



DRILL STEM TEST REPORT

Prepared For: **Baird Oil Company LLC**

113 W Main Box 428
Logan KS 67646

ATTN: Richard Bell

13-7s-22w Graham,KS

Esther Worcester #5-13

Start Date: 2014.09.22 @ 04:19:00

End Date: 2014.09.22 @ 11:25:00

Job Ticket #: 56141 DST #: 1

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

Printed: 2014.09.29 @ 14:59:32



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56141

DST#: 1

Test Start: 2014.09.22 @ 04:19:00

GENERAL INFORMATION:

Formation: **LKC " C "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:26:45

Time Test Ended: 11:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 76

Interval: 3412.00 ft (KB) To 3432.00 ft (KB) (TVD)

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3432.00 ft (KB) (TVD)

2152.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8289 Outside

Press@RunDepth: 85.70 psig @ 3414.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.22

End Date:

2014.09.22

Last Calib.:

2014.09.22

Start Time: 04:19:02

End Time:

11:25:15

Time On Btm:

2014.09.22 @ 06:26:30

Time Off Btm:

2014.09.22 @ 09:26:30

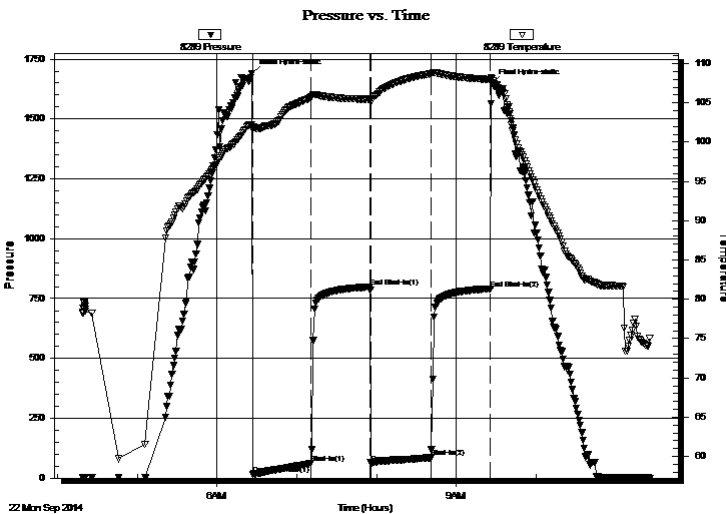
TEST COMMENT: 45-IFP- Surface Blow Building to 1 1/4" In 14 min. Died Back in 40 min.

45-ISIP- No Blow

45-FFP- Surface Blow in 2 min. Building to 2 1/4"

45-FSIP- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1690.69	102.23	Initial Hydro-static
1	14.53	101.61	Open To Flow (1)
45	61.51	105.73	Shut-In(1)
89	798.35	105.45	End Shut-In(1)
89	63.77	105.07	Open To Flow (2)
135	85.70	108.70	Shut-In(2)
180	791.28	107.95	End Shut-In(2)
180	1648.17	108.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	MCW 15% m 85% w Show of Oil	0.88

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Baird Oil Company LLC

113 W Main Box 428
Logan KS 67646

ATTN: Richard Bell

Esther Worcester #5-13

13-7s-22w Graham,KS

Job Ticket: 56141

DST#: 1

Test Start: 2014.09.22 @ 04:19:00

GENERAL INFORMATION:

Formation: **LKC " C "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:26:45

Time Test Ended: 11:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 76

Interval: 3412.00 ft (KB) To 3432.00 ft (KB) (TVD)

Total Depth: 3432.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2159.00 ft (KB)

2152.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8789

Inside

Press@RunDepth: psig @ 3414.00 ft (KB)

Start Date: 2014.09.22

End Date:

2014.09.22

Start Time: 04:19:02

End Time:

11:25:00

Capacity: 8000.00 psig

Last Calib.:

2014.09.22

Time On Btm:

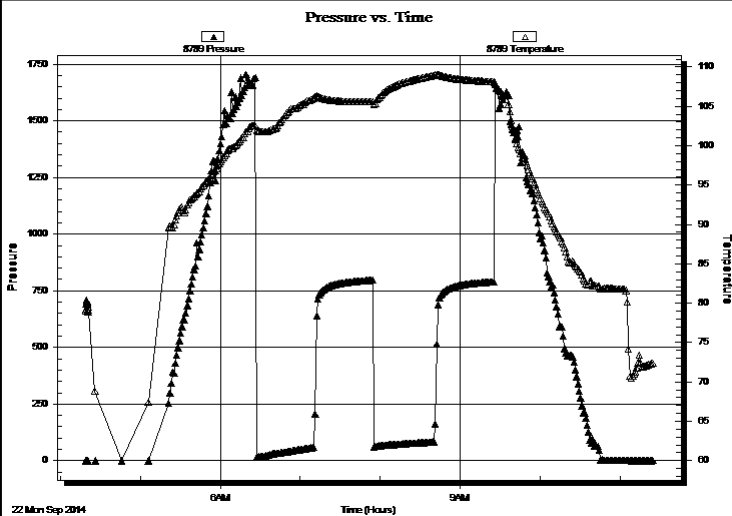
Time Off Btm:

TEST COMMENT: 45-IFP- Surface Blow Building to 1 1/4" In 14 min. Died Back in 40 min.

45-ISIP- No Blow

45-FFP- Surface Blow in 2 min. Building to 2 1/4"

45-FSIP- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
140.00	MCW 15% m 85% w Show of Oil	0.88

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56141

DST#: 1

Test Start: 2014.09.22 @ 04:19:00

Tool Information

Drill Pipe:	Length: 3294.00 ft	Diameter: 3.80 inches	Volume: 46.21 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 46.80 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3412.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	41.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3392.00	
Shut In Tool	5.00			3397.00	
Hydraulic tool	5.00			3402.00	
Packer	5.00			3407.00	21.00 Bottom Of Top Packer
Packer	5.00			3412.00	
Stubb	1.00			3413.00	
Perforations	1.00			3414.00	
Recorder	0.00	8789	Inside	3414.00	
Recorder	0.00	8289	Outside	3414.00	
Blank Spacing	15.00			3429.00	
Bullnose	3.00			3432.00	20.00 Bottom Packers & Anchor

Total Tool Length: 41.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

Job Ticket: 56141

DST#: 1

ATTN: Richard Bell

Test Start: 2014.09.22 @ 04:19:00

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:

34000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.75 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
140.00	MCW 15% m 85% w Show of Oil	0.880

Total Length: 140.00 ft

Total Volume: 0.880 bbl

Num Fluid Samples: 0

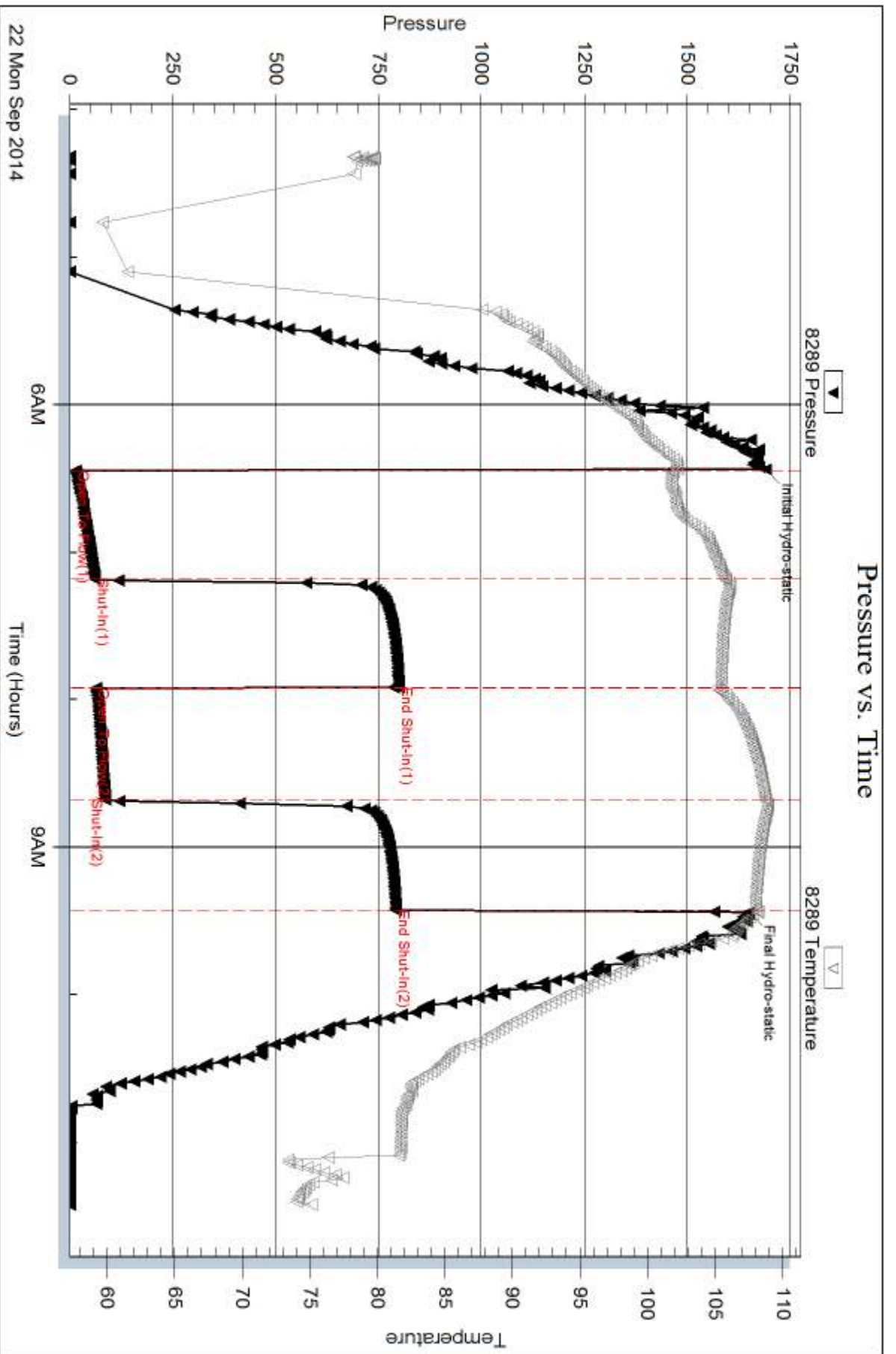
Num Gas Bombs: 0

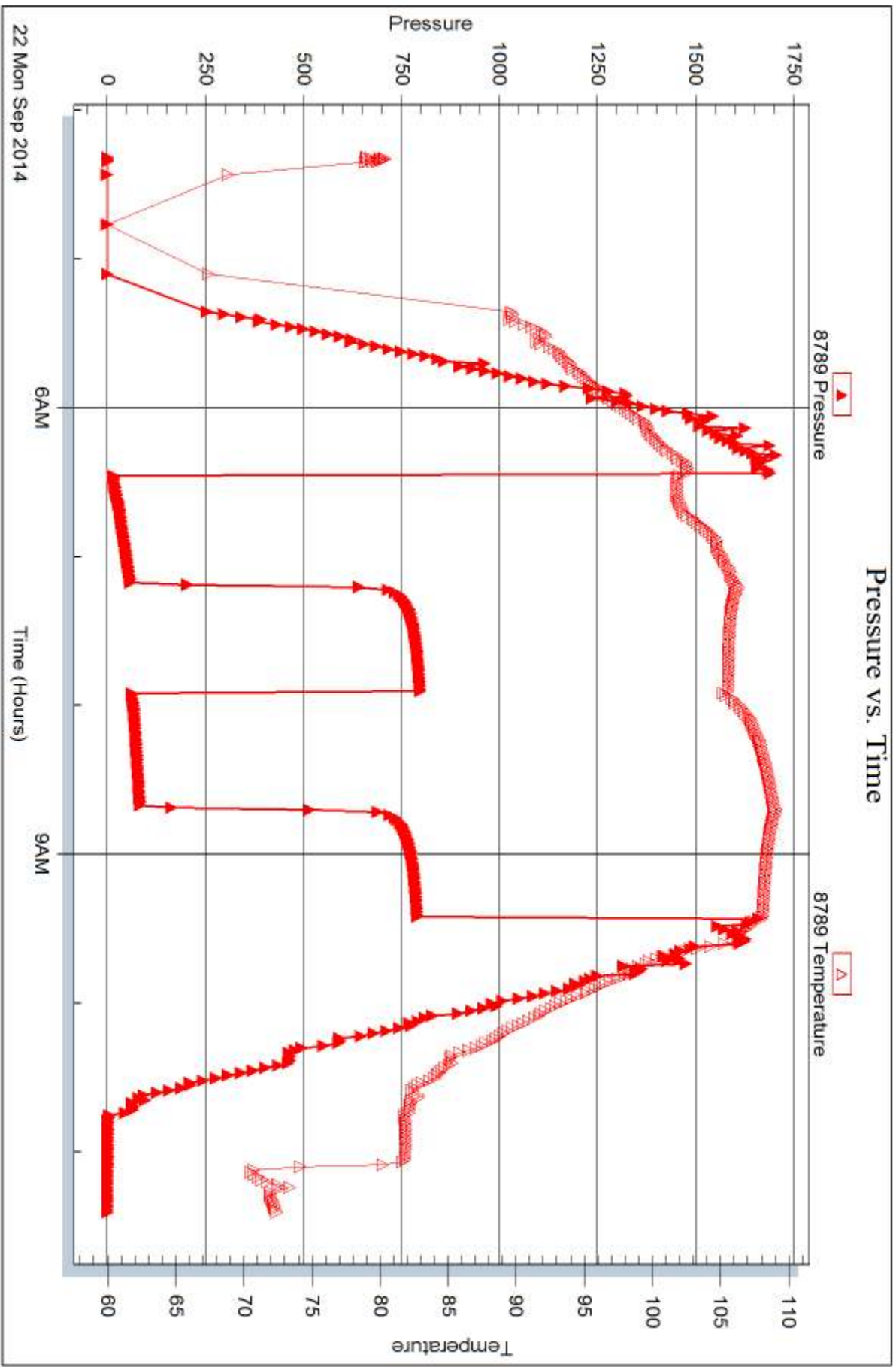
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .200 @ 73







DRILL STEM TEST REPORT

Prepared For: **Baird Oil Company LLC**

113 W Main Box 428
Logan KS 67646

ATTN: Richard Bell

13-7s-22w Graham,KS

Esther Worcester #5-13

Start Date: 2014.09.22 @ 17:24:00

End Date: 2014.09.22 @ 23:56:00

Job Ticket #: 56142 DST #: 2

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

Printed: 2014.09.29 @ 14:59:05

Baird Oil Company LLC

Esther Worcester #5-13

13-7s-22w Graham,KS

DST # 2

LKC " D "

2014.09.22



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56142

DST#: 2

Test Start: 2014.09.22 @ 17:24:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:40:30

Time Test Ended: 23:56:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3432.00 ft (KB) To 3450.00 ft (KB) (TVD)

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3450.00 ft (KB) (TVD)

2152.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8289 Outside

Press@RunDepth: 184.35 psig @ 3434.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.22

End Date:

2014.09.22

Last Calib.:

2014.09.22

Start Time: 17:24:02

End Time:

23:56:00

Time On Btm:

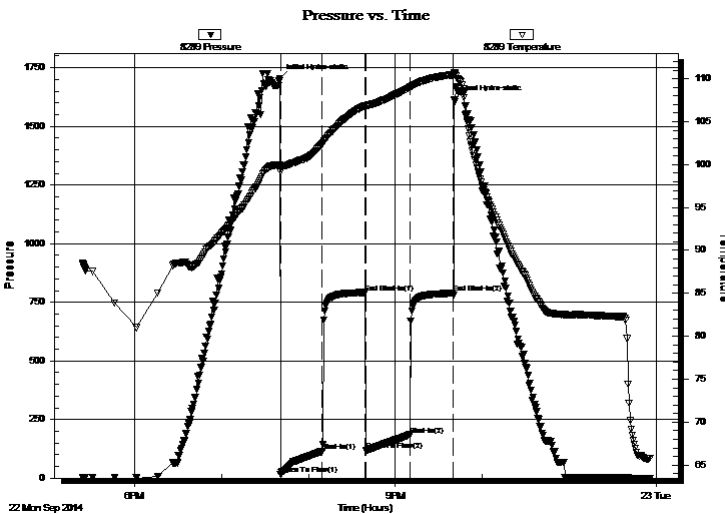
2014.09.22 @ 19:40:15

Time Off Btm:

2014.09.22 @ 21:40:45

TEST COMMENT: 30-IFP- BOB in 23 min.
30-ISIP- No Blow
30-FFP- BOB in 22 min.
30-FSIP- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1703.02	99.98	Initial Hydro-static
1	16.87	99.15	Open To Flow (1)
30	114.99	102.40	Shut-In(1)
59	791.84	106.88	End Shut-In(1)
60	117.76	106.70	Open To Flow (2)
90	184.35	108.93	Shut-In(2)
120	788.43	110.45	End Shut-In(2)
121	1615.53	110.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
360.00	MCW 10% m 90% w	3.97

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

Job Ticket: 56142

DST#: 2

ATTN: Richard Bell

Test Start: 2014.09.22 @ 17:24:00

Tool Information

Drill Pipe:	Length: 3326.00 ft	Diameter: 3.80 inches	Volume: 46.66 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 47.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3432.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3412.00	
Shut In Tool	5.00			3417.00	
Hydraulic tool	5.00			3422.00	
Packer	5.00			3427.00	21.00 Bottom Of Top Packer
Packer	5.00			3432.00	
Stubb	1.00			3433.00	
Perforations	1.00			3434.00	
Recorder	0.00	8789	Inside	3434.00	
Recorder	0.00	8289	Outside	3434.00	
Blank Spacing	13.00			3447.00	
Bullnose	3.00			3450.00	18.00 Bottom Packers & Anchor

Total Tool Length: 39.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

Job Ticket: 56142

DST#: 2

ATTN: Richard Bell

Test Start: 2014.09.22 @ 17:24:00

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:

61000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
360.00	MCW 10%m 90%w	3.966

Total Length: 360.00 ft Total Volume: 3.966 bbl

Num Fluid Samples: 0

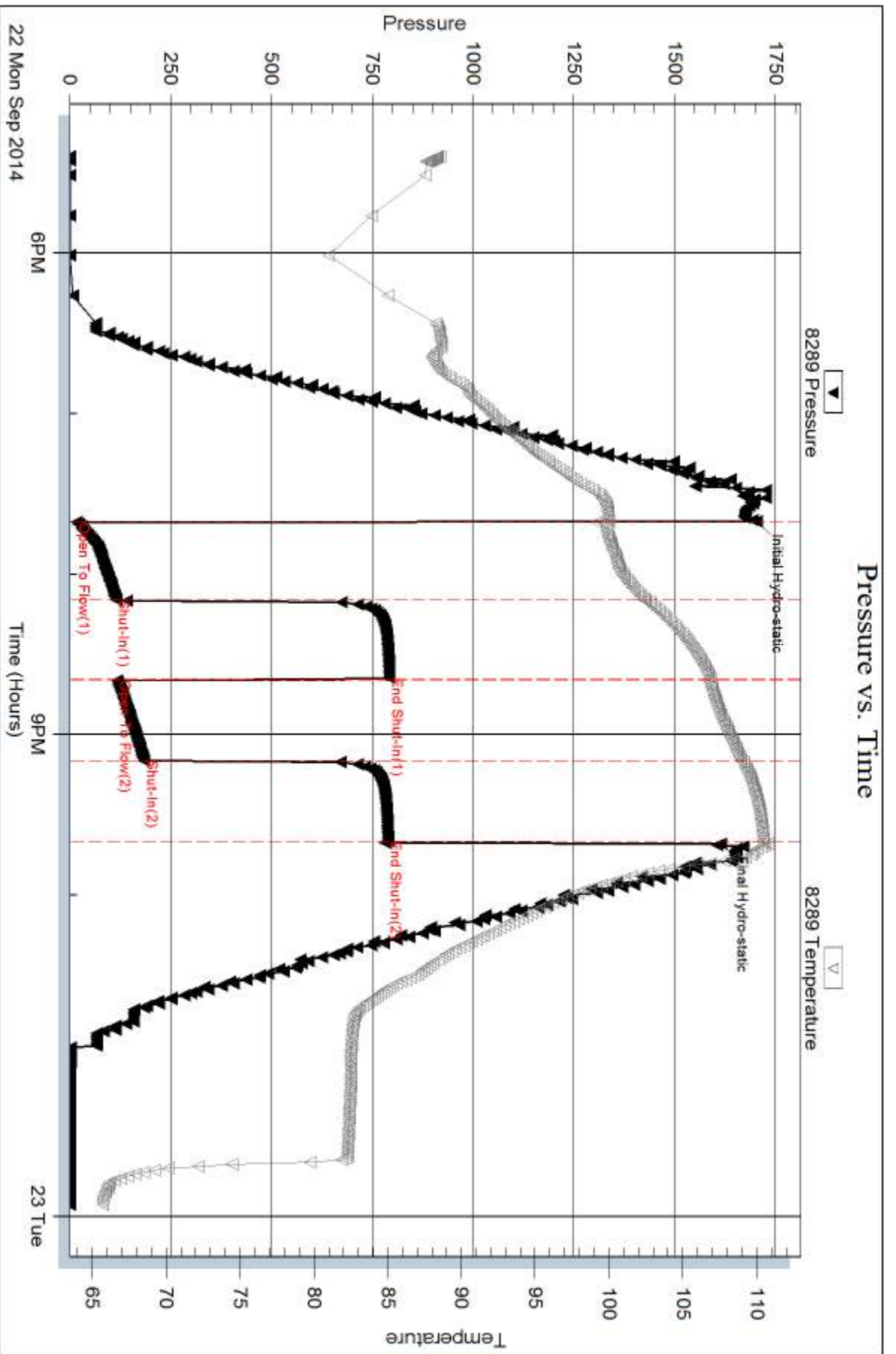
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .136 @ 66



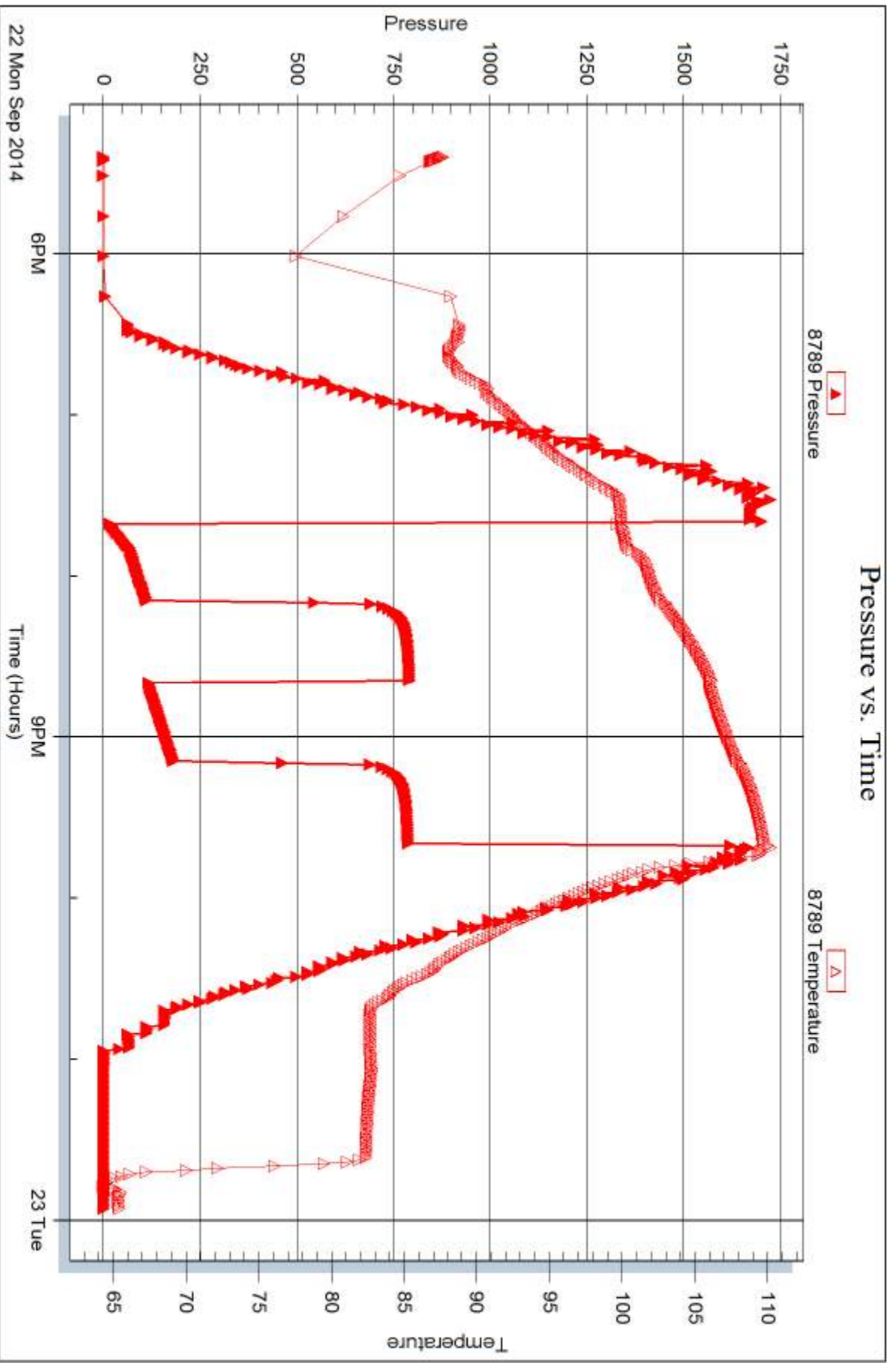
Serial #: 8789

Inside

Baird Oil Company LLC

13-7s-22w Graham,KS

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Baird Oil Company LLC**

113 W Main Box 428
Logan KS 67646

ATTN: Richard Bell

13-7s-22w Graham,KS

Esther Worcester #5-13

Start Date: 2014.09.23 @ 06:31:00

End Date: 2014.09.23 @ 12:28:00

Job Ticket #: 56143 DST #: 3

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

Printed: 2014.09.29 @ 14:58:41



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56143

DST#: 3

Test Start: 2014.09.23 @ 06:31:00

GENERAL INFORMATION:

Formation: **LKC " E & F "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:17:15

Time Test Ended: 12:28:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3449.00 ft (KB) To 3470.00 ft (KB) (TVD)

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3470.00 ft (KB) (TVD)

2152.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8289 Outside

Press@RunDepth: 279.58 psig @ 3452.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.23

End Date:

2014.09.23

Last Calib.:

2014.09.23

Start Time: 06:31:02

End Time:

12:28:00

Time On Btm:

2014.09.23 @ 08:17:00

Time Off Btm:

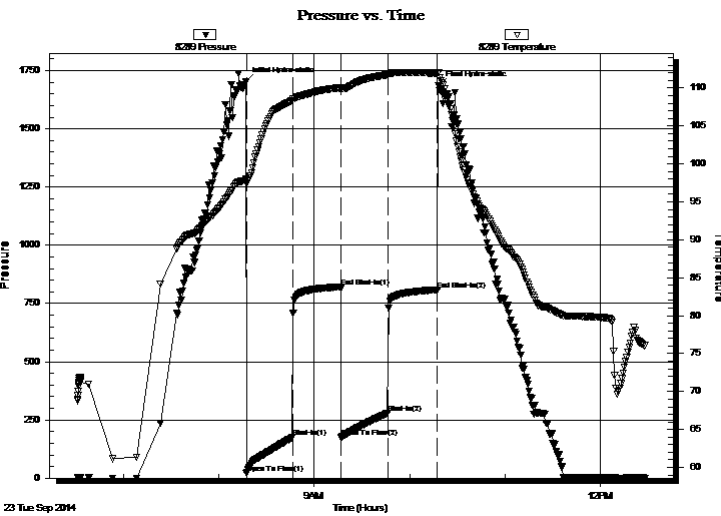
2014.09.23 @ 10:18:15

TEST COMMENT: 30-IFP- BOB in 9 1/2 min.

30-ISIP- No Blow

30-FFP- BOB in 13 min.

30-FSIP- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1700.99	97.96	Initial Hydro-static
1	21.16	97.40	Open To Flow (1)
30	174.20	108.38	Shut-In(1)
60	821.51	110.03	End Shut-In(1)
60	176.23	109.83	Open To Flow (2)
90	279.58	111.76	Shut-In(2)
121	809.15	111.91	End Shut-In(2)
122	1685.33	112.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
491.00	MCW 5% m 95% w	5.80
77.00	OSMCW 2% o 33% m 65% w	1.08

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56143 **DST#: 3**

Test Start: 2014.09.23 @ 06:31:00

GENERAL INFORMATION:

Formation: **LKC "E & F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:17:15

Time Test Ended: 12:28:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3449.00 ft (KB) To 3470.00 ft (KB) (TVD)

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3470.00 ft (KB) (TVD)

2152.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8789 **Inside**

Press@RunDepth: psig @ 3452.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.23 End Date: 2014.09.23

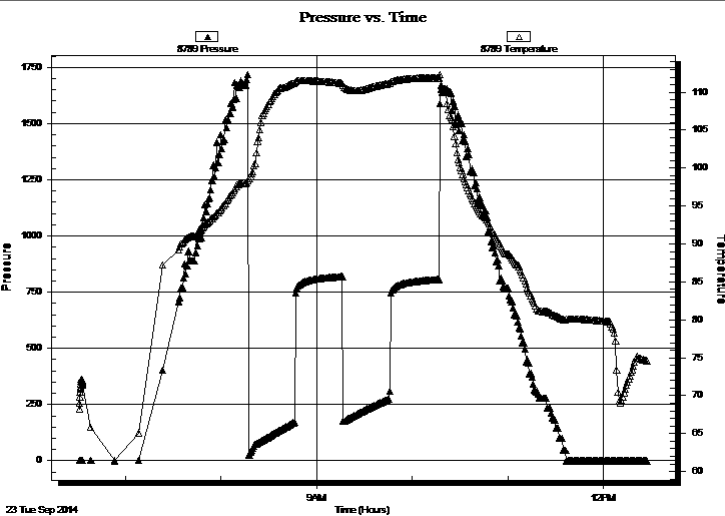
Last Calib.: 2014.09.23

Start Time: 06:31:02 End Time: 12:27:45

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP- BOB in 9 1/2 min.
30-ISIP- No Blow
30-FFP- BOB in 13 min.
30-FSIP- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
491.00	MCW 5% <i>m</i> 95% <i>w</i>	5.80
77.00	OSMCW 2% <i>o</i> 33% <i>m</i> 65% <i>w</i>	1.08

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56143

DST#: 3

Test Start: 2014.09.23 @ 06:31:00

Tool Information

Drill Pipe:	Length: 3323.00 ft	Diameter: 3.80 inches	Volume: 46.61 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	62000.00 lb
			<u>Total Volume: 47.20 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3449.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	21.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3429.00	
Shut In Tool	5.00			3434.00	
Hydraulic tool	5.00			3439.00	
Packer	5.00			3444.00	21.00 Bottom Of Top Packer
Packer	5.00			3449.00	
Stubb	1.00			3450.00	
Perforations	2.00			3452.00	
Recorder	0.00	8789	Inside	3452.00	
Recorder	0.00	8289	Outside	3452.00	
Blank Spacing	15.00			3467.00	
Bullnose	3.00			3470.00	21.00 Bottom Packers & Anchor

Total Tool Length: 42.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

Job Ticket: 56143

DST#: 3

ATTN: Richard Bell

Test Start: 2014.09.23 @ 06:31:00

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:

46000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
491.00	MCW 5% _m 95% _w	5.803
77.00	OSMCW 2% _o 33% _m 65% _w	1.080

Total Length: 568.00 ft

Total Volume: 6.883 bbl

Num Fluid Samples: 0

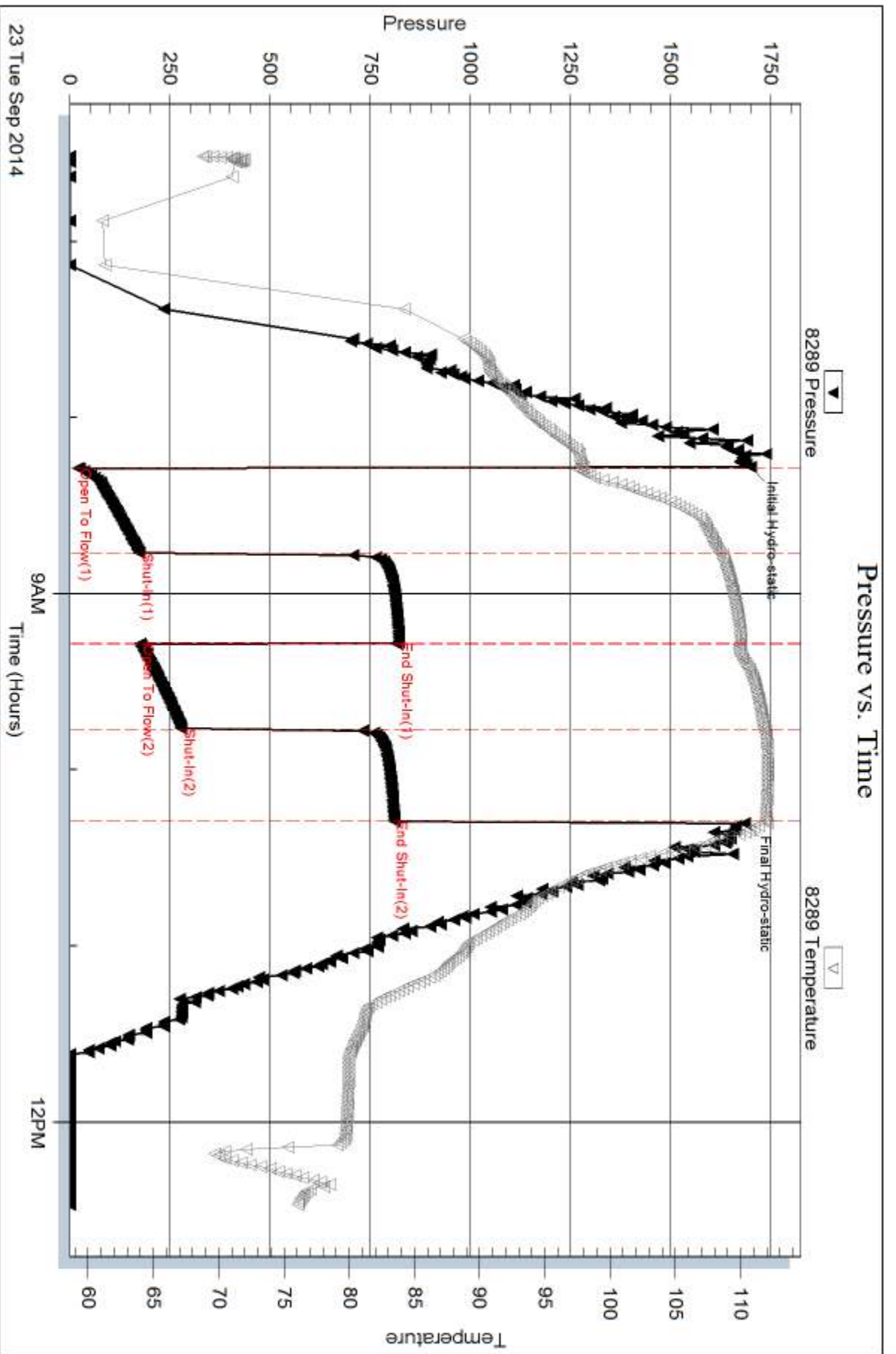
Num Gas Bombs: 0

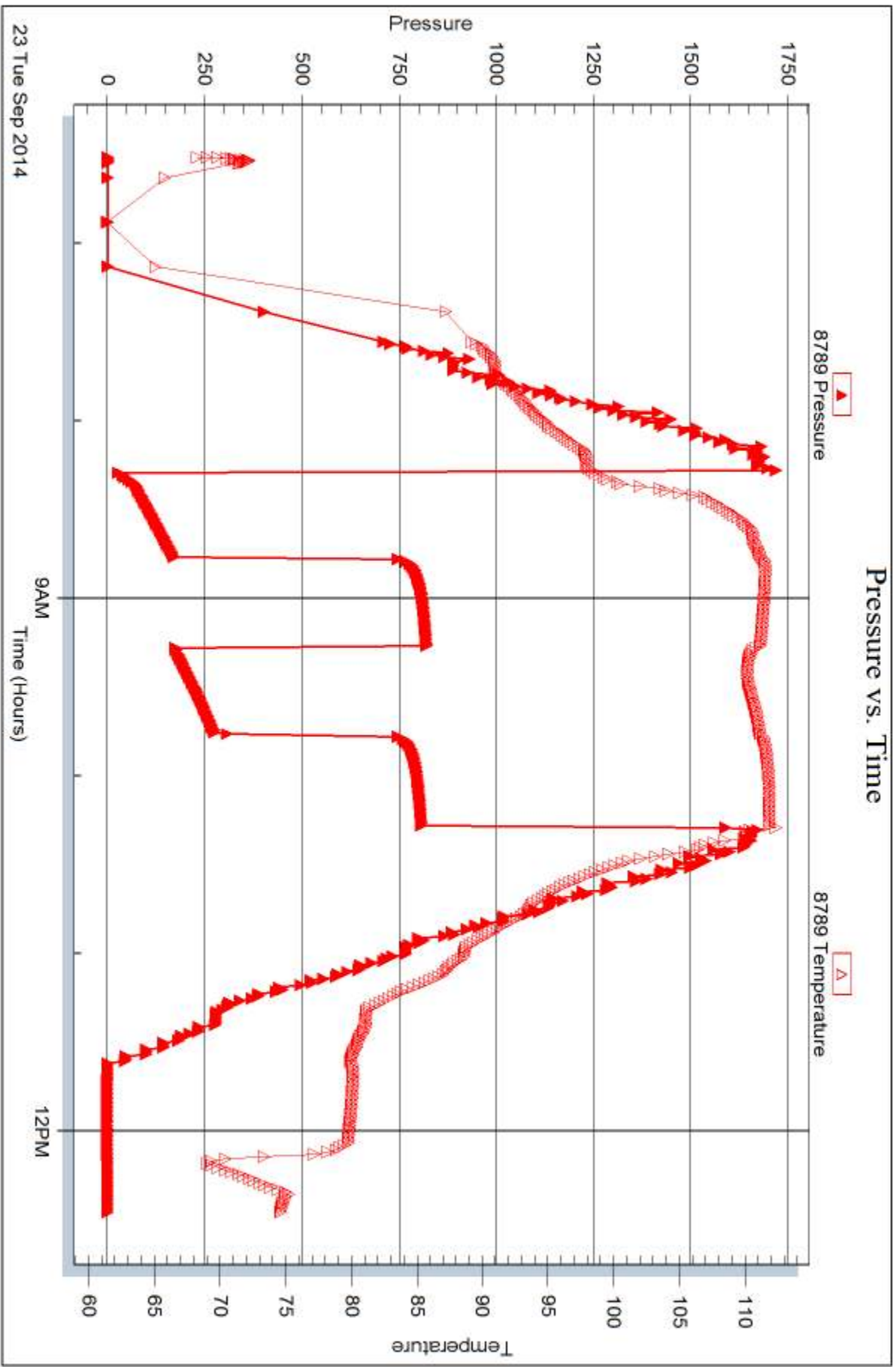
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .160 @ 71







DRILL STEM TEST REPORT

Prepared For: **Baird Oil Company LLC**

113 W Main Box 428
Logan KS 67646

ATTN: Richard Bell

13-7s-22w Graham,KS

Esther Worcester #5-13

Start Date: 2014.09.24 @ 09:33:00

End Date: 2014.09.24 @ 14:19:00

Job Ticket #: 56144 DST #: 4

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

Printed: 2014.09.29 @ 14:57:48

Baird Oil Company LLC

Esther Worcester #5-13

13-7s-22w Graham,KS

DST # 4

Arbuckle

2014.09.24



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56144

DST#: 4

Test Start: 2014.09.24 @ 09:33:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:35:00

Time Test Ended: 14:19:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3660.00 ft (KB) To 3704.00 ft (KB) (TVD)

Total Depth: 3704.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2159.00 ft (KB)

2152.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8289 Outside

Press@RunDepth: psig @ 3669.00 ft (KB)

Start Date: 2014.09.24

End Date:

2014.09.24

Start Time: 09:33:02

End Time:

14:19:15

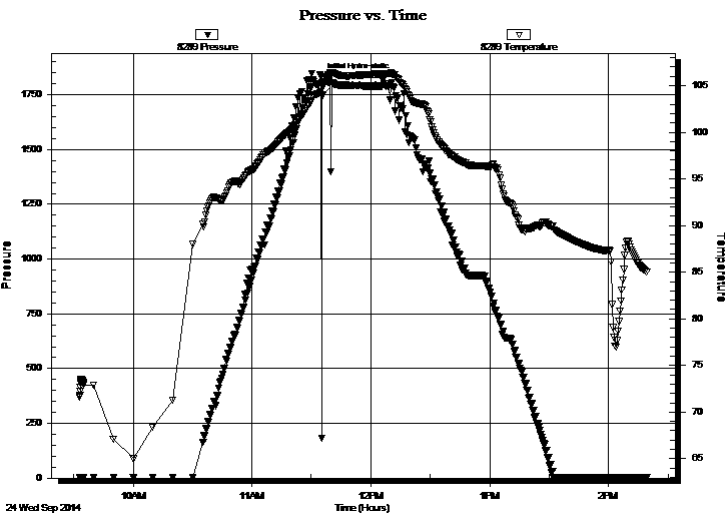
Capacity: 8000.00 psig

Last Calib.: 2014.09.24

Time On Btm: 2014.09.24 @ 11:34:45

Time Off Btm: 2014.09.24 @ 11:35:30

TEST COMMENT: Miss-run Packers failed



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1830.33	104.33	Initial Hydro-static
1	1744.15	105.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
181.00	Mud 100%	1.45

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Baird Oil Company LLC

113 W Main Box 428
Logan KS 67646

ATTN: Richard Bell

Esther Worcester #5-13

13-7s-22w Graham,KS

Job Ticket: 56144

DST#: 4

Test Start: 2014.09.24 @ 09:33:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:35:00

Time Test Ended: 14:19:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3660.00 ft (KB) To 3704.00 ft (KB) (TVD)

Total Depth: 3704.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2159.00 ft (KB)

2152.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8789

Inside

Press@RunDepth: psig @ 3669.00 ft (KB)

Start Date: 2014.09.24

End Date:

2014.09.24

Start Time: 09:33:02

End Time:

14:18:45

Capacity: 8000.00 psig

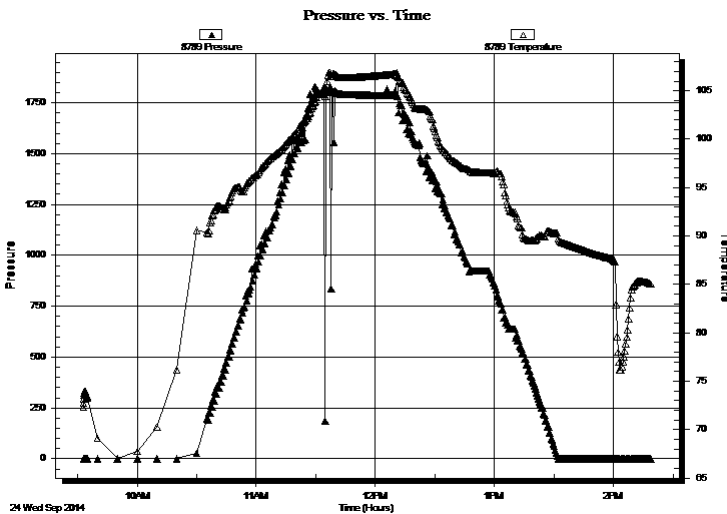
Last Calib.:

2014.09.24

Time On Btm:

Time Off Btm:

TEST COMMENT: Miss-run Packers failed



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
181.00	Mud 100%	1.45

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56144

DST#: 4

Test Start: 2014.09.24 @ 09:33:00

Tool Information

Drill Pipe:	Length: 3546.00 ft	Diameter: 3.80 inches	Volume: 49.74 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 50.33 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3660.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	65.00 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			3640.00	
Shut In Tool	5.00			3645.00	
Hydraulic tool	5.00			3650.00	
Packer	5.00			3655.00	21.00 Bottom Of Top Packer
Packer	5.00			3660.00	
Stubb	1.00			3661.00	
Perforations	7.00			3668.00	
Change Over Sub	1.00			3669.00	
Recorder	0.00	8789	Inside	3669.00	
Recorder	0.00	8289	Outside	3669.00	
Blank Spacing	31.00			3700.00	
Change Over Sub	1.00			3701.00	
Bullnose	3.00			3704.00	44.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

Job Ticket: 56144

DST#: 4

ATTN: Richard Bell

Test Start: 2014.09.24 @ 09:33:00

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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
181.00	Mud 100%	1.455

Total Length: 181.00 ft Total Volume: 1.455 bbl

Num Fluid Samples: 0

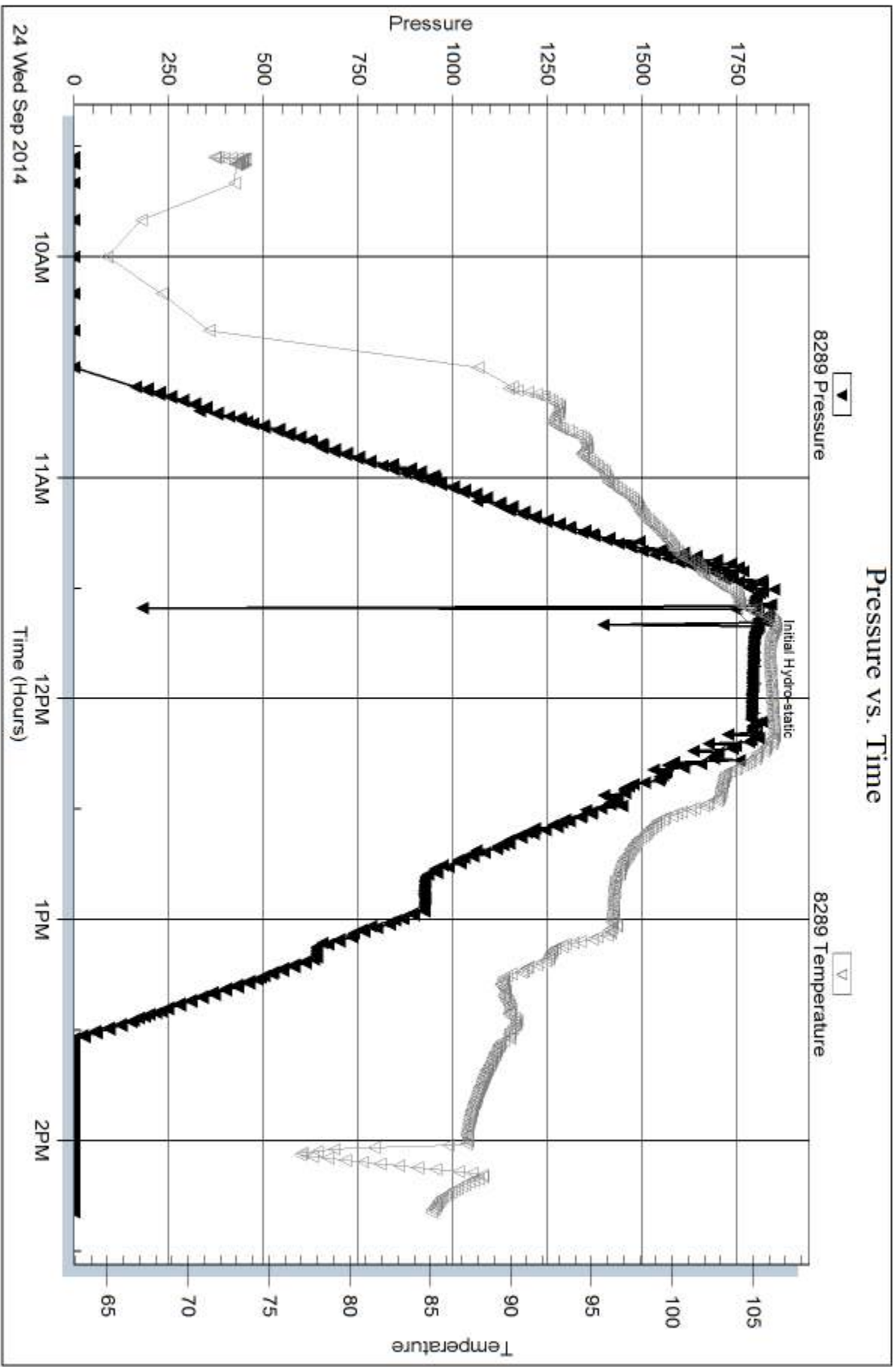
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



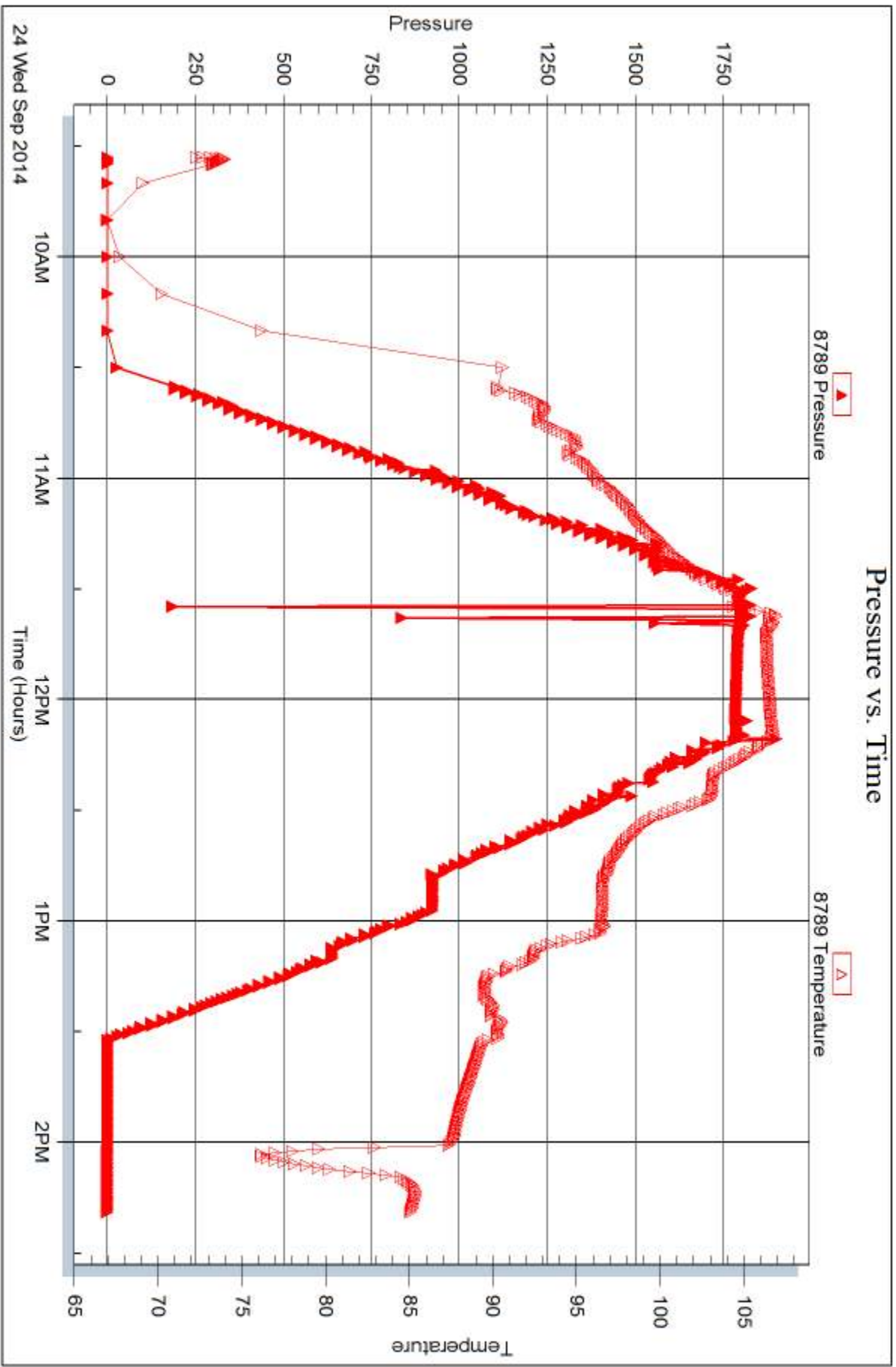
Serial #: 8789

Inside

Baird Oil Company LLC

13-7s-22w Graham,KS

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 56144

Printed: 2014.09.29 @ 14:57:49



DRILL STEM TEST REPORT

Prepared For: **Baird Oil Company LLC**

113 W Main Box 428
Logan KS 67646

ATTN: Richard Bell

13-7s-22w Graham,KS

Esther Worcester #5-13

Start Date: 2014.09.24 @ 14:46:00

End Date: 2014.09.24 @ 21:26:00

Job Ticket #: 56145 DST #: 5

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

Printed: 2014.09.29 @ 14:57:32



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56145

DST#: 5

Test Start: 2014.09.24 @ 14:46:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:31:15

Time Test Ended: 21:26:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3672.00 ft (KB) To 3704.00 ft (KB) (TVD)

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3704.00 ft (KB) (TVD)

2152.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8289 Outside

Press@RunDepth: 153.58 psig @ 3678.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.24

End Date:

2014.09.24

Last Calib.:

2014.09.24

Start Time: 14:46:02

End Time:

21:26:15

Time On Btm:

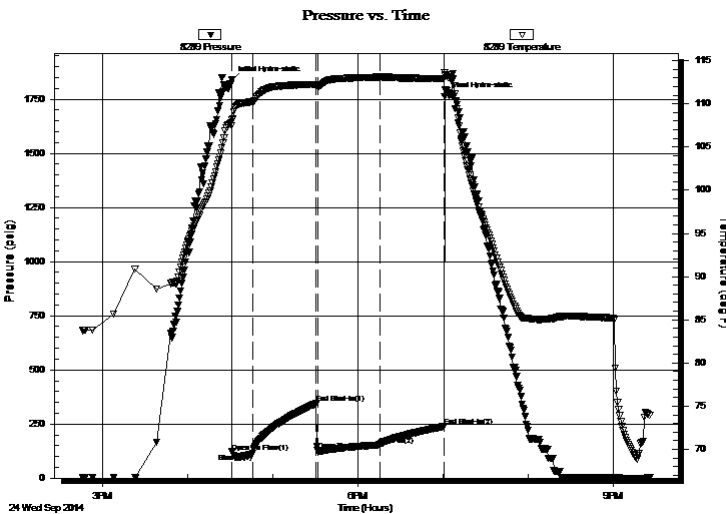
2014.09.24 @ 16:31:00

Time Off Btm:

2014.09.24 @ 19:01:15

TEST COMMENT: 15-IFP- BOB in 2 min.
45-ISIP- Surface Blow Building to 4 1/4" In 25 min.
45-FFP- BOB in 15 1/2 min.
45-FSIP- Surface Blow in 2 min. Building to 1/2" In 11 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1837.98	108.12	Initial Hydro-static
1	121.16	107.44	Open To Flow (1)
15	113.52	110.25	Shut-In(1)
60	345.51	112.24	End Shut-In(1)
61	126.91	112.15	Open To Flow (2)
105	153.58	113.08	Shut-In(2)
150	238.96	112.95	End Shut-In(2)
151	1763.09	113.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
243.00	MCO 35% m 65% o	2.32
124.00	CO 100%	1.74
0.00	248 GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Baird Oil Company LLC

113 W Main Box 428
Logan KS 67646

ATTN: Richard Bell

Esther Worcester #5-13

13-7s-22w Graham,KS

Job Ticket: 56145

DST#: 5

Test Start: 2014.09.24 @ 14:46:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:31:15

Time Test Ended: 21:26:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3672.00 ft (KB) To 3704.00 ft (KB) (TVD)

Total Depth: 3704.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2159.00 ft (KB)

2152.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8789 Inside

Press@RunDepth: psig @ 3678.00 ft (KB)

Start Date: 2014.09.24

End Date: 2014.09.24

Start Time: 14:46:02

End Time: 21:25:45

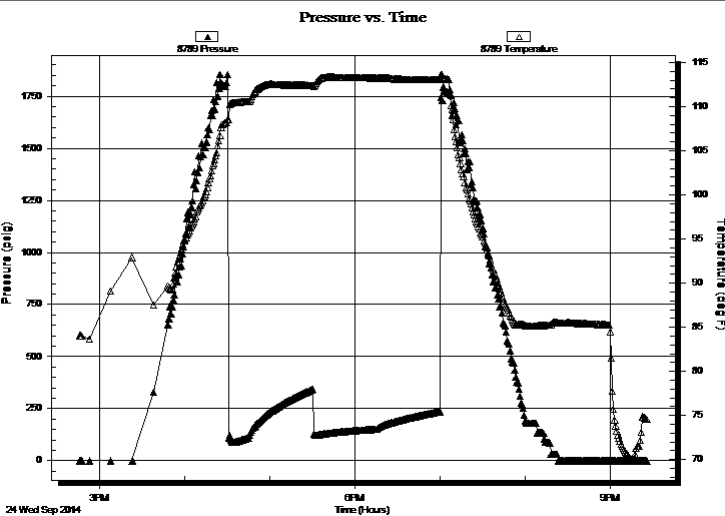
Capacity: 8000.00 psig

Last Calib.: 2014.09.24

Time On Btm:

Time Off Btm:

TEST COMMENT: 15-IFP- BOB in 2 min.
45-ISIP- Surface Blow Building to 4 1/4" In 25 min.
45-FFP- BOB in 15 1/2 min.
45-FSIP- Surface Blow in 2 min. Building to 1/2" In 11 min.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
243.00	MCO 35% m 65% o	2.32
124.00	CO 100%	1.74
0.00	248 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

ATTN: Richard Bell

Job Ticket: 56145

DST#: 5

Test Start: 2014.09.24 @ 14:46:00

Tool Information

Drill Pipe:	Length: 3544.00 ft	Diameter: 3.80 inches	Volume: 49.71 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 50.30 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3672.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	53.00 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			3652.00	
Shut In Tool	5.00			3657.00	
Hydraulic tool	5.00			3662.00	
Packer	5.00			3667.00	21.00 Bottom Of Top Packer
Packer	5.00			3672.00	
Stubb	1.00			3673.00	
Perforations	5.00			3678.00	
Recorder	0.00	8789	Inside	3678.00	
Recorder	0.00	8289	Outside	3678.00	
Perforations	23.00			3701.00	
Bullnose	3.00			3704.00	32.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Baird Oil Company LLC

Esther Worcester #5-13

113 W Main Box 428
Logan KS 67646

13-7s-22w Graham,KS

Job Ticket: 56145

DST#: 5

ATTN: Richard Bell

Test Start: 2014.09.24 @ 14:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 3.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
243.00	MCO 35% m 65% o	2.325
124.00	CO 100%	1.739
0.00	248 GIP	0.000

Total Length: 367.00 ft

Total Volume: 4.064 bbl

Num Fluid Samples: 0

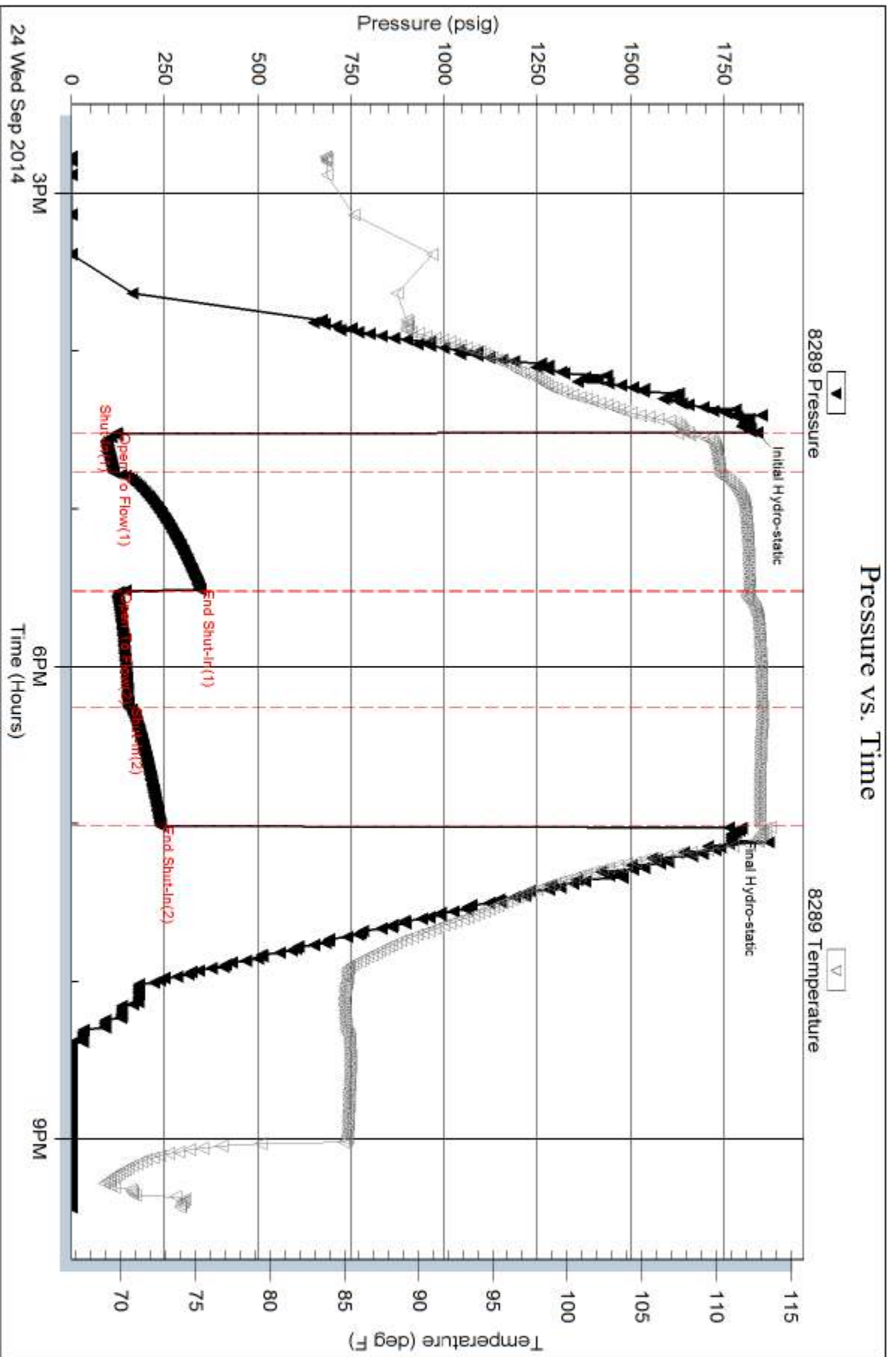
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



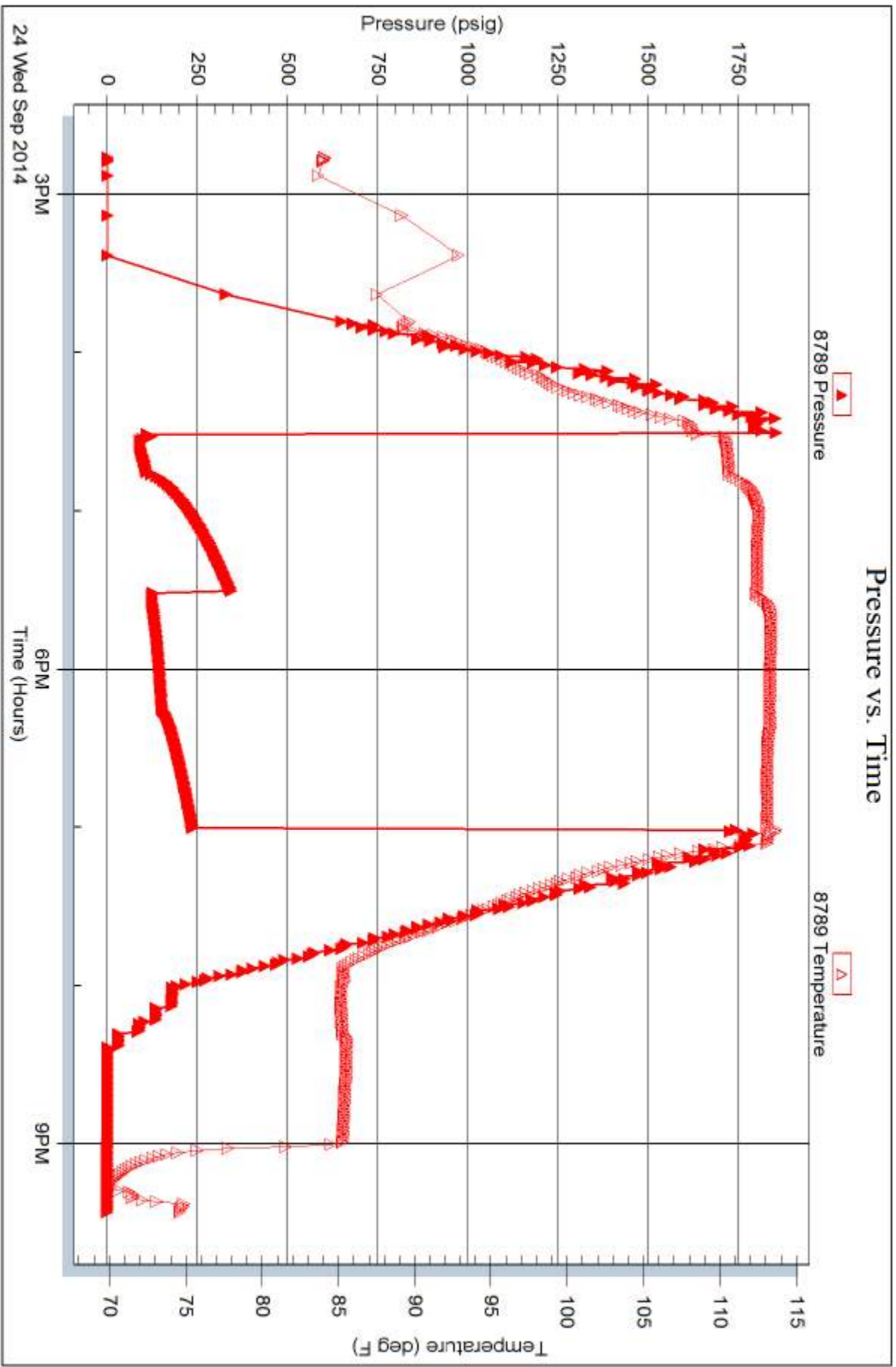
Serial #: 8789

Inside

Baird Oil Company LLC

13-7s-22w Graham,KS

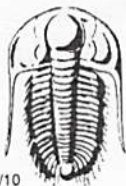
DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 56145

Printed: 2014.09.29 @ 14:57:34



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56141

Well Name & No. Esther Worcester #5-13 Test No. 1 Date 9-22-14
 Company Baird Oil Company LLC Elevation 2159 KB 2152 GL
 Address 113 W. Main Box 428 Logan KS 67646
 Co. Rep / Geo. Richard Bell Rig WW 12
 Location: Sec. 13 Twp. 7S Rge. 22W Co. Graham State KS

Interval Tested 3412-3432 Zone Tested LKC "C"
 Anchor Length 20 Drill Pipe Run 3294 Mud Wt. 9.0
 Top Packer Depth 3407 Drill Collars Run 119 Vis 62
 Bottom Packer Depth 3412 Wt. Pipe Run 0 WL 6.8
 Total Depth 3432 Chlorides 1000 ppm System LCM TR

Blow Description I FP - Surface Blow Building to 1/4 in. 14 min. Died Back in 40 min.
ISIP - No Blow
FFP - Surface Blow in 2 min. Building to 2 1/4 in.
FSIP - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>140</u>	<u>mcw</u>		<u>85</u>	<u>15</u>	
	<u>Show of Oil</u>				

Rec Total 140 BHT 108 Gravity _____ API RW 200 @ 73 °F Chlorides 34000 ppm
 (A) Initial Hydrostatic 1690 Test 1150 T-On Location 3:17
 (B) First Initial Flow 14 Jars _____ T-Started 4:19
 (C) First Final Flow 61 Safety Joint _____ T-Open 6:26
 (D) Initial Shut-In 798 Circ Sub _____ T-Pulled 9:26
 (E) Second Initial Flow 63 Hourly Standby _____ T-Out 11:25
 (F) Second Final Flow 85 Mileage 120 RT 186 Comments _____
 (G) Final Shut-In 791 Sampler _____
 (H) Final Hydrostatic 1648 Straddle _____ Ruined Shale Packer _____

Initial Open 45 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 45 Extra Packer _____ Extra Copies _____
 Final Flow 45 Extra Recorder _____ Sub Total 0
 Final Shut-In 45 Day Standby _____ Total 1336.00
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1336

Approved By _____ Our Representative [Signature]
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56142

Well Name & No. Esther Worcester #5-13 Test No. 2 Date 9-22-14
 Company Baird Oil Company LLC Elevation 2159 KB 2152 GL
 Address 113 W. MAIN BOX 428 Logan KS 67646
 Co. Rep / Geo. Rich Bell Rig WW12
 Location: Sec. 13 Twp. 75 Rge. 22W Co. Graham State KS

Interval Tested 3432 - 3450 Zone Tested LRC "D"
 Anchor Length 18 Drill Pipe Run 3326 Mud Wt. 9.2
 Top Packer Depth 3427 Drill Collars Run 119 Vis 52
 Bottom Packer Depth 3432 Wt. Pipe Run 0 WL 6.8
 Total Depth 3450 Chlorides 1400 ppm System LCM TR

Blow Description IFP - BOB in 23min.
FSIP - No Blow
FFP - BOB in 22min
FSIP - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>360</u>	<u>MCW</u>		<u>90</u>	<u>10</u>	
	<u>Show of Oil</u>				

Rec Total 360 BHT 110 Gravity _____ API RW .136 @ 66 °F Chlorides 61000 ppm
 (A) Initial Hydrostatic 1703 Test 1150 T-On Location 16:53
 (B) First Initial Flow 16 Jars _____ T-Started 17:24
 (C) First Final Flow 114 Safety Joint _____ T-Open 19:40
 (D) Initial Shut-In 791 Circ Sub _____ T-Pulled 21:40
 (E) Second Initial Flow 117 Hourly Standby _____ T-Out 23:56
 (F) Second Final Flow 184 Mileage 186 Comments _____
 (G) Final Shut-In 788 Sampler _____
 (H) Final Hydrostatic 1615 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1336.00
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1336.00

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56143

Well Name & No. Esther Worcester #5-13 Test No. 3 Date 9-23-14
 Company Baird Oil Company LLC Elevation 2159 KB 2152 GL
 Address 113 W. MAIN Box 428 Logan KS 67646
 Co. Rep / Geo. Rich Bell Rig WW 12
 Location: Sec. 13 Twp. 7^s Rge. 22^w Co. Graham State KS

Interval Tested 3449-3470 Zone Tested LKC "E & F"
 Anchor Length 21 Drill Pipe Run 3323 Mud Wt. 9.2
 Top Packer Depth 3444 Drill Collars Run 119 Vis 52
 Bottom Packer Depth 3449 Wt. Pipe Run 0 WL 68
 Total Depth 3470 Chlorides 1400 ppm System LCM TR

Blow Description FFP - BOB. 9 1/2 min.
ISIP - No Blow
FFP - BOB in 13 min.
FSIP - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>491</u>	<u>mcw</u>		<u>95</u>	<u>5</u>	
<u>77</u>	<u>OSMCW</u>		<u>2</u>	<u>65</u>	<u>33</u>

Rec Total 568 BHT 112 Gravity _____ API RW 160 @ 71 °F Chlorides 46000 ppm

(A) Initial Hydrostatic 1700 Test 1150 T-On Location 5:45
 (B) First Initial Flow 21 Jars _____ T-Started 6:31
 (C) First Final Flow 174 Safety Joint _____ T-Open 8:17
 (D) Initial Shut-In 821 Circ Sub _____ T-Pulled 10:17
 (E) Second Initial Flow 176 Hourly Standby _____ T-Out 12:28
 (F) Second Final Flow 279 Mileage 186 Comments _____
 (G) Final Shut-In 809 Sampler _____
 (H) Final Hydrostatic 1685 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1336.00
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1336.00

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56144

Well Name & No. Esther Worcester 5-13 Test No. 4 Date 9-24-14
 Company Baird Oil Company LLC Elevation 2159 KB 2152 GL
 Address 113 W. MAIN Box #28 Logan KS 67646
 Co. Rep / Geo. Richard Bell Rig WW 12
 Location: Sec. 13 Twp. 7^s Rge. 22^w Co. Graham State KS

Interval Tested 3660-3704 Zone Tested Arbuckle
 Anchor Length 44 Drill Pipe Run 3546 Mud Wt. 9.2
 Top Packer Depth 3655 Drill Collars Run 119 Vis 46
 Bottom Packer Depth 3660 Wt. Pipe Run 0 WL 6.8
 Total Depth 3704 Chlorides 1400 ppm System LCM TR

Blow Description Miss-Run Packer Failed

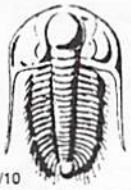
Rec	Feet of	%gas	%oil	%water	%mud
<u>181</u>	<u>mud</u>			<u>100</u>	

Rec Total 181 BHT 105 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1830 Test 950 T-On Location 8:50
 (B) First Initial Flow _____ Jars _____ T-Started 9:33
 (C) First Final Flow _____ Safety Joint _____ T-Open 11:35
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled 11:41
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 14:19
 (F) Second Final Flow _____ Mileage 186 Comments _____
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic 1744 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open _____ Extra Recorder _____ Sub Total 0
 Initial Shut-In _____ Day Standby _____ Total 1136.00
 Final Flow _____ Accessibility _____ MP/DST Disc't _____
 Final Shut-In _____ Sub Total 1136

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56145

Well Name & No. Esther Worcester 5-13 Test No. 5 Date 9-24-14
 Company Baird Oil Company LLC Elevation 2159 KB 2152 GL
 Address 113 W. Main Box 428 Logan KS 67646
 Co. Rep / Geo. Rich Bell Rig WW 12
 Location: Sec. 13 Twp. 7^s Rge. 22^w Co. Graham State KS

Interval Tested 3672 - 3704 Zone Tested Arbuckle
 Anchor Length 32 Drill Pipe Run 3544 Mud Wt. 9.3
 Top Packer Depth 3667 Drill Collars Run 119 Vis 54
 Bottom Packer Depth 3672 Wt. Pipe Run 0 WL 6.8
 Total Depth 3704 Chlorides 1500 ppm System LCM 3

Blow Description FFP - BOB in 2min.
ISIP - Surface Blow Building to 4 1/4 in. 25min.
FFP - BOB in 15 1/2 min.
FSIP - Surface Blow in 2min Building to 1/2 in in 11min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>243</u>	<u>MCO</u>	<u>065</u>	<u>0</u>	<u>35</u>	
<u>124</u>	<u>CO</u>	<u>100</u>			
	<u>248 BIP</u>				

Rec Total 367 BHT 113 Gravity 28 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1837 Test 1150 T-On Location 8:50
 (B) First Initial Flow 121 Jars _____ T-Started 14:46
 (C) First Final Flow 113 Safety Joint _____ T-Open 16:31
 (D) Initial Shut-In 345 Circ Sub _____ T-Pulled 19:01
 (E) Second Initial Flow 126 Hourly Standby _____ T-Out 21:26
 (F) Second Final Flow 153 Mileage _____
 (G) Final Shut-In 238 Sampler _____
 (H) Final Hydrostatic 1763 Straddle _____

Initial Open 15 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 45 Extra Packer _____ Ruined Packer _____
 Final Flow 45 Extra Recorder _____
 Final Shut-In 45 Day Standby _____
 Sub Total 1150 Accessibility _____
 Total 1186.00 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.