

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co., Inc.**

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

14-10s-33w Thomas KS

Krug #1

Start Date: 2011.06.22 @ 09:30:00

End Date: 2011.06.22 @ 16:17:00

Job Ticket #: 042906 DST #: 1

 **FILE**

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

ORIGINAL

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Hartman Oil Co., Inc.

Krug #1

14-10s-33w Thomas KS

DST # 1

LKC "K"

2011.06.22



**TRILOBITE
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DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

Krug #1

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

14-10s-33w Thomas KS

ATTN: Derek Patterson

Job Ticket: 042906

DST#: 1

Test Start: 2011.06.22 @ 09:30:00

GENERAL INFORMATION:

Formation: **LKC "K"**

Deviated: **No Whipstock** ft (KB)

Time Tool Opened: 12:08:00

Time Test Ended: 16:17:00

Test Type: **Conventional Bottom Hole**

Tester: **James Winder**

Unit No: **46**

Interval: **4298.00 ft (KB) To 4335.00 ft (KB) (TVD)**

Reference Elevations: **3151.00 ft (KB)**

Total Depth: **4335.00 ft (KB) (TVD)**

3141.00 ft (CF)

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

KB to GR/CF: **10.00 ft**

Serial #: 8366

Inside

Press@RunDepth: **20.87 psig @ 4299.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.06.22**

End Date:

2011.06.22

Last Calib.: **2011.06.22**

Start Time: **09:30:05**

End Time:

16:16:59

Time On Btm: **2011.06.22 @ 12:06:00**

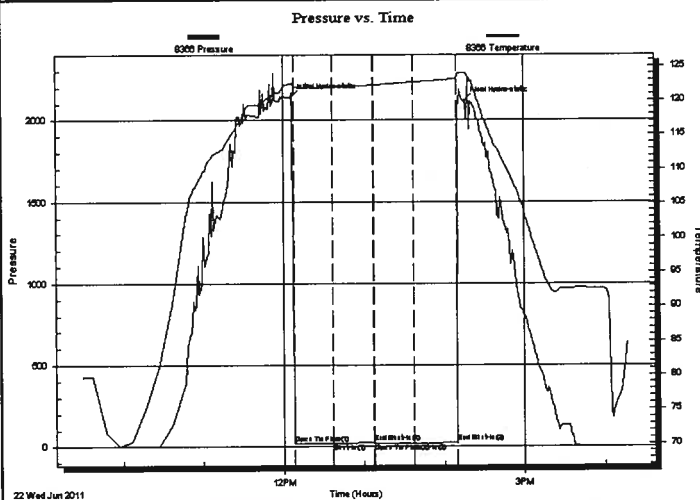
Time Off Btm: **2011.06.22 @ 14:15:30**

TEST COMMENT: IF: Weak surface blow, dead after 3 min.

IS: No blow back

FF: No blow

FS: No blow back



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2138.35	122.38	Initial Hydro-static
2	19.43	122.09	Open To Flow (1)
31	20.32	121.92	Shut-In(1)
61	26.76	122.26	End Shut-In(1)
62	19.40	122.27	Open To Flow (2)
92	20.87	122.69	Shut-In(2)
124	25.36	123.14	End Shut-In(2)
130	2114.13	123.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud 100%	0.01

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co., Inc.

Krug #1

10500 E Berkeley SQ PKWY
STE 100 Wchita, KS 67206

14-10s-33w Thomas KS

Job Ticket: 042906

DST#: 1

ATTN: Derek Patterson

Test Start: 2011.06.22 @ 09:30:00

Tool Information

Drill Pipe:	Length: 4051.00 ft	Diameter: 3.80 inches	Volume: 56.82 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: 25000.00 lb
Drill Collar:	Length: 243.00 ft	Diameter: 2.25 inches	Volume: 1.20 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 58.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 73000.00 lb
Depth to Top Packer:	4298.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4275.00	
Hydraulic tool	5.00			4280.00	
Jars	5.00			4285.00	
Safety Joint	3.00			4288.00	
Packer	5.00			4293.00	28.00 Bottom Of Top Packer
Packer	5.00			4298.00	
Stubb	1.00			4299.00	
Recorder	0.00	8366	Inside	4299.00	
Recorder	0.00	8320	Outside	4299.00	
Perforations	33.00			4332.00	
Bullnose	3.00			4335.00	37.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co., Inc.
10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206
ATTN: Derek Patterson

Krug #1
14-10s-33w Thomas KS
Job Ticket: 042906 **DST#: 1**
Test Start: 2011.06.22 @ 09:30:00

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: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.96 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3200.00 ppm			
Filter Cake: 1.00 inches			

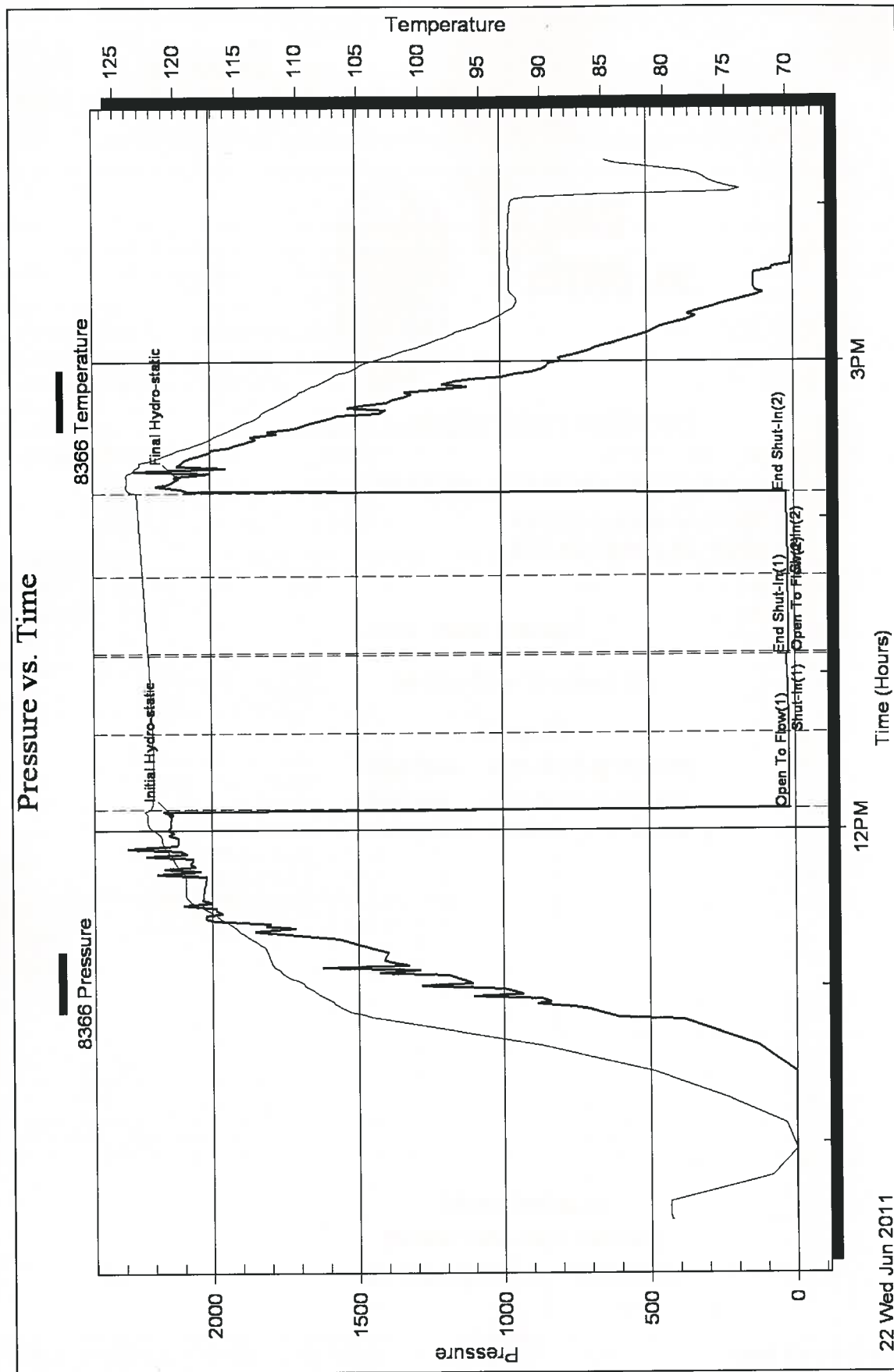
Recovery Information

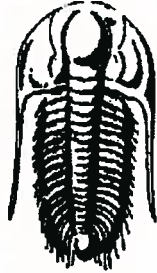
Recovery Table

Length ft	Description	Volume bbl
2.00	Mud 100%	0.010

Total Length: 2.00ft Total Volume: 0.010 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Pressure vs. Time





**TRILOBITE
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DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co., Inc.**

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

14-10s-33w Thomas KS

Krug #1

Start Date: 2011.06.23 @ 16:52:00

End Date: 2011.06.24 @ 01:11:00

Job Ticket #: 042907 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

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Hartman Oil Co., Inc.

Krug #1

14-10s-33w Thomas KS

DST # 2

Fl. Scott

2011.06.23



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Hartman Oil Co., Inc.
10500 E Berkeley SQ PKWY
STE 100 Wchita, KS 67206
ATTN: Derek Patterson

Krug #1
14-10s-33w Thomas KS
Job Ticket: 042907 **DST#: 2**
Test Start: 2011.06.23 @ 16:52:00

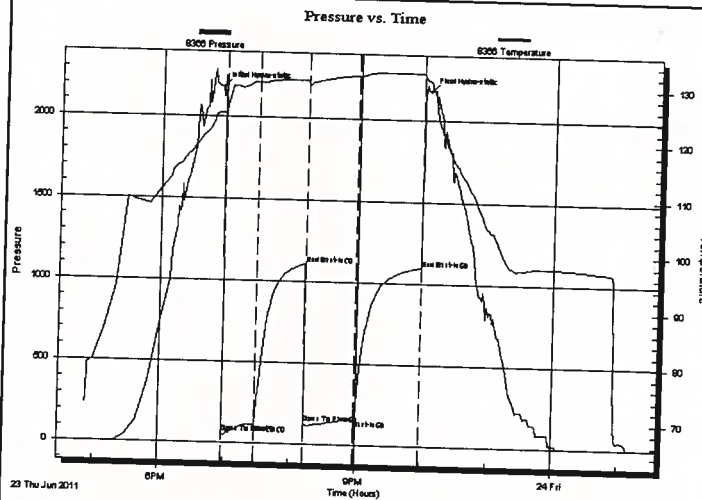
GENERAL INFORMATION:

Formation: **Ft. Scott**
Deviated: **No** Whipstock: ft (KB)
Time Tool Opened: 18:58:00
Time Test Ended: 01:11:00
Interval: **4522.00 ft (KB) To 4553.00 ft (KB) (TVD)**
Total Depth: **4553.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Test Type: **Conventional Bottom Hole**
Tester: **James Winder**
Unit No: **46**
Reference Elevations: **3151.00 ft (KB)**
3141.00 ft (CF)
KB to GR/CF: **10.00 ft**

Serial #: 8366 **Inside**
Press@RunDepth: **158.28 psig @ 4523.00 ft (KB)**
Start Date: **2011.06.23** End Date: **2011.06.24**
Start Time: **16:52:05** End Time: **01:10:59**
Capacity: **8000.00 psig**
Last Calib.: **2011.06.24**
Time On Btm: **2011.06.23 @ 18:54:30**
Time Off Btm: **2011.06.23 @ 22:04:30**

TEST COMMENT: IF: Blow built to BOB (11") in 4 1/2 min.
IS: Blow back built to 8 1/2"
FF: Blow built to BOB in 4 1/2 min.
FS: Bled off at 4 min., Blow back built to BOB at 17 min.



PRESSURE SUMMARY

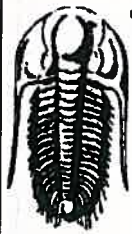
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2184.98	124.91	Initial Hydro-static
4	63.09	124.86	Open To Flow (1)
34	115.82	130.53	Shut-In(1)
78	1107.97	130.98	End Shut-In(1)
79	132.44	130.13	Open To Flow (2)
124	158.28	131.91	Shut-In(2)
185	1096.24	132.49	End Shut-In(2)
190	2177.43	131.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	SO/GVM 46% _m , 38% _w , 14% _g , 2% _o	0.31
60.00	GWOCM 50% _g , 32% _m , 13% _o , 5% _w	0.30
120.00	SW/GMCO 57% _o , 30% _m , 12% _g , 1% _w	0.59
72.00	GMCO 53% _g , 30% _o , 17% _m	1.01
70.00	CGO 64% _o , 35% _g , 1% _m	0.98
0.00	GIP = 1660'	0.00

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co., Inc.

Krug #1

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

14-10s-33w Thomas KS

Job Ticket: 042907

DST#: 2

ATTN: Derek Patterson

Test Start: 2011.06.23 @ 16:52:00

Tool Information

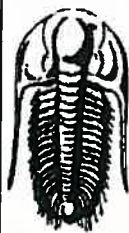
Drill Pipe:	Length: 4270.00 ft	Diameter: 3.80 inches	Volume: 59.90 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 243.00 ft	Diameter: 2.25 inches	Volume: 1.20 bbl	Weight to Pull Loose: 100000.0 lb
		Total Volume:	61.10 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 77000.00 lb
Depth to Top Packer:	4522.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4499.00	
Hydraulic tool	5.00			4504.00	
Jars	5.00			4509.00	
Safety Joint	3.00			4512.00	
Packer	5.00			4517.00	28.00 Bottom Of Top Packer
Packer	5.00			4522.00	
Stubb	1.00			4523.00	
Recorder	0.00	8366	Inside	4523.00	
Recorder	0.00	8320	Outside	4523.00	
Perforations	27.00			4550.00	
Bullnose	3.00			4553.00	31.00 Bottom Packers & Anchor

Total Tool Length: 59.00



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FLUID SUMMARY

Hartman Oil Co., Inc.

Krug #1

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

14-10s-33w Thomas KS

Job Ticket: 042907

DST#: 2

ATTN: Derek Patterson

Test Start: 2011.06.23 @ 16:52:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API: 38.8 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity: 50000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	SO/GWM 46% <i>m</i> , 38% <i>w</i> , 14% <i>g</i> , 2% <i>o</i>	0.310
60.00	GWOCM 50% <i>g</i> , 32% <i>m</i> , 13% <i>o</i> , 5% <i>w</i>	0.295
120.00	SWGMC 57% <i>o</i> , 30% <i>m</i> , 12% <i>g</i> , 1% <i>w</i>	0.590
72.00	GMCO 53% <i>g</i> , 30% <i>o</i> , 17% <i>m</i>	1.010
70.00	CGO 64% <i>o</i> , 35% <i>g</i> , 1% <i>m</i>	0.982
0.00	GIP = 1660'	0.000

Total Length: 385.00 ft Total Volume: 3.187 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

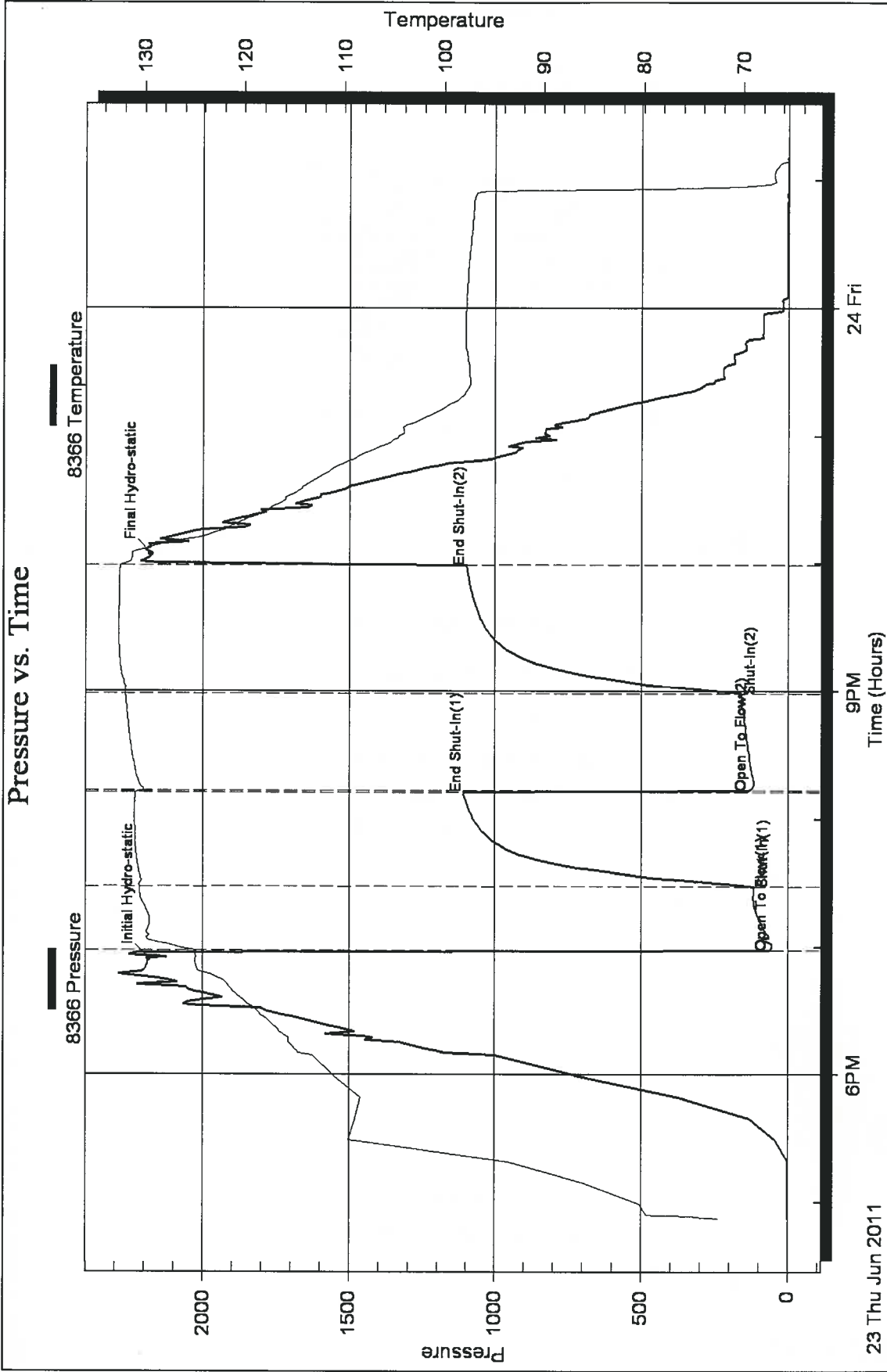
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 39.4 api @ 66 deg F
RW = .163 ohms @ 67.5 deg F

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co., Inc.**

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

14-10s-33w Thomas KS

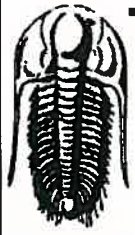
Krug #1

Start Date: 2011.06.24 @ 17:24:00

End Date: 2011.06.25 @ 00:54:30

Job Ticket #: 042908 DST #: 3

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



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DRILL STEM TEST REPORT

Hartman Oil Co., Inc.
10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206
ATTN: Derek Patterson

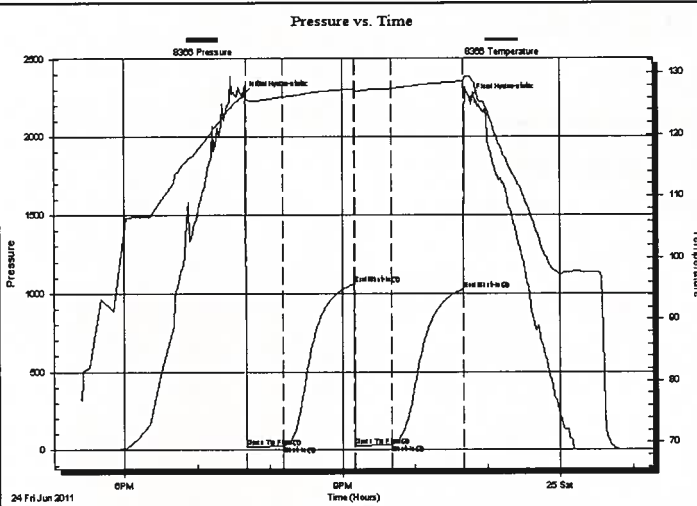
Krug #1
14-10s-33w Thomas KS
Job Ticket: 042908 **DST#: 3**
Test Start: 2011.06.24 @ 17:24:00

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: **No Whipstock** ft (KB)
Time Tool Opened: 19:41:00
Time Test Ended: 00:54:30
Test Type: **Conventional Bottom Hole**
Tester: **James Wmder**
Unit No: **46**
Interval: **4605.00 ft (KB) To 4659.00 ft (KB) (TVD)**
Reference Elevations: **3151.00 ft (KB)**
3141.00 ft (CF)
Total Depth: **4659.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**
KB to GR/CF: **10.00 ft**

Serial #: 8366 Inside
Press@RunDepth: **32.55 psig @ 4606.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2011.06.24** End Date: **2011.06.25** Last Calib.: **2011.06.25**
Start Time: **17:24:05** End Time: **00:54:29** Time On Btm: **2011.06.24 @ 19:38:00**
Time Off Btm: **2011.06.24 @ 22:46:00**

TEST COMMENT: IF: Weak surface blow, dead at 6 min.
IS: No blow back
FF: No blow
FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2268.10	126.03	Initial Hydro-static
3	20.24	125.66	Open To Flow (1)
33	26.06	126.11	Shut-In(1)
92	1061.23	127.42	End Shut-In(1)
93	28.79	127.12	Open To Flow (2)
123	32.55	127.45	Shut-In(2)
182	1026.36	128.59	End Shut-In(2)
188	2247.05	129.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	SOCM 94% m, 5% o, 1% g	0.20

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co., Inc.

Krug #1

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

14-10s-33w Thomas KS

Job Ticket: 042908

DST#: 3

ATTN: Derek Patterson

Test Start: 2011.06.24 @ 17:24:00

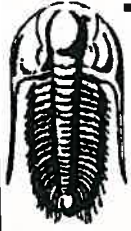
Tool Information

Drill Pipe:	Length: 4363.00 ft	Diameter: 3.80 inches	Volume: 61.20 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: 25000.00 lb
Drill Collar:	Length: 243.00 ft	Diameter: 2.25 inches	Volume: 1.20 bbl	Weight to Pull Loose: 102000.0 lb
			<u>Total Volume: 62.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 77000.00 lb
Depth to Top Packer:	4605.00 ft			Final 77000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 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
Shut In Tool	5.00			4582.00	
Hydraulic tool	5.00			4587.00	
Jars	5.00			4592.00	
Safety Joint	3.00			4595.00	
Packer	5.00			4600.00	28.00 Bottom Of Top Packer
Packer	5.00			4605.00	
Stubb	1.00			4606.00	
Recorder	0.00	8366	Inside	4606.00	
Recorder	0.00	8320	Outside	4606.00	
Perforations	16.00			4622.00	
Blank Spacing	32.00			4654.00	
Perforations	2.00			4656.00	
Bullnose	3.00			4659.00	54.00 Bottom Packers & Anchor

Total Tool Length: 82.00



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FLUID SUMMARY

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10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206
ATTN: Derek Patterson

Krug #1
14-10s-33w Thomas KS
Job Ticket: 042908 **DST#: 3**
Test Start: 2011.06.24 @ 17:24:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 53.00 sec/qt
Water Loss: 7.97 in³
Resistivity: ohm.m
Salinity: 2000.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	SOCM94% _m , 5% _o , 1% _g	0.197

Total Length: 40.00 ft Total Volume: 0.197 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8366

Inside Hartman Oil Co., Inc.

14-10s-33w Thomas KS

DST Test Number: 3

Pressure vs. Time

