



DRILL STEM TEST REPORT

Prepared For: **Farmer, John O, Inc.**

PO Box 352
Russell, KS 67665

ATTN: Austin Klaus

Van Loenen C #1

11-9s-22w Graham,KS

Start Date: 2015.02.10 @ 22:47:00

End Date: 2015.02.11 @ 07:23:40

Job Ticket #: 62453 DST #: 1

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

Printed: 2015.02.16 @ 10:09:23

Farmer, John O, Inc.

11-9s-22w Graham,KS

Van Loenen C #1

DST # 1

Toronto - LKC "A"

2015.02.10



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62453

DST#: 1

ATTN: Austin Klaus

Test Start: 2015.02.10 @ 22:47:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:25:40

Time Test Ended: 07:23:40

Test Type: Conventional Bottom Hole (Initial)

Tester: Phillip Gage

Unit No: 77

Interval: **3404.00 ft (KB) To 3462.00 ft (KB) (TVD)**

Reference Elevations: 2211.00 ft (KB)

Total Depth: 3462.00 ft (KB) (TVD)

2206.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8898 Outside

Press@RunDepth: 75.53 psig @ 3405.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.10

End Date:

2015.02.11

Last Calib.:

2015.02.11

Start Time: 22:47:01

End Time:

07:23:40

Time On Btm:

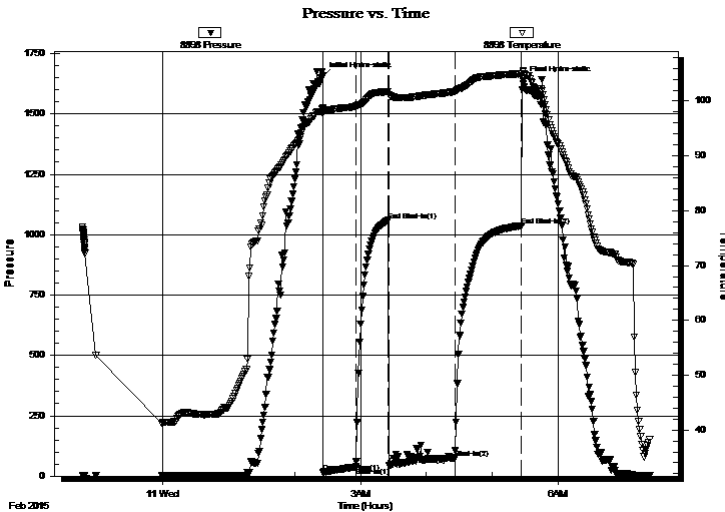
2015.02.11 @ 02:25:30

Time Off Btm:

2015.02.11 @ 05:28:09

TEST COMMENT: 30-IF-Built to 3"
30-ISI-No Return
60-FF-Built to 2"
60-FSI-No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1656.42	98.71	Initial Hydro-static
1	15.25	97.77	Open To Flow (1)
31	38.33	99.06	Shut-In(1)
60	1058.99	101.71	End Shut-In(1)
60	43.29	101.14	Open To Flow (2)
120	75.53	101.76	Shut-In(2)
181	1037.01	104.99	End Shut-In(2)
183	1637.10	105.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	SWCM, w ith oil spots 10%w , 90%m	0.72

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62453 **DST#: 1**

ATTN: Austin Klaus

Test Start: 2015.02.10 @ 22:47:00

GENERAL INFORMATION:

Formation:	Toronto - LKC "A"			
Deviated:	No	Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened:	02:25:40			Tester: Phillip Gage
Time Test Ended:	07:23:40			Unit No: 77
Interval:	3404.00 ft (KB) To	3462.00 ft (KB) (TVD)	Reference Elevations:	2211.00 ft (KB)
Total Depth:	3462.00 ft (KB) (TVD)			2206.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition: Fair	KB to GR/CF:	5.00 ft

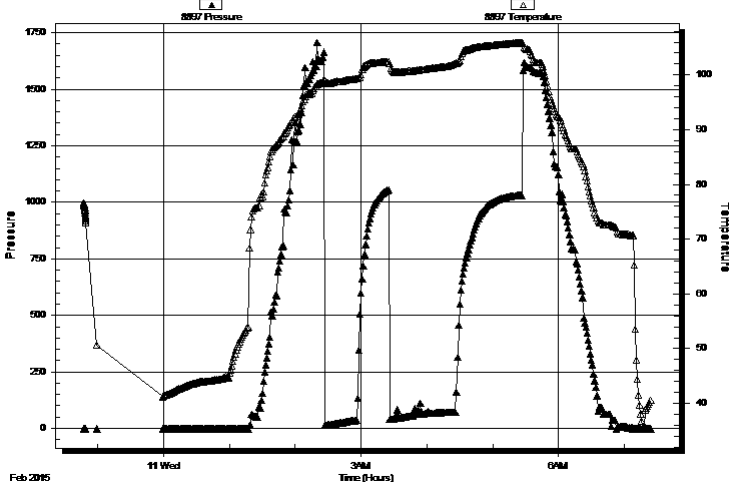
Serial #: 8897

Inside

Press@RunDepth:	psig @	3405.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2015.02.10	End Date:	2015.02.11	Last Calib.: 2015.02.11
Start Time:	22:47:01	End Time:	07:24:10	Time On Btm:
				Time Off Btm:

TEST COMMENT: 30-IF-Built to 3"
30-ISI-No Return
60-FF-Built to 2"
60-FSI-No Return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
130.00	SWCM, w ith oil spots 10%w , 90%m	0.72

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62453

DST#: 1

ATTN: Austin Klaus

Test Start: 2015.02.10 @ 22:47:00

Tool Information

Drill Pipe:	Length: 3273.00 ft	Diameter: 3.80 inches	Volume: 45.91 bbl	Tool Weight: 2000.00 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 40000.00 lb
			<u>Total Volume: 46.51 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3404.00 ft			Final 33000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3389.00	
Hydraulic tool	5.00			3394.00	
Packer	5.00			3399.00	20.00 Bottom Of Top Packer
Packer	5.00			3404.00	
Stubb	1.00			3405.00	
Recorder	0.00	8897	Inside	3405.00	
Recorder	0.00	8898	Outside	3405.00	
Perforations	21.00			3426.00	
Change Over Sub	1.00			3427.00	
Drill Pipe	31.00			3458.00	
Change Over Sub	1.00			3459.00	
Bullnose	3.00			3462.00	58.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62453

DST#: 1

ATTN: Austin Klaus

Test Start: 2015.02.10 @ 22:47:00

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:

24000 ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	SWCM, w ith oil spots 10%w , 90%m	0.721

Total Length: 130.00 ft Total Volume: 0.721 bbl

Num Fluid Samples: 0

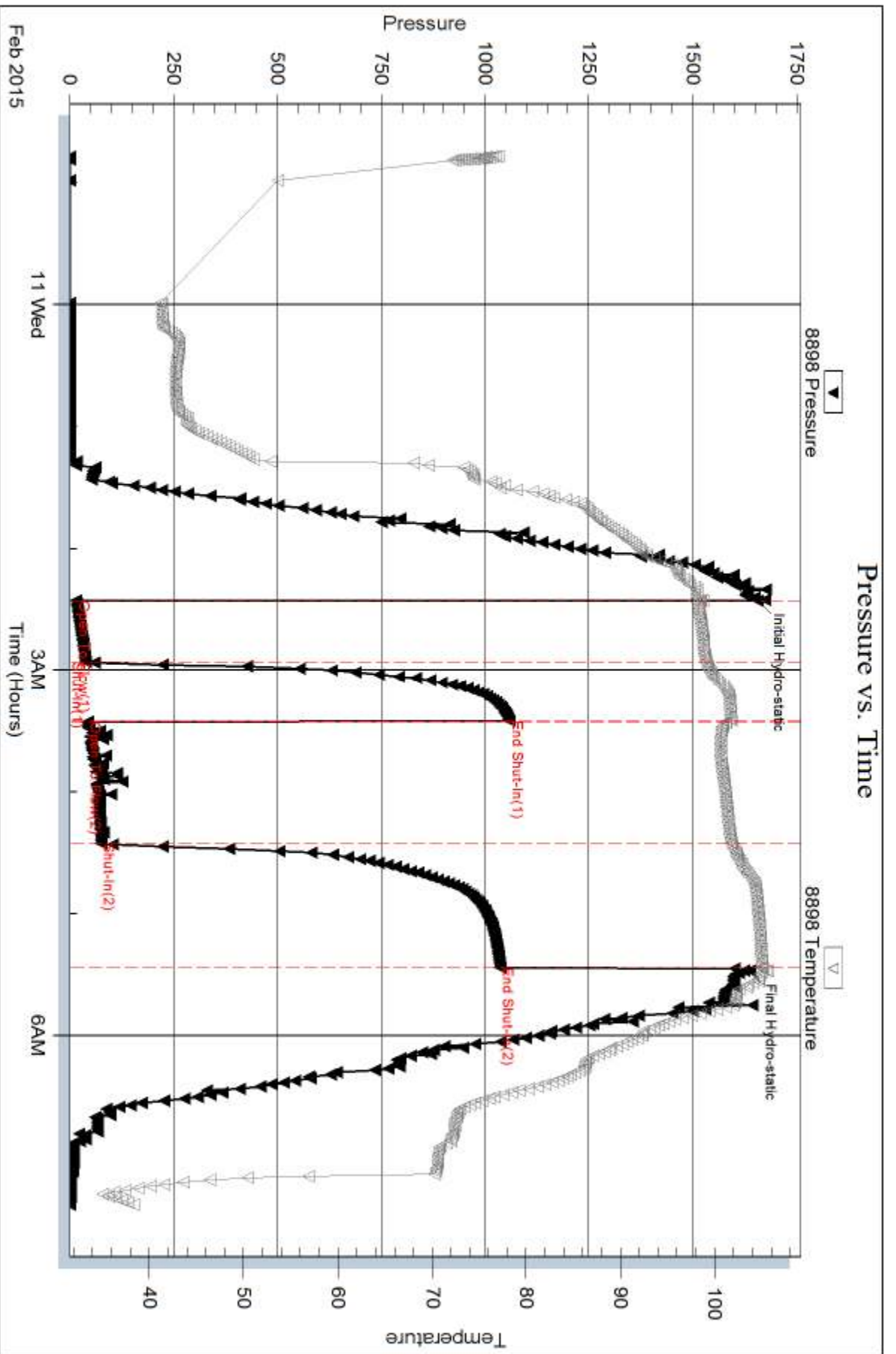
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .8 @ 26 Degrees = 24,000 Salinity



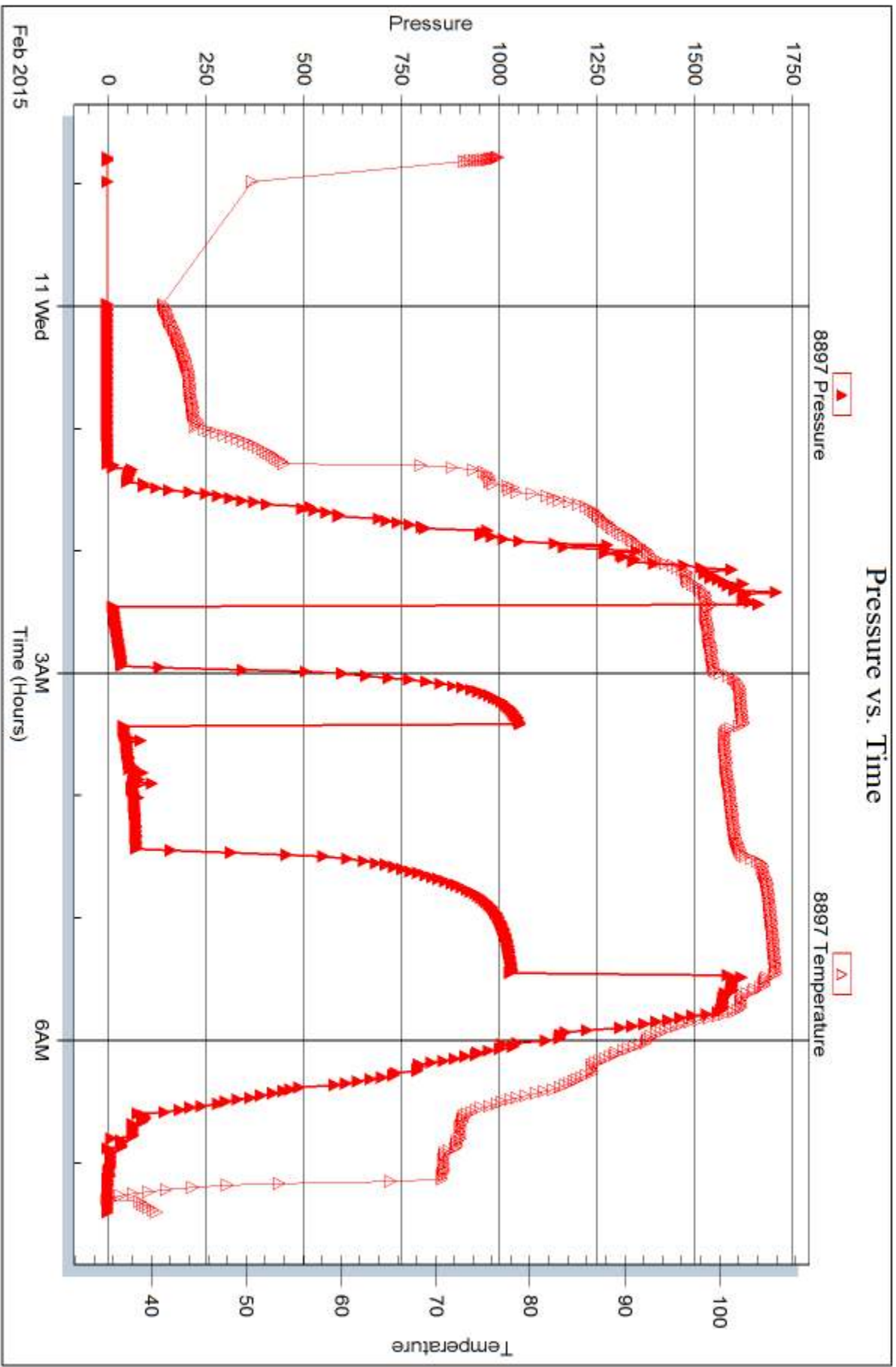
Serial #: 8897

Inside

Farmer, John O, Inc.

Van Loenen C#1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Farmer, John O, Inc.**

PO Box 352
Russell, KS 67665

ATTN: Austin Klaus

Van Loenen C #1

11-9s-22w Graham,KS

Start Date: 2015.02.11 @ 15:16:00

End Date: 2015.02.11 @ 22:43:09

Job Ticket #: 62454 DST #: 2

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

Printed: 2015.02.16 @ 10:08:57

Farmer, John O, Inc.
11-9s-22w Graham,KS
Van Loenen C #1
DST # 2
LKC "C-D"
2015.02.11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62454

DST#: 2

ATTN: Austin Klaus

Test Start: 2015.02.11 @ 15:16:00

GENERAL INFORMATION:

Formation: **LKC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:06:40

Time Test Ended: 22:43:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Phillip Gage

Unit No: 77

Interval: 3478.00 ft (KB) To 3520.00 ft (KB) (TVD)

Reference Elevations: 2211.00 ft (KB)

Total Depth: 3520.00 ft (KB) (TVD)

2206.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8898 Outside

Press@RunDepth: 119.65 psig @ 3479.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.11

End Date:

2015.02.11

Last Calib.:

2015.02.11

Start Time: 15:16:01

End Time:

22:43:10

Time On Btm:

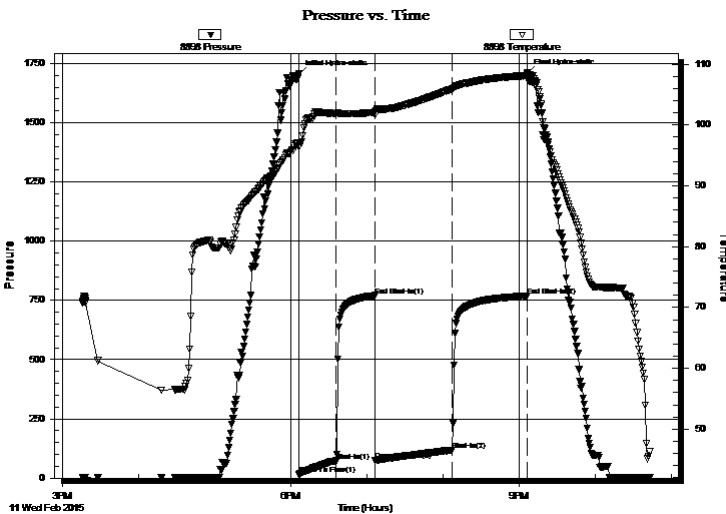
2015.02.11 @ 18:06:20

Time Off Btm:

2015.02.11 @ 21:06:30

TEST COMMENT: 30-IF-Built to 6"
30-ISI-No Return
60-FF-Built to 8 1/2"
60-FSI-No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1704.17	96.99	Initial Hydro-static
1	16.84	96.36	Open To Flow (1)
30	72.77	101.82	Shut-In(1)
60	770.81	102.07	End Shut-In(1)
61	76.04	101.74	Open To Flow (2)
121	119.65	105.90	Shut-In(2)
181	769.15	108.10	End Shut-In(2)
181	1708.02	108.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
229.00	MCW, 15%m, 85%w	2.11

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62454

DST#: 2

ATTN: Austin Klaus

Test Start: 2015.02.11 @ 15:16:00

Tool Information

Drill Pipe:	Length: 3367.00 ft	Diameter: 3.80 inches	Volume: 47.23 bbl	Tool Weight: 2000.00 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 47.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3478.00 ft			Final 32000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3463.00	
Hydraulic tool	5.00			3468.00	
Packer	5.00			3473.00	20.00 Bottom Of Top Packer
Packer	5.00			3478.00	
Stubb	1.00			3479.00	
Recorder	0.00	8897	Inside	3479.00	
Recorder	0.00	8898	Outside	3479.00	
Perforations	5.00			3484.00	
Change Over Sub	1.00			3485.00	
Drill Pipe	31.00			3516.00	
Change Over Sub	1.00			3517.00	
Bullnose	3.00			3520.00	42.00 Bottom Packers & Anchor

Total Tool Length: 62.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62454

DST#: 2

ATTN: Austin Klaus

Test Start: 2015.02.11 @ 15:16:00

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:

70000 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
229.00	MCW, 15%m, 85%w	2.110

Total Length: 229.00 ft Total Volume: 2.110 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

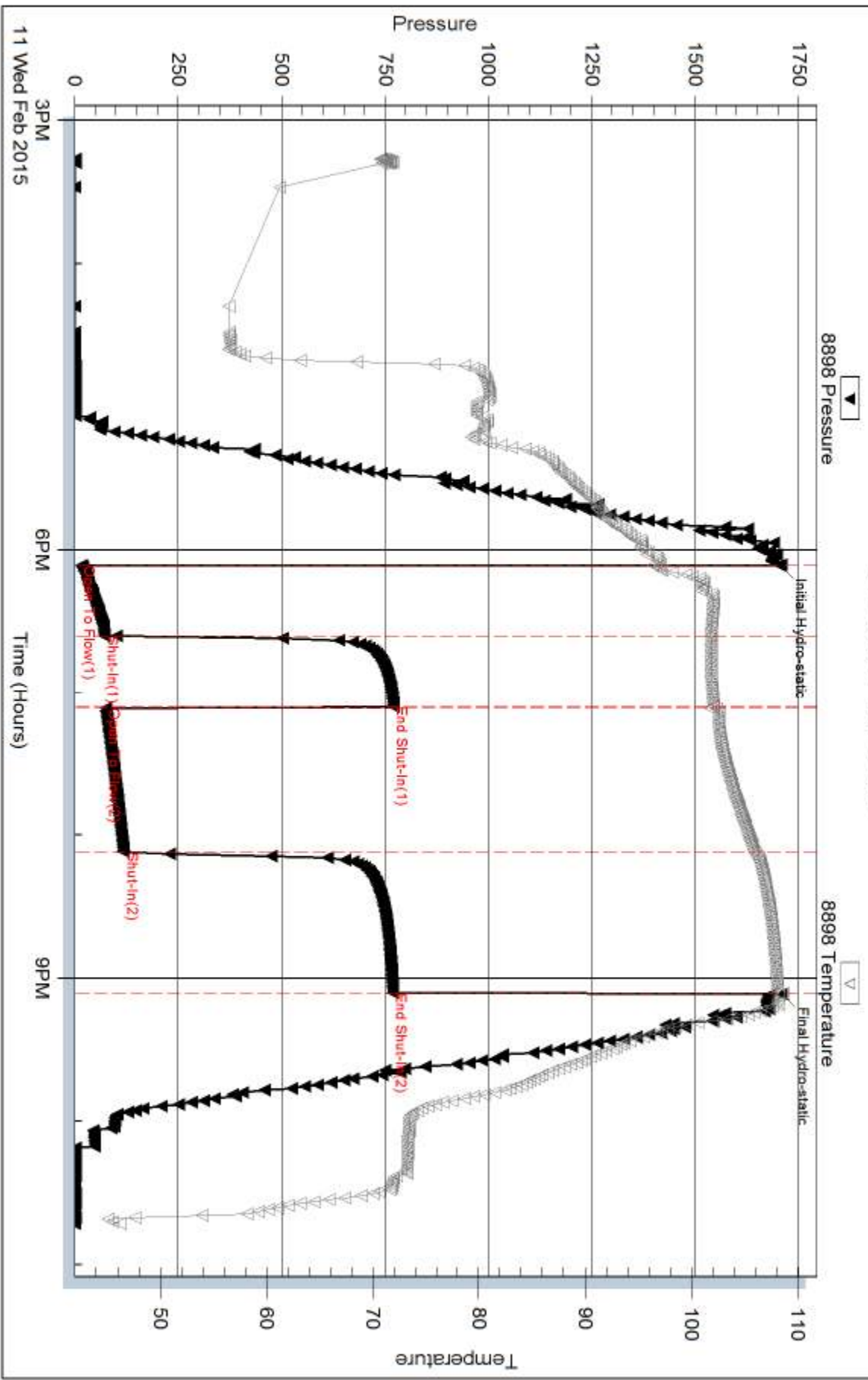
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .28 @ 26 Degrees = 70,000

Pressure vs. Time



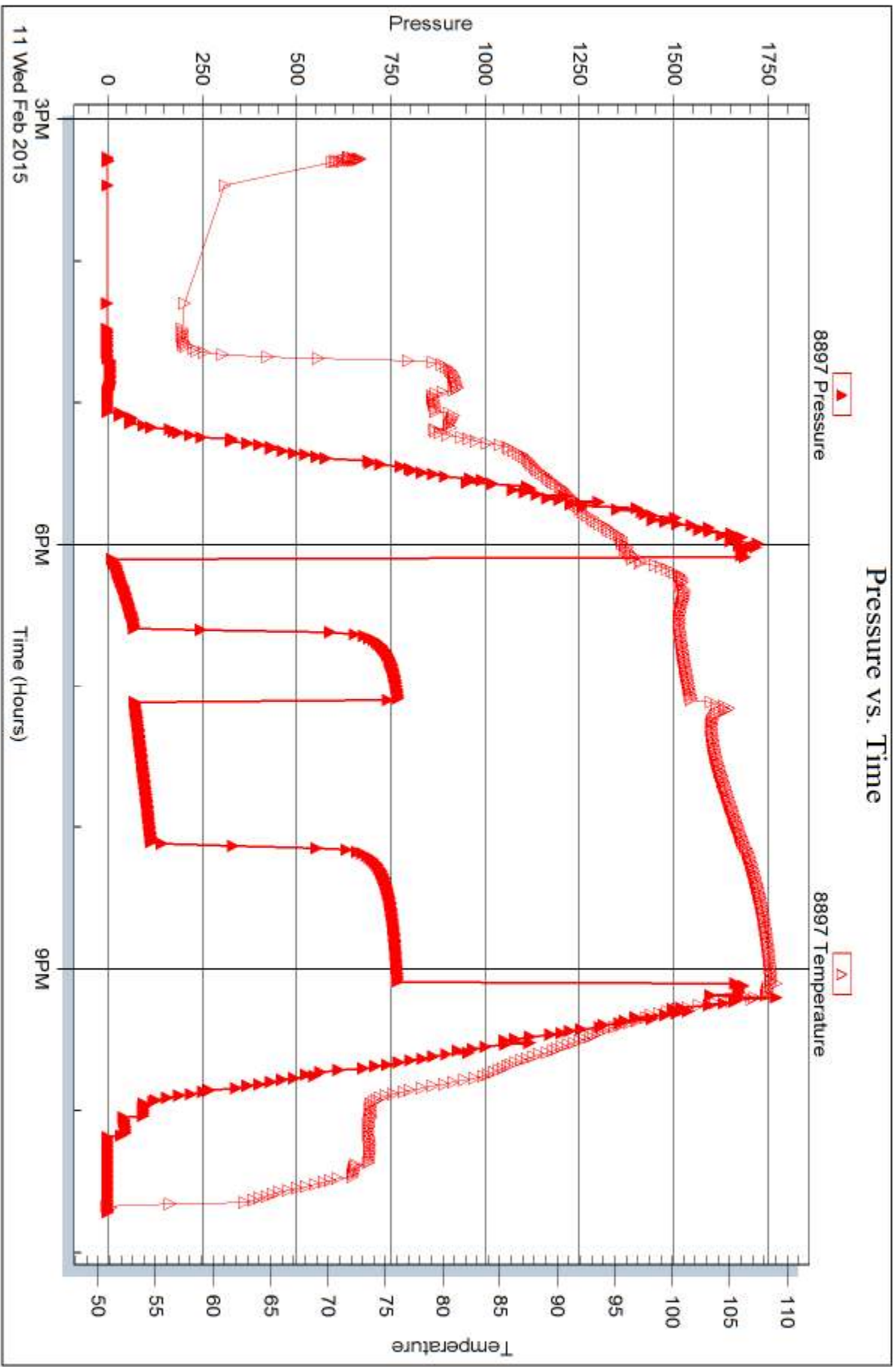
Serial #: 8897

Inside

Farmer, John O, Inc.

Van Loenen C#1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Farmer, John O, Inc.**

PO Box 352
Russell, KS 67665

ATTN: Austin Klaus

Van Loenen C #1

11-9s-22w Graham,KS

Start Date: 2015.02.12 @ 06:09:00

End Date: 2015.02.12 @ 13:03:39

Job Ticket #: 62455 DST #: 3

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

Printed: 2015.02.16 @ 10:01:16

Farmer, John O, Inc. 11-9s-22w Graham,KS Van Loenen C #1 DST # 3 LCK "E-F" 2015.02.12



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62455

DST#: 3

ATTN: Austin Klaus

Test Start: 2015.02.12 @ 06:09:00

GENERAL INFORMATION:

Formation: **LCK "E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:32:20

Time Test Ended: 13:03:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Phillip Gage

Unit No: 77

Interval: 3517.00 ft (KB) To 3548.00 ft (KB) (TVD)

Reference Elevations: 2211.00 ft (KB)

Total Depth: 3548.00 ft (KB) (TVD)

2206.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8898 Outside

Press@RunDepth: 178.47 psig @ 3518.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.12 End Date: 2015.02.12

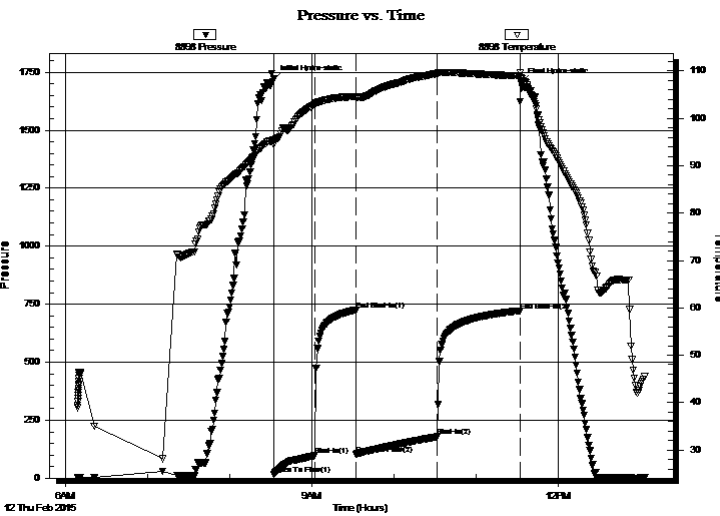
Last Calib.: 2015.02.12

Start Time: 06:09:01 End Time: 13:03:40

Time On Btm: 2015.02.12 @ 08:32:10

Time Off Btm: 2015.02.12 @ 11:33:09

TEST COMMENT: 30-IF-BOB in 23 mins.
30-ISI-No Return
60-FF-BOB in 31 mins.
60-FSI-No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1719.48	95.50	Initial Hydro-static
1	16.77	94.47	Open To Flow (1)
31	97.74	102.99	Shut-In(1)
60	722.53	104.57	End Shut-In(1)
61	103.81	104.26	Open To Flow (2)
120	178.47	109.49	Shut-In(2)
181	721.68	108.99	End Shut-In(2)
181	1704.76	108.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
252.00	SMCW, 10% m, 90% w	2.43
93.00	MW, 40% m, 60% w	1.30

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Farmer, John O, Inc.

11-9s-22w Graham, KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

ATTN: Austin Klaus

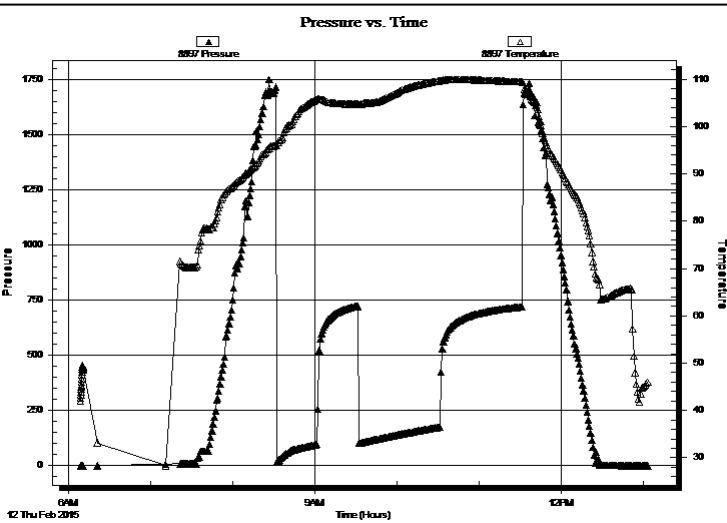
Job Ticket: 62455 **DST#: 3**
Test Start: 2015.02.12 @ 06:09:00

GENERAL INFORMATION:

Formation: **LCK "E-F"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 08:32:20 Tester: Phillip Gage
Time Test Ended: 13:03:39 Unit No: 77
Interval: 3517.00 ft (KB) To 3548.00 ft (KB) (TVD) Reference Elevations: 2211.00 ft (KB)
Total Depth: 3548.00 ft (KB) (TVD) 2206.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8897 Inside
Press@RunDepth: psig @ 3518.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.02.12 End Date: 2015.02.12 Last Calib.: 2015.02.12
Start Time: 06:09:01 End Time: 13:03:20 Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IF-BOB in 23 mins.
30-ISI-No Return
60-FF-BOB in 31 mins.
60-FSI-No Return



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

Recovery		
Length (ft)	Description	Volume (bbl)
252.00	SMCW, 10% m, 90% w	2.43
93.00	MW, 40% m, 60% w	1.30

* Recovery from multiple tests

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62455

DST#: 3

ATTN: Austin Klaus

Test Start: 2015.02.12 @ 06:09:00

Tool Information

Drill Pipe:	Length: 3398.00 ft	Diameter: 3.80 inches	Volume: 47.67 bbl	Tool Weight:	2000.00 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	40000.00 lb
			<u>Total Volume: 48.27 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	33000.00 lb
Depth to Top Packer:	3517.00 ft			Final	34000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	31.00 ft				
Tool Length:	51.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3502.00	
Hydraulic tool	5.00			3507.00	
Packer	5.00			3512.00	20.00 Bottom Of Top Packer
Packer	5.00			3517.00	
Stubb	1.00			3518.00	
Recorder	0.00	8897	Inside	3518.00	
Recorder	0.00	8898	Outside	3518.00	
Perforations	27.00			3545.00	
Bullnose	3.00			3548.00	31.00 Bottom Packers & Anchor
Total Tool Length:	51.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62455

DST#: 3

ATTN: Austin Klaus

Test Start: 2015.02.12 @ 06:09:00

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:

90000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
252.00	SMCW, 10%m, 90%w	2.433
93.00	MW, 40%m, 60%w	1.305

Total Length: 345.00 ft Total Volume: 3.738 bbl

Num Fluid Samples: 0

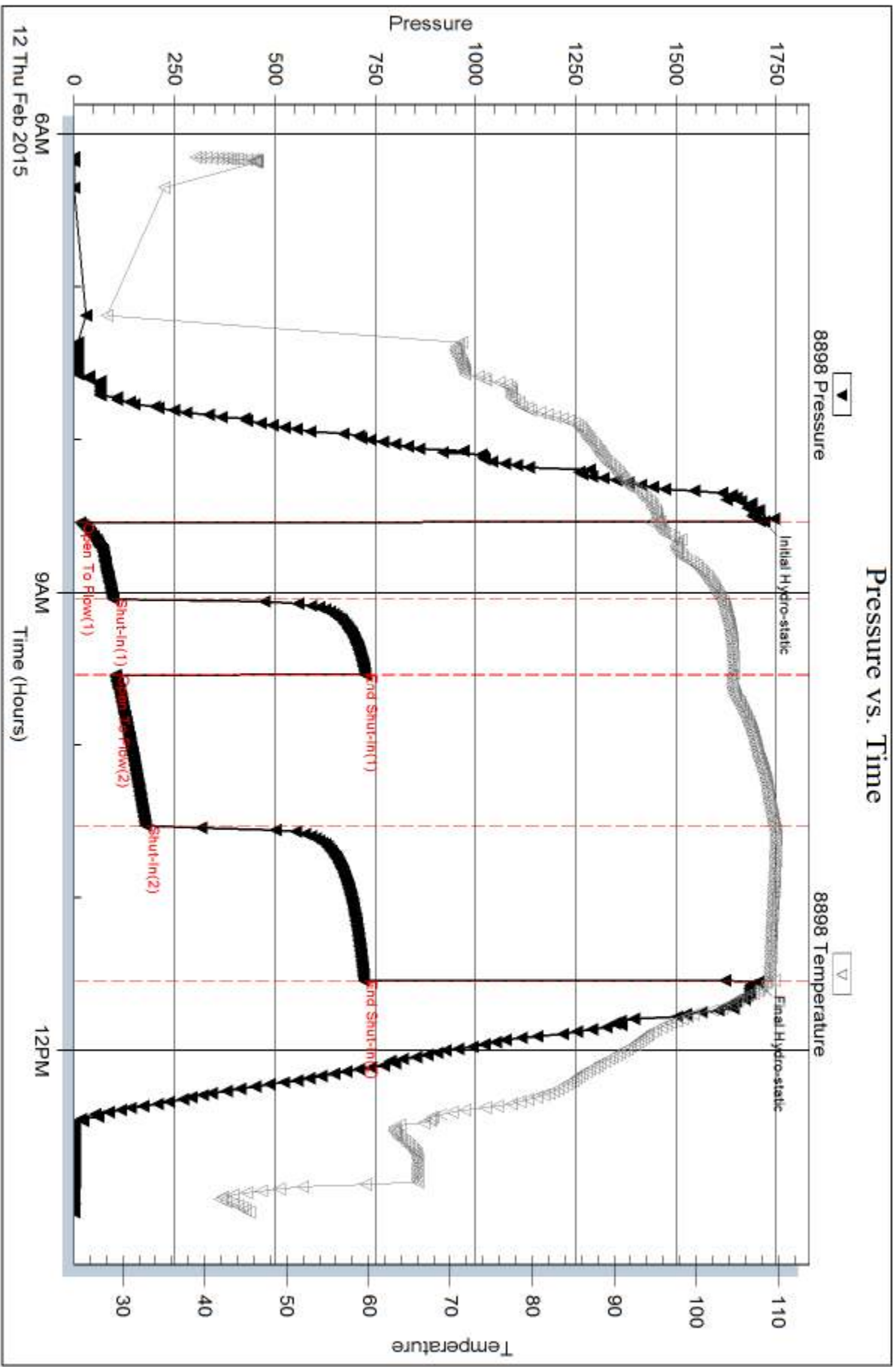
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .22 @ 34 Degrees = 90,000



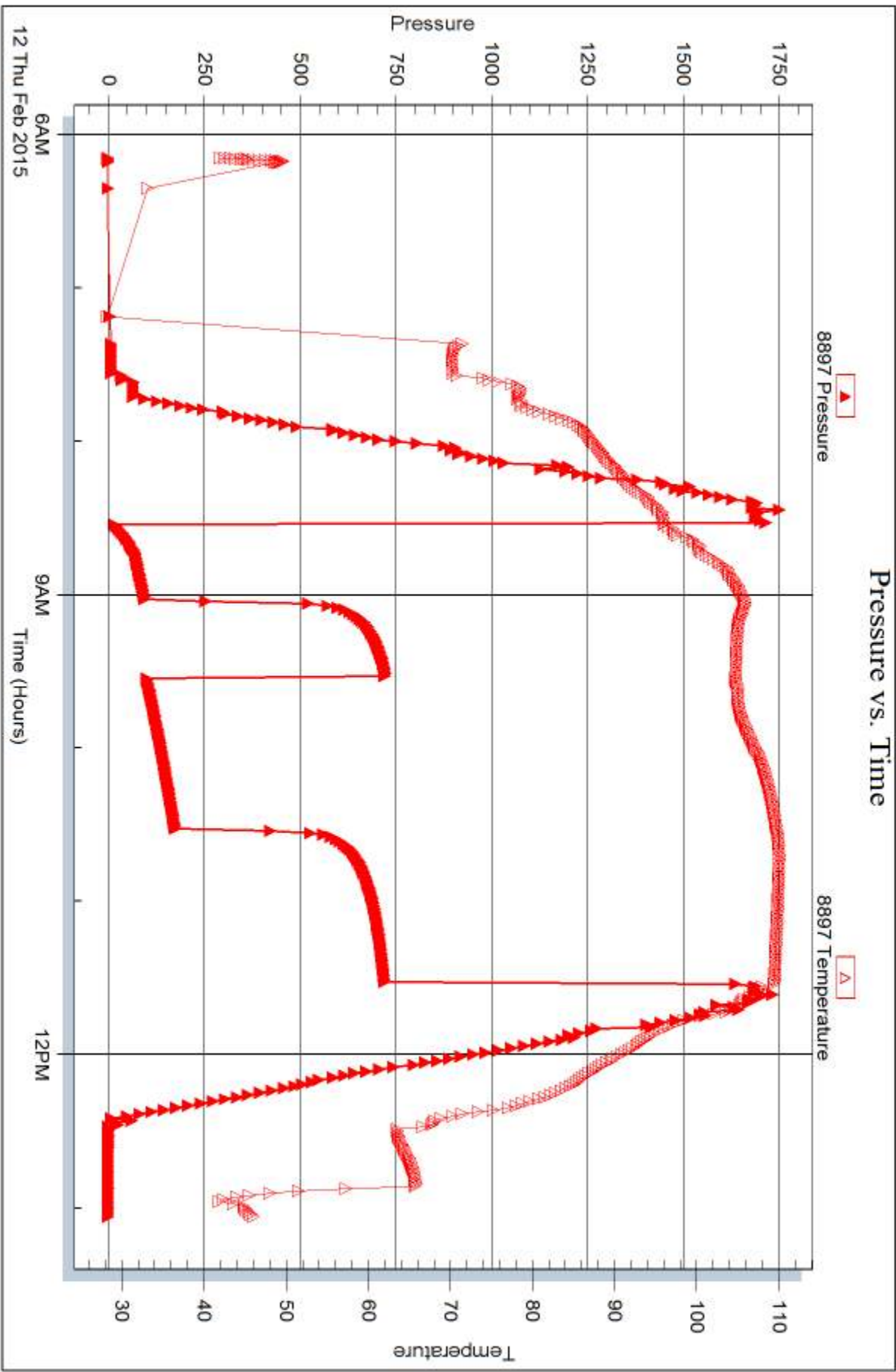
Serial #: 8897

Inside

Farmer, John O, Inc.

Van Loenen C#1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 62455

Printed: 2015.02.16 @ 10:01:18



DRILL STEM TEST REPORT

Prepared For: **Farmer, John O, Inc.**

PO Box 352
Russell, KS 67665

ATTN: Austin Klaus

Van Loenen C #1

11-9s-22w Graham,KS

Start Date: 2015.02.13 @ 16:40:00

End Date: 2015.02.13 @ 23:08:00

Job Ticket #: 62456 DST #: 4

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

Printed: 2015.02.16 @ 10:00:35



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62456

DST#: 4

ATTN: Austin Klaus

Test Start: 2015.02.13 @ 16:40:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:50:40

Time Test Ended: 23:08:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Phillip Gage

Unit No: 77

Interval: 3765.00 ft (KB) To 3822.00 ft (KB) (TVD)

Reference Elevations: 2211.00 ft (KB)

Total Depth: 3880.00 ft (KB) (TVD)

2206.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8898 Outside

Press@RunDepth: 230.87 psig @ 3766.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.13

End Date:

2015.02.13

Last Calib.:

2015.02.13

Start Time: 16:40:01

End Time:

23:08:00

Time On Btm:

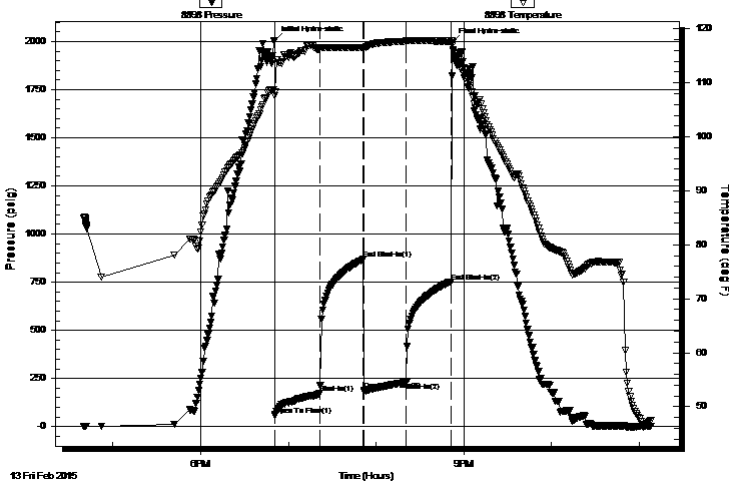
2015.02.13 @ 18:50:30

Time Off Btm:

2015.02.13 @ 20:52:10

TEST COMMENT: 30-IF-BOB in 10 mins.
30-ISI-No Return
30-FF-BOB in 18 mins.
30-FSI-No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2005.87	108.76	Initial Hydro-static
1	58.28	107.57	Open To Flow (1)
32	172.26	116.34	Shut-In(1)
61	868.63	116.57	End Shut-In(1)
62	188.71	116.38	Open To Flow (2)
91	230.87	117.72	Shut-In(2)
121	749.90	117.72	End Shut-In(2)
122	1995.13	117.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	V SOMCW, 2%o, 30%m, 68%w	0.67
126.00	V SOGWCM, 2%o, 3%g, 5%w, 90%m	1.77
176.00	V SOWCM, 2%o, 18%w, 80%m	2.47
5.00	O, 100%o	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62456

DST#: 4

ATTN: Austin Klaus

Test Start: 2015.02.13 @ 16:40:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:50:40

Time Test Ended: 23:08:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Phillip Gage

Unit No: 77

Interval: 3765.00 ft (KB) To 3822.00 ft (KB) (TVD)

Reference Elevations: 2211.00 ft (KB)

Total Depth: 3880.00 ft (KB) (TVD)

2206.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8897 Inside

Press@RunDepth: psig @ 3766.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.13

End Date: 2015.02.13

Last Calib.: 2015.02.13

Start Time: 16:40:01

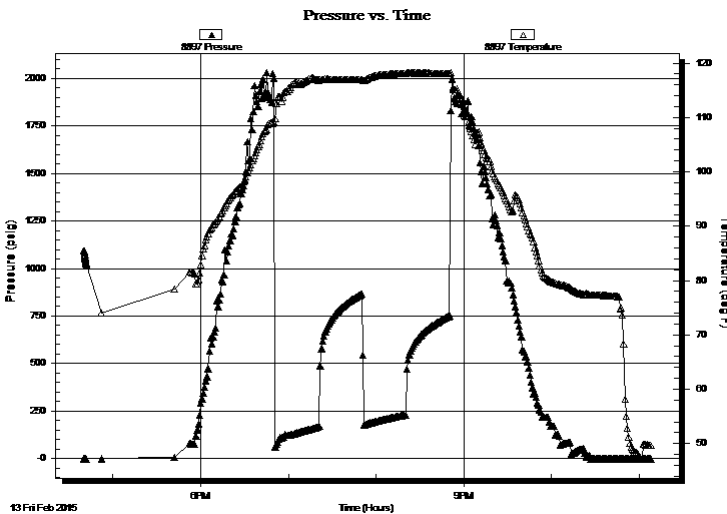
End Time: 23:07:40

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF-BOB in 10 mins.
30-ISI-No Return
30-FF-BOB in 18 mins.
30-FSI-No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
126.00	V SOMCW, 2%o, 30%m, 68%w	0.67
126.00	V SOGWCM, 2%o, 3%g, 5%w, 90%m	1.77
176.00	V SOWCM, 2%o, 18%w, 80%m	2.47
5.00	O, 100%o	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62456

DST#: 4

ATTN: Austin Klaus

Test Start: 2015.02.13 @ 16:40:00

Tool Information

Drill Pipe:	Length: 3643.00 ft	Diameter: 3.80 inches	Volume: 51.10 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 40000.00 lb
			<u>Total Volume: 51.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3765.00 ft			Final 37000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	115.00 ft			
Tool Length:	135.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3750.00	
Hydraulic tool	5.00			3755.00	
Packer	5.00			3760.00	20.00 Bottom Of Top Packer
Packer	5.00			3765.00	
Stubb	1.00			3766.00	
Recorder	0.00	8897	Inside	3766.00	
Recorder	0.00	8898	Outside	3766.00	
Perforations	13.00			3779.00	
Bullnose	1.00			3780.00	
Drill Pipe	31.00			3811.00	
Change Over Sub	1.00			3812.00	
Perforations	5.00			3817.00	
Blank Off Sub	1.00			3818.00	115.00 Tool Interval
Packer	5.00			3823.00	
Stubb	1.00			3824.00	
Perforations	20.00			3844.00	
Recorder	0.00	8354	Below	3844.00	
Change Over Sub	1.00			3845.00	
Drill Pipe	31.00			3876.00	
Change Over Sub	1.00			3877.00	
Bullnose	3.00			3880.00	1000134.00 Bottom Packers & Anchor

Total Tool Length: 135.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Farmer, John O, Inc.

11-9s-22w Graham,KS

PO Box 352
Russell, KS 67665

Van Loenen C #1

Job Ticket: 62456

DST#: 4

ATTN: Austin Klaus

Test Start: 2015.02.13 @ 16:40:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

17 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

29000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
126.00	VSOMCW, 2%o, 30%m, 68%w	0.665
126.00	VSOGWCM, 2%o, 3%g, 5%w, 90%m	1.767
176.00	VSOWCM, 2%o, 18%w, 80%m	2.469
5.00	O, 100%o	0.070

Total Length: 433.00 ft

Total Volume: 4.971 bbf

Num Fluid Samples: 0

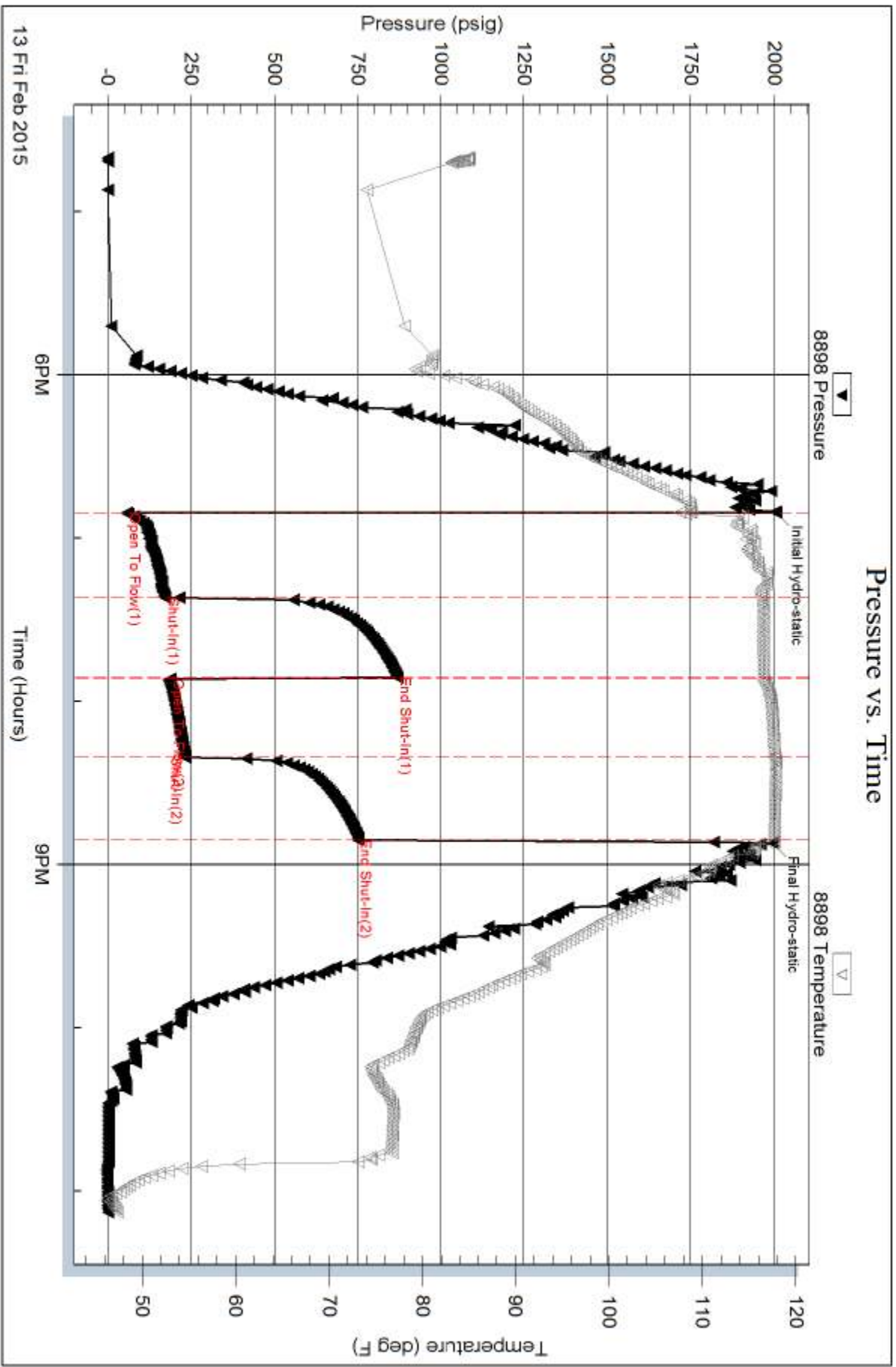
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .5 @ 35 Degrees = 29,000 Salinity



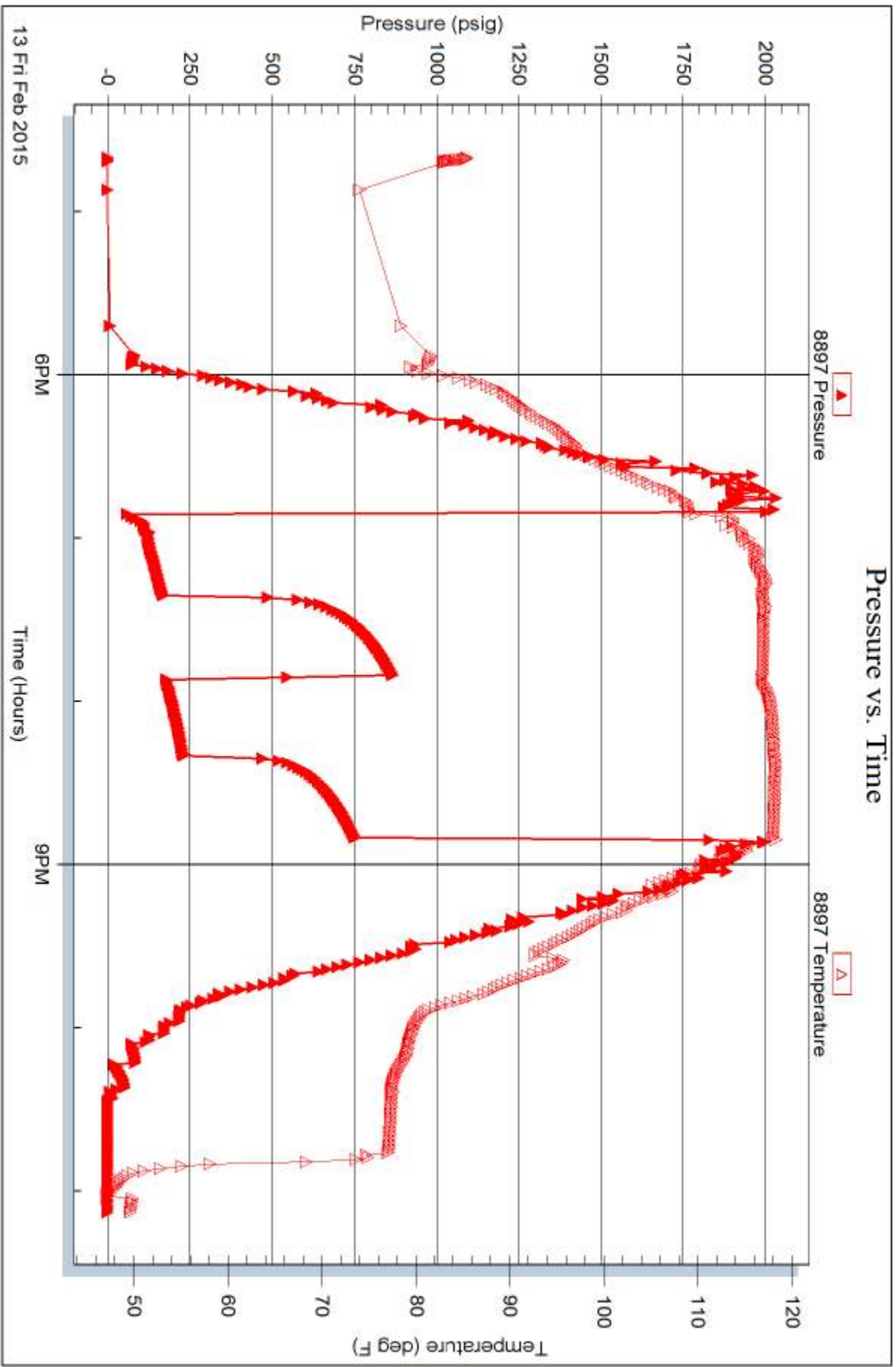
Serial #: 8897

Inside

Farmer, John O, Inc.

Van Loenen C#1

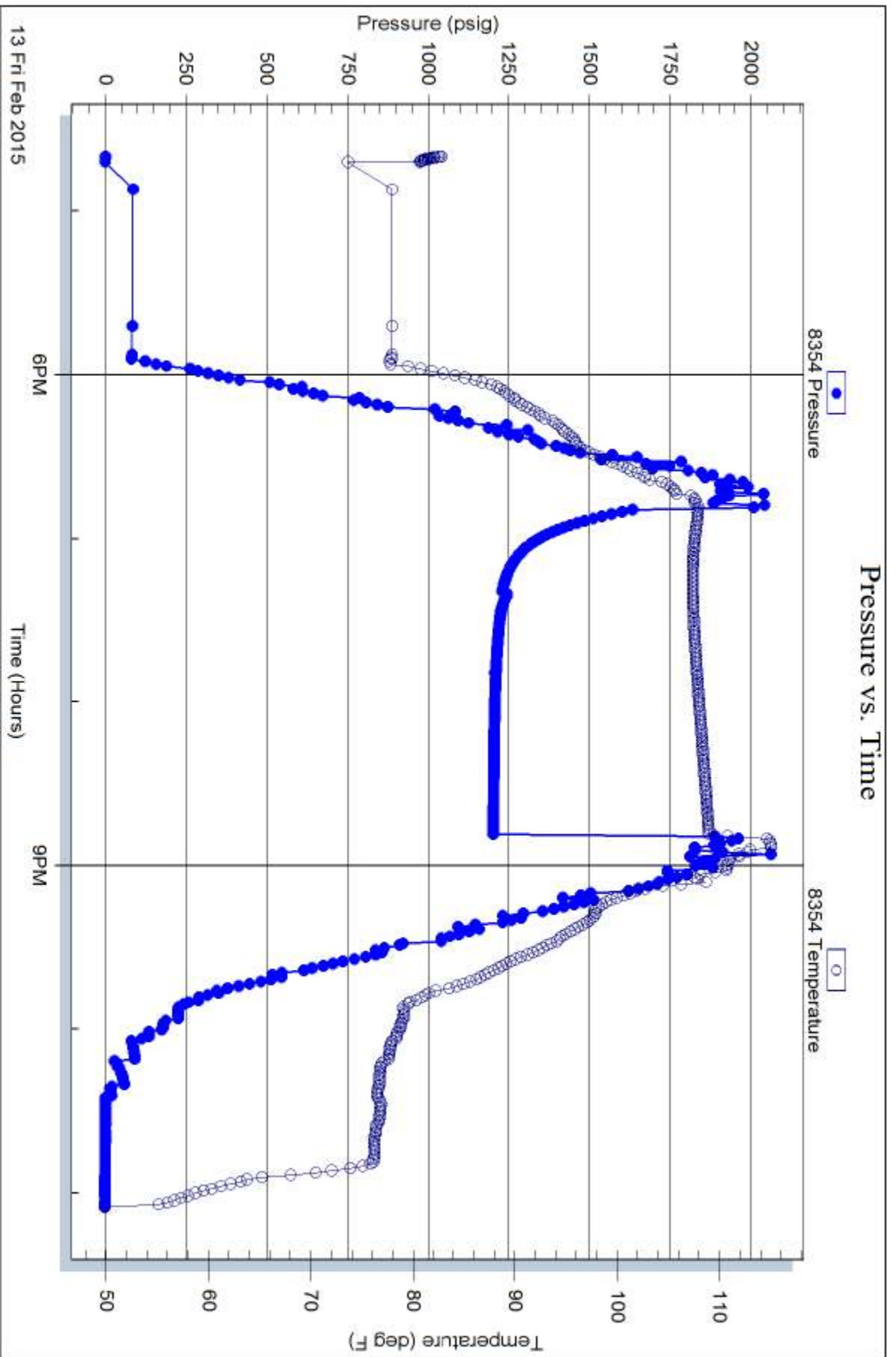
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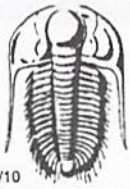


Triobrite Testing, Inc

Ref. No: 62456

Printed: 2015.02.16 @ 10:00:36





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62453

Well Name & No. Van Loenen C #1 Test No. 1 Date 2-10-15
 Company Farmer, John O, Inc Elevation 2211 KB 7206 GL
 Address 370 W Wichita AVE P.O. Box 352 Russell, KS 67665
 Co. Rep / Geo. Austin Klaus Rig WWG
 Location: Sec. 11 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3404-3462 Zone Tested Toronto - LHC "A"
 Anchor Length 581 Drill Pipe Run 3273 Mud Wt. 8.8
 Top Packer Depth 3399 Drill Collars Run 121 Vis 64
 Bottom Packer Depth 3404 Wt. Pipe Run 0 WL 6.0
 Total Depth 3462 Chlorides 900 ppm System LCM 2#
 Blow Description IF Buite to 3"
ISE No Return
FF Buite to 2"
FSE No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>130'</u>	<u>SWCM, with oil spots</u>		<u>10</u>	<u>90</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 130' BHT 105 Gravity — API RW 18 @ 26 °F Chlorides 24000 ppm
 (A) Initial Hydrostatic 1,656 Test 1050 T-On Location 22:36
 (B) First Initial Flow 15 Jars _____ T-Started 22:47
 (C) First Final Flow 38 Safety Joint _____ T-Open 02:27
 (D) Initial Shut-In 1058 Circ Sub _____ T-Pulled 05:27
 (E) Second Initial Flow 43 Hourly Standby _____ T-Out 07:25
 (F) Second Final Flow 75 Mileage 120 RT 113 Comments _____
 (G) Final Shut-In 1,037 Sampler _____
 (H) Final Hydrostatic 1,637 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1163
 Initial Open 30
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 60
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1163
 MP/DST Disc't _____

Approved By _____ Our Representative Phillip Key Thank You
 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. 62454

Well Name & No. Van Loenen C #1 Test No. 2 Date 2-11-15
 Company Farmer, John O, Inc Elevation 2211 KB 2206 GL
 Address 370 W Wichita AVE P.O. Box 352 Russell, KS 67665
 Co. Rep / Geo. Austin Klaus Rig WW6
 Location: Sec. 11 Twp. 9S Rge. 22W Co. Graham State KS

Interval Tested 3478 - 3520 Zone Tested LKC "C-D"
 Anchor Length 42' Drill Pipe Run 3367 Mud Wt. 8.9
 Top Packer Depth 3473 Drill Collars Run 121 Vis 61
 Bottom Packer Depth 3478 Wt. Pipe Run 0 WL 618
 Total Depth 3520 Chlorides 1,100 ppm System LCM 2#

Blow Description FF- Buyle to 6"
ISI- No Return
FF- Buyle to 8 1/2"
FSI- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>229'</u>	<u>MCW</u>			<u>85</u> 15	<u>15</u> 85
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 229' BHT 108 Gravity — API RW 28 @ 26 °F Chlorides 70,000 ppm

(A) Initial Hydrostatic 1,704 Test 1050 T-On Location 15:15
 (B) First Initial Flow 16 Jars _____ T-Started 15:16
 (C) First Final Flow 72 Safety Joint _____ T-Open 18:06
 (D) Initial Shut-In 770 Circ Sub _____ T-Pulled 21:06
 (E) Second Initial Flow 76 Hourly Standby _____ T-Out 22:43
 (F) Second Final Flow 119 Mileage 120 RT 113 Comments _____
 (G) Final Shut-In 769 Sampler _____
 (H) Final Hydrostatic 1,708 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 60
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1163
 Sub Total 1163

Approved By _____ Our Representative Phil Legg Thank You
 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. **62455**

Well Name & No. Van Loenen C#1 Test No. 3 Date 2-12-15
 Company Farmer, John O, Inc Elevation 2211 KB 2206 GL
 Address 370 W Wichita AVE P.O. Box 352 Russell, KS 67665
 Co. Rep / Geo. Austin Klaus Rig WW6
 Location: Sec. 11 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3517-3548 Zone Tested LKL "E-F"
 Anchor Length 31' Drill Pipe Run 3398 Mud Wt. 9.1
 Top Packer Depth 3512 Drill Collars Run 121 Vis 54
 Bottom Packer Depth 3517 Wt. Pipe Run 0 WL 7.2
 Total Depth 3548 Chlorides 1,500 ppm System LCM 2#
 Blow Description IF BOB in 23 mths
ESI No Return
FF - BOB in 31 mths
ESI No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>252'</u>	<u>SANCW</u>		<u>90</u>	<u>10</u>	
<u>93'</u>	<u>MW</u>		<u>60</u>	<u>40</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 345' BHT 108 Gravity — API RW 122 @ 34 °F Chlorides 90,000 ppm

(A) Initial Hydrostatic 1,719 Test 1050 T-On Location 06:08
 (B) First Initial Flow 16 Jars — T-Started 06:09
 (C) First Final Flow 97 Safety Joint — T-Open 08:33
 (D) Initial Shut-In 722 Circ Sub — T-Pulled 11:33
 (E) Second Initial Flow 103 Hourly Standby — T-Out 13:04
 (F) Second Final Flow 178 Mileage 120 RT 113 Comments —
 (G) Final Shut-In 721 Sampler —
 (H) Final Hydrostatic 1,704 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Initial Open 30 Extra Recorder — Sub Total 0
 Initial Shut-In 30 Day Standby — Total 1163
 Final Flow 60 Accessibility — MP/DST Disc't —
 Final Shut-In 60 Sub Total 1163

Approved By _____ Our Representative Phil Lopez Thank You.
 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. 62456

Well Name & No. Van Loeren C #1 Test No. 4 Date 2-13-15
 Company Farmer, John O, Inc Elevation 2211 KB 2206 GL
 Address 370 W Wichita AVE P.O. Box 352 Russell, KS 67665
 Co. Rep / Geo. Austin Klaus Rig WW6
 Location: Sec. 11 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3065-3822 Zone Tested Arbuckle
 Anchor Length 57' 58" tail Drill Pipe Run 3643 Mud Wt. 9.5
 Top Packer Depth 3817 Drill Collars Run 121 Vis 65
 Bottom Packer Depth 3822 Wt. Pipe Run 0 WL 7.2
 Total Depth 3880 Chlorides 1700 ppm System LCM 2#
 Blow Description FF BOB in 10 mins
FSI No Return
FF BOB in 18 mins.
FSI No Return

Rec	Feet of	%gas	%oil	%water	%mud
126'	V50MCW		2	68	30
126'	V50DWCM	3	2	5	90
176'	V50WCM		2	18	80
51	0		100		

Rec Total 432' BHT 118 Gravity 17 API RW 15 @ 35 °F Chlorides 29,000 ppm

(A) Initial Hydrostatic 2,005 Test 1050 T-On Location 15:25
 (B) First Initial Flow 58 Jars _____ T-Started 16:40
 (C) First Final Flow 172 Safety Joint _____ T-Open 18:51
 (D) Initial Shut-In 868 Circ Sub _____ T-Pulled 30:51
 (E) Second Initial Flow 188 Hourly Standby _____ T-Out 23:08
 (F) Second Final Flow 230 Mileage 120 RT 113 Comments _____
 (G) Final Shut-In 749 Sampler _____
 (H) Final Hydrostatic 1,995 Straddle 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1763
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1763

Approved By _____ Our Representative Phillip Poye Thank You!

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