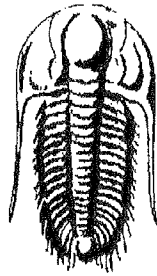


15-051-25784

23-14s-16w



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson**

PO Box 372
Hays KS 67601

ATTN: Marc or Al Downing

23 14S 16W Ellis KS

Steele # 3-23

Start Date: 2008.06.24 @ 09:12:29

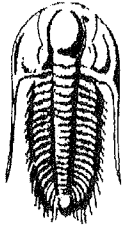
End Date: 2008.06.24 @ 15:16:29

Job Ticket #: 32785 DST #: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Downing-Nelson

Steele # 3-23

PO Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32785

DST#: 1

ATTN: Marc or Al Downing

Test Start: 2008.06.24 @ 09:12:29

GENERAL INFORMATION:

Formation: **LKC-"A-C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:48:29

Time Test Ended: 15:16:29

Test Type: Conventional Bottom Hole

Tester: Jason McLemore

Unit No: 32

Interval: **3119.00 ft (KB) To 3175.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3175.00 ft (KB) (TVD)

1893.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8360

Outside

Press@RunDepth: 52.23 psig @ 3124.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2008.06.24

End Date: 2008.06.24

Last Calib.: 2008.06.24

Start Time: 09:12:31

End Time: 15:16:29

Time On Btm: 2008.06.24 @ 10:47:59

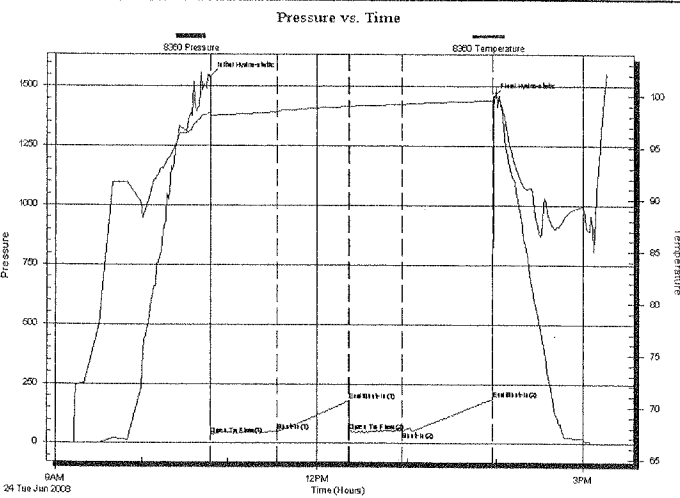
Time Off Btm: 2008.06.24 @ 13:57:59

TEST COMMENT: IFP Fair blow built to 6"

ISI Dead

FFP Good blow BOB in 21 min.

FSI Dead



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1541.86	98.41	Initial Hydro-static
1	34.81	98.01	Open To Flow (1)
46	49.21	98.47	Shut-In(1)
93	178.05	99.00	End Shut-In(1)
94	48.46	98.96	Open To Flow (2)
128	52.23	99.22	Shut-In(2)
190	187.91	99.58	End Shut-In(2)
190	1456.41	99.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
55.00	Mud	0.49
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

Downing-Nelson

Steele # 3-23

P.O. Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32785

DST#: 1

ATTN: Marc or Al Downing

Test Start: 2008.06.24 @ 09:12:29

Tool Information

Drill Pipe:	Length: 3071.00 ft	Diameter: 3.80 inches	Volume: 43.08 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 43.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3119.00 ft			Final 41000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	77.00 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			3099.00	
Shut In Tool	5.00			3104.00	
Hydraulic tool	5.00			3109.00	
Packer	5.00			3114.00	21.00 Bottom Of Top Packer
Packer	5.00			3119.00	
Stubb	1.00			3120.00	
Perforations	4.00			3124.00	
Recorder	0.00	8360	Outside	3124.00	
Change Over Sub	1.00			3125.00	
Recorder	0.00	6719	Inside	3125.00	
Blank Spacing	31.00			3156.00	
Change Over Sub	1.00			3157.00	
Perforations	15.00			3172.00	
Bullnose	3.00			3175.00	56.00 Bottom Packers & Anchor

Total Tool Length: 77.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson

Steele # 3-23

PO Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32785

DST#: 1

ATTN: Marc or Al Downing

Test Start: 2008.06.24 @ 09:12:29

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:

bbbl

Water Loss: 10.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
55.00	Mud	0.489
0.00	245' GIP	0.000

Total Length: 55.00 ft Total Volume: 0.489 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

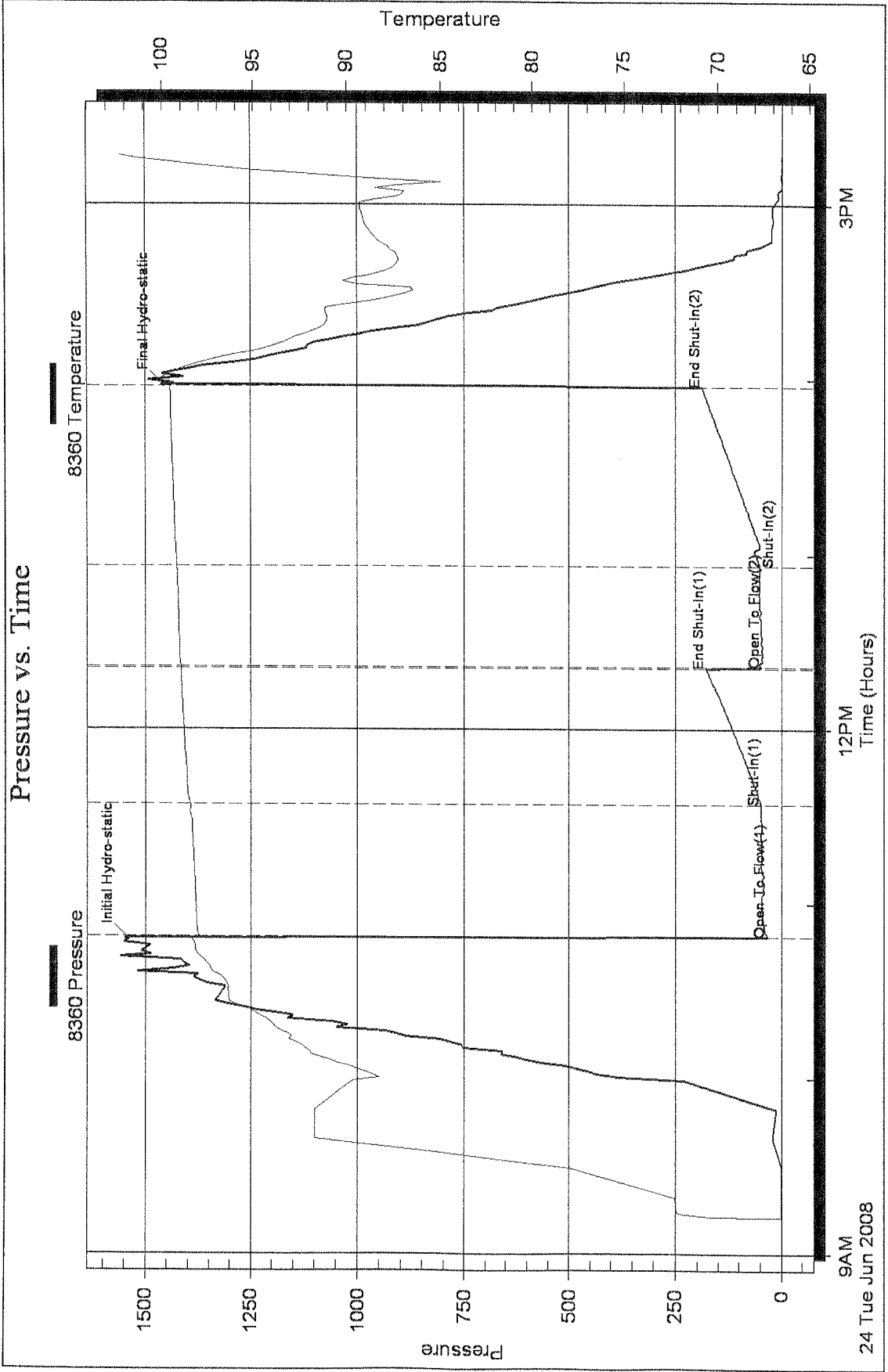
Recovery Comments:

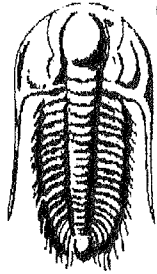
Serial #: 8360

Outside Downing-Nelson

23 14S 16W Ellis KS

DST Test Number: 1





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson**

PO Box 372
Hays KS 67601

ATTN: Marc or Al Downing

23 14S 16W Ellis KS

Steele # 3-23

Start Date: 2008.06.24 @ 21:40:45

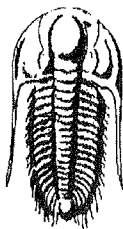
End Date: 2008.06.25 @ 02:52:15

Job Ticket #: 32786 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

Downing-Nelson

Steele # 3-23

PO Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32786

DST#: 2

ATTN: Marc or Al Downing

Test Start: 2008.06.24 @ 21:40:45

GENERAL INFORMATION:

Formation: **LKC-"D-E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:07:45

Time Test Ended: 02:52:15

Test Type: Conventional Bottom Hole

Tester: Jason McLemore

Unit No: 32

Interval: **3172.00 ft (KB) To 3218.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3218.00 ft (KB) (TVD)

1893.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 6719

Inside

Press@RunDepth: 57.05 psig @ 3178.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2008.06.24

End Date:

2008.06.25

Last Calib.: 2008.06.25

Start Time: 21:40:47

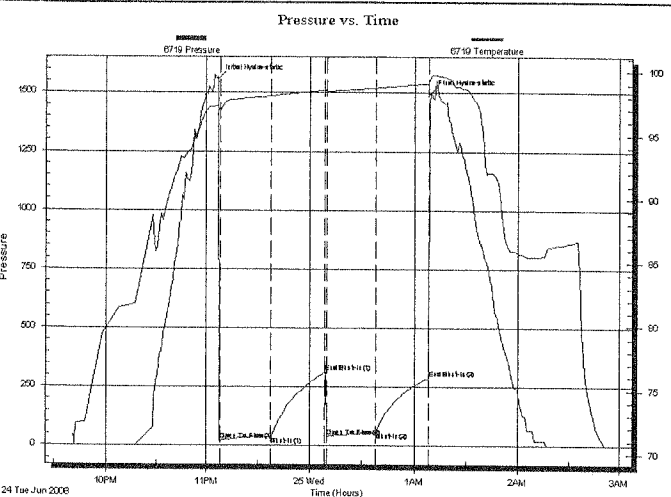
End Time:

02:52:15

Time On Btm: 2008.06.24 @ 23:06:45

Time Off Btm: 2008.06.25 @ 01:09:15

TEST COMMENT: IFP Strong BOB in 1 min.
ISI Dead
FFP Strong BOB in 1 min.



PRESSURE SUMMARY

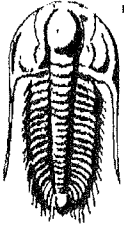
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1560.80	97.34	Initial Hydro-static
1	23.31	96.99	Open To Flow (1)
31	39.62	98.05	Shut-In(1)
63	313.70	98.54	End Shut-In(1)
64	39.18	98.47	Open To Flow(2)
92	57.05	98.69	Shut-In(2)
122	285.91	99.06	End Shut-In(2)
123	1496.24	99.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Frothy Oil 35%G 65%O	1.40
0.00	780' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing-Nelson

Steele # 3-23

PO Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32786

DST#: 2

ATTN: Marc or Al Downing

Test Start: 2008.06.24 @ 21:40:45

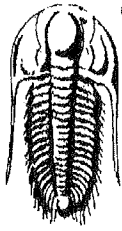
Tool Information

Drill Pipe:	Length: 3132.00 ft	Diameter: 3.80 inches	Volume: 43.93 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 44.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3172.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	67.00 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			3152.00	
Shut In Tool	5.00			3157.00	
Hydraulic tool	5.00			3162.00	
Packer	5.00			3167.00	21.00 Bottom Of Top Packer
Packer	5.00			3172.00	
Stubb	1.00			3173.00	
Perforations	4.00			3177.00	
Recorder	0.00	8360	Outside	3177.00	
Change Over Sub	1.00			3178.00	
Recorder	0.00	6719	Inside	3178.00	
Blank Spacing	31.00			3209.00	
Change Over Sub	1.00			3210.00	
Perforations	5.00			3215.00	
Bullnose	3.00			3218.00	46.00 Bottom Packers & Anchor

Total Tool Length: 67.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson

Steele # 3-23

PO Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32786

DST#: 2

ATTN: Marc or Al Downing

Test Start: 2008.06.24 @ 21:40:45

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

27 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	Frothy Oil 35%G 65%O	1.401
0.00	780' GIP	0.000

Total Length: 120.00 ft

Total Volume: 1.401 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6719

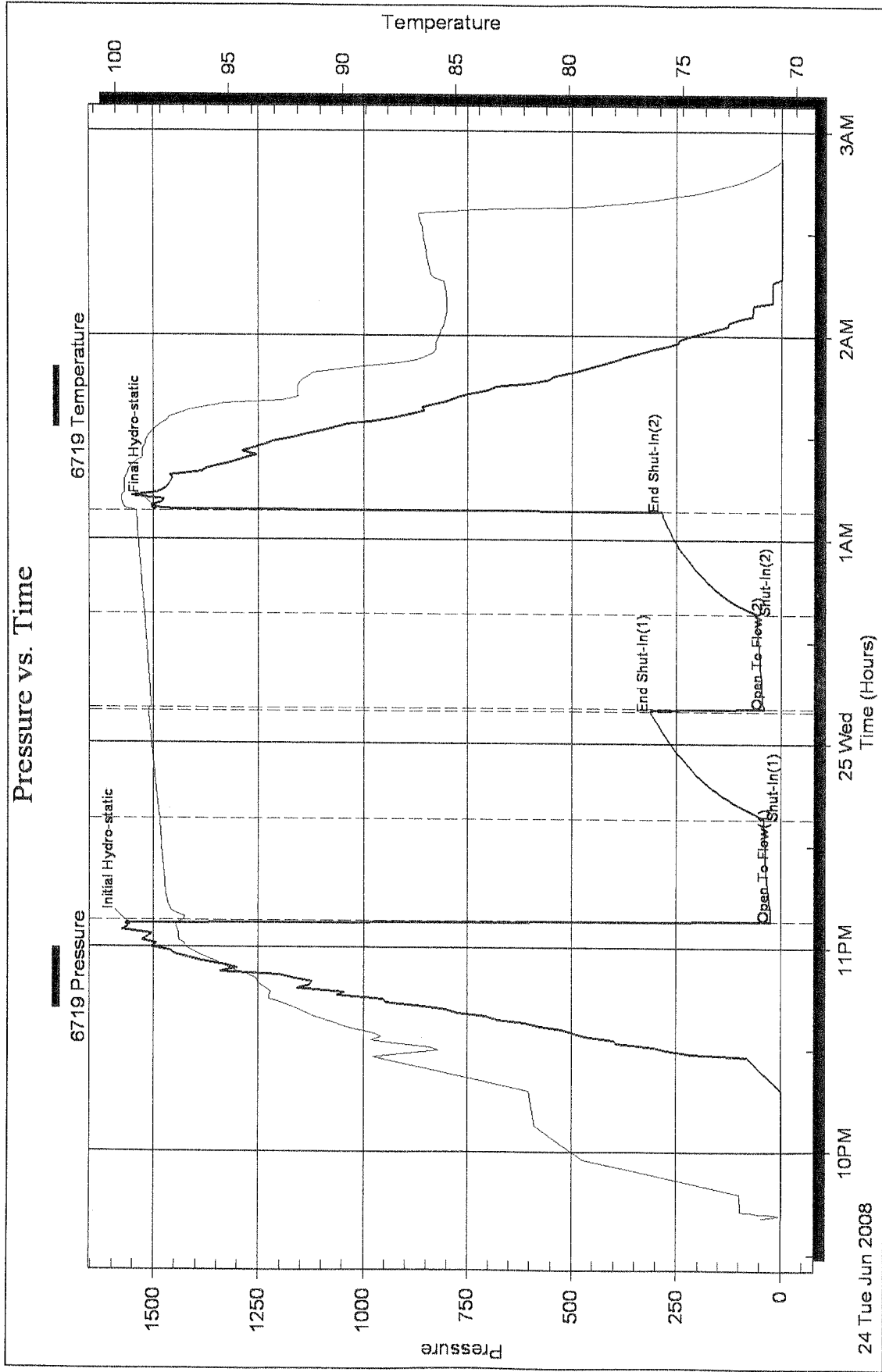
Inside

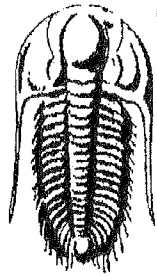
Downing-Nelson

23 14S 16W Ellis KS

DST Test Number: 2

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson**

PO Box 372
Hays KS 67601

ATTN: Marc or Al Downing

23 14S 16W Ellis KS

Steele # 3-23

Start Date: 2008.06.26 @ 02:17:39

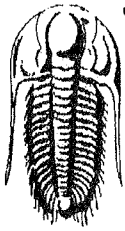
End Date: 2008.06.26 @ 09:46:39

Job Ticket #: 32787 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Downing-Nelson

Steele # 3-23

PO Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32787

DST#: 3

ATTN: Marc or Al Downing

Test Start: 2008.06.26 @ 02:17:39

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:51:09

Time Test Ended: 09:46:39

Test Type: Conventional Straddle

Tester: Jason McLemore

Unit No: 32

Interval: **3413.00 ft (KB) To 3430.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3514.00 ft (KB) (TVD)

1893.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8360 Inside

Press@RunDepth: 73.82 psig @ 3414.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2008.06.26

End Date:

2008.06.26

Last Calib.: 2008.06.26

Start Time: 02:17:41

End Time:

09:46:39

Time On Btm: 2008.06.26 @ 03:50:39

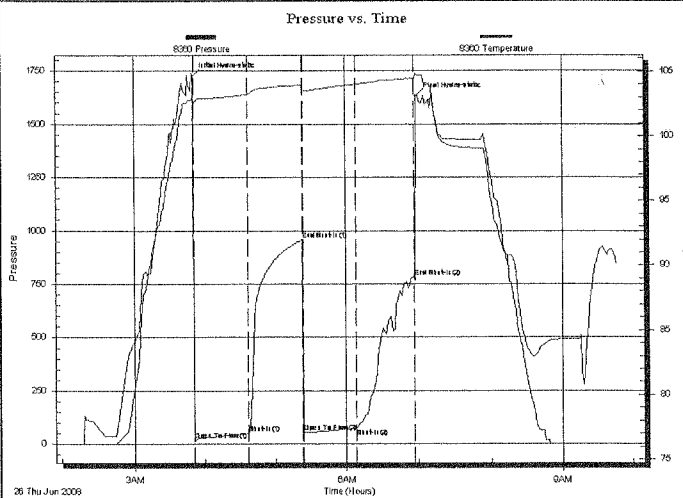
Time Off Btm: 2008.06.26 @ 06:58:39

TEST COMMENT: IFP Good blow BOB in 43 min.

ISI Dead

FFP Good blow BOB in 35 min.

FSI Blow back built to 1/4 "



PRESSURE SUMMARY

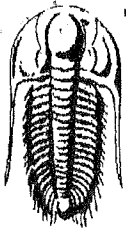
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1725.45	102.98	Initial Hydro-static
1	18.42	102.48	Open To Flow (1)
47	49.89	103.24	Shut-In(1)
93	956.89	103.94	End Shut-In(1)
94	54.97	103.53	Open To Flow(2)
138	73.82	104.01	Shut-In(2)
186	781.03	104.44	End Shut-In(2)
188	1631.27	104.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	HOCWM 40%O 15%W 45%M	0.15
60.00	WMCO 60%O 5%W 35%M	0.83
60.00	Free Oil	0.84
0.00	120' GIP	0.00

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing-Nelson

Steele # 3-23

PO Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32787

DST#: 3

ATTN: Marc or Al Downing

Test Start: 2008.06.26 @ 02:17:39

Tool Information

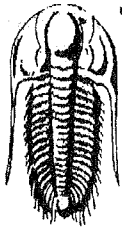
Drill Pipe:	Length: 3387.00 ft	Diameter: 3.80 inches	Volume: 47.51 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume:</u> 47.66 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	45000.00 lb
Depth to Top Packer:	3413.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	3430.00 ft				
Interval between Packers:	17.00 ft				
Tool Length:	122.00 ft				
Number of Packers:	3	Diameter:	6.75 inches		

Tool Comments:

Shut in Bearing Collapsed on Final Shut in, Pressure Not Holding.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3393.00	
Shut In Tool	5.00			3398.00	
Hydraulic tool	5.00			3403.00	
Packer	5.00			3408.00	21.00 Bottom Of Top Packer
Packer	5.00			3413.00	
Stubb	1.00			3414.00	
Recorder	0.00	8360	Inside	3414.00	
Perforations	2.00			3416.00	
Perforations	10.00			3426.00	
Blank Off Sub	1.00			3427.00	
Blank Spacing	3.00			3430.00	17.00 Tool Interval
Packer	1.00			3431.00	
Stubb	1.00			3432.00	
Perforations	14.00			3446.00	
Recorder	0.00	6719	Below	3446.00	
Change Over Sub	1.00			3447.00	
Blank Spacing	63.00			3510.00	
Change Over Sub	1.00			3511.00	
Recorder	0.00	13225	Below	3511.00	
Bullnose	3.00			3514.00	84.00 Bottom Packers & Anchor

Total Tool Length: 122.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson

Steele # 3-23

PO Box 372
Hays KS 67601

23 14S 16W Ellis KS

Job Ticket: 32787

DST#: 3

ATTN: Marc or Al Downing

Test Start: 2008.06.26 @ 02:17:39

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

20000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbl

Water Loss: 14.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	HOCWM 40%O 15%W 45%M	0.148
60.00	WMCO 60%O 5%W 35%M	0.833
60.00	Free Oil	0.842
0.00	120' GIP	0.000

Total Length: 150.00 ft

Total Volume: 1.823 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8360

Inside

Downing-Nelson

23 14S 16W Ellis KS

DST Test Number: 3

Pressure vs. Time

