



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1158986
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: _____



1158986

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
 Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
 Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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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 <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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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

September 19, 2013

Leon Rodak
Murfin Drilling Co., Inc.
250 N WATER STE 300
WICHITA, KS 67202-1216

Re: ACO1
API 15-023-21367-00-00
Culwell 'C' 1-10
NW/4 Sec.10-01S-37W
Cheyenne 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,
Leon Rodak

MDCI Culwell 'C' #1-10 2190' FNL 1680' FWL Sec. 10-T1S-R37W 3150' KB							MDCI Patti #1-10 1820' FNL 660' FWL Sec. 10-T1S-R37W 3200' KB	
Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum
Anhydrite	3096	+54	+2	3094	+56	+4	3148	+52
B/Anhydrite	3133	+17	-3	3123	+27	+7	3180	+20
Neva	3546	-396	+5	3545	-395	+6	3601	-401
Red Eagle	3612	-462	+3	3608	-458	+7	3665	-465
Foraker	3661	-511	+4	3657	-507	+8	3715	-515
Topeka	3882	-732	+3	3876	-726	+9	3935	-735
Oread	4019	-869	+1	4010	-860	+10	4070	-870
Lansing	4100	-950	+1	4092	-942	+9	4151	-951
Stark	4312	-1162	+7	4308	-1158	+11	4369	-1169
BKC	4368	-1218	+6	4365	-1215	+9	4424	-1224
Pawnee	4488	-1332	+15	4478	-1328	+19	4547	-1347
Cherokee	4575	-1425	+10	4572	-1422	+13	4635	-1435
Mississippi								
RTD	4650	-1500					4735	-1535
LTD				4648	-1498		4736	-1536

Jeff Christian

PETROLEUM GEOLOGIST

Wichita, Kansas

GEOLOGISTS' REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR MURKIN DRILLING COMPANY	DRILLING TIME AND SAMPLE LOG		
LEISE CULWELL, C. # 1-10			
LOCATION 2190' FSL & 1690' FWL			
SEC. 10	TWSP 1 S		
COUNTY CHEYENNE	SITE KANSAS		
APL JONES CANNON SE			
CONTRACTOR COMPANY TOOLS	RING NO. 14		
DRILLING STARTED 5/24/2013	COMPLETED 06/03/2013		
MUD DISPLACED 3269	MUD TYPE CHEMICAL		
DRILLING TIME KEPT FROM 3490'	TO RTD TO RTD		
SAMPLES SAVED FROM 3490'	TO RTD TO RTD		
SAMPLES EXAMINED FROM 3490'	TO RTD TO RTD		
GEOLOGICAL SUPERVISION FROM 3909'	TO RTD TO RTD		
FORMATION NAME	LOG	SAMPLE	DATUM
ANHYDRITE	3094' (-464)	3095' (-465)	(-451)
NEVA	3945' (-395)	3946' (-396)	(-311)
FORAKER	3667' (-507)	3661' (-511)	(-332)
TOPEKA	3876' (-726)	3882' (-732)	(-950)
LANSING	4092' (-943)	4100' (-950)	(-1162)
STARK	4308' (1158)	4312' (-1162)	(-1218)
BKC	4365' (-1215)	4368' (-1218)	(-1332)
PAWNEE	4478' (-1328)	4482' (-1332)	(-1426)
CHEROKEE	4572' (-1422)	4575' (-1425)	(-1500)
TOTAL DEPTH	4648' (-1458)	4650' (-1500)	

ELEVATIONS	KB 3150'
GL	3140'
MESSENGERS FORMER	
CASING RECORD	Condition: NONE
Surface	8 5/8" @ 220'
W/	190 SX
Production	5 1/2" @ 464'
W/	490 SX
Production	5 1/2" @ 464'

DATE	7:00 AM DEPTH	REMARKS
5/24/13	MIRT	SPUD 7:00 pm
5/25/13	223'	WOC dev. 1/2 deg
5/26/13	2965'	DRLG.
5/27/13	3185'	DRLG.
5/28/13	3672'	Short Trip prior to DST # 1 dev. 1 deg.
5/29/13	3850'	DRLG.
5/30/13	4030'	TIH after DST # 2
5/31/13	4170'	TIH after DST # 3
6/1/13	4286'	DRLG.
6/2/13	4430'	DRLG dev. 1 deg. @ 4326'
6/3/13	4580'	DRLG. RTD 4650' @ 9:45 am dev. 1 3/4 deg. Finish logging @ 11:00 pm (3 hr. down time)

Remarks

5 1/2" production casing set to further test the Lansing / Kansas City and Pawnee formations.

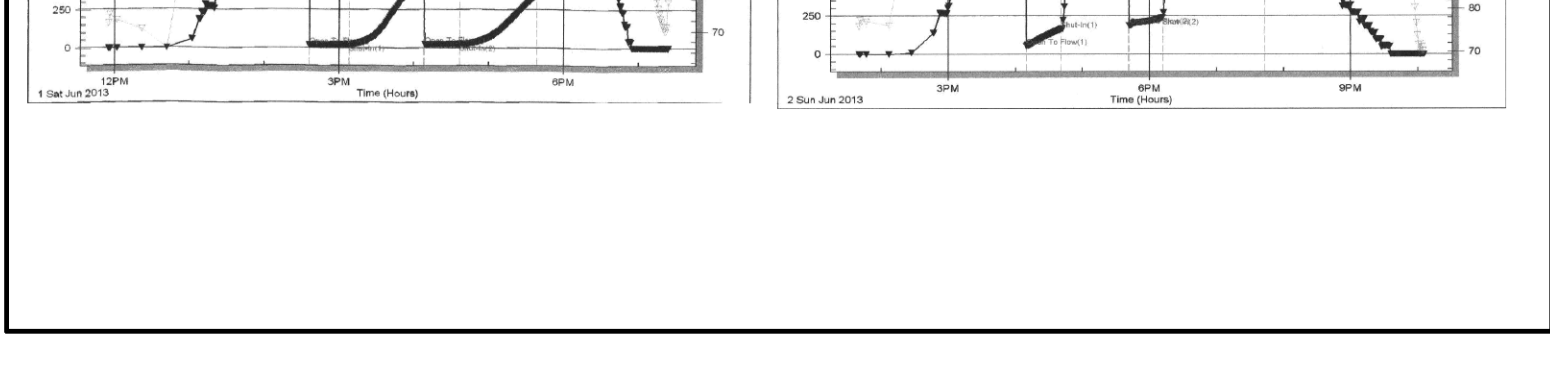
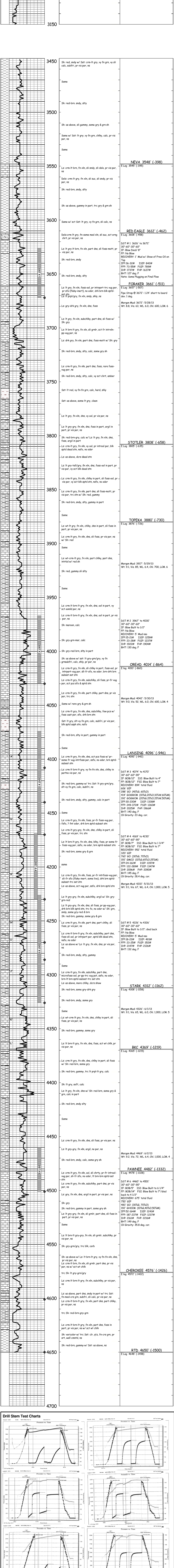
Electric log measurements correlate about 4' high compared to rotary measurements.

Samples deposited at the Kansas Geological Survey.

Respectfully Submitted'

Jeff Christian

Jeff Christian





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Comp. Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Culwell C #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.05.28 @ 13:01:10

End Date: 2013.05.28 @ 19:00:55

Job Ticket #: 49210 DST #: 1

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

Printed: 2013.06.06 @ 12:07:51



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne,KS

Culwell C #1-10

Job Ticket: 49210

DST#: 1

Test Start: 2013.05.28 @ 13:01:10

GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:35:10

Time Test Ended: 19:00:55

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane McBride

Unit No: 55

Interval: 3626.00 ft (KB) To 3672.00 ft (KB) (TVD)

Reference Elevations: 3150.00 ft (KB)

Total Depth: 3672.00 ft (KB) (TVD)

3140.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6667 Inside

Press @ Run Depth: 35.93 psig @ 3627.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.28

End Date:

2013.05.28

Last Calib.:

2013.05.28

Start Time: 13:01:10

End Time:

19:00:55

Time On Btm:

2013.05.28 @ 14:34:55

Time Off Btm:

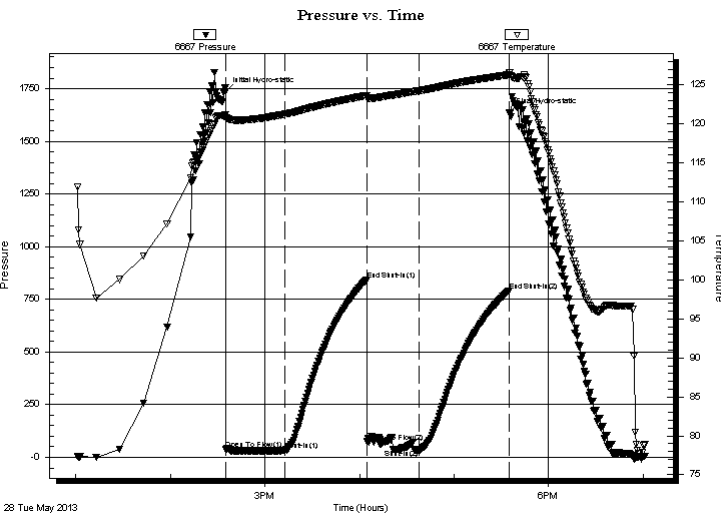
2013.05.28 @ 17:35:10

TEST COMMENT: Weak blow died in 8 min.

No return

No blow

No return



PRESSURE SUMMARY

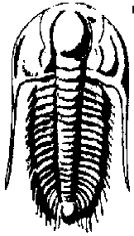
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1737.17	121.26	Initial Hydro-static
1	36.98	120.80	Open To Flow (1)
38	32.63	121.25	Shut-In(1)
90	842.83	123.65	End Shut-In(1)
90	73.76	123.32	Open To Flow (2)
123	35.93	124.25	Shut-In(2)
180	789.77	126.30	End Shut-In(2)
181	1637.52	126.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud 100% show of free oil on top 2'	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Jeff Christian

10-1s-37w Cheyenne,KS

Culwell C #1-10

Job Ticket: 49210

DST#: 1

Test Start: 2013.05.28 @ 13:01:10

GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:35:10

Time Test Ended: 19:00:55

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane McBride

Unit No: 55

Interval: 3626.00 ft (KB) To 3672.00 ft (KB) (TVD)

Reference Elevations: 3150.00 ft (KB)

Total Depth: 3672.00 ft (KB) (TVD)

3140.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8368 Outside

Press @ Run Depth: psig @ 3627.00 ft (KB)

Start Date: 2013.05.28

End Date:

2013.05.28

Capacity: 8000.00 psig

Last Calib.:

2013.05.28

Start Time: 13:00:38

End Time:

19:00:32

Time On Btm:

Time Off Btm:

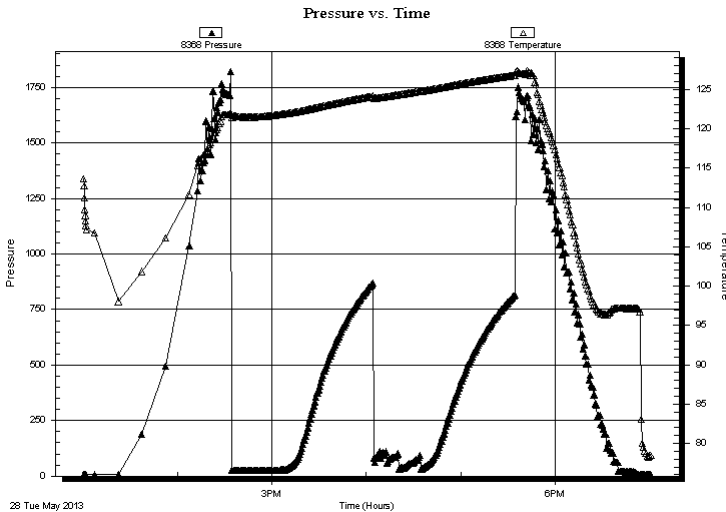
TEST COMMENT: Weak blow died in 8 min.

No return

No blow

No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
1.00	mud 100% show of free oil on top 2'	0.00

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 49210

DST#: 1

ATTN: Jeff Christian

Test Start: 2013.05.28 @ 13:01:10

Tool Information

Drill Pipe:	Length: 3078.00 ft	Diameter: 3.80 inches	Volume: 43.18 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 532.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 45.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	3626.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3599.00	
Shut In Tool	5.00			3604.00	
Hydraulic tool	5.00			3609.00	
Jars	5.00			3614.00	
Safety Joint	3.00			3617.00	
Packer	5.00			3622.00	28.00 Bottom Of Top Packer
Packer	4.00			3626.00	
Stubb	1.00			3627.00	
Recorder	0.00	6667	Inside	3627.00	
Recorder	0.00	8368	Outside	3627.00	
Perforations	6.00			3633.00	
Change Over Sub	1.00			3634.00	
Drill Pipe	32.00			3666.00	
Change Over Sub	1.00			3667.00	
Bullnose	5.00			3672.00	46.00 Bottom Packers & Anchor

Total Tool Length: 74.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne,KS
Culwell C #1-10
Job Ticket: 49210 **DST#: 1**
Test Start: 2013.05.28 @ 13:01:10

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 63.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.98 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	mud 100% show of free oil on top 2"	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

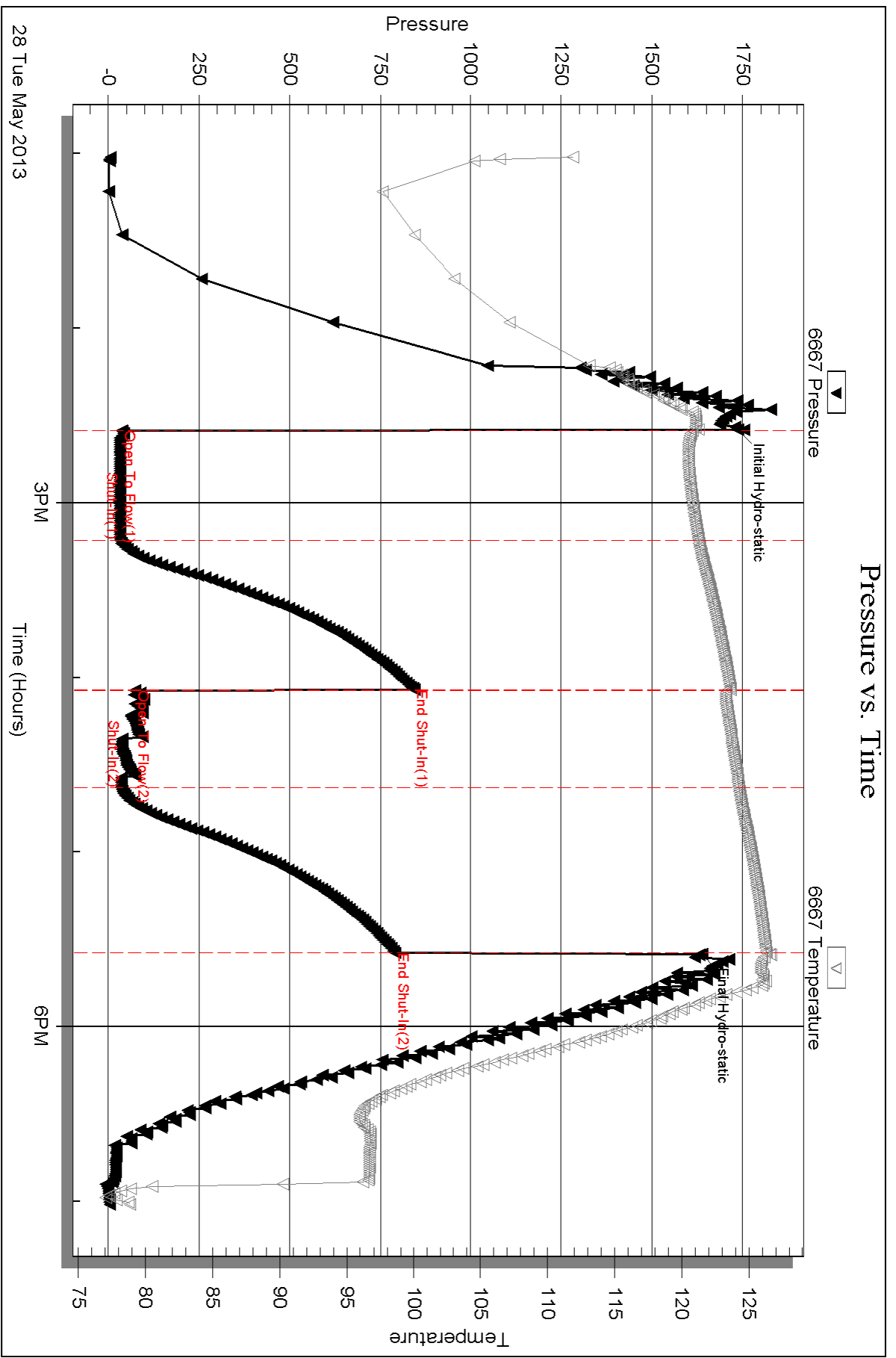
Serial #: 6667

Inside

Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 49210

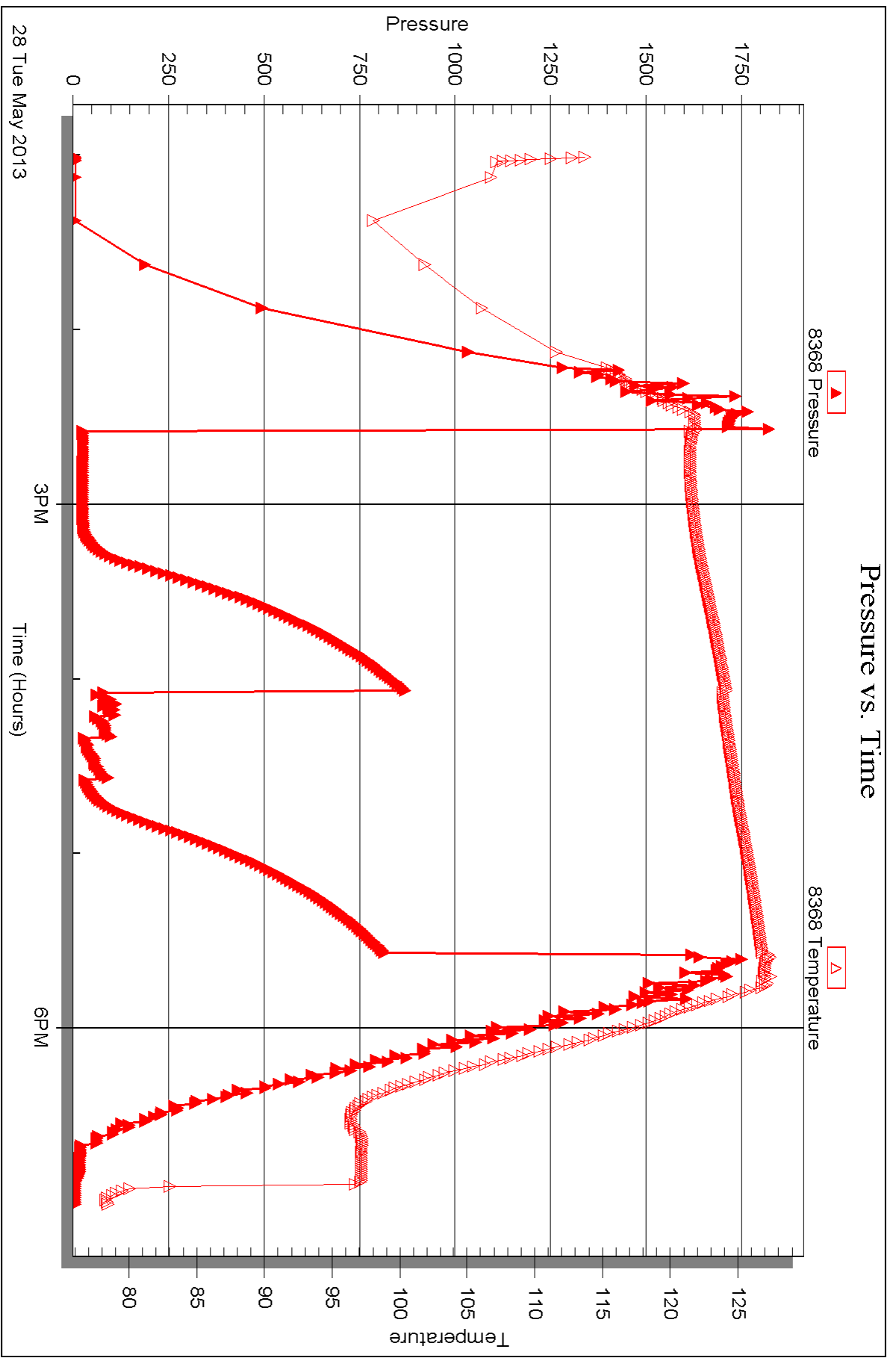
Printed: 2013.06.06 @ 12:07:53

Serial #: 8368

Outside Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 49210

Printed: 2013.06.06 @ 12:07:54



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Comp. Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Culwell C #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.05.29 @ 23:18:00

End Date: 2013.05.30 @ 06:02:30

Job Ticket #: 52599 DST #: 2

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

Printed: 2013.06.06 @ 12:07:14



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne, KS

Culwell C #1-10

Job Ticket: 52599

DST#: 2

Test Start: 2013.05.29 @ 23:18:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:30:30

Time Test Ended: 06:02:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 44

Interval: 3967.00 ft (KB) To 4030.00 ft (KB) (TVD)

Total Depth: 4030.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3150.00 ft (KB)

3140.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @ Run Depth: 28.32 psig @ 3968.00 ft (KB)

Start Date: 2013.05.29

End Date: 2013.05.30

Start Time: 23:18:15

End Time: 06:02:30

Capacity: 8000.00 psig

Last Calib.: 2013.05.30

Time On Btm: 2013.05.30 @ 01:30:00

Time Off Btm: 2013.05.30 @ 04:31:30

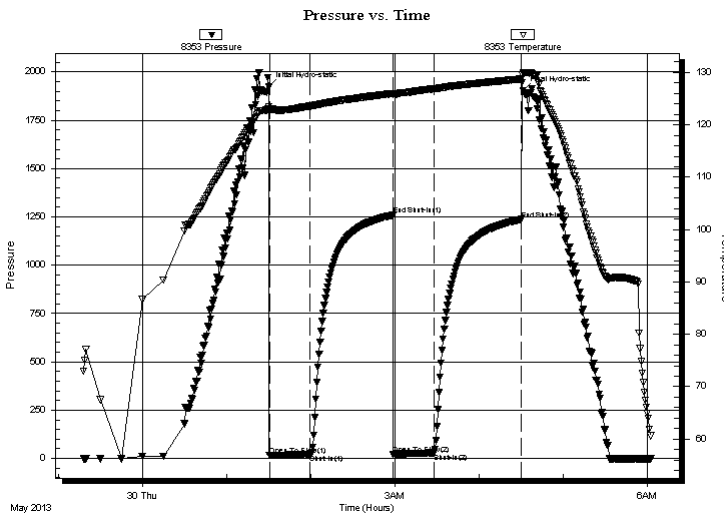
TEST COMMENT: 30 IF; Built to 1/2"

60 ISI; No Blow

30 FF; No Blow

60 FSI; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1922.36	123.45	Initial Hydro-static
1	14.91	122.93	Open To Flow (1)
30	21.08	123.57	Shut-In(1)
89	1258.72	125.98	End Shut-In(1)
89	22.64	125.82	Open To Flow (2)
118	28.32	126.88	Shut-In(2)
180	1236.77	128.76	End Shut-In(2)
182	1904.16	129.93	Final Hydro-static

Recovery

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

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Jeff Christian

10-1s-37w Cheyenne, KS

Culwell C #1-10

Job Ticket: 52599

DST#: 2

Test Start: 2013.05.29 @ 23:18:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:30:30

Time Test Ended: 06:02:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 44

Interval: 3967.00 ft (KB) To 4030.00 ft (KB) (TVD)

Reference Elevations: 3150.00 ft (KB)

Total Depth: 4030.00 ft (KB) (TVD)

3140.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8360 Inside

Press @ Run Depth: psig @ 3968.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.29

End Date:

2013.05.30

Last Calib.:

2013.05.30

Start Time: 23:18:15

End Time:

06:02:30

Time On Btm:

Time Off Btm:

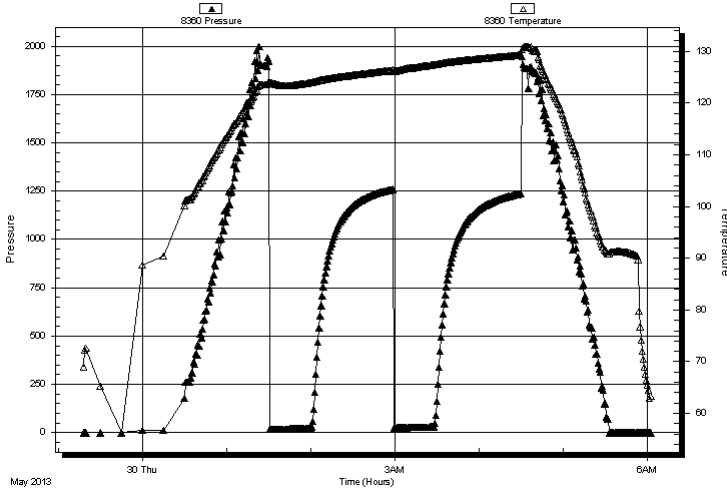
TEST COMMENT: 30 IF; Built to 1/2"

60 IS; No Blow

30 FF; No Blow

60 FS; No Blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
-------------	-----------------	--------------	------------

Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 52599

DST#: 2

ATTN: Jeff Christian

Test Start: 2013.05.29 @ 23:18:00

Tool Information

Drill Pipe:	Length: 3427.00 ft	Diameter: 3.80 inches	Volume: 48.07 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 532.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 50.69 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	3967.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	90.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3945.00	
Hydraulic tool jars	5.00			3950.00	
safety Joint	3.00			3955.00	
Packer	5.00			3963.00	27.00 Bottom Of Top Packer
Packer	4.00			3967.00	
Stubb	1.00			3968.00	
Recorder	0.00	8360	Inside	3968.00	
Recorder	0.00	8353	Outside	3968.00	
Perforations	25.00			3993.00	
Change Over Sub	1.00			3994.00	
Blank Spacing	32.00			4026.00	
Change Over Sub	1.00			4027.00	
Bullnose	3.00			4030.00	63.00 Bottom Packers & Anchor

Total Tool Length: 90.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne,KS
Culwell C #1-10
Job Ticket: 52599 **DST#: 2**
Test Start: 2013.05.29 @ 23:18:00

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: 56.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.98 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

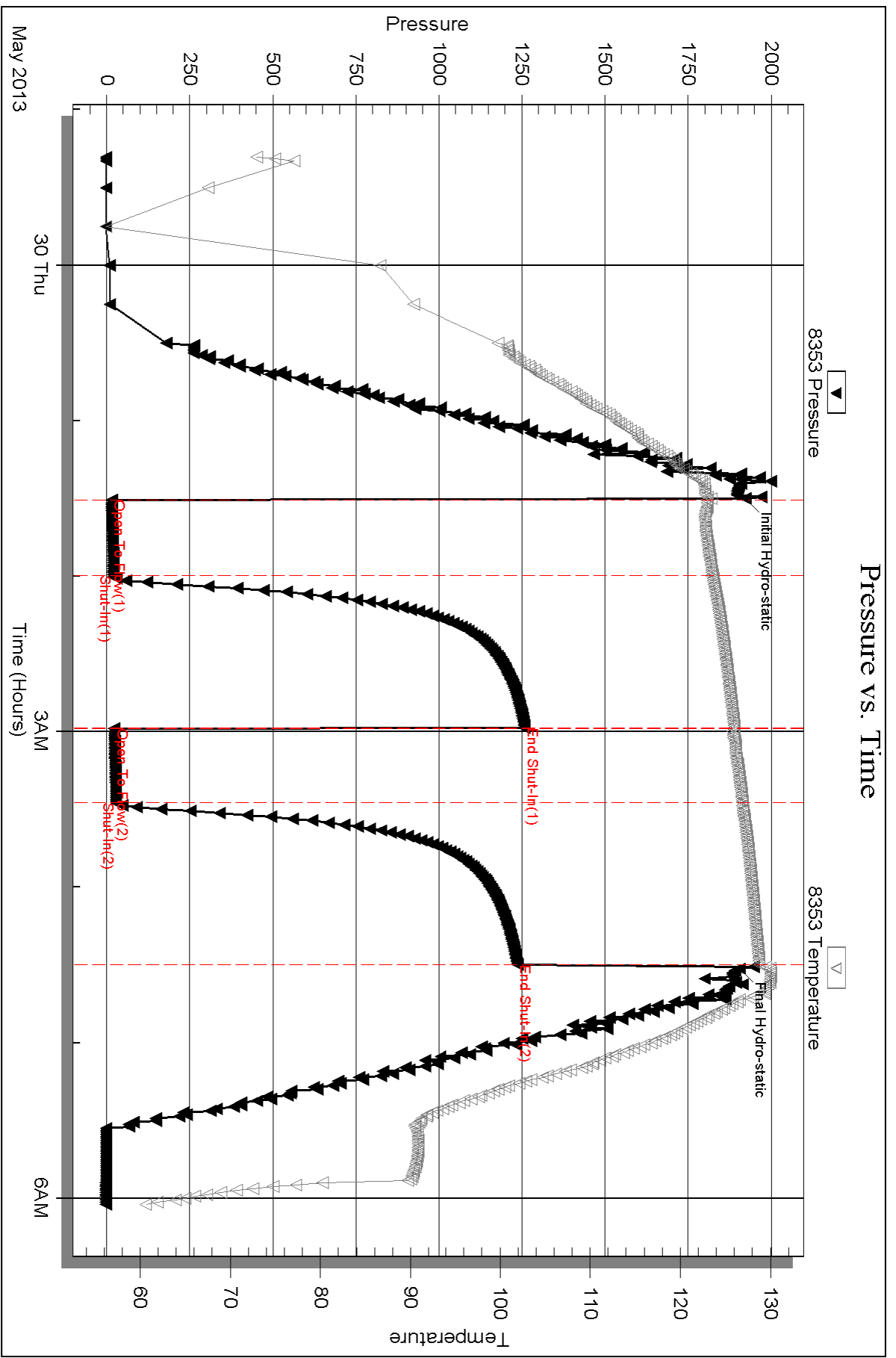
Total Length: 5.00 ft Total Volume: 0.025 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8353

Outside Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 52599

Printed: 2013.06.06 @ 12:07:17

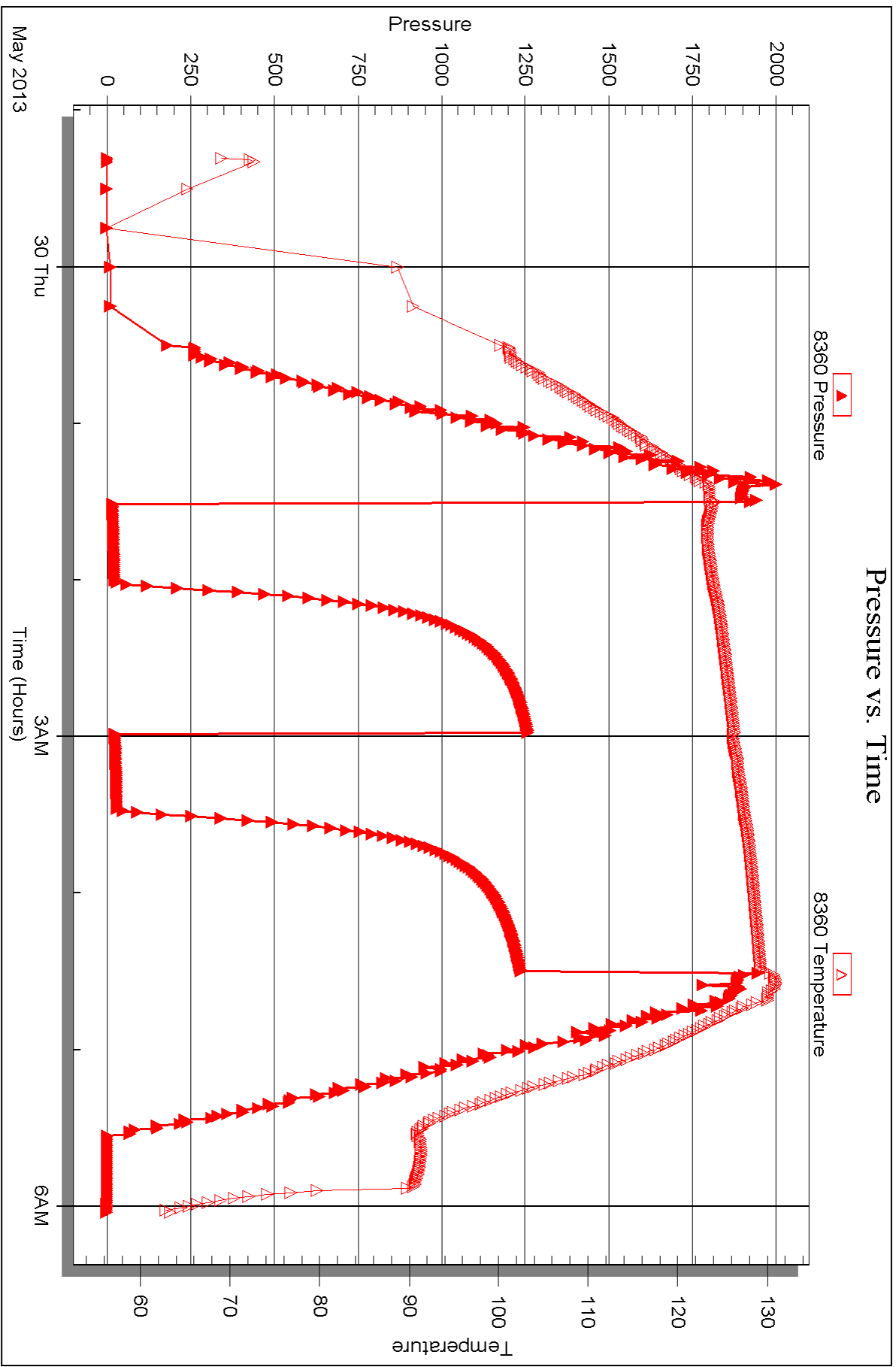
Serial #: 8360

Inside

Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Comp. Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Culwell C #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.05.30 @ 20:37:00

End Date: 2013.05.31 @ 05:11:00

Job Ticket #: 52600 DST #: 3

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

Printed: 2013.06.06 @ 12:06:33



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne, KS

Culwell C #1-10

Job Ticket: 52600

DST#: 3

Test Start: 2013.05.30 @ 20:37:00

GENERAL INFORMATION:

Formation: **LKC A-D**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:50:00
 Time Test Ended: 05:11:00
 Interval: **4074.00 ft (KB) To 4170.00 ft (KB) (TVD)**
 Total Depth: 4170.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 44
 Reference Elevations: 3150.00 ft (KB)
 3140.00 ft (CF)
 KB to GR/CF: 10.00 ft

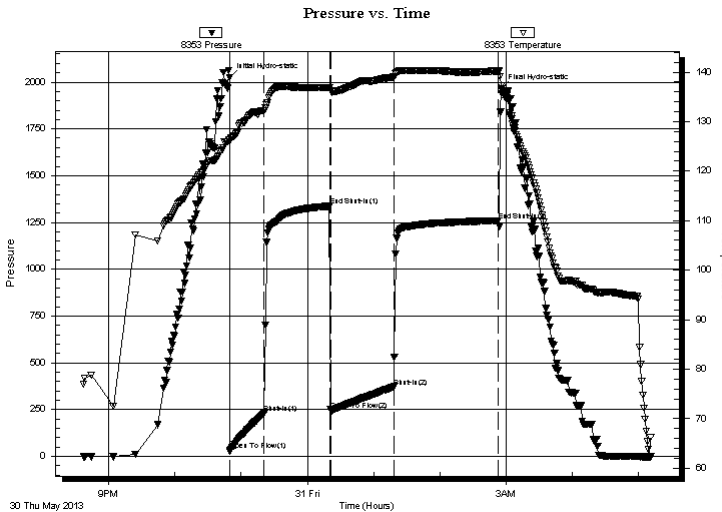
Serial #: 8353

Outside

Press @ Run Depth: 371.81 psig @ 4075.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.30 End Date: 2013.05.31 Last Calib.: 2013.05.31
 Start Time: 20:37:15 End Time: 05:11:00 Time On Btm: 2013.05.30 @ 22:49:15
 Time Off Btm: 2013.05.31 @ 02:55:15

TEST COMMENT: 30 IF; BOB in 12 min
 60 IS; Built to 4"
 60 FF; BOB in 12 min
 90 FS; Built to 7 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2024.60	126.26	Initial Hydro-static
1	30.03	126.31	Open To Flow (1)
32	230.06	132.20	Shut-In(1)
91	1337.73	136.82	End Shut-In(1)
92	248.69	136.26	Open To Flow (2)
150	371.81	139.02	Shut-In(2)
244	1259.90	140.23	End Shut-In(2)
246	1966.38	137.18	Final Hydro-static

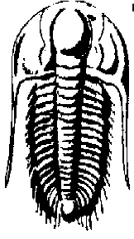
Recovery

Length (ft)	Description	Volume (bbl)
192.00	WOGCM 15%W 15%O 20%G 50%M	0.94
414.00	WGO CM 10 %W 10%G 20%O 60%M	2.71
288.00	OG 40%G 60%O	4.04
0.00	606' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 52600 **DST#: 3**

ATTN: Jeff Christian

Test Start: 2013.05.30 @ 20:37:00

GENERAL INFORMATION:

Formation: **LKC A-D**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 22:50:00 Tester: Wilbur Steinbeck
 Time Test Ended: 05:11:00 Unit No: 44
Interval: 4074.00 ft (KB) To 4170.00 ft (KB) (TVD) Reference Elevations: 3150.00 ft (KB)
 Total Depth: 4170.00 ft (KB) (TVD) 3140.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 8360

Inside

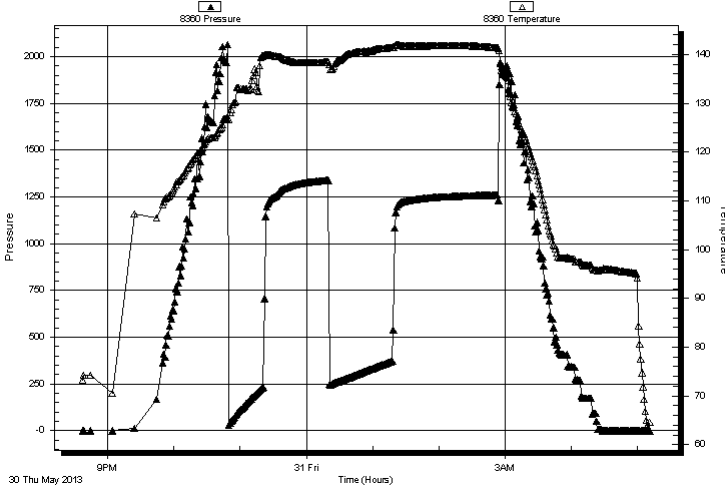
Press @ RunDepth: psig @	4075.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2013.05.30	End Date:	2013.05.31
Start Time:	20:37:15	End Time:	05:11:00
		Time On Btm:	
		Time Off Btm:	

TEST COMMENT: 30 IF; BOB in 12 min
 60 IS; Built to 4"
 60 FF; BOB in 12 min
 90 FS; Built to 7 1/2"

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Pressure vs. Time



Recovery

Length (ft)	Description	Volume (bbl)
192.00	WOGCM 15%W 15%O 20%G 50%M	0.94
414.00	WGOCM 10 %W 10%G 20%O 60%M	2.71
288.00	OG 40%G 60%O	4.04
0.00	606' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 52600

DST#: 3

ATTN: Jeff Christian

Test Start: 2013.05.30 @ 20:37:00

Tool Information

Drill Pipe:	Length: 3522.00 ft	Diameter: 3.80 inches	Volume: 49.40 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 532.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 52.02 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4074.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	96.00 ft			
Tool Length:	123.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4052.00	
Hydraulic tool jars	5.00			4057.00	
safety Joint	5.00			4062.00	
Packer	3.00			4065.00	
Packer	5.00			4070.00	27.00 Bottom Of Top Packer
Packer	4.00			4074.00	
Stubb	1.00			4075.00	
Recorder	0.00	8360	Inside	4075.00	
Recorder	0.00	8353	Outside	4075.00	
Perforations	26.00			4101.00	
Change Over Sub	1.00			4102.00	
Blank Spacing	64.00			4166.00	
Change Over Sub	1.00			4167.00	
Bullnose	3.00			4170.00	96.00 Bottom Packers & Anchor

Total Tool Length: 123.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 52600

DST#: 3

ATTN: Jeff Christian

Test Start: 2013.05.30 @ 20:37:00

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
192.00	WOGCM 15%W 15%O 20%G 50%M	0.944
414.00	WGOCM 10 %W 10%G 20%O 60%M	2.710
288.00	OG 40%G 60%O	4.040
0.00	606' GIP	0.000

Total Length: 894.00 ft Total Volume: 7.694 bbl

Num Fluid Samples: 0

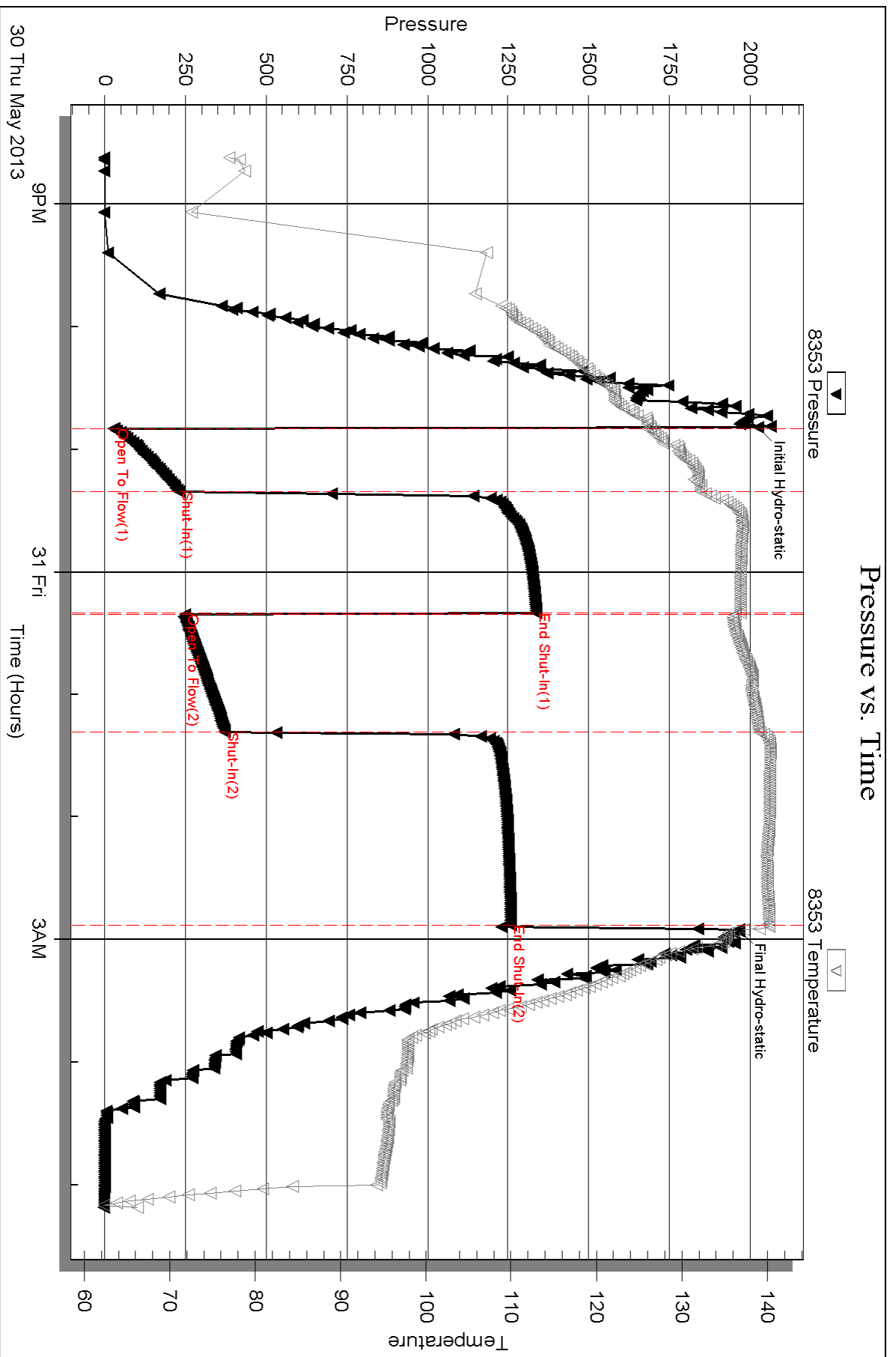
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 25@80 Deg F= 23



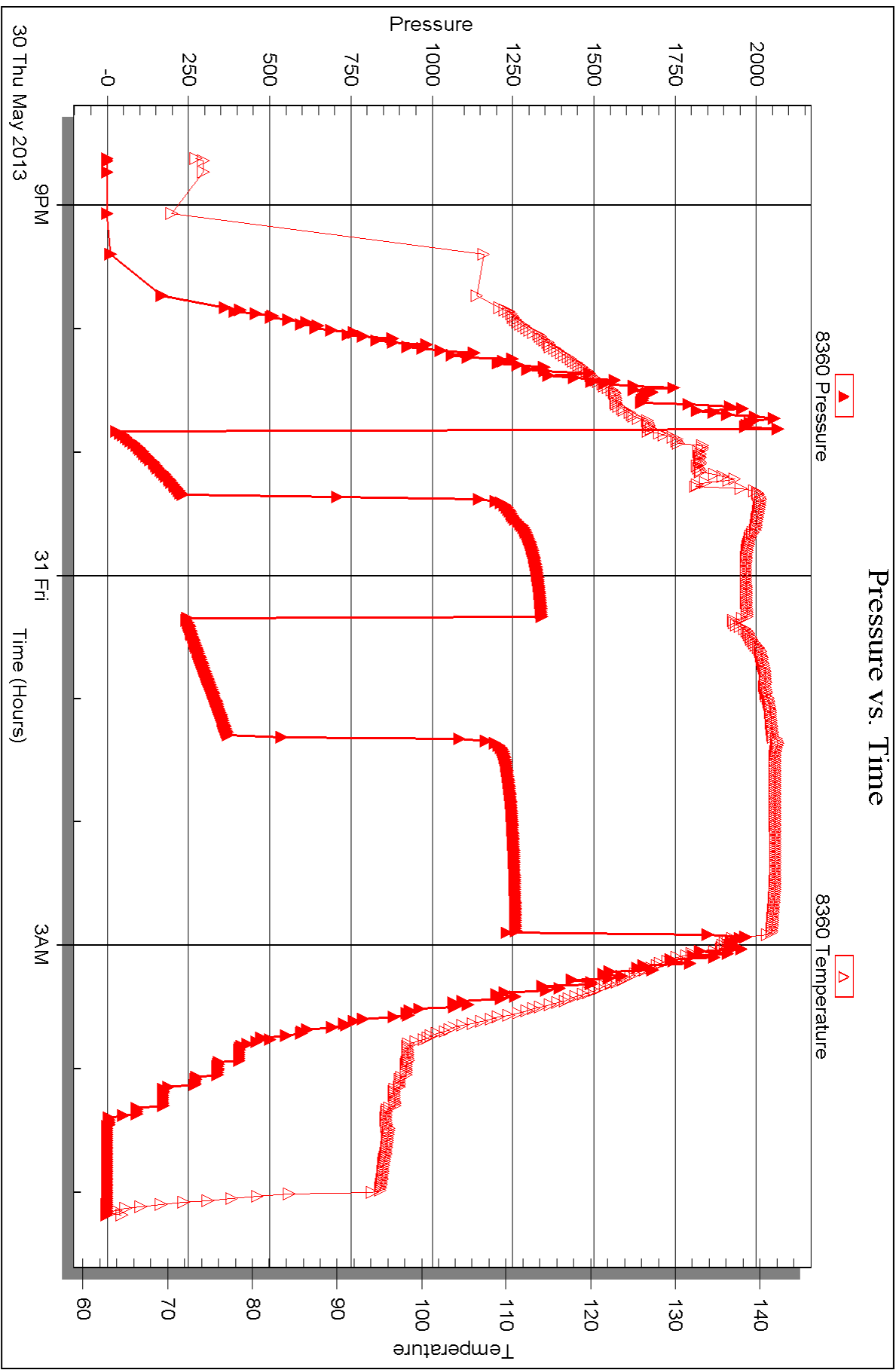
Serial #: 8360

Inside

Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 52600

Printed: 2013.06.06 @ 12:06:36



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Comp. Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Culwell C #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.05.31 @ 14:05:09

End Date: 2013.05.31 @ 22:36:54

Job Ticket #: 50676 DST #: 4

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

Printed: 2013.06.06 @ 12:05:58



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne, KS

Culwell C #1-10

Job Ticket: 50676

DST#: 4

Test Start: 2013.05.31 @ 14:05:09

GENERAL INFORMATION:

Formation: **LKC F-G**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:08:54
 Time Test Ended: 22:36:54
 Interval: **4169.00 ft (KB) To 4239.00 ft (KB) (TVD)**
 Total Depth: 4230.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 55
 Reference Elevations: 3150.00 ft (KB)
 3140.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8353

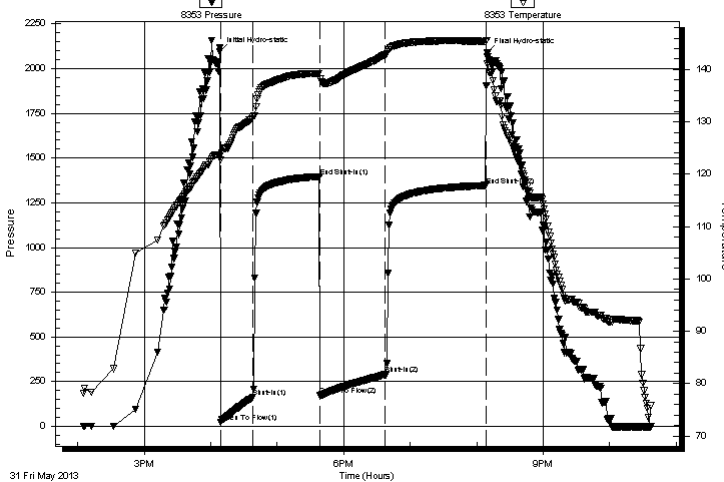
Outside

Press @ Run Depth: 288.66 psig @ 4170.00 ft (KB)
 Start Date: 2013.05.31 End Date: 2013.05.31
 Start Time: 14:05:24 End Time: 22:36:54

Capacity: 8000.00 psig
 Last Calib.: 2013.05.31
 Time On Btm: 2013.05.31 @ 16:08:09
 Time Off Btm: 2013.05.31 @ 20:09:39

TEST COMMENT: 30 IF; BOB in 7 mins
 60 IS; Built to 1 3/4"
 60 FF; BOB in 10 mins
 90 FS; Built to 7"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2096.00	123.51	Initial Hydro-static
1	24.22	122.77	Open To Flow (1)
30	162.39	130.98	Shut-In(1)
90	1397.38	139.26	End Shut-In(1)
91	171.62	138.17	Open To Flow (2)
150	288.66	142.85	Shut-In(2)
240	1347.32	145.38	End Shut-In(2)
242	2089.53	142.37	Final Hydro-static

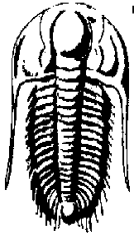
Recovery

Length (ft)	Description	Volume (bbl)
192.00	GMCO 10%G 25%M 65%O	0.94
760.00	GO 30%G 70%O	7.56
0.00	320' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

10-1s-37w Cheyenne, KS

Culwell C #1-10

Job Ticket: 50676

DST#: 4

Test Start: 2013.05.31 @ 14:05:09

GENERAL INFORMATION:

Formation: **LKC F-G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:08:54

Time Test Ended: 22:36:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 55

Interval: 4169.00 ft (KB) To 4239.00 ft (KB) (TVD)

Total Depth: 4230.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3150.00 ft (KB)

3140.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8360 Inside

Press @ Run Depth: psig @ 4170.00 ft (KB)

Start Date: 2013.05.31

End Date:

2013.05.31

Start Time: 14:05:15

End Time:

22:36:45

Capacity: 8000.00 psig

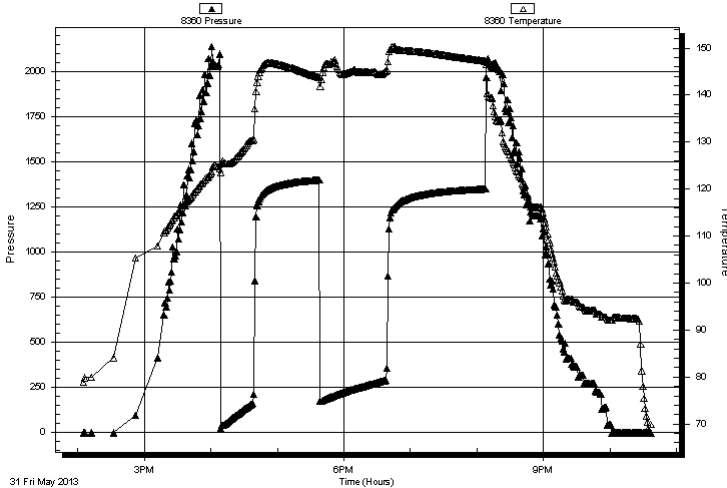
Last Calib.: 2013.05.31

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF; BOB in 7 mins
60 IS; Built to 1 3/4"
60 FF; BOB in 10 mins
90 FS; Built to 7"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery

Length (ft)	Description	Volume (bbl)
192.00	GMCO 10%G 25%M 65%O	0.94
760.00	GO 30%G 70%O	7.56
0.00	320' GIP	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 50676

DST#: 4

ATTN: Jeff Christian

Test Start: 2013.05.31 @ 14:05:09

Tool Information

Drill Pipe:	Length: 3617.00 ft	Diameter: 3.80 inches	Volume: 50.74 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 532.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 53.36 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4169.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 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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Shut In Tool	5.00			4147.00	
Hydraulic tool jars	5.00			4152.00	
safety Joint	3.00			4157.00	
Packer	5.00			4160.00	
					27.00 Bottom Of Top Packer
Packer	4.00			4165.00	
Stubb	1.00			4169.00	
Recorder	0.00	8360	Inside	4170.00	
Recorder	0.00	8353	Outside	4170.00	
Perforations	23.00			4193.00	
Change Over Sub	1.00			4194.00	
Blank Spacing	32.00			4199.00	
Change Over Sub	1.00			4226.00	
Bullnose	3.00			4227.00	
					61.00 Bottom Packers & Anchor

Total Tool Length: 88.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne,KS
Culwell C #1-10
Job Ticket: 50676 **DST#: 4**
Test Start: 2013.05.31 @ 14:05:09

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: 67.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.39 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
192.00	GMCO 10%G 25%M 65%O	0.944
760.00	GO 30%G 70%O	7.564
0.00	320' GIP	0.000

Total Length: 952.00 ft Total Volume: 8.508 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

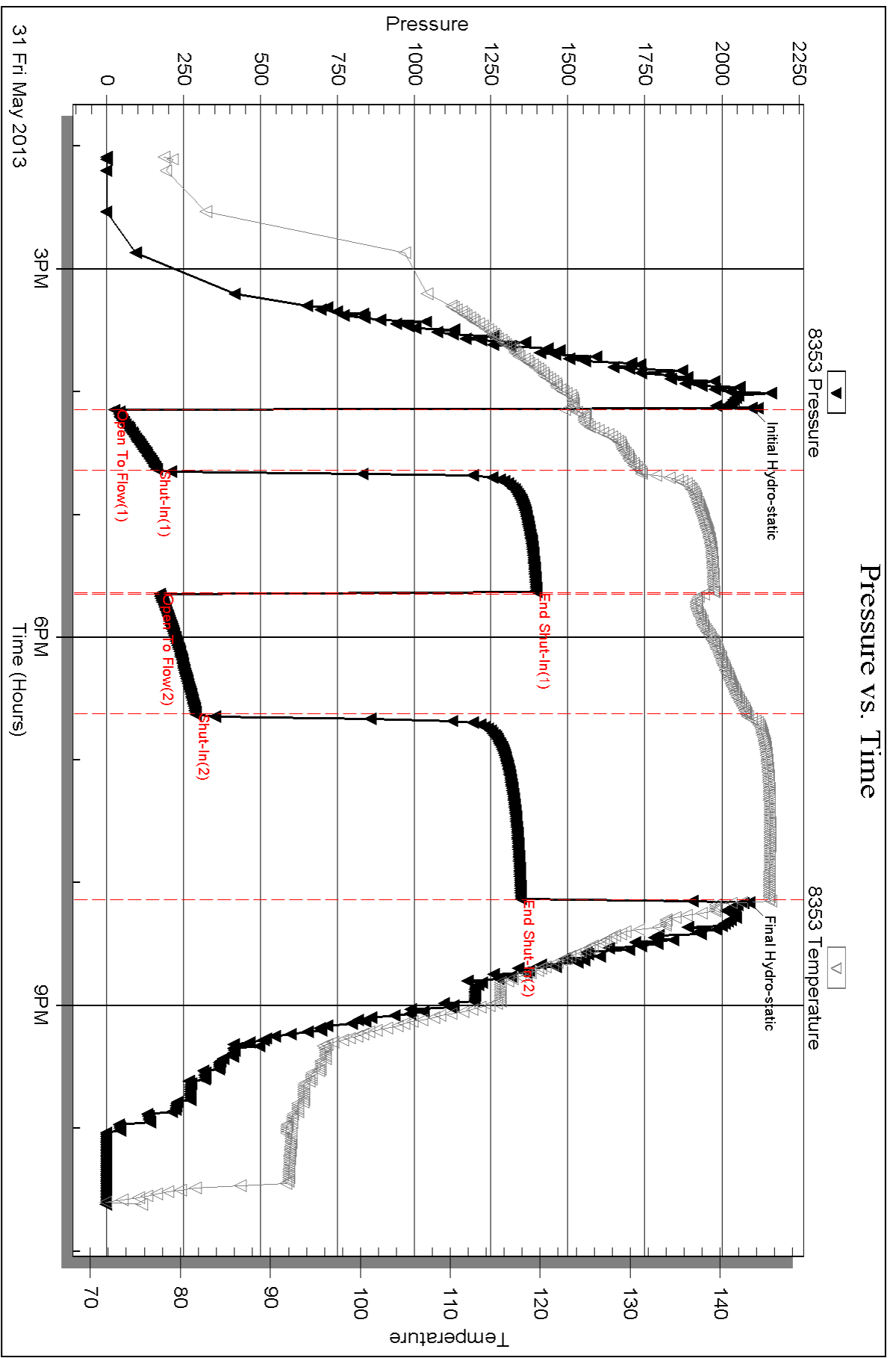
Recovery Comments: Gravity 30.4 @ 80 Deg F= 28.4

Serial #: 8353

Outside Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 50676

Printed: 2013.06.06 @ 12:06:01

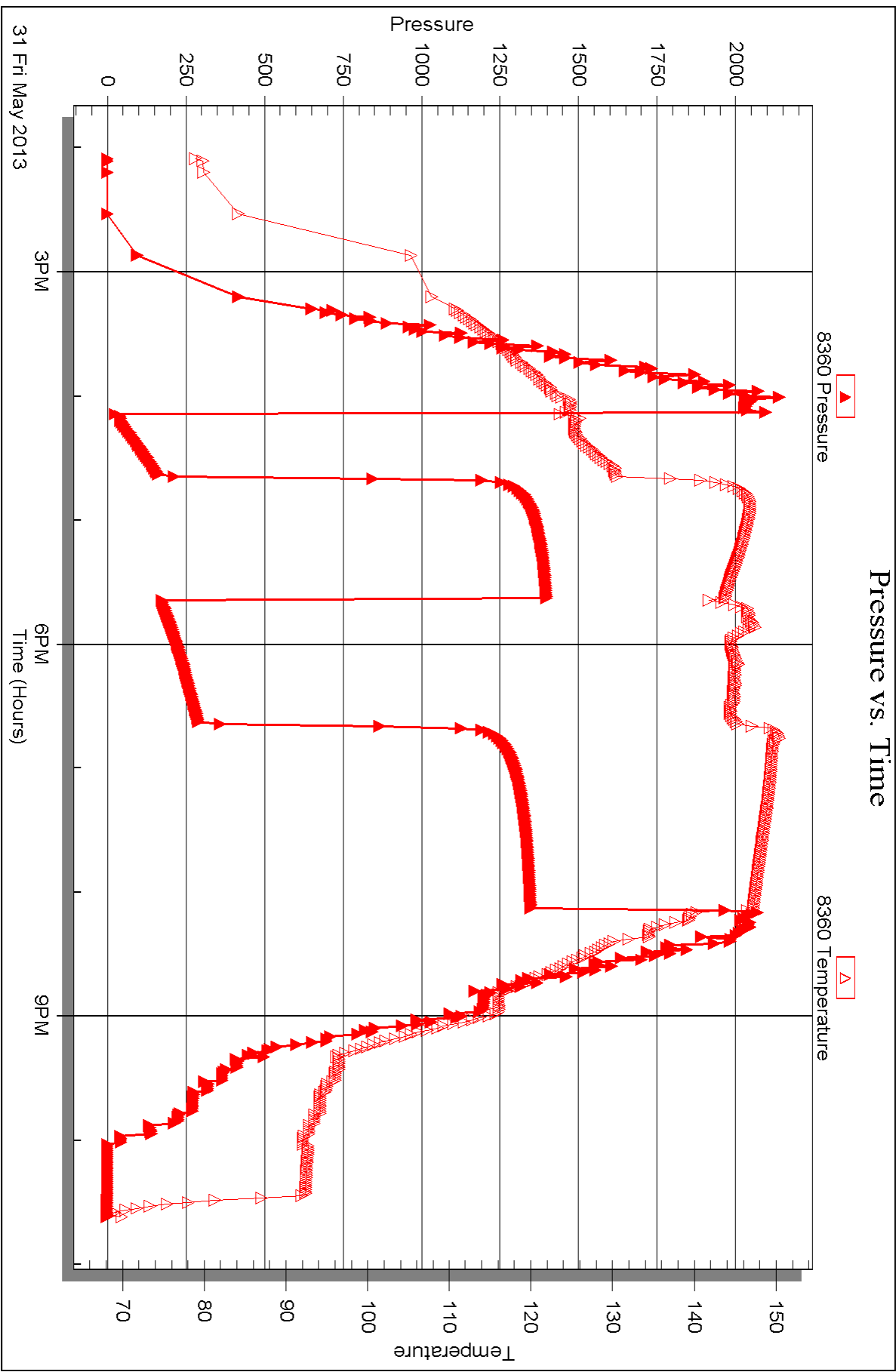
Serial #: 8360

Inside

Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 50676

Printed: 2013.06.06 @ 12:06:01



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Comp. Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Culwell C #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.06.01 @ 11:55:00

End Date: 2013.06.01 @ 19:24:00

Job Ticket #: 50677 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.06.06 @ 12:05:21



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne, KS

Culwell C #1-10

Job Ticket: 50677

DST#: 5

Test Start: 2013.06.01 @ 11:55:00

GENERAL INFORMATION:

Formation: **LKC H-J**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 14:36:15
 Tester: Wilbur Steinbeck
 Time Test Ended: 19:24:00
 Unit No: 44
 Interval: **4226.00 ft (KB) To 4326.00 ft (KB) (TVD)**
 Reference Elevations: 3150.00 ft (KB)
 Total Depth: 4326.00 ft (KB) (TVD)
 3140.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 10.00 ft

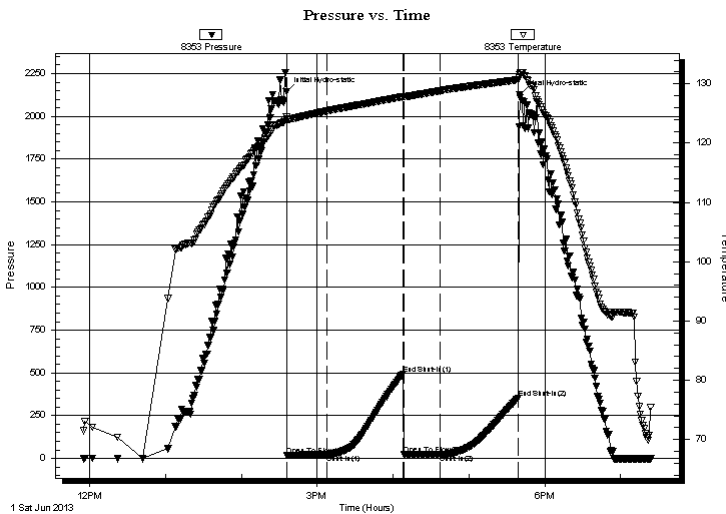
Serial #: 8353

Outside

Press @ Run Depth: 24.55 psig @ 4227.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.06.01 End Date: 2013.06.01 Last Calib.: 2013.06.01
 Start Time: 11:55:15 End Time: 19:24:00 Time On Btm: 2013.06.01 @ 14:35:45
 Time Off Btm: 2013.06.01 @ 17:40:15

TEST COMMENT: 30 IF; Built to 1/2" Then Died off
 60 IS; No Blow
 30 FF; No Blow
 60 FS; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2146.77	124.35	Initial Hydro-static
1	17.69	123.87	Open To Flow (1)
32	21.67	125.41	Shut-In(1)
92	492.92	127.81	End Shut-In(1)
93	22.62	127.79	Open To Flow (2)
121	24.55	128.80	Shut-In(2)
183	352.07	130.67	End Shut-In(2)
185	2126.05	131.57	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Jeff Christian

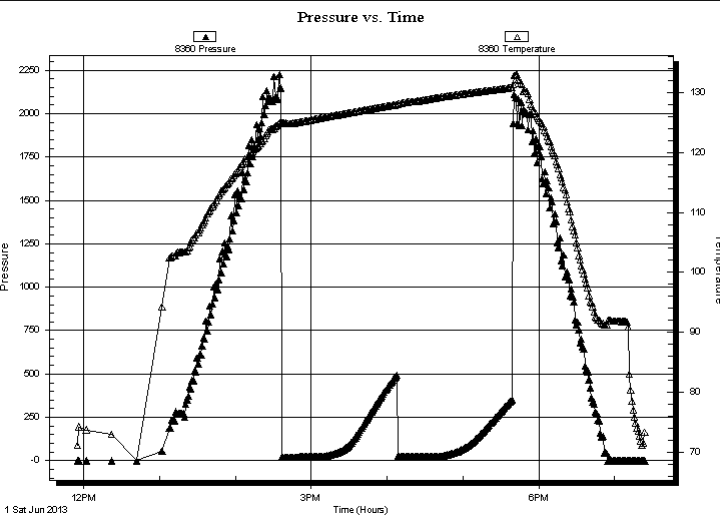
10-1s-37w Cheyenne,KS
Culwell C #1-10
 Job Ticket: 50677 **DST#: 5**
 Test Start: 2013.06.01 @ 11:55:00

GENERAL INFORMATION:

Formation: **LKC H-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:36:15
 Time Test Ended: 19:24:00
 Interval: **4226.00 ft (KB) To 4326.00 ft (KB) (TVD)**
 Total Depth: 4326.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 44
 Reference Elevations: 3150.00 ft (KB)
 3140.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8360 Inside
 Press @ Run Depth: psig @ 4227.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.06.01 End Date: 2013.06.01 Last Calib.: 2013.06.01
 Start Time: 11:55:15 End Time: 19:24:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 IF; Built to 1/2" Then Died off
 60 IS; No Blow
 30 FF; No Blow
 60 FS; No Blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	Mud	0.02

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 50677

DST#: 5

ATTN: Jeff Christian

Test Start: 2013.06.01 @ 11:55:00

Tool Information

Drill Pipe:	Length: 3681.00 ft	Diameter: 3.80 inches	Volume: 51.63 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 532.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.25 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4226.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	100.00 ft			
Tool Length:	127.00 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			4204.00	
Hydraulic tool jars	5.00			4209.00	
safety Joint	5.00			4214.00	
	3.00			4217.00	
Packer	5.00			4222.00	27.00 Bottom Of Top Packer
Packer	4.00			4226.00	
Stubb	1.00			4227.00	
Recorder	0.00	8360	Inside	4227.00	
Recorder	0.00	8353	Outside	4227.00	
Perforations	30.00			4257.00	
Change Over Sub	1.00			4258.00	
Blank Spacing	64.00			4322.00	
Change Over Sub	1.00			4323.00	
Bullnose	3.00			4326.00	100.00 Bottom Packers & Anchor

Total Tool Length: 127.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 50677

DST#: 5

ATTN: Jeff Christian

Test Start: 2013.06.01 @ 11:55:00

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: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

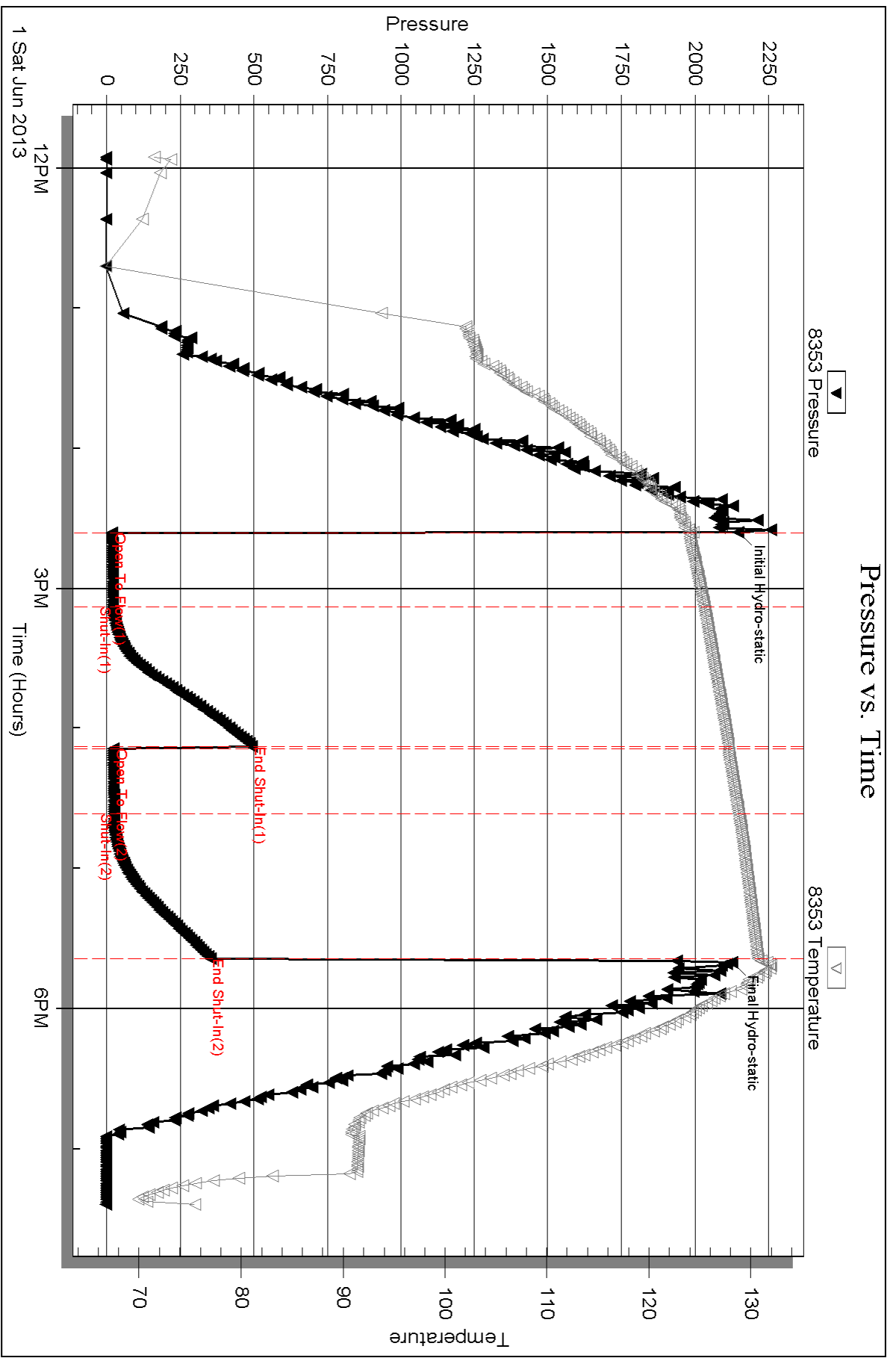
Recovery Comments:

Serial #: 8353

Outside Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 50677

Printed: 2013.06.06 @ 12:05:24

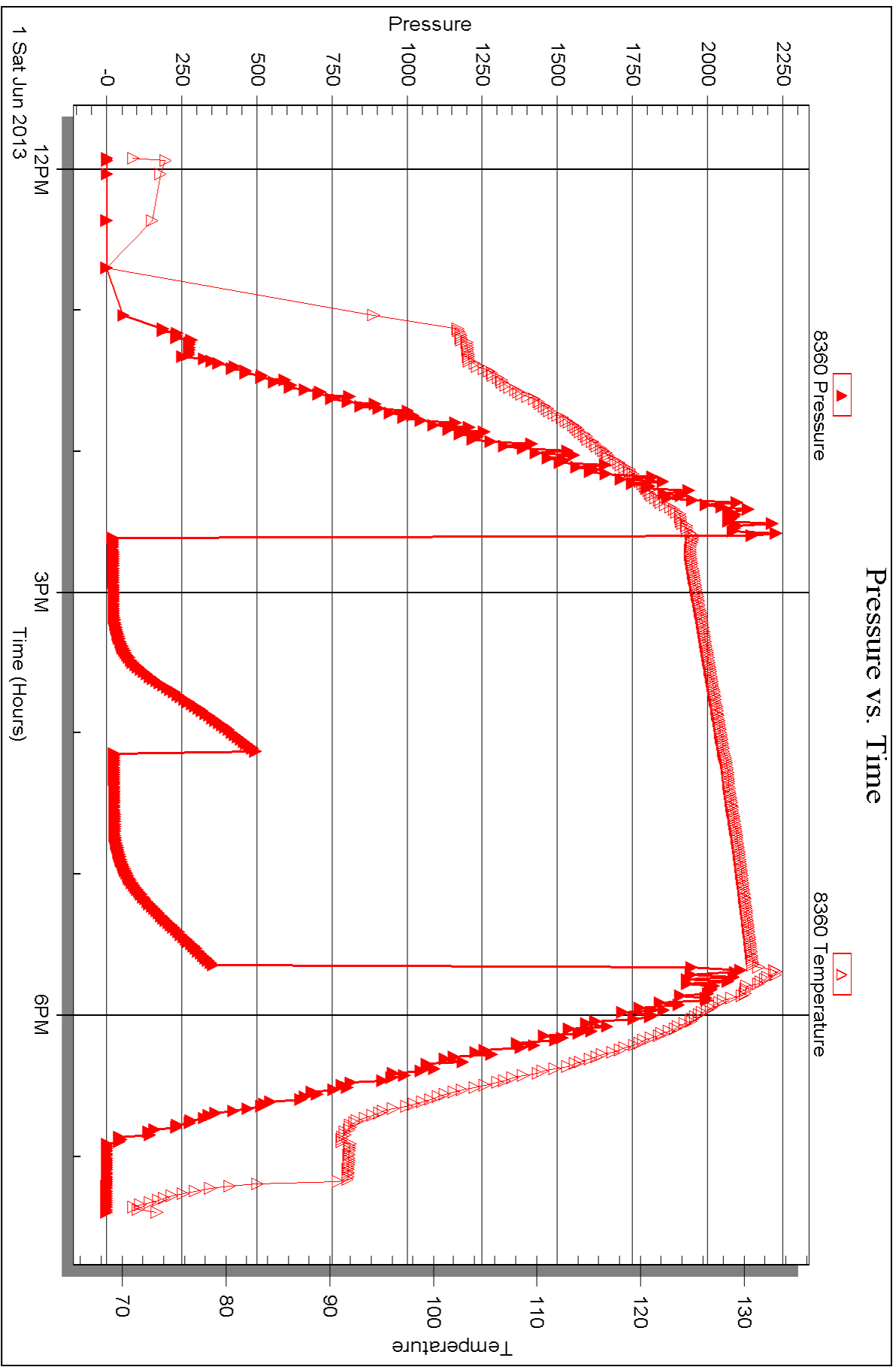
Serial #: 8360

Inside

Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Comp. Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Culwell C #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.06.02 @ 13:40:00

End Date: 2013.06.02 @ 22:06:00

Job Ticket #: 50678 DST #: 6

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

Printed: 2013.06.06 @ 12:04:38



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Christian

10-1s-37w Cheyenne, KS

Culwell C #1-10

Job Ticket: 50678

DST#: 6

Test Start: 2013.06.02 @ 13:40:00

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:10:00

Time Test Ended: 22:06:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 68

Interval: 4460.00 ft (KB) To 4501.00 ft (KB) (TVD)

Reference Elevations: 3150.00 ft (KB)

Total Depth: 4501.00 ft (KB) (TVD)

3140.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @ Run Depth: 237.10 psig @ 4461.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.06.02

End Date: 2013.06.02

Last Calib.: 2013.06.02

Start Time: 13:40:15

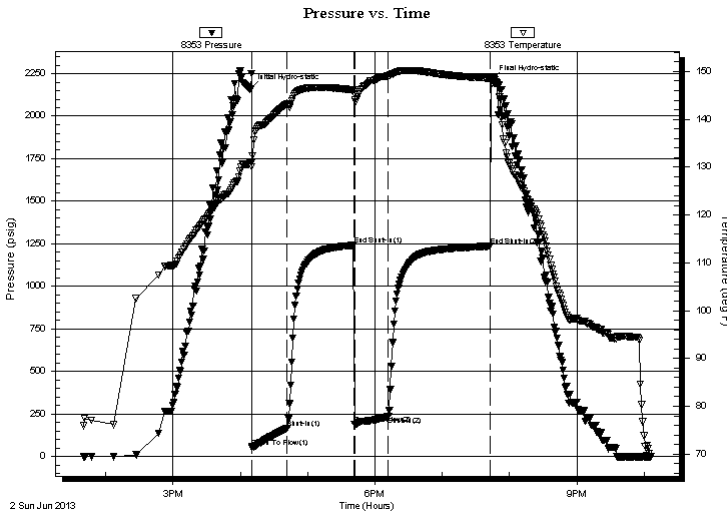
End Time: 22:06:00

Time On Btm: 2013.06.02 @ 16:09:00

Time Off Btm: 2013.06.02 @ 19:44:00

TEST COMMENT: 30 IF; BOB in 5 mins
60 IS; Built to 6 1/4"
30 FF; BOB in 14 mins
90 FS; Built to 7" died back to 4 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2160.57	130.95	Initial Hydro-static
1	52.11	130.04	Open To Flow (1)
32	163.79	143.14	Shut-In(1)
92	1241.22	146.13	End Shut-In(1)
93	187.00	144.15	Open To Flow (2)
123	237.10	149.13	Shut-In(2)
214	1236.65	148.59	End Shut-In(2)
215	2216.17	148.15	Final Hydro-static

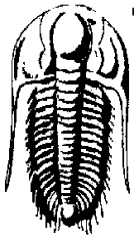
Recovery

Length (ft)	Description	Volume (bbl)
192.00	GOCM 10%G 40%O 50%M	0.94
483.00	GO 30%G 70%O	3.68
0.00	750' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne, KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 50678

DST#: 6

ATTN: Jeff Christian

Test Start: 2013.06.02 @ 13:40:00

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:10:00

Time Test Ended: 22:06:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 68

Interval: 4460.00 ft (KB) To 4501.00 ft (KB) (TVD)

Total Depth: 4501.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3150.00 ft (KB)

3140.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8360

Inside

Press @ Run Depth: psig @ 4461.00 ft (KB)

Start Date: 2013.06.02

End Date: 2013.06.02

Start Time: 13:40:15

End Time: 22:06:00

Capacity: 8000.00 psig

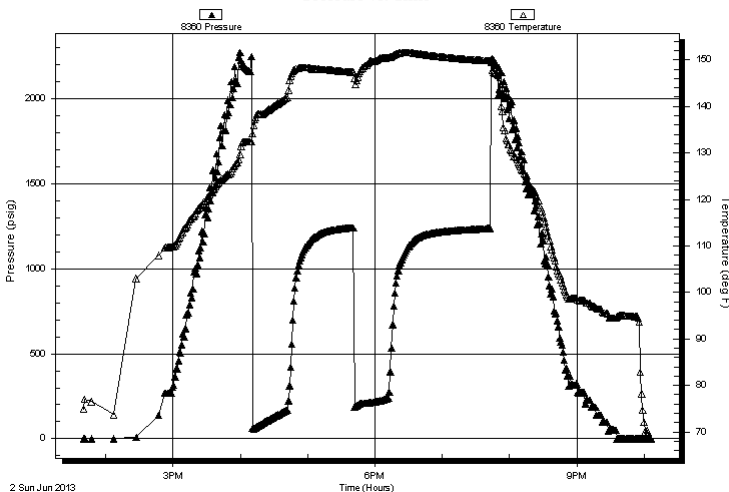
Last Calib.: 2013.06.02

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF; BOB in 5 mins
60 ISl; Built to 6 1/4"
30 FF; BOB in 14 mins
90 FSl; Built to 7" died back to 4 1/2"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
192.00	GOCM 10%G 40%O 50%M	0.94
483.00	GO 30%G 70%O	3.68
0.00	750' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 50678

DST#: 6

ATTN: Jeff Christian

Test Start: 2013.06.02 @ 13:40:00

Tool Information

Drill Pipe:	Length: 3933.00 ft	Diameter: 3.80 inches	Volume: 55.17 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 532.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 57.79 bbl</u>	Tool Chased	1.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial	78000.00 lb
Depth to Top Packer:	4460.00 ft			Final	79000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	41.00 ft				
Tool Length:	69.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4433.00	
Shut In Tool	5.00			4438.00	
Hydraulic tool	5.00			4443.00	
Jars	5.00			4448.00	
Safety Joint	3.00			4451.00	
Packer	5.00			4456.00	28.00 Bottom Of Top Packer
Packer	4.00			4460.00	
Stubb	1.00			4461.00	
Recorder	0.00	8360	Inside	4461.00	
Recorder	0.00	8353	Outside	4461.00	
Perforations	37.00			4498.00	
Bullnose	3.00			4501.00	41.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Comp. Inc

10-1s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell C #1-10

Job Ticket: 50678

DST#: 6

ATTN: Jeff Christian

Test Start: 2013.06.02 @ 13:40:00

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: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
192.00	GOCM 10%G 40%O 50%M	0.944
483.00	GO 30%G 70%O	3.678
0.00	750' GIP	0.000

Total Length: 675.00 ft Total Volume: 4.622 bbl

Num Fluid Samples: 0

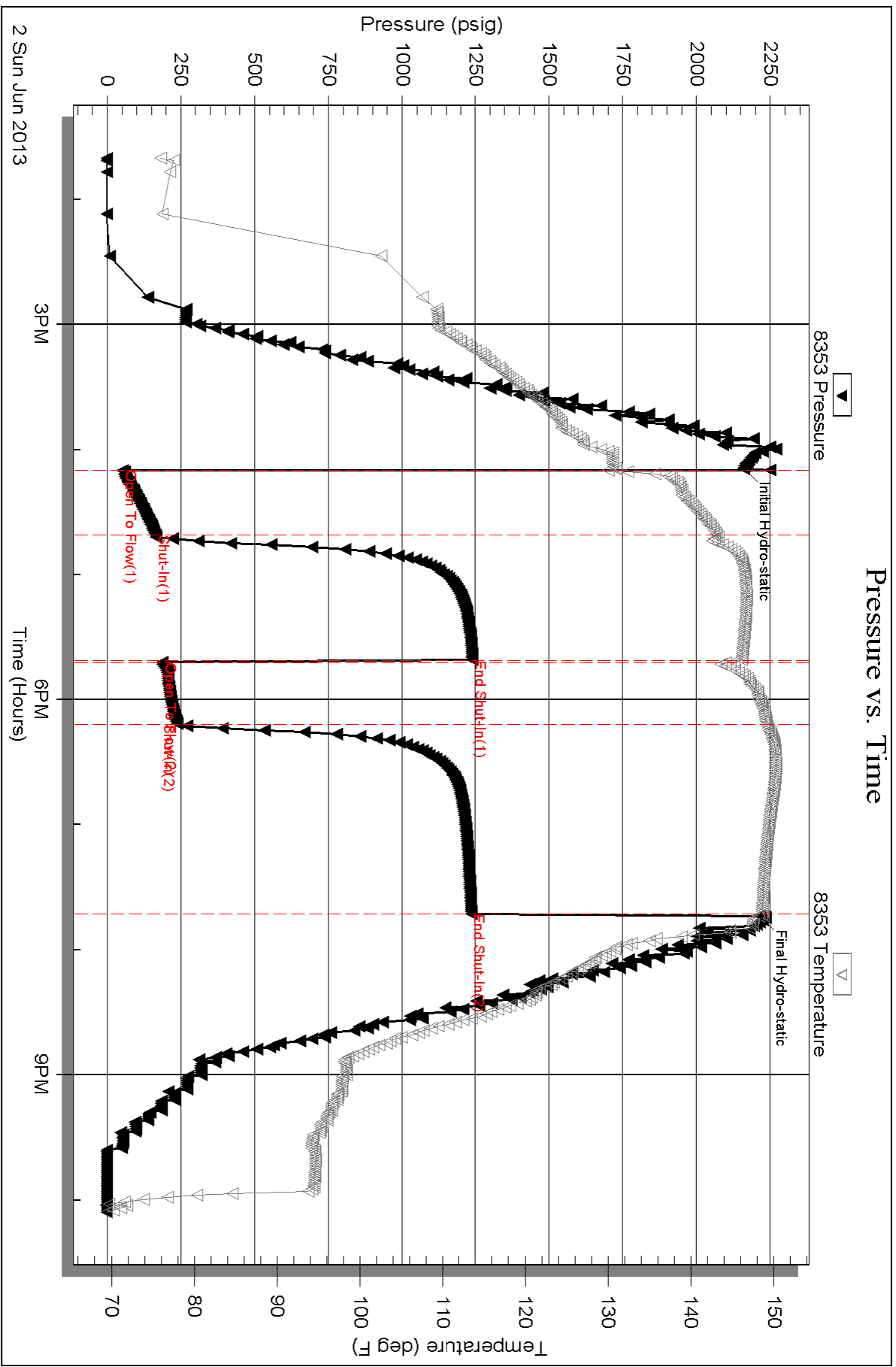
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 38.2@84 DEG F=35.8



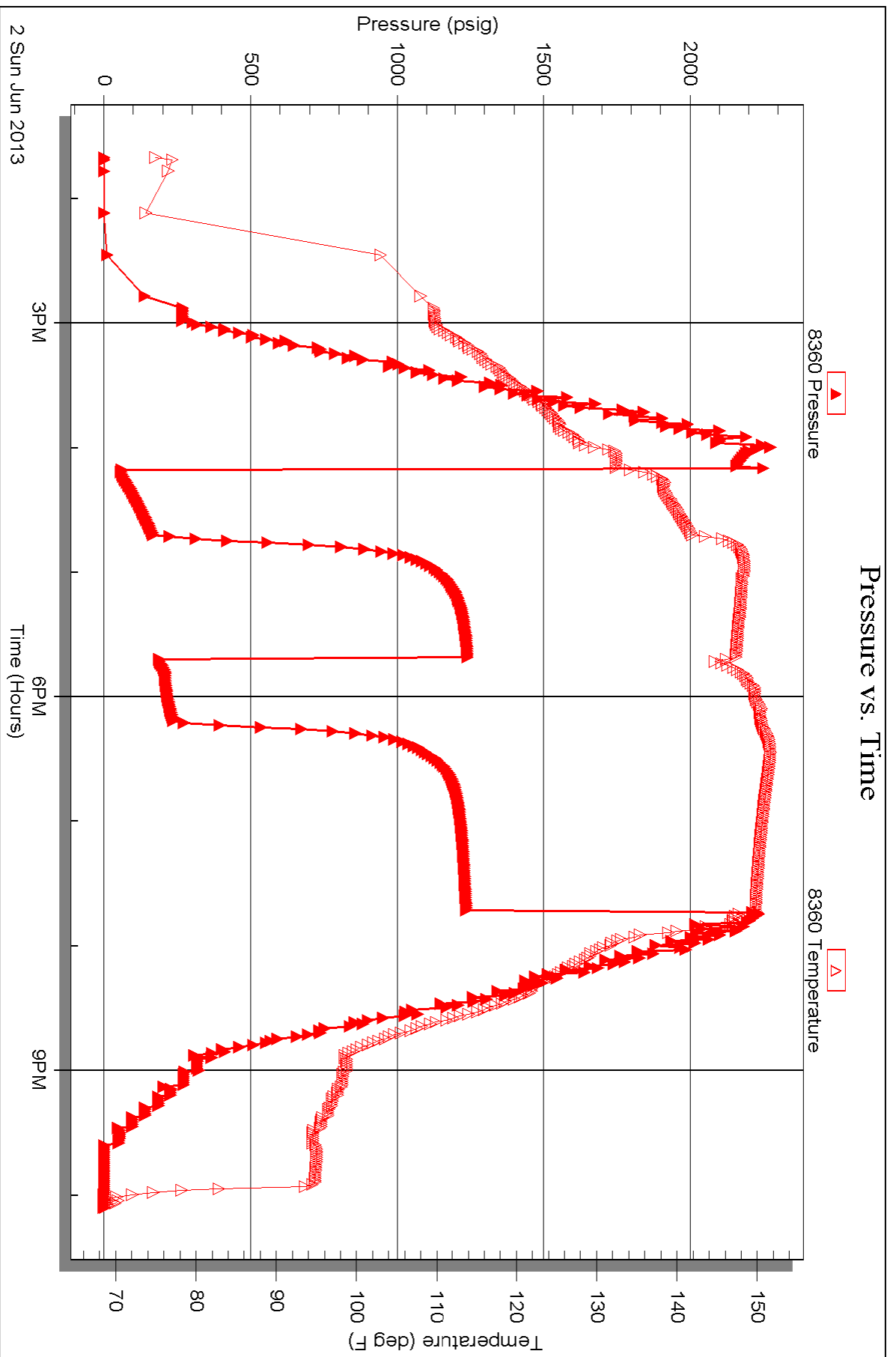
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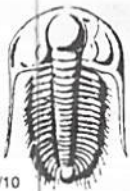
Inside

Murfin Drilling Comp. Inc

Oilwell C#1-10

DST Test Number: 6





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49210

Well Name & No. Culwell 'C' #1-10 Test No. #1 Date 5/28/13
 Company Muskege Drilling Comp. Inc. Elevation 3150' KB 3140 GL
 Address 250 N. Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Muskege #14
 Location: Sec. 10 Twp. 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 3620 3622 Zone Tested Foraker
 Anchor Length 46 Drill Pipe Run 3078 Mud Wt. 8.9
 Top Packer Depth 3621 Drill Collars Run 532' XH Vis 63
 Bottom Packer Depth 3626 Wt. Pipe Run --- WL 6.0
 Total Depth 3622 Chlorides 600 ppm System LCM ---

Blow Description Weak blow died in 8 min.
No return
No blow
No return

Rec	Feet of	%gas	%oil	%water	%mud
1'	Mud				100%
	Show of Free Oil on Top				
	2" W				

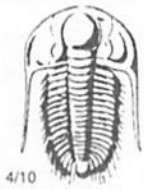
Rec Total 1' BHT 127° Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic	<u>1737</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	T-On Location	<u>09:20</u>
(B) First Initial Flow	<u>36</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>13:00</u>
(C) First Final Flow	<u>32</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>14:33</u>
(D) Initial Shut-In	<u>842</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>	T-Pulled	<u>17:33</u>
(E) Second Initial Flow	<u>73</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>19:00</u>
(F) Second Final Flow	<u>35</u>	<input checked="" type="checkbox"/> Mileage	<u>172 RT 130rt 201.50</u>	Comments	
(G) Final Shut-In	<u>789</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>1637</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Flow	<u>30</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Shut-In	<u>60</u>	<input type="checkbox"/> Day Standby		Total	<u>1676.50</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1676.50</u>		

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52599

Well Name & No. Colwell C #1-10 Test No. 2 Date 5-29-13
 Company Marfen Drilling Co. Elevation 3150 KB 3140 GL
 Address 250 N Water Stc 300 Wichita ks 67206
 Co. Rep / Geo. Jeff Christanson Rig Marfen 14
 Location: Sec. 10 Twp. 1s Rge. 37w Co. Chryenne State KS

Interval Tested 3967 4030 Zone Tested Oreoc
 Anchor Length 63 Drill Pipe Run 3427 Mud Wt. 9.0
 Top Packer Depth 3962 Drill Collars Run 532 Vis 56
 Bottom Packer Depth 3967 Wt. Pipe Run 0 WL 5.9
 Total Depth 4030 Chlorides 600 ppm System LCM 4

Blow Description IF; Drill to 1/2"
IS; No blow
FF; No blow
PSI; No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 130° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1,422 Test 1250 T-On Location 20:25
 (B) First Initial Flow 15 Jars 250 T-Started 23:18
 (C) First Final Flow 21 Safety Joint 75 T-Open 1:30
 (D) Initial Shut-In 1,259 Circ Sub NA T-Pulled 4:30
 (E) Second Initial Flow 23 Hourly Standby _____ T-Out 6:05
 (F) Second Final Flow 28 Mileage 130 KT 201.50 Comments _____
 (G) Final Shut-In 1,237 Sampler _____
 (H) Final Hydrostatic 1,904 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

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

Sub Total 1776.50

Sub Total 1776.50

Approved By _____ Our Representative [Signature]

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. 52600

Well Name & No. Colwell C #1-10 Test No. 3 Date 5-30-13
 Company Murfin Drilling Co. Elevation 3150 KB 3140 GL
 Address 250 N Water St 300 Wichita Ks 67206
 Co. Rep / Geo. Jeff Christiansen Rig Murfin 14
 Location: Sec. 10 Twp. 15 Rge. 31w Co. Cherokee State KS

Interval Tested 4074 4170 Zone Tested Lan A-D
 Anchor Length 96 Drill Pipe Run 3522 Mud Wt. 9.0
 Top Packer Depth 4069 Drill Collars Run 532 Vis 52
 Bottom Packer Depth 4074 Wt. Pipe Run 0 WL 6.0
 Total Depth 4170 Chlorides 600 ppm System LCM 4

Blow Description IF; BOB in 12min
IS; BWT to 4"
PF; BOB in 12min
FS; BWT to 7 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>288</u>	<u>OG</u>	<u>40</u>	<u>60</u>		
<u>414</u>	<u>WOG cm</u>	<u>10</u>	<u>20</u>	<u>10</u>	<u>60</u>
<u>192</u>	<u>WOG cm</u>	<u>20</u>	<u>15</u>	<u>15</u>	<u>50</u>
	<u>606' G.I.P</u>				

Rec Total 894 BHT 140° Gravity 25@80° = 23 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic <u>2025</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>20:25</u>
(B) First Initial Flow <u>30</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>20:37</u>
(C) First Final Flow <u>230</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>22:50</u>
(D) Initial Shut-In <u>1338</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>2:50</u>
(E) Second Initial Flow <u>249</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>5:10</u>
(F) Second Final Flow <u>372</u>	<input checked="" type="checkbox"/> Mileage <u>130 RT</u> 201.50	Comments
(G) Final Shut-In <u>1260</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1966</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 300
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1776.50
 Total 1776.50
 MP/DST Disc't

Approved By _____ Our Representative [Signature]

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. 50676

Well Name & No. Colwell C #1-10 Test No. 4 Date 5-31-13
 Company Martin Drilling Co. Elevation 3150 KB 3140 GL
 Address 250 N Wake St. 300 Wichita KS 67206
 Co. Rep / Geo. Jeff Christensen Rig Martin 14
 Location: Sec. 10 Twp. 15 Rge. 37w Co. Cheyenne State Ks

Interval Tested 4169 4230 Zone Tested LAN F+G
 Anchor Length 61 Drill Pipe Run 3617 Mud Wt. 9.1
 Top Packer Depth 4164 Drill Collars Run 532 Vis 67
 Bottom Packer Depth 4169 Wt. Pipe Run 0 WL 6.4
 Total Depth 4230 Chlorides 1000 ppm System LCM 5

Blow Description 1F; BOBIN 7 mins
1st; Built to 1 3/4"
FF; BOBIN 10 min
PSI; Built to 7"

Rec	Feet of	%gas	%oil	%water	%mud
<u>760</u>	<u>GO</u>	<u>30</u>	<u>70</u>		
<u>192</u>	<u>GMCO</u>	<u>10</u>	<u>65</u>	<u>0</u>	<u>25</u>
<u>320'</u>	<u>GIP</u>				

Rec Total 952 BHT 145° Gravity 30.2 @ 80° = 28.4 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic <u>2,096</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>13:50</u>
(B) First Initial Flow <u>24</u> <u>162</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>14:05</u>
(C) First Final Flow <u> </u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>16:10</u>
(D) Initial Shut-In <u>1397</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>20:10</u>
(E) Second Initial Flow <u>122</u>	<input type="checkbox"/> Hourly Standby <u> </u>	T-Out <u>22:38</u>
(F) Second Final Flow <u>289</u>	<input checked="" type="checkbox"/> Mileage <u>130 RT</u> 201.50	Comments <u> </u>
(G) Final Shut-In <u>1347</u>	<input type="checkbox"/> Sampler <u> </u>	
(H) Final Hydrostatic <u>2090</u>	<input type="checkbox"/> Straddle <u> </u>	<input type="checkbox"/> Ruined Shale Packer <u> </u>
	<input type="checkbox"/> Shale Packer <u> </u>	<input type="checkbox"/> Ruined Packer <u> </u>

Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer <u> </u>	Sub Total <u>0</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder <u> </u>	Total <u>1776.50</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby <u> </u>	MP/DST Disc't <u> </u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility <u> </u>	
	Sub Total <u>1776.50</u>	

Approved By _____ Our Representative [Signature]

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. 50677

Well Name & No. Culwell C #1-10 Test No. 5 Date 6-1-13
 Company Murfin Drilling Co. Elevation 3150 KB 3140 GL
 Address 250 N. Water Stc. 300 Wichita Ks 67206
 Co. Rep / Geo. Jeff Christenson Rig Murfin 14
 Location: Sec. 10 Twp. 15 Rge. 37w Co. Cheyenne State Ks

Interval Tested 4226 4326 Zone Tested LAN H, I, J
 Anchor Length 100' Drill Pipe Run 3681 Mud Wt. 9.1
 Top Packer Depth 4221 Drill Collars Run 532 Vis 65
 Bottom Packer Depth 4226 Wt. Pipe Run 0 WL 6.0
 Total Depth 4326 Chlorides 1,100 ppm System LCM 5

Blow Description IF; Built to 1/2" then Died off
ISL; No blow
FF; No blow
FSI; No Blow

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

Rec Total 5 BHT 132° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic	<u>2,147</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>11:10</u>
(B) First Initial Flow	<u>18</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>11:55</u>
(C) First Final Flow	<u>22</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>14:40</u>
(D) Initial Shut-In	<u>493</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NA</u>	T-Pulled	<u>18:40</u>
(E) Second Initial Flow	<u>23</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>19:25</u>
(F) Second Final Flow	<u>25</u>	<input checked="" type="checkbox"/> Mileage	<u>130 RT</u> 201.50	Comments	
(G) Final Shut-In	<u>352</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2126</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

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

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1776.50

Sub Total 1776.50

MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50678

Well Name & No. Culwell C #1-10 Test No. 6 Date 6-2-13
 Company Murkin Drilling Co. Elevation 3150 KB 3146 GL
 Address 250 N. Water Ste. 300 Wichita Ks 67206
 Co. Rep / Geo. Jeff Christensen Rig Murkin 14
 Location: Sec. 10 Twp. 1s Rge. 37w Co. Cherokee State Ks

Interval Tested 4460 4501 Zone Tested Pawnee
 Anchor Length 41' Drill Pipe Run 3933 Mud Wt. 9.2
 Top Packer Depth 4455 Drill Collars Run 532 Vis 72
 Bottom Packer Depth 4460 Wt. Pipe Run 0 WL 6.4
 Total Depth 4501 Chlorides 1,000 ppm System LCM 4

Blow Description 1F; BOB in 5 min
1st; Built to 6 1/4"
FF; BOB in 14 min
PSI; Built to 7" died back to 4 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>483</u>	<u>GO</u>	<u>30</u>	<u>70</u>		
<u>192</u>	<u>GOCON</u>	<u>10</u>	<u>40</u>	<u>50</u>	
<u>750</u>	<u>G.I.P</u>				

Rec Total 675 BHT 149° Gravity 38.2 @ 84° = 35.8 API RW @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2,161</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>12:55</u>
(B) First Initial Flow <u>52</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>13:40</u>
(C) First Final Flow <u>164</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>16:10</u>
(D) Initial Shut-In <u>1,241</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>19:40</u>
(E) Second Initial Flow <u>187</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>22:05</u>
(F) Second Final Flow <u>237</u>	<input checked="" type="checkbox"/> Mileage <u>130 RT</u> 403	Comments _____
(G) Final Shut-In <u>1,237</u>	<input type="checkbox"/> Sampler _____	<u>loaded tools 6/3 10:00</u>
(H) Final Hydrostatic <u>2,216</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____

Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1978</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1978</u>	

Approved By _____ Our Representative

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INVOICE

acct Prod-LH

PO Box 93999
Southlake, TX 76092

Invoice Number: 136439

Invoice Date: May 24, 2013

Page: 1

Voice: (817) 546-7282
Fax: (817) 246-3361

Now Includes:



Bill To:
Murfin Drig. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	60303	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	May 24, 2013	6/23/13

Quantity	Item	Description	Unit Price	Amount
190.00	MAT	Cullwell C #1-10	17.90	3,401.00
7.00	MAT	Class A Common Chloride	64.00	448.00
199.50	SER	Cubic Feet	2.48	494.76
966.00	SER	Ton Mileage	2.60	2,511.60
1.00	SER	Surface	1,512.25	1,512.25
105.00	SER	Pump Truck Mileage	7.70	808.50
1.00	SER	Manifold Swedge Rental	275.00	275.00
105.00	SER	Light Vehicle Mileage	4.40	462.00
1.00	CEMENTER	Darren Racette		
1.00	EQUIP OPER	Tyler Flipse		
1.00	OPER ASSIST	Brandon Wilkinson		

OKM

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

\$ 3,469.58

ONLY IF PAID ON OR BEFORE

Jun 18, 2013

Subtotal	9,913.11
Sales Tax	319.47
Total Invoice Amount	10,232.58
Payment/Credit Applied	
TOTAL	10,232.58

ALLIED OIL & GAS SERVICES, LLC 060303

Federal Tax I.D. # 20-8651476

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT:

Oakley 5/25/13

DATE <u>5/24/13</u>	SEC. <u>10</u>	TWP. <u>1</u>	RANGE <u>37</u>	CALLED OUT	ON LOCATION	JOB START <u>12:00</u>	JOB FINISH <u>12:30 Am</u>
LEASE <u>Cullwell "2"</u>	WELL # <u>1-10</u>	LOCATION <u>Bird City N To State line</u>			COUNTY <u>Cheyenne</u>	STATE <u>W.</u>	
OLD OR <u>NEW</u> (Circle one)			<u>2 1/2 S-E into</u>				

CONTRACTOR Murfin #14

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 223

CASING SIZE 8 5/8 DEPTH 223.33

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15'

PERFS.

DISPLACEMENT 13.27

EQUIPMENT

OWNER Same

CEMENT AMOUNT ORDERED 190 SKs Cem 3% CC

COMMON 190 SKs @ \$17.90 = \$3401.00

POZMIX @

GBL @

CHLORIDE 7 SKs @ \$64.00 = \$448.00

ASC @

HANDLING 199.50 CF x @ \$2.48 = \$494.76

MILEAGE 9.20 x 105 x @ \$2.60 = \$251.60

TOTAL \$6855.36

PUMP TRUCK CEMENTER Duane Rasetto

120 HELPER Tyler Flipse

BULK TRUCK DRIVER Brandon Wilkinson

600 DRIVER

REMARKS:

Mid 190 SKs Cement
Displace with water
Cement Did Circulate

Thank You

SERVICE

DEPTH OF JOB 223.33'

PUMP TRUCK CHARGE \$1512.33

EXTRA FOOTAGE @

MILEAGE 105 @ \$7.70 = \$808.50

MANIFOLD Swadge @ \$375.00

Lv mileage @ \$24.40 = \$462.00

TOTAL \$3057.75

CHARGE TO: Murfin

STREET

CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

@

@

@

@

TOTAL

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Greg Murphy

SIGNATURE Greg Murphy

SALES TAX (If Any)

TOTAL CHARGES 9,913.11

DISCOUNT 3,469.58 IF PAID IN 30 DAYS

6,443.53 Net.



P. O. Box 466
Ness City, KS 67560
Off: 785-798-2300



α: Liz
α: WF

Invoice

DATE	INVOICE #
6/4/2013	24285

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-10	Well C	Cheyenne	Company Tools #14	Oil	Development	LongString	Nick
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				150	Miles	6.00	900.00
578D-L	Pump Charge - Long String - 4650 Feet				1	Job	1,500.00	1,500.00
221	Liquid KCL (Clayfix)				4	Gallon(s)	25.00	100.00T
281	Mud Flush				500	Gallon(s)	1.25	625.00T
403-5	5 1/2" Cement Basket				3	Each	285.00	855.00T
406-5	5 1/2" Latch Down Plug & Baffle				1	Each	275.00	275.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill				1	Each	375.00	375.00T
409-5	5 1/2" Turbolizer				15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher				5	Each	40.00	200.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
325	Standard Cement				200	Sacks	14.00	2,800.00T
330	Swift Multi-Density Standard (MIDCON II)				300	Sacks	17.00	5,100.00T
276	Flocele				125	Lb(s)	2.00	250.00T
283	Salt				1,000	Lb(s)	0.20	200.00T
284	Calseal				9	Sack(s)	35.00	315.00T
285	CFR-1				150	Lb(s)	4.00	600.00T
581D	Service Charge Cement				500	Sacks	2.00	1,000.00
583D	Drayage				3,773	Ton Miles	1.00	3,773.00
Subtotal								20,418.00
Sales Tax Cheyenne County							8.30%	1,099.34
USED FOR <u>IC 103</u>								
APPROVED <u>ST</u>								
We Appreciate Your Business!							Total	\$21,517.34



Services, Inc.

CHARGE TO: Martin Dly Co. Inc
 ADDRESS: _____
 CITY, STATE, ZIP CODE: _____

TICKET No 24285

PAGE 1 OF 2

SERVICE LOCATIONS
 1. Hays, KS WELL/PROJECT NO. 4-10 LEASE Chevyell #11 COUNTY/PARISH Cheyenne STATE KS DATE 6-4-13 OWNER same
 2. _____ TICKET TYPE SERVICE CONTRACTOR Co Tools # 14 RIG NAME/NO. _____ SHIPPED BY DELIVERED TO location ORDER NO. _____
 3. _____ WELL TYPE oil WELL CATEGORY Development JOB PURPOSE longstring WELL PERMIT NO. _____ WELL LOCATION _____
 4. _____ REFERRAL LOCATION _____ INVOICE INSTRUCTIONS _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575					MILEAGE #111	152	00				6.00	900.00
578					Pump Change (Longstring)	1	ea	4650	'		1500.00	1500.00
221					KEL	4	pal				25.00	100.00
281					Mud Flush	3	pal	5 1/2	"		1.05	625.00
403					Basket	1	ea				285.00	855.00
406					OLD Plug & Baffle	1	ea				275.00	275.00
407					Insert Float Shoe w/ L.L.	1	ea				375.00	375.00
409					Turbolifters	15	ea				90.00	1350.00
413					Rotawall Scratchers	5	ea				40.00	200.00
419					Rotating Head	1	ea				200.00	200.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.
 MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED 6-4-13 TIME SIGNED 12:15 AM PM
 SIGNATURE: Mrs. Alabern

REMIT PAYMENT TO:
 SWIFT SERVICES, INC.
 P.O. BOX 466
 NESS CITY, KS 67560
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL	AMOUNT
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				Page 2	146381.00
WE UNDERSTOOD AND MET YOUR NEEDS?				Subtotal	20381.00
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO			
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					
TOTAL					21,517.34

SWIFT OPERATOR: Michelle Fisher APPROVAL: _____
 CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES: _____ The customer hereby acknowledges receipt of the materials and services listed on this ticket.
 Thank You!



Swanton, Inc

PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 24288

CUSTOMER
Ma-Fin Dry Co Inc

WELL
Calm 11" d 1-10

DATE
6-4-13

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE / PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				UNIT PRICE	AMOUNT	
		LOC	ACCT	DE			QTY	UM	QTY	UM			DATE
325						Standard Cement	200	shs				14.00	2800.00
330						SMD Cement	700	shs				17.00	5100.00
276						Floer /e	125	#				2.00	250.00
283						Call	1000	#				2.00	2000.00
284						Call Seal	9	shs				35.00	315.00
285						CFR-1	150	#				4.00	600.00
581						SERVICE CHARGE						2.00	1000.00
583						MILEAGE CHARGE						1.00	3773.00
TOTAL WEIGHT							520						
LOADED MILES							150						
CUBIC FEET													
TON MILES										3773			

CONTINUATION TOTAL 14038.00

JOB LOG

SWIFT Services, Inc.

DATE 6-4-13 PAGE NO. 1

CUSTOMER Martin Drilling Co Inc

WELL NO. #1-10

LEASE Caldwell "C"

JOB TYPE Longstring

TICKET NO. 24285

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0545							on loc w/ FE
								RTD 4650'
								5 1/2" x 1515 # x 4641' x 21'
								Turbo 1-13, 34, 44
								Back 10, 35, 45
								Rotwall Scratchers 5 ea
	0700							Start Float Equipment
	0815							Keyway Circ
	0945							Bottom Circ
	1030	5	0			400		Start 500 gal Mud Flush (no circ)
	1032	3.5	12/0					Start 20 bbl KCL flush
		3.5	20/0			300		Start 255 sks SMD Cement " "
	1125	5	155/0			300		Start 200 sks EA-2 Cement " "
	1130		48					End Cement
								Wash P/L
								Drop L.D Plug
	1138	5	0			200		Start Displacement KCL in 1st Tank " "
	1150	5	60			300		catch Cement " "
	1200		110			1000 1500		Land Plug " "
								Release Pressure
								Float Hold
								Plug RH & MH 30/15 sks SMD
								No circ 0 sks to pit
								Thank you
								Nick, David E, Davy & Isaac