



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Culbreath Oil And Gas Company

4-12s-32w Logan Co KS

3501 S Yale Ave.
Tulsa OK 74135

Voth #1-4

Job Ticket: 63716

DST#: 1

ATTN: Larry Nicholson

Test Start: 2017.04.16 @ 22:13:15

GENERAL INFORMATION:

Formation: **LKC E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:12:15

Time Test Ended: 06:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 81

Interval: 4126.00 ft (KB) To 4144.00 ft (KB) (TVD)

Reference Elevations: 3050.00 ft (KB)

Total Depth: 4144.00 ft (KB) (TVD)

3040.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6749 Outside

Press@RunDepth: 169.75 psig @ 4127.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.04.16

End Date:

2017.04.17

Last Calib.:

2017.04.17

Start Time: 22:13:15

End Time:

06:25:00

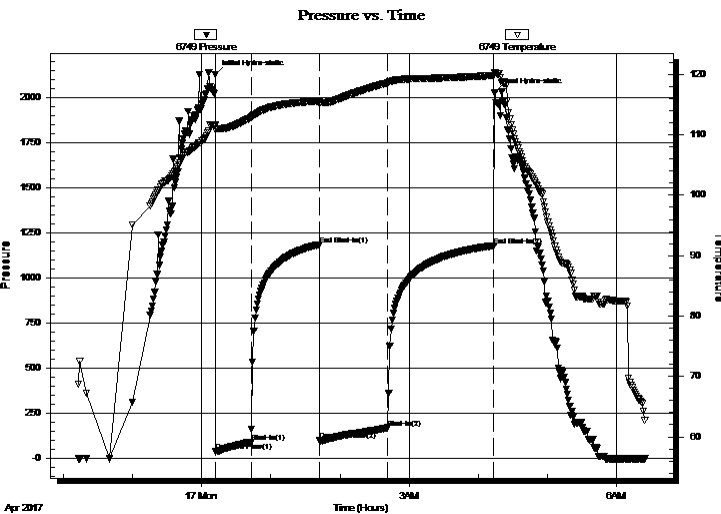
Time On Btm:

2017.04.17 @ 00:11:45

Time Off Btm:

2017.04.17 @ 04:14:15

TEST COMMENT: IF:BOB in 7 min.
IS:Weak surface blow died in 21 min.
FF:BOB in 13 min.
FS:No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2126.35	111.59	Initial Hydro-static
1	38.88	110.90	Open To Flow (1)
31	91.37	112.85	Shut-In(1)
91	1185.12	115.59	End Shut-In(1)
91	102.36	115.05	Open To Flow (2)
150	169.75	118.57	Shut-In(2)
242	1179.10	119.80	End Shut-In(2)
243	2025.08	120.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
154.00	free oil	2.16
124.00	gco 20%g 80%o	1.74
62.00	gcom 5%g 35%o 60%m	0.87
62.00	w cogm 2%w 3%o 5%g 90% m	0.87

Gas Rates

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



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Job Ticket: 63716

DST#: 1

ATTN: Larry Nicholson

Test Start: 2017.04.16 @ 22:13:15

GENERAL INFORMATION:

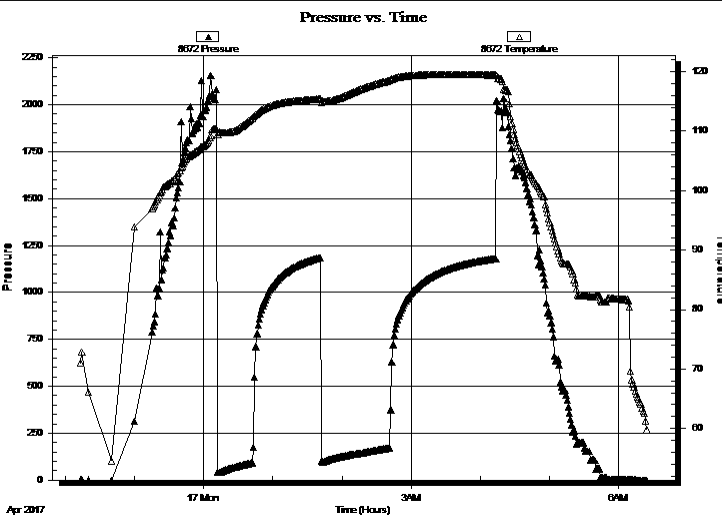
Formation: **LKC E**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:12:15
 Time Test Ended: 06:25:00
 Interval: **4126.00 ft (KB) To 4144.00 ft (KB) (TVD)**
 Total Depth: 4144.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 3050.00 ft (KB)
 3040.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8672

Inside

Press@RunDepth: psig @ 4127.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.04.16 End Date: 2017.04.17 Last Calib.: 2017.04.17
 Start Time: 22:13:15 End Time: 06:25:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF:BOB in 7 min.
 IS:Weak surface blow died in 21 min.
 FF:BOB in 13 min.
 FS:No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
154.00	free oil	2.16
124.00	gco 20%g 80%o	1.74
62.00	gcom 5%g 35%o 60%m	0.87
62.00	w cogm 2%w 3%o 5%g 90% m	0.87

Gas Rates

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



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FLUID SUMMARY

Culbreath Oil And Gas Company

4-12s-32w Logan Co KS

3501 S Yale Ave.
Tulsa OK 74135

Voth #1-4

Job Ticket: 63716

DST#: 1

ATTN: Larry Nicholson

Test Start: 2017.04.16 @ 22:13:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

19000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.36 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
154.00	free oil	2.160
124.00	gco 20%g 80%o	1.739
62.00	gcom 5%g 35%o 60%m	0.870
62.00	w cogm 2%w 3%o 5%g 90% m	0.870

Total Length: 402.00 ft Total Volume: 5.639 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

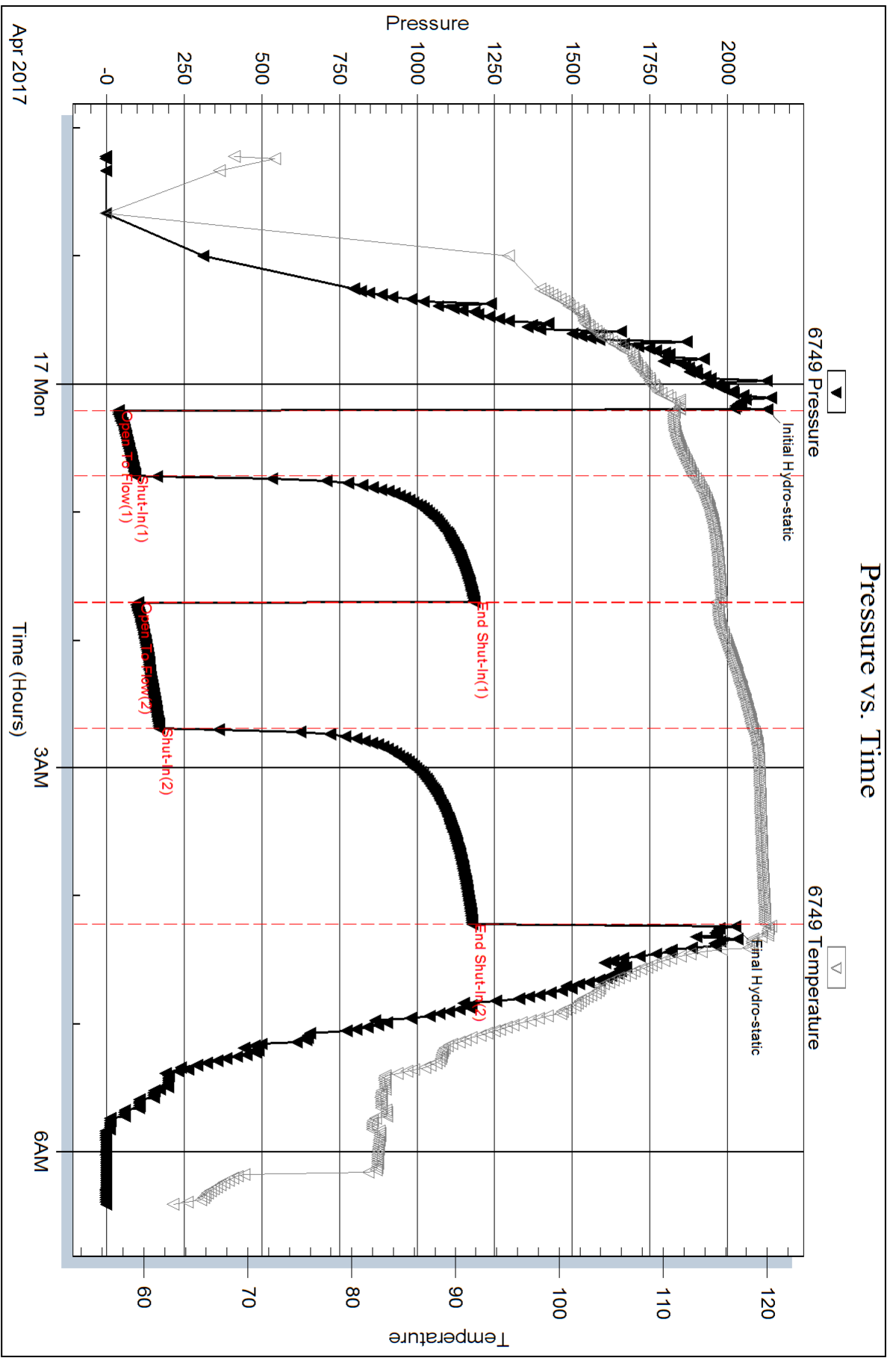
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .476@ 61.3=19,000 ppm

API= 32 @ 60 corrected to 32



Serial #: 8672

Inside

Culbreath Oil And Gas Company

Voith #1-4

DST Test Number: 1

