



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Red Oak Energy, Inc.
 7701 E kellogg Dr Ste 710
 Wichita, Ks 67207
 ATTN: Sean Deenihan

13 19s 35w Wichita, Ks
Wilken FamTrst 1-13
 Job Ticket: 64676 **DST#: 1**
 Test Start: 2015.11.15 @ 06:38:00

GENERAL INFORMATION:

Formation: **LKC - H, I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:42:30
 Time Test Ended: 12:26:15
 Interval: **4238.00 ft (KB) To 4306.00 ft (KB) (TVD)**
 Total Depth: 4306.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Bradley Walter
 Unit No: 69
 Reference Elevations: 3153.00 ft (KB)
 3148.00 ft (CF)
 KB to GR/CF: 5.00 ft

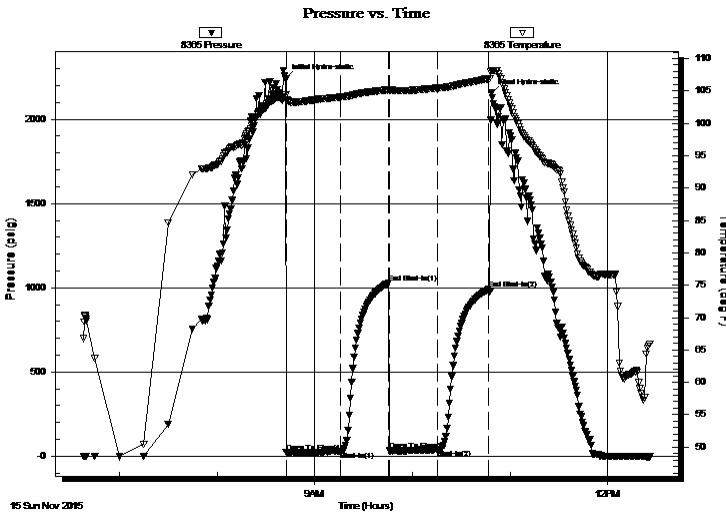
Serial #: 8365

Inside

Press @ Run Depth: 39.59 psig @ 4239.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.11.15 End Date: 2015.11.15 Last Calib.: 2015.11.15
 Start Time: 06:38:05 End Time: 12:26:14 Time On Btm: 2015.11.15 @ 08:42:15
 Time Off Btm: 2015.11.15 @ 10:48:30

TEST COMMENT: IF: 1/2" blow.
 IS: No return.
 FF: Surface blow.
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2239.34	104.33	Initial Hydro-static
1	21.32	103.52	Open To Flow (1)
34	28.64	104.04	Shut-In(1)
63	1027.62	105.16	End Shut-In(1)
64	32.79	105.01	Open To Flow (2)
93	39.59	105.42	Shut-In(2)
125	992.55	106.89	End Shut-In(2)
127	2154.65	108.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	socm 2o 98m	0.25
10.00	oil 100o	0.05

Gas Rates

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



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Wilken FamTrst 1-13

Job Ticket: 64676

DST#: 1

ATTN: Sean Deenihan

Test Start: 2015.11.15 @ 06:38:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 74.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	socm 2o 98m	0.246
10.00	oil 100o	0.049

Total Length: 60.00 ft Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

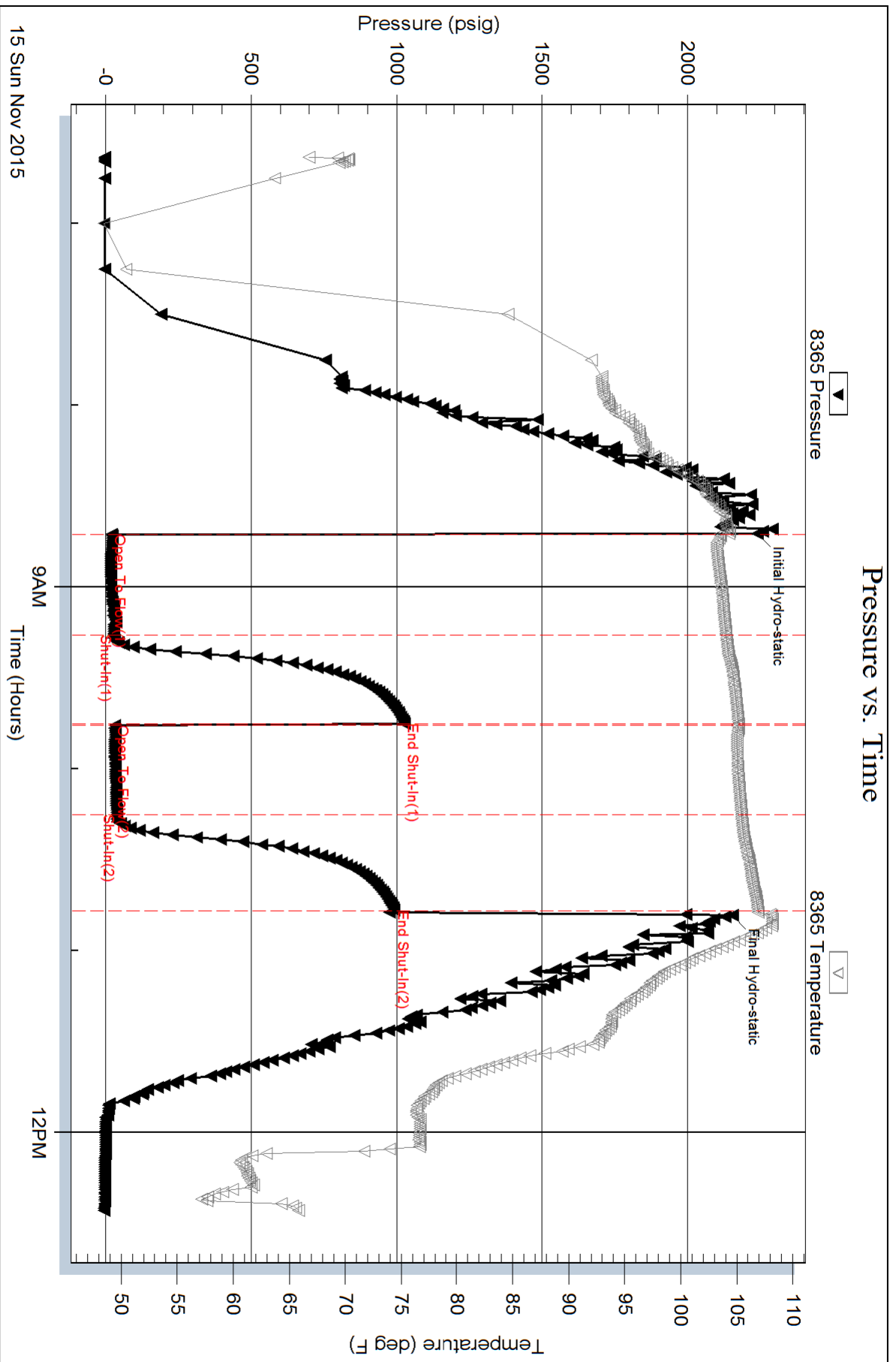
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





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13 19s 35w Wichita, Ks
Wilken FamTrst 1-13
 Job Ticket: 64677 **DST#: 2**
 Test Start: 2015.11.15 @ 18:55:00

GENERAL INFORMATION:

Formation: **LKC - J+K**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 20:57:00
 Tester: Bradley Walter
 Time Test Ended: 00:54:00
 Unit No: 69
Interval: 4301.00 ft (KB) To 4364.00 ft (KB) (TVD)
 Reference Elevations: 3153.00 ft (KB)
 Total Depth: 4364.00 ft (KB) (TVD) 3148.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 5.00 ft

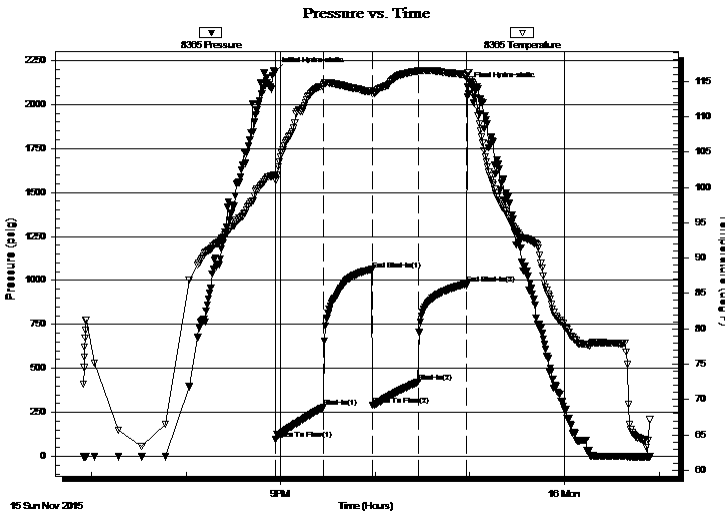
Serial #: 8365

Inside

Press @ Run Depth: 422.16 psig @ 4302.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.11.15 End Date: 2015.11.16 Last Calib.: 2015.11.16
 Start Time: 18:55:05 End Time: 00:53:59 Time On Btm: 2015.11.15 @ 20:56:45
 Time Off Btm: 2015.11.15 @ 22:58:45

TEST COMMENT: IF: BOB @ 5 min.
 IS: No return.
 FF: BOB @ 10 min.
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2185.54	101.80	Initial Hydro-static
1	98.93	100.98	Open To Flow (1)
31	280.52	114.53	Shut-In(1)
62	1062.76	113.61	End Shut-In(1)
62	291.26	113.28	Open To Flow (2)
91	422.16	116.45	Shut-In(2)
121	979.61	115.72	End Shut-In(2)
122	2102.37	116.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
960.00	mcw 15m 85w (oil spots)	12.39

* Recovery from multiple tests

Gas Rates

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



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FLUID SUMMARY

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13 19s 35w Wichita, Ks

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Wilken FamTrst 1-13

Job Ticket: 64677

DST#: 2

ATTN: Sean Deenihan

Test Start: 2015.11.15 @ 18:55:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

33000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
960.00	mcw 15m 85w (oil spots)	12.391

Total Length: 960.00 ft Total Volume: 12.391 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

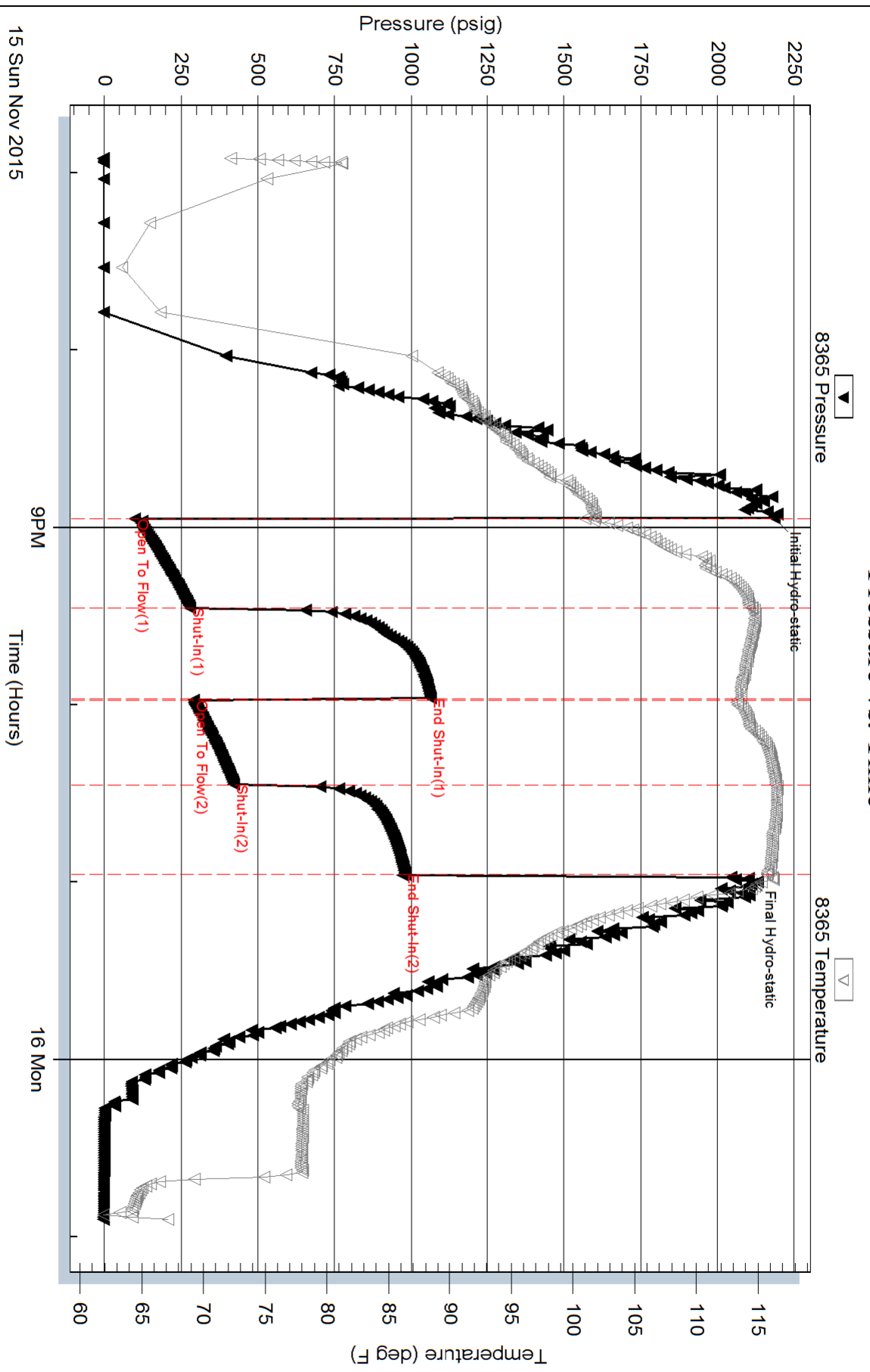
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .250 @ 61F = 33,000ppm

Pressure vs. Time





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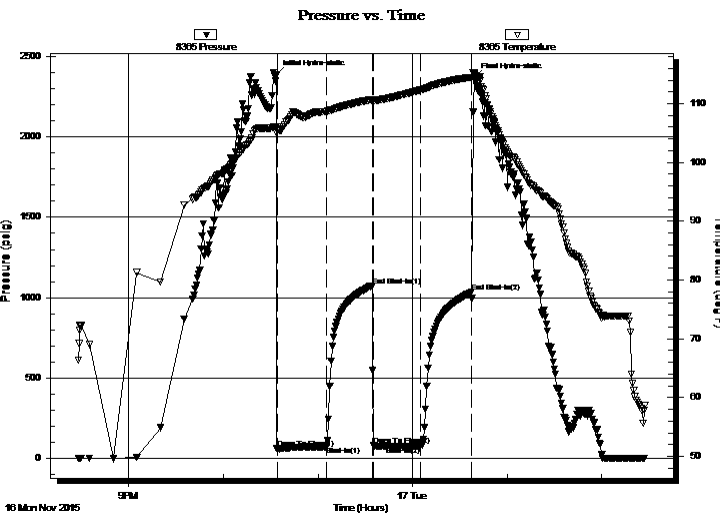
13 19s 35w Wichita, Ks
Wilken FamTrst 1-13
 Job Ticket: 64678 **DST#: 3**
 Test Start: 2015.11.16 @ 20:28:00

GENERAL INFORMATION:

Formation: **Marmaton**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:34:00
 Time Test Ended: 02:27:13
 Interval: **4534.00 ft (KB) To 4566.00 ft (KB) (TVD)**
 Total Depth: 4566.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 69
 Reference Elevations: 3153.00 ft (KB)
 3148.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8365 Inside
 Press @ Run Depth: 77.97 psig @ 4535.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.11.16 End Date: 2015.11.17 Last Calib.: 2015.11.17
 Start Time: 20:28:05 End Time: 02:27:13 Time On Btm: 2015.11.16 @ 22:33:30
 Time Off Btm: 2015.11.17 @ 00:39:15

TEST COMMENT: IF: 1/2" blow.
 IS: No return.
 FF: Surface blow.
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2384.42	106.11	Initial Hydro-static
1	62.88	105.40	Open To Flow (1)
32	73.17	108.68	Shut-In(1)
61	1074.83	110.70	End Shut-In(1)
62	79.72	110.54	Open To Flow (2)
92	77.97	112.33	Shut-In(2)
124	1033.20	114.48	End Shut-In(2)
126	2371.18	115.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
135.00	mud 100m THICK (oil speks)	0.82

* Recovery from multiple tests

Gas Rates

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



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13 19s 35w Wichita, Ks

7701 E kellogg Dr Ste 710
Wichita, Ks 67207

Wilken FamTrst 1-13

Job Ticket: 64678

DST#: 3

ATTN: Sean Deenihan

Test Start: 2015.11.16 @ 20:28:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 74.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
135.00	mud 100m THICK (oil speks)	0.819

Total Length: 135.00 ft

Total Volume: 0.819 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

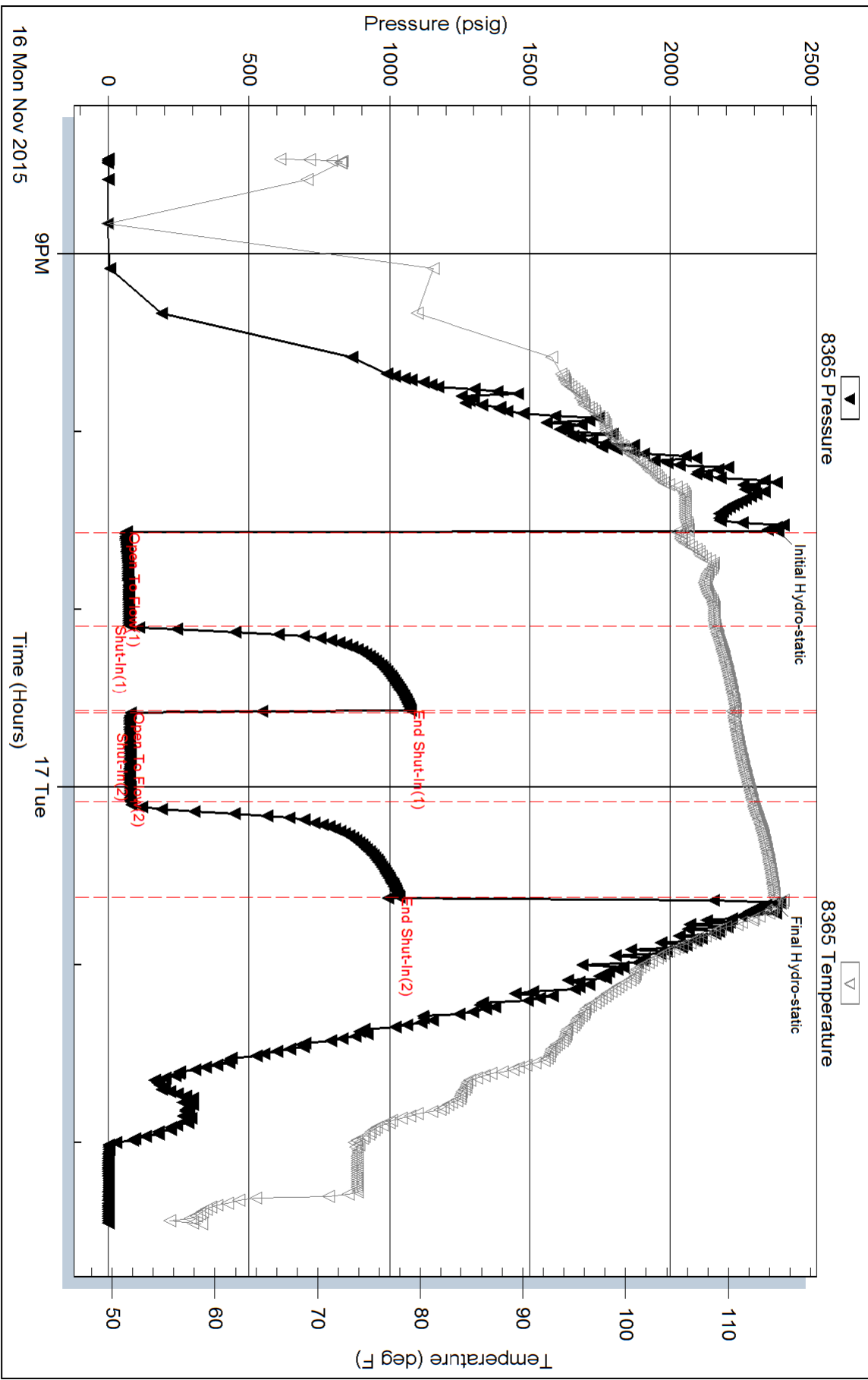
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





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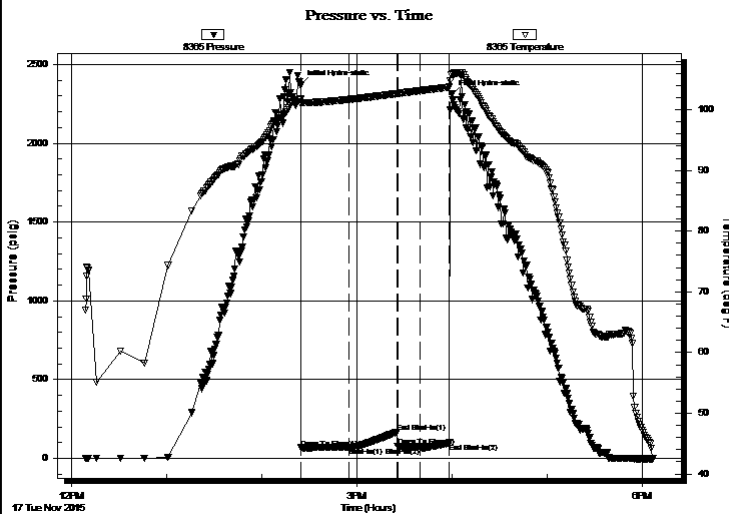
13 19s 35w Wichita, Ks
Wilken FamTrst 1-13
Job Ticket: 64679 **DST#: 4**
Test Start: 2015.11.17 @ 12:09:00

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:25:00
Time Test Ended: 18:06:30
Interval: **4556.00 ft (KB) To 4620.00 ft (KB) (TVD)**
Total Depth: 4620.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 69
Reference Elevations: 3153.00 ft (KB)
3148.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8365 Inside
Press@RunDepth: 73.28 psig @ 4557.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.11.17 End Date: 2015.11.17 Last Calib.: 2015.11.17
Start Time: 12:09:05 End Time: 18:06:29 Time On Btm: 2015.11.17 @ 14:24:30
Time Off Btm: 2015.11.17 @ 15:59:45

TEST COMMENT: IF: 1/2" died @ 20 min.
IS: No return.
FF: No blow.
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2369.81	101.72	Initial Hydro-static
1	67.41	100.98	Open To Flow (1)
31	69.57	101.69	Shut-In(1)
61	168.05	102.63	End Shut-In(1)
62	75.31	102.65	Open To Flow (2)
76	73.28	103.12	Shut-In(2)
94	99.04	103.71	End Shut-In(2)
96	2311.08	105.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	mud 100m	0.37

* Recovery from multiple tests

Gas Rates

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



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Wilken FamTrst 1-13

Job Ticket: 64679

DST#: 4

ATTN: Sean Deenihan

Test Start: 2015.11.17 @ 12:09:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	mud 100m	0.369

Total Length: 75.00 ft Total Volume: 0.369 bbl

Num Fluid Samples: 0

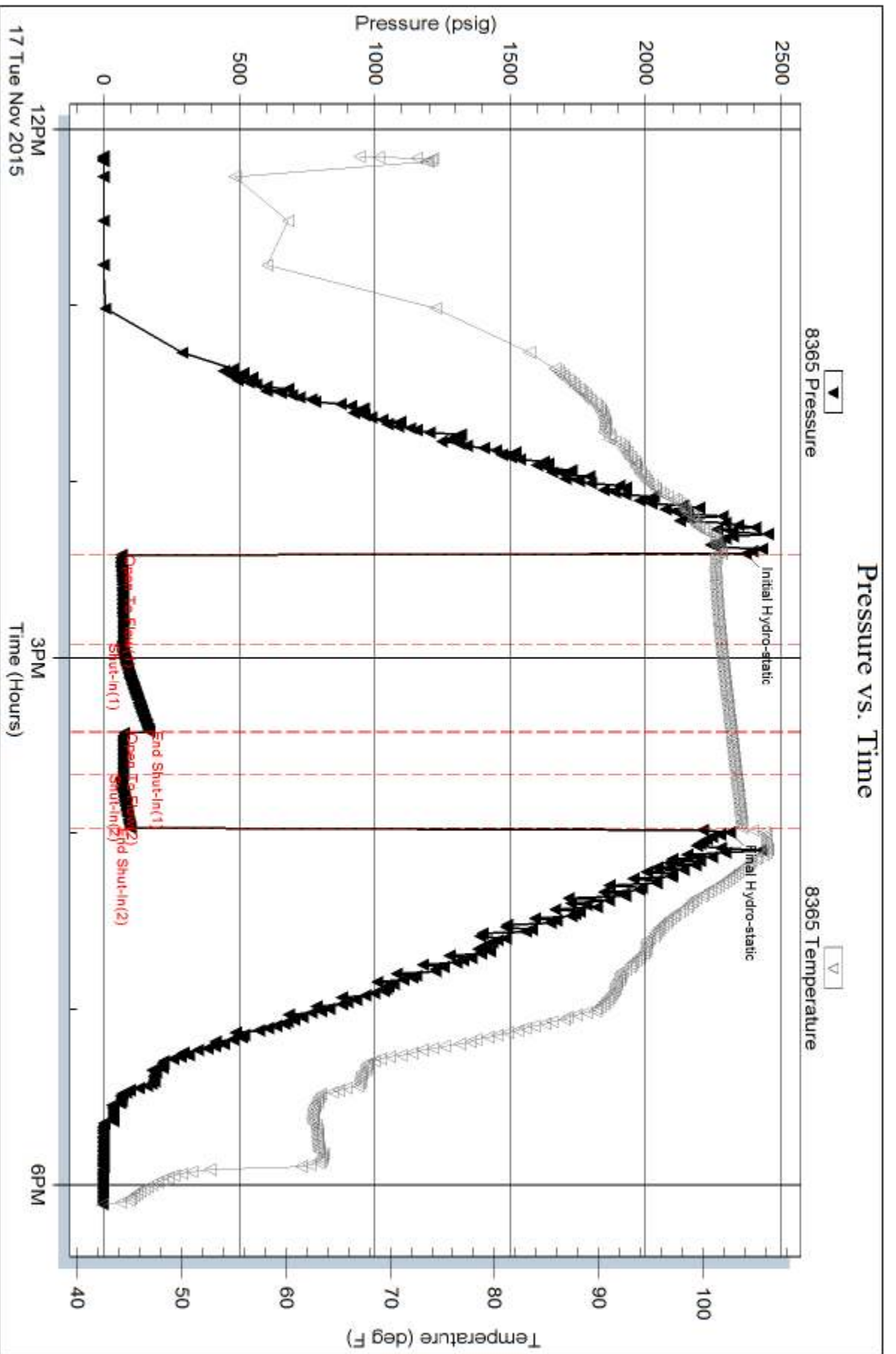
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





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13 19s 35w Wichita, Ks
Wilken FamTrst 1-13
 Job Ticket: 64680 **DST#: 5**
 Test Start: 2015.11.19 @ 06:42:00

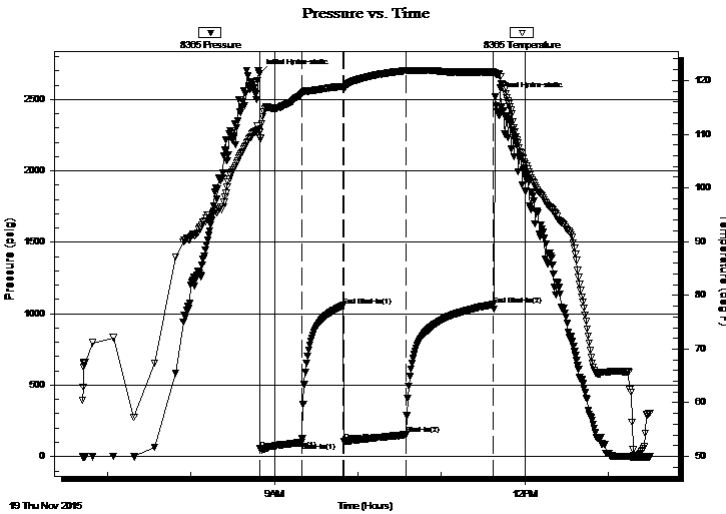
GENERAL INFORMATION:

Formation: **Keys Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:49:45
 Time Test Ended: 13:30:00
 Interval: **4894.00 ft (KB) To 4980.00 ft (KB) (TVD)**
 Total Depth: 4980.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 69
 Reference Elevations: 3153.00 ft (KB)
 3148.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8365 Inside
 Press@RunDepth: 153.59 psig @ 4895.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.11.19 End Date: 2015.11.19 Last Calib.: 2015.11.19
 Start Time: 06:42:05 End Time: 13:29:59 Time On Btm: 2015.11.19 @ 08:49:15
 Time Off Btm: 2015.11.19 @ 11:38:45

TEST COMMENT: IF: 4 1/2" Blow.
 IS: No return.
 FF: 5" blow.
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2681.65	110.39	Initial Hydro-static
1	53.87	109.33	Open To Flow (1)
31	100.17	117.52	Shut-In(1)
60	1057.08	118.88	End Shut-In(1)
61	109.26	118.73	Open To Flow (2)
105	153.59	121.80	Shut-In(2)
168	1064.71	121.54	End Shut-In(2)
170	2517.02	121.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
260.00	mcw 20m 80 w	2.57

* Recovery from multiple tests

Gas Rates

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



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Wilken FamTrst 1-13

Job Ticket: 64680

DST#: 5

ATTN: Sean Deenihan

Test Start: 2015.11.19 @ 06:42:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

32000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
260.00	mcw 20m 80 w	2.572

Total Length: 260.00 ft Total Volume: 2.572 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .270 @ 55f = 32000ppm

