

4-9s-24w

IND



**TRILOBITE**  
**TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **DNOC**

PO Box 372  
Hays KS 67601

ATTN: Ron Nelson

15-065-23546

<sup>24</sup>  
49 ~~34~~ Graham Ks

**Walt # 1-4**

Start Date: 2009.06.22 @ 00:58:58

End Date: 2009.06.22 @ 07:53:28

Job Ticket #: 34313                      DST #: 1

RECEIVED

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DNOC

Walt # 1-4

49 ~~34~~ Graham Ks

DST # 1

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2009.06.22

Range is 24w, not 34 as printed

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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





**TRILOBITE**  
TESTING, INC

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

DNOC

Walt # 1-4

PO Box 372  
Hays KS 67601

4 9 34 Graham Ks

Job Ticket: 34313

DST#: 1

ATTN: Ron Nelson

Test Start: 2009.06.22 @ 00:58:58

**Tool Information**

Drill Pipe:	Length: 3835.00 ft	Diameter: 3.80 inches	Volume: 53.79 bbl	Tool Weight: 2000.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 53.94 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3862.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	17.00 ft			
Tool Length:	37.00 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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Change Over Sub	1.00			3843.00	
Shut In Tool	5.00			3848.00	
Hydraulic tool	5.00			3853.00	
Packer	5.00			3858.00	20.00 Bottom Of Top Packer
Packer	4.00			3862.00	
Stubb	1.00			3863.00	
Recorder	0.00	8372	Inside	3863.00	
Recorder	0.00	8520	Outside	3863.00	
Perforations	13.00			3876.00	
Bullnose	3.00			3879.00	17.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>37.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

DNOC  
PO Box 372  
Hays KS 67601  
ATTN: Ron Nelson

Well # 1-4  
4 9 34 Graham Ks  
Job Ticket: 34313      DST#: 1  
Test Start: 2009.06.22 @ 00:58:58

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API: 36 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 67000 ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.77 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 800.00 ppm		
Filter Cake: inches		

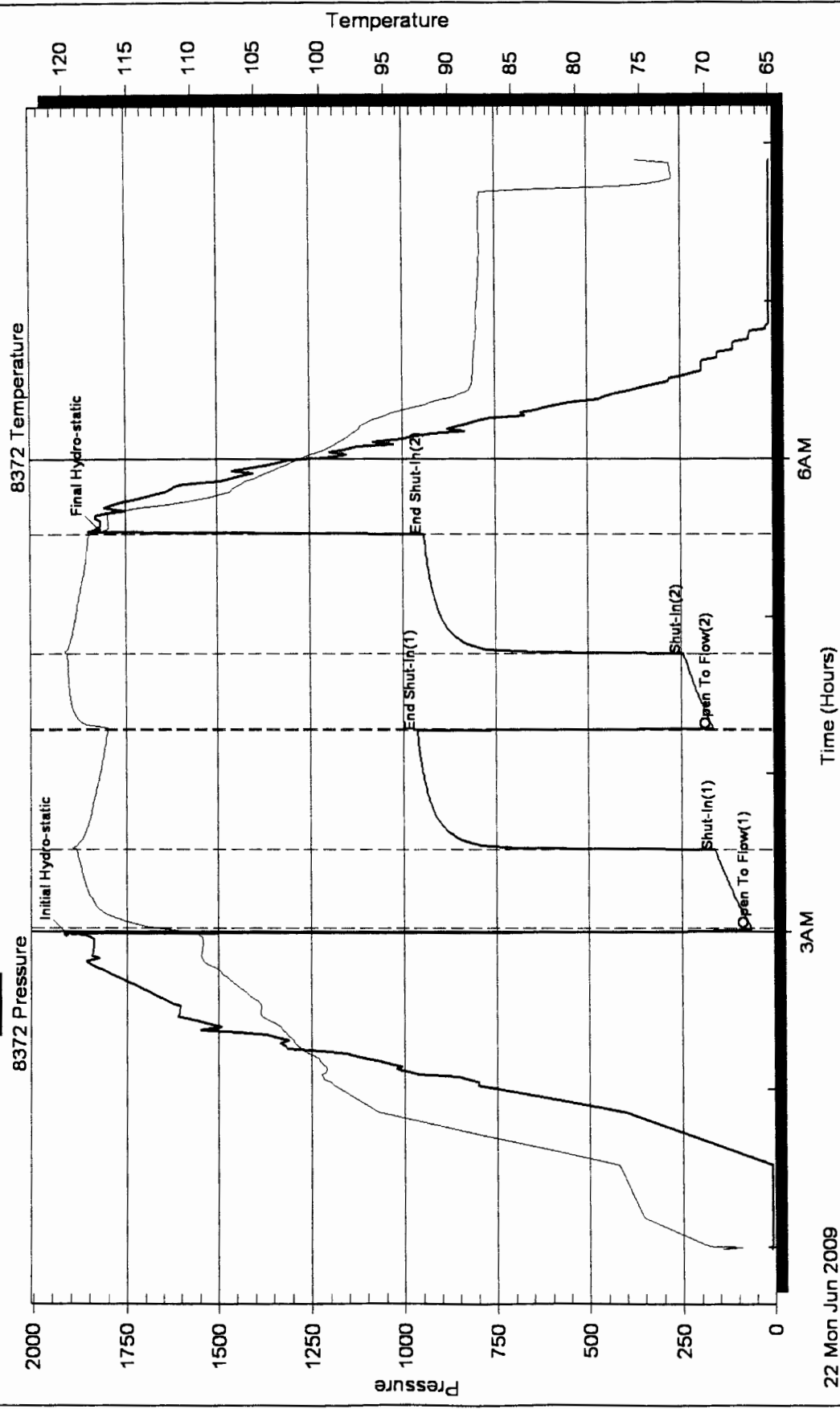
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
300.00	Wtr	3.935
60.00	OCMdyW 20%o 50%w 30%m	0.842
55.00	CGsyO 10%g 90%o	0.772
0.00	370 GIP	0.000

Total Length: 415.00 ft      Total Volume: 5.549 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: Rw .08 @ 80 = 67000ppm

### Pressure vs. Time





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **DNOC**

PO Box 372  
Hays KS 67601

ATTN: Ron Nelson

**4 9 34 Graham Ks**

**Walt # 1-4**

Start Date: 2009.06.22 @ 17:50:10

End Date: 2009.06.23 @ 00:22:40

Job Ticket #: 34314                      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

DNOC

Walt # 1-4

4 9 34 Graham Ks

DST # 2

H-I-J

L

2009.06.22



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

DNOC  
 PO Box 372  
 Hays KS 67601  
 ATTN: Ron Nelson

Well # 1-4  
 4 9 34 Graham Ks  
 Job Ticket: 34314      DST#: 2  
 Test Start: 2009.06.22 @ 17:50:10

## GENERAL INFORMATION:

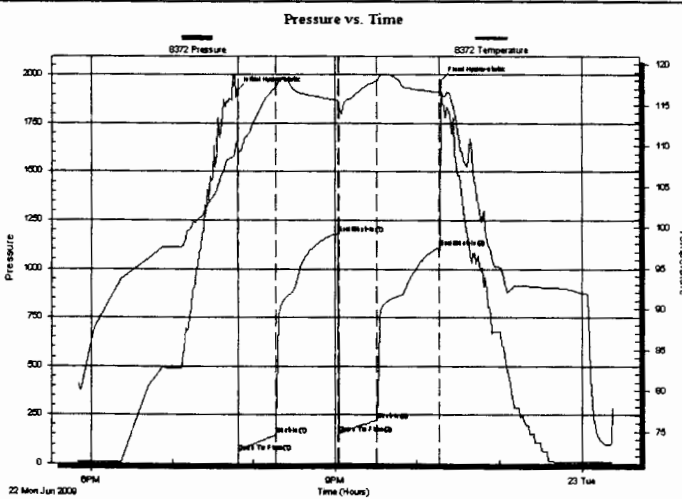
Formation: **HI-J L**  
 Deviated: **No** Whipstock:      ft (KB)  
 Time Tool Opened: 19:48:40  
 Time Test Ended: 00:22:40  
 Interval: **3910.00 ft (KB) To 3985.00 ft (KB) (TVD)**  
 Total Depth: **3985.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Good**  
 Test Type: **Conventional Bottom Hole**  
 Tester: **Dan Bangle**  
 Unit No: **38**  
 Reference Elevations: **2469.00 ft (KB)**  
**2461.00 ft (CF)**  
 KB to GR/CF: **8.00 ft**

## Serial #: 8372

Inside

Press@RunDepth: **221.87 psig @ 3914.00 ft (KB)** Capacity: **7000.00 psig**  
 Start Date: **2009.06.22** End Date: **2009.06.23** Last Calib.: **2009.06.23**  
 Start Time: **17:50:11** End Time: **00:22:40** Time On Btm: **2009.06.22 @ 19:47:40**  
 Time Off Btm: **2009.06.22 @ 22:17:40**

TEST COMMENT: Slid tool 7' to bottom - packer failure - reset tool - IF-Strong B-B in 6 min  
 IS-Strong B-B in 15 min  
 FF-Strong B-B in 10 min  
 FS-Strong B-B in 25 min



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1917.89	110.58	Initial Hydro-static
1	56.13	108.81	Open To Flow (1)
29	146.60	117.08	Shut-In(1)
75	1181.43	115.51	End Shut-In(1)
76	154.03	114.67	Open To Flow(2)
103	221.87	117.93	Shut-In(2)
149	1110.63	116.55	End Shut-In(2)
150	1970.57	116.46	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM 30%o 70%o m	0.57
251.00	MCGsyO 10%g 70%o 20%o m	3.52
310.00	CGsyO 20%g 80%o	4.35
0.00	1640 GIP	0.00

## Gas Rates

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



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TESTING, INC

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

DNOC

Walt # 1-4

PO Box 372  
Hays KS 67601

4 9 34 Graham Ks

Job Ticket: 34314

DST#: 2

ATTN: Ron Nelson

Test Start: 2009.06.22 @ 17:50:10

### Tool Information

Drill Pipe:	Length: 3867.00 ft	Diameter: 3.80 inches	Volume: 54.24 bbl	Tool Weight: 2000.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume: 54.39 bbl		Tool Chased 7.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3910.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	96.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3891.00	
Shut In Tool	5.00			3896.00	
Hydraulic tool	5.00			3901.00	
Packer	5.00			3906.00	20.00 Bottom Of Top Packer
Packer	4.00			3910.00	
Stubb	1.00			3911.00	
Perforations	2.00			3913.00	
Change Over Sub	1.00			3914.00	
Recorder	0.00	8372	Inside	3914.00	
Recorder	0.00	8520	Outside	3914.00	
Drill Pipe	62.00			3976.00	
Change Over Sub	1.00			3977.00	
Perforations	6.00			3983.00	
Perforations	3.00			3986.00	76.00 Bottom Packers & Anchor

**Total Tool Length: 96.00**



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**FLUID SUMMARY**

DNOC  
PO Box 372  
Hays KS 67601  
  
ATTN: Ron Nelson

Well # 1-4  
**4 9 34 Graham Ks**  
Job Ticket: 34314      **DST#: 2**  
Test Start: 2009.06.22 @ 17:50:10

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 32 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.79 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1000.00 ppm		
Filter Cake: inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OCM 30%o 70%m	0.568
251.00	MCGsyO 10%g 70%o 20%m	3.521
310.00	CGsyO 20%g 80%o	4.348
0.00	1640 GIP	0.000

Total Length: 621.00 ft      Total Volume: 8.437 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time

