

20-9-23w
15-065-23502-0000
KGS ✓



DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**
PO Box 372
Hays, KS 67601

ATTN: Ron Nelson

20-9s-23w Graham KS

Nelson B#1

Start Date: 2008.12.10 @ 03:48:04

End Date: 2008.12.10 @ 11:01:28

Job Ticket #: 35002 DST #: 1

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Downing-Nelson Oil Co Inc

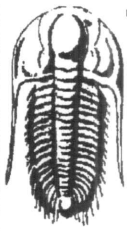
Nelson B#1

20-9s-23w Graham KS

DST # 1

LKC C-E

2008.12.10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing-Nelson Oil Co Inc

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

Job Ticket: 35002

DST#: 1

ATTN: Ron Nelson

Test Start: 2008.12.10 @ 03:48:04

GENERAL INFORMATION:

Formation: **LKC C-E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:08:29

Time Test Ended: 11:01:28

Test Type: Conventional Bottom Hole

Tester: Ray Schwager

Unit No: 42

Interval: 3766.00 ft (KB) To 3824.00 ft (KB) (TVD)

Total Depth: 3824.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2413.00 ft (KB)

2406.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8365 Inside

Press@RunDepth: 87.90 psig @ 3801.01 ft (KB)

Start Date: 2008.12.10

End Date:

2008.12.10

Capacity: 7000.00 psig

Last Calib.: 2008.12.10

Start Time: 03:48:04

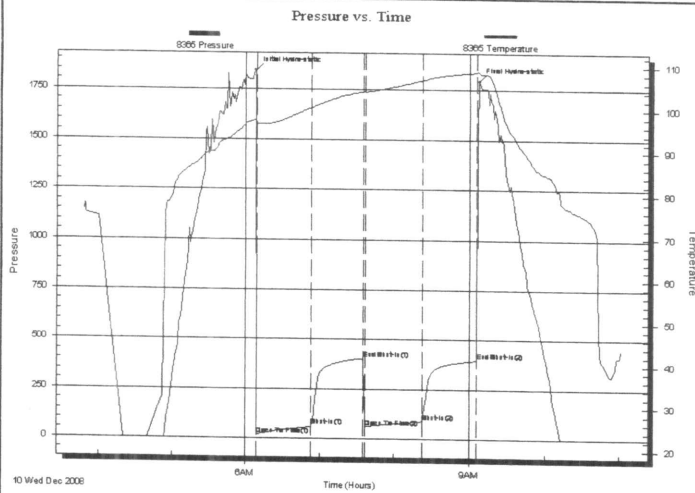
End Time:

11:01:28

Time On Btm: 2008.12.10 @ 06:07:59

Time Off Btm: 2008.12.10 @ 09:07:28

TEST COMMENT: IFP-w k bl thru-out 1/2" to 2 3/4" bl
FFP-w k bl thru-out 1/4" to 1/2" bl
Times 45-45-45-45



PRESSURE SUMMARY

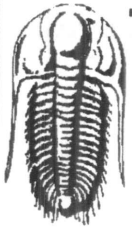
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1840.32	97.49	Initial Hydro-static
1	15.86	96.79	Open To Flow (1)
46	60.59	100.35	Shut-In(1)
88	403.53	104.15	End Shut-In(1)
89	58.64	104.03	Open To Flow(2)
135	87.90	106.78	Shut-In(2)
178	396.02	108.67	End Shut-In(2)
180	1790.48	108.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GIP	0.00
5.00	CO	0.07
85.00	MW 15% M85% W w/show of oil	1.19
60.00	water	0.84

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing-Nelson Oil Co Inc

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

Job Ticket: 35002

DST#: 1

ATTN: Ron Nelson

Test Start: 2008.12.10 @ 03:48:04

Tool Information

Drill Pipe:	Length: 3775.00 ft	Diameter: 3.80 inches	Volume: 52.95 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 52.95 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3766.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.02 ft			
Tool Length:	79.02 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			3746.00	
Shut In Tool	5.00			3751.00	
Hydraulic tool	5.00			3756.00	
Packer	5.00			3761.00	21.00 Bottom Of Top Packer
Packer	5.00			3766.00	
Stubb	1.00			3767.00	
Perforations	2.00			3769.00	
Blank Spacing	32.00			3801.00	
Recorder	0.01	8365	Inside	3801.01	
Recorder	0.01	6625	Outside	3801.02	
Perforations	20.00			3821.02	
Bullnose	3.00			3824.02	58.02 Bottom Packers & Anchor
Total Tool Length:	79.02				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson Oil Co Inc

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

ATTN: Ron Nelson

Job Ticket: 35002

DST#: 1

Test Start: 2008.12.10 @ 03:48:04

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:	43000 ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.53 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GIP	0.000
5.00	CO	0.070
85.00	MW 15%MB5%W w/show of oil	1.192
60.00	water	0.842

Total Length: 150.00 ft Total Volume: 2.104 bbl

Num Fluid Samples: 0

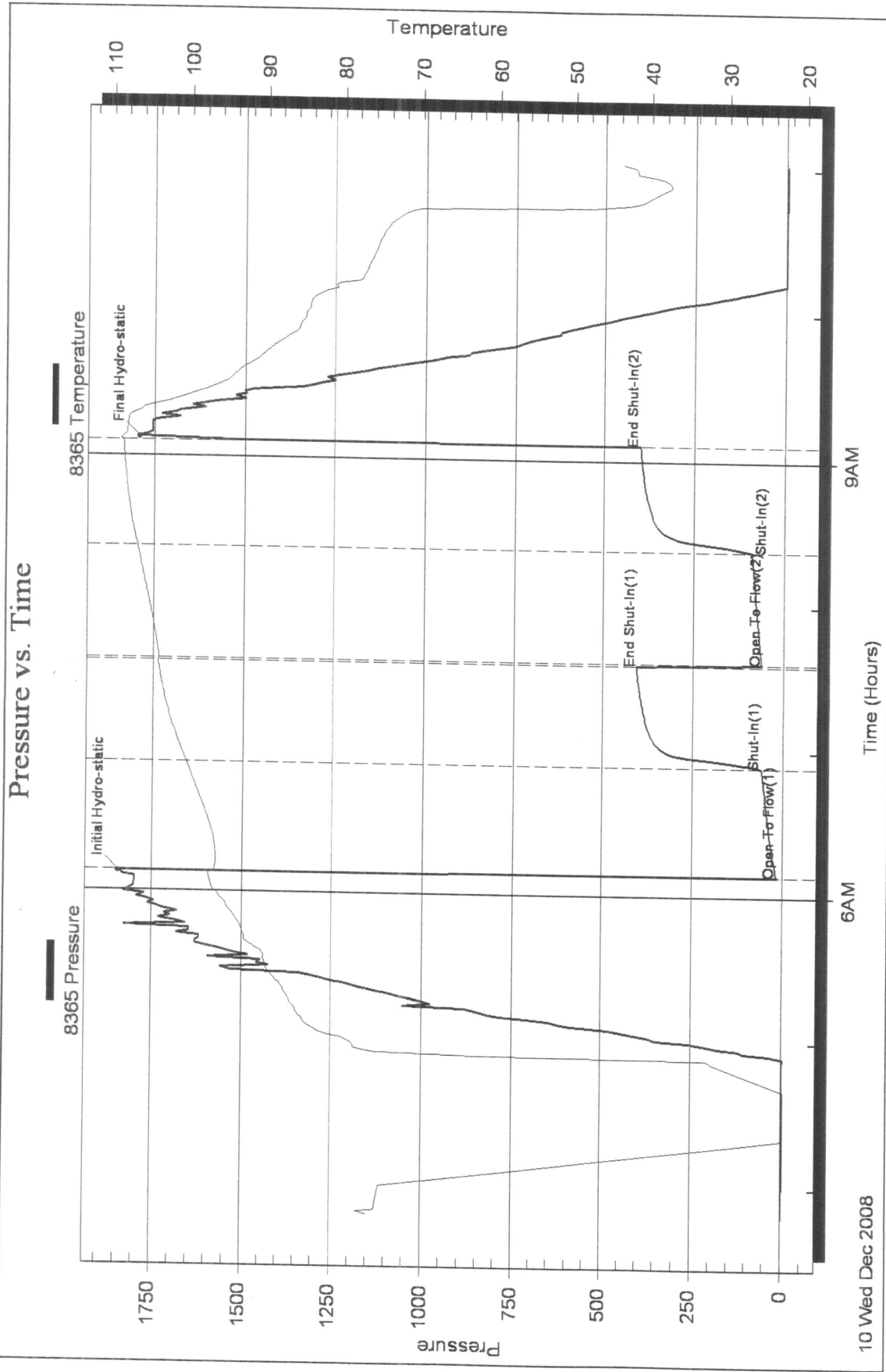
Num Gas Bombs: 0

Serial #:

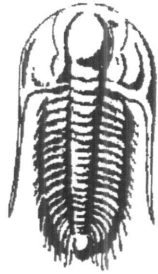
Laboratory Name:

Laboratory Location:

Recovery Comments: RW .21 @ 55F



10 Wed Dec 2008



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

PO Box 372
Hays, KS 67601

ATTN: Ron Nelson

20-9s-23w Graham KS

Nelson B#1

Start Date: 2008.12.11 @ 06:49:01

End Date: 2008.12.11 @ 13:16:55

Job Ticket #: 35003 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Downing-Nelson Oil Co Inc

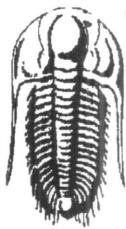
Nelson B#1

20-9s-23w Graham KS

DST # 2

LKC H-base

2008.12.11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Downing-Nelson Oil Co Inc

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

Job Ticket: 35003

DST#: 2

ATTN: Ron Nelson

Test Start: 2008.12.11 @ 06:49:01

GENERAL INFORMATION:

Formation: **LKC H-base**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:31:56
 Time Test Ended: 13:16:55

Test Type: Conventional Bottom Hole
 Tester: Ray Schwager
 Unit No: 42

Interval: **3860.00 ft (KB) To 3994.00 ft (KB) (TVD)**
 Total Depth: 3994.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2413.00 ft (KB)
 2406.00 ft (CF)
 KB to GR/CF: 7.00 ft

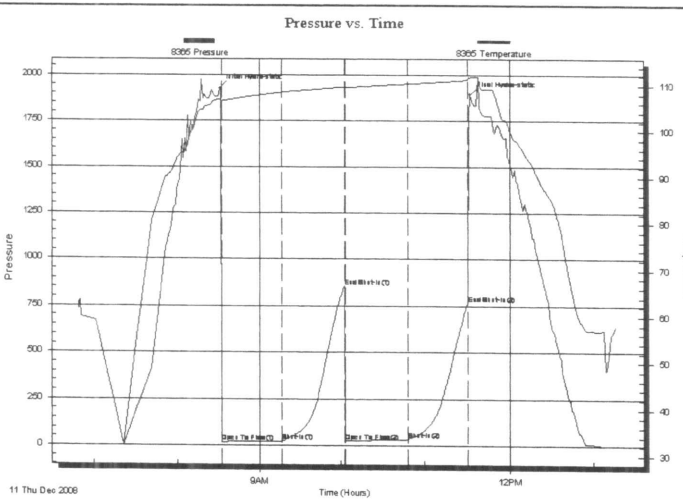
Serial #: 8365

Inside

Press@RunDepth: 32.89 psig @ 3866.01 ft (KB)
 Start Date: 2008.12.11 End Date: 2008.12.11
 Start Time: 06:49:01 End Time: 13:16:55

Capacity: 7000.00 psig
 Last Calib.: 2008.12.11
 Time On Btm: 2008.12.11 @ 08:30:56
 Time Off Btm: 2008.12.11 @ 11:32:25

TEST COMMENT: IFP-w k bl thru-out 1/2"to 1"bl
 FFP-w k bl thru-out 1 1/2"to 3"bl
 Times 45-45-45-45
 ISIP-no bl,FSIP-surface bl bk



PRESSURE SUMMARY

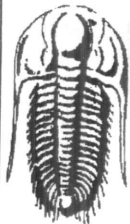
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1925.44	106.90	Initial Hydro-static
1	15.38	105.74	Open To Flow (1)
46	23.16	108.43	Shut-In(1)
92	855.22	109.68	End Shut-In(1)
92	21.70	109.36	Open To Flow (2)
138	32.89	110.36	Shut-In(2)
180	766.11	111.18	End Shut-In(2)
182	1891.40	111.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
35.00	HO&GCM 10%G30%O60%M	0.49
0.00	145'GIP	0.00

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

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

Job Ticket: 35003

DST#: 2

ATTN: Ron Nelson

Test Start: 2008.12.11 @ 06:49:01

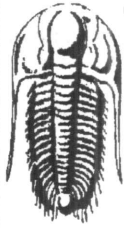
Tool Information

Drill Pipe:	Length: 3869.00 ft	Diameter: 3.80 inches	Volume: 54.27 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 54.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3860.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	133.02 ft			
Tool Length:	154.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3840.00	
Shut In Tool	5.00			3845.00	
Hydraulic tool	5.00			3850.00	
Packer	5.00			3855.00	21.00 Bottom Of Top Packer
Packer	5.00			3860.00	
Stubb	1.00			3861.00	
Perforations	5.00			3866.00	
Recorder	0.01	8365	Inside	3866.01	
Recorder	0.01	6625	Outside	3866.02	
Blank Spacing	124.00			3990.02	
Bullnose	3.00			3993.02	
Total Tool Length:	154.02				133.02 Bottom Packers & Anchor



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

Job Ticket: 35003

DST#: 2

ATTN: Ron Nelson

Test Start: 2008.12.11 @ 06:49:01

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 54.00 sec/qt

Water Loss: 8.74 in³

Resistivity: ohm.m

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	HO&GCM 10%G30%O60%M	0.491
0.00	145'GIP	0.000

Total Length: 35.00 ft Total Volume: 0.491 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

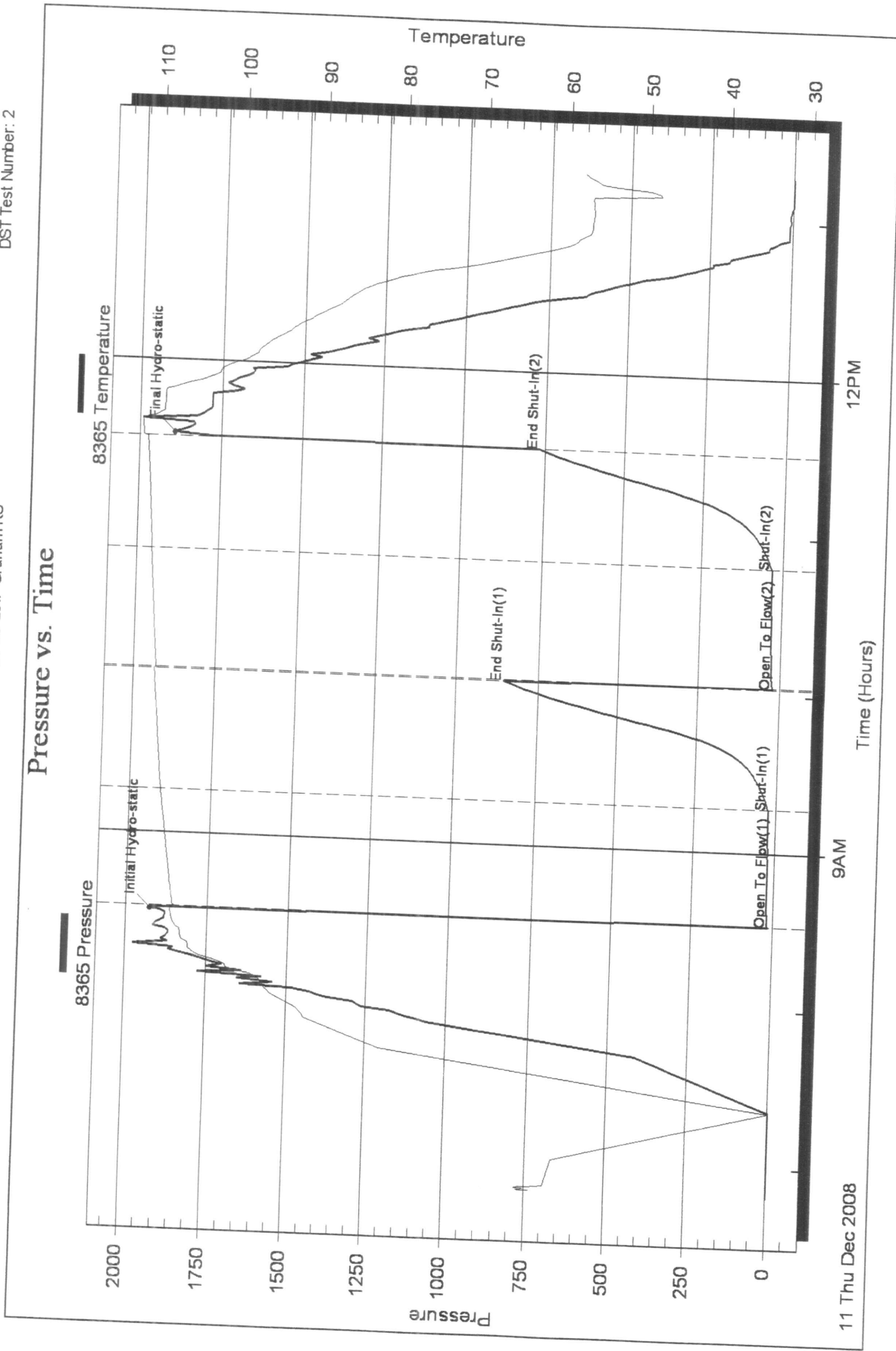
Serial #: 8365

Inside

Dow ning-Nelson Oil Co Inc

20-9s-23w Graham KS

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 35003



DRILL STEM TEST REPORT

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

PO Box 372
Hays, KS 67601

ATTN: Ron Nelson

20-9s-23w Graham KS

Nelson B#1

Start Date: 2008.12.11 @ 14:07:12

End Date: 2008.12.11 @ 19:27:36

Job Ticket #: 35004 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

Dow ning-Nelson Oil Co Inc

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

ATTN: Ron Nelson

Job Ticket: 35004

DST#: 3

Test Start: 2008.12.11 @ 14:07:12

GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:34:07

Time Test Ended: 19:27:36

Test Type: Conventional Straddle

Tester: Ray Schwager

Unit No: 42

Interval: **3800.00 ft (KB) To 3850.00 ft (KB) (TVD)**

Total Depth: 3994.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2413.00 ft (KB)

2406.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8365

Inside

Press@RunDepth: 26.41 psig @ 3841.01 ft (KB)

Start Date: 2008.12.11

End Date: 2008.12.11

Start Time: 14:07:12

End Time: 19:27:36

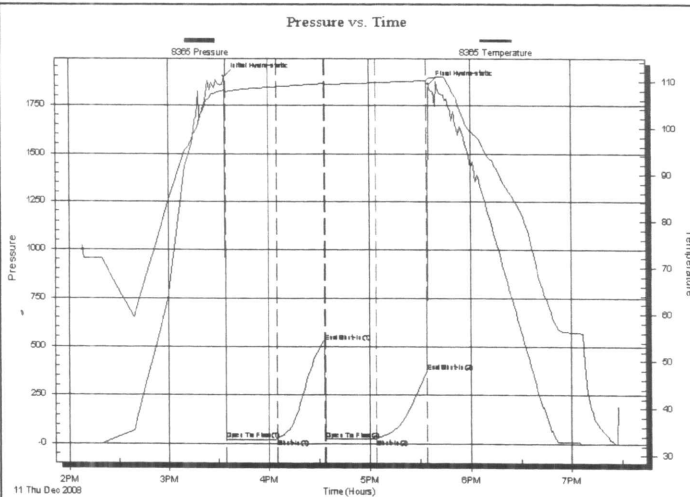
Capacity: 7000.00 psig

Last Calib.: 2008.12.11

Time On Btm: 2008.12.11 @ 15:33:37

Time Off Btm: 2008.12.11 @ 17:35:07

TEST COMMENT: IFF-w k bl thru-out surface to 1/2"bl
FFP-surface bl died in 20 min
Times 30-30-30-30



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1898.07	108.14	Initial Hydro-static
1	17.53	107.63	Open To Flow (1)
31	25.40	108.86	Shut-In(1)
60	524.26	109.54	End Shut-In(1)
60	21.97	109.38	Open To Flow (2)
90	26.41	109.75	Shut-In(2)
120	368.39	110.19	End Shut-In(2)
122	1858.11	110.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	SOCM 1%O99%M	0.21

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing-Nelson Oil Co Inc

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

Job Ticket: 35004

DST#: 3

ATTN: Ron Nelson

Test Start: 2008.12.11 @ 14:07:12

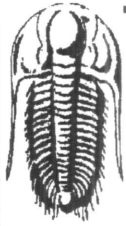
Tool Information

Drill Pipe:	Length: 3807.00 ft	Diameter: 3.80 inches	Volume: 53.40 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 53.40 bbl</u>	Tool Chased: 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3800.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	3850.01 ft			
Interval between Packers:	50.01 ft			
Tool Length:	220.02 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3780.00	
Shut In Tool	5.00			3785.00	
Hydraulic tool	5.00			3790.00	
Packer	5.00			3795.00	21.00 Bottom Of Top Packer
Packer	5.00			3800.00	
Stubb	1.00			3801.00	
Perforations	9.00			3810.00	
Blank Spacing	31.00			3841.00	
Recorder	0.01	8365	Inside	3841.01	
Perforations	5.00			3846.01	
Blank Off Sub	1.00			3847.01	
Blank Spacing	3.00			3850.01	50.01 Tool Interval
Packer	5.00			3855.01	
Stubb	1.00			3856.01	
Perforations	14.00			3870.01	
Recorder	0.01	6625	Below	3870.02	
Blank Spacing	126.00			3996.02	
Bullnose	3.00			3999.02	149.01 Bottom Packers & Anchor
Total Tool Length:	220.02				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson Oil Co Inc

Nelson B#1

PO Box 372
Hays, KS 67601

20-9s-23w Graham KS

Job Ticket: 35004

DST#: 3

ATTN: Ron Nelson

Test Start: 2008.12.11 @ 14:07:12

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: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	SOCM 1%O99%M	0.210

Total Length: 15.00 ft Total Volume: 0.210 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

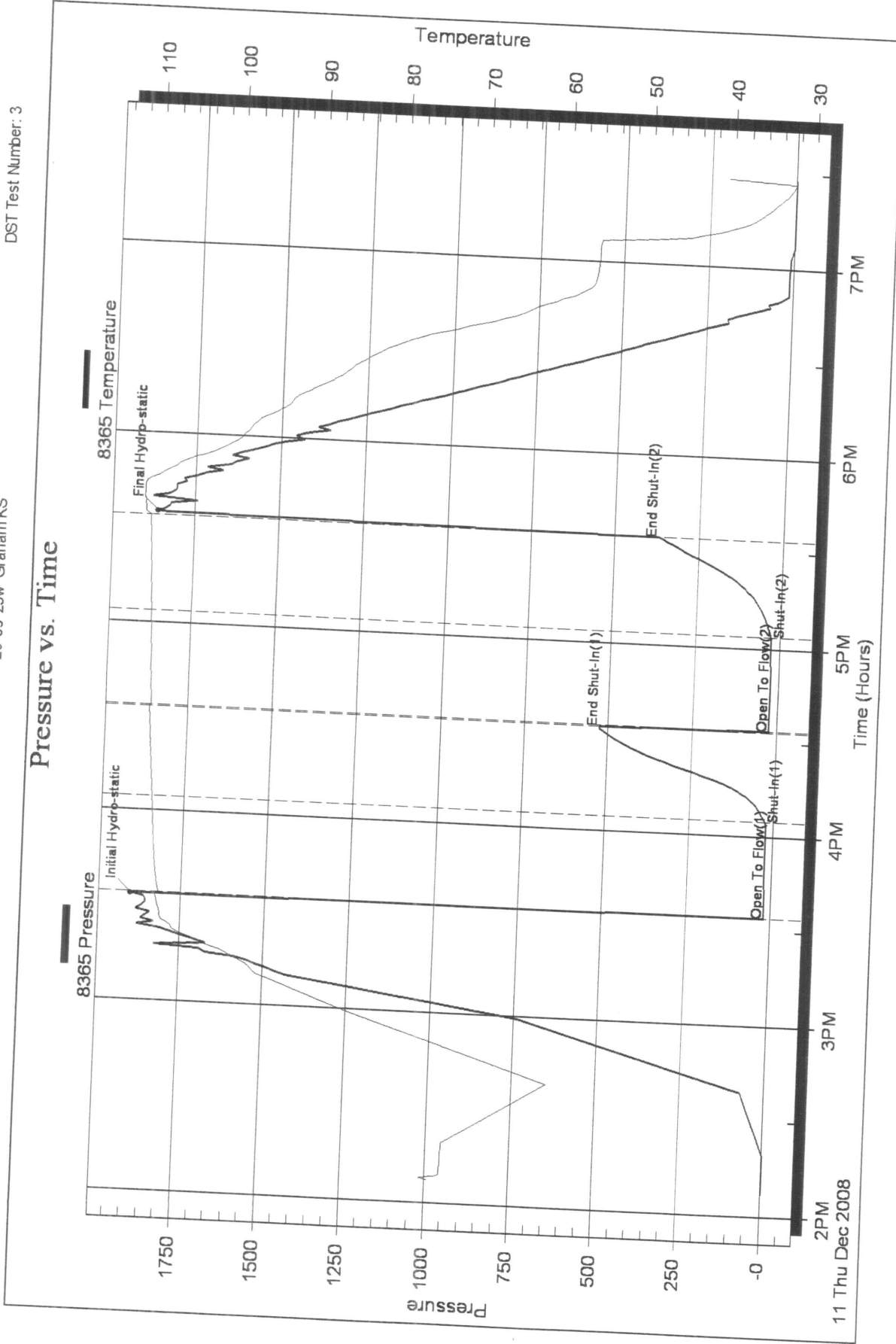
Serial #: 8365

Inside

Downing-Nelson Oil Co Inc

20-9s-23w Graham KS

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 35004

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