

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1241469  
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: \_\_\_\_\_

1241469

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	Richmeier Unit 35-1
Doc ID	1241469

All Electric Logs Run

Microresistivity log
Dual compensated porosity log
Dual induction log
Sector Bond/Gamma Ray CCL log





# 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. 850

Date	11-26-2014	35	8 s	25 w	GRAHAM	KANSAS	On Location	9:00 PM	
Lease	RICHMEIER Well No. 35-1								
Contractor	AMERICAN ENERGY DRILLING								
Type Job	PRODUCTION STAINY (CIRC-CEMENT)								
Hole Size	7 7/8	T.D.	4025'					Charge To	AEC OIL OPERATING
Csg.	5 1/2 new	Depth	4020'					Street	
Tbg. Size	14#csy	Depth						City	State
Tool	LATCH DOWN BASH @ 3998								
Cement Left in Csg.	21.89 FT	Shoe Joint						Cement Amount Ordered	510 QmDC 1/2 #Flo Seal
Meas Line	Displace 97.55 BBL								
EQUIPMENT									
Pumptrk	1	No.	Cement		Gibson Co				
			Helper		Lorraine W				
Bulktrk	15	No.	Driver		CHAD M				
			Driver		AYAN M				
Bulktrk	19	No.	Driver						
JOB SERVICES & REMARKS									
Remarks:									
Rat Hole	30 SX								
Mouse Hole	(EX HOLE)								
Centralizers	1, 3, 45, 66, 81 "CALLAR"								
Baskets	3, 46, 67, 81 "PIN END"								
DAY-OF-PORT-COLLAR "CIRCULATE CEMENT"									
Ran 94 New Joints of 5 1/2 - 14CSG									
Set @ 4020.									
CIRCULATE 1HR w/ROTATING.									
PUMP AND FLUSH, + CEMENT w/									
480 SX QmDC, + 150 SX									
Q PROC, CLEAR-LINE									
Release LATCH DOWN Plug									
+ DISPLACE + TOTAL DF									
97 1/2 BBL H2O HAD									
1400# HIFT PRESSURE.									
LAND LATCH DOWN Plug @ 4000 #									
Release Pressure + AFU INSERT-Plug									
HELD.									
# CEMENT DID NOT RELATE TO SURFACE, POT ASSX TO PIT.									
Signature Bob Plante									
Mileage 23									
Pumptrk Charge									
Tax									
Discount									
Total Charge									





## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville, KS 67663

ATTN: Marc Downing

### **Richmeier Unit #35-1**

### **35-8s-25w Graham,KS**

Start Date: 2014.11.23 @ 17:52:47

End Date: 2014.11.24 @ 02:18:47

Job Ticket #: 58411                      DST #: 1

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

Printed: 2014.11.26 @ 11:23:28

H&C Oil Operating Inc.

35-8s-25w Graham,KS

Richmeier Unit #35-1

DST # 1

LKC "C&D"

2014.11.23





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

ATTN: Marc Downing

Job Ticket: 58411

**DST#: 1**

Test Start: 2014.11.23 @ 17:52:47

## GENERAL INFORMATION:

Formation: **LKC "C&D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:29:47

Time Test Ended: 02:18:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

**Interval: 3772.00 ft (KB) To 3816.00 ft (KB) (TVD)**

Reference Elevations: 2435.00 ft (KB)

Total Depth: 3816.00 ft (KB) (TVD)

2427.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8655**

**Outside**

Press@RunDepth: 221.68 psig @ 3773.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.23

End Date:

2014.11.24

Last Calib.: 2014.11.24

Start Time: 17:52:48

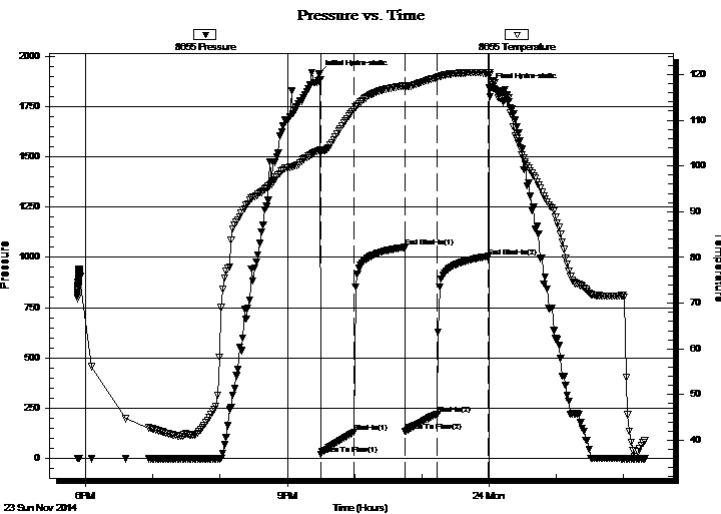
End Time:

02:18:47

Time On Btm: 2014.11.23 @ 21:28:17

Time Off Btm: 2014.11.24 @ 00:00:17

TEST COMMENT: 30- IF- BOB 11 mins  
45- IS- No blow  
30- FF- BOB 21 mins  
45- FS- No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1910.44	103.36	Initial Hydro-static
2	22.55	103.16	Open To Flow (1)
31	129.84	112.34	Shut-In(1)
77	1049.43	117.52	End Shut-In(1)
77	134.92	117.37	Open To Flow (2)
106	221.68	119.35	Shut-In(2)
151	1003.95	120.31	End Shut-In(2)
152	1841.51	120.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
445.00	MW, 15%M 85%W	5.83
5.00	CO	0.07

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

Job Ticket: 58411

**DST#: 1**

ATTN: Marc Downing

Test Start: 2014.11.23 @ 17:52:47

## Tool Information

Drill Pipe:	Length: 3736.00 ft	Diameter: 3.75 inches	Volume: 51.04 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3772.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 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			3753.00	
Shut In Tool	5.00			3758.00	
Hydraulic tool	5.00			3763.00	
Packer	5.00			3768.00	20.00 Bottom Of Top Packer
Packer	4.00			3772.00	
Stubb	1.00			3773.00	
Recorder	0.00	8651	Inside	3773.00	
Recorder	0.00	8655	Outside	3773.00	
Perforations	7.00			3780.00	
Change Over Sub	1.00			3781.00	
Drill Pipe	31.00			3812.00	
Change Over Sub	1.00			3813.00	
Bullnose	3.00			3816.00	44.00 Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

Job Ticket: 58411

**DST#: 1**

ATTN: Marc Downing

Test Start: 2014.11.23 @ 17:52:47

## 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: 59.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
445.00	MW, 15%M 85%W	5.825
5.00	CO	0.068

Total Length: 450.00 ft

Total Volume: 5.893 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

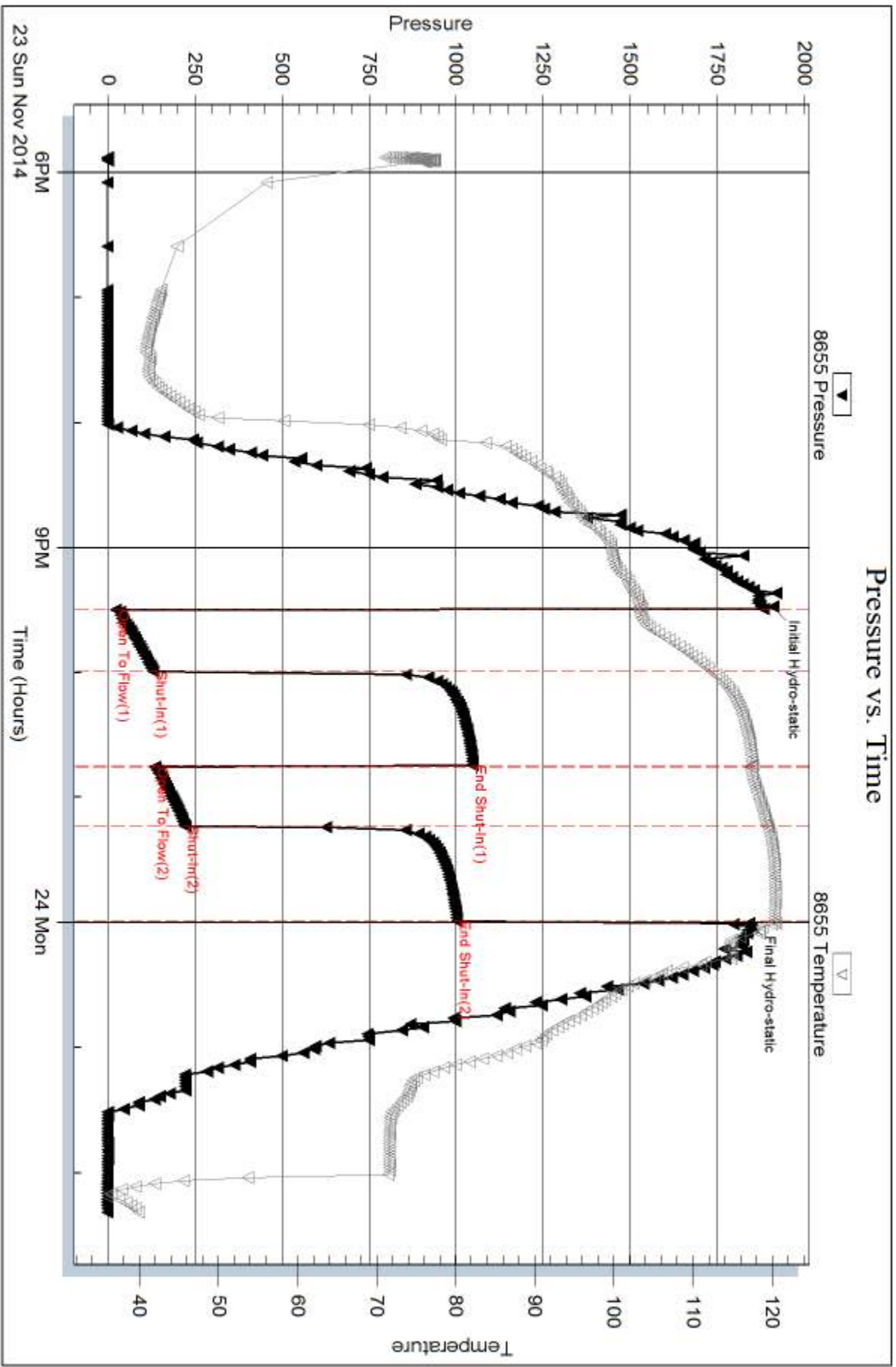
Recovery Comments:

Serial #: 8655

Outside H&C Oil Operating Inc.

Richmeier Unit #35-1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58411

Printed: 2014.11.26 @ 11:23:29

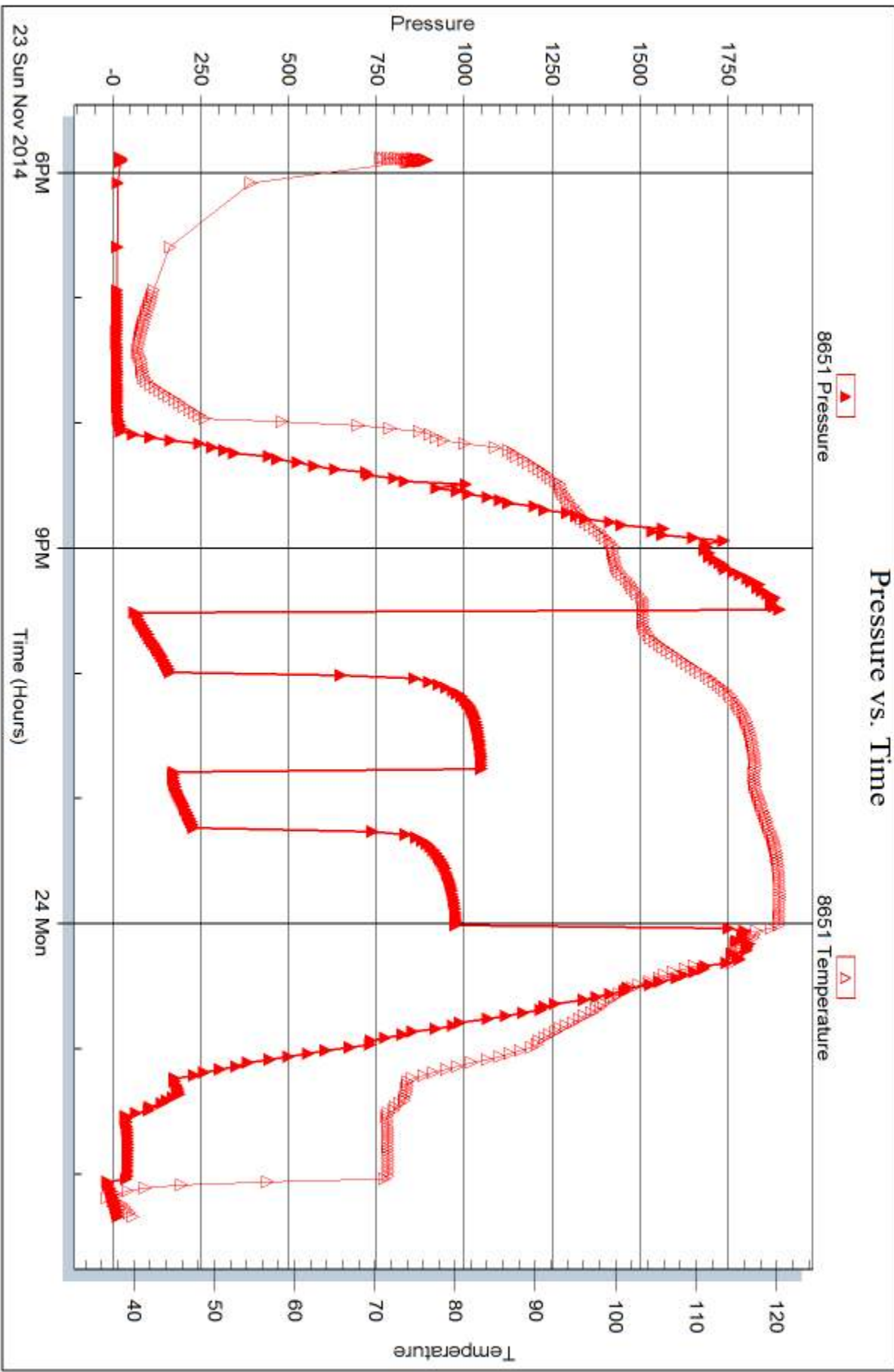
Serial #: 8651

Inside

H&C Oil Operating Inc.

Richmeier Unit #35-1

DST Test Number: 1





## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville, KS 67663

ATTN: Marc Downing

### **Richmeier Unit #35-1**

### **35-8s-25w Graham,KS**

Start Date: 2014.11.24 @ 16:10:51

End Date: 2014.11.25 @ 00:15:21

Job Ticket #: 58412                      DST #: 2

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

Printed: 2014.11.26 @ 11:23:08

H&C Oil Operating Inc.

35-8s-25w Graham,KS

Richmeier Unit #35-1

DST # 2

KC "1&J"

2014.11.24



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

ATTN: Marc Downing

Job Ticket: 58412

**DST#: 2**

Test Start: 2014.11.24 @ 16:10:51

## GENERAL INFORMATION:

Formation: **KC "I&J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:01:51

Time Test Ended: 00:15:21

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

**Interval: 3898.00 ft (KB) To 3935.00 ft (KB) (TVD)**

Total Depth: 3935.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2435.00 ft (KB)

2427.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8655 Outside**

Press@RunDepth: 30.68 psig @ 3899.00 ft (KB)

Start Date: 2014.11.24

End Date:

2014.11.25

Start Time: 16:10:52

End Time:

00:15:21

Capacity: 8000.00 psig

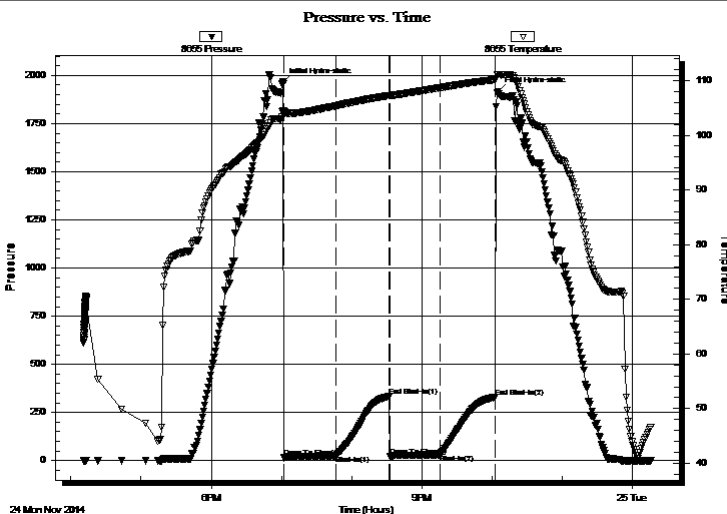
Last Calib.: 2014.11.25

Time On Btm: 2014.11.24 @ 19:00:51

Time Off Btm: 2014.11.24 @ 22:04:51

TEST COMMENT: 45- IF- BOB 41mins  
45- IS- No blow  
45- FF- BOB 20mins  
45- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1965.14	104.31	Initial Hydro-static
1	15.04	103.55	Open To Flow (1)
46	25.42	105.39	Shut-In(1)
91	332.22	107.25	End Shut-In(1)
92	20.51	107.21	Open To Flow (2)
135	30.68	108.69	Shut-In(2)
182	328.45	110.17	End Shut-In(2)
184	1915.86	111.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	SOCM, 5%O 95%M	0.07
40.00	GSMCO, 15%G 5%M 80%O	0.42
0.00	385' GIP	0.00

## Gas Rates

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

\* Recovery from multiple tests







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

Job Ticket: 58412

**DST#: 2**

ATTN: Marc Downing

Test Start: 2014.11.24 @ 16:10:51

## Tool Information

Drill Pipe:	Length: 3861.00 ft	Diameter: 3.75 inches	Volume: 52.74 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3898.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3879.00	
Shut In Tool	5.00			3884.00	
Hydraulic tool	5.00			3889.00	
Packer	5.00			3894.00	20.00 Bottom Of Top Packer
Packer	4.00			3898.00	
Stubb	1.00			3899.00	
Recorder	0.00	8651	Inside	3899.00	
Recorder	0.00	8655	Outside	3899.00	
Perforations	1.00			3900.00	
Change Over Sub	1.00			3901.00	
Drill Pipe	30.00			3931.00	
Change Over Sub	1.00			3932.00	
Bullnose	3.00			3935.00	37.00 Bottom Packers & Anchor

**Total Tool Length: 57.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

Job Ticket: 58412

**DST#: 2**

ATTN: Marc Downing

Test Start: 2014.11.24 @ 16:10:51

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	SOCM, 5%O 95%M	0.074
40.00	GSMCO, 15%G 5%M 80%O	0.424
0.00	385' GIP	0.000

Total Length: 55.00 ft      Total Volume: 0.498 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

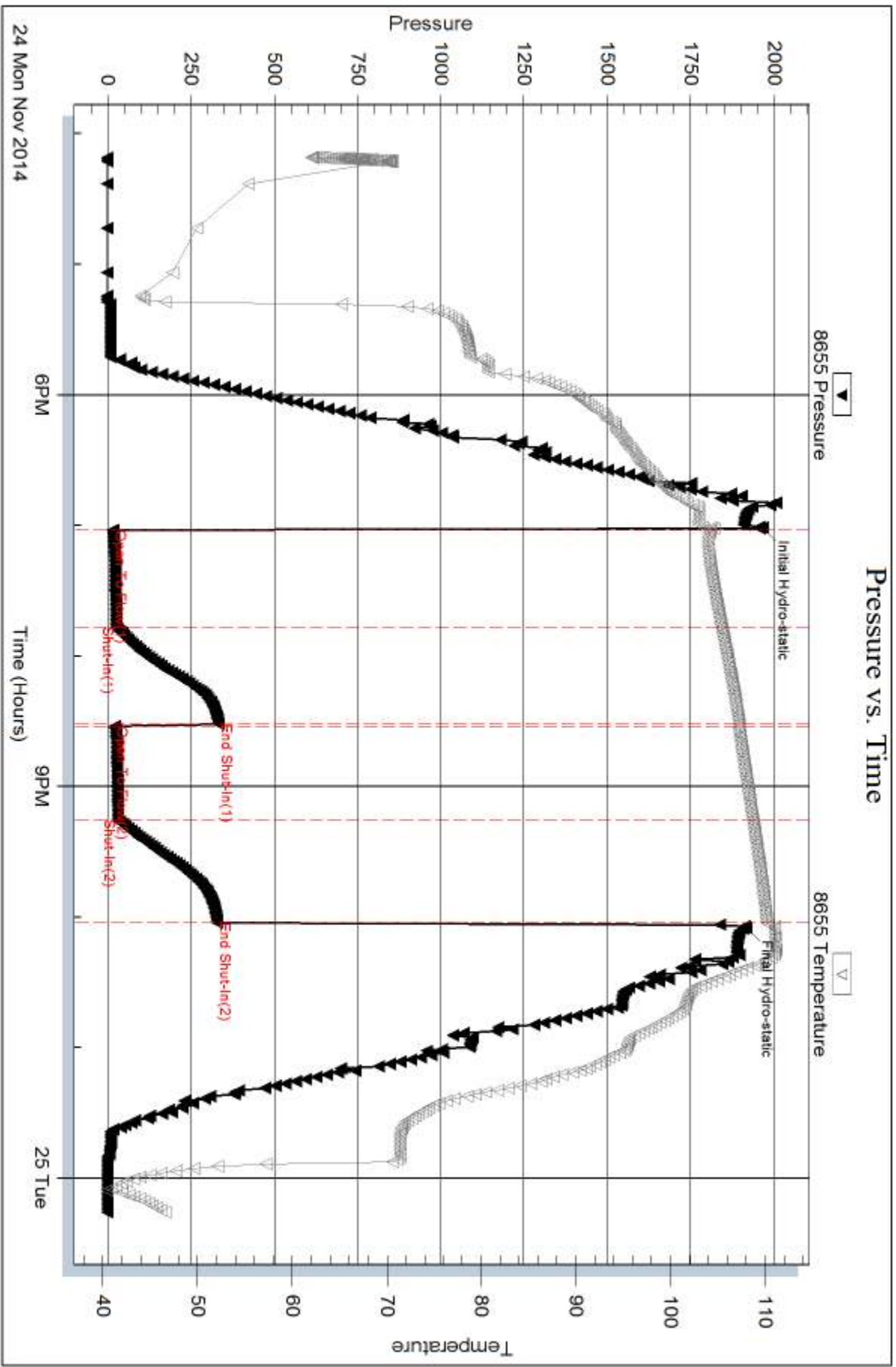
Recovery Comments:

Serial #: 8655

Outside H&C Oil Operating Inc.

Richmeier Unit #35-1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 58412

Printed: 2014.11.26 @ 11:23:09

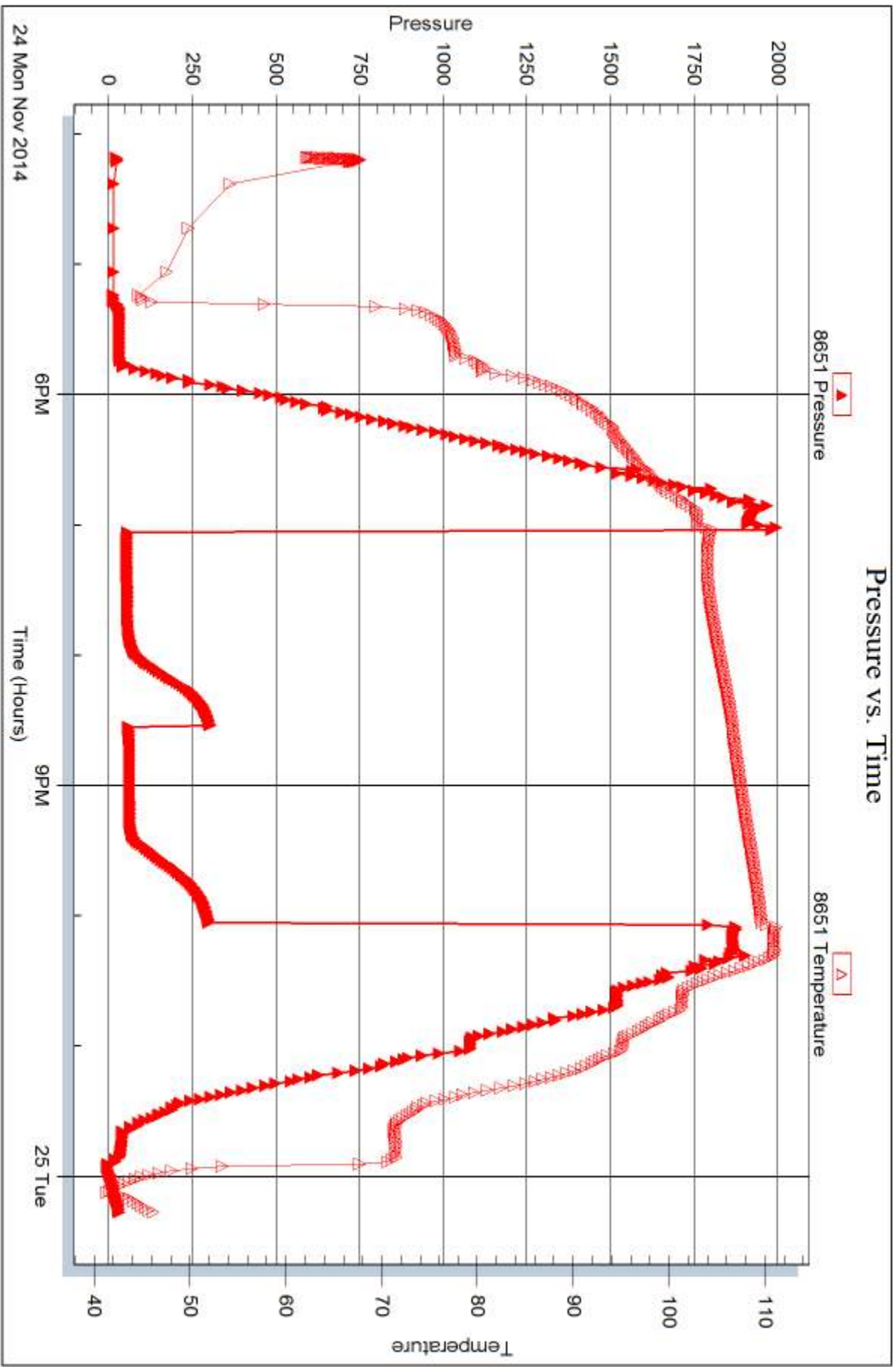
Serial #: 8651

Inside

H&C Oil Operating Inc.

Richmeier Unit #35-1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58412

Printed: 2014.11.26 @ 11:23:09



## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville, KS 67663

ATTN: Marc Downing

### **Richmeier Unit #35-1**

### **35-8s-25w Graham,KS**

Start Date: 2014.11.25 @ 08:53:45

End Date: 2014.11.25 @ 15:21:45

Job Ticket #: 58413                      DST #: 3

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

Printed: 2014.11.26 @ 11:22:25



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

ATTN: Marc Downing

Job Ticket: 58413

**DST#: 3**

Test Start: 2014.11.25 @ 08:53:45

## GENERAL INFORMATION:

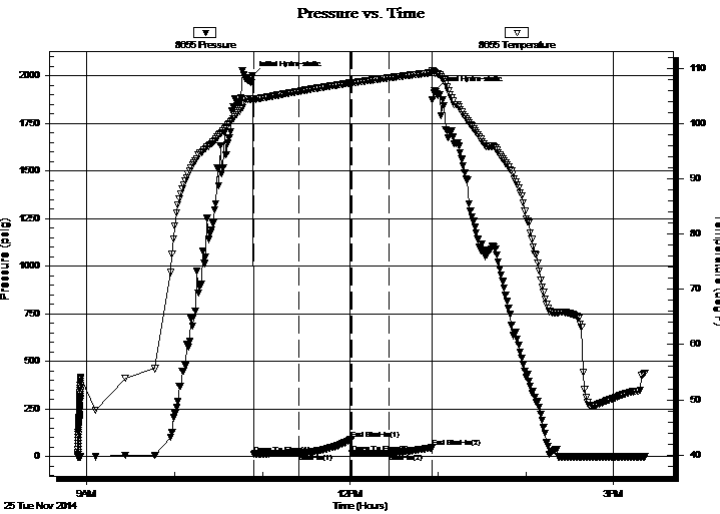
Formation: **KC "K&L"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:54:15  
 Time Test Ended: 15:21:45  
 Interval: **3934.00 ft (KB) To 3987.00 ft (KB) (TVD)**  
 Total Depth: 3987.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 62  
 Reference Elevations: 2435.00 ft (KB)  
 2427.00 ft (CF)  
 KB to GR/CF: 8.00 ft

## Serial #: 8655

Outside

Press@RunDepth: 17.29 psig @ 3935.00 ft (KB)  
 Start Date: 2014.11.25 End Date: 2014.11.25  
 Start Time: 08:53:46 End Time: 15:21:45  
 Capacity: 8000.00 psig  
 Last Calib.: 2014.11.25  
 Time On Btm: 2014.11.25 @ 10:53:15  
 Time Off Btm: 2014.11.25 @ 12:57:45

TEST COMMENT: 30- IF- Built very slow ly to 1"  
 30- IS- No blow  
 30- FF- Sporadic surface blow  
 30- FS- No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2000.38	104.53	Initial Hydro-static
1	13.11	104.10	Open To Flow (1)
32	15.38	105.81	Shut-In(1)
68	89.86	107.35	End Shut-In(1)
68	15.62	107.33	Open To Flow (2)
93	17.29	108.26	Shut-In(2)
123	46.65	109.20	End Shut-In(2)
125	1923.53	109.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	M	0.02

\* 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.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

Job Ticket: 58413

**DST#: 3**

ATTN: Marc Downing

Test Start: 2014.11.25 @ 08:53:45

## Tool Information

Drill Pipe:	Length: 3892.00 ft	Diameter: 3.75 inches	Volume: 53.17 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3934.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3915.00	
Shut In Tool	5.00			3920.00	
Hydraulic tool	5.00			3925.00	
Packer	5.00			3930.00	20.00 Bottom Of Top Packer
Packer	4.00			3934.00	
Stubb	1.00			3935.00	
Recorder	0.00	8651	Inside	3935.00	
Recorder	0.00	8655	Outside	3935.00	
Perforations	15.00			3950.00	
Change Over Sub	1.00			3951.00	
Drill Pipe	32.00			3983.00	
Change Over Sub	1.00			3984.00	
Bullnose	3.00			3987.00	53.00 Bottom Packers & Anchor

**Total Tool Length: 73.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**35-8s-25w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Richmeier Unit #35-1**

Job Ticket: 58413

**DST#: 3**

ATTN: Marc Downing

Test Start: 2014.11.25 @ 08:53:45

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

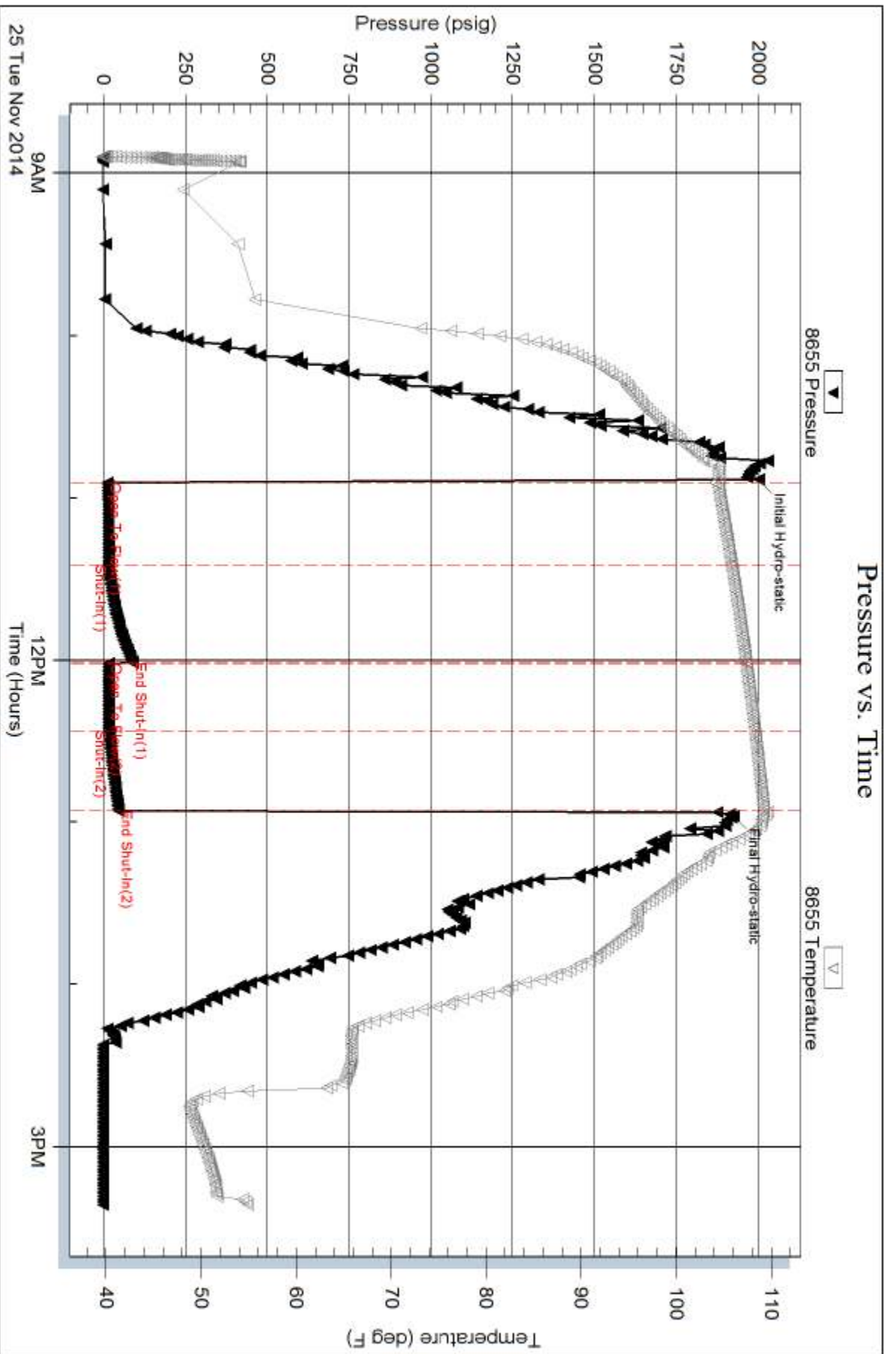
Recovery Comments:

Serial #: 8655

Outside H&C Oil Operating Inc.

Richmeier Unit #35-1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 58413

Printed: 2014.11.26 @ 11:22:26

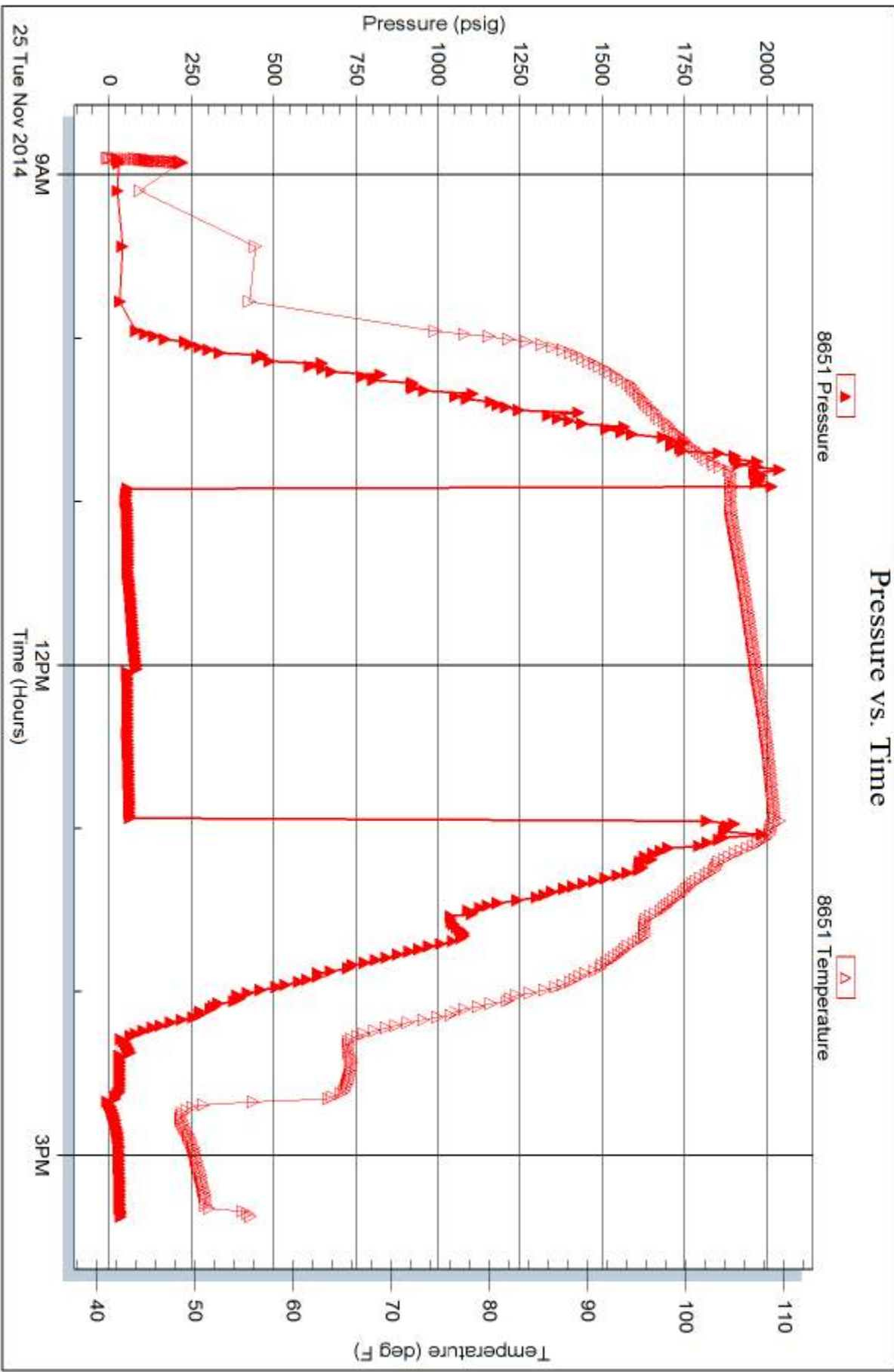
Serial #: 8651

Inside

H&C Oil Operating Inc.

Richmeier Unit #35-1

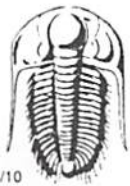
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 58413

Printed: 2014.11.26 @ 11:22:26



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58411

Well Name & No. Richmeier Unit #35-1 Test No. 1 Date 11/23/14  
 Company H+C Oil Operating, Inc. Elevation 2435 KB 2427 GL  
 Address PO Box 86 Plainville, KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 35 Twp. 8 S Rge. 25 W Co. Graham State KS

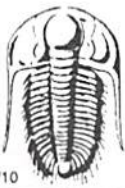
Interval Tested 3772-3816 Zone Tested LKC "B+D"  
 Anchor Length 44' Drill Pipe Run 3736 Mud Wt. 9.2  
 Top Packer Depth 3767 Drill Collars Run 29 Vis 59  
 Bottom Packer Depth 3772 Wt. Pipe Run \_\_\_\_\_ WL 2.2  
 Total Depth 3816 Chlorides 1,100 ppm System LCM Tr  
 Blow Description IP - BOB 11mins  
ISI - No Blow  
FF - BOB 21mins  
PSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>445</u>	<u>Feet of MW</u>			<u>85%</u>	<u>15%</u>
<u>5</u>	<u>Feet of CO</u>				

Rec Total 450' BHT 20° Gravity \_\_\_\_\_ API RW .19 @ 34° F Chlorides 75,000 ppm  
 (A) Initial Hydrostatic 1910  Test 1150 T-On Location 1720  
 (B) First Initial Flow 23  Jars \_\_\_\_\_ T-Started 1753  
 (C) First Final Flow 130  Safety Joint \_\_\_\_\_ T-Open 2131  
 (D) Initial Shut-In 1049  Circ Sub \_\_\_\_\_ T-Pulled 0001 11/24  
 (E) Second Initial Flow 135  Hourly Standby \_\_\_\_\_ T-Out 0221  
 (F) Second Final Flow 222  Mileage 166 RT 257.30 Comments \_\_\_\_\_  
 (G) Final Shut-In 1004  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1842  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1407.30  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45  \_\_\_\_\_  
 Sub Total 1407.30

Approved By \_\_\_\_\_ Our Representative Brennan Lonsdale

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58412

Well Name & No. Richmeier Unit #35-1 Test No. 2 Date 11/24/14  
 Company H+C Oil Operating, Inc. Elevation 2435 KB 2427 GL  
 Address PO Box 86 Plainville, KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 35 Twp. 8 S Rge. 25 W Co. Graham State KS

Interval Tested 3898 - 3935 Zone Tested KC "I+J"  
 Anchor Length 37' Drill Pipe Run 3861 Mud Wt. 9.4  
 Top Packer Depth 3893 Drill Collars Run 29 Vis 51  
 Bottom Packer Depth 3898 Wt. Pipe Run --- WL 7.2  
 Total Depth 3935 Chlorides 1600 ppm System LCM Tr  
 Blow Description IF - BOB 41 mins  
ISI - No How  
FF - BOB 20 mins  
PSF - No How

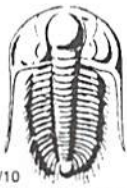
Rec	Feet of	%gas	%oil	%water	%mud
15'	SOCM		5		95
40'	GSMCO	15	80		5
	385' GIP				

Rec Total 55' BHT 110° Gravity 37 API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 1965  Test 1150 T-On Location 1555  
 (B) First Initial Flow 15  Jars --- T-Started 1611  
 (C) First Final Flow 25  Safety Joint --- T-Open 1902  
 (D) Initial Shut-In 332  Circ Sub --- T-Pulled 2202  
 (E) Second Initial Flow 21  Hourly Standby --- T-Out 0017 11/25  
 (F) Second Final Flow 31  Mileage 166 RT 257.30 Comments ---  
 (G) Final Shut-In 328  Sampler ---  
 (H) Final Hydrostatic 1916  Straddle ---  Ruined Shale Packer ---  
 Shale Packer ---  Ruined Packer ---  
 Extra Packer ---  Extra Copies ---  
 Extra Recorder --- Sub Total 0  
 Day Standby --- Total 1407.30  
 Accessibility --- MP/DST Disc't ---  
 Sub Total 1407.30

Approved By \_\_\_\_\_ Our Representative Brennan Lonsdale

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58413

4/10

Well Name & No. Richmeier Unit #35-1 Test No. 3 Date 11/25/14  
 Company H&C Oil Operating, Inc. Elevation 2435 KB 2427 GL  
 Address PO Box 86 Plainville, KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 35 Twp. 8 S Rge. 25 W Co. Graham State KS

Interval Tested 3934 - 3987 Zone Tested KC "K-2"  
 Anchor Length 53' Drill Pipe Run 3892 Mud Wt. 9.6  
 Top Packer Depth 3929 Drill Collars Run 29 Vis 60+  
 Bottom Packer Depth 3934 Wt. Pipe Run — WL 7.2  
 Total Depth 3987 Chlorides 1900 ppm System LCM Tr

Blow Description IF - Built very slowly to 1"  
ISI - No blow  
FF - Sporadic surface blow  
FST - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>M</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 109° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2000</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0845</u>
(B) First Initial Flow <u>13</u>	<input type="checkbox"/> Jars	T-Started <u>0854</u>
(C) First Final Flow <u>15</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1055</u>
(D) Initial Shut-In <u>90</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1255</u>
(E) Second Initial Flow <u>16</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1524</u>
(F) Second Final Flow <u>17</u>	<input checked="" type="checkbox"/> Mileage <u>166 RT</u> 257.30	Comments
(G) Final Shut-In <u>47</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1924</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 30  Extra Packer  Extra Copies 0  
 Initial Shut-In 30  Extra Recorder  Sub Total 0  
 Final Flow 30  Day Standby  Total 1407.30  
 Final Shut-In 30  Accessibility  MP/DST Disc't —  
 Sub Total 1407.30

Approved By \_\_\_\_\_ Our Representative Brannan Lonsdale

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