



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Culbreath Oil And Gas Company

4-12s-32w Logan,KS

3501 S Yale Ave.
Tulsa OK 74135

Voth #1-4

Job Ticket: 63719

DST#: 4

ATTN: Larry Nicholson

Test Start: 2017.04.20 @ 02:10:15

GENERAL INFORMATION:

Formation: **K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:15:00
 Time Test Ended: 08:39:15
 Interval: **4280.00 ft (KB) To 4299.00 ft (KB) (TVD)**
 Total Depth: 4299.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 3050.00 ft (KB)
 3040.00 ft (CF)
 KB to GR/CF: 10.00 ft

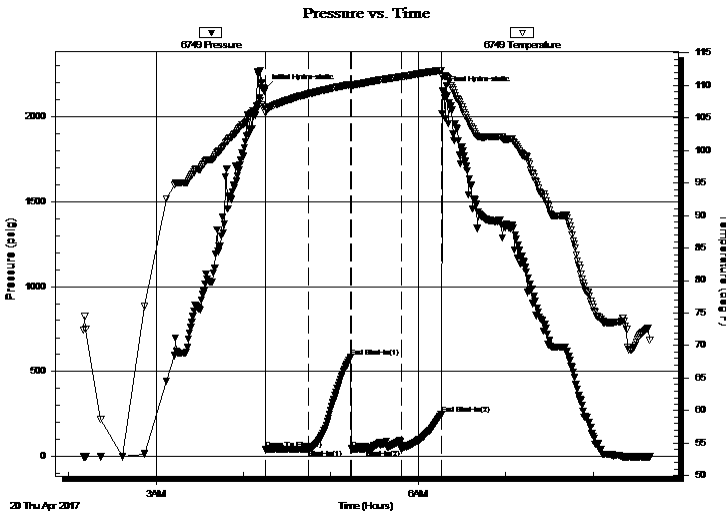
Serial #: 6749

Outside

Press@RunDepth: 45.52 psig @ 4281.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.04.20 End Date: 2017.04.20 Last Calib.: 2017.04.20
 Start Time: 02:10:15 End Time: 08:39:15 Time On Btm: 2017.04.20 @ 04:14:45
 Time Off Btm: 2017.04.20 @ 06:16:45

TEST COMMENT: IF:Weak surface blow died in 1 min.
 IS:No return blow
 FF:No blow
 FS:No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.65	106.68	Initial Hydro-static
1	41.53	105.67	Open To Flow (1)
30	42.85	108.68	Shut-In(1)
59	582.46	110.09	End Shut-In(1)
60	45.77	109.95	Open To Flow (2)
94	45.52	111.28	Shut-In(2)
121	246.59	112.26	End Shut-In(2)
122	2154.13	111.31	Final Hydro-static

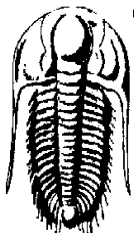
Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud w ith oil apots 100%m	0.28

* Recovery from multiple tests

Gas Rates

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



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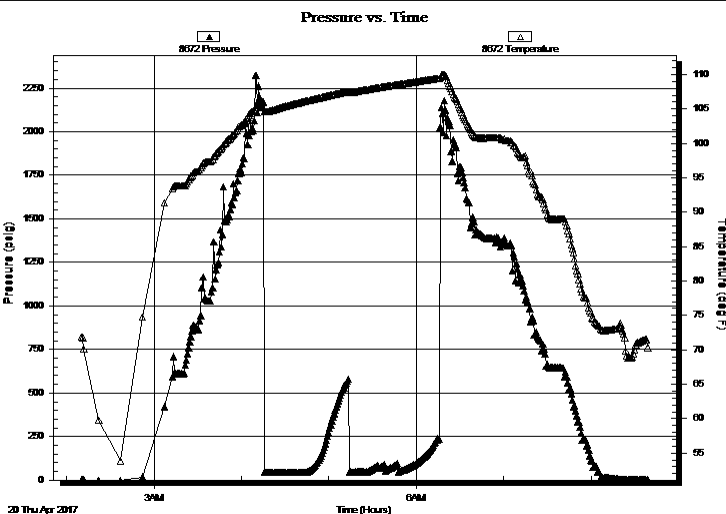
GENERAL INFORMATION:

Formation: K				
Deviated: No Whipstock:		ft (KB)		Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 04:15:00				Tester: Mike Roberts
Time Test Ended: 08:39:15				Unit No: 81
Interval: 4280.00 ft (KB) To 4299.00 ft (KB) (TVD)			Reference Elevations:	3050.00 ft (KB)
Total Depth: 4299.00 ft (KB) (TVD)				3040.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair		KB to GR/CF:	10.00 ft

Serial #: 8672 Inside

Press@RunDepth: psig @ 4281.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2017.04.20	End Date: 2017.04.20
Last Calib.: 2017.04.20	
Start Time: 02:10:15	End Time: 08:39:15
	Time On Btm: Time Off Btm:

TEST COMMENT: IF:Weak surface blow died in 1 min.
IS:No return blow
FF:No blow
FS:No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud w ith oil spots 100%m	0.28

* Recovery from multiple tests

Gas Rates

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



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DRILL STEM TEST REPORT

FLUID SUMMARY

Culbreath Oil And Gas Company

4-12s-32w Logan,KS

3501 S Yale Ave.
Tulsa OK 74135

Voth #1-4

Job Ticket: 63719

DST#: 4

ATTN: Larry Nicholson

Test Start: 2017.04.20 @ 02:10:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud w ith oil apots 100%m	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

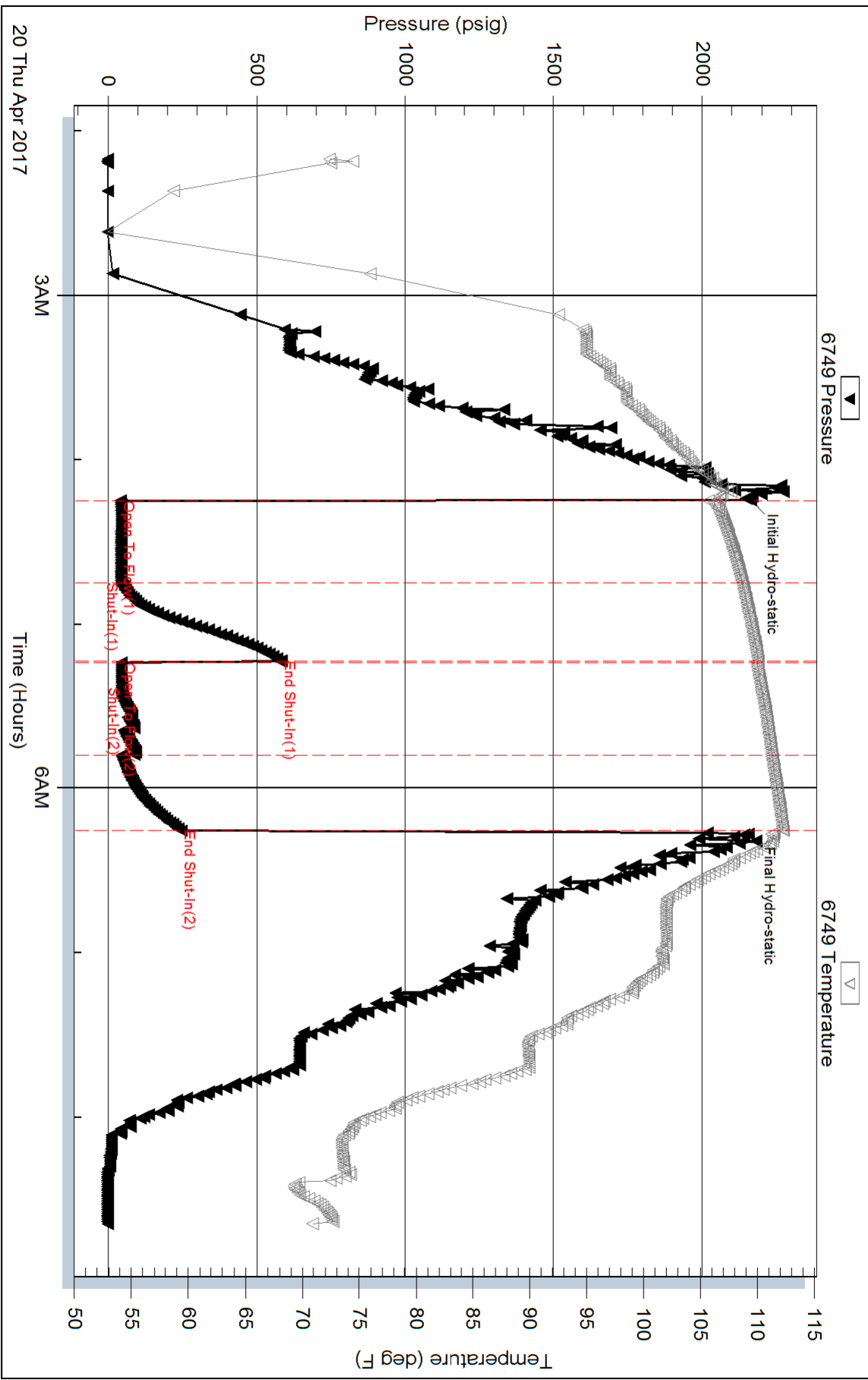
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



Serial #: 8672

Inside

Culbreath Oil And Gas Company

Voith #1-4

DST Test Number: 4

