

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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BASIC

energy services, L.P.

TREATMENT REPORT

Customer <i>Woolsey Operating Co.</i>	Lease No.	Date <i>February 4th 2019</i>
Lease <i>McElwain #1</i>	Well #	XXXXXXXXXX
Field Order # <i>17666</i>	Station <i>Pratt Kansas 1718</i>	Casing <i>10 3/4</i>
		Depth <i>395</i>
Type Job <i>10 3/4 surface casing 2-42</i>	Formation	County <i>Kiowa</i>
		State <i>KS</i>
Legal Description		

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid		RATE	PRESS	ISIP
<i>10 3/4</i>								5 Min.
Depth <i>395</i>	Depth	From	To	Pre Pad	Max			
Volume <i>38.7</i>	Volume	From	To	Pad	Min			10 Min.
Max Press <i>590</i>	Max Press	From	To	Frac	Avg			15 Min.
Well Connection <i>6 5/8</i>	Annulus Vol.	From	To		HHP Used			Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush	Gas Volume			Total Load

Customer Representative <i>Allen Dick</i>	Station Manager <i>Justin Westerman</i>	Treater <i>Fennis Gardino</i>
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Service Units <i>78866</i>	<i>33706</i>	<i>86279</i>	<i>14669</i>	<i>14665</i>				
Driver Names <i>Fennis</i>	<i>mike</i>	<i>mike</i>	<i>Jose</i>	<i>Jose</i>				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>1730</i>					<i>Arrived on location / Safety Meeting</i>
<i>1800</i>					<i>Rig up equipment</i>
					<i>TOTAL PIPE RAN - 395' shoe-20'</i>
<i>2040</i>	<i>150</i>		<i>5</i>	<i>5</i>	<i>Pump H2O spacer</i>
<i>2045</i>	<i>300</i>		<i>0</i>	<i>6</i>	<i>start 60/40 Poz @ 14.8 gpl</i>
<i>2050</i>	<i>300</i>		<i>35</i>	<i>6</i>	<i>162.55' 60/40 Poz away @ 14.8 gpl</i>
<i>2054</i>	<i>180</i>		<i>70</i>	<i>6</i>	<i>325.50' 60/40 Poz away @ 14.8 gpl</i>
<i>2058</i>	<i>50</i>		<i>0</i>	<i>5</i>	<i>S/D Drop plug start H2O displace</i>
<i>2108</i>	<i>150</i>		<i>26</i>	<i>3</i>	<i>slow rate</i>
<i>2109</i>	<i>150</i>		<i>30</i>	<i>3</i>	<i>saw cement @ surface</i>
<i>2110</i>	<i>130</i>		<i>36.7</i>		<i>End of displacement shut in head</i>
<i>2130</i>					<i>Rig down / leave location</i>
					<i>Head test on casing with 130psi!!!</i>
					<i>Final lift 130psi</i>
					<i>100-386' TOE-surface</i>
					<i>circulated 205' to pit</i>
					<i>Thank you!!! Fennis Gardino</i>

Customer Woolley Operating Company	Lease No.	Date 2/13/2019
Lease McElwain	Well # 1	
Field Order # 17681	Station Pratt, KS	Casing 5 1/2
	Depth 3015	County Kiowa
Type Job 242/5 1/2 Long Str. ns	Formation TD-5022	Legal Description 20-285-19U

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
5 1/2				Pre Pad	Max		5 Min.	
Depth 3015	Depth	From	To	Pad	Min		10 Min.	
Volume 119.3	Volume	From	To	Frac	Avg		15 Min.	
Max Press 1500	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection	Annulus Vol.	From	To	Flush Water	Gas Volume		Total Load	
Plug Depth 4788	Packer Depth	From	To					

Customer Representative Darin Dick	Station Manager Justin Westerman	Treater Darin Franklin
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Service Units	92911	78982	19843	70959	73768				
Driver Names	Darin Giller	Giller	McGraw	McGraw					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
5:00pm					On location 59 Per, moetics 125SK DP2 Cement, 10% S914, 10% Gypsum, 3% mag Chem, 5% Pk'd loss, 5% delosmer, 6 pps Gilsomite .25 pps Cellulose, 15 pps, 149 veils, 5.52 50 SK 60/40 DP2 4% Gel 13.78 pps, 143 veils, 6.92 water
10:30pm	300		5	5	Pump 5 bbls water
	300		13	5	mix 50 SK S914 Cement
	300		40	5	mix 125SK DP2 Cement
					Shut down
					Wash Pump & lines & Release Plug
	300		0	6	Start displacement
	600		85	6	Lift Pressure
	800		108	3	Slow Rate
11:15pm	1500		118	3	Bump Plug
					Flow - Hold
	0		7	3	Plug Rest hole
	0		5	3	Plug mouse hole
11:30pm					Job completed Darin & crew Thank you!!!



DRILL STEM TEST REPORT

Prepared For: **Woolsey Operating Co**

125 N. Market STE1000
Wichita KS 67202+1729

ATTN: Bill Klaver

McElwain #1

20-28s-19w Kiowa,KS

Start Date: 2019.02.10 @ 01:49:00

End Date: 2019.02.10 @ 10:17:20

Job Ticket #: 64986 DST #: 1

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

Printed: 2019.02.13 @ 15:35:01



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64986

DST#: 1

ATTN: Bill Klaver

Test Start: 2019.02.10 @ 01:49:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:10:20

Time Test Ended: 10:17:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

Interval: 4842.00 ft (KB) To 4888.00 ft (KB) (TVD)

Reference Elevations: 2298.00 ft (KB)

Total Depth: 4888.00 ft (KB) (TVD)

2288.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6772 Inside

Press@RunDepth: 209.11 psig @ 4843.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.02.10

End Date:

2019.02.10

Last Calib.: 2019.02.10

Start Time: 01:49:01

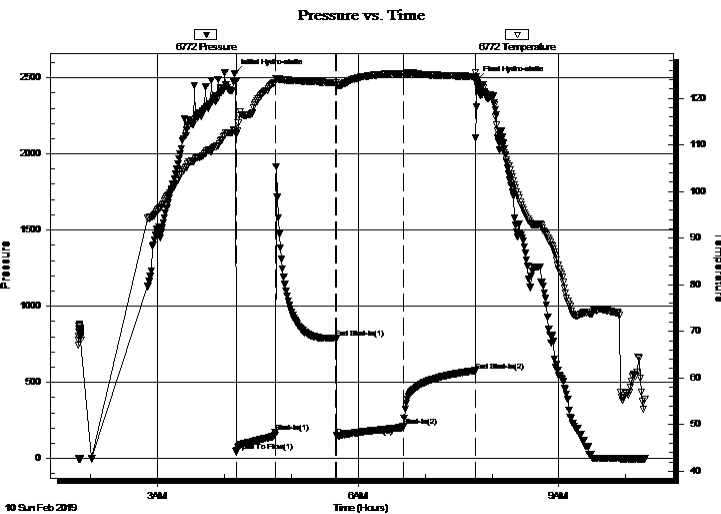
End Time:

10:17:20

Time On Btm: 2019.02.10 @ 04:09:10

Time Off Btm: 2019.02.10 @ 07:46:30

TEST COMMENT: I.F.-30-BOB 22 mins total build of 17"
I.S.I.-60- no blow back
F.F.-60-BOB 47 mins total build of 14"
F.S.I.-60- no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2527.60	113.07	Initial Hydro-static
2	44.98	112.25	Open To Flow (1)
37	172.63	123.42	Shut-In(1)
91	789.78	123.24	End Shut-In(1)
92	149.29	122.85	Open To Flow (2)
152	209.11	125.30	Shut-In(2)
216	576.67	124.66	End Shut-In(2)
218	2483.79	123.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GMCW 5%G 5%M 90%W	0.59
180.00	GMCW. 5%G 25%M 70%W	2.51
75.00	GWCM w / oil spots. 5%G 35%W 60%M	1.05
0.00	45' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64986

DST#: 1

ATTN: Bill Klaver

Test Start: 2019.02.10 @ 01:49:00

Tool Information

Drill Pipe:	Length: 4721.00 ft	Diameter: 3.80 inches	Volume: 66.22 bbl	Tool Weight: 2500.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 66.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	4842.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	73.00 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			4816.00	
Shut In Tool	5.00			4821.00	
Hydraulic tool	5.00			4826.00	
Jars	5.00			4831.00	
Safety Joint	2.00			4833.00	
Packer	5.00			4838.00	27.00 Bottom Of Top Packer
Packer	4.00			4842.00	
Stubb	1.00			4843.00	
Recorder	0.00	6772	Inside	4843.00	
Recorder	0.00	6769	Outside	4843.00	
Perforations	8.00			4851.00	
Change Over Sub	1.00			4852.00	
Drill Pipe	32.00			4884.00	
Change Over Sub	1.00			4885.00	
Bullnose	3.00			4888.00	46.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64986

DST#: 1

ATTN: Bill Klaver

Test Start: 2019.02.10 @ 01:49:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: lb/gal

Cushion Length:

ft

Water Salinity:

28000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GMCW 5%G 5%M 90%W	0.590
180.00	GMCW. 5%G 25%M 70%W	2.507
75.00	GWCM w / oil spots. 5%G 35%W 60%M	1.052
0.00	45' GIP	0.000

Total Length: 375.00 ft

Total Volume: 4.149 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

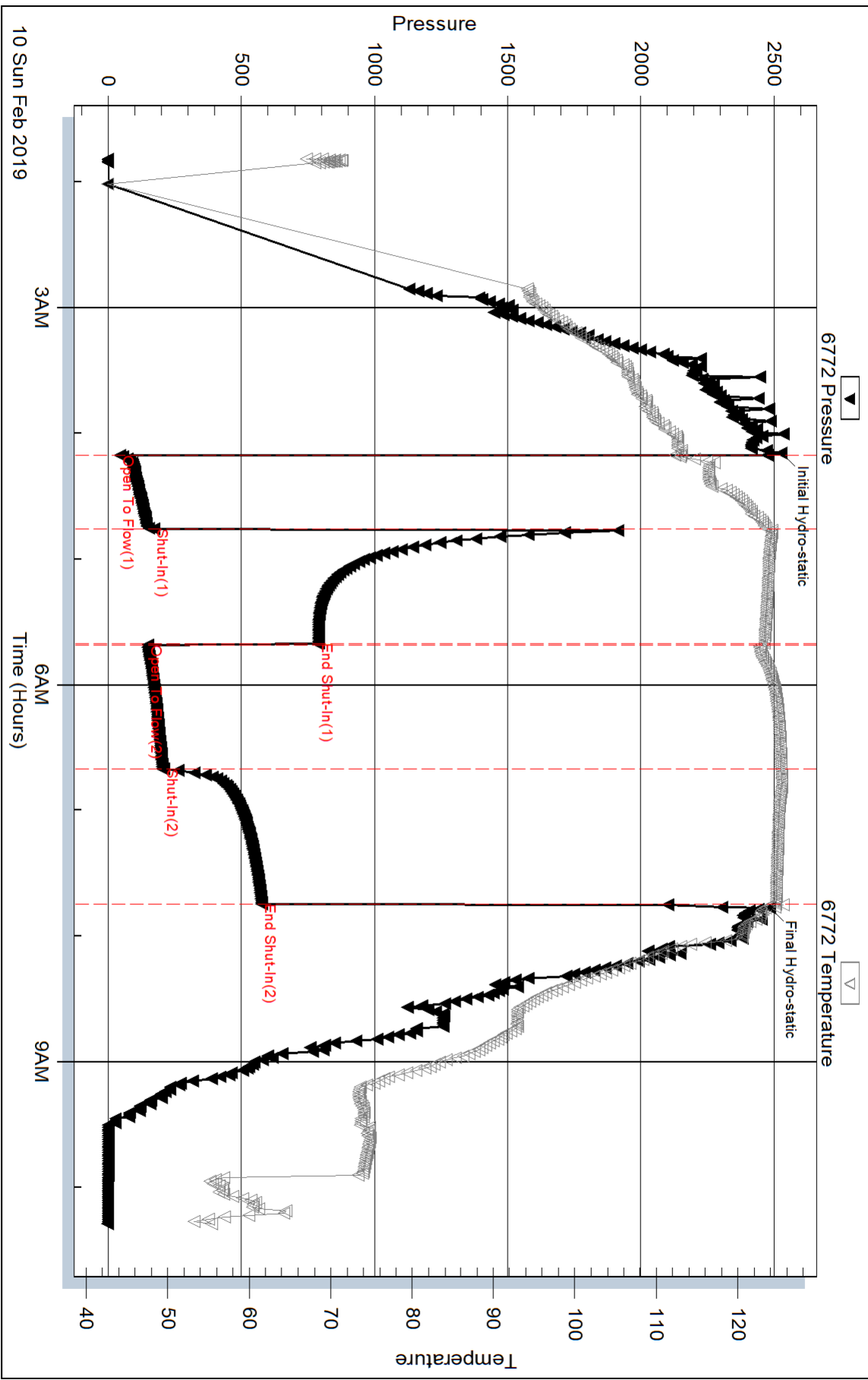
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

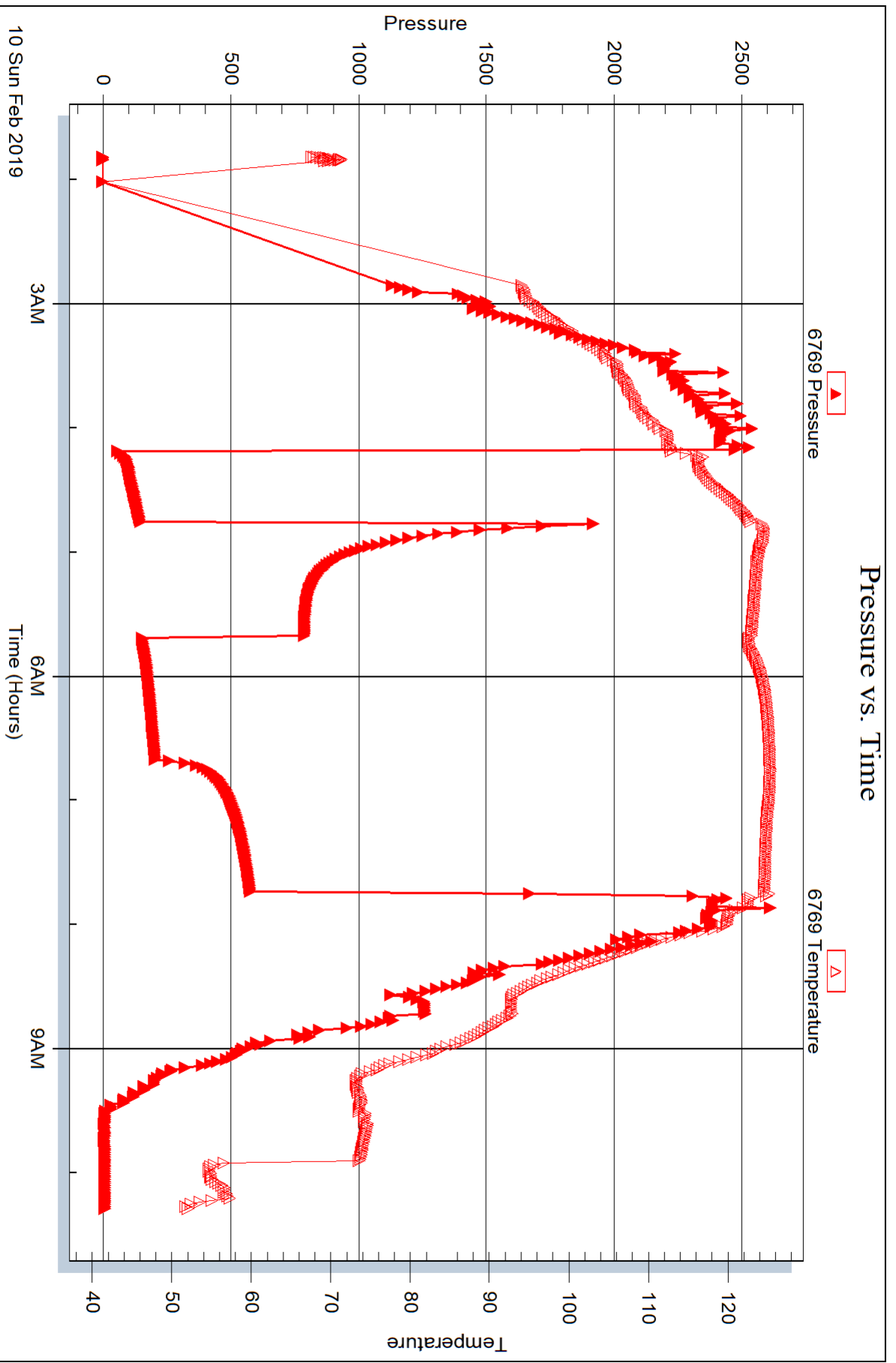


Serial #: 6769

Outside Woodsey Operating Co

McEwain #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Woolsey Operating Co**

125 N. Market STE1000
Wichita KS 67202+1729

ATTN: Bill Klaver

McElwain #1

20-28s-19w Kiowa,KS

Start Date: 2019.02.10 @ 22:09:00

End Date: 2019.02.11 @ 06:41:40

Job Ticket #: 64987 DST #: 2

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

Printed: 2019.02.13 @ 15:34:28



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64987

DST#: 2

ATTN: Bill Klaver

Test Start: 2019.02.10 @ 22:09:00

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:37:40

Time Test Ended: 06:41:40

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

Interval: 4876.00 ft (KB) To 4924.00 ft (KB) (TVD)

Reference Elevations: 2298.00 ft (KB)

Total Depth: 4924.00 ft (KB) (TVD)

2288.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6772 Inside

Press@RunDepth: 428.56 psig @ 4877.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.02.10

End Date:

2019.02.11

Last Calib.: 2019.02.11

Start Time: 22:09:01

End Time:

06:41:40

Time On Btm: 2019.02.11 @ 00:31:50

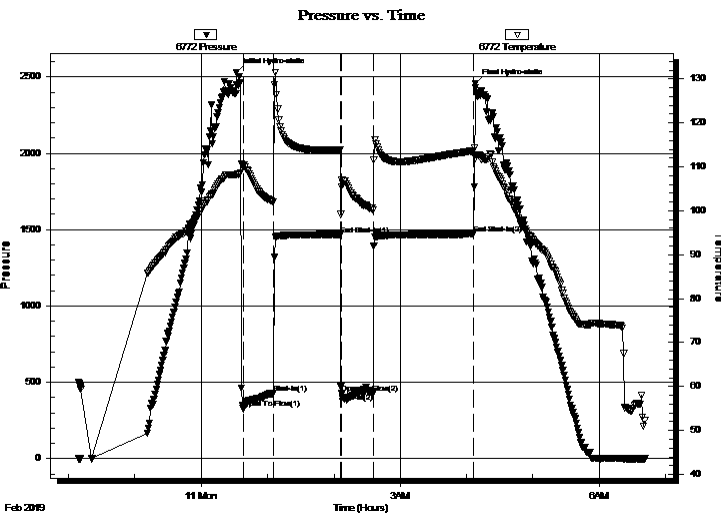
Time Off Btm: 2019.02.11 @ 04:07:50

TEST COMMENT: I.F.-30-BOB 15 sec built to 120 psi- gas to surface 8 mins

I.S.I.-60- weak blow back died 30 mins

F.F.-30- Built to 120 psi

F.S.I.-90-weak blow back died in 45 mins



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2529.67	108.17	Initial Hydro-static
6	327.79	110.37	Open To Flow (1)
34	428.16	101.93	Shut-In(1)
94	1468.45	113.82	End Shut-In(1)
95	429.14	105.40	Open To Flow (2)
124	428.56	100.14	Shut-In(2)
215	1470.14	113.65	End Shut-In(2)
217	2456.13	111.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	WCM 10%W 90%M	0.34
0.00	GTS 8 mins	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	120.00	3863.84
Last Gas Rate	1.00	120.00	3863.84
Max. Gas Rate	1.00	120.00	3863.84



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Woolsey Operating Co
 125 N. Market STE1000
 Wichita KS 67202+1729
 ATTN: Bill Klaver

20-28s-19w Kiowa,KS

McElwain #1

Job Ticket: 64987

DST#: 2

Test Start: 2019.02.10 @ 22:09:00

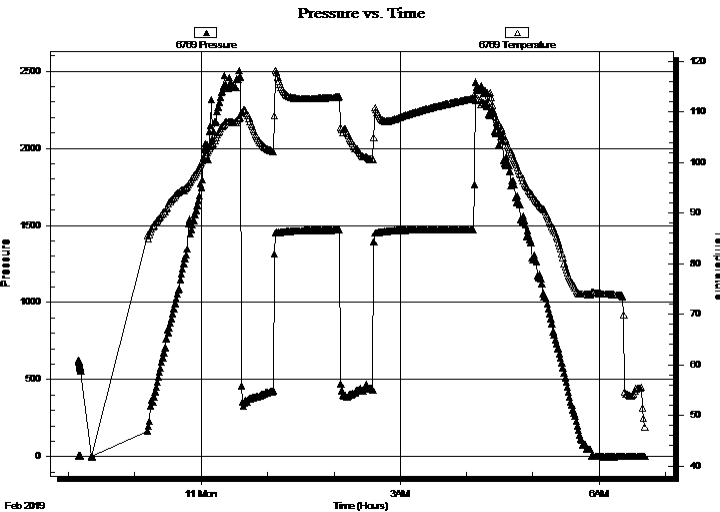
GENERAL INFORMATION:

Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:37:40
 Time Test Ended: 06:41:40
 Interval: **4876.00 ft (KB) To 4924.00 ft (KB) (TVD)**
 Total Depth: 4924.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Benny Mulligan
 Unit No: 66
 Reference Elevations: 2298.00 ft (KB)
 2288.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 6769 Outside

Press@RunDepth: psig @ 4877.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.02.10 End Date: 2019.02.11 Last Calib.: 2019.02.11
 Start Time: 22:09:01 End Time: 06:41:40 Time On Btm:
 Time Off Btm:

TEST COMMENT: I.F.-30-BOB 15 sec built to 120 psi- gas to surface 8 mins
 I.S.I.-60- weak blow back died 30 mins
 F.F.-30- Built to 120 psi
 F.S.I.-90-weak blow back died in 45 mins



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
70.00	WCM 10%W 90%M	0.34
0.00	GTS 8 mins	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	120.00	3863.84
Last Gas Rate	1.00	120.00	3863.84
Max. Gas Rate	1.00	120.00	3863.84



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64987

DST#: 2

ATTN: Bill Klaver

Test Start: 2019.02.10 @ 22:09:00

Tool Information

Drill Pipe:	Length: 4752.00 ft	Diameter: 3.88 inches	Volume: 69.49 bbl	Tool Weight: 2500.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 70.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 69000.00 lb
Depth to Top Packer:	4876.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	75.00 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			4850.00	
Shut In Tool	5.00			4855.00	
Hydraulic tool	5.00			4860.00	
Jars	5.00			4865.00	
Safety Joint	2.00			4867.00	
Packer	5.00			4872.00	27.00 Bottom Of Top Packer
Packer	4.00			4876.00	
Stubb	1.00			4877.00	
Recorder	0.00	6772	Inside	4877.00	
Recorder	0.00	6769	Outside	4877.00	
Perforations	10.00			4887.00	
Change Over Sub	1.00			4888.00	
Drill Pipe	32.00			4920.00	
Change Over Sub	1.00			4921.00	
Bullnose	3.00			4924.00	48.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64987

DST#: 2

ATTN: Bill Klaver

Test Start: 2019.02.10 @ 22:09:00

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: 77.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	WCM 10%W 90%M	0.344
0.00	GTS 8 mins	0.000

Total Length: 70.00 ft Total Volume: 0.344 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

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64987

DST#: 2

ATTN: Bill Klaver

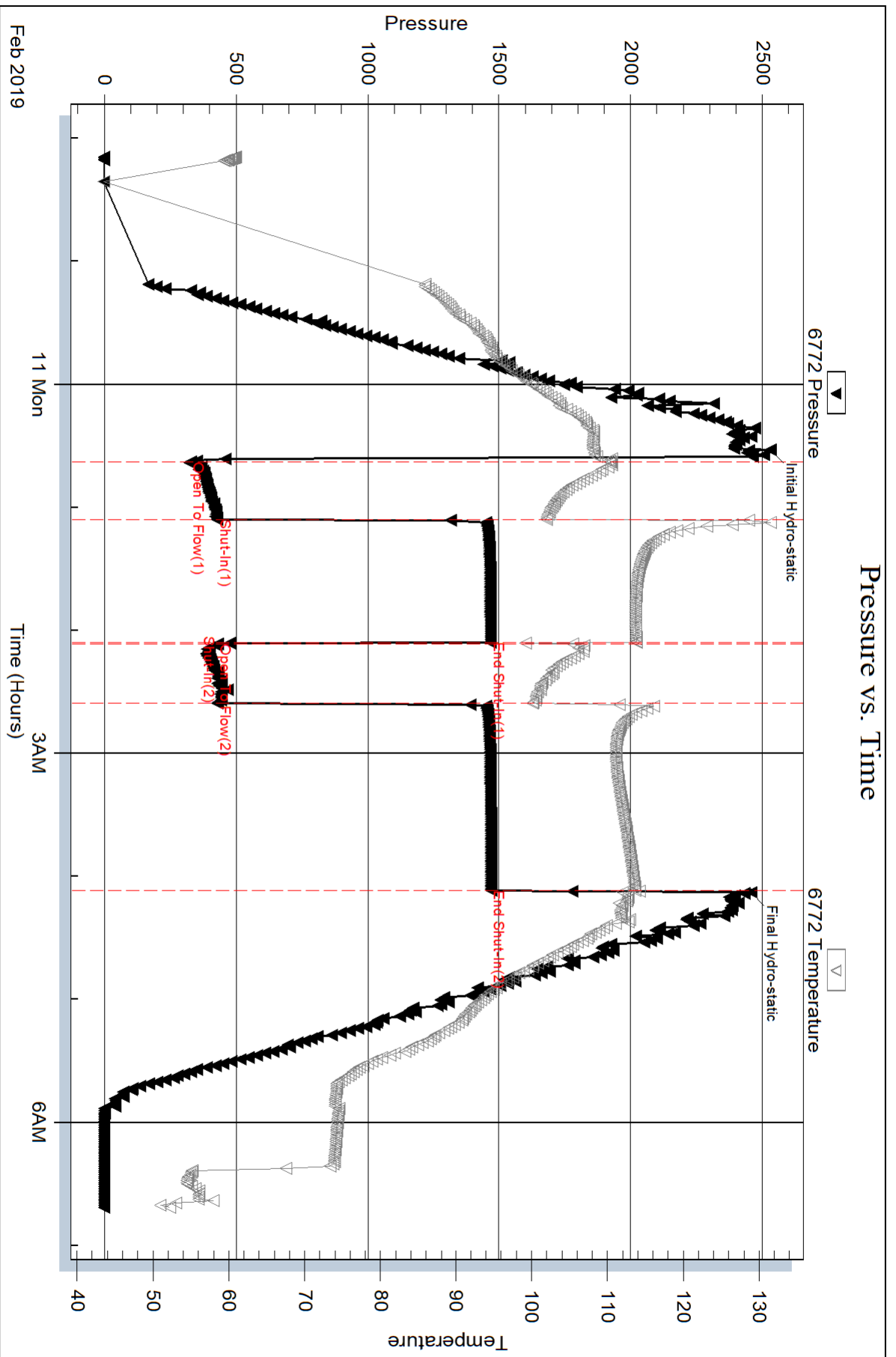
Test Start: 2019.02.10 @ 22:09:00

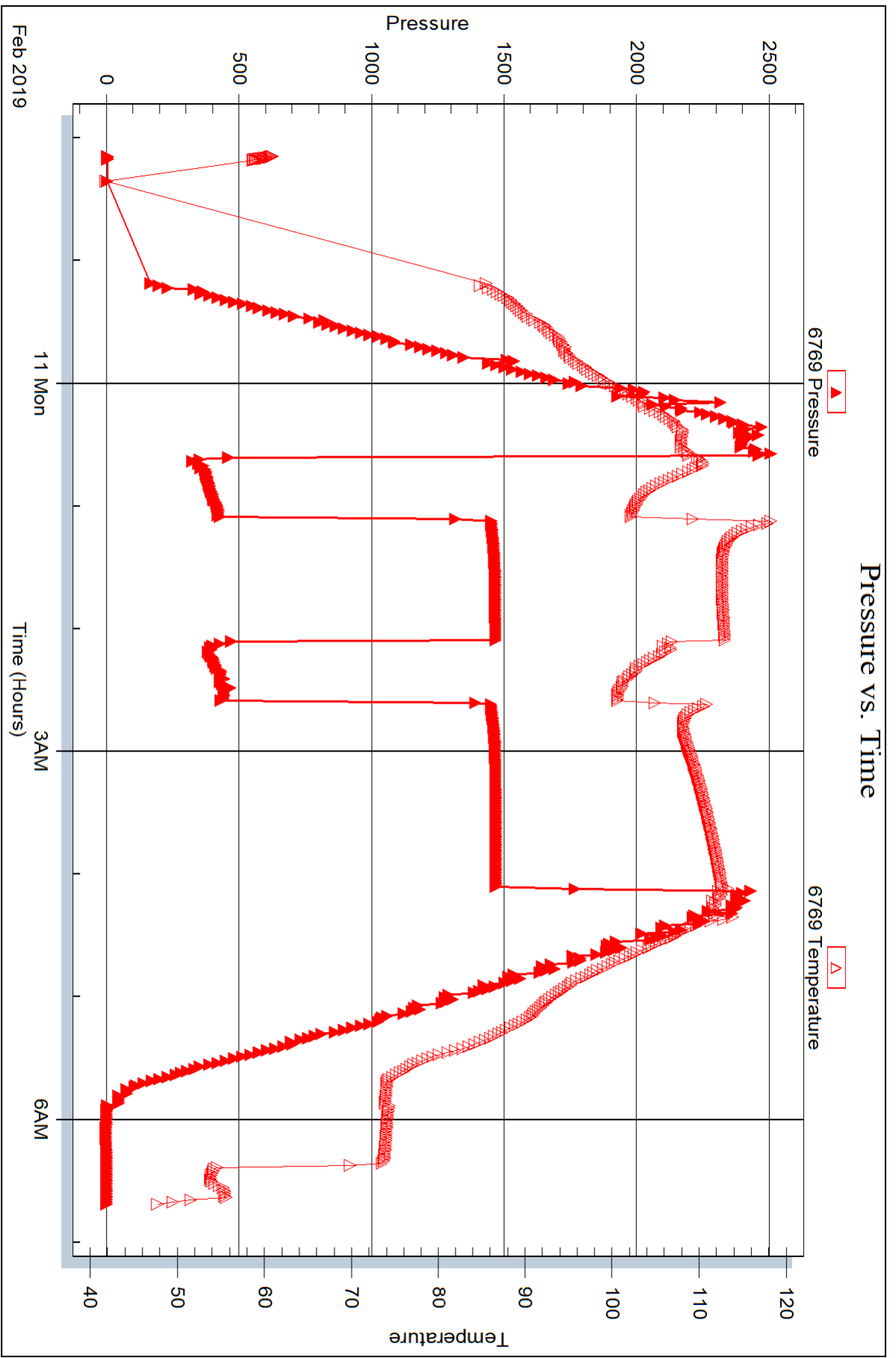
Gas Rates Information

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	20	1.00	120.00	3863.84
1	30	1.00	120.00	3863.84
2	5	1.00	80.00	2713.89
2	10	1.00	105.00	3432.61
2	15	1.00	120.00	3863.84
2	20	1.00	120.00	3863.84
2	30	1.00	120.00	3863.84







DRILL STEM TEST REPORT

Prepared For: **Woolsey Operating Co**

125 N. Market STE1000
Wichita KS 67202+1729

ATTN: Bill Klaver

McElwain #1

20-28s-19w Kiowa,KS

Start Date: 2019.02.11 @ 16:26:00

End Date: 2019.02.11 @ 23:40:39

Job Ticket #: 64988 DST #: 3

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

Printed: 2019.02.13 @ 15:34:07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64988

DST#: 3

ATTN: Bill Klaver

Test Start: 2019.02.11 @ 16:26:00

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:38:10

Time Test Ended: 23:40:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

Interval: 4928.00 ft (KB) To 4950.00 ft (KB) (TVD)

Reference Elevations: 2298.00 ft (KB)

Total Depth: 4950.00 ft (KB) (TVD)

2288.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6772 Inside

Press@RunDepth: 78.09 psig @ 4929.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.02.11

End Date:

2019.02.11

Last Calib.:

2019.02.11

Start Time: 16:26:01

End Time:

23:40:40

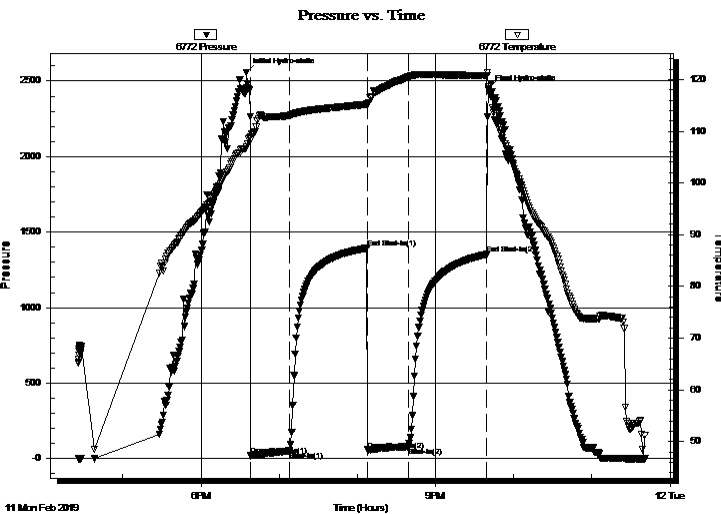
Time On Btm:

2019.02.11 @ 18:34:50

Time Off Btm:

2019.02.11 @ 21:40:39

TEST COMMENT: I.F.-30- built to 2 1/2 "
I.S.I.-60- no blow back
F.F.-30- no blow
F.S.I.-60-no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2557.43	107.01	Initial Hydro-static
4	19.10	108.47	Open To Flow (1)
33	51.29	113.05	Shut-In(1)
93	1393.72	115.22	End Shut-In(1)
94	57.74	115.25	Open To Flow (2)
124	78.09	120.50	Shut-In(2)
185	1352.97	120.79	End Shut-In(2)
186	2446.77	118.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCW 20%M 80%W	0.30
70.00	HMCW 40%M 60%W	0.42

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Woolsey Operating Co

125 N. Market STE1000
Wichita KS 67202+1729

ATTN: Bill Klaver

20-28s-19w Kiowa, KS

McElwain #1

Job Ticket: 64988

DST#: 3

Test Start: 2019.02.11 @ 16:26:00

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:38:10

Time Test Ended: 23:40:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

Interval: 4928.00 ft (KB) To 4950.00 ft (KB) (TVD)

Reference Elevations: 2298.00 ft (KB)

Total Depth: 4950.00 ft (KB) (TVD)

2288.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6769

Outside

Press@RunDepth: psig @ 4929.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.02.11

End Date:

2019.02.11

Last Calib.:

2019.02.11

Start Time: 16:26:01

End Time:

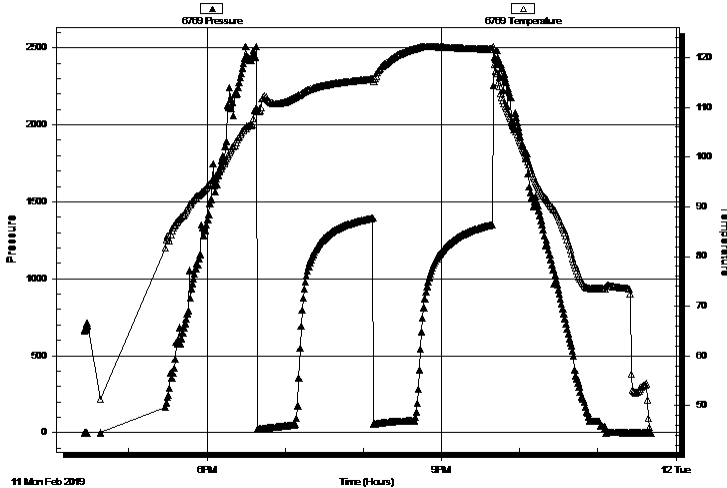
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Time On Btm:

Time Off Btm:

TEST COMMENT: I.F.-30- built to 2 1/2 "
I.S.I.-60- no blow back
F.F.-30- no blow
F.S.I.-60-no blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCW 20%M 80%W	0.30
70.00	HMCW 40%M 60%W	0.42

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64988

DST#: 3

ATTN: Bill Klaver

Test Start: 2019.02.11 @ 16:26:00

Tool Information

Drill Pipe:	Length: 4786.00 ft	Diameter: 3.88 inches	Volume: 69.99 bbl	Tool Weight: 2500.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 70.59 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 69000.00 lb
Depth to Top Packer:	4928.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	49.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4902.00	
Shut In Tool	5.00			4907.00	
Hydraulic tool	5.00			4912.00	
Jars	5.00			4917.00	
Safety Joint	2.00			4919.00	
Packer	5.00			4924.00	27.00 Bottom Of Top Packer
Packer	4.00			4928.00	
Stubb	1.00			4929.00	
Recorder	0.00	6772	Inside	4929.00	
Recorder	0.00	6769	Outside	4929.00	
Perforations	18.00			4947.00	
Bullnose	3.00			4950.00	22.00 Bottom Packers & Anchor

Total Tool Length: 49.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co

20-28s-19w Kiowa,KS

125 N. Market STE1000
Wichita KS 67202+1729

McElwain #1

Job Ticket: 64988

DST#: 3

ATTN: Bill Klaver

Test Start: 2019.02.11 @ 16:26:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

65000 ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	MCW 20%M 80%W	0.295
70.00	HMCW 40%M 60%W	0.422

Total Length: 130.00 ft

Total Volume: 0.717 bbl

Num Fluid Samples: 0

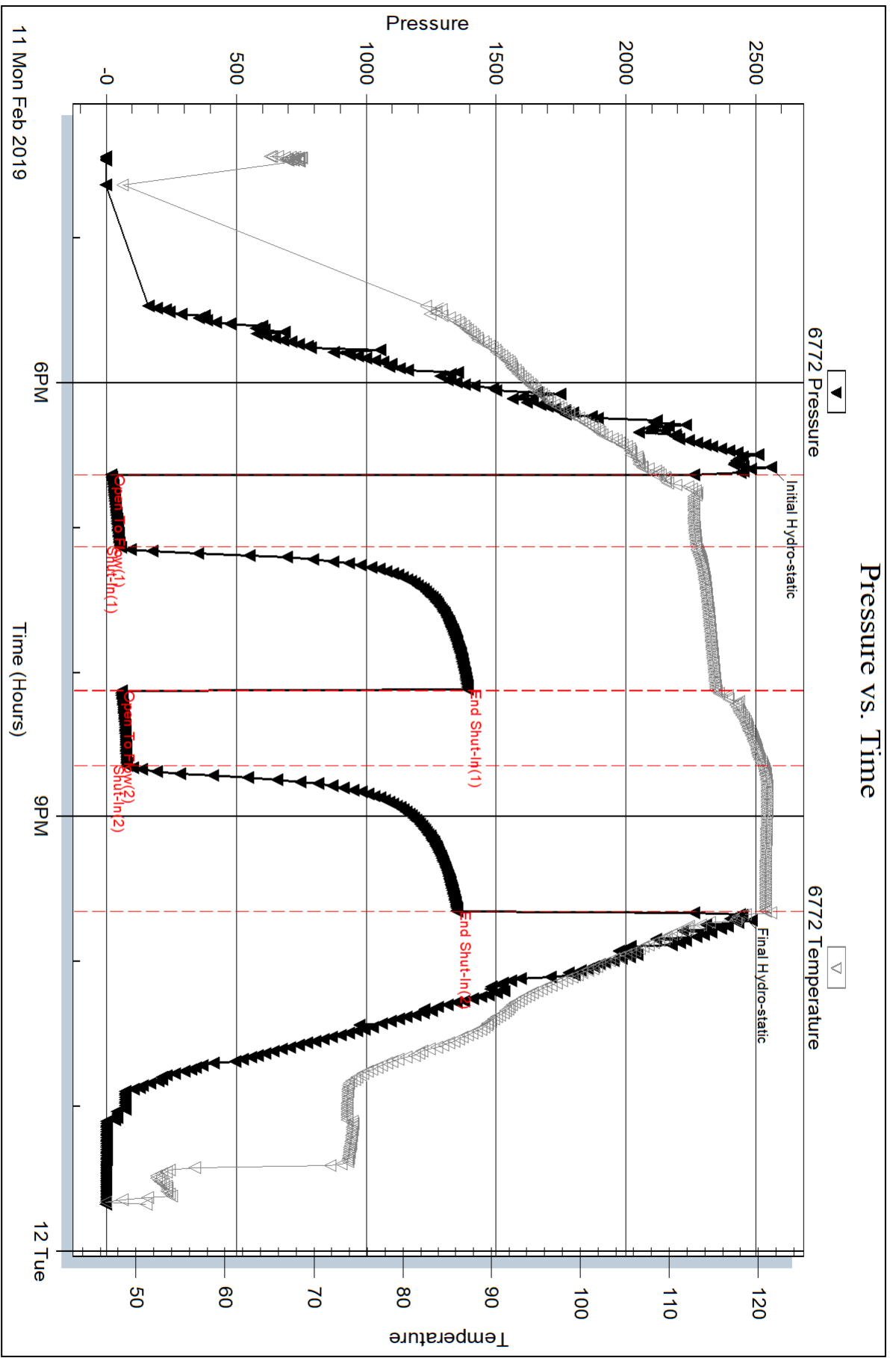
Num Gas Bombs: 0

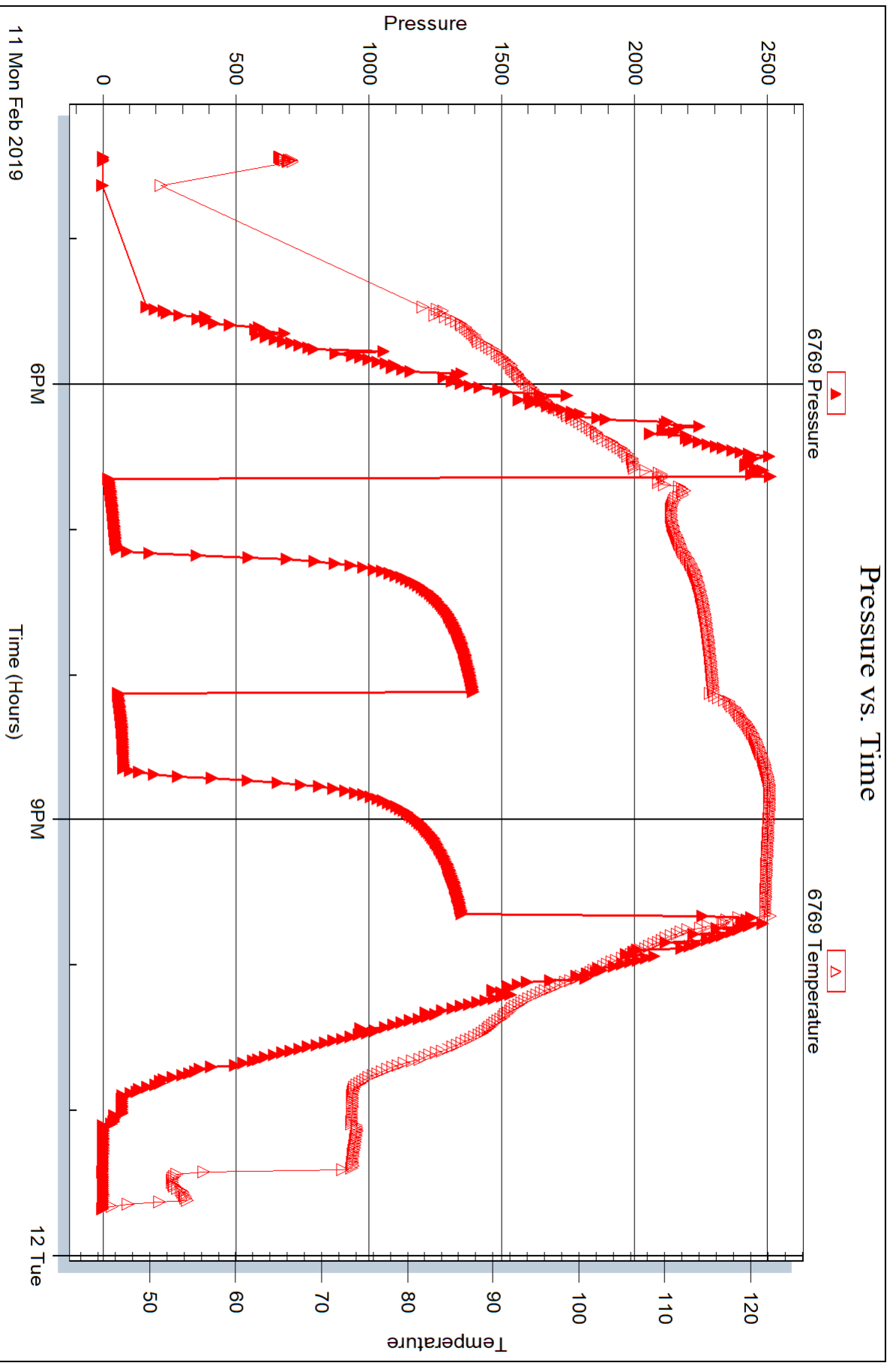
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







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

Well Name: **McELWAIN #1**
 API: **15-097-21849-00-00**
 Location: **Section 20 - Township 28 South - Range 19 West**
 License Number: **33168** SOGCMW (5%G, 35%W, 60%M), 180' GCMW (5%G, 70%W, 25%M), 120' GCMW (5%G, 90%W, 5%M), chlorides 28,000 ppm, IHP 2527, IFP 44-172, ICIP 789, FFP 149-209, FCIP 579, FHP 2483. BHT 123 degrees
 Spud Date: **February 4, 2019** Drilling Completed: **February 12, 2019**
 Surface Casing: **1150' FNL & 1800' FEL** Drilling Completed: **February 12, 2019**
 Bottom Hole Coordinates: **SE NW NE**
 Ground Elevation (ft): **2288'** K.B. Elevation (ft): **2300'**
 Logged Interval (ft): **3800'** To: **5022'** Total Depth (ft): **5022'**
 Formation: **Shawnee >>> Mississippian**
 Type of Drilling Fluid: **Chemical Mud Displaced at 3080'**
 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 8:45 am on January 4th, 2019. Set 9 joints of 10 3/4" X 32.75#/ft new surface casing at 395' KB (tally 380.3) w/ 325 sx 60/40 poz mix (by Basic). Plug down at 9:15 on January 4th, 2019. Cement did circulate.
 Production Casing:
 Deviation Surveys: 1 at 397', 1 at 1000', 3/4 at 1539', 3/4 at 2011', 1/2 at 2498', 1 at 3027', 3/4 at 3564', 1/2 at 4005', 1 at 4544', 1 1/4 at 4488', 1 at 5022'.
 Pipe Strap @ 4924'. Board: 4926.58', Strap: 4931.77', Strap 5.9' long. No correction was made to the board.
 Fossil Rig 3 Bit Record:
 1) 14 3/4" Varel RR in at 0' out at 397', 7 1/4 hours
 2) 7 7/8" Hughes Tool Co. in at 397', out at 4950'. 72 hrs
 3) 7 7/8" Varel HE-21 RR in at 4950', out at 5022'. 4 hrs
 Gas Detector: Pason Systems
 Mud System: Mud-Co. Brad Bortz, Engineer
 DSTs: Tribble Testing, Benny Mulligan, Tester
 E-Logs: ELI, Dual Induction Laterolog w/SPN, CNI-FDC w/PE GR & Calliper, Sonic w/GR. Jason Cappelucci, Engineer

DSTs

DST #1 Cherokee, 4842'-4888', 30"-60"-60"-60", Strong 17" blow on IFP, good 15" blow on FFP, Rec: 75' SOGCMW (5%G, 35%W, 60%M), 180' GCMW (5%G, 70%W, 25%M), 120' GCMW (5%G, 90%W, 5%M), chlorides 28,000 ppm, IHP 2527, IFP 44-172, ICIP 789, FFP 149-209, FCIP 579, FHP 2483. BHT 123 degrees
 DST #2 Mississippi, 4876'-4924', 30"-60"-30"-90", SB GT5 1", IFP: 20" 30" 3.86 MMCF, FFP: 10" 3.43 MMCF, Rec: 70' VSWCM (10%W, 90%M), IHP 2529, FFP 327-428, ICIP 1468, FFP 429-429, FCIP 1470, FHP 2456. BHT 112 degrees
 DST #3 Mississippi, 4928'-4950', 30"-60"-30"-60", weak 2 1/2" blow died. Rec: 130' MW (70%W, 30%M), IHP 2557, IFP 19-51, ICIP 1393, FFP 57-78, FCIP 1352, FHP 2446, BHT 118 degrees

CREWS

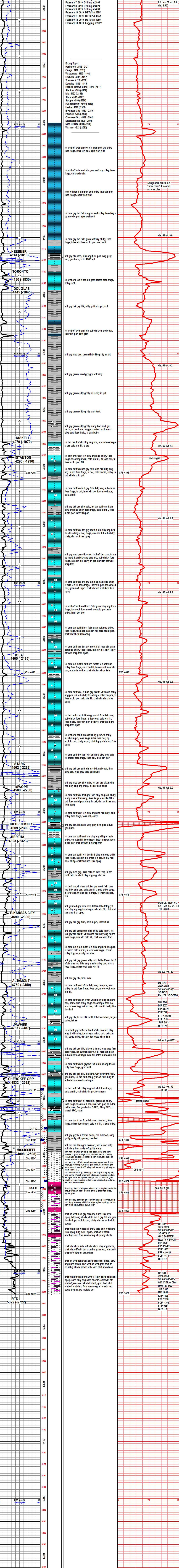
Rick Barriger, Jason Barriger Tool Pushers
 Tyler Tresner, Morning
 Pablo Luna, Days
 Chris Statts, Evening

ROCK TYPES

Anhy	Dol	Siltst	Shale 3
Bent	Sdy	Ss	Silty dol
Brec	Gyp	Black sh	Dol lmst
Cht	Sdy lmst	Gry sh	Dol 2
Clyst	Lmst	Shale	Granite wash
Coal	Mlrst	Shale	Calc dol
Salt	Salt	Shlystst	Shale 3
Condyl	Slate	Slysh	
Sdy dolo		Ss 2	

ACCESSORIES

MINERAL	Chlorite	Pelec	Grysh
Anhy	Dol	Pellet	Gryst
Arg	Sand	Pisolite	Lms
Bent	Silty	Plant	Sandylms
Bit		Strom	Sh
Brcfrag		Fuss	Sltstn
Calc		Oomoldic	
Carb			
Chitdk			
Chitl			
Dol			
Ferrpel			
Glau			
Gyp			
Marl			
Nodule			
Phos			
Pyr			
Salt			
Sandy			
Silt			



Woolsey Operating Company, LLC
 1150' FNL & 1800' FEL
 C SE NW NE
 Sec. 20 - Twp 28 South - Rge 19 West
 Kiowa County, Kansas
 Field: Joy Station
 GL 2288' KB 2300'
 API # 15-097-21849-00-00