



DRILL STEM TEST REPORT

Prepared For: **TDI Inc.**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Kathy #1

2-15s-19w Ellis,KS

Start Date: 2012.09.09 @ 17:58:05

End Date: 2012.09.09 @ 23:58:29

Job Ticket #: 49305 DST #: 1

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

Printed: 2012.09.17 @ 16:31:07

TDI Inc.
2-15s-19w Ellis,KS
Kathy #1
DST # 1
LKC "C"
2012.09.09



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

2-15s-19w Ellis,KS
Kathy #1
Job Ticket: 49305 **DST#: 1**
Test Start: 2012.09.09 @ 17:58:05

GENERAL INFORMATION:

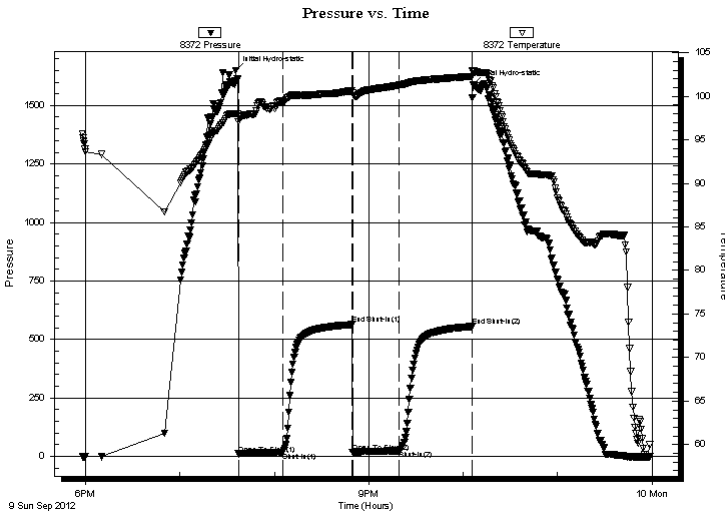
Formation: **LKC"C"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:37:10
 Time Test Ended: 23:58:29
 Interval: **3342.00 ft (KB) To 3370.00 ft (KB) (TVD)**
 Total Depth: 3370.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Andy Carreira
 Unit No: 39
 Reference Elevations: 2057.00 ft (KB)
 2051.00 ft (CF)
 KB to GR/CF: 6.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 24.58 psig @ 3343.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.09.09 End Date: 2012.09.09 Last Calib.: 2012.09.10
 Start Time: 17:58:05 End Time: 23:58:29 Time On Btm: 2012.09.09 @ 19:35:30
 Time Off Btm: 2012.09.09 @ 22:06:30

TEST COMMENT: IF:(30min) Surface blow died in 25 min.
 IS:(45min) No Return
 FF:(30min) Surface blow
 FS:(45min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1649.91	97.98	Initial Hydro-static
2	11.39	97.11	Open To Flow (1)
30	18.29	99.47	Shut-In(1)
74	563.89	100.63	End Shut-In(1)
75	19.42	100.38	Open To Flow (2)
104	24.58	101.29	Shut-In(2)
151	555.56	102.30	End Shut-In(2)
151	1590.91	102.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	WM w =25% m=75%	0.42

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

2-15s-19w Ellis, KS
Kathy #1
Job Ticket: 49305 **DST#: 1**
Test Start: 2012.09.09 @ 17:58:05

Tool Information

Drill Pipe:	Length: 3340.00 ft	Diameter: 3.80 inches	Volume: 46.85 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	42000.00 lb
			<u>Total Volume: 46.85 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	30000.00 lb
Depth to Top Packer:	3342.00 ft			Final	30000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	28.00 ft				
Tool Length:	48.00 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			3323.00	
Shut In Tool	5.00			3328.00	
Hydraulic tool	5.00			3333.00	
Packer	5.00			3338.00	20.00 Bottom Of Top Packer
Packer	4.00			3342.00	
Stubb	1.00			3343.00	
Recorder	0.00	8017	Inside	3343.00	
Recorder	0.00	8372	Outside	3343.00	
Perforations	24.00			3367.00	
Bullnose	3.00			3370.00	28.00 Bottom Packers & Anchor
Total Tool Length:	48.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc. **2-15s-19w Ellis,KS**
 1310 Bison Rd **Kathy #1**
 Hays KS 67601 Job Ticket: 49305 **DST#: 1**
 ATTN: Herb Deines Test Start: 2012.09.09 @ 17:58:05

Mud and Cushion Information

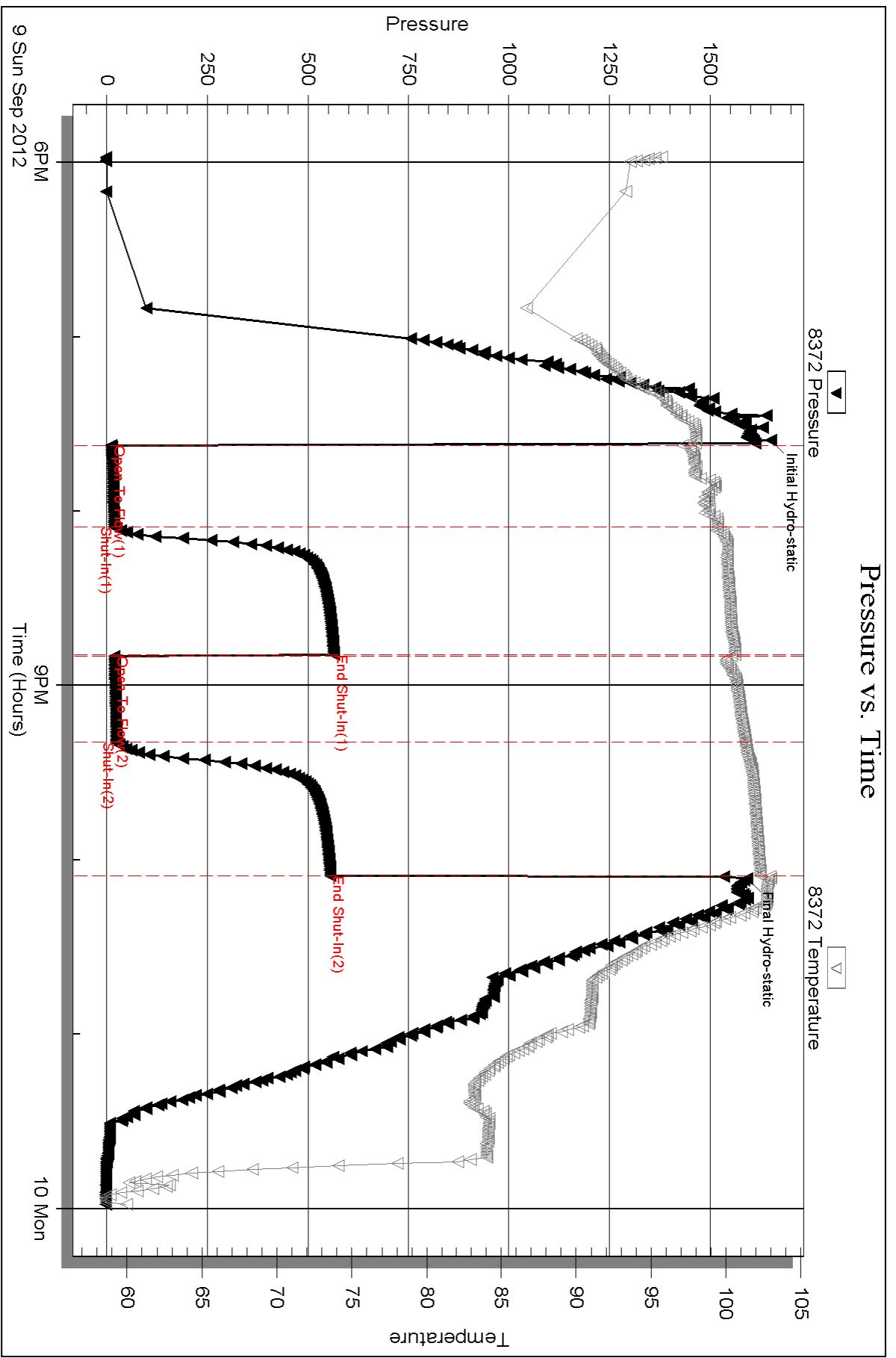
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.57 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	WM w =25% m=75%	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



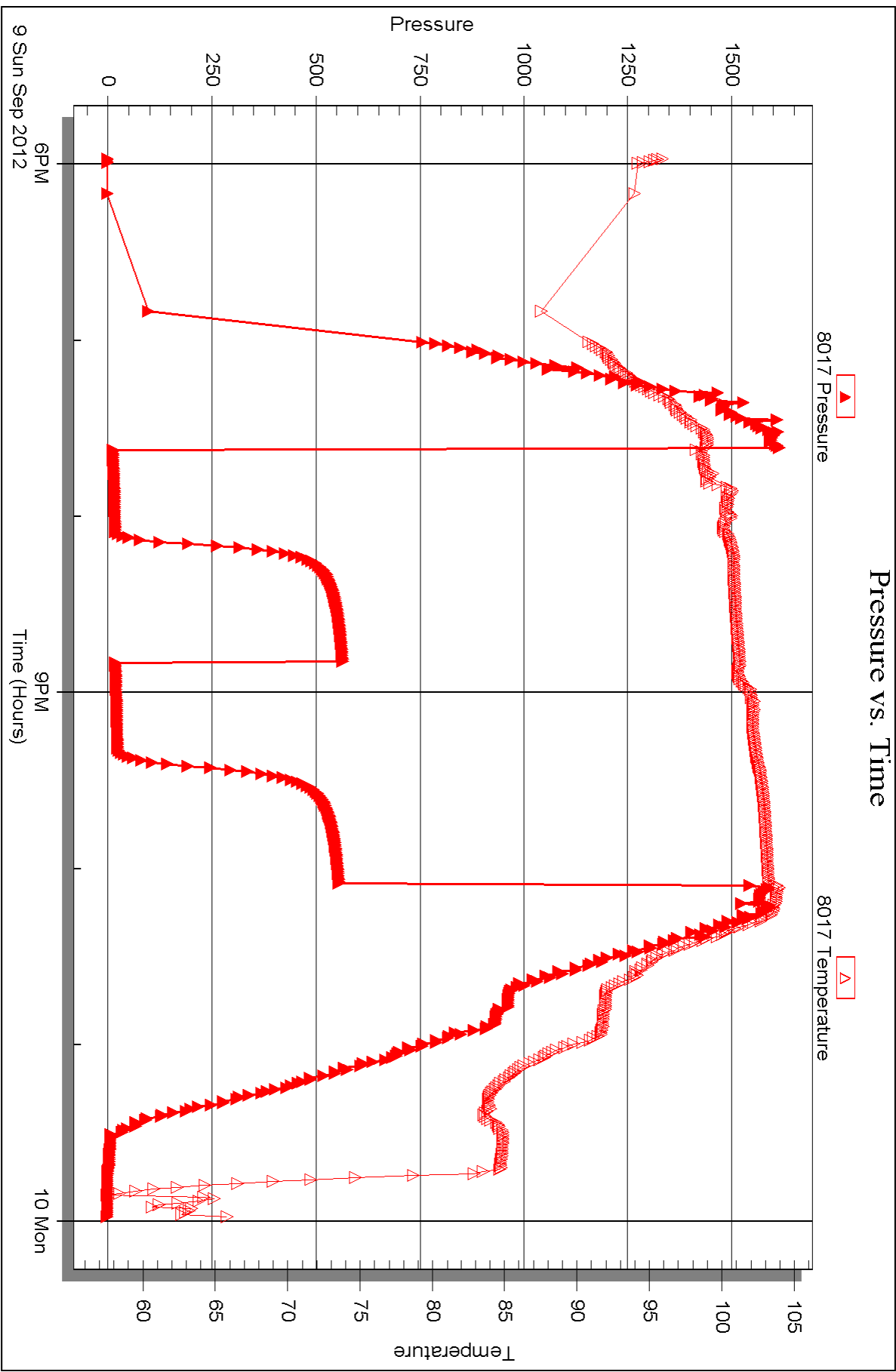
Serial #: 8017

Inside

TDI Inc.

Kathy #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **TDI Inc.**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Kathy #1

2-15s-19w Ellis,KS

Start Date: 2012.09.11 @ 19:05:05

End Date: 2012.09.11 @ 23:34:59

Job Ticket #: 49305 DST #: 2

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

Printed: 2012.09.17 @ 16:30:07

TDI Inc. 2-15s-19w Ellis,KS Kathy #1 DST # 2 LKC"G,H,I,J" 2012.09.11



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

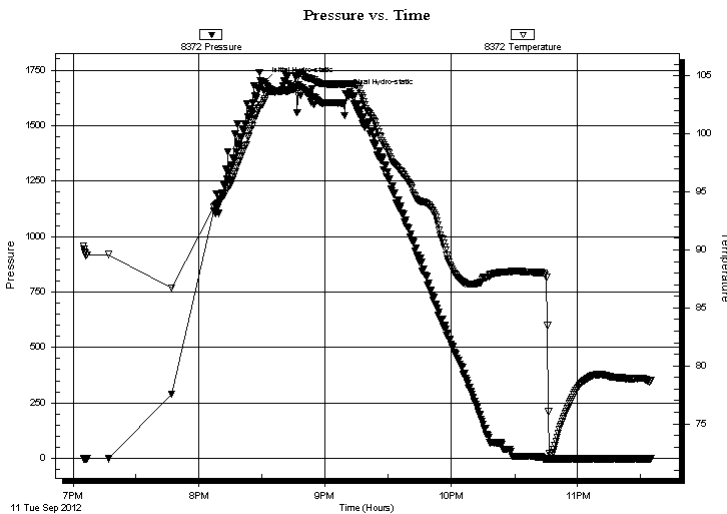
2-15s-19w Ellis, KS
Kathy #1
Job Ticket: 49305 **DST#: 2**
Test Start: 2012.09.11 @ 19:05:05

GENERAL INFORMATION:

Formation: **LKC "G,H,I,J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened:
 Time Test Ended: 23:34:59
 Interval: **3418.00 ft (KB) To 3530.00 ft (KB) (TVD)**
 Total Depth: 3539.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Straddle (Reset)
 Tester: Andy Carreira
 Unit No: 39
 Reference Elevations: 2057.00 ft (KB)
 2051.00 ft (CF)
 KB to GR/CF: 6.00 ft

Serial #: 8372 Outside
 Press @ Run Depth: psig @ 3425.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.09.11 End Date: 2012.09.11 Last Calib.: 2012.09.11
 Start Time: 19:05:05 End Time: 23:34:59 Time On Btm: 2012.09.11 @ 20:31:00
 Time Off Btm: 2012.09.11 @ 21:09:40

TEST COMMENT: Misrun- Packer Failure



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1697.45	102.84	Initial Hydro-static
39	1643.13	104.36	Final Hydro-static

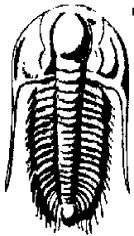
Recovery

Length (ft)	Description	Volume (bbl)
200.00	Mud	2.81

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

2-15s-19w Ellis,KS

Kathy #1

Job Ticket: 49305

DST#: 2

Test Start: 2012.09.11 @ 19:05:05

GENERAL INFORMATION:

Formation: **LKC"G,H,I,J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 23:34:59

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: **3418.00 ft (KB) To 3530.00 ft (KB) (TVD)**

Total Depth: 3539.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2057.00 ft (KB)

2051.00 ft (CF)

KB to GR/CF: 6.00 ft

Serial #: 8017 Inside

Press @ RunDepth: psig @ 3425.00 ft (KB)

Start Date: 2012.09.11 End Date: 2012.09.11

Start Time: 19:05:05 End Time: 23:34:59

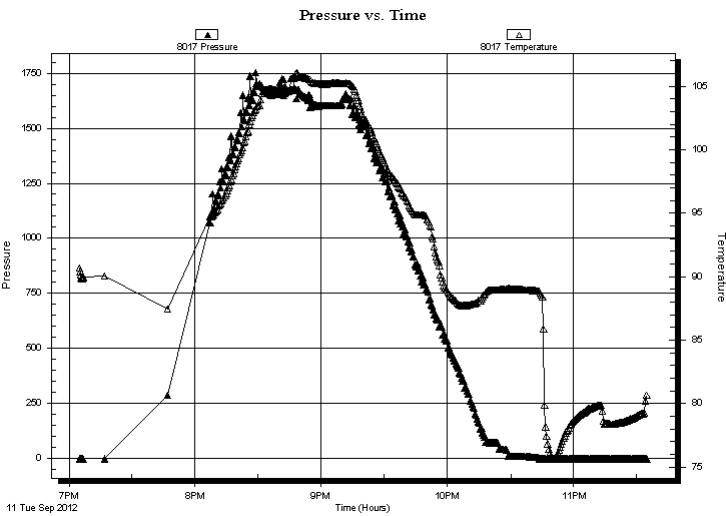
Capacity: 8000.00 psig

Last Calib.: 2012.09.11

Time On Btm:

Time Off Btm:

TEST COMMENT: Misrun- Packer Failure



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

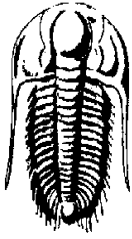
Recovery

Length (ft)	Description	Volume (bbl)
200.00	Mud	2.81

* Recovery from multiple tests

Gas Rates

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



TRIOLOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

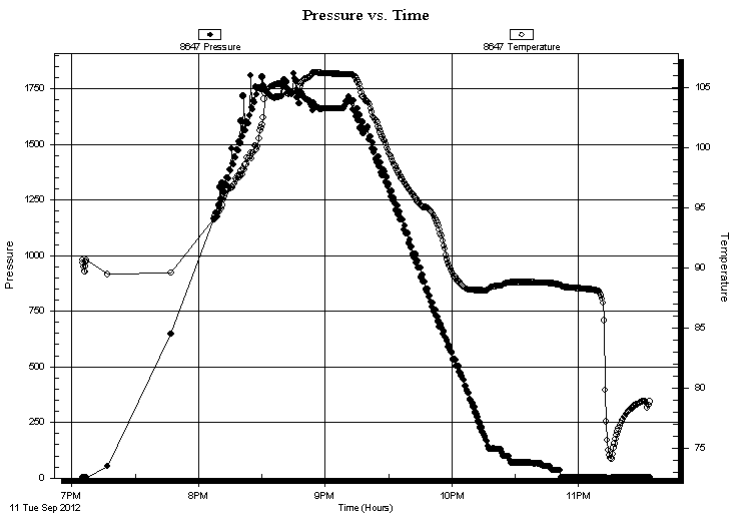
2-15s-19w Ellis,KS
Kathy #1
Job Ticket: 49305 **DST#: 2**
Test Start: 2012.09.11 @ 19:05:05

GENERAL INFORMATION:

Formation: LKC"G,H,I,J"	
Deviated: No Whipstock: ft (KB)	Test Type: Conventional Straddle (Reset)
Time Tool Opened:	Tester: Andy Carreira
Time Test Ended: 23:34:59	Unit No: 39
Interval: 3418.00 ft (KB) To 3530.00 ft (KB) (TVD)	Reference Elevations: 2057.00 ft (KB)
Total Depth: 3539.00 ft (KB) (TVD)	2051.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Poor
	KB to GR/CF: 6.00 ft

Serial #: 8647 Below (Straddle)				
Press@RunDepth: psig @ 3543.00 ft (KB)	Capacity: 8000.00 psig			
Start Date: 2012.09.11 End Date: 2012.09.11	Last Calib.: 2012.09.11			
Start Time: 19:05:05 End Time: 23:33:59	Time On Btm:			
	Time Off Btm:			

TEST COMMENT: Misrun- Packer Failure



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
200.00	Mud	2.81

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

2-15s-19w Ellis,KS
Kathy #1
Job Ticket: 49305 **DST#: 2**
Test Start: 2012.09.11 @ 19:05:05

Tool Information

Drill Pipe:	Length: 3413.00 ft	Diameter: 3.80 inches	Volume: 47.88 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	38000.00 lb
			<u>Total Volume: 47.88 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	36000.00 lb
Depth to Top Packer:	3418.00 ft			Final	37000.00 lb
Depth to Bottom Packer:	3530.00 ft				
Interval between Packers:	112.00 ft				
Tool Length:	365.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments: Misrun- Packer Failure.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3399.00	
Shut In Tool	5.00			3404.00	
Hydraulic tool	5.00			3409.00	
Packer	5.00			3414.00	20.00 Bottom Of Top Packer
Packer	4.00			3418.00	
Stubb	1.00			3419.00	
Perforations	5.00			3424.00	
Change Over Sub	1.00			3425.00	
Recorder	0.00	8017	Inside	3425.00	
Recorder	0.00	8372	Outside	3425.00	
Drill Pipe	95.00			3520.00	
Change Over Sub	1.00			3521.00	
Perforations	5.00			3526.00	
Blank Off Sub	1.00			3527.00	
Blank Spacing	3.00			3530.00	112.00 Tool Interval
Packer	4.00			3534.00	
Stubb	1.00			3535.00	
Perforations	7.00			3542.00	
Change Over Sub	1.00			3543.00	
Recorder	0.00	8647	Below	3543.00	
Drill Pipe	220.00			3763.00	233.00 Bottom Packers & Anchor
Total Tool Length:	365.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc. **2-15s-19w Ellis,KS**
 1310 Bison Rd **Kathy #1**
 Hays KS 67601 Job Ticket: 49305 **DST#: 2**
 ATTN: Herb Deines Test Start: 2012.09.11 @ 19:05:05

Mud and Cushion Information

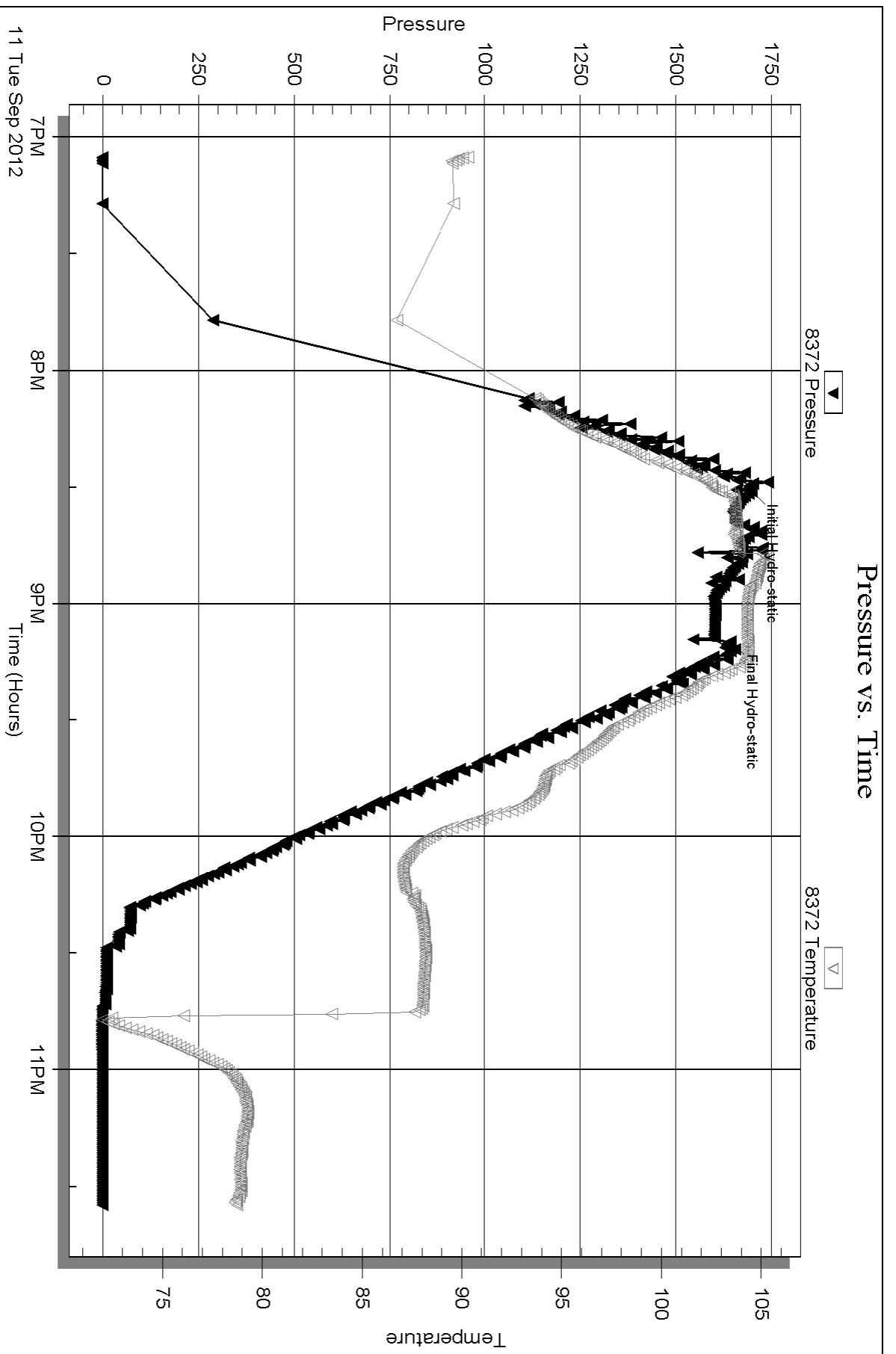
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.78 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4700.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
200.00	Mud	2.805

Total Length: 200.00 ft Total Volume: 2.805 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



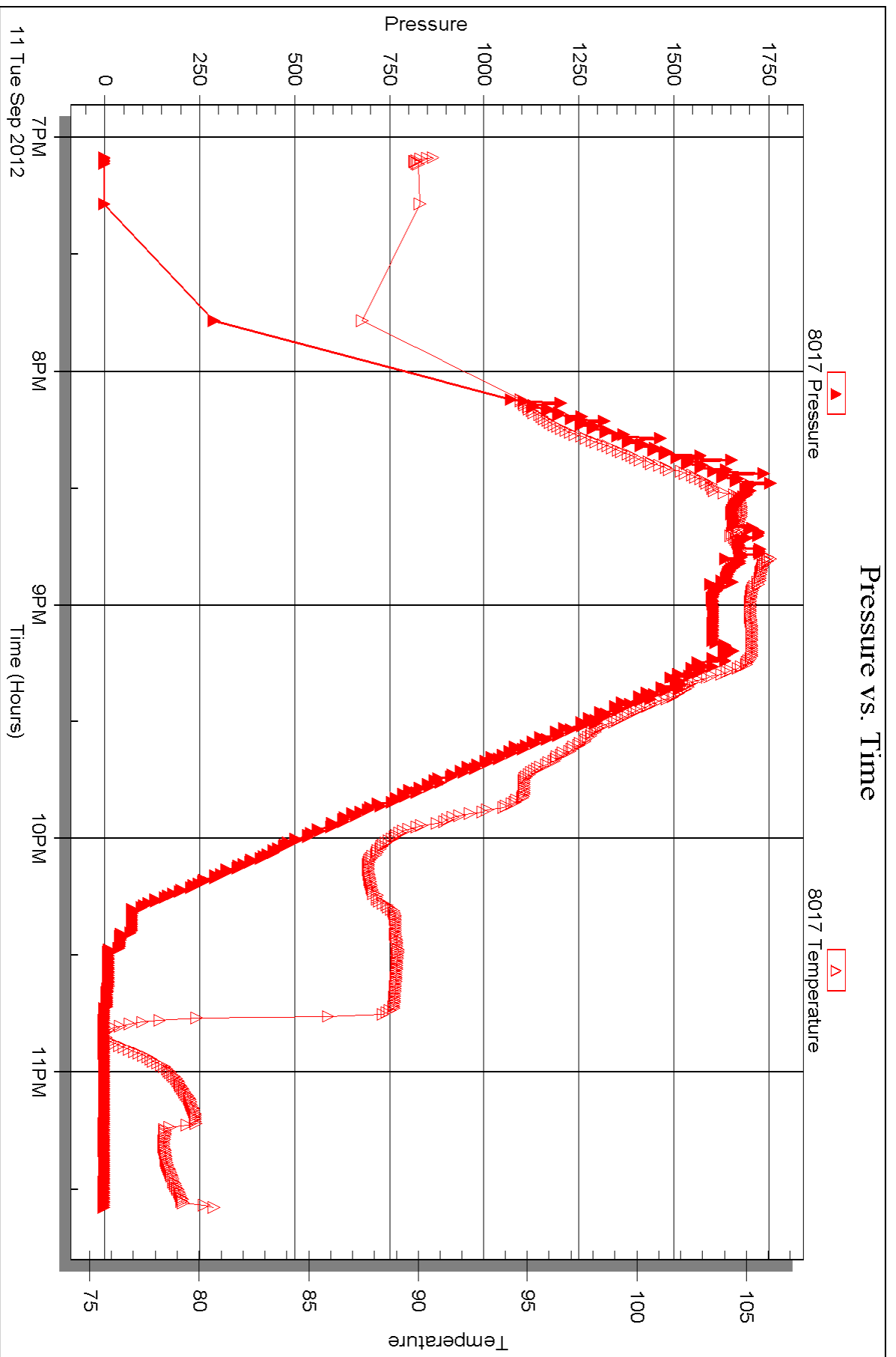
Serial #: 8017

Inside

TDI Inc.

Kathy #1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 49305

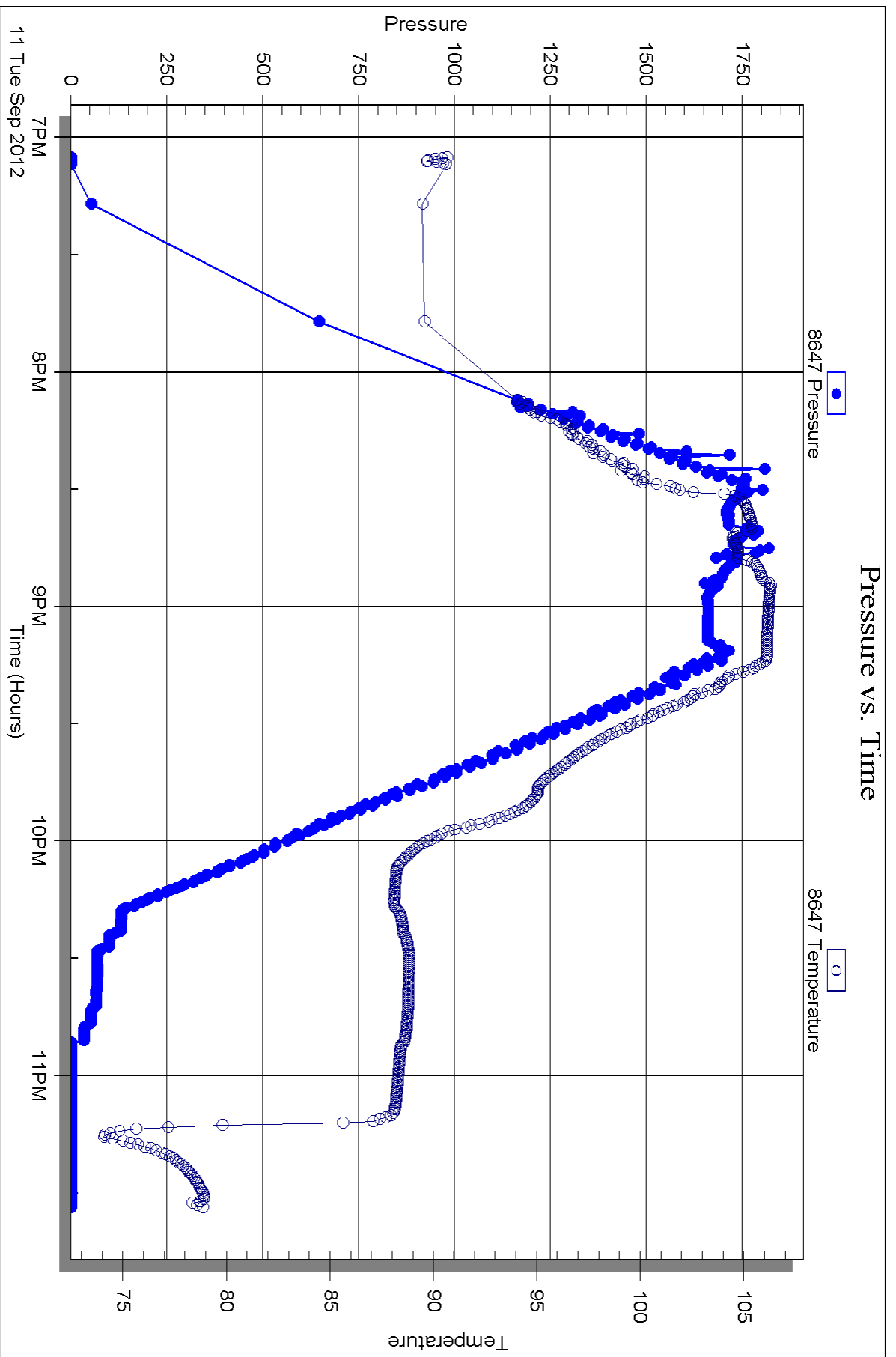
Printed: 2012.09.17 @ 16:30:13

Serial #: 8647

Below (Straddling)

Kathy #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **TDI Inc.**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Kathy #1

2-15s-19w Ellis,KS

Start Date: 2012.09.12 @ 00:15:05

End Date: 2012.09.12 @ 06:37:29

Job Ticket #: 49307 DST #: 3

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

Printed: 2012.09.17 @ 16:28:58

TDI Inc. 2-15s-19w Ellis,KS Kathy #1 DST # 3 LKC "D-J" 2012.09.12



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

2-15s-19w Ellis, KS
Kathy #1
Job Ticket: 49307 **DST#: 3**
Test Start: 2012.09.12 @ 00:15:05

GENERAL INFORMATION:

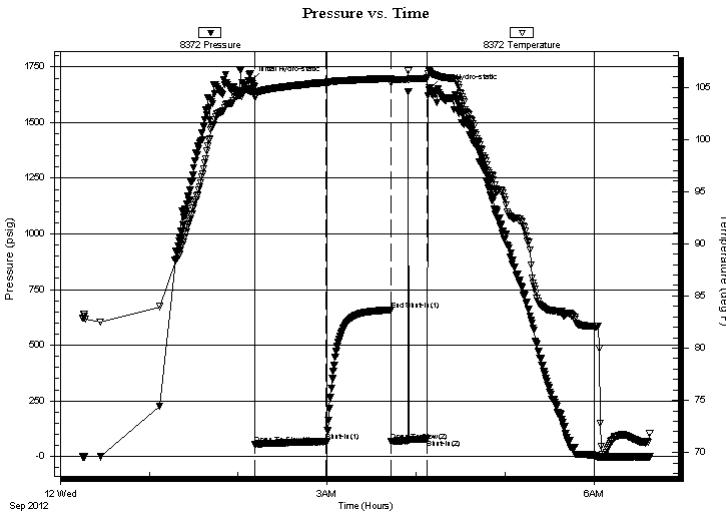
Formation: **LKC "D-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:11:20
Time Test Ended: 06:37:29
Interval: 3386.00 ft (KB) To 3530.00 ft (KB) (TVD)
Total Depth: 3758.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor
Test Type: Conventional Straddle (Reset)
Tester: Andy Carreira
Unit No: 39
Reference Elevations: 2057.00 ft (KB)
2051.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 67.82 psig @ 3392.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.09.12 End Date: 2012.09.12 Last Calib.: 2012.09.12
Start Time: 00:15:05 End Time: 06:37:29 Time On Btm: 2012.09.12 @ 02:08:50
Time Off Btm: 2012.09.12 @ 04:09:10

TEST COMMENT: IF:(45min) 1" Blow . Decreased & Died in 10 min.
IS:(45min) No Return
FF:(15min) No Blow . Flushed, Surged, Surface Blow Died in 5 min.
Pulled Tool

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1690.26	104.68	Initial Hydro-static
3	54.41	104.05	Open To Flow (1)
51	67.82	105.44	Shut-In(1)
94	658.88	105.84	End Shut-In(1)
95	67.82	105.46	Open To Flow (2)
119	78.88	105.85	Shut-In(2)
121	1654.39	106.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Mud	1.68

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

2-15s-19w Ellis, KS
Kathy #1
 Job Ticket: 49307 **DST#: 3**
 Test Start: 2012.09.12 @ 00:15:05

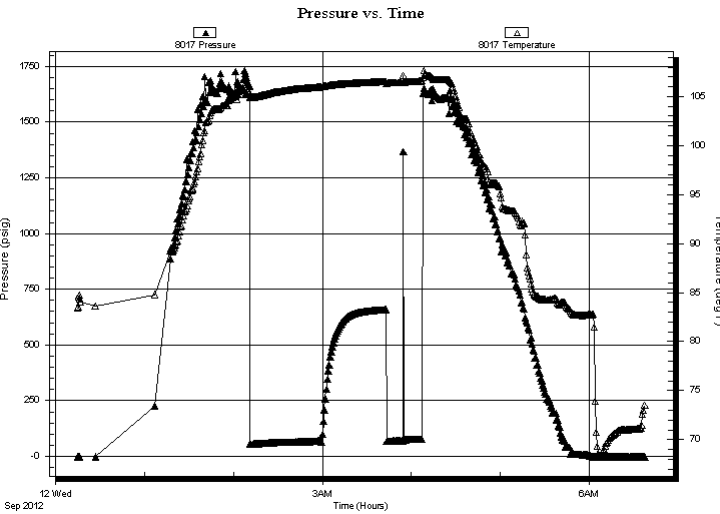
GENERAL INFORMATION:

Formation: **LKC "D-J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:11:20
 Time Test Ended: 06:37:29
Interval: 3386.00 ft (KB) To 3530.00 ft (KB) (TVD)
 Total Depth: 3758.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Straddle (Reset)
 Tester: Andy Carreira
 Unit No: 39
 Reference Elevations: 2057.00 ft (KB)
 2051.00 ft (CF)
 KB to GR/CF: 6.00 ft

Serial #: 8017 Inside

Press @ Run Depth: psig @ 3392.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.09.12 End Date: 2012.09.12 Last Calib.: 2012.09.12
 Start Time: 00:14:55 End Time: 06:37:19 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF:(45min) 1" Blow . Decreased & Died in 10 min.
 IS:(45min) No Return
 FF:(15min) No Blow . Flushed, Surged, Surface Blow Died in 5 min.
 Pulled Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

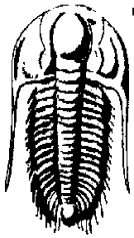
Recovery

Length (ft)	Description	Volume (bbl)
120.00	Mud	1.68

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

2-15s-19w Ellis, KS
Kathy #1
Job Ticket: 49307 **DST#: 3**
Test Start: 2012.09.12 @ 00:15:05

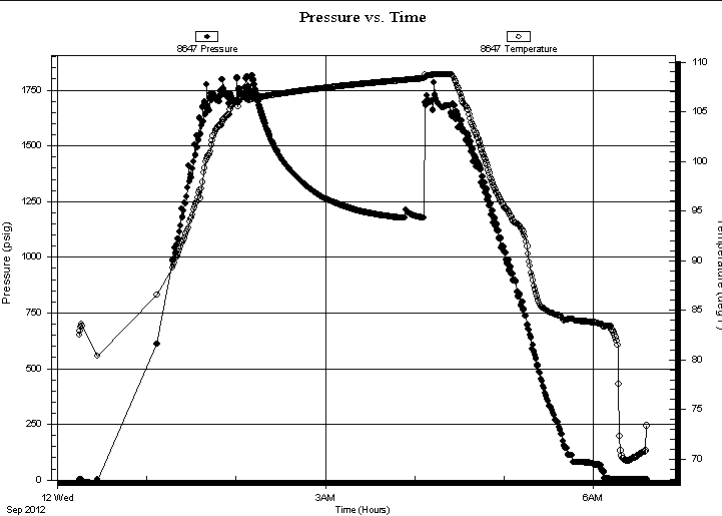
GENERAL INFORMATION:

Formation: **LKC "D-J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:11:20
 Time Test Ended: 06:37:29
Interval: 3386.00 ft (KB) To 3530.00 ft (KB) (TVD)
 Total Depth: 3758.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor

Test Type: Conventional Straddle (Reset)
 Tester: Andy Carreira
 Unit No: 39
 Reference Elevations: 2057.00 ft (KB)
 2051.00 ft (CF)
 KB to GR/CF: 6.00 ft

Serial #: 8647 Below (Straddle)
 Press @ Run Depth: psig @ 3538.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.09.12 End Date: 2012.09.12 Last Calib.: 2012.09.12
 Start Time: 00:15:05 End Time: 06:35:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF:(45min) 1" Blow . Decreased & Died in 10 min.
 IS:(45min) No Return
 FF:(15min) No Blow . Flushed, Surged, Surface Blow Died in 5 min.
 Pulled Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Mud	1.68

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

2-15s-19w Ellis,KS
Kathy #1
Job Ticket: 49307 **DST#: 3**
Test Start: 2012.09.12 @ 00:15:05

Tool Information

Drill Pipe:	Length: 3378.00 ft	Diameter: 3.80 inches	Volume: 47.38 bbl	Tool Weight:	5000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	40000.00 lb
			<u>Total Volume: 47.38 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	36000.00 lb
Depth to Top Packer:	3386.00 ft			Final	37000.00 lb
Depth to Bottom Packer:	3530.00 ft				
Interval between Packers:	144.00 ft				
Tool Length:	396.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments: Packers Failed on 1st attempt. Held on 2nd attempt.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3367.00	
Shut In Tool	5.00			3372.00	
Hydraulic tool	5.00			3377.00	
Packer	5.00			3382.00	20.00 Bottom Of Top Packer
Packer	4.00			3386.00	
Stubb	1.00			3387.00	
Perforations	4.00			3391.00	
Change Over Sub	1.00			3392.00	
Recorder	0.00	8017	Inside	3392.00	
Recorder	0.00	8372	Outside	3392.00	
Drill Pipe	127.00			3519.00	
Change Over Sub	1.00			3520.00	
Perforations	5.00			3525.00	
Change Over Sub	1.00			3526.00	
Blank Spacing	4.00			3530.00	144.00 Tool Interval
Packer	4.00			3534.00	
Stubb	1.00			3535.00	
Perforations	2.00			3537.00	
Change Over Sub	1.00			3538.00	
Recorder	0.00	8647	Below	3538.00	
Drill Pipe	220.00			3758.00	
Change Over Sub	1.00			3759.00	
Bullnose	3.00			3762.00	232.00 Bottom Packers & Anchor
Total Tool Length:	396.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc. **2-15s-19w Ellis,KS**
 1310 Bison Rd **Kathy #1**
 Hays KS 67601 Job Ticket: 49307 **DST#: 3**
 ATTN: Herb Deines Test Start: 2012.09.12 @ 00:15:05

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: 56.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4700.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	Mud	1.683

Total Length: 120.00 ft Total Volume: 1.683 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

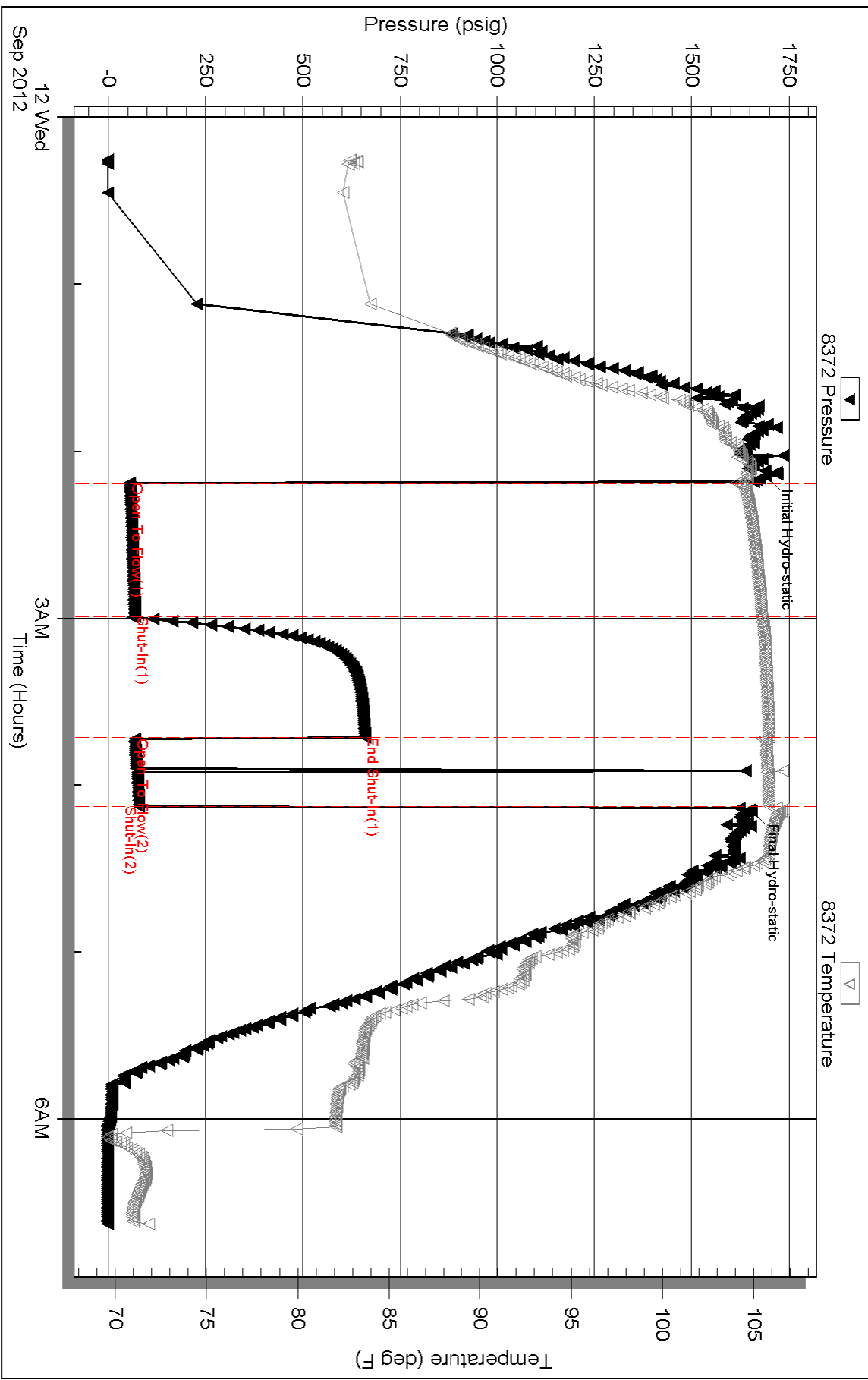
Serial #: 8372

Outside TDI Inc.

Kathy #1

DST Test Number: 3

Pressure vs. Time



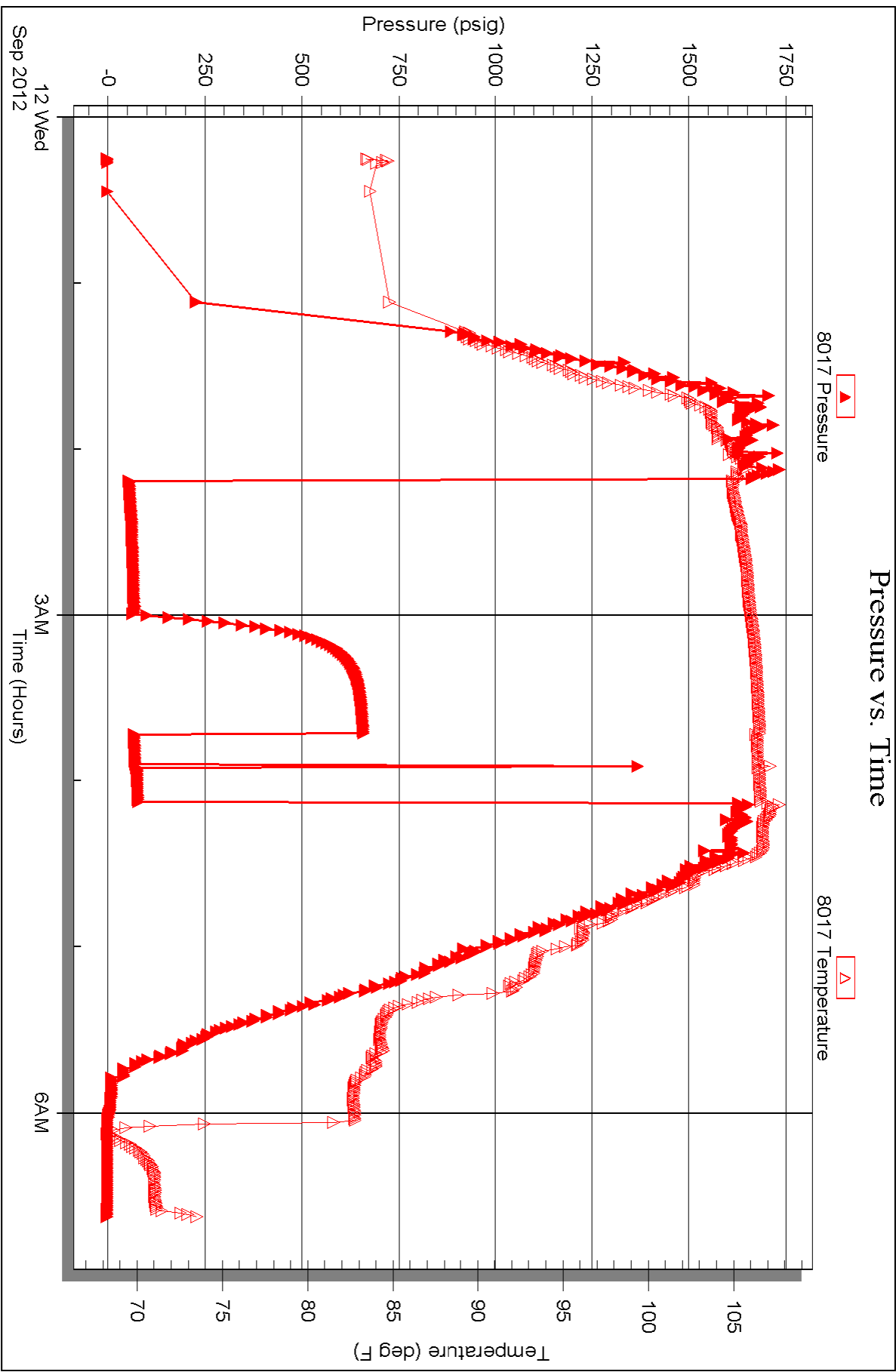
Serial #: 8017

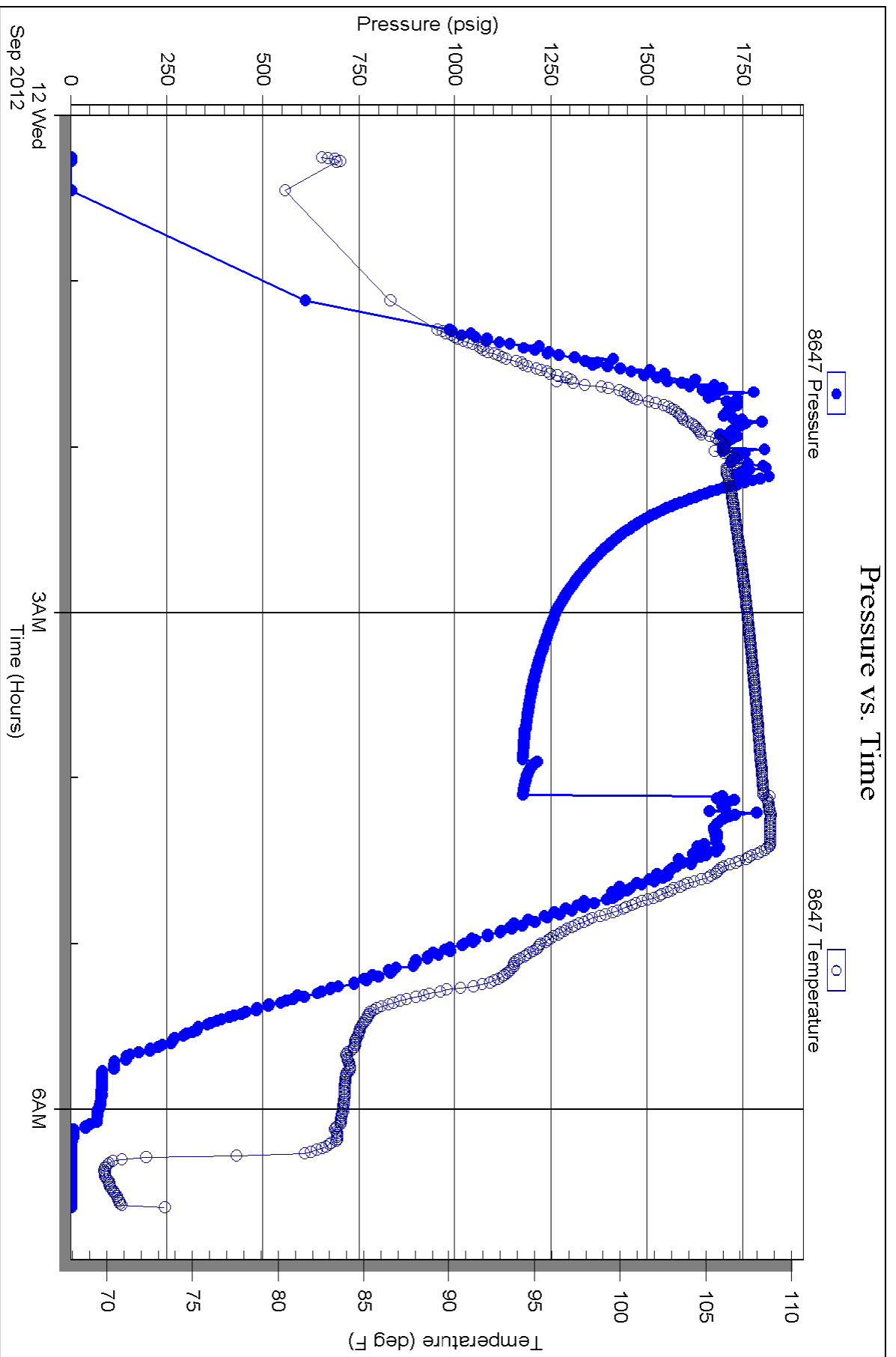
Inside

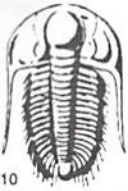
TDI Inc.

Kathy #1

DST Test Number: 3







TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49305

Well Name & No. Kathy #1 Test No. 1 Date 9-9-12
 Company IDI inc. Elevation 2057 KB 2051 GL
 Address 1310 BISON RD HAYS KS 67601
 Co. Rep / Geo. X/erb DEINES Rig Southwind 4
 Location: Sec. 2 Twp. 15 S Rge. 19 W Co. Ellis State Ks

Interval Tested 3342-3370 Zone Tested LKC "C"
 Anchor Length 28' Drill Pipe Run 3340 Mud Wt. 9.1
 Top Packer Depth 3337 Drill Collars Run 0 Vis 50
 Bottom Packer Depth 3342 Wt. Pipe Run 0 WL 7.6
 Total Depth 3370 Chlorides 4500 ppm System LCM 1

Blow Description IF: SURFACE Blow Sied in 25 min
ISI: NO RETURN
FF: SURFACE blow
FSL: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>WM</u>			<u>25%</u>	<u>75%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 102° Gravity _____ API RW .63 @ 65° F Chlorides 10,000 ppm
 (A) Initial Hydrostatic 1649 Test 1150 T-On Location 17:25
 (B) First Initial Flow 11 Jars _____ T-Started 17:58
 (C) First Final Flow 18 Safety Joint _____ T-Open 19:35
 (D) Initial Shut-In 563 Circ Sub _____ T-Pulled 22:05
 (E) Second Initial Flow 19 Hourly Standby _____ T-Out 23:59
 (F) Second Final Flow 24 Mileage 30 RT 46.50 Comments _____
 (G) Final Shut-In 555 Sampler _____
 (H) Final Hydrostatic 1590 Straddle _____
 Shale Packer _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____

Initial Open 30
 Initial Shut-In 45
 Final Flow 30
 Final Shut-In 45
 Sub Total 0
 Total 1196.50
 Sub Total 1196.50
 MP/DST Disc't _____

Approved By _____ Our Representative Andy Car

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49306

Well Name & No. Kathy #1 Test No. 2 Date 9-11-12
 Company TDI INC Elevation 2057 KB 2051 GL
 Address 1310 BISON RD Hays, Ks. 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #4
 Location: Sec. 2 Twp. 15S Rge. 19W Co. Ellis State Ks

Interval Tested 34-18-3530 Zone Tested LKC" B,H,I,J"
 Anchor Length 112' Drill Pipe Run _____ Mud Wt. 9.3
 Top Packer Depth 3418 Drill Collars Run 0 Vis 56
 Bottom Packer Depth 3530 Wt. Pipe Run 0 WL 7.8
 Total Depth 3758 Chlorides 4700 ppm System LCM #1

Blow Description IF MISRUN PACKER FAILURE
IST
FP
FST

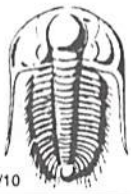
Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 200' BHT 104° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1697 Test ← 950 T-On Location 18:16
 (B) First Initial Flow _____ Jars _____ T-Started 19:05
 (C) First Final Flow _____ Safety Joint _____ T-Open _____
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled _____
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 23:34
 (F) Second Final Flow _____ Mileage ← 30RT 46.50 Comments Misrun Packer Failure
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic 1643 Straddle ← 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 608.33
 Day Standby ← 1d 18.5hrs Total 2204.83
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1596.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49307

Well Name & No. Kathy #1 Test No. 3 Date 9-11-12
 Company TDI INC Elevation 2057 KB 2051 GL
 Address 1310 BISON RD HAYS, KS 67601
 Co. Rep / Geo. HERB DEINES Rig Southwind #4
 Location: Sec. 2 Twp. 15S Rge. 19W Co. Ellis State Ks

Interval Tested 3386-3530 Zone Tested LKC "B, H, J" D then J
 Anchor Length 108' 144 Drill Pipe Run 3378 Mud Wt. 9.3
 Top Packer Depth 3422 3386 Drill Collars Run — Vis 50
 Bottom Packer Depth 3530 Wt. Pipe Run — WL 7.8
 Total Depth 3758 Chlorides 4700 ppm System LCM 1
 Blow Description IF: 1" blow, increased & died in 10 min
BSI: NO RETURN
FF: NO Blow, Flushed, surged, surface blow, died in 5 min
FSD: — Pulled Tool

Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 120' BHT 106° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1690 Test ← 1150 T-On Location _____
 (B) First Initial Flow 54 Jars _____ T-Started 00:15
 (C) First Final Flow 67 Safety Joint _____ T-Open 02:10
 (D) Initial Shut-In 658 Circ Sub _____ T-Pulled 03:55
 (E) Second Initial Flow 67 Hourly Standby _____ T-Out 06:35
 (F) Second Final Flow 78 Mileage ← NET Comments PACKERS FAILED on 1st attempt. HELD on 2nd attempt
 (G) Final Shut-In _____ Sampler _____ Ruined Shale Packer _____
 (H) Final Hydrostatic 1654 Straddle ← 600 Ruined Packer _____
 Initial Open 45 Shale Packer _____ Extra Copies _____
 Initial Shut-In 45 Extra Packer _____ Sub Total 0
 Final Flow 15 Extra Recorder _____ Total 1750
 Final Shut-In _____ Day Standby _____ MP/DST Disc't _____
 Sub Total 1750 Accessibility _____

Approved By _____ Our Representative [Signature]

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