



DRILL STEM TEST REPORT

Prepared For: **Bach Oil Production**

PO Box 723
Alma NE 66920

ATTN: Bob Petersen

Cox #1

3-1s-19w Phillips,KS

Start Date: 2014.09.20 @ 06:50:00

End Date: 2014.09.20 @ 13:33:00

Job Ticket #: 60162 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Bach Oil Production

3-1s-19w Phillips,KS

PO Box 723
Alma NE 66920

Cox #1

Job Ticket: 60162

DST#: 1

ATTN: Bob Petersen

Test Start: 2014.09.20 @ 06:50:00

GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:37:30

Time Test Ended: 13:33:00

Test Type: Conventional Straddle (Initial)

Tester: Robert Zodrow

Unit No: 49

Interval: 3288.00 ft (KB) To 3321.00 ft (KB) (TVD)

Reference Elevations: 2013.00 ft (KB)

Total Depth: 3451.00 ft (KB) (TVD)

2008.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6769 Outside

Press@RunDepth: 75.22 psig @ 3289.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.20

End Date:

2014.09.20

Last Calib.:

2014.09.20

Start Time: 06:50:05

End Time:

13:32:59

Time On Btm:

2014.09.20 @ 08:36:30

Time Off Btm:

2014.09.20 @ 11:55:30

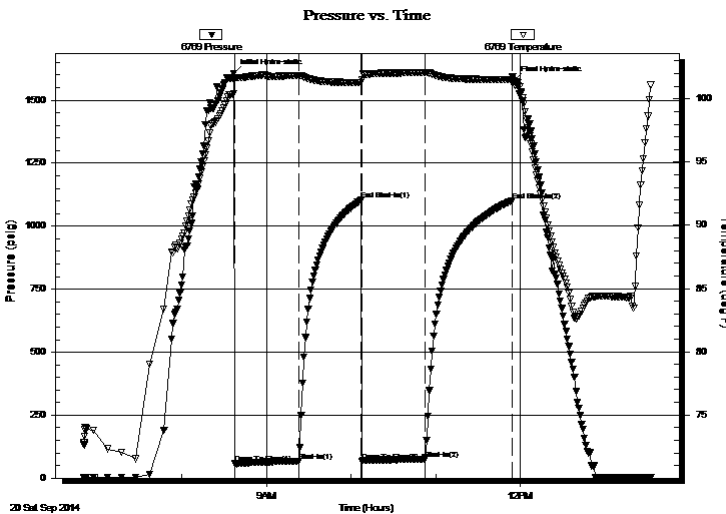
TEST COMMENT: 45-IF- Blow built to 4" died back to 3 1/2"

45-ISI- No return

45-FF- No blow

60-FSI- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1606.77	100.45	Initial Hydro-static
1	57.03	101.60	Open To Flow (1)
46	67.89	101.86	Shut-In(1)
91	1103.77	101.31	End Shut-In(1)
91	67.14	101.51	Open To Flow (2)
136	75.22	102.08	Shut-In(2)
198	1101.08	101.53	End Shut-In(2)
199	1576.72	101.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
118.00	g oil spotted mud 5%g 95%m	0.58

Gas Rates

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



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Unit No: 49

Interval: 3288.00 ft (KB) To 3321.00 ft (KB) (TVD)

Total Depth: 3451.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2013.00 ft (KB)

2008.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8521 Inside

Press@RunDepth: psig @ 3289.00 ft (KB)

Start Date: 2014.09.20 End Date: 2014.09.20

Start Time: 06:50:05 End Time: 13:31:59

Capacity: 8000.00 psig

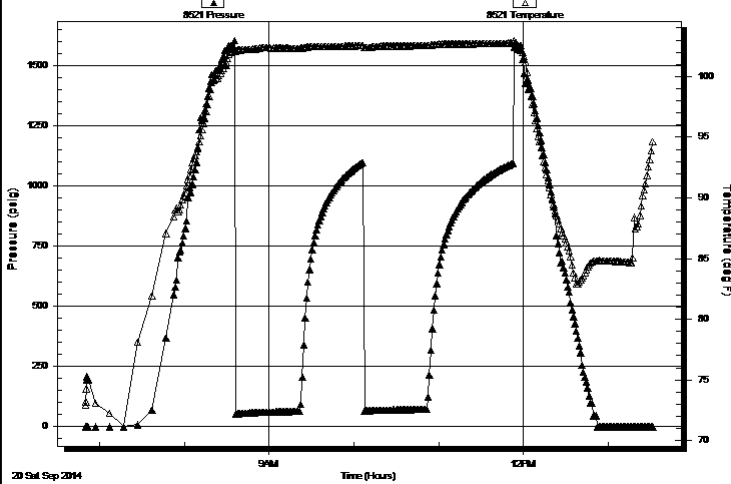
Last Calib.: 2014.09.20

Time On Btm:

Time Off Btm:

TEST COMMENT: 45-IF- Blow built to 4" died back to 3 1/2"
45-IS- No return
45-FF- No blow
60-FS- No return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
118.00	g oil spotted mud 5%g 95%m	0.58

Gas Rates

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



TRILLOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Bach Oil Production

3-1s-19w Phillips,KS

PO Box 723
Alma NE 66920

Cox #1

ATTN: Bob Petersen

Job Ticket: 60162

DST#: 1

Test Start: 2014.09.20 @ 06:50:00

GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:37:30

Time Test Ended: 13:33:00

Test Type: Conventional Straddle (Initial)

Tester: Robert Zodrow

Unit No: 49

Interval: **3288.00 ft (KB) To 3321.00 ft (KB) (TVD)**

Total Depth: 3451.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2013.00 ft (KB)

2008.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8959 Below (Straddle)

Press@RunDepth: psig @ 3326.00 ft (KB)

Start Date: 2014.09.20

End Date:

2014.09.20

Start Time: 06:50:05

End Time:

13:33:59

Capacity: 8000.00 psig

Last Calib.:

2014.09.20

Time On Btm:

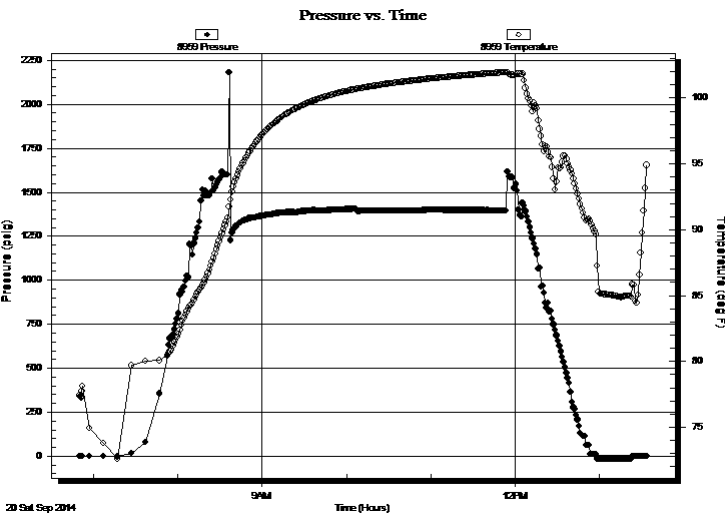
Time Off Btm:

TEST COMMENT: 45-IF- Blow built to 4" died back to 3 1/2"

45-ISI- No return

45-FF- No blow

60-FSI- No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
118.00	g oil spotted mud 5%g 95%m	0.58

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bach Oil Production

3-1s-19w Phillips,KS

PO Box 723
Alma NE 66920

Cox #1

Job Ticket: 60162

DST#: 1

ATTN: Bob Petersen

Test Start: 2014.09.20 @ 06:50:00

Tool Information

Drill Pipe:	Length: 3148.00 ft	Diameter: 3.88 inches	Volume: 46.04 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: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 46.62 bbl</u>	Tool Chased	6.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	3288.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	3321.00 ft				
Interval between Packers:	33.00 ft				
Tool Length:	195.00 ft				
Number of Packers:	3	Diameter: 6.75 inches			

Tool Comments: Chased tool 6 foot took on mud

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3265.00	
Hydraulic tool	5.00			3270.00	
Jars	5.00			3275.00	
Safety Joint	3.00			3278.00	
Packer	5.00			3283.00	28.00 Bottom Of Top Packer
Packer	5.00			3288.00	
Stubb	1.00			3289.00	
Recorder	0.00	8521	Inside	3289.00	
Recorder	0.00	6769	Outside	3289.00	
Perforations	27.00			3316.00	
Blank Off Sub	5.00			3321.00	33.00 Tool Interval
Packer	4.00			3325.00	
Stubb	1.00			3326.00	
Recorder	0.00	8959	Below	3326.00	
Change Over Sub	1.00			3327.00	
Drill Pipe	124.00			3451.00	
Change Over Sub	1.00			3452.00	
Bullnose	3.00			3455.00	134.00 Bottom Packers & Anchor

Total Tool Length: 195.00



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FLUID SUMMARY

Bach Oil Production

3-1s-19w Phillips,KS

PO Box 723
Alma NE 66920

Cox #1

Job Ticket: 60162

DST#: 1

ATTN: Bob Petersen

Test Start: 2014.09.20 @ 06:50:00

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:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 4.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
118.00	g oil spotted mud 5%g 95%m	0.580

Total Length: 118.00 ft Total Volume: 0.580 bbl

Num Fluid Samples: 0

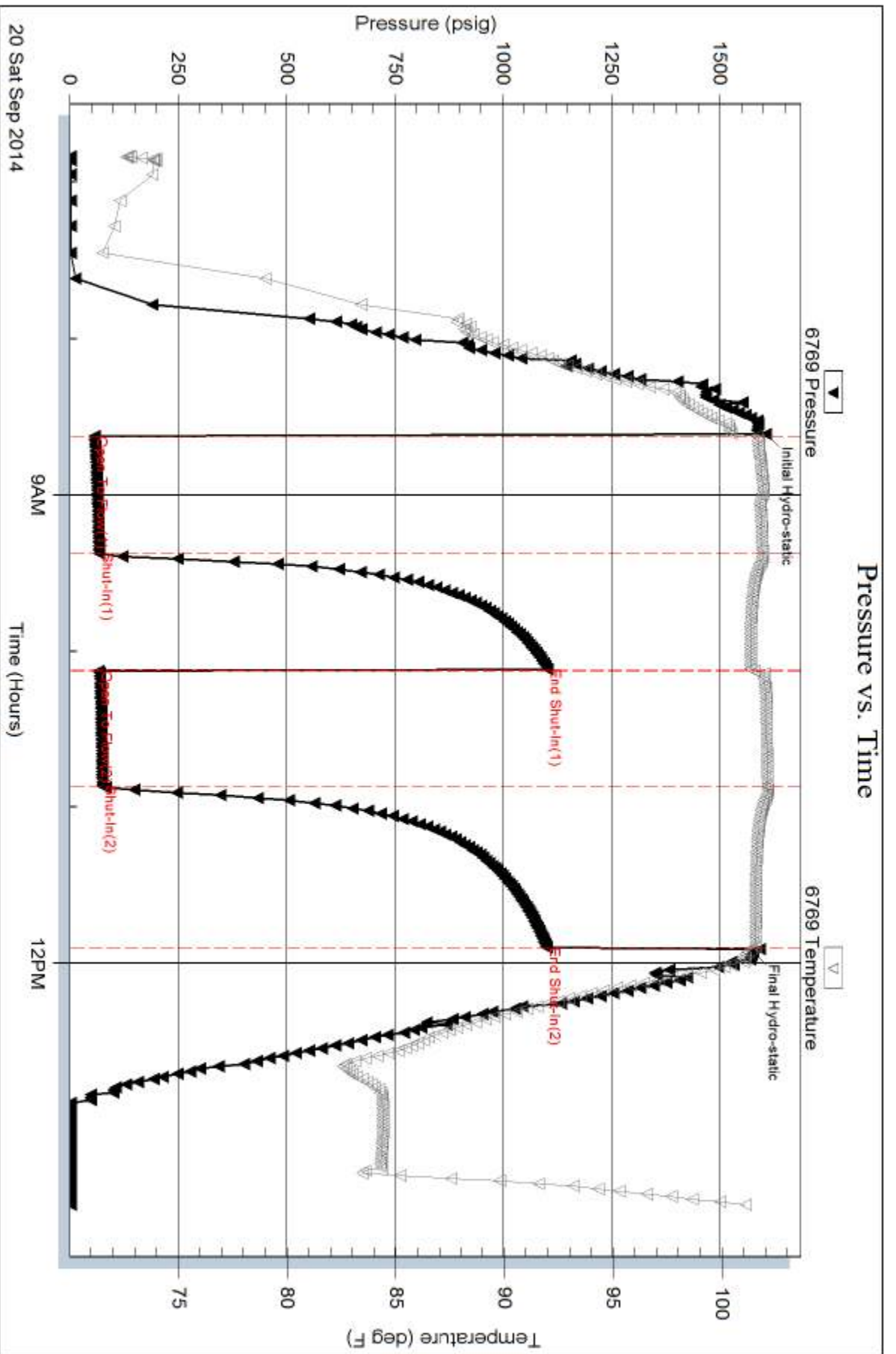
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



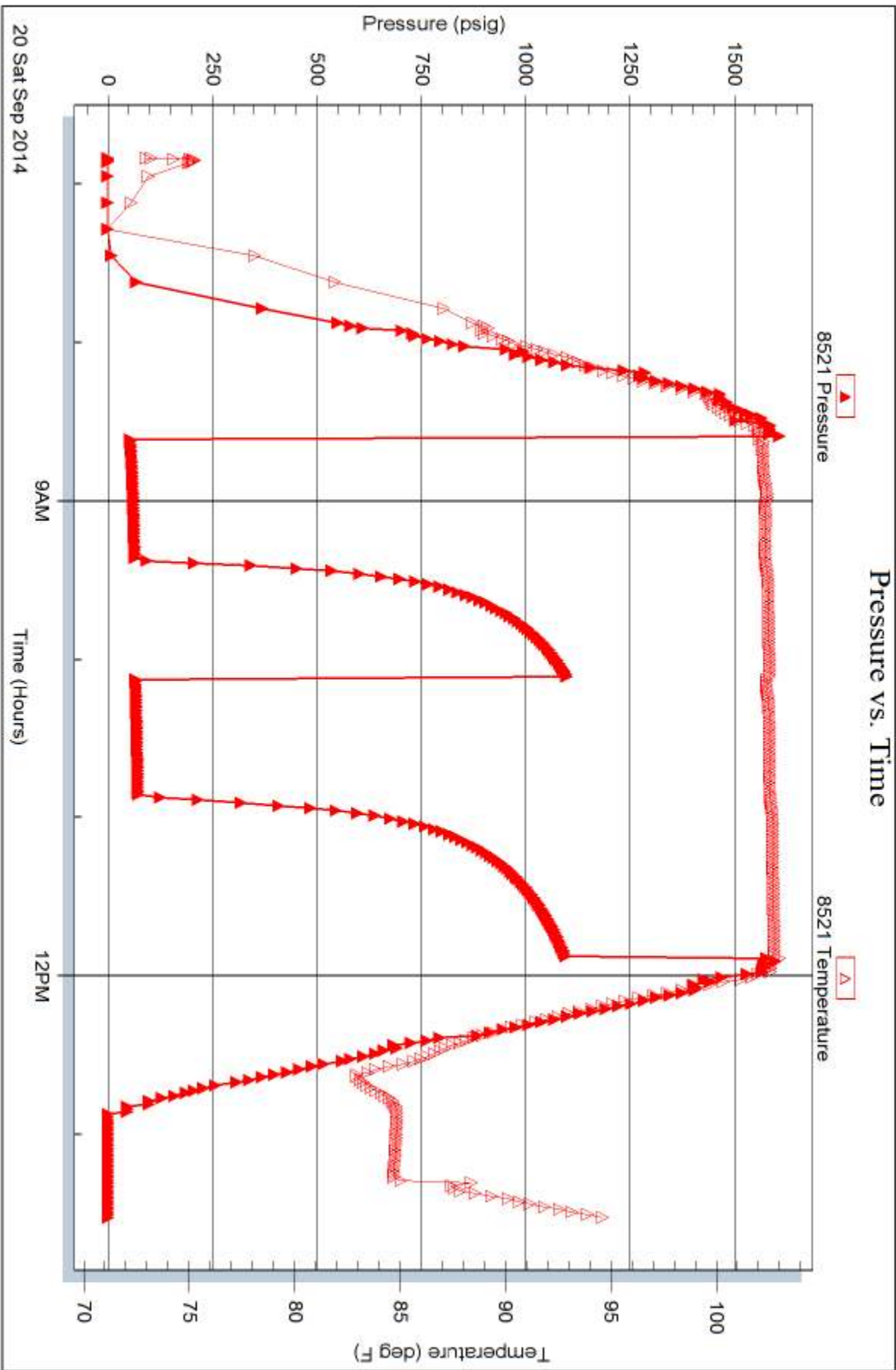
Serial #: 8521

Inside

Back Oil Production

Cox #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 60162

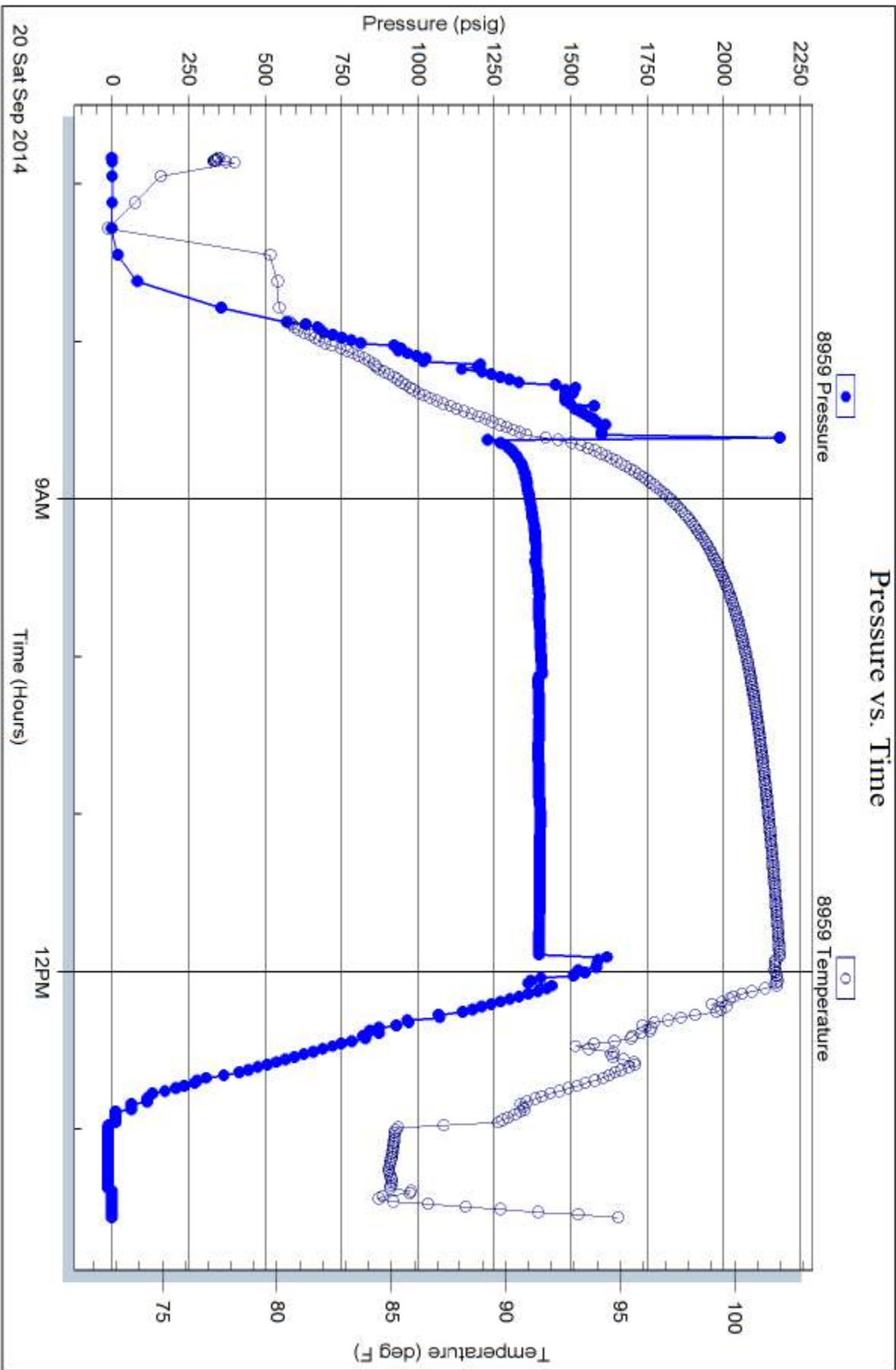
Printed: 2014.09.22 @ 16:44:41

Serial #: 8959

Below (Stratfield) Oil Production

Cox #1

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60162

Well Name & No. COX 1 Test No. 1 Date 9-20-2014
 Company Bach Jason dba Bach oil Prod. Elevation 2013 KB 2008 GL
 Address PO BOX 723
 Co. Rep / Geo. Bob Petersen Rig murfin 24
 Location: Sec. 3 Twp. 1 Rge. 19 Co. Phillips State KS

Interval Tested 3288-3321 Zone Tested LKC "C"
 Anchor Length 33 Drill Pipe Run 3148 Mud Wt. 8.8
 Top Packer Depth 3283-3288 Drill Collars Run 118 Vis 50
 Bottom Packer Depth 3321 Wt. Pipe Run 0 WL 4.8
 Total Depth 3451 Chlorides 400 ppm System LCM 2.5
 Blow Description IF - Blow built to 4" died back to 3 1/2
ISI - NO return
FF - NO blow
FSL - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>118</u>	<u>9 spot oil spotted mud</u>	<u>5</u>	<u>spotted</u>	<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 118 BHT 101 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1607 Test 1150 T-On Location 05:30 9-20
 (B) First Initial Flow 57 Jars 250 T-Started 06:50 9-20
 (C) First Final Flow 68 Safety Joint 75 T-Open 08:37 9-20
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled 11:54 9-20
 (E) Second Initial Flow 67 Hourly Standby _____ T-Out 13:33 9-20
 (F) Second Final Flow 75 Mileage 126 RT 195.30 Comments Chased tool
 (G) Final Shut-In _____ Sampler _____ 6 foot took on mud
 (H) Final Hydrostatic 1576 Straddle 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 45 Extra Recorder _____ Sub Total 0
 Initial Shut-In 45 Day Standby _____ Total 2270.30
 Final Flow 45 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 2270.30

Approved By [Signature] Our Representative Robert Zedler
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