



DRILL STEM TEST REPORT

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

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

Morgenstern #1

13-16s-14w Barton,KS

Start Date: 2015.06.14 @ 04:05:00

End Date: 2015.06.14 @ 09:03:00

Job Ticket #: 62000 DST #: 1

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

Printed: 2015.06.18 @ 09:38:08



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O. Farmer, Inc.
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

13-16s-14w Barton,KS
Morgenstern #1
Job Ticket: 62000 **DST#: 1**
Test Start: 2015.06.14 @ 04:05:00

GENERAL INFORMATION:

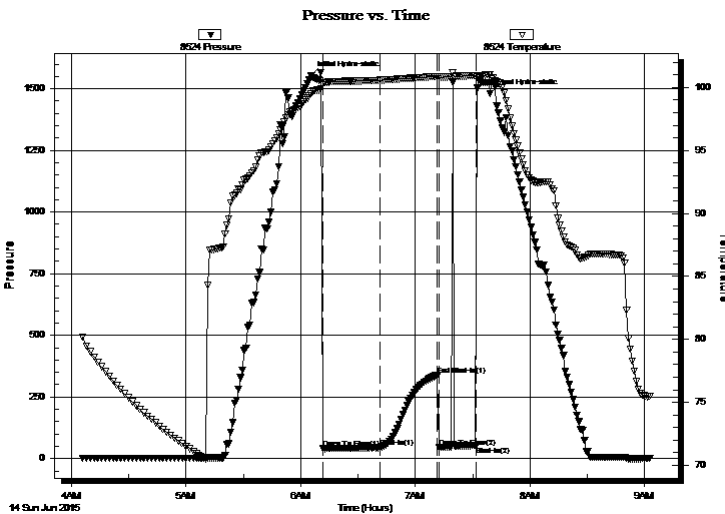
Formation: **LKC "A-C"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:11:30
Time Test Ended: 09:03:00
Interval: **3148.00 ft (KB) To 3193.00 ft (KB) (TVD)**
Total Depth: 3193.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Shane Konzem
Unit No: 56
Reference Elevations: 1943.00 ft (KB)
1935.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8524

Inside

Press@RunDepth: 45.03 psig @ 3189.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.14 End Date: 2015.06.14 Last Calib.: 2015.06.14
Start Time: 04:06:00 End Time: 09:03:00 Time On Btm: 2015.06.14 @ 06:05:30
Time Off Btm: 2015.06.14 @ 07:39:00

TEST COMMENT: IFP 30 Minutes. Weak blow built to 1 3/4"
ISI 30 Minutes. No blow back.
FFP 20 Minutes. No blow, flushed tool gained weak surface blow that died at 17 minutes. Pulled test per Geo.
FSI N/A



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1552.01	99.53	Initial Hydro-static
6	40.31	100.25	Open To Flow (1)
36	45.03	100.57	Shut-In(1)
66	339.26	100.87	End Shut-In(1)
67	46.59	100.81	Open To Flow (2)
86	52.18	100.95	Shut-In(2)
94	1479.23	101.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	100% Mud	0.07

Gas Rates

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



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PO Box 352
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ATTN: Austin Klaus

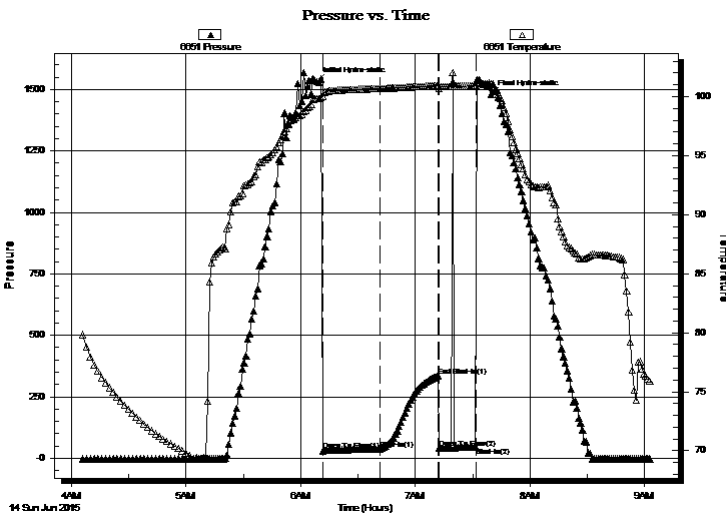
13-16s-14w Barton,KS
Morgenstern #1
Job Ticket: 62000 **DST#: 1**
Test Start: 2015.06.14 @ 04:05:00

GENERAL INFORMATION:

Formation: **LKC "A-C"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:11:30
Time Test Ended: 09:03:00
Interval: **3148.00 ft (KB) To 3193.00 ft (KB) (TVD)**
Total Depth: 3193.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Shane Konzem
Unit No: 56
Reference Elevations: 1943.00 ft (KB)
1935.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6651 Outside
Press@RunDepth: 335.72 psig @ 3190.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.14 End Date: 2015.06.14 Last Calib.: 2015.06.14
Start Time: 04:06:00 End Time: 09:03:00 Time On Btm: 2015.06.14 @ 06:08:30
Time Off Btm: 2015.06.14 @ 07:39:30

TEST COMMENT: IFP 30 Minutes. Weak blow built to 1 3/4"
ISI 30 Minutes. No blow back.
FFP 20 Minutes. No blow, flushed tool gained weak surface blow that died at 17 minutes. Pulled test per Geo.
FSI N/A



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1532.48	99.83	Initial Hydro-static
3	30.61	100.04	Open To Flow (1)
33	37.64	100.68	Shut-In(1)
64	335.72	100.92	End Shut-In(1)
64	39.67	100.71	Open To Flow (2)
83	45.13	100.91	Shut-In(2)
91	1478.07	101.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	100% Mud	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O. Farmer, Inc.

13-16s-14w Barton,KS

PO Box 352
Russell KS 67665-2635

Morgenstern #1

Job Ticket: 62000

DST#: 1

ATTN: Austin Klaus

Test Start: 2015.06.14 @ 04:05:00

Tool Information

Drill Pipe:	Length: 2844.00 ft	Diameter: 3.80 inches	Volume: 39.89 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 310.09 ft	Diameter: 2.25 inches	Volume: 1.52 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 41.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.09 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3148.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut-In Tool	5.00			3133.00	
Hydraulic tool	5.00			3138.00	
Top Packer	5.00			3143.00	
Packer	5.00			3148.00	20.00 Bottom Of Top Packer
Anchor	40.00			3188.00	
Recorder	1.00	8524	Inside	3189.00	
Recorder	1.00	6651	Outside	3190.00	
Bull Plug	3.00			3193.00	45.00 Anchor Tool

Total Tool Length: 65.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O. Farmer, Inc.

13-16s-14w Barton,KS

PO Box 352
Russell KS 67665-2635

Morgenstern #1

Job Ticket: 62000

DST#: 1

ATTN: Austin Klaus

Test Start: 2015.06.14 @ 04:05:00

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 0.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	100% Mud	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

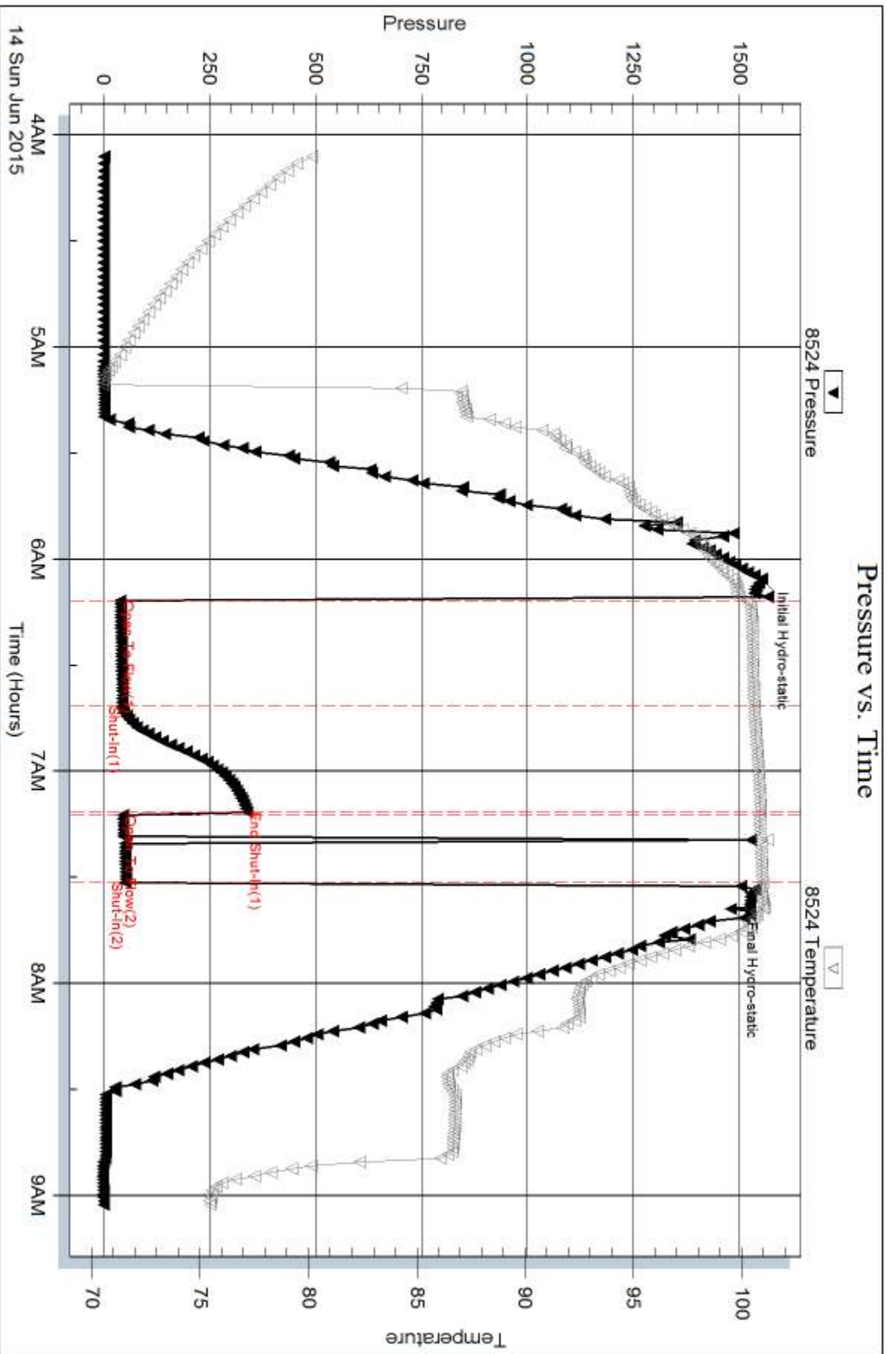
Num Gas Bombs: 0

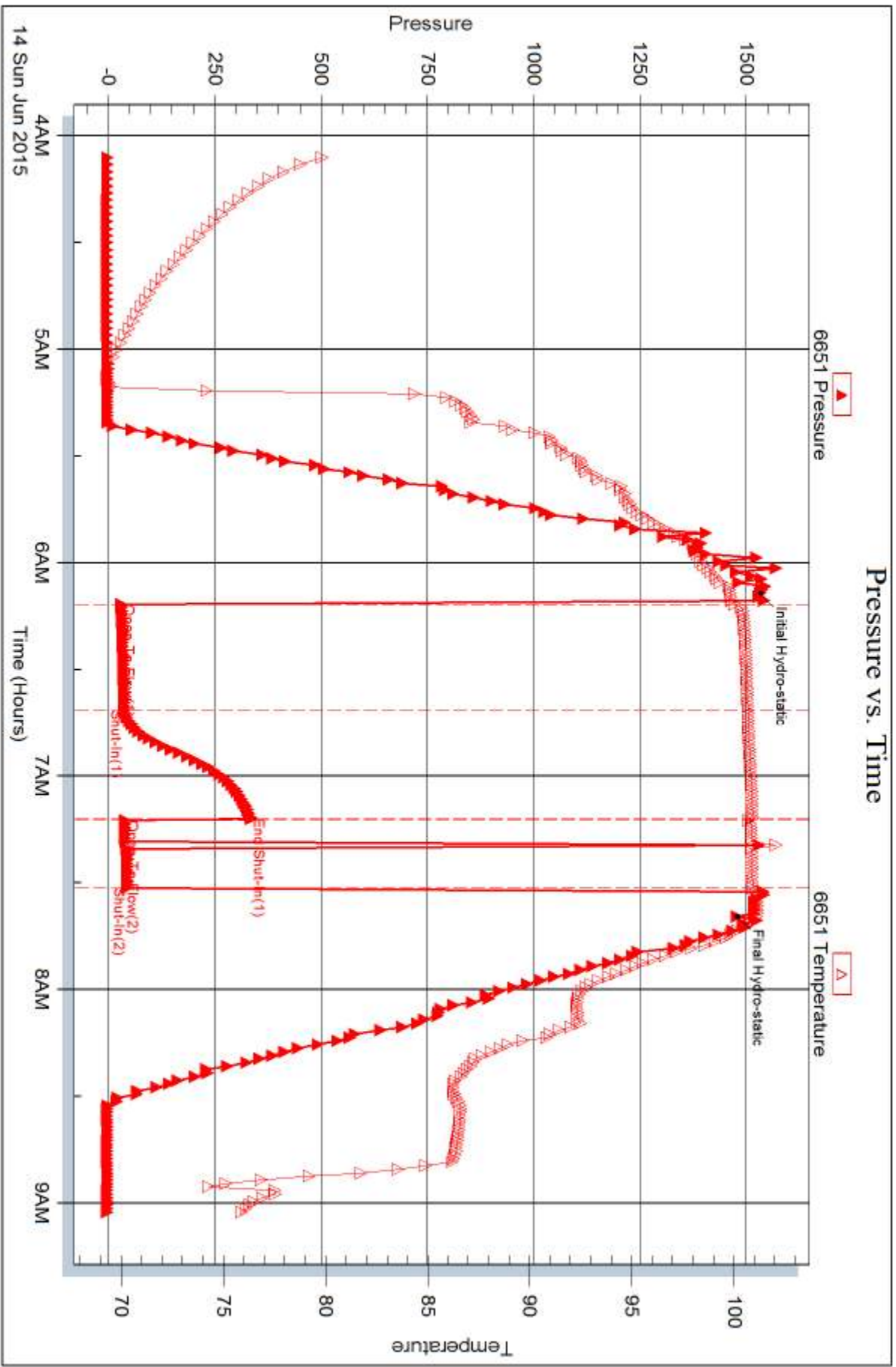
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

Morgenstern #1

13-16s-14w Barton,KS

Start Date: 2015.06.14 @ 15:35:00

End Date: 2015.06.14 @ 20:32:00

Job Ticket #: 62001 DST #: 2

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

Printed: 2015.06.18 @ 09:36:34

John O. Farmer, Inc. 13-16s-14w Barton,KS Morgenstern #1 DST # 2 LKC "E-F" 2015.06.14



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O. Farmer, Inc.
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

13-16s-14w Barton,KS
Morgenstern #1
Job Ticket: 62001 **DST#: 2**
Test Start: 2015.06.14 @ 15:35:00

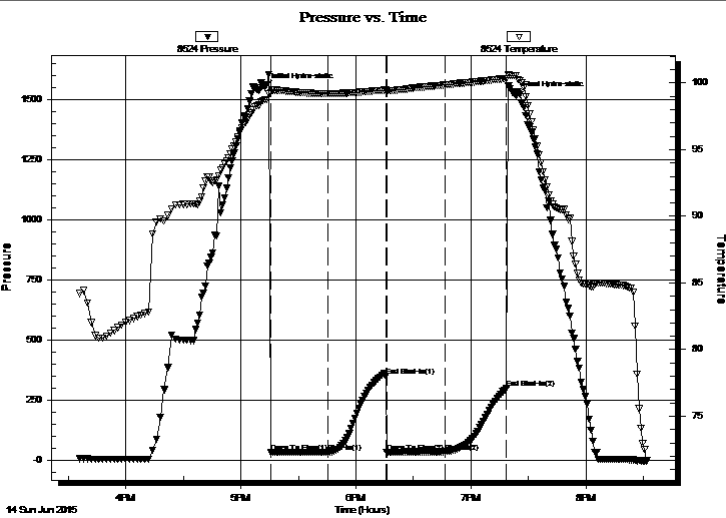
GENERAL INFORMATION:

Formation: **LKC "E-F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:15:30
Time Test Ended: 20:32:00
Interval: **3204.00 ft (KB) To 3241.00 ft (KB) (TVD)**
Total Depth: 3241.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 1943.00 ft (KB)
1935.00 ft (CF)
KB to GR/CF: 8.00 ft
Test Type: Conventional Bottom Hole (Initial)
Tester: Shane Konzem
Unit No: 56

Serial #: 8524 Inside

Press@RunDepth: 37.32 psig @ 3237.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.14 End Date: 2015.06.14 Last Calib.: 2015.06.14
Start Time: 15:36:00 End Time: 20:32:00 Time On Btm: 2015.06.14 @ 17:12:30
Time Off Btm: 2015.06.14 @ 19:23:30

TEST COMMENT: IFP 30 Minutes. Weak surface blow .
ISI 30 Minutes. No blow back.
FFP 30 Minutes. No blow , did not flush tool per Geo.
FSI 30 Minutes. No blow back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1551.22	98.73	Initial Hydro-static
3	33.58	99.26	Open To Flow (1)
33	35.00	99.21	Shut-In(1)
63	352.62	99.47	End Shut-In(1)
64	36.14	99.42	Open To Flow (2)
94	37.32	99.86	Shut-In(2)
126	302.22	100.34	End Shut-In(2)
131	1514.76	100.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% mud	0.01

Gas Rates

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



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DRILL STEM TEST REPORT

John O. Farmer, Inc.
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

13-16s-14w Barton,KS
Morgenstern #1
Job Ticket: 62001 **DST#: 2**
Test Start: 2015.06.14 @ 15:35:00

GENERAL INFORMATION:

Formation: **LKC "E-F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:15:30
Time Test Ended: 20:32:00
Interval: **3204.00 ft (KB) To 3241.00 ft (KB) (TVD)**
Total Depth: 3241.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 1943.00 ft (KB)
1935.00 ft (CF)
KB to GR/CF: 8.00 ft
Test Type: Conventional Bottom Hole (Initial)
Tester: Shane Konzem
Unit No: 56

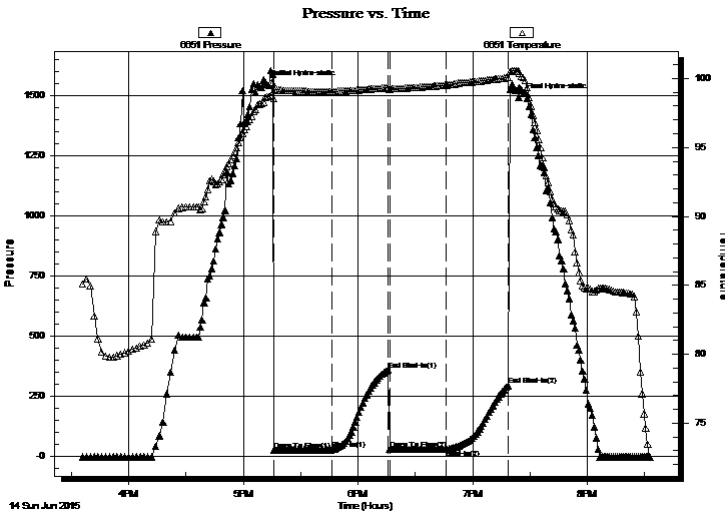
Serial #: 6651

Outside

Press@RunDepth: 294.17 psig @ 3238.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.14 End Date: 2015.06.14 Last Calib.: 1899.12.30
Start Time: 15:36:00 End Time: 20:32:30 Time On Btm: 2015.06.14 @ 17:12:30
Time Off Btm: 2015.06.14 @ 19:24:00

TEST COMMENT: IFP 30 Minutes. Weak surface blow.
ISI 30 Minutes. No blow back.
FFP 30 Minutes. No blow, did not flush tool per Geo.
FSI 30 Minutes. No blow back.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1546.37	98.68	Initial Hydro-static
4	24.09	98.56	Open To Flow (1)
34	28.03	99.08	Shut-In(1)
63	360.35	99.34	End Shut-In(1)
64	28.12	99.24	Open To Flow (2)
94	29.19	99.52	Shut-In(2)
126	294.17	100.07	End Shut-In(2)
132	1492.62	100.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% mud	0.01

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

John O. Farmer, Inc.

13-16s-14w Barton,KS

PO Box 352
Russell KS 67665-2635

Morgenstern #1

Job Ticket: 62001

DST#: 2

ATTN: Austin Klaus

Test Start: 2015.06.14 @ 15:35:00

Tool Information

Drill Pipe:	Length: 2878.00 ft	Diameter: 3.80 inches	Volume: 40.37 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 310.09 ft	Diameter: 2.25 inches	Volume: 1.52 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 41.89 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	4.09 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3204.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	37.00 ft				
Tool Length:	57.00 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			3189.00	
Hydraulic tool	5.00			3194.00	
Top Packer	5.00			3199.00	
Packer	5.00			3204.00	20.00 Bottom Of Top Packer
Anchor	32.00			3236.00	
Recorder	1.00	8524	Inside	3237.00	
Recorder	1.00	6651	Outside	3238.00	
Bull Plug	3.00			3241.00	37.00 Anchor Tool

Total Tool Length: 57.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

John O. Farmer, Inc.

13-16s-14w Barton,KS

PO Box 352
Russell KS 67665-2635

Morgenstern #1

Job Ticket: 62001

DST#: 2

ATTN: Austin Klaus

Test Start: 2015.06.14 @ 15:35:00

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 0.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	100% mud	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

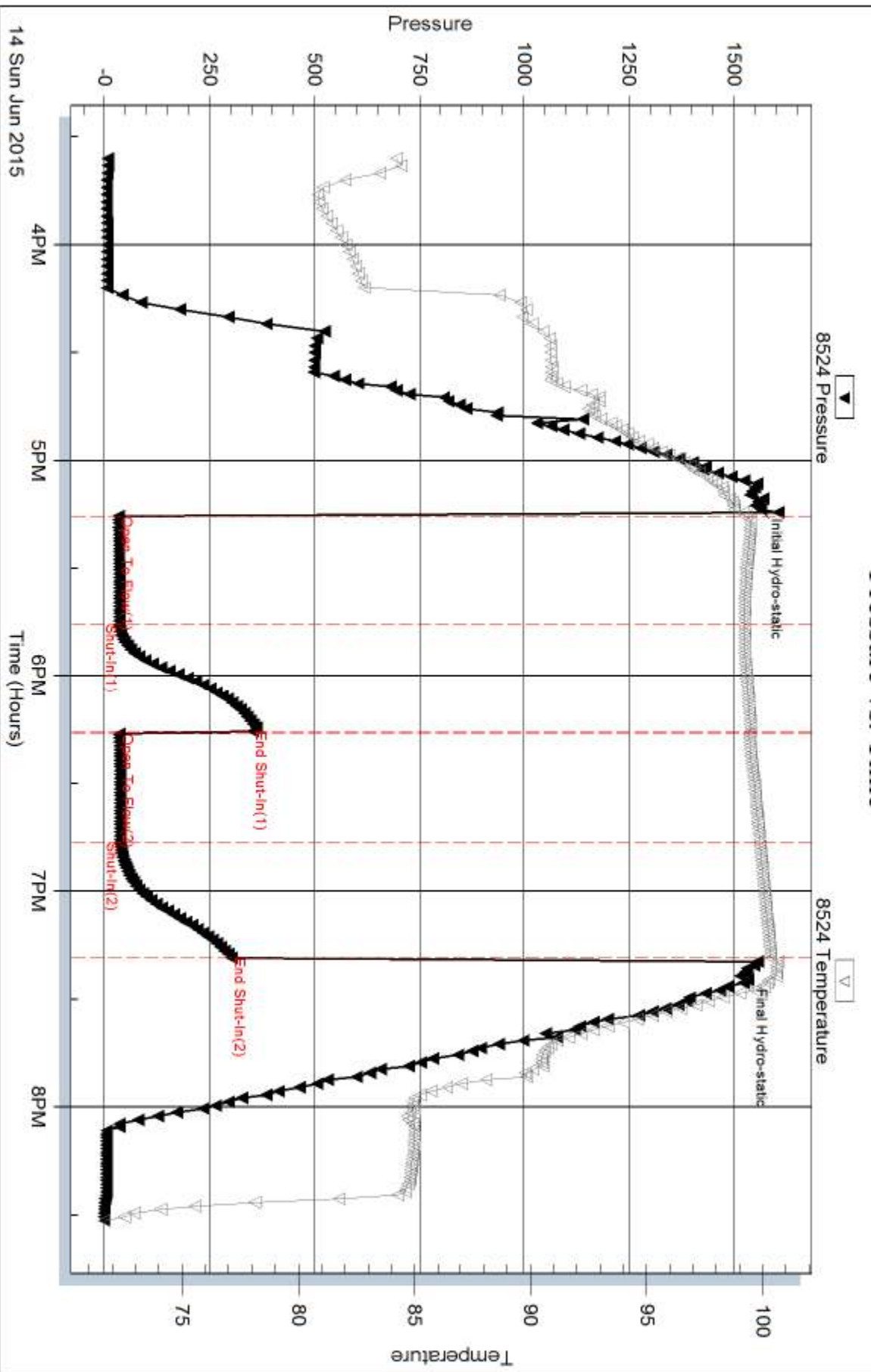
Serial #:

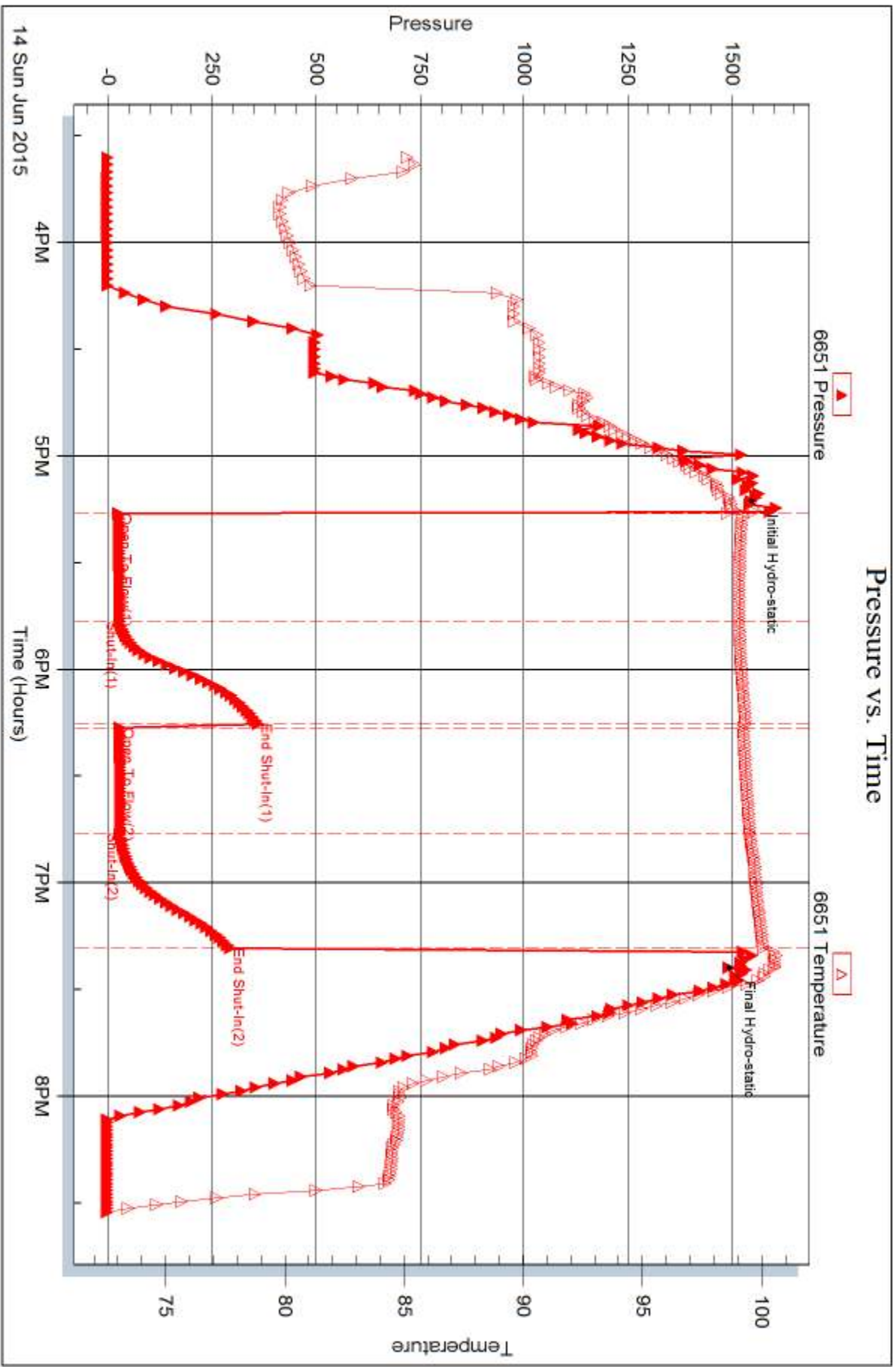
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

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

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

Morgenstern #1

13-16s-14w Barton,KS

Start Date: 2015.06.15 @ 16:30:00

End Date: 2015.06.15 @ 22:21:00

Job Ticket #: 62002 DST #: 3

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

Printed: 2015.06.18 @ 09:36:14



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O. Farmer, Inc.
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

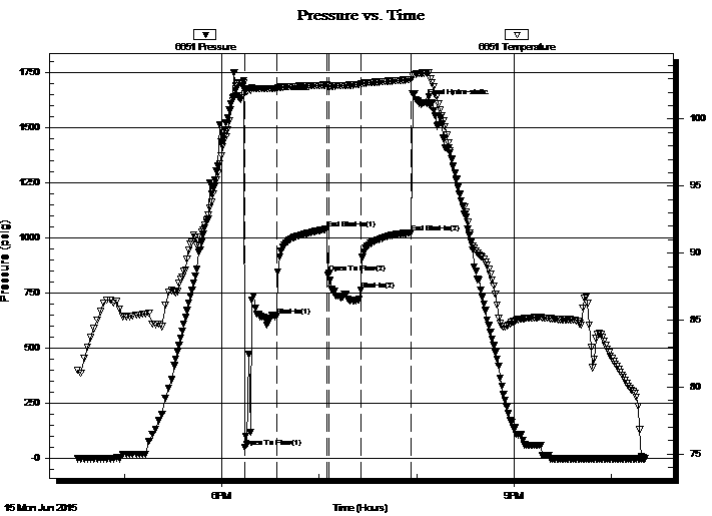
13-16s-14w Barton, KS
Morgenstern #1
 Job Ticket: 62002 **DST#: 3**
 Test Start: 2015.06.15 @ 16:30:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:14:00
 Time Test Ended: 22:21:00
 Interval: **3340.00 ft (KB) To 3375.00 ft (KB) (TVD)**
 Total Depth: 3440.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Initial)
 Tester: Shane Konzem
 Unit No: 56
 Reference Elevations: 1943.00 ft (KB)
 1935.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6651 Inside
 Press@RunDepth: 761.82 psig @ 3368.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.15 End Date: 2015.06.15 Last Calib.: 2015.06.15
 Start Time: 16:31:00 End Time: 22:21:00 Time On Btm: 2015.06.15 @ 18:11:30
 Time Off Btm: 2015.06.15 @ 20:02:30

TEST COMMENT: IFP 20 Minutes. BOB in 16 minutes.
 ISI 30 minutes. 1/2" blow back.
 FFP 20 Minutes. Fair blow built to 8"
 FSI 30 Minutes. 1 1/2" blow back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1626.34	102.71	Initial Hydro-static
3	51.48	102.16	Open To Flow (1)
22	645.60	102.29	Shut-In(1)
53	1039.47	102.55	End Shut-In(1)
55	841.62	102.49	Open To Flow (2)
74	761.82	102.65	Shut-In(2)
105	1022.52	102.96	End Shut-In(2)
111	1605.72	103.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	158 feet Gas in Pipe.	0.00
126.00	100% Clean gassy oil	0.62
94.00	GMCO 15% gas, 35% mud, 50% oil	0.46

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

John O. Farmer, Inc.
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

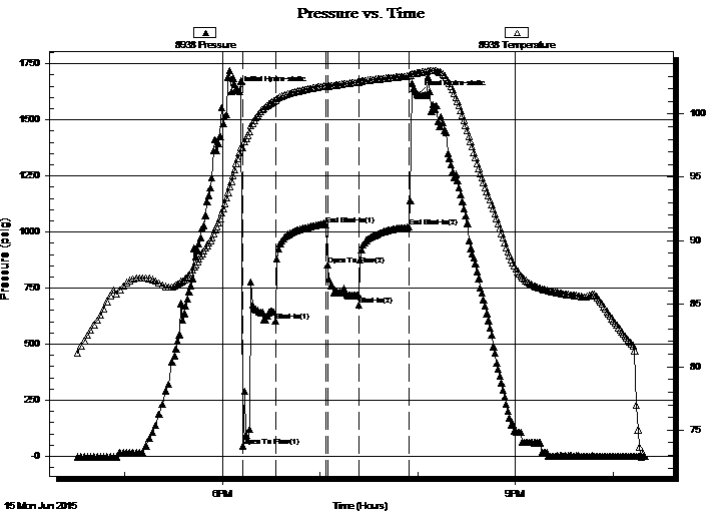
13-16s-14w Barton,KS
Morgenstern #1
Job Ticket: 62002 **DST#: 3**
Test Start: 2015.06.15 @ 16:30:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:14:00
Time Test Ended: 22:21:00
Interval: **3340.00 ft (KB) To 3375.00 ft (KB) (TVD)**
Total Depth: 3440.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Straddle (Initial)
Tester: Shane Konzem
Unit No: 56
Reference Elevations: 1943.00 ft (KB)
1935.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8938 Outside
Press@RunDepth: 1022.14 psig @ 3369.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.15 End Date: 2015.06.15 Last Calib.: 2015.06.15
Start Time: 16:31:00 End Time: 22:20:00 Time On Btm: 2015.06.15 @ 18:09:30
Time Off Btm: 2015.06.15 @ 20:00:00

TEST COMMENT: IFP 20 Minutes. BOB in 16 minutes.
ISI 30 minutes. 1/2" blow back.
FFP 20 Minutes. Fair blow built to 8"
FSI 30 Minutes. 1 1/2" blow back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1632.45	96.52	Initial Hydro-static
3	46.65	97.33	Open To Flow (1)
23	603.81	101.09	Shut-In(1)
54	1032.48	102.23	End Shut-In(1)
55	853.21	102.21	Open To Flow (2)
75	674.93	102.53	Shut-In(2)
105	1022.14	103.02	End Shut-In(2)
111	1612.91	103.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	158 feet Gas in Pipe.	0.00
126.00	100% Clean gassy oil	0.62
94.00	GMCO 15% gas, 35% mud, 50% oil	0.46

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O. Farmer, Inc.
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

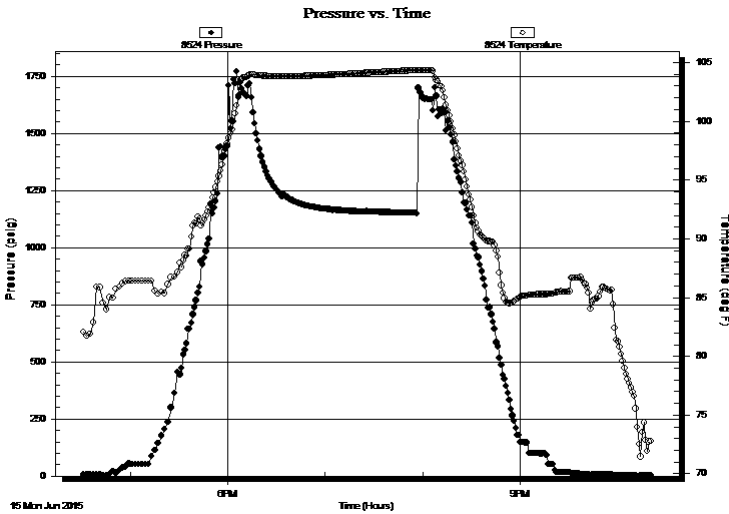
13-16s-14w Barton, KS
Morgenstern #1
 Job Ticket: 62002 **DST#: 3**
 Test Start: 2015.06.15 @ 16:30:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:14:00
 Time Test Ended: 22:21:00
Interval: 3340.00 ft (KB) To 3375.00 ft (KB) (TVD)
 Total Depth: 3440.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Initial)
 Tester: Shane Konzem
 Unit No: 56
 Reference Elevations: 1943.00 ft (KB)
 1935.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8524 Below (Straddle)
 Press@RunDepth: psig @ 3434.54 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.15 End Date: 2015.06.15 Last Calib.: 1899.12.30
 Start Time: 16:31:00 End Time: 22:21:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: IFP 20 Minutes. BOB in 16 minutes.
 ISI 30 minutes. 1/2" blow back.
 FFP 20 Minutes. Fair blow built to 8"
 FSI 30 Minutes. 1 1/2" blow back.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	158 feet Gas in Pipe.	0.00
126.00	100% Clean gassy oil	0.62
94.00	GMCO 15% gas, 35% mud, 50% oil	0.46

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O. Farmer, Inc.

13-16s-14w Barton,KS

PO Box 352
Russell KS 67665-2635

Morgenstern #1

Job Ticket: 62002

DST#: 3

ATTN: Austin Klaus

Test Start: 2015.06.15 @ 16:30:00

Tool Information

Drill Pipe:	Length: 3034.00 ft	Diameter: 3.80 inches	Volume: 42.56 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 310.09 ft	Diameter: 2.25 inches	Volume: 1.52 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: lb
			<u>Total Volume: 44.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.09 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3340.00 ft			Final lb
Depth to Bottom Packer:	3369.75 ft			
Interval between Packers:	29.75 ft			
Tool Length:	117.54 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			3325.00	
Hydraulic tool	5.00			3330.00	
Top Packer	5.00			3335.00	
Packer	5.00			3340.00	20.00 Bottom Of Top Packer
Anchor	27.00			3367.00	
Recorder	1.00	6651	Inside	3368.00	
Recorder	1.00	8938	Outside	3369.00	
Blank Off Sub	0.75			3369.75	29.75 Tool Interval
Packer	5.00			3374.75	
Change Over Sub	0.75			3375.50	
Drill Pipe	31.29			3406.79	
Change Over Sub	0.75			3407.54	
Perforations	26.00			3433.54	
Recorder	1.00	8524	Below	3434.54	
Bullnose	3.00			3437.54	67.79 Bottom Packers & Anchor

Total Tool Length: 117.54



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O. Farmer, Inc.

13-16s-14w Barton,KS

PO Box 352
Russell KS 67665-2635

Morgenstern #1

Job Ticket: 62002

DST#: 3

ATTN: Austin Klaus

Test Start: 2015.06.15 @ 16:30:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 57.00 sec/qt
Water Loss: 8.78 in³
Resistivity: ohm.m
Salinity: 3000.00 ppm
Filter Cake: 0.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 41 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	158 feet Gas in Pipe.	0.000
126.00	100% Clean gassy oil	0.620
94.00	GMCO 15% gas, 35% mud, 50% oil	0.462

Total Length: 220.00 ft Total Volume: 1.082 bbl

Num Fluid Samples: 0

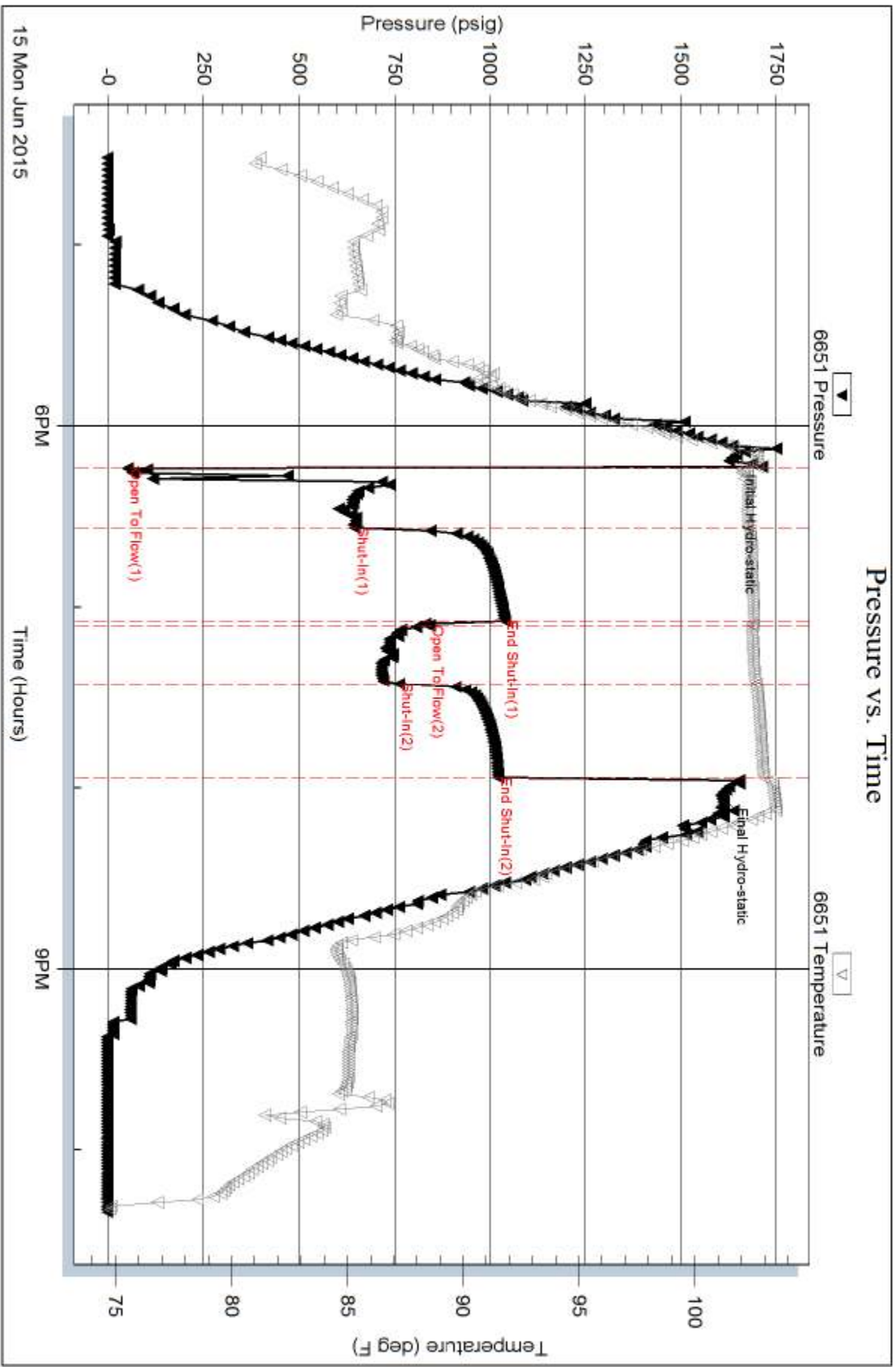
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

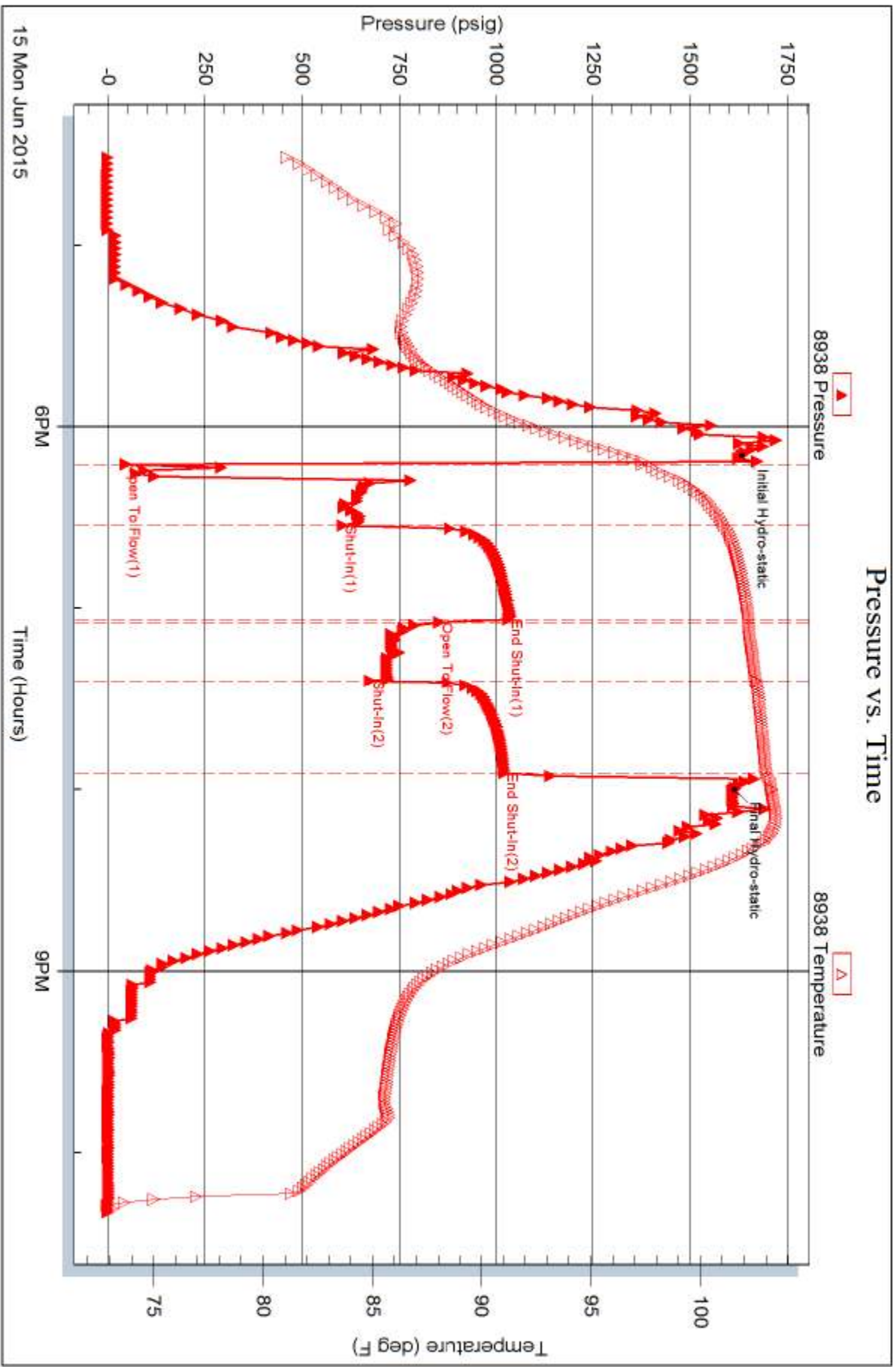


Serial #: 8938

Outside John O. Farmer, Inc.

Morgenstern #1

DST Test Number: 3

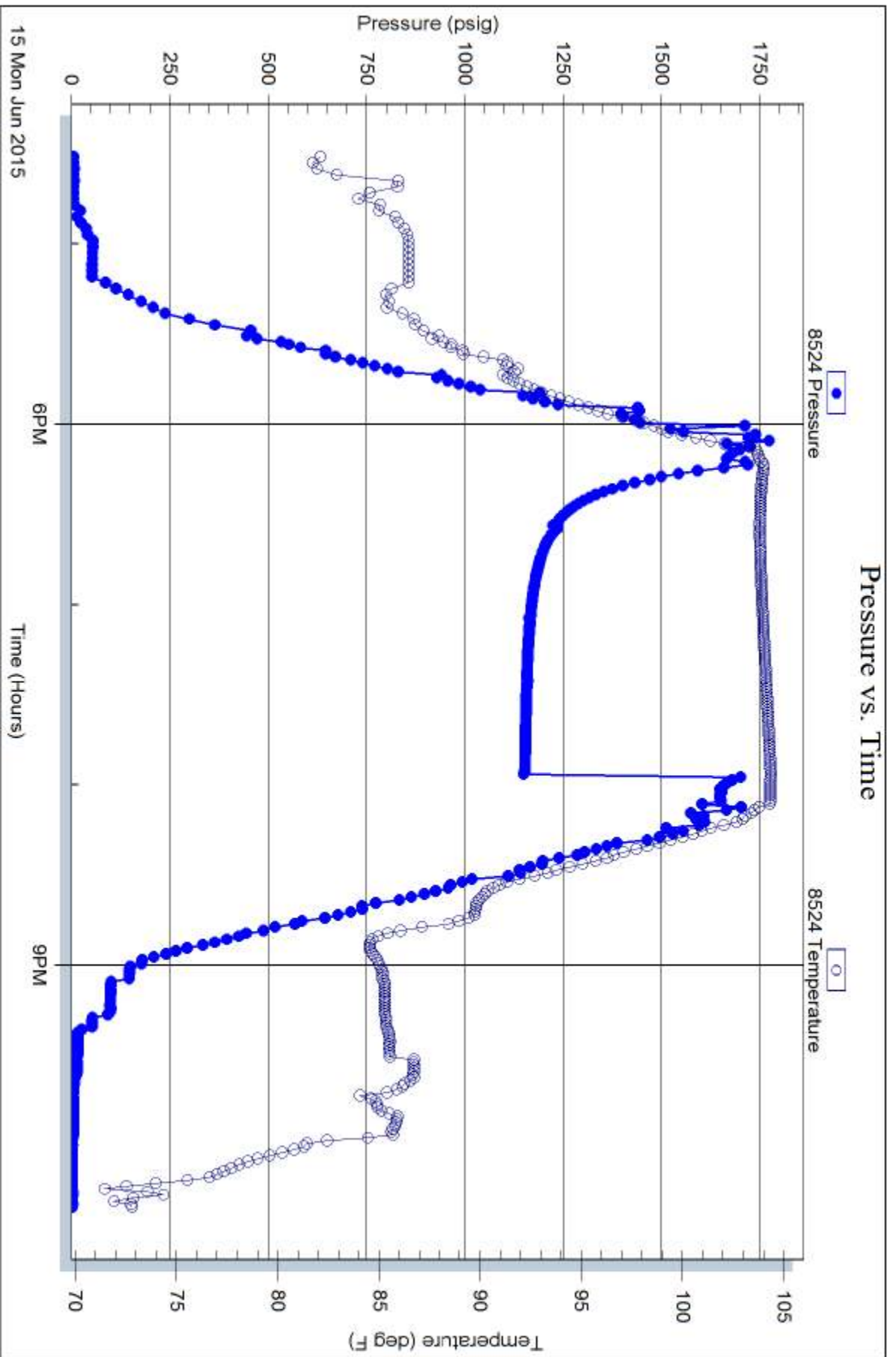


Serial #: 8524

Below (Straddle), Farmer, Inc.

Morgenstern #1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 62002

Printed: 2015.06.18 @ 09:36:16



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62000

Well Name & No. Morgenstern # 1 Test No. 1 Date 6-14-15
 Company John O Farmer Inc. Elevation 1943 KB 19.35 GL _____
 Address 370 W Wichita P.O. Box 352 Russell KS 67665-2635
 Co. Rep / Geo. Austin Klaus Rig Discovery # 2
 Location: Sec. 13 Twp. 16 S Rge. 14 W Co. Barton State KS

Interval Tested 3148 - 3193 Zone Tested Lansing "A-C"
 Anchor Length 45' Drill Pipe Run 2844 Mud Wt. 8.8
 Top Packer Depth 3143 Drill Collars Run 0 Vis 51
 Bottom Packer Depth 3148 Wt. Pipe Run 310.09 WL 8.4
 Total Depth 3193 Chlorides 1005 ppm System LCM 2#
 Blow Description 1st Open - weak blow built to 1 3/4 inches into water, 1st Shut In - No blow back, 2nd Open - No blow, flushed tool gained weak surface blow. Blow died at 12 minutes. Pulled test Per Geo.

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>mud 100%</u>			<u>100</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 15 BHT 101 Gravity 1050 API RW 46 @ 46 °F Chlorides _____ ppm

Test 1050
 Jars _____
 Safety Joint _____
 Circ Sub _____
 Hourly Standby _____
 Mileage 46 46
 Sampler _____
 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

T-On Location 0315
 T-Started 0515
 T-Open 0610
 T-Pulled 0720
 T-Out 0845
 Comments _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1096
 MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 30
 Final Flow 20
 Final Shut-In N/A

Sub Total 1096

Approved By _____ Our Representative Shore
 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 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

1535

NO. 62001

Well Name & No. Morgensstern #1 Test No. 2 Date 6-14-15
 Company John O. Farmer Inc. Elevation 1943 KB 1935 GL
 Address 320 W. Wichita Ave. P.O. Box 352 Russell KS 67665-2635
 Co. Rep / Geo. Austin Klaus Rig Discovery #2
 Location: Sec. 13 Twp. 16 S Rge. 14 W Co. Barton State KS

Interval Tested 3204 - 3241 Zone Tested Lansing "E-F"
 Anchor Length 37 Drill Pipe Run 2878 Mud Wt. 9.1
 Top Packer Depth 3199 Drill Collars Run 0 Vis 55
 Bottom Packer Depth 3204 Wt. Pipe Run 310.09 WL 8.8
 Total Depth 3241 Chlorides 2500 ppm System LCM 2 1/2 #
 Blow Description 1st Open - Weak surface blow. 1st shut in - No blow back.
2nd Open - No blow, did not flush tool per Geo. 2nd shut in - No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>mad 100%</u>			<u>400</u>	

Rec Total 2 BHT 100 Gravity 1 API RW 1 @ 1 °F Chlorides 1 ppm
 (A) Initial Hydrostatic 1551 Test 1050 T-On Location 1510
 (B) First Initial Flow 33 Jars _____ T-Started 1545
 (C) First Final Flow 35 Safety Joint _____ T-Open 1720
 (D) Initial Shut-In 352 Circ Sub _____ T-Pulled 1920
 (E) Second Initial Flow 36 Hourly Standby _____ T-Out 2030
 (F) Second Final Flow 37 Mileage 46 46 Comments _____
 (G) Final Shut-In 302 Sampler _____
 (H) Final Hydrostatic 1514 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 1096
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 30 Sub Total 1096

Our Representative Shore Ziger



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 893
665
NO. 62002 852

Well Name & No. Margenstern # Test No. 2 Date 6-15-15
 Company John O. Farmer Inc. Elevation 1943 KB 1935
 Address 370 W. Wichita Ave. P.O. Box 352 Russell KS 67665-2635
 Co. Rep / Geo. Austin Klaus Rig Discovery # 2
 Location: Sec. 13 Twp. 16S Rge. 14 W Co. Barton State KS

Interval Tested 3345 - 3375 Zone Tested Arbuckle
 Anchor Length 35' Drill Pipe Run 30.34 Mud Wt. 9.3
 Top Packer Depth 3335 Drill Collars Run 0 Vis 57
 Bottom Packer Depth 3340 Wt. Pipe Run 310.09 WL 8.8
 Total Depth 3375 3440 Chlorides 3000 ppm System LCM 3#
 Blow Description 1st Open - good blow built to bottom of bucket in 16 minutes. 1st shut 1/2 inch blow back. 2nd open - blow built to 8 inches in to water. 2nd shut 1/2 inch blow back.

Rec	Feet of	%gas	%oil	%water	%mu
<u>158</u>	<u>Gas in Pipe</u>	<u>100</u>			
<u>126</u>	<u>Clean Oil</u>		<u>100</u>		
<u>94</u>	<u>gassy oil mud cut oil</u>	<u>15</u>	<u>50</u>		<u>35</u>

Rec Total 220 BHT 103 Gravity 41 API RW 1 @ 1 °F Chlorides 1 PF 1050

(A) Initial Hydrostatic 1626 Test _____ T-On Location 1510
 (B) First Initial Flow 51 Jars _____ T-Started 1700
 (C) First Final Flow 645 Safety Joint _____ T-Open 1805
 (D) Initial Shut-In 1039 Circ Sub _____ T-Pulled 1935
 (E) Second Initial Flow 841 Hourly Standby _____ T-Out 2145
 (F) Second Final Flow 761 Mileage 46 46 _____ Comments _____
 (G) Final Shut-In 1022 Sampler _____
 (H) Final Hydrostatic 1605 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1096
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1096

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 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.