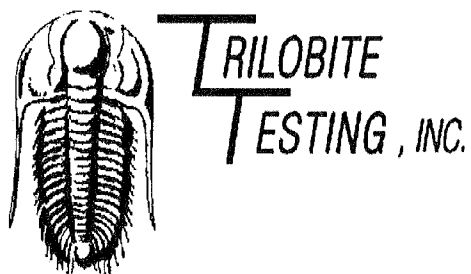


28-14s-16w

15-051-25856-00-00
KGS ✓



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays Ks 67601-9696

ATTN: Tom Denning

28-14s-16w Ellis KS

Crathorne #1

Start Date: 2009.03.01 @ 11:17:17

End Date: 2009.03.01 @ 16:51:11

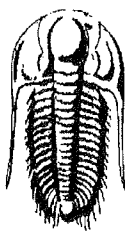
Job Ticket #: 36286 DST #: 1

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APR 14 2009

CONSERVATION DIVISION
WICHITA, KS

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd
Hays Ks 67601-9696
ATTN: Tom Denning

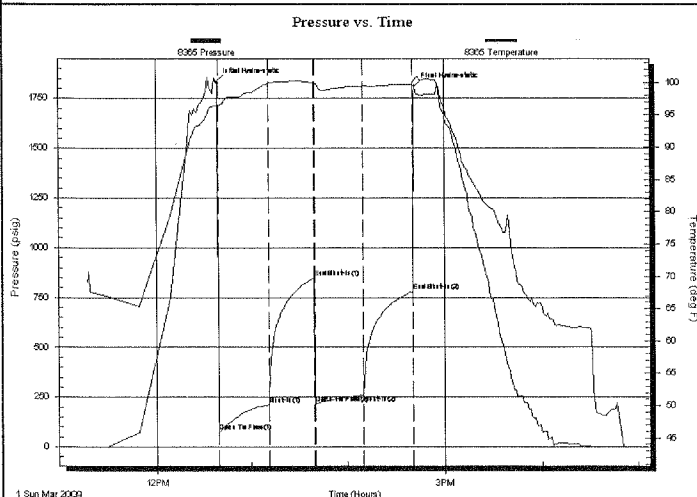
Crathorne #1
28-14s-16w Ellis KS
Job Ticket: 36286 **DST#: 1**
Test Start: 2009.03.01 @ 11:17:17

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:39:12
Time Test Ended: 16:51:11
Interval: **3314.00 ft (KB) To 3390.00 ft (KB) (TVD)**
Total Depth: 3500.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Poor
Test Type: Conventional Straddle
Tester: Ray Schwager
Unit No: 42
Reference Elevations: 1865.00 ft (KB)
1860.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8365 **Inside**
Press@RunDepth: 261.92 psig @ 3317.01 ft (KB)
Start Date: 2009.03.01 End Date: 2009.03.01
Start Time: 11:17:17 End Time: 16:51:11
Capacity: 7000.00 psig
Last Calib.: 2009.03.01
Time On Btm: 2009.03.01 @ 12:38:12
Time Off Btm: 2009.03.01 @ 14:41:42

TEST COMMENT: IFP-wk to strg in 9 min
FFP-wk to strg in 17 min
Times 30-30-30-30
ISIP-1/8"bl bk, FSIP-surface bl bk



PRESSURE SUMMARY

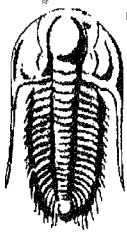
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1832.62	96.34	Initial Hydro-static
1	79.56	96.25	Open To Flow (1)
33	210.70	99.84	Shut-In(1)
61	848.95	99.94	End Shut-In(1)
62	219.99	99.67	Open To Flow(2)
92	261.92	99.31	Shut-In(2)
122	781.01	99.74	End Shut-In(2)
124	1811.37	100.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	SOCMW 1%O40%M59%W	0.64
300.00	MW 20%MB0%W	3.17

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc
1310 Bison Rd
Hays Ks 67601-9696
ATTN: Tom Denning

Crathorne #1
28-14s-16w Ellis KS
Job Ticket: 36286 **DST#: 1**
Test Start: 2009.03.01 @ 11:17:17

Tool Information

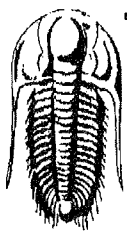
Drill Pipe:	Length: 3067.00 ft	Diameter: 3.80 inches	Volume: 43.02 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 240.00 ft	Diameter: 2.70 inches	Volume: 1.70 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	80000.00 lb
			Total Volume: 44.72 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	34000.00 lb
Depth to Top Packer:	3314.00 ft			Final	39000.00 lb
Depth to Bottom Packer:	3390.02 ft				
Interval between Packers:	76.02 ft				
Tool Length:	211.03 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			3294.00	
Shut In Tool	5.00			3299.00	
Hydraulic tool	5.00			3304.00	
Packer	5.00			3309.00	21.00 Bottom Of Top Packer
Packer	5.00			3314.00	
Stubb	1.00			3315.00	
Perforations	2.00			3317.00	
Recorder	0.01	8365	Inside	3317.01	
Blank Spacing	61.00			3378.01	
Recorder	0.01	13547	Outside	3378.02	
Perforations	8.00			3386.02	
Blank Off Sub	1.00			3387.02	
Blank Spacing	3.00			3390.02	76.02 Tool Interval
Packer	5.00			3395.02	
Stubb	1.00			3396.02	
Perforations	10.00			3406.02	
Recorder	0.01	6625	Below	3406.03	
Blank Spacing	95.00			3501.03	
Bullnose	3.00			3504.03	114.01 Bottom Packers & Anchor

Total Tool Length: 211.03

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WICHITA, KS



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc
1310 Bison Rd
Hays Ks 67601-9696

ATTN: Tom Denning

Crathorne #1
28-14s-16w Ellis KS
Job Ticket: 36286 **DST#: 1**
Test Start: 2009.03.01 @ 11:17:17

Mud and Cushion Information

Mud Type: Invert
Mud Weight: 10.00 lb/gal
Viscosity: 48.00 sec/qt
Water Loss: 9.57 in³
Resistivity: ohm.m
Salinity: 37000.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig
Oil API: deg API
Water Salinity: 39000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	SOCMW 1%O40%M59%W	0.637
300.00	MMW 20%M80%W	3.166

Total Length: 390.00 ft Total Volume: 3.803 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW.19 @ 61F

Pressure vs. Time

