



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1267706  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx)      (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1267706

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	H & C Oil Operating Inc.
Well Name	Hobbs Unit 19-1
Doc ID	1267706

All Electric Logs Run

Micro Resistivity
Dual Induction
Compensated Density Neutron
Borehole Compensated Sonic
Sector Cement Bond



Conservation Division  
266 N. Main St., Ste. 220  
Wichita, KS 67202-1513



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Shari Feist Albrecht, Chair  
Jay Scott Emler, Commissioner  
Pat Apple, Commissioner

Sam Brownback, Governor

January 06, 2016

Charles R. Ramsay  
H & C Oil Operating Inc.  
PO BOX 86  
PLAINVILLE, KS 67663-0086

Re: ACO-1  
API 15-065-24105-00-00  
Hobbs Unit 19-1  
NE/4 Sec.19-10S-24W  
Graham County, Kansas

Dear Charles R. Ramsay:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 08/28/2015 and the ACO-1 was received on January 06, 2016 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc.**

PO Box 86  
Plainville KS 6663

ATTN: Marc Downing

### **Hobbs Unit #19-1**

#### **19-10s-24w Graham,KS**

Start Date: 2015.08.31 @ 22:10:00

End Date: 2015.09.01 @ 09:01:15

Job Ticket #: 64717                      DST #: 1

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

Printed: 2015.09.04 @ 12:01:37

H&C Oil Operating Inc.  
19-10s-24w Graham,KS  
Hobbs Unit #19-1  
DST # 1  
LKC "C"  
2015.08.31



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64717

**DST#: 1**

ATTN: Marc Downing

Test Start: 2015.08.31 @ 22:10:00

## GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:23:15

Time Test Ended: 09:01:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Brett Dickinson

Unit No: 81

**Interval: 3726.00 ft (KB) To 3746.00 ft (KB) (TVD)**

Reference Elevations: 3395.00 ft (KB)

Total Depth: 3746.00 ft (KB) (TVD)

3390.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8957 Outside**

Press@RunDepth: 165.45 psig @ 3727.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.31

End Date: 2015.09.01

Last Calib.: 2015.09.01

Start Time: 22:10:05

End Time: 09:01:15

Time On Btm: 2015.09.01 @ 04:22:45

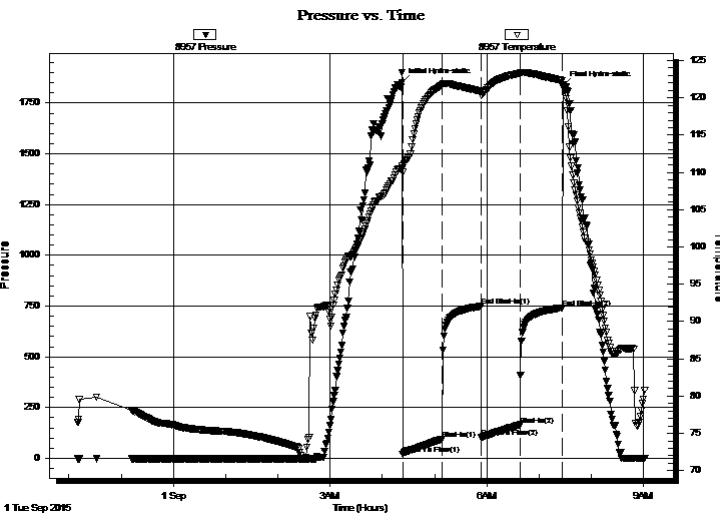
Time Off Btm: 2015.09.01 @ 07:27:30

TEST COMMENT: IF-BOB in 40 min

IS-No blow

FF-4" blow

FS-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1850.21	110.84	Initial Hydro-static
1	18.39	110.01	Open To Flow (1)
46	94.49	121.72	Shut-In(1)
91	749.16	120.84	End Shut-In(1)
91	102.53	120.37	Open To Flow (2)
136	165.45	123.27	Shut-In(2)
184	741.16	122.32	End Shut-In(2)
185	1837.68	121.39	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
319.00	SMCW 10%M 90%W	4.20
1.00	Free Oil	0.01

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64717

**DST#: 1**

ATTN: Marc Downing

Test Start: 2015.08.31 @ 22:10:00

## Tool Information

Drill Pipe:	Length: 3679.00 ft	Diameter: 3.80 inches	Volume: 51.61 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	45000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial	43000.00 lb
Depth to Top Packer:	3726.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	40.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3711.00	
Hydraulic tool	5.00			3716.00	
Packer	5.00			3721.00	20.00 Bottom Of Top Packer
Packer	5.00			3726.00	
Stubb	1.00			3727.00	
Recorder	0.00	8736	Inside	3727.00	
Recorder	0.00	8957	Outside	3727.00	
Perforations	16.00			3743.00	
Bullnose	3.00			3746.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>40.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64717

**DST#: 1**

ATTN: Marc Downing

Test Start: 2015.08.31 @ 22:10:00

### 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:

64000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
319.00	SMCW 10%M 90%W	4.201
1.00	Free Oil	0.014

Total Length: 320.00 ft

Total Volume: 4.215 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

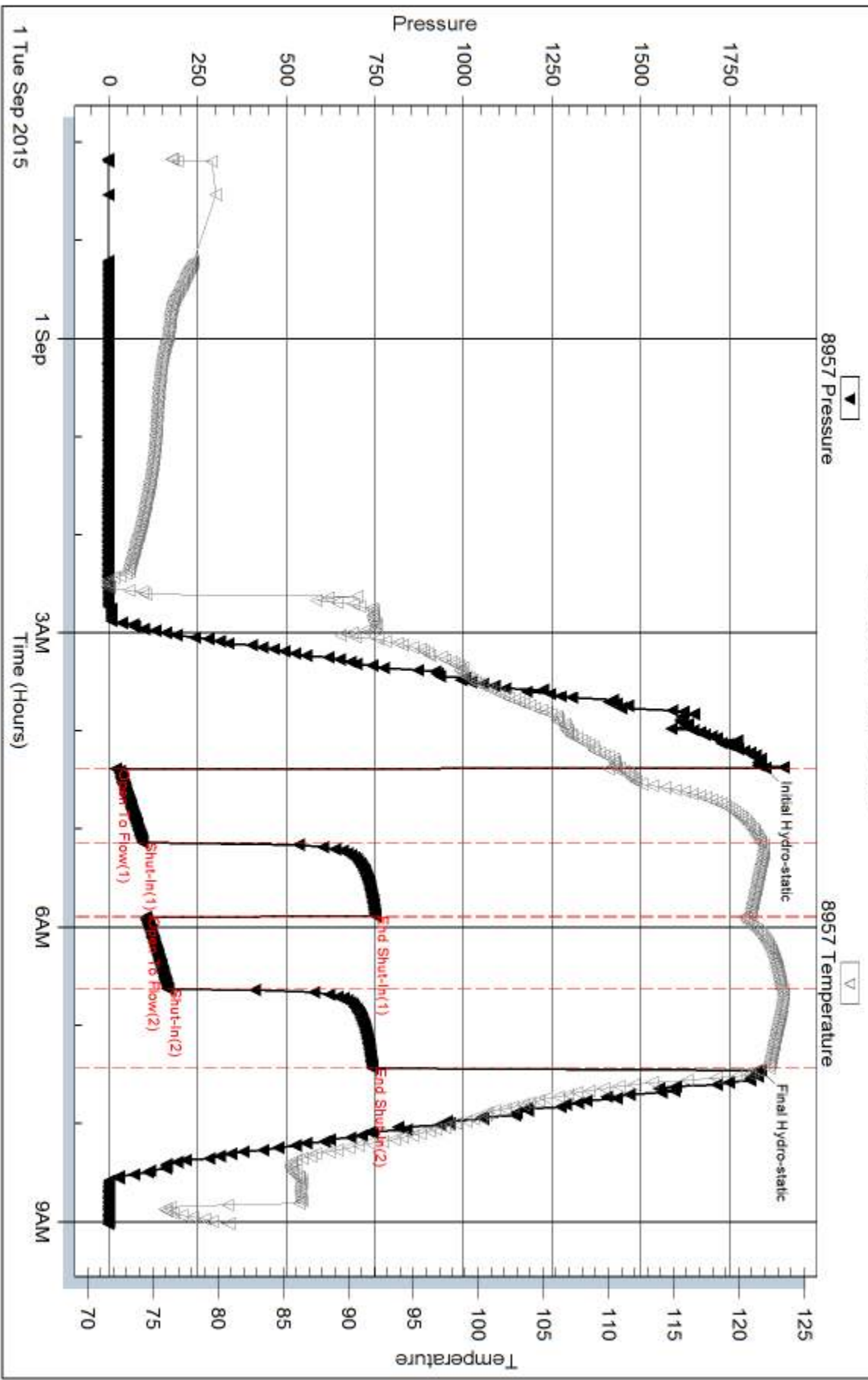
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



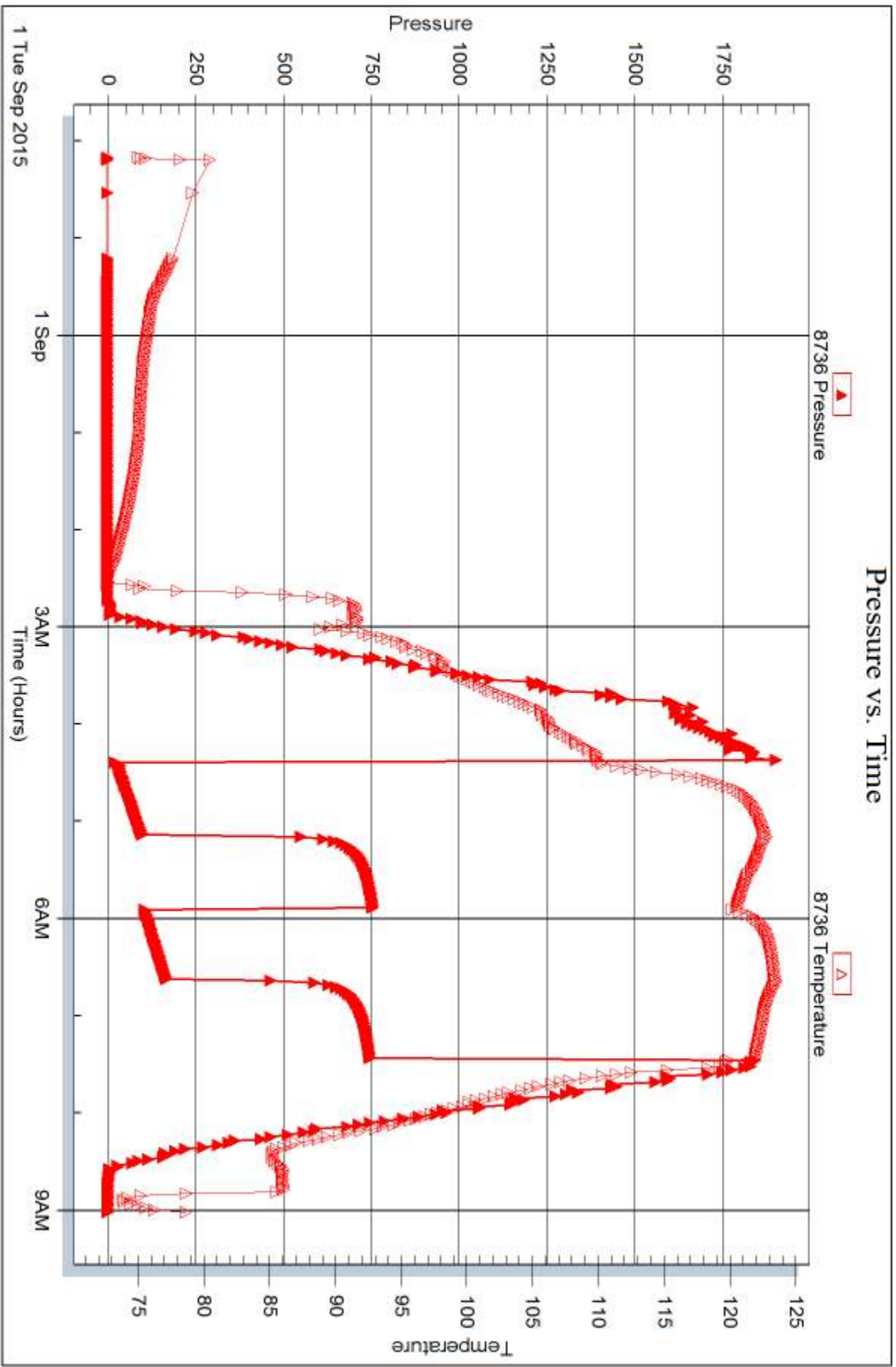
Serial #: 8736

Inside

H&C Oil Operating Inc.

Hobbs Unit #19-1

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 64717

Printed: 2015.09.04 @ 12:01:39



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc.**

PO Box 86  
Plainville KS 6663

ATTN: Marc Downing

### **Hobbs Unit #19-1**

#### **19-10s-24w Graham,KS**

Start Date: 2015.09.01 @ 16:30:00

End Date: 2015.09.01 @ 23:56:38

Job Ticket #: 64718                      DST #: 2

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

Printed: 2015.09.04 @ 12:00:43



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64718

**DST#: 2**

ATTN: Marc Downing

Test Start: 2015.09.01 @ 16:30:00

## GENERAL INFORMATION:

Formation: **LKC"D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:10:53

Time Test Ended: 23:56:38

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 81

**Interval: 3745.00 ft (KB) To 3770.00 ft (KB) (TVD)**

Reference Elevations: 3395.00 ft (KB)

Total Depth: 3770.00 ft (KB) (TVD)

3390.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8957 Outside**

Press@RunDepth: 292.36 psig @ 3746.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.09.01

End Date:

2015.09.01

Last Calib.: 2015.09.02

Start Time: 16:30:05

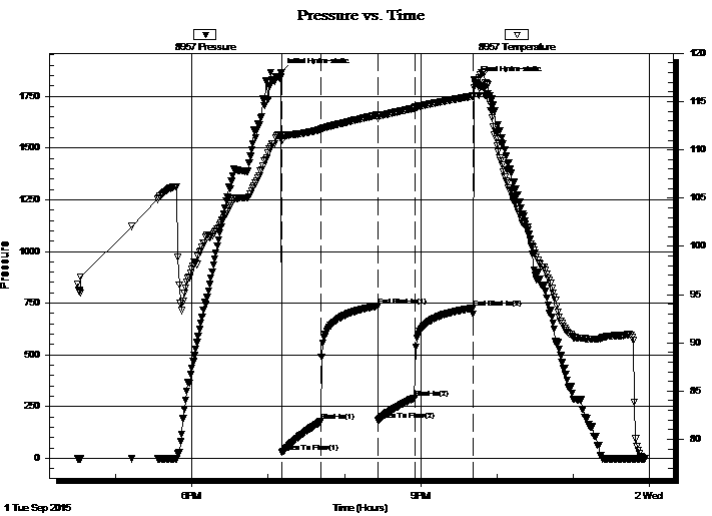
End Time:

23:56:37

Time On Btm: 2015.09.01 @ 19:10:08

Time Off Btm: 2015.09.01 @ 21:41:53

TEST COMMENT: IF-BOB in 8 min  
IS-No blow  
FF-BOB in 17 min  
FS-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1865.62	111.53	Initial Hydro-static
1	28.82	110.93	Open To Flow (1)
32	178.30	112.11	Shut-In(1)
76	736.04	113.63	End Shut-In(1)
76	184.19	113.30	Open To Flow (2)
105	292.36	114.33	Shut-In(2)
151	726.15	115.57	End Shut-In(2)
152	1828.78	116.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
684.00	VSMCW 95%W 5%M	9.32
1.00	Free Oil	0.01

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64718

**DST#: 2**

ATTN: Marc Downing

Test Start: 2015.09.01 @ 16:30:00

## Tool Information

Drill Pipe:	Length: 3710.00 ft	Diameter: 3.80 inches	Volume: 52.04 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	42000.00 lb
Drill Pipe Above KB:	15.00 ft			Final	4800.00 lb
Depth to Top Packer:	3745.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	45.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3730.00	
Hydraulic tool	5.00			3735.00	
Packer	5.00			3740.00	20.00 Bottom Of Top Packer
Packer	5.00			3745.00	
Stubb	1.00			3746.00	
Recorder	0.00	8736	Inside	3746.00	
Recorder	0.00	8957	Outside	3746.00	
Perforations	21.00			3767.00	
Bullnose	3.00			3770.00	25.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64718

**DST#: 2**

ATTN: Marc Downing

Test Start: 2015.09.01 @ 16:30:00

## 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: 56.00 sec/qt

Cushion Volume: bbl

Water Loss: 7.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 1300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
684.00	VSMCW 95%W 5%M	9.321
1.00	Free Oil	0.014

Total Length: 685.00 ft      Total Volume: 9.335 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

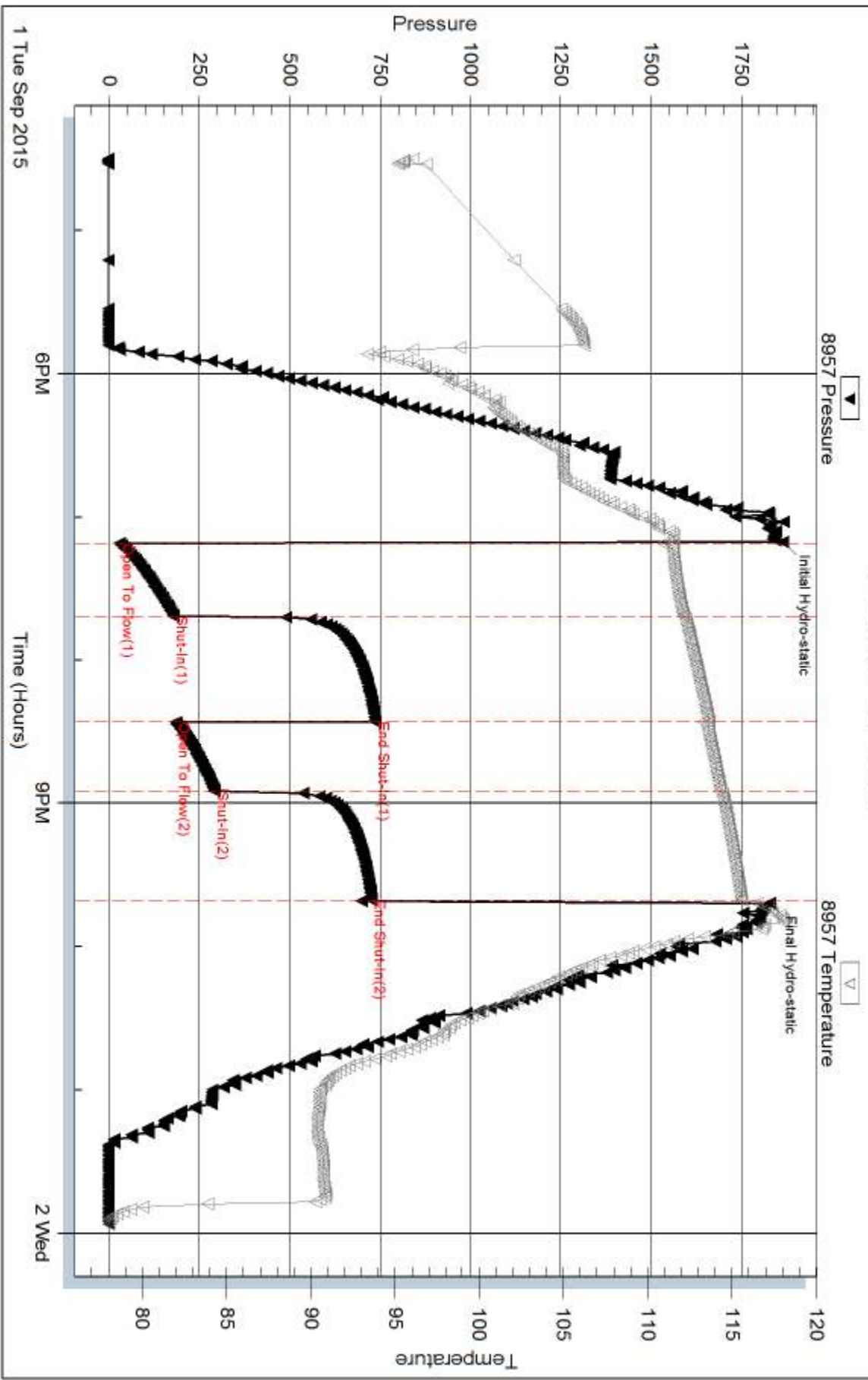
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



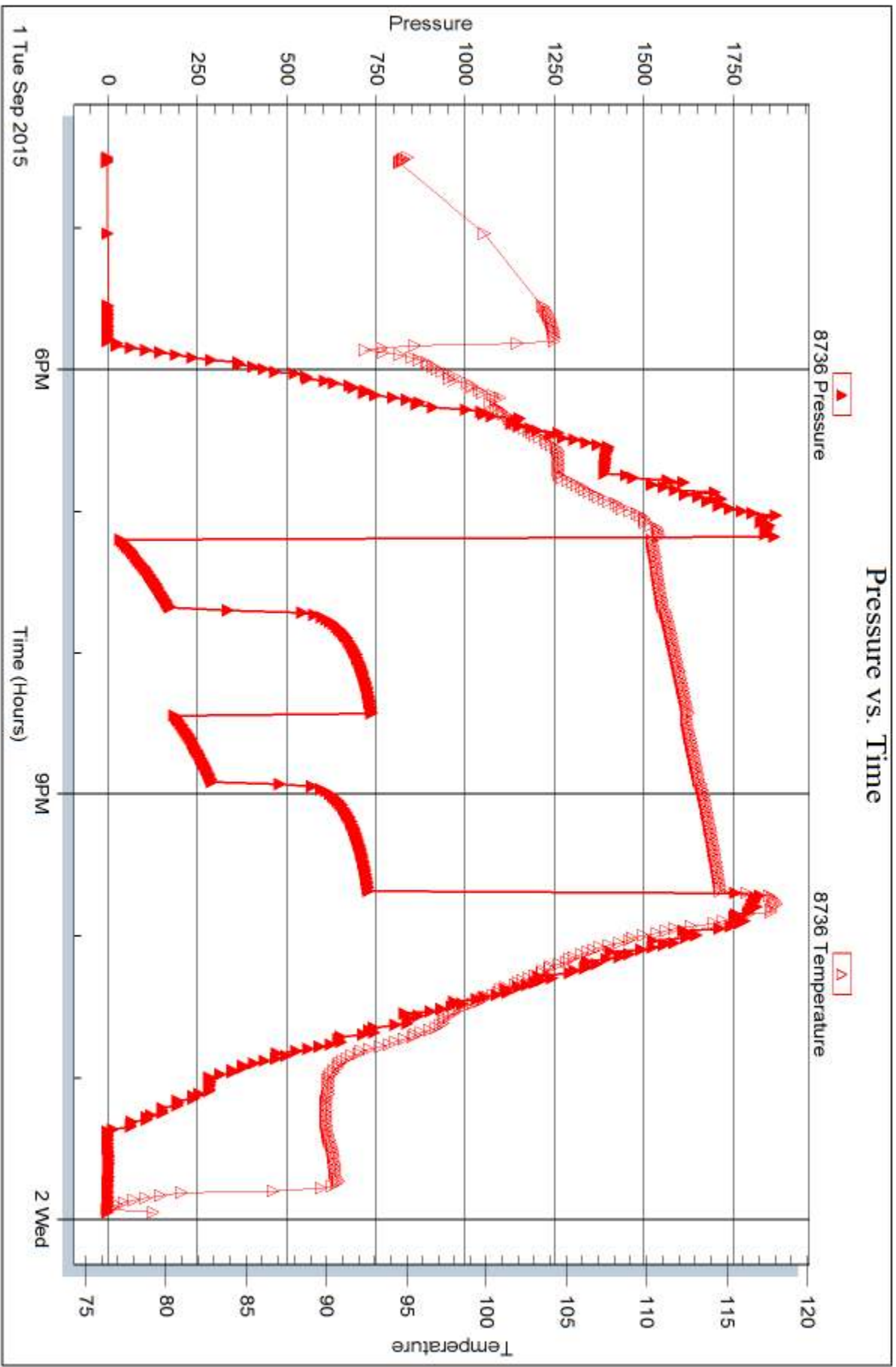
Serial #: 8736

Inside

H&C Oil Operating Inc.

Hobbs Unit #19-1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 64718

Printed: 2015.09.04 @ 12:00:45



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc.**

PO Box 86  
Plainville KS 6663

ATTN: Marc Downing

### **Hobbs Unit #19-1**

#### **19-10s-24w Graham,KS**

Start Date: 2015.09.02 @ 08:00:00

End Date: 2015.09.02 @ 13:30:30

Job Ticket #: 64719                      DST #: 3

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

Printed: 2015.09.04 @ 11:59:57

H&C Oil Operating Inc.

19-10s-24w Graham,KS

Hobbs Unit #19-1

DST # 3

LKC "E-F"

2015.09.02



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64719

**DST#: 3**

ATTN: Marc Downing

Test Start: 2015.09.02 @ 08:00:00

## GENERAL INFORMATION:

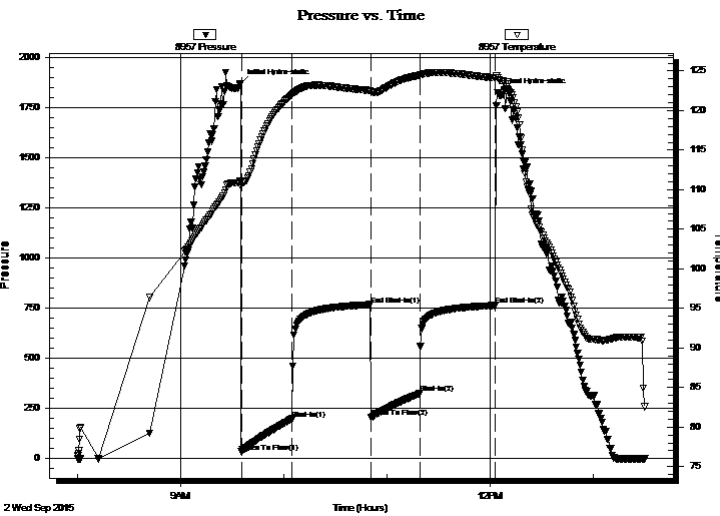
Formation: **LKC "E-F"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:35:15  
 Time Test Ended: 13:30:30  
 Interval: **3772.00 ft (KB) To 3795.00 ft (KB) (TVD)**  
 Total Depth: 3795.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brett Dickinson  
 Unit No: 81  
 Reference Elevations: 3395.00 ft (KB)  
 3390.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8957**

**Outside**

Press@RunDepth: 324.50 psig @ 3773.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.09.02 End Date: 2015.09.02 Last Calib.: 2015.09.02  
 Start Time: 08:00:05 End Time: 13:30:29 Time On Btm: 2015.09.02 @ 09:34:45  
 Time Off Btm: 2015.09.02 @ 12:04:30

TEST COMMENT: IF-BOB in 8 min  
 IS-No blow  
 FF-BOB in 14 min  
 FS-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1872.97	111.15	Initial Hydro-static
1	32.06	110.47	Open To Flow (1)
31	198.18	121.98	Shut-In(1)
76	768.00	122.52	End Shut-In(1)
77	205.33	122.35	Open To Flow (2)
105	324.50	124.47	Shut-In(2)
149	763.80	124.12	End Shut-In(2)
150	1824.20	124.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW 20%M 80%W	1.41
610.00	Water	8.56

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64719

**DST#: 3**

ATTN: Marc Downing

Test Start: 2015.09.02 @ 08:00:00

## Tool Information

Drill Pipe:	Length: 3742.00 ft	Diameter: 3.80 inches	Volume: 52.49 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	50000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3772.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	23.00 ft				
Tool Length:	43.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3757.00	
Hydraulic tool	5.00			3762.00	
Packer	5.00			3767.00	20.00 Bottom Of Top Packer
Packer	5.00			3772.00	
Stubb	1.00			3773.00	
Recorder	0.00	8736	Inside	3773.00	
Recorder	0.00	8957	Outside	3773.00	
Perforations	19.00			3792.00	
Bullnose	3.00			3795.00	23.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>43.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64719

**DST#: 3**

ATTN: Marc Downing

Test Start: 2015.09.02 @ 08:00:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

75000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	MCW 20%M 80%W	1.410
610.00	Water	8.557

Total Length: 730.00 ft

Total Volume: 9.967 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

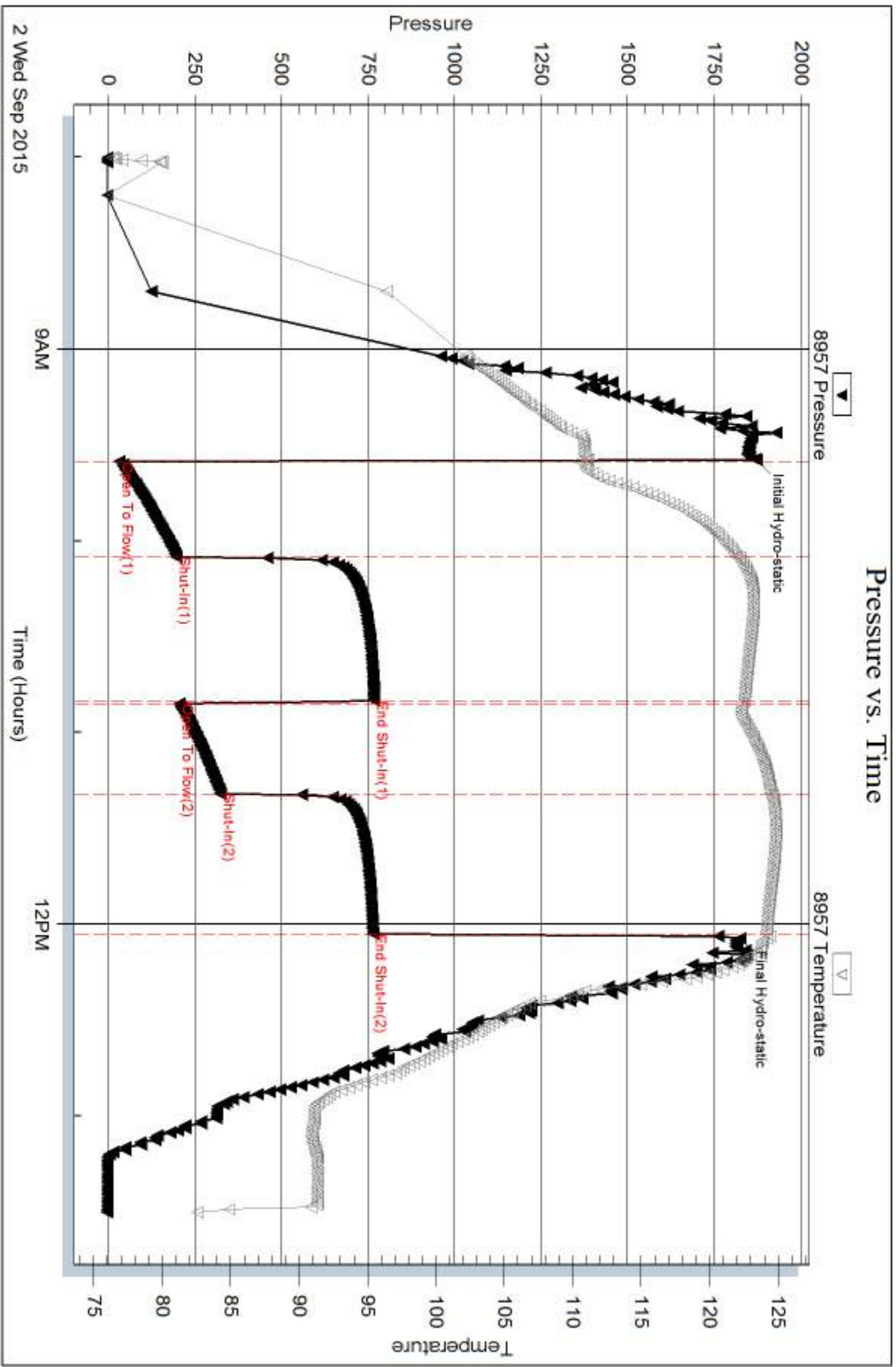
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





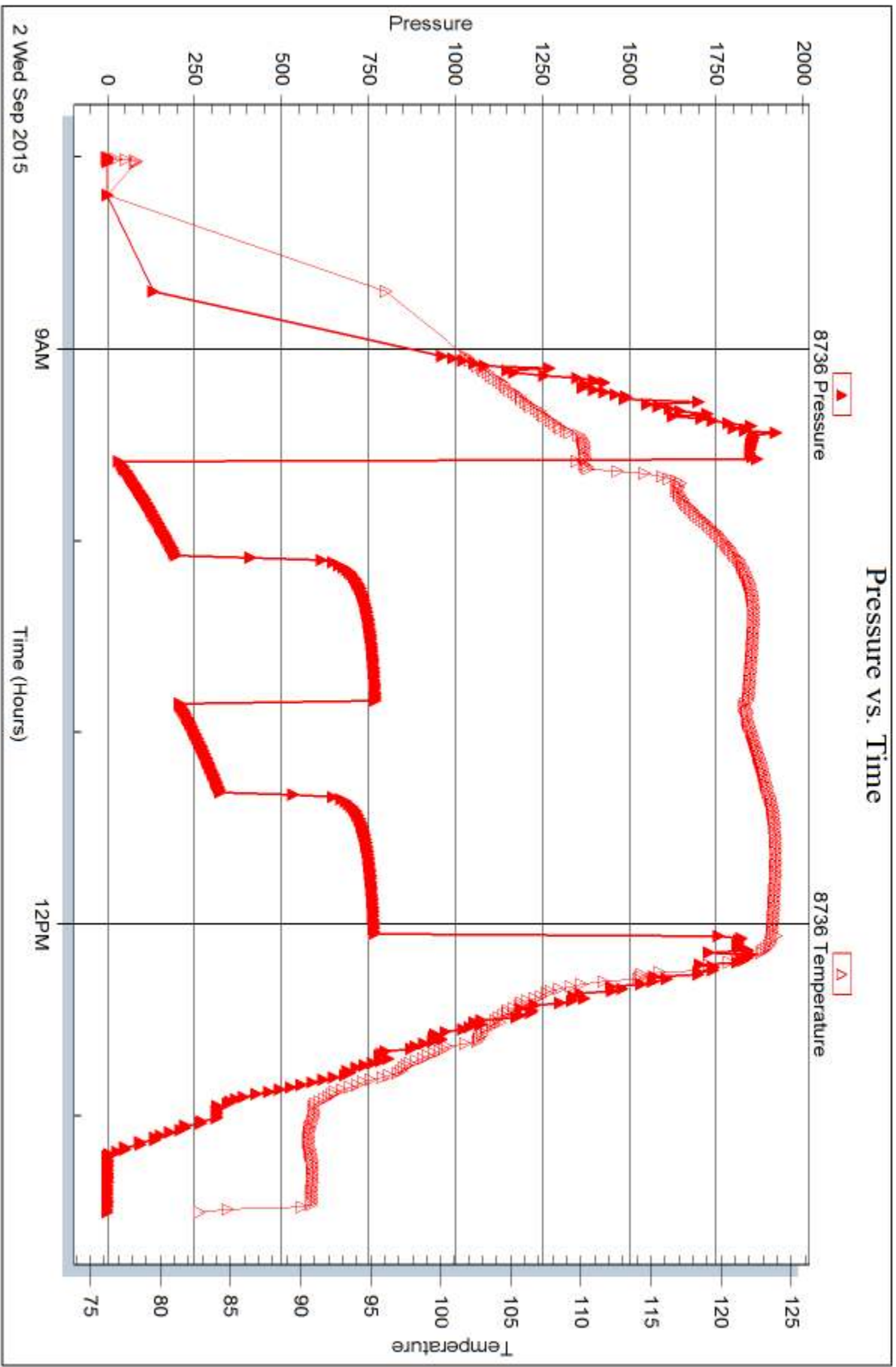
Serial #: 8736

Inside

H&C Oil Operating Inc.

Hobbs Unit #19-1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 64719

Printed: 2015.09.04 @ 11:59:59



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc.**

PO Box 86  
Plainville KS 6663

ATTN: Marc Downing

### **Hobbs Unit #19-1**

#### **19-10s-24w Graham,KS**

Start Date: 2015.09.02 @ 21:00:00

End Date: 2015.09.03 @ 03:32:30

Job Ticket #: 64720                      DST #: 4

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

Printed: 2015.09.04 @ 11:59:30

H&C Oil Operating Inc.

19-10s-24w Graham,KS

Hobbs Unit #19-1

DST # 4

LKC "H"

2015.09.02



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

ATTN: Marc Downing

Job Ticket: 64720

**DST#: 4**

Test Start: 2015.09.02 @ 21:00:00

## GENERAL INFORMATION:

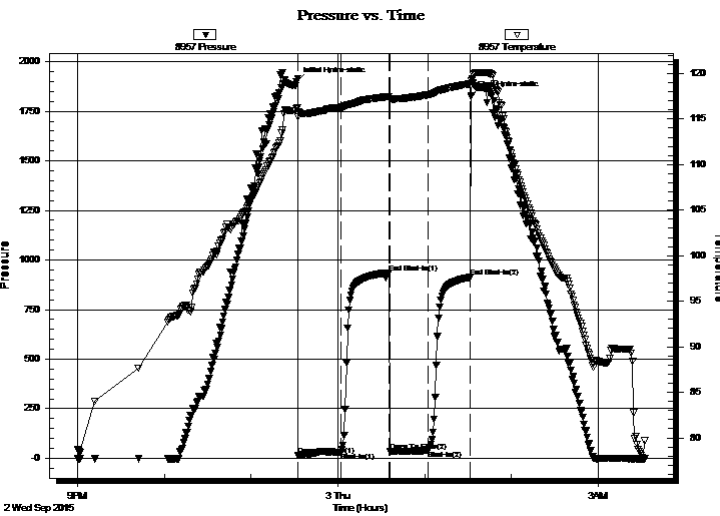
Formation: **LKC "H"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:32:30  
 Time Test Ended: 03:32:30  
 Interval: **3824.00 ft (KB) To 3857.00 ft (KB) (TVD)**  
 Total Depth: 3857.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brett Dickinson  
 Unit No: 81  
 Reference Elevations: 3395.00 ft (KB)  
 3390.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8957

Outside

Press@RunDepth: 39.24 psig @ 3825.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.09.02 End Date: 2015.09.03 Last Calib.: 2015.09.03  
 Start Time: 21:00:05 End Time: 03:32:29 Time On Btm: 2015.09.02 @ 23:31:45  
 Time Off Btm: 2015.09.03 @ 01:32:30

TEST COMMENT: IF-1" blow  
 IS-No blow  
 FF-No blow  
 FS-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1898.95	116.19	Initial Hydro-static
1	14.38	115.22	Open To Flow (1)
31	31.32	116.28	Shut-In(1)
64	934.03	117.45	End Shut-In(1)
65	33.52	117.23	Open To Flow (2)
91	39.24	117.66	Shut-In(2)
120	912.45	118.86	End Shut-In(2)
121	1828.52	119.25	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud	0.10

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64720

**DST#: 4**

ATTN: Marc Downing

Test Start: 2015.09.02 @ 21:00:00

## Tool Information

Drill Pipe:	Length: 3790.00 ft	Diameter: 3.80 inches	Volume: 53.16 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	46000.00 lb
			<u>Total Volume:</u>	Tool Chased	3.00 ft
				String Weight: Initial	46000.00 lb
Drill Pipe Above KB:	16.00 ft			Final	46000.00 lb
Depth to Top Packer:	3824.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	33.00 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
Shut In Tool	5.00			3809.00	
Hydraulic tool	5.00			3814.00	
Packer	5.00			3819.00	20.00 Bottom Of Top Packer
Packer	5.00			3824.00	
Stubb	1.00			3825.00	
Recorder	0.00	8736	Inside	3825.00	
Recorder	0.00	8957	Outside	3825.00	
Perforations	29.00			3854.00	
Bullnose	3.00			3857.00	33.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>53.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64720

**DST#: 4**

ATTN: Marc Downing

Test Start: 2015.09.02 @ 21:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud	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:

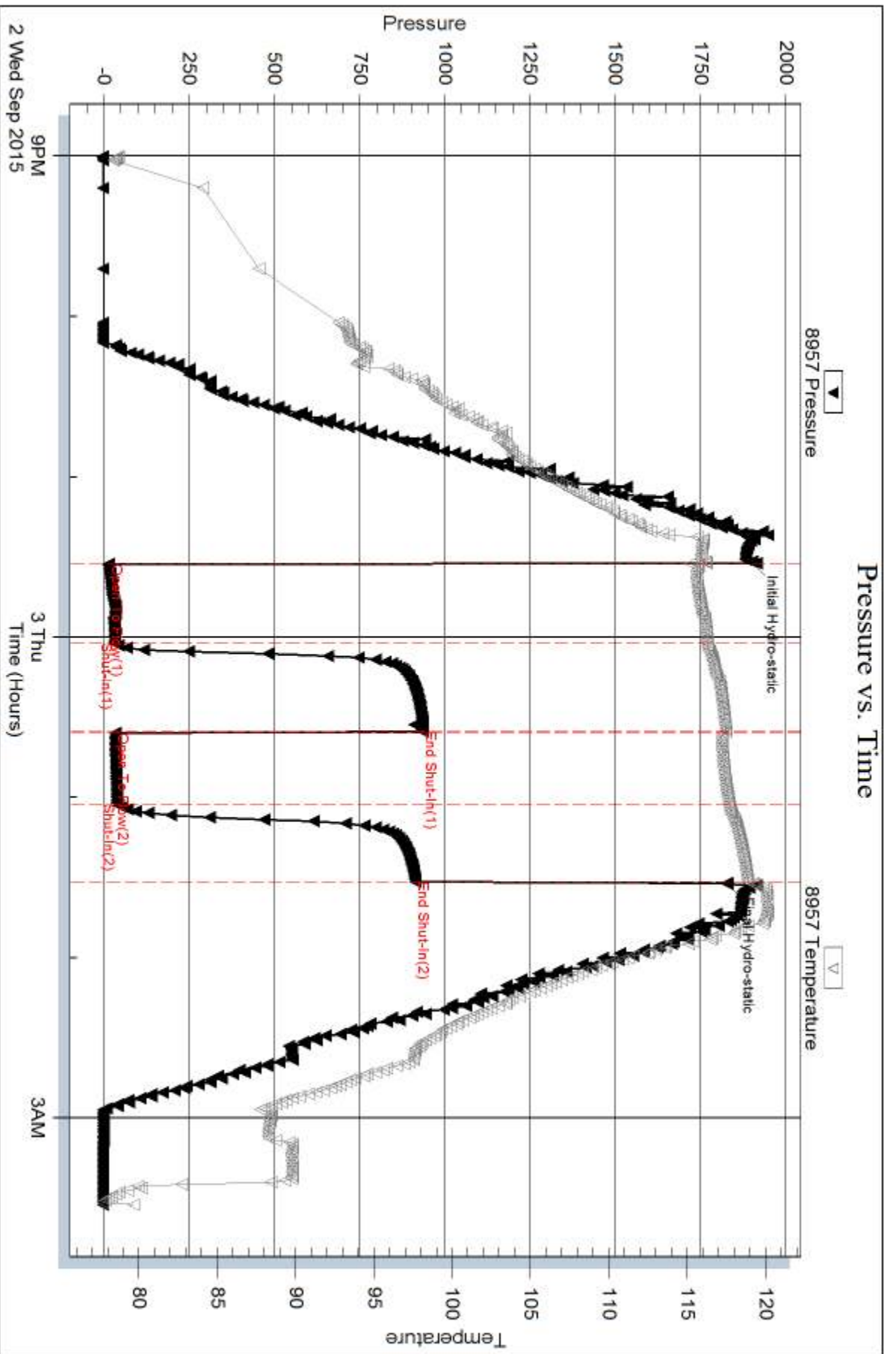
Recovery Comments:

Serial #: 8957

Outside H&C Oil Operating Inc.

Hobbs Unit #19-1

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 64720

Printed: 2015.09.04 @ 11:59:31



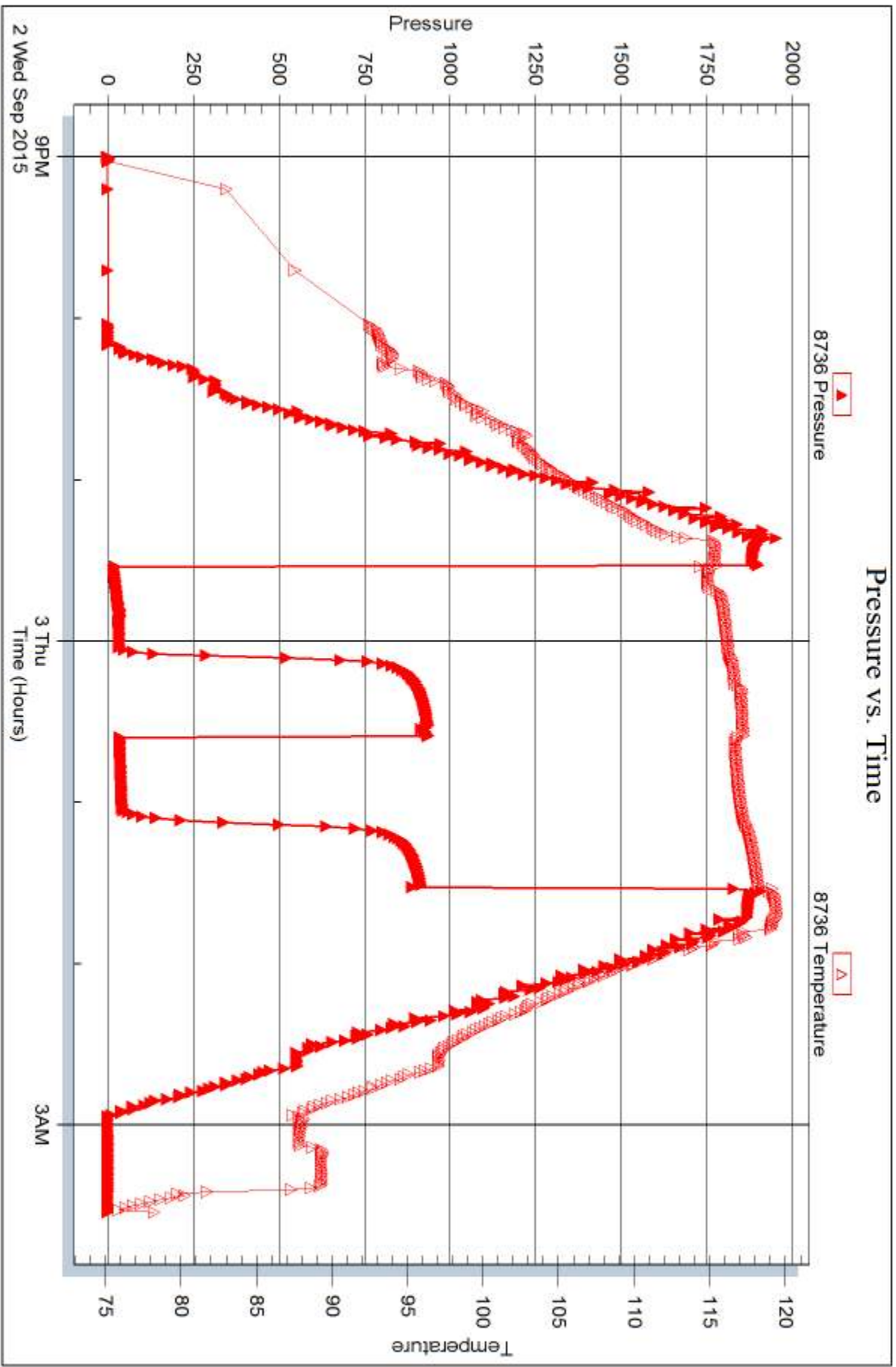
Serial #: 8736

Inside

H&C Oil Operating Inc.

Hobbs Unit #19-1

DST Test Number: 4



Tribble Testing, Inc

Ref. No: 64720

Printed: 2015.09.04 @ 11:59:32



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating Inc.**

PO Box 86  
Plainville KS 6663

ATTN: Marc Downing

### **Hobbs Unit #19-1**

#### **19-10s-24w Graham,KS**

Start Date: 2015.09.03 @ 12:30:00

End Date: 2015.09.03 @ 19:26:00

Job Ticket #: 64721                      DST #: 5

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

Printed: 2015.09.04 @ 11:58:55



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64721

**DST#: 5**

ATTN: Marc Downing

Test Start: 2015.09.03 @ 12:30:00

## GENERAL INFORMATION:

Formation: **LKC "I-K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:23:00  
 Time Test Ended: 19:26:00  
 Interval: **3854.00 ft (KB) To 3918.00 ft (KB) (TVD)**  
 Total Depth: 3918.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brett Dickinson  
 Unit No: 81  
 Reference Elevations: 3395.00 ft (KB)  
 3390.00 ft (CF)  
 KB to GR/CF: 5.00 ft

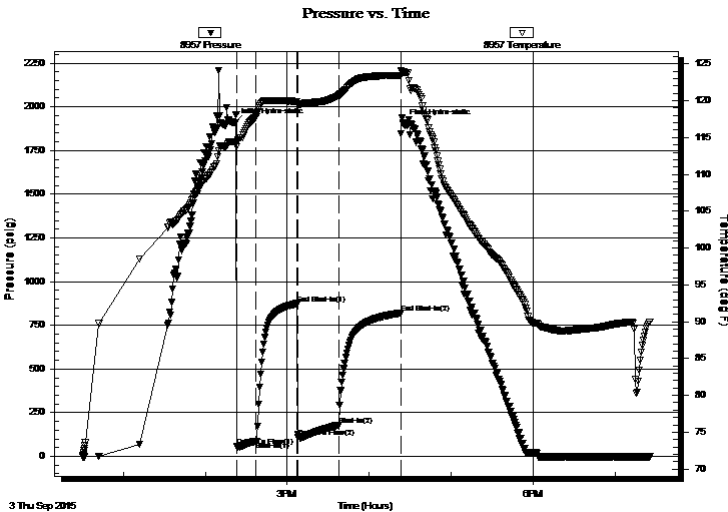
## Serial #: 8957

Outside

Press@RunDepth: 178.28 psig @ 3862.00 ft (KB)  
 Start Date: 2015.09.03 End Date: 2015.09.03  
 Start Time: 12:30:05 End Time: 19:25:59  
 Capacity: 8000.00 psig  
 Last Calib.: 2015.09.03  
 Time On Btm: 2015.09.03 @ 14:21:45  
 Time Off Btm: 2015.09.03 @ 16:25:00

TEST COMMENT: IF-BOB in 3 min  
 IS-1 1/2" blow  
 FF-BOB in 3 1/2" blow  
 FS-BOB in 18 min

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1908.11	114.43	Initial Hydro-static
2	55.68	113.79	Open To Flow (1)
16	87.65	117.84	Shut-In(1)
46	874.18	119.89	End Shut-In(1)
47	109.04	119.58	Open To Flow (2)
76	178.28	120.65	Shut-In(2)
122	820.54	123.43	End Shut-In(2)
124	1903.23	123.89	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	GSMCO 5%M 15%G 80%O	1.41
320.00	GO 15%G 85%O	4.49
0.00	1550f 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**

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64721

**DST#: 5**

ATTN: Marc Downing

Test Start: 2015.09.03 @ 12:30:00

## Tool Information

Drill Pipe:	Length: 3806.00 ft	Diameter: 3.80 inches	Volume: 53.39 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	46000.00 lb
Drill Pipe Above KB:	2.00 ft			Final	50000.00 lb
Depth to Top Packer:	3854.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	64.00 ft				
Tool Length:	84.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3839.00	
Hydraulic tool	5.00			3844.00	
Packer	5.00			3849.00	20.00 Bottom Of Top Packer
Packer	5.00			3854.00	
Stubb	1.00			3855.00	
Perforations	7.00			3862.00	
Recorder	0.00	8736	Inside	3862.00	
Recorder	0.00	8957	Outside	3862.00	
Change Over Sub	1.00			3863.00	
Drill Pipe	30.00			3893.00	
Change Over Sub	1.00			3894.00	
Perforations	21.00			3915.00	
Bullnose	3.00			3918.00	64.00 Bottom Packers & Anchor

**Total Tool Length: 84.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**19-10s-24w Graham,KS**

PO Box 86  
Plainville KS 6663

**Hobbs Unit #19-1**

Job Ticket: 64721

**DST#: 5**

ATTN: Marc Downing

Test Start: 2015.09.03 @ 12:30:00

## 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:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GSMCO 5%M 15%G 80%O	1.410
320.00	GO 15%G 85%O	4.489
0.00	1550f GIP	0.000

Total Length: 440.00 ft      Total Volume: 5.899 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

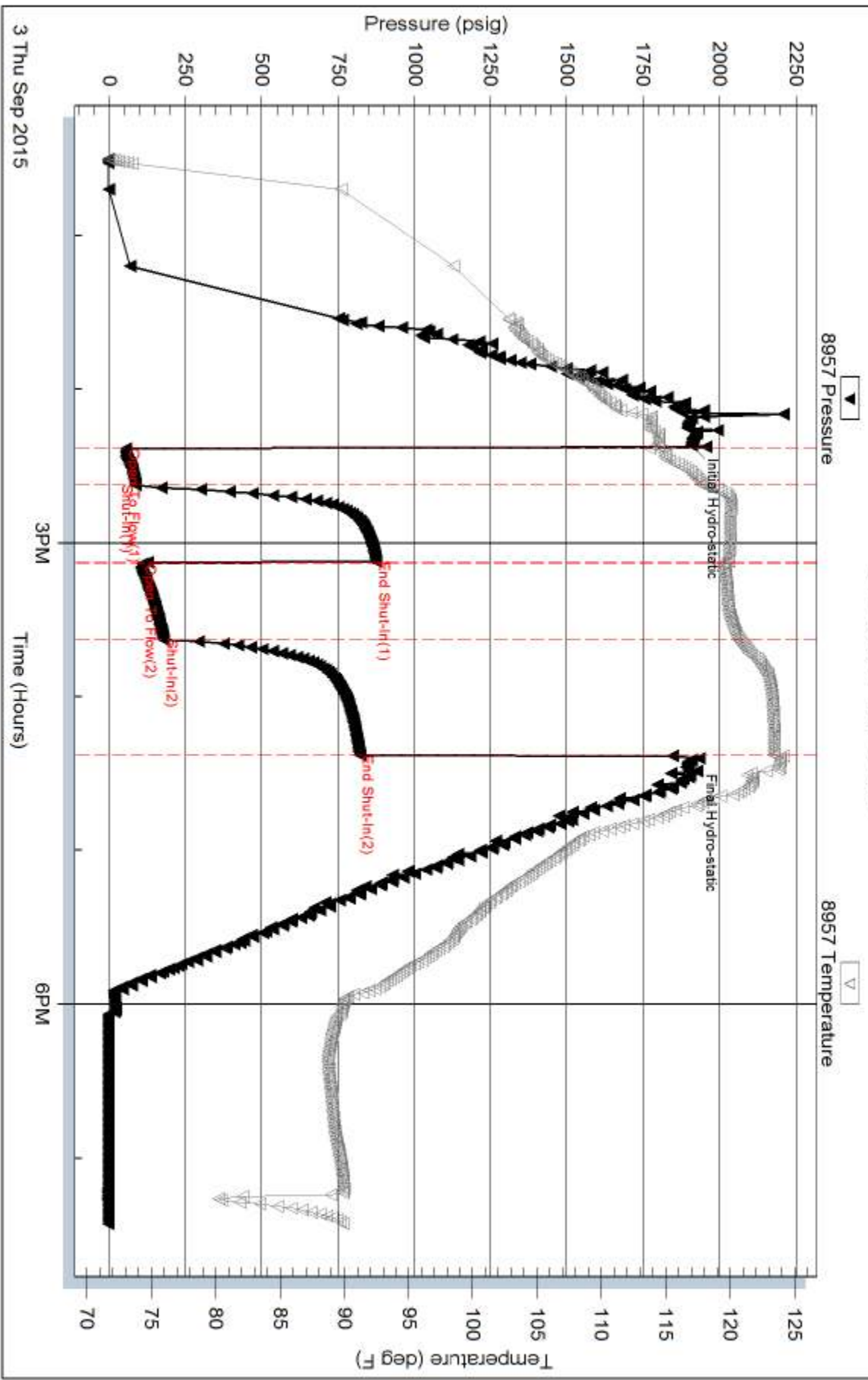
Serial #: 8957

Outside H&C Oil Operating Inc.

Hobbs Unit #19-1

DST Test Number: 5

### Pressure vs. Time



Tribble Testing, Inc

Ref. No: 64721

Printed: 2015.09.04 @ 11:58:57

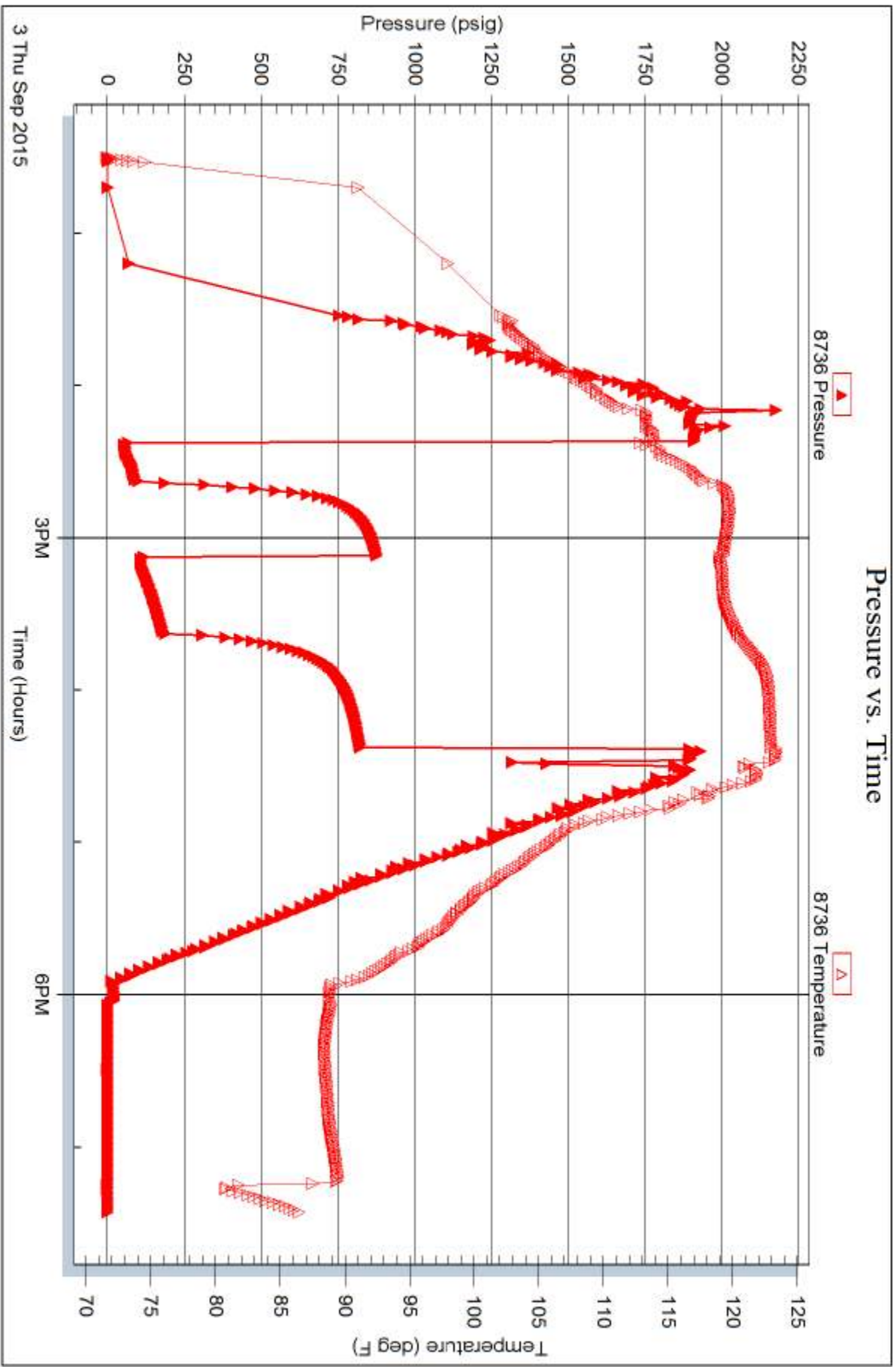
Serial #: 8736

Inside

H&C Oil Operating Inc.

Hobbs Unit #19-1

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 64721

Printed: 2015.09.04 @ 11:58:57





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

785-639-1220  
639-2563

## Test Ticket

NO. **64717**

Well Name & No. Hobbs Unit #19-1 Test No. 1 Date 8-31-15  
 Company H&C Oil Operating Inc. Elevation 3395 KB 3390 GL  
 Address PO Box 86 Plainville KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 19 Twp. 10S Rge. 24W Co. Graham State KS

Interval Tested 3726-3746 Zone Tested KC" C"  
 Anchor Length 20 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.3  
 Top Packer Depth 3721 Drill Collars Run 30 Vis 56  
 Bottom Packer Depth 3726 Wt. Pipe Run — WL 7.8  
 Total Depth 3746 Chlorides 4,300 ppm System LCM 2#  
 Blow Description FF-BOB in 40min  
ISF-No blow  
EF-4in blow  
FSF-No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free Oil</u>				
<u>319</u>	<u>SMCW</u>		<u>90</u>	<u>10</u>	
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 320 BHT 122 Gravity \_\_\_\_\_ API RW e1 @ 80 °F Chlorides 64,000 ppm  
 (A) Initial Hydrostatic 1,850  Test 1050 T-On Location 22:05  
 (B) First Initial Flow 18  Jars \_\_\_\_\_ T-Started 23:10  
 (C) First Final Flow 94  Safety Joint \_\_\_\_\_ T-Open 5:20  
 (D) Initial Shut-In 749  Circ Sub \_\_\_\_\_ T-Pulled 8:20  
 (E) Second Initial Flow 103  Hourly Standby 2h 160 T-Out 10:05  
 (F) Second Final Flow 165  Mileage 112rt Comments \_\_\_\_\_  
 (G) Final Shut-In 741  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1,839  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1322  
 Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45  
 Sub Total 1322  
 Total 1322  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_

Our Representative Butt [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. **64718**

Well Name & No. Hobbs Unit #19-1 Test No. 2 Date 9-1-15  
 Company HOC Oil Operating Inc. Elevation 3395 KB 3390 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 19 Twp. 10 Rge. 24 Co. Graham State KS

Interval Tested 3745-3770 Zone Tested KC"10"  
 Anchor Length 2.5 Drill Pipe Run \_\_\_\_\_ Mud Wt. \_\_\_\_\_  
 Top Packer Depth 3740 Drill Collars Run 30 Vis \_\_\_\_\_  
 Bottom Packer Depth 3745 Wt. Pipe Run - WL \_\_\_\_\_  
 Total Depth 3770 Chlorides \_\_\_\_\_ ppm System LCM \_\_\_\_\_  
 Blow Description IF - BOB in 8min  
ISI - No blow  
FF - BOB in 17min  
KSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free Oil</u>				
<u>684</u>	<u>VSMCW</u>		<u>95</u>	<u>5</u>	
____	____				
____	____				
____	____				

Rec Total 685 BHT 116 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 1,866  Test 1050 T-On Location 16:20  
 (B) First Initial Flow 29  Jars \_\_\_\_\_ T-Started 16:30  
 (C) First Final Flow 178  Safety Joint \_\_\_\_\_ T-Open 19:10  
 (D) Initial Shut-In 736  Circ Sub \_\_\_\_\_ T-Pulled 21:40  
 (E) Second Initial Flow 184  Hourly Standby \_\_\_\_\_ T-Out 23:55  
 (F) Second Final Flow 292  Mileage 112 Comments \_\_\_\_\_  
 (G) Final Shut-In 726  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 6829  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  
 Final Shut-In 45  Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1162 Sub Total 0  
 Total 1162 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Burt Green

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. **64719**

Well Name & No. Hobbs Unit #19-1 Test No. 3 Date 9-2-15  
 Company H&C Oil Operating, Inc Elevation 3395 KB 3390 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 19 Twp. 10 Rge. 24 Co. Graham State K.S.

Interval Tested 3772-3795 Zone Tested KC "E&F"  
 Anchor Length 23 Drill Pipe Run \_\_\_\_\_ Mud Wt. \_\_\_\_\_  
 Top Packer Depth 3767 Drill Collars Run 30 Vis \_\_\_\_\_  
 Bottom Packer Depth 3772 Wt. Pipe Run \_\_\_\_\_ WL \_\_\_\_\_  
 Total Depth 3795 Chlorides \_\_\_\_\_ ppm System LCM \_\_\_\_\_  
 Blow Description IF- BOB in 8 min  
ISI- No blow  
FF- BOB in 14 min  
FSI- No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>Mcu</u>			<u>80</u>	<u>20</u>
<u>610</u>	<u>water</u>				
____	____				
____	____				
____	____				

Rec Total 730 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1873  Test 1050 T-On Location 7:50  
 (B) First Initial Flow 32  Jars \_\_\_\_\_ T-Started 8:00  
 (C) First Final Flow 198  Safety Joint \_\_\_\_\_ T-Open 9:30  
 (D) Initial Shut-In 768  Circ Sub \_\_\_\_\_ T-Pulled 12:00  
 (E) Second Initial Flow 205  Hourly Standby \_\_\_\_\_ T-Out 13:30  
 (F) Second Final Flow 325  Mileage 112 Comments \_\_\_\_\_  
 (G) Final Shut-In 764  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1824  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1162  
 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 45

Sub Total 1162

Approved By \_\_\_\_\_ Our Representative Butt Dick

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. **64720**

Well Name & No. Hobbs Unit #19-1 Test No. 4 Date 9-2-15  
 Company H&C Oil Operating, Inc Elevation 2395 KB 2390 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 19 Twp. 10 Rge. 24 Co. Graham State KS

Interval Tested 3824-3857 Zone Tested KLH''  
 Anchor Length 33 Drill Pipe Run \_\_\_\_\_ Mud Wt. \_\_\_\_\_  
 Top Packer Depth 3819 Drill Collars Run 30 Vis \_\_\_\_\_  
 Bottom Packer Depth 3824 Wt. Pipe Run \_\_\_\_\_ WL \_\_\_\_\_  
 Total Depth 3857 Chlorides \_\_\_\_\_ ppm System LCM \_\_\_\_\_

Blow Description FF - lin blow  
ISI - No blow  
FF - No blow  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mad</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 20 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1,899  Test 1050 T-On Location 21:00  
 (B) First Initial Flow 14  Jars \_\_\_\_\_ T-Started 21:15  
 (C) First Final Flow 31  Safety Joint \_\_\_\_\_ T-Open 23:45  
 (D) Initial Shut-In 934  Circ Sub \_\_\_\_\_ T-Pulled 1:45  
 (E) Second Initial Flow 34  Hourly Standby \_\_\_\_\_ T-Out 3:45  
 (F) Second Final Flow 39  Mileage 112 Comments \_\_\_\_\_  
 (G) Final Shut-In 912  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1,829  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 30  Day Standby \_\_\_\_\_ Total 1162  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1162

Approved By \_\_\_\_\_ Our Representative Beth Downing

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# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64721**

Well Name & No. Hobbs Unit #19-1 Test No. 5 Date 9-3-15  
 Company H&C Oil Operating, Inc Elevation 2395 KB 2390 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 19 Twp. 10 Rge. 24 Co. Graham State KS

Interval Tested 3854-3918 Zone Tested KC "I-K"  
 Anchor Length 64 Drill Pipe Run \_\_\_\_\_ Mud Wt. \_\_\_\_\_  
 Top Packer Depth 3849 Drill Collars Run 30 Vis \_\_\_\_\_  
 Bottom Packer Depth 3854 Wt. Pipe Run \_\_\_\_\_ WL \_\_\_\_\_  
 Total Depth 3918 Chlorides \_\_\_\_\_ ppm System LCM \_\_\_\_\_  
 Blow Description IF-BOB in 3min  
ISF - 1 1/2 in blow  
FF - BOB in 3 1/2 min  
FSI - BOB in 18min

Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>GSMCO</u>	<u>15</u>	<u>80</u>	<u>5</u>	
<u>320</u>	<u>60</u>	<u>15</u>	<u>85</u>		
Rec _____	Feet of <u>1550 GIP</u>	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 440 BHT 123 Gravity 28 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1,908  Test 1050 T-On Location 12:15  
 (B) First Initial Flow 56  Jars \_\_\_\_\_ T-Started 12:30  
 (C) First Final Flow 88  Safety Joint \_\_\_\_\_ T-Open 14:20  
 (D) Initial Shut-In 874  Circ Sub \_\_\_\_\_ T-Pulled 16:20  
 (E) Second Initial Flow 109  Hourly Standby \_\_\_\_\_ T-Out 19:25  
 (F) Second Final Flow 178  Mileage 112 Comments \_\_\_\_\_  
 (G) Final Shut-In 821  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1,903  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 15  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Day Standby \_\_\_\_\_ Total 1162  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 44 Sub Total 1162

Approved By \_\_\_\_\_ Our Representative Beth DeL...

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<b>Marc A. Downing</b>		<b>Geologic Report</b>	
<b>Consulting Petroleum Geologist</b>		<b>Drilling Time and Sample Log</b>	
Operator <b>H&amp;C Oil Operating, Inc.</b>		KB DF GL	Elevation 2393 2386
Lease <b>Hobbs Unit</b>		No. <b>19-1</b>	
API # <b>15-065-24105-0000</b>		Casing Record Surface	
Field <b>High Hill</b>		8 5/8" @ 219'	
Location <b>100' FNL &amp; 990' FEL</b>		5 1/2" 3994'	
Sec. <b>19</b>	Twp. <b>10s</b>	Rge. <b>24w</b>	Electrical Surveys
County <b>Graham</b> State <b>Kansas</b>			CNL/CDL, DIL, MEL, Sonic
Formation	Sample tops	Log Tops	Datum
Top Anhydrite	2020	2014	+379
Base Anhydrite	2061	2057	+336
Topoka	3456	3453	-1060
Heebner	3671	3669	-1276
Toronto	3692	3691	-1298
LKC	3708	3707	-1314
BKC	3937	3936	-1543
Total Depth	3995	3995	-1602
Reference Well For Structural Comparison <b>Donald Slawson</b>			
<b>Hobbs 'A' #2</b> NE NE NE Sec. 19-10s-24w			

Drilling Contractor	<b>American Eagle, Rig #2</b>	
Commenced	<b>8-28-15</b>	Completed <b>9-4-15</b>
Samples Saved From	<b>3600</b>	To <b>RTD</b>
Drilling Time Kept From	<b>3350</b>	To <b>RTD</b>
Samples Examined From	<b>3600</b>	To <b>RTD</b>
Geological Supervision From	<b>3350</b>	To <b>RTD</b>

**Summary and Recommendations**

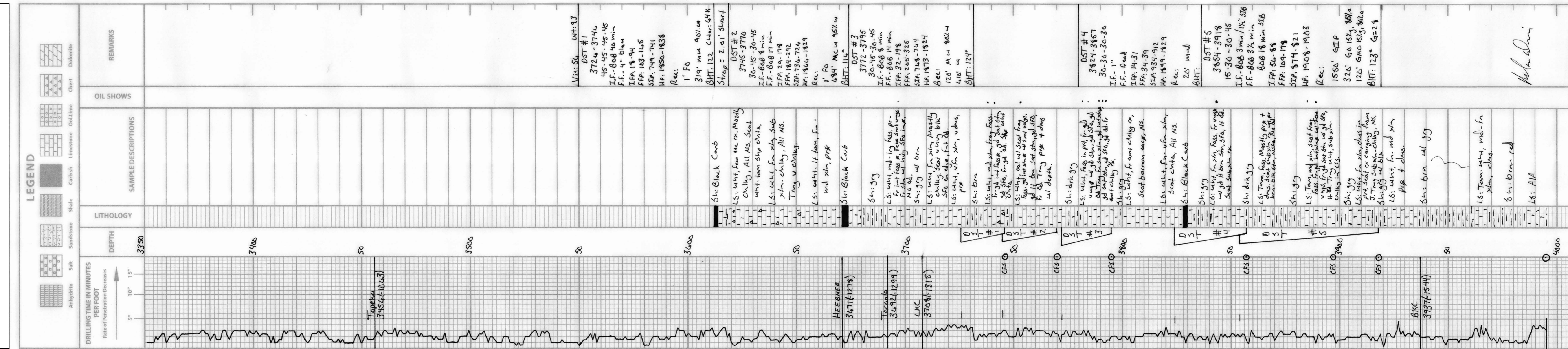
Due to structural position, DST recovery, and log evaluation, it was decided to set 5 1/2" production casing for completion.

Perforate:

LKC J: 3882-3890 (DST #5)  
LKC H: 3840-3845 (Before Abandonment)

Respectfully Submitted,

Marc A. Downing



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1028

Date <b>8-27-15</b>	Sec. <b>19</b>	Twp. <b>10</b>	Range <b>24</b>	County <b>Graham</b>	State <b>KS</b>	On Location	Finish <b>8:30 PM</b>
Lease <b>Hobbs</b>				Well No. <b>19-1</b>		Location <b>Walkweeny N to Red line 9W 45 1/4 W 10 1/2 N</b>	
Contractor <b>American Eagle #2</b>							
Type Job <b>Surface</b>							
Hole Size <b>12 1/4</b>							
Csg. <b>8 5/8</b>							
Tbg. Size							
Tool							
Cement Left in Csg. <b>20'</b>							
Meas Line Displace <b>15 bbl</b>							
<b>EQUIPMENT</b>							
Pumptrk <b>17</b>	No. <b>17</b>	Cementer <b>Craig</b>					
Bulktrk <b>15</b>	No. <b>15</b>	Helper <b>Mick</b>					
Bulktrk <b>04</b>	No. <b>04</b>	Driver <b>Brett</b>					
<b>JOB SERVICES &amp; REMARKS</b>							
Remarks:							
Rat Hole							
Mouse Hole							
Centralizers							
Baskets							
DN or Port Collar							
Common <b>130</b>							
Poz. Mix <b>20</b>							
Gel. <b>3</b>							
Calcium <b>6</b>							
Hulls							
Salt							
Flowseal							
Kol-Seal							
Mud CLR <b>48</b>							
CFL-117 or CD110 CAF <b>38</b>							
Sand							
Handling <b>159</b>							
Mileage							
<b>FLOAT EQUIPMENT</b>							
Guide Shoe							
Centralizer <b>878 Swayl</b>							
Baskets							
AFU Inserts							
Float Shoe							
Latch Down							
Pumptrk Charge <b>Surface</b>							
Mileage <b>35</b>							
Tax							
Discount							
Total Charge							

**Cement**

**Circulated!**

X Signature **Anna B. Butler**

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1033

Date	9-4-15	Sec.	19	Twp.	10	Range	24	County	Greene	State	KS	On Location		Finish	11:00 PM
Lease	Hobbs Unit														
Contractor	American Eagle #2														
Type Job	Production String														
Hole Size	7 7/8														
Csg.	5 1/2														
Tbg. Size															
Tool															
Cement Left in Csg.	21.07	Shoe Joint	21.07												
Meas Line	Displace 97 bbl														
<b>EQUIPMENT</b>															
Pumptrk	20	No.	Cementer	Brett											
Bulktrk	15	No.	Helper	Cray											
Bulktrk	19	No.	Driver	Nick											
		No.	Driver	Travin											
		No.	Driver												
<b>JOB SERVICES &amp; REMARKS</b>															
Remarks:	The above was done to satisfaction and supervision of owner agent or contractor.														
Rat Hole	30 1/2 x														
Mouse Hole															
Centralizers	Salt 13														
Baskets	Flowseal 165 #														
D/V or Port Collar	Kol-Seal 750 #														
	Mud CLR 48 - 500 Gal														
	CFL-117 or CD110 CAF 38														
	Sand														
	Handling 680														
	Mileage														
	5 1/2 FLOAT EQUIPMENT														
	Guide Shoe														
	Centralizer ~ 11														
	Baskets ~ 4														
	AFU Inserts														
	Float Shoe ~ 1														
	Latch Down ~ 1														
	Rotating Head														
	Landed Plug @ 2000 lbs														
	Cement Circulated!!														
	Pumptrk Charge prod string														
	Mileage 35														
	Tax														
	Discount														
	Total Charge														
X Signature	Cruise Parker														