



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Edison Operating co., LLC.

24-22s-14w Stafford Co.

8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52014

DST#: 1

ATTN: Adam Nighswonger

Test Start: 2014.05.07 @ 17:22:12

GENERAL INFORMATION:

Formation: **Lansing KC "J"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 20:58:12

Time Test Ended: 00:53:27

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 53

Interval: 3583.00 ft (KB) To 3616.00 ft (KB) (TVD)

Total Depth: 3616.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1929.00 ft (KB)

1924.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6773 Outside

Press@RunDepth: 48.62 psig @ 3584.00 ft (KB)

Start Date: 2014.05.07

End Date:

2014.05.08

Start Time: 17:22:17

End Time:

00:53:26

Capacity: 8000.00 psig

Last Calib.: 2014.05.08

Time On Btm: 2014.05.07 @ 20:56:42

Time Off Btm: 2014.05.07 @ 23:15:42

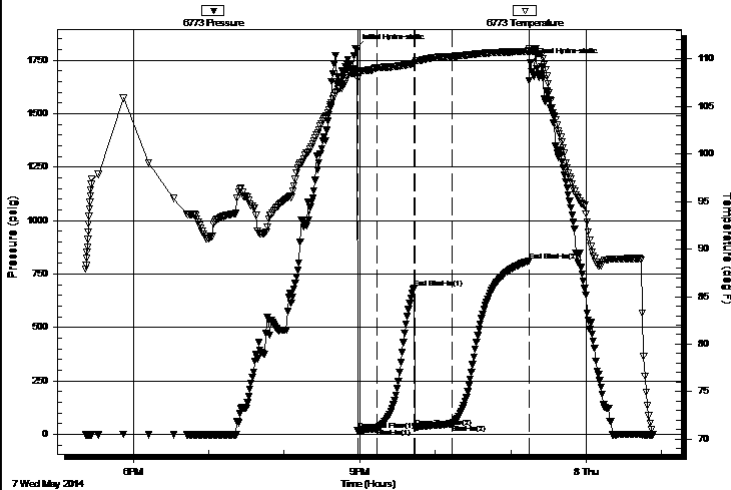
TEST COMMENT: IF: Weak blow . Surf., - 4".

IS: No blow .

FF: Weak blow . Surf., to 4 1/2".

FS: No blow .

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1804.65	108.72	Initial Hydro-static
2	17.80	107.94	Open To Flow (1)
17	28.05	109.09	Shut-In(1)
47	683.47	109.52	End Shut-In(1)
47	31.99	109.59	Open To Flow (2)
77	48.62	110.27	Shut-In(2)
138	810.72	110.82	End Shut-In(2)
139	1738.50	110.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	GOMCW 5%g 5%o 45%w 45%m	0.30

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Kuhn #1-24

Job Ticket: 52014

DST#: 1

ATTN: Adam Nighswonger

Test Start: 2014.05.07 @ 17:22:12

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 7.99 in³

Resistivity: 0.00 ohm.m

Salinity: 4600.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity: 15000 ppm

deg API

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	GOMCW 5%g 5%o 45%w 45%m	0.305

Total Length: 62.00 ft Total Volume: 0.305 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .55 @68 degrees = 15,000

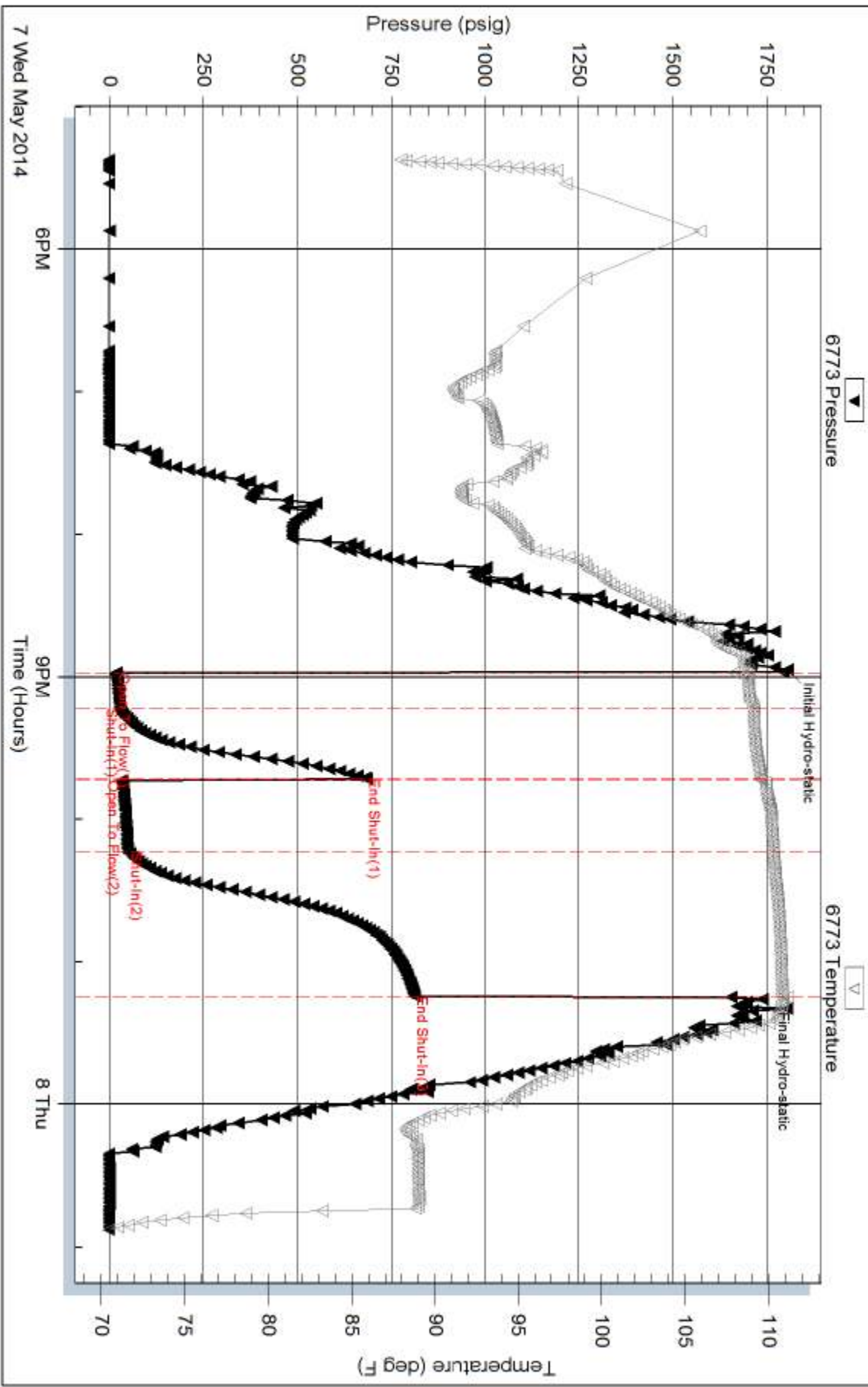
Serial #: 6773

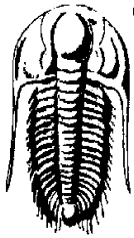
Outside Edison Operating co., LLC.

Kuhn #1-24

DST Test Number: 1

Pressure vs. Time





TRILOBITE
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DRILL STEM TEST REPORT

Edison Operating co., LLC.

24-22s-14w Stafford Co.

8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52015

DST#: 2

ATTN: Adam Nighswonger

Test Start: 2014.05.08 @ 08:53:52

GENERAL INFORMATION:

Formation: **Lansing KC "K"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 10:57:07

Time Test Ended: 15:51:07

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 53

Interval: 3610.00 ft (KB) To 3637.00 ft (KB) (TVD)

Reference Elevations: 1929.00 ft (KB)

Total Depth: 3637.00 ft (KB) (TVD)

1924.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6773 Outside

Press@RunDepth: 102.95 psig @ 3611.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.08

End Date:

2014.05.08

Last Calib.: 2014.05.08

Start Time: 08:53:57

End Time:

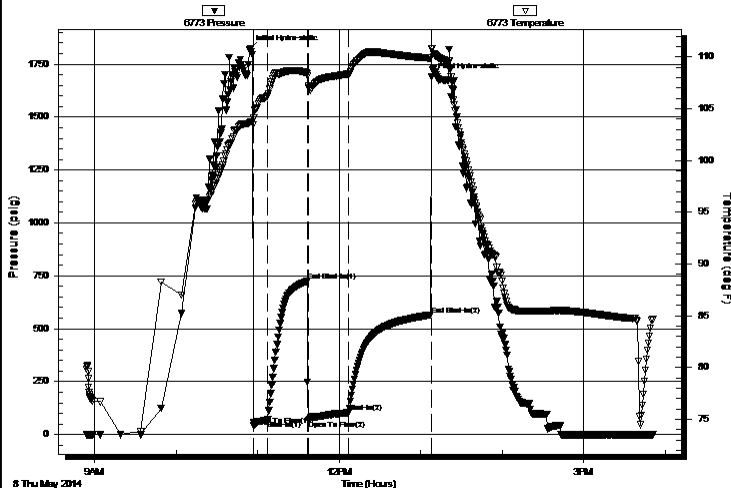
15:51:06

Time On Btm: 2014.05.08 @ 10:53:52

Time Off Btm: 2014.05.08 @ 13:08:07

TEST COMMENT: IF: Strong blow . B.O.B. in 1 min.
IS: No blow . 8 mins.to bleed off.
FF: Strong blow . B.O.B. in 30 secs.
FS: Fair blow . Surf., to 9".

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1820.36	103.63	Initial Hydro-static
4	44.83	104.13	Open To Flow (1)
14	65.94	106.23	Shut-In(1)
43	723.98	108.42	End Shut-In(1)
44	65.37	107.04	Open To Flow (2)
73	102.95	108.38	Shut-In(2)
134	565.26	109.90	End Shut-In(2)
135	1688.37	110.83	Final Hydro-static

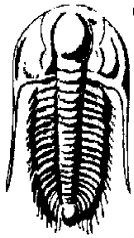
Recovery

Length (ft)	Description	Volume (bbl)
62.00	WCOMG 5%w 10%g 40%m 45%o	0.30
62.00	MGO 5%m 30%g 65%o	0.30
62.00	MGO 5%m 45%o 50%g	0.30
124.00	Clean oil 100%o	1.17
0.00	3288' G.I.P.	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



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24-22s-14w Stafford Co.

8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52015

DST#: 2

ATTN: Adam Nighswonger

Test Start: 2014.05.08 @ 08:53:52

GENERAL INFORMATION:

Formation: **Lansing KC "K"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 10:57:07

Time Test Ended: 15:51:07

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 53

Interval: 3610.00 ft (KB) To 3637.00 ft (KB) (TVD)

Total Depth: 3637.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1929.00 ft (KB)

1924.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6719 Outside

Press@RunDepth: psig @ 3611.00 ft (KB)

Start Date: 2014.05.08

End Date:

2014.05.08

Start Time: 08:53:17

End Time:

15:50:41

Capacity: 8000.00 psig

Last Calib.:

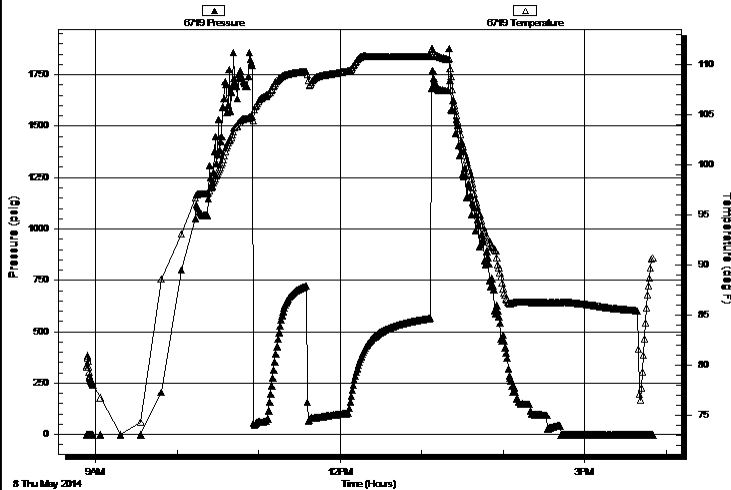
2014.05.08

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Strong blow . B.O.B. in 1 min.
IS: No blow . 8 mins.to bleed off.
FF: Strong blow . B.O.B. in 30 secs.
FS: Fair blow . Surf., to 9".

Pressure vs. Time



PRESSURE SUMMARY

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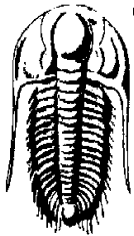
Recovery

Length (ft)	Description	Volume (bbl)
62.00	WCOMG 5%w 10%g 40%m 45%o	0.30
62.00	MGO 5%m 30%g 65%o	0.30
62.00	MGO 5%m45%o 50%g	0.30
124.00	Clean oil 100%o	1.17
0.00	3288' G.I.P.	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



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Kuhn #1-24

Job Ticket: 52015

DST#: 2

ATTN: Adam Nighswonger

Test Start: 2014.05.08 @ 08:53:52

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 8.39 in³

Resistivity: 0.00 ohm.m

Salinity: 7200.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity: 7200 ppm

deg API

ft
bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	WCOMG 5%w 10%g 40%m 45%o	0.305
62.00	MGO 5%m 30%g 65%o	0.305
62.00	MGO 5%m 45%o 50%g	0.305
124.00	Clean oil 100%o	1.175
0.00	3288' G.I.P.	0.000

Total Length: 310.00 ft Total Volume: 2.090 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

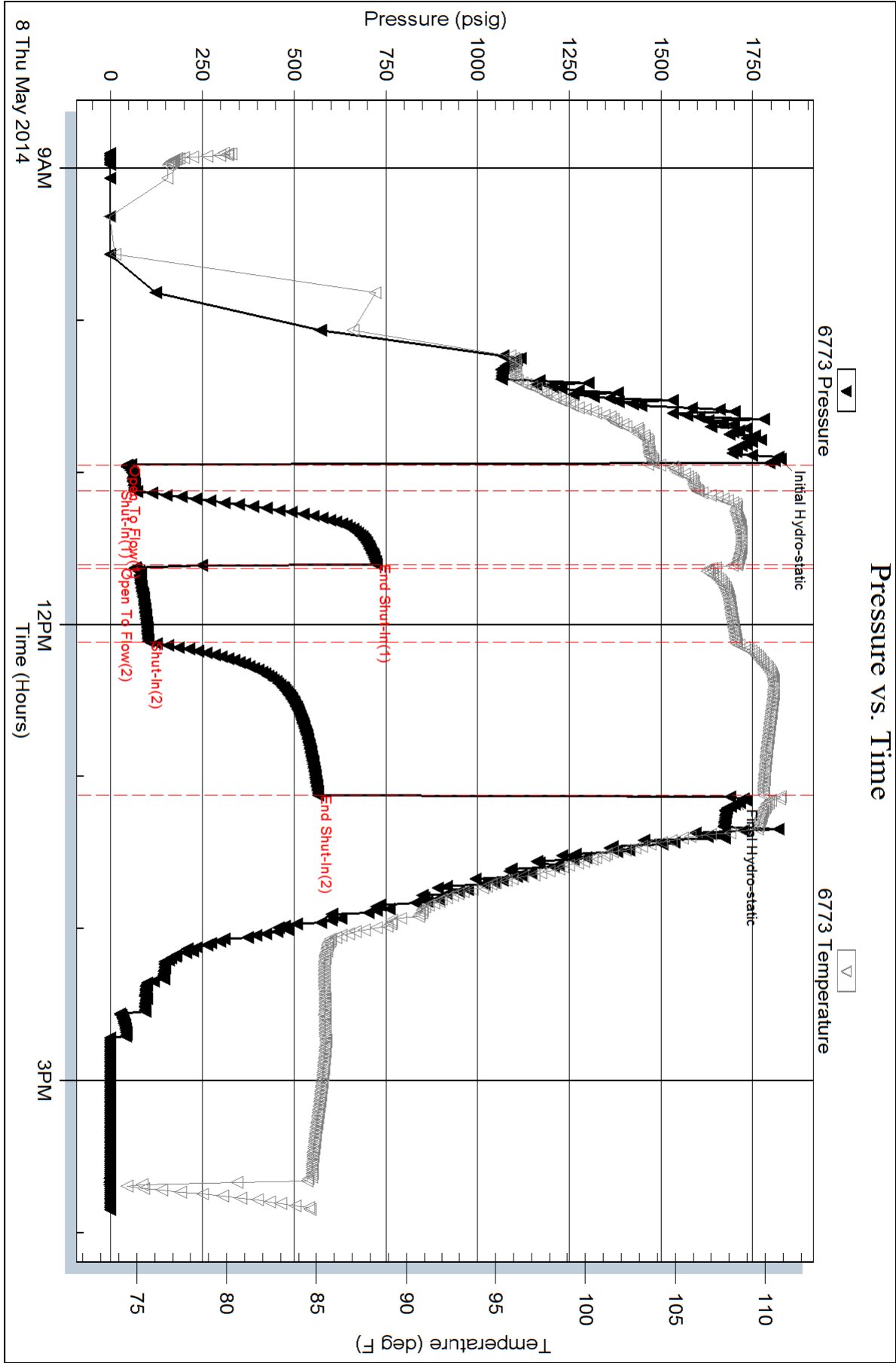
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: Could not get an RW.

Clean oil was 29 @ 82 degrees.

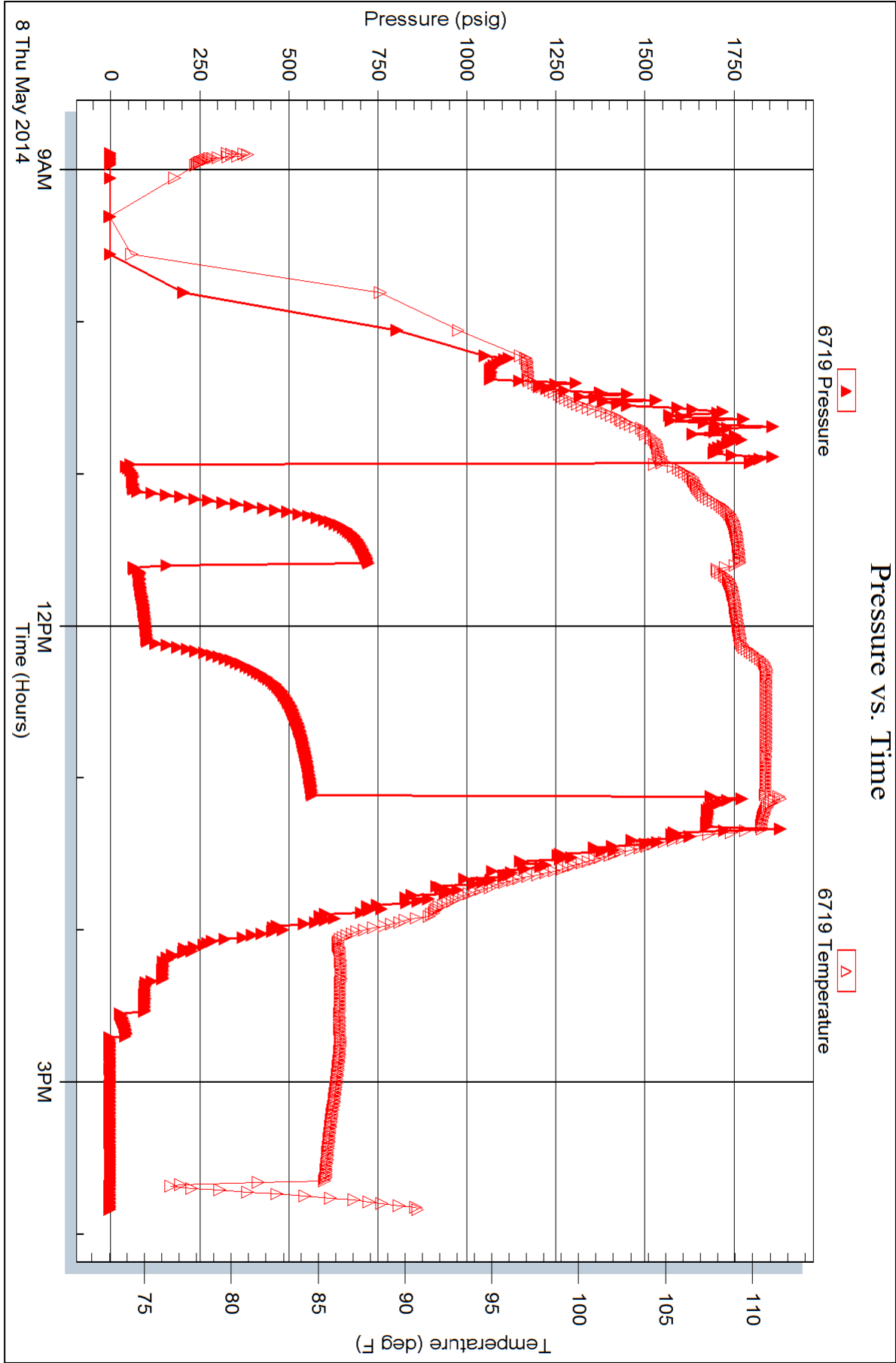


Serial #: 6719

Outside Edison Operating co., LLC.

Kuhn #1-24

DST Test Number: 2





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8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52016

DST#: 3

ATTN: Adam Nighswonger

Test Start: 2014.05.09 @ 04:38:22

GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 07:24:07

Time Test Ended: 11:49:07

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 53

Interval: 3695.00 ft (KB) To 3748.00 ft (KB) (TVD)

Reference Elevations: 1929.00 ft (KB)

Total Depth: 3748.00 ft (KB) (TVD)

1924.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6773 Outside

Press@RunDepth: 44.45 psig @ 3696.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.09

End Date:

2014.05.09

Last Calib.: 2014.05.09

Start Time: 06:05:27

End Time:

13:16:06

Time On Btm: 2014.05.09 @ 08:49:37

Time Off Btm: 2014.05.09 @ 11:35:22

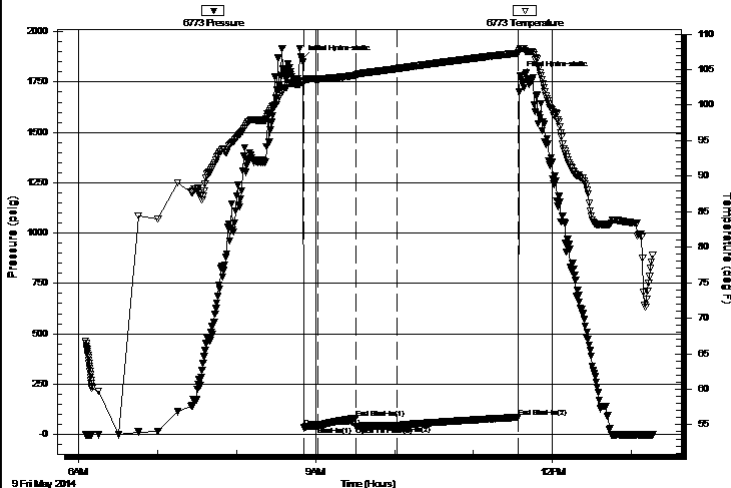
TEST COMMENT: IF: Weak blow . Surf., - 2".

IS: No blow .

FF: Weak blow . Surf., - 2 1/2".

FS: No blow .

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1860.21	103.21	Initial Hydro-static
2	34.54	103.19	Open To Flow (1)
12	42.38	103.65	Shut-In(1)
41	80.14	104.20	End Shut-In(1)
42	38.83	104.25	Open To Flow (2)
72	44.45	105.13	Shut-In(2)
164	84.98	107.33	End Shut-In(2)
166	1780.03	107.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	DRLG Mud 100%m	0.10

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



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24-22s-14w Stafford Co.

8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52016

DST#: 3

ATTN: Adam Nighswonger

Test Start: 2014.05.09 @ 04:38:22

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 8.39 in³

Resistivity: 0.00 ohm.m

Salinity: 7200.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

7200 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	DRLG Mud 100%m	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: Slight trace of oil slight.

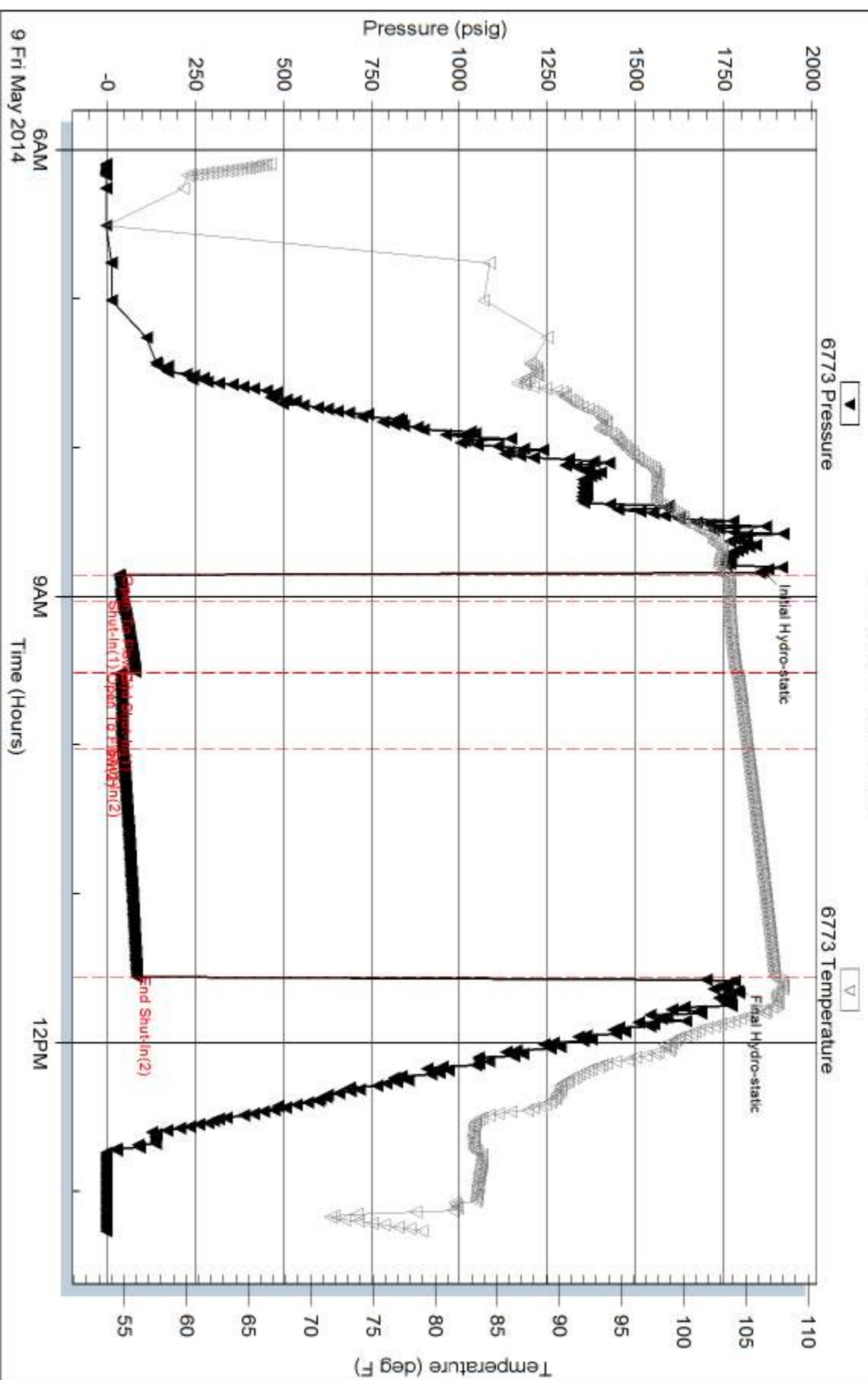
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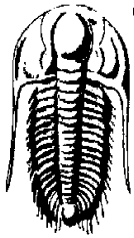
Outside Edison Operating co., LLC.

Kuhn #1-24

DST Test Number: 3

Pressure vs. Time





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DRILL STEM TEST REPORT

Edison Operating co., LLC.

24-22s-14w Stafford Co.

8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52017

DST#: 4

ATTN: Adam Nighswonger

Test Start: 2014.05.10 @ 01:18:34

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 03:26:19

Time Test Ended: 09:15:34

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 53

Interval: 3740.00 ft (KB) To 3813.00 ft (KB) (TVD)

Reference Elevations: 1929.00 ft (KB)

Total Depth: 3813.00 ft (KB) (TVD)

1924.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6773 Outside

Press@RunDepth: 279.42 psig @ 3741.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.10

End Date:

2014.05.10

Last Calib.: 2014.05.10

Start Time: 01:18:39

End Time:

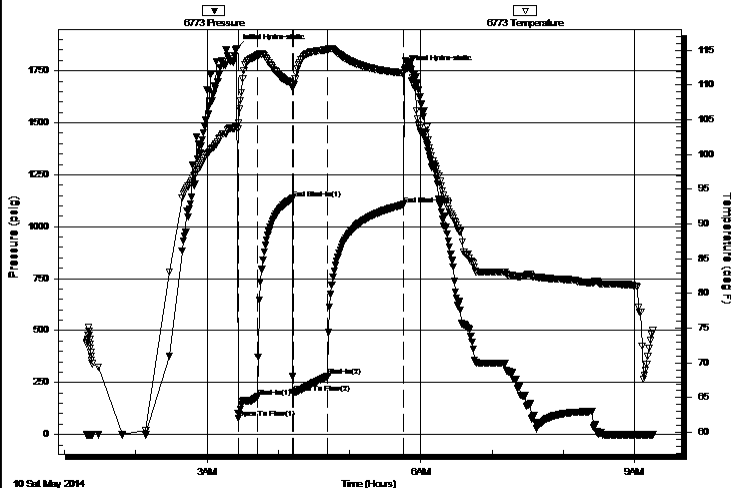
09:15:33

Time On Btm: 2014.05.10 @ 03:25:04

Time Off Btm: 2014.05.10 @ 05:46:04

TEST COMMENT: IF: Strong blow . B.O.B. in 4 1/2 mins.
IS: Strong blow . Surf., to 9".
FF: Strong blow . B.O.B. in 2 1/2 mins.
FS: Strong blow . Surf., to 9".

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1857.76	104.19	Initial Hydro-static
2	76.86	104.50	Open To Flow (1)
18	180.74	114.21	Shut-In(1)
47	1135.78	110.10	End Shut-In(1)
48	200.61	109.81	Open To Flow (2)
77	279.42	115.11	Shut-In(2)
141	1106.46	111.73	End Shut-In(2)
141	1756.47	112.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
279.00	Clean Oil 100%o	1.65
124.00	WMCGO 2%w 3%m 25%g 70%o	1.74
124.00	MCGO 5%w 10%g 85%o	1.74
124.00	WCMGO 10%w 20%g 35%g 35%o	1.74
0.00	G.I.P. 806'	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



Edison Operating co., LLC.

ATTN: Adam Nighswonger

Kuhn #1-24

DST#: 4

Test Start: 2014.05.10 @ 01:18:34

KB to GR/CF: 5.00 ft

Time Off Btm:

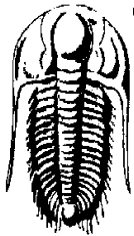
FSI: Strong blow . Surf., to 9".



Recovery

Gas Rates

* Recovery from multiple tests



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Edison Operating co., LLC.

24-22s-14w Stafford Co.

8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52017

DST#: 4

ATTN: Adam Nighswonger

Test Start: 2014.05.10 @ 01:18:34

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 60.00 sec/qt

Water Loss: 12.79 in³

Resistivity: 0.00 ohm.m

Salinity: 12000.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

12000 ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
279.00	Clean Oil 100%o	1.654
124.00	WCMGO 2%w 3%m 25%g 70%o	1.739
124.00	MCGO 5%m 10%g 85%o	1.739
124.00	WCMGO 10%w 20%m 35%g 35%o	1.739
0.00	G.I.P. 806'	0.000

Total Length: 651.00 ft

Total Volume: 6.871 bbl

Num Fluid Samples: 0

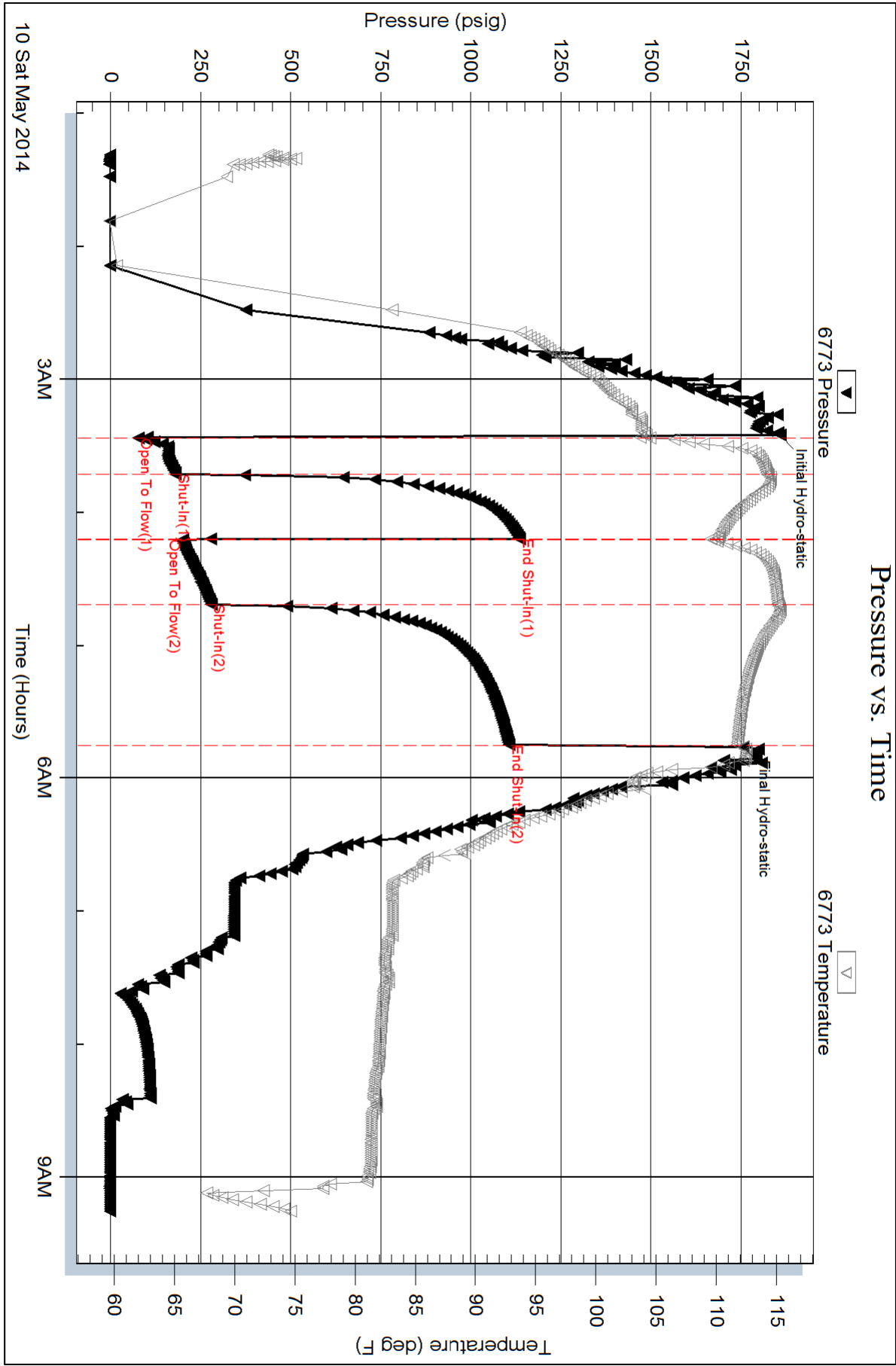
Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 35@72 degrees.converted to 33.8@60 degrees.

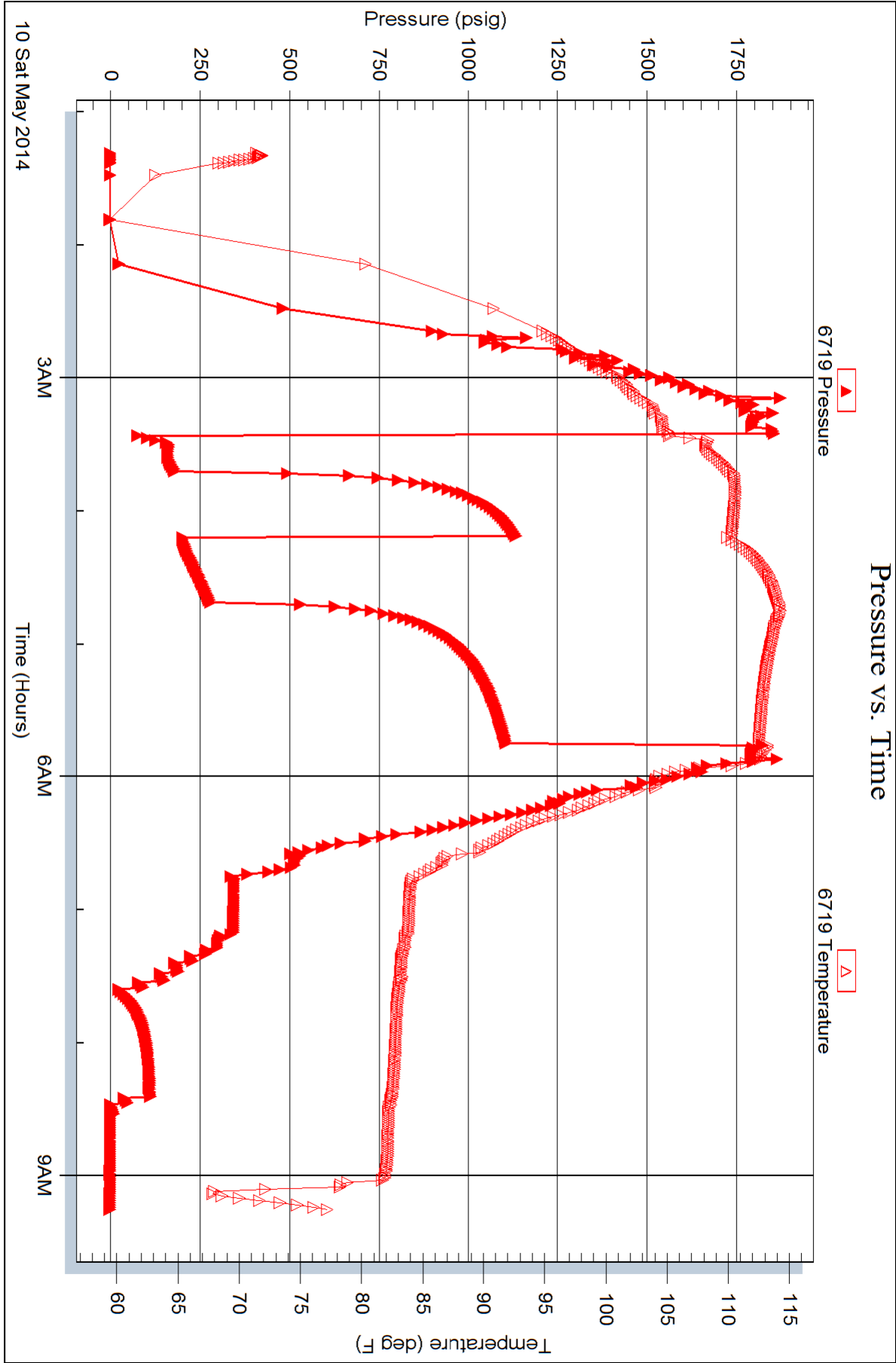


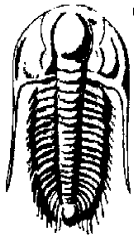
Serial #: 6719

Outside Edison Operating co., LLC.

Kuhn #1-24

DST Test Number: 4





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Edison Operating co., LLC.

24-22s-14w Stafford Co.

8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52018

DST#: 5

ATTN: Adam Nighswonger

Test Start: 2014.05.10 @ 19:33:08

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 21:59:23

Time Test Ended: 03:49:08

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 53

Interval: 3813.00 ft (KB) To 3823.00 ft (KB) (TVD)

Reference Elevations: 1929.00 ft (KB)

Total Depth: 3823.00 ft (KB) (TVD)

1924.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6773 Outside

Press@RunDepth: 577.21 psig @ 3814.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.10

End Date:

2014.05.11

Last Calib.:

2014.05.11

Start Time: 19:33:13

End Time:

03:49:07

Time On Btm:

2014.05.10 @ 21:55:38

Time Off Btm:

2014.05.11 @ 00:24:38

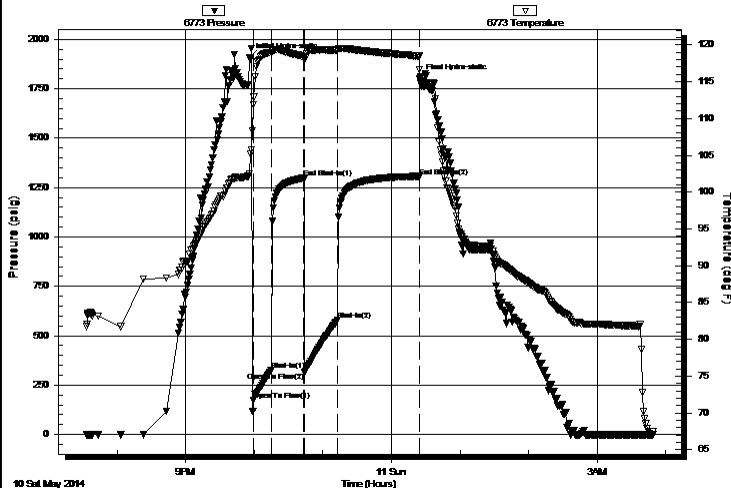
TEST COMMENT: IF: Strong blow . B.O.B.in 3 1/2 mins.

IS: Weak blow . Surf., to 1".

FF: Strong blow . B.O.B. in 4 mins.

FS: Weak blow . Surf., to 3".

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1907.88	102.44	Initial Hydro-static
4	171.54	111.85	Open To Flow (1)
19	326.92	118.96	Shut-In(1)
48	1297.65	118.35	End Shut-In(1)
49	315.21	118.00	Open To Flow (2)
77	577.21	119.30	Shut-In(2)
149	1307.10	118.48	End Shut-In(2)
149	1803.05	116.62	Final Hydro-static

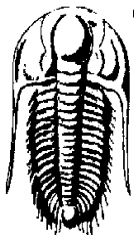
Recovery

Length (ft)	Description	Volume (bbl)
93.00	Clean Oil 100%o	0.46
310.00	MCOw 25% m 35% o 40% w	2.94
496.00	MCOw 5% m 5% o 90% w	6.96
248.00	MCW 20% m 80% w	3.48
0.00	186' G.I.P. 100% g	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Edison Operating co., LLC.

24-22s-14w Stafford Co.

8100 E 22nd St.N. BLDG 1900
Wichita, Ks. 67226

Kuhn #1-24

Job Ticket: 52018

DST#: 5

ATTN: Adam Nighswonger

Test Start: 2014.05.10 @ 19:33:08

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 45.00 sec/qt

Water Loss: 9.59 in³

Resistivity: 0.00 ohm.m

Salinity: 10000.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

24000 ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
93.00	Clean Oil 100%o	0.457
310.00	MCOW 25% _m 35% _o 40% _w	2.937
496.00	MCOW 5% _m 5% _o 90% _w	6.958
248.00	MCW 20% _m 80% _w	3.479
0.00	186' G.I.P. 100% g	0.000

Total Length: 1147.00 ft

Total Volume: 13.831 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 33.5@76 degrees. Converted 31.9@60 Degrees.

RW .30@66.5 Degrees = 24,000

Serial #: 6773

Outside Edison Operating co., LLC.

Kuhn #1-24

DST Test Number: 5

Pressure vs. Time

