

DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Dinges Family #1

8-15s-19w Ellis,KS

Start Date: 2012.09.07 @ 14:50:24

End Date: 2012.09.07 @ 21:16:18

Job Ticket #: 48679 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.09.13 @ 14:45:25

TDI Inc 8-15s-19w Ellis,KS Dinges Family #1 DST # 1 LKC "C" 2012.09.07



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

8-15s-19w Ellis, KS

Dinges Family #1

Job Ticket: 48679

DST#: 1

Test Start: 2012.09.07 @ 14:50:24

GENERAL INFORMATION:

Formation: LKC "C"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:06:19

Time Test Ended: 21:16:18

Interval: 3355.00 ft (KB) To 3377.00 ft (KB) (TVD)

Total Depth: 3377.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 42

Reference Elevations: 2037.00 ft (KB)

2027.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8369

Inside

Press@RunDepth: 116.52 psig @ 3356.00 ft (KB)

Start Date: 2012.09.07

End Date:

2012.09.07

Start Time: 14:50:24

End Time:

21:16:18

Capacity: 8000.00 psig

Last Calib.: 2012.09.07

Time On Btm: 2012.09.07 @ 16:45:19

Time Off Btm: 2012.09.07 @ 19:41:48

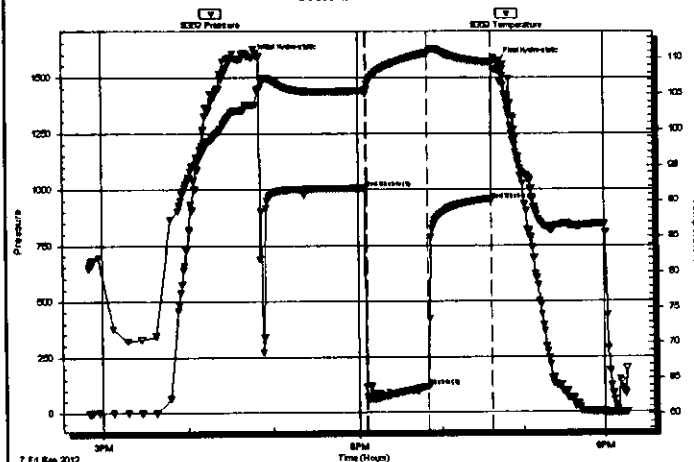
TEST COMMENT: 30-IFP-wk to a fr bl 1/2" to 4 1/4" bl

45-ISIP-no bl

45-FFP-strg bl in 2 min

45-FSIP-strg bl bk in 7 min

Pressure vs. Time



PRESSURE SUMMARY

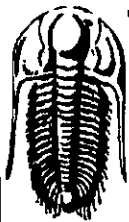
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1589.48	103.45	Initial Hydro-static
80	1007.58	105.48	End Shut-In(1)
81	72.71	105.61	Open To Flow (1)
126	116.52	110.74	Shut-In(1)
172	949.13	109.34	End Shut-In(2)
177	1571.73	108.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	870' GIP	0.00
5.00	O&GCM 10-%G10&O80%M	0.07
62.00	GMO 50%G20%M30%O	0.87
62.00	GMO 40%G10%M50%O	0.87
124.00	CO	1.74
5.00	Water	0.07

Gas Rates

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

DRILL STEM TEST REPORT

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

8-15s-19w Ellis,KS

Dinges Family #1

Job Ticket: 48679

DST#: 1

Test Start: 2012.09.07 @ 14:50:24

GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:06:19

Time Test Ended: 21:16:18

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 42

Interval: **3355.00 ft (KB) To 3377.00 ft (KB) (TVD)**

Total Depth: 3377.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2037.00 ft (KB)

2027.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8700 Outside

Press@RunDepth: psig @ 3356.00 ft (KB)

Start Date: 2012.09.07

End Date:

2012.09.07

Capacity: 8000.00 psig

Last Calib.:

2012.09.07

Start Time: 14:51:03

End Time:

21:15:27

Time On Btm:

Time Off Btm:

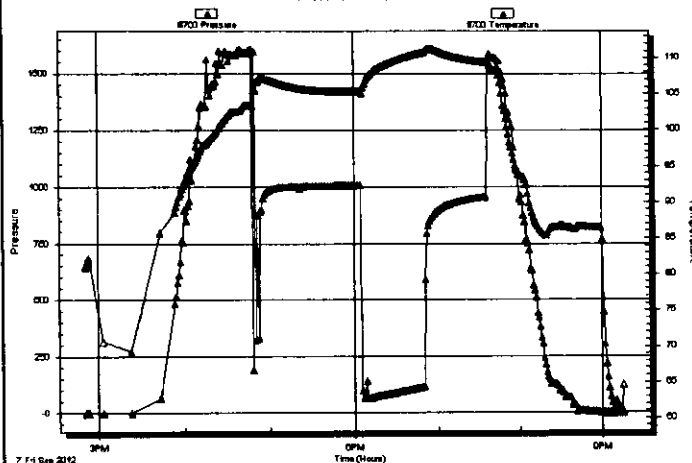
TEST COMMENT: 30-IFP-w k to a fr bl 1/2" to 4 1/4" bl

45-ISIP-no bl

45-FFP-strg bl in 2 min

45-FSIP-strg bl bk in 7 min

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
0.00	870'GIP	0.00
5.00	O&GCM 10-%G10&O80%M	0.07
62.00	GMO 50%G20%M30%O	0.87
62.00	GMO 40%G10%M50%O	0.87
124.00	CO	1.74
5.00	Water	0.07

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

8-15s-19w Ellis, KS

1310 Bison Rd
Hays KS 67601-9696

Dinges Family #1

Job Ticket: 48679

DST#: 1

ATTN: Tom Denning

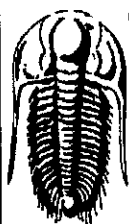
Test Start: 2012.09.07 @ 14:50:24

Tool Information

Drill Pipe:	Length: 3359.00 ft	Diameter: 3.80 inches	Volume: 47.12 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 47.12 bbl</u>	Tool Chased 12.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	3355.00 ft			Final 30000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	43.00 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			3335.00	
Shut In Tool	5.00			3340.00	
Hydraulic tool	5.00			3345.00	
Packer	5.00			3350.00	21.00 Bottom Of Top Packer
Packer	5.00			3355.00	
Stubb	1.00			3356.00	
Recorder	0.00	8369	Inside	3356.00	
Recorder	0.00	8700	Outside	3356.00	
Perforations	18.00			3374.00	
Bullnose	3.00			3377.00	22.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc

8-15s-19w Ellis, KS

1310 Bison Rd
Hays KS 67601-9696

Dinges Family #1

Job Ticket: 48679

DST#: 1

ATTN: Tom Denning

Test Start: 2012.09.07 @ 14:50:24

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.57 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	870'GIP	0.000
5.00	O&GCM 10-%G10&O80%M	0.070
62.00	GMO 50%G20%M30%O	0.870
62.00	GMO 40%G10%M50%O	0.870
124.00	CO	1.739
5.00	Water	0.070

Total Length: 258.00 ft

Total Volume: 3.619 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

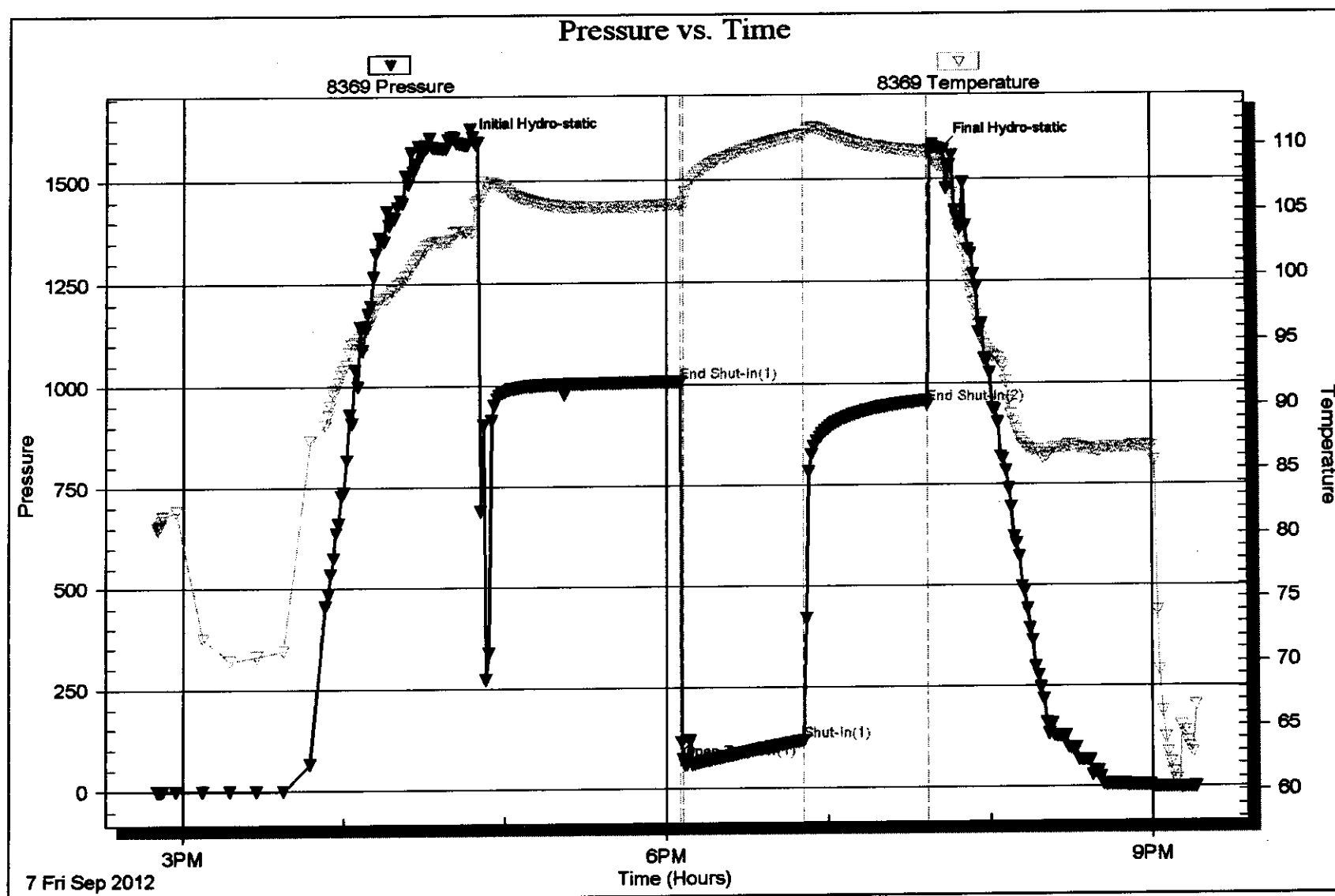
Recovery Comments:

Serial #: 8369

Inside TDI Inc

Dinges Family #1

DST Test Number: 1

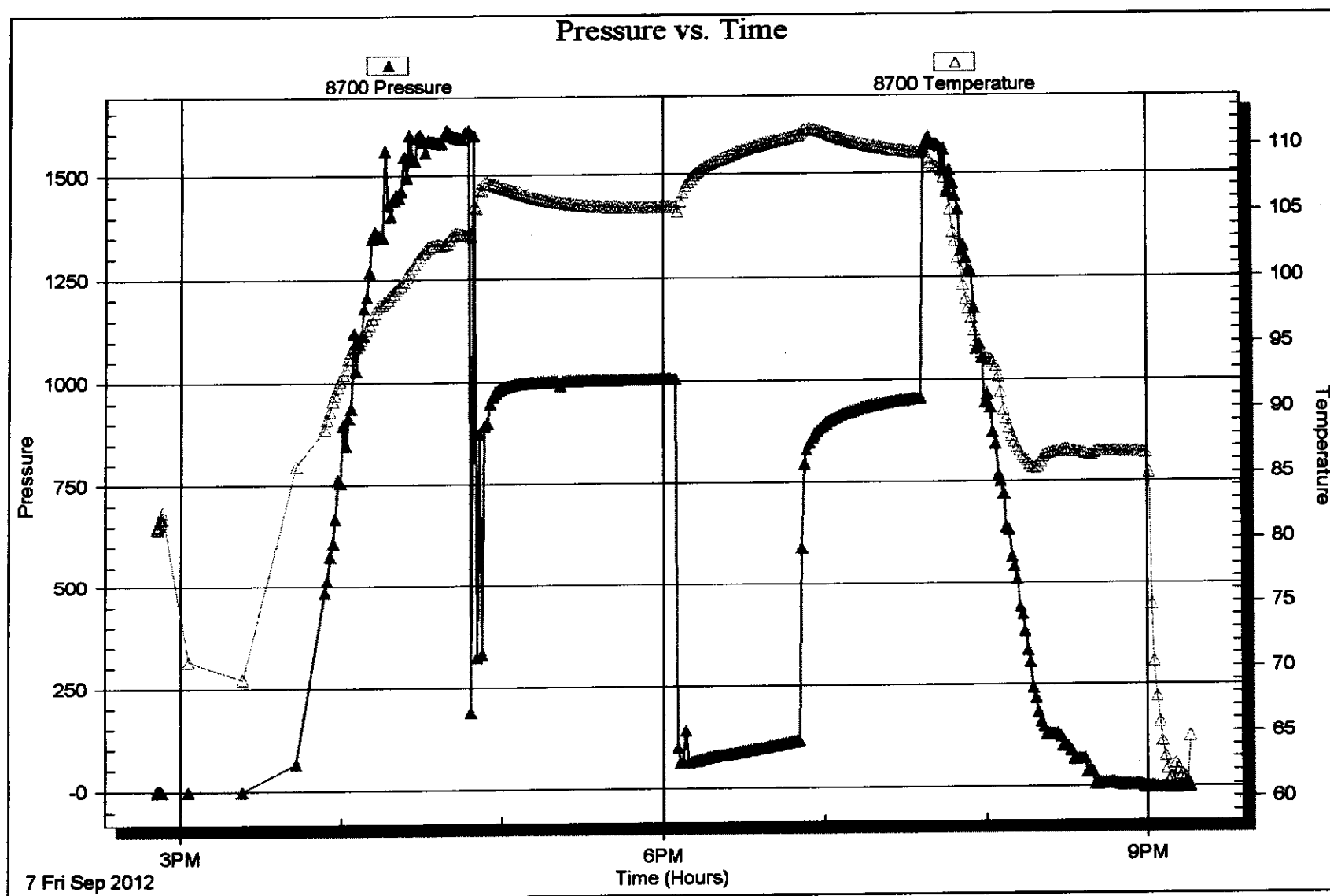


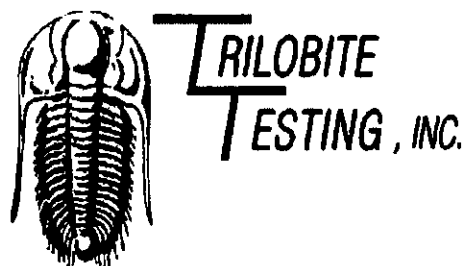
Serial #: 8700

Outside TDI Inc

Dinges Family #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Dinges Family #1

8-15s-19w Ellis,KS

Start Date: 2012.09.08 @ 04:30:00

End Date: 2012.09.08 @ 09:19:30

Job Ticket #: 49468 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.09.13 @ 14:48:29

TDI Inc 8-15s-19w Ellis,KS Dinges Family #1 DST # 2 LKC - "D-top of "G" 2012.09.08



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

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

8-15s-19w Ellis, KS
Dinges Family #1
Job Ticket: 49468 **DST#: 2**
Test Start: 2012.09.08 @ 04:30:00

GENERAL INFORMATION:

Formation: **LKC - "D-top of "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:08:00

Time Test Ended: 09:19:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 42

Interval: **3377.00 ft (KB) To 3414.00 ft (KB) (TVD)**

Total Depth: 3414.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2037.00 ft (KB)

2027.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8700

Outside

Press@RunDepth: 14.74 psig @ 3378.00 ft (KB)

Start Date: 2012.09.08

End Date:

2012.09.08

Start Time: 04:30:05

End Time:

09:19:29

Capacity: 8000.00 psig

Last Calib.: 2012.09.08

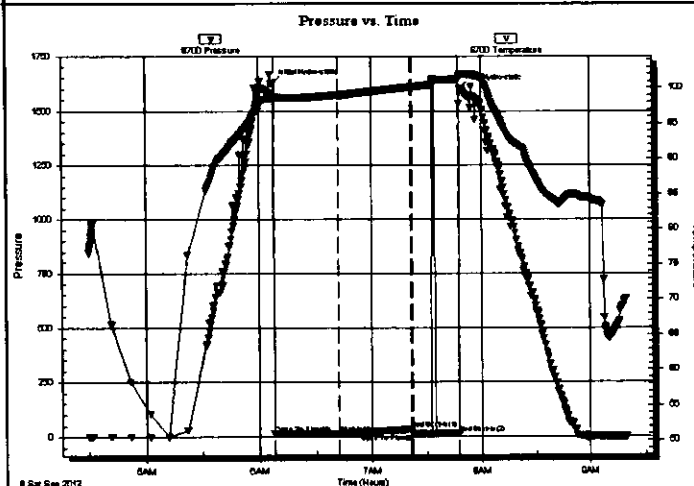
Time On Btm: 2012.09.08 @ 06:07:30

Time Off Btm: 2012.09.08 @ 07:48:30

TEST COMMENT: 30 - IF- 1/4" Blow and Dying

45 - IS- No blow back.

20 - FF- Waited 10 Min, no blow, Flushed tool, surged and died, waited 10 Min. Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1628.63	98.87	Initial Hydro-static
1	12.55	98.55	Open To Flow (1)
35	14.74	98.99	Shut-In(1)
74	35.15	100.11	End Shut-In(1)
75	13.41	100.13	Open To Flow (2)
100	14.10	101.21	End Shut-In(2)
101	1600.40	101.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - Oil Scum, 100%M	0.07

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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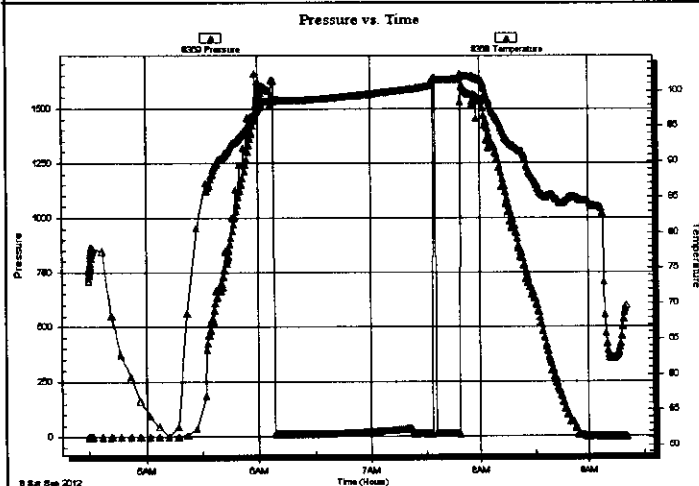
TDI Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Tom Denning

Test Start: 2012.09.08 @ 04:30:00

KB to GR/CF: 10.00 ft

Time Off Btm:

20 - FF- Waited 10 Min, no blow , Flushed tool, surged and died, waited 10 Min. Pulled tool



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery		
Length (ft)	Description	Volume (bbl)
5.00	Mud - Oil Scum, 100%M	0.07

* Recovery from multiple tests

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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[illegible]



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc

8-15s-19w Ellis, KS

1310 Bison Rd
Hays KS 67601-9696

Dinges Family #1

Job Ticket: 49468

DST#: 2

ATTN: Tom Denning

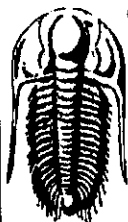
Test Start: 2012.09.08 @ 04:30:00

Tool Information

Drill Pipe:	Length: 3361.00 ft	Diameter: 3.80 inches	Volume: 47.15 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 34000.00 lb
			Total Volume: 47.15 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	3377.00 ft			Final 30000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	58.00 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			3357.00	
Shut In Tool	5.00			3362.00	
Hydraulic tool	5.00			3367.00	
Packer	5.00			3372.00	21.00 Bottom Of Top Packer
Packer	5.00			3377.00	
Stubb	1.00			3378.00	
Recorder	0.00	8369	Inside	3378.00	
Recorder	0.00	8700	Outside	3378.00	
Perforations	33.00			3411.00	
Bullnose	3.00			3414.00	37.00 Bottom Packers & Anchor
Total Tool Length:		58.00			



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc

8-15s-19w Ellis, KS

1310 Bison Rd
Hays KS 67601-9696

Dinges Family #1

Job Ticket: 49468

DST#: 2

ATTN: Tom Denning

Test Start: 2012.09.08 @ 04:30:00

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: 47.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.57 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud - Oil Scum, 100%M	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:

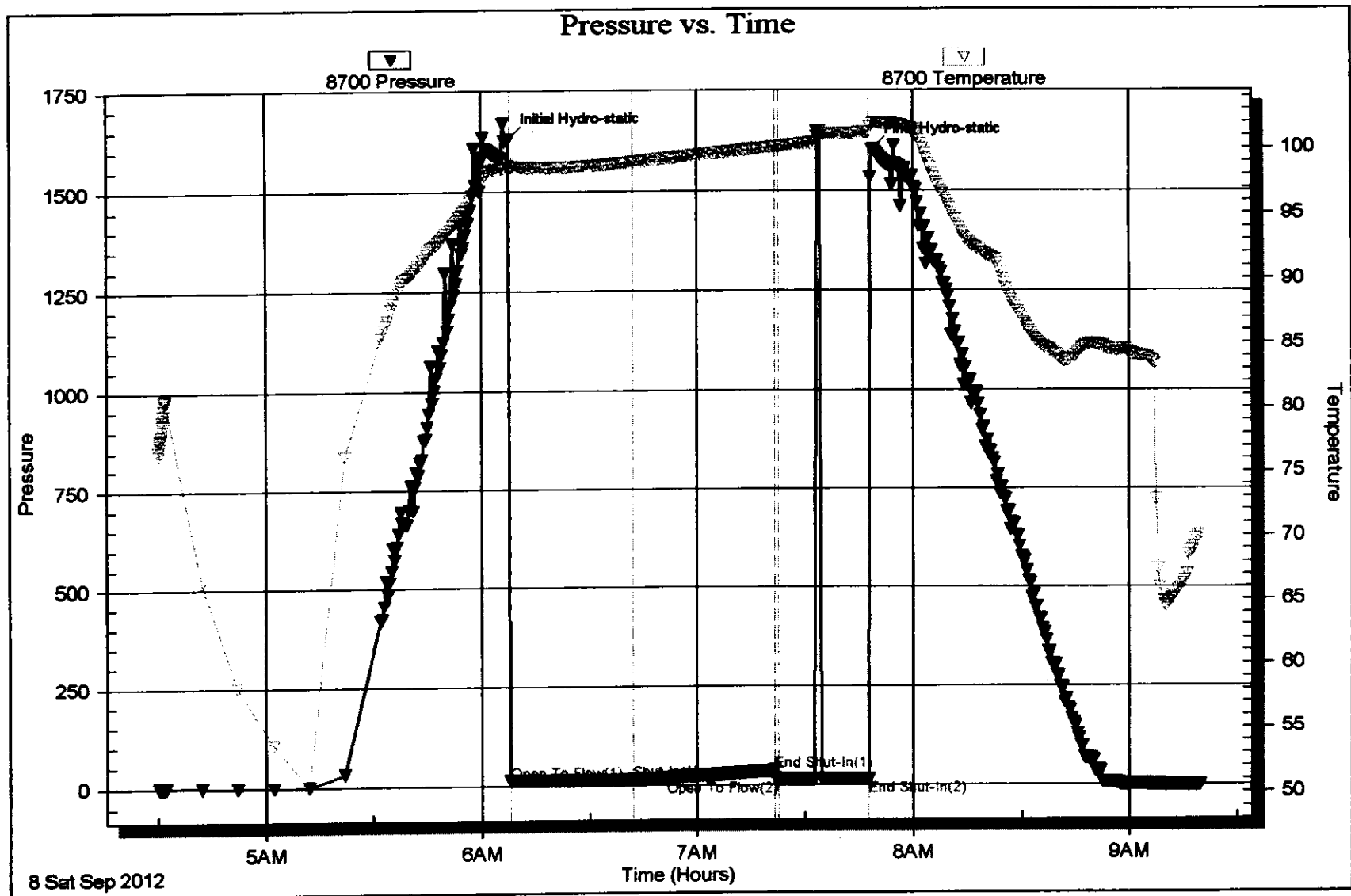
Recovery Comments:

Serial #: 8700

Outside TDI Inc

Dinges Family #1

DST Test Number: 2

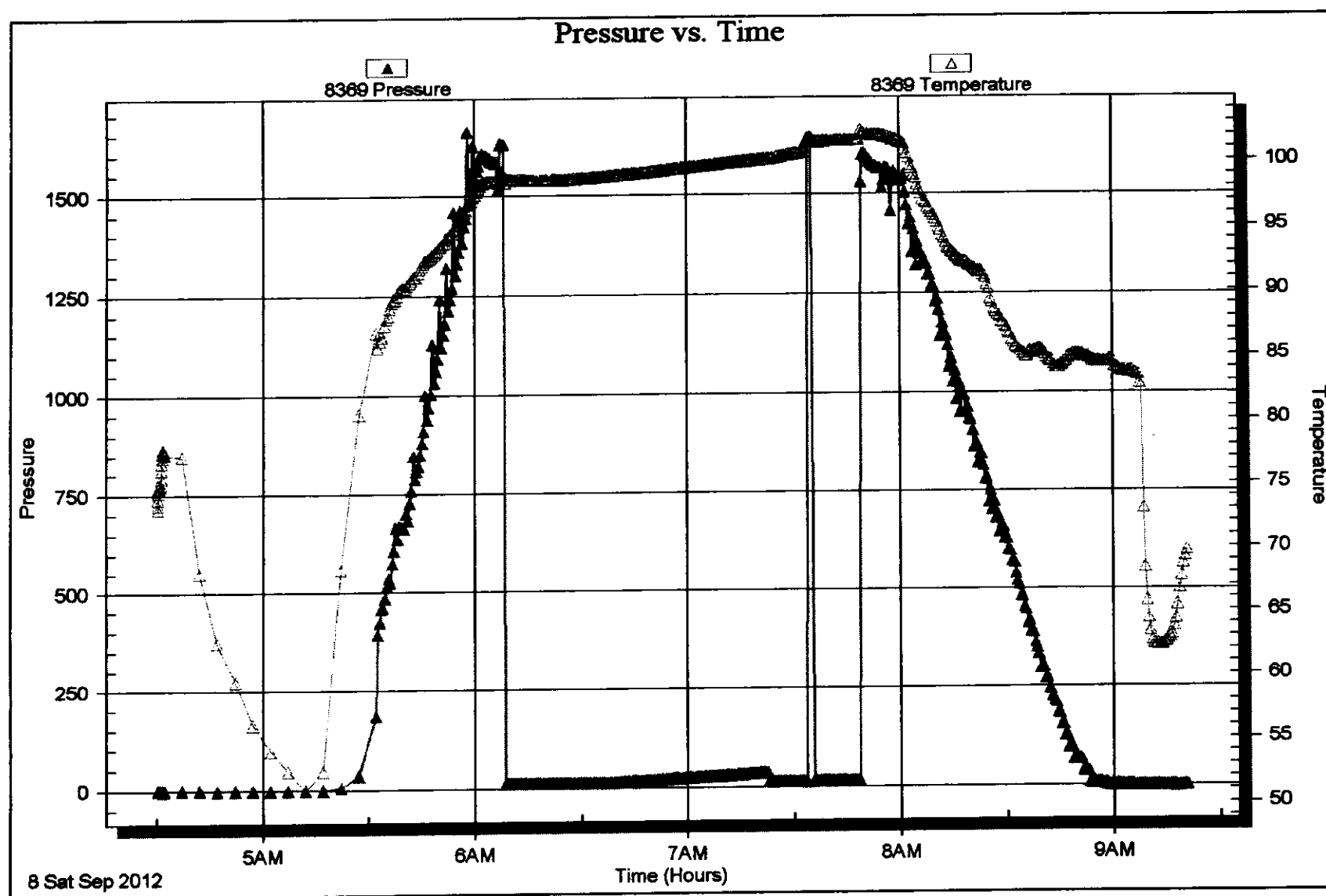


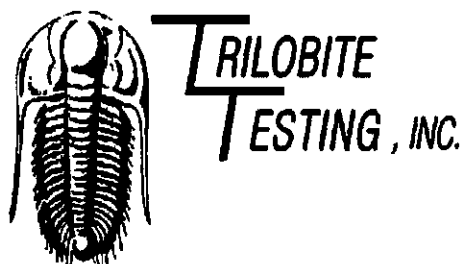
Serial #: 8369

Inside TDI Inc

Dinges Family #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Dinges Family #1

8-15s-19w Ellis,KS

Start Date: 2012.09.08 @ 21:00:00

End Date: 2012.09.09 @ 02:59:30

Job Ticket #: 49469 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.09.13 @ 14:30:08

TDI Inc 8-15s-19w Ellis,KS Dinges Family #1 DST # 3 H,I,J 2012.09.08



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

Test Start: 2012.09.08 @ 21:00:00

KB to GR/CF: 10.00 ft

Time Off Btm: 2012.09.09 @ 00:06:00

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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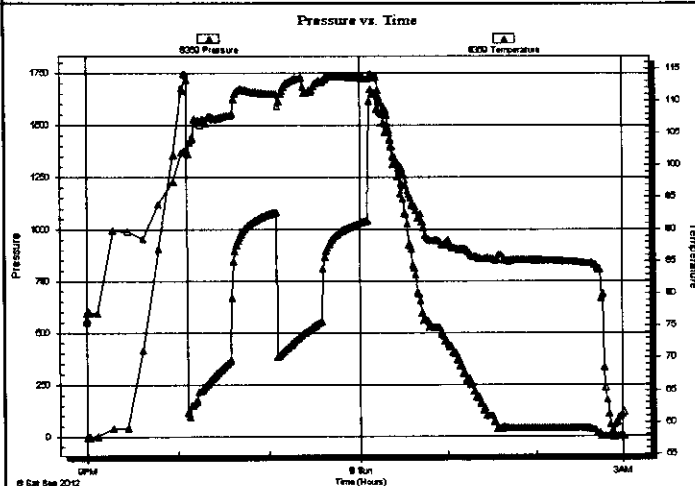
TDI Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Tom Denning

Test Start: 2012.09.08 @ 21:00:00

KB to GR/CF: 10.00 ft

Time Off Btrm

TEST COMMENT: 30 - IF- B.O.B. in 2 Min.
30 - IS- No blow back.
30 - FF- B.O.B. in 3 Min.
30 - FS- No blow back.



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Length (ft)	Description	Volume (bbl)
186.00	Mud, 100%M	2.61
682.00	MV, 5%M, 95%W	9.57
124.00	Mud, 100%M	1.74

* Recovery from multiple tests

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc

8-15s-19w Ellis, KS

1310 Bison Rd
Hays KS 67601-9696

Dinges Family #1

Job Ticket: 49469

DST#: 3

ATTN: Tom Denning

Test Start: 2012.09.08 @ 21:00:00

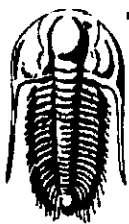
Tool Information

Drill Pipe:	Length: 3425.00 ft	Diameter: 3.80 inches	Volume: 48.04 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 38000.00 lb
			Total Volume: 48.04 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	3428.00 ft			Final 33000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	112.00 ft			
Tool Length:	133.00 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			3408.00	
Shut In Tool	5.00			3413.00	
Hydraulic tool	5.00			3418.00	
Packer	5.00			3423.00	21.00 Bottom Of Top Packer
Packer	5.00			3428.00	
Stubb	1.00			3429.00	
Perforations	3.00			3432.00	
Change Over Sub	1.00			3433.00	
Drill Pipe	93.00			3526.00	
Change Over Sub	1.00			3527.00	
Recorder	0.00	8369	Inside	3527.00	
Recorder	0.00	8700	Outside	3527.00	
Perforations	10.00			3537.00	
Bullnose	3.00			3540.00	112.00 Bottom Packers & Anchor

Total Tool Length: 133.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc

8-15s-19w Ellis, KS

1310 Bison Rd
Hays KS 67601-9696

Dinges Family #1

Job Ticket: 49469

DST#: 3

ATTN: Tom Denning

Test Start: 2012.09.08 @ 21:00:00

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:

60000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	Mud, 100%M	2.609
682.00	MW, 5%M, 95%W	9.567
124.00	Mud, 100%M	1.739

Total Length: 992.00 ft Total Volume: 13.915 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

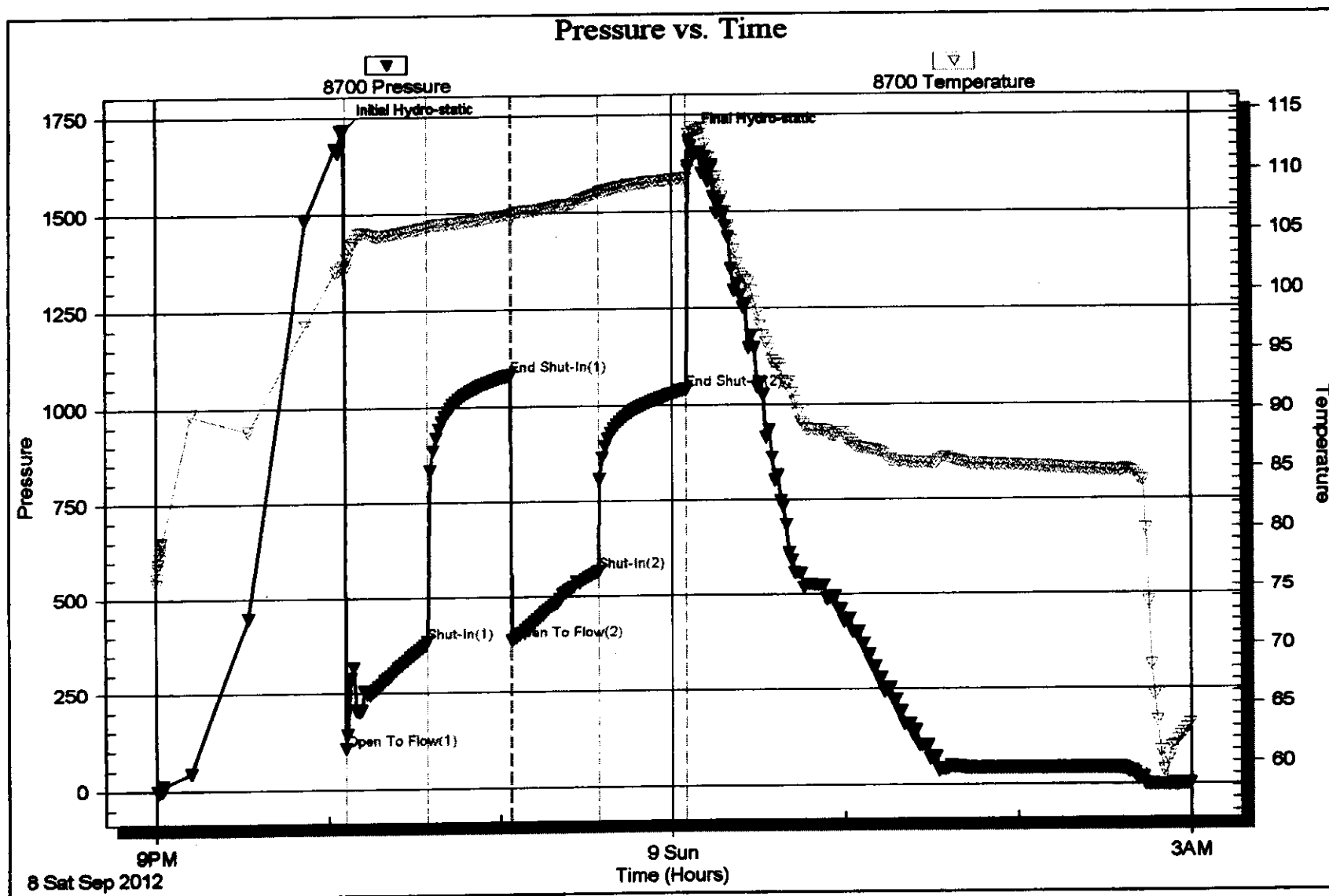
Recovery Comments: .15 @ 60 Degrees = 60,000 Chlorides

Serial #: 8700

Outside TDI Inc

Dinges Family #1

DST Test Number: 3

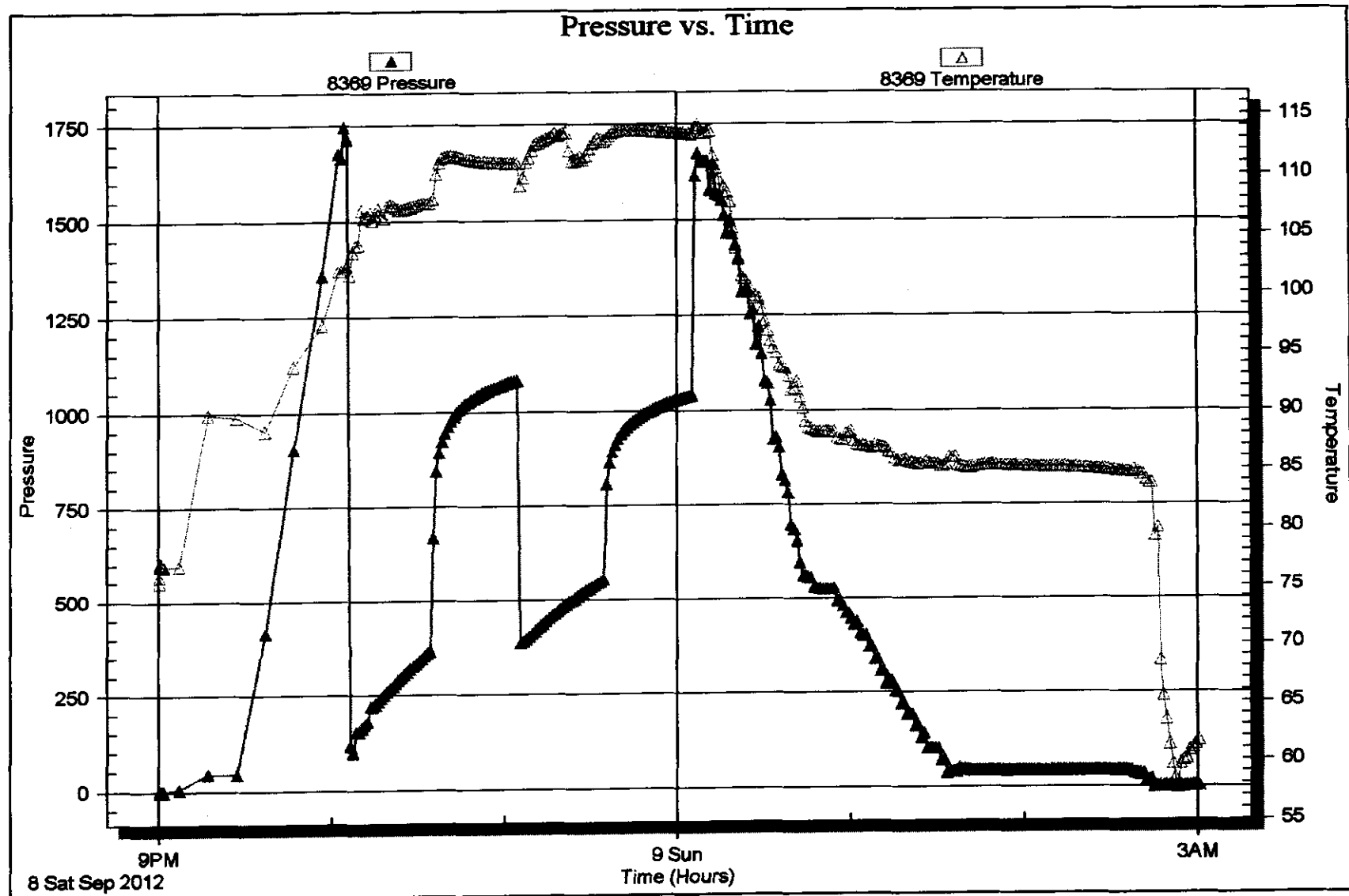


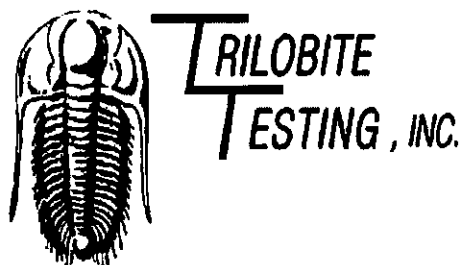
Serial #: 8369

Inside TDI Inc

Dinges Family #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Dinges Family #1

8-15s-19w Ellis,KS

Start Date: 2012.09.09 @ 17:20:00

End Date: 2012.09.09 @ 22:08:30

Job Ticket #: 49470 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.09.13 @ 14:27:54

TDI Inc
8-15s-19w Ellis,KS
Dinges Family #1
DST # 4
CG Sand
2012.09.09



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

8-15s-19w Ellis, KS

Dinges Family #1

Job Ticket: 49470

DST#: 4

Test Start: 2012.09.09 @ 17:20:00

GENERAL INFORMATION:

Formation: **CG Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:10:30

Time Test Ended: 22:08:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 42

Interval: **3658.00 ft (KB) To 3704.00 ft (KB) (TVD)**

Total Depth: 3704.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2037.00 ft (KB)

2027.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: **8700** Outside

Press@RunDepth: 83.03 psig @ 3695.00 ft (KB)

Start Date: 2012.09.09

End Date:

2012.09.09

Start Time: 17:20:05

End Time:

22:08:29

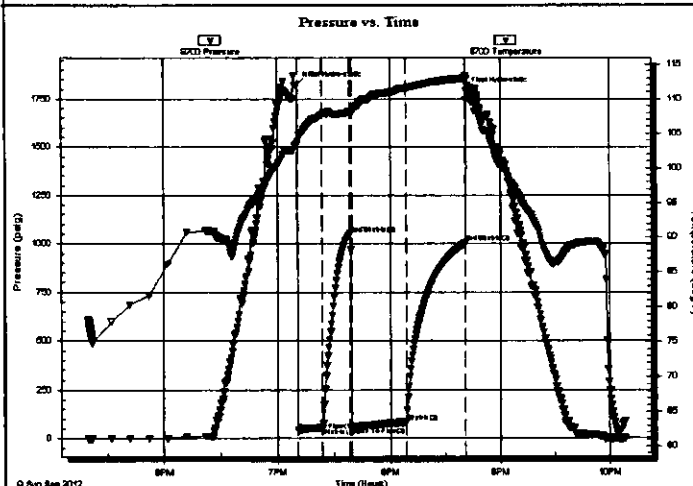
Capacity: 8000.00 psig

Last Calib.: 2012.09.09

Time On Btm: 2012.09.09 @ 19:10:00

Time Off Btm: 2012.09.09 @ 20:41:30

TEST COMMENT: 15 - IF- 5" blow
15 - IS- No blow back.
30 - FF- 3" Blow
30 - FS- Noblow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1822.48	103.40	Initial Hydro-static
1	42.24	103.89	Open To Flow (1)
14	56.17	107.69	Shut-In(1)
28	1052.45	108.09	End Shut-In(1)
29	60.99	107.82	Open To Flow (2)
59	83.03	111.56	Shut-In(2)
91	1004.70	112.99	End Shut-In(2)
92	1793.71	112.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
92.00	Mud - Oil Scum, 100%M	1.29

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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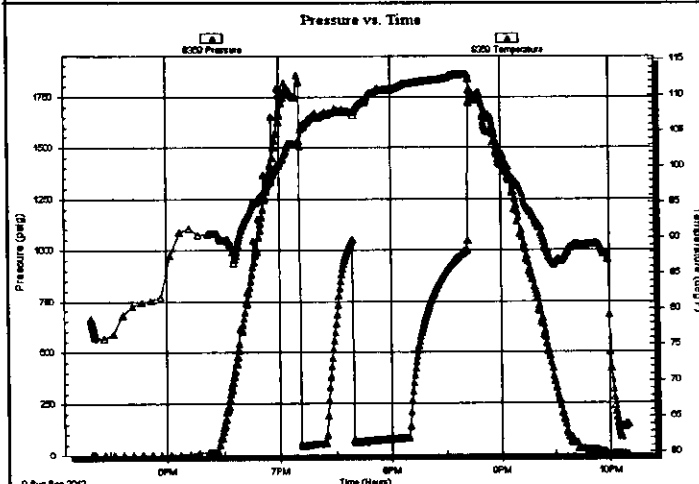
TDI Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Tom Denning

Test Start: 2012.09.09 @ 17:20:00

KB to GR/CF: 10.00 ft

Time Off Btrm:

TEST COMMENT: 15 - IF- 5" blow
15 - IS- No blow back.
30 - FF- 3" Blow
30 - FS- Noblow back



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery		
Length (ft)	Description	Volume (bbl)
92.00	Mud - Oil Scum, 100%M	1.29

* Recovery from multiple tests

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc

8-15s-19w Ellis, KS

1310 Bison Rd
Hays KS 67601-9696

Dinges Family #1

Job Ticket: 49470

DST#: 4

ATTN: Tom Denning

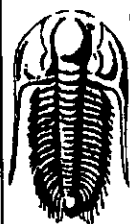
Test Start: 2012.09.09 @ 17:20:00

Tool Information

Drill Pipe:	Length: 3644.00 ft	Diameter: 3.80 inches	Volume: 51.12 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	34000.00 lb
			Total Volume: 51.12 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	30000.00 lb
Depth to Top Packer:	3658.00 ft			Final	30000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 ft				
Tool Length:	75.00 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			3630.00		
Shut In Tool	5.00			3635.00		
Hydraulic tool	5.00			3640.00		
Jars	5.00			3645.00		
Safety Joint	3.00			3648.00		
Packer	5.00			3653.00	29.00	Bottom Of Top Packer
Packer	5.00			3658.00		
Stubb	1.00			3659.00		
Perforations	3.00			3662.00		
Change Over Sub	1.00			3663.00		
Drill Pipe	31.00			3694.00		
Change Over Sub	1.00			3695.00		
Recorder	0.00	8369	Inside	3695.00		
Recorder	0.00	8700	Outside	3695.00		
Perforations	6.00			3701.00		
Bullnose	3.00			3704.00	46.00	Bottom Packers & Anchor
Total Tool Length:		75.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc

8-15s-19w Ellis, KS

1310 Bison Rd
Hays KS 67601-9696

Dinges Family #1

Job Ticket: 49470

DST#: 4

ATTN: Tom Denning

Test Start: 2012.09.09 @ 17:20:00

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: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
92.00	Mud - Oil Scum, 100%M	1.291

Total Length:

92.00 ft

Total Volume:

1.291 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

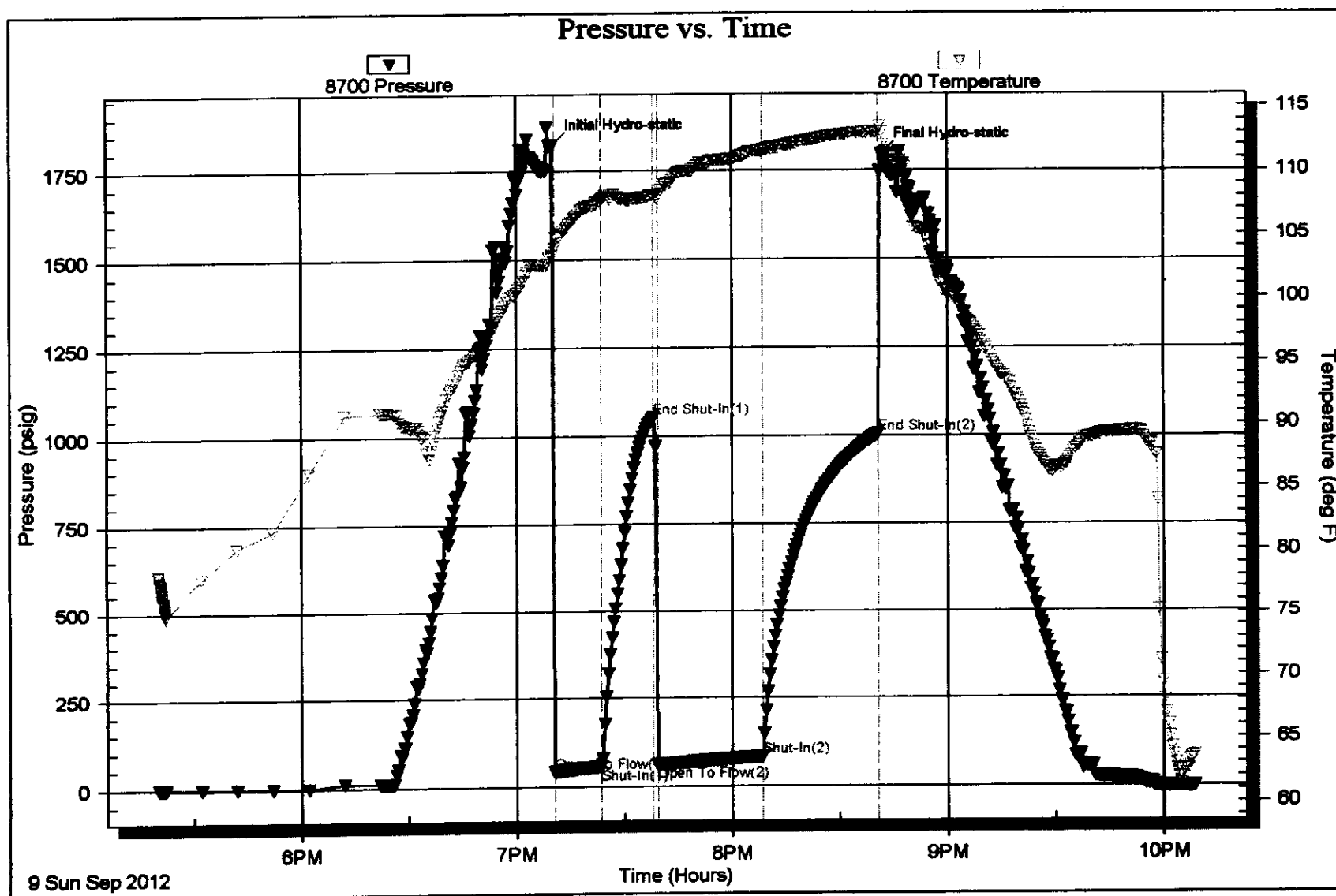
Recovery Comments:

Serial #: 8700

Outside TDI Inc

Dinges Family #1

DST Test Number: 4

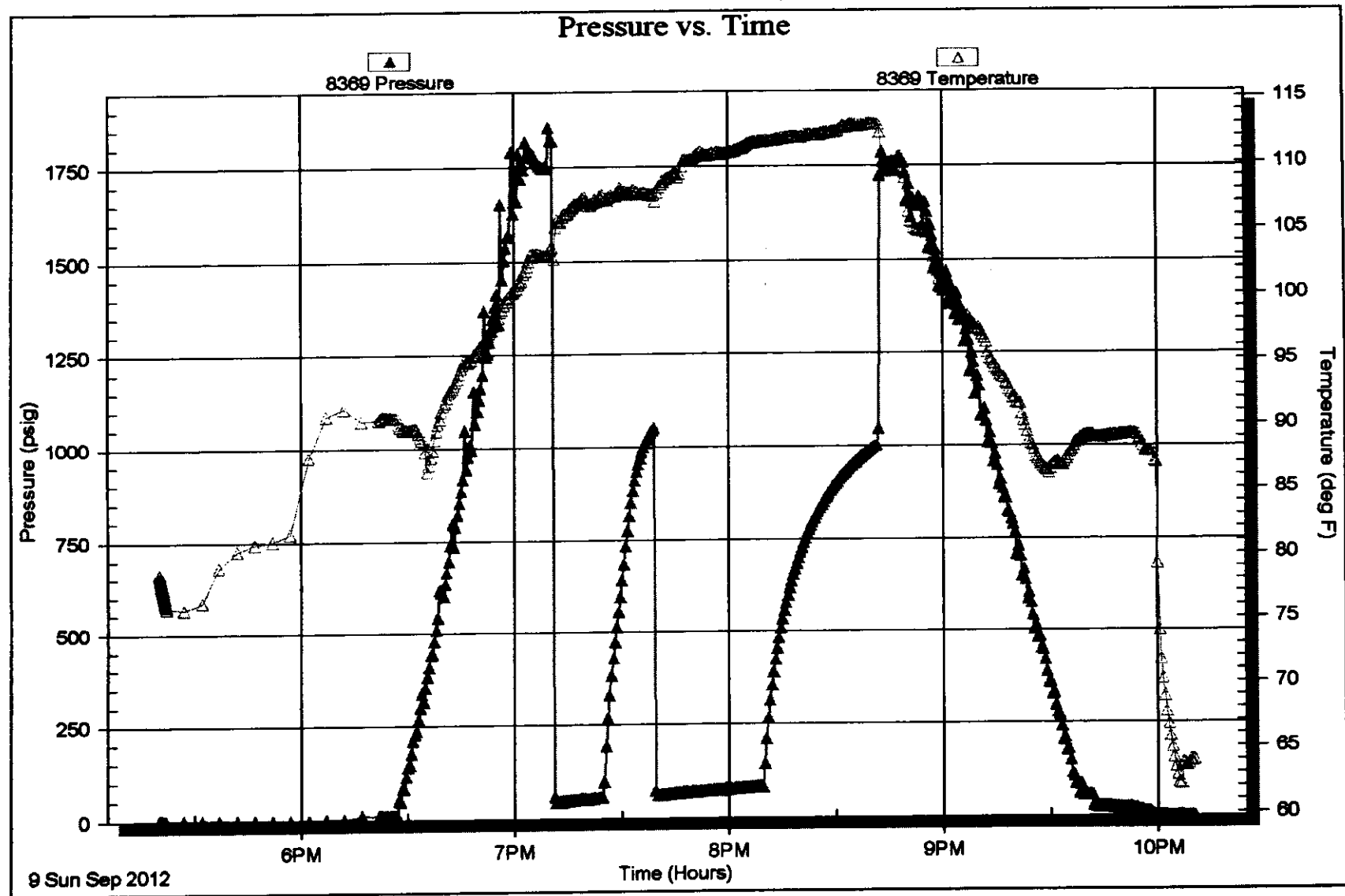


Serial #: 8369

Inside TDI Inc

Dinges Family #1

DST Test Number: 4





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48679

Well Name & No. Dinges Family #1 Test No. 1 Date 9-7-12
 Company TDI Inc Elevation 2037 KB 2027 GL
 Address 1310 Bison Rd Hays, KS 67601-9696
 Co. Rep / Geo. Herb Dinges Rig Southwind rig 1
 Location: Sec. B Twp. 15^s Rge. 19^w Co. ELLIS State Ks

Interval Tested 3355-3377 Zone Tested LKC "C"
 Anchor Length 22 Drill Pipe Run 3359 Mud Wt. 8.8
 Top Packer Depth 3350 Drill Collars Run — Vis 47
 Bottom Packer Depth 3355 Wt. Pipe Run — WL 7.6
 Total Depth 3377 Chlorides 4200 ppm System LCM 1#

Blow Description IFP - WEAK TO A FAIR BLOW 1/2" TO 4 1/4" BLOW
ISIP - NO BLOW
FFP - STRONG BLOW IN 2 MIN
FSIP - STRONG BLOW BACK IN 7 MIN

Rec	Feet of	%gas	%oil	%water	%mud
870	GIP				
5	OT GCM	10 %gas	10 %oil	%water	80 %mud
62	GMO	50 %gas	30 %oil	%water	20 %mud
62	GMO	40 %gas	50 %oil	%water	10 %mud
124	CO	%gas	%oil	%water	%mud
5	258 WATER				

Rec Total 5 258 BI-T
 A) Initial Hydrostatic 1589
 B) First Initial Flow —
 C) First Final Flow —
 D) Initial Shut-In 1007
 E) Second Initial Flow 72
 F) Second Final Flow 116
 G) Final Shut-In 949
 H) Final Hydrostatic 1571

Gravity 37 API RW — @ — ° F Chlorides — ppm
☒ Test 1150
☐ Jars
☐ Safety Joint
☐ Circ Sub
☐ Hourly Standby
☒ Mileage 36 RT 55.80
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
 Sub Total 1205.80

Initial Open 30
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Approved By Ray Schwager Our Representative RAY SCHWAGER THANK YOU
 Triobite Testing Inc. shall not be liable for damaged or destroyed 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. 49468

Well Name & No.	Dingos Family #1	Test No.	2	Date	9-8-12
Company	TDI Inc.	Elevation	2037	KB	2027 GL
Address	1310 Bison Rd, Hays KS, 67601				
Co. Rep / Geo.	Herb	Rig	Southwind #1		
Location: Sec.	8	Twp.	15s	Rge.	19w
		Co.	Ellis	State	KS

Interval Tested	3377-3414	Zone Tested	D-F-Top of G		
Anchor Length	37'	Drill Pipe Run	3361	Mud Wt.	8.8
Top Packer Depth	3372	Drill Collars Run	—	Vis	47
Bottom Packer Depth	3377	Wt. Pipe Run	—	WL	76
Total Depth	3414	Chlorides	4200	ppm System	LCM

Blow Description IF- 1/4" blow & dying
ISI- No blow back
FF- No blow, waited 10 min, Flushed tool, Surged & d.c.b. waited 10 min. Pulled.

Rec	5	Feet of	Mud-Gil Scum	%gas	%oil	%water	100	%mud
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 5 BHT 1010 Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic	1628	☒ Test	1150	T-On Location	4:05 am
(B) First Initial Flow	12	☐ Jars		T-Started	4:30 am
(C) First Final Flow	14	☐ Safety Joint		T-Open	6:09 am
(D) Initial Shut-In	35	☐ Circ Sub		T-Pulled	7:44 am
(E) Second Initial Flow	13	☐ Hourly Standby		T-Out	9:20 am
(F) Second Final Flow	—	☒ Mileage	55.80	Comments	
(G) Final Shut-In	14	☐ Sampler			
(H) Final Hydrostatic	1600	☐ Straddle			

Initial Open	30	☐ Shale Packer	
Initial Shut-In	45	☐ Ruined Packer	
Final Flow	20-Pulled	☐ Extra Copies	
Final Shut-In	—	Sub Total	0
		Total	1205.80
		MP/DST Disc't	
		Sub Total	1205.80

Approved By

Our Representative

Cody B...

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. 49469

Well Name & No. Dingo Family #1 Test No. 3 Date 9-8-12
Company TDI, INC. Elevation 2037 KB 2027 GL
Address 1310 Bison RD, Hays KS, 67601
Co. Rep / Geo. Herb Rig Southwind #1
Location: Sec. 8 Twp. 15S Rge. 19W Co. ELLIS State KS

Interval Tested 3428-3540 Zone Tested H, I, J
Anchor Length 112' Drill Pipe Run 3425' Mud Wt. 9.2
Top Packer Depth 3423 Drill Collars Run — Vis 59
Bottom Packer Depth 3438 Wt. Pipe Run — WL 7.2
Total Depth 3540 Chlorides 4200 ppm System LCM —
Blow Description IF - B.O.B. in 2 Min.
ISI - No blow back
FF - B.O.B. in 3 Min.
FSI - No blow back.

Rec <u>186</u>	Feet of <u>Mud</u>	%gas	%oil	%water <u>100</u>	%mud
Rec <u>682</u>	Feet of <u>MW</u>	%gas	%oil <u>95</u>	%water <u>5</u>	%mud
Rec <u>124</u>	Feet of <u>Mud</u>	%gas	%oil	%water <u>100</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 992' BHT 1090 Gravity — API RW 1.15 @ 60° F Chlorides 6000 ppm
(A) Initial Hydrostatic 1716 ☒ Test 1150 T-On Location 7:30pm
(B) First Initial Flow 105 ☐ Jars T-Started 9:00pm
(C) First Final Flow 385 ☐ Safety Joint T-Open 10:07pm
(D) Initial Shut-In 1081 ☐ Circ Sub T-Pulled 12:07am
(E) Second Initial Flow 385 ☐ Hourly Standby T-Out 3:00am
(F) Second Final Flow 567 ☒ Mileage 55.80 Comments
(G) Final Shut-In 1039 ☐ Sampler
(H) Final Hydrostatic 1685 ☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
Sub Total 1205.80
Initial Open 30
Initial Shut-In 30
Final Flow 30
Final Shut-In 30
Sub Total 1205.80
MP/DST Disc't

Approved By

Our Representative

Cody Bloodorn

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49470

Well Name & No. Dinges Family #1 Test No. 4 Date 9-9-12
Company TDI INC Elevation 2037 KB 2027 GL
Address 1310 Bison RD, Hays KS, 67601
Co. Rep / Geo. Herb Rig Southwind #1
Location: Sec. 8 Twp. 15s Rge. 19w Co. Ellis State KS

Interval Tested 3658-3704 Zone Tested C.G. Sand
Anchor Length 46' Drill Pipe Run 3644 Mud Wt. 9.1
Top Packer Depth 3653 Drill Collars Run — Vis 59
Bottom Packer Depth 3658 Wt. Pipe Run — WL 7.8
Total Depth 3704 Chlorides 4200 ppm System LCM —

Blow Description IF-5" blow
ISI- No blow back.
FF-3" blow
FSI- No blow back.

Rec	Feet of	%gas	%oil	%water	%mud
<u>107</u>	<u>Feet of Mud-Oil Scum</u>			<u>100</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 107 BHT 1120 Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic 1822
(B) First Initial Flow 42
(C) First Final Flow 56
(D) Initial Shut-In 1052
(E) Second Initial Flow 60
(F) Second Final Flow 83
(G) Final Shut-In 1004
(H) Final Hydrostatic 1793

☒ Test 1150
☒ Jars 250
☒ Safety Joint 75
☐ Circ Sub
☐ Hourly Standby
☒ Mileage 55.80
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility

T-On Location 2:45 pm
T-Started 5:20 pm
T-Open 7:12 pm
T-Pulled 8:42 pm
T-Out 10:11 pm

Comments

Initial Open 15
Initial Shut-In 15
Final Flow 30
Final Shut-In 30

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 1530.80
MP/DST Disc't

Sub Total 1530.80

Approved By

Our Representative

Cody Blair

TriLOBITE Testing Inc. shall not be liable for damaged or 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.