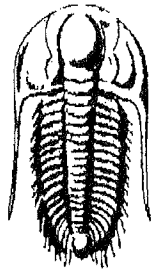


15-195-22235

19-13s-21w



TRILOBITE
TESTING, INC.

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DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 372
Hays KS 67601

ORIGINAL

ATTN: Ron Nelson

19-13s-21w Trego KS

Herbert West # 1-19

Start Date: 2003.07.05 @ 19:28:02

End Date: 2003.07.06 @ 03:27:17

Job Ticket #: 17245

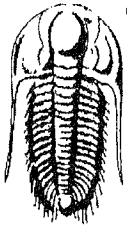
DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

ORIGINAL


**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Downing-Nelson Oil Co Inc

 PO Box 372
Hays KS 67601

A TTN: Ron Nelson

Herbert West # 1-19
19-13s-21w Trego KS

Job Ticket: 17245

DST#: 1

Test Start: 2003.07.05 @ 19:28:02

GENERAL INFORMATION:

 Formation: **L.Kc.-A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:12:47

Time Test Ended: 03:27:17

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

 Interval: **3568.00 ft (KB) To 3602.00 ft (KB) (TVD)**

Total Depth: 3602.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2237.00 ft (KB)

2229.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 3227 Inside

Press@RunDepth: 60.70 psig @ 3574.01 ft (KB)

Start Date: 2003.07.05

End Date: 2003.07.06

Start Time: 19:28:03

End Time: 03:27:17

Capacity: 7000.00 psig

Last Calib.: 2003.07.06

Time On Btm: 2003.07.05 @ 21:12:17

Time Off Btm: 2003.07.06 @ 01:12:47

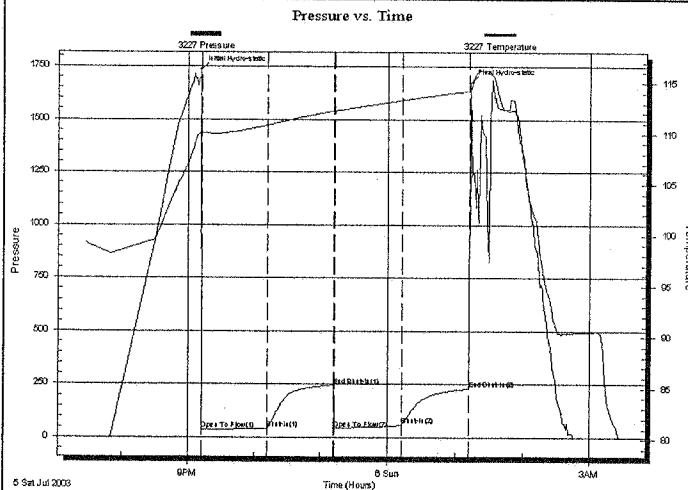
TEST COMMENT: IF-Weak to Good built to 7"

FF-Weak built to 3" in

Tool slid 6' to Bottom

ISI-Desd

FSI-Dead



PRESSURE SUMMARY

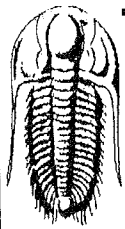
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1732.90	110.15	Initial Hydro-static
1	35.05	110.06	Open To Flow (1)
60	41.84	110.83	Shut-In(1)
120	245.19	112.23	End Shut-In(1)
121	40.39	112.23	Open To Flow (2)
181	60.70	113.27	Shut-In(2)
240	229.63	114.21	End Shut-In(2)
241	1672.77	114.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
95.00	HMCO-50% mud-50% oil	1.05

Gas Rates

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


TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17245

DST#: 1

ATTN: Ron Nelson

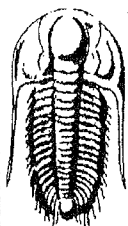
Test Start: 2003.07.05 @ 19:28:02

Tool Information

Drill Pipe:	Length: 3541.00 ft	Diameter: 3.80 inches	Volume: 49.67 bbl	Tool Weight: 3000.00 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: 90000.00 lb
		Total Volume:	49.82 bbl	Tool Chased 10.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3568.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.02 ft			
Tool Length:	54.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3549.00	
S.I. Tool	5.00			3554.00	
HMV	5.00			3559.00	
Packer	4.00			3563.00	20.00 Bottom Of Top Packer
Packer	5.00			3568.00	
Stubb	1.00			3569.00	
Perforations	5.00			3574.00	
Recorder	0.01	3227	Inside	3574.01	
Perforations	25.00			3599.01	
Recorder	0.01	3308	Outside	3599.02	
Bullnose	3.00			3602.02	34.02 Bottom Packers & Anchor

Total Tool Length: 54.02



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17245

DST#: 1

ATTN: Ron Nelson

Test Start: 2003.07.05 @ 19:28:02

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: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.18 in³

Gas Cushion Type:

Gas Cushion Pressure:

psig

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
95.00	HMCO-50%mud-50%oil	1.050

Total Length: 95.00 ft

Total Volume: 1.050 bbl

Num Fluid Samples: 0

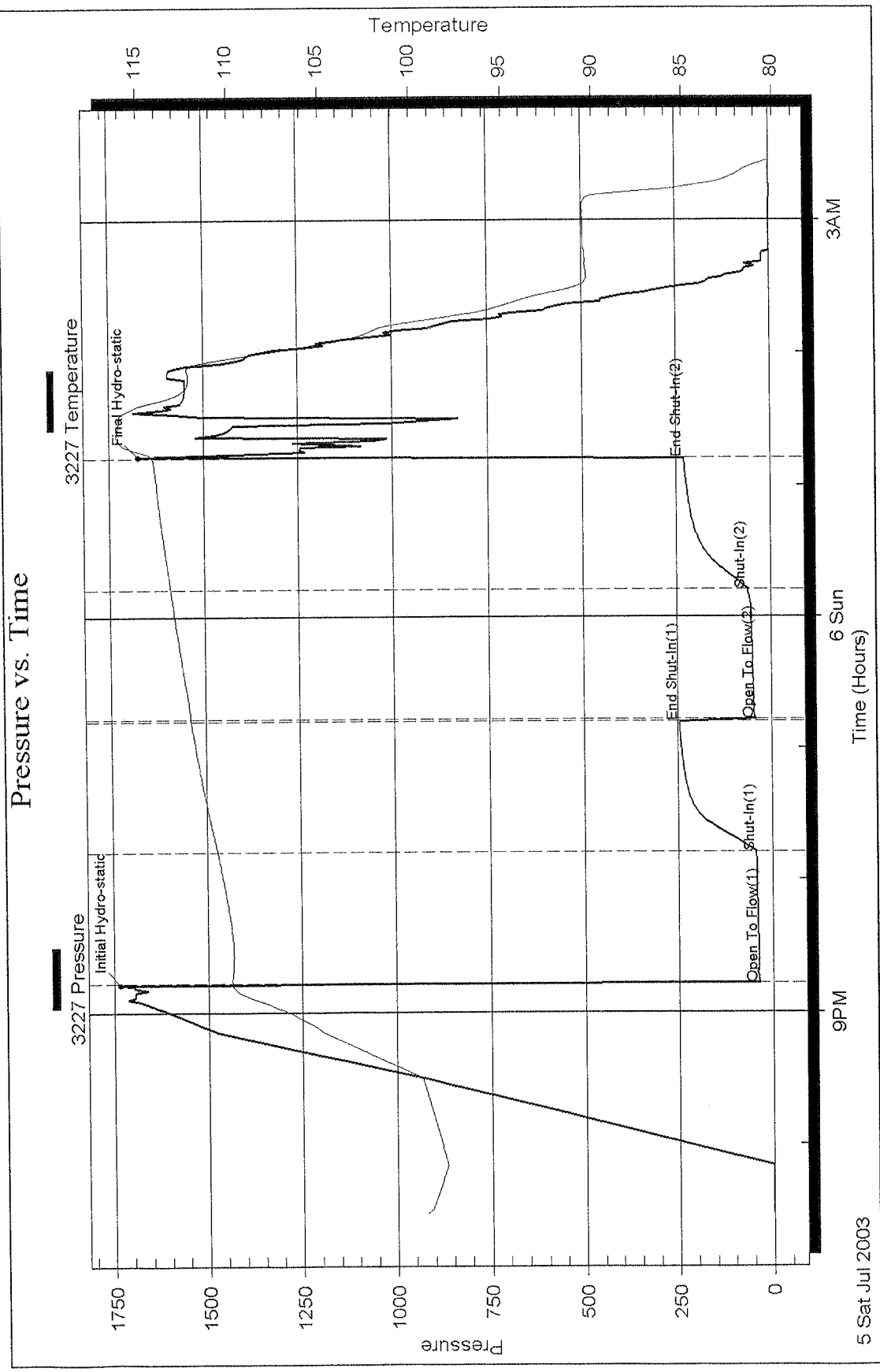
Num Gas Bombs: 0

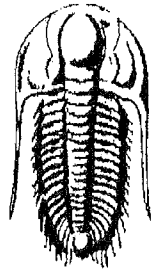
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE
TESTING, INC.

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DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

19-13s-21w Trego KS

Herbert West # 1-19

Start Date: 2003.07.06 @ 10:11:13

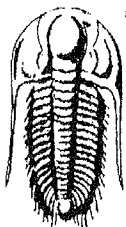
End Date: 2003.07.06 @ 14:18:43

Job Ticket #: 17246 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

Dow ning-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17246

DST#: 2

ATTN: Ron Nelson

Test Start: 2003.07.06 @ 10:11:13

GENERAL INFORMATION:

Formation: **L.Kc.-B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:43:13

Time Test Ended: 14:18:43

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3599.00 ft (KB) To 3625.00 ft (KB) (TVD)**

Total Depth: 3625.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2237.00 ft (KB)

2229.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 3227 Inside

Press@RunDepth: 16.26 psig @ 3602.01 ft (KB)

Start Date: 2003.07.06

End Date:

2003.07.06

Start Time: 10:11:14

End Time:

14:18:43

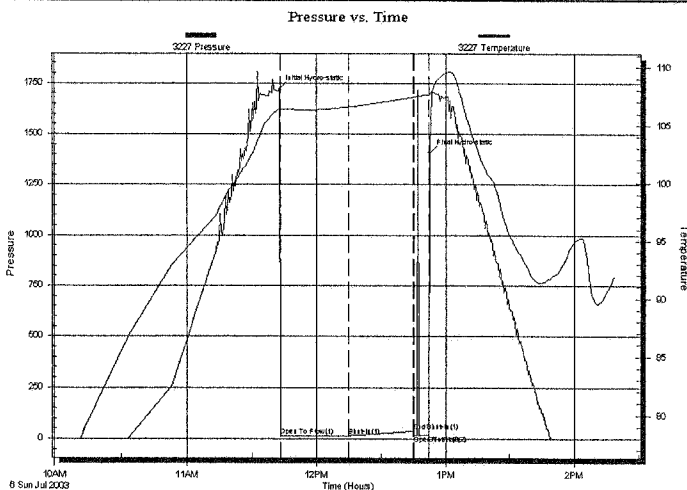
Capacity: 7000.00 psig

Last Calib.: 2003.07.06

Time On Btm: 2003.07.06 @ 11:42:58

Time Off Btm: 2003.07.06 @ 12:52:43

TEST COMMENT: IF-Dead ISI-Dead
FF-Dead-- Flush tool no help.



PRESSURE SUMMARY

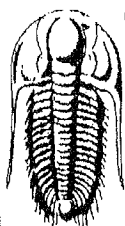
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1717.98	106.41	Initial Hydro-static
1	12.48	106.32	Open To Flow (1)
32	16.26	106.58	Shut-In(1)
62	39.09	107.41	End Shut-In(1)
63	17.54	107.42	Open To Flow (2)
70	20.91	107.58	Shut-In(2)
70	1406.91	107.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Drilling Mud	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17246

DST#: 2

ATTN: Ron Nelson

Test Start: 2003.07.06 @ 10:11:13

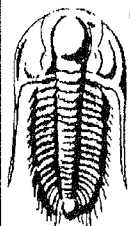
Tool Information

Drill Pipe:	Length: 3571.00 ft	Diameter: 3.80 inches	Volume: 50.09 bbl	Tool Weight:	2500.00 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
		Total Volume:	50.24 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3599.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	26.02 ft				
Tool Length:	46.02 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3580.00	
S.I. Tool	5.00			3585.00	
HMV	5.00			3590.00	
Packer	4.00			3594.00	20.00 Bottom Of Top Packer
Packer	5.00			3599.00	
Stubb	1.00			3600.00	
Perforations	2.00			3602.00	
Recorder	0.01	3227	Inside	3602.01	
Perforations	20.00			3622.01	
Recorder	0.01	3308	Outside	3622.02	
Bullnose	3.00			3625.02	26.02 Bottom Packers & Anchor

Total Tool Length: 46.02



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17246

DST#: 2

ATTN: Ron Nelson

Test Start: 2003.07.06 @ 10:11:13

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: 46.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Drilling Mud	0.010

Total Length: 2.00 ft

Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 2

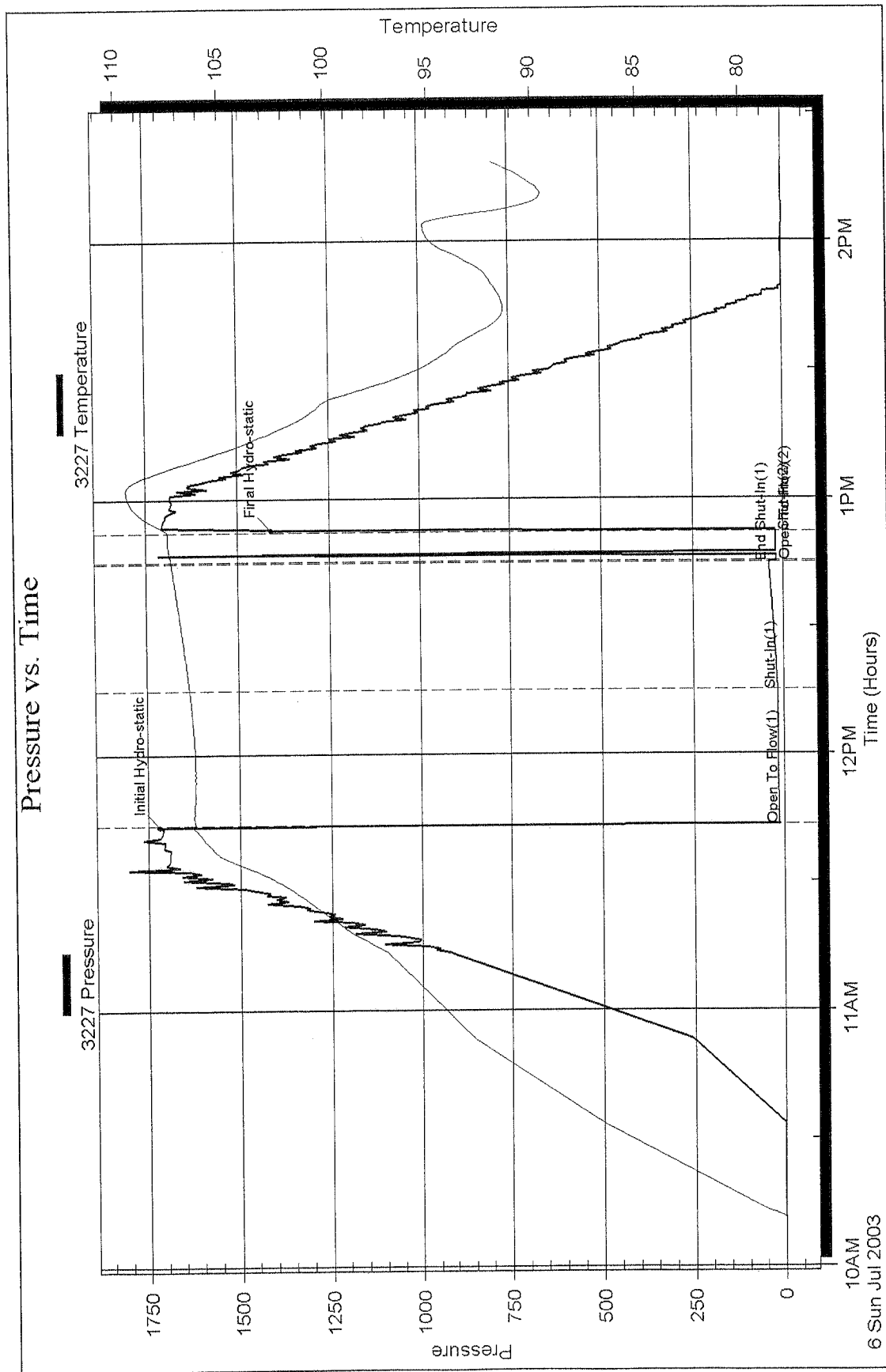
19-13s-21w Trego KS

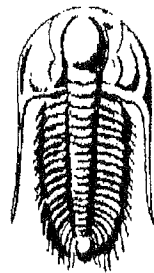
Downing-Nelson Oil Co Inc

Inside

Serial #: 3227

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

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DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

19-13s-21w Trego KS

Herbert West # 1-19

Start Date: 2003.07.06 @ 21:19:53

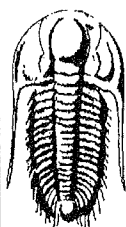
End Date: 2003.07.07 @ 01:21:23

Job Ticket #: 17247 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

Herbert West # 1-19

19-13s-21w Trego KS

Job Ticket: 17247

DST#: 3

Test Start: 2003.07.06 @ 21:19:53

GENERAL INFORMATION:

Formation: **L.Kc.-B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:47:08

Time Test Ended: 01:21:23

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3599.00 ft (KB) To 3655.00 ft (KB) (TVD)**

Total Depth: 3655.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2237.00 ft (KB)

2229.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 3227 Inside

Press@RunDepth: 20.99 psig @ 3603.01 ft (KB)

Start Date: 2003.07.06

End Date:

2003.07.07

Start Time: 21:19:54

End Time:

01:21:23

Capacity: 7000.00 psig

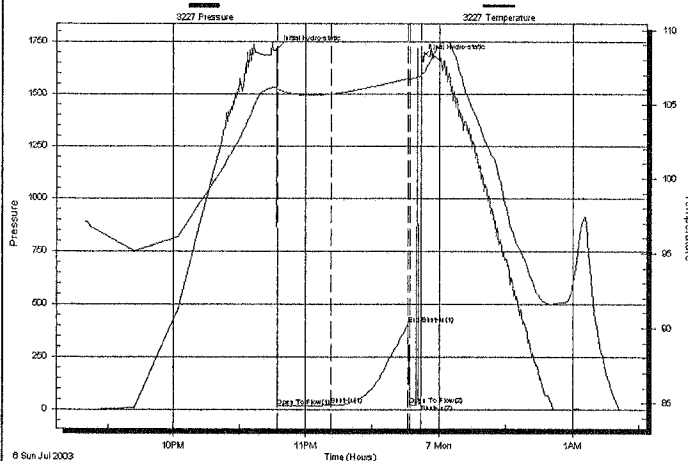
Last Calib.: 2003.07.07

Time On Btm: 2003.07.06 @ 22:46:53

Time Off Btm: 2003.07.06 @ 23:52:08

TEST COMMENT: IF-Weak Dead 5min
FF-Dead Flush tool no help

Pressure vs. Time



PRESSURE SUMMARY

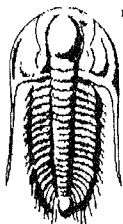
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1714.55	106.15	Initial Hydro-static
1	15.70	106.02	Open To Flow (1)
25	20.99	105.70	Shut-In (1)
60	405.51	106.74	End Shut-In (1)
60	23.53	106.73	Open To Flow (2)
65	28.48	106.91	Shut-In (2)
66	1675.30	107.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drilling Mud	0.02

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17247

DST#: 3

ATTN: Ron Nelson

Test Start: 2003.07.06 @ 21:19:53

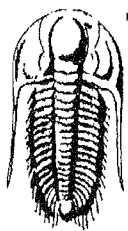
Tool Information

Drill Pipe:	Length: 3571.00 ft	Diameter: 3.80 inches	Volume: 50.09 bbl	Tool Weight: 3300.00 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: 50000.00 lb
		Total Volume: 50.24 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3599.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.02 ft			
Tool Length:	76.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3580.00	
S.I. Tool	5.00			3585.00	
HMV	5.00			3590.00	
Packer	4.00			3594.00	20.00 Bottom Of Top Packer
Packer	5.00			3599.00	
Stubb	1.00			3600.00	
Perforations	2.00			3602.00	
C.O. Sub	1.00			3603.00	
Recorder	0.01	3227	Inside	3603.01	
Blank Spacing	30.00			3633.01	
C.O. Sub	1.00			3634.01	
Perforations	18.00			3652.01	
Recorder	0.01	13308	Outside	3652.02	
Bullhose	3.00			3655.02	56.02 Bottom Packers & Anchor

Total Tool Length: 76.02



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17247

DST#: 3

ATTN: Ron Nelson

Test Start: 2003.07.06 @ 21:19:53

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: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Drilling Mud	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 3

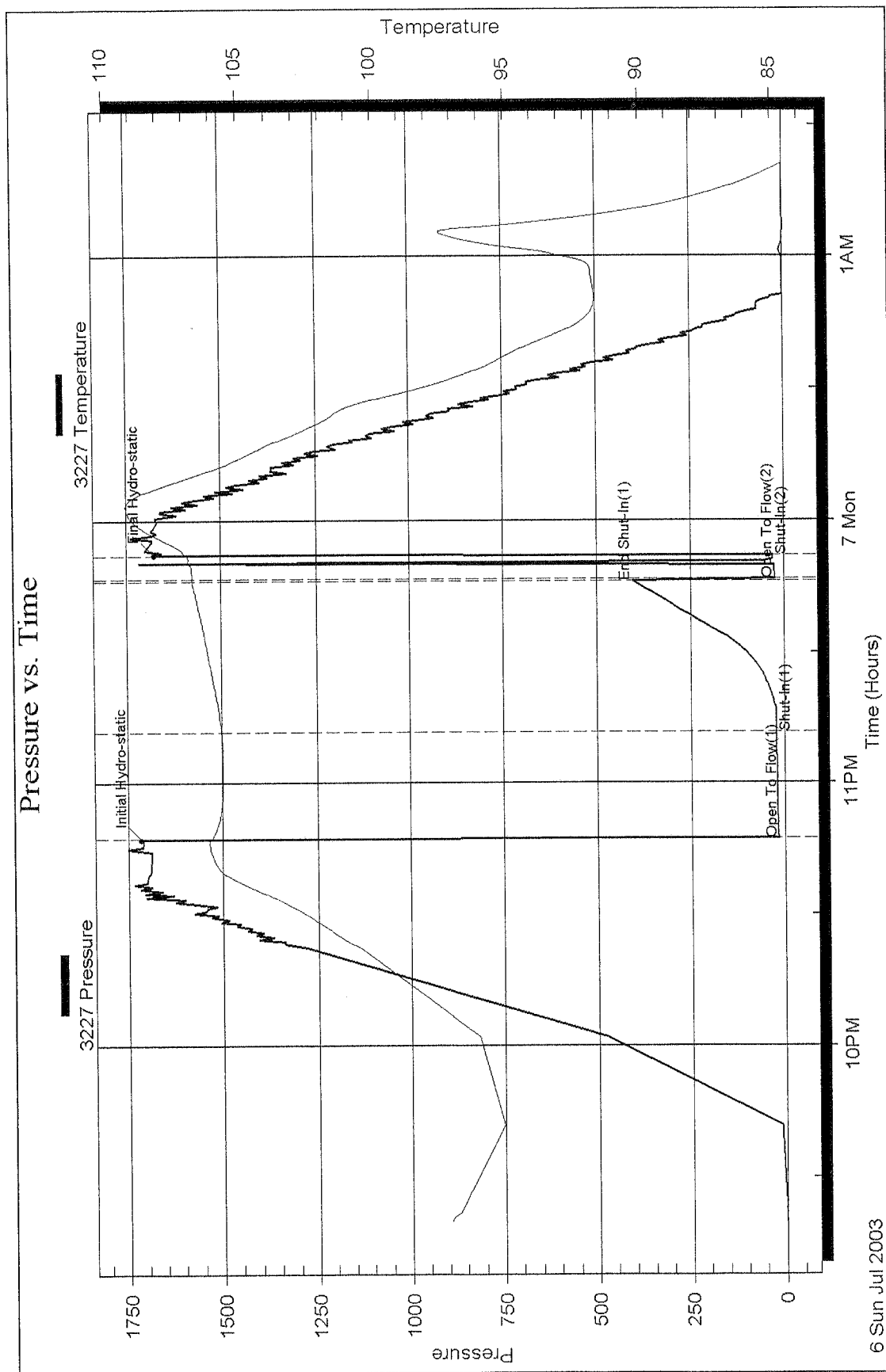
19-13s-21w Trego KS

Dowling-Nelson Oil Co Inc

Inside

Serial #: 3227

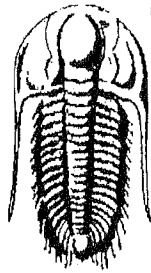
Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 17247

Printed: 2003.07.11 @ 16:03:09 Page 5



**TRILOBITE
TESTING, INC.**

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DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

19-13s-21w Trego KS

Herbert West # 1-19

Start Date: 2003.07.07 @ 13:10:03

End Date: 2003.07.07 @ 20:26:03

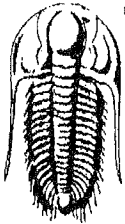
Job Ticket #: 17248

DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

Herbert West # 1-19

19-13s-21w Trego KS

Job Ticket: 17248

DST#: 4

Test Start: 2003.07.07 @ 13:10:03

GENERAL INFORMATION:

Formation: **L.Kc.-H-I-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:36:48

Time Test Ended: 20:26:03

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3690.00 ft (KB) To 3765.00 ft (KB) (TVD)**

Total Depth: 3765.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2237.00 ft (KB)

2229.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 3227

Inside

Press@RunDepth: 46.96 psig @ 3694.01 ft (KB)

Start Date: 2003.07.07

End Date:

2003.07.07

Start Time: 13:10:04

End Time:

20:26:03

Capacity: 7000.00 psig

Last Calib.: 2003.07.07

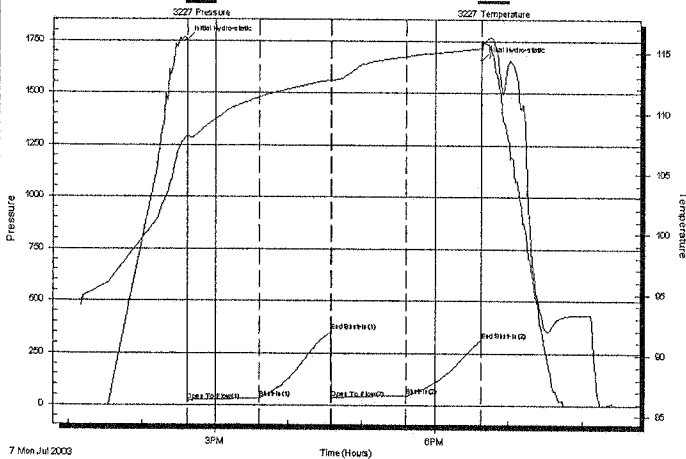
Time On Btm: 2003.07.07 @ 14:36:33

Time Off Btm: 2003.07.07 @ 18:37:33

TEST COMMENT: IF- Weak to good built 7.5" in
FF-Good B.O.B.40 min.

ISI-Dead
FSI-Dead

Pressure vs. Time



PRESSURE SUMMARY

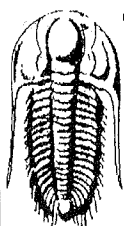
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1752.06	108.14	Initial Hydro-static
1	18.18	108.02	Open To Flow (1)
60	32.82	111.32	Shut-In(1)
119	352.16	112.78	End Shut-In(1)
119	31.20	112.77	Open To Flow (2)
180	46.96	114.67	Shut-In(2)
241	310.28	115.39	End Shut-In(2)
241	1657.97	115.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	HMCO--45% mud 55% oil	0.77
0.00	360 gas in pipe	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

Downing-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17248

DST#: 4

ATTN: Ron Nelson

Test Start: 2003.07.07 @ 13:10:03

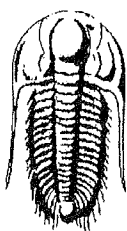
Tool Information

Drill Pipe:	Length: 3664.00 ft	Diameter: 3.80 inches	Volume: 51.40 bbl	Tool Weight: 3500.00 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
		Total Volume:	51.55 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3690.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.02 ft			
Tool Length:	95.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3671.00	
S.I. Tool	5.00			3676.00	
HMV	5.00			3681.00	
Packer	4.00			3685.00	20.00 Bottom Of Top Packer
Packer	5.00			3690.00	
Stubb	1.00			3691.00	
Perforations	2.00			3693.00	
C.O. Sub	1.00			3694.00	
Recorder	0.01	3227	Inside	3694.01	
Blank Spacing	61.00			3755.01	
C.O. Sub	1.00			3756.01	
Perforations	6.00			3762.01	
Recorder	0.01	13308	Outside	3762.02	
Bullnose	3.00			3765.02	75.02 Bottom Packers & Anchor

Total Tool Length: 95.02



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17248

DST#: 4

ATTN: Ron Nelson

Test Start: 2003.07.07 @ 13:10:03

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: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	HMCO--45% mud 55% oil	0.770
0.00	360 gas in pipe	0.000

Total Length: 75.00 ft

Total Volume: 0.770 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 4

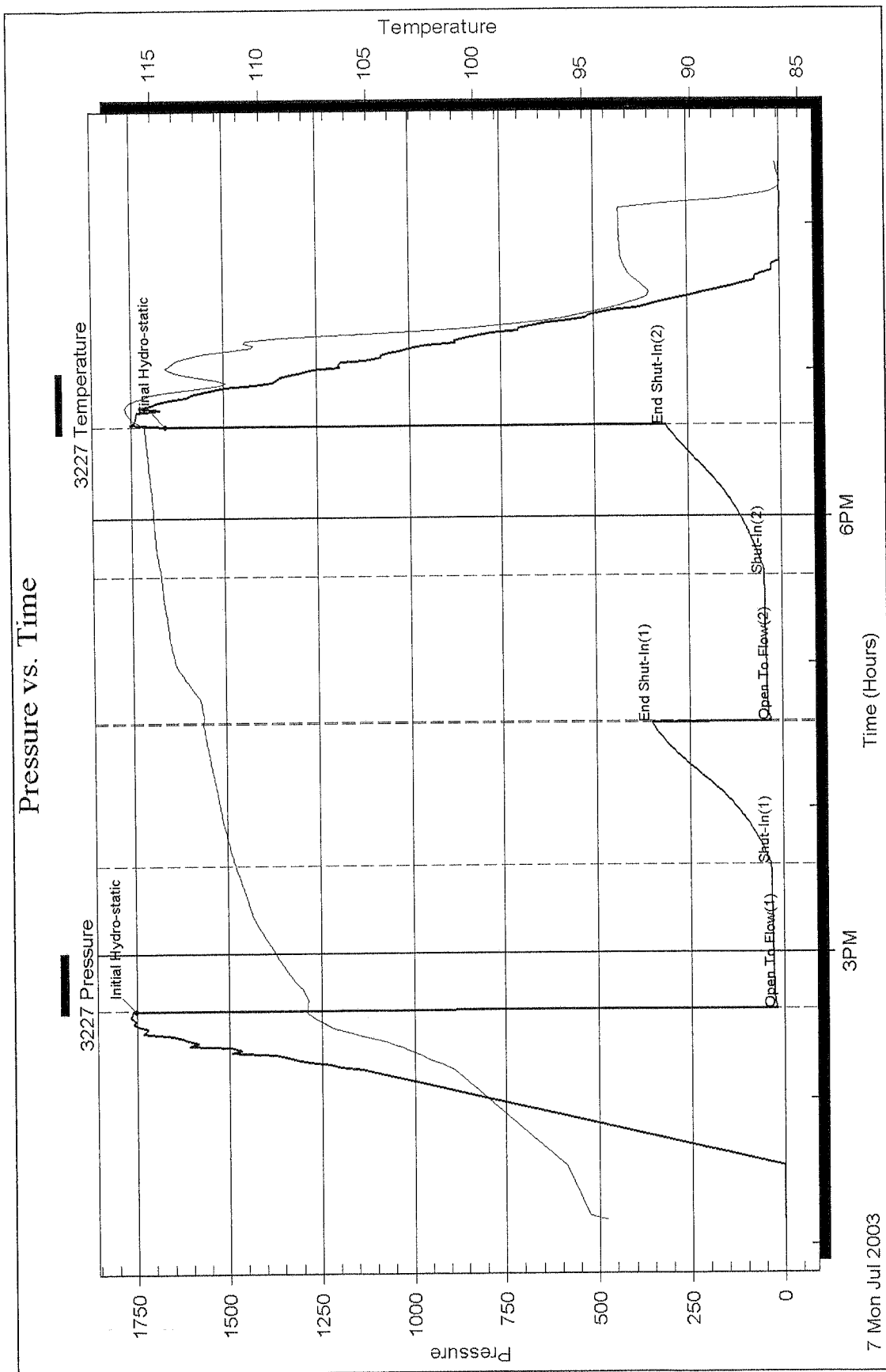
19-13s-21w Trego KS

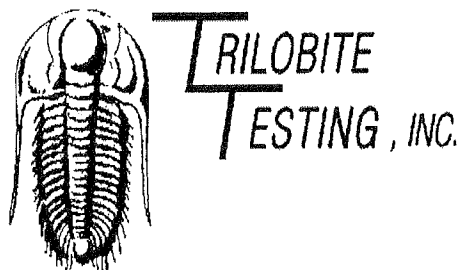
Dowling-Nelson Oil Co Inc

Inside

Serial #: 3227

Pressure vs. Time





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DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

19-13s-21w Trego KS

Herbert West # 1-19

Start Date: 2003.07.08 @ 15:19:02

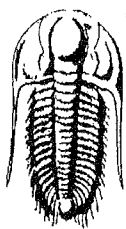
End Date: 2003.07.08 @ 21:45:32

Job Ticket #: 17249 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Downing-Nelson Oil Co Inc

PO Box 372
Hays KS 67601

ATTN: Ron Nelson

Herbert West # 1-19

19-13s-21w Trego KS

Job Ticket: 17249

DST#: 5

Test Start: 2003.07.08 @ 15:19:02

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:47:32

Time Test Ended: 21:45:32

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3943.00 ft (KB) To 3977.00 ft (KB) (TVD)**

Total Depth: 3977.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2237.00 ft (KB)

2229.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 3227 Inside

Press@RunDepth: 35.87 psig @ 3949.01 ft (KB)

Start Date: 2003.07.08

End Date: 2003.07.08

Start Time: 15:19:03

End Time: 21:45:32

Capacity: 7000.00 psig

Last Calib.: 2003.07.08

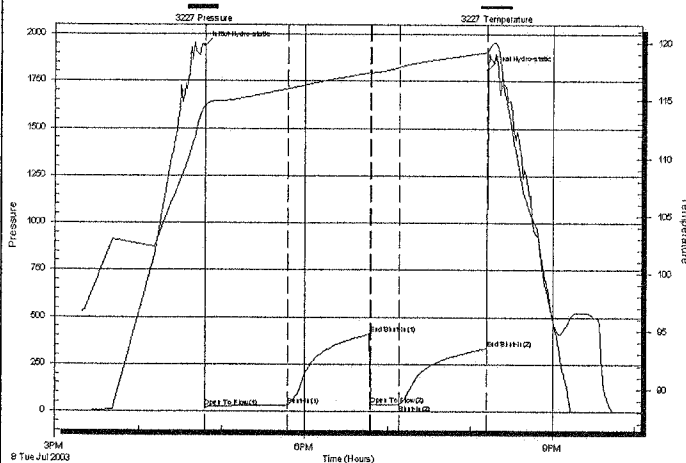
Time On Btm: 2003.07.08 @ 16:47:17

Time Off Btm: 2003.07.08 @ 20:11:47

TEST COMMENT: IF-Weak built to 2.5" in
FF-Dead

IS-Dead

Pressure vs. Time



PRESSURE SUMMARY

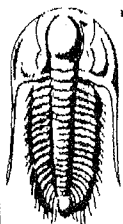
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1941.14	114.57	Initial Hydro-static
1	19.37	114.52	Open To Flow (1)
60	32.60	115.99	Shut-In (1)
120	410.86	117.41	End Shut-In (1)
121	34.95	117.40	Open To Flow (2)
141	35.87	117.88	Shut-In (2)
205	335.16	119.19	End Shut-In (2)
205	1810.70	119.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	HOCM--40%oil--60%mud	0.35
5.00	free oil	0.07

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17249

DST#: 5

ATTN: Ron Nelson

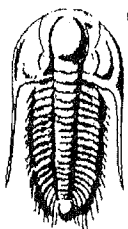
Test Start: 2003.07.08 @ 15:19:02

Tool Information

Drill Pipe:	Length: 3910.00 ft	Diameter: 3.80 inches	Volume: 54.85 bbl	Tool Weight:	3000.00 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:	60000.00 lb
		Total Volume:	55.00 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3943.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	34.02 ft				
Tool Length:	54.02 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3924.00	
S.I. Tool	5.00			3929.00	
HMV	5.00			3934.00	
Packer	4.00			3938.00	20.00 Bottom Of Top Packer
Packer	5.00			3943.00	
Stubb	1.00			3944.00	
Perforations	5.00			3949.00	
Recorder	0.01	3227	Inside	3949.01	
Perforations	25.00			3974.01	
Recorder	0.01	3308	Outside	3974.02	
Bullnose	3.00			3977.02	34.02 Bottom Packers & Anchor

Total Tool Length: 54.02



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson Oil Co Inc

Herbert West # 1-19

PO Box 372
Hays KS 67601

19-13s-21w Trego KS

Job Ticket: 17249

DST#: 5

ATTN: Ron Nelson

Test Start: 2003.07.08 @ 15:19:02

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 7.17 in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: ppm

deg API

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	HOCM--40%oil--60%mud	0.349
5.00	free oil	0.070

Total Length: 50.00 ft Total Volume: 0.419 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 5

19-13s-21w Trego KS

Dow ning-Nelson Oil Co Inc

Inside

Serial #: 3227

Pressure vs. Time

