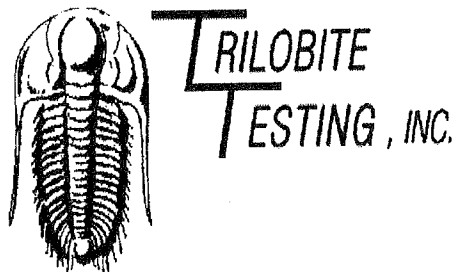


31-14s-21w



DRILL STEM TEST REPORT

Prepared For: **Crawford Oil Co**

Po Box 1366
El Dorado, KS 67042

ATTN: Ted Jochems

31-14s-21w-Trego

CBCF # 1-31

Start Date: 2006.01.08 @ 11:42:33

End Date: 2006.01.08 @ 20:03:18

Job Ticket #: 24598 DST #: 1

15-195-22317-00-00

RECEIVED
MAY 02 2006
KCC WICHITA

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Crawford Oil Co

Po Box 1366
El Dorado, KS 67042

ATTN: Ted Jochens

CBCF # 1-31

31-14s-21w-Trego

Job Ticket: 24598

DST#: 1

Test Start: 2006.01.08 @ 11:42:33

GENERAL INFORMATION:

Formation: **Cherokee**

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

Time Tool Opened: 14:10:03

Time Test Ended: 20:03:18

Interval: **3858.00 ft (KB) To 3967.00 ft (KB) (TVD)**

Total Depth: **3963.00 ft (KB) (TVD)**

Hole Diameter: **7.80 inches** Hole Condition: **Good**

Test Type: **Conventional Bottom Hole**

Tester: **Joe**

Unit No: **22**

Reference Elevations: **2085.00 ft (KB)**

2080.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: **8166**

Inside

Press@RunDepth: **129.90 psig @ 3860.00 ft (KB)**

Start Date: **2006.01.08**

End Date:

2006.01.08

Start Time: **11:42:34**

End Time:

20:03:18

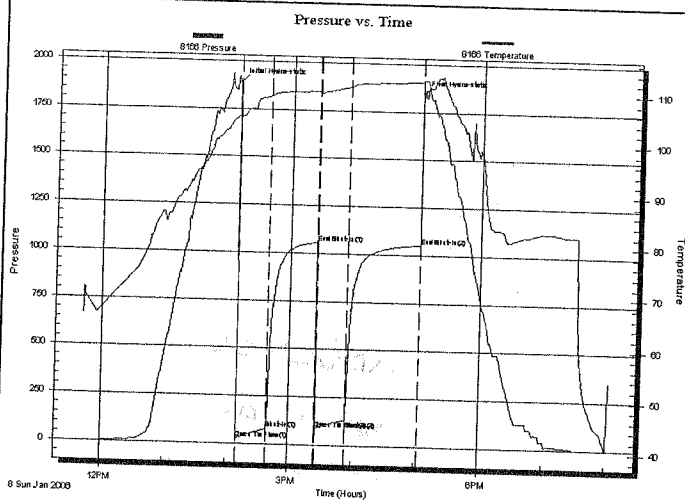
Capacity: **7000.00 psig**

Last Calib.: **2006.01.08**

Time On Btm: **2006.01.08 @ 14:09:33**

Time Off Btm: **2006.01.08 @ 17:03:03**

TEST COMMENT: IF-Good Blow Blew Off BOB in 17min
ISI-Weak Surface Blow back died in 6min
FF-Fair Blow Blew off BOB in 22min
FSI-Weak Surface Blow back died in 5min



PRESSURE SUMMARY

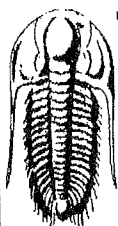
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1887.36	105.01	Initial Hydro-static
1	25.68	104.59	Open To Flow (1)
30	80.84	108.92	Shut-In(1)
76	1055.39	109.97	End Shut-In(1)
76	87.76	109.66	Open To Flow (2)
104	129.90	110.87	Shut-In(2)
173	1051.59	112.11	End Shut-In(2)
174	1844.36	112.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	GOCM20%G30%O50%M	0.87
62.00	GOCM10%G45%M45%O	0.87
62.00	GOCM10%G30%O60%M	0.87
82.00	OCM20%O80%M	1.15

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Crawford Oil Co

CBCF # 1-31

Po Box 1366
El Dorado, KS 67042

31-14s-21w-Trego

Job Ticket: 24598

DST#: 1

ATTN: Ted Jochems

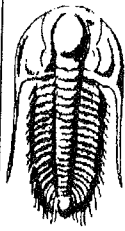
Test Start: 2006.01.08 @ 11:42:33

Tool Information

Drill Pipe:	Length: 3859.00 ft	Diameter: 3.80 inches	Volume: 54.13 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			Total Volume: 54.13 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3854.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	109.00 ft			
Tool Length:	131.00 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			3837.00	
Hydraulic tool	5.00			3842.00	
Jars	0.00			3842.00	
Safety Joint	2.00			3844.00	
Packer	5.00			3849.00	22.00 Bottom Of Top Packer
Packer	5.00			3854.00	
Stubb	1.00			3855.00	
Perforations	5.00			3860.00	
Recorder	0.00	8166	Inside	3860.00	
Change Over Sub	1.00			3861.00	
Blank Spacing	95.00			3956.00	
Change Over Sub	1.00			3957.00	
Perforations	3.00			3960.00	
Recorder	0.00	11020	Inside	3960.00	
Bullnose	3.00			3963.00	109.00 Bottom Packers & Anchor

Total Tool Length: 131.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Crawford Oil Co

CBCF # 1-31

Po Box 1366
El Dorado, KS 67042

31-14s-21w-Trego

Job Ticket: 24598

DST#: 1

ATTN: Ted Jochems

Test Start: 2006.01.08 @ 11:42:33

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 6.39 in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	GOCM20%G30%O50%M	0.870
62.00	GOCM10%G45%M45%O	0.870
62.00	GOCM10%G30%O60%M	0.870
82.00	OCM20%O80%M	1.150

Total Length: 268.00 ft

Total Volume: 3.760 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 1

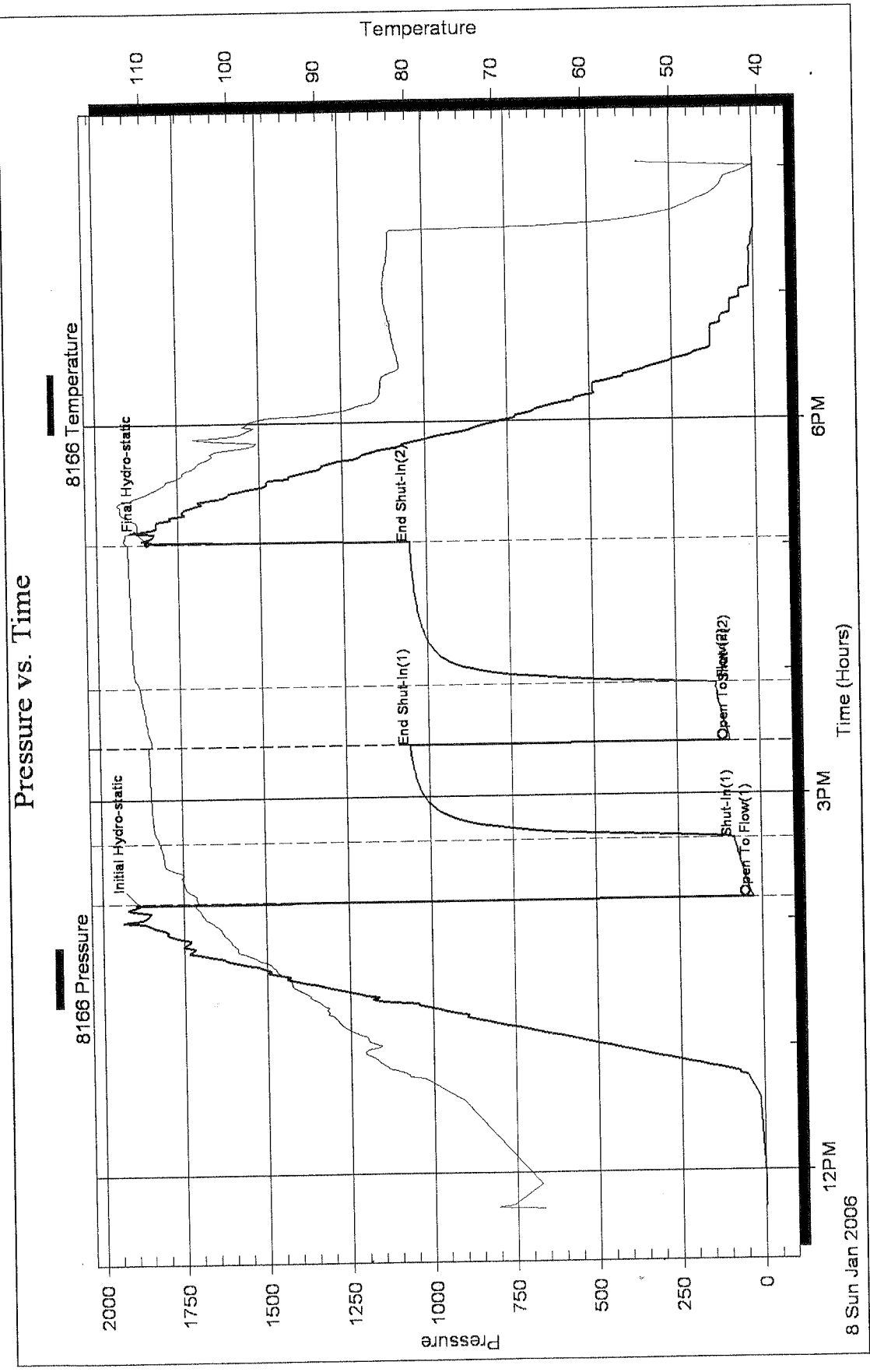
31-14s-21w - Trego

Crawford Oil Co

Inside

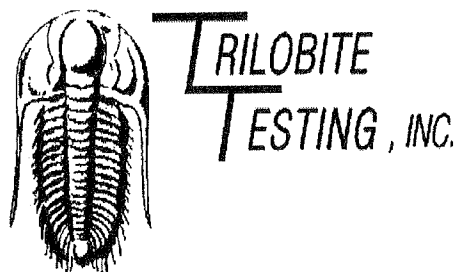
Serial #: 8166

Pressure vs. Time



Ref. No: 24598

Trilobite Testing, Inc



DRILL STEM TEST REPORT

Prepared For: **Crawford Oil Co**

Po Box 1366
El Dorado, KS 67042

ATTN: Ted Jochems

31-14s-21w-Trego

CBCF # 1-31

Start Date: 2006.01.09 @ 04:04:19

End Date: 2006.01.09 @ 10:04:49

Job Ticket #: 24599 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

TOOL DIAGRAM

Crawford Oil Co

CBCF # 1-31

Po Box 1366
El Dorado, KS 67042

31-14s-21w-Trego

Job Ticket: 24599

DST#: 2

ATTN: Ted Jochems

Test Start: 2006.01.09 @ 04:04:19

Tool Information

Drill Pipe:	Length: 3927.00 ft	Diameter: 3.80 inches	Volume: 55.09 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume: 55.09 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3927.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	82.00 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			3910.00	
Hydraulic tool	5.00			3915.00	
Jars	0.00			3915.00	
Safety Joint	2.00			3917.00	
Packer	5.00			3922.00	22.00 Bottom Of Top Packer
Packer	5.00			3927.00	
Stubb	1.00			3928.00	
Perforations	5.00			3933.00	
Recorder	0.00	8166	Inside	3933.00	
Change Over Sub	1.00			3934.00	
Blank Spacing	31.00			3965.00	
Change Over Sub	1.00			3966.00	
Perforations	18.00			3984.00	
Recorder	0.00	11020	Inside	3984.00	
Bullnose	3.00			3987.00	60.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Crawford Oil Co

CBCF # 1-31

Po Box 1366

El Dorado, KS 67042

31-14s-21w-Trego

Job Ticket: 24599

DST#: 2

ATTN: Ted Jochems

Test Start: 2006.01.09 @ 04:04:19

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 6.38 in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl

Total Length: ft

Total Volume: bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 2

31-14s-21w -Trego

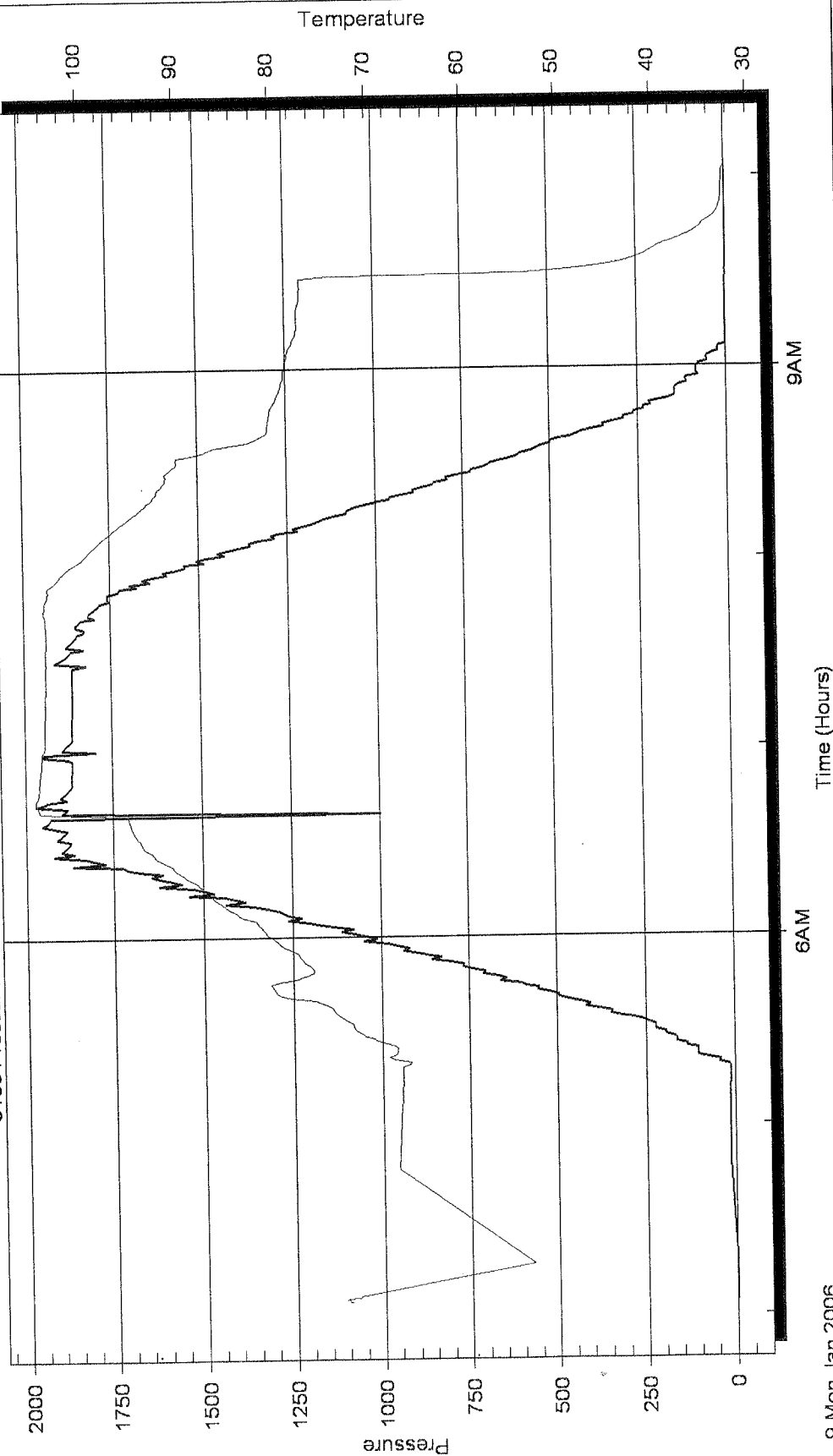
Inside Crawford Oil Co

Serial #: 8166

Pressure vs. Time

8166 Temperature

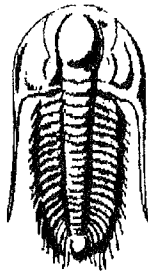
8166 Pressure



Ref. No: 24599

Printed: 2006.01.13 @ 10:32:39 Page 5

Trilobite Testing, Inc



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Crawford Oil Co**

Po Box 1366
El Dorado, KS 67042

ATTN: Ted Jochems

31-14s-21w-Trego

CBCF # 1-31

Start Date: 2006.01.09 @ 10:17:18

End Date: 2006.01.09 @ 18:11:33

Job Ticket #: 24600

DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Crawford Oil Co

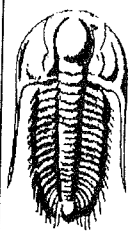
CBCF # 1-31

31-14s-21w-Trego

DST # 3

Cherokee

2006.01.09



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Crawford Oil Co

Po Box 1366
El Dorado, KS 67042

ATTN: Ted Jochems

CBCF # 1-31

31-14s-21w-Trego

Job Ticket: 24600

DST#: 3

Test Start: 2006.01.09 @ 10:17:18

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: **No** Whipstock: **ft (KB)**
Time Tool Opened: 12:30:18
Time Test Ended: 18:11:33

Test Type: **Conventional Bottom Hole**
Tester: **Joe**
Unit No: **22**

Interval: **3858.00 ft (KB) To 3987.00 ft (KB) (TVD)**
Total Depth: **3987.00 ft (KB) (TVD)**
Hole Diameter: **7.80 inches** Hole Condition: **Good**

Reference Elevations: **2085.00 ft (KB)**
2080.00 ft (CF)
KB to GR/CF: **5.00 ft**

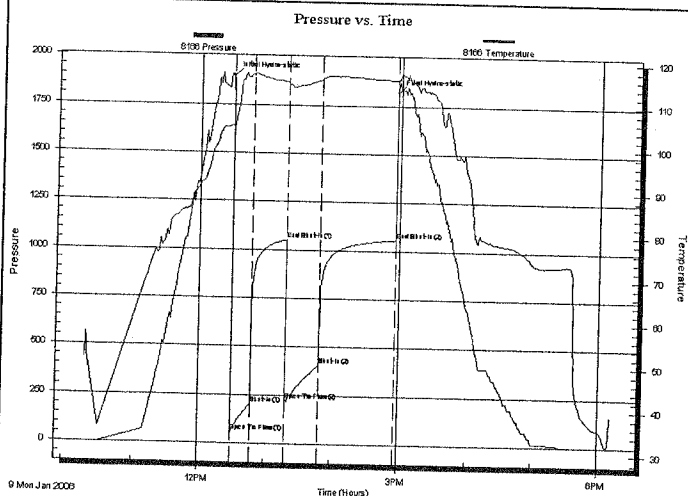
Serial #: 8166

Inside

Press@RunDepth: **408.54 psig @ 3864.00 ft (KB)**
Start Date: **2006.01.09** End Date: **2006.01.09**
Start Time: **10:17:19** End Time: **18:11:33**

Capacity: **7000.00 psig**
Last Calib.: **2006.01.09**
Time On Btm: **2006.01.09 @ 12:29:48**
Time Off Btm: **2006.01.09 @ 14:56:48**

TEST COMMENT: IF-Strong Blow off BOB in 4 min
ISI-Very Weak Surface Blow back
FF-Strong Blow off BOB in 4 min
FSI-No Blow back



PRESSURE SUMMARY

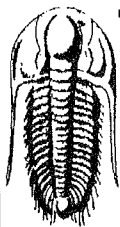
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1896.81	105.09	Initial Hydro-static
1	58.35	104.61	Open To Flow (1)
18	203.35	116.66	Shut-In (1)
49	1050.41	115.11	End Shut-In (1)
50	224.07	114.67	Open To Flow (2)
80	408.54	115.81	Shut-In (2)
147	1055.54	115.70	End Shut-In (2)
147	1818.20	116.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	GOCWM20%G20%W20%O40%M	2.61
62.00	GOCWM10%G20%O20%W50%M	0.87
62.00	GOCWM10%G20%O25%W45%M	0.87
248.00	GOCM10%G20%O70%M	3.48
186.00	OCWM10%O40W50%M	2.61
149.00	OSpkdM	2.09

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Crawford Oil Co

CBCF # 1-31

Po Box 1366
El Dorado, KS 67042

31-14s-21w-Trego

Job Ticket: 24600

DST#: 3

ATTN: Ted Jochems

Test Start: 2006.01.09 @ 10:17:18

Tool Information

Drill Pipe:	Length: 3865.00 ft	Diameter: 3.80 inches	Volume: 54.22 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume: 54.22 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3858.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	129.00 ft			
Tool Length:	151.00 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			3841.00	
Hydraulic tool	5.00			3846.00	
Jars	0.00			3846.00	
Safety Joint	2.00			3848.00	
Packer	5.00			3853.00	22.00 Bottom Of Top Packer
Packer	5.00			3858.00	
Stubb	1.00			3859.00	
Perforations	5.00			3864.00	
Recorder	0.00	8166	Inside	3864.00	
Change Over Sub	1.00			3865.00	
Blank Spacing	95.00			3960.00	
Change Over Sub	1.00			3961.00	
Perforations	23.00			3984.00	
Recorder	0.00	11020	Inside	3984.00	
Bullnose	3.00			3987.00	129.00 Bottom Packers & Anchor

Total Tool Length: 151.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Crawford Oil Co

CBCF # 1-31

Po Box 1366
El Dorado, KS 67042

31-14s-21w-Trego

Job Ticket: 24600

DST#: 3

ATTN: Ted Jocherns

Test Start: 2006.01.09 @ 10:17:18

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 6.39 in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

deg API

Water Salinity:

29000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	GOCVM20%G20%W20%O40%M	2.609
62.00	GOCVM10%G20%O20%W50%M	0.870
62.00	GOCVM10%G20%O25%W45%M	0.870
248.00	GOCM10%G20%O70%M	3.479
186.00	OCVM10%O40W50%M	2.609
149.00	OSpkdM	2.090

Total Length: 893.00 ft

Total Volume: 12.527 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

