

**CONFIDENTIAL**

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

**ORIGINAL**

Form ACO-1  
October 2008  
Form Must Be Typed

5/7/12

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # 5144  
Name: Mull Drilling Company, Inc.  
Address 1: 1700 N. Waterfront Parkway, Building #1200  
Address 2: \_\_\_\_\_  
City: Wichita State: KS Zip: 67206 + 6637  
Contact Person: Mark Shreve  
Phone: ( 316 ) 264-6366  
CONTRACTOR: License # 33575  
Name: WW Drilling, LLC  
Wellsite Geologist: Phil Askey  
Purchaser: N/A

Designate Type of Completion:  
 New Well \_\_\_\_\_ Re-Entry \_\_\_\_\_ Workover \_\_\_\_\_  
\_\_\_\_\_ Oil \_\_\_\_\_ SWD \_\_\_\_\_ SIOW \_\_\_\_\_  
\_\_\_\_\_ Gas \_\_\_\_\_ ENHR \_\_\_\_\_ SIGW \_\_\_\_\_  
\_\_\_\_\_ CM (Coal Bed Methane) \_\_\_\_\_ Temp. Abd. \_\_\_\_\_  
 Dry \_\_\_\_\_ Other \_\_\_\_\_  
*(Core, WSW, Expl., Cathodic, 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: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
\_\_\_\_\_ Commingled \_\_\_\_\_ Docket No.: \_\_\_\_\_  
\_\_\_\_\_ Dual Completion \_\_\_\_\_ Docket No.: \_\_\_\_\_  
\_\_\_\_\_ Other (SWD or Enhr.?) \_\_\_\_\_ Docket No.: \_\_\_\_\_  

<u>2/10/10</u>	<u>2/18/10</u>	<u>2/18/10</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 135-25028-00-00  
Spot Description: \_\_\_\_\_  
SW SE NE SW Sec. 24 Twp. 18 S. R. 24  East  West  
1400 Feet from  North /  South Line of Section  
2271 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Ness  
Lease Name: Pfannenstiel "A" Well #: 3-24  
Field Name: Ness City North  
Producing Formation: N/A  
Elevation: Ground: 2276 Kelly Bushing: 2281  
Total Depth: 4380' Plug Back Total Depth: N/A  
Amount of Surface Pipe Set and Cemented at: 214 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** PA 111 5-13-10  
*(Data must be collected from the Reserve Pit)*  
Chloride content: 15,600 ppm Fluid volume: 900 bbls  
Dewatering method used: Hauled fluids offsite  
Location of fluid disposal if hauled offsite: \_\_\_\_\_  
Operator Name: Whitetail Crude, Inc.  
Lease Name: James Johnson License No.: 31627  
Quarter SE Sec. 20 Twp. 18 S. R. 25  East  West  
County: Ness Docket No.: 15-135-20657-00-01

**INSTRUCTIONS:** An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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.

Signature: \_\_\_\_\_  
Title: President/COO Date: 5/7/10  
Subscribed and sworn to before me this 7th day of May  
20 10  
Notary Public: Janniss L. Tritt  
Date Commission Expires: 3.26.2011



**KCC Office Use ONLY**

Letter of Confidentiality Received  
If Denied, Yes  Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
\_\_\_\_\_ UIC Distribution

**RECEIVED**  
**MAY 10 2010**  
**KCC WICHITA**

Operator Name: Mull Drilling Company, Inc. Lease Name: Pfannenstiel "A" Well #: 3-24 MAY 07 2010  
 Sec. 24 Twp. 18 S. R. 24  East  West County: Ness

**CONFIDENTIAL**

**INSTRUCTIONS:** Show important tops and base 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. Attach copy of all Electric Wireline Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Submit Copy)</i>  List All E. Logs Run: <b>Superior: CDL/CNL; DIL; Sonic; Micro</b>	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Name</td> <td style="width:20%;">Top</td> <td style="width:20%;">Datum</td> </tr> <tr> <td>Anhydrite</td> <td>1532</td> <td>+ 749</td> </tr> <tr> <td>B/Anhydrite</td> <td>1569</td> <td>+ 712</td> </tr> <tr> <td>Heebner Shale</td> <td>3660</td> <td>- 1379</td> </tr> <tr> <td>Lansing</td> <td>3702</td> <td>- 1421</td> </tr> <tr> <td>Marmaton</td> <td>4040</td> <td>- 1759</td> </tr> <tr> <td>Cherokee Shale</td> <td>4224</td> <td>- 1943</td> </tr> <tr> <td>Mississippi</td> <td>4284</td> <td>- 2003</td> </tr> </table>	Name	Top	Datum	Anhydrite	1532	+ 749	B/Anhydrite	1569	+ 712	Heebner Shale	3660	- 1379	Lansing	3702	- 1421	Marmaton	4040	- 1759	Cherokee Shale	4224	- 1943	Mississippi	4284	- 2003
Name	Top	Datum																							
Anhydrite	1532	+ 749																							
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Marmaton	4040	- 1759																							
Cherokee Shale	4224	- 1943																							
Mississippi	4284	- 2003																							

CASING RECORD <input checked="" 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
Surface	12 1/4"	8 5/8"	20#	214	Common	150	3% cc, 2% gel

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				

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
		<b>RECEIVED</b> <b>MAY 10 2010</b> <b>KCC WICHITA</b>	

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____		Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date of First, Resumed Production, SWD or Enhr. _____		Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> 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 <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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# QUALITY OILWELL CEMENTING, INC.

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

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

KCC

No. 3297

MAY 07 2010

Date	2-10-10	Sec.	24	Twp.	19	Range	24	County	NESS	State	Ks	CONFIDENTIAL	Finish	10:00 PM
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Lease	PFAMENSTEL	Well No.	3-24	Location	NESS City Rs N to Allard Rd
-------	------------	----------	------	----------	-----------------------------

Contractor	W W Dalg 10	Owner	M W N Dto
------------	-------------	-------	-----------

Type Job	8 5/8	To Quality Oilwell Cementing, Inc.
Hole Size	12 1/4	You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Csg.	8 5/8 20'	T.D.	214	Charge To	Mull Dalg
------	-----------	------	-----	-----------	-----------

Tbg. Size		Depth		Street	
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Drill Pipe		Depth		City	State
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Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
------	--	-------	--	--	--

Cement Left in Csg.	15	Shoe Joint	15	<b>CEMENT</b>	
---------------------	----	------------	----	---------------	--

Press Max.		Minimum		Amount Ordered	150s x Common 2 1/2 GEL 3 1/2 CC
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Meas Line		Displace	12.9 Bbl.	Common	150 @ 10.50	1575.00
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Perf.		Poz. Mix				
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<b>EQUIPMENT</b>			Gel.	3 @ 17.00	51.00
------------------	--	--	------	-----------	-------

Pumptrk	5	No.	Cementer	JOE	Calcium	5 @ 42.00	210.00
			Helper				

Bulktrk	11	No.	Driver	Rock	Mills		
			Driver				

Bulktrk	PJ	No.	Driver	Tom	Salt		
			Driver				

<b>JOB SERVICES &amp; REMARKS</b>			Flowseal		
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Pumptrk Charge	Surface	450.00			
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Mileage	2 @ 7.00	14.00			
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Footage					
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		Total	464.00	Handling	158 @ 2.00	316.00
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Remarks:		Mileage	00 PER 4 PER M. 18	300.00
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Run 5-H's 8 5/8 20'		Pump Truck Charge		464.00
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<b>FLOAT EQUIPMENT</b>					
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Mix Pump 150 x Common		Guide Shoe		
-----------------------	--	------------	--	--

2 1/2 GEL 3 1/2 CC 15# GAL 1.36 H 3		Centralizer		
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Disp 12.9 Bbl. total		Baskets		
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Close Valve on Csg 200'		AFU Inserts		
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Good CMC thru JOE				
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CMC OUT TO PER				
----------------	--	--	--	--

		Rotating Head		
--	--	---------------	--	--

		Squeeze Mainfold		
--	--	------------------	--	--

Thanks				
--------	--	--	--	--

Tom JOE Rock				
--------------	--	--	--	--

Signature				
-----------	--	--	--	--

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KCC WICHITA

PLEASE  
CALL  
AGAIN

Tax	77.86
Discount	(583.00)
Total Charge	2410.86

# QUALITY OILWELL CEMENTING, INC.

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

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

CC No. 3737

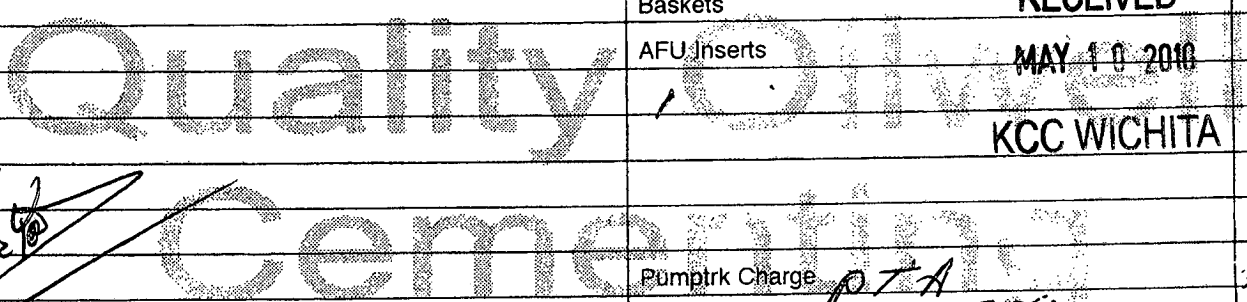
MAY 07 2010

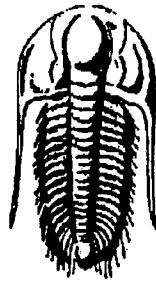
Date	2-18-10	Sec.	24	Twp.	18	Range	24	County	Ness	State	Kansas	On Location	CONFIDENTIAL	Finish	9:30 AM
Lease	Hampstead A		Well No.	3-24		Location		Ness City 1 1/2 W N 1/4							
Contractor	W W Drilling		Rig 2		Owner		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.								
Type Job	Dry Hole Plug		T.D.		4380		Charge To		Mull Drilling Company						
Hole Size	7 7/8		Depth				Street								
Csg.			Depth				City		State						
Tbg. Size			Depth				City		State						
Tool			Depth				The above was done to satisfaction and supervision of owner agent or contractor.								
Cement Left in Csg.			Shoe Joint				CEMENT								
Meas Line			Displace												

EQUIPMENT				Amount Ordered	Rate	Total
Pumptrk	No.	Cement		280	60/40 Per 4 1/2 hr	1764.00
		Helper	Stone	168	10.50	1764.00
Bulktrk	No.	Driver	Blender	112	6.50	728.00
		Driver	Drug	10	17.00	170.00

JOB SERVICES & REMARKS				Calcium		
Remarks:				Hulls		
1st Plug	@	1560'	50sx	Salt		
2nd "	"	790'	80sx	Flowseal	70 @ 2.00	140.00
3rd "	"	400'	40sx			
4th "	"	240'	40sx			
5th "	"	60'	20sx	Handling	290 @ 2.00	580.00
Rat Hole			30sx	Mileage		350.00
Maus Hole			20sx			

FLOAT EQUIPMENT						
				Guide Shoe		
				Centralizer		
				Baskets		
				AFU Inserts		

				RECEIVED		
				MAY 10 2010		
				KCC WICHITA		
				Pumptrk Charge	PTA	500.00
				Mileage	2 @ 7.00	140.00
X Signature: <i>[Signature]</i>				Tax	180.04	
				Discount	(399.00)	
				Total Charge	3527.04	



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Mull Drlg.Co.Inc.**

1700 N.Waterfront Parkway  
Bldg. 12000  
Wichita Ks.67206

ATTN: Phil Askey

**24-18s-24w Ness KS**

**Pfannenstiel A#3-24**

Start Date: 2010.02.16 @ 03:01:48

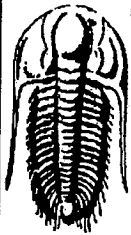
End Date: 2010.02.16 @ 09:24:18

Job Ticket #: 35747                      DST #: 1

**KCC  
MAY 07 2010  
CONFIDENTIAL**

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

**RECEIVED  
MAY 10 2010  
KCC WICHITA**



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Mull Drlg. Co. Inc.  
 1700 N. Waterfront Parkway  
 Bldg. 12000  
 Wichita Ks. 67206  
 ATTN: Phil Askey

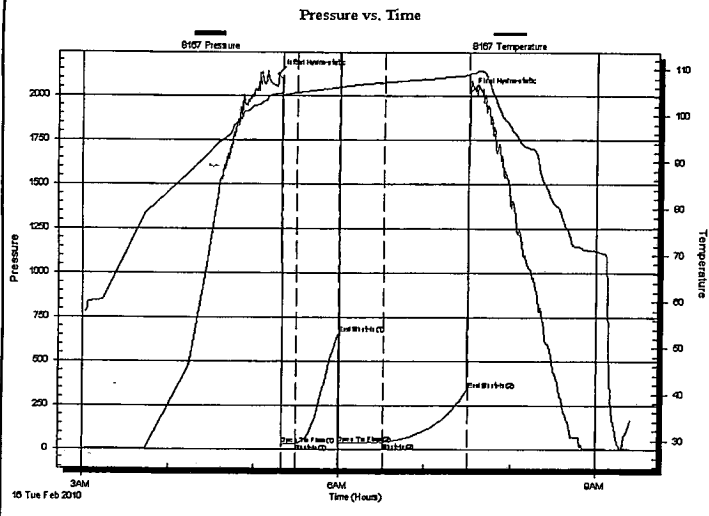
**Pfannenstiel A#3-24**  
**24-18s-24w Ness KS**  
 Job Ticket: 35747      **DST#: 1**  
 Test Start: 2010.02.16 @ 03:01:48

## GENERAL INFORMATION:

Formation: **Ft. Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:19:18  
 Time Test Ended: 09:24:18  
 Interval: **4178.00 ft (KB) To 4245.00 ft (KB) (TVD)**  
 Total Depth: **4245.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: Fair  
 Test Type: Conventional Bottom Hole  
 Tester: Gary Pevoteaux  
 Unit No: 39  
 Reference Elevations: 2281.00 ft (KB)  
 2276.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8167**      Inside  
 Press@RunDepth: 39.30 psig @ 4179.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2010.02.16      End Date: 2010.02.16      Last Calib.: 2010.02.16  
 Start Time: 03:01:53      End Time: 09:24:17      Time On Btm: 2010.02.16 @ 05:16:33  
 Time Off Btm: 2010.02.16 @ 07:31:18

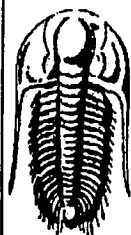
**TEST COMMENT:** IF: Weak blow . Dead in 10 mins.  
 IS: No blow .  
 FF: No blow .  
 FS: No blow .



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2119.61	104.74	Initial Hydro-static
3	27.69	104.26	Open To Flow (1)
14	30.48	104.95	Shut-In(1)
43	655.61	106.11	End Shut-In(1)
44	32.97	106.01	Open To Flow (2)
75	39.30	107.18	Shut-In(2)
134	336.46	108.71	End Shut-In(2)
135	2019.77	109.05	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
15.00	Drlg. mud	0.07

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drlg. Co. Inc.  
1700 N. Waterfront Parkway  
Bldg. 12000  
Wichita Ks. 67206  
ATTN: Phil Askey

**Pfannenstiel A#3-24**  
**24-18s-24w Ness KS**  
Job Ticket: 35747      **DST#: 1**  
Test Start: 2010.02.16 @ 03:01:48

### Tool Information

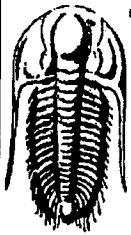
Drill Pipe:	Length: 4069.00 ft	Diameter: 3.80 inches	Volume: 57.08 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 81000.00 lb
			<u>Total Volume: 57.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4178.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	87.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4159.00	
Shut in tool	5.00			4164.00	
HMV	5.00			4169.00	
Packer	4.00			4173.00	20.00      Bottom Of Top Packer
Packer	5.00			4178.00	
Stubb	1.00			4179.00	
Recorder	0.00	8167	Inside	4179.00	
Recorder	0.00	8370	Outside	4179.00	
Perforations	5.00			4184.00	
C.O. Sub	1.00			4185.00	
Blank Spacing	31.00			4216.00	
C.O. Sub	1.00			4217.00	
Perforations	23.00			4240.00	
Bullnose	5.00			4245.00	67.00      Bottom Packers & Anchor

**Total Tool Length: 87.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drlg. Co. Inc.

**Pfannenstiel A#3-24**

1700 N. Waterfront Parkway  
Bldg. 12000  
Wichita Ks. 67206  
ATTN: Phil Askey

**24-18s-24w Ness KS**

Job Ticket: 35747

**DST#: 1**

Test Start: 2010.02.16 @ 03:01:48

## 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:	7000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: 0.20 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Drlg. mud	0.074

Total Length: 15.00 ft      Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

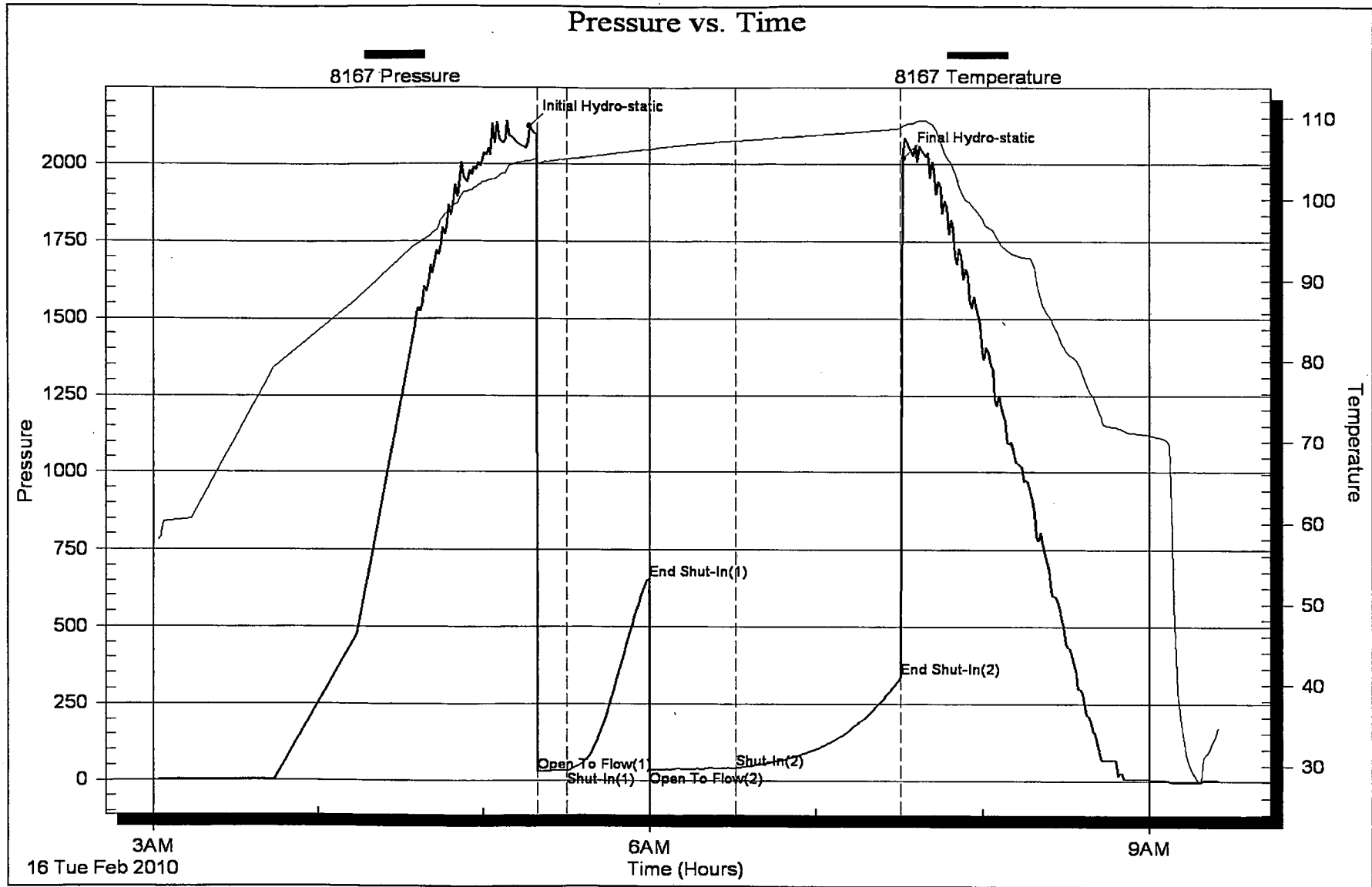
Serial #: none

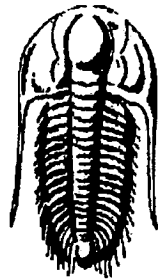
Laboratory Name:

Laboratory Location:

Recovery Comments:







**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Mull Drlg.Co.Inc.**

1700 N. Waterfront Parkway  
Bldg. 12000  
Wichita Ks. 67206

ATTN: Phil Askey

**24-18s-24w Ness KS**

**Pfannenstiel A#3-24**

Start Date: 2010.02.16 @ 16:48:44

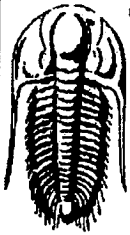
End Date: 2010.02.17 @ 00:30:59

Job Ticket #: 35748                      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Mull Drlg.Co.Inc.

1700 N.Waterfront Parkway  
Bldg.12000  
Wichita Ks.67206  
ATTN: Phil Askey

**Pfannenstiel A#3-24**

**24-18s-24w Ness KS**

Job Ticket: 35748

DST#: 2

Test Start: 2010.02.16 @ 16:48:44

### GENERAL INFORMATION:

Formation: Miss.

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:51:59

Time Test Ended: 00:30:59

Test Type: Conventional Bottom Hole

Tester: Gary Pevoteaux

Unit No: 39

Interval: 4242.00 ft (KB) To 4288.00 ft (KB) (TVD)

Total Depth: 4288.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2281.00 ft (KB)

2276.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8167

Inside

Press@RunDepth: 58.47 psig @ 4243.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.02.16

End Date:

2010.02.17

Last Calib.: 2010.02.17

Start Time: 16:48:49

End Time:

00:30:58

Time On Btm: 2010.02.16 @ 18:49:14

Time Off Btm: 2010.02.16 @ 22:38:44

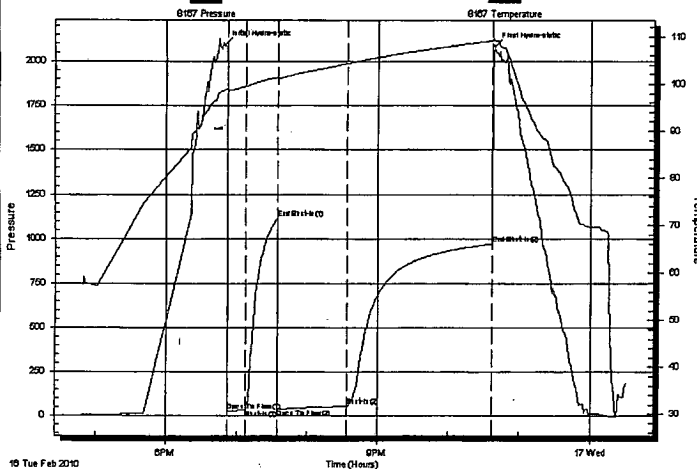
TEST COMMENT: IF:Weak blow . 1/2 - 2".

IS:No blow .

FF:Weak blow . Slow increase to 2 1/2".

FS:No blow .

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2092.70	98.73	Initial Hydro-static
3	28.08	98.42	Open To Flow (1)
18	37.21	99.53	Shut-In (1)
45	1114.57	101.41	End Shut-In (1)
46	40.47	101.18	Open To Flow (2)
105	58.47	104.32	Shut-In (2)
229	972.77	109.16	End Shut-In (2)
230	2083.69	109.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
61.00	OCWM 16%o 16%w 68%m	0.30
1.00	Clean oil	0.00

Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drlg. Co. Inc.

**Pfannenstiel A#3-24**

1700 N. Waterfront Parkway  
Bldg. 12000  
Wichita Ks. 67206  
ATTN: Phil Askey

**24-18s-24w Ness KS**

Job Ticket: 35748

**DST#: 2**

Test Start: 2010.02.16 @ 16:48:44

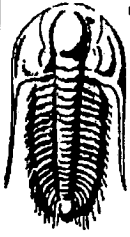
### Tool Information

Drill Pipe:	Length: 4132.00 ft	Diameter: 3.80 inches	Volume: 57.96 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 81000.00 lb
			<u>Total Volume: 58.55 bbl</u>	Tool Chased: 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4242.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	66.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4223.00	
Shut in tool	5.00			4228.00	
HMV	5.00			4233.00	
Packer	4.00			4237.00	20.00 Bottom Of Top Packer
Packer	5.00			4242.00	
Stubb	1.00			4243.00	
Recorder	0.00	8167	Inside	4243.00	
Recorder	0.00	8370	Outside	4243.00	
Perforations	7.00			4250.00	
C.O. Sub	1.00			4251.00	
Blank Spacing	31.00			4282.00	
C.O. Sub	1.00			4283.00	
Bullnose	5.00			4288.00	46.00 Bottom Packers & Anchor

**Total Tool Length: 66.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mull Drlg.Co.Inc.

**Pfannenstiel A#3-24**

1700 N.Waterfront Parkway  
Bldg.12000  
Wichita Ks.67206  
ATTN: Phil Askey

**24-18s-24w Ness KS**  
Job Ticket: 35748      **DST#: 2**  
Test Start: 2010.02.16 @ 16:48:44

**Mud and Cushion Information**

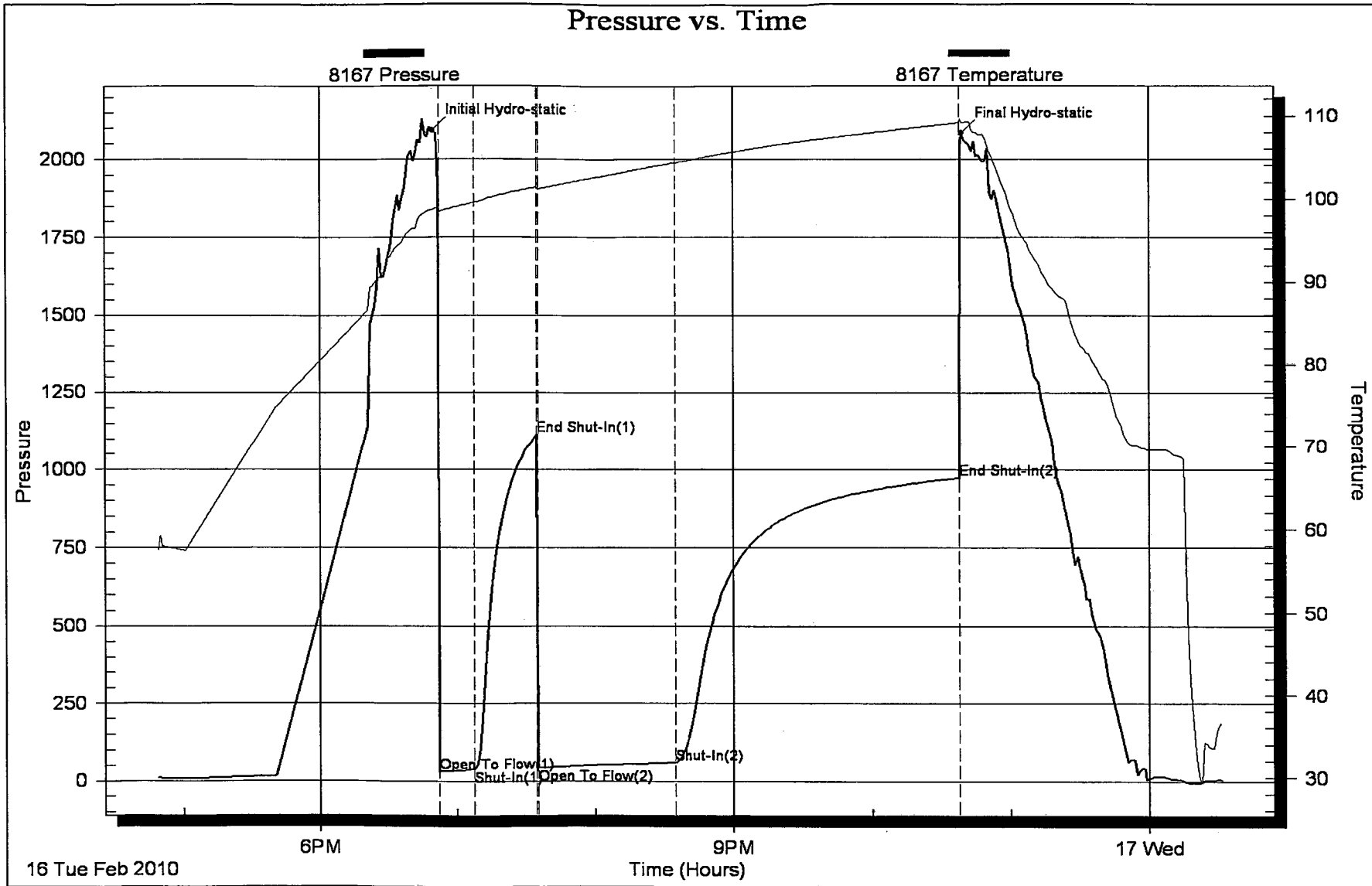
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	7000 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.98 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: 0.20 inches			

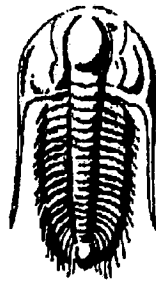
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
61.00	OCWM 16%o 16%w 68%m	0.300
1.00	Clean oil	0.005

Total Length: 62.00 ft      Total Volume: 0.305 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: none  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Mull Drlg.Co.Inc.**

1700 N.Waterfront Parkway  
Bldg. 12000  
Wichita Ks.67206

ATTN: Phil Askey

**24-18s-24w Ness KS**

**Pfannenstiel A#3-24**

Start Date: 2010.02.17 @ 07:08:02

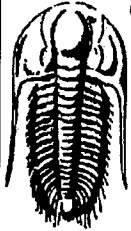
End Date: 2010.02.17 @ 14:52:17

Job Ticket #: 35749                      DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE TESTING, INC**

## DRILL STEM TEST REPORT

Mull Drlg.Co.Inc.

1700 N.Waterfront Parkway  
Bldg. 12000  
Wichita Ks.67206  
ATTN: Phil Askey

**Pfannenstiel A#3-24**

**24-18s-24w Ness KS**

Job Ticket: 35749

DST#: 3

Test Start: 2010.02.17 @ 07:08:02

### GENERAL INFORMATION:

Formation: **Miss.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:16:32

Time Test Ended: 14:52:17

Test Type: Conventional Bottom Hole

Tester: Gary Pevoteaux

Unit No: 39

Interval: **4242.00 ft (KB) To 4297.00 ft (KB) (TVD)**

Total Depth: 4297.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2281.00 ft (KB)

2276.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8167**

Inside

Press@RunDepth: 77.22 psig @ 4243.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.02.17

End Date:

2010.02.17

Last Calib.: 2010.02.17

Start Time: 07:08:07

End Time:

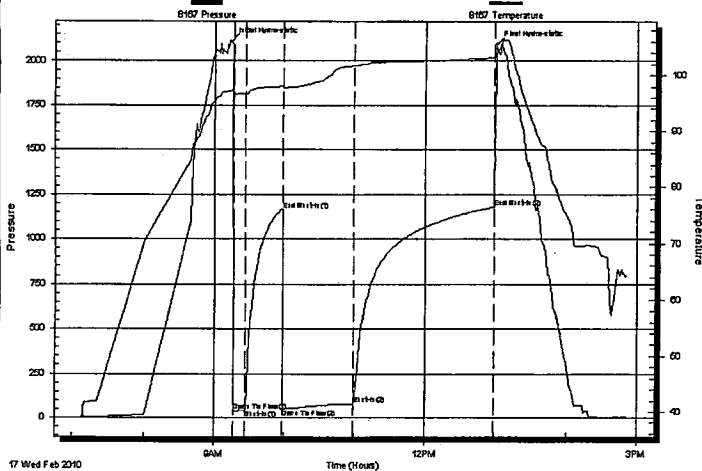
14:52:16

Time On Btm: 2010.02.17 @ 09:14:02

Time Off Btm: 2010.02.17 @ 13:00:31

**TEST COMMENT:** IF:Weak blow . \* 1 - 3".  
IS:No blow .  
FF:Weak blow . Slow increase to 2 1/4".  
FS:Weak surface blow . (20 minns.)

Pressure vs. Time



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.99	97.30	Initial Hydro-static
3	35.99	96.86	Open To Flow (1)
13	42.71	96.75	Shut-In(1)
44	1163.82	98.07	End Shut-In(1)
45	50.04	97.78	Open To Flow (2)
106	77.22	101.71	Shut-In(2)
225	1178.57	103.19	End Shut-In(2)
227	2092.71	103.80	Final Hydro-static

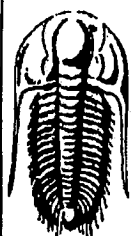
### Recovery

Length (ft)	Description	Volume (bbl)
61.00	SOCWM 3%o 19%w 78% m/Rw .2 ohms(0.30)eg	
61.00	OCWM 12%o 12%w 76% m	0.32
3.00	Clean oil	0.04

### Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drlg. Co. Inc.

**Pfannenstiel A#3-24**

1700 N. Waterfront Parkway  
Bldg. 12000  
Wichita Ks. 67206  
ATTN: Phil Askey

**24-18s-24w Ness KS**

Job Ticket: 35749

**DST#: 3**

Test Start: 2010.02.17 @ 07:08:02

## Tool Information

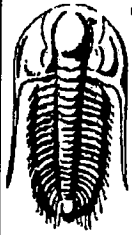
Drill Pipe:	Length: 4131.00 ft	Diameter: 3.80 inches	Volume: 57.95 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 58.54 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4242.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4223.00	
Shut in tool	5.00			4228.00	
HMV	5.00			4233.00	
Packer	4.00			4237.00	20.00 Bottom Of Top Packer
Packer	5.00			4242.00	
Stubb	1.00			4243.00	
Recorder	0.00	8167	Inside	4243.00	
Recorder	0.00	8370	Outside	4243.00	
Perforations	3.00			4246.00	
C.O. Sub	1.00			4247.00	
Blank Spacing	31.00			4278.00	
C.O. Sub	1.00			4279.00	
Perforations	13.00			4292.00	
Bullnose	5.00			4297.00	55.00 Bottom Packers & Anchor

**Total Tool Length: 75.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drlg.Co.Inc.

**Pfannenstiel A#3-24**

1700 N.Waterfront Parkw ay  
Bldg. 12000  
Wichita Ks.67206  
ATTN: Phil Askey

**24-18s-24w Ness KS**

Job Ticket: 35749

**DST#: 3**

Test Start: 2010.02.17 @ 07:08:02

## Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 42.00 sec/qt

Water Loss: 10.78 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 8000.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API: 35.6 deg API

Water Salinity: 43000 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
61.00	SOCWM 3%o 19%w 78% <i>m</i> /Rw .2 ohms@59	0.300
61.00	OCWM 12%o 12%w 76% <i>m</i>	0.318
3.00	Clean oil	0.042

Total Length: 125.00 ft      Total Volume: 0.660 bbl

Num Fluid Samples: 0

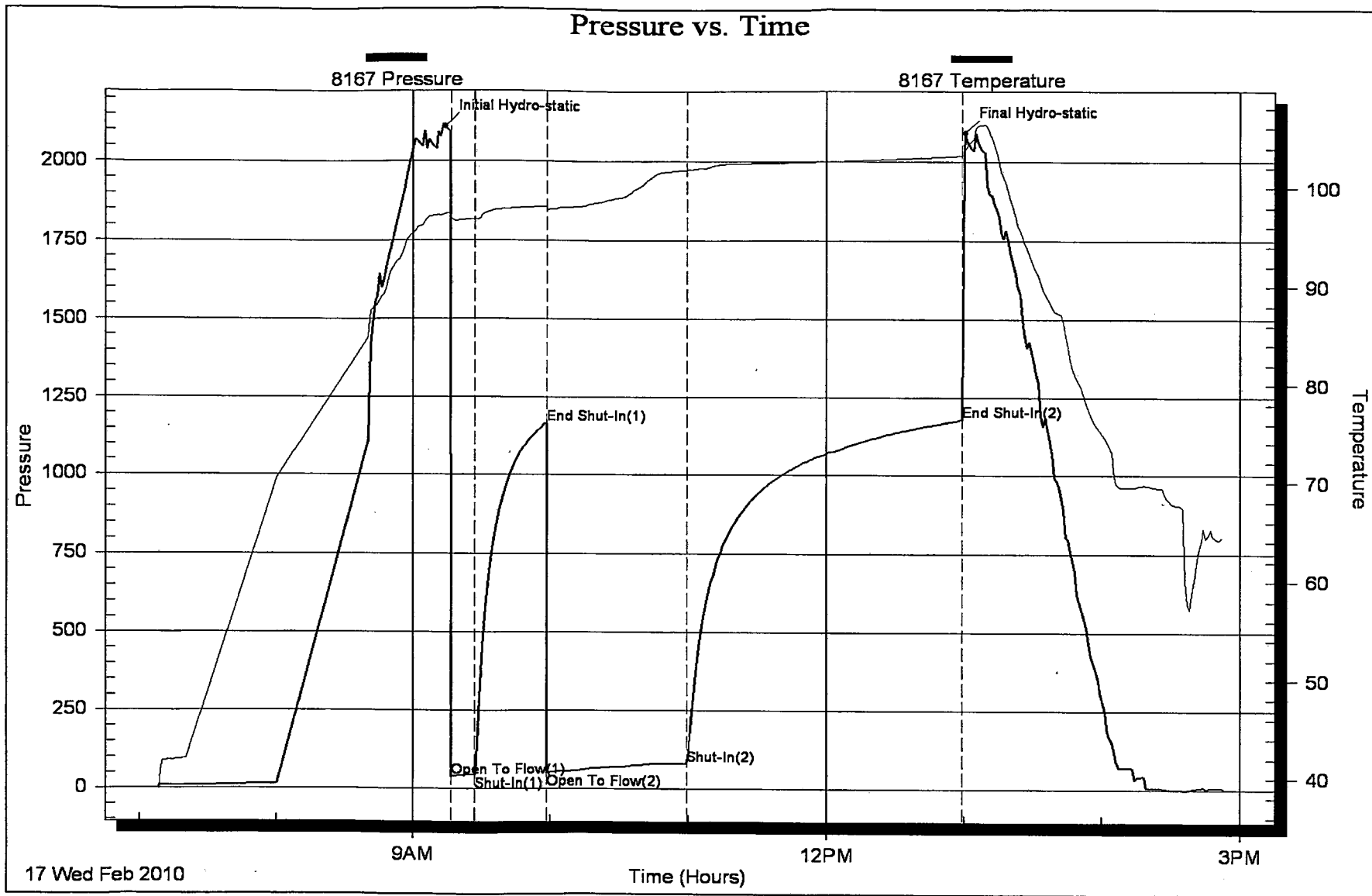
Num Gas Bombs: 0

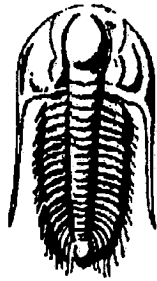
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Mull Drlg.Co.Inc.**

1700 N. Waterfront Parkway  
Bldg. 12000  
Wichita Ks. 67206

ATTN: Phil Askey

**24-18s-24w Ness KS**

**Pfannenstiel A#3-24**

Start Date: 2010.02.17 @ 21:31:04

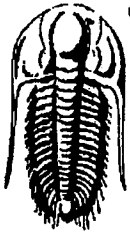
End Date: 2010.02.18 @ 04:48:04

Job Ticket #: 35750                      DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Mull Drig.Co.Inc.

1700 N.Waterfront Parkway  
Bldg. 12000  
Wichita Ks.67206  
ATTN: Phil Askey

**Pfannenstiel A#3-24**

**24-18s-24w Ness KS**

Job Ticket: 35750

DST#: 4

Test Start: 2010.02.17 @ 21:31:04

## GENERAL INFORMATION:

Formation: **Miss.**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 23:35:19

Time Test Ended: 04:48:04

Test Type: **Conventional Bottom Hole**

Tester: **Gary Pevoteaux**

Unit No: **39**

Interval: **4296.00 ft (KB) To 4307.00 ft (KB) (TVD)**

Total Depth: **4307.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2281.00 ft (KB)**

**2276.00 ft (CF)**

KB to GR/CF: **5.00 ft**

**Serial #: 8167**

**Inside**

Press@RunDepth: **250.88 psig @ 4297.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2010.02.17**

End Date:

**2010.02.18**

Last Calib.: **2010.02.18**

Start Time: **21:31:09**

End Time:

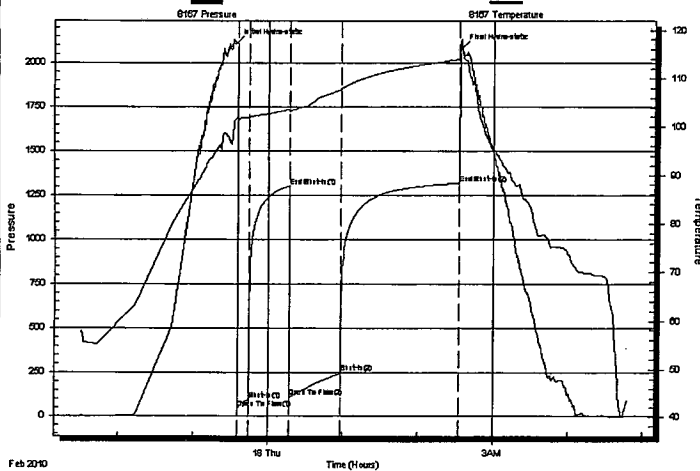
**04:48:03**

Time On Btm: **2010.02.17 @ 23:33:34**

Time Off Btm: **2010.02.18 @ 02:34:49**

TEST COMMENT: IF:Strong blow . B.O.B. in 4 1/2 mins.  
ISI:Weak blow . (surface)  
FF:Strong blow . B.O.B. in 5 mins.  
FSI:No blow .

Pressure vs. Time



## PRESSURE SUMMARY

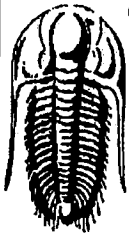
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2111.16	101.73	Initial Hydro-static
2	44.26	101.26	Open To Flow (1)
11	97.36	101.84	Shut-In(1)
43	1303.08	103.56	End Shut-In(1)
44	113.03	103.16	Open To Flow (2)
85	250.88	107.85	Shut-In(2)
180	1318.95	114.02	End Shut-In(2)
182	2083.74	118.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
377.00	SW / Rw .42 ohms@43 deg	4.20
139.00	MW /w o specs 33% m 67% w	1.95
1.00	Clean oil	0.01

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drlg.Co.Inc.

**Pfannenstiel A#3-24**

1700 N.Waterfront Parkway  
Bldg.12000  
Wichita Ks.67206  
ATTN: Phil Askey

**24-18s-24w Ness KS**

Job Ticket: 35750

**DST#: 4**

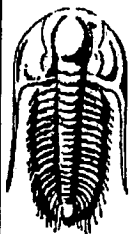
Test Start: 2010.02.17 @ 21:31:04

### Tool Information

Drill Pipe:	Length: 4163.00 ft	Diameter: 3.80 inches	Volume: 58.40 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 58.99 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4296.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	31.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4277.00	
Shut in tool	5.00			4282.00	
HMV	5.00			4287.00	
Packer	4.00			4291.00	20.00 Bottom Of Top Packer
Packer	5.00			4296.00	
Stubb	1.00			4297.00	
Recorder	0.00	8167	Inside	4297.00	
Recorder	0.00	8370	Outside	4297.00	
Perforations	5.00			4302.00	
Bullnose	5.00			4307.00	11.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>31.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drlg.Co.Inc.

**Pfannenstiel A#3-24**

1700 N.Waterfront Parkway  
Bldg. 12000  
Wichita Ks.67206  
ATTN: Phil Askey

**24-18s-24w Ness KS**  
Job Ticket: 35750      **DST#: 4**  
Test Start: 2010.02.17 @ 21:31:04

## 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:	28000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 0.20 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
377.00	SW / Rw .42 ohms@43 deg	4.195
139.00	MW /w o specs 33%m 67%w	1.950
1.00	Clean oil	0.014

Total Length: 517.00 ft      Total Volume: 6.159 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: none  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

