



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1193714  
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: \_\_\_\_\_

1193714

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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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

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

No. 7594

Cell 785-324-1041

Date	1-17-14	Sec.	25	Twp.	16	Range	14	County	Barton	State	Ks	On Location		Finish	6:15 PM
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Location 281 + Galatia Blacktop - 1 1/2 E 5/5

Lease Kevin Wirth Well No. 1 Owner To Quality Oilwell Cementing, Inc.

Contractor Southwind #2 You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job Surface Charge To RJM Company

Hole Size 12 1/4" T.D. 454' Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Csg. 8 5/8" Depth 454' The above was done to satisfaction and supervision of owner agent or contractor.

Tbg. Size \_\_\_\_\_ Depth 454' Cement Amount Ordered 225 sx Common 3%cc

Tool \_\_\_\_\_ Depth \_\_\_\_\_ Cement Left in Csg. 20' Shoe Joint 20' Meas Line \_\_\_\_\_ Displace 27 1/2 BUS 2% Gel

**EQUIPMENT** Common 225

Pumptrk	16	No.	Cement Helper	<u>Billy</u>	Poz. Mix
Bulktrk	14	No.	Driver	<u>David</u>	Gel. <u>5</u>
Bulktrk	<u>pill</u>	No.	Driver	<u>Rick</u>	Calcium <u>7</u>

**JOB SERVICES & REMARKS** Remarks: Cement did Circulate

Rat Hole \_\_\_\_\_ Flowseal \_\_\_\_\_

Mouse Hole \_\_\_\_\_ Kol-Seal \_\_\_\_\_

Centralizers \_\_\_\_\_ Mud CLR 48 \_\_\_\_\_

Baskets \_\_\_\_\_ CFL-117 or CD110 CAF 38 \_\_\_\_\_

D/V or Port Collar \_\_\_\_\_ Sand \_\_\_\_\_

Handling 237 Mileage \_\_\_\_\_

**FLOAT EQUIPMENT**

Guide Shoe \_\_\_\_\_

Centralizer \_\_\_\_\_

Baskets \_\_\_\_\_

AFU Inserts \_\_\_\_\_

Float Shoe \_\_\_\_\_

Latch Down \_\_\_\_\_

Pumptrk Charge Surface Mileage 21 Tax \_\_\_\_\_ Discount \_\_\_\_\_ Total Charge \_\_\_\_\_

X Signature William Sanders

## GENERAL TERMS AND CONDITIONS

**DEFINITIONS:** In these terms and conditions, "Quality" shall mean Quality Oilwell Cementing, Inc., and "Customer" shall refer to the party identified by that term on the front of this contract. As applicable, "Job" relates to the services described on the front side of this contract, "merchandise" refers to the material described on the front of this contract and to any other materials, products, or supplies used, sold, or furnished under the requirements of this contract.

– **TERMS:** Unless satisfactory credit has been established, "CUSTOMER" must tender full cash payment to "QUALITY" before the job is undertaken or merchandise is delivered. If satisfactory credit has been established, the terms of payment for the job and/or merchandise, including bulk cement, are net cash, payable in 30 days from the completion of the job and/or delivery of the merchandise. For all past due invoices, "CUSTOMER" agrees to pay interest on amounts invoiced at a rate of 18 percent per annum until paid. Notwithstanding the foregoing in no event shall this Contract provide for interest exceeding the maximum rate of interest that "CUSTOMER" may agree to pay under applicable law. If any such interest should be provided for, it shall be and hereby is deemed to be a mistake, and this contract shall be automatically reformed to lower the rate of interest to the maximum legal contract rate, any amounts previously paid as excess interest shall be deducted from the amounts owing from the "CUSTOMER" or at the option of "QUALITY," refunded directly to "CUSTOMER." For purposes of this paragraph, QUALITY and CUSTOMER agree that KANSAS law shall apply. Any discounts granted with this contract are null and void if the charges are not paid when due.

– **ATTORNEY FEES:** In any legal action or proceeding between the parties to enforce any of the terms of this Service Contract, or in any way pertaining to the term of this Contract, the prevailing party shall be entitled to recover all expenses, including, but not limit to, a reasonable sum as and attorney's fees.

– **PRICES AND TAXES:** All merchandise listed in "QUALITY'S" current price schedule are F.O.B. QUALITY'S local station and are subject to change without notice. All prices are exclusive of any federal, state, local, or special taxes for the sale or use of the merchandise or services listed. The amount of taxes required to be paid by QUALITY shall be added to the quoted prices charged to CUSTOMER.

– **TOWING CHARGES:** QUALITY will make a reasonable attempt to get to and from each job site using its own equipment. Should QUALITY be unable to do so because of poor or inadequate road conditions, and should it become necessary to employ a tractor or other pulling equipment to get to or from the job site, the tractor or pulling equipment will be supplied by CUSTOMER or, if furnished by QUALITY, will be charged to and paid by CUSTOMER.

– **PREPARATION CHARGES:** If a job and/or merchandise is ordered and CUSTOMER cancels the order after preparation of a chemical solution or other material, CUSTOMER will pay QUALITY for the expenses incurred by QUALITY as a result of the cancellation.

– **DEADHAUL CHARGES:** Unless otherwise specified on the front of this Contract, a deadhaul charges as set forth in QUALITY'S current price book will be charged each way for each service unit which is ordered by CUSTOMER but not used.

– **SERVICE CONDITIONS AND LIABILITIES:** 1. QUALITY carries public liability and property damage insurance, but since there are so many uncertain and unknown conditions beyond QUALITY'S control, QUALITY shall not be liable for injuries to property or persons or for loss or damage arising from the performance of the job or delivery of the merchandise. Customer shall be responsible for and indemnify, defend, and hold harmless QUALITY, its officers, agents and employees, from and against any and all claims or suits for:

(A) Damage to property or for bodily injury, sickness, disease, or death, brought by any person, including CUSTOMER and/or the well owner; and:

(B) Oil spills, pollution, surface or sub-surface damage, injury to the well, reservoir loss, or damage arising from a well blowout arising out of or in connection with QUALITY'S performance of the job or furnishing of merchandise in accordance with this contract, unless such loss or damage is caused by the willful misconduct or gross negligence of QUALITY or its employees.

2. With respect to any of QUALITY'S tools, equipment, or instruments which are lost in the well or damaged when performing or attempting to perform the job or, in the case of marine operations, are lost or damaged at any time after delivery to the landing for CUSTOMER and before return to QUALITY at the landing, CUSTOMER shall either recover the lost item without cost to QUALITY or reimburse QUALITY the current replacement cost of the item unless the loss or damage results from the sole negligence of QUALITY or its employees.

3. QUALITY does not assume any liability or responsibility for damages or conditions resulting from chemical action in cements caused by contamination of water or other fluids.

**WARRANTIES:** 1. QUALITY warrants all merchandise manufactured or furnished by it to be free from defects in material and workmanship under normal use and service when installed, and used, and/or serviced in the manner provided and intended. QUALITY'S obligation under this warranty is expressly limited to repair replacement, or allowance for credit, at its option, for any merchandise which is determined by QUALITY to be defective. THIS IS THE SOLE WARRANTY OF QUALITY AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESS OR OTHERWISE IMPLIED, IN FACT OR IN LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, CUSTOMER'S sole and only remedy with regard to any defective merchandise shall be the repair or replacement thereof or allowance for credit as herein provided, and QUALITY shall not be liable for any consequential, special, incidental, or punitive damages resulting from or caused by defective materials, products or supplies.

2. More specifically:

(A) Nothing in this contract shall be construed as a warranty by QUALITY of the success or the effectiveness of the result of any work done or merchandise used, sold, or furnished under this contract.

(B) Nothing in this contract shall be construed as a warranty of the accuracy or correctness of any facts, information, or data furnished by QUALITY or any interpretation of test, meter readings, chart information, analysis or research, or recommendations made by QUALITY, unless the inaccuracy or incorrectness is caused by the willful misconduct or gross negligence of QUALITY or its employees in the preparation or furnishing of such facts, information or data. (C) Work done by QUALITY shall be under the direct supervision and control of the CUSTOMER or his agent and QUALITY will accomplish the job as an independent contractor and not as an employee or agent of the CUSTOMER.

# 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. 7692

Date	1-23-14	Sec.	25	Twp.	16	Range	14	County	Barton	State	KS	On Location		Finish	3:15 AM
Location								281 Galatia Black top, 1 1/2 E, S n 2							
Lease	Kevin Wirth			Well No.	1			Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.						
Contractor	Southwind #2							Charge To	RJM						
Type Job	long string			T.D.	3497			Street							
Hole Size	7 7/8			Depth	3493			City	State						
Csg.	5 1/2 15.5 #			Depth				The above was done to satisfaction and supervision of owner agent or contractor.							
Tbg. Size				Shoe Joint	10.23			Cement Amount Ordered 180 sx com, 10% salt, 5% Gilsonite							
Tool				Displace	82.8866										
Cement Left in Csg.				EQUIPMENT				Common 180							
Meas Line				No.	Cementor				Poz. Mix						
				Helper	Lonnie W.										
				No.	Driver				Gel.						
				Driver	Claton										
				No.	Driver				Calcium						
				Driver	Travis										
JOB SERVICES & REMARKS								Hulls							
Remarks:								Salt 17							
Rat Hole	30sx							Flowseal							
Mouse Hole	15sx							Kol-Seal 900#							
Centralizers	1,2,3,4,5,6,7,8,9							Mud CLR 48 500gal							
Baskets	2,6							CFL-117 or CD110 CAF 38							
D/V or Port Collar								Sand							
Pipe on bottom broke circulation Pumped 500gal Mud CLR 48 with 10bbl fw behind it. Plugged Rat hole with 30sx and Mouse hole with 15sx. Hooked to 5 1/2 and Mixed 135sx com, 10% salt, 5% Gilsonite. Shut down and <del>stopped</del> washed pump and lines. Released plug and displaced with 82Kbbl fw plug landed and held.								Handling 20%							
								Mileage							
								FLOAT EQUIPMENT							
								Guide Shoe 1							
								Centralizer 9 turbos							
								Baskets 2							
								AFU inserts 1							
								Float Shoe							
								Latch Down							
Lift Pressure 800 psi								1 Rubber plug							
Plug landed at 1400 psi								Pumptrk Charge prod string							
								Mileage 21							
Signature <i>William L. ...</i>								Tax							
								Discount							
								Total Charge							

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## DRILL STEM TEST REPORT

Prepared For: **RJM Company**

P.O. Box 256  
Claffin ks, 67525-0256

ATTN: Jim Musgrove

**Kevin Wirth #1**

**25/16s/14w/Barton**

Start Date: 2014.01.21 @ 02:55:00

End Date: 2014.01.21 @ 11:34:30

Job Ticket #: 18231                      DST #: 1

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2014.01.21 @ 11:56:00

RJM Company  
25/16s/14w/Barton  
Kevin Wirth #1  
DST # 1  
LKC "A-F"  
2014.01.21





# DRILL STEM TEST REPORT

RJM Company  
 P.O. Box 256  
 Claflin ks, 67525-0256  
 ATTN: Jim Musgrove

**25/16s/14w/Barton**  
**Kevin Wirth #1**  
 Job Ticket: 18231      **DST#: 1**  
 Test Start: 2014.01.21 @ 02:55:00

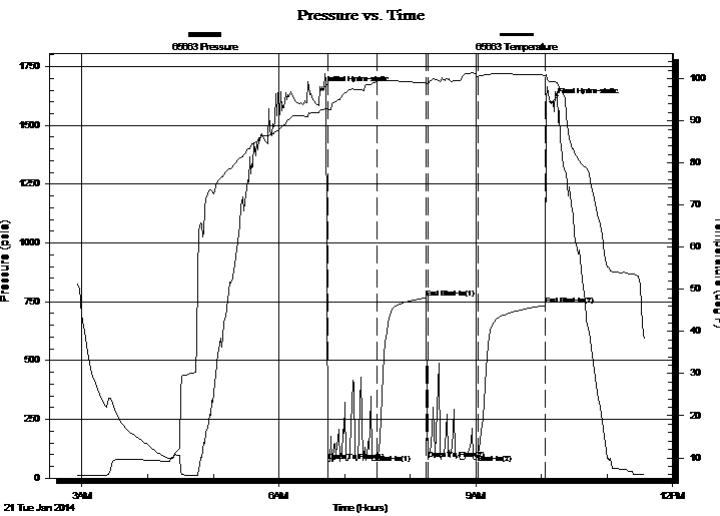
## GENERAL INFORMATION:

Formation: **LKC "A-F"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 06:44:30  
 Time Test Ended: 11:34:30  
 Interval: **3204.00 ft (KB) To 3284.00 ft (KB) (TVD)**  
 Total Depth: 3284.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane Konzem  
 Unit No: 3325/50/Great Bend  
 Reference Elevations: 1977.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 9.00 ft

## Serial #: 65663

Press @ RunDepth: 99.20 psia @ ft (KB) Capacity: 5000.00 psia  
 Start Date: 2014.01.21 End Date: 2014.01.21 Last Calib.: 2014.01.21  
 Start Time: 02:55:00 End Time: 11:34:30 Time On Btm: 2014.01.21 @ 06:38:30  
 Time Off Btm: 2014.01.21 @ 10:09:00

**TEST COMMENT:** 1st Open/ 45 Minutes. Fair blow built to 5 inches in 5 gallon bucket of deisel.  
 1st Shut In/ 45 Minutes. No blow Back.  
 2nd Open/ 45 Minutes. Fair blow built to 3.5 inches into 5 gallon bucket of deisel.  
 2nd Shut In/ 60 Minutes. No blow back.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1649.76	92.62	Initial Hydro-static
6	72.91	92.92	Open To Flow (1)
51	99.35	99.37	Shut-In(1)
96	765.76	98.99	End Shut-In(1)
98	81.74	98.64	Open To Flow (2)
144	99.20	100.51	Shut-In(2)
205	734.68	100.84	End Shut-In(2)
211	1597.99	99.25	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	100% mud	0.56

## Gas Rates

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





# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

RJM Company

**25/16s/14w/Barton**

P.O. Box 256  
Clafin ks, 67525-0256

**Kevin Wirth #1**

Job Ticket: 18231

**DST#: 1**

ATTN: Jim Musgrove

Test Start: 2014.01.21 @ 02:55:00

## Tool Information

Drill Pipe:	Length: 3204.00 ft	Diameter: 3.80 inches	Volume: 44.94 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 44.94 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3204.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.61 ft			
Tool Length:	100.61 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			3189.00	
Hydraulic Tool	5.00			3194.00	
Packer	5.00			3199.00	20.00 Bottom Of Top Packer
Packer	5.00			3204.00	
Change Over Sub	0.75			3204.75	
Drill Pipe	32.11			3236.86	
Change Over Sub	0.75			3237.61	
Anchor	42.00			3279.61	
Recorder	1.00	6663	Inside	3280.61	
Recorder	1.00	6838	Outside	3281.61	
Bullnose	3.00			3284.61	80.61 Bottom Packers & Anchor

**Total Tool Length: 100.61**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

RJM Company

**25/16s/14w/Barton**

P.O. Box 256  
Clafin ks, 67525-0256

**Kevin Wirth #1**

Job Ticket: 18231

**DST#: 1**

ATTN: Jim Musgrove

Test Start: 2014.01.21 @ 02:55:00

### 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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 4800.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	100% mud	0.561

Total Length: 40.00 ft      Total Volume: 0.561 bbl

Num Fluid Samples: 0

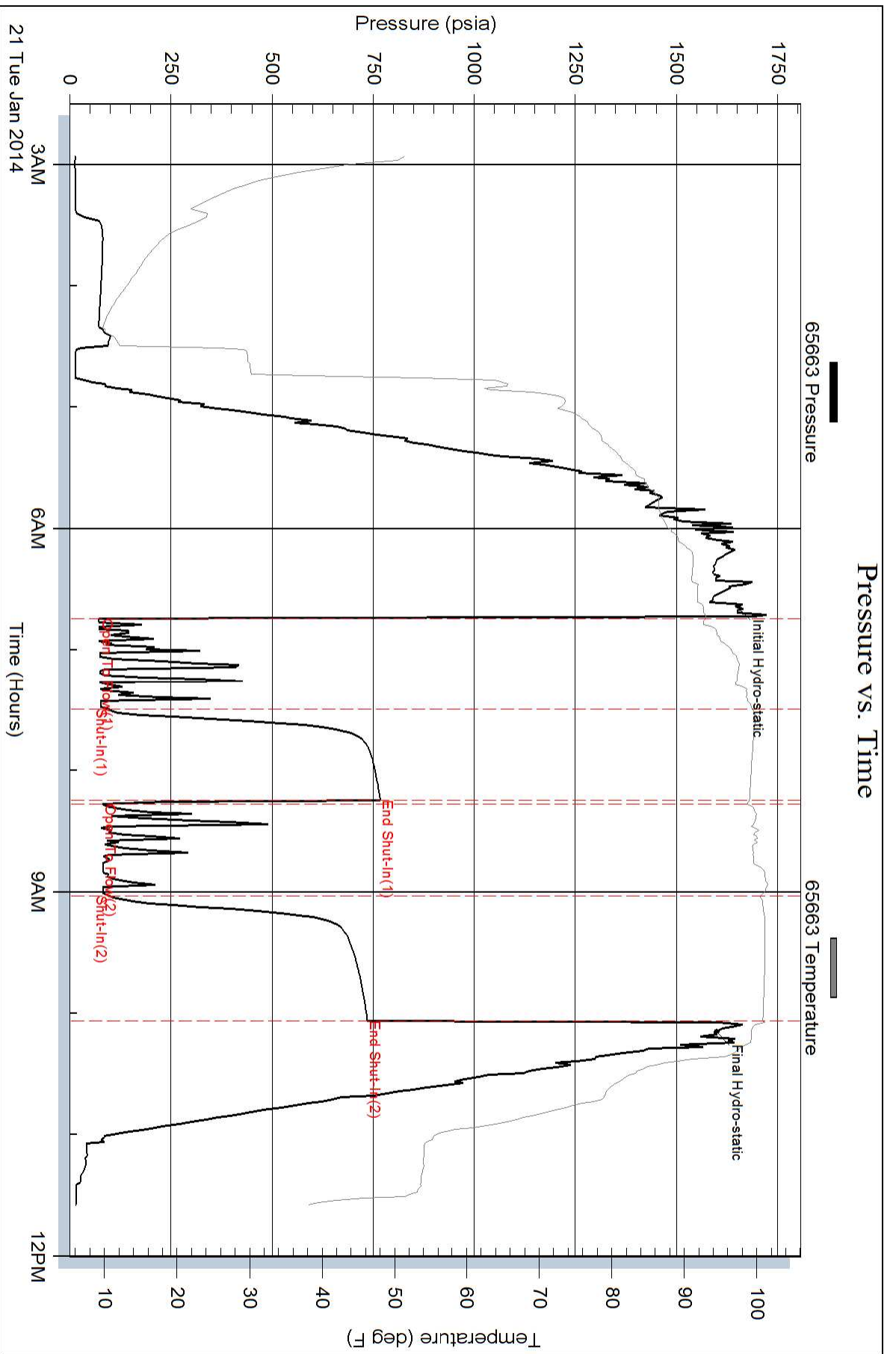
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

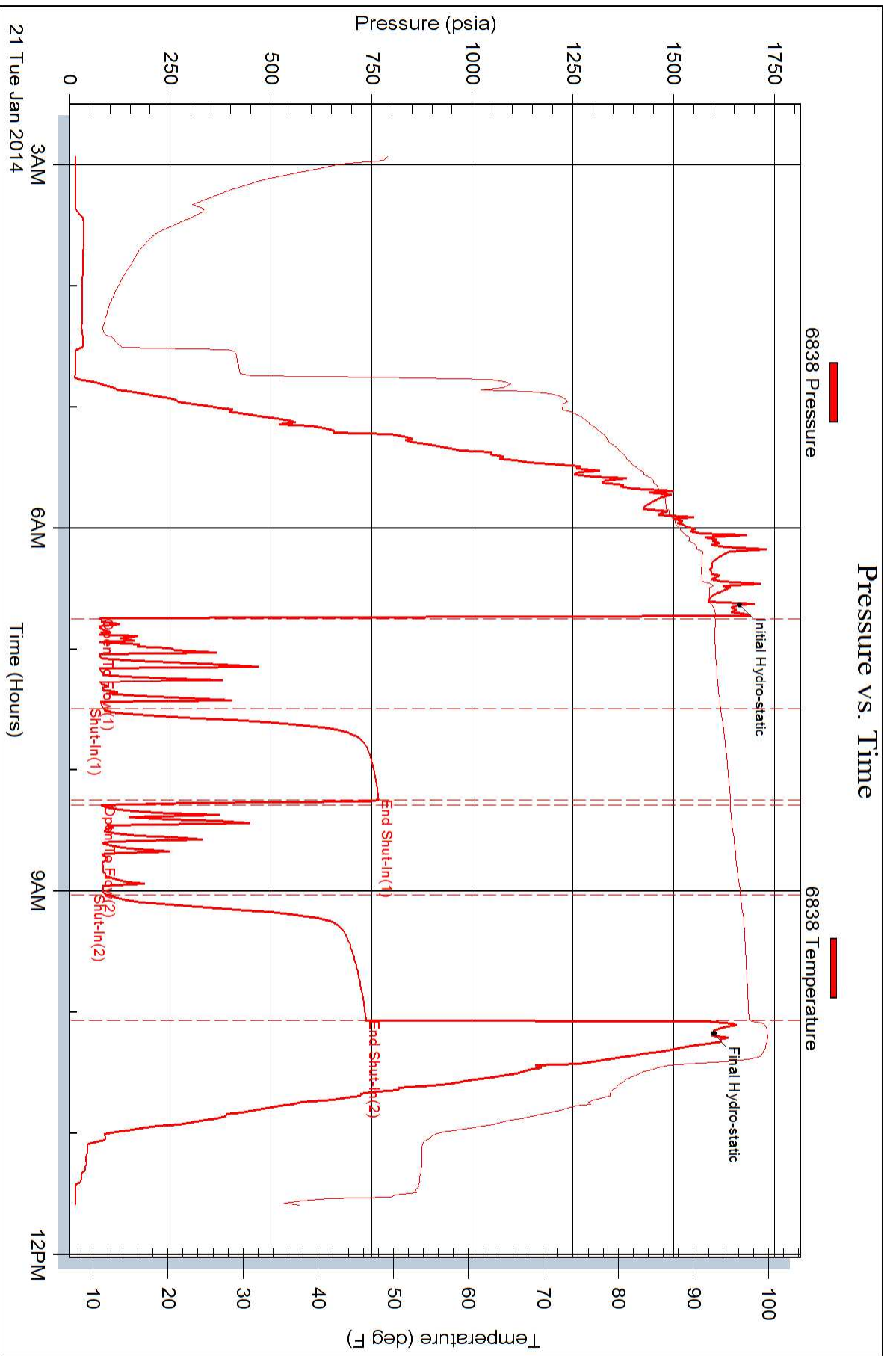


Serial #: 6838

Outside RJM Company

Kevin Wrth #1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **RJM Company**

P.O. Box 256  
Claffin ks, 67525-0256

ATTN: Jim Musgrove

**Kevin Wirth #1**

**25/16s/14w/Barton**

Start Date: 2014.01.21 @ 21:50:00

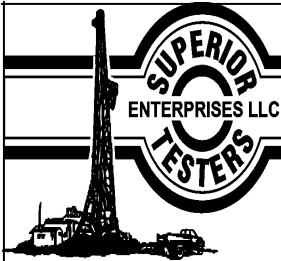
End Date: 2014.01.22 @ 04:58:30

Job Ticket #: 18232                      DST #: 2

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2014.01.22 @ 05:19:56

RJM Company  
25/16s/14w/Barton  
Kevin Wirth #1  
DST # 2  
LKC "H-K"  
2014.01.21



# DRILL STEM TEST REPORT

RJM Company  
 P.O. Box 256  
 Claflin ks, 67525-0256  
 ATTN: Jim Musgrove

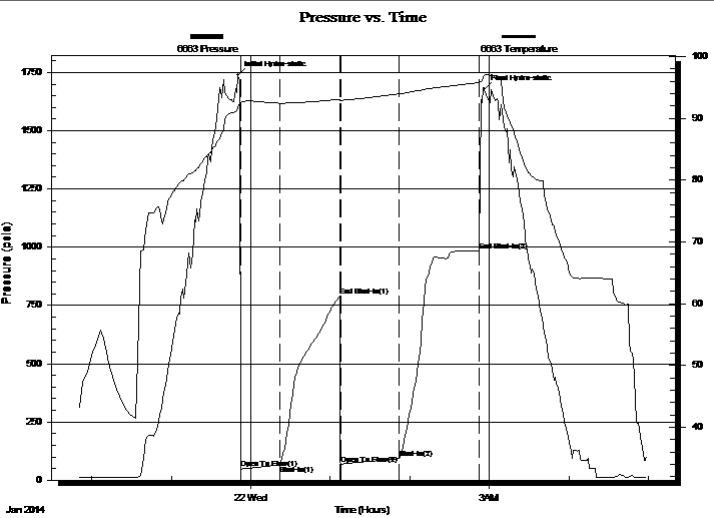
**25/16s/14w/Barton**  
**Kevin Wirth #1**  
 Job Ticket: 18232      **DST#: 2**  
 Test Start: 2014.01.21 @ 21:50:00

## GENERAL INFORMATION:

Formation: **LKC "H-K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:52:30  
 Time Test Ended: 04:58:30  
 Interval: **3340.00 ft (KB) To 3379.00 ft (KB) (TVD)**  
 Total Depth: 3379.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane Konzem  
 Unit No: 3325/50/Great Bend  
 Reference Elevations: 1977.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 6663      Inside**  
 Press @ RunDepth: 91.82 psia @ 3375.00 ft (KB)      Capacity: 5000.00 psia  
 Start Date: 2014.01.21      End Date: 2014.01.22      Last Calib.: 2014.01.22  
 Start Time: 21:50:00      End Time: 04:58:30      Time On Btm: 2014.01.21 @ 23:50:30  
 Time Off Btm: 2014.01.22 @ 02:56:00

**TEST COMMENT:** 1st Open/ 30 Minutes. Good blow built to bottom of 5 gallon bucket of deisel in 3 minutes and 15 seconds.  
 1st Shut In/ 45 Minutes. No blow back.  
 2nd Open/ 45 Minutes. Good blow built to bottom of 5 gallon bucket of deisel in 4 minutes.  
 2nd Shut In/ 60 Minutes. No blow back.



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1738.38	91.81	Initial Hydro-static
2	52.29	92.59	Open To Flow (1)
32	65.40	92.47	Shut-In(1)
77	788.63	93.10	End Shut-In(1)
78	66.67	92.94	Open To Flow (2)
122	91.82	93.97	Shut-In(2)
183	983.77	95.79	End Shut-In(2)
186	1677.69	96.95	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
146.00	100% Clean gassy oil	2.05
0.00	Oil gravity 42 corrected.	0.00

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)





# DRILL STEM TEST REPORT

RJM Company  
 P.O. Box 256  
 Claflin ks, 67525-0256  
 ATTN: Jim Musgrove

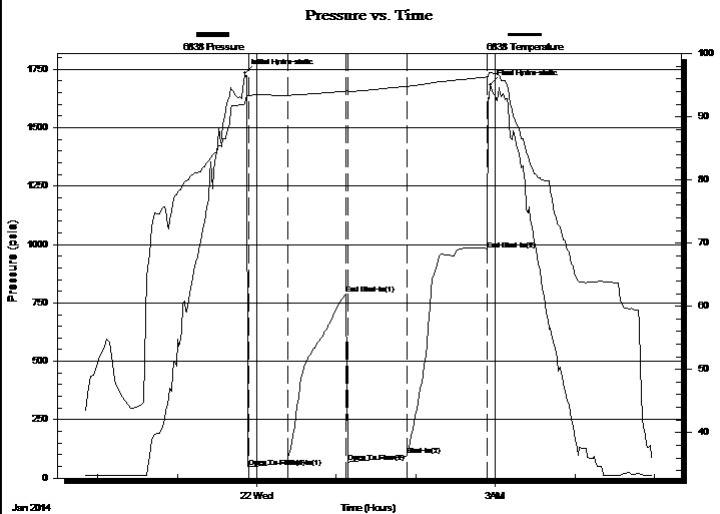
**25/16s/14w/Barton**  
**Kevin Wirth #1**  
 Job Ticket: 18232      **DST#: 2**  
 Test Start: 2014.01.21 @ 21:50:00

## GENERAL INFORMATION:

Formation: **LKC "H-K"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 23:52:30 Tester: Shane Konzem  
 Time Test Ended: 04:58:30 Unit No: 3325/50/Great Bend  
 Interval: **3340.00 ft (KB) To 3379.00 ft (KB) (TVD)** Reference Elevations: 1977.00 ft (KB)  
 Total Depth: 3379.00 ft (KB) (TVD) 1968.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 9.00 ft

**Serial #: 6838 Outside**  
 Press @ Run Depth: 977.90 psia @ 3376.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2014.01.21 End Date: 2014.01.22 Last Calib.: 2014.01.22  
 Start Time: 21:50:00 End Time: 04:58:30 Time On Btm: 2014.01.21 @ 23:51:00  
 Time Off Btm: 2014.01.22 @ 02:56:00

**TEST COMMENT:** 1st Open/ 30 Minutes. Good blow built to bottom of 5 gallon bucket of deisel in 3 minutes and 15 seconds.  
 1st Shut In/ 45 Minutes. No blow back.  
 2nd Open/ 45 Minutes. Good blow built to bottom of 5 gallon bucket of deisel in 4 minutes.  
 2nd Shut In/ 60 Minutes. No blow back.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1733.41	92.12	Initial Hydro-static
3	48.26	93.32	Open To Flow (1)
33	84.56	93.43	Shut-In(1)
77	789.57	94.08	End Shut-In(1)
78	66.96	94.00	Open To Flow (2)
122	96.81	94.83	Shut-In(2)
183	977.90	96.29	End Shut-In(2)
185	1684.51	97.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
146.00	100% Clean gassy oil	2.05
0.00	Oil gravity 42 corrected.	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

RJM Company

**25/16s/14w/Barton**

P.O. Box 256  
Clafin ks, 67525-0256

**Kevin Wirth #1**

Job Ticket: 18232

**DST#: 2**

ATTN: Jim Musgrove

Test Start: 2014.01.21 @ 21:50:00

## Tool Information

Drill Pipe:	Length: 3336.00 ft	Diameter: 3.80 inches	Volume: 46.80 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 46.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3340.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	59.00 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			3325.00	
Hydraulic Tool	5.00			3330.00	
Packer	5.00			3335.00	20.00 Bottom Of Top Packer
Packer	5.00			3340.00	
Anchor	34.00			3374.00	
Recorder	1.00	6663	Inside	3375.00	
Recorder	1.00	6838	Outside	3376.00	
Bullnose	3.00			3379.00	39.00 Bottom Packers & Anchor

**Total Tool Length: 59.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

RJM Company

**25/16s/14w/Barton**

P.O. Box 256  
Clafin ks, 67525-0256

**Kevin Wirth #1**

Job Ticket: 18232

**DST#: 2**

ATTN: Jim Musgrove

Test Start: 2014.01.21 @ 21:50:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 78.00 sec/qt  
Water Loss: 8.80 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 6000.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psia

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
146.00	100% Clean gassy oil	2.048
0.00	Oil gravity 42 corrected.	0.000

Total Length: 146.00 ft      Total Volume: 2.048 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

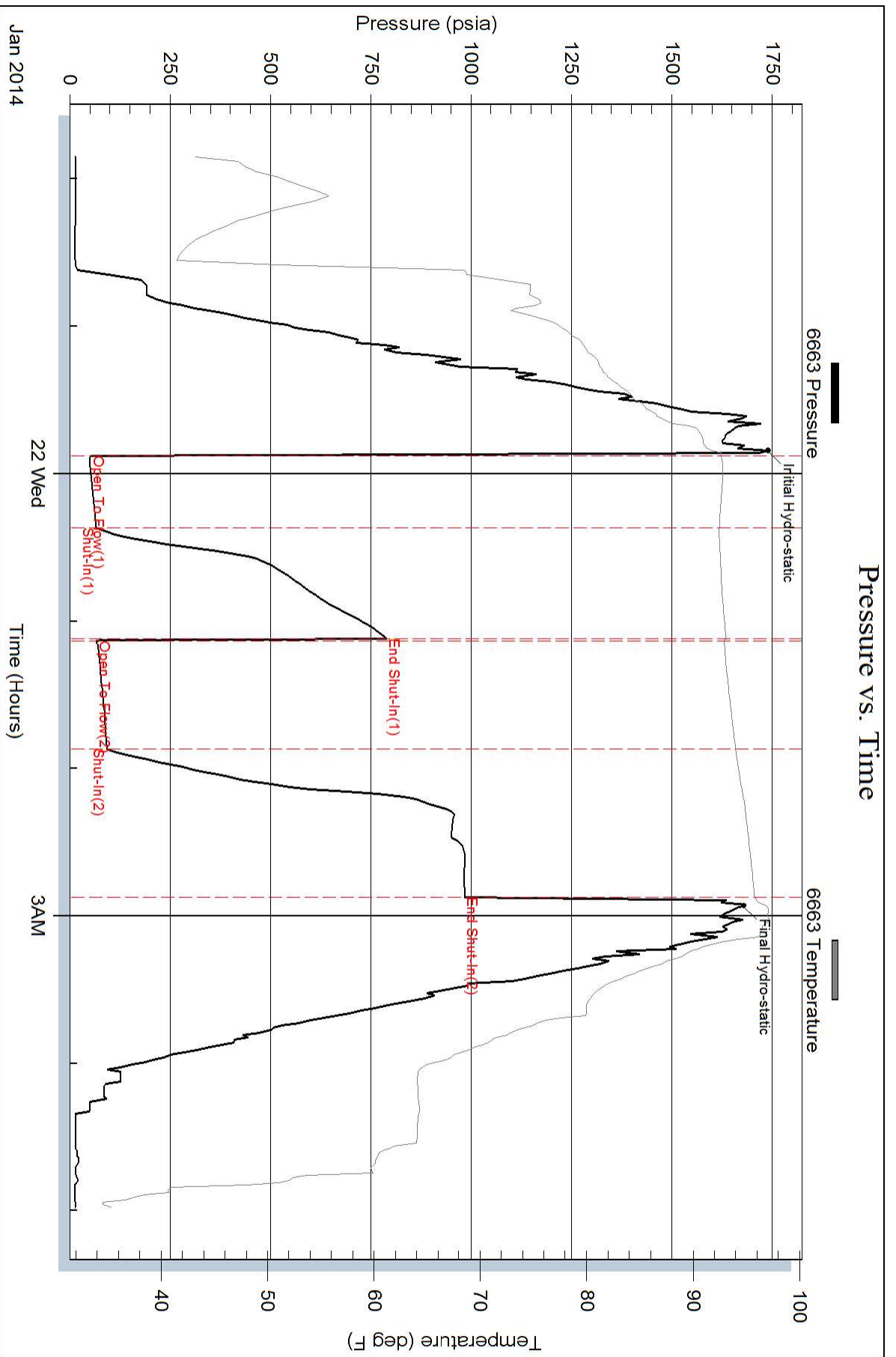
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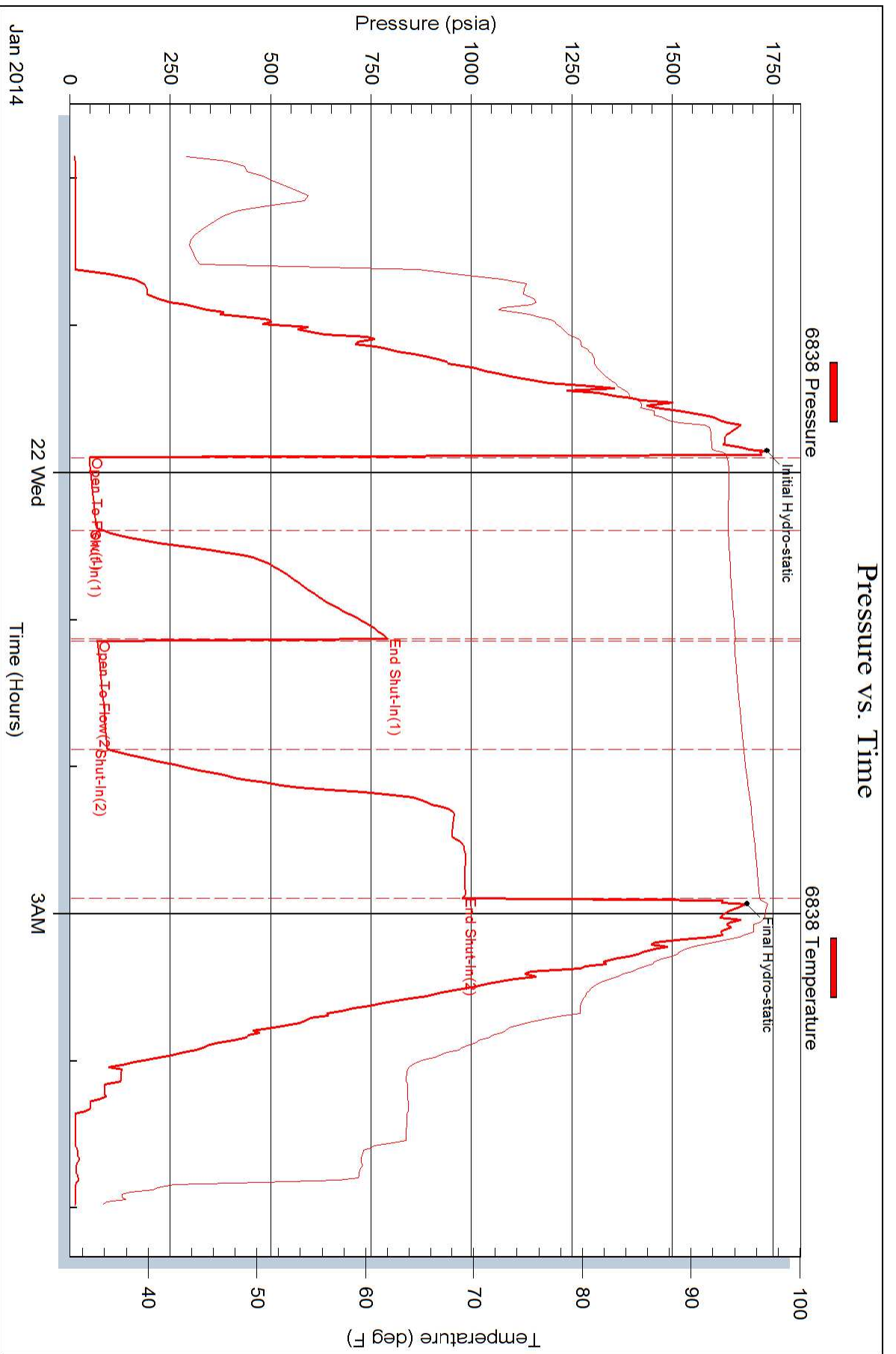
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **RJM Company**

P.O. Box 256  
Claffin ks, 67525-0256

ATTN: Jim Musgrove

**Kevin Wirth #1**

**25/16s/14w/Barton**

Start Date: 2014.01.22 @ 16:55:00

End Date: 2014.01.22 @ 23:50:30

Job Ticket #: 18233                      DST #: 3

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2014.01.23 @ 00:03:57

RJM Company  
25/16s/14w/Barton  
Kevin Wirth #1  
DST # 3  
Tarkeo Sand  
2014.01.22









# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

RJM Company

**25/16s/14w/Barton**

P.O. Box 256  
Clafin ks, 67525-0256

**Kevin Wirth #1**

Job Ticket: 18233

**DST#: 3**

ATTN: Jim Musgrove

Test Start: 2014.01.22 @ 16:55:00

## Tool Information

Drill Pipe:	Length: 3380.00 ft	Diameter: 3.80 inches	Volume: 47.41 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 47.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3384.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	72.96 ft			
Tool Length:	92.96 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			3369.00	
Hydraulic Tool	5.00			3374.00	
Packer	5.00			3379.00	20.00 Bottom Of Top Packer
Packer	5.00			3384.00	
Change Over Sub	0.75			3384.75	
Drill Pipe	31.46			3416.21	
Change Over Sub	0.75			3416.96	
Anchor	35.00			3451.96	
Recorder	1.00	6663	Inside	3452.96	
Recorder	1.00	6838	Outside	3453.96	
Bullnose	3.00			3456.96	72.96 Bottom Packers & Anchor

**Total Tool Length: 92.96**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

RJM Company

**25/16s/14w/Barton**

P.O. Box 256  
Clafin ks, 67525-0256

**Kevin Wirth #1**

Job Ticket: 18233

**DST#: 3**

ATTN: Jim Musgrove

Test Start: 2014.01.22 @ 16:55:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 48.00 sec/qt  
Water Loss: 8.80 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 5000.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psia

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% Clean Oil.	0.140
55.00	40% Oil, 60% Mud	0.772
0.00	Oil gravity 42 corrected	0.000

Total Length: 65.00 ft      Total Volume: 0.912 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

