



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Werth Trust # 1

26 15s 19w Ellis,KS

Start Date: 2014.07.02 @ 11:00:00

End Date: 2014.07.02 @ 17:22:00

Job Ticket #: 59264 DST #: 1

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

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TDI Inc
26 15s 19w Ellis,KS
Werth Trust # 1
DST # 1
LKC " A - C "
2014.07.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd
Hays KS 67601
ATTN: Herb Deines

26 15s 19w Ellis,KS
Werth Trust # 1
Job Ticket: 59264 **DST#: 1**
Test Start: 2014.07.02 @ 11:00:00

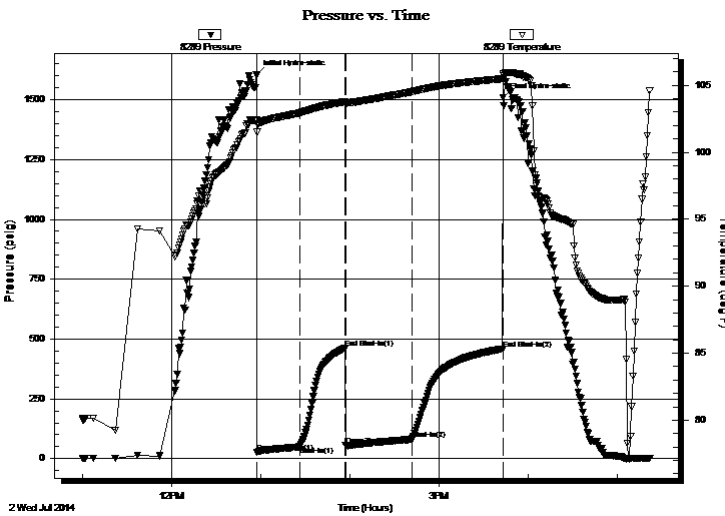
GENERAL INFORMATION:

Formation: **LKC " A - C "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:57:30
Time Test Ended: 17:22:00
Interval: **3272.00 ft (KB) To 3327.00 ft (KB) (TVD)**
Total Depth: 3327.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2005.00 ft (KB)
1995.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8289 Outside

Press@RunDepth: 80.77 psig @ 3289.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.07.02 End Date: 2014.07.02 Last Calib.: 2014.07.02
Start Time: 11:00:02 End Time: 17:22:00 Time On Btm: 2014.07.02 @ 12:57:15
Time Off Btm: 2014.07.02 @ 15:43:15

TEST COMMENT: 30-IFP- BOB in 5 min.
30-ISIP- No Blow
45-FFP- BOB in 1 1/2 min
60-FSIP- Surface Blow in 1min. Building to 1 1/2". in 15 min. Died Back in 32 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1604.70	102.41	Initial Hydro-static
1	25.48	101.49	Open To Flow (1)
30	50.29	102.95	Shut-In(1)
60	460.83	103.77	End Shut-In(1)
60	55.00	103.66	Open To Flow (2)
105	80.77	104.51	Shut-In(2)
166	458.90	105.49	End Shut-In(2)
166	1508.96	105.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Gassy OCM 10%o 20%g 70%m	0.87
90.00	Gassy CO 50%g 50%o	1.26
0.00	GIP 1084	0.00

Gas Rates

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



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TOOL DIAGRAM

TDI Inc
1310 Bison Rd
Hays KS 67601
ATTN: Herb Deines

26 15s 19w Ellis,KS
Werth Trust # 1
Job Ticket: 59264 **DST#: 1**
Test Start: 2014.07.02 @ 11:00:00

Tool Information

Drill Pipe:	Length: 3277.00 ft	Diameter: 3.80 inches	Volume: 45.97 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	44000.00 lb
			<u>Total Volume: 45.97 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3272.00 ft			Final	41000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 ft				
Tool Length:	76.00 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			3252.00	
Shut In Tool	5.00			3257.00	
Hydraulic tool	5.00			3262.00	
Packer	5.00			3267.00	21.00 Bottom Of Top Packer
Packer	5.00			3272.00	
Stubb	1.00			3273.00	
Perforations	15.00			3288.00	
Change Over Sub	1.00			3289.00	
Recorder	0.00	8789	Inside	3289.00	
Recorder	0.00	8289	Outside	3289.00	
Blank Spacing	31.00			3320.00	
Change Over Sub	1.00			3321.00	
Perforations	3.00			3324.00	
Bullnose	3.00			3327.00	55.00 Bottom Packers & Anchor

Total Tool Length: 76.00



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FLUID SUMMARY

TDI Inc **26 15s 19w Ellis,KS**
 1310 Bison Rd **Werth Trust # 1**
 Hays KS 67601 Job Ticket: 59264 **DST#: 1**
 ATTN: Herb Deines Test Start: 2014.07.02 @ 11:00:00

Mud and Cushion Information

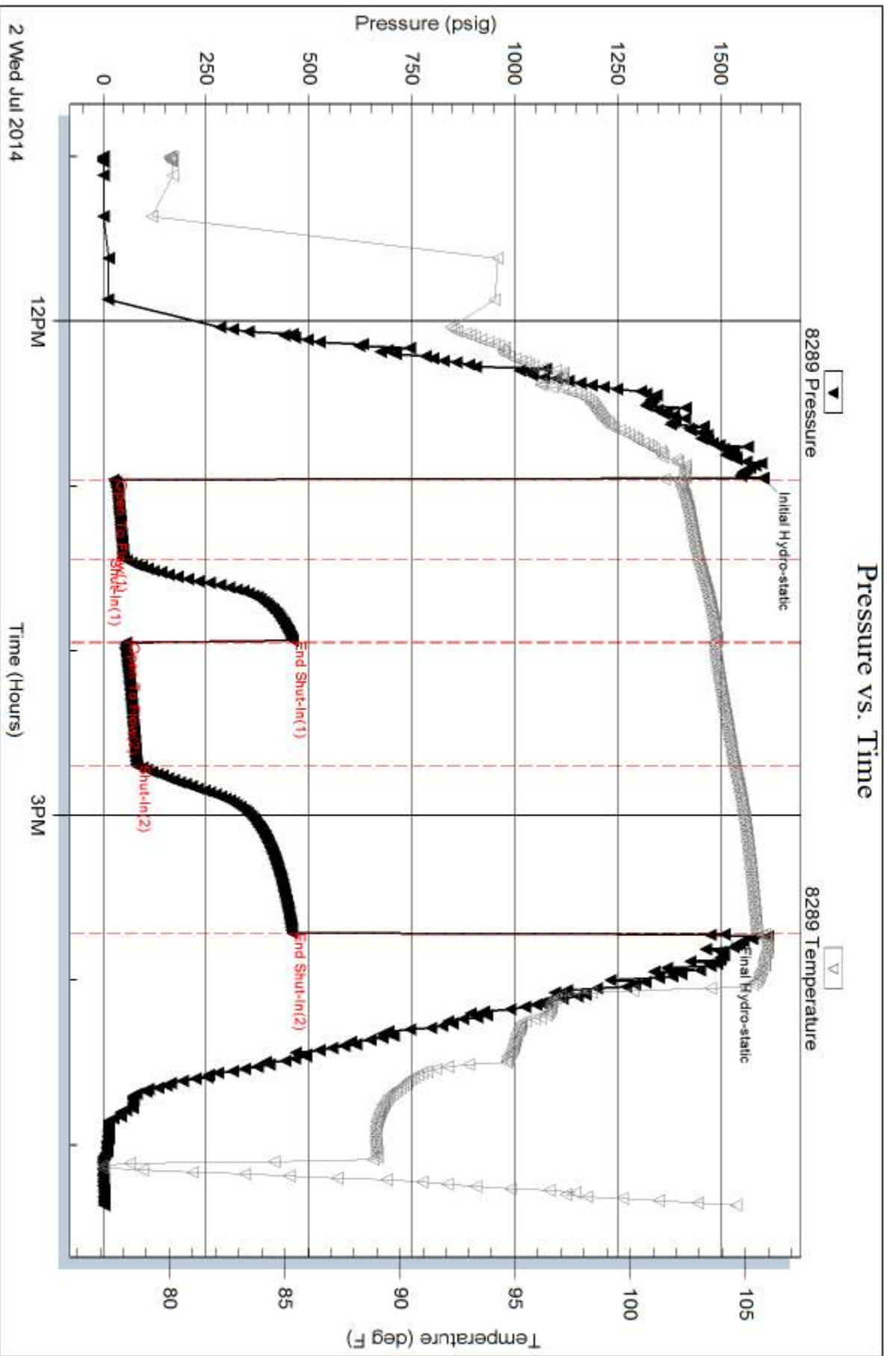
Mud Type: Gel Chem	Cushion Type:	Oil API: 34 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl	
Water Loss: 13.97 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 14000.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	Gassy OCM 10%o 20%g 70%m	0.870
90.00	Gassy CO 50%g 50%o	1.262
0.00	GIP 1084	0.000

Total Length: 152.00 ft Total Volume: 2.132 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



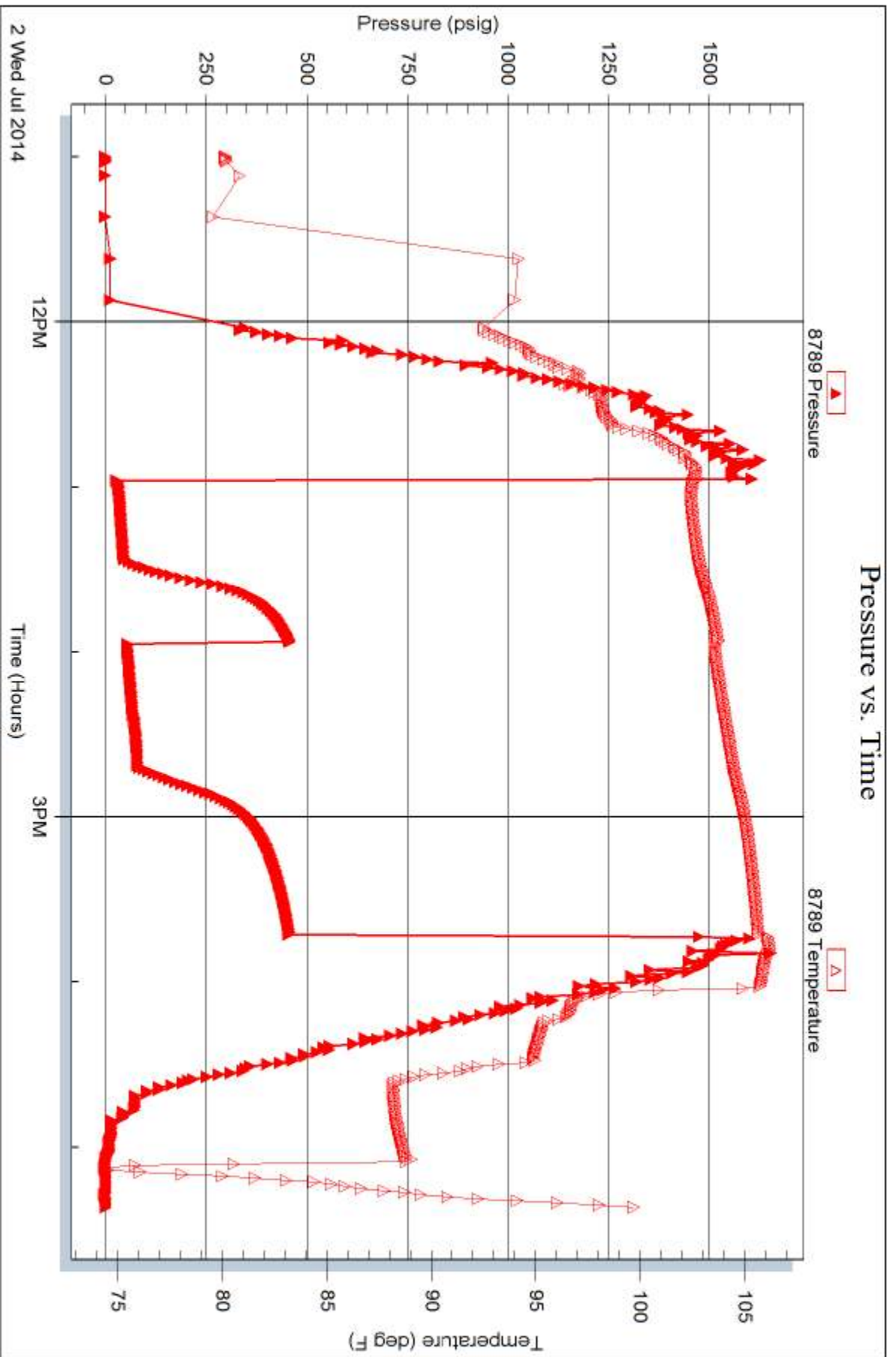
Serial #: 8789

Inside

TDI Inc

Werth Trust # 1

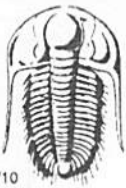
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 59264

Printed: 2014.07.03 @ 07:56:18



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 59264

4/10

Well Name & No. Worth Trust #1 Test No. 1 Date 7-2-14
 Company TDI INC. Elevation 2005 KB 1995 GL
 Address 1310 Bison Rd Hays KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 26 Twp. 15S Rge. 19W Co. Ellis State KS

Interval Tested 3272-3327 Zone Tested LKE "A-C"
 Anchor Length 55 Drill Pipe Run 3277 Mud Wt. 8.9
 Top Packer Depth 3267 Drill Collars Run 0 Vis 60
 Bottom Packer Depth 3272 Wt. Pipe Run 0 WL 14
 Total Depth 3327 Chlorides 14000 ppm System LCM 1

Blow Description I FP - BOB in 5min
ISIP - No Blow

FFP - BOB in 1 1/2 min.
F SIP - Surface Blow in 1 min Building to 1 1/2 in in 15 min. Deck Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>Gassy OCM</u>	<u>20</u>	<u>10</u>	<u>70</u>	<u>0</u>
<u>90</u>	<u>Gassy CO</u>	<u>50</u>	<u>50</u>	<u>0</u>	<u>0</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec 152 Feet of 1084 DIP %gas %oil %water %mud
 Rec Total 152 BHT 105 Gravity 34 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 1604 Test 1150 T-On Location 9:40
 (B) First Initial Flow 25 Jars T-Started 11:00
 (C) First Final Flow 50 Safety Joint T-Open 12:57
 (D) Initial Shut-In 460 Circ Sub T-Pulled 15:42
 (E) Second Initial Flow 55 Hourly Standby T-Out 17:22
 (F) Second Final Flow 80 Mileage 36 RT 55.80 Comments
 (G) Final Shut-In 458 Sampler
 (H) Final Hydrostatic 1508 Straddle Ruined Shale Packer

Initial Open 30 Shale Packer Ruined Packer
 Initial Shut-In 30 Extra Packer Extra Copies
 Final Flow 45 Extra Recorder Sub Total 0
 Final Shut-In 60 Day Standby Total 1205.80
 Accessibility MP/DST Disc't
 Sub Total 1205.80

Approved By _____ Our Representative [Signature]
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