



## DRILL STEM TEST REPORT

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

10500 Berkeley Sq. Pkwy. STE #100  
Wichita, KS 67206

ATTN: Derrick Patterson

### **Williams Trust #1-19**

### **19-5s-22w Norton, KS**

Start Date: 2013.07.14 @ 10:30:00

End Date: 2013.07.14 @ 18:42:30

Job Ticket #: 52135                      DST #: 1

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

Printed: 2013.07.18 @ 11:18:35



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

ATTN: Derrick Patterson

Job Ticket: 52135

**DST#: 1**

Test Start: 2013.07.14 @ 10:30:00

## GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:38:00

Time Test Ended: 18:42:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

**Interval: 3404.00 ft (KB) To 3454.00 ft (KB) (TVD)**

Total Depth: 3454.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2280.00 ft (KB)

2269.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 259.72 psig @ 3405.00 ft (KB)

Start Date: 2013.07.14

End Date:

2013.07.14

Start Time: 10:40:00

End Time:

18:42:30

Capacity: 8000.00 psig

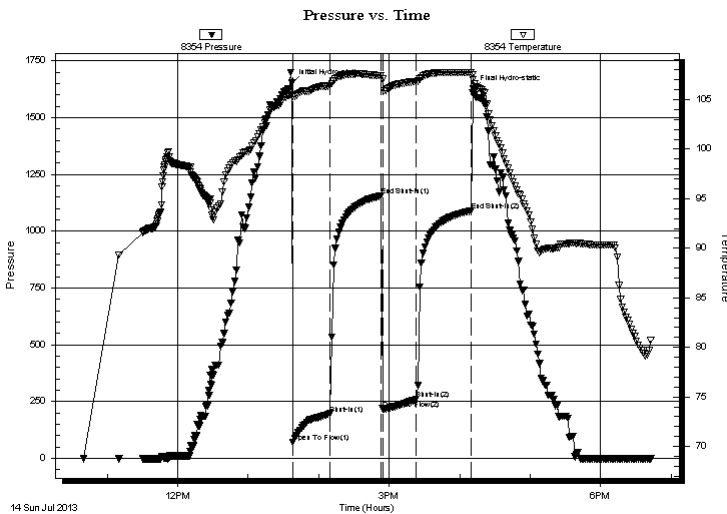
Last Calib.: 2013.07.14

Time On Btm: 2013.07.14 @ 13:37:00

Time Off Btm: 2013.07.14 @ 16:11:30

**TEST COMMENT:** 30 - IF- BoB in 7 min.  
45 - IS- BoB in 22 min.  
30 - FF- BoB in 10 min.  
45 - FS- BoB in 25 min.

## PRESSURE SUMMARY



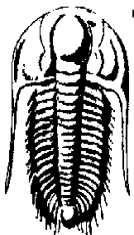
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1651.27	105.54	Initial Hydro-static
1	71.46	105.30	Open To Flow (1)
33	196.42	106.40	Shut-In(1)
76	1155.39	107.44	End Shut-In(1)
78	218.74	107.08	Open To Flow (2)
106	259.72	106.84	Shut-In(2)
153	1088.56	107.71	End Shut-In(2)
155	1624.64	107.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
92.00	OCM 90M 10o	0.45
184.00	OCM 80M 20o	0.90
184.00	GMCO 5G 10M 850	1.72
188.00	Clean Gassy Oil 10G 90o	2.64
0.00	188 GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52135          **DST#: 1**

ATTN: Derrick Patterson

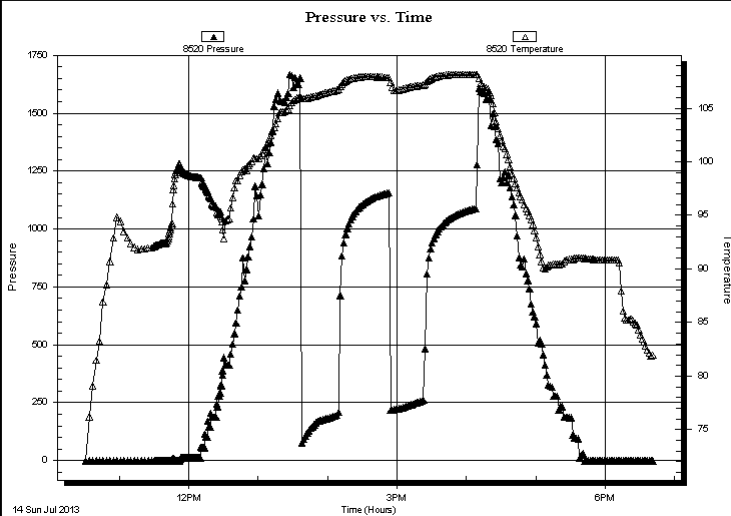
Test Start: 2013.07.14 @ 10:30:00

**GENERAL INFORMATION:**

Formation: **Toronto**  
 Deviated: No Whipstock: ft (KB)          Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 13:38:00          Tester: Kevin Mack  
 Time Test Ended: 18:42:30          Unit No: 66  
**Interval: 3404.00 ft (KB) To 3454.00 ft (KB) (TVD)**          Reference Elevations: 2280.00 ft (KB)  
 Total Depth: 3454.00 ft (KB) (TVD)          2269.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good          KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**  
 Press @RunDepth: psig @ 3405.00 ft (KB)          Capacity: 8000.00 psig  
 Start Date: 2013.07.14          End Date: 2013.07.14          Last Calib.: 2013.07.14  
 Start Time: 10:31:00          End Time: 18:42:00          Time On Btm:  
    Time Off Btm:

**TEST COMMENT:** 30 - IF- BoB in 7 min.  
 45 - IS- BoB in 22 min.  
 30 - FF- BoB in 10 min.  
 45 - FS- BoB in 25 min.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
92.00	OCM 90M 10o	0.45
184.00	OCM 80M 20o	0.90
184.00	GMCO 5G 10M 850	1.72
188.00	Clean Gassy Oil 10G 90o	2.64
0.00	188 GIP	0.00

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52135

**DST#: 1**

ATTN: Derrick Patterson

Test Start: 2013.07.14 @ 10:30:00

## Tool Information

Drill Pipe:	Length: 3012.00 ft	Diameter: 3.80 inches	Volume: 42.25 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: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 44.07 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3404.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Chased tool approx 10' to bottom. Bled off initial surge.

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3377.00	
Shut In Tool	5.00			3382.00	
Hydraulic tool	5.00			3387.00	
Jars	5.00			3392.00	
Safety Joint	3.00			3395.00	
Packer	5.00			3400.00	28.00 Bottom Of Top Packer
Packer	4.00			3404.00	
Stubb	1.00			3405.00	
Recorder	0.00	8354	Inside	3405.00	
Recorder	0.00	8520	Outside	3405.00	
Perforations	10.00			3415.00	
Change Over Sub	1.00			3416.00	
Drill Pipe	32.00			3448.00	
Change Over Sub	1.00			3449.00	
Bullnose	5.00			3454.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 78.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52135

**DST#: 1**

ATTN: Derrick Patterson

Test Start: 2013.07.14 @ 10:30:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 400.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
92.00	OCM 90M 10o	0.452
184.00	OCM 80M 20o	0.905
184.00	GMCO 5G 10M 850	1.716
188.00	Clean Gassy Oil 10G 90o	2.637
0.00	188 GIP	0.000

Total Length: 648.00 ft      Total Volume: 5.710 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

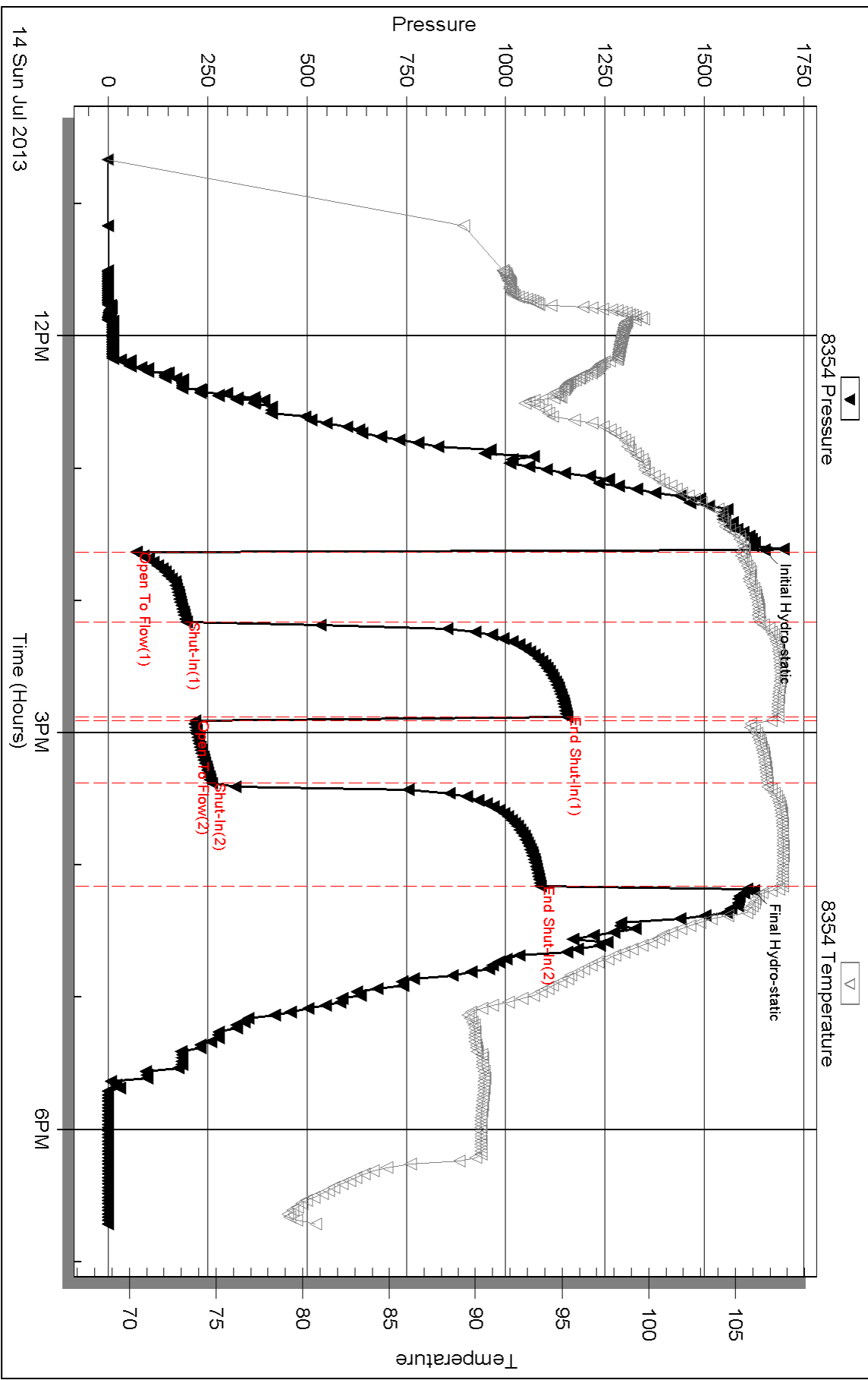
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil Api 32 @ 90 deg = 29

### Pressure vs. Time

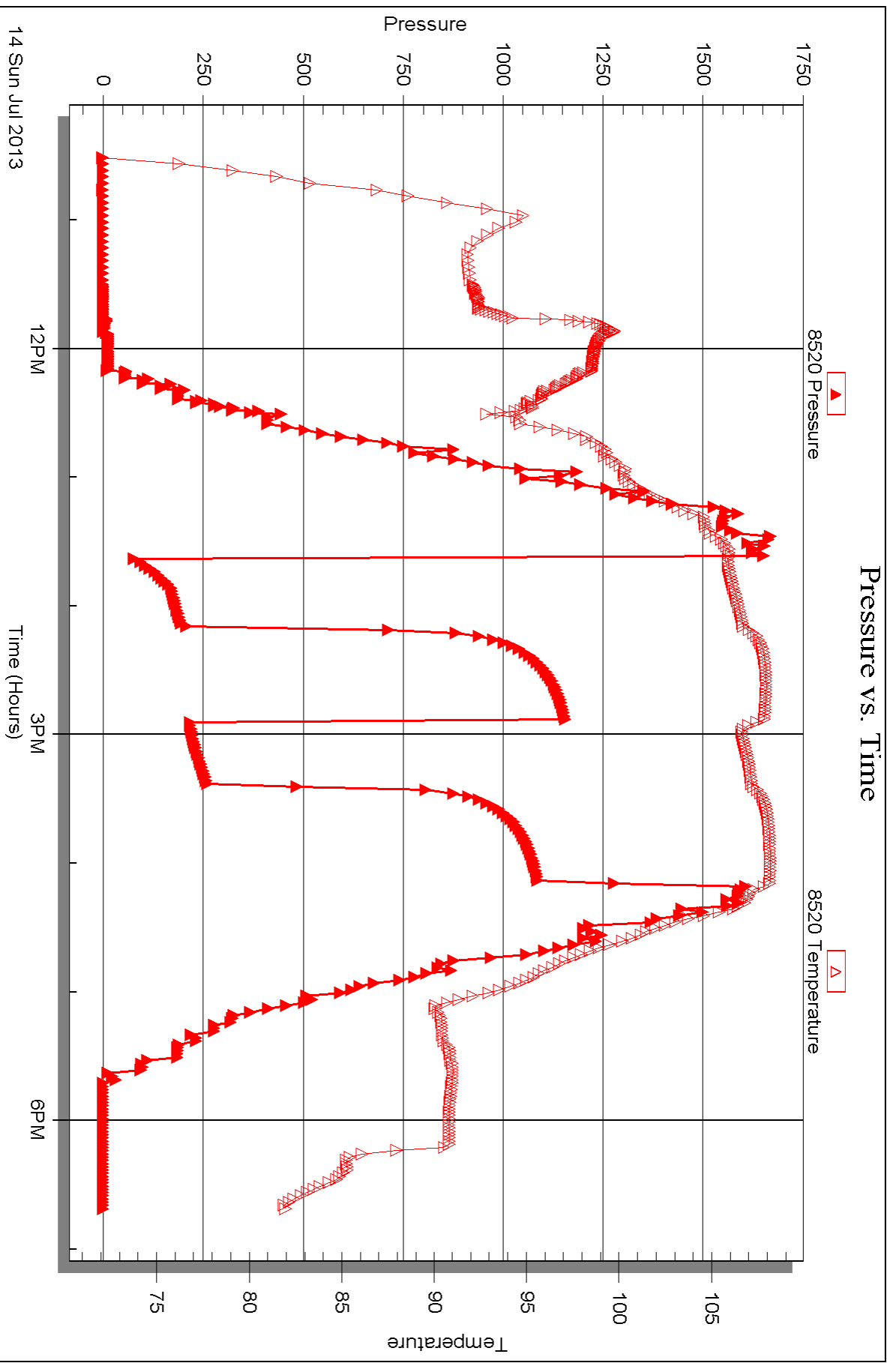


Serial #: 8520

Outside Hartman Oil Co., Inc.

Williams Trust #1-19

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 52135

Printed: 2013.07.18 @ 11:18:38



## DRILL STEM TEST REPORT

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

10500 Berkeley Sq. Pkwy. STE #100  
Wichita, KS 67206

ATTN: Derrick Patterson

### **Williams Trust #1-19**

### **19-5s-22w Norton, KS**

Start Date: 2013.07.15 @ 04:30:00

End Date: 2013.07.15 @ 12:04:30

Job Ticket #: 52136                      DST #: 2

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

Printed: 2013.07.18 @ 11:17:55

Hartman Oil Co., Inc.

19-5s-22w Norton, KS

Williams Trust #1-19

DST # 2

LKC "C-35' Zone"

2013.07.15





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

ATTN: Derrick Patterson

Job Ticket: 52136

**DST#: 2**

Test Start: 2013.07.15 @ 04:30:00

## GENERAL INFORMATION:

Formation: **LKC "C-35' Zone"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:33:30

Time Test Ended: 12:04:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

**Interval: 3476.00 ft (KB) To 3498.00 ft (KB) (TVD)**

Reference Elevations: 2280.00 ft (KB)

Total Depth: 3498.00 ft (KB) (TVD)

2269.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 93.50 psig @ 3477.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.15

End Date:

2013.07.15

Last Calib.:

2013.07.15

Start Time: 04:40:00

End Time:

12:04:30

Time On Btm:

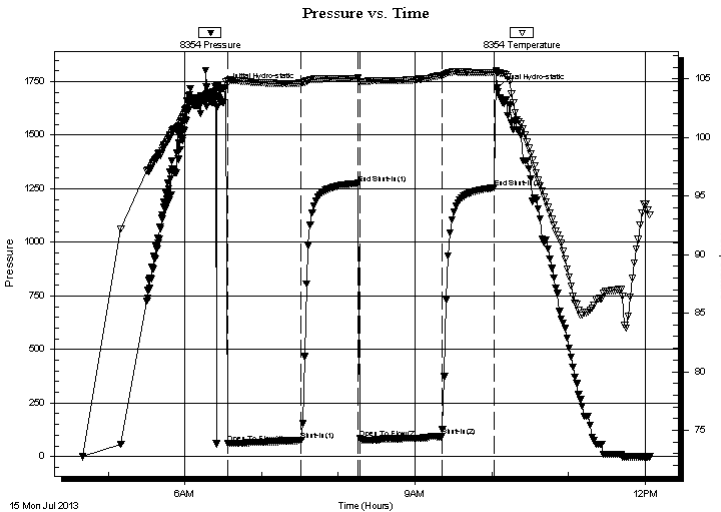
2013.07.15 @ 06:32:00

Time Off Btm:

2013.07.15 @ 10:04:00

**TEST COMMENT:** 60 - IF- 1/8" Blow built to 4 1/4"  
45 - IS- No Return  
60 - FF- Blow started at 7 min. Built to 3 1/4"  
45 - FS- No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1721.12	104.73	Initial Hydro-static
2	63.40	104.87	Open To Flow (1)
59	75.25	104.62	Shut-In(1)
104	1275.55	105.05	End Shut-In(1)
105	83.84	104.70	Open To Flow (2)
169	93.50	105.27	Shut-In(2)
210	1254.37	105.54	End Shut-In(2)
212	1718.85	105.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
100.00	OCM 20o 80M	0.49
10.00	Free Oil 100o	0.05

## Gas Rates

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



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## DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

19-5s-22w Norton, KS

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

Williams Trust #1-19

ATTN: Derrick Patterson

Job Ticket: 52136

**DST#: 2**

Test Start: 2013.07.15 @ 04:30:00

### GENERAL INFORMATION:

Formation: **LKC "C-35' Zone"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:33:30

Time Test Ended: 12:04:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

**Interval: 3476.00 ft (KB) To 3498.00 ft (KB) (TVD)**

Total Depth: 3498.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2280.00 ft (KB)

2269.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8520**

**Outside**

Press @ Run Depth: psig @ 3477.00 ft (KB)

Start Date: 2013.07.15

End Date:

2013.07.15

Start Time: 04:31:00

End Time:

12:04:00

Capacity: 8000.00 psig

Last Calib.: 2013.07.15

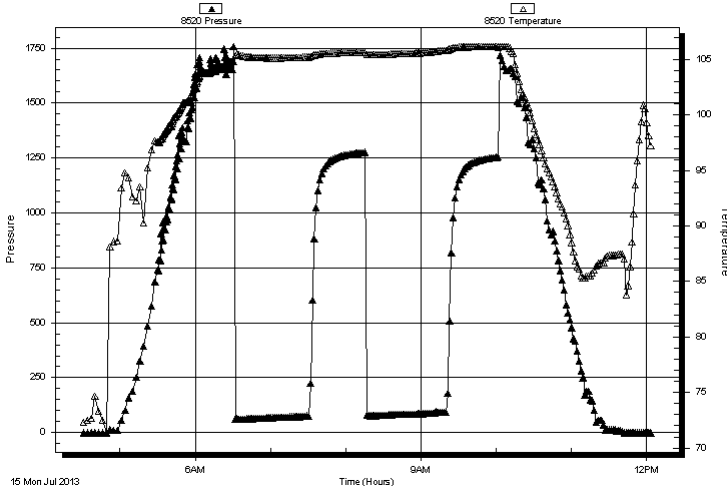
Time On Btm:

Time Off Btm:

TEST COMMENT: 60 - IF- 1/8" Blow built to 4 1/4"  
45 - IS- No Return  
60 - FF- Blow started at 7 min. Built to 3 1/4"  
45 - FS- No Return

### PRESSURE SUMMARY

Pressure vs. Time



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

### Recovery

Length (ft)	Description	Volume (bbl)
100.00	OCM 20o 80M	0.49
10.00	Free Oil 100o	0.05

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52136

**DST#: 2**

ATTN: Derrick Patterson

Test Start: 2013.07.15 @ 04:30:00

## Tool Information

Drill Pipe:	Length: 3109.00 ft	Diameter: 3.80 inches	Volume: 43.61 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: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 45.43 bbl</u>	Tool Chased	10.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3476.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	22.00 ft				
Tool Length:	50.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Tool opened on slide Had to reset tools to add joint of pipe to make bottom. chased tool 10' to bottom

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3449.00	
Shut In Tool	5.00			3454.00	
Hydraulic tool	5.00			3459.00	
Jars	5.00			3464.00	
Safety Joint	3.00			3467.00	
Packer	5.00			3472.00	28.00 Bottom Of Top Packer
Packer	4.00			3476.00	
Stubb	1.00			3477.00	
Recorder	0.00	8354	Inside	3477.00	
Recorder	0.00	8520	Outside	3477.00	
Perforations	16.00			3493.00	
Bullnose	5.00			3498.00	22.00 Bottom Packers & Anchor

**Total Tool Length: 50.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52136

**DST#: 2**

ATTN: Derrick Patterson

Test Start: 2013.07.15 @ 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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 400.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
100.00	OCM 20o 80M	0.492
10.00	Free Oil 100o	0.049

Total Length: 110.00 ft      Total Volume: 0.541 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

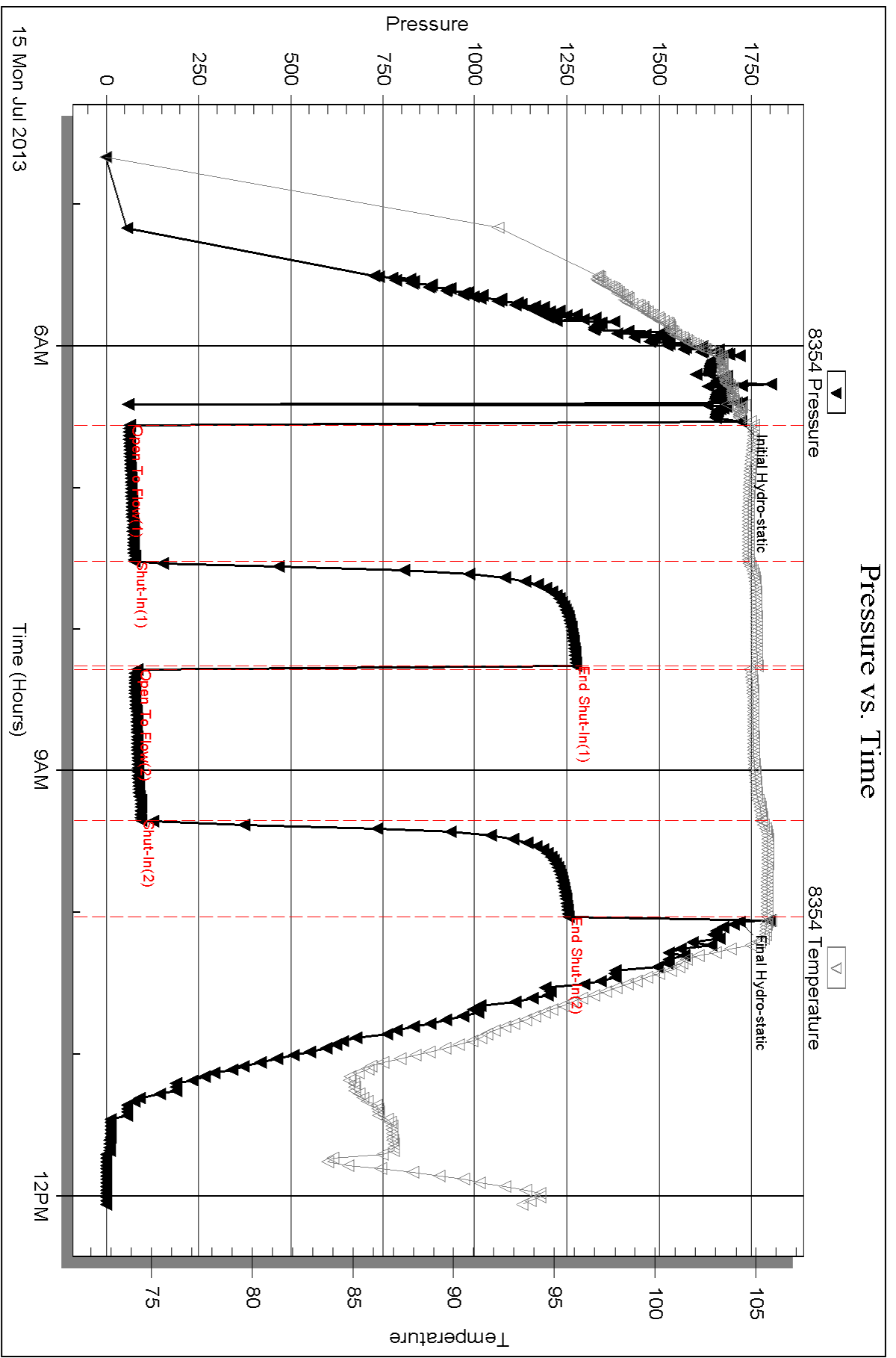
Serial #: 8354

Inside

Hartman Oil Co., Inc.

Williams Trust #1-19

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 52136

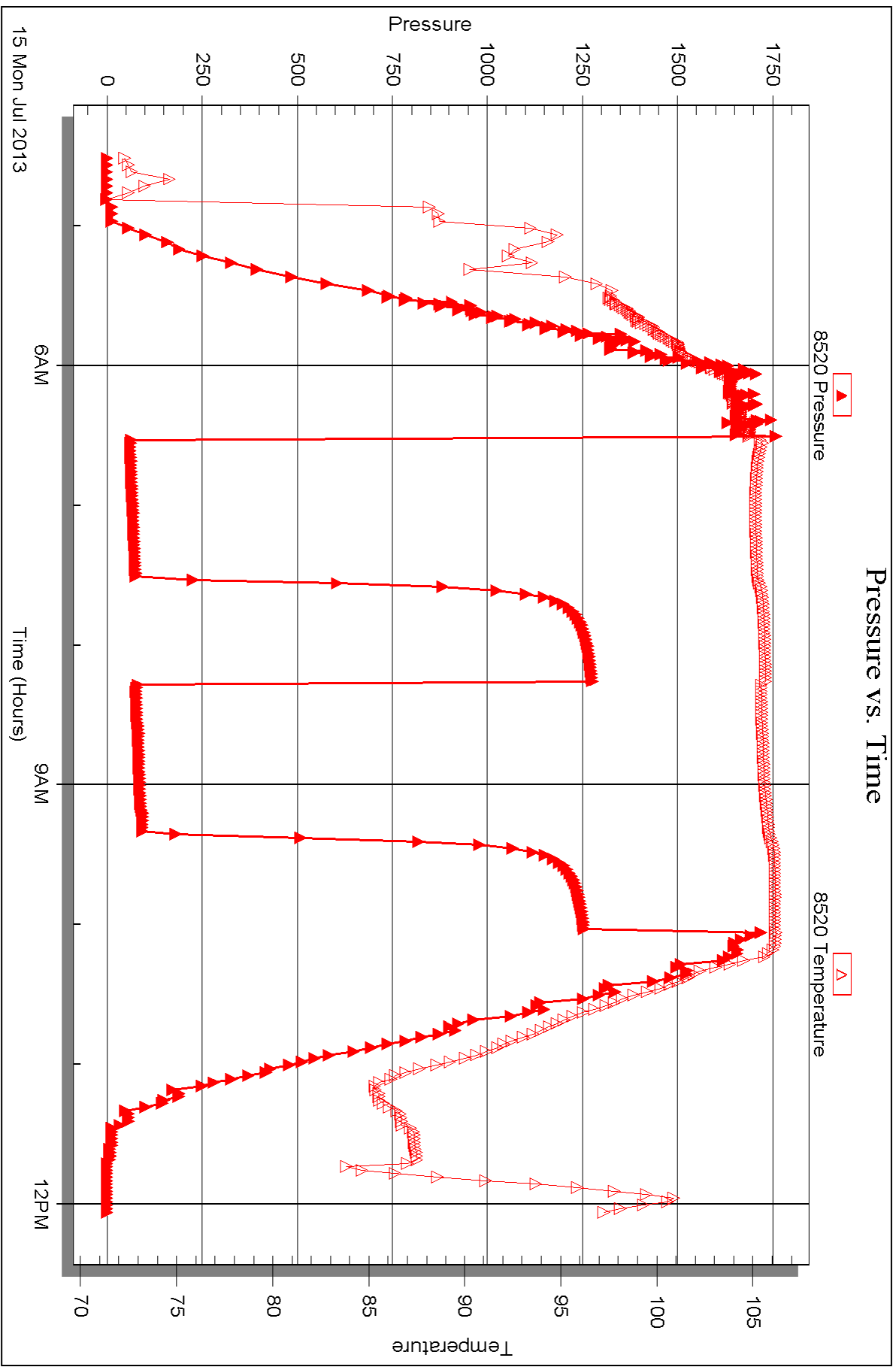
Printed: 2013.07.18 @ 11:17:57

Serial #: 8520

Outside Hartman Oil Co., Inc.

Williams Trust #1-19

DST Test Number: 2





## DRILL STEM TEST REPORT

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

10500 Berkeley Sq. Pkwy. STE #100  
Wichita, KS 67206

ATTN: Derrick Patterson

### **Williams Trust #1-19**

### **19-5s-22w Norton, KS**

Start Date: 2013.07.15 @ 20:20:00

End Date: 2013.07.16 @ 05:30:30

Job Ticket #: 52137                      DST #: 3

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

Printed: 2013.07.18 @ 11:17:23

Hartman Oil Co., Inc.

19-5s-22w Norton, KS

Williams Trust #1-19

DST # 3

LKC "F - 70' Zone"

2013.07.15



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

ATTN: Derrick Patterson

Job Ticket: 52137

**DST#: 3**

Test Start: 2013.07.15 @ 20:20:00

## GENERAL INFORMATION:

Formation: **LKC "F - 70" Zone"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:35:30

Time Test Ended: 05:30:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

**Interval: 3514.00 ft (KB) To 3530.00 ft (KB) (TVD)**

Reference Elevations: 2280.00 ft (KB)

Total Depth: 3530.00 ft (KB) (TVD)

2269.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**

Press @ Run Depth: 309.20 psig @ 3515.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.15

End Date:

2013.07.16

Last Calib.:

2013.07.16

Start Time:

20:21:00

End Time:

05:30:30

Time On Btm:

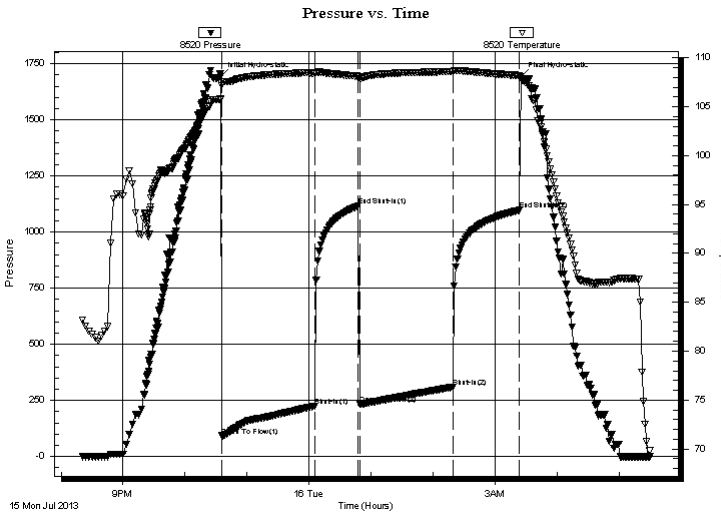
2013.07.15 @ 22:34:30

Time Off Btm:

2013.07.16 @ 03:25:00

**TEST COMMENT:** 90 - IF- BoB in 17 min.  
45 - IS- Weak Surface Return built to 4"  
90 - FF- BoB in 18 min.  
60 - FS- Weak Surface Return built to 8"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1693.81	105.74	Initial Hydro-static
1	92.49	107.13	Open To Flow (1)
91	225.02	108.36	Shut-In(1)
133	1116.14	108.11	End Shut-In(1)
135	234.95	107.85	Open To Flow (2)
225	309.20	108.58	Shut-In(2)
289	1097.43	108.19	End Shut-In(2)
291	1691.77	108.09	Final Hydro-static

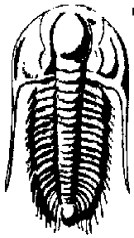
## Recovery

Length (ft)	Description	Volume (bbl)
184.00	OCM 40o 60M	0.90
659.00	Clean Gassy Oil 20G 80o	7.54
0.00	150' GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

19-5s-22w Norton, KS

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

Williams Trust #1-19

Job Ticket: 52137

DST#: 3

ATTN: Derrick Patterson

Test Start: 2013.07.15 @ 20:20:00

### GENERAL INFORMATION:

Formation: **LKC "F - 70" Zone"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:35:30

Time Test Ended: 05:30:30

Interval: **3514.00 ft (KB) To 3530.00 ft (KB) (TVD)**

Total Depth: 3530.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Reference Elevations: 2280.00 ft (KB)

2269.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8354** **Inside**

Press@RunDepth: psig @ 3515.00 ft (KB)

Start Date: 2013.07.15 End Date: 2013.07.16

Start Time: 20:30:00 End Time: 05:31:00

Capacity: 8000.00 psig

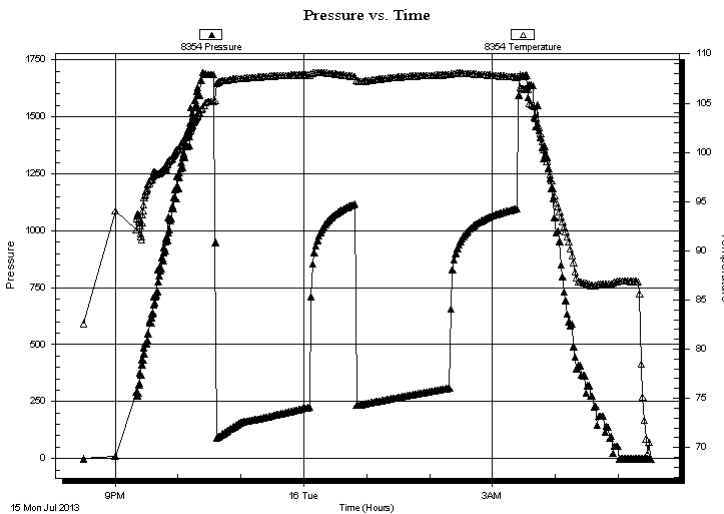
Last Calib.: 2013.07.16

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 90 - IF- BoB in 17 min.  
45 - IS- Weak Surface Return built to 4"  
90 - FF- BoB in 18 min.  
60 - FS- Weak Surface Return built to 8"

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
184.00	OCM 40o 60M	0.90
659.00	Clean Gassy Oil 20G 80o	7.54
0.00	150' GIP	0.00

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52137

**DST#: 3**

ATTN: Derrick Patterson

Test Start: 2013.07.15 @ 20:20:00

## Tool Information

Drill Pipe:	Length: 3143.00 ft	Diameter: 3.80 inches	Volume: 44.09 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: 2500.00 lb
Drill Collar:	Length: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 45.91 bbl</u>	Tool Chased 15.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3514.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: tool opened on slide and had to be chased approx 15' to bottom.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3487.00	
Shut In Tool	5.00			3492.00	
Hydraulic tool	5.00			3497.00	
Jars	5.00			3502.00	
Safety Joint	3.00			3505.00	
Packer	5.00			3510.00	28.00 Bottom Of Top Packer
Packer	4.00			3514.00	
Stubb	1.00			3515.00	
Recorder	0.00	8354	Inside	3515.00	
Recorder	0.00	8520	Outside	3515.00	
Perforations	10.00			3525.00	
Bullnose	5.00			3530.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52137

**DST#: 3**

ATTN: Derrick Patterson

Test Start: 2013.07.15 @ 20:20:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
184.00	OCM 40o 60M	0.905
659.00	Clean Gassy Oil 20G 80o	7.541
0.00	150' GIP	0.000

Total Length: 843.00 ft      Total Volume: 8.446 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

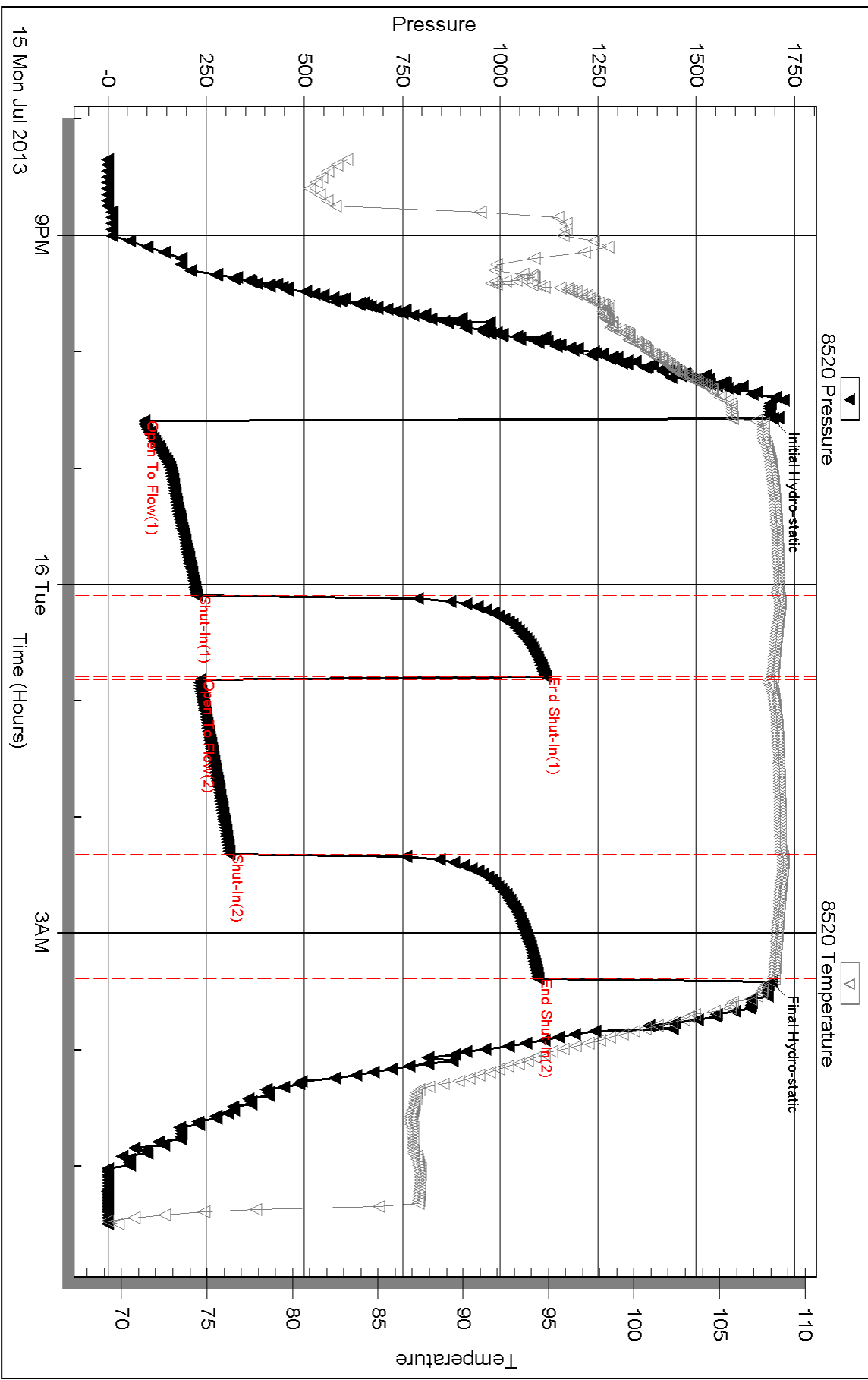
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API 32 @ 80 deg = 30 cor

### Pressure vs. Time



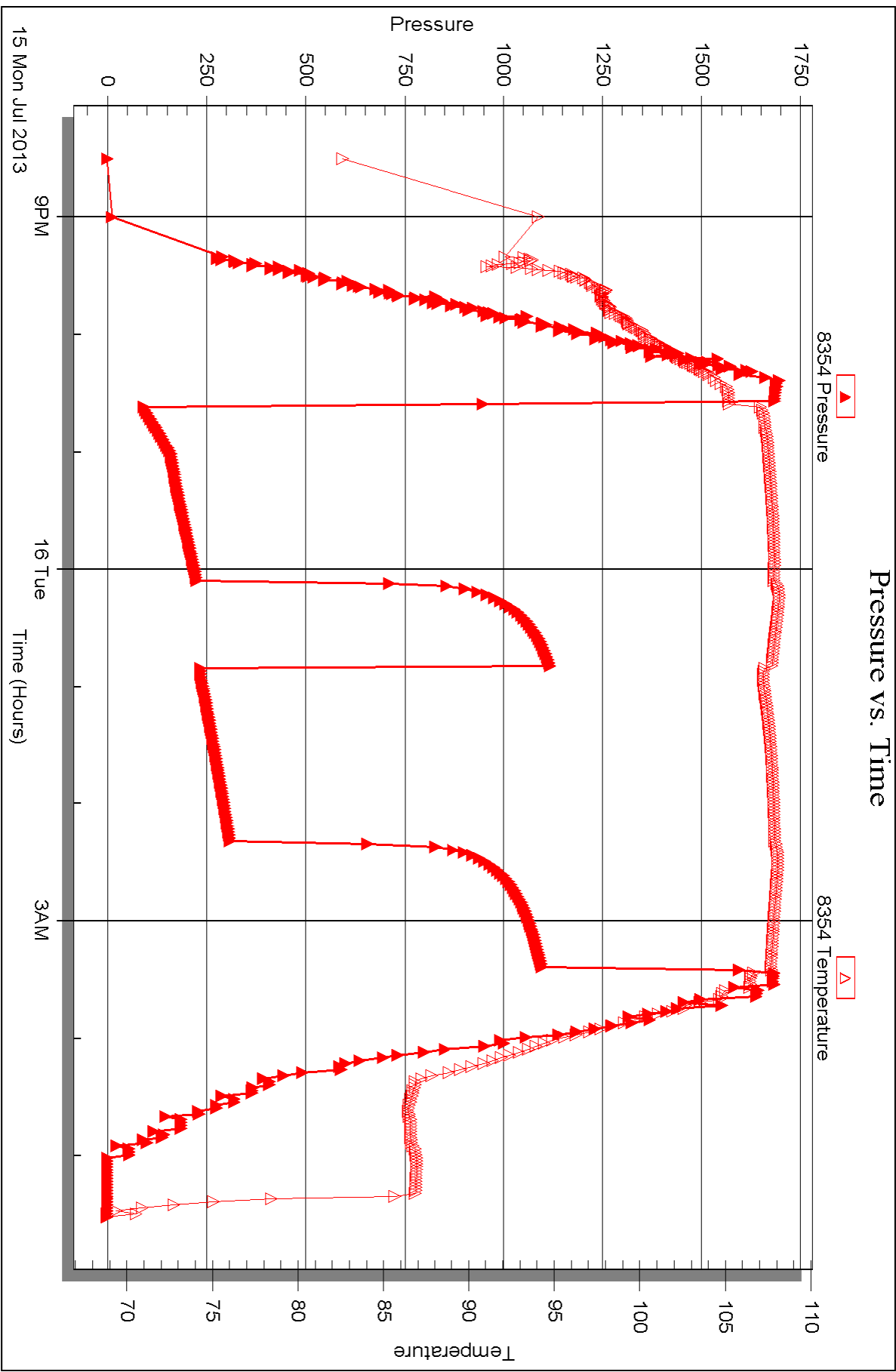
Serial #: 8354

Inside

Hartman Oil Co., Inc.

Williams Trust #1-19

DST Test Number: 3





## DRILL STEM TEST REPORT

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

10500 Berkeley Sq. Pkwy. STE #100  
Wichita, KS 67206

ATTN: Derrick Patterson

### **Williams Trust #1-19**

### **19-5s-22w Norton, KS**

Start Date: 2013.07.16 @ 14:28:08

End Date: 2013.07.17 @ 07:18:08

Job Ticket #: 52138                      DST #: 4

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

Printed: 2013.07.18 @ 11:16:46



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

ATTN: Derrick Patterson

Job Ticket: 52138

**DST#: 4**

Test Start: 2013.07.16 @ 14:28:08

## GENERAL INFORMATION:

Formation: **LKC "H - 140' Zone"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:58:38

Time Test Ended: 07:18:08

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

**Interval: 3554.00 ft (KB) To 3584.00 ft (KB) (TVD)**

Reference Elevations: 2280.00 ft (KB)

Total Depth: 3584.00 ft (KB) (TVD)

2269.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**

Press @ Run Depth: 39.26 psig @ 3555.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.16

End Date:

2013.07.17

Last Calib.:

2013.07.17

Start Time: 14:29:08

End Time:

07:18:08

Time On Btm:

2013.07.16 @ 16:58:08

Time Off Btm:

2013.07.16 @ 19:03:08

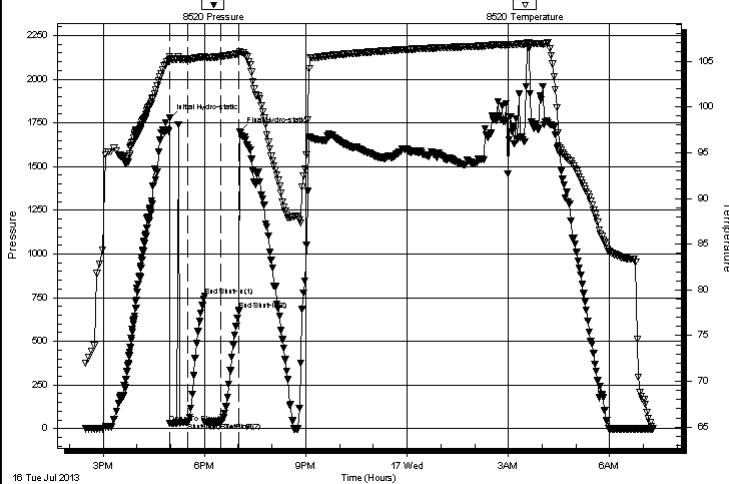
TEST COMMENT: 30 - IF- No Blow - Flushed tool at 10 min - No Blow .

30 - IS- No Return

30 - FF- No Blow

30 - FS- No Return

Pressure vs. Time



## PRESSURE SUMMARY

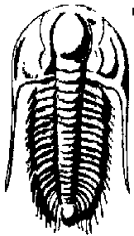
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1776.59	105.49	Initial Hydro-static
1	30.00	105.21	Open To Flow (1)
32	35.80	105.22	Shut-In(1)
62	759.90	105.51	End Shut-In(1)
63	36.89	105.39	Open To Flow (2)
92	39.26	105.51	Shut-In(2)
124	677.19	105.82	End Shut-In(2)
125	1698.58	106.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	OSM 100M (oil spots)	0.10

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Hartman Oil Co., Inc.  
 10500 Berkeley Sq. Pkw y. STE #100  
 Wichita, KS 67206  
 ATTN: Derrick Patterson

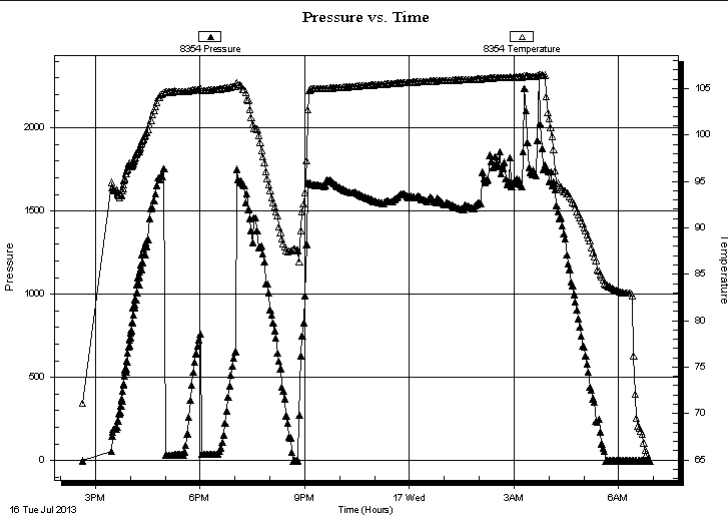
**19-5s-22w Norton, KS**  
**Williams Trust #1-19**  
 Job Ticket: 52138      **DST#: 4**  
 Test Start: 2013.07.16 @ 14:28:08

### GENERAL INFORMATION:

Formation: **LKC "H- 140' Zone"**  
 Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 16:58:38      Tester: Kevin Mack  
 Time Test Ended: 07:18:08      Unit No: 66  
**Interval: 3554.00 ft (KB) To 3584.00 ft (KB) (TVD)**      Reference Elevations: 2280.00 ft (KB)  
 Total Depth: 3584.00 ft (KB) (TVD)      2269.00 ft (CF)  
 Hole Diameter: 7.88 inchesHole Condition: Good      KB to GR/CF: 11.00 ft

**Serial #: 8354      Inside**  
 Press @RunDepth:      psig @ 3555.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.07.16      End Date: 2013.07.17      Last Calib.: 2013.07.17  
 Start Time: 14:38:00      End Time: 06:54:30      Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30 - IF- No Blow - Flushed tool at 10 min - No Blow .  
 30 - IS- No Return  
 30 - FF- No Blow  
 30 - FS- No Return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
20.00	OSM 100M (oil spots)	0.10

### Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52138

**DST#: 4**

ATTN: Derrick Patterson

Test Start: 2013.07.16 @ 14:28:08

## Tool Information

Drill Pipe:	Length: 3170.00 ft	Diameter: 3.80 inches	Volume: 44.47 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: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 46.29 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3554.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: tool slid approx 5' before opening. Then chased tool another 5' to bottom. Bled off initial surge from tool opening. Tool was parted at hydraulic, went to get fishing tools to retrieve rest of tool.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3527.00	
Shut In Tool	5.00			3532.00	
Hydraulic tool	5.00			3537.00	
Jars	5.00			3542.00	
Safety Joint	3.00			3545.00	
Packer	5.00			3550.00	28.00 Bottom Of Top Packer
Packer	4.00			3554.00	
Stubb	1.00			3555.00	
Recorder	0.00	8354	Inside	3555.00	
Recorder	0.00	8520	Outside	3555.00	
Perforations	24.00			3579.00	
Bullnose	5.00			3584.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52138

**DST#: 4**

ATTN: Derrick Patterson

Test Start: 2013.07.16 @ 14:28:08

## 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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
20.00	OSM 100M (oil spots)	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

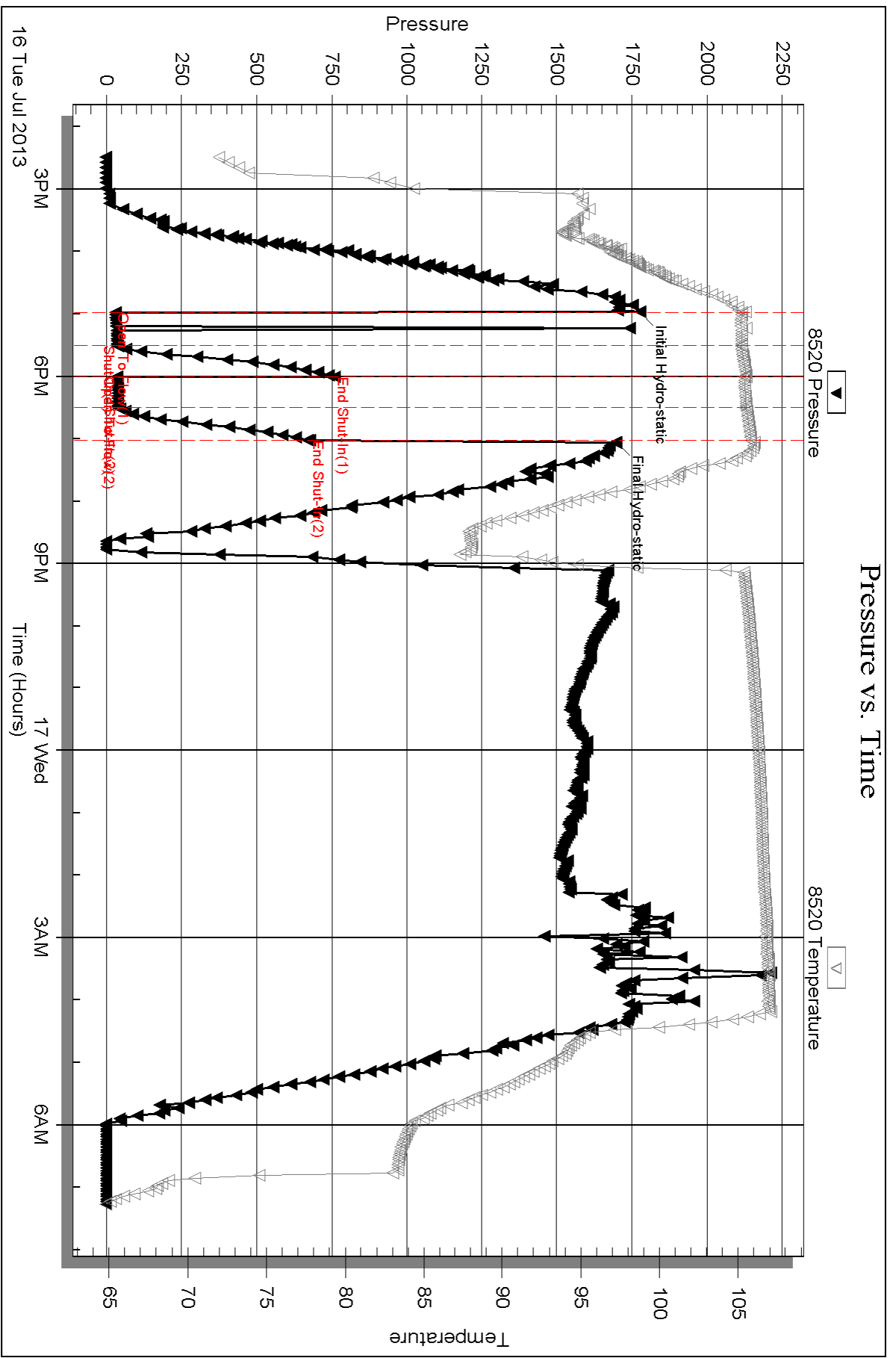
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



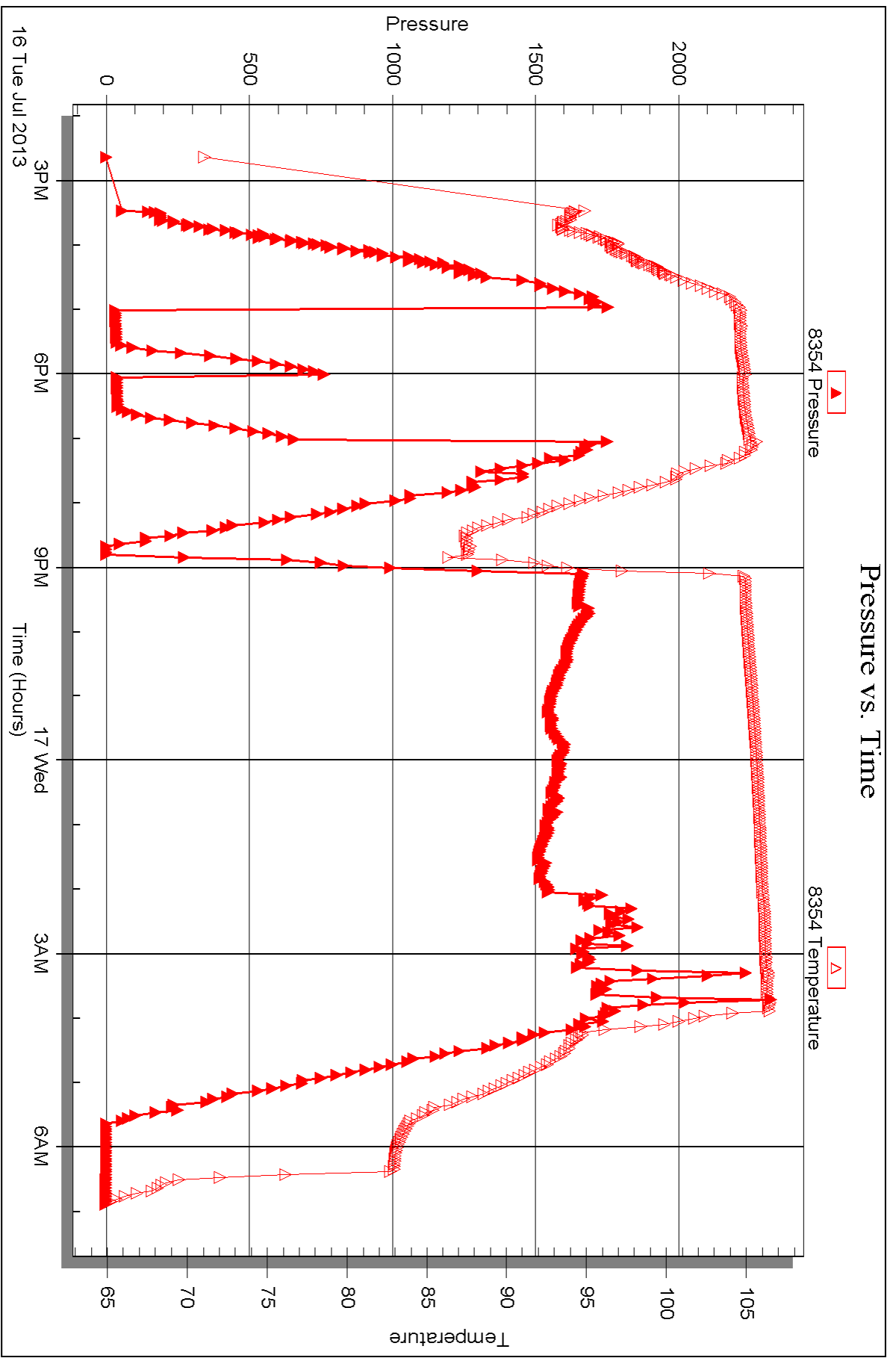
Serial #: 8354

Inside

Hartman Oil Co., Inc.

Williams Trust #1-19

DST Test Number: 4





## DRILL STEM TEST REPORT

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

10500 Berkeley Sq. Pkwy. STE #100  
Wichita, KS 67206

ATTN: Derrick Patterson

### **Williams Trust #1-19**

### **19-5s-22w Norton, KS**

Start Date: 2013.07.17 @ 17:05:00

End Date: 2013.07.17 @ 23:04:30

Job Ticket #: 52139                      DST #: 5

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

Printed: 2013.07.18 @ 11:16:00

Hartman Oil Co., Inc.

19-5s-22w Norton, KS

Williams Trust #1-19

DST # 5

LKC "J - 180' Zone"

2013.07.17



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co., Inc.  
10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206  
ATTN: Derrick Patterson

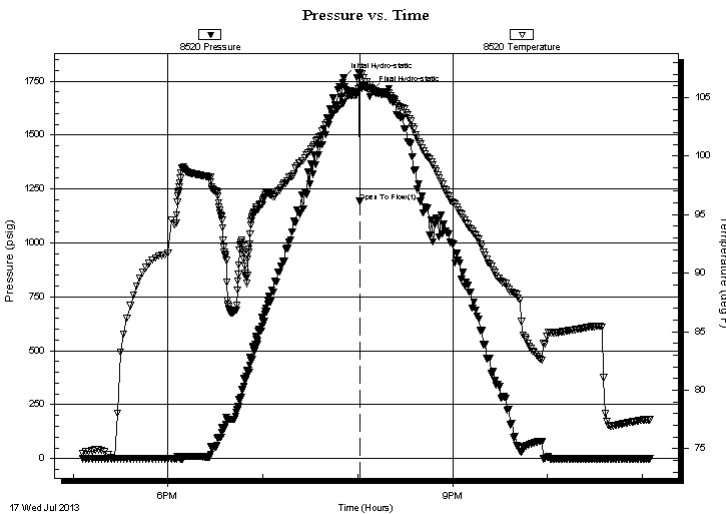
**19-5s-22w Norton, KS**  
**Williams Trust #1-19**  
Job Ticket: 52139 **DST#: 5**  
Test Start: 2013.07.17 @ 17:05:00

## GENERAL INFORMATION:

Formation: **LKC "J - 180' Zone"**  
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 20:01:00 Tester: Kevin Mack  
 Time Test Ended: 23:04:30 Unit No: 66  
**Interval: 3596.00 ft (KB) To 3622.00 ft (KB) (TVD)** Reference Elevations: 2280.00 ft (KB)  
 Total Depth: 3622.00 ft (KB) (TVD) 2269.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**  
 Press @ Run Depth: psig @ 3597.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.07.17 End Date: 2013.07.17 Last Calib.: 2013.07.17  
 Start Time: 17:06:00 End Time: 23:04:30 Time On Btm: 2013.07.17 @ 19:51:00  
 Time Off Btm: 2013.07.17 @ 20:09:00

**TEST COMMENT:** Packer Failure... Tried to set packers three times before tripping out of hole.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1764.59	104.59	Initial Hydro-static
10	1192.70	106.99	Open To Flow (1)
18	1705.63	105.72	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
400.00	Mud 100M	2.23

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co., Inc.  
10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206  
ATTN: Derrick Patterson

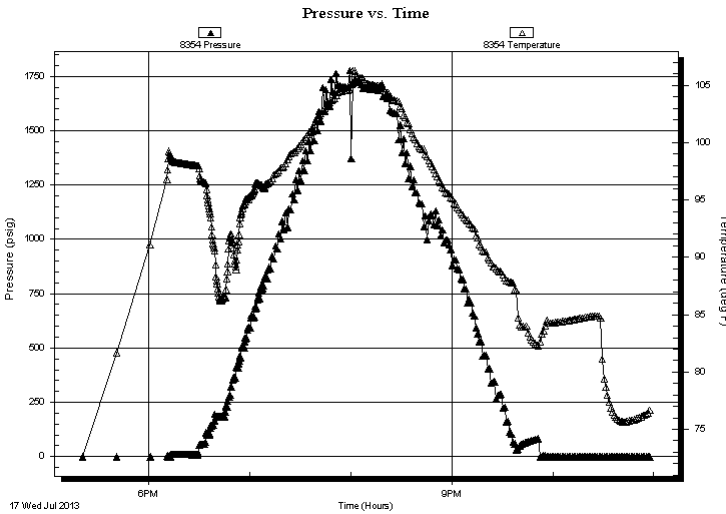
**19-5s-22w Norton, KS**  
**Williams Trust #1-19**  
Job Ticket: 52139 **DST#: 5**  
Test Start: 2013.07.17 @ 17:05:00

**GENERAL INFORMATION:**

Formation: **LKC "J - 180' Zone"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:01:00  
 Time Test Ended: 23:04:30  
 Interval: **3596.00 ft (KB) To 3622.00 ft (KB) (TVD)**  
 Total Depth: 3622.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Kevin Mack  
 Unit No: 66  
 Reference Elevations: 2280.00 ft (KB)  
 2269.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8354 Inside**  
 Press @ Run Depth: psig @ 3597.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.07.17 End Date: 2013.07.17 Last Calib.: 2013.07.17  
 Start Time: 17:21:00 End Time: 22:57:30 Time On Btm:  
 Time Off Btm:

TEST COMMENT: Packer Failure... Tried to set packers three times before tripping out of hole.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
400.00	Mud 100M	2.23

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52139

**DST#: 5**

ATTN: Derrick Patterson

Test Start: 2013.07.17 @ 17:05:00

## Tool Information

Drill Pipe:	Length: 3207.00 ft	Diameter: 3.80 inches	Volume: 44.99 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: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 46.81 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3596.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	54.00 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			3569.00	
Shut In Tool	5.00			3574.00	
Hydraulic tool	5.00			3579.00	
Jars	5.00			3584.00	
Safety Joint	3.00			3587.00	
Packer	5.00			3592.00	28.00 Bottom Of Top Packer
Packer	4.00			3596.00	
Stubb	1.00			3597.00	
Recorder	0.00	8354	Inside	3597.00	
Recorder	0.00	8520	Outside	3597.00	
Perforations	20.00			3617.00	
Bullnose	5.00			3622.00	26.00 Bottom Packers & Anchor

**Total Tool Length: 54.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co., Inc.

**19-5s-22w Norton, KS**

10500 Berkeley Sq. Pkw y. STE #100  
Wichita, KS 67206

**Williams Trust #1-19**

Job Ticket: 52139

**DST#: 5**

ATTN: Derrick Patterson

Test Start: 2013.07.17 @ 17:05:00

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
400.00	Mud 100M	2.231

Total Length: 400.00 ft      Total Volume: 2.231 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

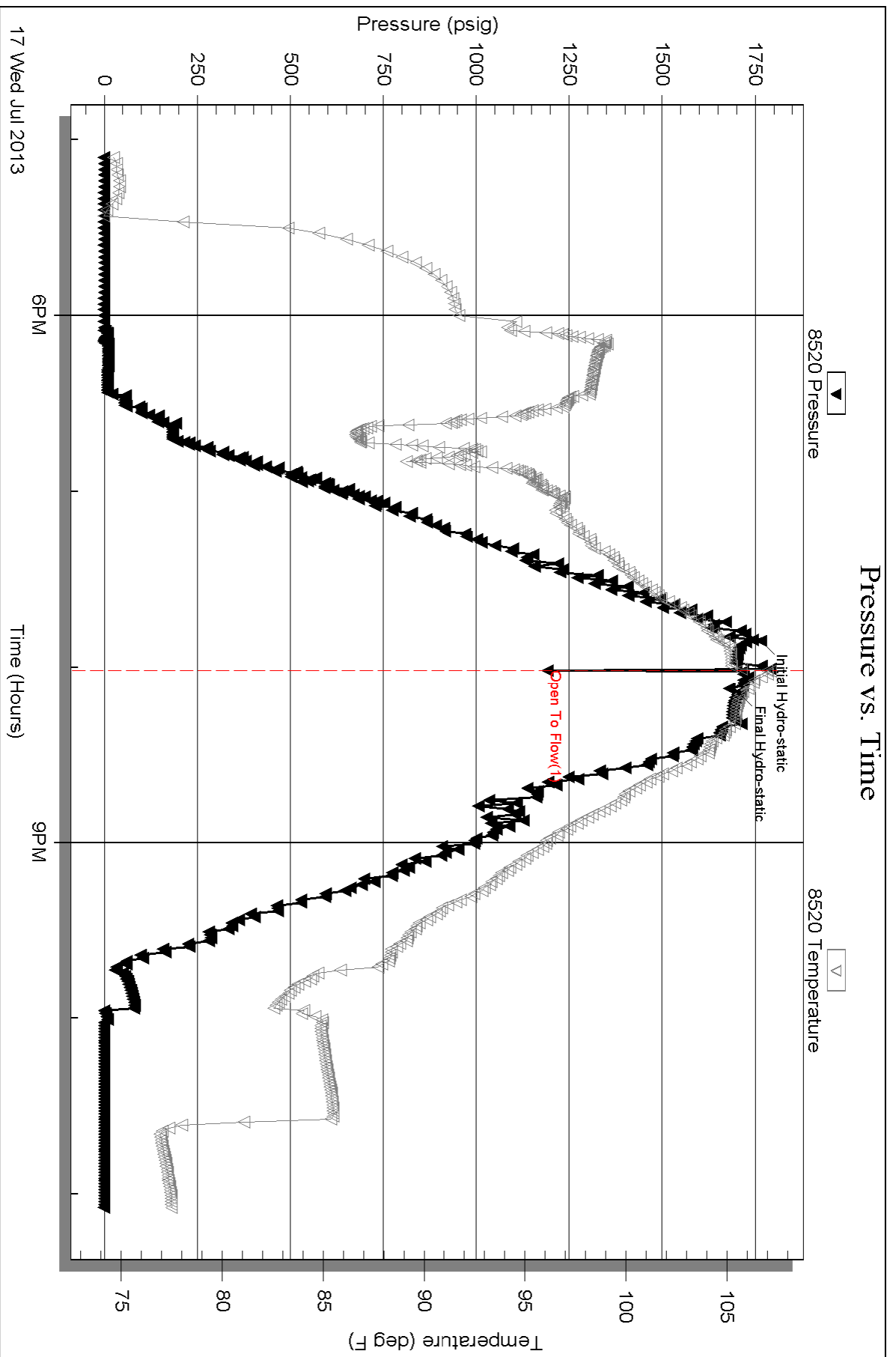
Recovery Comments:

Serial #: 8520

Outside Hartman Oil Co., Inc.

Williams Trust #1-19

DST Test Number: 5



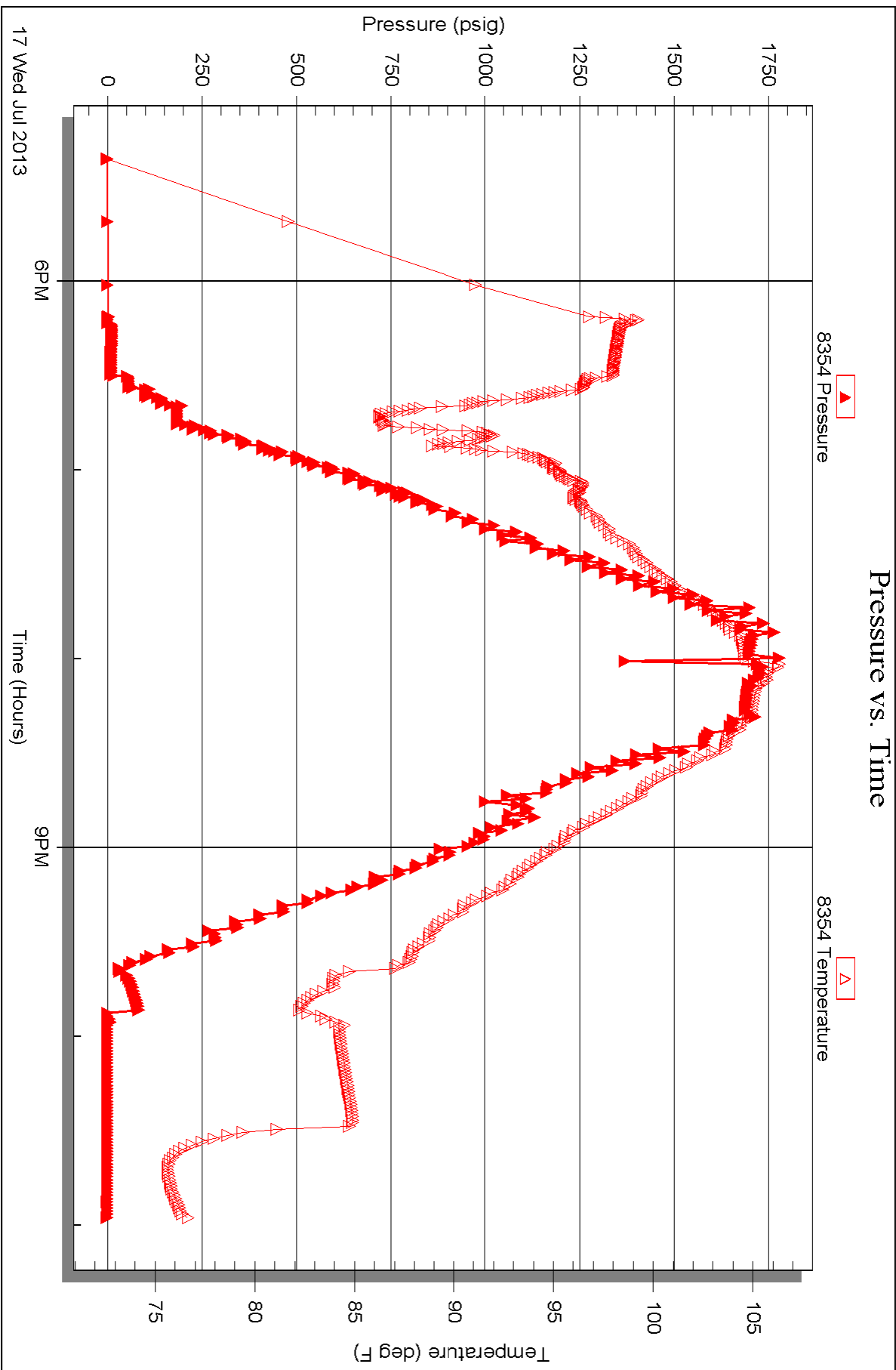
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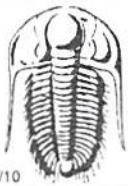
Inside

Hartman Oil Co., Inc.

Williams Trust #1-19

DST Test Number: 5





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52135

Well Name & No. Williams Trust #1-19 Test No. 1 Date 7-14-13  
 Company Hartman Oil Co., Inc. Elevation 2280 KB 2270 GL  
 Address 10500 Berkeley Sq Pkwy. STE#1000 Wichita, KS 67206  
 Co. Rep / Geo. Derrick Patterson Rig H2 #1  
 Location: Sec. 19 Twp. 05S Rge. 22W Co. Norton State KS

Interval Tested 3404-3454 Zone Tested Toronto  
 Anchor Length 50' Drill Pipe Run 3012 Mud Wt. 8.9  
 Top Packer Depth 3400 Drill Collars Run 371' Vis 58  
 Bottom Packer Depth 3404 Wt. Pipe Run 0 WL 6.2  
 Total Depth 3454 Chlorides 400 ppm System LCM 2#

Blow Description IF - BoB in 7 min.  
ISF - BoB in 22 min.  
AF - BoB in 18 min.  
FST - BoB in 25 min.

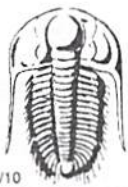
Rec	Feet of	%gas	%oil	%water	%mud
188	clean oil (gassy)	100	90		
184	6 MCO	5	85	10	
184	OCM		20	80	
92	OCM		10	90	
0	188' GIP	100			

Rec Total 648 BHT 1088 Gravity 29 API RW @      °F Chlorides      ppm

(A) Initial Hydrostatic 1651  Test 1150 T-On Location 9:20 Am  
 (B) First Initial Flow 71  Jars 250 T-Started 10:30 Am  
 (C) First Final Flow 196  Safety Joint 75 T-Open 1:40 PM  
 (D) Initial Shut-In 1155  Circ Sub N/C T-Pulled 4:10 PM  
 (E) Second Initial Flow 218  Hourly Standby      T-Out 7:00 PM  
 (F) Second Final Flow 259  Mileage 108 RT 167.40 Comments Tool slid approx  
 (G) Final Shut-In 1088  Sampler      10' to Bottom  
 (H) Final Hydrostatic 1624  Straddle      Bled GIP initial surge.  
 Ruined Shale Packer       
 Shale Packer       
 Ruined Packer       
 Extra Packer       
 Extra Copies       
 Extra Recorder       
 Day Standby       
 Accessibility 150 Sub Total 0  
 Sub Total 1792.40 Total 1792.40 MP/DST Disc't     

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. 52136

Well Name & No. Williams Trust #1-19 Test No. 2 Date 7-15-13  
 Company Hartman Oil Co., Inc. Elevation 2280 KB 2270 GL  
 Address 10500 Berkeley Sq. Pkwy. STE #1000 Wichita, KS 67206  
 Co. Rep / Geo. Derrick Patterson Rig H2 #1  
 Location: Sec. 19 Twp. 05S Rge. 22W Co. Norton State KS

Interval Tested 3476-3498 Zone Tested LKC "C-35' zone"  
 Anchor Length 22' Drill Pipe Run 3109 Mud Wt. 8.9  
 Top Packer Depth 3472 Drill Collars Run 371' Vis 58  
 Bottom Packer Depth 3476 Wt. Pipe Run 0 WL 6.2  
 Total Depth 3498 Chlorides 400 ppm System LCM 2#

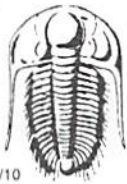
Blow Description IF - 1/8" Blow built to 4 1/4  
ISI - NO Return  
FB - Blow started at 7 min. Built to 3 1/4"  
FSI - NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Free Oil</u>	<u>1000</u>			
<u>100</u>	<u>OCM</u>	<u>20</u>		<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 110 BHT 106' Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic	<u>1721</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	T-On Location	<u>4:25 AM</u>
(B) First Initial Flow	<u>63</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>4:30 AM</u>
(C) First Final Flow	<u>75</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>6:30 AM</u>
(D) Initial Shut-In	<u>1275</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>	T-Pulled	<u>10:00 AM</u>
(E) Second Initial Flow	<u>83</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>12:10 PM</u>
(F) Second Final Flow	<u>93</u>	<input checked="" type="checkbox"/> Mileage	<u>108 RT</u> 167.40	Comments <u>Tool opened after 10' early and we made another connection to make bottom</u>	
(G) Final Shut-In	<u>1954</u>	<input type="checkbox"/> Sampler		<input type="checkbox"/> Ruined Shale Packer	
(H) Final Hydrostatic	<u>1718</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Packer	
Initial Open	<u>4560</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Extra Copies	
Initial Shut-In	<u>45</u>	<input type="checkbox"/> Extra Packer		Sub Total	<u>0</u>
Final Flow	<u>60</u>	<input type="checkbox"/> Extra Recorder		Total	<u>1792.40</u>
Final Shut-In	<u>45</u>	<input type="checkbox"/> Day Standby		MP/DST Disc't	
		<input checked="" type="checkbox"/> Accessibility	<u>150</u>		
		Sub Total	<u>1792.40</u>		

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.



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1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52137

Well Name & No. Williams Trust #1-19 Test No. 3 Date 7-15-13  
 Company Hartman Oil Co., Inc Elevation 2280 KB 2269 GL  
 Address 10500 Berkeley Sq. Pkwy. STE #1000 Wichita, KS 67206  
 Co. Rep / Geo. Derrick Patterson Rig H2 #1  
 Location: Sec. 19 Twp. 055 Rge. 22 W Co. Norton State KS

Interval Tested 3514-3530 Zone Tested LKC "F-70' zone"  
 Anchor Length 16' Drill Pipe Run 3143 Mud Wt. 9.1  
 Top Packer Depth 3510 Drill Collars Run 371' Vis 58  
 Bottom Packer Depth 3514 Wt. Pipe Run 0 WL 5.8  
 Total Depth 3530 Chlorides 5000 ppm System LCM 2#

Blow Description IF - BoB in 17 min.  
ISI - Weak Surface Return built to 4"  
FF - BoB in 18 min  
FSI - Weak Surface Return built to 8"

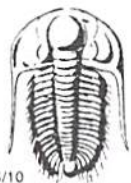
Rec	Feet of	%gas	%oil	%water	%mud
<u>659</u>	<u>Clean Gassy Oil</u>	<u>200</u>	<u>80</u>		
<u>184</u>	<u>OCM</u>	<u>40</u>		<u>60</u>	
<u>150</u>	<u>GIP</u>	<u>100</u>			

Rec Total 843 BHT 108 Gravity 30 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1693</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>7:50 PM</u>
(B) First Initial Flow <u>92</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>8:20 PM</u>
(C) First Final Flow <u>225</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>10:35 PM</u>
(D) Initial Shut-In <u>1116</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>3:20 AM</u>
(E) Second Initial Flow <u>234</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>5:45 AM</u>
(F) Second Final Flow <u>309</u>	<input checked="" type="checkbox"/> Mileage <u>108 RT</u> 167.40	Comments <u>Tool Opened</u>
(G) Final Shut-In <u>1097</u>	<input type="checkbox"/> Sampler	<u>early and had to</u>
(H) Final Hydrostatic <u>1691</u>	<input type="checkbox"/> Straddle	<u>be chased approx 15' to</u>
Initial Open <u>90</u>	<input type="checkbox"/> Shale Packer	<u>bottom.</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer
Final Flow <u>90</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	<input type="checkbox"/> Extra Copies
	<input checked="" type="checkbox"/> Accessibility <u>150</u>	Sub Total <u>0</u>
	Sub Total <u>1792.40</u>	Total <u>1792.40</u>

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## Test Ticket

NO. 52138

Well Name & No. Williams trust #1-19 Test No. 4 Date 7-16-13  
 Company Hartman Oil Co., Inc. Elevation 2280 KB 2269 GL  
 Address 10500 Berkeley Sq. Pkwy. STE # 1008 Wichita, KS 67208  
 Co. Rep / Geo. Derrick Patterson Rig #2 #1  
 Location: Sec. 19 Twp. 055 Rge. 22W Co. Norton State KS

Interval Tested 3554-3584 Zone Tested LKL'H-140' zone "  
 Anchor Length 30' Drill Pipe Run 3170 Mud Wt. 9.1  
 Top Packer Depth 3550 Drill Collars Run 371 Vis 60  
 Bottom Packer Depth 3554 Wt. Pipe Run 0 WL 5.4  
 Total Depth 3584 Chlorides 600 ppm System LCM 2#

Blow Description IF- NO Blow - Flushed tool at 10 min. - NO Blow  
ISI- NO Return  
FF- NO Blow  
FSI- NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>OSM</u>	<u>spots</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 Total 20 BHT 108 Gravity - API RW - @ - ° F Chlorides - ppm

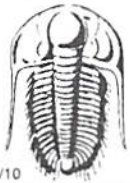
(A) Initial Hydrostatic 1776  Test 1150 T-On Location 2:25 PM  
 (B) First Initial Flow 30  Jars 250 T-Started 2:28 PM  
 (C) First Final Flow 35  Safety Joint 75 T-Open 5:00 PM  
 (D) Initial Shut-In 759  Circ Sub N/C T-Pulled 7:00 PM  
 (E) Second Initial Flow 36  Hourly Standby T-Out 7:30 AM 7-17-13

(F) Second Final Flow 39  Mileage 167.40 1008 RT#120 Comments Tool slid approx 5'  
 (G) Final Shut-In 677  Sampler before opening - Chased top  
 (H) Final Hydrostatic 1698  Straddle another 5' after opening  
 Shale Packer Tool parted and had to  
 Extra Packer be fished out of hole.  
 Extra Recorder

Initial Open 30  Extra Copies  
 Initial Shut-In 30 Sub Total 0  
 Final Flow 30 Total  
 Final Shut-In 30  Accessibility 150 MP/DST Disc't  
 Sub Total 1792.40

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52139

Well Name & No. Williams Trust #1-19 Test No. 5 Date 7-17-13  
 Company Hartman Oil Co., Inc. Elevation ~~22000~~ 2279 KB 2268 GL  
 Address ~~10500~~ Berkeley Sq. Pkwy STE #100 Wichita, KS 67206  
 Co. Rep / Geo. Derrick Patterson Rig H2 #1  
 Location: Sec. 19 Twp. 05S Rge. 22W Co. Norton State KS

Interval Tested 3596-3622 Zone Tested LKC "J-180' zone"  
 Anchor Length 26' Drill Pipe Run 3207 Mud Wt. 9.1  
 Top Packer Depth 3592 Drill Collars Run 371 Vis 48  
 Bottom Packer Depth 3596 Wt. Pipe Run 0 WL 5.8  
 Total Depth 3622 Chlorides 600 ppm System LCM 2#

Blow Description IF- Packer Failure  
ISI- Tried to set packers three times before  
FF- tripping out of hole.  
FST-

Rec	Feet of	%gas	%oil	%water	%mud
<u>400</u>	<u>mud</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 400 BHT 107 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1764</u>	<input checked="" type="checkbox"/> Test 950	T-On Location <u>4:45 PM</u>
(B) First Initial Flow <u>1192</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>5:05 PM</u>
(C) First Final Flow <u>-</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>8:00 PM</u>
(D) Initial Shut-In <u>-</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>8:15 PM</u>
(E) Second Initial Flow <u>-</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>11:10 PM</u>
(F) Second Final Flow <u>-</u>	<input checked="" type="checkbox"/> Mileage <u>1008 RT</u> 167.40	Comments
(G) Final Shut-In <u>-</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1705</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open \_\_\_\_\_  
 Initial Shut-In \_\_\_\_\_  
 Final Flow \_\_\_\_\_  
 Final Shut-In \_\_\_\_\_

Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility 150

Sub Total 1592.40

Sub Total 0  
 Total 1592.40  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

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