

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD
 Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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BASIC

energy services, L.P.

TREATMENT REPORT

Customer <i>Wooten Operating Co.</i>		Lease No.		Date	
Lease <i>Pratt</i>		Well # <i>1</i>		<i>12/18/17</i>	
Field Order # <i>16150A</i>	Station <i>Pratt KS</i>	Casing <i>5 1/2</i>	Depth <i>5125'</i>	County <i>Pratt</i>	State <i>KS</i>
Type/Job <i>5 1/2 Production Casing</i>	Formation <i>242</i>		Legal Description <i>15 295 18 W</i>		

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>5 1/2</i>				Pre Pad	Max		5 Min.	
Depth <i>5125'</i>	Depth	From	To	Pad	Min		10 Min.	
Volume <i>111,975</i>	Volume	From	To	Frac	Avg		15 Min.	
Max Press <i>3000</i>	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection <i>5 1/2</i>	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth	Packer Depth	From	To					

Customer Representative <i>Alan Dick</i>			Station Manager <i>Justin Wenterman</i>			Treater <i>Scott Gross</i>		
Service Units	<i>78956</i>	<i>78957</i>	<i>86775</i>					
Driver Names	<i>Scott Wagon</i>		<i>Dylan</i>					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>10:00</i>					<i>On location Safety Meeting. Rig up</i>
<i>1:00</i>					<i>Float Line, Turbos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10</i>
					<i>Scratchers 6, 7, 8, 9</i>
<i>5:05</i>					<i>Break Circulation 1 hour</i>
<i>6:10</i>	<i>375</i>			<i>6</i>	<i>Pump 110 spms</i>
<i>6:11</i>	<i>300</i>		<i>5</i>	<i>6</i>	<i>Start Scavenger Cement 50 spms</i>
<i>6:14</i>	<i>350</i>		<i>14.87</i>	<i>6</i>	<i>Start AA2 Cement 170 spms</i>
<i>6:19</i>	<i>0</i>		<i>30.56</i>	<i>0</i>	<i>Shut down</i>
<i>6:20</i>					<i>Work pump & lines clear</i>
<i>6:22</i>	<i>200</i>			<i>7.5</i>	<i>Start displacement</i>
<i>6:34</i>	<i>900</i>		<i>86</i>	<i>7.5</i>	<i>1/11 pressure</i>
<i>6:41</i>	<i>650</i>		<i>24</i>	<i>3.5</i>	<i>Reduce Rate</i>
<i>6:43</i>	<i>750</i>		<i>10.5</i>	<i>3.5</i>	<i>Plug inserted</i>
<i>6:44</i>	<i>1500</i>			<i>3.5</i>	<i>Pressure up</i>
<i>6:44</i>	<i>1500</i>				<i>Shut down Pressure Hold</i>
<i>6:45</i>	<i>0</i>				<i>Release Pressure No Returns</i>
<i>6:50</i>			<i>7.5</i>	<i>3</i>	<i>Plug Rat hole 30 spms 60%K</i>
<i>6:55</i>			<i>5</i>	<i>3</i>	<i>Plug Mouse hole 70 spms 60%K</i>
<i>7:00</i>					<i>Work up equipment</i>
<i>7:20</i>					<i>Job Complete</i>



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Woolsey Operating Co
 125 N Market Ste 1000
 Wichita, KS 67202
 ATTN: Bill Klaver

15-29S-19W Kiowa
Dargel 1
 Job Ticket: 63641 **DST#: 1**
 Test Start: 2017.12.10 @ 22:40:00

GENERAL INFORMATION:

Formation: **Emporia**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:35:45
 Time Test Ended: 05:42:45
Interval: 3485.00 ft (KB) To 3511.00 ft (KB) (TVD)
 Total Depth: 3511.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

**MISRUN
 PLUGGED TOOL
 SLID 16' TO BOTTOM**

Test Type: Conventional Bottom Hole (Initial)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 2183.00 ft (KB)
 2171.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 6798

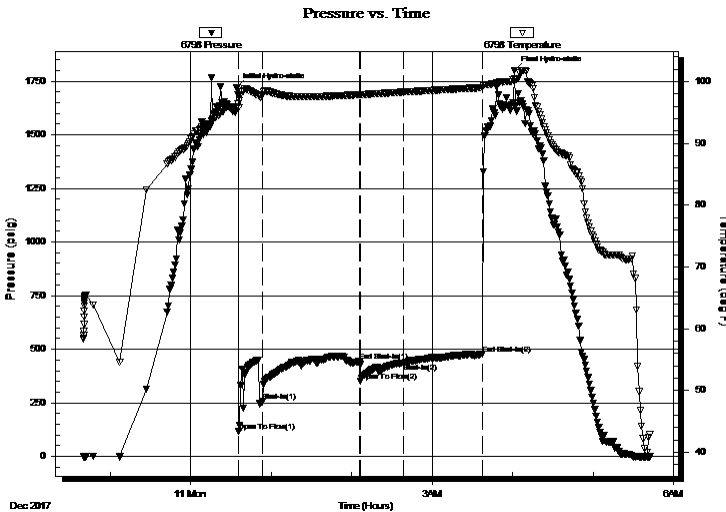
Inside

Press@RunDepth: 434.39 psig @ 3486.00 ft (KB)
 Start Date: 2017.12.10 End Date: 2017.12.11
 Start Time: 22:40:01 End Time: 05:42:45

Capacity: 8000.00 psig
 Last Calib.: 2017.12.11
 Time On Btm: 2017.12.11 @ 00:34:15
 Time Off Btm: 2017.12.11 @ 04:01:15

TEST COMMENT: IF: Fair Blow , Built to 5 inches
 IS: No Blow Back
 FF: No Blow
 FS: No Blow Back

PRESSURE SUMMARY



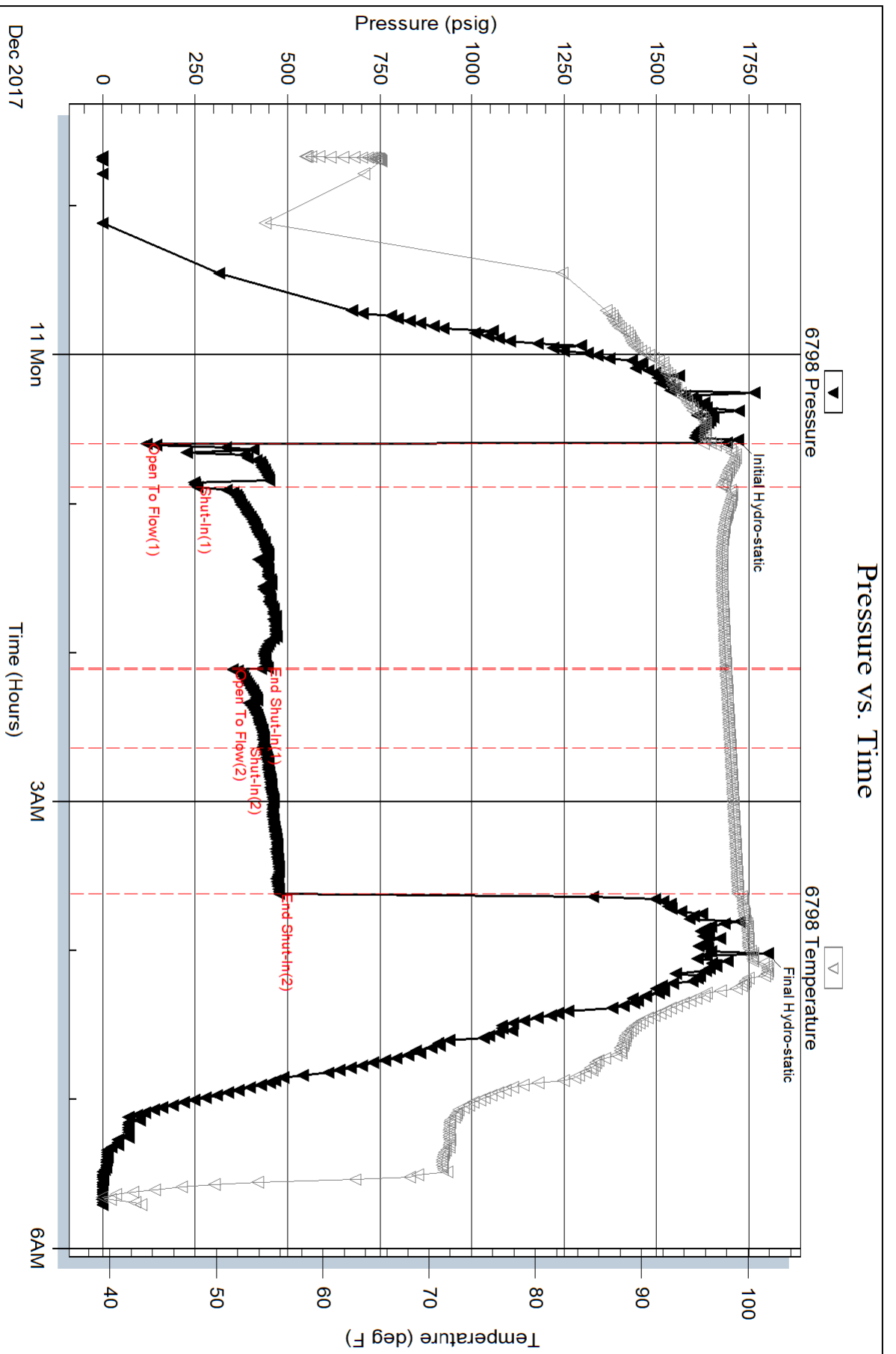
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1719.82	95.98	Initial Hydro-static
2	117.07	95.77	Open To Flow (1)
19	256.19	97.77	Shut-In(1)
92	445.46	97.91	End Shut-In(1)
93	351.19	97.89	Open To Flow (2)
125	434.39	98.32	Shut-In(2)
183	476.44	99.04	End Shut-In(2)
207	1800.03	100.42	Final Hydro-static

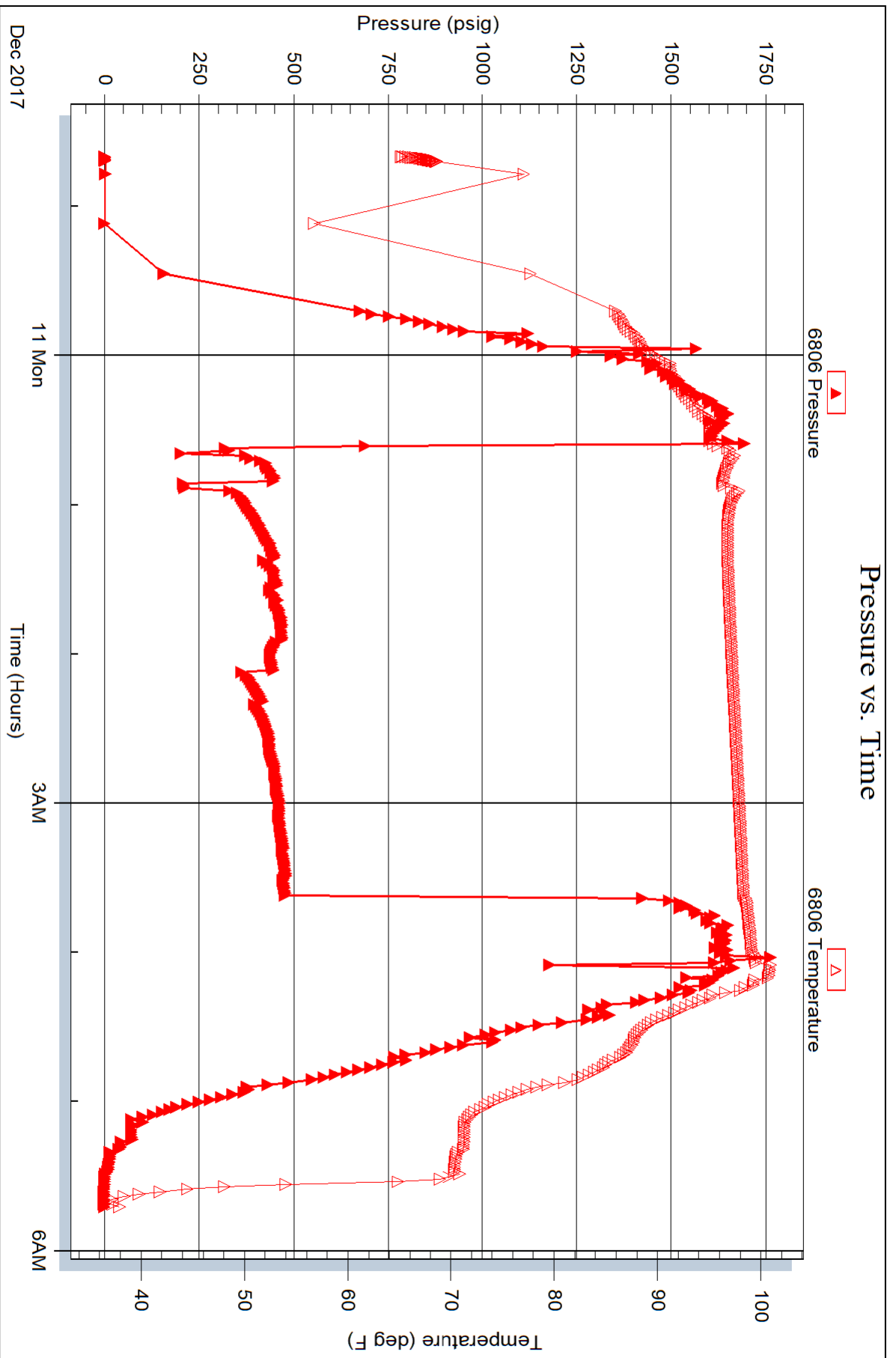
Recovery

Length (ft)	Description	Volume (bbl)
124.00	SGCM 2%G 98%M	0.62

Gas Rates

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







**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Woolsey Operating Co
125 N Market Ste 1000
Wichita, KS 67202
ATTN: Bill Klaver

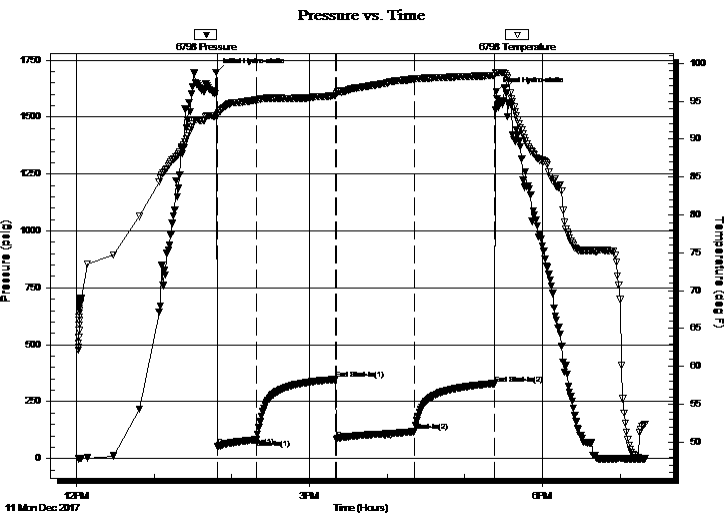
15-29S-19W Kiowa
Dargel 1
Job Ticket: 63642 **DST#: 2**
Test Start: 2017.12.11 @ 12:01:47

GENERAL INFORMATION:

Formation: **Emporia**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:49:02
Time Test Ended: 19:19:02
Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 74
Interval: **3478.00 ft (KB) To 3512.00 ft (KB) (TVD)**
Reference Elevations: 2183.00 ft (KB)
Total Depth: 3512.00 ft (KB) (TVD) 2171.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

Serial #: 6798 Inside
Press@RunDepth: 118.53 psig @ 3479.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.12.11 End Date: 2017.12.11 Last Calib.: 2017.12.11
Start Time: 12:01:48 End Time: 19:19:02 Time On Btm: 2017.12.11 @ 13:48:02
Time Off Btm: 2017.12.11 @ 17:24:32

TEST COMMENT: IF: Fair Blow , BOB in 5 minutes
IS: No Blow Back
FF: Fair Blow , BOB in 20 minutes
FS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1696.13	93.05	Initial Hydro-static
1	54.79	93.27	Open To Flow (1)
32	83.73	95.18	Shut-In(1)
92	347.27	95.75	End Shut-In(1)
93	84.44	95.98	Open To Flow (2)
153	118.53	97.96	Shut-In(2)
215	329.11	98.41	End Shut-In(2)
217	1610.90	98.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	345 GIP	0.00
123.00	MCW 30%M 70%W	0.60
193.00	GCM 10%G 90%M	1.98

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co

15-29S-19W Kiowa

125 N Market Ste 1000
Wichita, KS 67202

Dargel 1

Job Ticket: 63642

DST#: 2

ATTN: Bill Klaver

Test Start: 2017.12.11 @ 12:01:47

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:

31000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8800.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	345 GIP	0.000
123.00	MCW 30%M 70%W	0.605
193.00	GCM 10%G 90%M	1.980

Total Length: 316.00 ft Total Volume: 2.585 bbl

Num Fluid Samples: 0

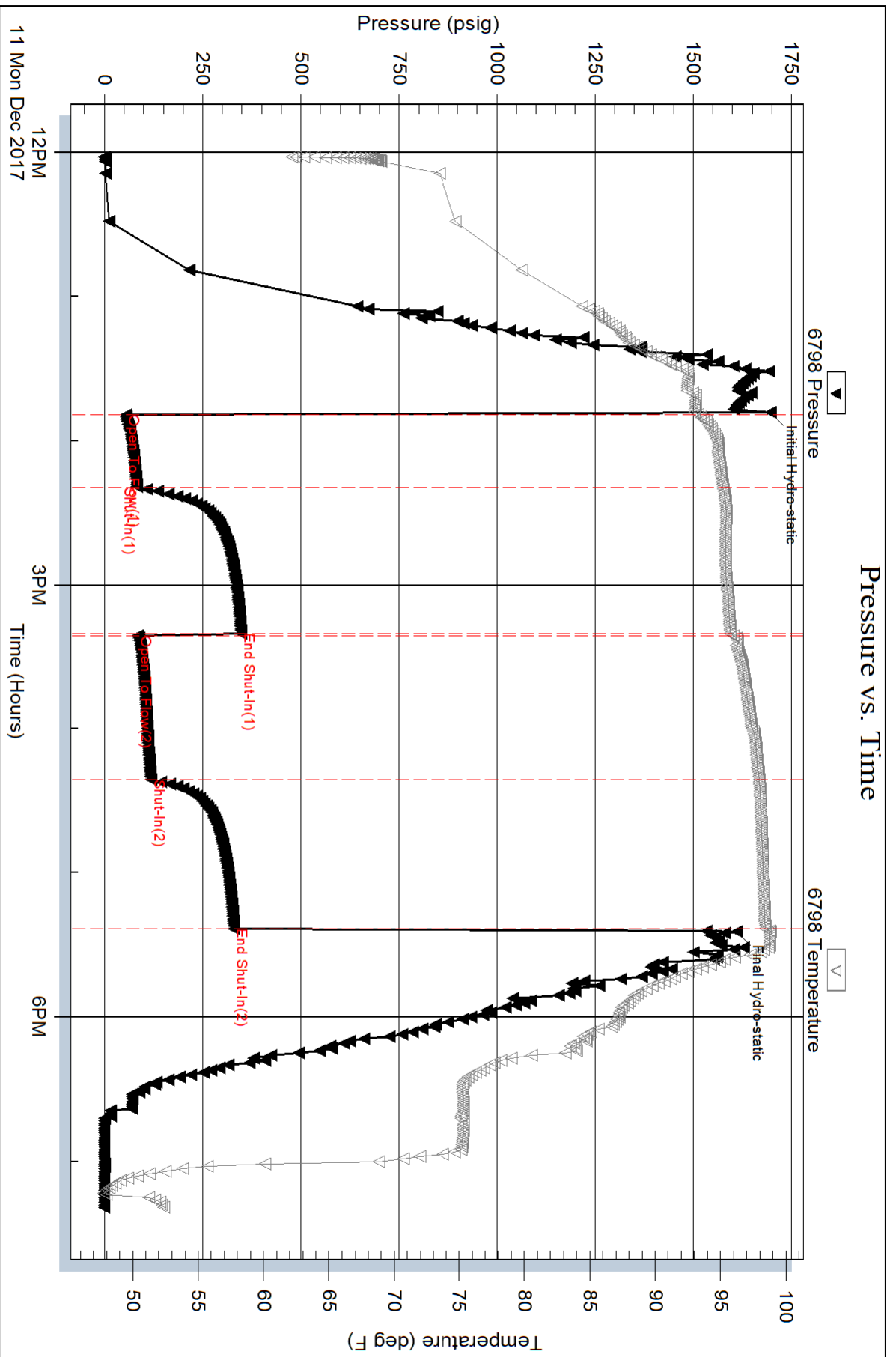
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW w as .3 @ 53 degrees

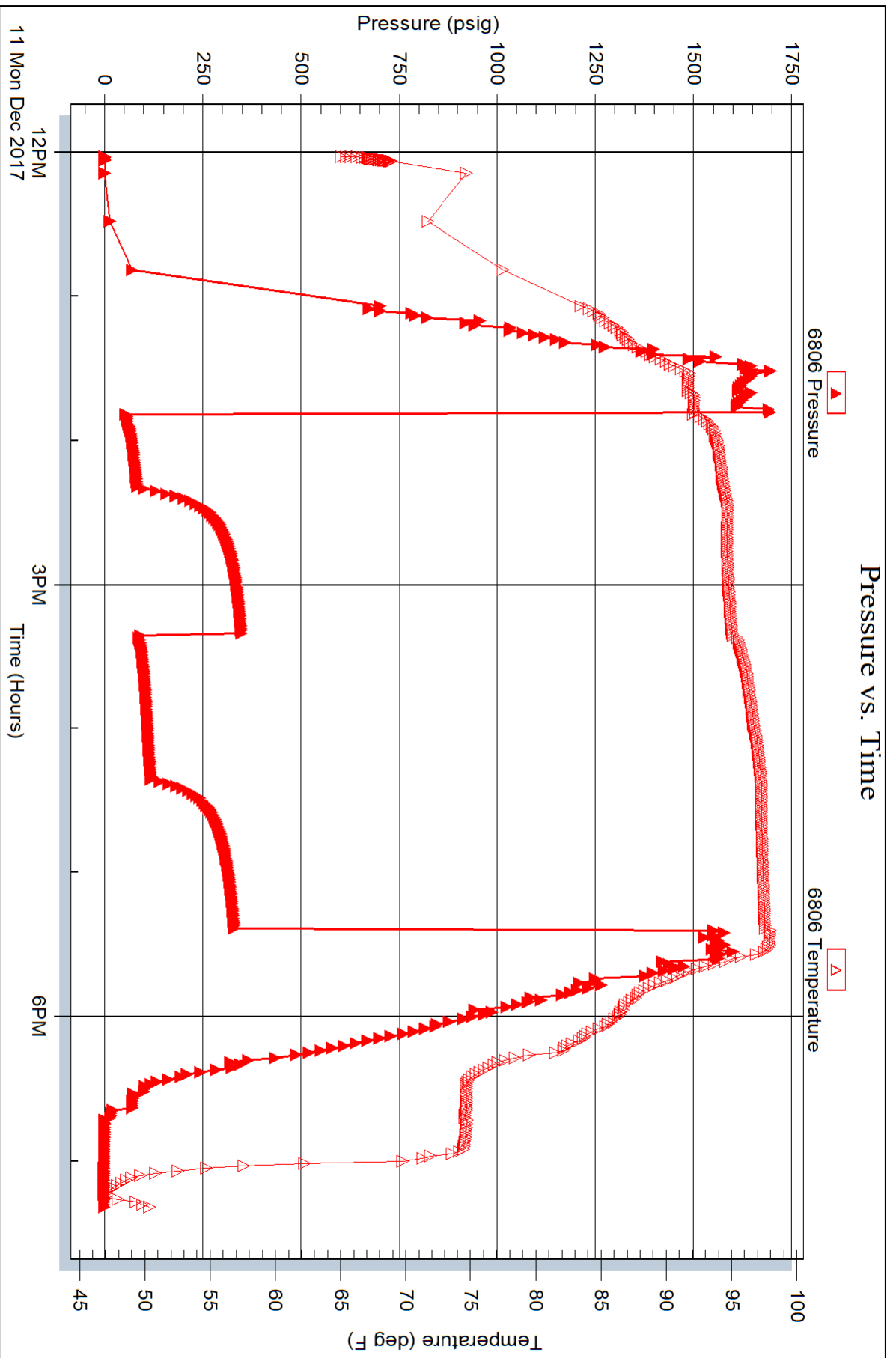


Serial #: 6806

Outside Woodsey Operating Co

Dargel 1

DST Test Number: 2





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Woolsey Operating Co
125 N Market Ste 1000
Wichita, KS 67202
ATTN: Bill Klaver

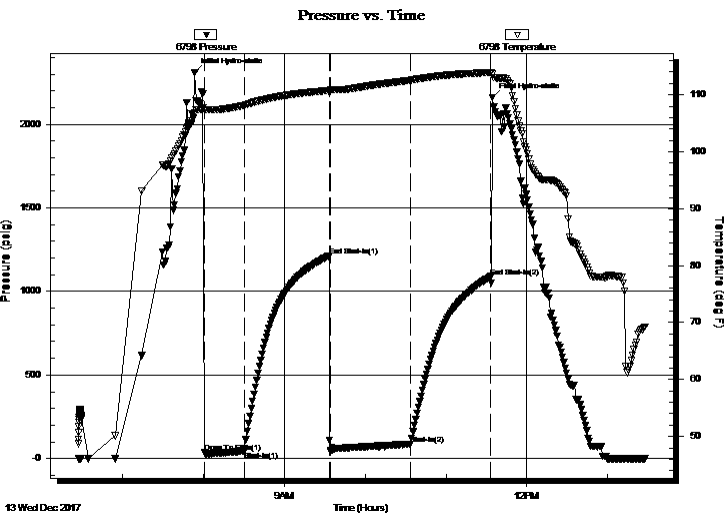
15-29S-19W Kiowa
Dargel 1
Job Ticket: 63643 **DST#: 3**
Test Start: 2017.12.13 @ 06:27:18

GENERAL INFORMATION:

Formation: **Lansing Stanton**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 08:00:33 Tester: Leal Cason
Time Test Ended: 13:27:33 Unit No: 74
Interval: 4248.00 ft (KB) To 4264.00 ft (KB) (TVD) Reference Elevations: 2183.00 ft (KB)
Total Depth: 4264.00 ft (KB) (TVD) 2171.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

Serial #: 6798 Inside
Press@RunDepth: 86.83 psig @ 4249.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.12.13 End Date: 2017.12.13 Last Calib.: 2017.12.13
Start Time: 06:27:19 End Time: 13:27:33 Time On Btm: 2017.12.13 @ 07:53:33
Time Off Btm: 2017.12.13 @ 11:34:33

TEST COMMENT: IF: Strong Blow , BOB in 10 seconds
IS: 1/2 inch Blow Back
FF: Strong Blow , BOB in 1 minute, GTS in 22 minutes, TSTM, Caught Sample
FS: 1/4 inch Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2310.49	106.90	Initial Hydro-static
7	35.27	107.45	Open To Flow (1)
37	43.56	108.15	Shut-In(1)
100	1211.55	110.77	End Shut-In(1)
101	45.03	110.72	Open To Flow (2)
161	86.83	112.56	Shut-In(2)
220	1089.76	113.94	End Shut-In(2)
221	2161.60	113.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
63.00	Water	0.31
62.00	GOMCW 2%G 4%O 12%M 82%W	0.32

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co

15-29S-19W Kiowa

125 N Market Ste 1000
Wichita, KS 67202

Dargel 1

Job Ticket: 63643

DST#: 3

ATTN: Bill Klaver

Test Start: 2017.12.13 @ 06:27:18

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:

47000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10800.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	GTS	0.000
63.00	Water	0.310
62.00	GOMCW 2%G 4%O 12%M 82%W	0.316

Total Length: 125.00 ft Total Volume: 0.626 bbl

Num Fluid Samples: 0

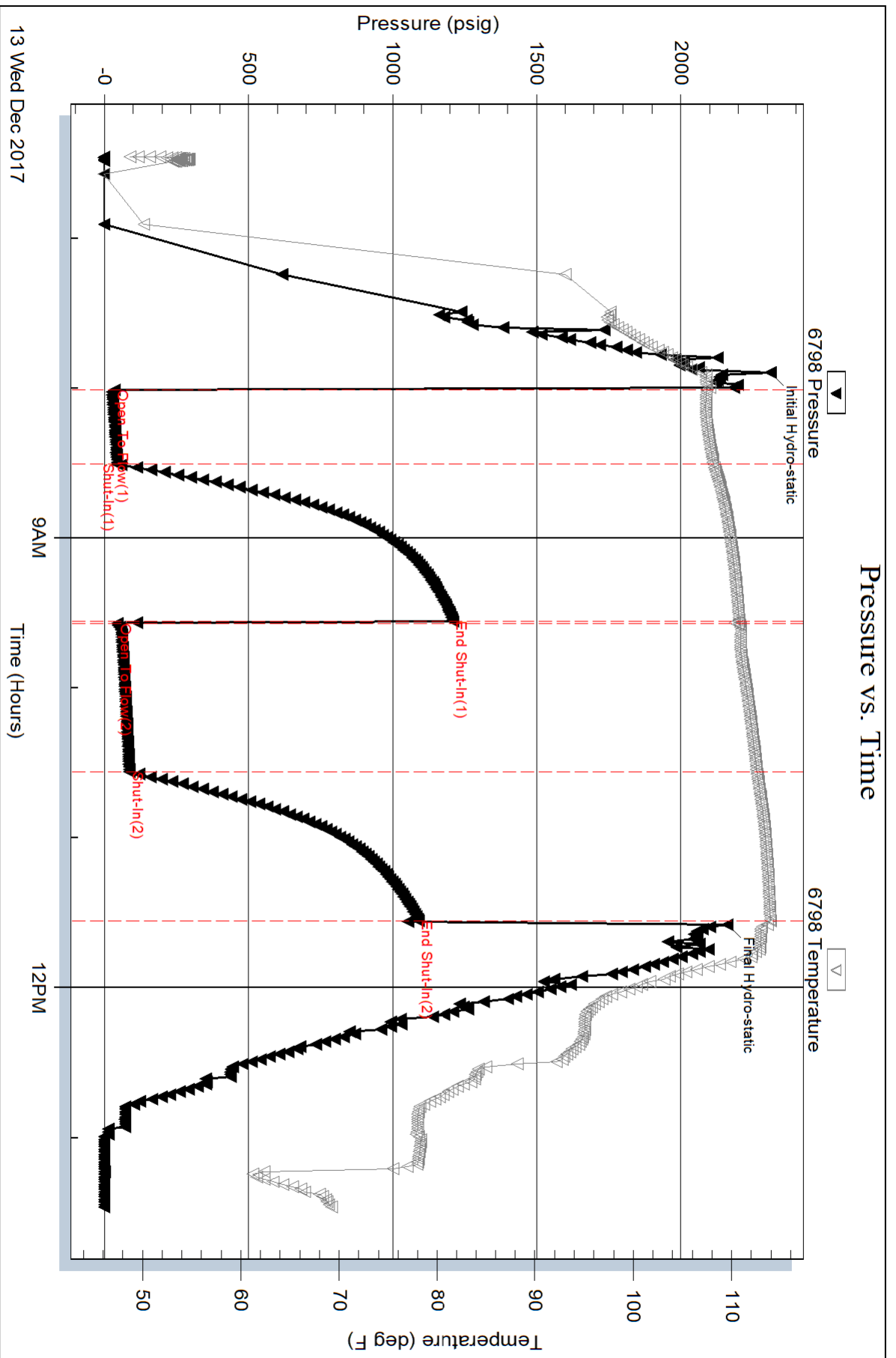
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW w as .16 @ 70 degrees

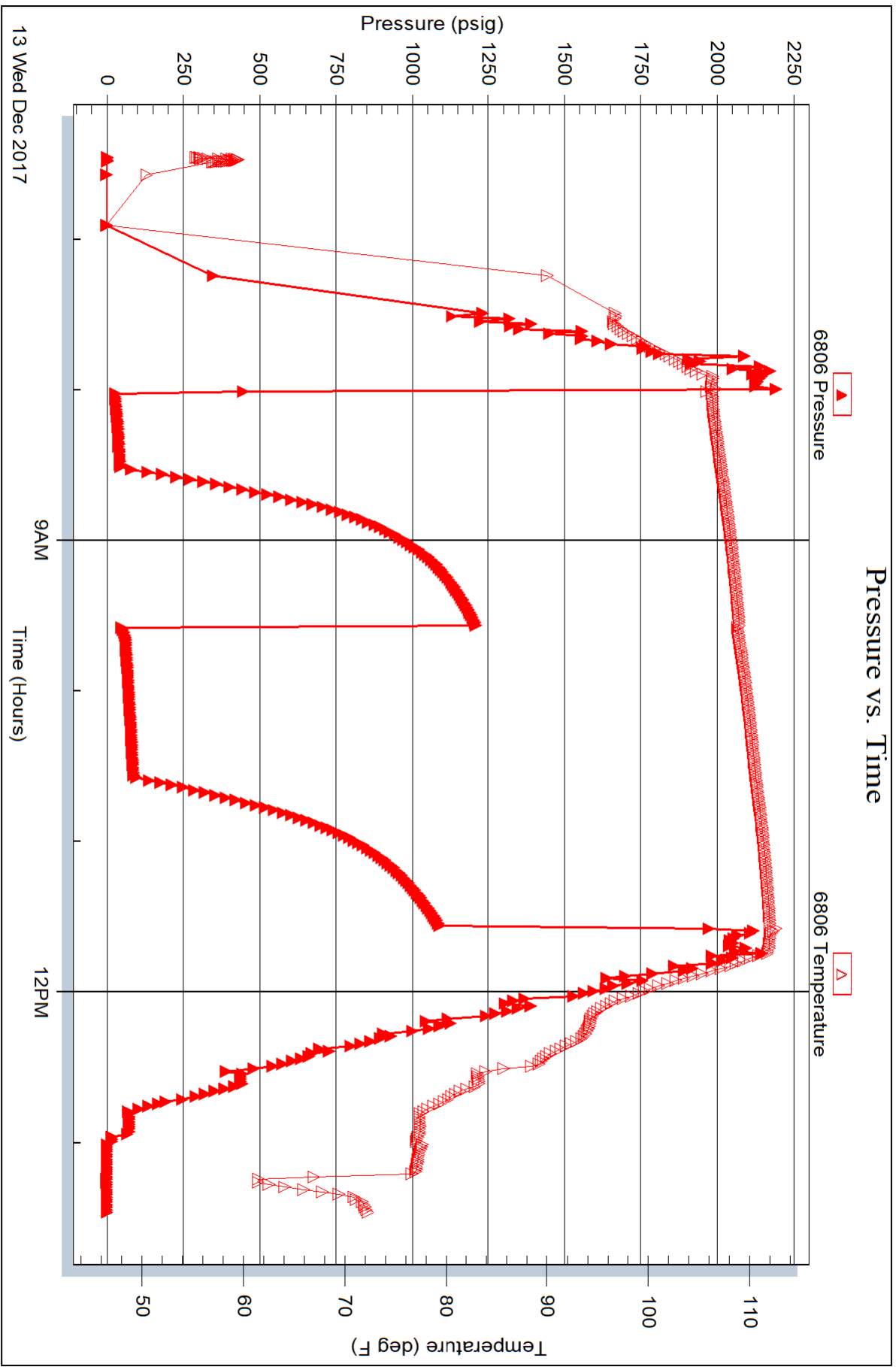


Serial #: 6806

Outside Woodsey Operating Co

Dargel 1

DST Test Number: 3





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Woolsey Operating Co
 125 N Market Ste 1000
 Wichita, KS 67202
 ATTN: Bill Klaver

15-29S-19W Kiowa
Dargel 1
 Job Ticket: 63644 **DST#: 4**
 Test Start: 2017.12.15 @ 16:48:15

GENERAL INFORMATION:

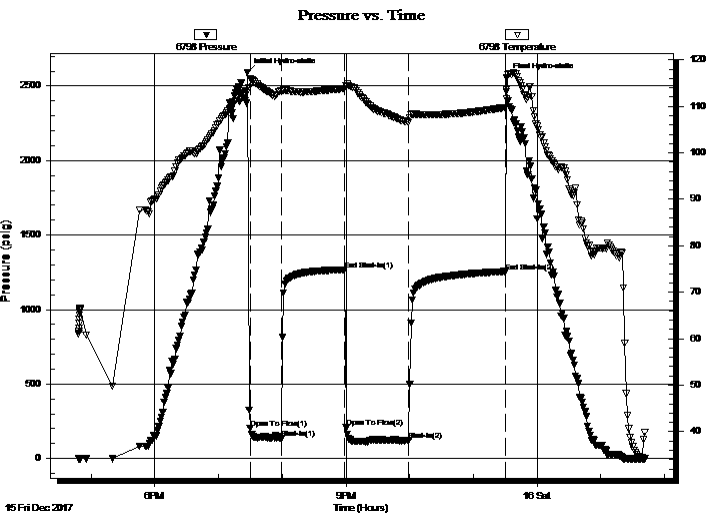
Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:29:45
 Time Test Ended: 01:42:00
 Interval: **4812.00 ft (KB) To 4874.00 ft (KB) (TVD)**
 Total Depth: 4874.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 2183.00 ft (KB)
 2171.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 6798

Inside

Press@RunDepth: 124.64 psig @ 4813.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.12.15 End Date: 2017.12.16 Last Calib.: 2017.12.16
 Start Time: 16:48:16 End Time: 01:42:00 Time On Btm: 2017.12.15 @ 19:27:30
 Time Off Btm: 2017.12.15 @ 23:31:00

TEST COMMENT: IF: Strong Blow , BOB in 30 seconds, GTS in 6 minutes, Gauged & Caught Sample
 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	2591.57	113.29	Initial Hydro-static
3	203.35	115.95	Open To Flow (1)
32	133.77	113.27	Shut-In(1)
92	1267.25	113.81	End Shut-In(1)
93	206.83	114.34	Open To Flow (2)
152	124.64	106.48	Shut-In(2)
243	1255.24	109.77	End Shut-In(2)
244	2554.80	111.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	4644 GIP	0.00
153.00	GCM 5%G 95%M	0.91

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	32.00	215.86
Last Gas Rate	0.50	24.00	161.90
Max. Gas Rate	0.50	36.00	242.84

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co

15-29S-19W Kiowa

125 N Market Ste 1000
Wichita, KS 67202

Dargel 1

Job Ticket: 63644

DST#: 4

ATTN: Bill Klaver

Test Start: 2017.12.15 @ 16:48:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9400.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	4644 GIP	0.000
153.00	GCM 5%G 95%M	0.913

Total Length: 153.00 ft

Total Volume: 0.913 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

15-29S-19W Kiowa

125 N Market Ste 1000
Wichita, KS 67202

Dargel 1

Job Ticket: 63644

DST#: 4

ATTN: Bill Klaver

Test Start: 2017.12.15 @ 16:48:15

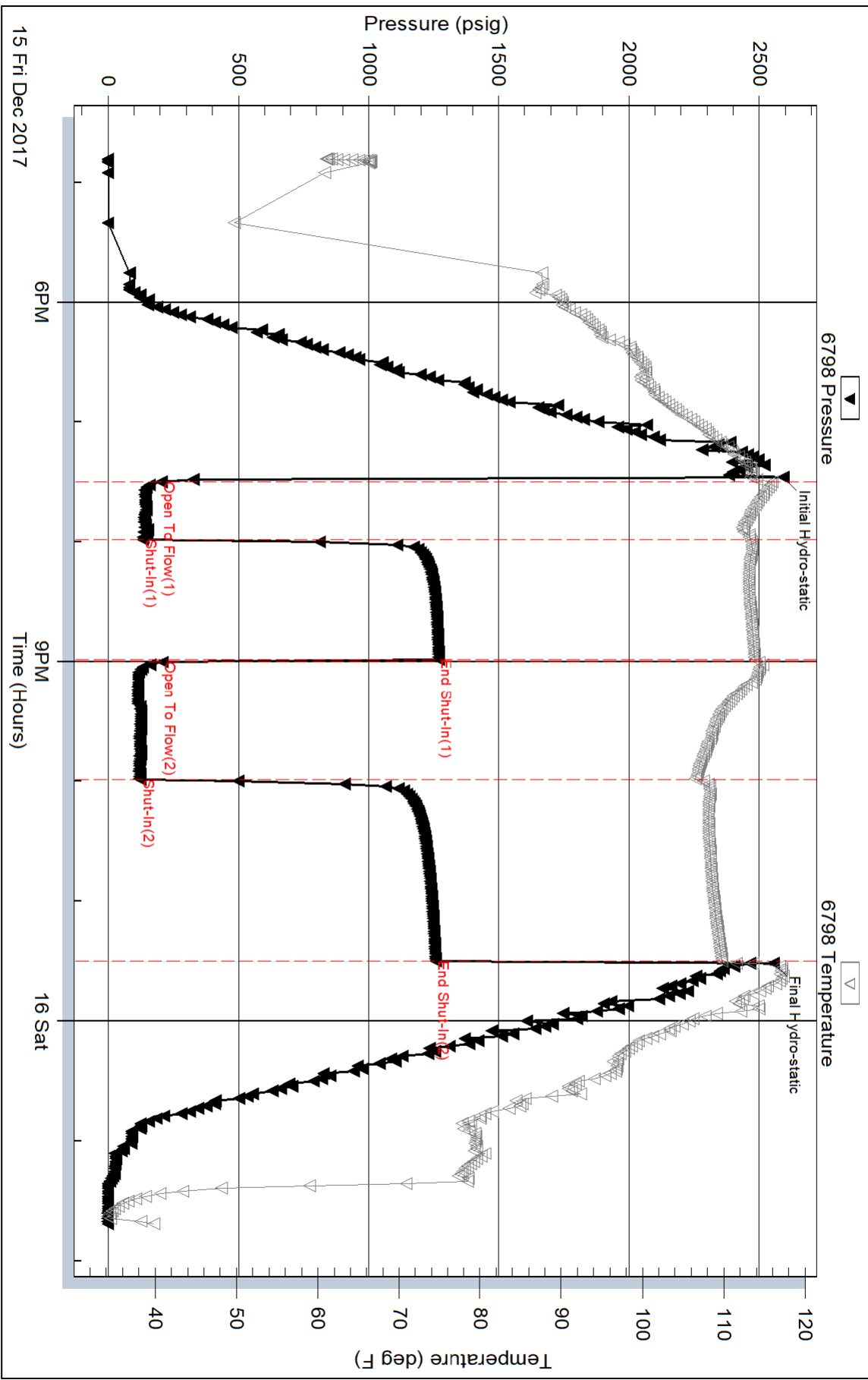
Gas Rates Information

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	32.00	215.86
1	20	0.50	36.00	242.84
1	30	0.50	36.00	242.84
2	10	0.50	25.00	168.64
2	20	0.50	25.00	168.64
2	30	0.50	25.00	168.64
2	40	0.50	24.00	161.90
2	50	0.50	24.00	161.90
2	60	0.50	24.00	161.90

Pressure vs. Time

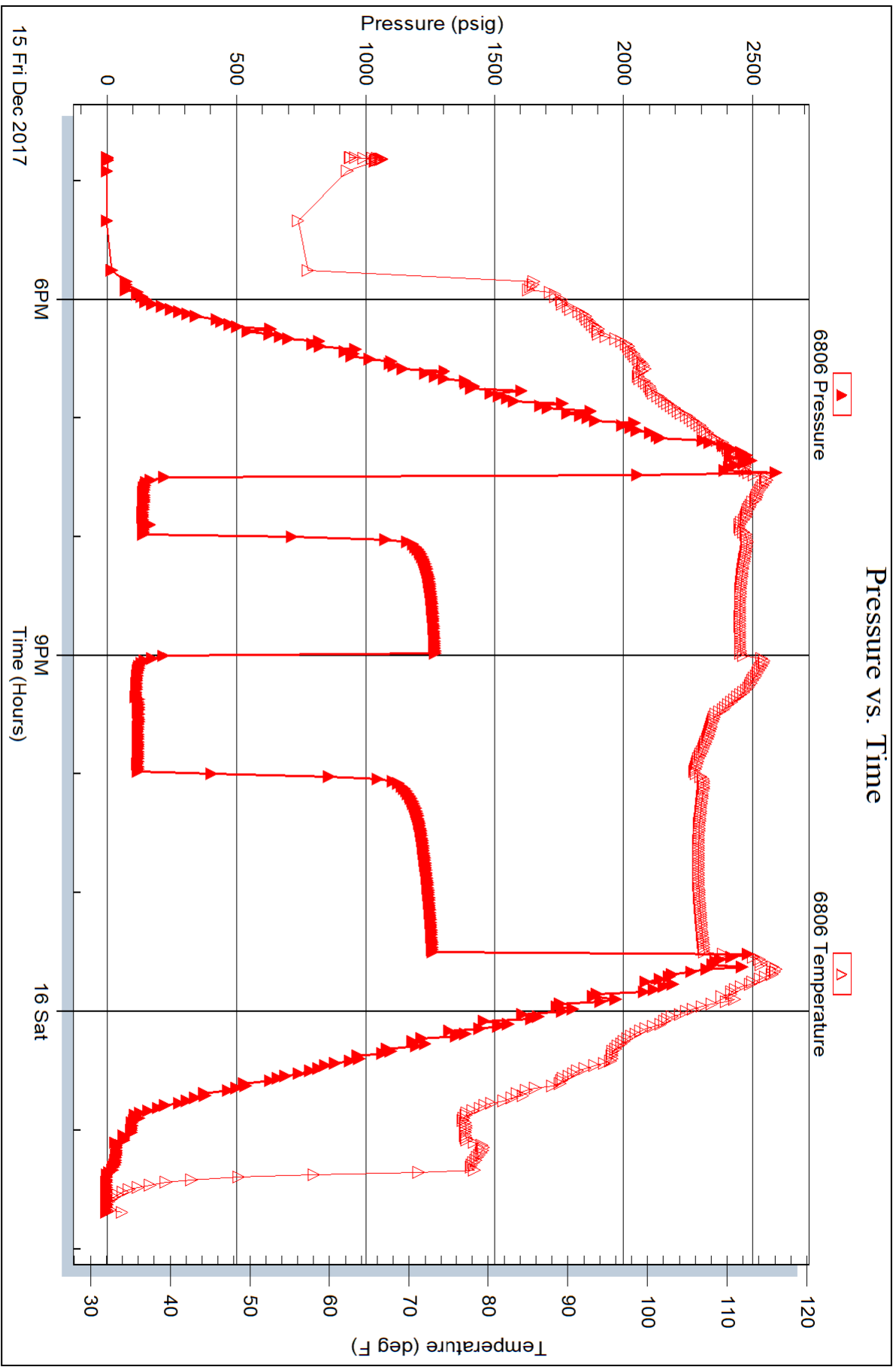


Serial #: 6806

Outside Woodsey Operating Co

Dargel 1

DST Test Number: 4





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Woolsey Operating Co
125 N Market Ste 1000
Wichita, KS 67202
ATTN: Bill Klaver

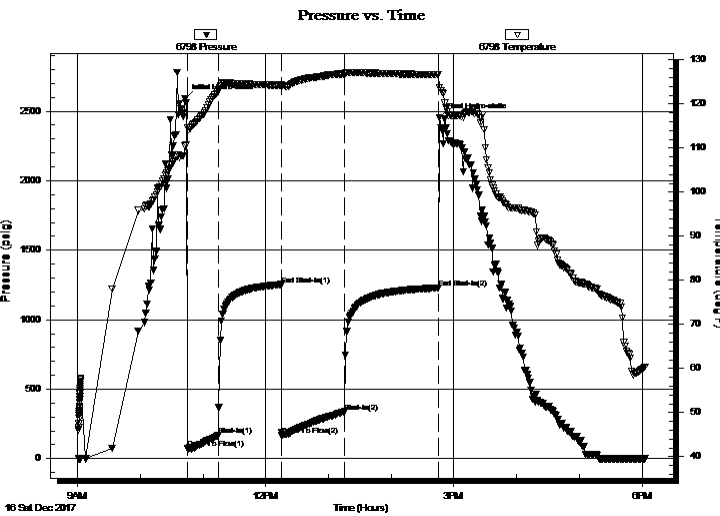
15-29S-19W Kiowa
Dargel 1
Job Ticket: 63645 **DST#: 5**
Test Start: 2017.12.16 @ 09:00:54

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:45:09
Time Test Ended: 18:02:54
Interval: **4874.00 ft (KB) To 4884.00 ft (KB) (TVD)**
Total Depth: 4884.00 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: 2183.00 ft (KB)
2171.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 6798 Inside
Press@RunDepth: 336.21 psig @ 4875.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.12.16 End Date: 2017.12.16 Last Calib.: 2017.12.16
Start Time: 09:00:55 End Time: 18:02:54 Time On Btm: 2017.12.16 @ 10:42:39
Time Off Btm: 2017.12.16 @ 14:46:24

TEST COMMENT: IF: Strong Blow , BOB in 30 seconds, GTS in 13 minutes, Gauged Gas
IS: Blow Back Built to 1 1/2 inches
FF: Strong Blow , BOB in 30 seconds, GTS immediate, Gauged Gas
FS: Blow Back Built to 10 inches



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2589.97	110.41	Initial Hydro-static
3	73.49	114.58	Open To Flow (1)
32	166.69	122.92	Shut-In(1)
92	1251.80	124.29	End Shut-In(1)
93	165.42	123.93	Open To Flow (2)
153	336.21	126.81	Shut-In(2)
243	1228.81	126.67	End Shut-In(2)
244	2455.04	123.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	3916 GIP	0.00
186.00	Water	1.25
253.00	GMOCW 10%G 10%M 20%O 60%W	2.60
63.00	GMWCO 20%G 10%M 20%W 50%O	0.65
441.00	GSY Oil 20%G 80%O	4.52

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	13.00	20.62
Last Gas Rate	0.25	7.00	11.11
Max. Gas Rate	0.25	15.00	23.80



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Woolsey Operating Co

15-29S-19W Kiowa

125 N Market Ste 1000
Wichita, KS 67202

Dargel 1

Job Ticket: 63645

DST#: 5

ATTN: Bill Klaver

Test Start: 2017.12.16 @ 09:00:54

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:45:09

Time Test Ended: 18:02:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

Interval: 4874.00 ft (KB) To 4884.00 ft (KB) (TVD)

Reference Elevations: 2183.00 ft (KB)

Total Depth: 4884.00 ft (KB) (TVD)

2171.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

Serial #: 6806 Outside

Press@RunDepth: psig @ 4875.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.12.16

End Date: 2017.12.16

Last Calib.: 2017.12.16

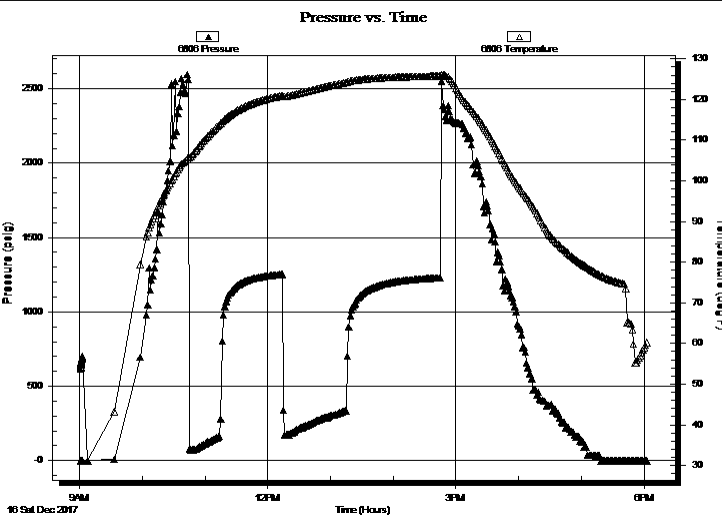
Start Time: 09:00:55

End Time: 18:03:09

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Strong Blow , BOB in 30 seconds, GTS in 13 minutes, Gauged Gas
 IS: Blow Back Built to 1 1/2 inches
 FF: Strong Blow , BOB in 30 seconds, GTS immediate, Gauged Gas
 FS: Blow Back Built to 10 inches



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	3916 GIP	0.00
186.00	Water	1.25
253.00	GMOCW 10%G 10%M 20%O 60%W	2.60
63.00	GMWCO 20%G 10%M 20%W 50%O	0.65
441.00	GSY Oil 20%G 80%O	4.52

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	13.00	20.62
Last Gas Rate	0.25	7.00	11.11
Max. Gas Rate	0.25	15.00	23.80



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co

15-29S-19W Kiowa

125 N Market Ste 1000
Wichita, KS 67202

Dargel 1

Job Ticket: 63645

DST#: 5

ATTN: Bill Klaver

Test Start: 2017.12.16 @ 09:00:54

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36.3 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

83000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9400.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	3916 GIP	0.000
186.00	Water	1.251
253.00	GMOCW 10%G 10%M 20%O 60%W	2.596
63.00	GMWCO 20%G 10%M 20%W 50%O	0.646
441.00	GSY Oil 20%G 80%O	4.525

Total Length: 943.00 ft Total Volume: 9.018 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

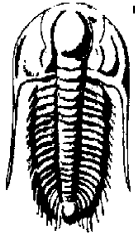
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity w as 36.8 @ 65 degrees

RW w as .095 @ 70 degrees



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Woolsey Operating Co

15-29S-19W Kiowa

125 N Market Ste 1000
Wichita, KS 67202

Dargel 1

Job Ticket: 63645

DST#: 5

ATTN: Bill Klaver

Test Start: 2017.12.16 @ 09:00:54

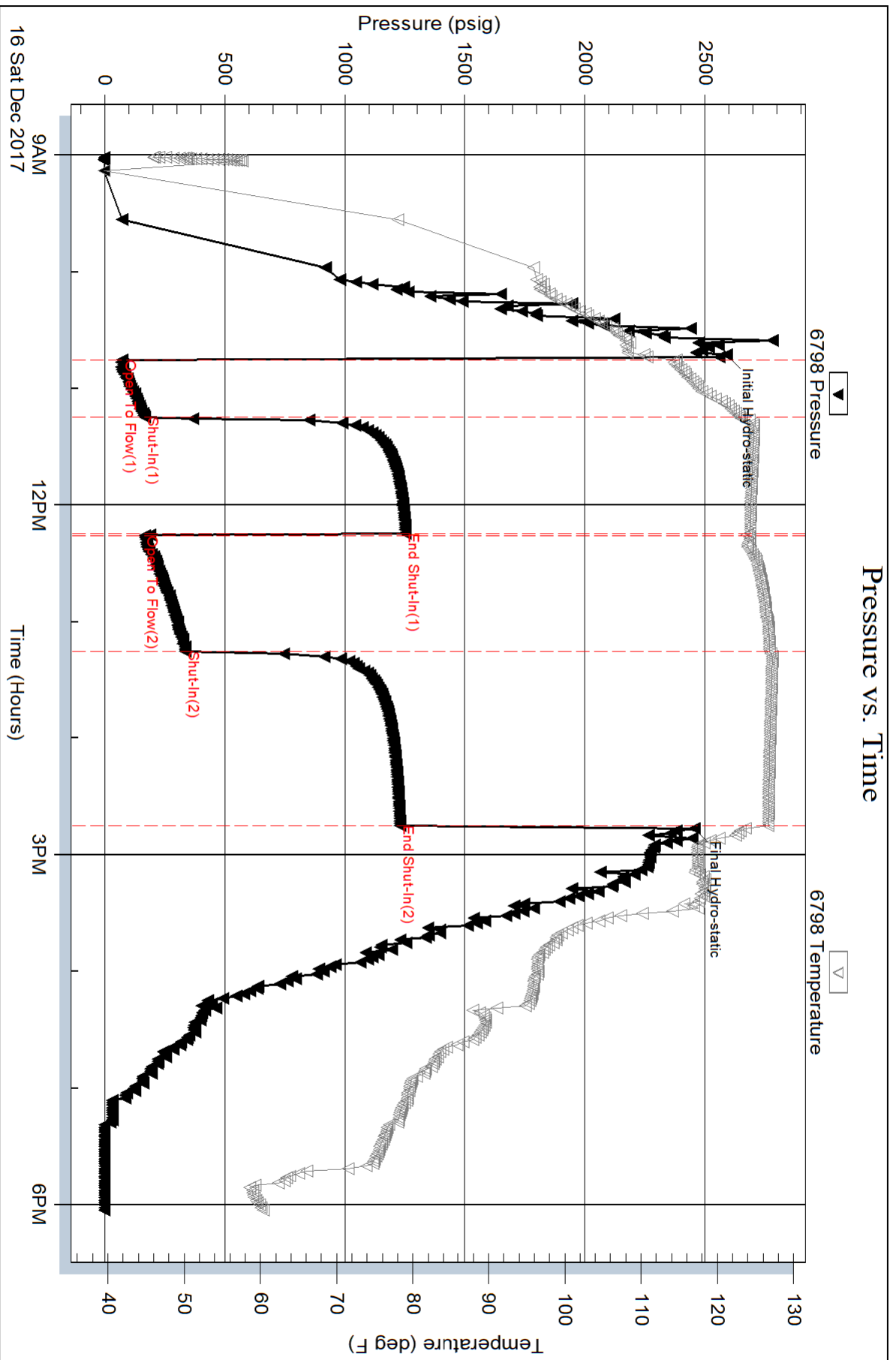
Gas Rates Information

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	0.25	13.00	20.62
1	30	0.25	15.00	23.80
2	10	0.25	4.00	6.35
2	20	0.25	6.00	9.52
2	30	0.25	7.00	11.11
2	40	0.25	7.00	11.11
2	50	0.25	7.00	11.11
2	60	0.25	7.00	11.11

Pressure vs. Time



Serial #: 6806

Outside Woodsey Operating Co

Dargel 1

DST Test Number: 5

