



WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

Confidentiality Requested:
 Yes No

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: _____



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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No 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: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <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> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	H & C Oil Operating Inc.
Well Name	North Fork Farms 20-1
Doc ID	1243667

All Electric Logs Run

Microresistivity log
Dual induction log
Dual Compensated Porosity log
Sonic Cement Bond log

Form	ACO1 - Well Completion
Operator	H & C Oil Operating Inc.
Well Name	North Fork Farms 20-1
Doc ID	1243667

Tops

Name	Top	Datum
Top Anhydrite	1944	+427
Base Anhydrite	1974	+397
Topeka	3484	-1113
Heebner	3707	-1336
Toronto	3728	-1357
LKC	3740	-1369
BKC	3979	-1608
Marmaton	4092	-1721
Cherokee Shale	4146	-1775
Cong. Sand	4223	-1852
Mississippi/Osage	4263	-1892
Gilmore City	4293	-1922

Summary of Changes

Lease Name and Number: North Fork Farms 20-1

API/Permit #: 15-195-22970-00-00

Doc ID: 1243667

Correction Number: 1

Approved By: NAOMI JAMES

Field Name	Previous Value	New Value
Approved By	Rene Stucky	NAOMI JAMES
Approved Date	02/04/2015	02/24/2015
Save Link	../kcc/detail/operatorEditDetail.cfm?docID=1233124	../kcc/detail/operatorEditDetail.cfm?docID=1243667
Well Type	GAS	OIL



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1233124
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013

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

CONFIDENTIAL 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: _____

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	H & C Oil Operating Inc.
Well Name	North Fork Farms 20-1
Doc ID	1233124

All Electric Logs Run

Microresistivity log
Dual induction log
Dual Compensated Porosity log
Sonic Cement Bond log

Form	ACO1 - Well Completion
Operator	H & C Oil Operating Inc.
Well Name	North Fork Farms 20-1
Doc ID	1233124

Tops

Name	Top	Datum
Top Anhydrite	1944	+427
Base Anhydrite	1974	+397
Topeka	3484	-1113
Heebner	3707	-1336
Toronto	3728	-1357
LKC	3740	-1369
BKC	3979	-1608
Marmaton	4092	-1721
Cherokee Shale	4146	-1775
Cong. Sand	4223	-1852
Mississippi/Osage	4263	-1892
Gilmore City	4293	-1922

Form	ACO1 - Well Completion
Operator	H & C Oil Operating Inc.
Well Name	North Fork Farms 20-1
Doc ID	1233124

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3925-3929'	1750 gal 15% MCA	3929'
4	3906-3914'	2000 gal 20% MCA	3914'



DRILL STEM TEST REPORT

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

PO Box 86
Planville, KS 67663

ATTN: Marc Downing

20-11s-23w Trego,KS

North Fork Farms #20-1

Start Date: 2014.11.22 @ 20:29:46

End Date: 2014.11.23 @ 06:16:46

Job Ticket #: 58410 DST #: 1

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

Printed: 2014.11.26 @ 15:42:55

H&C Oil Operating Inc.

North Fork Farms #20-1

20-11s-23w Trego,KS

DST # 1

KC "1&J"

2014.11.22



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

H&C Oil Operating Inc.

North Fork Farms #20-1

PO Box 86
Planville, KS 67663

20-11s-23w Trego,KS

ATTN: Marc Downing

Job Ticket: 58410

DST#: 1

Test Start: 2014.11.22 @ 20:29:46

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:12:46

Time Test Ended: 06:16:46

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 3892.00 ft (KB) To 3940.00 ft (KB) (TVD)

Reference Elevations: 2371.00 ft (KB)

Total Depth: 3940.00 ft (KB) (TVD)

2363.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8655 Outside

Press@RunDepth: 493.19 psig @ 3893.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.22

End Date:

2014.11.23

Last Calib.:

2014.11.23

Start Time: 20:29:47

End Time:

06:16:46

Time On Btm:

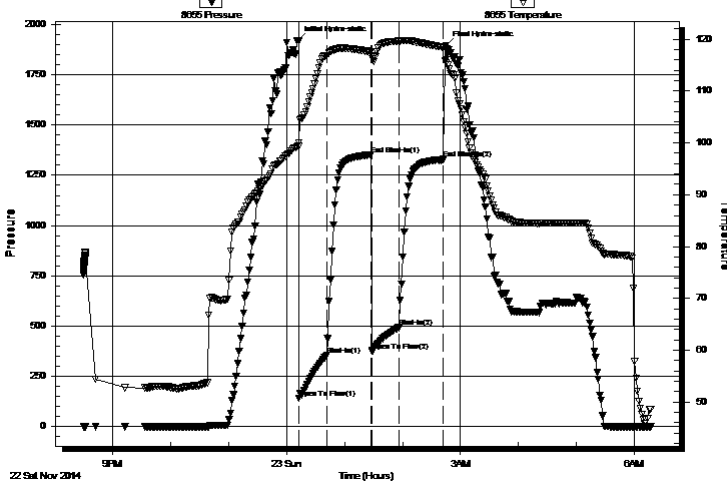
2014.11.23 @ 00:11:16

Time Off Btm:

2014.11.23 @ 02:44:46

TEST COMMENT: 30- IF- BOB 1 min
45- IS- BOB 16 mins
30- FF- BOB instantly
45- FS- BOB 22 mins

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1920.93	99.21	Initial Hydro-static
2	140.09	100.04	Open To Flow (1)
31	354.95	116.91	Shut-In(1)
76	1352.00	117.58	End Shut-In(1)
77	374.63	116.84	Open To Flow (2)
105	493.19	119.65	Shut-In(2)
151	1329.70	118.44	End Shut-In(2)
154	1894.74	116.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1435.00	GO, 20%G 80%O	19.34
0.00	1560' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating Inc.

North Fork Farms #20-1

PO Box 86
Planville, KS 67663

20-11s-23w Trego,KS

Job Ticket: 58410

DST#: 1

ATTN: Marc Downing

Test Start: 2014.11.22 @ 20:29:46

Tool Information

Drill Pipe:	Length: 3854.00 ft	Diameter: 3.75 inches	Volume: 52.65 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3892.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	68.00 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			3873.00	
Shut In Tool	5.00			3878.00	
Hydraulic tool	5.00			3883.00	
Packer	5.00			3888.00	20.00 Bottom Of Top Packer
Packer	4.00			3892.00	
Stubb	1.00			3893.00	
Recorder	0.00	8651	Inside	3893.00	
Recorder	0.00	8655	Outside	3893.00	
Perforations	10.00			3903.00	
Change Over Sub	1.00			3904.00	
Drill Pipe	32.00			3936.00	
Change Over Sub	1.00			3937.00	
Bullnose	3.00			3940.00	48.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating Inc.

North Fork Farms #20-1

PO Box 86
Planville, KS 67663

20-11s-23w Trego,KS

Job Ticket: 58410

DST#: 1

ATTN: Marc Downing

Test Start: 2014.11.22 @ 20:29:46

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1435.00	GO, 20%G 80%O	19.341
0.00	1560' GIP	0.000

Total Length: 1435.00 ft Total Volume: 19.341 bbl

Num Fluid Samples: 0

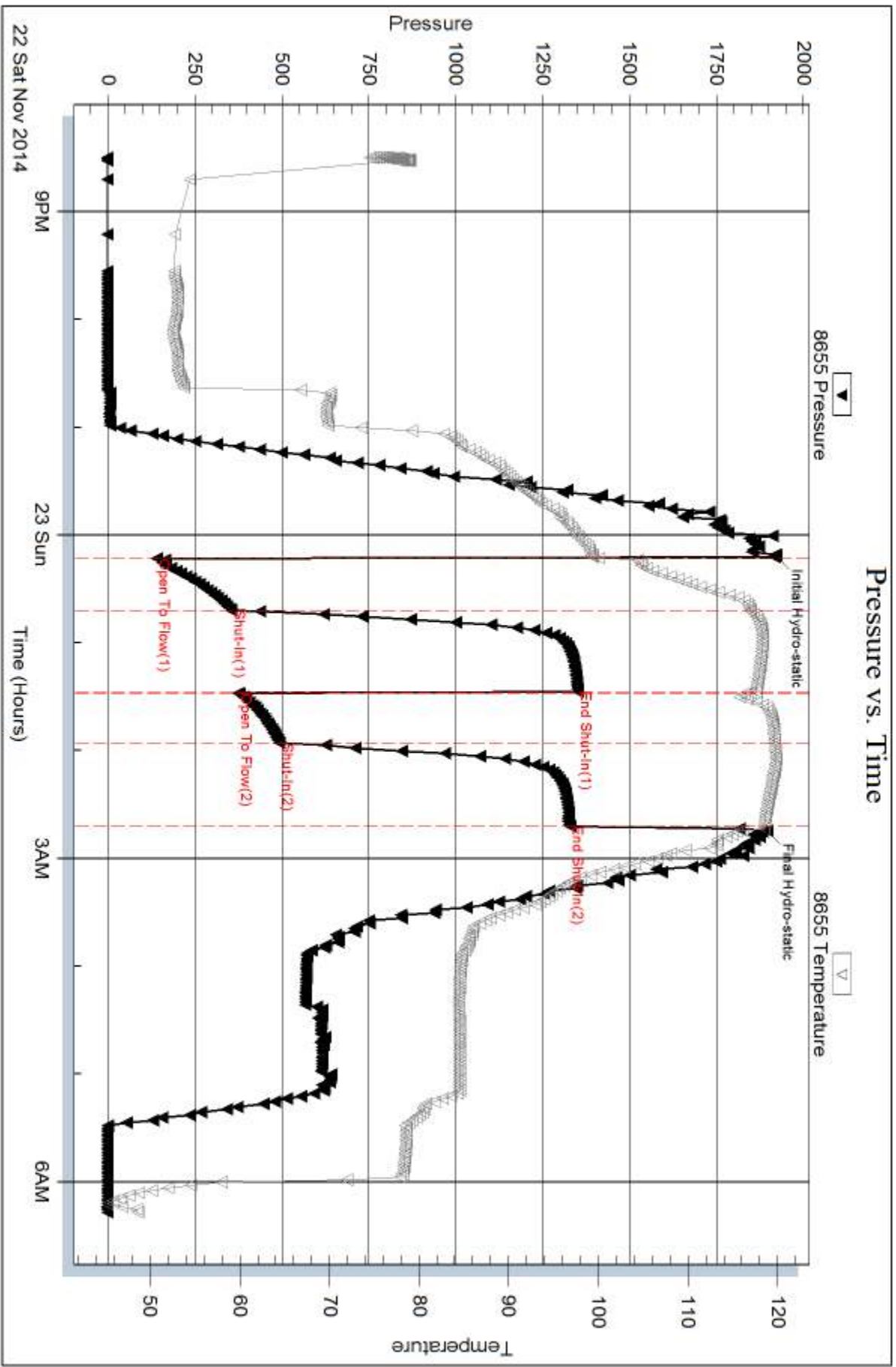
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



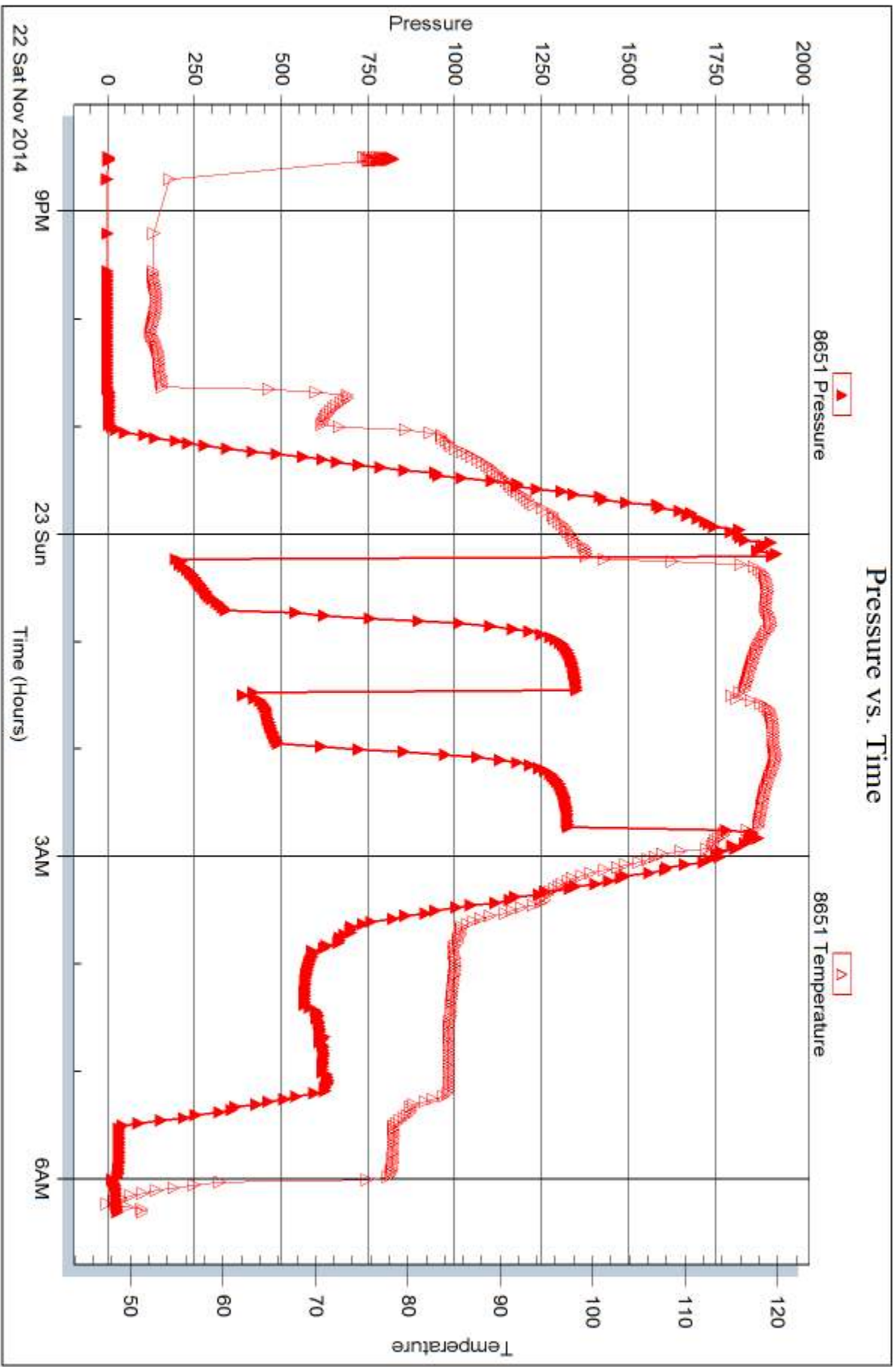
Serial #: 8651

Inside

H&C Oil Operating Inc.

20-11s-23w Trego, KS

DST Test Number: 1





DRILL STEM TEST REPORT

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

PO Box 86
Planville, KS 67663

ATTN: Marc Downing

20-11s-23w Trego,KS

North Fork Farms #20-1

Start Date: 2014.11.26 @ 08:39:04

End Date: 2014.11.26 @ 14:13:34

Job Ticket #: 58414 DST #: 2

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

Printed: 2014.11.26 @ 15:40:52

H&C Oil Operating Inc.

North Fork Farms #20-1

20-11s-23w Trego,KS

DST # 2

Marmaton

2014.11.26



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

H&C Oil Operating Inc.

North Fork Farms #20-1

PO Box 86
Planville, KS 67663

20-11s-23w Trego,KS

ATTN: Marc Downing

Job Ticket: 58414

DST#: 2

Test Start: 2014.11.26 @ 08:39:04

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:20:04

Time Test Ended: 14:13:34

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 4104.00 ft (KB) To 4152.00 ft (KB) (TVD)

Reference Elevations: 2371.00 ft (KB)

Total Depth: 4152.00 ft (KB) (TVD)

2363.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8655 Outside

Press@RunDepth: 25.65 psig @ 4105.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.26

End Date:

2014.11.26

Last Calib.:

2014.11.26

Start Time: 08:39:05

End Time:

14:13:34

Time On Btm:

2014.11.26 @ 10:18:34

Time Off Btm:

2014.11.26 @ 12:23:34

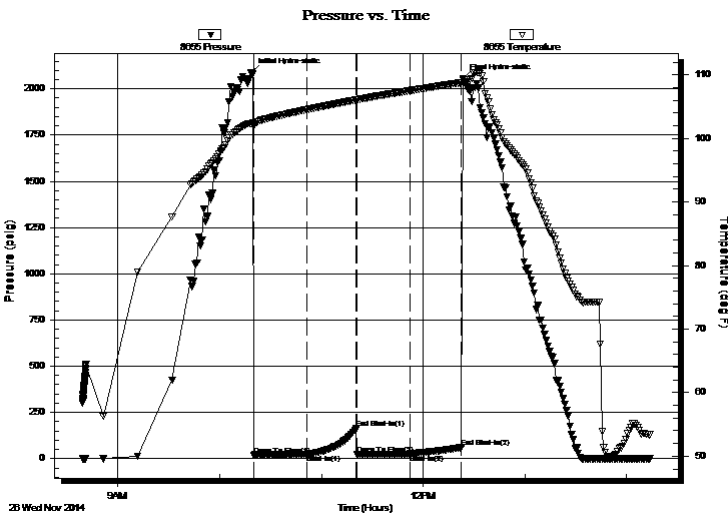
TEST COMMENT: 30- IF- Built very slow ly to 3/4"

30- IS- No blow

30- FF- No blow

30- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2089.17	102.36	Initial Hydro-static
2	19.81	101.86	Open To Flow (1)
33	21.95	104.54	Shut-In(1)
62	161.92	106.07	End Shut-In(1)
63	22.66	106.07	Open To Flow (2)
94	25.65	107.50	Shut-In(2)
124	60.06	108.76	End Shut-In(2)
125	2056.34	109.28	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.

North Fork Farms #20-1

PO Box 86
Planville, KS 67663

20-11s-23w Trego,KS

ATTN: Marc Downing

Job Ticket: 58414

DST#: 2

Test Start: 2014.11.26 @ 08:39:04

Tool Information

Drill Pipe:	Length: 4078.00 ft	Diameter: 3.75 inches	Volume: 55.71 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:	23.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4104.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	68.00 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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Change Over Sub	1.00			4085.00	
Shut In Tool	5.00			4090.00	
Hydraulic tool	5.00			4095.00	
Packer	5.00			4100.00	20.00 Bottom Of Top Packer
Packer	4.00			4104.00	
Stubb	1.00			4105.00	
Recorder	0.00	8651	Inside	4105.00	
Recorder	0.00	8655	Outside	4105.00	
Perforations	10.00			4115.00	
Change Over Sub	1.00			4116.00	
Drill Pipe	32.00			4148.00	
Change Over Sub	1.00			4149.00	
Bullnose	3.00			4152.00	48.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating Inc.

North Fork Farms #20-1

PO Box 86
Planville, KS 67663

20-11s-23w Trego, KS

Job Ticket: 58414

DST#: 2

ATTN: Marc Downing

Test Start: 2014.11.26 @ 08:39:04

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 82.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 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:

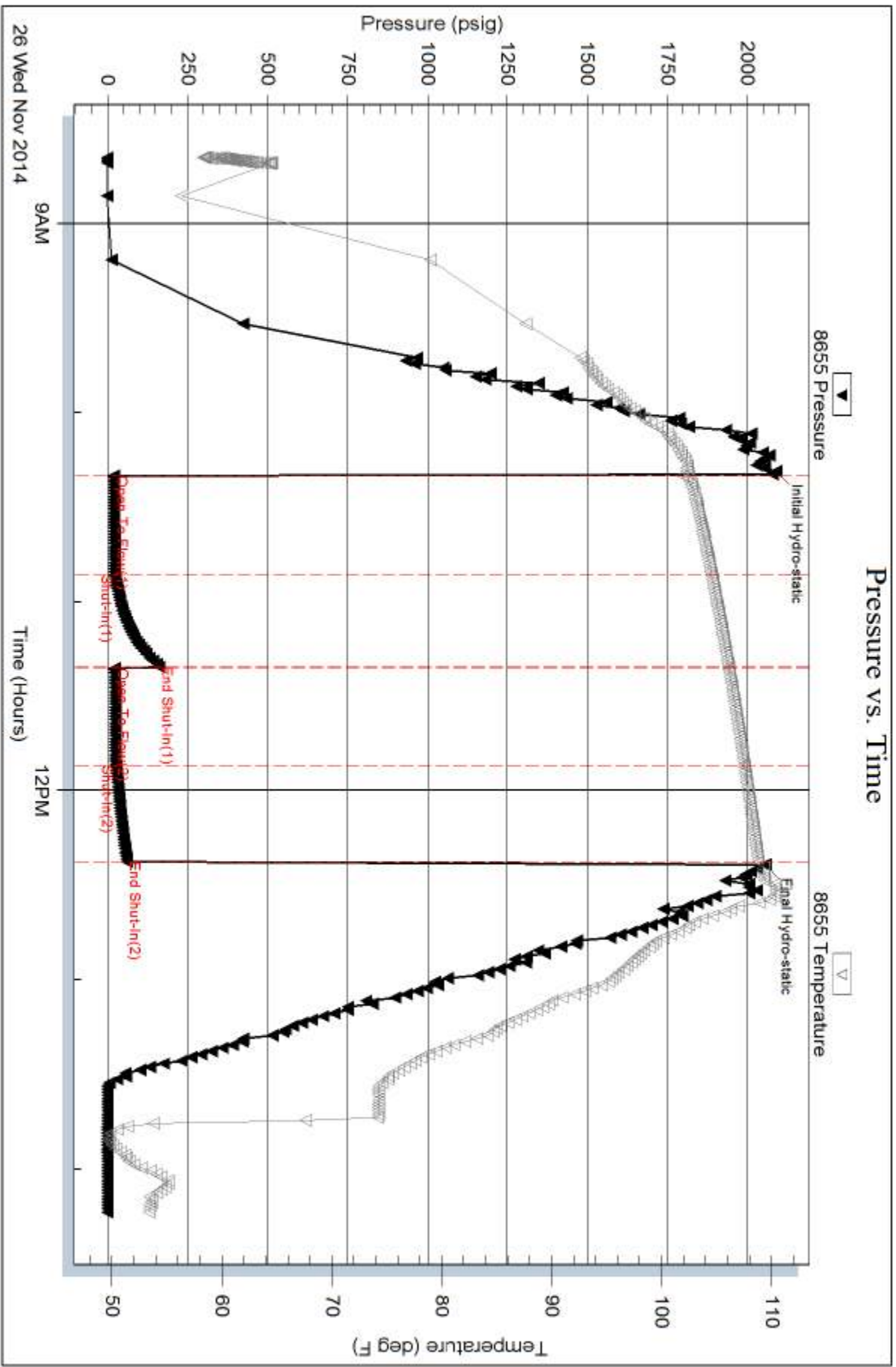
Recovery Comments:

Serial #: 8655

Outside H&C Oil Operating Inc.

20-11-s-23w Trego,KS

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 58414

Printed: 2014.11.26 @ 15:40:53

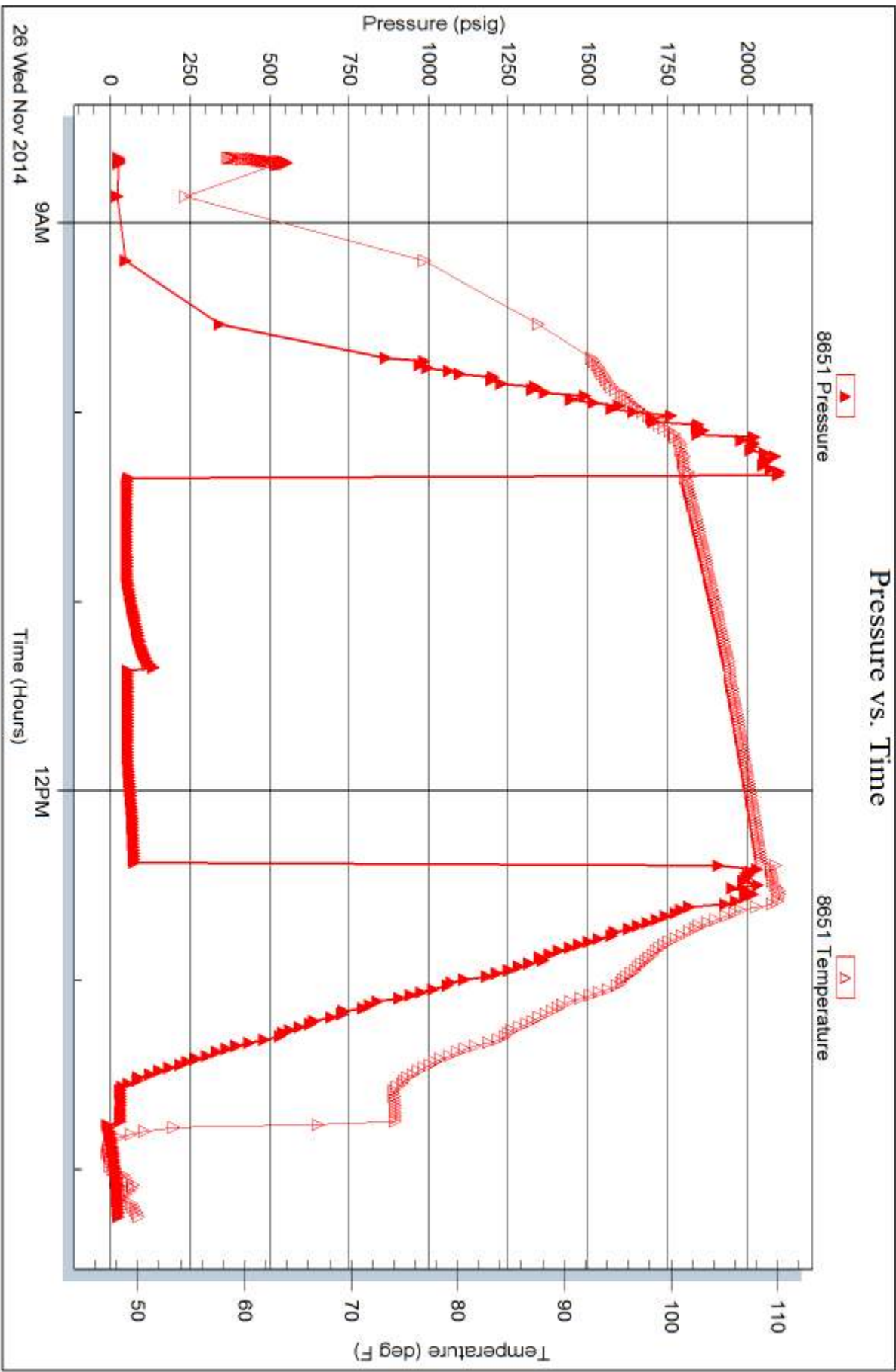
Serial #: 8651

Inside

H&C Oil Operating Inc.

20-11s-23w Trego,KS

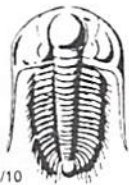
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58414

Printed: 2014, 11, 26 @ 15:40:53



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58410

Well Name & No. North Fork Farms #20-1 Test No. 1 Date 11/22/14
 Company H+C Oil Operating, Inc. Elevation 2371 KB 2363 GL
 Address PO Box 86 Plainville, KS 67663
 Co. Rep / Geo. Marc Downing Rig Discovery #1
 Location: Sec. 20 Twp. 11 S Rge. 23 W Co. Trego State KS

Interval Tested 3892-3940 Zone Tested KC "I+J"
 Anchor Length 48' Drill Pipe Run 3854 Mud Wt. 8.9
 Top Packer Depth 3887 Drill Collars Run 30 Vis 51
 Bottom Packer Depth 3892 Wt. Pipe Run _____ WL 8.0
 Total Depth 3940 Chlorides 3000 ppm System LCM 1 1/2"

Blow Description IF- BOB 1min
ISI- BOB 16mins
RF- BOB instantly
FST- BOB 22mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>1435</u>	<u>60</u>	<u>20</u>	<u>80</u>		
Rec	Feet of <u>1560' GIP</u>	%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

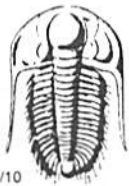
Rec Total 1435' BHT 118° Gravity 36 API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1921 Test 1150 T-On Location 2005
 (B) First Initial Flow 140 Jars _____ T-Started 2030
 (C) First Final Flow 355 Safety Joint _____ T-Open 0014 11/23
 (D) Initial Shut-In 1352 Circ Sub 50 T-Pulled 0244
 (E) Second Initial Flow 375 Hourly Standby _____ T-Out 0619
 (F) Second Final Flow 493 Mileage 94 RT x 2 Comments Rig broke down
 (G) Final Shut-In 1330 Sampler _____ 291.40 Loaded tools
 (H) Final Hydrostatic 1895 Straddle _____ 11/23 @ 1430

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 45 Shale Packer _____ Ruined Packer _____
 Final Flow 30 Extra Packer _____ Extra Copies _____
 Final Shut-In 45 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1491.40
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1491.40

Approved By _____ Our Representative Brannan Lonsdale

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. 58414

Well Name & No. North Fork Farms #20-1 Test No. 2 Date 11/26/14
 Company H&C Oil Operations, Inc Elevation 2371 KB 2303 GL
 Address PO Box 86 Plainville, KS 67663
 Co. Rep / Geo. Marc Downing Rig Discovery #1
 Location: Sec. 20 Twp. 11 S Rge. 23 W Co. Trego State KS

Interval Tested 4104-4152 Zone Tested Marmaton
 Anchor Length 48' Drill Pipe Run 4078 Mud Wt. 8.4
 Top Packer Depth 4099 Drill Collars Run 29 Vis 82
 Bottom Packer Depth 4104 Wt. Pipe Run _____ WL 72
 Total Depth 4152 Chlorides 4,500 ppm System LCM 1#

Blow Description IF - Built very slowly to 3/4"
ISI - No Blow
FF - No Blow
FSI - 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	Feet of	%gas	%oil	%water	%mud

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

(A) Initial Hydrostatic 2089 Test 1250 T-On Location 0831
 (B) First Initial Flow 20 Jars _____ T-Started 0839
 (C) First Final Flow 22 Safety Joint _____ T-Open 1021
 (D) Initial Shut-In 162 Circ Sub _____ T-Pulled 1221
 (E) Second Initial Flow 23 Hourly Standby _____ T-Out 1415
 (F) Second Final Flow 26 Mileage 94 RT 145.70 Comments _____
 (G) Final Shut-In 60 Sampler _____
 (H) Final Hydrostatic 2056 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 30 Extra Recorder _____ Sub Total 0
 Final Flow 30 Day Standby _____ Total 1395.70
 Final Shut-In 30 Accessibility _____ MP/DST Disc't _____
 Sub Total 1395.70

Approved By _____ Our Representative Brannan Lonsdale

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.

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. 725

Date	11-18-14	Sec.	20	Twp.	11	Range	23	County	Trego	State	KS	On Location		Finish	6:00 PM
Lease	North Fork Farm		Well No.	# 20-1											
Contractor	Discovery #1														
Type Job	Surface														
Hole Size	12 1/4														
Csg.	8 5/8														
Tbg. Size															
Tool															
Cement Left in Csg.	20'														
Meas Line	Displace 12 3/4 bbl														
EQUIPMENT															
Pumptirk	No.	Cementer													
	20	Helper	Nick												
Bulkirk	No.	Driver	Tyloc												
Bulkirk	No.	Driver	Brett												
JOB SERVICES & REMARKS															
Remarks:															
Rat Hole															
Mouse Hole															
Centralizers															
Baskets															
D/V or Port Collar															
	Sand														
	Handling 138														
	Mileage														
	FLOAT EQUIPMENT														
	Guide Shoe														
	Centralizer														
	Baskets														
	AFU Inserts														
	Float Shoe														
	Latch Down														
	Pumptirk Charge Surface														
	Mileage 45														
	Tax														
	Discount														
	Total Charge														

Cement
Circulated!!

COPYRIGHT

X Signature 

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. 730

Date	11-27-14	Sec.	20	Twp.	11	Range	23	County	Trego	State	KS	On Location		Finish	2:30 AM
Lease	North Fork Farms		Well No.	20-1		Location Wakeney 4 N 1 W 1 N Wind									
Contractor	Discovery #1														
Type Job	Production String														
Hole Size	7 7/8														
Csg.	5 1/2														
Tbg. Size	4331.29														
Tool															
Cement Left in Csg.	20.65														
Meas Line	Shoe Joint 20.65 Displace 105 bbl														
EQUIPMENT															
Pumptrk	No.	Cementier													
	20	Helper	Nick Brett												
Bulktrk	No.	Driver	Tyson												
Bulktrk	No.	Driver	Lannie												
JOB SERVICES & REMARKS															
Remarks:															
Rat Hole	30 5x														
Mouse Hole	15 5x														
Centralizers	1, 2, 4, 6, 8, 21, 9, 10, 11, 12, 13, 42, 52, 54														
Baskets	3, 60 & 80 79, 81														
D/V or Port Collar															
Handling	710														
Mileage	5 1/2 FLOAT EQUIPMENT														
Guide Shoe															
Centralizer	- 16														
Baskets	- 3														
AFU Inserts															
Float Shoe	- 1														
Latch Down	- 1														
Pumptrk Charge															
Mileage	45														
Tax															
Discount															
Total Charge															

Cement Circulated

X Signature *Jeff Mappell*