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 # 33168
Name: Woolsey Operating Company, LLC
Address 1: 125 N MARKET STE 1000
Address 2:
City: WICHITA State: KS Zip: 67202 + 1729
Contact Person: DEAN PATTISSON
Phone: (316) 267-4379
CONTRACTOR: License # 34484
Name: Fossil Drilling, Inc.
Wellsite Geologist: BILL KLAVER
Purchaser: N/A

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 #:

1/2/2019	1/12/2019	1/13/2019
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-097-21846-00-00
Spot Description: 200' S & 210' W, SW SW SE
SW- SW- SW- SE Sec. 29 Twp. 28 S. R. 18 ☐ East ☑ West
130 Feet from ☐ North / ☑ South Line of Section
2520 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)*, Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Kiowa
Lease Name: KERSEY Well #: 1
Field Name: WILDCAT
Producing Formation: N/A
Elevation: Ground: 2270 Kelly Bushing: 2282
Total Vertical Depth: 5027 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 502 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: 27000 ppm Fluid volume: 1800 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: EDISON OPERATING
Lease Name: TOM WILMORE 6-32-17 License #: 34434
Quarter NW Sec. 6 Twp. 32 S. R. 17 ☐ East ☑ West
County: COMANCHE Permit #: D30954.0

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: 03/13/2019
☐ **Confidential Release Date:** 03/12/2021
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 03/13/2019

Page Two

Operator Name: Woolsey Operating Company, LLC Lease Name: KERSEY Well #: 1

Sec. 29 Twp. 28 S. R. 18 ☐ East ☑ West County: Kiowa

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Geologist Report / Mud Logs ☑ Yes ☐ No

List All E. Logs Run:

Density/Neutron PE
Dual Induction
Sonic

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
CHASE	2527	-245
DOUGLAS	4162	-1880
HERTHA	4622	-2340
MISSISSIPPIAN	4909	-2627

CASING RECORD ☑ New ☐ 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
Surface	12.75	10.75	32.75	502	A-CON	175	see ticket
Surface	12.75	10.75	32.75	502	60/40 POZ	140	see ticket

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
____ Perforate ____ Protect Casing ____ Plug Back TD ____ 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: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: ☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION: ☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*

PRODUCTION INTERVAL: Top ____ Bottom ____

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*

TUBING RECORD: Size: Set At: Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Woolsey Operating Company, LLC
Well Name	KERSEY 1
Doc ID	1434439

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.75	10.75	32.75	502	A-CON	175	see ticket
Surface	12.75	10.75	32.75	502	60/40 POZ	140	see ticket

BASiC energy services, L.P.

TREATMENT REPORT

Customer: Woolsey Operating	Lease No.	Date: 1-3-19	
Lease: Kersey	Well #: 1		
Field Order #: 17595	Station: Pratt	Casing: 10 3/4	Depth: 504
County: Hodge	State: KS		
Type Job: 2-42 10 3/4" surface	Formation	Legal Description: 29-28S-18W	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size 10 3/4	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth ~~504~~ 504	Depth	From	To	Pre Pad	Max		5 Min.
Volume ~~44.4~~	Volume 51	From	To	Pad	Min		10 Min.
Max Press 1,000	Max Press	From	To	Frac	Avg		15 Min.
Well Connection PC	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth 467	Packer Depth	From	To	Flush 47.1	Gas Volume		Total Load

Customer Representative: Alan Dick	Station Manager: Westerman	Treater: Mattai	

Service Units	83353		84980	20926		84981	19915				
Driver Names	Mattai		Marquez			Brown					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
9:45 AM					On location / safety meeting
12:45					run 10 3/4" 32.75# csng
2:10					csng on bottom
2:24					Hook to csng / break circ w rig
2:44	150		3	~~4.5~~ 6	Pump 3 bbl water
2:47	150		70	~~4.5~~ 6	mix 175 sks A con
3:02	100		30	5.5	mix 140 sks 60/40 poz
3:15	—		—	—	release plug
3:18	150		—	5	start displacement
3:30	600		47.1		plug down / shut in well
					cmt to surface 250
					Job complete
					Thank You
					Mike Mattai
					Edmundo + Wade

10244 NE Hiway 61 • P.O. Box 8613 • Pratt, KS 67124-8613 • (620) 672-1201 • Fax (620) 672-5383

Taylor Printing, Inc. 620-672-3656

BASiC energy services, L.P.

TREATMENT REPORT

Customer: Woolsey Operating	Lease No.	Date: 1-13-19	
Lease: Kersey	Well #: 1		
Field Order #: 17598	Station: Pratt	Casing:	Depth: 1230
County: Kiowa	State: KS		
Type Job: Z-42 Plug To Abandon	Formation:	Legal Description: 29-28S-18W	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid 270 60/40 POZ	RATE	PRESS	ISIP
Depth	Depth	From	To	Pre Pad 4% gel	Max		5 Min.
Volume	Volume	From	To	Pad	Min		10 Min.
Max Press	Max Press	From	To	Frac	Avg		15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush	Gas Volume		Total Load

Customer Representative: Alan Dick	Station Manager: Westerman	Treater: Mattal	

Service Units	83353		84980	20920		19889	19860				
Driver Names	Mattal		Martinez			David					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
6:20					On location / Safety meeting
					1st plug @ 1230'
8:29	150		20	5	Pump 20 bbl water
8:39	200		13	5	Mix 50 sks 60/40 poz
8:42	150		5	5	Pump 5 bbl water
8:43	100		4	5	Pump 4 bbl mud
			—		2nd plug @ 540'
9:14	150		20	5	Pump 20 bbl water
9:18	175		20	5.5	Mix 80 sks 60/40 poz
9:21	50		5	4	Pump 5 bbl water
9:23	50		2	4.5	Pump 2 bbl mud
			—		3rd plug @ 300'
9:33	50		10	5	Pump 10 bbl water
9:36	100		13	5	Mix 50 sks 60/40 poz
9:39	50		2	5	Pump 2 bbl water
			—		4th plug @ 60'
9:54	50		10	3	Mix 40 sks 60/40 poz
					cmt to surface
10:10			7.5		Plug rat + mouse hole
					Job complete, Thank You!
					Mike Mattal
					Edmundo + David

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Taylor Printing, Inc. 620-672-3656

DRILL STEM TEST REPORT

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64906 **DST#: 1**

Test Start: 2019.01.08 @ 20:48:29

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:11:44
Time Test Ended: 05:44:29

Test Type: Conventional Bottom Hole (Initial)
Tester: Matt Smith
Unit No: 68

Interval: 4824.00 ft (KB) To 4890.00 ft (KB) (TVD)
Total Depth: 4890.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

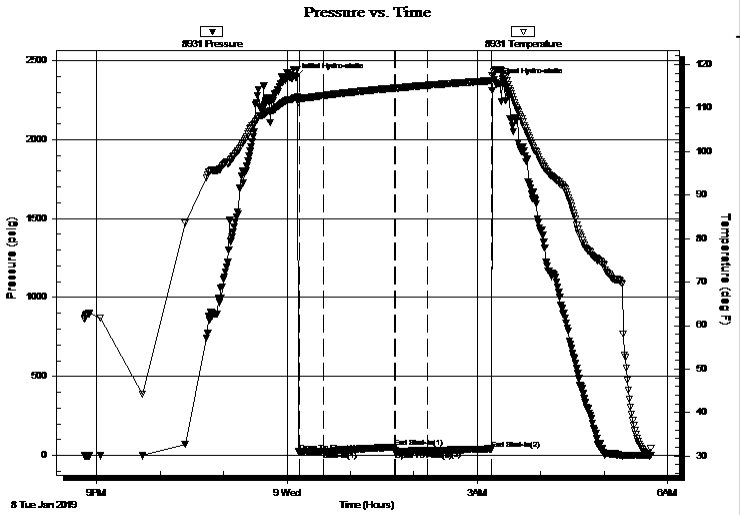
Reference Elevations: 2282.00 ft (KB)
2270.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8931

Press@RunDepth: 29.92 psig @ ft (KB)
Start Date: 2019.01.08 End Date: 2019.01.09
Start Time: 20:48:34 End Time: 05:44:29

Capacity: 8000.00 psig
Last Calib.: 2019.01.09
Time On Btm: 2019.01.09 @ 00:07:59
Time Off Btm: 2019.01.09 @ 03:16:59

TEST COMMENT: IF: Weak blow . Built to 1.18". Died back to 1/2".
ISI: No blow .
FF: No blow .
FSI: No blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2394.39	112.43	Initial Hydro-static
4	21.58	112.26	Open To Flow (1)
27	26.05	112.85	Shut-In(1)
94	52.98	114.58	End Shut-In(1)
95	24.94	114.55	Open To Flow (2)
125	29.92	115.24	Shut-In(2)
185	41.26	116.27	End Shut-In(2)
189	2358.50	118.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drlg Mud 100%m	0.02

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64906 **DST#: 1**

Test Start: 2019.01.08 @ 20:48:29

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:11:44
Time Test Ended: 05:44:29

Test Type: Conventional Bottom Hole (Initial)
Tester: Matt Smith
Unit No: 68

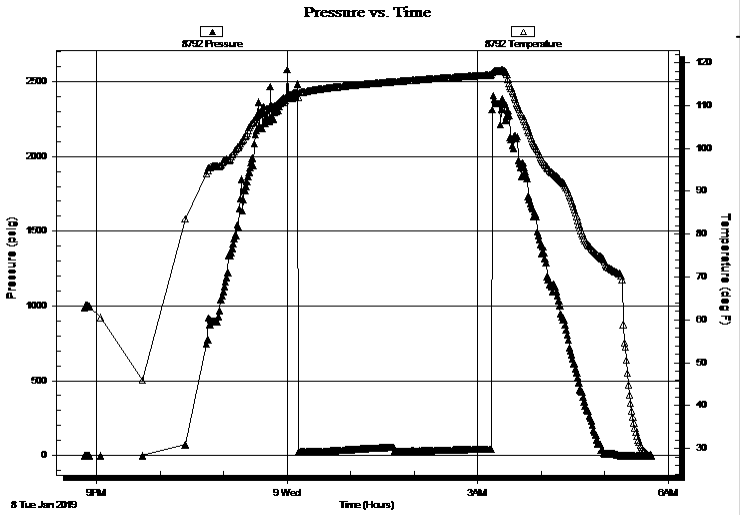
Interval: 4824.00 ft (KB) To 4890.00 ft (KB) (TVD)
Total Depth: 4890.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2282.00 ft (KB)
2270.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8792 **Outside**

Press@RunDepth:	psig @	4825.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2019.01.08	End Date:	2019.01.09	Last Calib.:	2019.01.09
Start Time:	20:48:21	End Time:	05:44:16	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: Weak blow . Built to 1.18". Died back to 1/2".
ISI: No blow .
FF: No blow .
FSI: No blow .



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drlg Mud 100%m	0.02

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64906 **DST#: 1**

Test Start: 2019.01.08 @ 20:48:29

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:	3000 ppm
Viscosity:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.78 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3000.00 ppm				
Filter Cake:	0.20 inches				

Recovery Information

Recovery Table

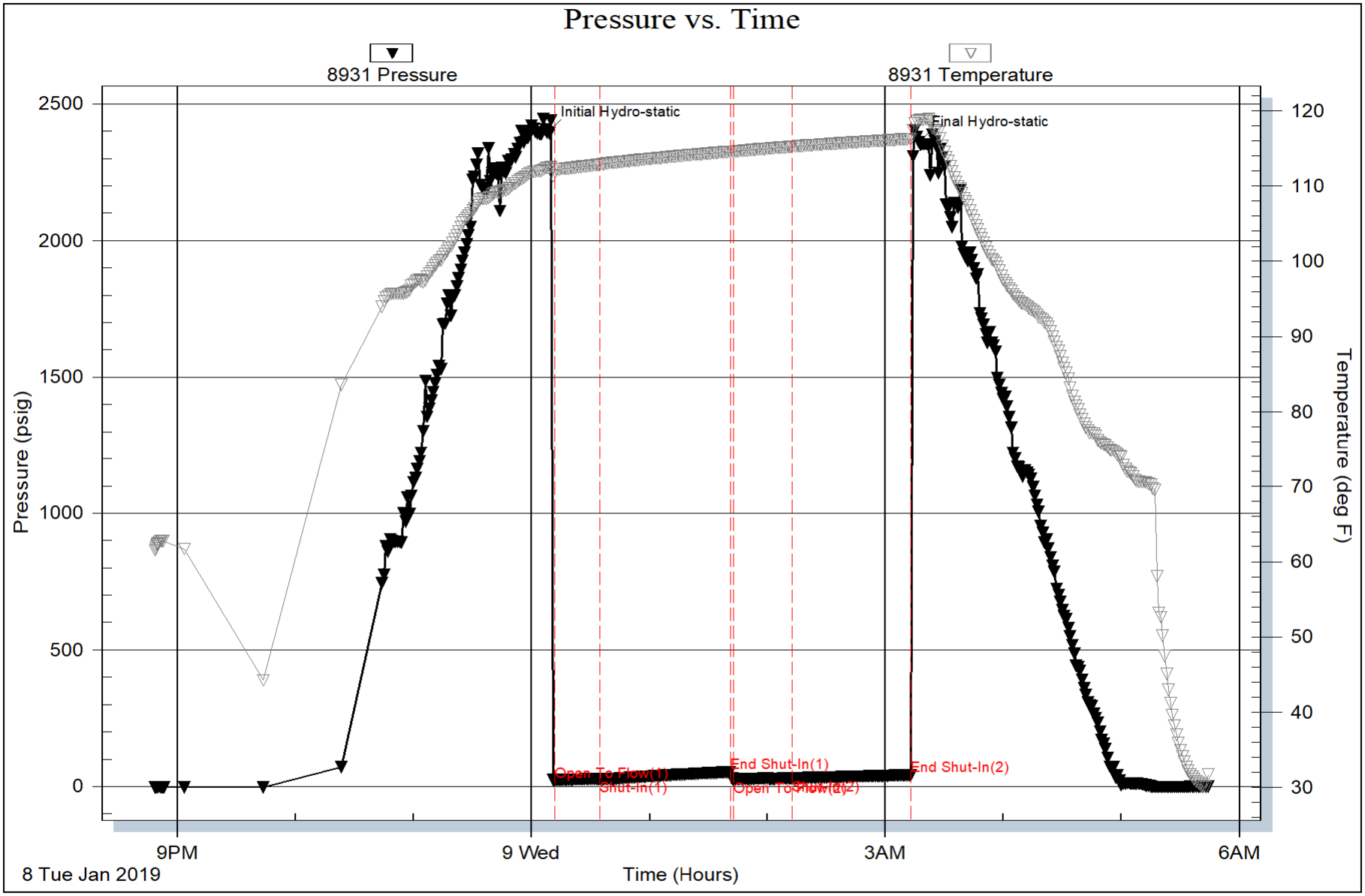
Length ft	Description	Volume bbl
5.00	Drlg Mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

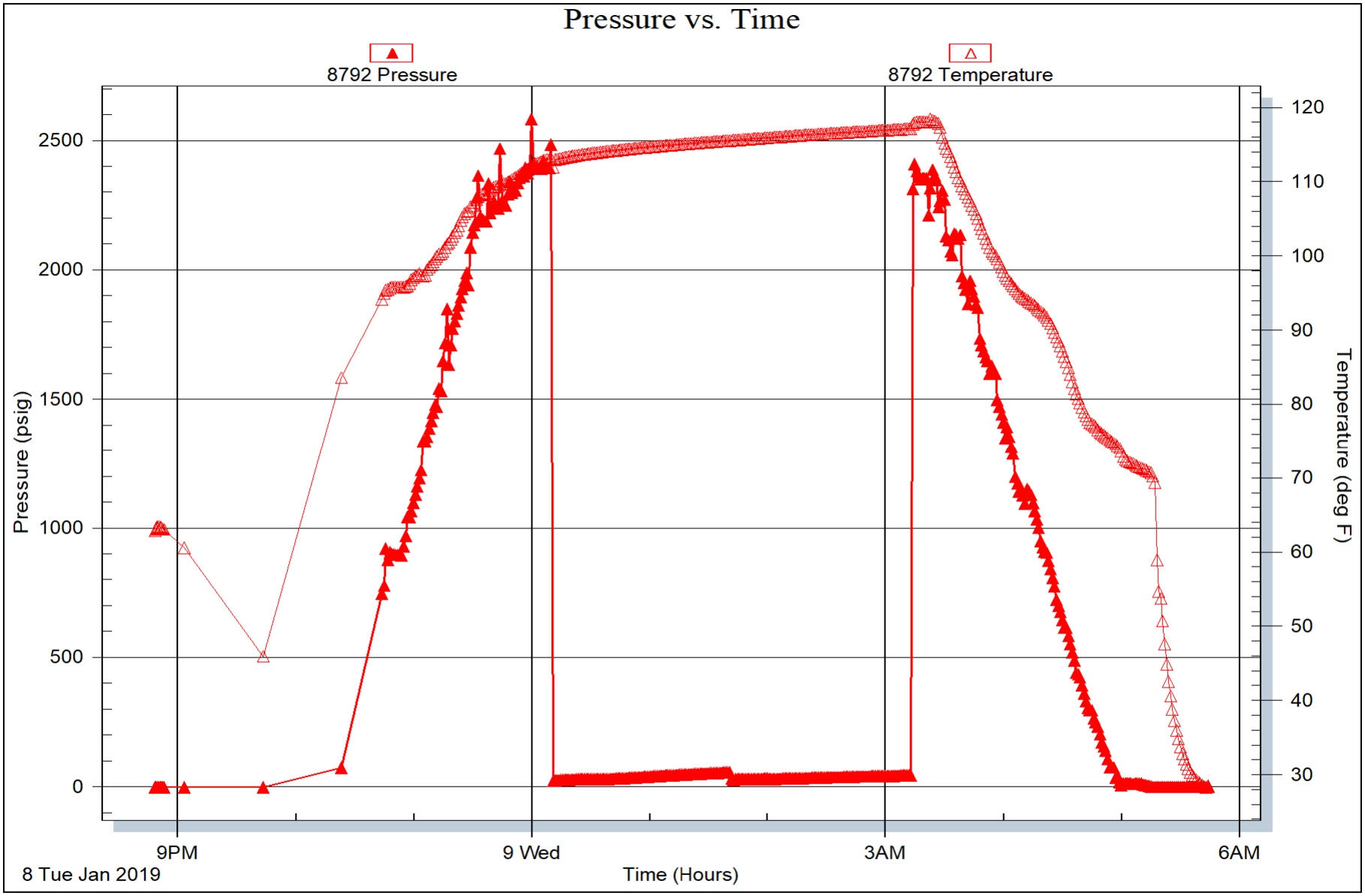
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: None

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
8931 Pressure
8931 Temperature
Initial Hydro-static
Final Hydro-static
Open To Flow(1)
Shut-In(1)
End Shut-In(1)
Open To Flow(2)
End Shut-In(2)
Pressure (psig)
2500
2000
1500
1000
500
0
Temperature (deg F)
120
110
100
90
80
70
60
50
40
30
9PM
9 Wed
3AM
6AM
8 Tue Jan 2019
Time (Hours)

Serial #: 8792 **Outside** Woolsey Operating Co. LLC Kersey #1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 64906 Printed: 2019.01.09 @ 07:22:26

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64907 **DST#: 2**

Test Start: 2019.01.10 @ 08:55:00

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:45:15
Time Test Ended: 18:28:45

Test Type: Conventional Bottom Hole (Reset)
Tester: Matt Smith
Unit No: 68

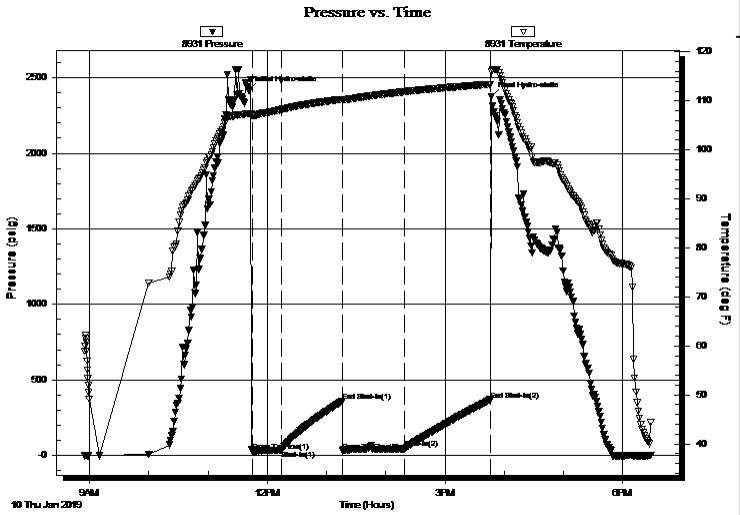
Interval: 4848.00 ft (KB) To 4925.00 ft (KB) (TVD)
Total Depth: 44925.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2282.00 ft (KB)
2270.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8931 **Inside**

Press@RunDepth:	44.47 psig @	4849.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2019.01.10	End Date:	2019.01.10	Last Calib.:	2019.01.10
Start Time:	08:55:05	End Time:	18:28:45	Time On Btm:	2019.01.10 @ 11:40:45
				Time Off Btm:	2019.01.10 @ 15:47:00

TEST COMMENT: IF: Strong blow . B.O.B. in 12 mins. Built to 19.78".
ISI: No blow .
FF: Strong blow . B.O.B., immediately. Built to 33.02".
FSI: No blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2417.09	107.37	Initial Hydro-static
5	27.10	106.97	Open To Flow (1)
34	35.56	108.26	Shut-In(1)
95	359.34	110.33	End Shut-In(1)
96	30.71	110.24	Open To Flow (2)
158	44.47	111.88	Shut-In(2)
245	368.41	113.41	End Shut-In(2)
247	2373.66	116.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GM 1%g 99%m	0.15
0.00	638' G.I.P.	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64907 **DST#: 2**

Test Start: 2019.01.10 @ 08:55:00

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:45:15
Time Test Ended: 18:28:45

Test Type: Conventional Bottom Hole (Reset)
Tester: Matt Smith
Unit No: 68

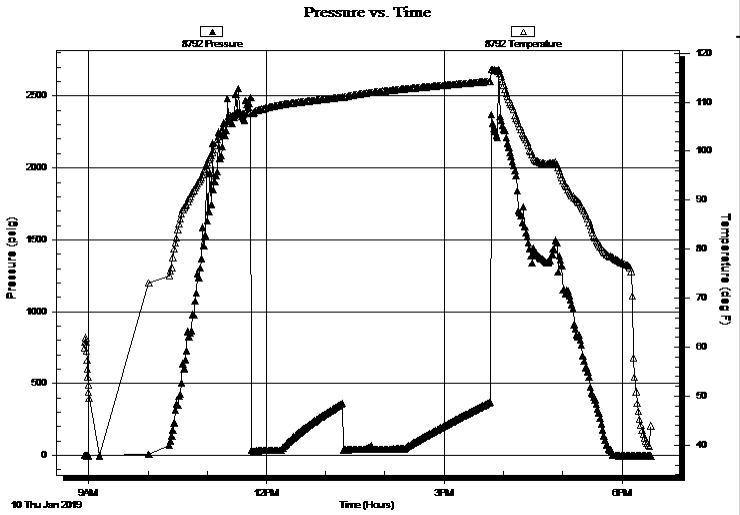
Interval: 4848.00 ft (KB) To 4925.00 ft (KB) (TVD)
Total Depth: 44925.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2282.00 ft (KB)
2270.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8792 **Outside**

Press@RunDepth:	psig @	4849.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2019.01.10	End Date:	2019.01.10	Last Calib.:	2019.01.10
Start Time:	08:55:54	End Time:	18:29:34	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
IF: Strong blow . B.O.B. in 12 mins. Built to 19.78".
ISI: No blow .
FF: Strong blow . B.O.B., immediately. Built to 33.02".
FSI: No blow .



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GM 1%g 99%m	0.15
0.00	638' G.I.P.	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64907 **DST#: 2**

Test Start: 2019.01.10 @ 08:55:00

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:	5000 ppm
Viscosity:	75.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.79 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	0.20 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	GM 1%g 99%m	0.148
0.00	638' G.I.P.	0.000

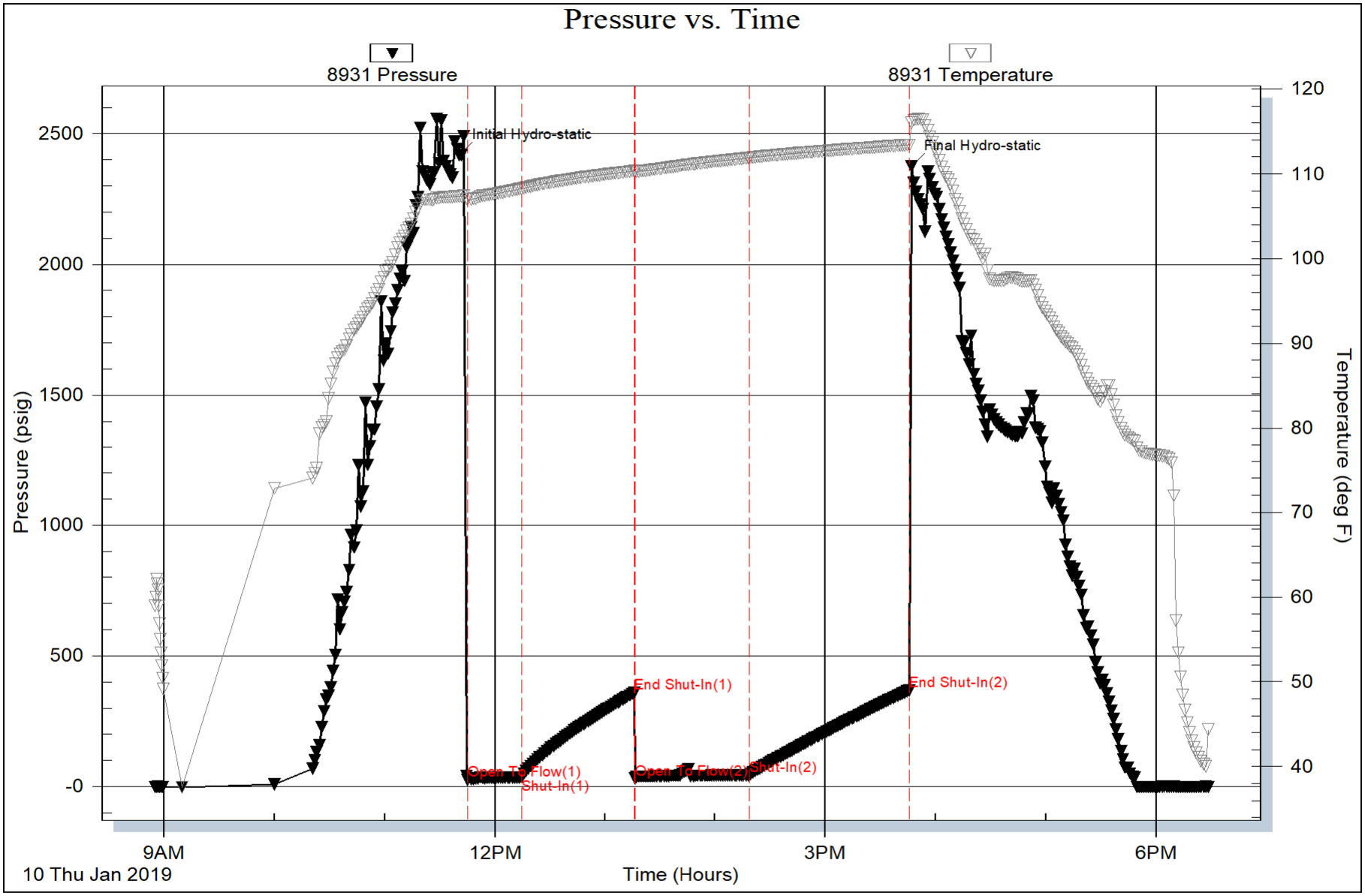
Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: None

Laboratory Name: Laboratory Location:

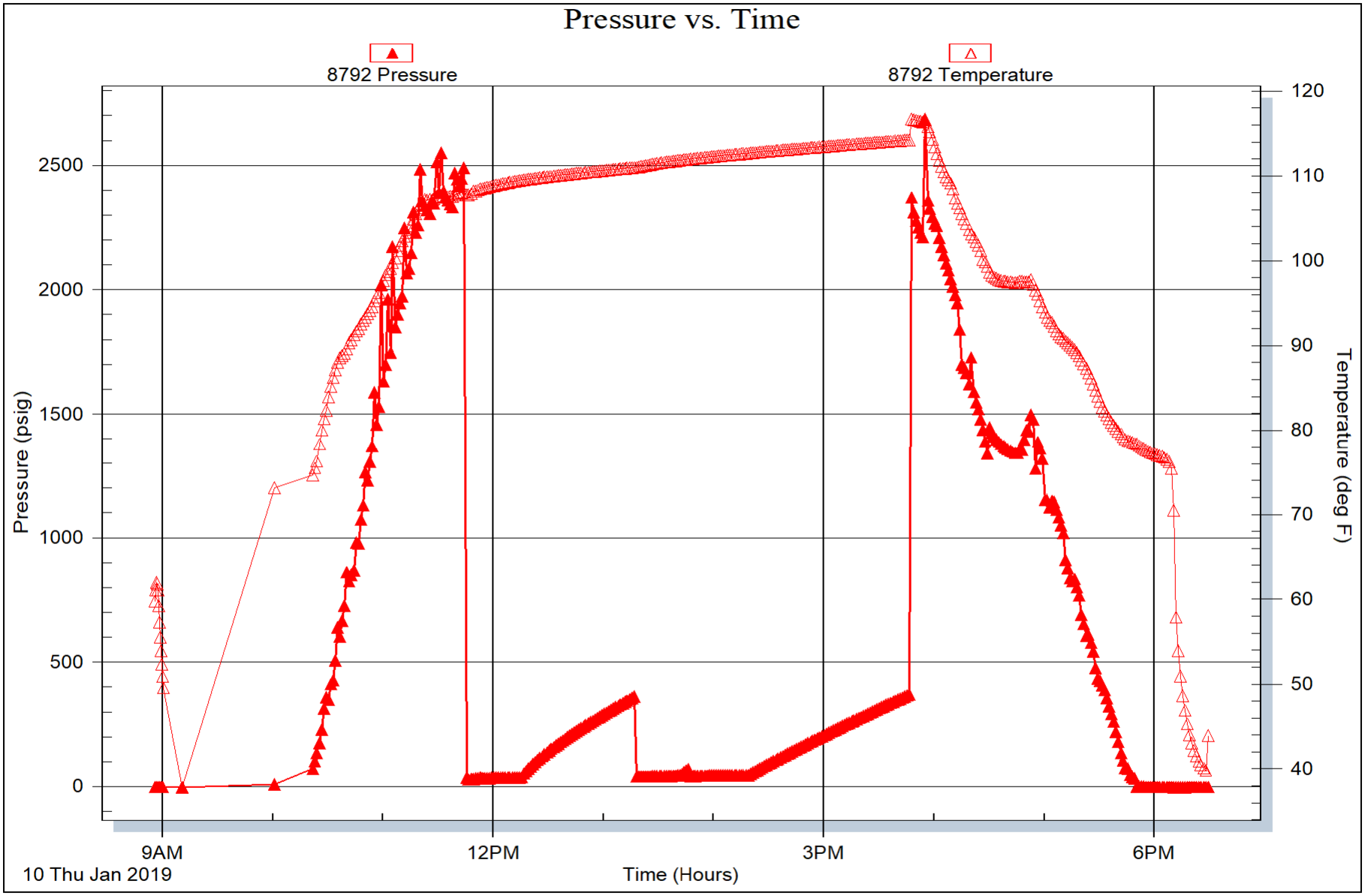
Recovery Comments:

Serial #: 8931 **Inside** Woolsey Operating Co. LLC Kersey #1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 64907 Printed: 2019.01.10 @ 20:20:46

Serial #: 8792 **Outside** Woolsey Operating Co. LLC Kersey #1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 64907 Printed: 2019.01.10 @ 20:20:46

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64908 **DST#: 3**

Test Start: 2019.01.11 @ 04:07:47

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:43:32
Time Test Ended: 13:12:17

Test Type: Conventional Bottom Hole (Reset)
Tester: Matt Smith
Unit No: 68

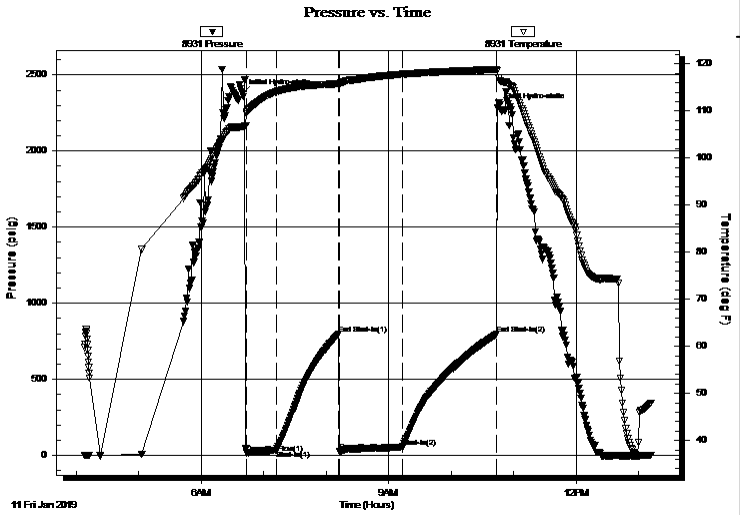
Interval: 4922.00 ft (KB) To 4934.00 ft (KB) (TVD)
Total Depth: 4934.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2282.00 ft (KB)
2270.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8931 **Inside**

Press@RunDepth:	55.36 psig @	4923.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2019.01.11	End Date:	2019.01.11	Last Calib.:	2019.01.11
Start Time:	04:07:52	End Time:	13:12:17	Time On Btm:	2019.01.11 @ 06:39:47
				Time Off Btm:	2019.01.11 @ 10:44:47

TEST COMMENT:
IF: Strong blow . B.O.B. in 4 mins. Built to 24.85".
ISI: No blow .
FF:Strong blow . B.O.B. in 6 mins. Built to 36.43".
FSI: No blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2374.00	106.67	Initial Hydro-static
4	17.01	109.49	Open To Flow (1)
33	35.09	114.11	Shut-In(1)
93	799.56	115.82	End Shut-In(1)
93	27.13	115.83	Open To Flow (2)
154	55.36	117.85	Shut-In(2)
244	797.03	118.86	End Shut-In(2)
245	2287.01	118.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GOCM 5%g 5%o 90%m	0.15
10.00	GOCM 10%g 35%o 55%m	0.05
2.00	Clean Oil 100%o	0.01
0.00	672' G.I.P.	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64908 **DST#: 3**

Test Start: 2019.01.11 @ 04:07:47

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:43:32
Time Test Ended: 13:12:17

Test Type: Conventional Bottom Hole (Reset)
Tester: Matt Smith
Unit No: 68

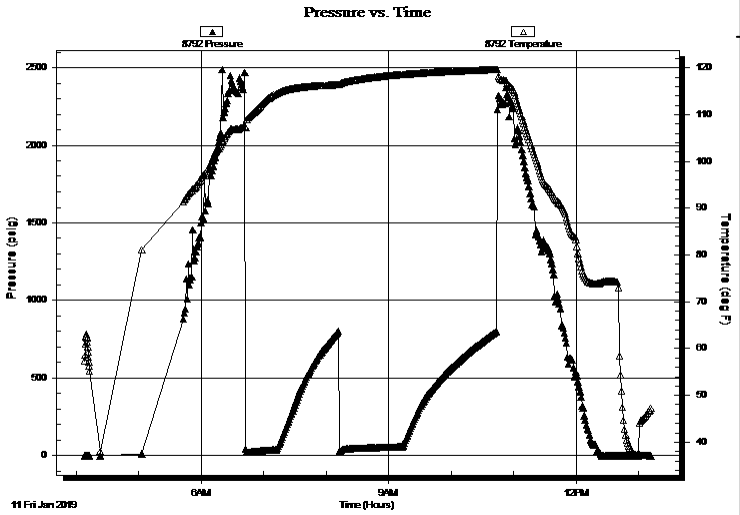
Interval: 4922.00 ft (KB) To 4934.00 ft (KB) (TVD)
Total Depth: 4934.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2282.00 ft (KB)
2270.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8792 **Outside**

Press@RunDepth:	psig @	4923.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2019.01.11	End Date:	2019.01.11	Last Calib.:	2019.01.11
Start Time:	04:07:54	End Time:	13:12:19	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: Strong blow . B.O.B. in 4 mins. Built to 24.85".
ISI: No blow .
FF:Strong blow . B.O.B. in 6 mins. Built to 36.43".
FSI: No blow .



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GOCM 5%g 5%o 90%m	0.15
10.00	GOCM 10%g 35%o 55%m	0.05
2.00	Clean Oil 100%o	0.01
0.00	672' G.I.P.	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64908 **DST#: 3**

Test Start: 2019.01.11 @ 04:07:47

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:	5000 ppm
Viscosity:	64.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.79 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	0.20 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	GOCM 5%g 5%o 90%m	0.148
10.00	GOCM 10%g 35%o 55%m	0.049
2.00	Clean Oil 100%o	0.010
0.00	672' G.I.P.	0.000

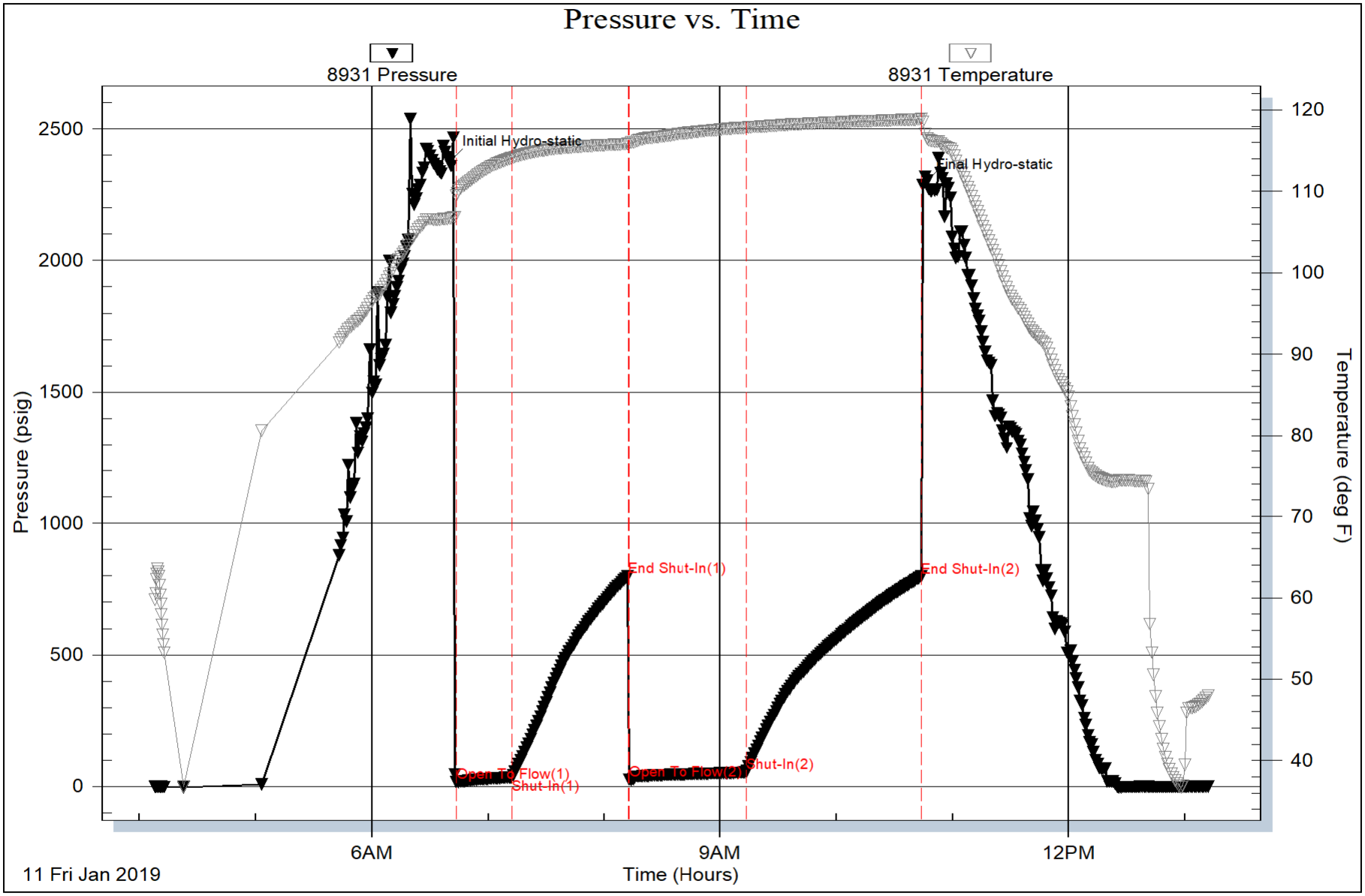
Total Length: 42.00 ft Total Volume: 0.207 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: none

Laboratory Name: Laboratory Location:

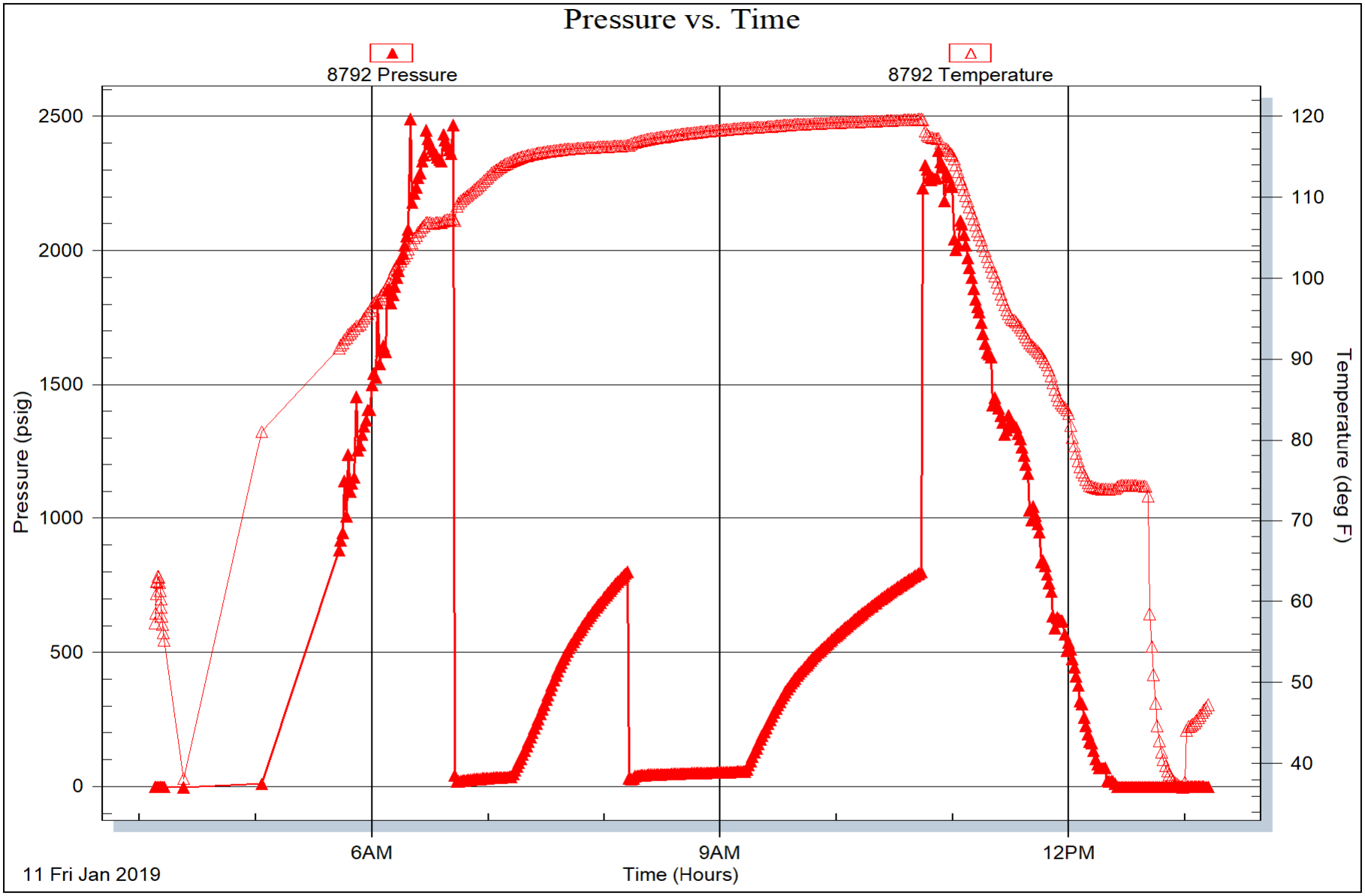
Recovery Comments: Didn't catch enough for a Gravity.

Serial #: 8931 **Inside** Woolsey Operating Co. LLC Kersey #1 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 64908 Printed: 2019.01.11 @ 14:44:03

Serial #: 8792 **Outside** Woolsey Operating Co. LLC Kersey #1 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 64908 Printed: 2019.01.11 @ 14:44:03

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64909 **DST#: 4**

Test Start: 2019.01.11 @ 22:54:32

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:56:17
Time Test Ended: 06:47:17

Test Type: Conventional Bottom Hole (Reset)
Tester: Matt Smith
Unit No: 68

Interval: 4934.00 ft (KB) To 4945.00 ft (KB) (TVD)
Total Depth: 4945.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

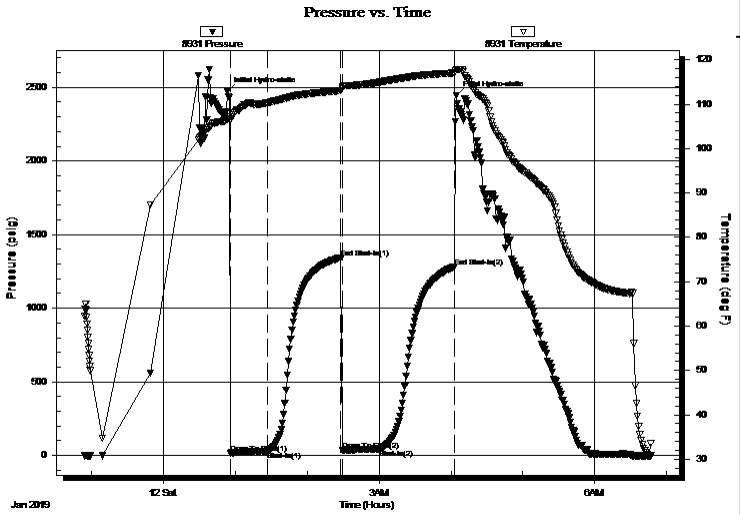
Reference Elevations: 2282.00 ft (KB)
2270.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8931 **Inside**

Press@RunDepth: 44.95 psig @ 4935.00 ft (KB)
Start Date: 2019.01.11 End Date: 2019.01.12
Start Time: 22:54:37 End Time: 06:47:16

Capacity: 8000.00 psig
Last Calib.: 2019.01.12
Time On Btm: 2019.01.12 @ 00:53:32
Time Off Btm: 2019.01.12 @ 04:04:32

TEST COMMENT: IF: Weak blow . Built to 1".
ISI: No blow .
FF: Weak Surface blow .
FSI: No blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2472.76	106.67	Initial Hydro-static
3	14.23	106.51	Open To Flow (1)
34	29.46	110.32	Shut-In(1)
95	1343.29	113.07	End Shut-In(1)
96	35.79	113.48	Open To Flow (2)
127	44.95	114.98	Shut-In(2)
190	1281.83	117.04	End Shut-In(2)
191	2441.88	117.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
32.00	Slight Oil GWCM 1%o 1%w 5%g 93%m	0.16
0.00	30' G.I.P.	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64909 **DST#: 4**

Test Start: 2019.01.11 @ 22:54:32

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:56:17
Time Test Ended: 06:47:17

Test Type: Conventional Bottom Hole (Reset)
Tester: Matt Smith
Unit No: 68

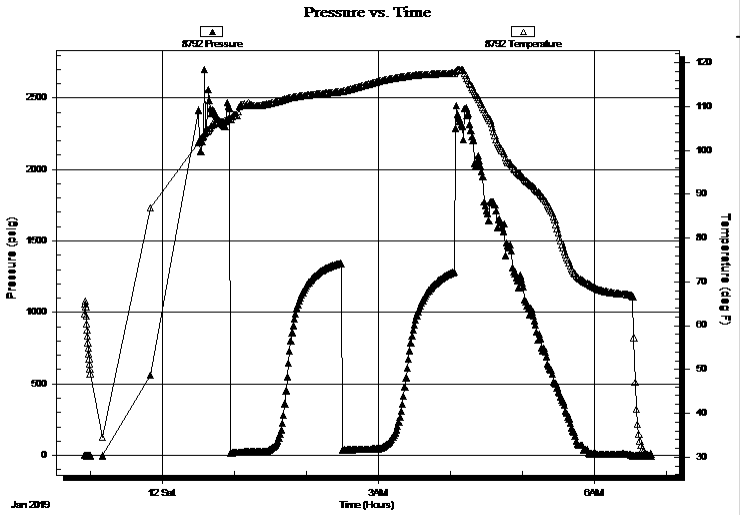
Interval: 4934.00 ft (KB) To 4945.00 ft (KB) (TVD)
Total Depth: 4945.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2282.00 ft (KB)
2270.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8792 **Outside**

Press@RunDepth:	psig @	4935.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2019.01.11	End Date:	2019.01.12	Last Calib.:	1899.12.30
Start Time:	22:54:55	End Time:	06:47:19	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
IF: Weak blow . Built to 1".
ISI: No blow .
FF: Weak Surface blow .
FSI: No blow .



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
32.00	Slight Oil GWCM 1%o 1%w 5%g 93%m	0.16
0.00	30' G.I.P.	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Woolsey Operating Co. LLC

125 N. Market
STE 1000
Wichita, KS. 67202
ATTN: Bill Klaver

29-28s-18w Kiowa Co. Ks.

Kersey #1

Job Ticket: 64909 **DST#: 4**

Test Start: 2019.01.11 @ 22:54:32

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:	10000 ppm
Viscosity:	65.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	9.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	10000.00 ppm				
Filter Cake:	0.20 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
32.00	Slight Oil GWCM 1%o 1%w 5%g 93%m	0.157
0.00	30' G.I.P.	0.000

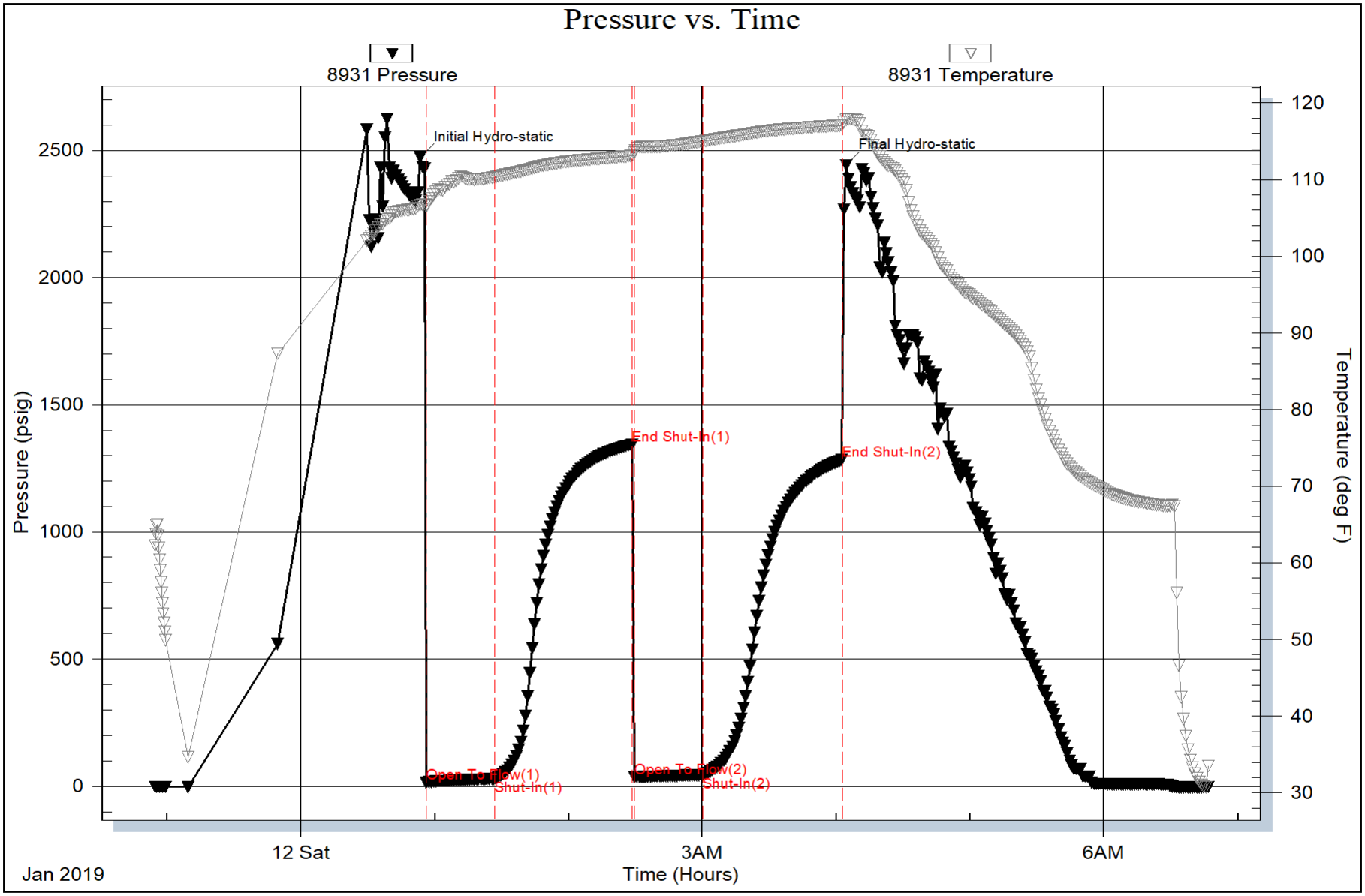
Total Length: 32.00 ft Total Volume: 0.157 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: none

Laboratory Name: Laboratory Location:

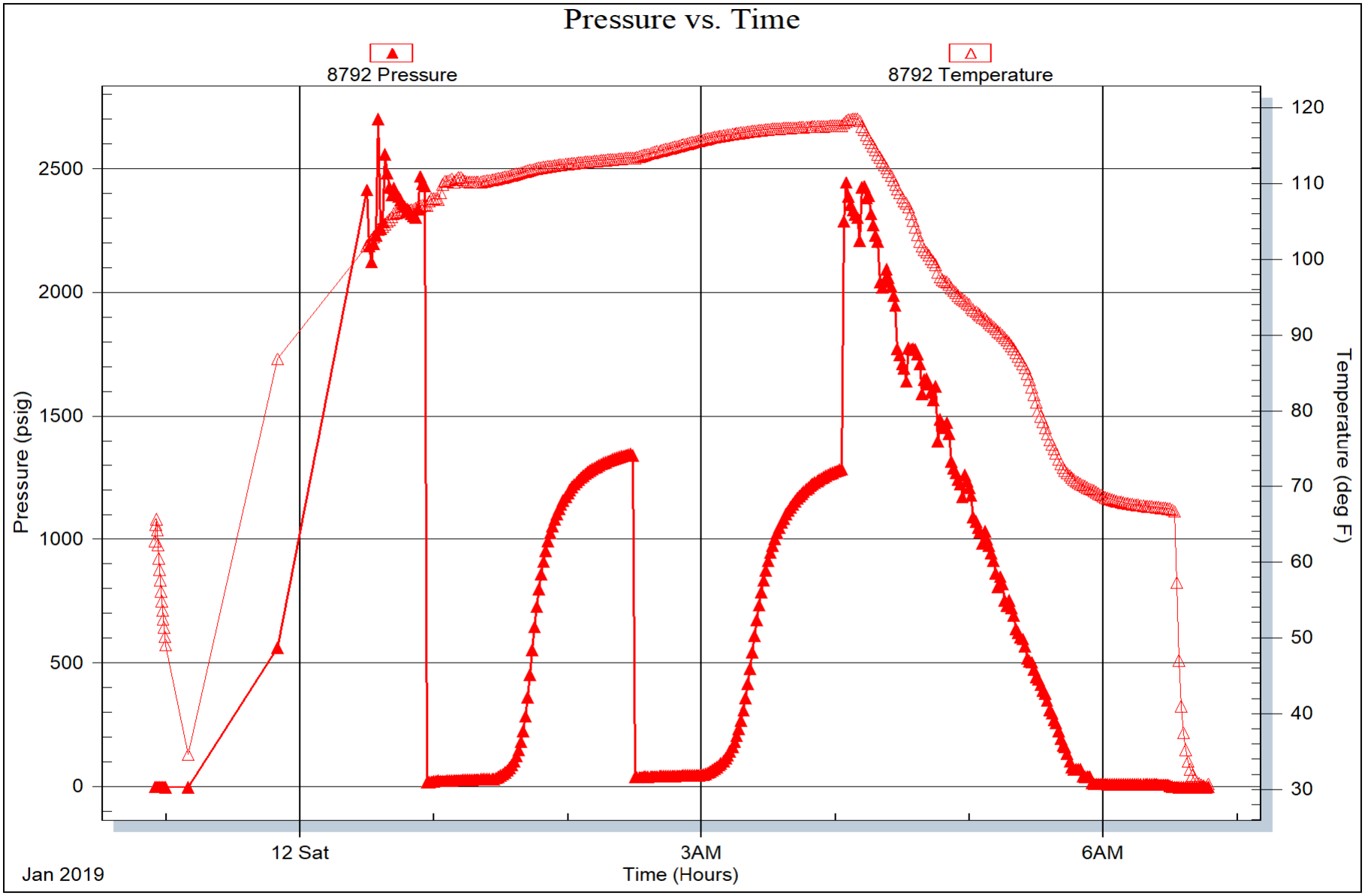
Recovery Comments:

Serial #: 8931 **Inside** Woolsey Operating Co. LLC Kersey #1 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 64909 Printed: 2019.01.12 @ 10:23:48

Serial #: 8792 **Outside** Woolsey Operating Co. LLC Kersey #1 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 64909 Printed: 2019.01.12 @ 10:23:48

Wavelan Operating Company, LLC
Core Analysis Report
Core Laboratories

Well Name: SERNAT #1
Location: Section 24 - Township 26 South - Range 18 West
County, State: Kansas County, Kansas
Field Name: Drilling Completed
Surface Location: 1320' FSL & 1320' FWL
Elevation: 2270 KB, 2265 GL
Drilling Fluid: Water
Core Type: Conventional
Accumulated Footage: 1,000'
Accumulated Recovery: 1,000'
Date Cut: 10/27 Thru 10/28/2011
Date Received: 10/28/2011
Type of Drilling Mud: Fresh Water Gel Mud
Core Analyst: Tim Hoffman
Report Prepared By: Michael Dunn
Report Reviewed By: Scott Wellington
Report Distribution: Wavelan Operating Company LLC
Attn: Mr. Jim Hall
Printed by Mudlog Core Analysis Systems 1-800-427-7516 www.Mudlogs.com

OPERATOR

Company: Wavelan Operating Company LLC
Address: 1010 W. Wichita Street
Wichita, KS 67203

CONTRACTOR

Name: Bill Martin
Address: 1010 W. Wichita Street
1010 W. Wichita Street Wichita, Kansas, 67203

CORE DATA

Surface Coring: Spud at 10:00 on 10/26/11, cut 1,000' in 10 hrs, at 1,000' TD at 21:00 hrs, surface coring at 1,000' KB. Drill Pipe Tally: 1,000.00' Drill Pipe Measurement: Measured from Kelly Bushing to Ground Level. Core Barrel: 60' Hardened Barrel, 60' Hardened Barrel, 60' Hardened Barrel,