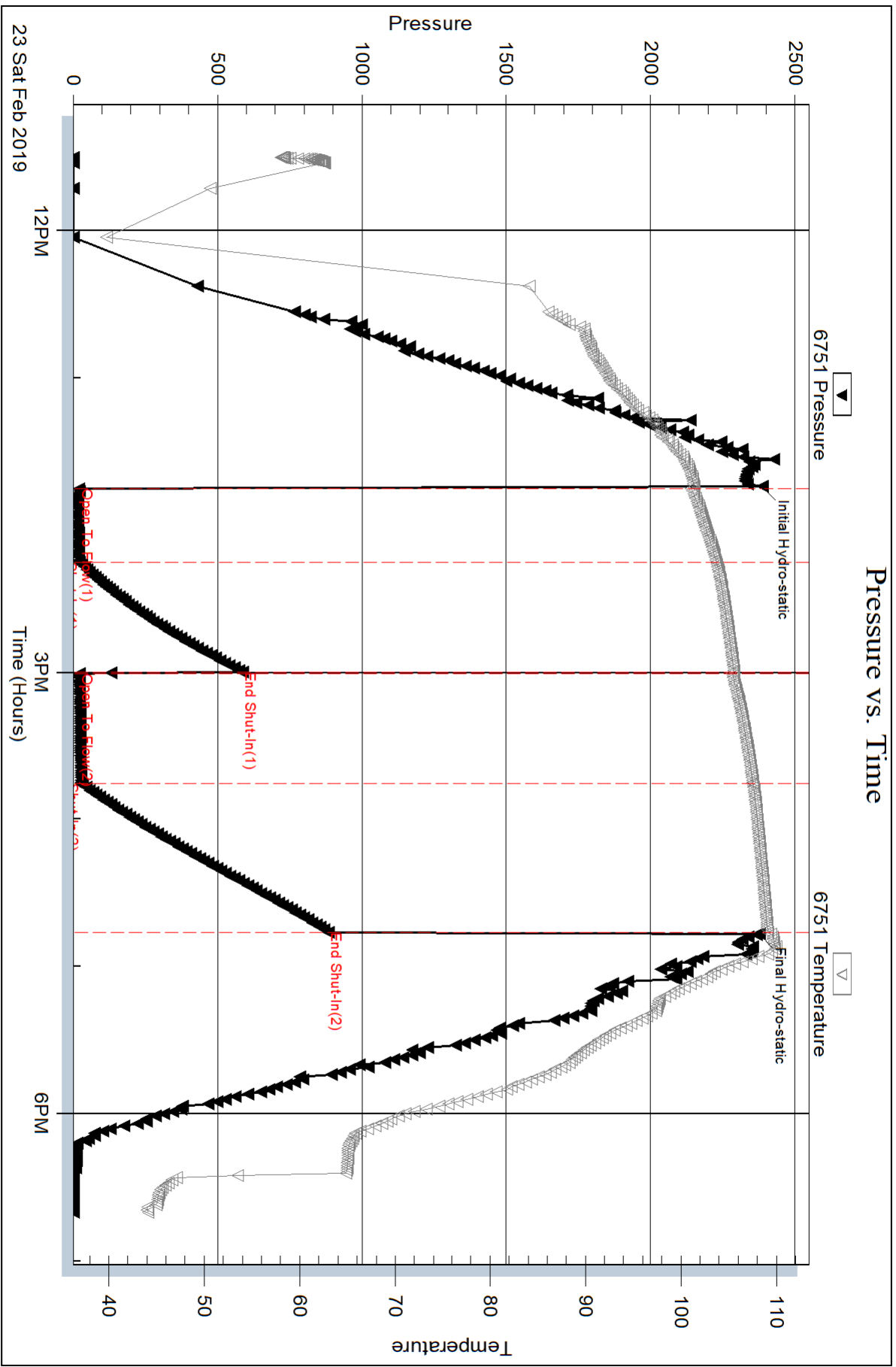
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





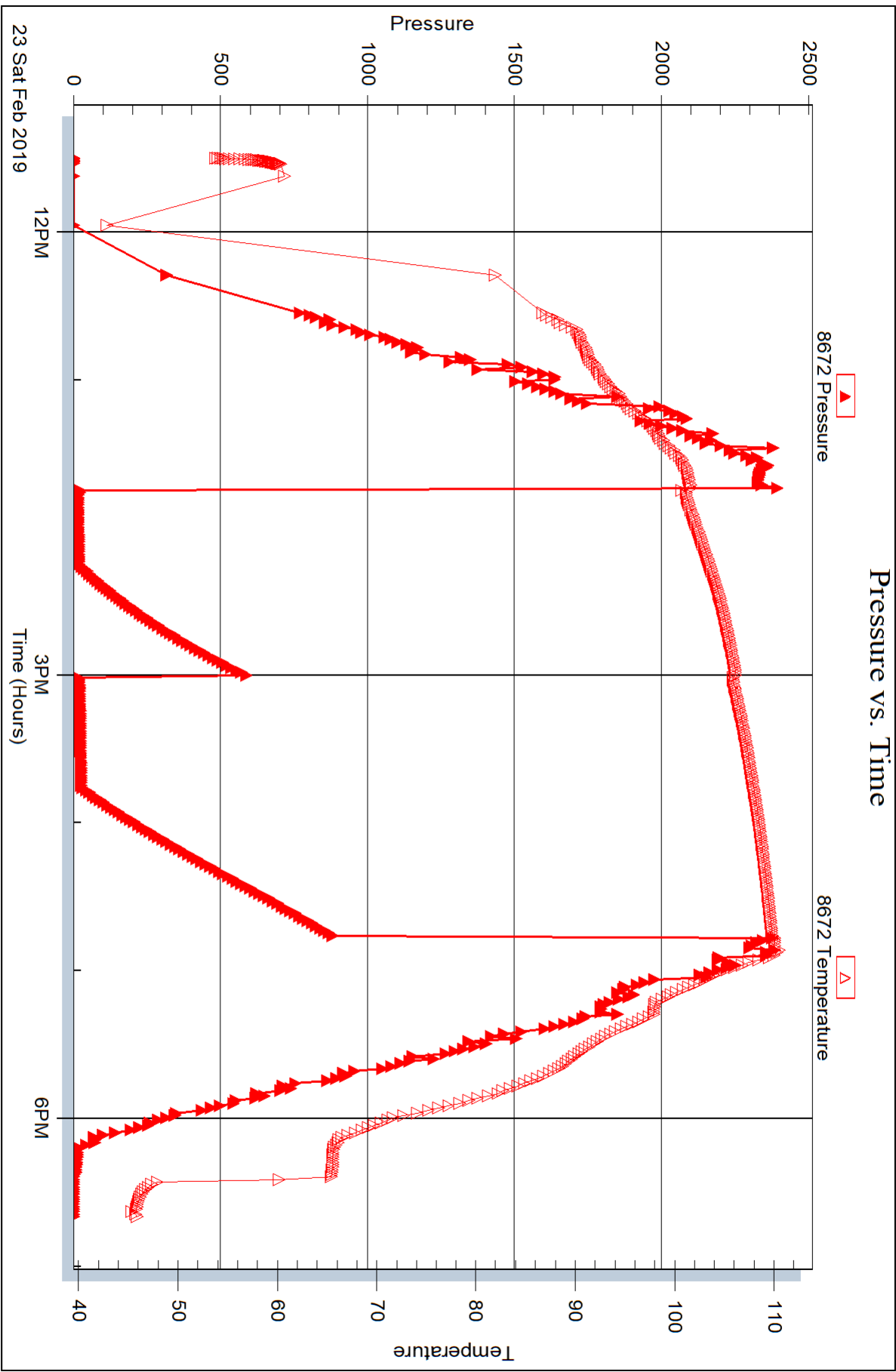
Serial #: 8672

Inside

Ritchie Exploration

KSR-Schnew eis #1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700  
Wichita, KS 67278

ATTN: John Goldsmith

### **KSR-Schneweis #1**

### **12-27S-24W Ford,KS**

Start Date: 2019.02.24 @ 04:36:00

End Date: 2019.02.24 @ 13:35:47

Job Ticket #: 64952                      DST #: 3

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

Printed: 2019.02.27 @ 09:35:09



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 E 22nd St N #700  
 Wichita, KS 67278  
 ATTN: John Goldsmith

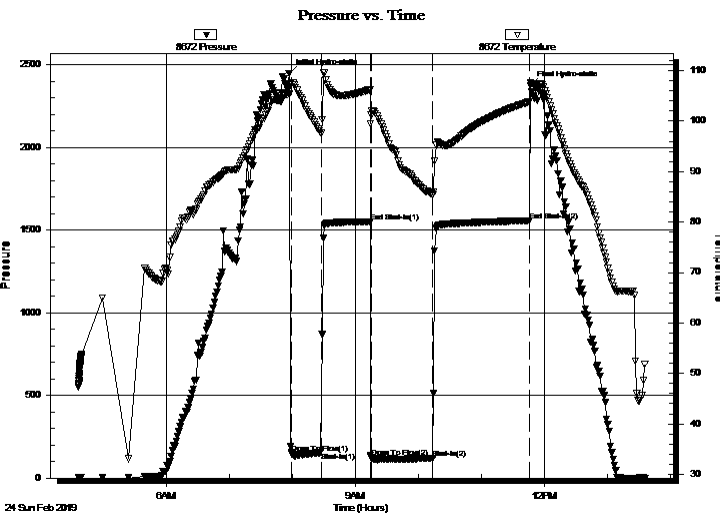
**12-27S-24W Ford,KS**  
**KSR-Schneweis #1**  
 Job Ticket: 64952      **DST#: 3**  
 Test Start: 2019.02.24 @ 04:36:00

## GENERAL INFORMATION:

Formation: **Morrow**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 07:58:32  
 Tester: Leal Cason  
 Time Test Ended: 13:35:47  
 Unit No: 74  
 Interval: **4908.00 ft (KB) To 4940.00 ft (KB) (TVD)**  
 Reference Elevations: 2440.00 ft (KB)  
 Total Depth: 4940.00 ft (KB) (TVD)  
 2428.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 12.00 ft

**Serial #: 8672      Inside**  
 Press@RunDepth: 120.59 psig @ 4909.00 ft (KB)      Capacity: psig  
 Start Date: 2019.02.24      End Date: 2019.02.24      Last Calib.: 2019.02.24  
 Start Time: 04:36:01      End Time: 13:35:47      Time On Btm: 2019.02.24 @ 07:56:32  
 Time Off Btm: 2019.02.24 @ 11:46:32

**TEST COMMENT:** IF: Strong Blow , BOB in 30 seconds, GTS in 7 minutes, Gauged & Caught Sample  
 IS: 3/4" Blow Back  
 FF: Strong Blow , BOB & GTS Immediate, Gauged Gas  
 FS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2448.47	105.35	Initial Hydro-static
2	152.93	107.62	Open To Flow (1)
31	154.75	97.61	Shut-In(1)
77	1550.88	106.20	End Shut-In(1)
78	124.20	101.15	Open To Flow (2)
137	120.59	85.46	Shut-In(2)
229	1556.54	103.86	End Shut-In(2)
231	2374.92	107.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
20.00	GCM 10%G 90%M	0.28

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	41.00	373.71
Last Gas Rate	0.75	23.00	584.18
Max. Gas Rate	0.50	58.00	488.39





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E 22nd St N #700  
Wichita, KS 67278  
ATTN: John Goldsmith

**12-27S-24W Ford,KS**  
**KSR-Schneweis #1**  
Job Ticket: 64952      **DST#: 3**  
Test Start: 2019.02.24 @ 04:36:00

**Tool Information**

Drill Pipe:	Length: 4906.00 ft	Diameter: 3.80 inches	Volume: 68.82 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 68.82 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4908.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			4887.00	
Hydraulic tool	5.00			4892.00	
Jars	5.00			4897.00	
Safety Joint	2.00			4899.00	
Packer	5.00			4904.00	26.00      Bottom Of Top Packer
Packer	4.00			4908.00	
Stubb	1.00			4909.00	
Recorder	0.00	8672	Inside	4909.00	
Recorder	0.00	6751	Outside	4909.00	
Perforations	28.00			4937.00	
Bullnose	3.00			4940.00	32.00      Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**12-27S-24W Ford,KS**

8100 E 22nd St N #700  
Wichita, KS 67278

**KSR-Schneweis #1**

Job Ticket: 64952

**DST#: 3**

ATTN: John Goldsmith

Test Start: 2019.02.24 @ 04:36:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3300.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
20.00	GCM 10%G 90%M	0.281

Total Length: 20.00 ft      Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Ritchie Exploration

**12-27S-24W Ford,KS**

8100 E 22nd St N #700  
Wichita, KS 67278

**KSR-Schneweis #1**

Job Ticket: 64952

**DST#: 3**

ATTN: John Goldsmith

Test Start: 2019.02.24 @ 04:36:00

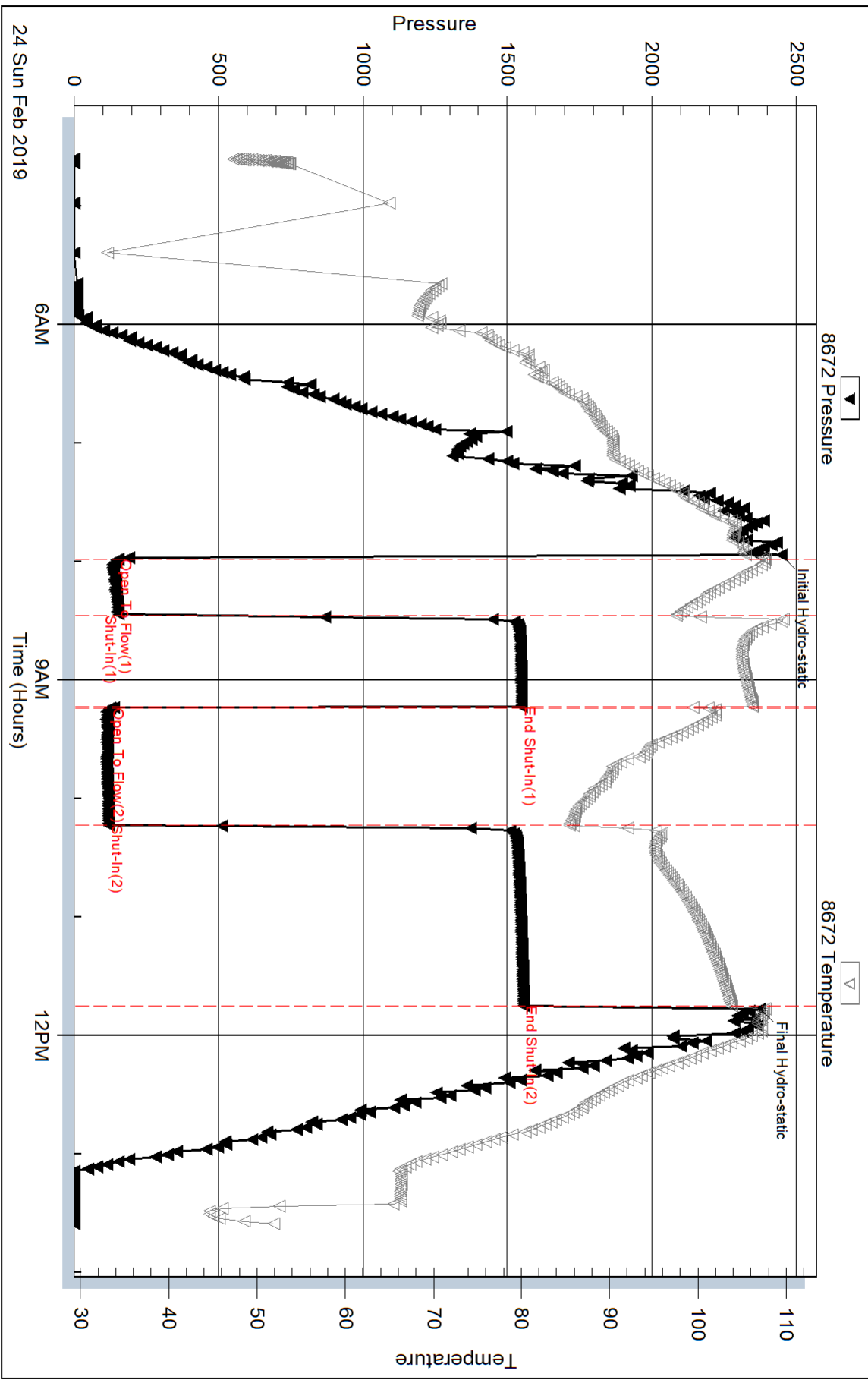
### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

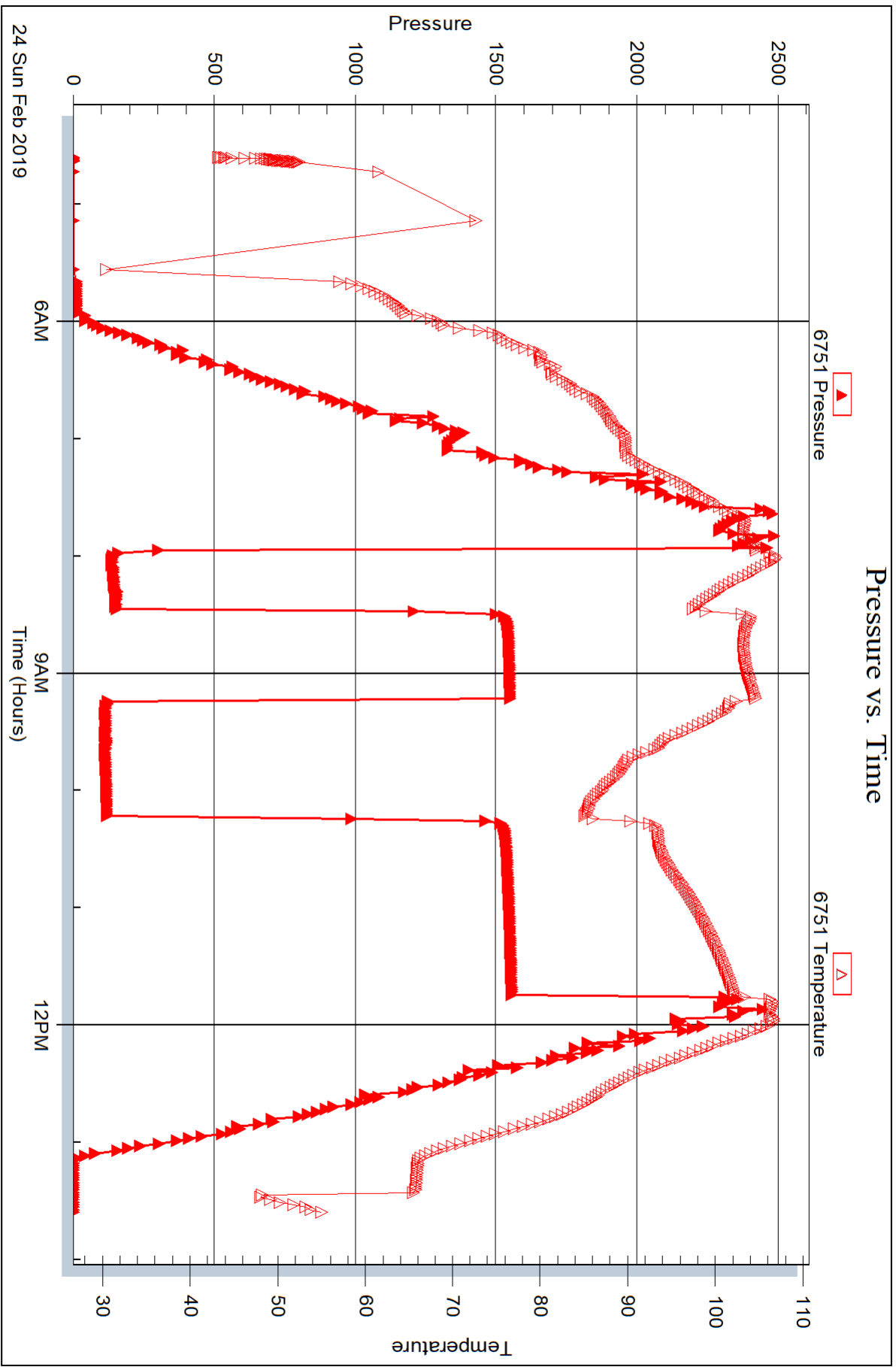
Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
-	10	0.50	41.00	373.71
1	20	0.50	52.00	447.91
1	30	0.50	58.00	488.39
2	10	0.75	20.00	537.32
2	20	0.75	20.00	537.32
2	30	0.75	21.00	552.94
2	40	0.75	22.00	568.56
2	50	0.75	23.00	584.18
2	60	0.75	23.00	584.18

### Pressure vs. Time









## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700  
Wichita, KS 67278

ATTN: John Goldsmith

### **KSR-Schneweis #1**

### **12-27S-24W Ford,KS**

Start Date: 2019.02.24 @ 21:00:00

End Date: 2019.02.25 @ 06:07:47

Job Ticket #: 64953                      DST #: 4

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

Printed: 2019.02.27 @ 11:31:26



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 E 22nd St N #700  
 Wichita, KS 67278  
 ATTN: John Goldsmith

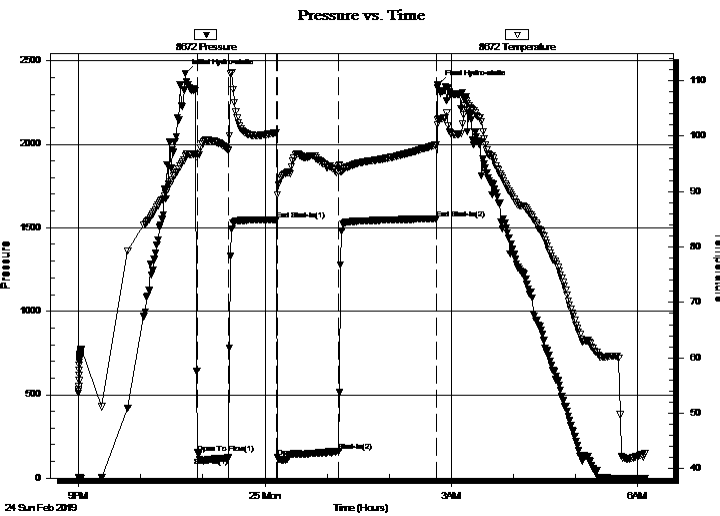
**12-27S-24W Ford,KS**  
**KSR-Schneweis #1**  
 Job Ticket: 64953 **DST#: 4**  
 Test Start: 2019.02.24 @ 21:00:00

## GENERAL INFORMATION:

Formation: **Morrow**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:55:17  
 Time Test Ended: 06:07:47  
 Interval: **4908.00 ft (KB) To 4952.00 ft (KB) (TVD)**  
 Total Depth: 4952.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 2440.00 ft (KB)  
 2428.00 ft (CF)  
 KB to GR/CF: 12.00 ft

**Serial #: 8672** **Inside**  
 Press@RunDepth: 161.47 psig @ 4909.00 ft (KB) Capacity: psig  
 Start Date: 2019.02.24 End Date: 2019.02.25 Last Calib.: 2019.02.25  
 Start Time: 21:00:01 End Time: 06:07:47 Time On Btm: 2019.02.24 @ 22:43:02  
 Time Off Btm: 2019.02.25 @ 02:47:02

**TEST COMMENT:** IF: Strong Blow , BOB in 30 seconds, GTS in 5 minutes, Gauged Gas  
 IS: No Blow Back  
 FF: Strong Blow , BOB & GTS Immediate, Gauged Gas  
 FS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2424.67	96.36	Initial Hydro-static
13	151.03	96.68	Open To Flow (1)
42	122.13	97.42	Shut-In(1)
88	1548.37	100.63	End Shut-In(1)
89	124.70	89.45	Open To Flow (2)
149	161.47	94.56	Shut-In(2)
243	1553.95	98.50	End Shut-In(2)
244	2358.86	102.86	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
102.00	GOCM 10%G 10%O 80%M	1.43

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	23.00	252.29
Last Gas Rate	0.63	16.00	325.30
Max. Gas Rate	0.50	33.00	319.75





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration  
8100 E 22nd St N #700  
Wichita, KS 67278  
ATTN: John Goldsmith

**12-27S-24W Ford,KS**  
**KSR-Schneweis #1**  
Job Ticket: 64953      **DST#: 4**  
Test Start: 2019.02.24 @ 21:00:00

### Tool Information

Drill Pipe:	Length: 4906.00 ft	Diameter: 3.80 inches	Volume: 68.82 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 68.82 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4908.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			4887.00	
Hydraulic tool	5.00			4892.00	
Jars	5.00			4897.00	
Safety Joint	2.00			4899.00	
Packer	5.00			4904.00	26.00      Bottom Of Top Packer
Packer	4.00			4908.00	
Stubb	1.00			4909.00	
Recorder	0.00	8672	Inside	4909.00	
Recorder	0.00	6751	Outside	4909.00	
Perforations	5.00			4914.00	
Change Over Sub	1.00			4915.00	
Drill Pipe	32.00			4947.00	
Change Over Sub	2.00			4949.00	
Bullnose	3.00			4952.00	44.00      Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**12-27S-24W Ford,KS**

8100 E 22nd St N #700  
Wichita, KS 67278

**KSR-Schneweis #1**

Job Ticket: 64953

**DST#: 4**

ATTN: John Goldsmith

Test Start: 2019.02.24 @ 21:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4150.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
102.00	GOCM 10%G 10%O 80%M	1.431

Total Length: 102.00 ft      Total Volume: 1.431 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Ritchie Exploration

**12-27S-24W Ford,KS**

8100 E 22nd St N #700  
Wichita, KS 67278

**KSR-Schneweis #1**

Job Ticket: 64953

**DST#: 4**

ATTN: John Goldsmith

Test Start: 2019.02.24 @ 21:00:00

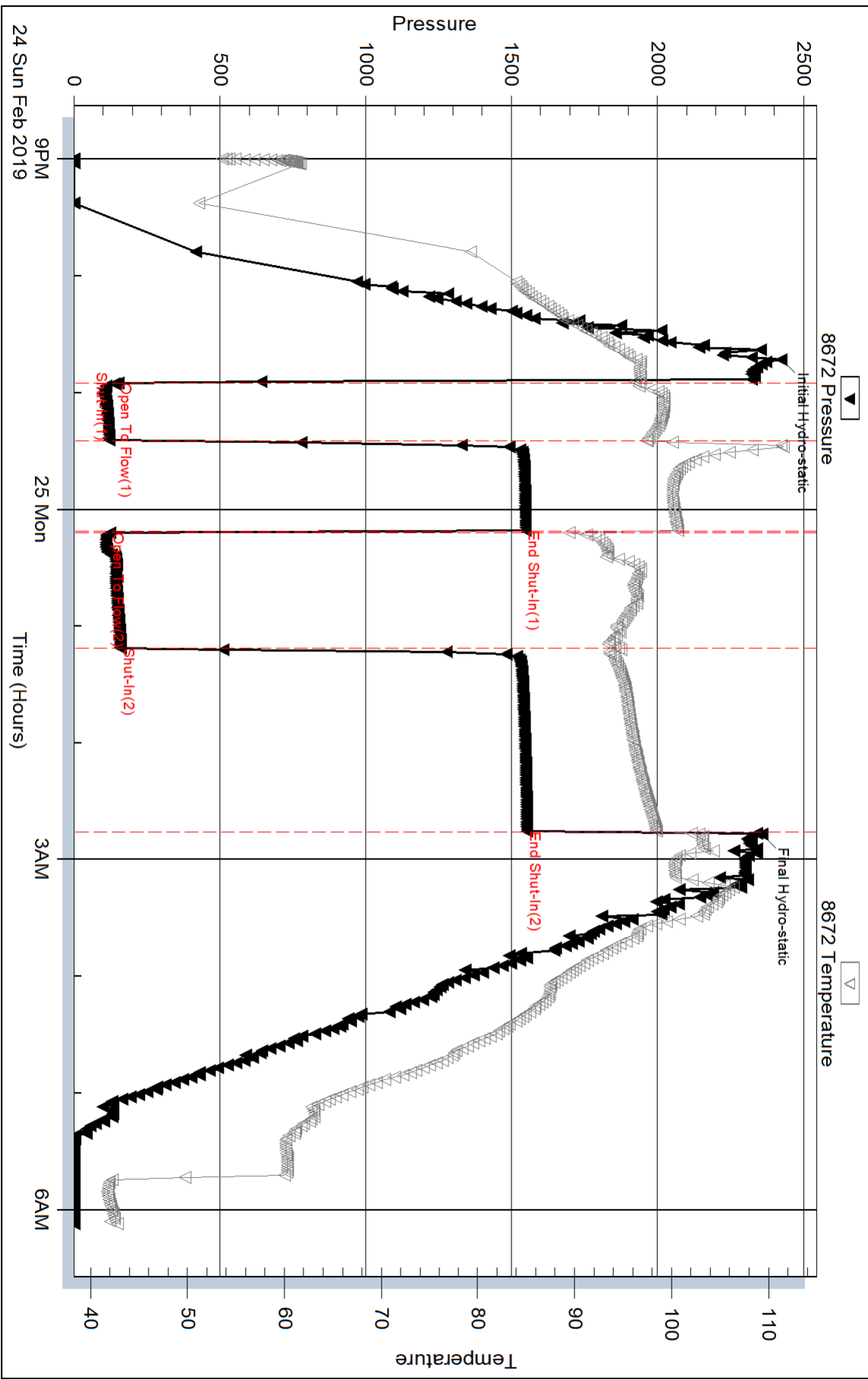
### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

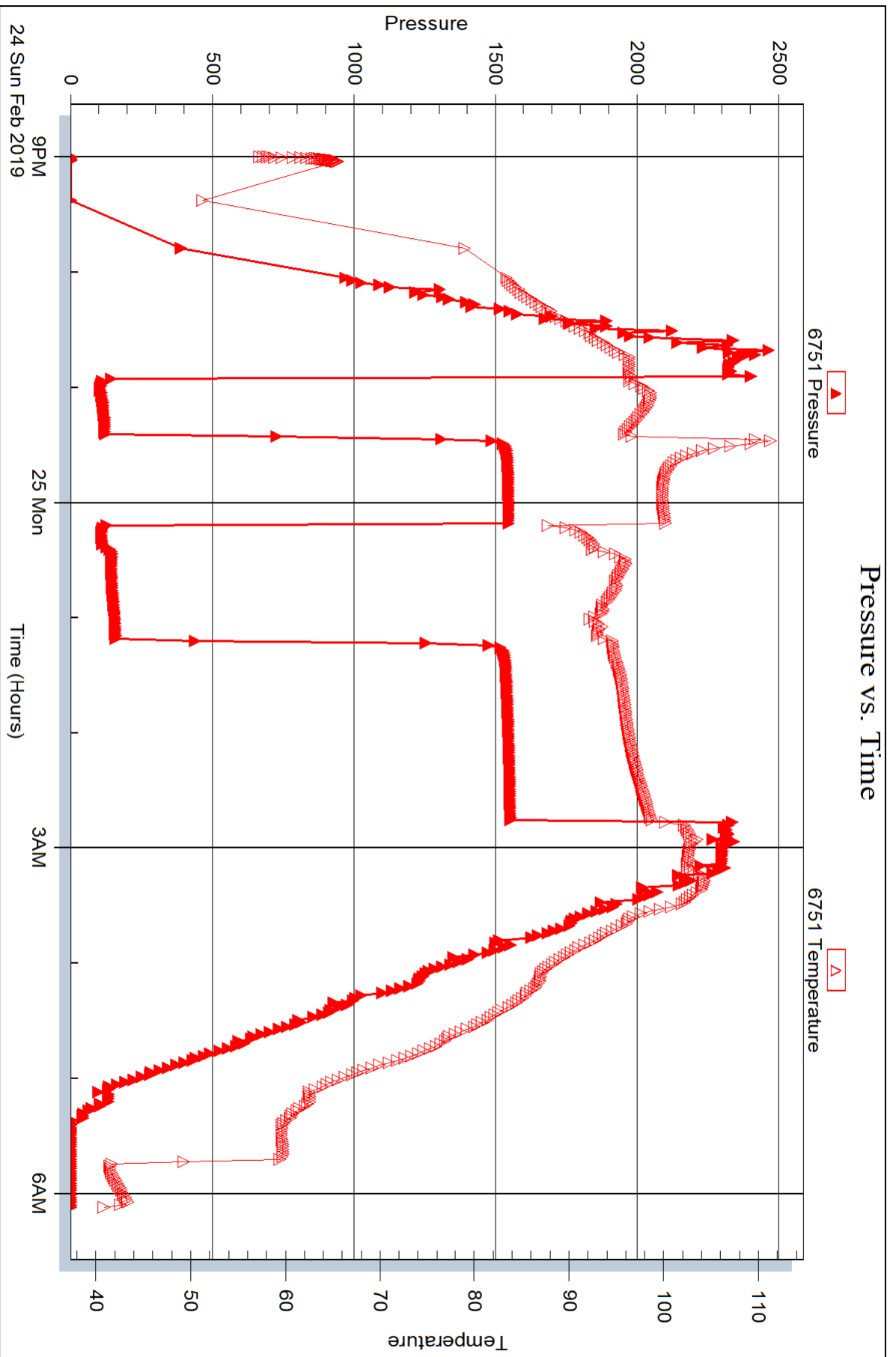
Gas Rates Table

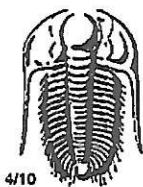
Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	10	0.50	23.00	252.29
1	20	0.50	30.00	299.51
1	30	0.50	33.00	319.75
2	10	0.63	14.00	303.90
2	20	0.63	14.00	303.90
2	30	0.63	15.00	314.60
2	40	0.63	15.00	314.60
2	50	0.63	16.00	325.30
2	60	0.63	16.00	325.30

### Pressure vs. Time









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64900

Well Name & No. 1 KSR - Schneeweis Test No. 1 Date 02/22/19  
 Company Ritchie Exploration Elevation 2440 KB 2428 GL  
 Address 8100 E 22nd St N #700 Wichita, KS 67278  
 Co. Rep / Geo. John Goldsmith Rig Duke 1  
 Location: Sec. 12 Twp 27S Rge. 24W Co. Ford State KS

Interval Tested 4766 - 4790 Zone Tested Pawnee  
 Anchor Length 24 Drill Pipe Run 4749 Mud Wt. 9.2  
 Top Packer Depth 4761 Drill Collars Run 0 Vis 48  
 Bottom Packer Depth 4766 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4790 Chlorides 5800 ppm System LCM 2 1/2

Blow Description IF: Fair Blow, BOB in 24 minutes, Built to 16 1/2 inches

ESI: NO Blow Back

FF: Strong Blow, BOB in 5 minutes, Built to 50 inches

FSI: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>GIP</u>				
<u>90</u>	<u>GMOCW</u>	<u>20</u>	<u>20</u>	<u>46</u>	<u>14</u>
Rec Total	<u>90</u>				

BHT 115 Gravity N/C API RW .24 @ 45° F Chlorides 48000 ppm

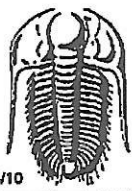
(A) Initial Hydrostatic 2442  Test 1300 T-On Location 07:15  
 (B) First Initial Flow 29  Jars 250 T-Started 08:11  
 (C) First Final Flow 30  Safety Joint 75 T-Open 10:27  
 (D) Initial Shut-In 854  Circ Sub \_\_\_\_\_ T-Pulled 13:31  
 (E) Second Initial Flow 32  Hourly Standby \_\_\_\_\_ T-Out 15:35  
 (F) Second Final Flow 52  Mileage 150 150 Comments \_\_\_\_\_  
 (G) Final Shut-In 835  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2334  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1775

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

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

Approved By [Signature] 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. 64951

Well Name & No. 1 KSR - Schneeweis Test No. 2 Date 02/23/19  
 Company Ritchie Exploration Elevation 2440 KB 2428 GL  
 Address 8100 E 22nd St N #700 Wichita, KS 67278  
 Co. Rep/Geo. John Goldsmith Rig Duke 1  
 Location: Sec. 12 Twp 27S Rge. 24W Co. Ford State KS

Interval Tested 4840 - 4918 Zone Tested Huck  
 Anchor Length 78 Drill Pipe Run 4843 Mud Wt. 9.15  
 Top Packer Depth 4835 Drill Collars Run 0 Vis 50  
 Bottom Packer Depth 4840 Wt. Pipe Run 0 WL 9.2  
 Total Depth 4918 Chlorides 7100 ppm System LCM 2

Blow Description IF: Fair Blow, BOB in 27 minutes, Built to 15 inches  
IS: NO Blow Back  
FF: Strong Blow, BOB Immediate, Built to 61 inches  
FS: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>726</u>	<u>GIP</u>				
<u>30</u>	<u>OCM</u>		<u>20</u>		<u>80</u>

Rec Total 30 BHT 110 Gravity NIC API RW NK @ NK °F Chlorides NIC ppm

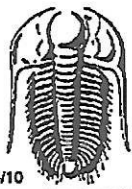
(A) Initial Hydrostatic 2387  Test 1300 T-On Location 11:00  
 (B) First Initial Flow 20  Jars 250 T-Started 11:30  
 (C) First Final Flow 21  Safety Joint 75 T-Open 13:45  
 (D) Initial Shut-In 586  Circ Sub \_\_\_\_\_ T-Pulled 16:46  
 (E) Second Initial Flow 22  Hourly Standby \_\_\_\_\_ T-Out 18:40  
 (F) Second Final Flow 27  Mileage 150 150 Comments \_\_\_\_\_  
 (G) Final Shut-In 882  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2376  Straddle \_\_\_\_\_

EM Tool \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 60  
 Sub Total 0  
 Total 1775  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64952

Well Name & No. LKSR - Schneeweis Test No. 3 Date 02/24/19  
 Company Ritchie Exporation Elevation 2440 KB 2428 GL  
 Address 8100 E 22nd ST N. # 700 Wichita, KS 67278  
 Co. Rep / Geo. John Goldsmith Rig Duke 1  
 Location: Sec. 12 Twp 27S Rge. 24W Co. Ford State KS

Interval Tested 4908 - 4940 Zone Tested Morrow  
 Anchor Length 32 Drill Pipe Run 4906 Mud Wt. 9.25  
 Top Packer Depth 4903 Drill Collars Run 0 Vis 48  
 Bottom Packer Depth 4908 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4940 Chlorides 3300 ppm System LCM 2

Blow Description JF: Strong Blow, BOB in 30 seconds, GTS in 7 minutes, gauged & caught  
JSI: 3/4 inch Blow Back  
FK: Strong Blow, BOB + GTS Immediate, gauged Gas  
FSI: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>4886</u>	<u>GIP</u>				
<u>20</u>	<u>GCM</u>	<u>10%</u>			<u>90%</u>

Rec Total 20 BHT 110 Gravity NIC API RW NIC @ NIC F Chlorides NIC ppm

(A) Initial Hydrostatic	<u>2448</u>
(B) First Initial Flow	<u>153</u>
(C) First Final Flow	<u>155</u>
(D) Initial Shut-In	<u>1551</u>
(E) Second Initial Flow	<u>124</u>
(F) Second Final Flow	<u>121</u>
(G) Final Shut-In	<u>1556</u>
(H) Final Hydrostatic	<u>2375</u>

- Test 1300
- Jars 250
- Safety Joint 75
- Circ Sub
- Hourly Standby
- Mileage 150 150
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1775

T-On Location 03:45  
 T-Started 04:36  
 T-Open 07:58  
 T-Pulled 11:45  
 T-Out 13:35  
 Comments \_\_\_\_\_  
 EM Tool  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1775  
 MP/DST Disc't \_\_\_\_\_

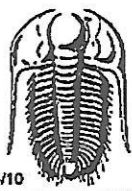
Initial Open 30  
 Initial Shut-In 45  
 Final Flow 60  
 Final Shut-In 90

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64953

Well Name & No. 1 KSR-Schneeweis Test No. 4 Date 02/24/19  
 Company Ritchie Exploration Elevation 2440 KB 2428 GL  
 Address 3100 E 22 ST N # 700 Wichita, KS 67278  
 Co. Rep / Geo. John Goldsmith Rig Duke 1  
 Location: Sec. 12 Twp 27S Rge. 24W Co. Ford State Ks

Interval Tested 4908 - 4952 Zone Tested Morrow  
 Anchor Length 44 Drill Pipe Run 4906 Mud Wt. 9.1  
 Top Packer Depth 4903 Drill Collars Run 0 Vis 49  
 Bottom Packer Depth 4908 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4952 Chlorides 4150 ppm System LCM 2

Blow Description FF: strong Blow, BOB in 30 seconds, GTS in 5 minutes, Gauged Gas  
FSI: NO Blow Back

FF: strong Blow, BOB & GTS immediate, Gauged Gas

FSI: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>4804</u>	<u>6FP</u>				
<u>102</u>	<u>60CM</u>	<u>10%</u>	<u>10%</u>	<u>80%</u>	

Rec Total 102 BHT 112 Gravity NIC API RW NIC @ NIC F Chlorides NIC ppm

(A) Initial Hydrostatic 2425  Test 1300 T-On Location 20:30  
 (B) First Initial Flow 151  Jars 250 T-Started 21:00  
 (C) First Final Flow 122  Safety Joint 75 T-Open 22:55  
 (D) Initial Shut-In 1548  Circ Sub T-Pulled 02:45  
 (E) Second Initial Flow 125  Hourly Standby T-Out 06:07  
 (F) Second Final Flow 161  Mileage 150 150 Comments \_\_\_\_\_  
 (G) Final Shut-In 1554  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2359  Straddle \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  
 Final Flow 60  Extra Recorder \_\_\_\_\_  
 Final Shut-In 90  Day Standby \_\_\_\_\_  
 Sub Total 1775  Accessibility \_\_\_\_\_  
 Sub Total 1775  EM Tool \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1775  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative [Signature]

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**#1 KSR-Schneweis**

1,197' FSL & 2,538' FWL

Section 12-27S-24W

Ford County, Kansas

API# 15-057-21005-0000

Elevation: GL: 2,428', KB: 2,440'

Sample Tops			Ref. Well
Anhydrite	1473	+967	+12
B/Anhydrite	1516	+924	+11
Stotler	3489	-1049	+7
Heebner	4144	-1704	+2
Toronto	4158	-1718	+5
Douglas	4202	-1762	+1
Brown Lime	4248	-1808	+2
Lansing	4260	-1820	-1
Muncie	4442	-2002	+7
Stark	4567	-2127	+11
Hush	4604	-2164	+12
BKC	4641	-2201	+13
Altamont	4701	-2261	+14
Pawnee	4772	-2332	+11
Ft. Scott	4813	-2373	+5
Cherokee	4823	-2383	+7
Huck	4900	-2460	+2
Morrow	4917	-2477	+3
Mississippian	4972	-2532	-22
RTD	5055	-2615	



# GLOBAL OIL FIELD SERVICES, LLC

0013388

REMIT TO 24 S. Lincoln  
Russell, KS 67665

SERVICE POINT: Russell, KS

DATE <u>2-15-19</u>	SEC <u>7</u>	TWP. <u>7</u>	RANGE <u>24</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>5:00 PM</u>
LEASE <u>KSA-Schroeder</u>	WELL # <u>1</u>	LOCATION <u>243-1797-111 on the HWY 100 access</u>		COUNTY <u>Ford</u>	STATE <u>KS</u>		
OLD OR NEW (CIRCLE ONE) <u>NEW</u>				<u>the Middle East</u>			

CONTRACTOR Duke Drilling Co Rg 1

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D.

CASING SIZE 8 1/2 DEPTH 352'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 25'

PERFS

DISPLACEMENT

OWNER Ritchie Exploration

CEMENT AMOUNT ORDERED 250 SB 80/20 3/4" GEL

EQUIPMENT

PUMP TRUCK CEMENTER Coaty

# 409 HELPER Tony

BULK TRUCK DRIVER Sean

# 411

BULK TRUCK DRIVER

#

COMMON @

POZMIX @

GEL @

CHLORIDE @

ASC @

HANDLING @

MILEAGE @

TOTAL

REMARKS:  
Rec 8pts of 8" casing + LPT - drilled to Rig  
1 Bulk cementation - drilled to truck pump  
2 sets of cement displaced to 24 hrs of the  
1 shot it.

Cement D.D. concrete to 8" surface

CHARGE TO: Ritchie Exploration

STREET

CITY STATE ZIP

Global Oil Field Services, LLC  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Mike Godfrey

SIGNATURE Mike Godfrey

SERVICE

DEPTH OF JOB

PUMP TRUCK CHARGE

EXTRA FOOTAGE @

MILEAGE @

MANIFOLD @

TOTAL

PLUG & FLOAT EQUIPMENT

@

@

@

@

TOTAL

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT

IF PAID IN 30 DAYS



**Services, Inc.**

TICKET 032087

CHARGE TO: Pittsview Exploration  
 ADDRESS \_\_\_\_\_  
 CITY, STATE, ZIP CODE \_\_\_\_\_

PAGE 1 OF 2

1. SERVICE LOCATIONS <u>Wells City, KS</u>	WELL/PROJECT NO. <u>21</u>	LEASE <u>KSR-Schneiders</u>	COUNTY/PARISH <u>FORD</u>	STATE <u>KS</u>	CITY <u>W. Roads Schneiders</u>	DATE <u>26 Feb 19</u>	OWNER <u>26 Feb 19</u>
2. TICKET TYPE <input type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR	RIG NAME/NO.	SHIPPED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	WELL PERMIT NO.	WELL LOCATION <u>Location</u>	ORDER NO.	
3. WELL TYPE <u>DUKES</u>	JOB PURPOSE <u>Development</u>						
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS <u>Bill</u>						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UNIT	UNIT PRICE	AMOUNT
		LOC	ACCT	DF						
575					TRR 114	50	mi	5.00	250.00	
578					Pump Charge	1	ea	1300.00	1300.00	
403					Conest Basket	4 1/2	in	250.00	500.00	
404					Foot Collar	4 1/2	in	2400.00	2400.00	
906					Latex down plug & bottle	4 1/2	in	225.00	225.00	
407					insect float shoe w/ photo file	4 1/2	in	300.00	300.00	
409					Turbolizers	4 1/2	in	70.00	420.00	

**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 [Signature]  
 DATE SIGNED 2/26/19 TIME SIGNED  AM.  P.M.

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

SURVEY				AGREE	UNDECIDED	DISAGREE	PAGE TOTAL
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?							5395.00
WE UNDERSTOOD AND MET YOUR NEEDS?							7501.38
OUR SERVICE WAS PERFORMED WITHOUT DELAY?							1289.64
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?							11606.94
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO					TAX
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND							712.01
TOTAL							12318.95

SWIFT OPERATOR [Signature] APPROVAL [Signature]  
 CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.  
 Thank You!



PO Box 466  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 32087

CUSTOMER Ritchie Exploration

WELL 158-Schwartz #1

DATE 26 Feb 19

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				UNIT PRICE	AMOUNT
		LOC	ACCT	DF			QTY	U/M	QTY	U/M		
325						STANDARD cement	250	SK			13.00	3250.00
283						salt	1300	lb			0.20	270.00
277						Gilsonite	1250	lb			0.85	1062.50
279						Benlate gel	500	lb	5	SK	30.00	150.00
292						Red 322	110	lb			8.00	880.00
281						MudFlush	500	gal			1.50	750.00
281						Kcl Liquid	2	gal			25.00	50.00
290						D-AIR	2	gal			42.00	84.00
581						SERVICE CHARGE					1.75	437.50
583						MILEAGE CHARGE					0.85	567.38
						TOTAL WEIGHT	26765	LOADS	30			
						TOTAL MILES	667.5					
CONTINUATION TOTAL												7501.38

JOB LOG

SWIFT Services, Inc.

DATE 26 Feb 19 PAGE NO. 1

CUSTOMER *Kitchie Exploration* WELL NO. *#1* LEASE *KSR-Schroeder's* JOB TYPE *Cement log string* TICKET NO. *32087*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								250 sk standard cement w/ Gel & Silsonite & salt 4 1/2" x 10.5" casing 5047' shot 21' TD = 5055 Port Collar #86 144' Baskets 86, 98 Turbolizes 1, 2, 5, 8, 85, 87
	1330							on loc TRK 114
	1550							start 4 1/2" x 10.5" casing in well
	1845							Drop ball - circulate
	1945	3	12				200	Pump 500 gal mud flush
		3	20				200	Pump 20 bbl KCl flush
	2000		7					Plug RH - AH <u>30sk</u> <u>20sk</u>
	2007	3 1/2	66				200	mix STD cement <u>200sk</u> @ 150ppg Drop latch down plug - wash pump & line
	2037	6 1/2					200	Displace plug
		5	75				850	
	2100	5	80				1500	Plug down
								Release pressure to truck - dried up
								wash truck
								Rack up
	2125							job complete
								Thanks
								Blaine, Flint & Squatch



Services, Inc.

TICKET 032091

CHARGE TO: P. F. Jones  
 ADDRESS \_\_\_\_\_  
 CITY, STATE, ZIP CODE \_\_\_\_\_

PAGE 1 OF 1

1. SERVICE LOCATIONS Wad City KS WELL/PROJECT NO. 21 LEASE KSR-Snowbirds COUNTY/PARISH FORD STATE KS CITY Dodge City DATE 5 MAR 19 OWNER \_\_\_\_\_  
 2. TICKET TYPE  SERVICE CONTRACTOR \_\_\_\_\_ RIG NAME/NO. 5 SHIPPED  DELIVERED  ORDER NO. \_\_\_\_\_  
 3. SALES \_\_\_\_\_ # 3 WELL CATEGORY Development JOB PURPOSE Removal post collar WELL PERMIT NO. \_\_\_\_\_  
 4. WELL TYPE D-1 INVOICE INSTRUCTIONS \_\_\_\_\_ WELL LOCATION 12-27-24

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575					TRK 114	50	mi				5.02	250.00
576D					Pump Charge	1	ea				1300.00	1300.00
329-8					60/40 post (8% gel)	225	sk				11.10	2497.50
276					Fluoride	50	lb				2.50	125.00
275					cotton seed hulls	1	sk				30.00	30.00
581					service charge	350	sk				1.75	612.50
583					Drayage	31095	lb				777.37/M	660.77

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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.

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

SURVEY	AGREE			DISAGREE	PAGE TOTAL
	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?					1020
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO			4988
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					182
TOTAL					5110

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

SWIFT OPERATOR \_\_\_\_\_

APPROVAL \_\_\_\_\_

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 5 MAR 19 PAGE NO. 1

CUSTOMER Ritchie WELL NO. #1 LEASE KSR-Schneidwes JOB TYPE cement part collar TICKET NO. 32091

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								350 sk 60/40 to 2 (800 gal) w/ 1/4" flocculants 2 3/8" x 4 1/2" part collars
	1030							on loc TRK 1/4
	1150					1100	1000	test to 1000 psi - hold open part collar
	1210	3 1/2	2			400		inj rate 3 1/2 bpm @ 400 psi
		3 1/2				400		mix 60/40 (80%) @ 123 ppm - add 1 bag hols - → cement to surface ← { 225 sk mixed 15 TOP }
		3 1/2	3			400		
		3 1/2	72			450		
		3 1/2	4 1/2			450		Displace 4 1/2 bbl H <sub>2</sub> O close part collar holding 1000 psi - 5 min Run 5 joints
	1251							Reverse hole clean - 2 cement flags - pull tool
	1300							
	1307		15					
	1318							
	1405		2			50	50	pressure 4 1/2 to 50 psi - shut in Pack up
	1415							job complete Thanks Blaine, F/it & Isaac

# **Wellsite Services, LLC**

**John Goldsmith**  
**(316) 640-0236**

**427 Roosevelt St.**  
**Cheney, KS 67025**

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

**Well Name: #1 KSR-Schneweis**  
**API: 15-057-21005**  
**Location: 1197' FSL & 2538' FWL, 12-27S-24W**  
**License Number: REI #4767**  
**Spud Date: 2/15/2019**  
**Surface Coordinates: LAT: 37.70912**  
**LONG: -99.897124**  
**Bottom Hole Vertical hole**  
**Coordinates: 1 Degree Deviation**  
**Ground Elevation (ft):2428'**  
**Logged Interval (ft):4000' To: RTD**  
**Formation: Mississippian at RTD**  
**Type of Drilling Fluid:Chemical**

**Region: Ford County**  
**Drilling Completed: 2/26/2019**  
**K.B. Elevation (ft): 2440'**  
**Total Depth (ft):5055'**

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

### **OPERATOR**

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

### **GEOLOGIST**

**Name: John Goldsmith**  
**Company: Wellsite Services, LLC**  
**Address: 427 Roosevelt St.**  
**Cheney, KS 67025**  
**(316) 640-0236**

### **COMMENTS**

**Contractor: Duke Drilling Rig #1**  
**Pusher: Mike Godfry (620) 786-1727**  
**Surface Casing: 8 joints of 8 5/8" set at 351'**  
**Production Casing: 4.5" Production Casing was installed.**  
**Mud by: MudCo**  
**DST's by: Trilobite Testing**  
**Logs by: Pioneer Wireline Services (DIL, CN-CD, ML, CS)**  
**RTD=5055'**  
**LTD=5056'**

**FORMATION TOPS**

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
B/Anhydrite	1517'	+923	1511'	+929
Stotler	3486'	-1046	3485'	-1045
Heebner Shale	4145'	-1705	4142'	-1702
Toronto	4163'	-1723	4161'	-1721
Douglas	4202'	-1762	4200'	-1760
Brown Lime	4248'	-1808	4248'	-1808
Lansing	4258'	-1818	4257'	-1817
Muncie Creek Shale	4442'	-2002	4441'	-2001
Stark Shale	4566'	-2126	4564'	-2124
Hushpuckney Shale	4604'	-2164	4600'	-2160
Base of KC	4638'	-2198	4637'	-2197
Altamont	4708'	-2268	4706'	-2266
Pawnee	4779'	-2339	4776'	-2336
Ft Scott	4809'	-2369	4807'	-2367
Cherokee Shale	4823'	-2383	4820'	-2380
Huck	4905'	-2465	4903'	-2463
Morrow	4917'	-2477	4916'	-2476
Mississippian	4973'	-2533	4973'	-2533
RTD	5055'	-2615		
LTD			5056'	-2616

**DSTs**

**DST #1: 4766'-4790' (Pawnee) 30-45-45-60**

**IF: Fr blw blt to BOB in 24" (No BB)**

**FF: Strg blw blt to BOB in 5min (No BB)**

**Rec: 300'GIP, 90' GMOCW**

**IF: 29-30# ISIP: 854# FF: 32-52# FSIP: 835#**

**DST #2: 4840'-4918' (Huck) 30-45-45-60**

**IF: Fr blw blt to BOB in 27min (No BB)**

**FF: Strg blw blt to BOB immediately (No BB)**

**Rec: 726'GIP, 30'OCM**

**IF: 20-21# ISIP: 586# FF: 22-27# FSIP: 882#**

**DST #3: 4908'-4940' (Mrw) 30-45-60-90**

**IF: Strg blw blt to BOB in 30sec (3/4" BB)**

**FF: Strg blw blt to BOB & GTS immediately (No BB)**

**Rec: 4886'GIP, 20'GCM, Gauged Gas**

**IF: 153-155# ISIP: 1551# FF: 124-121# FSIP: 1556#**

**DST #4: 4908'-4952' (Mrw #2) 30-45-60-90**

**IF: Strg blw blt to BOB in 30sec, GTS in 5min (No BB)**

**FF: Strg blw blt to BOB & GTS immediately (No BB)**


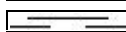
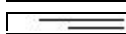
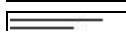
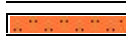
**Rec: 4804'GIP, 102'GOCM, Gauged Gas**

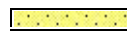


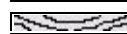

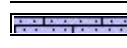
**IF: 151-122# ISIP: 1548# FF: 125-161# FSIP: 1554#**



### ROCK TYPES

-  Anhy
-  Cht
-  Coal
-  Congl
-  Dol
-  Gyp

-  Lmst
-  Salt
-  Shale
-  Shcol
-  Shgy
-  Slst





-  Ss
-  Carb sh
-  Dol
-  Dtd
-  Gry sh
-  Sandylms

-  Shlyslts
-  Sltysh
-  Sdy dolo
-  Silty dolo
-  Shy dolo
-  Shaly ls

### ACCESSORIES

#### FOSSIL





-  Brach
-  Bryozoa
-  Crin
-  Foram
-  Fossil
-  Gastro

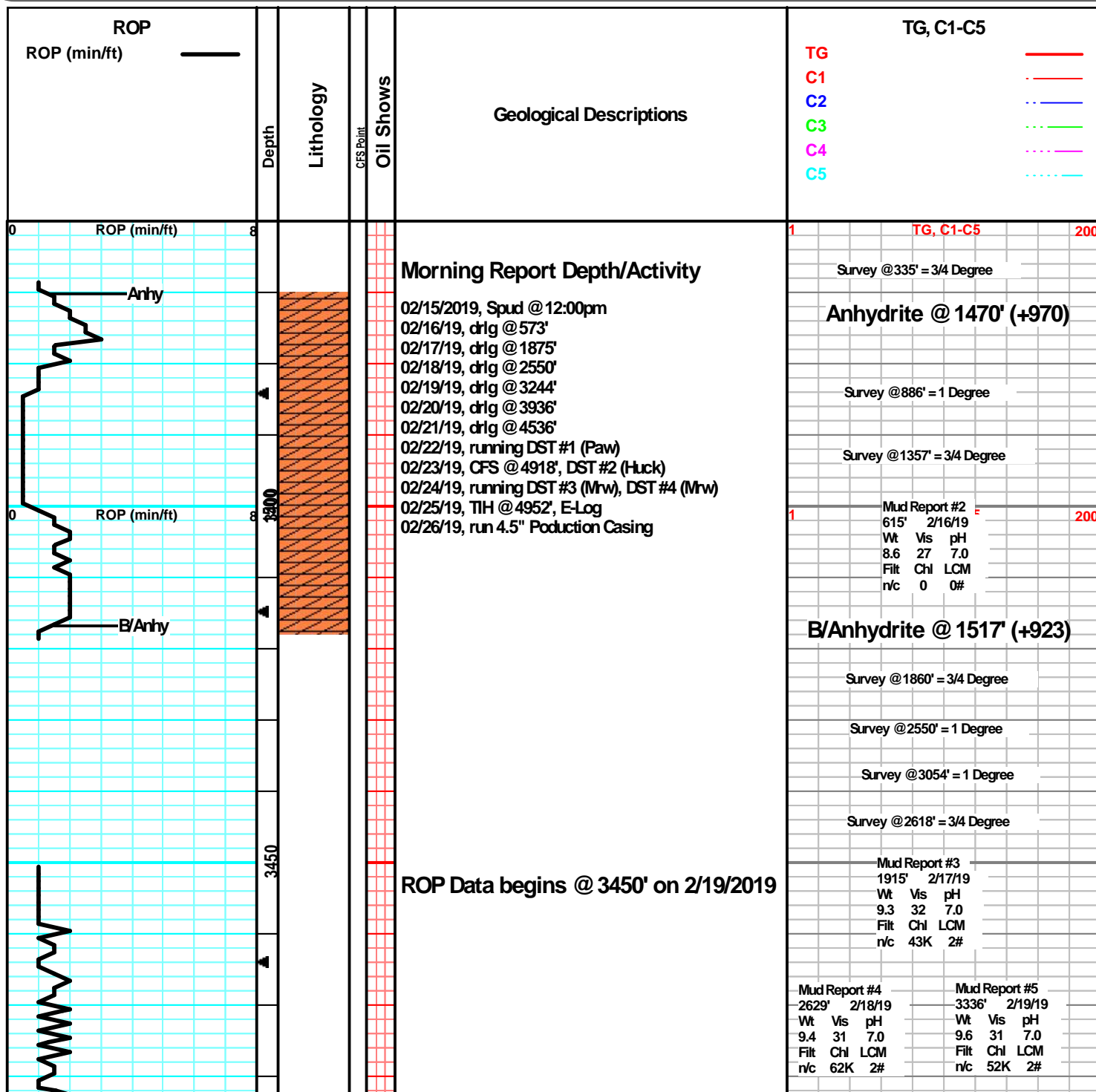
-  Oolite
-  Plant
-  Fuss
-  Oomold

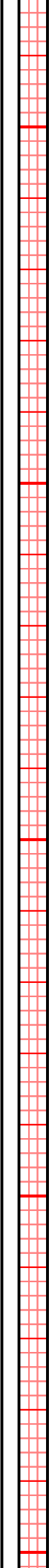
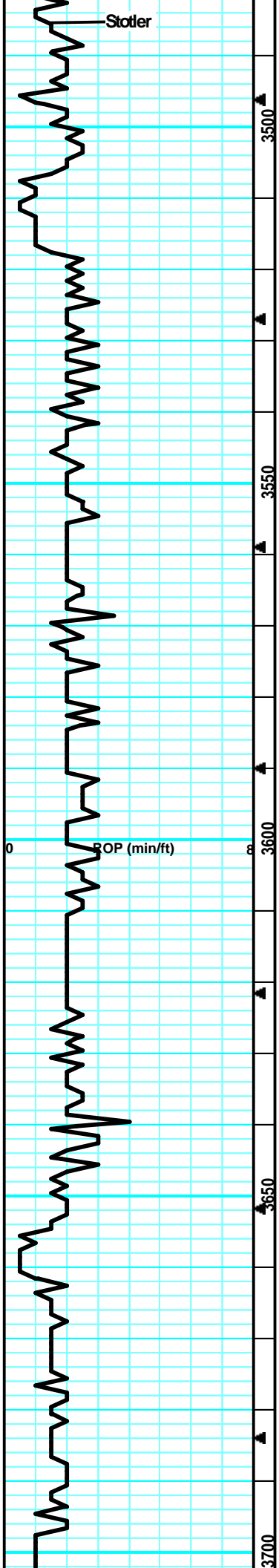
- #### MINERAL
-  Calc

-  Chtdk
-  Chtlt
-  Feldspar
-  Glau
-  Pyr
-  Sil

#### TEXTURE

-  Chalky
-  Crslxn
-  Finexln
-  Microxln

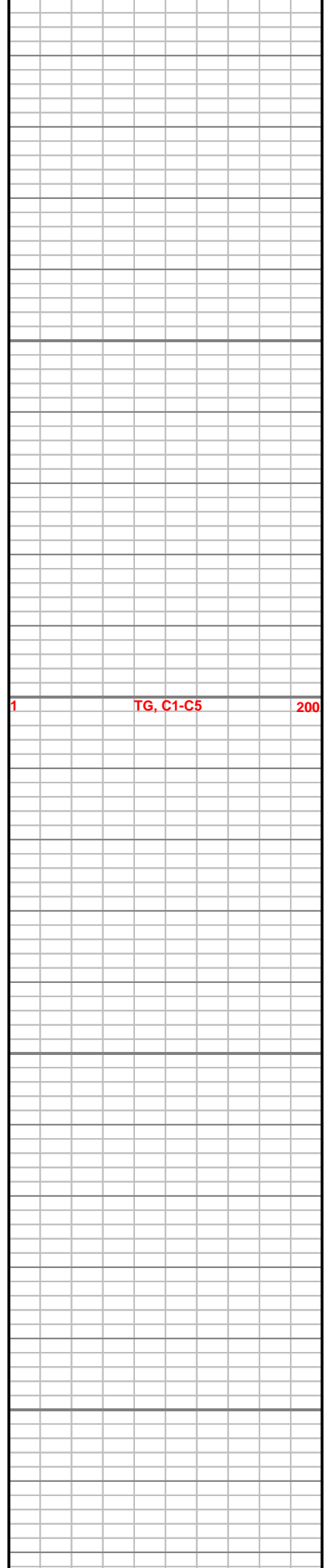
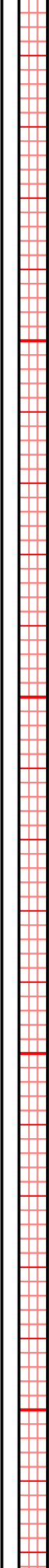
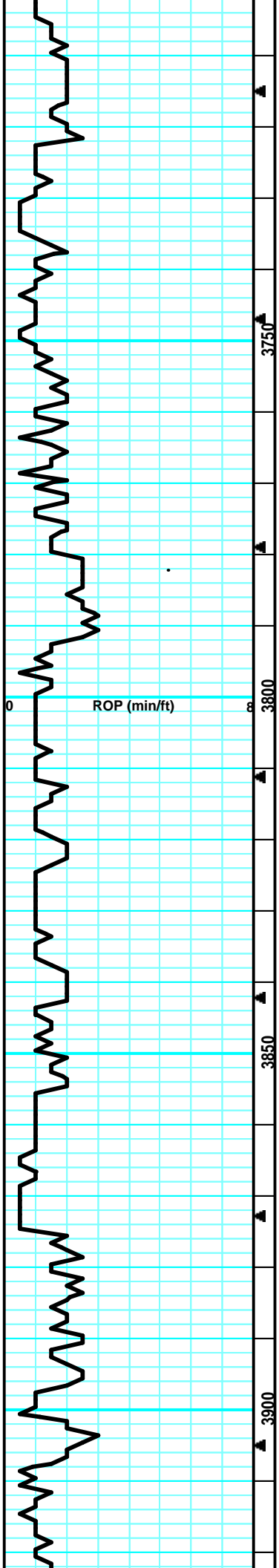


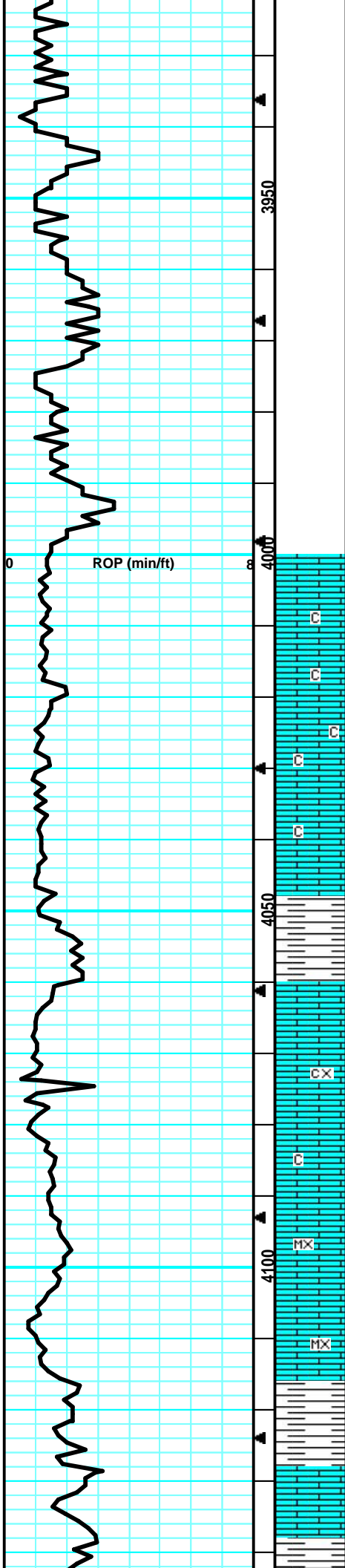


Stotler @ 3486' (-1049)

Began Mud-Displacement @ 3603' on 2/19/19

1 TG, C1-C5 200





Drill cutting samples at 10' intervals start at 4000'.

Mud Report #6  
 4004' 2/20/19  
 Wt Vis pH  
 8.9 48 10.5  
 Filt Chl LCM  
 8.8 3.3K 2#

LS: gry/tan, mott in prt, gritty, tr-nvp, abund pur chlk, no odr, ns.

Start Chromatograph @4000'

LS: tan, slight mott, grainy, fn-crs xln, brit, tr-pr intxn por, abund pur chlk, no odr, ns.

1 TG, C1-C5 200

Much of the same, infix SH: gry, silty, no odr, ns.

Getting Chromatograph Set

LS: lt gry/crm, sing, fn xln, brit, chlky, tr-pr intxn por, abund pur chlk, no odr, ns.

Much of the same.

Much of the same, infix SH: drk gry, silty, med crush, fw LS: drk gry, mott, fn xln, firm, tr-nvp, no odr, ns.

LS: gry/tan, sing, fn xln, sm dense, sm brit, tr-nvp, svrl SH: drk gry, silty, no odr, ns.

LS: gry/tan, sing, fn-crs xln, sm flakey, tr-pr intxn por in v fw, no odr, ns.

LS: gry/lt tan, slight mott, fn xln, sm brit, chlky, tr-nvp, abund pur chlk, no odr, ns.

LS: lt gry/lt tan, sing, micro-fn xln, chlky, brit, tr-nvp, abund pur chlk, no odr, ns.

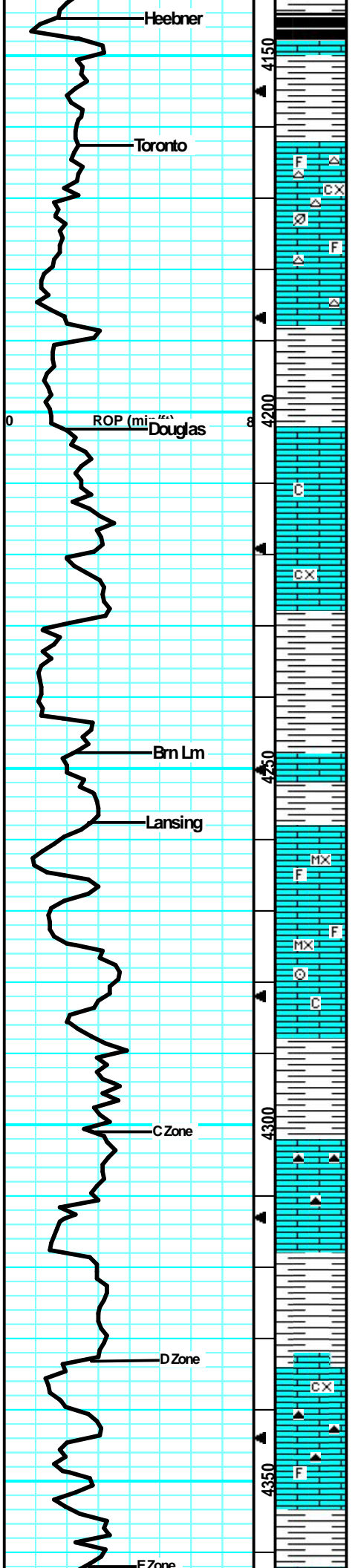
Much of the same w/ sm pr ppt intxn por, no odr, ns.

Much of the same as above, lrg infix SH: drk gry, silty, no odr, ns.

SH: drk gry/blk, silty, soft, sm carb, no odr, ns.

LS: gry/tan, mott, fn xln, firm, tr-nvp, no odr, ns.

Heebner @ 4145' (-1705)



SH: blk/drk gry, silty, mostly carb, soft, fw LS: gry/tan, mott, fn xln, firm, tr-nvp, no odr, ns.

SH: drk gry/blk, silty, soft, sm fissile, fw carb, no odr, ns.

LS: gry/lt gry, mott, fn-crX xln, fw foss frags, sm w/ grn-ish tint, pos glauc, tr-nvp, fw Chert: lt gry/wht, sharp, lrg amout of lght gry SH: slough from abv, no odr, ns.

Much of the same, cleaner sample less SH: slough, no odr, ns.

SH: lt gry/grn, silty, gritty, no odr, ns.

LS: tan/lt tan, slight mott, fn xln, sub-chlky, tr-nvp, abund SH: gry, soft, no odr, ns.

LS: tan/gry, mott, fn-crS xln, sm 2nd rxln, sm firm, tr-nvp, no odr, ns.

SH: gry/blu/grn, silty, gritty, sm soft, no odr, ns.

LS: tan/gry/lt brn, fn-crS xln, grainy, hard, tr-nvp, abund SH: gry/blu, silty, soft, no odr, ns.

SH: gry/drk gry, silty, soft, no odr, ns.

LS: tan/lt tan, sing, micro-fn xln, v fw foss frags, mostly brit, sub-chlky, tr-nvp, fw pcs pur chlK, no odr, ns.

LS: lt gry/lt tan, sing, micro-fn xln, fw foss frags/crin, dense, brit, fw pcs pur chlK, no odr, ns.

SH: gry/blu, silty, soft, no odr, ns.

LS: gry/tan, sing, fn xln, dense, tr-nvp, fw Chert: gry, sharp, no cup odr, ns.

LS: lt gry/lt tan, sing, fn xln, v soft, brit, chlky, tr-pr intxln por in sm, no cup odr, ns.

SH: gry/drk gry, silty, soft, no odr, ns.

LS: gry/tan/lt brn, mott, fn-crS xln, brit, sm flakey/mealy, tr-pr intxln pot in fw, fw Chert: drk gry, smokey, no cup odr, ns.

LS: tan/gry, slight mott, fn xln, fw foss frags, sm chlky/brit, tr-nvp, no cup odr, ns.

SH: gry, silty, sm gritty, no odr, ns.

Toronto @ 4163' (-1723)

Douglas @ 4202' (-1762)

200

Brown Lime @ 4248' (-1808)

Lansing @ 4258' (-1818)

ROP (mi) Douglas

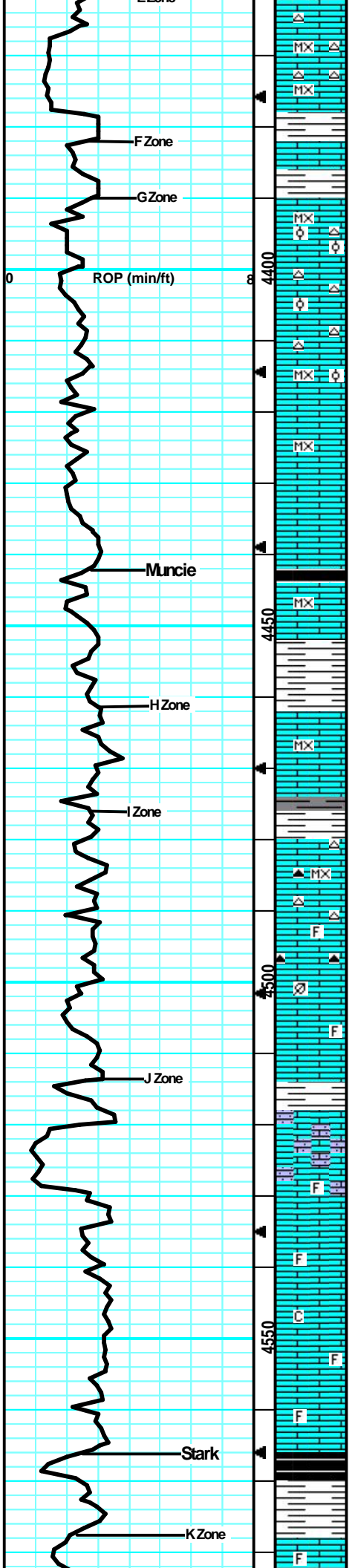
Brn Lm

Lansing

C Zone

D Zone

E Zone



LS: crm/lt tan, sing, micro-fn xln, brit, chlky, dense, tr-nvp, abund pur chlk, fw Chert: lt tan/wht/opaq, sharp, no odr, ns.

LS: lt tan, sing, micro-fn xln, dense, sm brity, tr-nvp, svrl pcs pur chlk, svrl SHt gry/drk gry, silty, no odr, ns.

LS: tan/lt tan, micro-fn xln, dense, brit, sub-chlky, fw ool, tr-nvp, sm Chert: lt gry/wht, sharp, no cup odr, ns.

Much of the same, more Chert: lt gry/wht, sharp, no odr, ns.

Much of the same.

LS: gry/tan, slight mott, fn xln, sub-chlky in prt, tr-nvp, influx SHt blk, silty, soft, carb, no odr, ns.

LS: tan/lt gry/lt brn, sing, micro-fn xln, dense, many firm, tr-nvp, abun SHt blk, carb, no odr, ns.

SHt gry/blu, silty, v soft, no odr, ns.

LS: tan/lt gry, sing, micro-fn xln, many dense, sm brit, sub-chlky in prt, tr-nvp, no odr, ns.

SHt blk, carb, sm v soft, no odr, ns.

LS: lt tan, sing, micro-fn xln, dense, sub-chlky, brit, tr-nvp, fw Chert: wht/opaq, sharp, no odr, ns.

LS: tan/lt tan, slight mott, fn xln, sm dense, hard, fw foss frags, sm Chert: tan/lt brn, foss, sharp, no odr, ns.

LS: tan/lt tan, slight mott, fn xln, fw foss frags, sm brit/sub-chlky, tr-nvp, no odr, ns.

LS: tan, sing, fn xln, grainy/sandy, fw foss frags, brit, sm friab, tr-pr intxln por, fw pcs pur chlk, no cup odr, ns.

LS: tan/lt gry, slight mott, fn xln, fw foss frags, dense, sm firm, tr-nvp, no odr, ns.

LS: tan/lt gry, slight mott, fn xln, fw foss frags, chlky, sm brit, tr-nvp, no odr, ns.

Much of the Same.

SHt blk/drk gry, silty, many carb & soft, no cup odr, ns.

LS: gry/lt tan, slight mott, fn xln, fw foss frags, fw

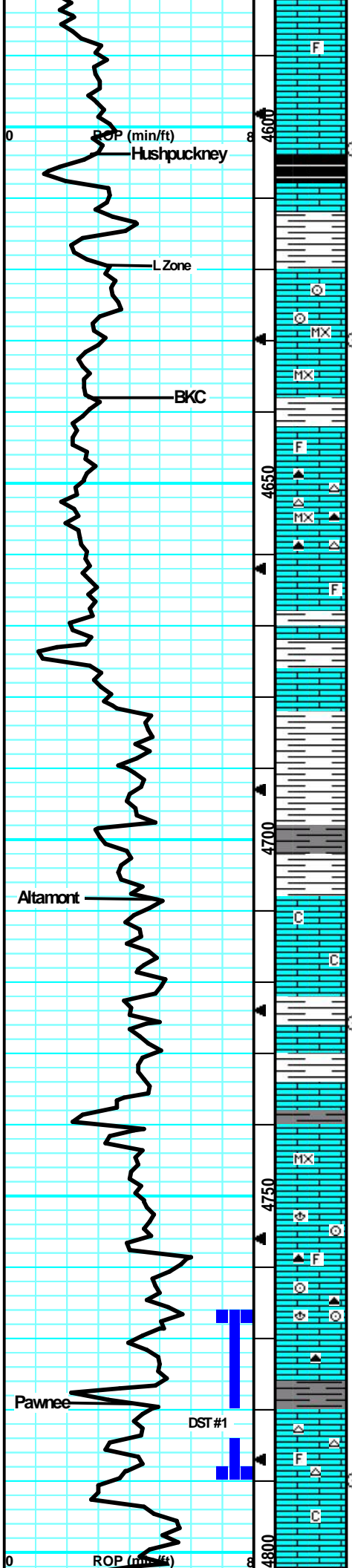
TG, C1-C5 200

**Muncie @ 4442' (-2002)**  
Shale Kick

**Stark @ 4566' (-2126)**  
Shale Kick

Mud Report #7  
4566' 2/21/19  
Wt Vis pH  
9.2 48 11.0





flakey/mealy, sm firm, tr-nvp, no odr, ns.

LS: gry/lt brn, sing, fn xln, dense, firm, fw hard tr-nvp, no odr, ns.

SH: blk, silty, soft, carb, no odr, ns.

LS: tan/lt brn/lt gry, mott in prt, fn xln, many flakey/mealy, firm, tr-nvp, svrl SH: gry/brn, silty, soft, no odr, ns.

LS: tan/lt gry, slight mott, micro-fn xln, fw crin stms/foss frags, sub-chlky in prt, fw flakey, tr-nvp, fw pcs pur chl, no odr, ns.

LS: tan/lt tan, micro-fn xln, dense, sm brit, sub-chlky in prt, tr-nvp, no odr, ns.

SH: gry/grn-blu, silty, sm waxy, svrl LS: lt tan/lt gry, slight mott, fn xln, fw foss frags, sub-chlky, tr-nvp, no odr, ns.

LS: lt tan, sing, micro-fn xln, dense, chlky, brit, tr-nvp, fw Chert: gry/wht, sharp, no odr, ns.

LS: gry/lt tan, mott, fn xln, fw foss frag, many flakey/mealy, fw sub-chlky, tr-nvp, no odr, ns.

LS: gry/lt brn, mott, fn xln, fw foss, dense, hard, tr-nvp, abund SH: drk gry, no odr, ns.

SH: drk gry/gry, silty, soft, fw LS: most likely slough from above.

Much of the same SH.

LS: gry, sing, fn xln, sub-chlky, tr-nvp, fw pcs pur chl, fw SH: drk gry, silty, no odr, ns.

LS: gry/tan, sing, fn xln, sub-chlky, dense, firm, tr-nvp, no cup odr, ns.

LS: gry, sing, fn xln, sub-chlky, dense, sm firm, tr-nvp, abund SH: drk gry/gry/brn, silty, no odr, ns.

SH: drk gry/blk, silty, fw carb, no odr, ns.

LS: tan/lt tan, sing, micro-fn xln, sm dense, mostly brit, sub-chlky in prt, tr-nvp, no odr, ns.

Much of the same. Fw pcs w/ fr amt foss, brach, crin stms, fw Chert: gry, foss, shrp, no odr, ns.

SH: drk gry, silty, soft, no odr, ns.

LS: tan, sing, micro-fn xln, dense, firm, tr-pr ppt intxln por on fw pcs, wk dul yel fluor incrs under heat, no sho free oil, fluor frm gas?, gd cup odr.

Much of the same, with infix Chert: wht/opaq, foss, sharp, only wk cup odr, nsfo.

LS: tan, sing, fn xln, dense, many firm, tr-nvp, abund SH: gry/drk gry/brn, silty, no odr, ns.

Hushpuckney @ 4604' (-2164)

CFS @ 4603' (30"/60") TG. C1-C5 200 Shale Kick

CFS @ 4630' (30"/60") Wiper Trip 25 Stands

BKC @ 4638' (-2198)

Altamont @ 4708' (-2268)

CFS @ 4726' (30"/60")

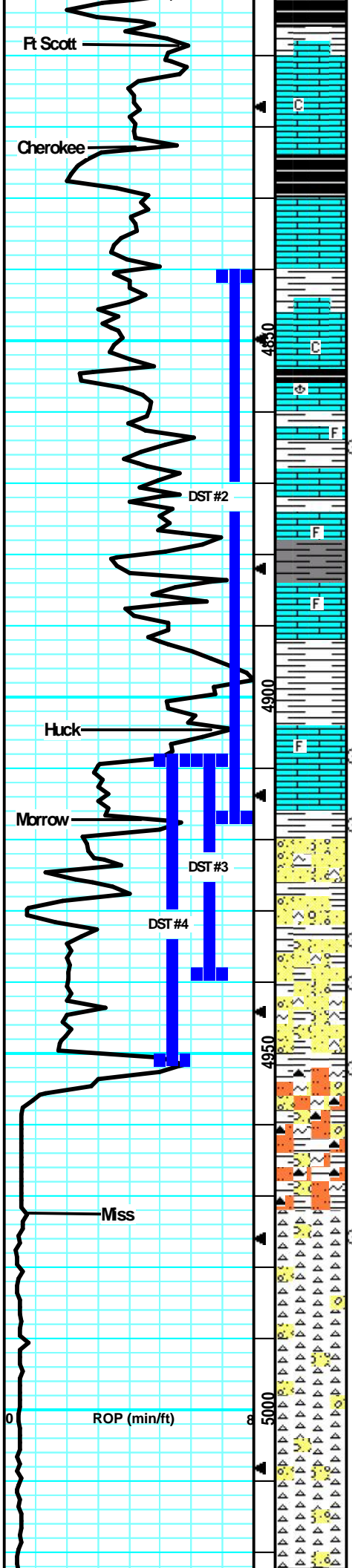
DST #1: 4766'-4790'  
(Pawnee) 30-45-45-60  
IF: Fr blw blt to BOB in 24"  
(No BB)  
FF: Strg blw blt to BOB in 5min (No BB)  
Rec: 300' GIP, 90' GMOCW  
IF: 29-30# ISIP, 854# FF:  
32-52# FSIP: 835#

Pawnee @ 4779' (-2339)

Gas Kick  
Survey @ 4790' = 3/4 Degree

CFS @ 4790' (30"/60")

Mud Report #8  
4790' 2/22/19  
Re-Circ Gas  
Wt Vis pH  
2.2 2.5 10.5



SH: blk/drk gry, silty, soft, carb, no odr, ns.

SH: drk gry/brn, silty, soft, no odr, ns.

LS: tan/lt tan, sing, fn xln, sub-chlky, brit, tr-nvp, no cup odr, ns.

SH: blk, carb, soft, silty, no odr, ns.

LS: gry, mott in prt, fn lxn, many flakey/mealy, sm brit, fw sub-chlky, tr-nvp, no odr, ns.

SH: blk/drk gry, mostly carb, soft, no odr, ns.

LS: tan/lt gry, slight mott, fn xln, many flakey/mealy, fw sub-chlky, many firm, tr-nvp, no odr, ns.

LS: tan/gry, mott in prt, fn xln, foss w/ brach/frags, mostly hard, tr-nvp, abund SH: gry/blu/blk, fw carb, no odr, ns.

LS: tan, mott in prt, fn xln, many flakey, tr-nvp, svrl pcs w/ ? dul yel fluor, nsfo, no cup odr, abund SH: drk gry/blu, silty.

LS: tan/lt gry, slight mott, fn xln, fw foss frags, mostly dense, sm hard, tr-nvp, fw SH: gry, silty, no odr, ns.

LS: tan/gry, slight mott, fn xln, dense, many firm, tr-nvp, ? sptd fluor, faint odr, pos gas?, svrl pcs SH: drk gry/blk, nsfo.

LS: tan/lt tan, slight mott in prt, fn xln, fw foss, frags, mostly dense, tr-nvp, fw pcs SH: drk gry, silty, no odr, ns.

LS: tan/lt gry, slight mott, fn xln, lght brn sptd stns in tight ppt intxn por in 4-5 pcs, gld sptd fluor, incrs on brk, fw pcs w/ vssfo on brk, fr-gd cup odr.

SH: gry/brn/gm, silty, fw waxy, 2 pcs SS: crm, fn gm, sub-md arg, firm, tr-pr intgm, por, nsfo, wk-? fluor, slw bld cut, no cup odr.

SS: crm/lt gry, fn gm, sub-md, fw sub-ang, sat stns in por, fr sfo on brk in 3-4 pcs, dul wk flour, strn cut, wk cup odr, 1 pc w/ hvy tarry stns.

SS: lt gry, fn gm, sub-ang, sm pr srted, sat stns, fw glauc, fr sfo on crush 6-8 pcs, friabl, fr intgm por, gd gld fluor, strn cut, wk cup odr.

Abund SH: gry/drk gry/gm, silty, soft, sm muddy like, fw SS: clusters, lt gry/gm, fn gm, arg, dirty, many glauc, fw pcs w/ sptd oil stns, wk fluor, vssfo in 1 pcs, wk cup odr.

SH: gry/gm, silty, soft, no cup odr, ns.

SS: gm/gry, fn gm, sub-rnd, sm prly srted, arg, glauc, tr-pr intgm por, brit, sm firm, no fluor, no cut resid on rx or brk, no odr.

SS: gm, fn gm, arg, sub-rnd, glauc, sm firm, tr-nvp, abund SH: gry/gm, soft, svrl Chert: wht/tan, sharp, sm pr scat vuggy por, no cup odr, ns.

Chert: tan/wht/yel/org, trip, sharp, foss, fw pcs w/ pr scat vuggy por, no cup odr, ns.

Much of the same as above.

Much of the same, some SH: slough, no odr, ns.

Much of the same. 60" Smol: 2 pcs w/ DOL: tan, fn xln,

9.2 50 10.5  
Filt Chl LCM  
9.2 7.1K 2#

**Ft Scott @ 4809' (-2369)**

**Cherokee @ 4823' (-2383)**

DST #2: 4840'-4918'  
(Huck) 30-45-60-90  
IF: Fr blwbtt to BOB in 27min (No BB)  
FF: Strg blwbtt to BOB immediately (No BB)  
Rec: 726'GIP, 30'OCM  
IF: 20-21# ISIP: 586# FF: 22-27# FSIP: 882#

DST #3: 4908'-4940'  
(Mrw) 30-45-60-90  
IF: Strg blwbtt to BOB in 30sec (3/4" BB)  
FF: Strg blwbtt to BOB & GTS immediately (No BB)  
Rec: 4886'GIP, 20'GCM,  
Gauged Gas  
IF: 153-155# ISIP: 1551# FF: 124-121# FSIP: 1556#

Gauged w/ 3/4" Choke:  
537mcf @ 10min  
537mcf @ 20min  
553mcf @ 30min  
569mcf @ 40min  
584mcf @ 50min  
548mcf @ 60min

**Huck @ 4905' (-2465)**

**CFS @ 4908' (30"/60")**

Mud Report #9  
4918' 2/23/19  
Wt Vis pH  
9.3 48 9.5  
Filt Chl LCM  
7.2 3.3K 2#

**CFS @ 4918' (30"/60")**

**Morrow @ 4917' (-2477)**

**CFS @ 4934' (30"/60")**

**CFS @ 4940' (30"/60")**

Mud Report #10  
4940' 2/24/19  
Wt Vis pH  
9.1 49 9.5  
Filt Chl LCM  
7.6 4.2K 2#

**CFS @ 4952' (30"/60")**

Mud Report #11  
4950' 2/25/19  
Wt Vis pH  
9.0 48 9.5  
Filt Chl LCM  
8.4 6.3K 2#

**Miss @ 4973' (-2533)**

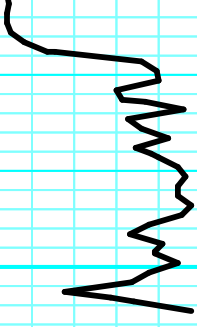
**CFS @ 4976' (30"/60")**

DST #4: 4908'-4952' (Mrw#2)  
30-45-60-90  
IF: Strg blwbtt to BOB in 30sec, GTS in 5min (No BB)  
FF: Strg blwbtt to BOB & GTS immediately (No BB)  
Rec: 4804'GIP, 102'GOCM,  
Gauged Gas  
IF: 151-122# ISIP: 1548# FF: 125-161# FSIP: 1554#

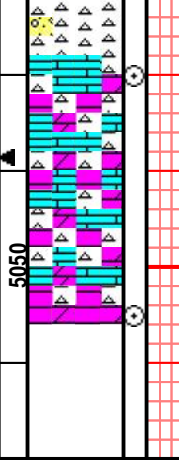
**TG, C1-C5 200**

Gauged w/ 3/4" Choke:  
304mcf @ 10min  
304mcf @ 20min  
315mcf @ 30min  
315mcf @ 40min  
325mcf @ 50min  
325mcf @ 60min





RTD: 5055' (-2615)  
LTD: 5056' (-2616)



dense, hard, tr-nvp, no cup odr, ns.

Chert: wht/tan, sm trip, fw foss, sharp, fw LS: tan/lt tan, fn xln, dense, firm, tr-nvp, no odr, ns.

DOL: gry/tan, fn xln, fw gitty like, sm firm, tr-nvp, fw LS: gry, slight mott, fn xln, tr-nvp, abund Chert: wht/opaq/lt tan, sharp, no odr, ns.

DOL: gry/tan, fn xln, dense, firm, sm gritty, tr-nvp, abund Chert: wht/opaq/tan, sharp, no odr, ns.

CFS @ 5030'  
(30"/60")

CFS @ 5055'  
(30"/60")

Survey @ 5055' = 1 Degree

# Koda Services, Inc.

# INVOICE



Conductor and Rat Hole Drilling, Landfill Gas Drilling and Well Construction Nationwide

Date	Invoice #
1/29/2019	12999

Bill To
Ritchie Exploration, Inc P O Box 783188 Wichita, KS 67278-3188

Legal Description	Ordered By	Terms	Field Ticket	Lease Name	Drill Rig	
NW of Ford, KS	Mike Godfrey	Net 30	9506	Schneeweis #1	Duke 1	
Item	Quantity	Description			Rate	Amount
Conductor	80	Drilled 80' of 30" hole for conductor				
20" Pipe	80	Furnished 80' of 20" conductor pipe				
Ream Hole		Ream Hole				
72" X 6'	1	Furnished 6' X 6' tinhorn				
Dirt Removal		Provided Labor and Equipment for dirt removal and cleanup				
Grout	10	Furnished grout				
Deliver Grout		Deliver grout to location				
Placement	1	Equipment and Labor to install pipe in holes				
Cover Plate	1	Cover Plate				
Barrier Fence	1	Provided and Set Barrier Fence				

Thank you for your business.

**Subtotal**

**Sales Tax (8.15%)**

**Total**