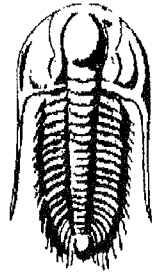


13-14s-21w



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **DNOC**

PO Box 372
Hays KS 67601

ATTN: Gator

13-14s-21w Trego

Luea 1-13

Start Date: 2005.08.03 @ 13:54:55

End Date: 2005.08.03 @ 22:02:10

Job Ticket #: 23529 DST #: 1

15-195-223000-00-00

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

DNOC

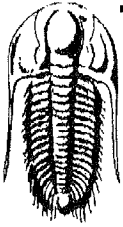
Luea 1-13

13-14s-21w Trego

DST # 1

Arb.

2005.08.03



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

DNOC

PO Box 372
Hays KS 67601

ATTN: Gator

Luea 1-13

13-14s-21w Trego

Job Ticket: 23529

DST#: 1

Test Start: 2005.08.03 @ 13:54:55

GENERAL INFORMATION:

Formation: **Arb.**
 Deviated: **No** Whipstock: **ft (KB)**
 Time Tool Opened: 17:07:10
 Time Test Ended: 22:02:10

Test Type: Conventional Straddle
 Tester: Michael
 Unit No: 15

Interval: **3940.00 ft (KB) To 4010.00 ft (KB) (TVD)**
 Total Depth: **4050.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: Fair

Reference Elevations: **2325.00 ft (KB)**
2320.00 ft (CF)
 KB to GR/CF: **5.00 ft**

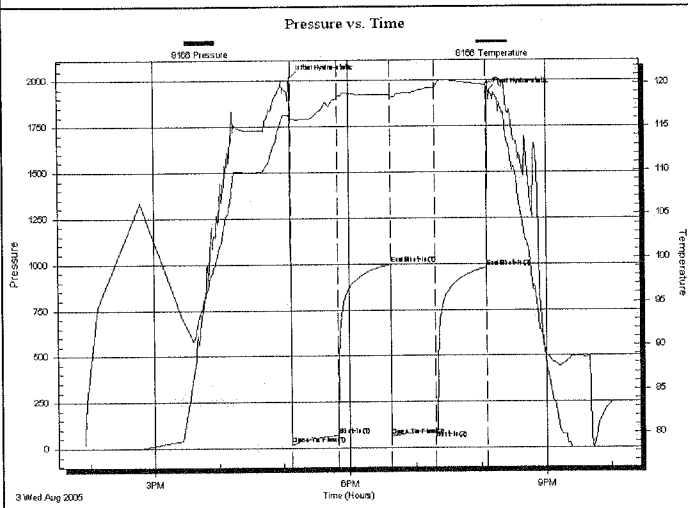
Serial #: 8166

Inside

Press@RunDepth: **92.97 psig @ 3953.00 ft (KB)**
 Start Date: **2005.08.03** End Date: **2005.08.03**
 Start Time: **13:54:56** End Time: **22:02:10**

Capacity: **7000.00 psig**
 Last Calib.: **2005.08.03**
 Time On Btm: **2005.08.03 @ 17:06:55**
 Time Off Btm: **2005.08.03 @ 20:05:55**

TEST COMMENT: IF- Slow building blow to 7" in 45m
 IS- No blow
 FF- Slow building blow to 5 1/2" in 45m
 FS- No blow



PRESSURE SUMMARY

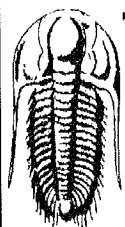
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2013.13	116.56	Initial Hydro-static
1	19.29	116.00	Open To Flow (1)
43	66.80	118.32	Shut-In(1)
91	996.02	118.63	End Shut-In(1)
91	63.11	118.31	Open To Flow (2)
132	92.97	119.46	Shut-In(2)
179	979.47	119.76	End Shut-In(2)
179	1934.15	120.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	Drilling Mud	0.56
125.00	Water Cut Drilling Mud 40%w 60%m	1.75

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

DNOC
PO Box 372
Hays KS 67601

ATTN: Gator

Luea 1-13
13-14s-21w Trego
Job Ticket: 23529 **DST#: 1**
Test Start: 2005.08.03 @ 13:54:55

Tool Information

Drill Pipe:	Length: 3930.00 ft	Diameter: 3.80 inches	Volume: 55.13 bbl	Tool Weight: 2900.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 55.13 bbl</u>	Tool Chased: 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3940.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	4010.00 ft			
Interval between Packers:	70.00 ft			
Tool Length:	132.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

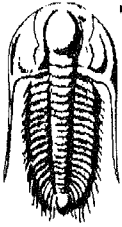
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Shut In Tool	5.00			3925.00	
Hydraulic tool	5.00			3930.00	
Packer	5.00			3935.00	20.00 Bottom Of Top Packer
Packer	5.00			3940.00	
Stubb	2.00			3942.00	
Perforations	10.00			3952.00	
Change Over Sub	1.00			3953.00	
Recorder	0.00	8166	Inside	3953.00	
Drill Pipe	31.00			3984.00	
Change Over Sub	1.00			3985.00	
Perforations	21.00			4006.00	
Recorder	0.00	10991	Outside	4006.00	
Blank Off Sub	1.00			4007.00	
Blank Spacing	3.00			4010.00	70.00 Tool Interval
Packer	5.00			4015.00	
Stubb	1.00			4016.00	
Change Over Sub	1.00			4017.00	
Drill Pipe	31.00			4048.00	
Change Over Sub	1.00			4049.00	
Recorder	0.00	11090	Below	4049.00	
Bullnose	3.00			4052.00	42.00 Bottom Packers & Anchor

Total Tool Length: 132.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

Luea 1-13

PO Box 372
Hays KS 67601

13-14s-21w Trego

Job Ticket: 23529

DST#: 1

ATTN: Gator

Test Start: 2005.08.03 @ 13:54:55

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
40.00	Drilling Mud	0.561
125.00	Water Cut Drilling Mud 40%w 60%m	1.753

Total Length: 165.00 ft Total Volume: 2.314 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8166

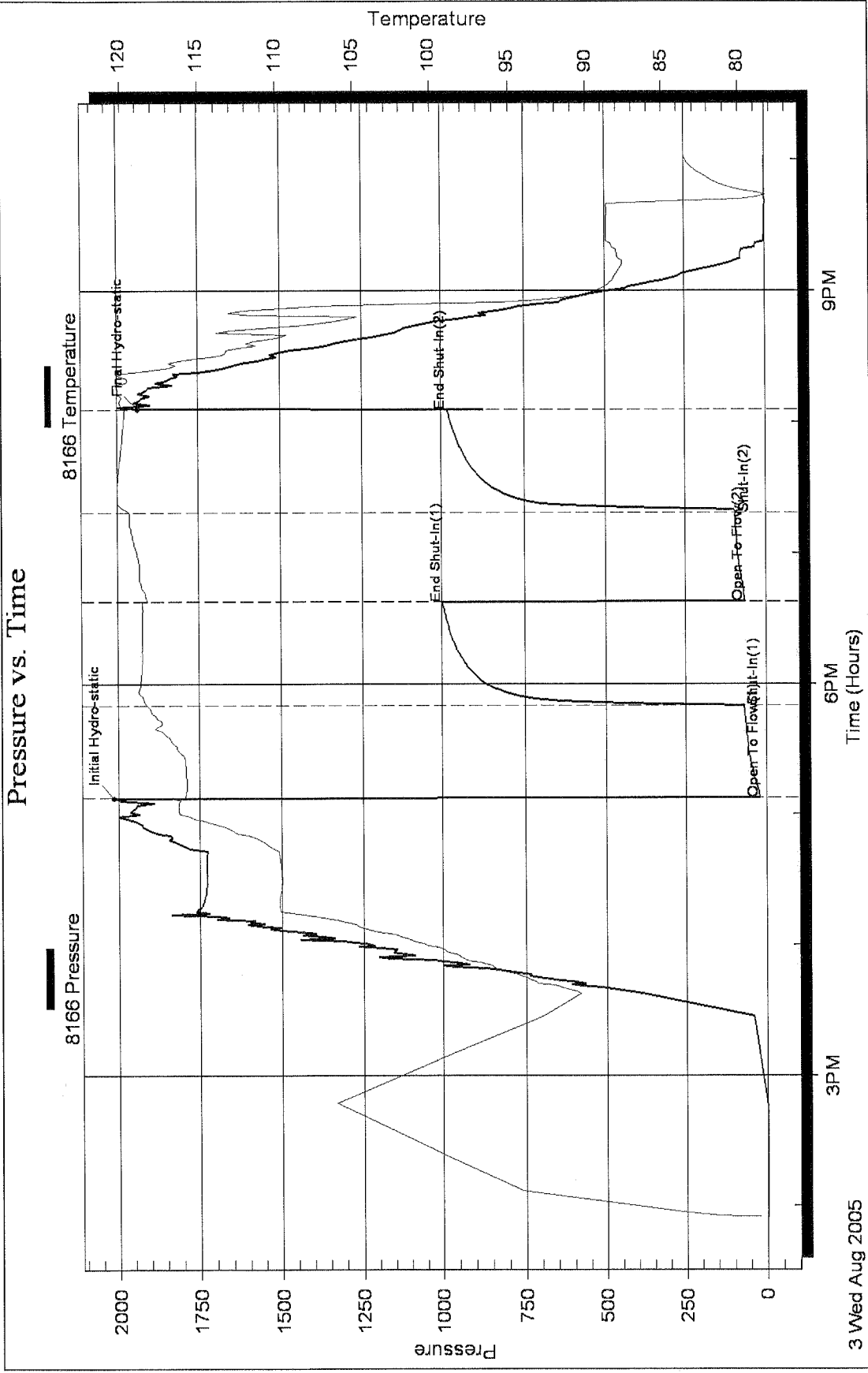
Inside

DNOC

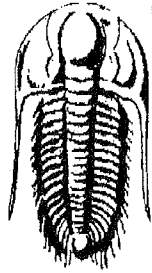
13-14s-21w Trego

DST Test Number: 1

Pressure vs. Time



3 Wed Aug 2005



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **DNOC**

PO Box 372
Hays KS 67601

ATTN: Gator

13-14s-21w Trego

Luea 1-13

Start Date: 2005.08.03 @ 22:19:32

End Date: 2005.08.04 @ 03:54:32

Job Ticket #: 23530 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

DNOC

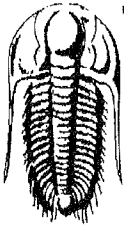
Luea 1-13

13-14s-21w Trego

DST # 2

KC

2005.08.03



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

DNOC

Luea 1-13

PO Box 372
Hays KS 67601

13-14s-21w Trego

Job Ticket: 23530

DST#: 2

ATTN: Gator

Test Start: 2005.08.03 @ 22:19:32

GENERAL INFORMATION:

Formation: **KC**
 Deviated: **No** Whipstock: **ft (KB)**
 Time Tool Opened: 00:35:32
 Time Test Ended: 03:54:32

Test Type: **Conventional Straddle**
 Tester: **Mchael**
 Unit No: **15**

Interval: **3736.00 ft (KB) To 3760.00 ft (KB) (TVD)**
 Total Depth: **4050.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2325.00 ft (KB)**
2320.00 ft (CF)
 KB to GR/CF: **5.00 ft**

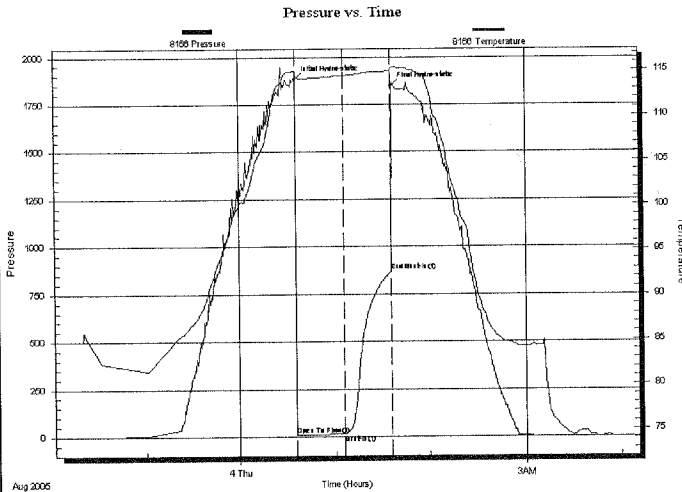
Serial #: 8166

Inside

Press@RunDepth: **13.03 psig @ 3757.00 ft (KB)**
 Start Date: **2005.08.03** End Date: **2005.08.04**
 Start Time: **22:19:33** End Time: **03:54:32**

Capacity: **7000.00 psig**
 Last Calib.: **2005.08.04**
 Time On Btm: **2005.08.04 @ 00:35:17**
 Time Off Btm: **2005.08.04 @ 01:36:02**

TEST COMMENT: IF-1/8" Blow
 IS- No Blow



PRESSURE SUMMARY

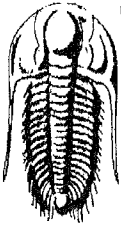
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1883.31	114.96	Initial Hydro-static
1	9.94	114.12	Open To Flow (1)
30	13.03	114.41	Shut-In(1)
61	869.54	114.90	End Shut-In(1)
61	1846.81	115.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drilling Mud	0.07

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

DNOC

Luea 1-13

PO Box 372
Hays KS 67601

13-14s-21w Trego

Job Ticket: 23530

DST#: 2

ATTN: Gator

Test Start: 2005.08.03 @ 22:19:32

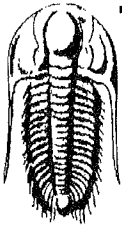
Tool Information

Drill Pipe:	Length: 3736.00 ft	Diameter: 3.80 inches	Volume: 52.41 bbl	Tool Weight: 2900.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 52.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3736.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	3760.00 ft			
Interval between Packers:	24.00 ft			
Tool Length:	335.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3721.00	
Hydraulic tool	5.00			3726.00	
Packer	5.00			3731.00	20.00 Bottom Of Top Packer
Packer	5.00			3736.00	
Stubb	2.00			3738.00	
Perforations	19.00			3757.00	
Recorder	0.00	8166	Inside	3757.00	
Recorder	0.00	10991	Outside	3757.00	
Blank Off Sub	1.00			3758.00	
Blank Spacing	2.00			3760.00	24.00 Tool Interval
Packer	5.00			3765.00	
Stubb	1.00			3766.00	
Change Over Sub	1.00			3767.00	
Drill Pipe	280.00			4047.00	
Change Over Sub	1.00			4048.00	
Recorder	0.00	11090	Below	4048.00	
Bullnose	3.00			4051.00	291.00 Bottom Packers & Anchor
Total Tool Length:	335.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOOC
PO Box 372
Hays KS 67601
ATTN: Gator

Luea 1-13
13-14s-21w Trego
Job Ticket: 23530 **DST#: 2**
Test Start: 2005.08.03 @ 22:19:32

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 53.00 sec/qt
Water Loss: 8.76 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: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Drilling Mud	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8166

Inside DNOG

13-14s-21w Trego

DST Test Number: 2

Pressure vs. Time

