

## DRILL STEM TEST REPORT

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

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

ATTN: Kit Noah

### **Clark-Ochs #1-17**

### **17-12s-33w Logan,KS**

Start Date: 2019.04.01 @ 06:02:00

End Date: 2019.04.01 @ 11:30:30

Job Ticket #: 65207                      DST #: 1

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

Printed: 2019.04.09 @ 09:22:34



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co, Inc.  
 10500 E Berkeley Sq Pkwy Ste 100  
 Wichita, KS 67206  
 ATTN: Kit Noah

**17-12s-33w Logan,KS**  
**Clark-Ochs #1-17**  
 Job Ticket: 65207 **DST#: 1**  
 Test Start: 2019.04.01 @ 06:02:00

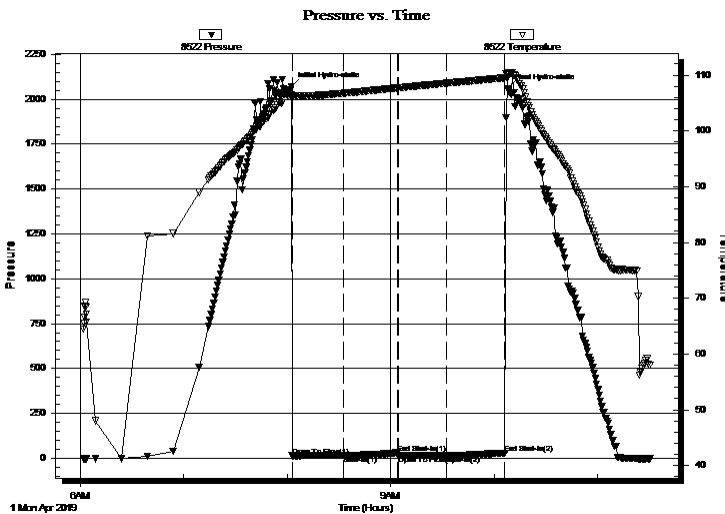
## GENERAL INFORMATION:

Formation: **LKC E**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 08:03:00 Tester: Bradley Walter  
 Time Test Ended: 11:30:30 Unit No: 78  
 Interval: **4145.00 ft (KB) To 4165.00 ft (KB) (TVD)** Reference Elevations: 3152.00 ft (KB)  
 Total Depth: 4165.00 ft (KB) (TVD) 3147.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

**Serial #: 8522 Inside**  
 Press@RunDepth: 16.73 psig @ 4146.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.04.01 End Date: 2019.04.01 Last Calib.: 2019.04.01  
 Start Time: 06:02:05 End Time: 11:30:29 Time On Btm: 2019.04.01 @ 08:02:45  
 Time Off Btm: 2019.04.01 @ 10:08:00

TEST COMMENT: 30- IF: 1/4" blow .  
 30- IS: No return.  
 30- FF: No blow .  
 30- FSI: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2072.51	106.43	Initial Hydro-static
1	13.79	105.93	Open To Flow (1)
30	15.79	106.74	Shut-In(1)
62	30.20	107.73	End Shut-In(1)
62	14.88	107.71	Open To Flow (2)
90	16.73	108.56	Shut-In(2)
124	29.36	109.51	End Shut-In(2)
126	2057.38	110.28	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	Mud 100m (oil puddle on top)	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65207

**DST#: 1**

ATTN: Kit Noah

Test Start: 2019.04.01 @ 06:02:00

## Tool Information

Drill Pipe:	Length: 4030.00 ft	Diameter: 3.80 inches	Volume: 56.53 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: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4145.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	47.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4119.00	
Shut In Tool	5.00		Fluid	4124.00	
Hydraulic tool	5.00			4129.00	
Jars	5.00			4134.00	
Safety Joint	2.00			4136.00	
Packer	5.00		Inside	4141.00	27.00 Bottom Of Top Packer
Packer	4.00			4145.00	
Stubb	1.00			4146.00	
Recorder	0.00	8522	Inside	4146.00	
Recorder	0.00	8319	Outside	4146.00	
Perforations	16.00			4162.00	
Bullnose	3.00			4165.00	20.00 Bottom Packers & Anchor

**Total Tool Length: 47.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65207

**DST#: 1**

ATTN: Kit Noah

Test Start: 2019.04.01 @ 06:02:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	Mud 100m (oil puddle on top)	0.015

Total Length: 3.00 ft      Total Volume: 0.015 bbl

Num Fluid Samples: 0

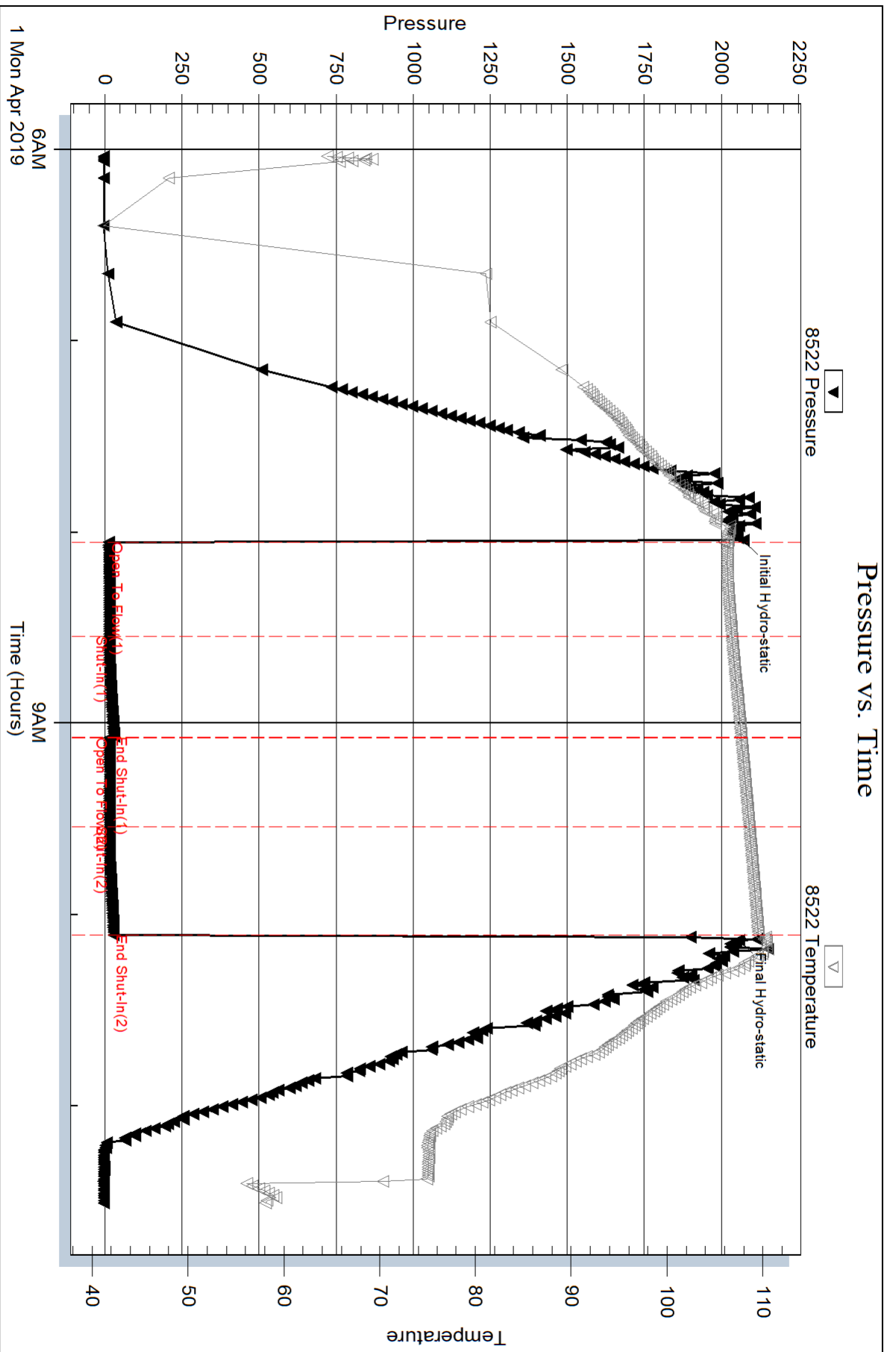
Num Gas Bombs: 0

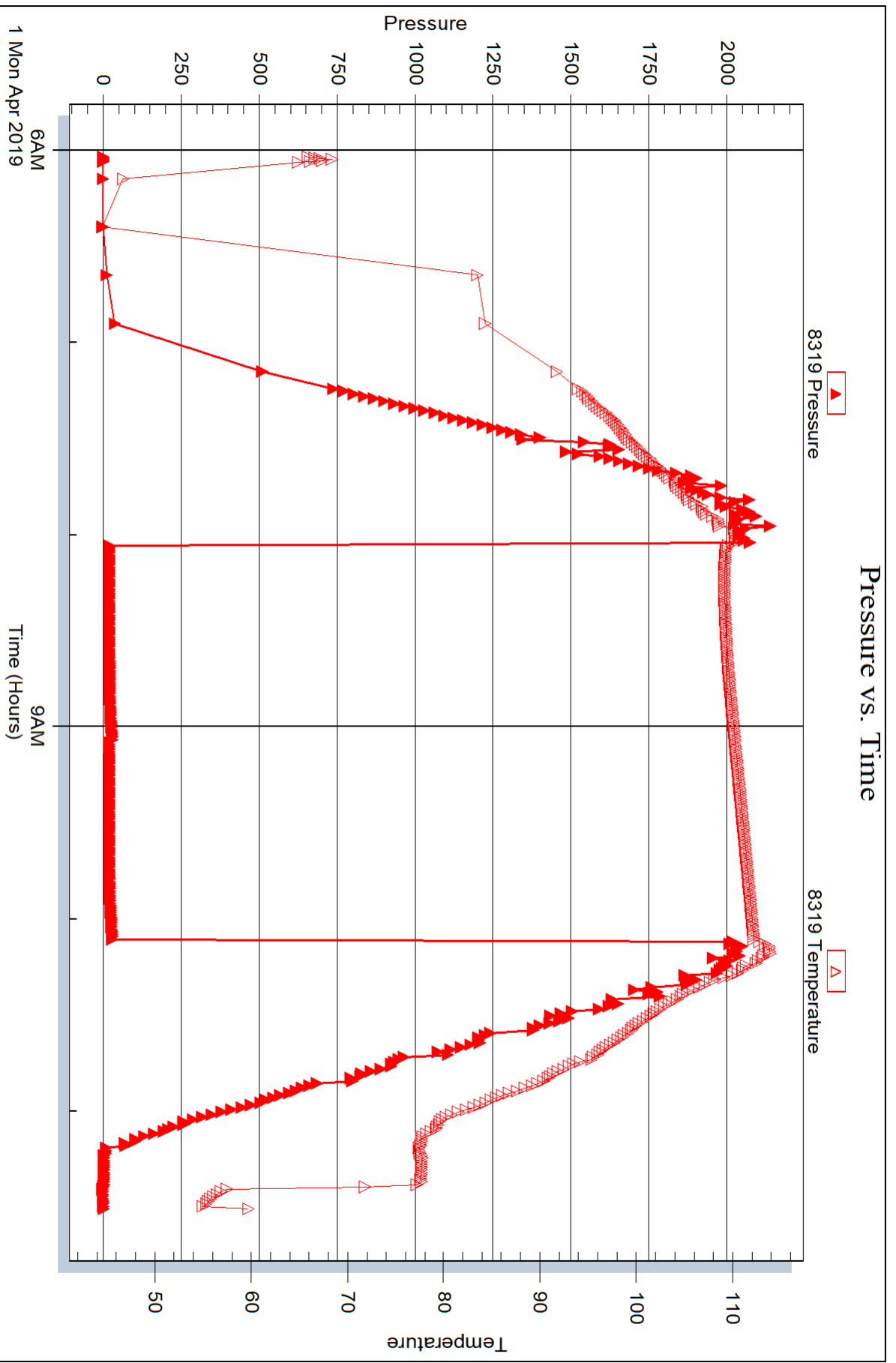
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

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

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

ATTN: Kit Noah

### **Clark-Ochs #1-17**

### **17-12s-33w Logan,KS**

Start Date: 2019.04.01 @ 21:50:00

End Date: 2019.04.02 @ 04:03:45

Job Ticket #: 65208                      DST #: 2

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

Printed: 2019.04.09 @ 09:22:07





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co, Inc.  
 10500 E Berkeley Sq Pkwy Ste 100  
 Wichita, KS 67206  
 ATTN: Kit Noah

**17-12s-33w Logan,KS**  
**Clark-Ochs #1-17**  
 Job Ticket: 65208 **DST#: 2**  
 Test Start: 2019.04.01 @ 21:50:00

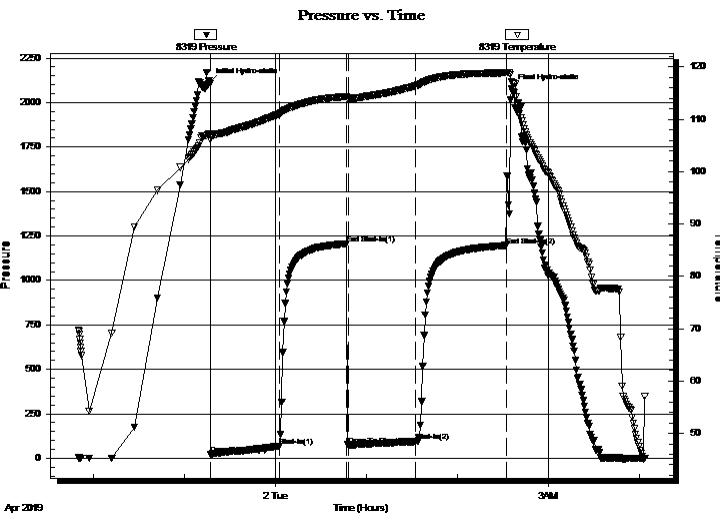
## GENERAL INFORMATION:

Formation: **LKC H**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:17:00  
 Time Test Ended: 04:03:45  
 Interval: **4223.00 ft (KB) To 4260.00 ft (KB) (TVD)**  
 Total Depth: 4260.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 78  
 Reference Elevations: 3152.00 ft (KB)  
 3147.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8319 Outside

Press@RunDepth: 94.00 psig @ 4224.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.04.01 End Date: 2019.04.02 Last Calib.: 2019.04.02  
 Start Time: 21:50:05 End Time: 04:03:44 Time On Btm: 2019.04.01 @ 23:16:30  
 Time Off Btm: 2019.04.02 @ 02:35:30

TEST COMMENT: 45- IF: 6" blow .  
 45- IS: No return.  
 45- FF: 4 1/2" blow .  
 60- FSI: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2112.21	107.14	Initial Hydro-static
1	23.73	106.13	Open To Flow (1)
46	67.63	111.03	Shut-In(1)
91	1206.50	114.32	End Shut-In(1)
92	76.21	114.01	Open To Flow (2)
136	94.00	116.40	Shut-In(2)
196	1196.71	118.86	End Shut-In(2)
199	2076.73	117.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
130.00	w cm 30w 70m (oil spots)	0.73
20.00	oil 100o	0.28

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65208

**DST#: 2**

ATTN: Kit Noah

Test Start: 2019.04.01 @ 21:50:00

## Tool Information

Drill Pipe:	Length: 4092.00 ft	Diameter: 3.80 inches	Volume: 57.40 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: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.99 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4223.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4197.00	
Shut In Tool	5.00		Fluid	4202.00	
Hydraulic tool	5.00			4207.00	
Jars	5.00			4212.00	
Safety Joint	2.00			4214.00	
Packer	5.00		Inside	4219.00	27.00 Bottom Of Top Packer
Packer	4.00			4223.00	
Stubb	1.00			4224.00	
Recorder	0.00	8522	Inside	4224.00	
Recorder	0.00	8319	Outside	4224.00	
Perforations	33.00			4257.00	
Bullnose	3.00			4260.00	37.00 Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65208

**DST#: 2**

ATTN: Kit Noah

Test Start: 2019.04.01 @ 21:50:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

33000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	w cm 30w 70m (oil spots)	0.730
20.00	oil 100o	0.281

Total Length: 150.00 ft      Total Volume: 1.011 bbl

Num Fluid Samples: 0

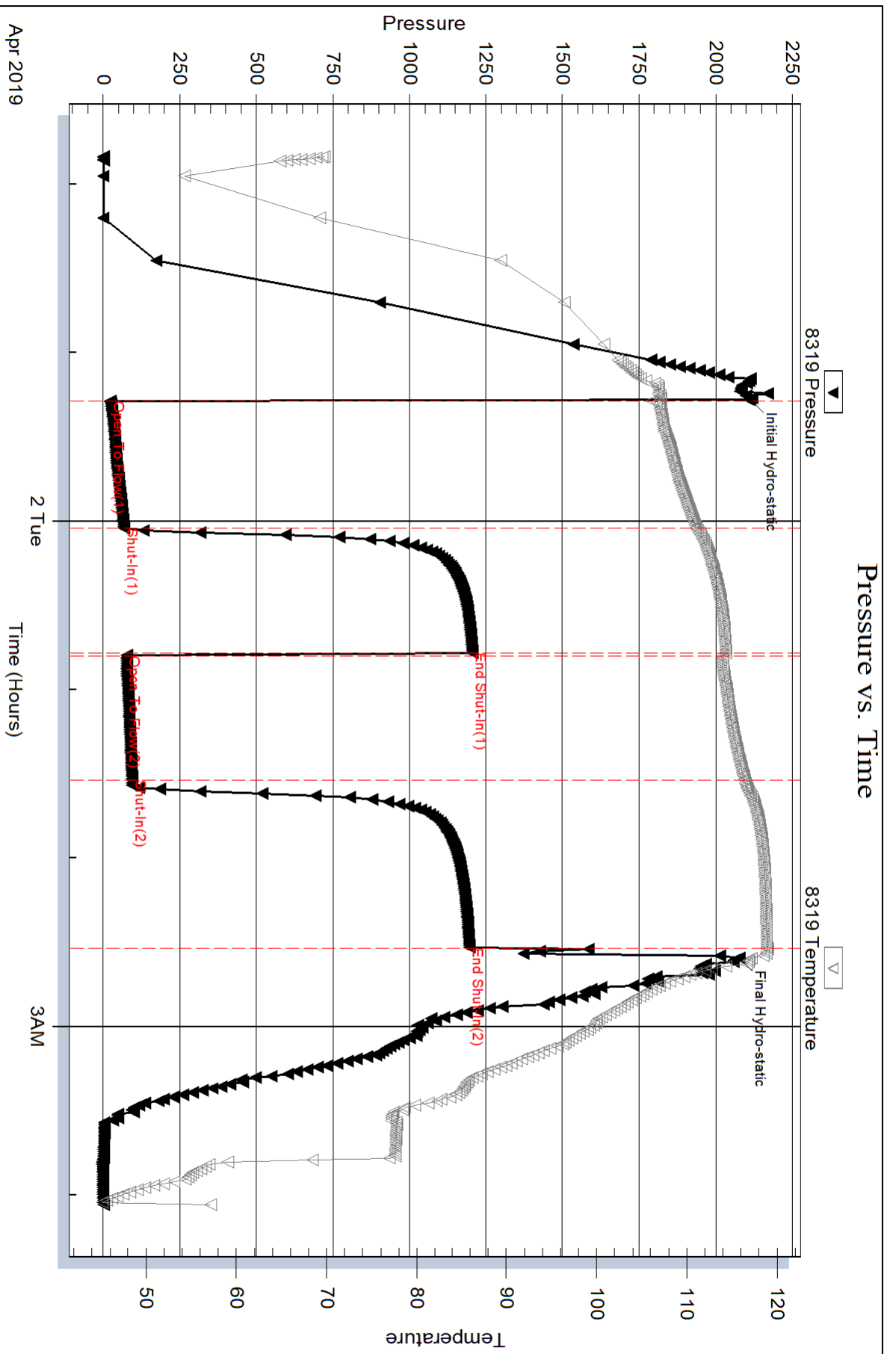
Num Gas Bombs: 0

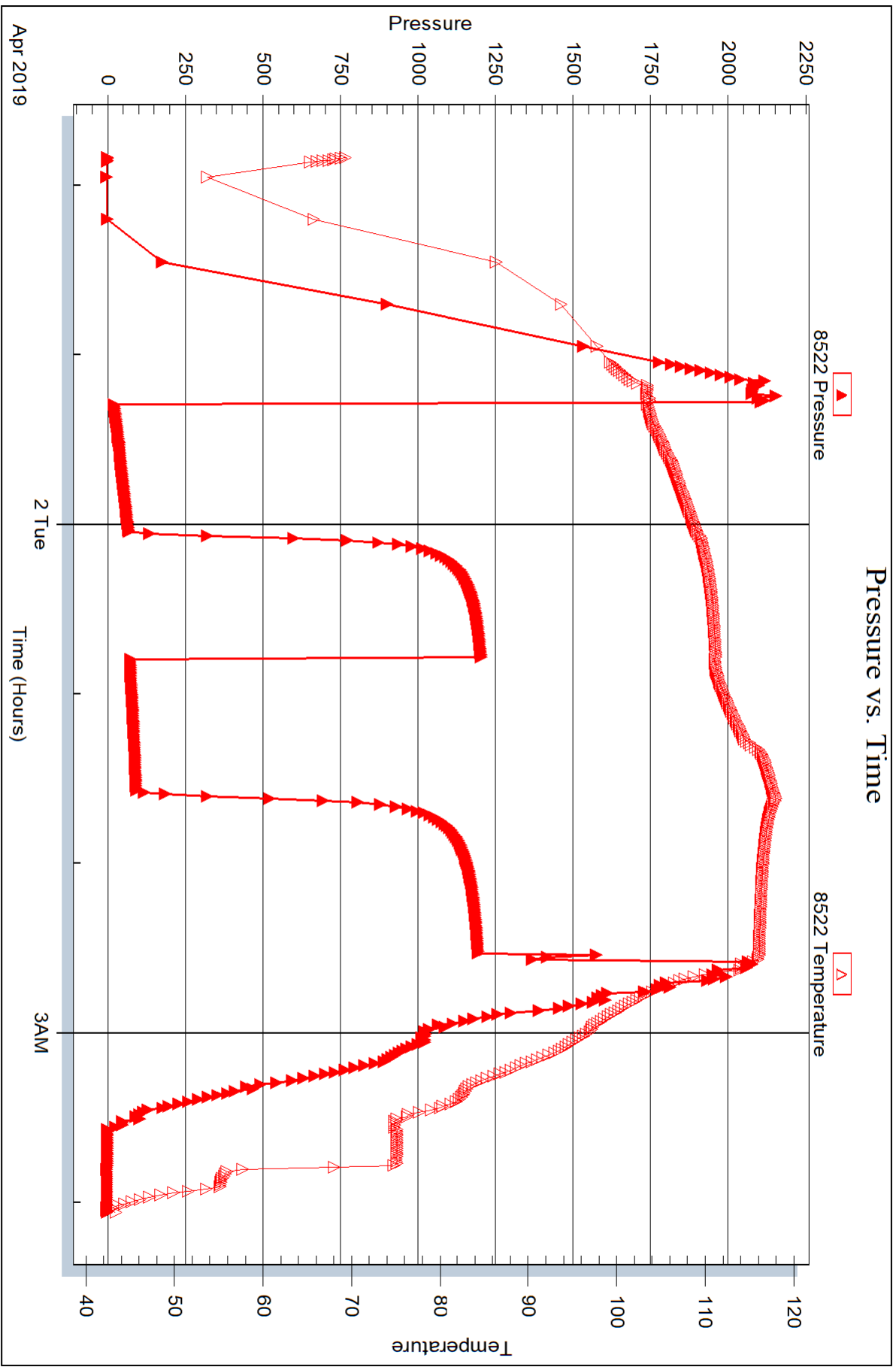
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .292 @ 50f = 33000ppm







## DRILL STEM TEST REPORT

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

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

ATTN: Kit Noah

### **Clark-Ochs #1-17**

### **17-12s-33w Logan,KS**

Start Date: 2019.04.02 @ 11:40:00

End Date: 2019.04.02 @ 18:21:00

Job Ticket #: 65209                      DST #: 3

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

Printed: 2019.04.09 @ 09:20:09



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co, Inc.  
10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206  
ATTN: Kit Noah

**17-12s-33w Logan,KS**  
**Clark-Ochs #1-17**  
Job Ticket: 65209      **DST#: 3**  
Test Start: 2019.04.02 @ 11:40:00

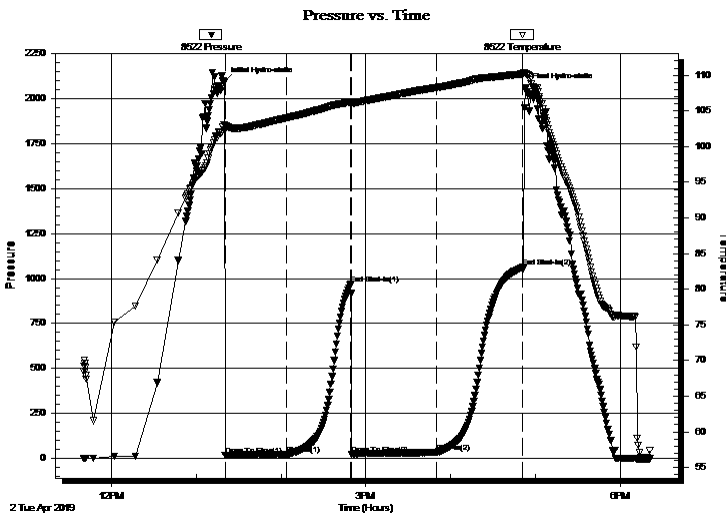
## GENERAL INFORMATION:

Formation: **LKC I**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 13:20:15  
Time Test Ended: 18:21:00  
Interval: **4264.00 ft (KB) To 4284.00 ft (KB) (TVD)**  
Total Depth: 4284.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Reference Elevations: 3152.00 ft (KB)  
3147.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Bradley Walter  
Unit No: 78

**Serial #: 8522      Inside**  
Press@RunDepth: 32.28 psig @ 4265.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2019.04.02      End Date: 2019.04.02      Last Calib.: 2019.04.02  
Start Time: 11:40:05      End Time: 18:20:59      Time On Btm: 2019.04.02 @ 13:20:00  
Time Off Btm: 2019.04.02 @ 16:53:15

**TEST COMMENT:** 45- IF: 3" blow .  
45- IS: Surface return.  
60- FF: 5" blow .  
60- FS: Surface return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2093.66	103.02	Initial Hydro-static
1	16.06	102.33	Open To Flow (1)
44	22.97	104.03	Shut-In(1)
90	968.21	106.23	End Shut-In(1)
90	21.90	106.00	Open To Flow (2)
150	32.28	108.26	Shut-In(2)
212	1063.05	110.19	End Shut-In(2)
214	2059.59	110.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	gocm 5g 15o 80m	0.07
30.00	go 15g 85o	0.15
0.00	135' GIP	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**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65209

**DST#: 3**

ATTN: Kit Noah

Test Start: 2019.04.02 @ 11:40:00

## Tool Information

Drill Pipe:	Length: 4126.00 ft	Diameter: 3.80 inches	Volume: 57.88 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: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 58.47 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4264.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	47.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4238.00	
Shut In Tool	5.00		Fluid	4243.00	
Hydraulic tool	5.00			4248.00	
Jars	5.00			4253.00	
Safety Joint	2.00			4255.00	
Packer	5.00		Inside	4260.00	27.00 Bottom Of Top Packer
Packer	4.00			4264.00	
Stubb	1.00			4265.00	
Recorder	0.00	8522	Inside	4265.00	
Recorder	0.00	8319	Outside	4265.00	
Perforations	16.00			4281.00	
Bullnose	3.00			4284.00	20.00 Bottom Packers & Anchor

**Total Tool Length: 47.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65209

**DST#: 3**

ATTN: Kit Noah

Test Start: 2019.04.02 @ 11:40:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	gocm 5g 15o 80m	0.074
30.00	go 15g 85o	0.148
0.00	135' GIP	0.000

Total Length: 45.00 ft      Total Volume: 0.222 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

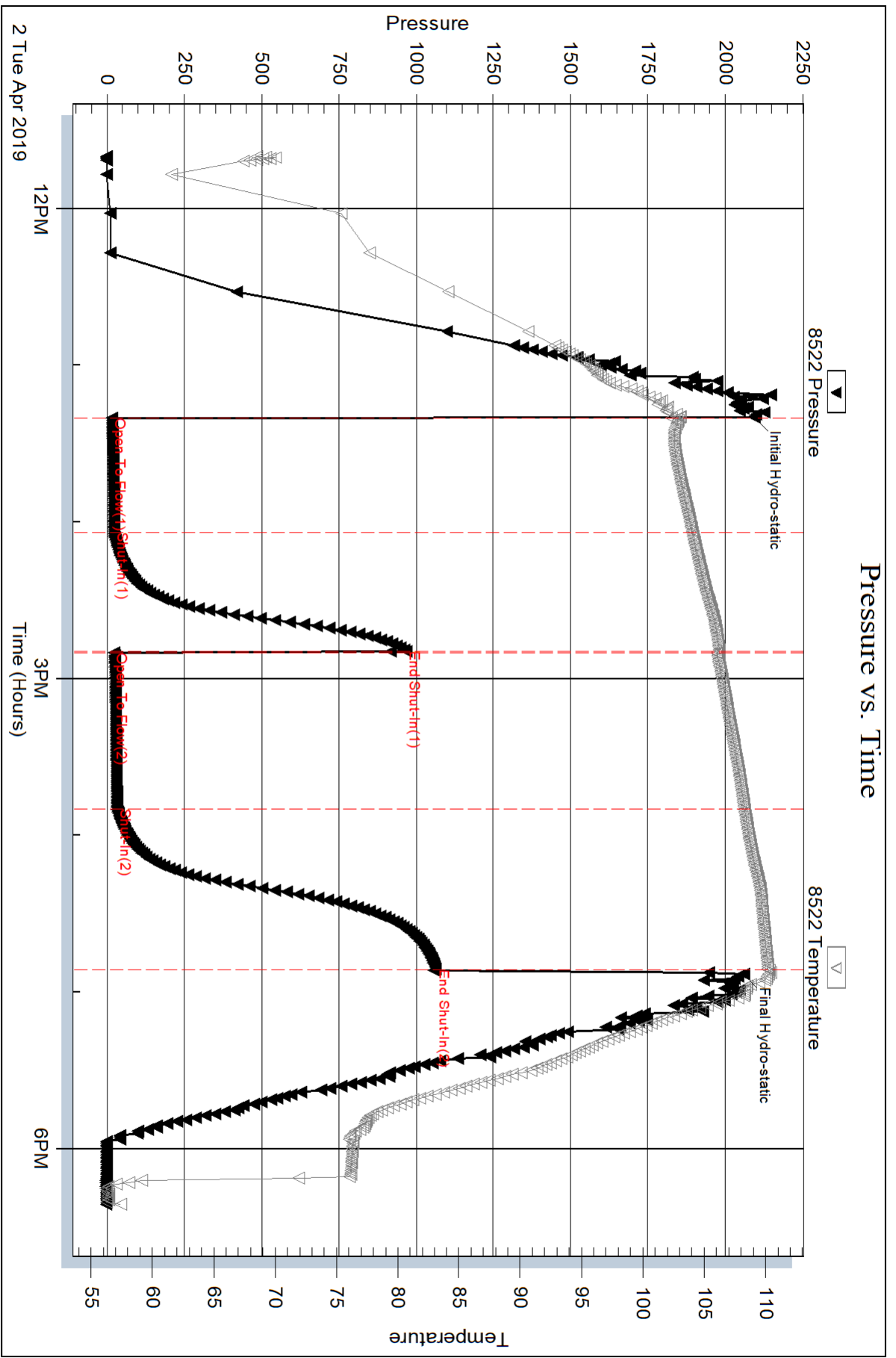
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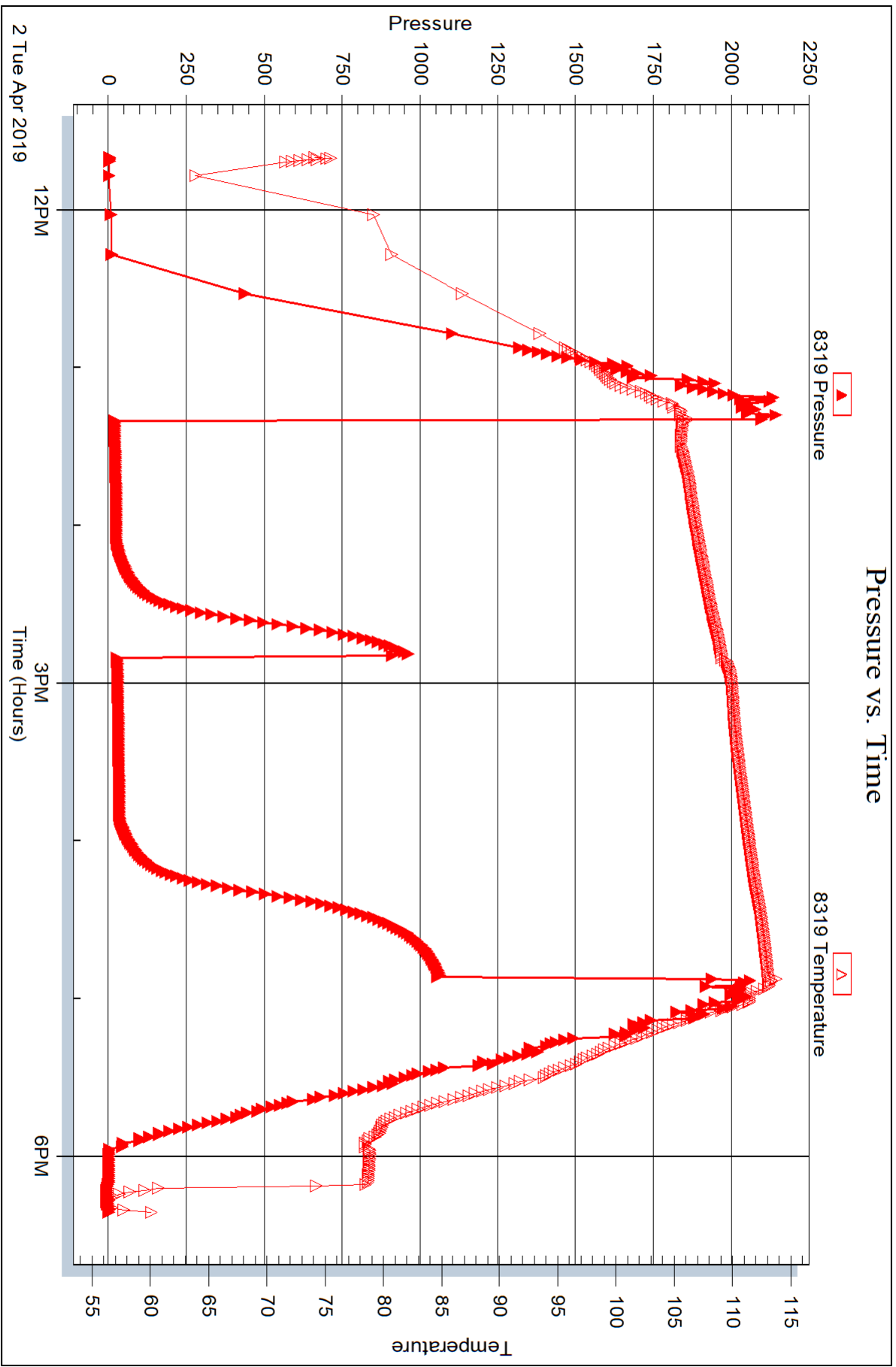
Inside

Hartman Oil Co, Inc.

Clark-Ochs #1-17

DST Test Number: 3







## DRILL STEM TEST REPORT

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

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

ATTN: Kit Noah

### **Clark-Ochs #1-17**

### **17-12s-33w Logan,KS**

Start Date: 2019.04.03 @ 00:22:00

End Date: 2019.04.03 @ 03:57:45

Job Ticket #: 65210                      DST #: 4

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

Printed: 2019.04.09 @ 09:19:38





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65210

**DST#: 4**

ATTN: Kit Noah

Test Start: 2019.04.03 @ 00:22:00

## Tool Information

Drill Pipe:	Length: 4157.00 ft	Diameter: 3.80 inches	Volume: 58.31 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: 35000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 58.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4286.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4260.00	
Shut In Tool	5.00		Fluid	4265.00	
Hydraulic tool	5.00			4270.00	
Jars	5.00			4275.00	
Safety Joint	2.00			4277.00	
Packer	5.00		Inside	4282.00	27.00 Bottom Of Top Packer
Packer	4.00			4286.00	
Stubb	1.00			4287.00	
Recorder	0.00	8522	Inside	4287.00	
Recorder	0.00	8319	Outside	4287.00	
Perforations	20.00			4307.00	
Bullnose	3.00			4310.00	24.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65210

**DST#: 4**

ATTN: Kit Noah

Test Start: 2019.04.03 @ 00:22:00

## 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: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	Mud 100m	0.590

Total Length: 120.00 ft      Total Volume: 0.590 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: mis-run

Serial #: 8522

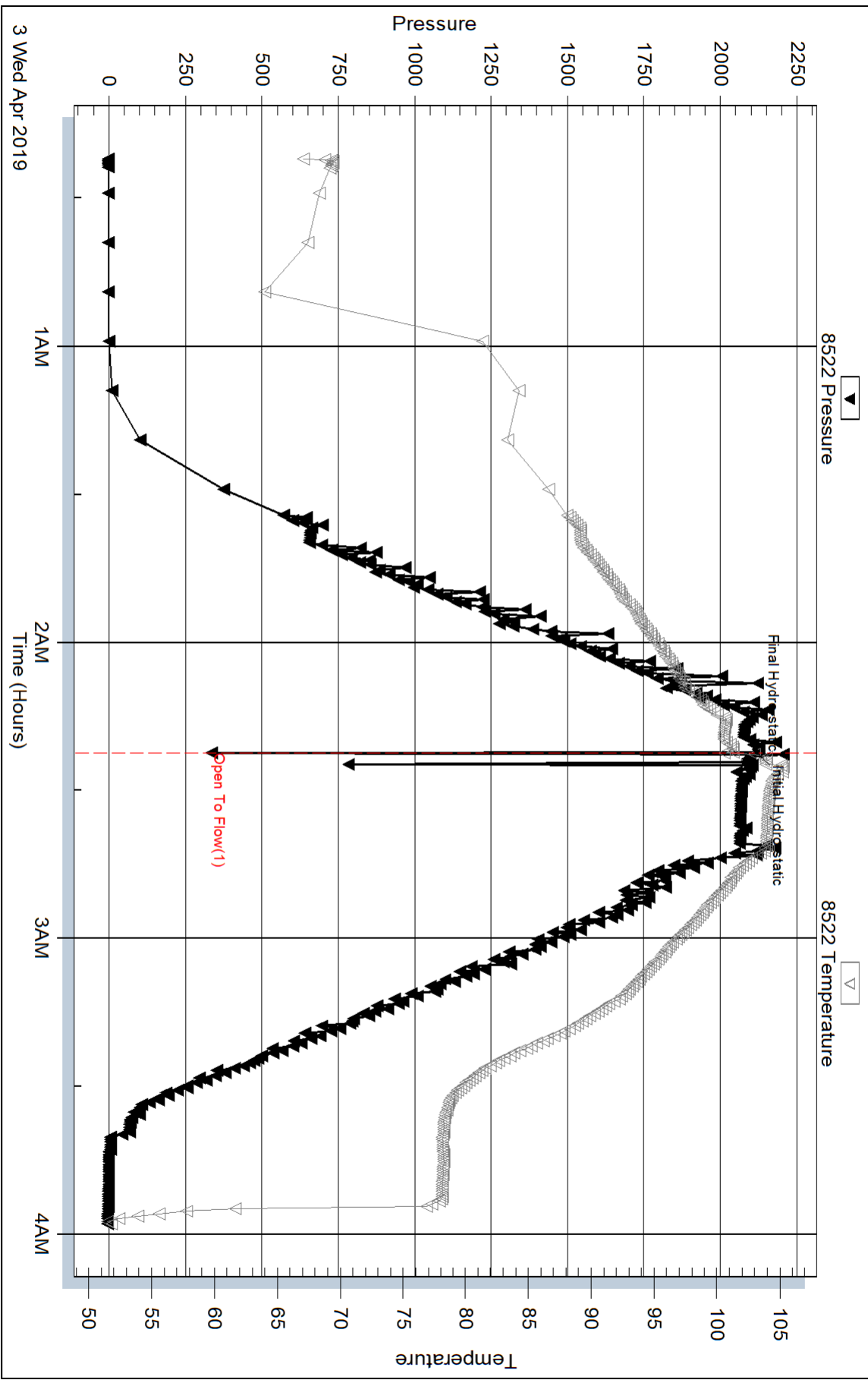
Inside

Hartman Oil Co, Inc.

Clark-Ochs #1-17

DST Test Number: 4

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 65210

Printed: 2019.04.09 @ 09:19:39



## DRILL STEM TEST REPORT

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

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

ATTN: Kit Noah

### **Clark-Ochs #1-17**

### **17-12s-33w Logan,KS**

Start Date: 2019.04.03 @ 04:11:00

End Date: 2019.04.03 @ 10:46:15

Job Ticket #: 65211                      DST #: 5

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

Printed: 2019.04.09 @ 09:19:10



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co, Inc.  
 10500 E Berkeley Sq Pkwy Ste 100  
 Wichita, KS 67206  
 ATTN: Kit Noah

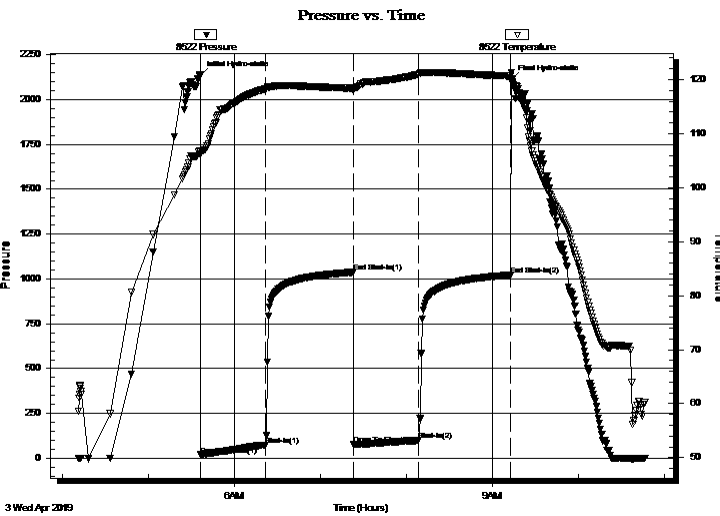
**17-12s-33w Logan,KS**  
**Clark-Ochs #1-17**  
 Job Ticket: 65211 **DST#: 5**  
 Test Start: 2019.04.03 @ 04:11:00

## GENERAL INFORMATION:

Formation: **LKC J**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:36:00  
 Time Test Ended: 10:46:15  
 Interval: **4284.00 ft (KB) To 4310.00 ft (KB) (TVD)**  
 Total Depth: 4310.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 78  
 Reference Elevations: 3152.00 ft (KB)  
 3147.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8522 Inside**  
 Press@RunDepth: 99.04 psig @ 4285.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.04.03 End Date: 2019.04.03 Last Calib.: 2019.04.03  
 Start Time: 04:11:05 End Time: 10:46:14 Time On Btm: 2019.04.03 @ 05:35:45  
 Time Off Btm: 2019.04.03 @ 09:13:15

TEST COMMENT: 45- IF: 6" blow .  
 60- IS: No return.  
 45- FF: 5" blow .  
 60- FS: No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2136.48	106.89	Initial Hydro-static
1	18.46	106.08	Open To Flow (1)
46	72.08	118.24	Shut-In(1)
107	1037.17	118.39	End Shut-In(1)
108	76.17	117.92	Open To Flow (2)
153	99.04	120.95	Shut-In(2)
217	1021.14	120.65	End Shut-In(2)
218	2111.49	119.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	mcw 15m 85w (oil speks in tool)	1.43

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65211

**DST#: 5**

ATTN: Kit Noah

Test Start: 2019.04.03 @ 04:11:00

## Tool Information

Drill Pipe:	Length: 4157.00 ft	Diameter: 3.80 inches	Volume: 58.31 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 58.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4284.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4258.00	
Shut In Tool	5.00		Fluid	4263.00	
Hydraulic tool	5.00			4268.00	
Jars	5.00			4273.00	
Safety Joint	2.00			4275.00	
Packer	5.00		Inside	4280.00	27.00 Bottom Of Top Packer
Packer	4.00			4284.00	
Stubb	1.00			4285.00	
Recorder	0.00	8522	Inside	4285.00	
Recorder	0.00	8319	Outside	4285.00	
Perforations	22.00			4307.00	
Bullnose	3.00			4310.00	26.00 Bottom Packers & Anchor

**Total Tool Length: 53.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65211

**DST#: 5**

ATTN: Kit Noah

Test Start: 2019.04.03 @ 04:11:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

66000 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	mcw 15m 85w (oil speks in tool)	1.432

Total Length: 180.00 ft      Total Volume: 1.432 bbl

Num Fluid Samples: 0

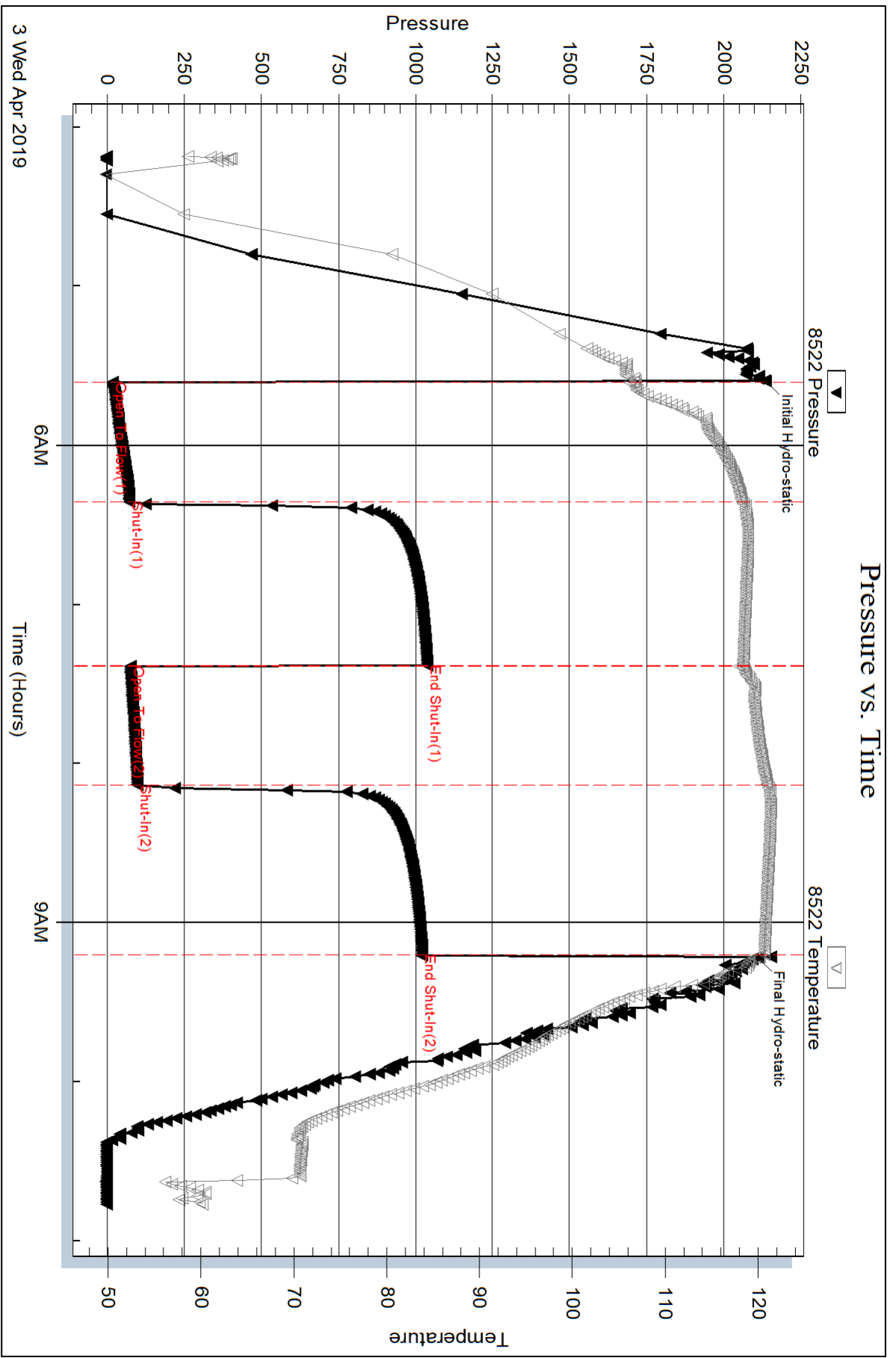
Num Gas Bombs: 0

Serial #:

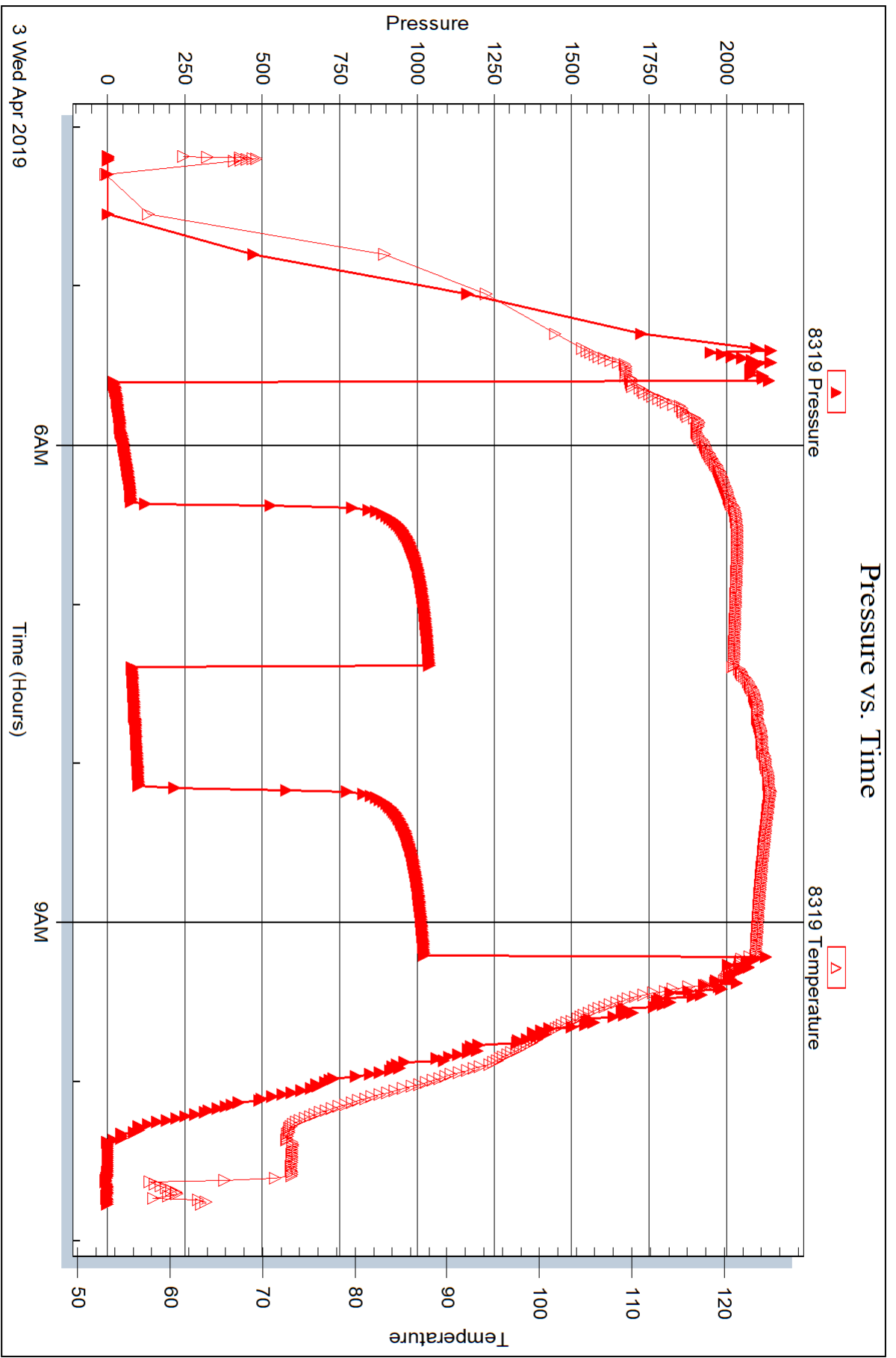
Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .153 @ 53f = 66,000ppm









## DRILL STEM TEST REPORT

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

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

ATTN: Kit Noah

### **Clark-Ochs #1-17**

### **17-12s-33w Logan,KS**

Start Date: 2019.04.04 @ 17:04:00

End Date: 2019.04.05 @ 00:41:45

Job Ticket #: 65212                      DST #: 6

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

Printed: 2019.04.09 @ 09:18:06

Hartman Oil Co, Inc. 17-12s-33w Logan,KS Clark-Ochs #1-17 DST # 6 F. Johnson 2019.04.04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co, Inc.  
 10500 E Berkeley Sq Pkw y Ste 100  
 Wichita, KS 67206  
 ATTN: Kit Noah

**17-12s-33w Logan,KS**  
**Clark-Ochs #1-17**  
 Job Ticket: 65212      **DST#: 6**  
 Test Start: 2019.04.04 @ 17:04:00

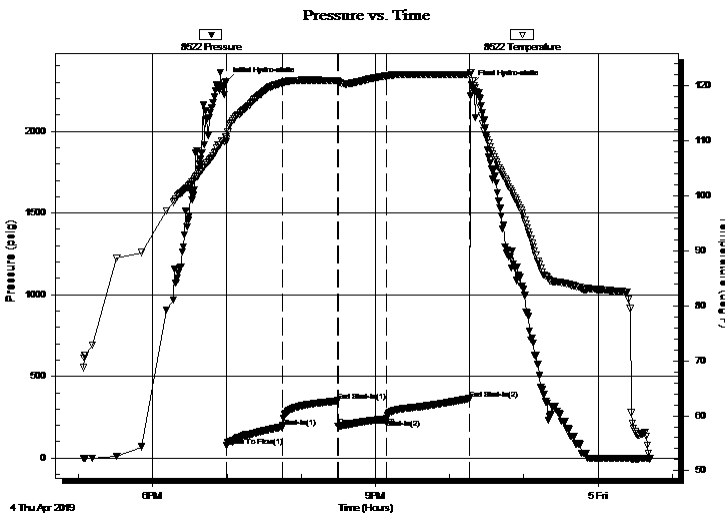
## GENERAL INFORMATION:

Formation: **F. Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:59:30  
 Time Test Ended: 00:41:45  
 Interval: **4583.00 ft (KB) To 4650.00 ft (KB) (TVD)**  
 Total Depth: 4650.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 78  
 Reference Elevations: 3152.00 ft (KB)  
 3147.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8522      Inside**  
 Press@RunDepth: 240.08 psig @ 4584.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2019.04.04      End Date: 2019.04.05      Last Calib.: 2019.04.05  
 Start Time: 17:04:05      End Time: 00:41:44      Time On Btm: 2019.04.04 @ 18:59:15  
 Time Off Btm: 2019.04.04 @ 22:17:45

**TEST COMMENT:** 45- IF: BOB @ 4 1/2 min. built to 66".  
 45- IS: BOB @ 27 min built to 13".  
 45- FF: BOB @ 12 min built to 31".  
 60- FSI: 10" return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2304.30	110.72	Initial Hydro-static
1	74.62	109.88	Open To Flow (1)
46	190.17	120.51	Shut-In(1)
90	350.16	120.91	End Shut-In(1)
91	196.70	120.78	Open To Flow (2)
130	240.08	121.80	Shut-In(2)
197	363.46	122.02	End Shut-In(2)
199	2286.66	122.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
370.00	gmco 30g 25m 45o	4.10
200.00	go 20g 80o	2.81
0.00	500' GIP	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**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65212

**DST#: 6**

ATTN: Kit Noah

Test Start: 2019.04.04 @ 17:04:00

## Tool Information

Drill Pipe:	Length: 4443.00 ft	Diameter: 3.80 inches	Volume: 62.32 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 62.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 69000.00 lb
Depth to Top Packer:	4583.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	94.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4557.00	
Shut In Tool	5.00		Fluid	4562.00	
Hydraulic tool	5.00			4567.00	
Jars	5.00			4572.00	
Safety Joint	2.00			4574.00	
Packer	5.00		Inside	4579.00	27.00 Bottom Of Top Packer
Packer	4.00			4583.00	
Stubb	1.00			4584.00	
Recorder	0.00	8522	Inside	4584.00	
Recorder	0.00	8319	Outside	4584.00	
Perforations	30.00			4614.00	
Change Over Sub	1.00			4615.00	
Drill Pipe	31.00			4646.00	
Change Over Sub	1.00			4647.00	
Bullnose	3.00			4650.00	67.00 Bottom Packers & Anchor

**Total Tool Length: 94.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co, Inc.

**17-12s-33w Logan,KS**

10500 E Berkeley Sq Pkwy Ste 100  
Wichita, KS 67206

**Clark-Ochs #1-17**

Job Ticket: 65212

**DST#: 6**

ATTN: Kit Noah

Test Start: 2019.04.04 @ 17:04:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
370.00	gmco 30g 25m 45o	4.097
200.00	go 20g 80o	2.805
0.00	500' GIP	0.000

Total Length: 570.00 ft

Total Volume: 6.902 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

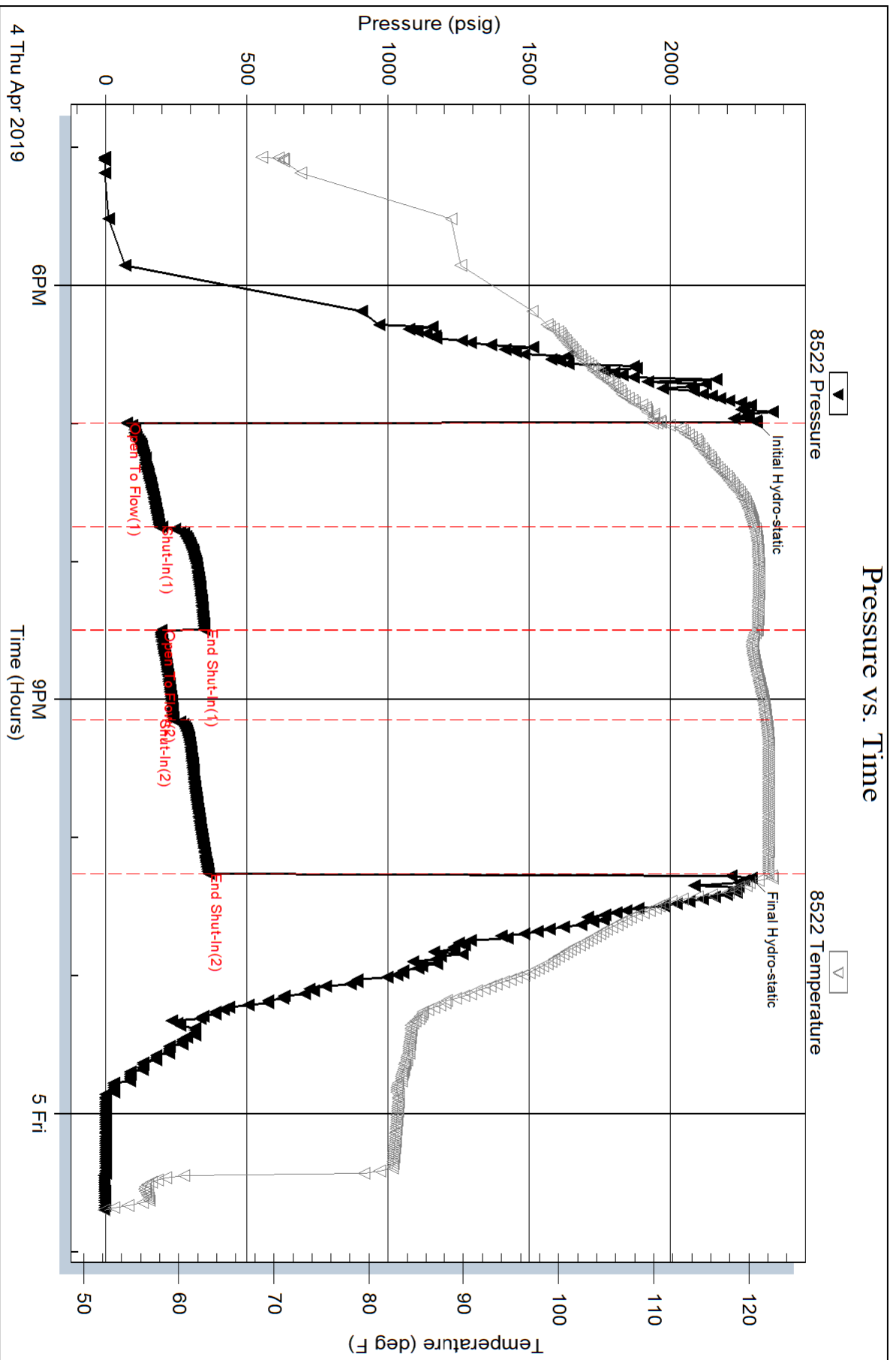
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

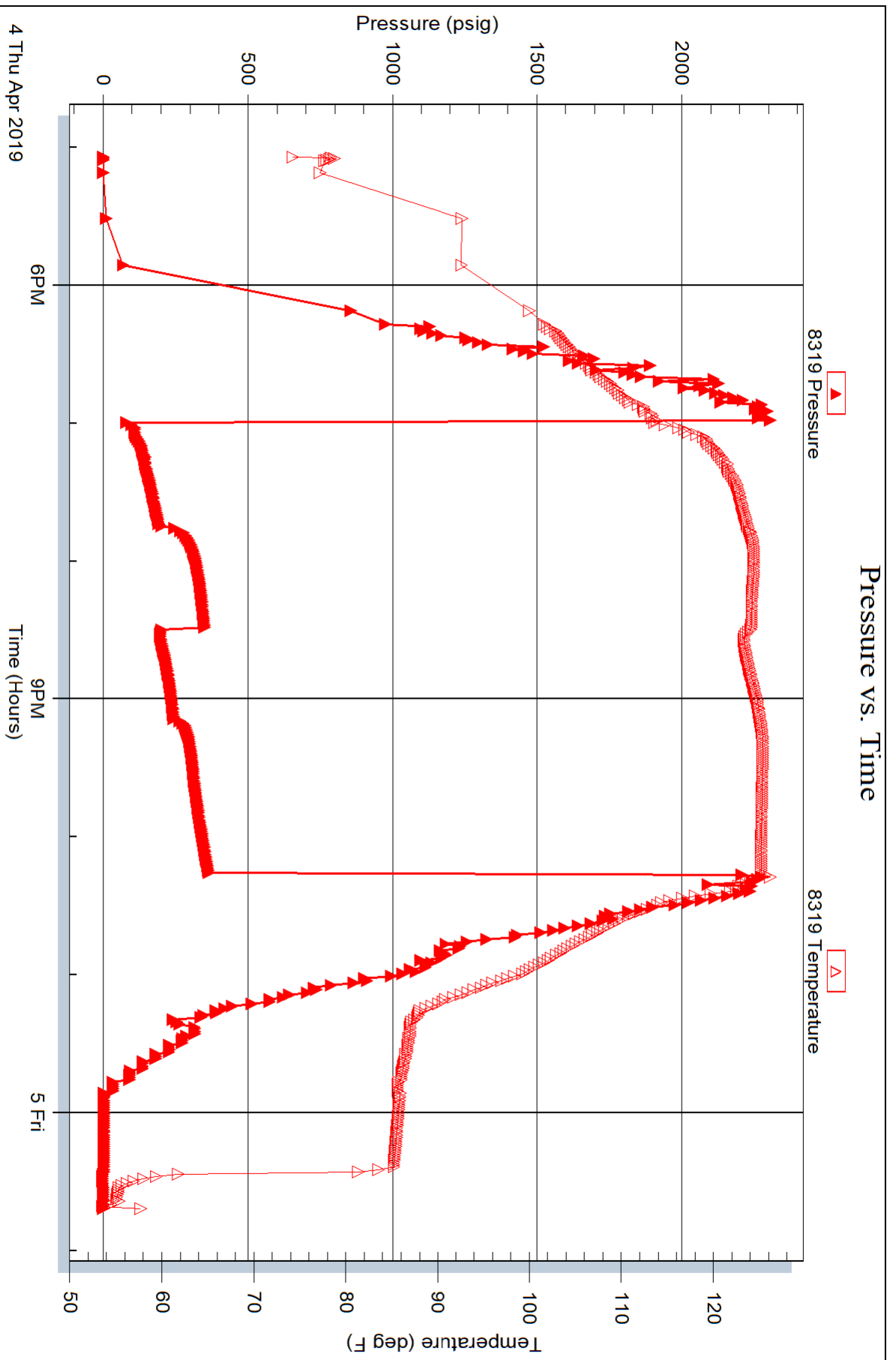


Serial #: 8319

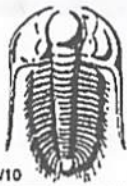
Outside Hartman Oil Co, Inc.

Clark-Ochs #1-17

DST Test Number: 6







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65207

Well Name & No. Clark Ochs #17-17 v-17 Test No. 1 Date 4/01/2019  
 Company Hartman Oil Co, Inc Elevation 3152 KB 3147 GL  
 Address 10500 E Berkeley Sq Pkwy Ste 100 #72 Wichita, KS 67206  
 Co. Rep / Geo. Kit Noah Rig WW #10  
 Location: Sec. 17 Twp 12s Rge. 33w Co. Logan State Kc

Interval Tested 4145 4165 Zone Tested LKC R  
 Anchor Length 20 Drill Pipe Run 40 30' Mud Wt. 9.2  
 Top Packer Depth \*4140 Drill Collars Run 120 Vis 62  
 Bottom Packer Depth 4145 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4165 Chlorides 2,000 ppm System LCM 1#  
 Blow Description IF 1/4" blow  
ISI No return  
FF No blow  
FT No return

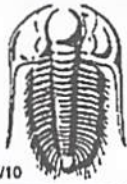
Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Mod</u>			<u>100</u>	
	<u>puddle of oil on top</u>				

Rec Total 3 BHT 110 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2073</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>0530</u>
(B) First Initial Flow <u>14</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0602</u>
(C) First Final Flow <u>16</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0802</u>
(D) Initial Shut-In <u>30</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1002</u>
(E) Second Initial Flow <u>15</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1131</u>
(F) Second Final Flow <u>17</u>	<input checked="" type="checkbox"/> Mileage <u>100 R+ 100</u>	Comments
(G) Final Shut-In <u>29</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2057</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1725</u>
	Sub Total <u>1725</u>	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. **65208**

Well Name & No. Clark-Ochs #1-17 Test No. 2 Date 4/02/2019  
 Company Hartman O.I. Co, Inc Elevation 3152 KB 3147 GL  
 Address 10500 E Bertely Sa Hwy Ste 100 Wichita, Ks 67208  
 Co. Rep / Geo. Kit Noah Rig WW#10  
 Location: Sec. 17 Twp 12S Rge. 33W Co. Logan State KS

Interval Tested 4223-4260 Zone Tested LKC H  
 Anchor Length 37' Drill Pipe Run 4092 Mud Wt. 9.2  
 Top Packer Depth 4218 Drill Collars Run 120 Vis 52  
 Bottom Packer Depth 4223 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4260 Chlorides 2,000 ppm System LCM 1#

Blow Description IF: 6" blow  
IST: No return  
FF: 4 1/2" blow  
PST: No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Oil</u>	<u>100</u>			
<u>130</u>	<u>wcm (oil seeds)</u>		<u>30</u>	<u>70</u>	

Rec Total 150 BHT 119 Gravity 24 API RW 292 @ 50 °F Chlorides 33,000 ppm  
 Test 1300 T-On Location 2130  
 Jars 250 T-Started 2150  
 Safety Joint 75 T-Open 2317  
 Circ Sub N/C T-Pulled 0232  
 Hourly Standby T-Out 0404  
 Mileage 100K+ 100 Comments \_\_\_\_\_  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1725 MP/DST Disc \_\_\_\_\_

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 60

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. **65209**

Well Name & No. Clark-Ochs #1-17 Test No. 3 Date 4/2/2019  
 Company Hartman Oil Co, Inc Elevation 3152 KB 3147 GL  
 Address 10500 E Berkeley Sq Pkwy Ste 100 Wichita, Ks 67206  
 Co. Rep / Geo. Kit Noah Rig WW #10  
 Location: Sec. 17 Twp 12S Rge. 33W Co. Logan State Ks

Interval Tested 4264 - 4284 Zone Tested LKC I  
 Anchor Length 20' Drill Pipe Run 4126 Mud Wt. 9.1  
 Top Packer Depth 4259 Drill Collars Run 120 Vis 67  
 Bottom Packer Depth 4264 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4284 Chlorides 2500 ppm System LCM 1#

Blow Description IF: 3" blow  
ISI: surface return  
FF: 5" blow  
FST: No return

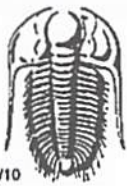
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>60</u>	<u>15</u>	<u>85</u>		
<u>15</u>	<u>600m</u>	<u>5</u>	<u>15</u>		<u>80</u>
	<u>135' GIP</u>				

Rec Total 45' BHT 110 Gravity 39 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2094</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>1190</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1220</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1320</u>
(D) Initial Shut-In <u>968</u>	<input checked="" type="checkbox"/> Circ Sub <u>AKC</u>	T-Pulled <u>1650</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1821</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>1000+</u> <u>100</u>	Comments
(G) Final Shut-In <u>1063</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2060</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	Total <u>1725</u>
	Sub Total <u>1725</u>	MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Kit Noah

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. 65210

Well Name & No. Clark-Ochs #1-17 Test No. 4 Date 4/03/2019  
 Company Hartman Oil Co, Inc Elevation 3152 KB 5147 GL  
 Address 10500 E Berkeley Sq Plzwy Ste 100 Wichita KS 67206  
 Co. Rep / Geo. Kit Noah Rig WW 10  
 Location: Sec. 17 Twp 12s Rge. S3W Co. Logan State Ks

Interval Tested 4286-4310 Zone Tested LKC 5  
 Anchor Length 24' Drill Pipe Run 4152 Mud Wt. 9.2  
 Top Packer Depth 4281 Drill Collars Run 120 Vis 67  
 Bottom Packer Depth 4286 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4310 Chlorides 2500 ppm System LCM 1#

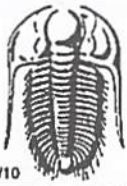
Blow Description MIS-RUN

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

Rec Total \_\_\_\_\_ BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2117  Test 1150 T-On Location 2345 4/02  
 (B) First Initial Flow MF  Jars 250 T-Started 0022  
 (C) First Final Flow FS  Safety Joint 75 T-Open 0222  
 (D) Initial Shut-In RUN  Circ Sub 41/c T-Pulled 0245  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_ T-Out 0358  
 (F) Second Final Flow \_\_\_\_\_  Mileage 100 100 Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2103  Straddle \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1575  
 Sub Total 1575 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. **65211**

Well Name & No. Clark Ochs #1-17 Test No. 5 Date 4/03/2019  
 Company Hurtman Oil Co Inc Elevation 3152 KB 3147 GL  
 Address 10500 E Berkeley Sq Pkwy Ste 100 Wichita, KS 67206  
 Co. Rep / Geo. Kit Noah Rig WV 10  
 Location: Sec. 17 Twp 12S Rge. 32W Co. Logan State KS

Interval Tested 4284-4310 Zone Tested LKC J  
 Anchor Length 26' Drill Pipe Run 4157 Mud Wt. 92  
 Top Packer Depth 4279 Drill Collars Run 120 Vis 67  
 Bottom Packer Depth 4284 Wt. Pipe Run Ø WL 88  
 Total Depth 4310 Chlorides 2500 ppm System LCM 14

Blow Description IF 6" blow  
TSI no return.  
FF 5" blow  
FSI no return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>180</u>	<u>ncw</u>		<u>85</u>	<u>15</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>oil spikes in tool</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 180 BHT 120 Gravity — API RW 153 @ 53 °F Chlorides 66,000 ppm  
 (A) Initial Hydrostatic 2130  Test 1300 T-On Location 0400  
 (B) First Initial Flow 18  Jars 250 T-Started 0411  
 (C) First Final Flow 72  Safety Joint 75 T-Open 0537  
 (D) Initial Shut-In 1037  Circ Sub 4/c T-Pulled 0907  
 (E) Second Initial Flow 76  Hourly Standby \_\_\_\_\_ T-Out 1046  
 (F) Second Final Flow 99  Mileage 100 Comments \_\_\_\_\_  
 (G) Final Shut-In 1021  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2111  Straddle \_\_\_\_\_

Initial Open 45  Shale Packer 250  EM Tool \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Shut-In 60  Day Standby \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Sub Total 1875  Accessibility \_\_\_\_\_ Sub Total 0  
 Total 1875  MP/DST Disc't \_\_\_\_\_

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

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65212

Well Name & No. Clark Ochs # 1-17 Test No. 6 Date 4/04/2019  
 Company Hartman Oil Co, Inc Elevation 3152 KB 3/45 BGL  
 Address 10500 E Bakely Sq Pkwy Ste 100 Wichita, Ks 67206.  
 Co. Rep / Geo. Kit Noah Rig WW #10  
 Location: Sec. 17 Twp 12S Rge. 32W Co. Logan State Ks

Interval Tested 4583 4650 Zone Tested F. Johnson  
 Anchor Length 67 Drill Pipe Run 4443 Mud Wt. 9.7  
 Top Packer Depth 4578 Drill Collars Run 120 Vls 57  
 Bottom Packer Depth 4583 Wt. Pipe Run 0 WL 77  
 Total Depth 4650 Chlorides 4000 ppm System LCM 1#  
 Blow Description IF BOB @ 4 1/2 min. Built to 66"  
ISI BOB return @ 27 min. Built to 13"  
FF BOB @ 12 min. Built to 31"  
ISI 10" return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>60</u>	<u>20</u>	<u>80</u>		
<u>370</u>	<u>G.M.C.O</u>	<u>30</u>	<u>45</u>		<u>25</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 570 BHT 122 Gravity 28 API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 2304  Test 1300 T-On Location 1645  
 (B) First Initial Flow 75  Jars 250 T-Started 17:15  
 (C) First Final Flow 190  Safety Joint 75 T-Open 19:00  
 (D) Initial Shut-In 350  Circ Sub 4/c T-Pulled 22:15  
 (E) Second Initial Flow 197  Hourly Standby — T-Out 0042  
 (F) Second Final Flow 240  Mileage 100 R + 2 100+100 Comments —  
 (G) Final Shut-In 363  Sampler —  
 (H) Final Hydrostatic 2287  Straddle —  
 Shale Packer 250  EM Tool —  
 Extra Packer —  Ruined Shale Packer —  
 Extra Recorder —  Ruined Packer —  
 Day Standby — Sub Total 0  
 Accessibility — Total 2075  
 Sub Total 2075 MP/DST Disc't —

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