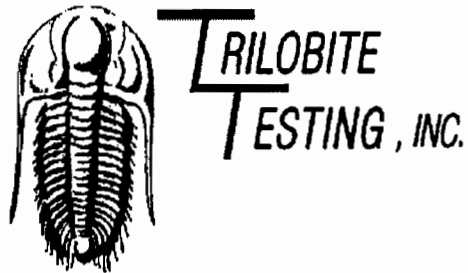


15-163-23397

16-10s-20w



DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations**

P O Box 33
Russell Ks 67665

ATTN: Allen Bangert

16-10-20-Rooks-Ks

Townes #1

Start Date: 2004.04.19 @ 15:35:35

End Date: 2004.04.19 @ 22:08:35

Job Ticket #: 19890 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mai Oil Operations

P O Box 33
Russell Ks 67665

ATTN: Allen Bangert

Townes #1

16-10-20-Rooks-Ks

Job Ticket: 19890

DST#: 1

Test Start: 2004.04.19 @ 15:35:35

GENERAL INFORMATION:

Formation: **Arbuckle**

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

Time Tool Opened: 18:30:35

Time Test Ended: 22:08:35

Test Type: **Conventional Bottom Hole**

Tester: **Dan Bangle**

Unit No: **21**

Interval: **3780.00 ft (KB) To 3787.00 ft (KB) (TVD)**

Total Depth: **3787.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2224.00 ft (KB)**

2219.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 6770 **Inside**

Press@RunDepth: **178.19 psig @ 3781.00 ft (KB)**

Start Date: **2004.04.19**

End Date:

2004.04.19

Start Time: **15:35:36**

End Time:

22:08:35

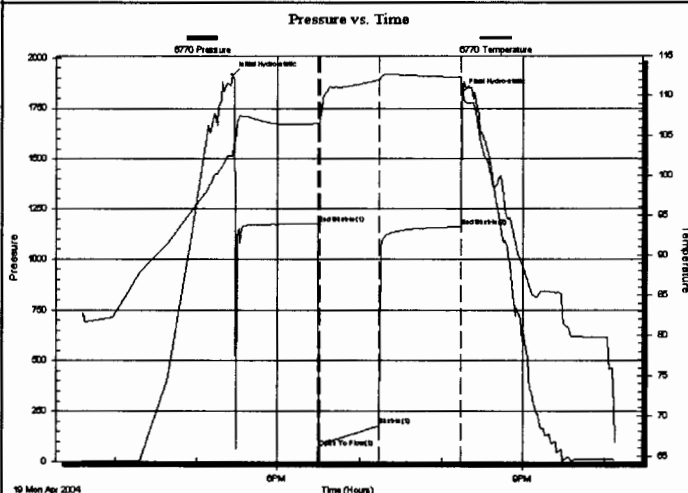
Capacity: **7000.00 psig**

Last Calib.: **2004.04.19**

Time On Btm: **2004.04.19 @ 17:26:05**

Time Off Btm: **2004.04.19 @ 20:15:05**

TEST COMMENT: **IF-Weak died in 15 min Plugged**
FF-Strong B-B in 15 min
Times-30-30-45-60



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1914.52	102.53	Initial Hydro-static
64	1173.98	106.57	End Shut-In(1)
65	71.59	106.71	Open To Flow(1)
108	178.19	112.00	Shut-In(1)
168	1159.64	112.30	End Shut-In(2)
169	1830.10	110.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCGsyO 10%g 50%o 40%m	0.30
124.00	MCGsyO 10%g 70%o 20%m	1.21
235.00	CGsyO	3.30
0.00	245 GIP	0.00

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations

Townes #1

P O Box 33
Russell Ks 67665

16-10-20-Rooks-Ks

Job Ticket: 19890

DST#: 1

ATTN: Allen Bangert

Test Start: 2004.04.19 @ 15:35:35

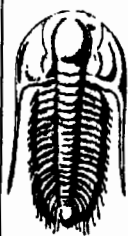
Tool Information

Drill Pipe:	Length: 3670.00 ft	Diameter: 3.80 inches	Volume: 51.48 bbl	Tool Weight:	1800.00 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: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose:	80000.00 lb
		Total Volume:	52.06 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial	74000.00 lb
Depth to Top Packer:	3780.00 ft			Final	76000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	7.00 ft				
Tool Length:	28.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3760.00	
Shut In Tool	5.00			3765.00	
Hydraulic tool	5.00			3770.00	
Packer	5.00			3775.00	21.00 Bottom Of Top Packer
Packer	5.00			3780.00	
Stubb	1.00			3781.00	
Recorder	0.00	6770	Inside	3781.00	
Perforations	3.00			3784.00	
Recorder	0.00	13254	Outside	3784.00	
Bullnose	3.00			3787.00	7.00 Bottom Packers & Anchor
Total Tool Length:	28.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mai Oil Operations

Townes #1

P O Box 33
Russell Ks 67665

16-10-20-Rooks-Ks

Job Ticket: 19890

DST#: 1

ATTN: Allen Bangert

Test Start: 2004.04.19 @ 15:35:35

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MCGsyO 10%g 50%o 40%m	0.295
124.00	MCGsyO 10%g 70%o 20%m	1.211
235.00	CGsyO	3.296
0.00	245 GIP	0.000

Total Length: 419.00 ft

Total Volume: 4.802 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

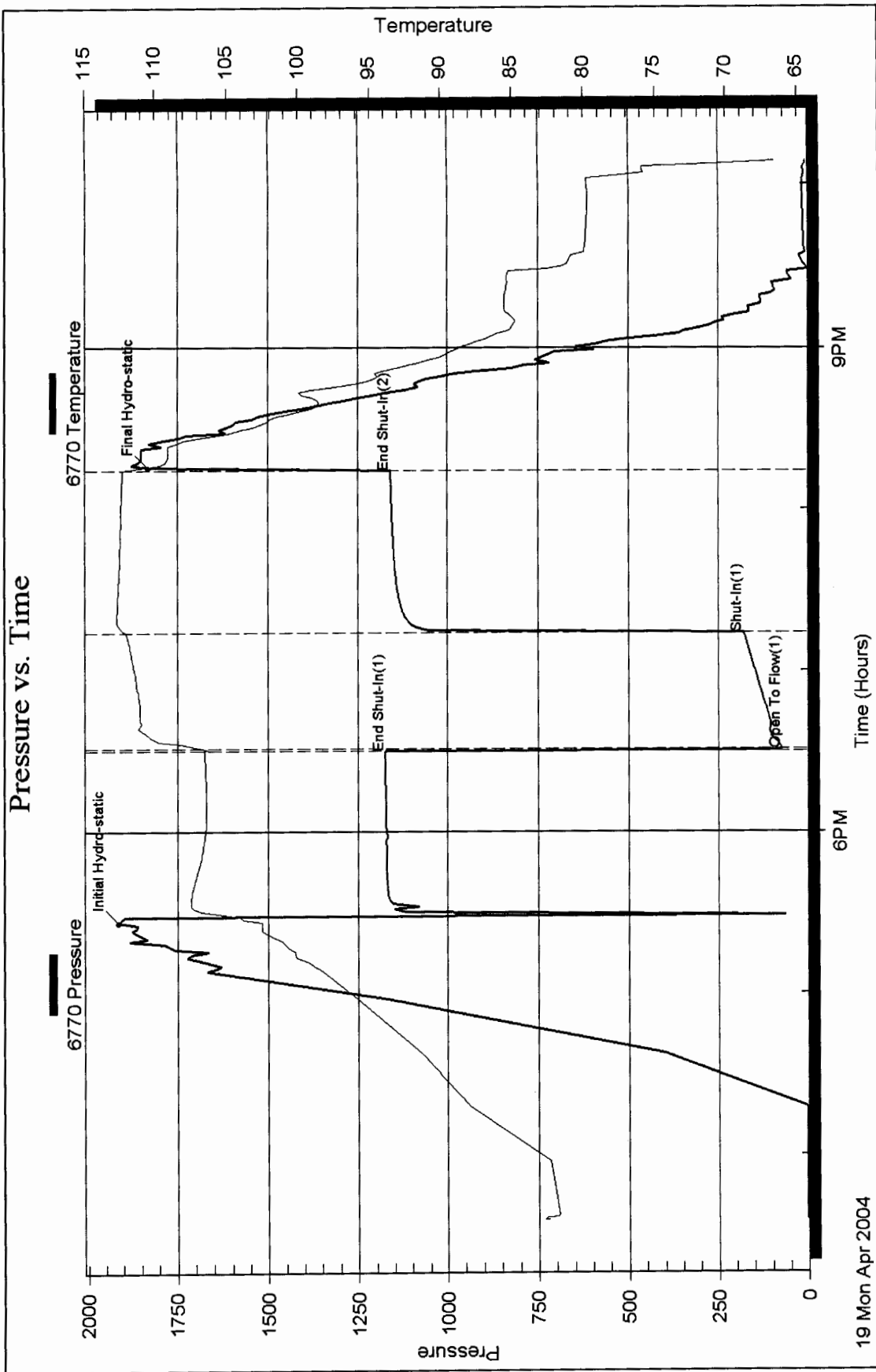
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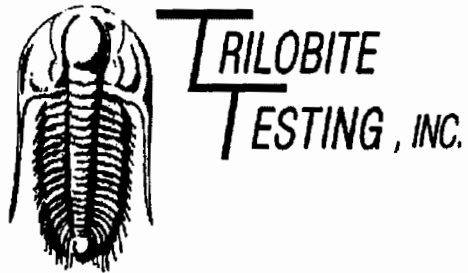
16-10-20-Rooks-Ks

Mai Oil Operations

Inside

Serial #: 6770





DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations**

P O Box 33
Russell Ks 67665

ATTN: Allen Bangert

16-10-20-Rooks-Ks

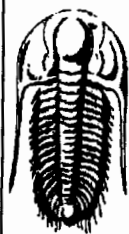
Townes #1

Start Date: 2004.04.20 @ 02:10:12

End Date: 2004.04.20 @ 08:38:12

Job Ticket #: 19891 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mai Oil Operations

P O Box 33
Russell Ks 67665

ATTN: Allen Bangert

Townes #1

16-10-20-Rooks-Ks

Job Ticket: 19891

DST#: 2

Test Start: 2004.04.20 @ 02:10:12

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:03:42

Time Test Ended: 08:38:12

Test Type: Conventional Bottom Hole

Tester: Dan Bangle

Unit No: 21

Interval: **3795.00 ft (KB) To 3802.00 ft (KB) (TVD)**

Total Depth: 3802.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2224.00 ft (KB)

2219.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6770

Inside

Press@RunDepth: 115.53 psig @ 3796.00 ft (KB)

Start Date: 2004.04.20

End Date:

2004.04.20

Start Time: 02:10:13

End Time:

08:38:12

Capacity: 7000.00 psig

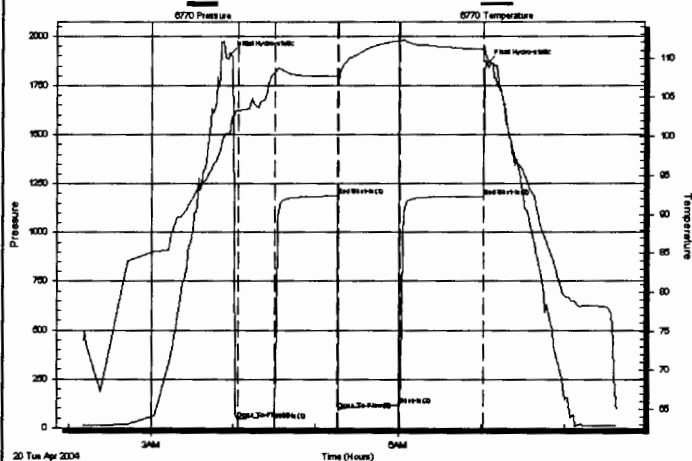
Last Calib.: 2004.04.20

Time On Btm: 2004.04.20 @ 03:57:42

Time Off Btm: 2004.04.20 @ 07:03:42

TEST COMMENT: IF-Weak building to 3"
FF-Weak building to 1/2"
Times-30-45-45-60

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1907.49	100.24	Initial Hydro-static
6	44.65	103.40	Open To Flow (1)
33	80.24	108.30	Shut-In(1)
78	1185.49	107.80	End Shut-In(1)
79	93.74	107.20	Open To Flow (2)
123	115.53	112.16	Shut-In(2)
184	1184.58	111.15	End Shut-In(2)
186	1861.76	109.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Mdy Wtr 10% m 90% w	0.30
60.00	OCM 30% o 70% m	0.31
90.00	CO	1.26

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations

Townes #1

P O Box 33
Russell Ks 67665

16-10-20-Rooks-Ks

Job Ticket: 19891

DST#: 2

ATTN: Allen Bangert

Test Start: 2004.04.20 @ 02:10:12

Tool Information

Drill Pipe:	Length: 3677.00 ft	Diameter: 3.80 inches	Volume: 51.58 bbl	Tool Weight:	1800.00 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: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose:	80000.00 lb
			Total Volume: 52.16 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	74000.00 lb
Depth to Top Packer:	3795.00 ft			Final	74000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	7.00 ft				
Tool Length:	28.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3775.00	
Shut In Tool	5.00			3780.00	
Hydraulic tool	5.00			3785.00	
Packer	5.00			3790.00	21.00 Bottom Of Top Packer
Packer	5.00			3795.00	
Stubb	1.00			3796.00	
Recorder	0.00	6770	Inside	3796.00	
Perforations	3.00			3799.00	
Recorder	0.00	13254	Outside	3799.00	
Bullnose	3.00			3802.00	7.00 Bottom Packers & Anchor
Total Tool Length:	28.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mai Oil Operations

Townes #1

P O Box 33
Russell Ks 67665

16-10-20-Rooks-Ks

Job Ticket: 19891

DST#: 2

ATTN: Allen Bangert

Test Start: 2004.04.20 @ 02:10:12

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

28000 ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	Mdy Wtr 10% _m 90% _w	0.295
60.00	OCM 30% _o 70% _m	0.313
90.00	CO	1.262

Total Length: 210.00 ft

Total Volume: 1.870 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

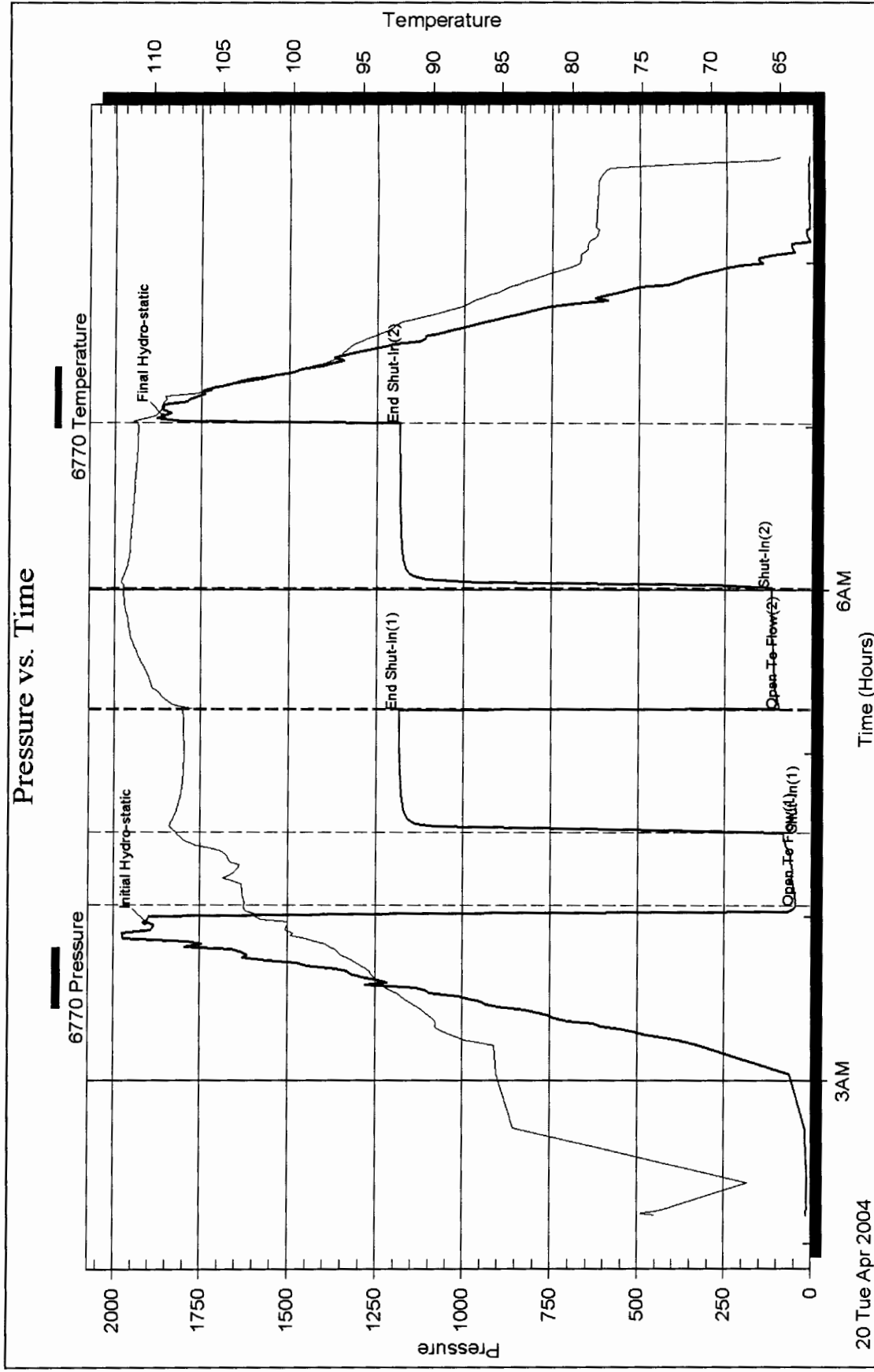
Serial #: 6770

Inside

Mai Oil Operations

16-10-20-Rocks-Ks

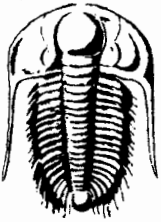
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 19891

Printed: 2004.04.22 @ 15:41:00 Page 5



TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

INV
6352

No 19890

05/03

Test Ticket

Well Name & No. <u>Townes #1</u>	Test No. <u>1</u>	Date <u>4-19-04</u>
Company <u>Mai Oil Operations</u>	Zone Tested <u>Arbuckle</u>	
Address <u>P.O. Box 33, Russell, Ks. 67665</u>	Elevation <u>2224</u>	KB <u>2219</u> GL
Co. Rep / Geo. <u>Todd Morgenstern</u>	Cont. <u>Murfin #16</u>	Est. Ft. of Pay _____ Por. _____ %
Location: Sec. <u>16</u> Twp. <u>10</u> Rge. <u>20</u> Co. <u>Reels</u>	State <u>Ks</u>	
No. of Copies _____	Disbtribution Sheet (Y, N) _____	Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 3780 — 3787 Initial Str Wt./Lbs. 74,000 Unseated Str Wt./Lbs. 76,000
 Anchor Length 7 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 80,000
 Top Packer Depth 3775 Tool Weight 1800
 Bottom Packer Depth 3780 Hole Size 7 7/8" Rubber Size 6 3/4"
 Total Depth 3787 Wt. Pipe Run _____ Drill Collar Run 118
 Mud Wt. 9.4 LCM 1.5# Vis. 46 WL 7.2 Drill Pipe Size 4.5XH Ft. Run 3670
 Blow Description I.F. Weak - Died in 15 min. Plugged

F.I.F. Strong - B.O.B. in 15 min.

Recovery - Total Feet <u>419</u>	GIP <u>245</u>	Ft. in DC <u>118</u>	Ft. in DP <u>301</u>
Rec. <u>235</u>	Feet of <u>CG540</u>	<u>10</u> %gas <u>90</u> %oil	%water %mud
Rec. <u>124</u>	Feet of <u>MCG540</u>	<u>10</u> %gas <u>70</u> %oil	%water <u>20</u> %mud
Rec. <u>60</u>	Feet of <u>MCG540</u>	<u>10</u> %gas <u>50</u> %oil	%water <u>40</u> %mud
Rec. _____	Feet of _____	%gas %oil	%water %mud
Rec. _____	Feet of _____	%gas %oil	%water %mud
BHT <u>112</u>	°F Gravity _____	°API D @ _____	°F Corrected Gravity <u>32</u> °API
RW _____ @ _____ °F	Chlorides _____ ppm Recovery _____	Chlorides <u>2,000</u> ppm System	

(A) Initial Hydrostatic Mud	AK-1 <u>1914</u> PSI	Alpine	Recorder No. <u>6770</u>	Test _____
(B) First Initial Flow Pressure	_____ PSI		(depth) <u>3781</u>	Elec. Rec. <u>X</u>
(C) First Final Flow Pressure	_____ PSI		Recorder No. <u>13254</u>	Jars _____
(D) Initial Shut-In Pressure	<u>1173</u> PSI		(depth) <u>3784</u>	Safety Jt. _____
(E) Second Initial Flow Pressure	<u>71</u> PSI		Recorder No. _____	Circ Sub _____
(F) Second Final Flow Pressure	<u>178</u> PSI		(depth) _____	Sampler _____
(G) Final Shut-In Pressure	<u>1159</u> PSI	Initial Opening <u>30</u>		Straddle _____
(Q) Final Hydrostatic Mud	<u>1830</u> PSI	Initial Shut-In <u>30</u>		Ext. Packer _____
		Final Flow <u>45</u>		Shale Packer _____
		Final Shut-In <u>60</u>		Mileage <u>38</u>

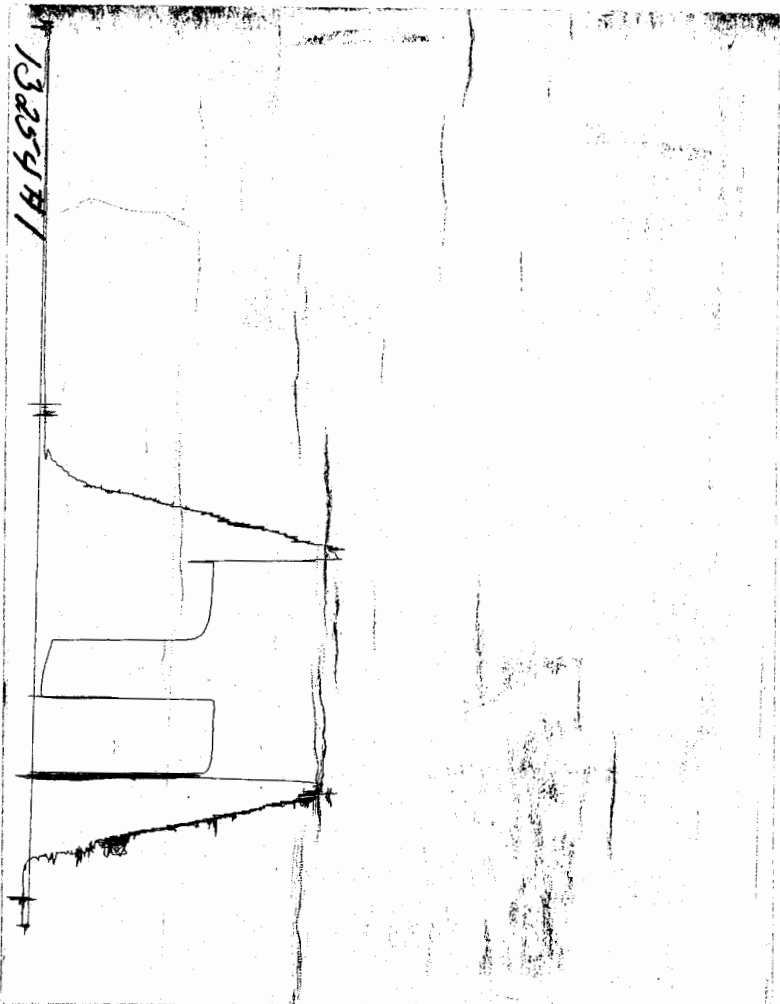
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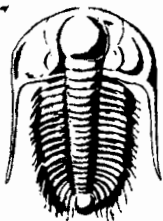
Approved By Todd S. Morgenstern
 Our Representative Dan Bangle

T-On Location	<u>13:00</u>	Sub Total: <u>7914.60</u>
T-Started	<u>13:35</u>	Std. By _____
T-Open	<u>15:28</u>	Other _____
T-Pulled	<u>18:13</u>	Total: _____
T-Out	<u>22:08</u>	

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 19891

05/03

Test Ticket

Well Name & No.	<u>Townes #1</u>	Test No.	<u>2</u>	Date	<u>4-20-04</u>
Company	<u>Mai Oil Operations</u>	Zone Tested	<u>Arbuckle</u>		
Address		Elevation	<u>2224</u>	KB	<u>2219</u> GL
Co. Rep / Geo.	<u>Todd Morgenstern</u>	Cont.	<u>Murfin #16</u>	Est. Ft. of Pay	Por. %
Location: Sec.	<u>16</u>	Twp.	<u>10</u>	Rge.	<u>20</u> Co. <u>Rocks</u> State <u>KS</u>
No. of Copies		Disbtribution Sheet (Y, N)		Turnkey (Y, N)	Evaluation (Y, N)

Interval Tested	<u>3795 — 3802</u>	Initial Str Wt./Lbs.	<u>74,000</u>	Unseated Str Wt./Lbs.	<u>74,000</u>
Anchor Length	<u>7</u>	Wt. Set Lbs.	<u>25,000</u>	Wt. Pulled Loose/Lbs.	
Top Packer Depth	<u>3790</u>	Tool Weight	<u>1800</u>		
Bottom Packer Depth	<u>3795</u>	Hole Size	<u>7 7/8"</u>	Rubber Size	<u>6 3/4"</u>
Total Depth	<u>3802</u>	Wt. Pipe Run		Drill Collar Run	<u>118</u>
Mud Wt.	<u>9.4</u> LCM <u>1.5</u> Vis. <u>46</u> WL <u>7.2</u>	Drill Pipe Size	<u>4.5 KH</u>	Ft. Run	<u>3677</u>
Blow Description	<u>I.F. Weak- building to 3"</u>				

F.F. Weak- building to 1/2"

Recovery - Total Feet	<u>210</u>	GIP		Ft. in DC	<u>118</u>	Ft. in DP	<u>92</u>
Rec.	<u>90</u>	Feet of	<u>CO</u>	%gas	%oil	%water	%mud
Rec.	<u>60</u>	Feet of	<u>OCM</u>	%gas	<u>30</u>	%oil	%water <u>70</u> %mud
Rec.	<u>60</u>	Feet of	<u>mdy WTC</u>	%gas	%oil	<u>90</u>	%water <u>10</u> %mud
Rec.		Feet of		%gas	%oil	%water	%mud
Rec.		Feet of		%gas	%oil	%water	%mud
BHT	<u>111</u>	°F Gravity		°API D @		°F Corrected Gravity	<u>32</u> °API
RW	<u>.19</u>	@	<u>80</u> °F	Chlorides	<u>28000</u> ppm	Recovery	Chlorides ppm System

(A) Initial Hydrostatic Mud	<u>1907</u> PSI	Recorder No.	<u>6770</u>	Test	
(B) First Initial Flow Pressure	<u>44</u> PSI	(depth)	<u>3791</u>	Elec. Rec.	<u>X</u>
(C) First Final Flow Pressure	<u>80</u> PSI	Recorder No.	<u>13254</u>	Jars	
(D) Initial Shut-In Pressure	<u>1180</u> PSI	(depth)	<u>3794</u>	Safety Jt.	
(E) Second Initial Flow Pressure	<u>93</u> PSI	Recorder No.		Circ Sub	
(F) Second Final Flow Pressure	<u>115</u> PSI	(depth)		Sampler	
(G) Final Shut-In Pressure	<u>1184</u> PSI	Initial Opening	<u>30</u>	Straddle	
(Q) Final Hydrostatic Mud	<u>1861</u> PSI	Initial Shut-In	<u>45</u>	Ext. Packer	

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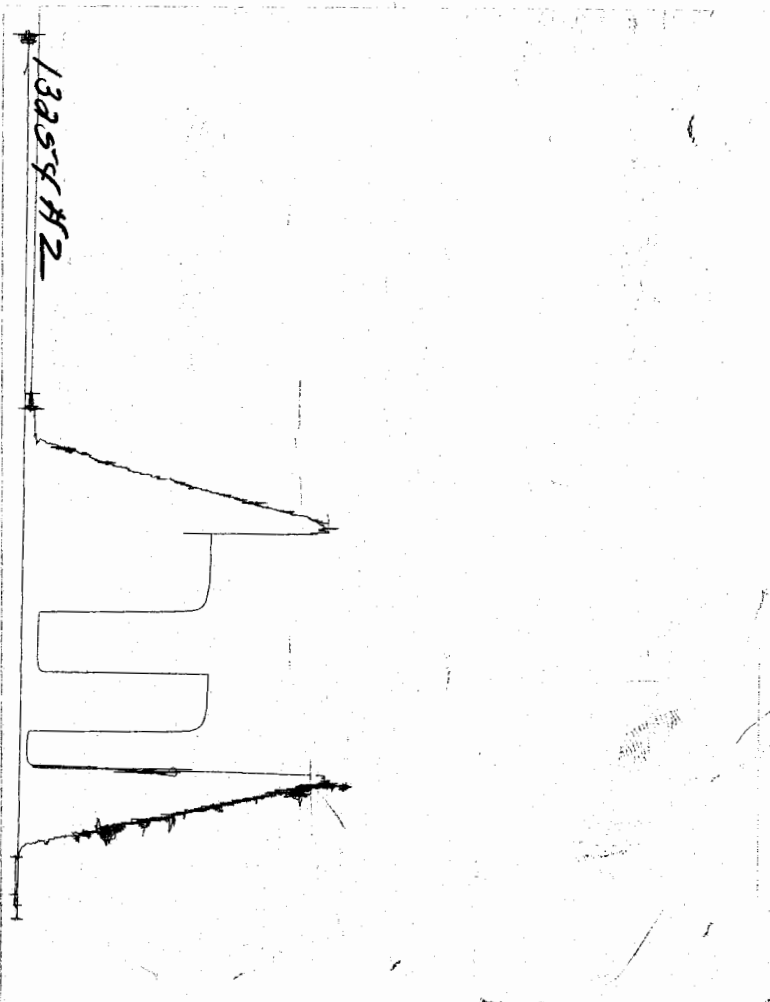
Approved By Todd E. Morgenstern

Our Representative Dan Rangle

Final Flow	<u>45</u>	Shale Packer	
Final Shut-In	<u>60</u>	Mileage	<u>38</u>
T-On Location	<u>02:00</u>	Sub Total:	<u>919.60</u>
T-Started	<u>00:10</u>	Std. By	
T-Open	<u>04:00</u>	Other	
T-Pulled	<u>07:00</u>	Total:	
T-Out	<u>08:38</u>		

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart



10936

SRU Job Information

Company: Shelby

Address: _____

Polymer Comp: PSI

Well Name & No: TOWNS ?

Location: _____

Start Date: _____ Time: _____ End Date: _____

Comments: 9976 @ 3880

Date	Miles	Reason
11/15		IN
11/21	0.4	

Trilobite Rep: KK / PS or

PRESSURE AND TEMPERATURE VS DELTA TIME

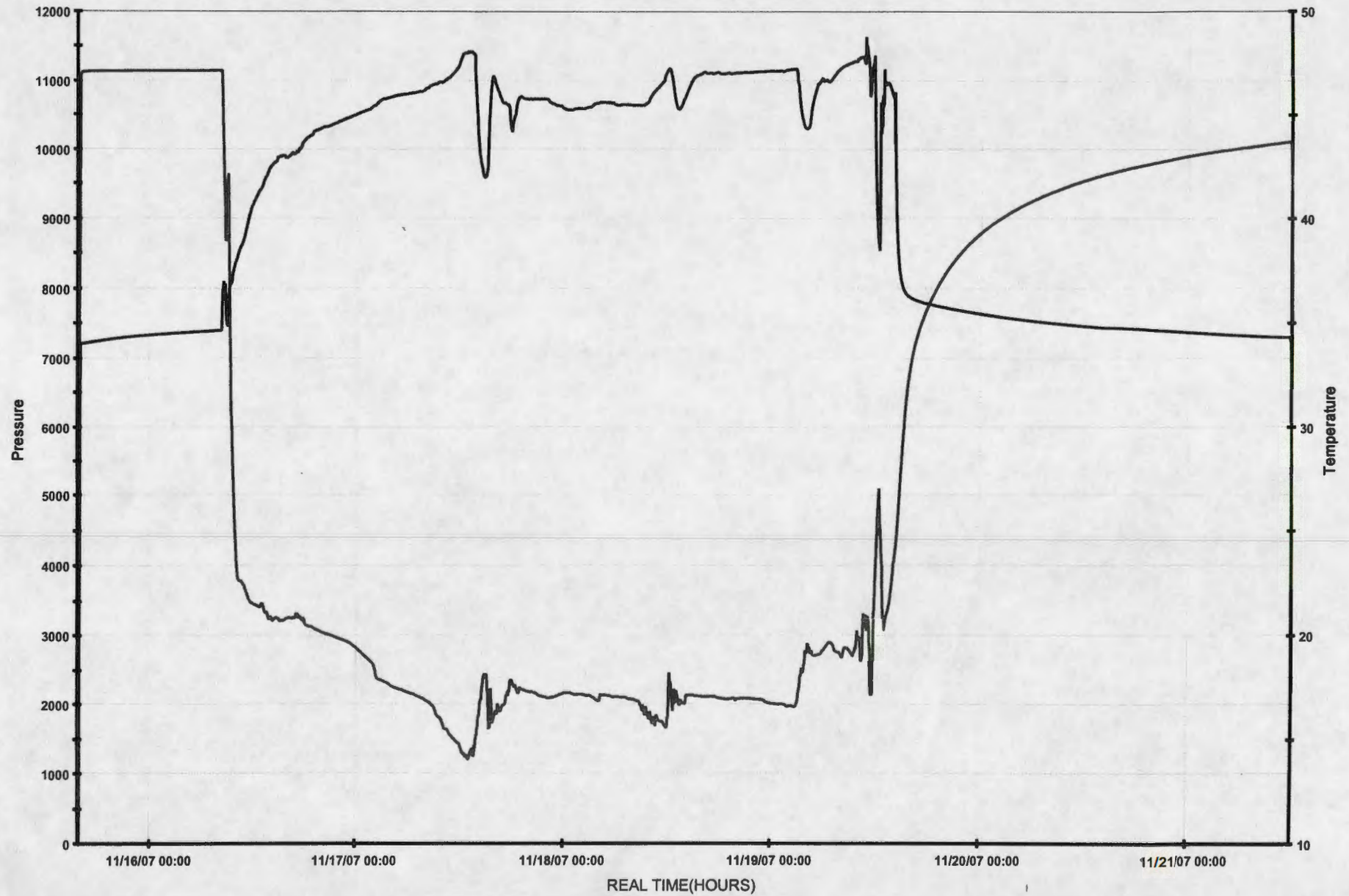
Company: Shelby

Location: Towns

Date: 11/15/07

Serial# 9976

Max. Pressure: 11638.630 Max. Temperature: 47.165



9976 - Pressure (KPAG) 9976 - Int Temperature (C)