



DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Herb Deines

Jerome #1

7 15s 18w Ellis,KS

Start Date: 2014.08.11 @ 12:38:00

End Date: 2014.08.11 @ 19:00:00

Job Ticket #: 56130 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.13 @ 15:43:28

TDI
7 15s 18w Ellis,KS
Jerome #1
DST # 1
LKC " A - C "
2014.08.11



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7 15s 18w Ellis, KS
Jerome #1
Job Ticket: 56130 **DST#: 1**
Test Start: 2014.08.11 @ 12:38:00

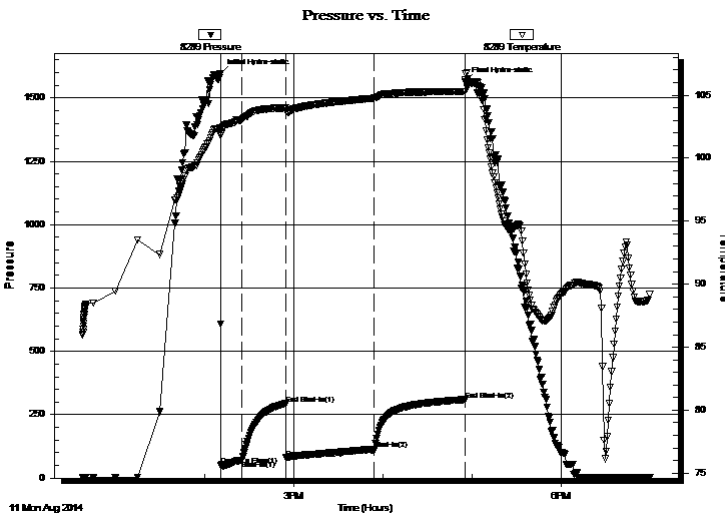
GENERAL INFORMATION:

Formation: **LKC " A - C "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:11:15
Time Test Ended: 19:00:00
Interval: **3304.00 ft (KB) To 3360.00 ft (KB) (TVD)**
Total Depth: 3360.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Jim Svaty
Unit No: 76
Reference Elevations: 2038.00 ft (KB)
2028.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8289 Outside
Press@RunDepth: 112.55 psig @ 3305.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.11 End Date: 2014.08.11 Last Calib.: 2014.08.11
Start Time: 12:38:02 End Time: 18:59:45 Time On Btm: 2014.08.11 @ 14:10:45
Time Off Btm: 2014.08.11 @ 16:55:45

TEST COMMENT: 15-IFP- BOB in 1 min.
30-ISIP- No Blow
60-FFP- BOB in 1 min.
60-FSIP- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1596.92	102.39	Initial Hydro-static
1	51.44	101.90	Open To Flow (1)
15	71.36	103.08	Shut-In(1)
44	293.71	103.99	End Shut-In(1)
45	79.44	103.78	Open To Flow (2)
104	112.55	104.76	Shut-In(2)
165	309.38	105.29	End Shut-In(2)
165	1564.16	106.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	MWCGO 10%w 20%w 20%g 50%o	1.75
62.00	WGOCM 10%w 20%g 25%o 45%m	0.87
50.00	OSM 2%o 98%m	0.70
0.00	1963 GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

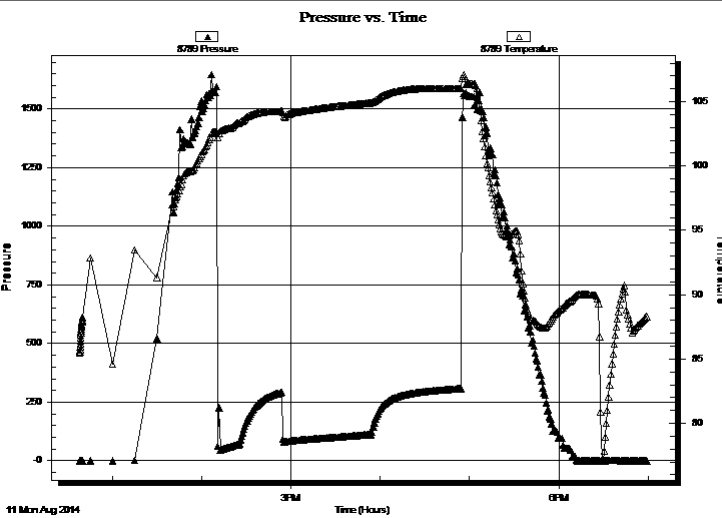
7 15s 18w Ellis,KS
Jerome #1
Job Ticket: 56130 **DST#: 1**
Test Start: 2014.08.11 @ 12:38:00

GENERAL INFORMATION:

Formation: **LKC " A - C "**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 14:11:15 Tester: Jim Svaty
Time Test Ended: 19:00:00 Unit No: 76
Interval: 3304.00 ft (KB) To 3360.00 ft (KB) (TVD) Reference Elevations: 2038.00 ft (KB)
Total Depth: 3360.00 ft (KB) (TVD) 2028.00 ft (CF)
Hole Diameter: 7.88 inchesHole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 8789 Inside
Press@RunDepth: psig @ 3305.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.11 End Date: 2014.08.11 Last Calib.: 2014.08.11
Start Time: 12:38:02 End Time: 18:59:30 Time On Btm:
Time Off Btm:

TEST COMMENT: 15-IFP- BOB in 1 min.
30-ISIP- No Blow
60-FFP- BOB in 1 min.
60-FSIP- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
125.00	MWCGO 10%w 20%w 20%g 50%o	1.75
62.00	WGOCM 10%w 20%g 25%o 45%m	0.87
50.00	OSM 2%o 98%m	0.70
0.00	1963 GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7 15s 18w Ellis,KS
Jerome #1
Job Ticket: 56130 **DST#: 1**
Test Start: 2014.08.11 @ 12:38:00

Tool Information

Drill Pipe:	Length: 3307.00 ft	Diameter: 3.80 inches	Volume: 46.39 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:	50000.00 lb
			<u>Total Volume: 46.39 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	38000.00 lb
Depth to Top Packer:	3304.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	56.00 ft				
Tool Length:	77.00 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			3284.00	
Shut In Tool	5.00			3289.00	
Hydraulic tool	5.00			3294.00	
Packer	5.00			3299.00	21.00 Bottom Of Top Packer
Packer	5.00			3304.00	
Stubb	1.00			3305.00	
Recorder	0.00	8789	Inside	3305.00	
Recorder	0.00	8289	Outside	3305.00	
Perforations	19.00			3324.00	
Change Over Sub	1.00			3325.00	
Blank Spacing	31.00			3356.00	
Change Over Sub	1.00			3357.00	
Bullnose	3.00			3360.00	56.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **7 15s 18w Ellis,KS**
 1310 Bison Rd **Jerome #1**
 Hays KS 67601-9696 Job Ticket: 56130 **DST#: 1**
 ATTN: Herb Deines Test Start: 2014.08.11 @ 12:38:00

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: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.74 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4600.00 ppm			
Filter Cake: inches			

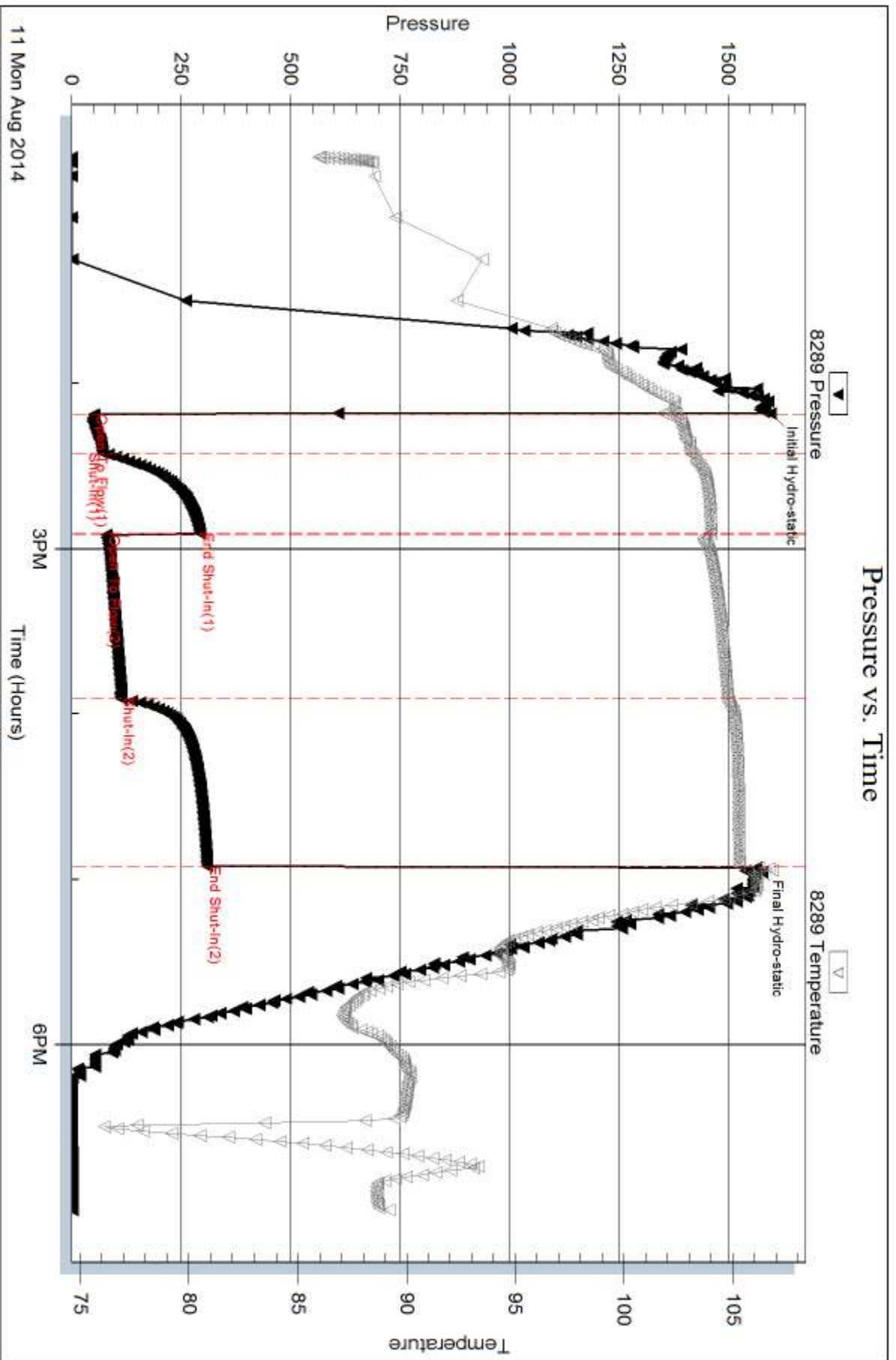
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	MWCGO 10%m 20%w 20%g 50%o	1.753
62.00	WGOCM 10%w 20%g 25%o 45%m	0.870
50.00	OSM 2%o 98%m	0.701
0.00	1963 GIP	0.000

Total Length: 237.00 ft Total Volume: 3.324 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time



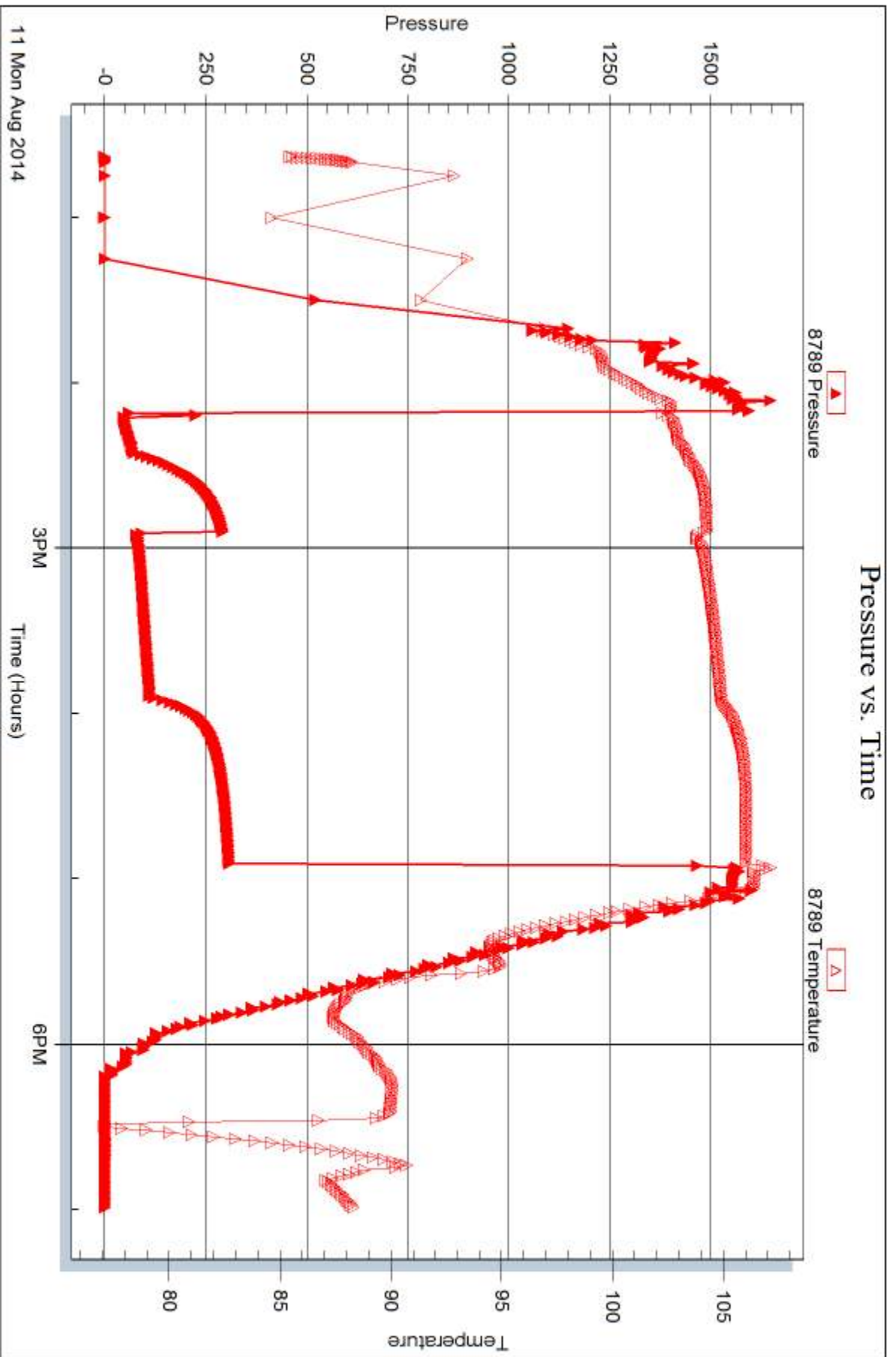
11 Mon Aug 2014

Serial #: 8789

Inside TDI

Jerome #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 56130

Printed: 2014.08.13 @ 15:43:30



DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Herb Deines

Jerome #1

7 15s 18w Ellis,KS

Start Date: 2014.08.12 @ 03:14:00

End Date: 2014.08.12 @ 10:06:00

Job Ticket #: 56131 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.13 @ 15:42:55

TDI
7 15s 18w Ellis,KS
Jerome #1
DST # 2
LKC " F & G "
2014.08.12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

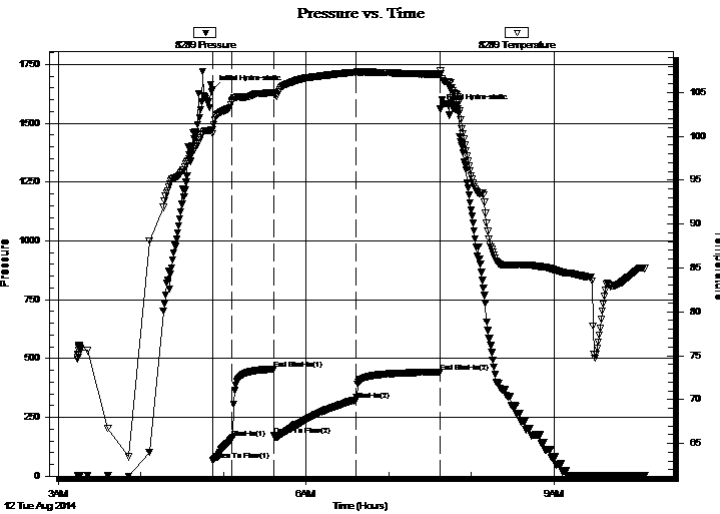
7 15s 18w Ellis, KS
Jerome #1
Job Ticket: 56131 **DST#: 2**
Test Start: 2014.08.12 @ 03:14:00

GENERAL INFORMATION:

Formation: **LKC " F & G "**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 04:52:15 Tester: Jim Svaty
Time Test Ended: 10:06:00 Unit No: 76
Interval: 3375.00 ft (KB) To 3436.00 ft (KB) (TVD) Reference Elevations: 2038.00 ft (KB)
Total Depth: 3436.00 ft (KB) (TVD) 2028.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 8289 Outside
Press@RunDepth: 324.04 psig @ 3376.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.12 End Date: 2014.08.12 Last Calib.: 2014.08.12
Start Time: 03:14:02 End Time: 10:06:00 Time On Btm: 2014.08.12 @ 04:52:00
Time Off Btm: 2014.08.12 @ 07:37:30

TEST COMMENT: 15-IFP- BOB in 1 min. 45 sec.
30-ISIP- Surface Blow Building to 4" In 5 min. Died Back in 9 min.
60-FFP- BOB in 2 min. 45 sec. Gas to Surface
60-FSIP- BOB in 6 min. 30 sec.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1643.72	100.77	Initial Hydro-static
1	66.61	100.29	Open To Flow (1)
15	160.67	104.08	Shut-In(1)
45	455.64	104.96	End Shut-In(1)
45	172.79	104.79	Open To Flow (2)
105	324.04	107.28	Shut-In(2)
165	442.66	107.08	End Shut-In(2)
166	1561.44	107.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GOMCW 3%o 15%g 15%m 67%w	0.42
345.00	GMWCO 5%m 10%w 20%g 65%o	4.84
252.00	GMCO 10%m 40%o 50%g	3.53
156.00	GCO 50%G 50%O	2.19
0.00	Gas to Surface	0.00

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

TDI
 1310 Bison Rd
 Hays KS 67601-9696
 ATTN: Herb Deines

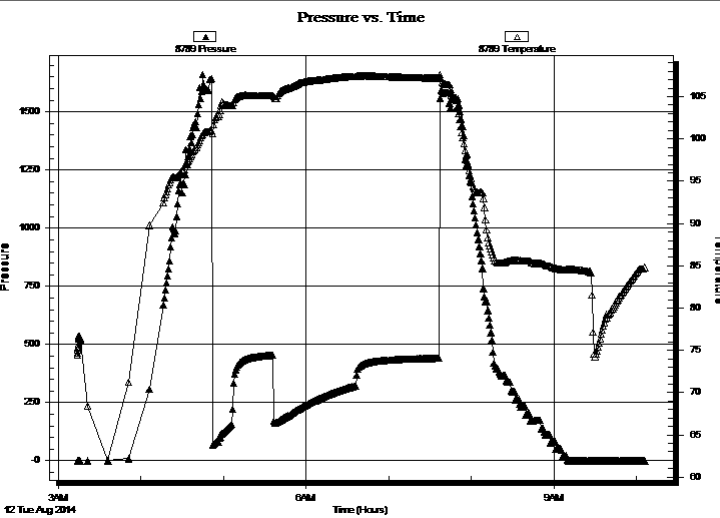
7 15s 18w Ellis,KS
Jerome #1
 Job Ticket: 56131 **DST#: 2**
 Test Start: 2014.08.12 @ 03:14:00

GENERAL INFORMATION:

Formation: **LKC " F & G "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:52:15
 Time Test Ended: 10:06:00
 Interval: **3375.00 ft (KB) To 3436.00 ft (KB) (TVD)**
 Total Depth: 3436.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jim Svaty
 Unit No: 76
 Reference Elevations: 2038.00 ft (KB)
 2028.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8789 Inside
 Press@RunDepth: psig @ 3376.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.08.12 End Date: 2014.08.12 Last Calib.: 2014.08.12
 Start Time: 03:14:02 End Time: 10:05:45 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15-IFP- BOB in 1 min. 45 sec.
 30-ISIP- Surface Blow Building to 4" In 5 min. Died Back in 9 min.
 60-FFP- BOB in 2 min. 45 sec. Gas to Surface
 60-FSIP- BOB in 6 min. 30 sec.



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

Recovery		
Length (ft)	Description	Volume (bbl)
30.00	GOMCW 3%o 15%g 15%w 67%w	0.42
345.00	GMWCO 5%m 10%w 20%g 65%o	4.84
252.00	GMCO 10%m 40%o 50%g	3.53
156.00	GCO 50%G 50%O	2.19
0.00	Gas to Surface	0.00

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7 15s 18w Ellis,KS
Jerome #1
Job Ticket: 56131 **DST#: 2**
Test Start: 2014.08.12 @ 03:14:00

Tool Information

Drill Pipe:	Length: 3371.00 ft	Diameter: 3.80 inches	Volume: 47.29 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:	45000.00 lb
			<u>Total Volume: 47.29 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	38000.00 lb
Depth to Top Packer:	3375.00 ft			Final	41000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	61.00 ft				
Tool Length:	82.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3355.00	
Shut In Tool	5.00			3360.00	
Hydraulic tool	5.00			3365.00	
Packer	5.00			3370.00	21.00 Bottom Of Top Packer
Packer	5.00			3375.00	
Stubb	1.00			3376.00	
Recorder	0.00	8789	Inside	3376.00	
Recorder	0.00	8289	Outside	3376.00	
Perforations	24.00			3400.00	
Change Over Sub	1.00			3401.00	
Blank Spacing	31.00			3432.00	
Change Over Sub	1.00			3433.00	
Bullnose	3.00			3436.00	61.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **7 15s 18w Ellis,KS**
 1310 Bison Rd **Jerome #1**
 Hays KS 67601-9696 Job Ticket: 56131 **DST#: 2**
 ATTN: Herb Deines Test Start: 2014.08.12 @ 03:14:00

Mud and Cushion Information

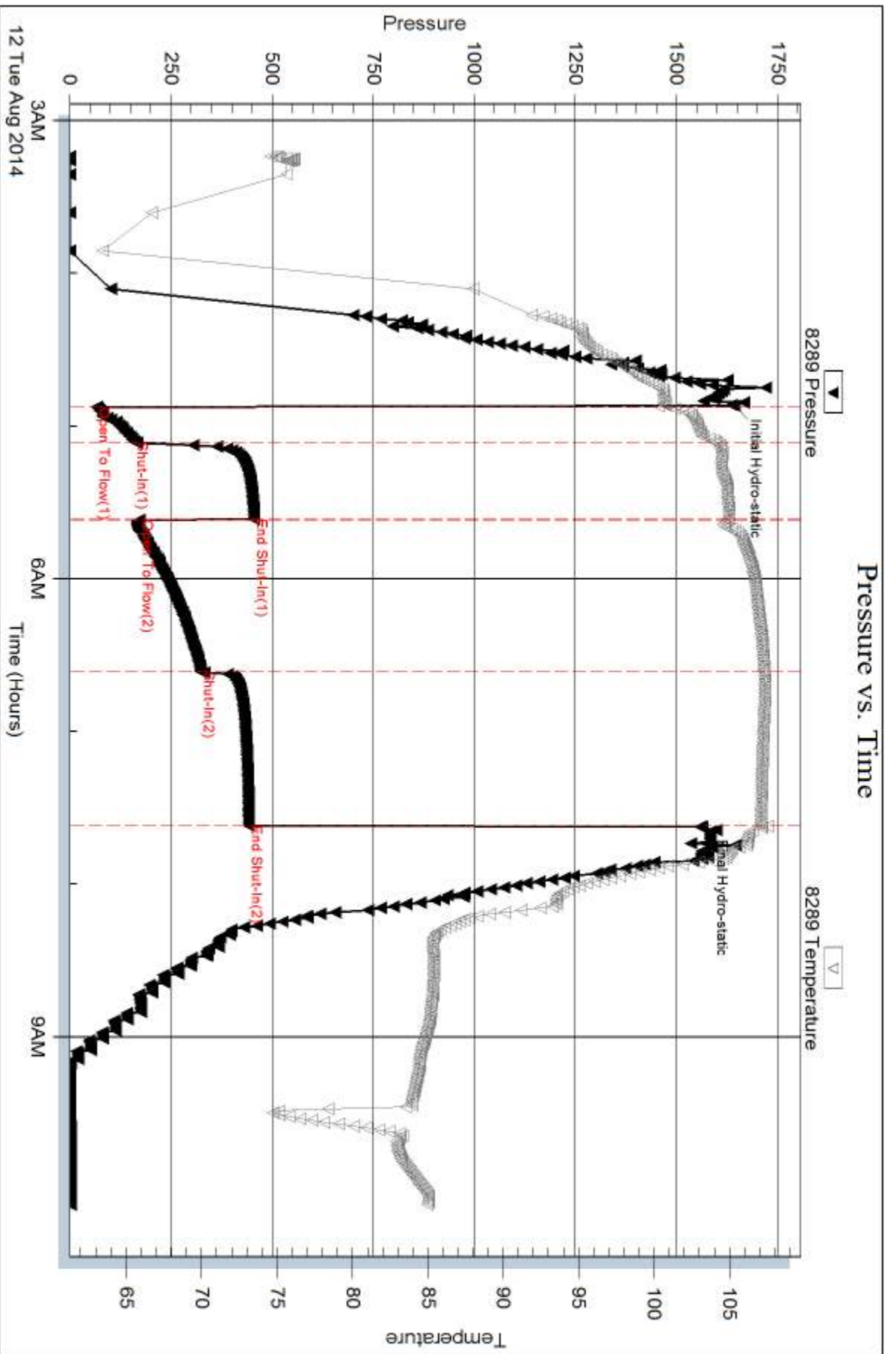
Mud Type: Gel Chem	Cushion Type:	Oil API: 32 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 21000 ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.76 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4600.00 ppm		
Filter Cake: inches		

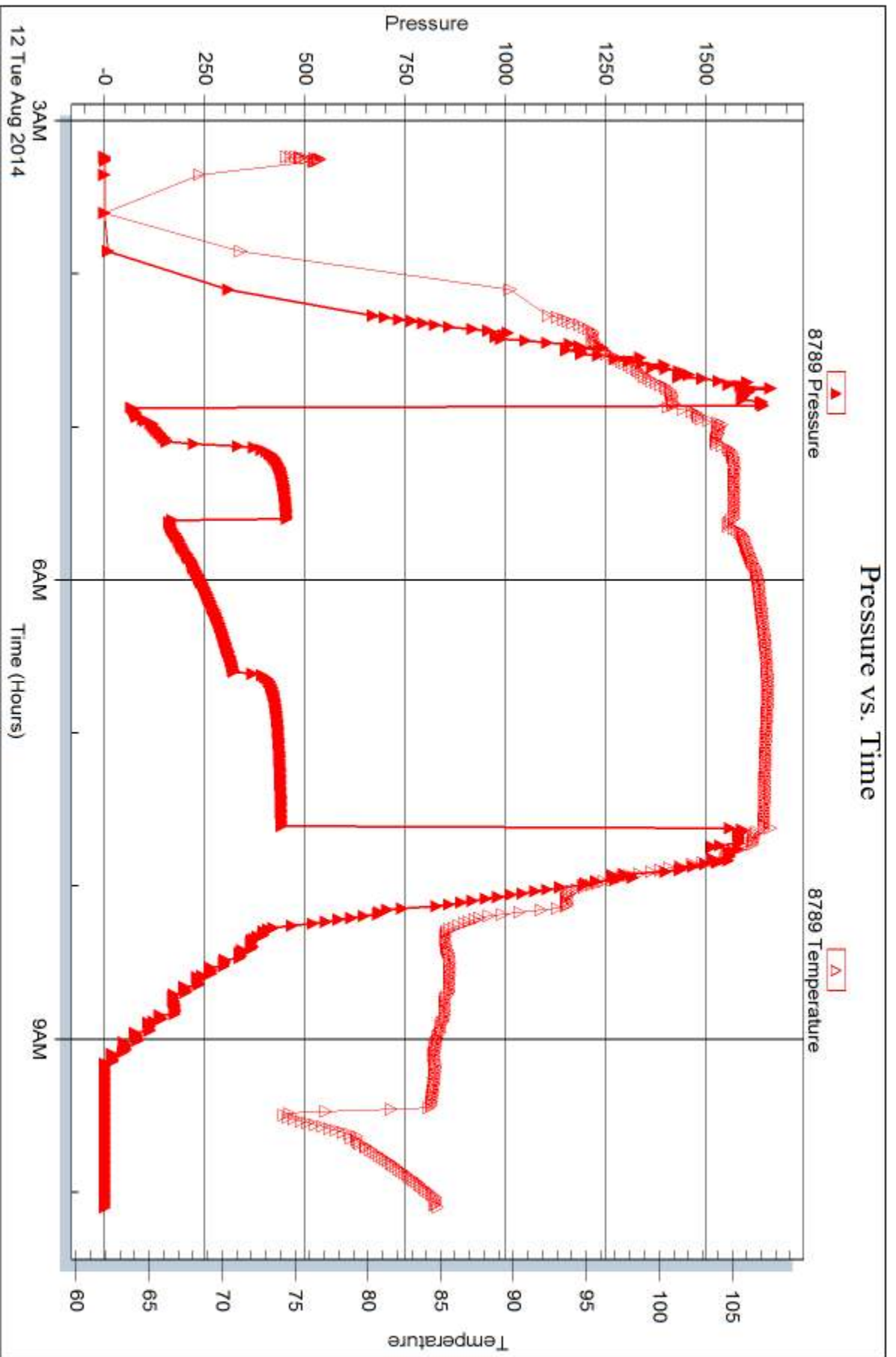
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	GOMCW 3%o 15%g 15%m 67%w	0.421
345.00	GMWCO 5%m 10%w 20%g 65%o	4.839
252.00	GMCO 10%m 40%o 50%g	3.535
156.00	GCO 50%G 50%O	2.188
0.00	Gas to Surface	0.000

Total Length: 783.00 ft Total Volume: 10.983 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: .296 @ 78







DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Herb Deines

Jerome #1

7 15s 18w Ellis,KS

Start Date: 2014.08.12 @ 22:00:00

End Date: 2014.08.13 @ 05:19:00

Job Ticket #: 56132 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.13 @ 15:40:23

TDI
7 15s 18w Ellis,KS
Jerome #1
DST # 3
LKC " H - K "
2014.08.12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7 15s 18w Ellis,KS
Jerome #1
Job Ticket: 56132 **DST#: 3**
Test Start: 2014.08.12 @ 22:00:00

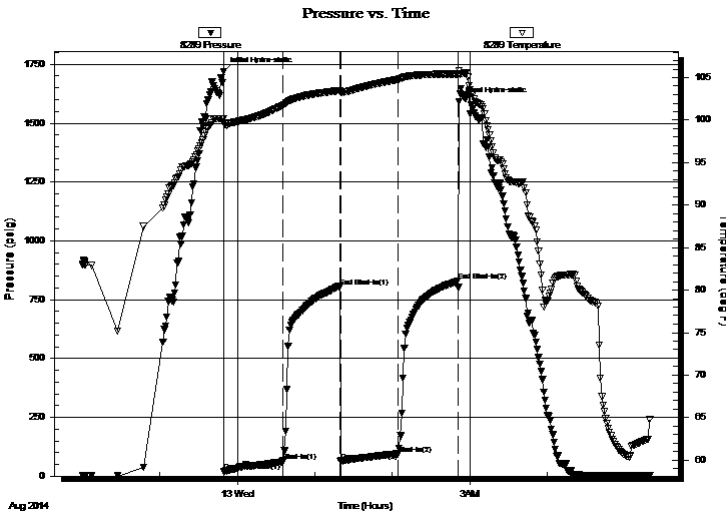
GENERAL INFORMATION:

Formation: **LKC "H - K"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 23:49:30 Tester: Jim Svaty
Time Test Ended: 05:19:00 Unit No: 76
Interval: 3438.00 ft (KB) To 3536.00 ft (KB) (TVD) Reference Elevations: 2038.00 ft (KB)
Total Depth: 3536.00 ft (KB) (TVD) 2028.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 8289 Outside
Press@RunDepth: 95.04 psig @ 3439.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.12 End Date: 2014.08.13 Last Calib.: 2014.08.13
Start Time: 22:00:02 End Time: 05:19:15 Time On Btm: 2014.08.12 @ 23:49:15
Time Off Btm: 2014.08.13 @ 02:51:30

TEST COMMENT: 45-IFP- BOB in 28 min.
45-ISIP- No Blow
45-FFP- BOB in 23 min.
45-FSIP- Surface Blow in 1 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1720.29	100.17	Initial Hydro-static
1	20.71	99.65	Open To Flow (1)
46	61.59	101.73	Shut-In(1)
90	805.76	103.47	End Shut-In(1)
91	63.07	103.28	Open To Flow (2)
136	95.04	104.79	Shut-In(2)
182	827.50	105.44	End Shut-In(2)
183	1590.99	105.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	OWCM 3%o 47%w 50%m	1.75
30.00	OSM 2%o 98%m	0.42
15.00	CO 100%	0.21
0.00	GIP 267	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696

ATTN: Herb Deines

7 15s 18w Ellis, KS

Jerome #1
Job Ticket: 56132 **DST#: 3**
Test Start: 2014.08.12 @ 22:00:00

GENERAL INFORMATION:

Formation: **LKC " H - K "**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 23:49:30 Tester: Jim Svaty
Time Test Ended: 05:19:00 Unit No: 76

Interval: **3438.00 ft (KB) To 3536.00 ft (KB) (TVD)** Reference Elevations: 2038.00 ft (KB)
Total Depth: 3536.00 ft (KB) (TVD) 2028.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

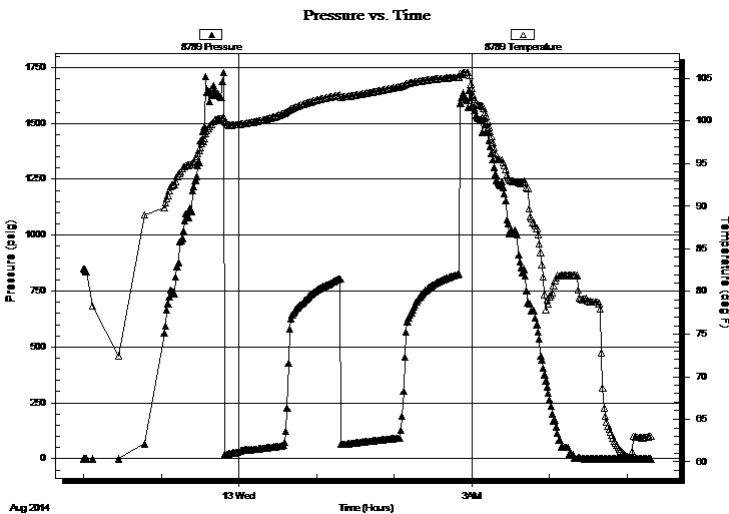
Serial #: 8789

Inside

Press@RunDepth: psig @ 3439.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.12 End Date: 2014.08.13 Last Calib.: 2014.08.13
Start Time: 22:00:02 End Time: 05:19:00 Time On Btm:
Time Off Btm:

TEST COMMENT: 45-IFP- BOB in 28 min.
45-ISIP- No Blow
45-FFP- BOB in 23 min.
45-FSIP- Surface Blow in 1 min.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
125.00	OWCM 3%o 47%w 50%m	1.75
30.00	OSM 2%o 98%m	0.42
15.00	CO 100%	0.21
0.00	GIP 267	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7 15s 18w Ellis,KS
Jerome #1
Job Ticket: 56132 **DST#: 3**
Test Start: 2014.08.12 @ 22:00:00

Tool Information

Drill Pipe:	Length: 3434.00 ft	Diameter: 3.80 inches	Volume: 48.17 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: 48.17 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	39000.00 lb
Depth to Top Packer:	3438.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	98.00 ft				
Tool Length:	119.00 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			3418.00	
Shut In Tool	5.00			3423.00	
Hydraulic tool	5.00			3428.00	
Packer	5.00			3433.00	21.00 Bottom Of Top Packer
Packer	5.00			3438.00	
Stubb	1.00			3439.00	
Recorder	0.00	8789	Inside	3439.00	
Recorder	0.00	8289	Outside	3439.00	
Perforations	29.00			3468.00	
Change Over Sub	1.00			3469.00	
Blank Spacing	63.00			3532.00	
Change Over Sub	1.00			3533.00	
Bullnose	3.00			3536.00	98.00 Bottom Packers & Anchor

Total Tool Length: 119.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **7 15s 18w Ellis,KS**
 1310 Bison Rd **Jerome #1**
 Hays KS 67601-9696 Job Ticket: 56132 **DST#: 3**
 ATTN: Herb Deines Test Start: 2014.08.12 @ 22:00:00

Mud and Cushion Information

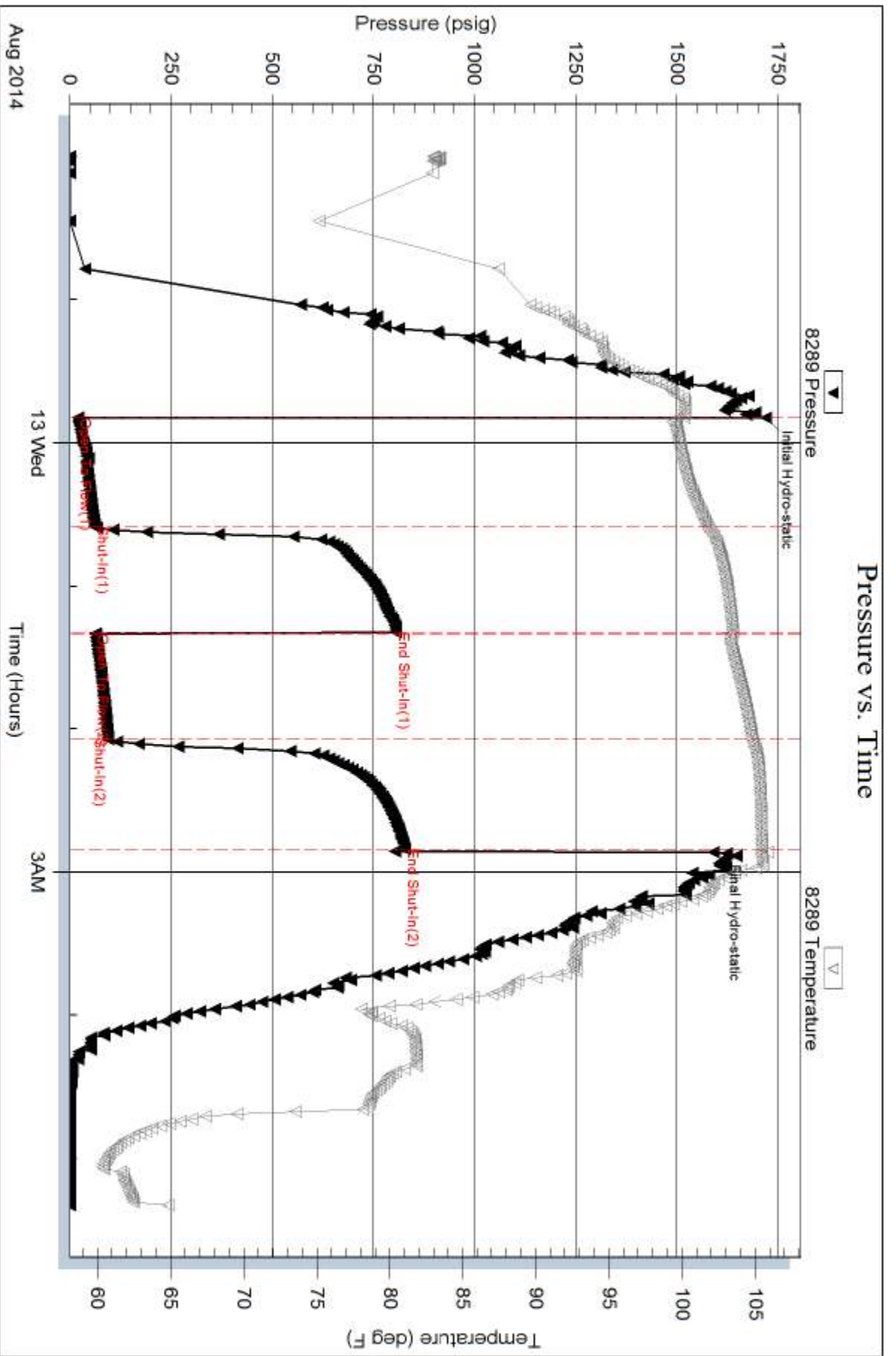
Mud Type: Gel Chem	Cushion Type:	Oil API: 41 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 26500 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.37 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4500.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	OWCM 3%o 47%w 50%m	1.753
30.00	OSM 2%o 98%m	0.421
15.00	CO 100%	0.210
0.00	GIP 267	0.000

Total Length: 170.00 ft Total Volume: 2.384 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: .290 @ 63

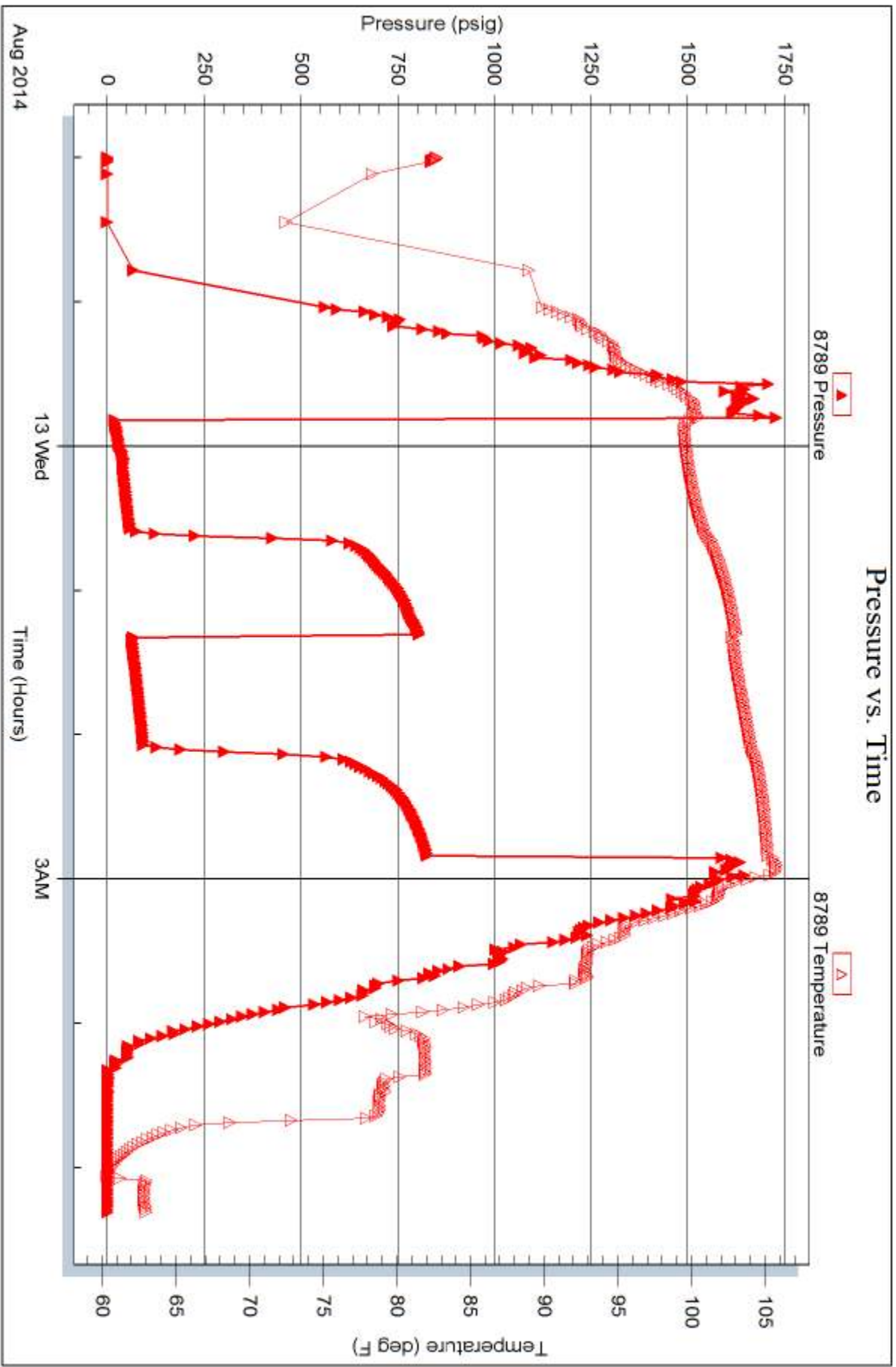


Serial #: 8789

Inside TDI

Jerome #1

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56130

Well Name & No. Jerome #1 Test No. 1 Date 8-11-14
 Company TDI Elevation 2038 KB 2028 GL
 Address 1310 Bison Rd Hays K.S. 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 7 Twp. 15S Rge. 18W Co. Ellis State KS

Interval Tested 3304-3360 Zone Tested LRC-"A-C"
 Anchor Length 56 Drill Pipe Run 3307 Mud Wt. 8.9
 Top Packer Depth 3299 Drill Collars Run 0 Vis 55
 Bottom Packer Depth 3304 Wt. Pipe Run 0 WL 8.8
 Total Depth 3360 Chlorides 4600 ppm System LCM TR

Blow Description IFP - BOB 1min.
ISIP - No Blow
FFP - BOB in 1min
FSTIP - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>MNC 40</u>	<u>20</u>	<u>50</u>	<u>20</u>	<u>10</u>
<u>62</u>	<u>W 20 CM</u>	<u>20</u>	<u>25</u>	<u>10</u>	<u>45</u>
<u>50</u>	<u>05m</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>98</u>
<u> </u>	<u>1963 IFP</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u>13 Ft. Slide</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Rec Total 237 BHT 106 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1596 Test 1150 T-On Location 9:55
 (B) First Initial Flow 51 Jars _____ T-Started 12:38
 (C) First Final Flow 71 Safety Joint _____ T-Open 14:10
 (D) Initial Shut-In 293 Circ Sub _____ T-Pulled 16:55
 (E) Second Initial Flow 79 Hourly Standby _____ T-Out 19:00
 (F) Second Final Flow 112 Mileage 27 RT 41.85 Comments _____
 (G) Final Shut-In 309 Sampler _____
 (H) Final Hydrostatic 1564 Straddle _____ Ruined Shale Packer _____

Initial Open 15 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 60 Extra Recorder _____ Sub Total 0
 Final Shut-In 60 Day Standby _____ Total 1191.85
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1191.85

Approved By _____ Our Representative [Signature]

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.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56131

Well Name & No. Jerome #1 Test No. 2 Date 8-12-14
 Company TPI Elevation 2038 KB 2028 GL
 Address 1310 Bison Rd HAYS KS 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 7 Twp. 15S Rge. 18W Co. Ellis State KS

Interval Tested 3375 - 3436 Zone Tested LKC "FTA"
 Anchor Length 61 Drill Pipe Run 3371 Mud Wt. 8.9
 Top Packer Depth 3370 Drill Collars Run 0 Vis 55
 Bottom Packer Depth 3375 Wt. Pipe Run 0 WL 8.8
 Total Depth 3436 Chlorides 4600 ppm System LCM TR

Blow Description IFP - BOB in 45sec.
ISIP - Surface Blow Building to 4 in. in 5 min. Dried Back in 9 min.
FFP - BOB in 2 min 45 sec. GAS TO SURFACE.
FSIP - BOB in 6 min 30 sec

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>DOMCW</u>	<u>15</u>	<u>3</u>	<u>67</u>	<u>15</u>
<u>345</u>	<u>DMWCO</u>	<u>20</u>	<u>65</u>	<u>10</u>	<u>5</u>
<u>252</u>	<u>DMCO</u>	<u>50</u>	<u>40</u>		<u>10</u>
<u>156</u>	<u>DCO</u>	<u>50</u>	<u>50</u>		
	<u>ATS</u>				

Rec Total 783 BHT 107 Gravity 32 API RW 296 @ 78 °F Chlorides 21000 ppm

(A) Initial Hydrostatic 1643 Test 1150 T-On Location 2:14
 (B) First Initial Flow 66 Jars _____ T-Started 3:14
 (C) First Final Flow 160 Safety Joint _____ T-Open 4:52
 (D) Initial Shut-In 455 Circ Sub _____ T-Pulled 7:37
 (E) Second Initial Flow 172 Hourly Standby _____ T-Out 10:06
 (F) Second Final Flow 324 Mileage 41.85 Comments _____
 (G) Final Shut-In 442 Sampler _____
 (H) Final Hydrostatic 1561 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1191.85
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1191.85

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56132

Well Name & No. Jerome #1 Test No. 3 Date 8-12-14
 Company TDI Elevation 2038 KB 2028 GL
 Address 1310 Bison Rd Hays KS 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 7 Twp. 15^s Rge. 18^w Co. Ellis State KS

Interval Tested 3438-3536 Zone Tested LKC "H-K"
 Anchor Length 98 Drill Pipe Run 3434 Mud Wt. 9.1
 Top Packer Depth 3433 Drill Collars Run 0 Vis 60
 Bottom Packer Depth 3438 Wt. Pipe Run 0 WL 8.4
 Total Depth 3536 Chlorides 4500 ppm System LCM 1

Blow Description FFP- BOB in 28min.
ISIP- No Blow
FFP- BOB in 23min.
FSIP- Surface Blow in 1min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>0WCM</u>	<u>3</u>	<u>47</u>	<u>50</u>	
<u>30</u>	<u>0.5m</u>	<u>2</u>		<u>98</u>	
<u>15</u>	<u>00</u>	<u>100</u>			

Rec Total 170 BHT 105 Gravity 41 API RW 290 @ 63 °F Chlorides 26500 ppm
 (A) Initial Hydrostatic 1720 Test 1150 T-On Location 21:00
 (B) First Initial Flow 20 Jars _____ T-Started 22:00
 (C) First Final Flow 61 Safety Joint _____ T-Open 23:50
 (D) Initial Shut-In 805 Circ Sub _____ T-Pulled 02:50
 (E) Second Initial Flow 63 Hourly Standby _____ T-Out 05:19
 (F) Second Final Flow 95 Mileage 41.85 Comments _____
 (G) Final Shut-In 827 Sampler _____
 (H) Final Hydrostatic 1590 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Sub Total 0
 Total 1191.85
 Sub Total 1191.85

Approved By _____ Our Representative [Signature]

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