

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)</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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Midland Yard #1721 - Phone 432-687-1994 - P.O. Box 10451
Midland, Texas 79702

PRESSURE PUMPING Job Log

Customer:	WOOLSEY OPERATING COMPANY		Cement Pump No.:	33666		Operator TRK No.:			
Address:			Ticket #:			Bulk TRK No.:			
City, State, Zip:			Job Type:	SURFACE					
Service District:	PRATT KS		Well Type:						
Well Name and No.:	KILGORE #2		Well Location:			County:	KIOWA	State:	KANSAS
Type of Cmt	Sacks	Additives			Truck Loaded On				
60/40	350	3%ACL2+.25#C.F.			33666		Front	Back	
							Front	Back	
							Front	Back	
Lead/Tail:	Weight #1 Gal.	Yield	Water Requirements		CU. FT.	Man Hours / Personnel			
Lead:	14.8	1.21	5.18		423.5	Man Hours:	24		
Tail:						# of Men on Job:	4		
Time (am/pm)	(BPM)	Volume (BBLS)	Pumps		Pressure(PSI)		Description of Operation and Materials		
			T	C	Tubing	Casing			
12AM							ON LOCATION		
							SAFETY MEETING		
624AM	1	1				1000	TEST LINES		
626AM	3	20				180	SPACER		
630AM	3	75				160	CMT@ 14.8 PPG		
647AM							S/D DROP PLUG		
649AM	3	10				180	START DISPLACMENT		
649AM	3	37				650	BUMP PLUG		
							CIRCULATED 15BBLS 69 SXS TO SURF		
Size Hole	13 7/8	Depth	425		TYPE				
Size & Wt. Csg.	11 3/4	Depth	415	New / Used	Packer		Depth		
tbg.		Depth			Retainer		Depth		
Top Plugs	1	Type	WOODEN		Perfs		CIBP		
Customer Signature: <i>X</i>					Basic Representative:		BRANDON ALLS		
					Basic Signature:		<i>Brandon Alls</i>		
					Date of Service:		2/19/2019		

TREATMENT REPORT

Lease No. _____ Date **2-28-19**
 Lease **W. 190 re** Well # **2**
 Field Order # **17046** Station **Pratt** Casing **4 1/2** Depth **5050** County **Nowata** State **KS**
 Type Job **2-42 4 1/2" Long string** Formation _____ Legal Description **20-285-19W**

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size 4 1/2	Tubing Size	Shots/Ft		Acid	125 SKS AA-2	RATE	PRESS	ISIP
Depth 5050	Depth	From	To	Pre Pad	100 SKS 60/40 P02	Wobley 1500	4% sel	5 Min.
Volume 80.5	Volume	From	To	Pad		Min		10 Min.
Max Press 1500	Max Press	From	To	Frac		Avg		15 Min.
Well Connection P	Annulus Vol.	From	To			HHP Used		Annulus Pressure
Plug Depth 5050	Packer Depth	From	To	Flush	78.8	Gas Volume		Total Load

Customer Representative **Allen Dick** Station Manager **Westerman** Treater **MATTAL**
 Service Units **63353** **84980** **20920** **19869** **19860**
 Driver Names **MATTAL** **Marquez** **Gilley**

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
4:50					ON location / grey meeting
8:50					Run 4 1/2 CSNG 3300' 10.5" 1740' 11.6"
					turbos 1,2,3,4,5,6, scrapers on 2,3,4
					36" shoe joint
11:50					Casing on BOTTOM
12:05					HOOK TO CSNG/Break circ w. Rig
1:37	200		5	4	Pump 5 bbl water
1:39	350		13	5	Mix 50 SKS 60/40 P02
1:42	400		33	5.5	Mix 125 SKS AA-2
1:48			4	4	WASH Pump + Lines / Drop Plug
1:54	200			6	START displacement
2:05	500		60	6	LIFT Pressure
2:07	600		68	3	SLOW rate, STOP Reciprocating
2:10	1500		78.8		Plug down, released + held
2:30			7.5		Plug RAT + mouse hole
					JOB complete
					THANK YOU!
					MIKE MATTAL
					EDMUND + RON



DRILL STEM TEST REPORT

Prepared For: **Woolsey Operating**

125 N Market Suite 1000
Wichita, KS 67202-1729

ATTN: Dean Pattisson/Bill

Kilgore #2

20-28S-19W Kiowa, KS

Start Date: 2019.02.25 @ 09:37:00

End Date: 2019.02.25 @ 17:43:30

Job Ticket #: 63932 DST #: 1

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

Printed: 2019.02.27 @ 13:17:12



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Woolsey Operating
125 N Market Suite 1000
Wichita, KS 67202-1729
ATTN: Dean Pattisson/Bill

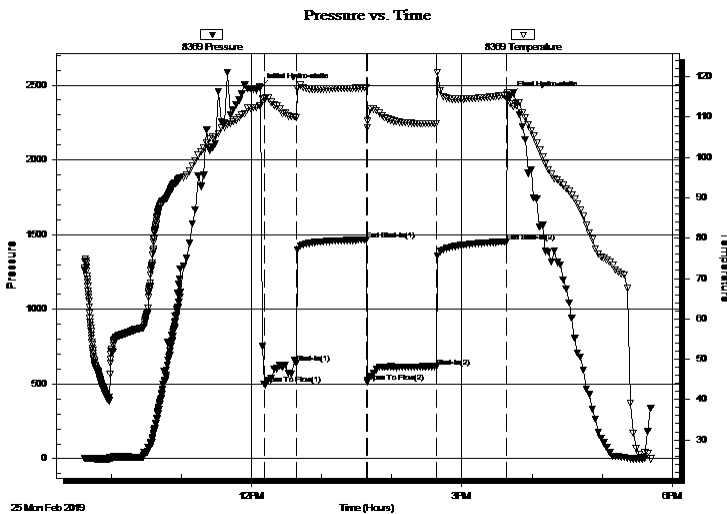
20-28S-19W Kiowa, KS
Kilgore #2
Job Ticket: 63932 **DST#: 1**
Test Start: 2019.02.25 @ 09:37:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:10:30
Time Test Ended: 17:43:30
Interval: **4854.00 ft (KB) To 4918.00 ft (KB) (TVD)**
Total Depth: 4918.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80
Reference Elevations: 2299.00 ft (KB)
2287.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8369 Outside
Press@RunDepth: 616.46 psig @ 4855.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.02.25 End Date: 2019.02.25 Last Calib.: 2019.02.25
Start Time: 09:37:01 End Time: 17:43:30 Time On Btm: 2019.02.25 @ 12:07:40
Time Off Btm: 2019.02.25 @ 15:42:00

TEST COMMENT: IF - Strong blow throughout initial flow period. GTS in 4 minutes
FF - Strong blow throughout final flow period. 30 minutes to bleed off then no blow back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2481.94	112.84	Initial Hydro-static
3	497.90	114.54	Open To Flow (1)
31	639.70	109.79	Shut-In(1)
91	1463.45	117.28	End Shut-In(1)
92	514.69	107.34	Open To Flow (2)
151	616.46	108.29	Shut-In(2)
211	1451.16	115.41	End Shut-In(2)
215	2427.65	113.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	MCW 11% M 89% W	1.41
125.00	Drilling mud 100% M	1.75

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	82.00	2771.39
Last Gas Rate	1.00	94.00	3116.37
Max. Gas Rate	1.00	94.00	3116.37



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Woolsey Operating

20-28S-19W Kiowa, KS

125 N Market Suite 1000
Wichita, KS 67202-1729

Kilgore #2

Job Ticket: 63932

DST#: 1

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.25 @ 09:37:00

Tool Information

Drill Pipe:	Length: 4721.00 ft	Diameter: 3.80 inches	Volume: 66.22 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 66.82 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4854.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	92.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4827.00	
Shut In Tool	5.00			4832.00	
Hydraulic tool	5.00			4837.00	
Jars	5.00			4842.00	
Safety Joint	3.00			4845.00	
Packer	5.00			4850.00	28.00 Bottom Of Top Packer
Packer	4.00			4854.00	
Stubb	1.00			4855.00	
Recorder	0.00	8369	Outside	4855.00	
Recorder	0.00	8846	Inside	4855.00	
Perforations	22.00			4877.00	
Change Over Sub	1.00			4878.00	
Blank Spacing	31.00			4909.00	
Change Over Sub	1.00			4910.00	
Perforations	3.00			4913.00	
Bullnose	5.00			4918.00	64.00 Bottom Packers & Anchor
Total Tool Length:	92.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating

20-28S-19W Kiowa, KS

125 N Market Suite 1000
Wichita, KS 67202-1729

Kilgore #2

Job Ticket: 63932

DST#: 1

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.25 @ 09:37:00

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:

60000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
180.00	MCW 11% M 89% W	1.414
125.00	Drilling mud 100% M	1.753

Total Length: 305.00 ft Total Volume: 3.167 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Rw - .248 @ 35.7*



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Woolsey Operating

20-28S-19W Kiowa, KS

125 N Market Suite 1000
Wichita, KS 67202-1729

Kilgore #2

Job Ticket: 63932

DST#: 1

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.25 @ 09:37:00

Gas Rates Information

Temperature: 59 (deg F)

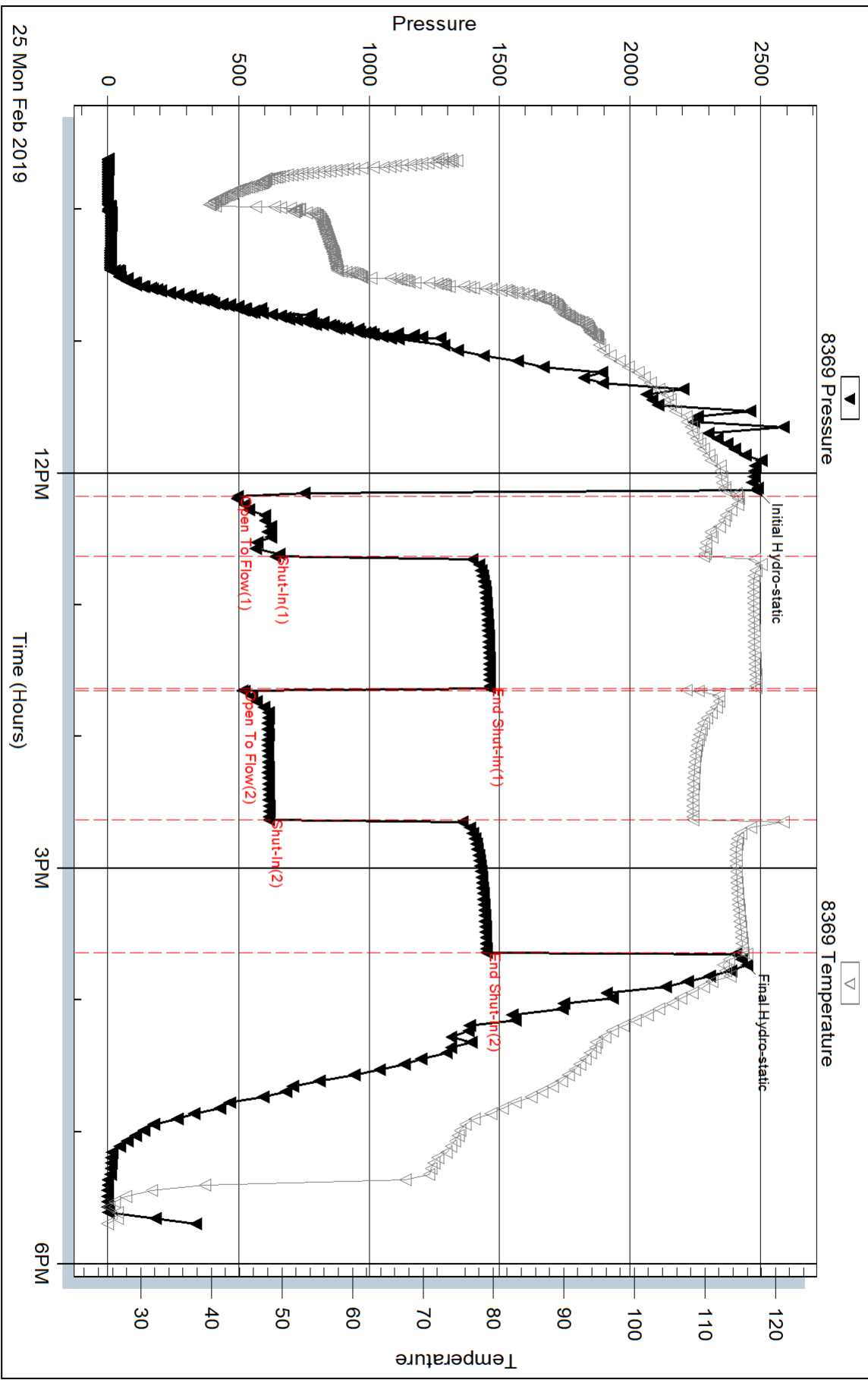
Relative Density: 0.65

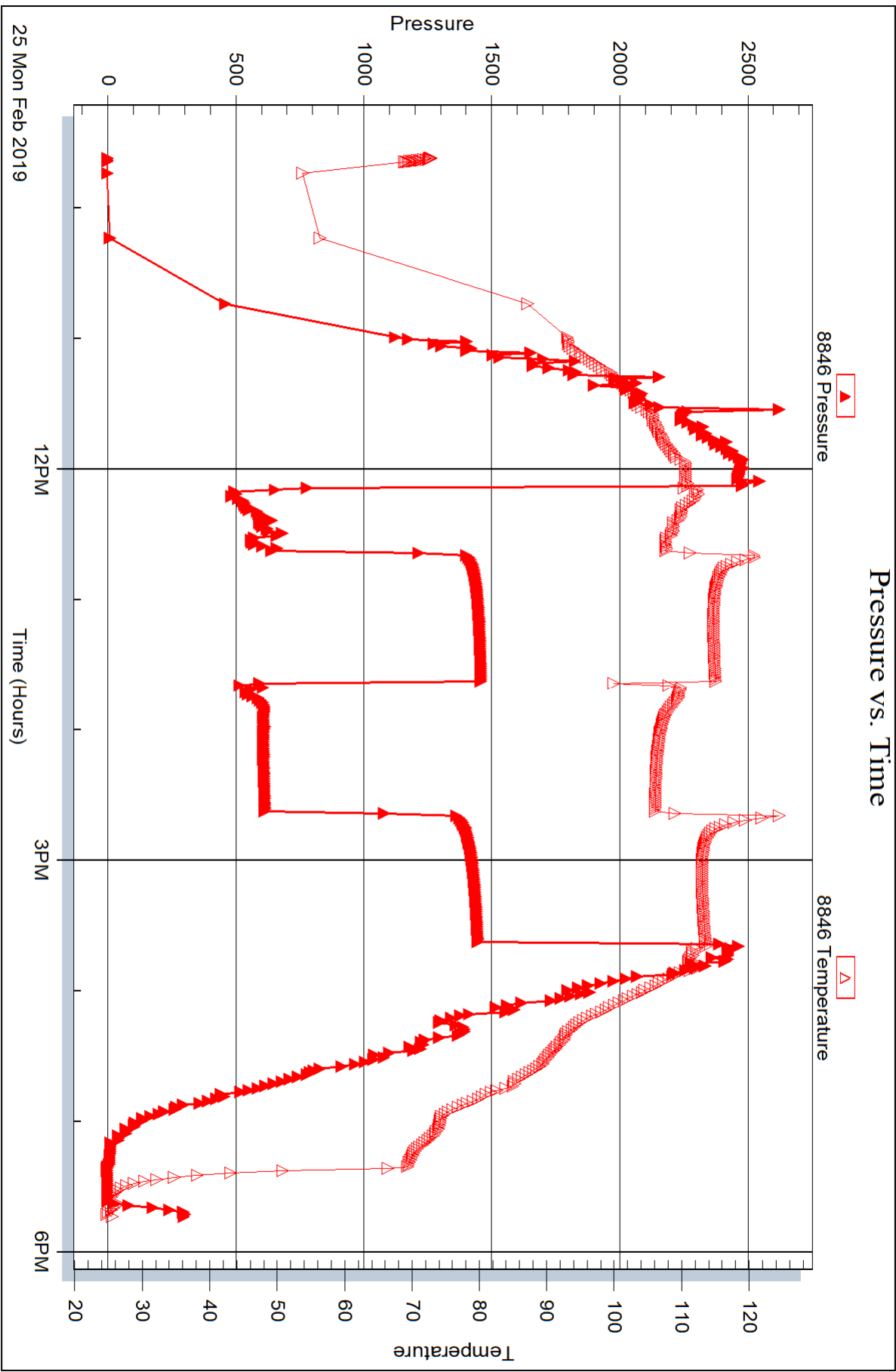
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	14	1.00	82.00	2771.39
1	24	1.00	88.00	2943.88
1	30	1.00	89.00	2972.63
2	10	1.00	84.00	2828.88
2	20	1.00	94.00	3116.37
2	30	1.00	94.00	3116.37
2	40	1.00	94.00	3116.37
2	50	1.00	94.00	3116.37
2	60	1.00	94.00	3116.37

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Woolsey Operating**

125 N Market Suite 1000
Wichita, KS 67202-1729

ATTN: Dean Pattisson/Bill

Kilgore #2

20-28S-19W Kiowa, KS

Start Date: 2019.02.26 @ 01:19:00

End Date: 2019.02.26 @ 10:30:10

Job Ticket #: 63933 DST #: 2

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

Printed: 2019.02.27 @ 13:20:49



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Woolsey Operating
125 N Market Suite 1000
Wichita, KS 67202-1729
ATTN: Dean Pattisson/Bill

20-28S-19W Kiowa, KS

Kilgore #2

Job Ticket: 63933

DST#: 2

Test Start: 2019.02.26 @ 01:19:00

GENERAL INFORMATION:

Formation: **Mississippian**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:45:30
 Time Test Ended: 10:30:10
 Interval: **4918.00 ft (KB) To 4928.00 ft (KB) (TVD)**
 Total Depth: 4928.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Initial)
 Tester: Jimmy Ricketts
 Unit No: 80
 Reference Elevations: 2299.00 ft (KB)
 2287.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8369

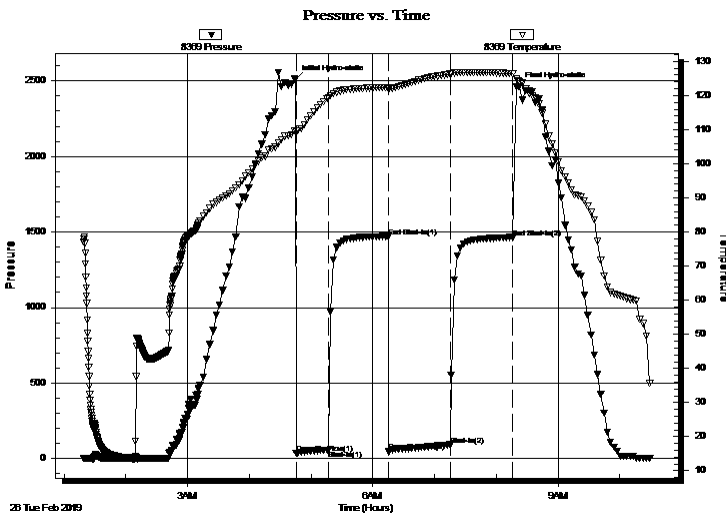
Outside

Press@RunDepth: 91.48 psig @ 4919.00 ft (KB)
 Start Date: 2019.02.26 End Date: 2019.02.26
 Start Time: 01:19:01 End Time: 10:30:10
 Capacity: 8000.00 psig
 Last Calib.: 2019.02.26
 Time On Btm: 2019.02.26 @ 04:44:20
 Time Off Btm: 2019.02.26 @ 08:21:09

TEST COMMENT: IF - Strong blow throughout initial flow period. GTS in 20 minutes
 FF - Strong blow throughout final flow period.
 FS - 5" blow back during final shut-in period.

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2508.33	109.73	Initial Hydro-static
2	35.22	109.49	Open To Flow (1)
33	55.52	119.30	Shut-In(1)
91	1470.59	122.26	End Shut-In(1)
92	50.36	121.90	Open To Flow (2)
151	91.48	126.22	Shut-In(2)
212	1463.92	126.43	End Shut-In(2)
217	2461.43	124.37	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
120.00	SMOCW 9% O 4% M & 87% W	0.59
85.00	OCMW 10%O 37%M 53%W	1.17

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	6.32	32.87
Last Gas Rate	0.13	8.60	8.61
Max. Gas Rate	0.13	8.60	8.61



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Woolsey Operating

20-28S-19W Kiowa, KS

125 N Market Suite 1000
Wichita, KS 67202-1729

Kilgore #2

Job Ticket: 63933

DST#: 2

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.26 @ 01:19:00

Tool Information

Drill Pipe:	Length: 4785.00 ft	Diameter: 3.80 inches	Volume: 67.12 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 67.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4918.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	4928.00 ft			
Interval between Packers:	10.00 ft			
Tool Length:	38.00 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			4891.00	
Shut In Tool	5.00			4896.00	
Hydraulic tool	5.00			4901.00	
Jars	5.00			4906.00	
Safety Joint	3.00			4909.00	
Packer	5.00			4914.00	28.00 Bottom Of Top Packer
Packer	4.00			4918.00	
Stubb	1.00			4919.00	
Recorder	0.00	8369	Outside	4919.00	
Recorder	0.00	8846	Inside	4919.00	
Perforations	7.00			4926.00	
Bullnose	2.00			4928.00	10.00 Bottom Packers & Anchor

Total Tool Length: 38.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating

20-28S-19W Kiowa, KS

125 N Market Suite 1000
Wichita, KS 67202-1729

Kilgore #2

Job Ticket: 63933

DST#: 2

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.26 @ 01:19:00

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:

40000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	SMOCW 9% O 4% M & 87% W	0.590
85.00	OCMW 10%O 37%M 53%W	1.174

Total Length: 205.00 ft Total Volume: 1.764 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Rw .31 @ 40*



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Woolsey Operating

20-28S-19W Kiowa, KS

125 N Market Suite 1000
Wichita, KS 67202-1729

Kilgore #2

Job Ticket: 63933

DST#: 2

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.26 @ 01:19:00

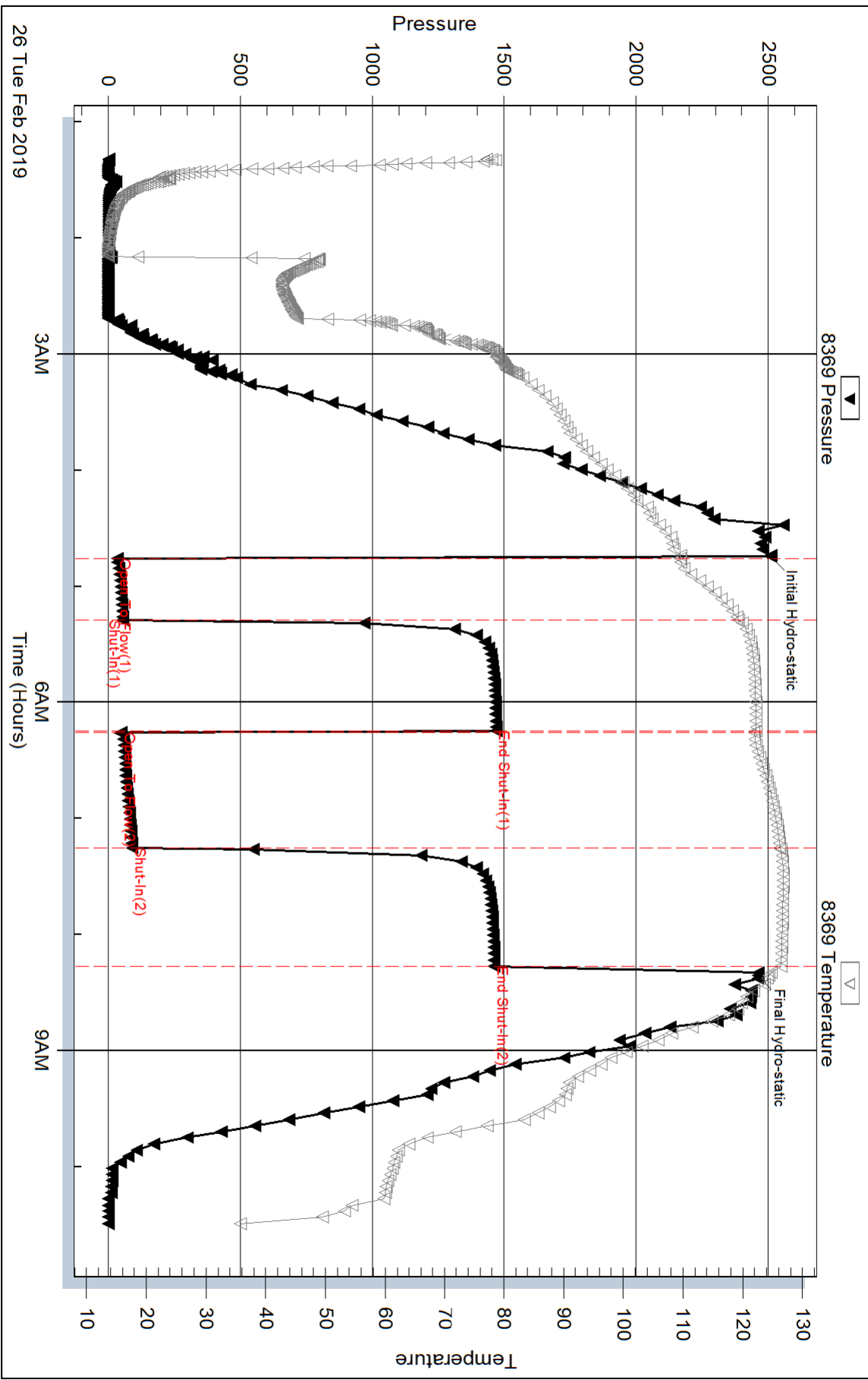
Gas Rates Information

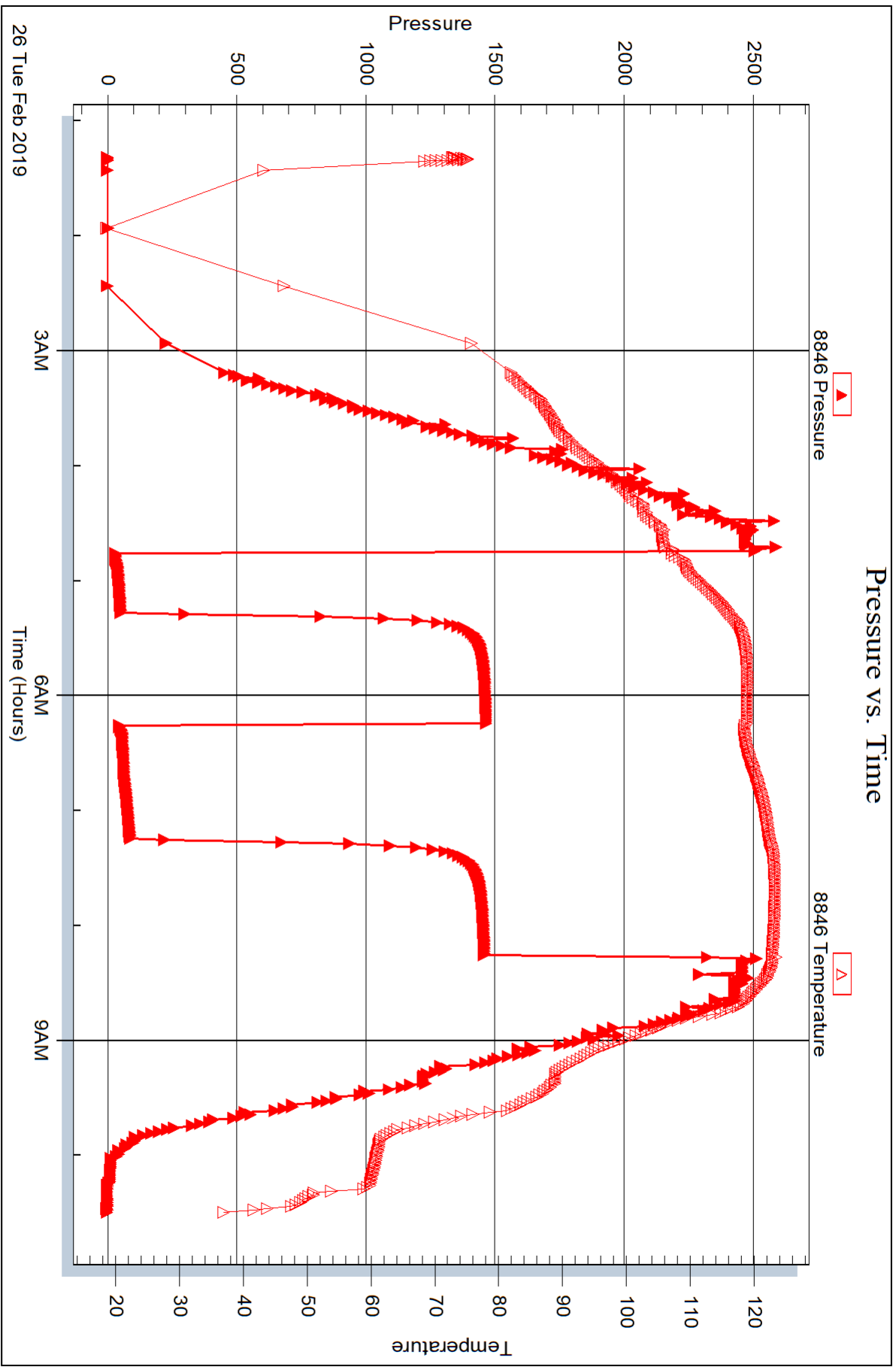
Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	30	0.25	6.32	32.87
2	10	0.25	5.09	30.92
2	20	0.25	3.32	28.11
2	30	0.13	4.70	7.15
2	40	0.13	6.79	7.93
2	50	0.13	7.88	8.34
2	60	0.13	8.60	8.61

Pressure vs. Time







Woolsey Operating Company, LLC
Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Kilgore #2
AP: 15-097-21850-00-00
Location: Section 20 - Township 28 South - Range 19 West
License Number: 331668
Spud Date: February 18, 2019
Surface Coordinates: S/2 - S/2 - S/2
Bottom Hole Coordinates: 450' FSL & 2580' FWL
Ground Elevation (ft): 2287'
K.B. Elevation (ft): 2299'
Logged Interval (ft): 4000'
To: 5050'
Shawnee >>> Mississippian
Type of Drilling Fluid: Printed by MudLog from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Woolsey Operating Company, LLC
Address: 125 N. Market, Suite 1000
Wichita, KS 67202

GEOLOGIST

Name: Bill Klaver
Company: Woolsey Operating Co. LLC
Address: 125 N. Market, Wichita Kansas, 67202

COMMENTS

Surface Casing: Spud at 1 pm on 2/18/19, set 9 joints of 10 3/4" X 32.75#/ft new casing at 400' KB. Cemented with 350 sx 60/40 poz mix (by Basic). Plug down at 7 am on 2/19/19, cement did circulate.
Production Casing: 122 joints of 4 1/2"
Deviation Surveys: 1/2 at 402', 3/4 at 1028', 3/4 at 2040', 3/4 at 2492', 3/4 at 2992', 3/4 at 3499', 3/4 at 4008', 1 at 4515', 1 1/4 at 4918', 3/4 at 5050'
Pine Strap @ 4918': Strap 4935.63', Board 4926.70', Strap 8.98' long, very windy morning when strapped.
Fossil Drilling Rig 3 Bit Record:
1) 14 3/4" Varel RR in at 0' out at 402', 4 hours
2) 7 7/8" Hughs Tool Co. T506X in at 400' out at 2492'
3) 7 7/8" Varel H-29 RR in at 2492', out at 2611'
4) 7 7/8" Hughs Tool Co. HT605X in at 2611' out at 5050'

Gas Detector: Pason Systems
Mud System: Mud-Co. Brad Bortz, Engineer
DSTs: Trilobite Testing, Jimmy Ricketts, Tester
E-Logs: ELI, Dual Induction Laterolog w/SP, CNL-FDC w/PE, GR and Caliper, Sonic w/GR. Jeff Luebbers, Engineer

DSTs

DST #1, Mississippi, 4954'-4918', 30"-60" -60"-60", SB GTS 4", IFP: 14" 2.77 MMCF, 24" 2.94 MMCF, 30" 2.97 MMCF, FFP: 10" 2.82 MMCF, 20" 60" 31' 11" MMCF, Rec: 125' Mud, 190' MCW (89%W, 11%M) API Rw 35.7 deg, Cht: 60,000 ppm, IHP 2482, IFP 498-640, ICIP 1464, FFP 515-616, FCIP 1451- FHP 2428, BHT 115 degrees.
DST #2 Mississippi, 4918'-4928', 30"-60" -60"-60", SB GTS 2", IFP: 30" 32.8 MCF, FFP: 30.9 MCF dec to 8.61MCF, Rec: 120' OMCW (9%O, 90%W, 4%M), 85' HOAMCW (1%O, 53%W, 37%M), IHP 2508, IFP 32-56, ICIP 1471, FFP 50-91, FCIP 1464, FHP 2461, BHT N/A

CREWS

Rick Barriger, Jason Barriger Tool pushers
Pablo Luna, Days
Chris Staats, Evening
Raul Orozco, Morning

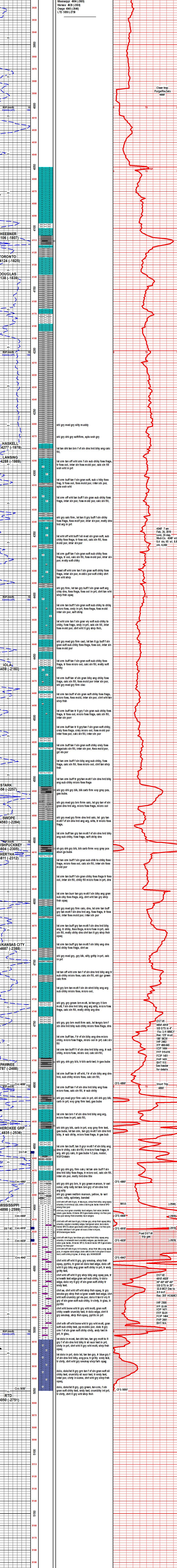
ROCK TYPES

- | | | | |
|-----------|---------|-----------|--------------|
| Anhy | Dol | Siltst | Shale 3 |
| Bent | Sand | Ss | Silty dol |
| Crc | Sily | Black sh | Dol mst |
| Bit | Algae | Gyp | Earthy |
| Brecfrag | Amph | Sdy lmsst | Granite wash |
| Calc | Beim | Lmsst | Lmst |
| Carb | Blocst | Mrst | Calc dol |
| Chitdk | Branch | Shale | Shale 3 |
| Dol | Bryozoa | Siltst | |
| Ferrpel | Cephal | Slysh | |
| Glauc | Coral | Ss 2 | |
| Gyp | Crin | | |
| Marl | Echin | | |
| Nodule | Fish | | |
| Phos | Forum | | |
| Pyr | Fossil | | |
| Salt | Gastro | | |
| Silt | Oolite | | |
| Silty dol | Ostra | | |

ACCESSORIES

- | | | |
|----------|----------|--------|
| Chlorite | Peloc | Grysh |
| Dol | Pflut | Grysl |
| Sand | Ploflite | Lms |
| Sily | Plant | Earthy |
| Algae | Strom | Sh |
| Amph | Fuss | Siltst |
| Beim | Oomoldic | |
| Blocst | STRINGER | |
| Branch | Anhy | |
| Bryozoa | Arg | |
| Cephal | Bent | |
| Coral | Coal | |
| Crin | Dol | |
| Echin | Gyp | |
| Fish | Ls | |
| Forum | Mrst | |
| Fossil | Siltst | |
| Gastro | Sltstrg | |
| Oolite | Carbsh | |
| Ostra | Cylstr | |
| | Dol | |

- MINERAL**
Anhy, Arg, Bent, Bit, Brecfrag, Calc, Carb, Chitdk, Chitd, Dol, Ferrpel, Glauc, Gyp, Marl, Nodule, Phos, Pyr, Salt, Silty, Silt
- FOSSIL**
Algae, Amph, Beim, Blocst, Branch, Bryozoa, Cephal, Coral, Crin, Echin, Fish, Forum, Fossil, Gastro, Oolite, Ostra
- TEXTURE**
Boundst, Chaiky, Cysln, Earthy, Finexln, Grainst, Lithogr, Microxln, Mudst, Packet, Wackest



Woolsey Operating Company LLC
Kilgore #2
Sec 20 - Twp 28S - Rge 19W
450' FSL & 2580' FWL
Kiowa County, Kansas
Field: Joy Station North
GL 2287' KB 2298'
API # 15-097-21850-00-00