



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1136804
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: _____



1136804

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

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> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	Sargent 1-15
Doc ID	1136804

All Electric Logs Run

CDL/CNL/PE
DIL
Micro
Sonic

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	Sargent 1-15
Doc ID	1136804

Tops

Name	Top	Datum
Anhydrite	1754	+ 680
B/Anhydrite	1788	+ 656
Heebner	3836	- 1392
Lansing	3872	- 1428
Stark	4096	- 1652
B/KC	4150	- 1706
Marmaton	4160	- 1716
Pawnee	4254	- 1810
Ft. Scott	4348	- 1904
Cherokee Shale	4367	- 1923
Mississippian	4450	- 2006

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



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

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

April 26, 2013

Mark Shreve
Mull Drilling Company, Inc.
1700 N WATERFRONT PKWY
BLDG 1200
WICHITA, KS 67206

Re: ACO1
API 15-135-25524-00-00
Sargent 1-15
SW/4 Sec.15-17S-23W
Ness County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Mark Shreve



DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co Inc**

1700 N Waterfront Pkwy
Bldg 1200
Wichita Ks 67206

ATTN: Mark Shreve

Sargent #1-15

15-17s-23w Ness,KS

Start Date: 2013.01.15 @ 03:20:24

End Date: 2013.01.15 @ 10:00:54

Job Ticket #: 50518 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.01.21 @ 08:46:32



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Co Inc
1700 N Waterfront Pkw y
Bldg 1200
Wichita Ks 67206
ATTN: Mark Shreve

15-17s-23w Ness,KS

Sargent #1-15

Job Ticket: 50518

DST#: 1

Test Start: 2013.01.15 @ 03:20:24

GENERAL INFORMATION:

Formation: **Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:11:54

Time Test Ended: 10:00:54

Test Type: Conventional Bottom Hole (Initial)

Tester: Jeff Brown

Unit No: 44

Interval: 4310.00 ft (KB) To 4370.00 ft (KB) (TVD)

Reference Elevations: 2444.00 ft (KB)

Total Depth: 4370.00 ft (KB) (TVD)

2439.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8321 Inside

Press @ Run Depth: 44.16 psig @ 4347.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.15

End Date:

2013.01.15

Last Calib.:

2013.01.15

Start Time: 03:20:25

End Time:

10:00:54

Time On Btm:

2013.01.15 @ 06:11:24

Time Off Btm:

2013.01.15 @ 08:22:24

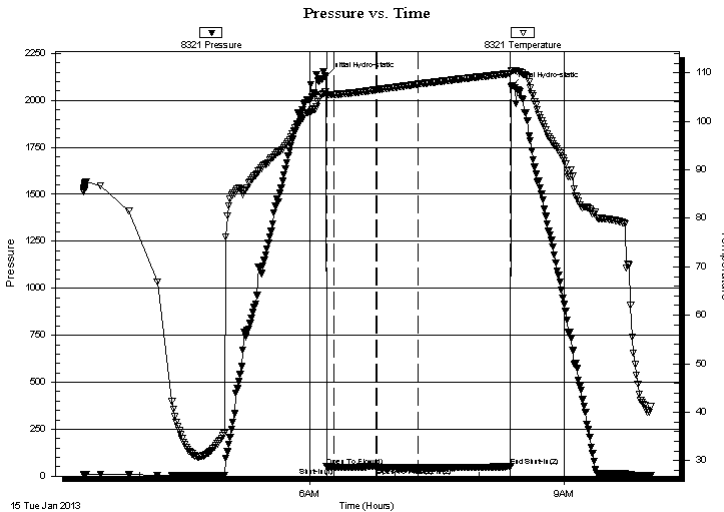
TEST COMMENT: IFP-Weak surface blow built to 1/8"

ISI-Dead no blow back

FFP-Surged then dead

FSI-Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2126.49	106.07	Initial Hydro-static
1	52.82	105.34	Open To Flow (1)
6	47.49	105.54	Shut-In(1)
36	52.47	106.49	End Shut-In(1)
36	48.10	106.51	Open To Flow (2)
66	44.16	107.67	Shut-In(2)
131	50.69	109.86	End Shut-In(2)
131	2072.04	110.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Mud w ith oil spots	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co Inc
1700 N Waterfront Pkwy
Bldg 1200
Wichita Ks 67206
ATTN: Mark Shreve

15-17s-23w Ness,KS
Sargent #1-15
Job Ticket: 50518 **DST#: 1**
Test Start: 2013.01.15 @ 03:20:24

Tool Information

Drill Pipe:	Length: 4172.00 ft	Diameter: 3.80 inches	Volume: 58.52 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 59.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4310.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	88.00 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			4283.00	
Shut In Tool	5.00			4288.00	
Hydraulic tool	5.00			4293.00	
Jars	5.00			4298.00	
Safety Joint	3.00			4301.00	
Packer	4.00			4305.00	28.00 Bottom Of Top Packer
Packer	5.00			4310.00	
Stubb	1.00			4311.00	
Perforations	3.00			4314.00	
Change Over Sub	1.00			4315.00	
Drill Pipe	31.00			4346.00	
Change Over Sub	1.00			4347.00	
Recorder	0.00	8321	Inside	4347.00	
Recorder	0.00	8737	Outside	4347.00	
Perforations	20.00			4367.00	
Bullnose	3.00			4370.00	60.00 Bottom Packers & Anchor
Total Tool Length:	88.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co Inc

15-17s-23w Ness,KS

1700 N Waterfront Pkw y
Bldg 1200
Wichita Ks 67206
ATTN: Mark Shreve

Sargent #1-15

Job Ticket: 50518

DST#: 1

Test Start: 2013.01.15 @ 03:20:24

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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	Mud w ith oil spots	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

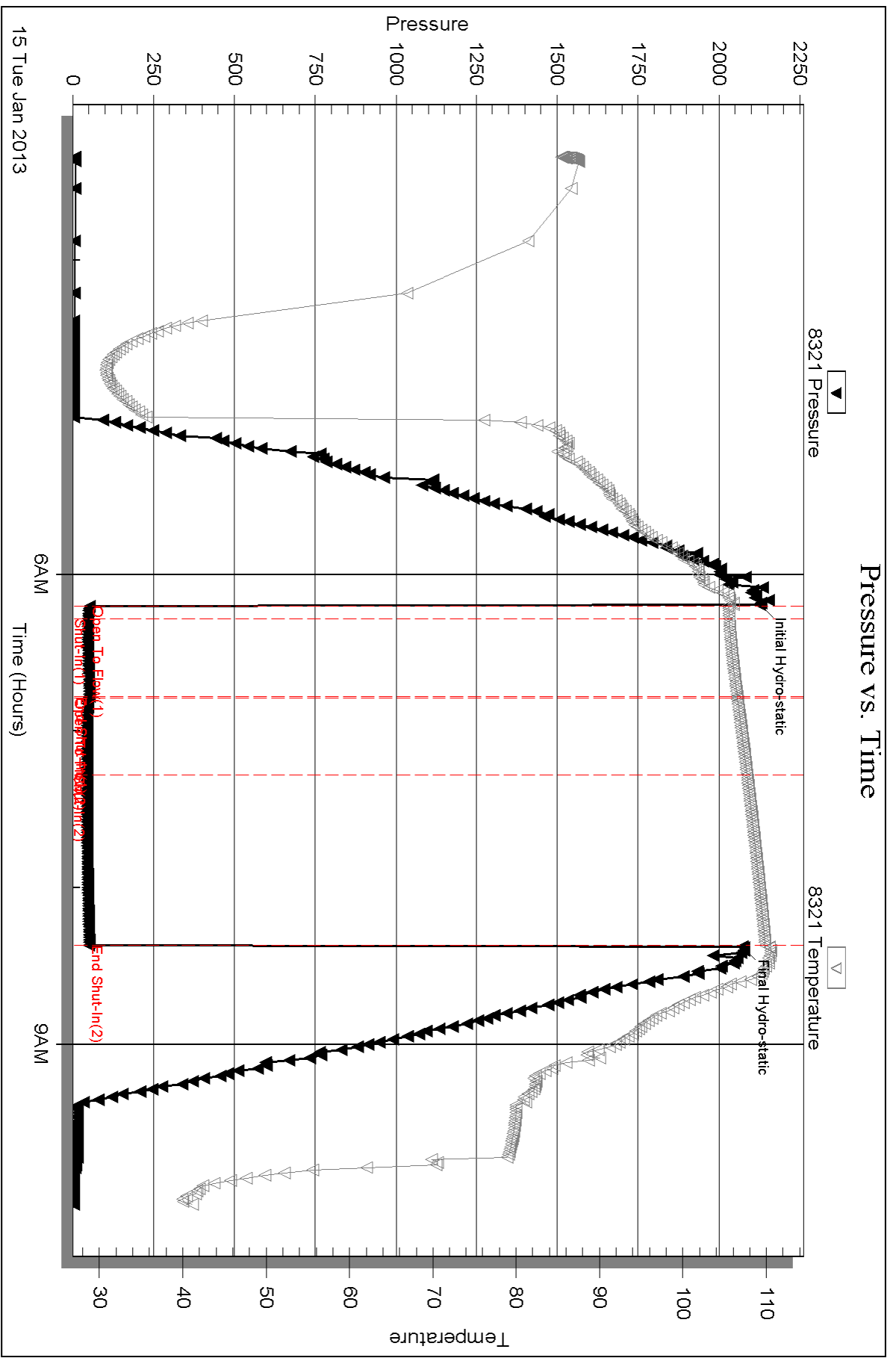
Serial #: 8321

Inside

Mull Drilling Co Inc

Sargent #1-15

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 50518

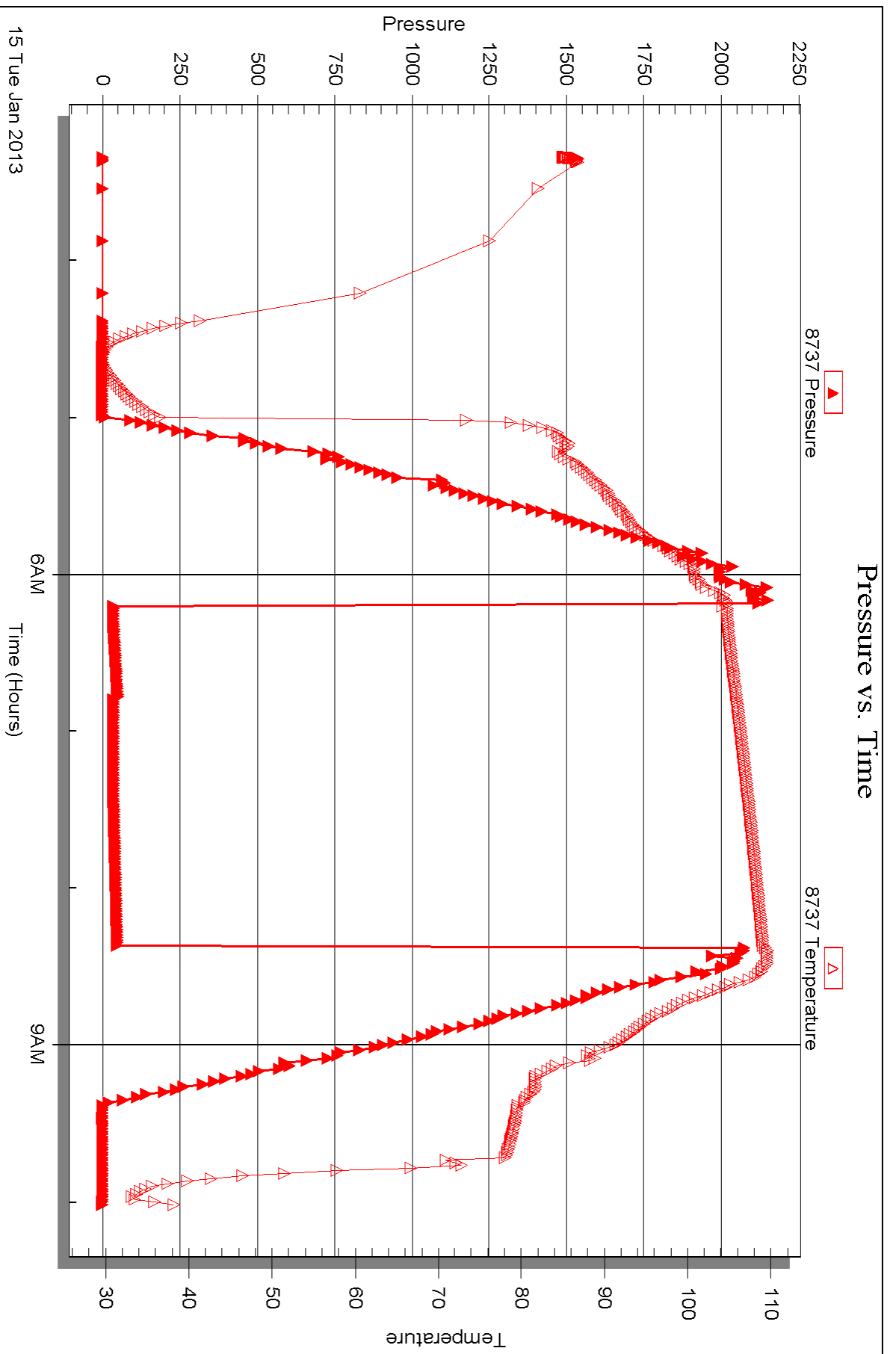
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Serial #: 8737

Outside Mull Drilling Co Inc

Sargent #1-15

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co Inc**

1700 N Waterfront Pkwy
Bldg 1200
Wichita Ks 67206

ATTN: Mark Shreve

Sargent #1-15

15-17s-23w Ness,KS

Start Date: 2013.01.15 @ 20:09:11

End Date: 2013.01.16 @ 03:54:41

Job Ticket #: 50519 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.01.21 @ 08:45:54



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Co Inc
 1700 N Waterfront Pkw y
 Bldg 1200
 Wichita Ks 67206
 ATTN: Mark Shreve

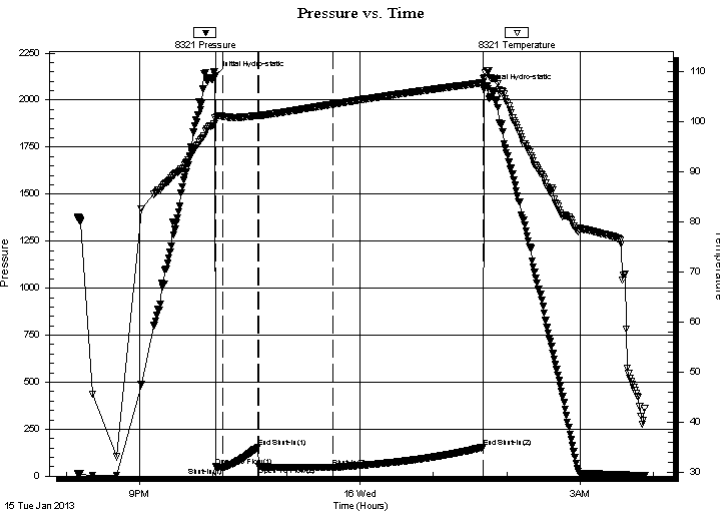
15-17s-23w Ness,KS
Sargent #1-15
 Job Ticket: 50519 **DST#: 2**
 Test Start: 2013.01.15 @ 20:09:11

GENERAL INFORMATION:

Formation: **Cherokee Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:02:11
 Time Test Ended: 03:54:41
 Interval: **4360.00 ft (KB) To 4430.00 ft (KB) (TVD)**
 Total Depth: 4430.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jeff Brown
 Unit No: 44
 Reference Elevations: 2444.00 ft (KB)
 2439.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8321 Inside
 Press @ Run Depth: 47.45 psig @ 4398.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.01.15 End Date: 2013.01.16 Last Calib.: 2013.01.16
 Start Time: 20:09:12 End Time: 03:52:41 Time On Btm: 2013.01.15 @ 22:01:41
 Time Off Btm: 2013.01.16 @ 01:41:11

TEST COMMENT: IFP-Weak blow built to 1"
 ISI-Weak surface blow back
 FFP-Weak Surface blow built to 1/4"
 FSI-Weak surface blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2130.50	100.90	Initial Hydro-static
1	52.90	100.50	Open To Flow (1)
6	47.36	101.11	Shut-In(1)
35	152.30	101.28	End Shut-In(1)
36	52.72	101.26	Open To Flow (2)
97	47.45	103.54	Shut-In(2)
219	153.90	107.81	End Shut-In(2)
220	2059.31	108.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w ith oil spots	0.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co Inc

15-17s-23w Ness,KS

1700 N Waterfront Pkwy
Bldg 1200
Wichita Ks 67206
ATTN: Mark Shreve

Sargent #1-15

Job Ticket: 50519

DST#: 2

Test Start: 2013.01.15 @ 20:09:11

Tool Information

Drill Pipe:	Length: 4235.00 ft	Diameter: 3.80 inches	Volume: 59.41 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	76000.00 lb
		Total Volume: 60.00 bbl		Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4360.00 ft			Final	63000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	70.00 ft				
Tool Length:	98.00 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			4333.00	
Shut In Tool	5.00			4338.00	
Hydraulic tool	5.00			4343.00	
Jars	5.00			4348.00	
Safety Joint	3.00			4351.00	
Packer	4.00			4355.00	28.00 Bottom Of Top Packer
Packer	5.00			4360.00	
Stubb	1.00			4361.00	
Perforations	4.00			4365.00	
Change Over Sub	1.00			4366.00	
Drill Pipe	31.00			4397.00	
Change Over Sub	1.00			4398.00	
Recorder	0.00	8321	Inside	4398.00	
Recorder	0.00	8737	Outside	4398.00	
Perforations	29.00			4427.00	
Bullnose	3.00			4430.00	70.00 Bottom Packers & Anchor
Total Tool Length:		98.00			



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co Inc

15-17s-23w Ness,KS

1700 N Waterfront Pkw y
Bldg 1200
Wichita Ks 67206
ATTN: Mark Shreve

Sargent #1-15

Job Ticket: 50519

DST#: 2

Test Start: 2013.01.15 @ 20:09:11

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: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w ith oil spots	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8321

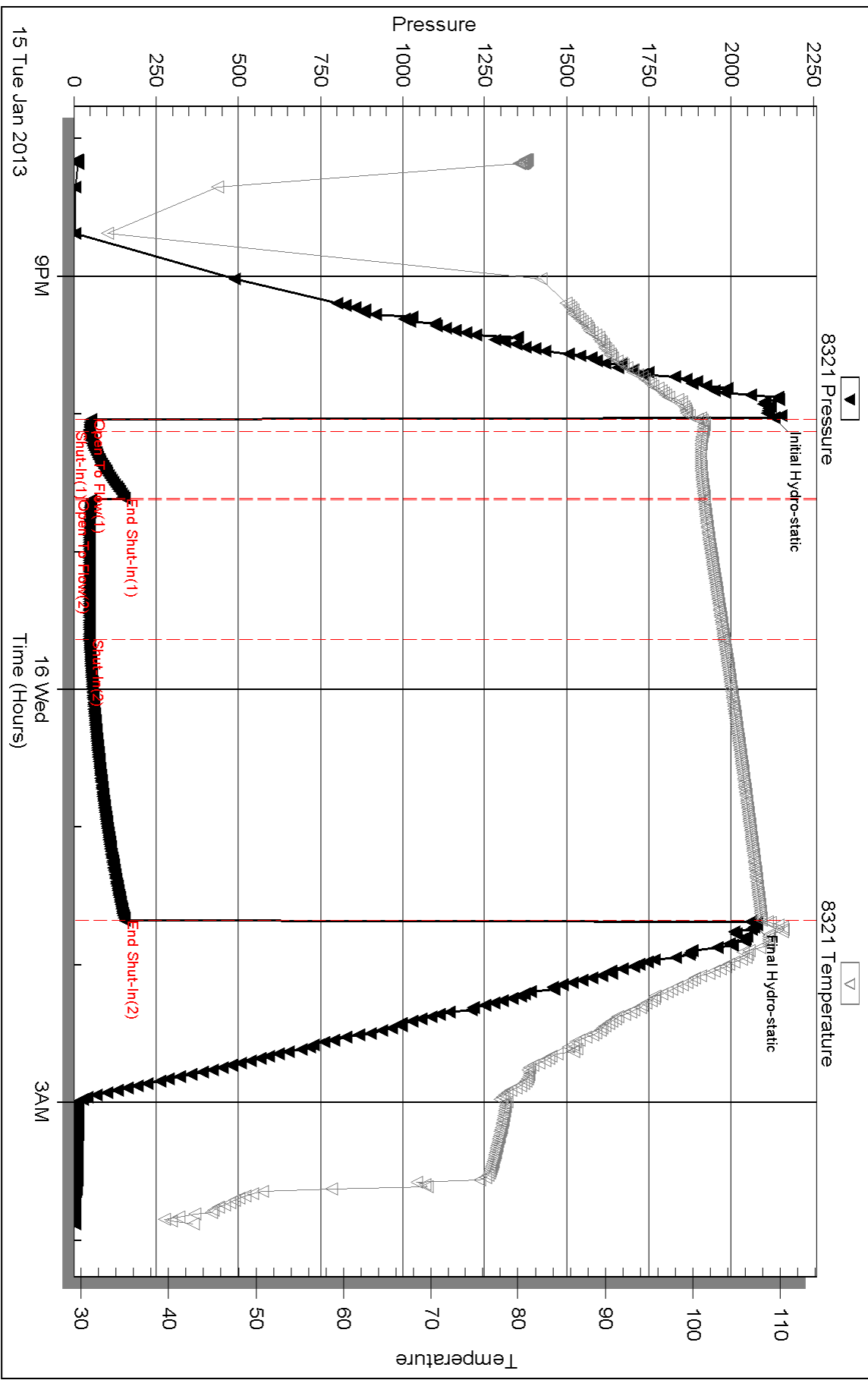
Inside

Mull Drilling Co Inc

Sargent #1-15

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50519

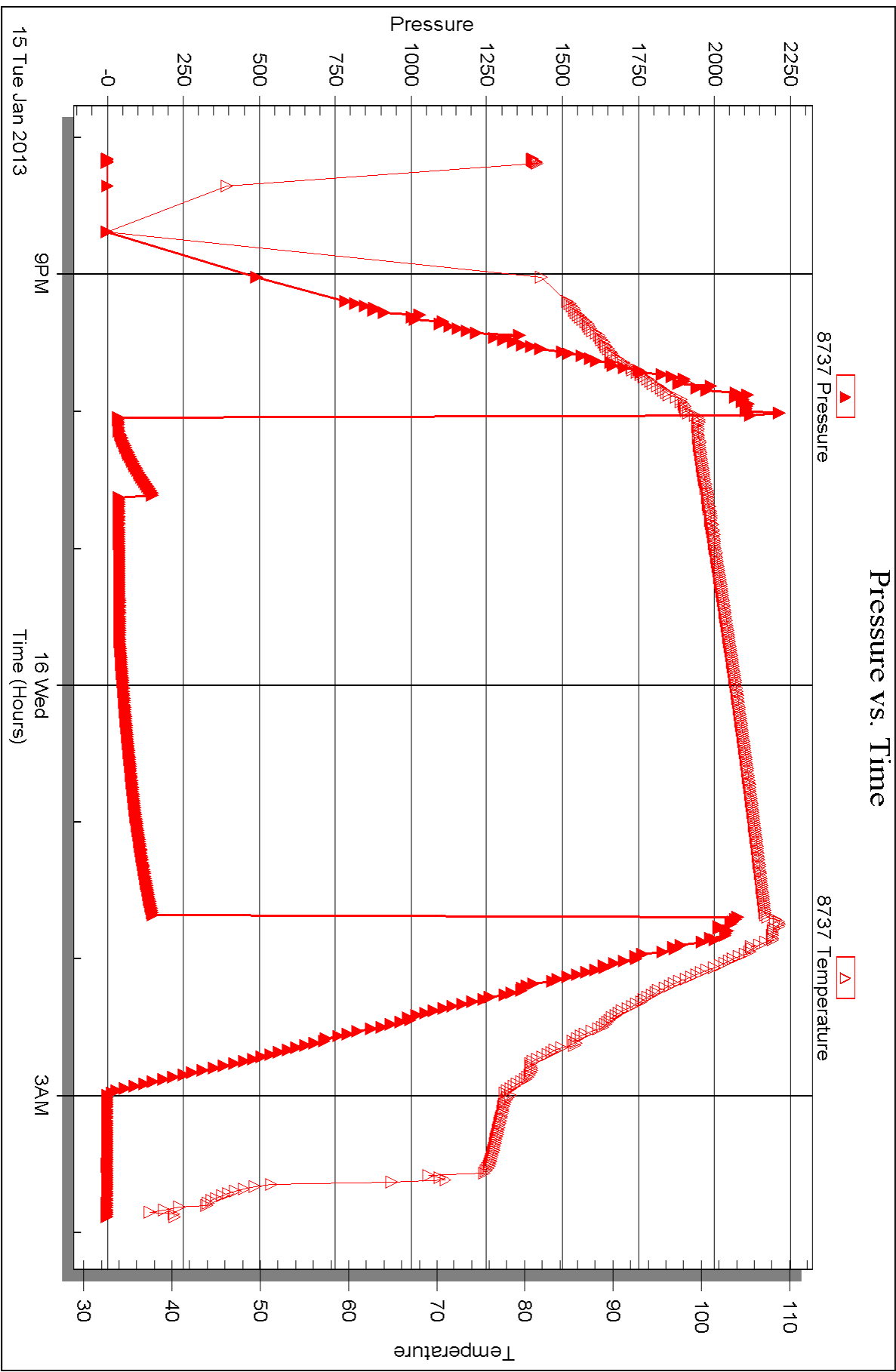
Printed: 2013.01.21 @ 08:45:57

Serial #: 8737

Outside Mull Drilling Co Inc

Sargent #1-15

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co Inc**

1700 N Waterfront Pkwy
Bldg 1200
Wichita Ks 67206

ATTN: Mark Shreve

Sargent #1-15

15-17s-23w Ness,KS

Start Date: 2013.01.16 @ 10:15:47

End Date: 2013.01.16 @ 17:45:47

Job Ticket #: 50520 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.01.21 @ 08:45:11



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Co Inc
1700 N Waterfront Pkw y
Bldg 1200
Wichita Ks 67206
ATTN: Mark Shreve

15-17s-23w Ness,KS

Sargent #1-15

Job Ticket: 50520

DST#: 3

Test Start: 2013.01.16 @ 10:15:47

GENERAL INFORMATION:

Formation: **Cherokee Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:05:17

Time Test Ended: 17:45:47

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 44

Interval: 4365.00 ft (KB) To 4440.00 ft (KB) (TVD)

Reference Elevations: 2444.00 ft (KB)

Total Depth: 4440.00 ft (KB) (TVD)

2439.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8321 Inside

Press @ Run Depth: 53.63 psig @ 4404.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.16

End Date:

2013.01.16

Last Calib.:

2013.01.16

Start Time: 10:15:48

End Time:

17:39:47

Time On Btm:

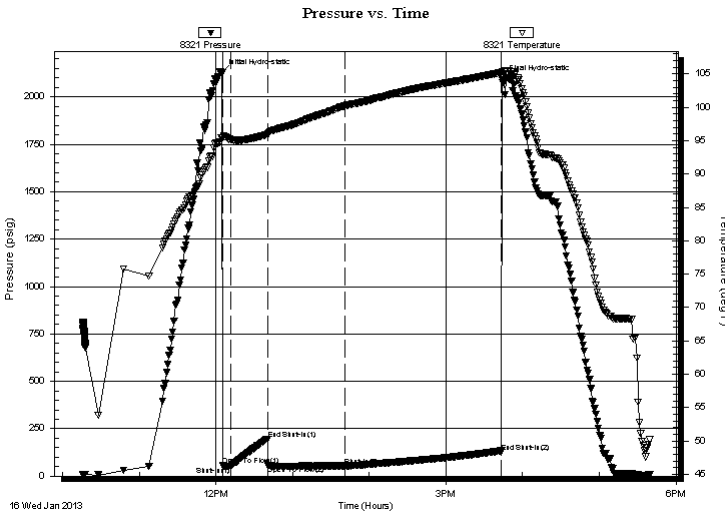
2013.01.16 @ 12:04:47

Time Off Btm:

2013.01.16 @ 15:43:47

TEST COMMENT: IFP-Weak blow built to 1"
ISI-Dead no blow back
FFP-Weak surface blow built to 1/2"
FSI-Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2125.00	95.46	Initial Hydro-static
1	56.94	95.40	Open To Flow (1)
7	52.94	95.17	Shut-In(1)
36	195.96	95.93	End Shut-In(1)
36	57.35	95.94	Open To Flow (2)
96	53.63	100.21	Shut-In(2)
219	128.12	105.19	End Shut-In(2)
219	2090.48	105.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud w with a scum of oil	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co Inc
1700 N Waterfront Pkwy
Bldg 1200
Wichita Ks 67206
ATTN: Mark Shreve

15-17s-23w Ness,KS
Sargent #1-15
Job Ticket: 50520 **DST#: 3**
Test Start: 2013.01.16 @ 10:15:47

Tool Information

Drill Pipe:	Length: 4235.00 ft	Diameter: 3.80 inches	Volume: 59.41 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 85000.00 lb
		Total Volume: 60.00 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4365.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.00 ft			
Tool Length:	103.00 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			4338.00	
Shut In Tool	5.00			4343.00	
Hydraulic tool	5.00			4348.00	
Jars	5.00			4353.00	
Safety Joint	3.00			4356.00	
Packer	4.00			4360.00	28.00 Bottom Of Top Packer
Packer	5.00			4365.00	
Stubb	1.00			4366.00	
Perforations	5.00			4371.00	
Change Over Sub	1.00			4372.00	
Drill Pipe	31.00			4403.00	
Change Over Sub	1.00			4404.00	
Recorder	0.00	8321	Inside	4404.00	
Recorder	0.00	8737	Outside	4404.00	
Perforations	33.00			4437.00	
Bullnose	3.00			4440.00	75.00 Bottom Packers & Anchor
Total Tool Length:		103.00			



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co Inc

15-17s-23w Ness,KS

1700 N Waterfront Pkw y
Bldg 1200
Wichita Ks 67206
ATTN: Mark Shreve

Sargent #1-15

Job Ticket: 50520

DST#: 3

Test Start: 2013.01.16 @ 10:15:47

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	Mud with a scum of oil	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8321

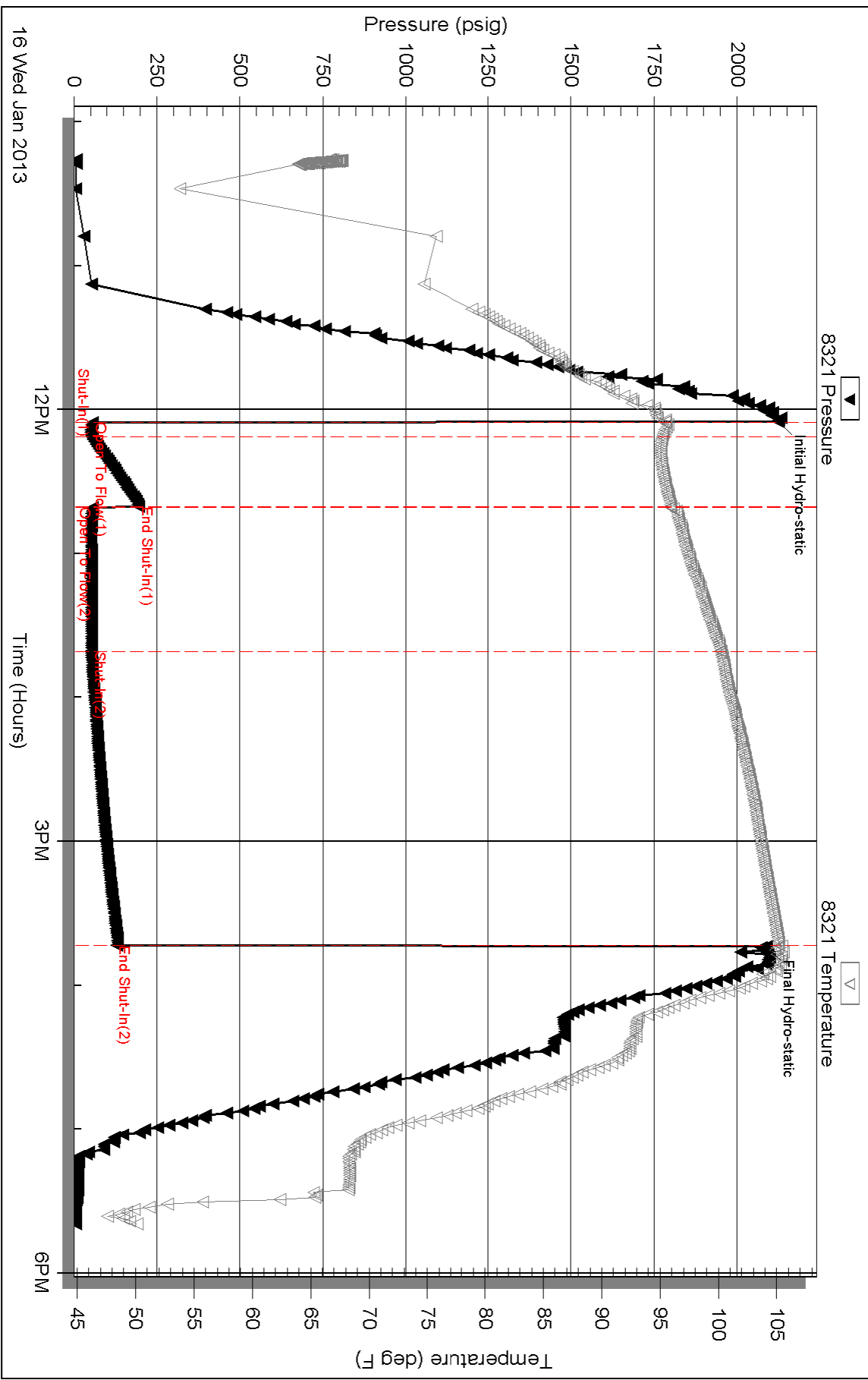
Inside

Mull Drilling Co Inc

Sargent #1-15

DST Test Number: 3

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50520

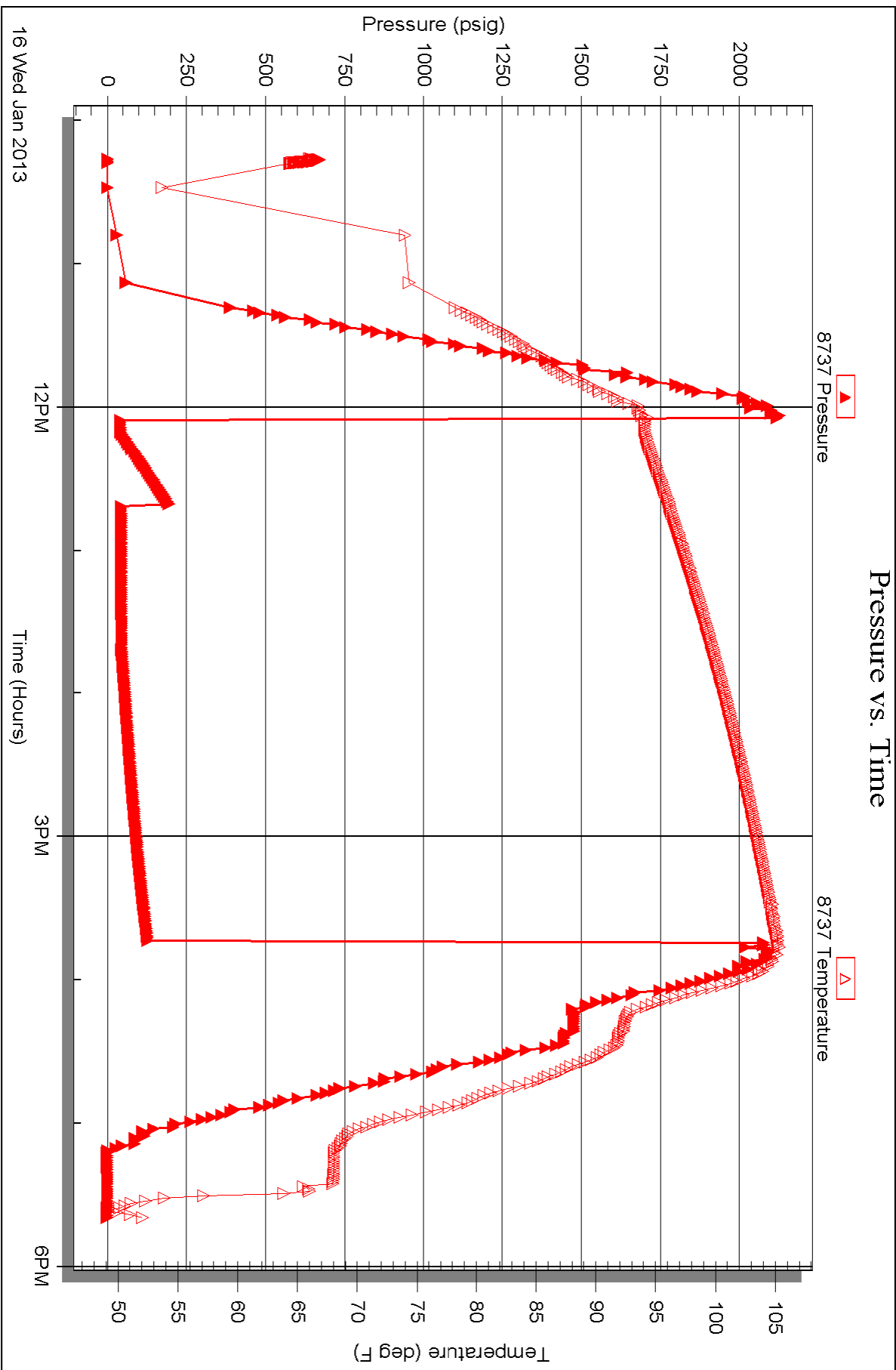
Printed: 2013.01.21 @ 08:45:14

Serial #: 8737

Outside Mull Drilling Co Inc

Sargent #1-15

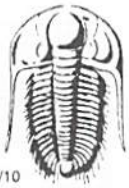
DST Test Number: 3



Triobite Testing, Inc

Ref. No: 50520

Printed: 2013.01.21 @ 08:45:14



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **50518**

Well Name & No. SARGENT 1-15 Test No. 1 Date 1-15-13
 Company Mull Drilling Company INC Elevation 2444 KB 2439 GL
 Address 1700 N WATERFRONT PKWY BLDG 1200 WICHITA KS 67206 + 26637
 Co. Rep / Geo. Kevin Kessler Rig WW #10
 Location: Sec. 15 Twp. 17 S Rge. 23 W Co. Ness State KS

Interval Tested 4310-4370 Zone Tested Ft SCOTT
 Anchor Length 60 Drill Pipe Run 4172 Mud Wt. 9.1
 Top Packer Depth 4305 Drill Collars Run 120 Vis 46
 Bottom Packer Depth 4310 Wt. Pipe Run 0 WL 8.8
 Total Depth 4370 Chlorides 7200 ppm System LCM 1

Blow Description JH-Weak Surface Blow Built To 1/8 IN
1st-Dead No Blow Back
FP-Surged Then Dead
FSL-Dead NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Mud with oil spots</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 3 BHT 110 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2126</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>1:28</u>
(B) First Initial Flow <u>53</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>3:20</u>
(C) First Final Flow <u>47</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>6:12</u>
(D) Initial Shut-In <u>52</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>8:12</u>
(E) Second Initial Flow <u>48</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:00</u>
(F) Second Final Flow <u>44</u>	<input checked="" type="checkbox"/> Mileage <u>69x2</u> 213.90	Comments _____
(G) Final Shut-In <u>51</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>2072</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer _____

Initial Open 5
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 60

Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1788.90

Sub Total 1788.90

Approved By _____ Our Representative Jeff Brown

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. 50519

Well Name & No. Sargent 1-15 Test No. 2 Date 1-15-13
 Company Mull Drilling Company INC Elevation 2444 KB 2439 GL
 Address 1700 N Waterfront Pkwy Bldg 1200 Wichita KS 67206
 Co. Rep / Geo. Kevin Kessler Rig WW #10
 Location: Sec. 15 Twp. 17S Rge. 23 W Co. Ness State KS

Interval Tested 4360-4430 Zone Tested Sherokee Sand
 Anchor Length 70 Drill Pipe Run 4235 Mud Wt. 9.2
 Top Packer Depth 4355 Drill Collars Run 120 Vis 47
 Bottom Packer Depth 4360 Wt. Pipe Run 0 WL 7.2
 Total Depth 4430 Chlorides 7000 ppm System LCM 1

Blow Description 1st-Weak Blow Built To 1 IN
2nd-Weak Surface Blow Back
3rd-Weak Surface Blow Built To 1/4 IN
4th-Weak Surface Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud with oil spots</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 10 BHT 108 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2131 Test 1250 T-On Location 19:00
 (B) First Initial Flow 53 Jars 250 T-Started 20:09
 (C) First Final Flow 47 Safety Joint 75 T-Open 22:03
 (D) Initial Shut-In 152 Circ Sub T-Pulled 1:38
 (E) Second Initial Flow 53 Hourly Standby T-Out 3:54
 (F) Second Final Flow 47 Mileage 213.90 Comments _____
 (G) Final Shut-In 154 Sampler _____
 (H) Final Hydrostatic 2059 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1788.90
 Accessibility _____ MP/DST Disc't _____

Initial Open 5
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 120
 Sub Total 1788.90

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50520

Well Name & No. SARGENT 1-15 Test No. 3 Date 1-16-13
 Company Mull Drilling Company INC Elevation 2444 KB 2439 GL
 Address 1700 N Waterfront Pkwy Bldg 1200 Wichita KS 67206
 Co. Rep / Geo. Kevin Kessler Rig WW #10
 Location: Sec. 15 Twp. 17S Rge. 23 W Co. Ness State KS

Interval Tested 4365-4440 Zone Tested Cherokee Sand
 Anchor Length 75 Drill Pipe Run 4235 Mud Wt. 9.0
 Top Packer Depth 4360 Drill Collars Run 120 Vis 50
 Bottom Packer Depth 4365 Wt. Pipe Run 0 WL 7.2
 Total Depth 4440 Chlorides 4600 ppm System LCM TR

Blow Description JFF-Weak Blow Built To 1 IN
1ST-Dead No Blow Back
JFF-Weak Surface Blow Built To 1/2 IN
1ST-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud with a scum of oil</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 105
 (A) Initial Hydrostatic 2125
 (B) First Initial Flow 57
 (C) First Final Flow 53
 (D) Initial Shut-In 196
 (E) Second Initial Flow 57
 (F) Second Final Flow 54
 (G) Final Shut-In 128
 (H) Final Hydrostatic 2091

Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 Test 1250
 Jars 250
 Safety Joint 75
 Circ Sub
 Hourly Standby
 Mileage 427.80
 Sampler
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 2002.80

T-On Location 9:08
 T-Started 10:15
 T-Open 12:06
 T-Pulled 15:41
 T-Out 17:45
 Comments Loaded Tool's
@ 23:42 on 1-16-13
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 2002.80
 MP/DST Disc't _____

Initial Open 5
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 120

Approved By _____ Our Representative Jeff Brown

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