



DRILL STEM TEST REPORT

Prepared For: **Culbreath Oil & Gas**

3501 S. Yale Ave
Tulsa OK 74135

ATTN: Steve Murphy

K.S. Baker #1-21

21-14s-34w Logan KS

Start Date: 2015.09.17 @ 08:36:00

End Date: 2015.09.17 @ 15:46:39

Job Ticket #: 62779 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
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Printed: 2015.11.25 @ 09:23:45



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Culbreath Oil & Gas

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Test Start: 2015.09.17 @ 08:36:00

GENERAL INFORMATION:

Formation: **Altamont "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:27:50

Time Test Ended: 15:46:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

Interval: 4378.00 ft (KB) To 4408.00 ft (KB) (TVD)

Reference Elevations: 3109.00 ft (KB)

Total Depth: 4408.00 ft (KB) (TVD)

3102.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 6752 Inside

Press@RunDepth: 279.49 psig @ 4379.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.09.17

End Date: 2015.09.17

Last Calib.: 2015.09.17

Start Time: 08:36:01

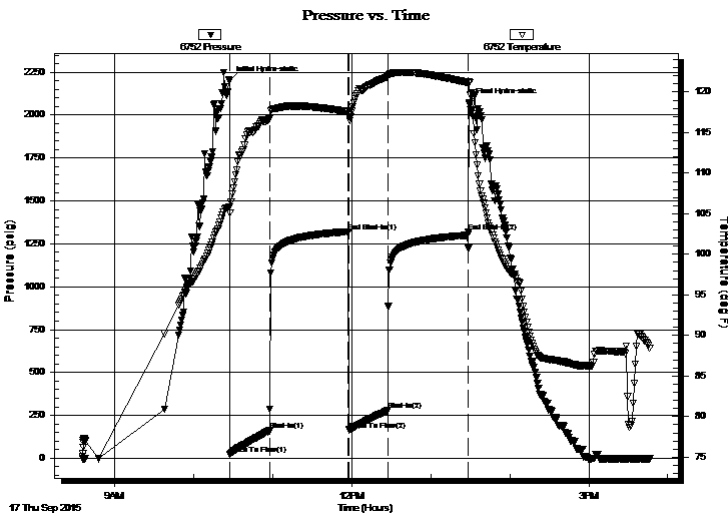
End Time: 15:46:40

Time On Btm: 2015.09.17 @ 10:27:40

Time Off Btm: 2015.09.17 @ 13:29:20

TEST COMMENT: 30 IF - 1/2" blow built to BoB @ 5 1/2 mins
60 FSI - Surface blow built to 2" @ 8 mins died back to 1"
30 FF - 1/2" blow built to BoB @ 7 mins
60 FSI - Surface blow built to 1 1/2" @ 15 mins died back to 3/4"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2199.63	105.83	Initial Hydro-static
1	25.00	105.08	Open To Flow (1)
30	160.96	116.67	Shut-In(1)
90	1320.76	117.58	End Shut-In(1)
91	166.03	116.99	Open To Flow (2)
120	279.49	121.87	Shut-In(2)
182	1319.92	121.14	End Shut-In(2)
182	2071.01	121.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	GMCO - 20%M - 40%G - 40%o	1.77
251.00	GMCO - 30%G - 20%M - 50%o	3.52
378.00	GO - 20%G - 80%o	5.30
95.00	GO - 10%G - 90%o	1.33
0.00	472' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



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TOOL DIAGRAM

Culbreath Oil & Gas

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ATTN: Steve Murphy

Test Start: 2015.09.17 @ 08:36:00

Tool Information

Drill Pipe:	Length: 4362.00 ft	Diameter: 3.80 inches	Volume: 61.19 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 61.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	4378.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	50.00 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			4359.00	
Shut In Tool	5.00			4364.00	
Hydraulic tool	5.00			4369.00	
Packer	5.00			4374.00	20.00 Bottom Of Top Packer
Packer	4.00			4378.00	
Stubb	1.00			4379.00	
Recorder	0.00	6752	Inside	4379.00	
Recorder	0.00	8322	Outside	4379.00	
Perforations	26.00			4405.00	
Bullnose	3.00			4408.00	30.00 Bottom Packers & Anchor
Total Tool Length:	50.00				



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FLUID SUMMARY

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Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 11000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
126.00	GMCO - 20%M - 40%G - 40%o	1.767
251.00	GMCO - 30%G - 20%M - 50%o	3.521
378.00	GO - 20%G - 80%o	5.302
95.00	GO - 10%G - 90%o	1.333
0.00	472' GIP	0.000

Total Length: 850.00 ft Total Volume: 11.923 bbl

Num Fluid Samples: 0

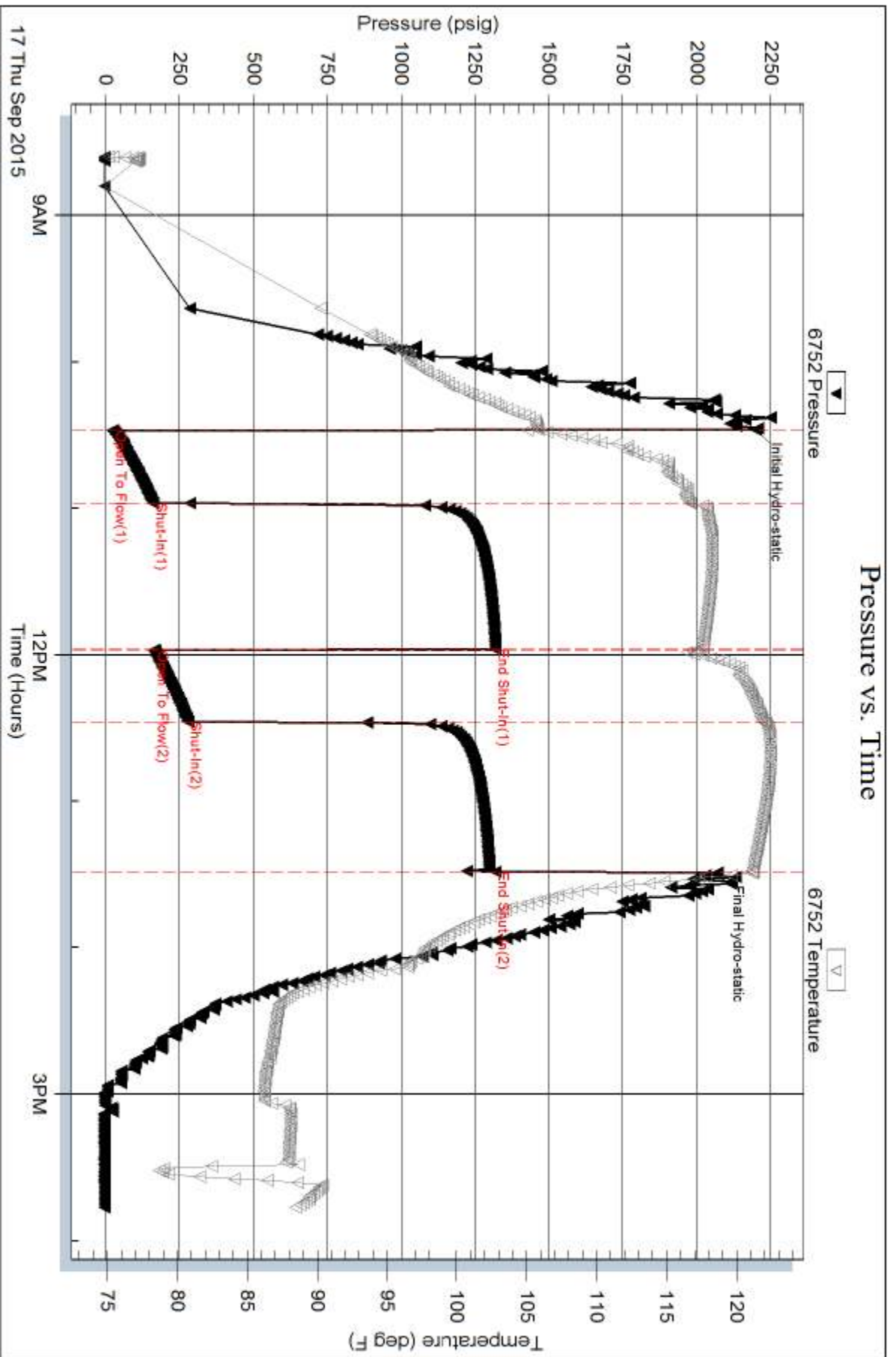
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: OIL API = 36 @ 80 DEG F = 34 COR 60 DEG F

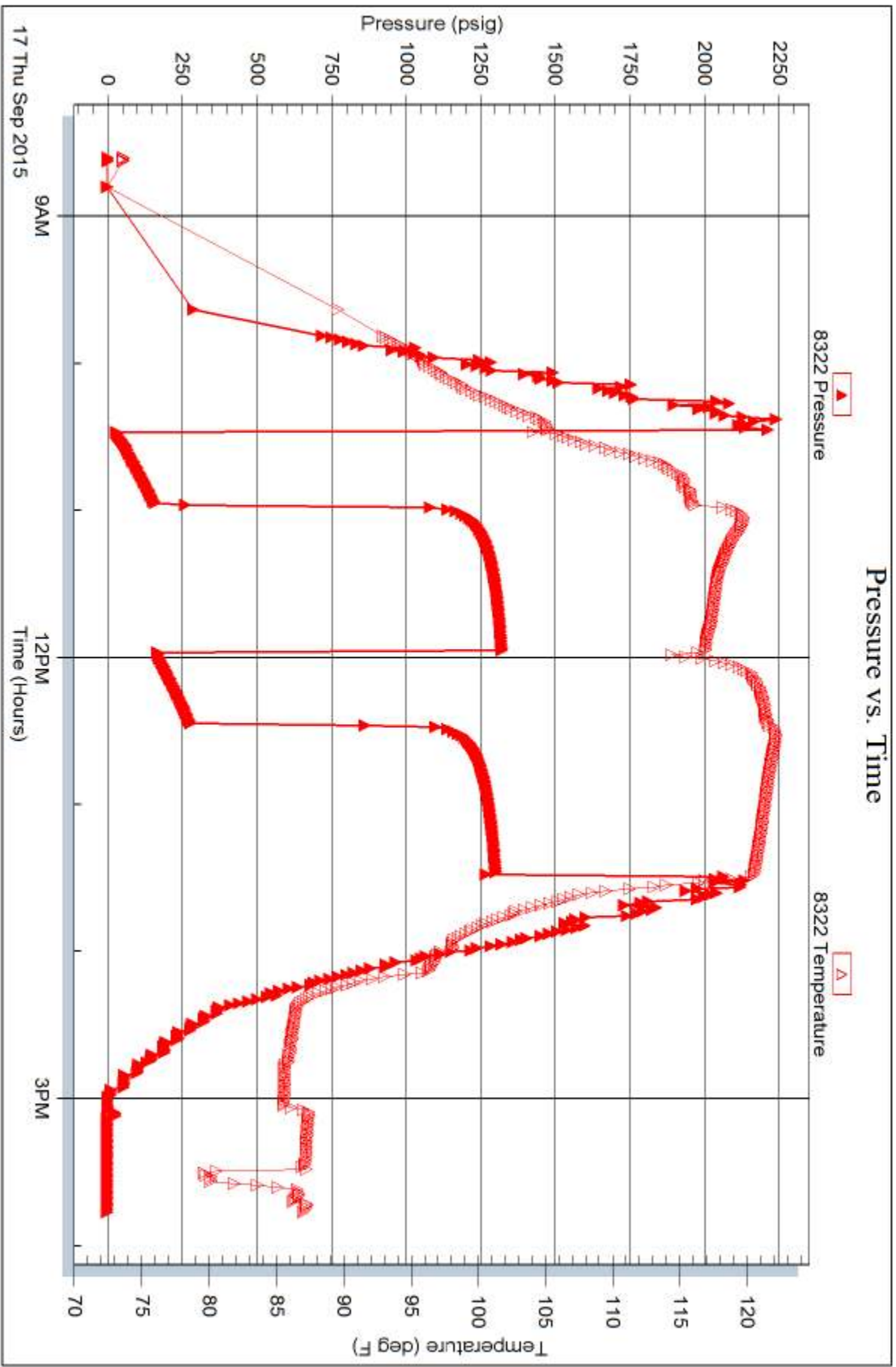


Serial #: 8322

Outside Culbreath Oil & Gas

K.S. Baker #1-21

DST Test Number: 3



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Ref. No: 62779

Printed: 2015.11.25 @ 09:23:46