

IND

RAMA Operating Company, Inc

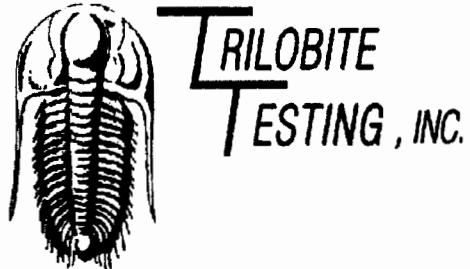
Goodman # 4-30

30 25 13 Stafford KS

DST # 1

Lansing "H, I, J"

2008.11.29



DRILL STEM TEST REPORT

Prepared For: **RAMA Operating Company, Inc**

101 S. Main Street
Stafford, KS 67578

ATTN: Josh Austin

30 25 13 Stafford KS

Goodman # 4-30

Start Date: 2008.11.29 @ 05:01:03

End Date: 2008.11.29 @ 12:20:33

Job Ticket #: 32947 DST #: 1

KCC
FEB 8 4 2009
CONFIDENTIAL

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

RAMA Operating Company, Inc

101 S. Main Street
Stafford, KS 67578

ATTN: Josh Austin

Goodman # 4-30

30 25 13 Stafford KS

Job Ticket: 32947

DST#: 1

Test Start: 2008.11.29 @ 05:01:03

GENERAL INFORMATION:

Formation: **Lansing "H, I, J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:04:33

Time Test Ended: 12:20:33

Test Type: Conventional Bottom Hole

Tester: Jerry Adams

Unit No: 45

Interval: **3850.00 ft (KB) To 3898.00 ft (KB) (TVD)**

Reference Elevations: 1970.00 ft (KB)

Total Depth: 3898.00 ft (KB) (TVD)

1957.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 13.00 ft

Serial #: 6798

Inside

Press@RunDepth: 372.83 psig @ 3857.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2008.11.29

End Date:

2008.11.29

Last Calib.:

2008.11.29

Start Time: 05:01:04

End Time:

12:20:33

Time On Btm:

2008.11.29 @ 07:04:03

Time Off Btm:

2008.11.29 @ 10:05:03

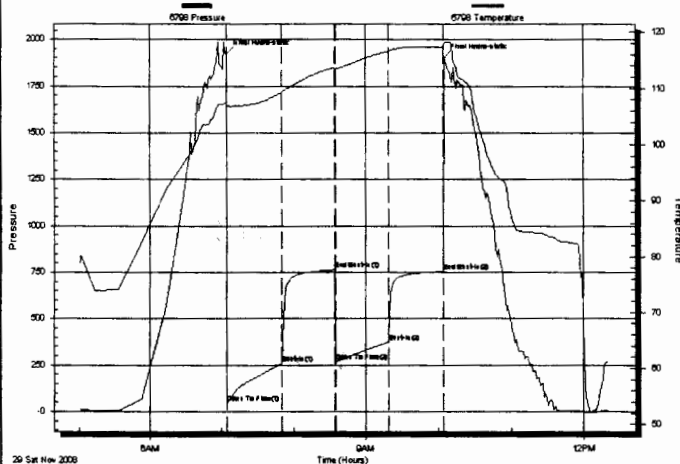
TEST COMMENT: IF: Fair blow . B.O.B. in 8 mins.

IS: Weak blow . Built to 4".

FF: Fair blow . B.O.B. in 14 mins.

FS: Weak blow . Built to 7".

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1924.47	107.33	Initial Hydro-static
1	45.02	106.87	Open To Flow (1)
46	256.80	109.24	Shut-In(1)
90	763.29	113.63	End Shut-In(1)
91	268.10	113.47	Open To Flow (2)
135	372.83	116.59	Shut-In(2)
180	753.89	117.35	End Shut-In(2)
181	1900.55	118.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
673.00	SMCWw/oil scum 85%w 15%m	7.17
30.00	GO&MCW 30%g 20%o 30%w 20%m	0.42
25.00	Clean Gsy Oil 10%g 90%o	0.35
0.00	2162' GIP	0.00
0.00	RW = .065 @ 61 deg.	0.00

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

RAMA Operating Company, Inc

Goodman # 4-30

101 S. Main Street
Stafford, KS 67578

30 25 13 Stafford KS

Job Ticket: 32947

DST#: 1

ATTN: Josh Austin

Test Start: 2008.11.29 @ 05:01:03

Tool Information

Drill Pipe:	Length: 3606.00 ft	Diameter: 3.80 inches	Volume: 50.58 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 249.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 90000.00 lb
		Total Volume:	51.80 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	3850.00 ft			Final 81000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	68.00 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			3835.00	
Hydraulic tool	5.00			3840.00	
Packer	5.00			3845.00	20.00 Bottom Of Top Packer
Packer	5.00			3850.00	
Stubb	1.00			3851.00	
Perforations	5.00			3856.00	
Change Over Sub	1.00			3857.00	
Recorder	0.00	6798	Inside	3857.00	
Recorder	0.00	8367	Inside	3857.00	
Blank Spacing	32.00			3889.00	
Change Over Sub	1.00			3890.00	
Perforations	5.00			3895.00	
Bullnose	3.00			3898.00	48.00 Bottom Packers & Anchor

Total Tool Length: 68.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

RAMA Operating Company, Inc

Goodman # 4-30

101 S. Main Street
Stafford, KS 67578

30 25 13 Stafford KS

Job Ticket: 32947

DST#: 1

ATTN: Josh Austin

Test Start: 2008.11.29 @ 05:01:03

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:

165000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6200.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
673.00	SMCWw/oil scum 85%w 15%m	7.172
30.00	GO&MCW 30%g 20%o 30%w 20%m	0.421
25.00	Clean Gsy Oil 10%g 90%o	0.351
0.00	2162' GIP	0.000
0.00	RW = .065 @ 61 deg.	0.000

Total Length: 728.00 ft

Total Volume: 7.944 bbl

Num Fluid Samples: 0

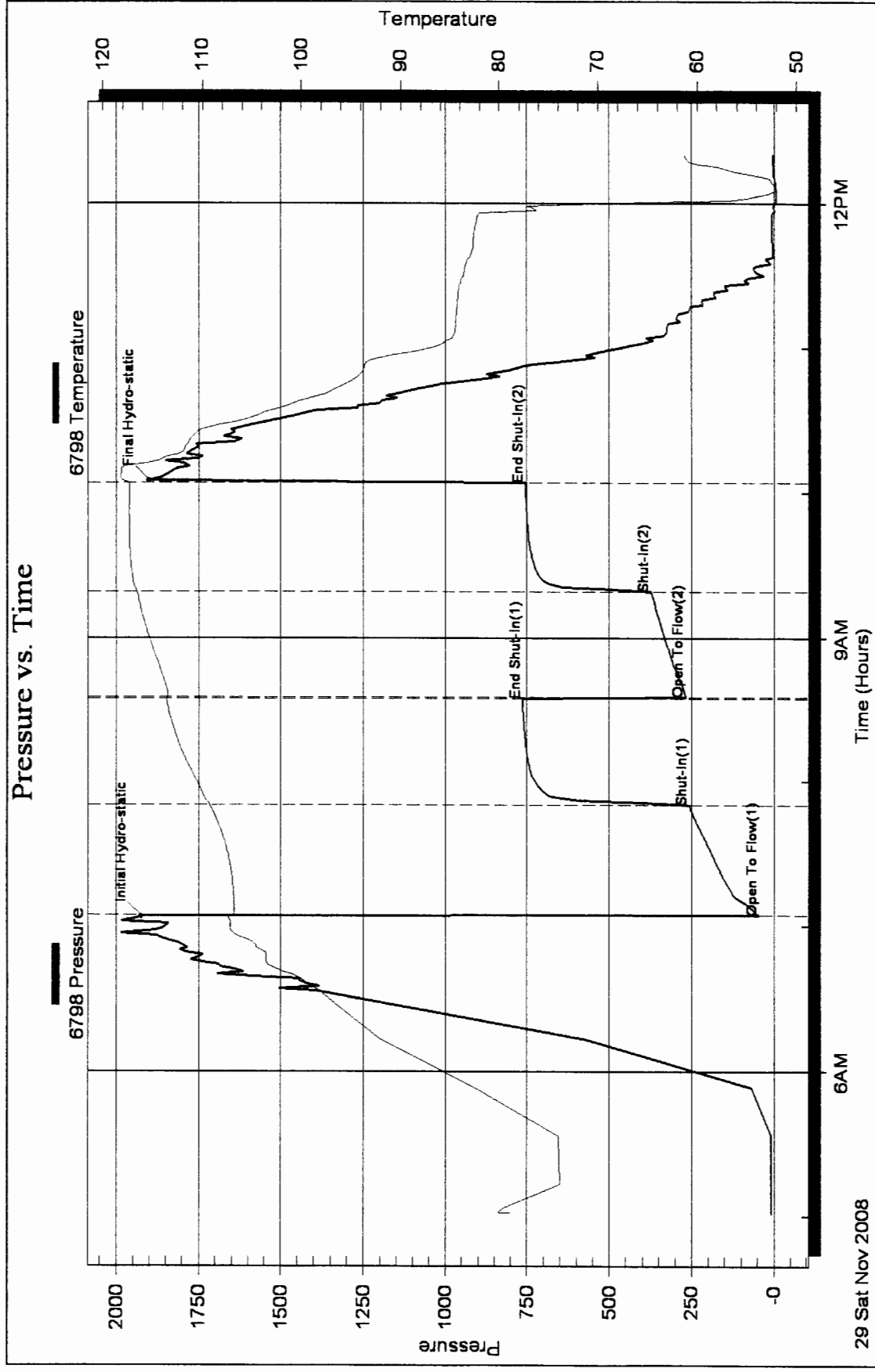
Num Gas Bombs: 0

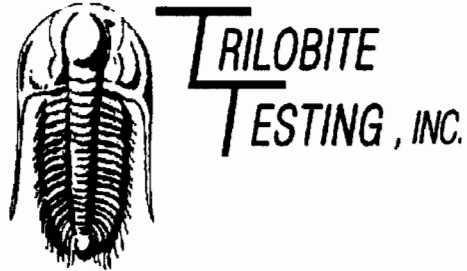
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **RAMA Operating Company, Inc**

101 S. Main Street
Stafford, KS 67578

ATTN: Josh Austin

30 25 13 Stafford KS

Goodman # 4-30

Start Date: 2008.11.30 @ 19:42:03

End Date: 2008.12.01 @ 03:20:03

Job Ticket #: 32948 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

RAMA Operating Company, Inc

101 S. Main Street
Stafford, KS 67578

ATTN: Josh Austin

Goodman # 4-30

30 25 13 Stafford KS

Job Ticket: 32948

DST#: 2

Test Start: 2008.11.30 @ 19:42:03

GENERAL INFORMATION:

Formation: **Viola**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 22:03:03

Time Test Ended: 03:20:03

Test Type: **Conventional Bottom Hole**

Tester: **Jerry Adams**

Unit No: **45**

Interval: **4180.00 ft (KB) To 4255.00 ft (KB) (TVD)**

Total Depth: **4255.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **1970.00 ft (KB)**

1957.00 ft (CF)

KB to GR/CF: 13.00 ft

Serial #: 6798 **Inside**

Press@RunDepth: **42.57 psig @ 4192.00 ft (KB)**

Start Date: **2008.11.30**

End Date:

2008.12.01

Capacity: **7000.00 psig**

Last Calib.: **2008.12.01**

Start Time: **19:42:04**

End Time:

03:20:03

Time On Btm: **2008.11.30 @ 22:01:03**

Time Off Btm: **2008.12.01 @ 01:04:03**

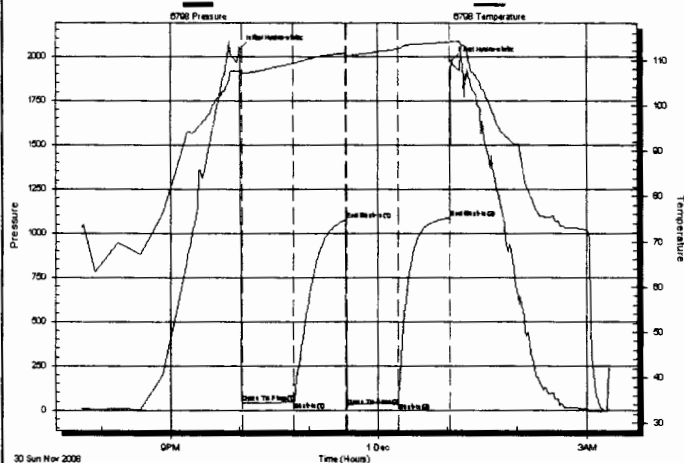
TEST COMMENT: IF: Strong blow BOB in 15 secs

IS: No blow

FF: Strong blow BOB immediately GTS in 16 mins (see gas flow rpt)

FS: No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2042.10	107.69	Initial Hydro-static
2	40.31	107.17	Open To Flow (1)
47	44.70	109.36	Shut-In (1)
92	1075.75	111.62	End Shut-In (1)
93	21.82	111.13	Open To Flow (2)
137	42.57	112.51	Shut-In (2)
181	1087.60	114.08	End Shut-In (2)
183	1975.81	114.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	SGCM 5%g 95%rm	0.15
0.00	4144' GIP	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	1.50	25.22
Last Gas Rate	0.25	3.00	27.60
Max. Gas Rate	0.25	3.00	27.60



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

RAMA Operating Company, Inc

101 S. Main Street
Stafford, KS 67578

ATTN: Josh Austin

Goodman # 4-30

30 25 13 Stafford KS

Job Ticket: 32948

DST#: 2

Test Start: 2008.11.30 @ 19:42:03

Tool Information

Drill Pipe:	Length: 3925.00 ft	Diameter: 3.80 inches	Volume: 55.06 bbl	Tool Weight: 23000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 249.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 85000.00 lb
			Total Volume: 56.28 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 83000.00 lb
Depth to Top Packer:	4180.00 ft			Final 83000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.00 ft			
Tool Length:	95.00 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			4165.00	
Hydraulic tool	5.00			4170.00	
Packer	5.00			4175.00	20.00 Bottom Of Top Packer
Packer	5.00			4180.00	
Stubb	1.00			4181.00	
Perforations	10.00			4191.00	
Change Over Sub	1.00			4192.00	
Recorder	0.00	6798	Inside	4192.00	
Recorder	0.00	8367	Inside	4192.00	
Blank Spacing	32.00			4224.00	
Change Over Sub	1.00			4225.00	
Perforations	27.00			4252.00	
Bullnose	3.00			4255.00	75.00 Bottom Packers & Anchor

Total Tool Length: 95.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

RAMA Operating Company, Inc

Goodman # 4-30

101 S. Main Street
Stafford, KS 67578

30 25 13 Stafford KS

Job Ticket: 32948

DST#: 2

ATTN: Josh Austin

Test Start: 2008.11.30 @ 19:42:03

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: 58.00 sec/qt

Cushion Volume:

bbl

Water Loss: 11.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9000.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	SGCM 5%g 95%m	0.148
0.00	4144' GIP	0.000

Total Length: 30.00 ft

Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 1

Serial #: JA-1

Laboratory Name: Caraway

Laboratory Location: Liberal, KS

Recovery Comments:



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

GAS RATES

RAMA Operating Company, Inc

Goodman # 4-30

101 S. Main Street
Stafford, KS 67578

30 25 13 Stafford KS

Job Ticket: 32948

DST#: 2

ATTN: Josh Austin

Test Start: 2008.11.30 @ 19:42:03

Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m³/d)
2	20	0.25	1.50	25.22
2	20	0.25	1.50	25.22
2	30	0.25	2.50	26.81
2	40	0.25	3.00	27.60

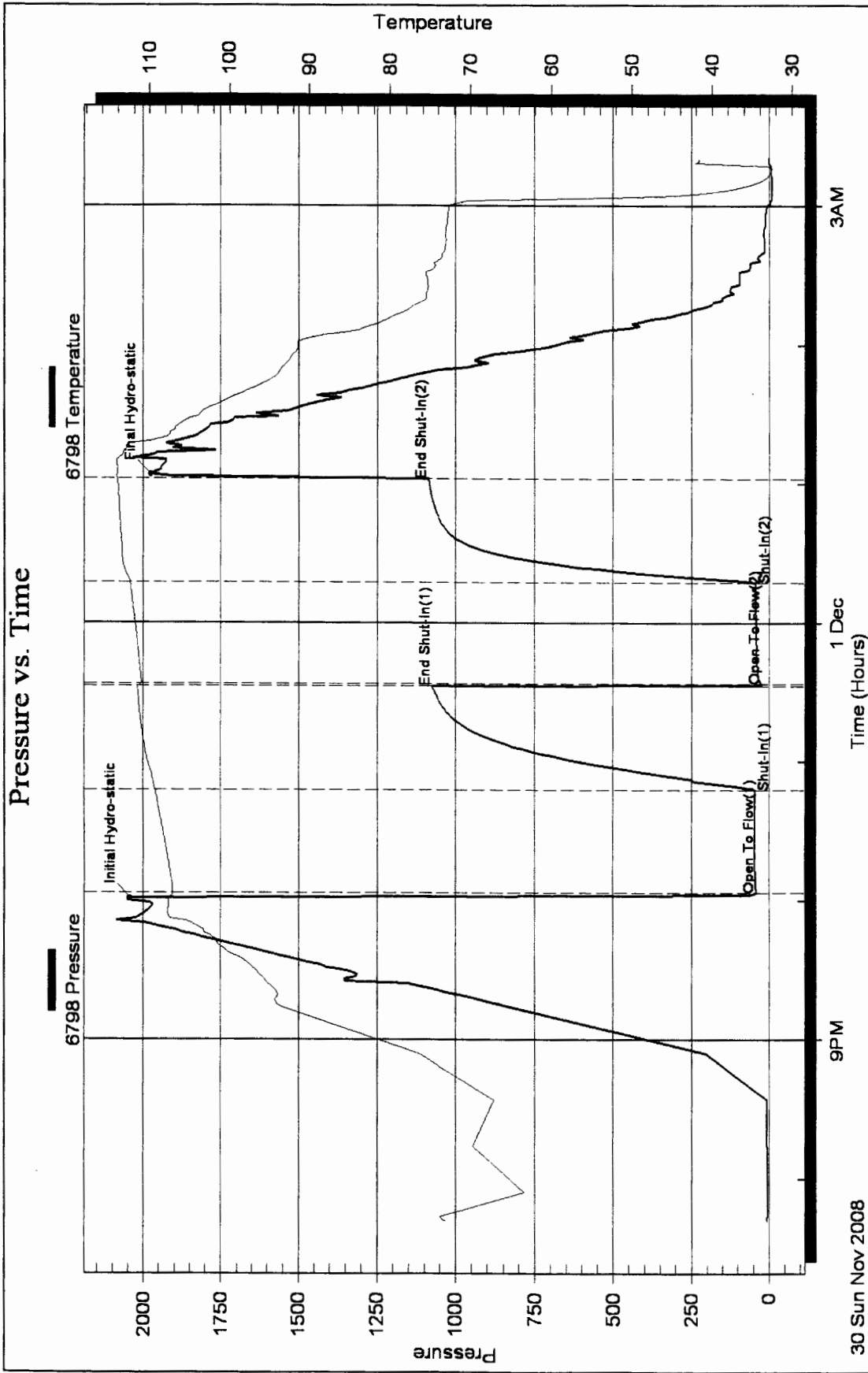
Serial #: 6798

Inside

RAMA Operating Company, Inc

30 25 13 Stafford KS

DST Test Number: 2





TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

Dean # 1-33

250 N Water Ste300
Wichita KS 67202

33 26 18W Edwards KS

Job Ticket: 31195

DST#: 1

ATTN: Terry McLeod

Test Start: 2008.05.04 @ 19:10:06

Tool Information

Drill Pipe:	Length: 2824.00 ft	Diameter: 3.80 inches	Volume: 39.61 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 183.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume: 40.51 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3009.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	70.00 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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Change Over Sub	1.00			2986.00	
Shut In Tool	5.00			2991.00	
Hydraulic tool	5.00			2996.00	
Safety Joint	3.00			2999.00	
Packer	5.00			3004.00	24.00 Bottom Of Top Packer
Packer	5.00			3009.00	
Stubb	1.00			3010.00	
Change Over Sub	1.00			3011.00	
Change Over Sub	1.00			3012.00	
Perforations	3.00			3015.00	
Recorder	0.00	6798	Inside	3015.00	
Recorder	0.00	8358	Inside	3015.00	
Perforations	37.00			3052.00	
Bullnose	3.00			3055.00	46.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

Dean # 1-33

250 N Water Ste300
Wichita KS 67202

33 26 18W Edwards KS

Job Ticket: 31195

DST#: 1

ATTN: Terry McLeod

Test Start: 2008.05.04 @ 19:10:06

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 69.00 sec/qt

Water Loss: 13.92 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:

ft

bbl

psig

Oil API:

Water Salinity: 16000 ppm

deg API

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
490.00	SGHMCW 5%G 75%W 20%M	5.206
130.00	SGWCM 8%G 2%W 90%M	1.824
0.00	2387' GIP	0.000
0.00	RW .053 @ 57.5 deg.	0.000
0.00		0.000

Total Length: 620.00 ft

Total Volume: 7.030 bbl

Num Fluid Samples: 0

Num Gas Bombs: 1

Serial #: GA-2

Laboratory Name: Caraway

Laboratory Location: Liberal, KS

Recovery Comments:



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

GAS RATES

Murfin Drilling Co Inc

Dean # 1-33

250 N Water Ste300
Wichita KS 67202

33 26 18W Edwards KS

Job Ticket: 31195

DST#: 1

ATTN: Terry McLeod

Test Start: 2008.05.04 @ 19:10:06

Gas Rates Information

Temperature: 59 deg C

Relative Density: 0.65

Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m³/d)
1	15	0.25	3.50	-1586395.98
1	15	0.25	3.50	28.56
1	20	0.25	9.50	38.07
1	25	0.25	13.00	43.63
1	30	0.25	16.00	48.39
2	10	0.25	21.00	56.32
2	20	0.25	20.00	54.73
2	30	0.25	21.00	56.32
2	40	0.25	21.00	56.32
2	50	0.25	21.00	56.32
2	60	0.25	21.00	56.32

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Pressure vs. Time

