



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1141782
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: _____



1141782

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> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</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

May 24, 2013

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

Re: ACO1
API 15-153-20918-00-00
Culwell 'D' 1-30
SW/4 Sec.30-01S-36W
Rawlins 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 'D' #1-30
 2000' FSL 2020' FWL
 Sec. 30-1S-36W
 3285' KB

MDCI
 Hatch #1-30X
 2000' FSL 2100' FEL
 Sec. 30-1S-36W
 3329' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum
Anhydrite	3190	+87	-7	3189	+96	+2	3235	+94
B/Anhydrite	3232	+53	-7	3224	+61	+1	3269	+60
Neva	3670	-385	-3	3667	-382	Flat	3711	-382
Red Eagle	3733	-448	-3	3730	-445	Flat	3774	-445
Foraker	3784	-499	-3	3780	-495	+1	3825	-496
Stotler	3929	-644	Flat	3928	-643	+1	3973	-644
Topeka	4008	-723	-2	4010	-725	-4	4050	-721
Oread	4134	-849	-4	4129	-844	+1	4174	-845
Lansing	4215	-930	-1	4213	-928	+1	4258	-929
Stark	4431	-1146	Flat	4431	-1146	Flat	4475	-1146
BKC	4483	-1198	Flat	4483	-1198	Flat	4527	-1198
Pawnee	4608	-1323	----	4611	-1326	----	NDE	
Cherokee	4692	-1407	----	4689	-1404	----	NDE	
RTD	4770						4600	
LTD				4770			4600	

Jeff Christian

PETROLEUM GEOLOGIST
Winfield, Kansas

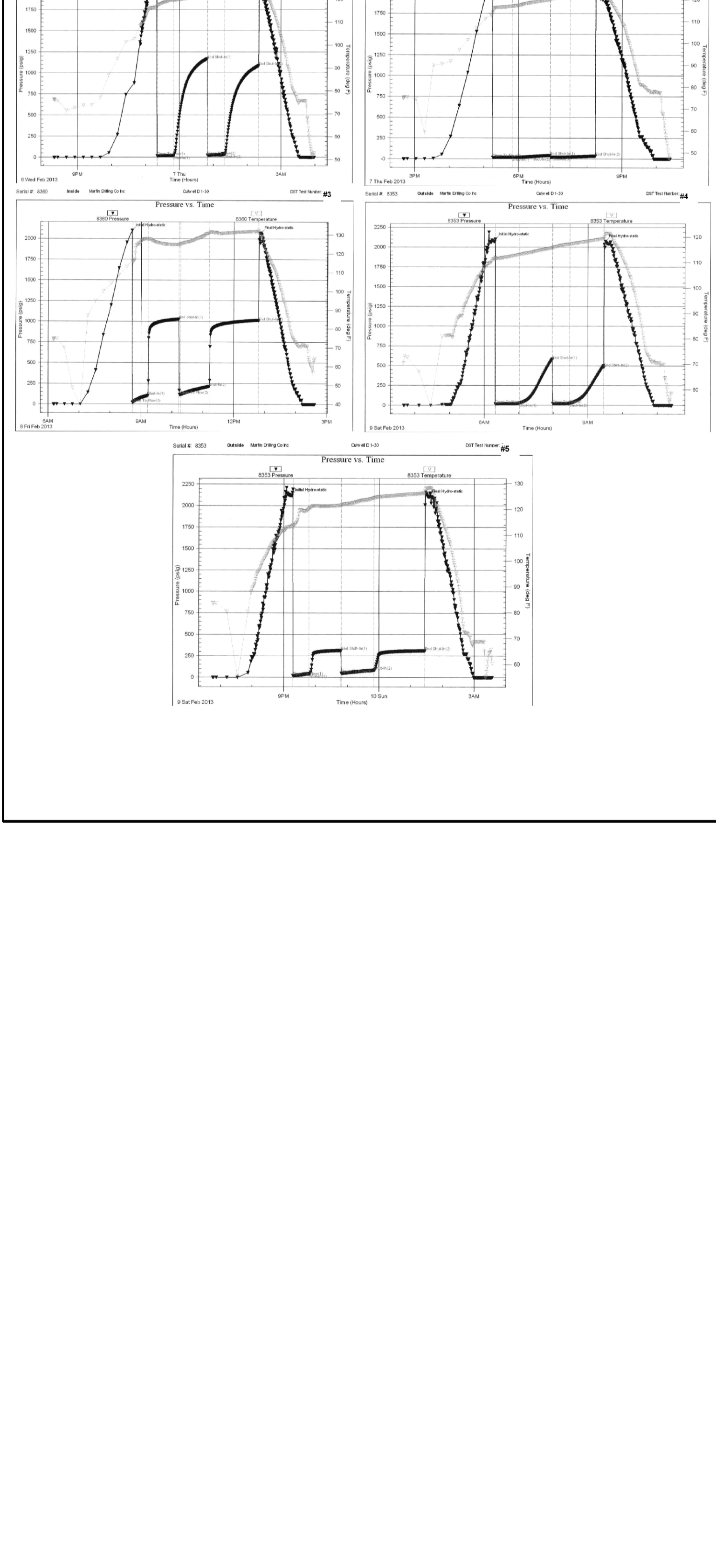
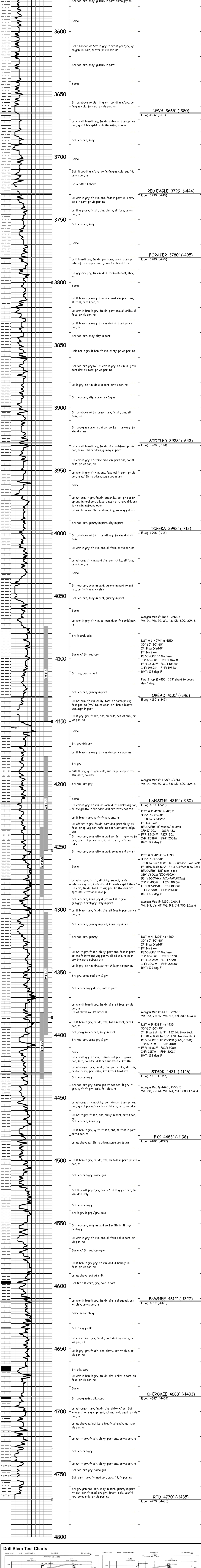
GEOLOGISTS REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR	MUREN DRILLING COMPANY	EL/ELEVATIONS	
LEASE	CULWELL D #1-30	HB	3285'
LOCATION	2000' FSL & 2020' FWL	CL	3275'
SEC	30	TWSP	1 S
COUNTY	RAWLINS	STATE	KANSAS
FIELD	BRUWMA NORTH	CASING RECORD	
APR	15-155-20918	CONDUIT	80#
CONTRACTOR	COMPANY TOOLS	RIN	NO. 14
DRILLING STARTED	02/07/2013	COMPLETION	02/11/2013
MUD REPLACED	3461'	MUD TYPE	CHEMICAL
DRILLING THE KEPT FROM	3370'	TO RTD	
SAMPLES SAVED FROM	3370'	TO RTD	
SAMPLES EXAMINED FROM	3370'	TO RTD	
GEOLOGICAL SUPERVISION FROM	3310'	TO RTD	
FORMATION NAME	LOG	SAMPLE	
ANHYDRITE	3199'	3199'	(487)
NEVA	3166'	3166'	(488)
FORAKER	3129'	3129'	(489)
TOPEKA	3098'	3098'	(490)
LANSING	4215'	4215'	(491)
STARK	4431'	4431'	(492)
BKC	4483'	4483'	(493)
PAWNEE	4611'	4611'	(494)
CHEROKEE	4687'	4687'	(495)
TOTAL DEPTH	4770'	4770'	(496)

DATE	7:00 AM DEPTH	REMARKS
2/1/13	MIRT	SPUD 8:00 pm
2/2/13	254'	WOC dev. 3/4 deg.
2/3/13	1430'	DRL6.
2/4/13	2680'	DRL6.
2/5/13	3500'	DRL6.
2/6/13	4020'	DRL6.
2/7/13	4155'	DRL6.
2/8/13	4290'	TOH for DST # 3
2/9/13	4400'	OB w/ DST # 4
2/10/13	4435'	WO Wind after DST # 5
2/11/13	4730'	DRL6. RTD 4770' @ 8:15 am dev. 2 deg. Run Electric Logs

Remarks
4 1/2" production casing set to further test the Lansing Kansas City formation.
Electric log measurements correlate about even to 1' high compared to rotary measurements.
Sample tops adjusted to the electric log.
Samples deposited at the Kansas Geological Survey.
Respectfully Submitted,
Jeff Christian
Jeff Christian





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.06 @ 20:18:00

End Date: 2013.02.07 @ 03:58:45

Job Ticket #: 49014 DST #: 1

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

Printed: 2013.02.19 @ 09:56:30



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49014 **DST#: 1**
Test Start: 2013.02.06 @ 20:18:00

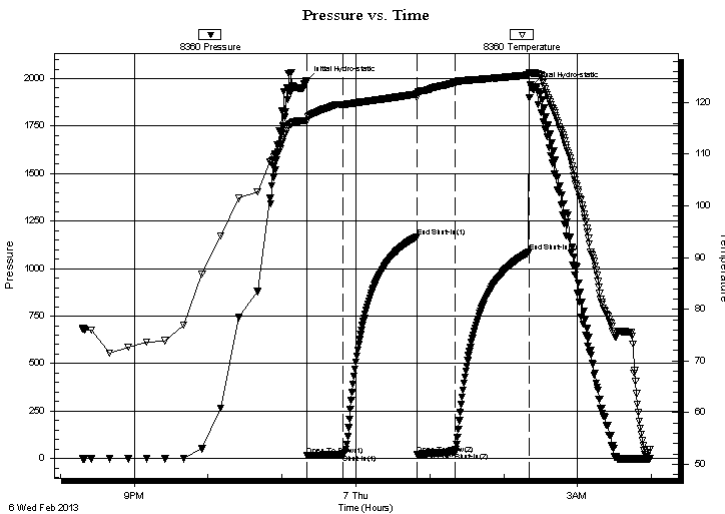
GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:20:15
Time Test Ended: 03:58:45
Interval: **4074.00 ft (KB) To 4150.00 ft (KB) (TVD)**
Total Depth: 4150.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Wilbur Steinbeck
Unit No: 150
Reference Elevations: 3285.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8360 Inside
Press @ Run Depth: 31.68 psig @ 4075.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.02.06 End Date: 2013.02.07 Last Calib.: 2013.02.07
Start Time: 20:18:05 End Time: 03:58:44 Time On Btm: 2013.02.06 @ 23:19:45
Time Off Btm: 2013.02.07 @ 02:22:15

TEST COMMENT: 30 IF; Surface Blow died in 5 min
60 IS; No Blow
30 FF; No Blow
60 FS; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1988.59	116.52	Initial Hydro-static
1	16.72	116.40	Open To Flow (1)
30	20.03	119.63	Shut-In(1)
90	1166.82	121.64	End Shut-In(1)
90	22.36	121.57	Open To Flow (2)
121	31.68	123.90	Shut-In(2)
181	1086.03	125.34	End Shut-In(2)
183	1955.16	125.72	Final Hydro-static

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

30-1s-36w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Culwell D #1-30

Job Ticket: 49014

DST#: 1

ATTN: Jeff Christian

Test Start: 2013.02.06 @ 20:18:00

Tool Information

Drill Pipe:	Length: 3521.00 ft	Diameter: 3.80 inches	Volume: 49.39 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: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 52.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4074.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	103.00 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			4048.00	
Shut In Tool	5.00			4053.00	
Hydraulic tool	5.00			4058.00	
Jars	5.00			4063.00	
Safety Joint	2.00			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	5.00			4080.00	
Change Over Sub	1.00			4081.00	
Drill Pipe	64.00			4145.00	
Change Over Sub	1.00			4146.00	
Bullnose	4.00			4150.00	76.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49014 **DST#: 1**
Test Start: 2013.02.06 @ 20:18:00

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: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 4.78 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 800.00 ppm			
Filter Cake: 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 #: 8360

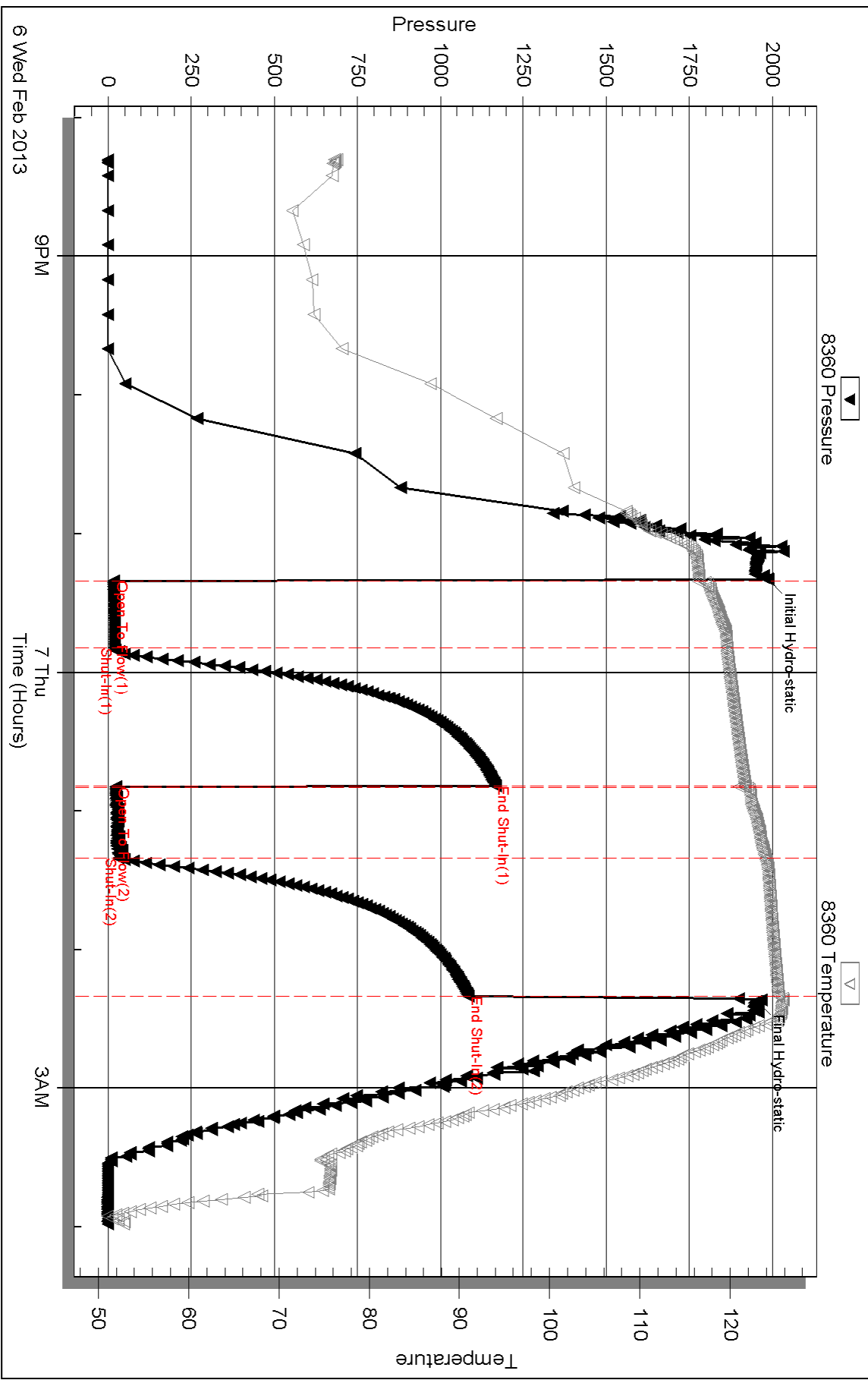
Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 49014

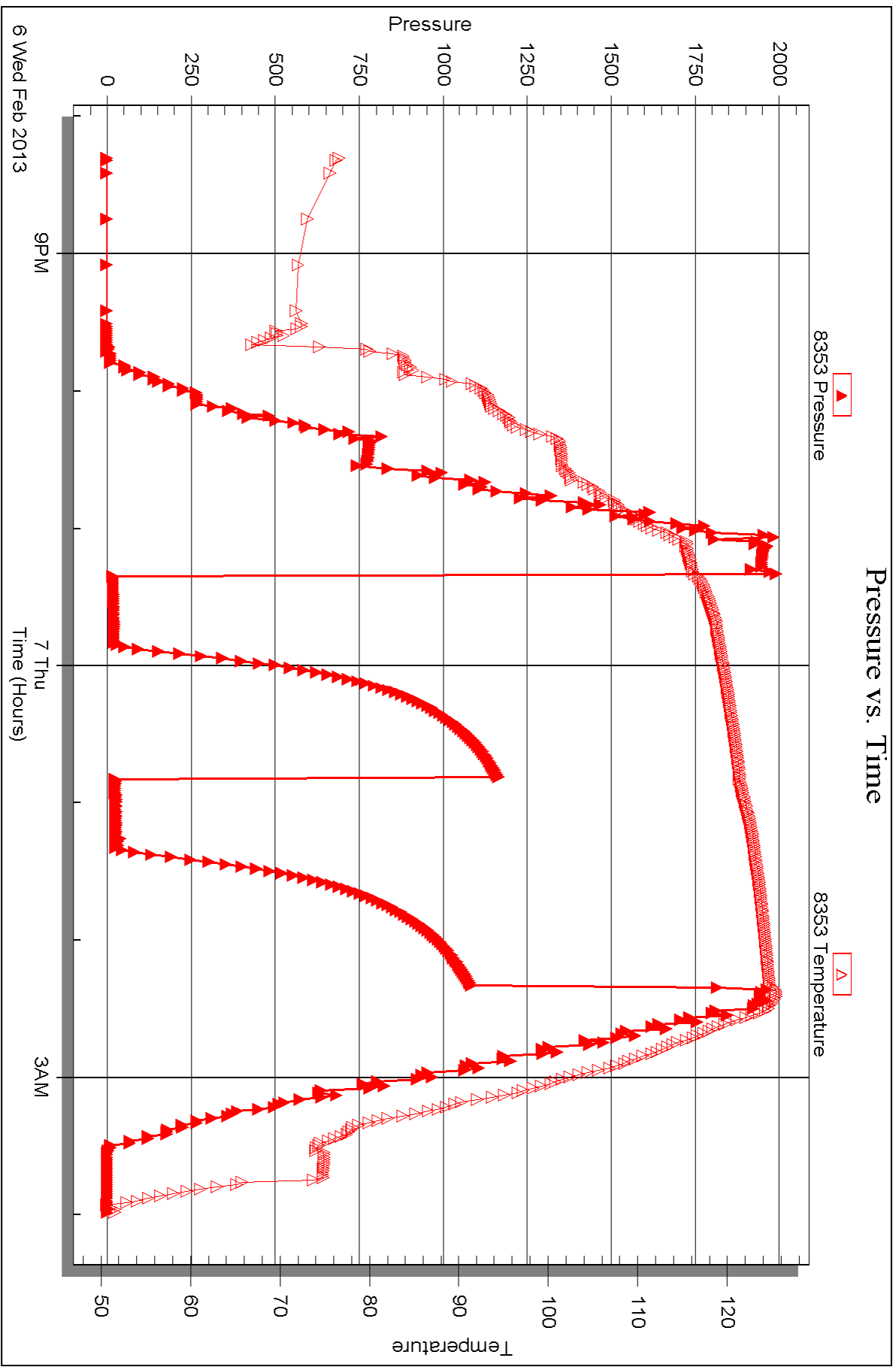
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Serial #: 8353

Outside Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.07 @ 14:40:00

End Date: 2013.02.07 @ 22:23:30

Job Ticket #: 49015 DST #: 2

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

Printed: 2013.02.19 @ 09:55:33

Murfin Drilling Co Inc
30-1s-36w Rawlins,KS
Culwell D #1-30
DST # 2
LKC A
2013.02.07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Jeff Christian

30-1s-36w Rawlins,KS

Culwell D #1-30

Job Ticket: 49015 **DST#: 2**
 Test Start: 2013.02.07 @ 14:40:00

GENERAL INFORMATION:

Formation: **LKC A**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:15:15
 Time Test Ended: 22:23:30
 Interval: **4177.00 ft (KB) To 4252.00 ft (KB) (TVD)**
 Total Depth: 4252.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 150
 Reference Elevations: 3285.00 ft (KB)
 3275.00 ft (CF)
 KB to GR/CF: 10.00 ft

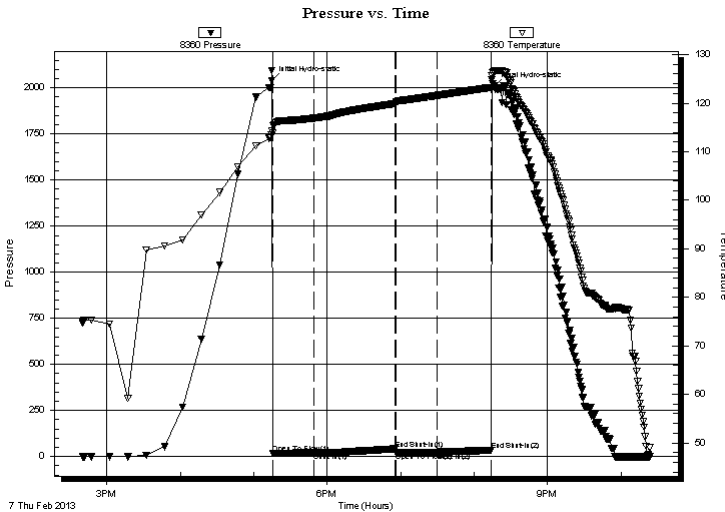
Serial #: 8360

Inside

Press @ Run Depth: 24.37 psig @ 4178.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.07 End Date: 2013.02.07 Last Calib.: 2013.02.07
 Start Time: 14:40:05 End Time: 22:23:29 Time On Btm: 2013.02.07 @ 17:14:45
 Time Off Btm: 2013.02.07 @ 20:16:15

TEST COMMENT: 30 IF; Surface Blow Died In 25 Min
 60 IS; No Blow
 30 FF; No Blow
 60 FS; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.34	114.20	Initial Hydro-static
1	16.78	113.78	Open To Flow (1)
35	20.33	116.90	Shut-In(1)
101	41.86	119.91	End Shut-In(1)
101	21.67	119.94	Open To Flow (2)
135	24.37	121.57	Shut-In(2)
179	34.59	123.22	End Shut-In(2)
182	2008.07	126.45	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

TOOL DIAGRAM

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49015 **DST#: 2**
Test Start: 2013.02.07 @ 14:40:00

Tool Information

Drill Pipe:	Length: 3647.00 ft	Diameter: 3.80 inches	Volume: 51.16 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: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: 53.79 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4177.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	75.00 ft				
Tool Length:	102.00 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			4151.00	
Shut In Tool	5.00			4156.00	
Hydraulic tool	5.00			4161.00	
Jars	5.00			4166.00	
Safety Joint	2.00			4168.00	
Packer	5.00			4173.00	27.00 Bottom Of Top Packer
Packer	4.00			4177.00	
Stubb	1.00			4178.00	
Recorder	0.00	8360	Inside	4178.00	
Recorder	0.00	8353	Outside	4178.00	
Perforations	5.00			4183.00	
Change Over Sub	1.00			4184.00	
Drill Pipe	63.00			4247.00	
Change Over Sub	1.00			4248.00	
Bullnose	4.00			4252.00	75.00 Bottom Packers & Anchor

Total Tool Length: 102.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49015 **DST#: 2**
Test Start: 2013.02.07 @ 14:40:00

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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.78 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 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:

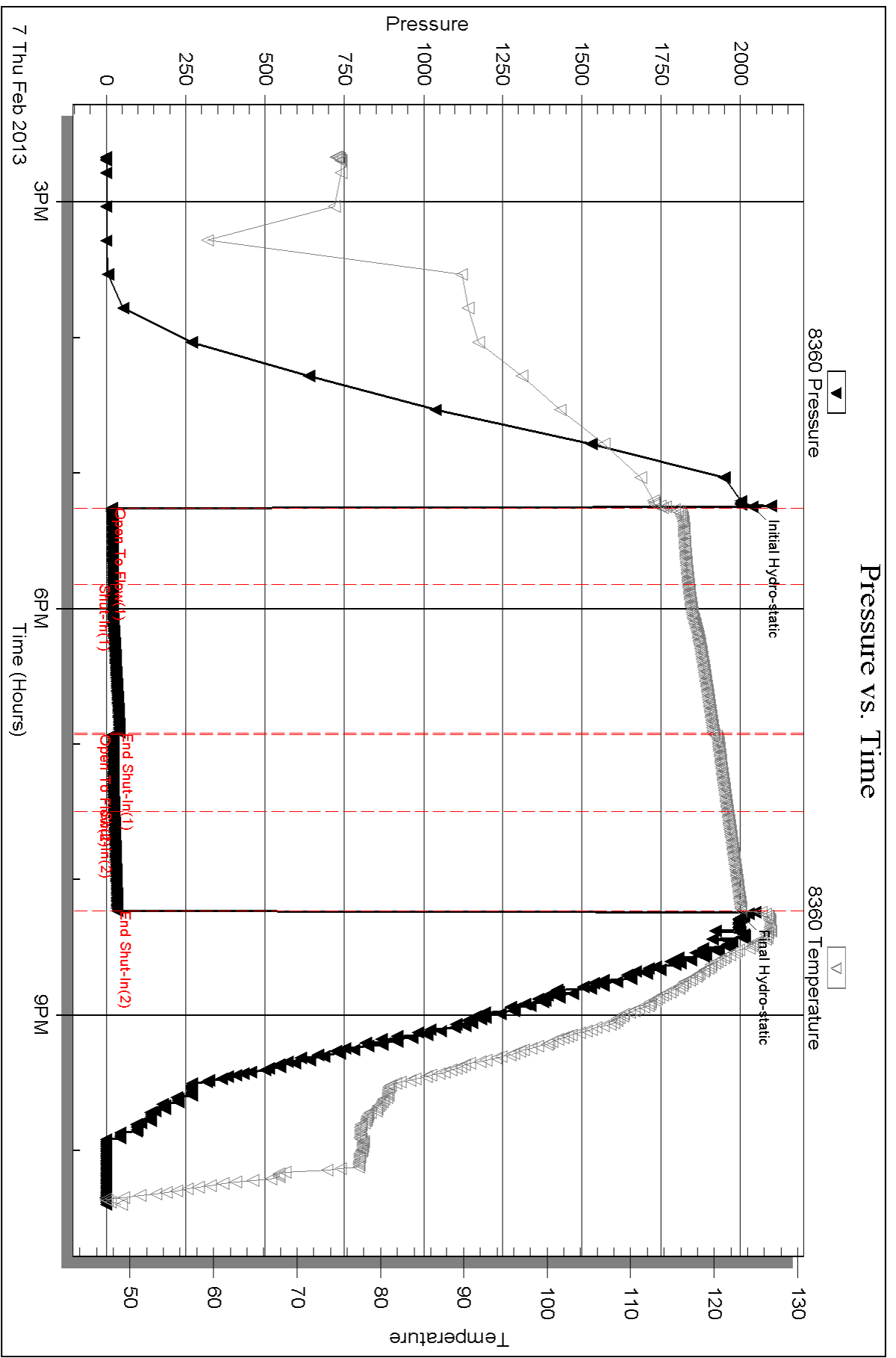
Serial #: 8360

Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 2

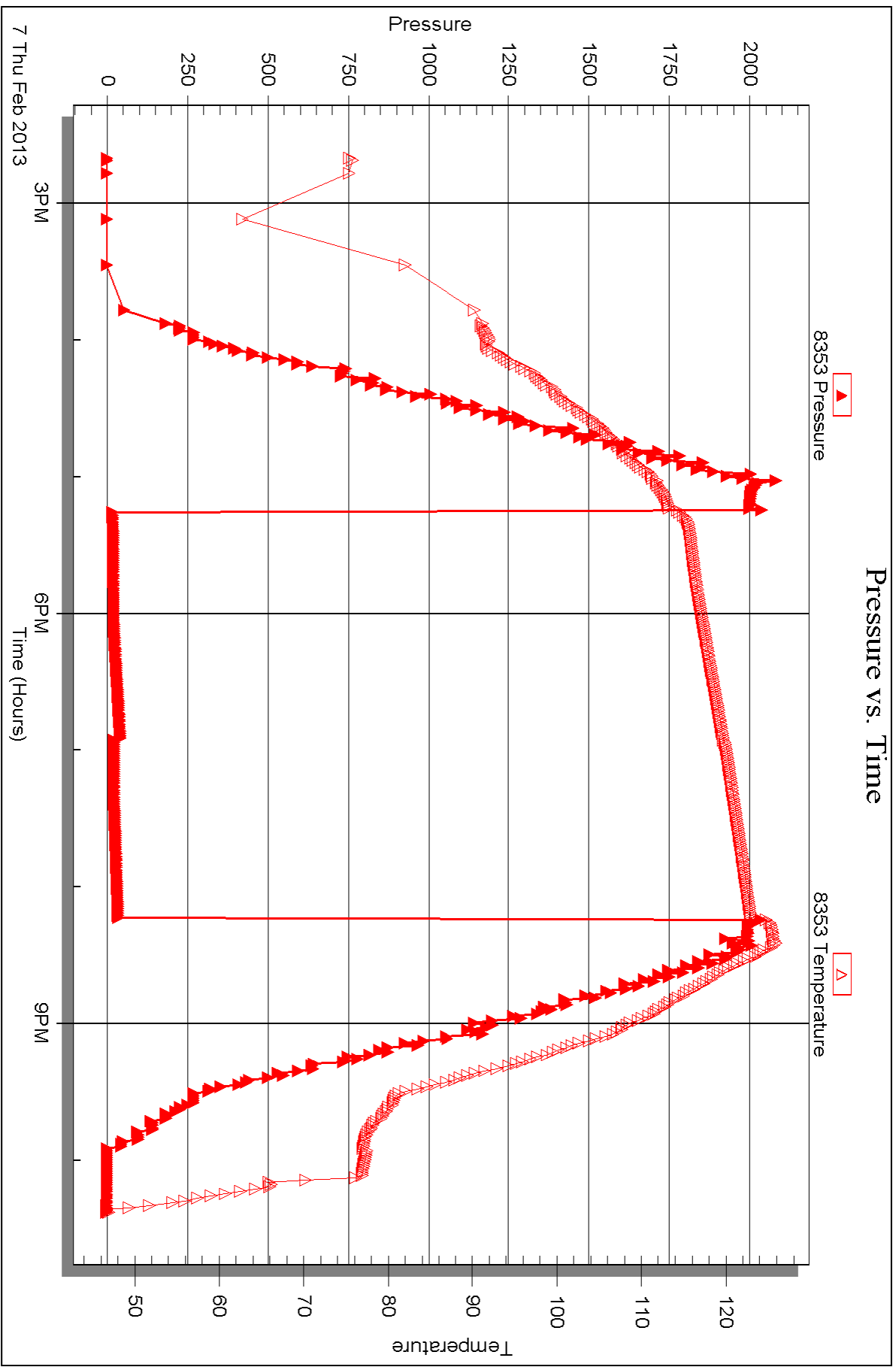


Serial #: 8353

Outside Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.08 @ 06:10:00

End Date: 2013.02.08 @ 14:36:15

Job Ticket #: 49016 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:54:56

Murfin Drilling Co Inc
30-1s-36w Rawlins,KS
Culwell D #1-30
DST # 3
LKC D
2013.02.08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Jeff Christian

30-1s-36w Rawlins, KS
Culwell D #1-30
 Job Ticket: 49016 **DST#: 3**
 Test Start: 2013.02.08 @ 06:10:00

GENERAL INFORMATION:

Formation: **LKC D**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 08:43:00 Tester: Wilbur Steinbeck
 Time Test Ended: 14:36:15 Unit No: 150
 Interval: **4234.00 ft (KB) To 4290.00 ft (KB) (TVD)** Reference Elevations: 3285.00 ft (KB)
 Total Depth: 4290.00 ft (KB) (TVD) 3275.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

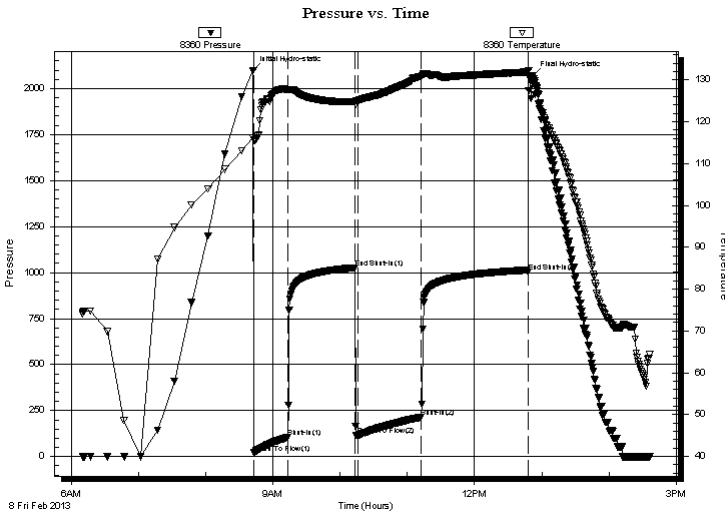
Serial #: 8360

Inside

Press @ Run Depth: 214.56 psig @ 4235.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.08 End Date: 2013.02.08 Last Calib.: 2013.02.08
 Start Time: 06:10:05 End Time: 14:36:14 Time On Btm: 2013.02.08 @ 08:42:15
 Time Off Btm: 2013.02.08 @ 12:52:00

TEST COMMENT: 30 IF; Built to 8"
 60 IS; Surface Blow
 60 FF; Built to 9"
 90 FS; Surface Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2098.40	116.23	Initial Hydro-static
1	20.87	115.56	Open To Flow (1)
31	105.14	127.61	Shut-In(1)
91	1026.37	124.77	End Shut-In(1)
94	116.79	125.08	Open To Flow (2)
150	214.56	130.81	Shut-In(2)
246	1004.83	131.89	End Shut-In(2)
250	2069.65	129.01	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
96.00	OSWCM 1%O 4%W 95%M	0.47
319.00	OSM 1%O 99%M	1.57

* 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 Co Inc

30-1s-36w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Culwell D #1-30

Job Ticket: 49016

DST#: 3

ATTN: Jeff Christian

Test Start: 2013.02.08 @ 06:10:00

Tool Information

Drill Pipe:	Length: 3679.00 ft	Diameter: 3.80 inches	Volume: 51.61 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: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 54.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4234.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	83.00 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			4208.00	
Shut In Tool	5.00			4213.00	
Hydraulic tool	5.00			4218.00	
Jars	5.00			4223.00	
Safety Joint	2.00			4225.00	
Packer	5.00			4230.00	27.00 Bottom Of Top Packer
Packer	4.00			4234.00	
Stubb	1.00			4235.00	
Recorder	0.00	8360	Inside	4235.00	
Recorder	0.00	8353	Outside	4235.00	
Perforations	15.00			4250.00	
Change Over Sub	1.00			4251.00	
Drill Pipe	32.00			4283.00	
Change Over Sub	1.00			4284.00	
perforations	2.00			4286.00	
Bullnose	4.00			4290.00	56.00 Bottom Packers & Anchor
Total Tool Length:	83.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49016 **DST#: 3**
Test Start: 2013.02.08 @ 06:10:00

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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
96.00	OSWCM 1%O 4%W 95%M	0.472
319.00	OSM 1%O 99%M	1.569

Total Length: 415.00 ft Total Volume: 2.041 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

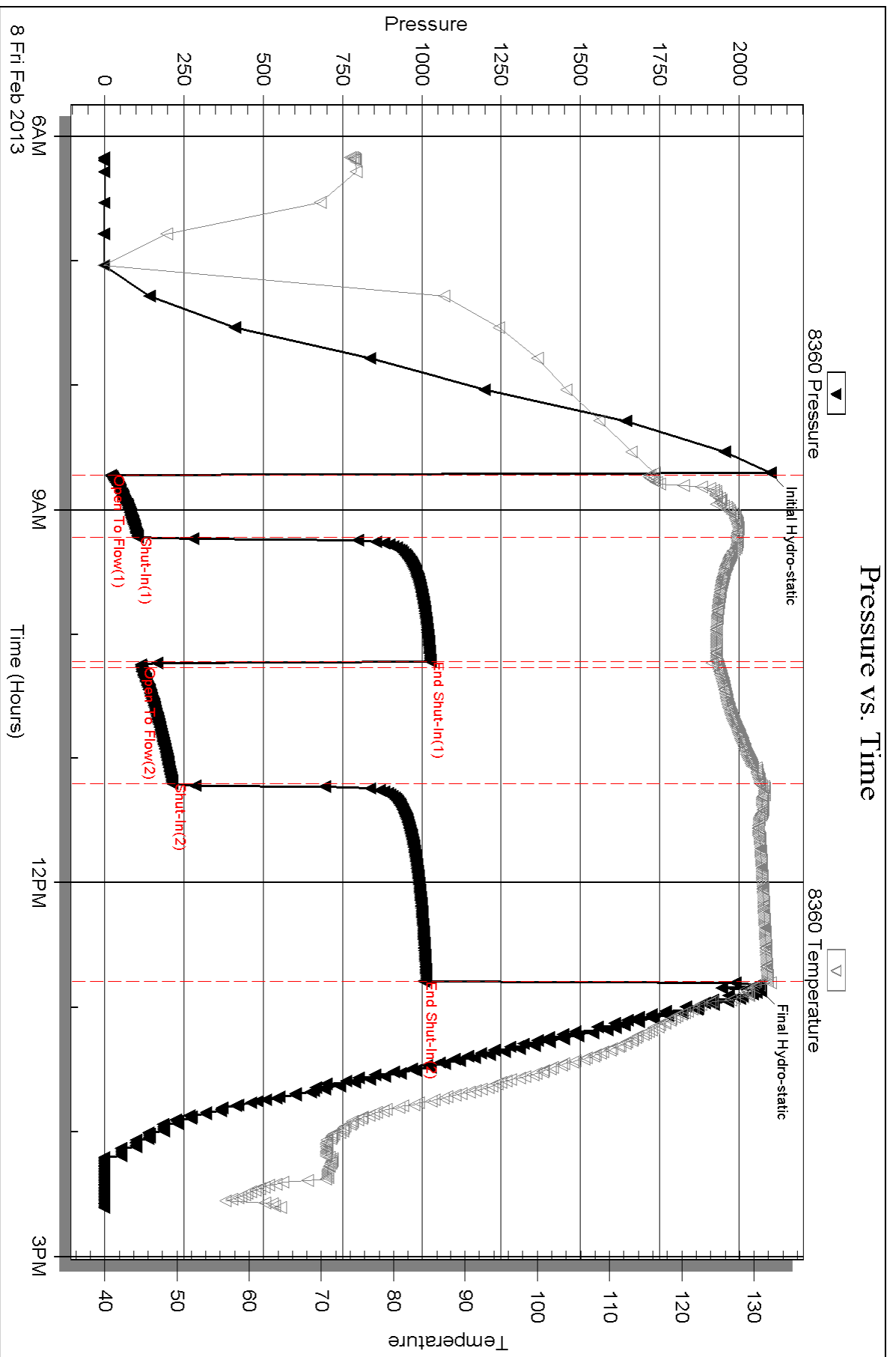
Serial #: 8360

Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 3

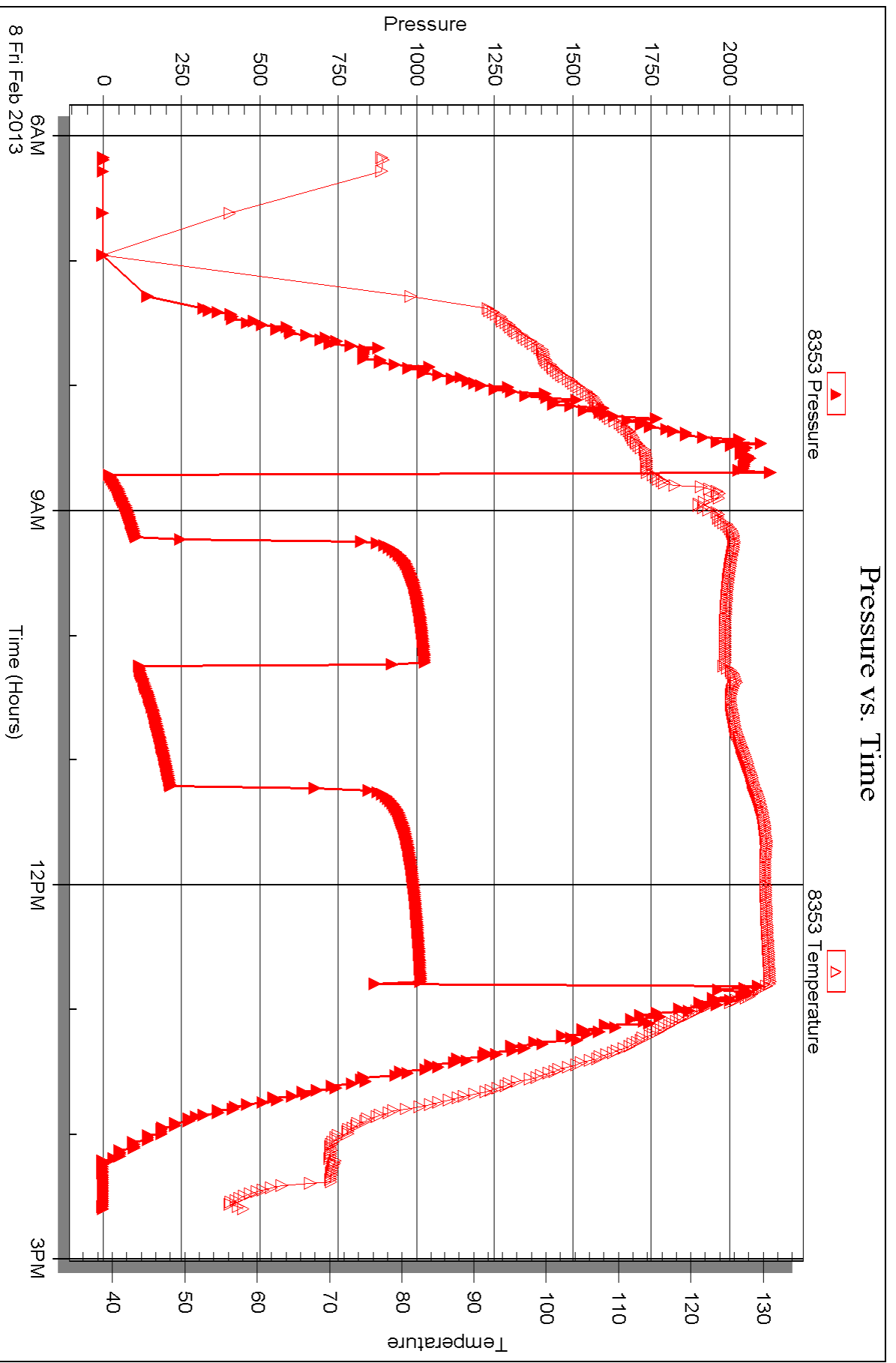


Serial #: 8353

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.09 @ 03:40:00

End Date: 2013.02.09 @ 11:24:45

Job Ticket #: 49017 DST #: 4

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

Printed: 2013.02.19 @ 09:46:32



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
 Job Ticket: 49017 **DST#: 4**
 Test Start: 2013.02.09 @ 03:40:00

GENERAL INFORMATION:

Formation: **LKC G,H,I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:19:00
 Time Test Ended: 11:24:45
 Interval: **4302.00 ft (KB) To 4400.00 ft (KB) (TVD)**
 Total Depth: 4150.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 150
 Reference Elevations: 3285.00 ft (KB)
 3275.00 ft (CF)
 KB to GR/CF: 10.00 ft

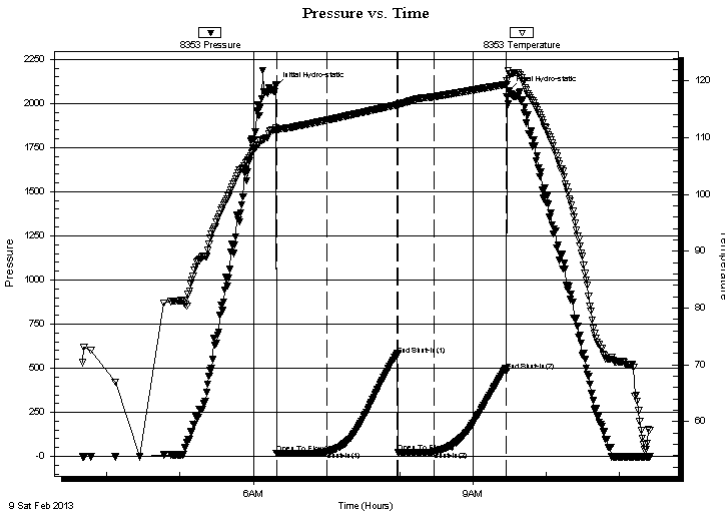
Serial #: 8353

Outside

Press @ RunDepth: 27.73 psig @ 4303.00 ft (KB)
 Start Date: 2013.02.09 End Date: 2013.02.09
 Start Time: 03:40:15 End Time: 11:24:45
 Capacity: 8000.00 psig
 Last Calib.: 2013.02.09
 Time On Btm: 2013.02.09 @ 06:18:30
 Time Off Btm: 2013.02.09 @ 09:29:30

TEST COMMENT: 30 IF; Built to 1/4" died in 5 min
 60 ISI; No Blow
 30 FF; No Blow
 60 FSI; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2097.46	111.76	Initial Hydro-static
1	16.91	111.36	Open To Flow (1)
42	28.18	113.11	Shut-In(1)
100	576.76	115.82	End Shut-In(1)
100	21.74	115.86	Open To Flow (2)
130	27.73	117.25	Shut-In(2)
189	481.97	119.44	End Shut-In(2)
191	2073.07	121.21	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

TOOL DIAGRAM

Murfin Drilling Co Inc

30-1s-36w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Culwell D #1-30

Job Ticket: 49017

DST#: 4

ATTN: Jeff Christian

Test Start: 2013.02.09 @ 03:40:00

Tool Information

Drill Pipe:	Length: 3772.00 ft	Diameter: 3.80 inches	Volume: 52.91 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: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 55.54 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4302.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	98.00 ft				
Tool Length:	125.00 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			4276.00	
Shut In Tool	5.00			4281.00	
Hydraulic tool	5.00			4286.00	
Jars	5.00			4291.00	
Safety Joint	2.00			4293.00	
Packer	5.00			4298.00	27.00 Bottom Of Top Packer
Packer	4.00			4302.00	
Stubb	1.00			4303.00	
Recorder	0.00	8360	Inside	4303.00	
Recorder	0.00	8353	Outside	4303.00	
Perforations	25.00			4328.00	
Change Over Sub	1.00			4329.00	
Drill Pipe	64.00			4393.00	
Change Over Sub	1.00			4394.00	
perforations	2.00			4396.00	
Bullnose	4.00			4400.00	98.00 Bottom Packers & Anchor
Total Tool Length:	125.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49017 **DST#: 4**
Test Start: 2013.02.09 @ 03:40:00

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: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 700.00 ppm			
Filter Cake: inches			

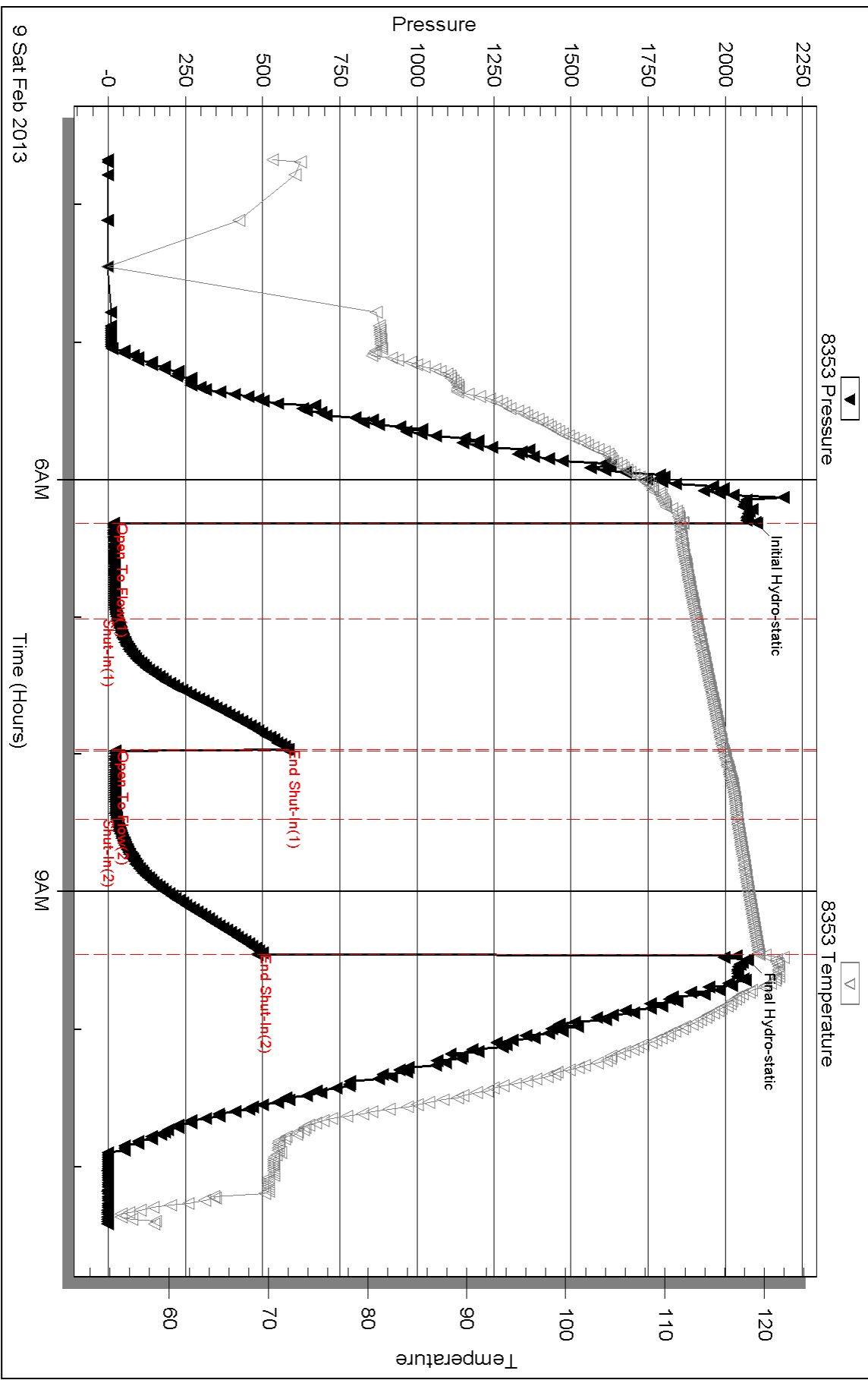
Recovery Information

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:

Pressure vs. Time



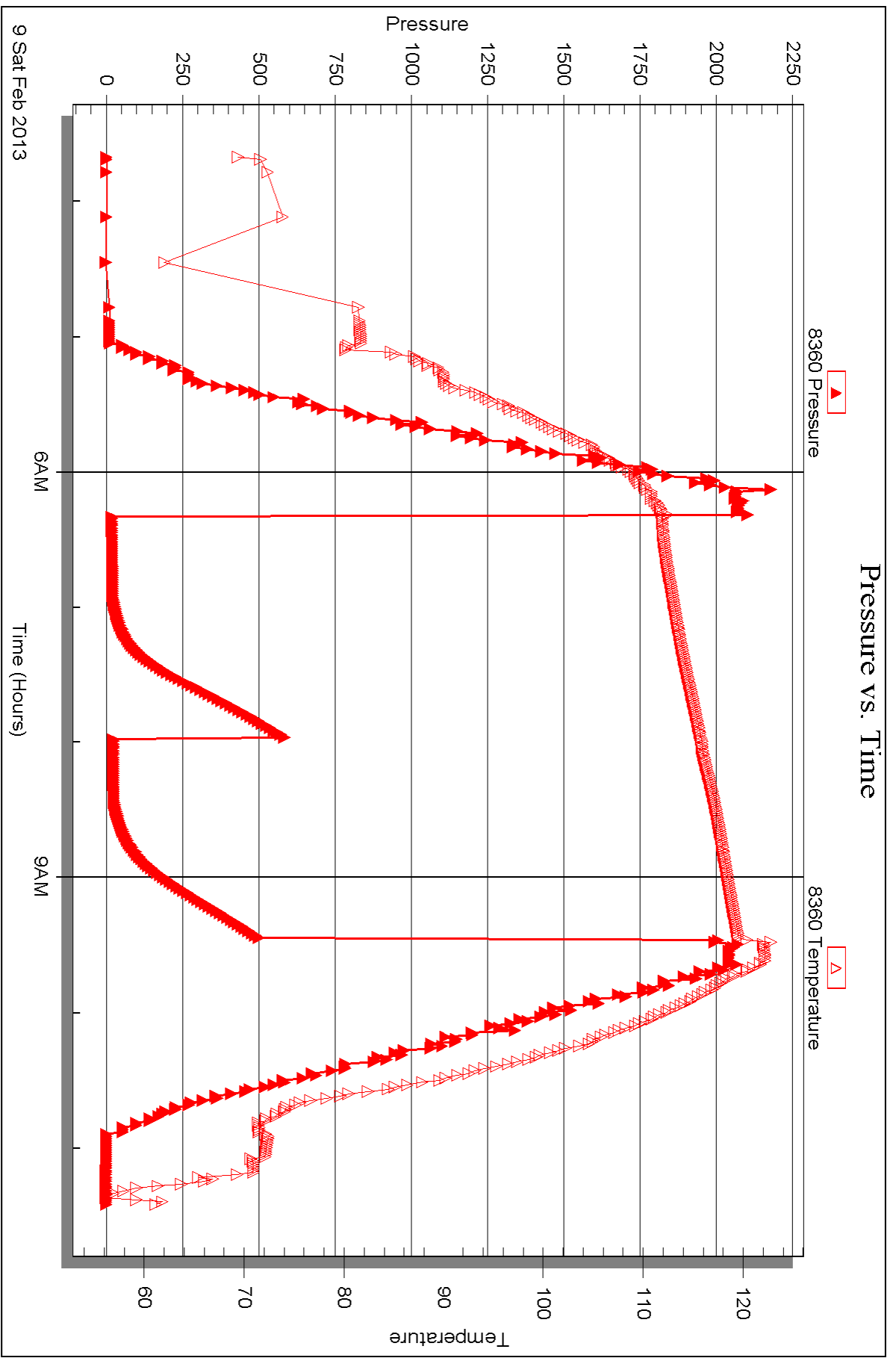
Serial #: 8360

Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 49017

Printed: 2013.02.19 @ 09:46:35



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.09 @ 18:45:00

End Date: 2013.02.10 @ 03:34:15

Job Ticket #: 49018 DST #: 5

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

Printed: 2013.02.19 @ 09:45:55



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS

Culwell D #1-30

Job Ticket: 49018

DST#: 5

Test Start: 2013.02.09 @ 18:45:00

GENERAL INFORMATION:

Formation: **LKC J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:17:15

Time Test Ended: 03:34:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 150

Interval: 4382.00 ft (KB) To 4435.00 ft (KB) (TVD)

Reference Elevations: 3285.00 ft (KB)

Total Depth: 4435.00 ft (KB) (TVD)

3275.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @ RunDepth: 81.97 psig @ 4383.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.09 End Date: 2013.02.10

Last Calib.: 2013.02.10

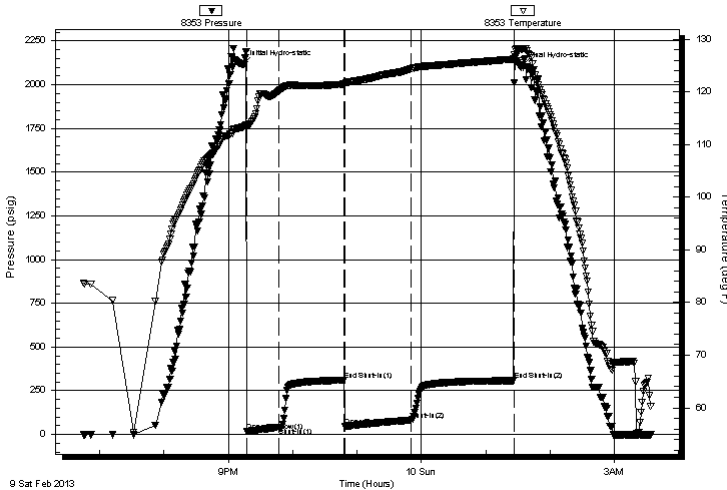
Start Time: 18:45:15 End Time: 03:34:15

Time On Btm: 2013.02.09 @ 21:13:30

Time Off Btm: 2013.02.10 @ 01:33:00

TEST COMMENT: 30 IF; Built to 3"
60 IS; No Blow
60 FF; Built to 2 1/2"
90 FS; No Blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2116.58	113.32	Initial Hydro-static
4	16.74	113.59	Open To Flow (1)
34	41.03	120.16	Shut-In(1)
95	310.41	121.50	End Shut-In(1)
96	46.04	121.58	Open To Flow (2)
157	81.97	124.39	Shut-In(2)
253	307.86	126.25	End Shut-In(2)
260	2101.38	128.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	OCM 2%O 98%O	0.64

* 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 Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49018 **DST#: 5**
Test Start: 2013.02.09 @ 18:45:00

Tool Information

Drill Pipe:	Length: 3837.00 ft	Diameter: 3.80 inches	Volume: 53.82 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: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 56.45 bbl</u>	Tool Chased	1.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4382.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	80.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			4356.00	
Shut In Tool	5.00			4361.00	
Hydraulic tool	5.00			4366.00	
Jars	5.00			4371.00	
Safety Joint	2.00			4373.00	
Packer	5.00			4378.00	27.00 Bottom Of Top Packer
Packer	4.00			4382.00	
Stubb	1.00			4383.00	
Recorder	0.00	8360	Inside	4383.00	
Recorder	0.00	8353	Outside	4383.00	
Perforations	13.00			4396.00	
Change Over Sub	1.00			4397.00	
Drill Pipe	32.00			4429.00	
Change Over Sub	1.00			4430.00	
perforations	1.00			4431.00	
Bullnose	4.00			4435.00	53.00 Bottom Packers & Anchor
Total Tool Length:	80.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49018 **DST#: 5**
Test Start: 2013.02.09 @ 18:45:00

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: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 4.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 800.00 ppm			
Filter Cake: inches			

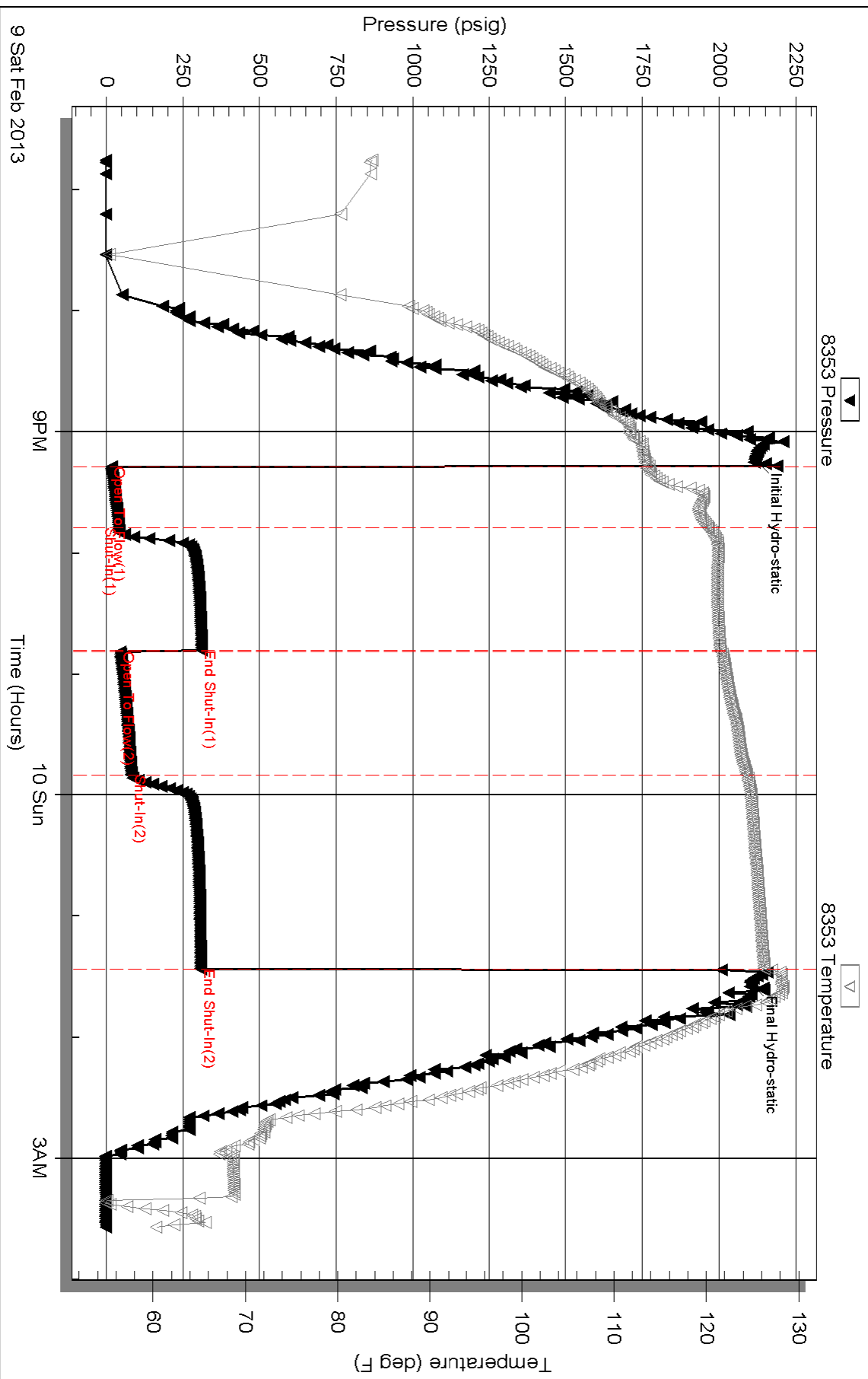
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	OCM 2%O 98%O	0.639

Total Length: 130.00 ft Total Volume: 0.639 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49014

Well Name & No. Culwell 'D' 1-30 Test No. 1 Date 2-6-13
 Company Murfin Drilling Co Inc Elevation 3285 KB 3275 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin 14
 Location: Sec. 30 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4074 4150 Zone Tested Orced
 Anchor Length 76 Drill Pipe Run 3521 Mud Wt. 9.1
 Top Packer Depth 4069 Drill Collars Run 534 Vis 59
 Bottom Packer Depth 4074 Wt. Pipe Run 0 WL 4.8
 Total Depth 4150 Chlorides 800 ppm System LCM S

Blow Description IF: Surface Blow Diced in 5min
1st: No Blow
FF: No Blow
FSI: 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 Total 5 BHT 126 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1,989</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>19:10</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>20:18</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>23:20</u>
(D) Initial Shut-In <u>1167</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>2:20</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>4:00</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>125 RT</u> 193.75	Comments _____
(G) Final Shut-In <u>1086</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1955</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer _____

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

Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1768.75

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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49015

Well Name & No. Collwell D 1-30 Test No. 2 Date 2-7-13
 Company Murfin Drilling Elevation 3285 KB 3275 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin 14
 Location: Sec. 30 Twp. 1s Rge. 36w Co. Kanlms State ks

Interval Tested 4177 4252 Zone Tested LKC A
 Anchor Length 75 Drill Pipe Run 3647 Mud Wt. 9.1
 Top Packer Depth 4172 Drill Collars Run 534 Vis 50
 Bottom Packer Depth 4177 Wt. Pipe Run 0 WL 5.8
 Total Depth 4252 Chlorides 600 ppm System LCM 6

Blow Description 1F; Surface Blow Died 25 min
1S1; No Blow
1F; No Blow
1S1; No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>0.5M</u>			<u>100</u>	

Rec Total 5 BHT 127 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2038 Test 1250 T-On Location 17:40
 (B) First Initial Flow 17 Jars 250 T-Started 15:00
 (C) First Final Flow 20 Safety Joint 75 T-Open 18:35
 (D) Initial Shut-In 42 Circ Sub NA T-Pulled 20:35
 (E) Second Initial Flow 22 Hourly Standby T-Out 22:40
 (F) Second Final Flow 24 Mileage 125 RT 193.75 Comments _____
 (G) Final Shut-In 35 Sampler _____
 (H) Final Hydrostatic 2,008 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 60 Day Standby _____ Total 1768.75
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1768.75

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged or 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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49016

4/10

Well Name & No. Colwell D 1-30 Test No. 3 Date 2-8-13
 Company Martin Drilling Elevation 3285 KB 3215 GL
 Address 250 N Wafer STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Martin 14
 Location: Sec. 30 Twp. 7S Rge. 36W Co. Rawlins State KS

Interval Tested 4234 4290 Zone Tested LKC 'D'
 Anchor Length 56 Drill Pipe Run 3679 Mud Wt. 9.1
 Top Packer Depth 4229 Drill Collars Run 534 Vis 50
 Bottom Packer Depth 4234 Wt. Pipe Run 0 WL 5.8
 Total Depth 4290 Chlorides 600 ppm System LCM 6

Blow Description 1F; Built to 8in
1S; Surface Blow
1F; Built to 9in
1S; Surface Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>319</u>	<u>OSM</u>	<u>1</u>		<u>99</u>	
<u>96</u>	<u>OSWCM</u>	<u>1</u>	<u>4</u>	<u>95</u>	

Rec Total 415 BHT 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2098</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>6:10</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>6:30</u>
(C) First Final Flow <u>105</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>9:05</u>
(D) Initial Shut-In <u>1026</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>13:05</u>
(E) Second Initial Flow <u>117</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>14:55</u>
(F) Second Final Flow <u>215</u>	<input checked="" type="checkbox"/> Mileage <u>125KT</u> 193.75	Comments _____
(G) Final Shut-In <u>1005</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2070</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 60 Extra Recorder _____ Sub Total 0
 Final Shut-In 90 Day Standby _____ Total 1768.75
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1768.75

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.



TRIBOLITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49017

Well Name & No. Culwell D 1-30 Test No. 4 Date 2-9-13
 Company Murkin Drilling Elevation 3285 KB 3275 GL
 Address 250 N Wafer STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murkin 14
 Location: Sec. 30 Twp. 1s Rge. 36w Co. Rawlins State Ks

Interval Tested 4302 4400 Zone Tested LKC G'H'T
 Anchor Length 98 Drill Pipe Run 3,772 Mud Wt. 9.3
 Top Packer Depth 4297 Drill Collars Run 534 Vis 47
 Bottom Packer Depth 4302 Wt. Pipe Run 0 WL 5.8
 Total Depth 4400 Chlorides 700 ppm System LCM 6

Blow Description IF; Built to 1/4" Dsd 5m4
IS; No Blow
FP; No Blow
FS; No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Med</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 Total 5 BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2097 Test 1250 T-On Location 3:30
 (B) First Initial Flow 17 Jars 250 T-Started 3:40
 (C) First Final Flow 28 Safety Joint 75 T-Open 6:20
 (D) Initial Shut-In 577 Circ Sub NA T-Pulled 9:20
 (E) Second Initial Flow 22 Hourly Standby _____ T-Out 11:20
 (F) Second Final Flow 28 Mileage 125 RT 193.75 Comments _____
 (G) Final Shut-In 482 Sampler _____
 (H) Final Hydrostatic 2073 Straddle _____
 Shale Packer _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____

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

Sub Total 0
 Total 1768.75
 MP/DST Disc't _____

Sub Total 1768.75

Approved By _____ Our Representative [Signature]

Tribolite 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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49018

Well Name & No. Colwell D 1-30 Test No. 5 Date 2-9-13
 Company Murfin Drilling Elevation 3285 KB 3275 GL
 Address 250 N Water Ste 300 Wichita ks 67202
 Co. Rep / Geo. Jeff Christman Rig Murfin 14
 Location: Sec. 30 Twp. 1s Rge. 36w Co. Rawlins State ks

Interval Tested 4382 4435 Zone Tested LKC J
 Anchor Length 53 Drill Pipe Run 3837 Mud Wt. 9.2
 Top Packer Depth 4377 Drill Collars Run 543 Vis 4.7
 Bottom Packer Depth 4382 Wt. Pipe Run 0 WL 4.6
 Total Depth 4435 Chlorides 800 ppm System LCM 6
 Blow Description IF Built to 3'
ISI No Blow
FF Built to 2 1/2"
FSI No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>130</u>	<u>0cm</u>		<u>2</u>	<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 130 BHT 128 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2117</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>18:30</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>18:45</u>
(C) First Final Flow <u>41</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:20</u>
(D) Initial Shut-In <u>310</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>1:20</u>
(E) Second Initial Flow <u>46</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>3:30</u>
(F) Second Final Flow <u>82</u>	<input checked="" type="checkbox"/> Mileage <u>125 RT</u> 193.75	Comments _____
(G) Final Shut-In <u>308</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>3101</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1768.75</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1768.75</u>	

Approved By _____ Our Representative Will Hill

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.



PO Box 93999
Southlake, TX 76092

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

INVOICE

Invoice Number: 134792

Invoice Date: Feb 1, 2013

Page: 1

acct. Prod-LizH

OPERATOR PAY MDC
LEASE: Culwell
"D" 1-30 / Bm

Now Includes:



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

Customer ID	Field Ticket #	Payment Terms	
Murfin	60040	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Feb 1, 2013	3/3/13

Quantity	Item	Description	Unit Price	Amount
260.00	MAT	Culwell D #1-30	17.90	4,654.00
9.00	MAT	Class A Common Chloride	64.00	576.00
272.90	SER	Cubic Feet	2.48	676.79
1,057.56	SER	Ton Mileage	2.60	2,749.66
1.00	SER	Surface	1,512.25	1,512.25
84.00	SER	Pump Truck Mileage	7.70	646.80
84.00	SER	Light Vehicle Mileage	4.40	369.60
1.00	SER	Manifold Swedge Rental	275.00	275.00
1.00	CEMENTER	Darren Racette		
1.00	EQUIP OPER	Tyler Flipse		
1.00	OPER ASSIST	Ty Schrock		

Subtotal	11,460.10
Sales Tax	421.02
Total Invoice Amount	11,881.12
Payment/Credit Applied	
TOTAL	11,881.12

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

\$ 4,011.03

ONLY IF PAID ON OR BEFORE
Feb 26, 2013

ok *Drduct* →

ALLIED OIL & GAS SERVICES, LLC 060040

Federal Tax I.D. # 20-8651476

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

SERVICE POINT

Oakley

DATE <i>2-1-13</i>	SEC <i>30</i>	TWP <i>1</i>	RANGE <i>36</i>	CALLED OUT	ON LOCATION	JOB START <i>2-2-13</i> <i>3:30 AM</i>	JOB FINISH <i>4:00 AM</i>
LEASE <i>Culwell "D"</i>	WELL# <i>1-30</i>	LOCATION <i>McDonald 2W-N To Dead</i>			COUNTY <i>Baustins</i>	STATE <i>Ks</i>	
OLD OR <u>NEW</u> (Circle one)			<i>End - 1/2 E-N into</i>		<i>1.01</i>	<i>8.05</i>	

CONTRACTOR *Marlin #14* OWNER *Same*

TYPE OF JOB *Surface*

HOLE SIZE *17 1/2* T.D. *254'*

CASING SIZE *13 3/8* DEPTH *254'*

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. *15'*

PERFS. _____

DISPLACEMENT *36.84*

EQUIPMENT _____

PUMP TRUCK CEMENTER *Darrey Karotte*

423-281 HELPER *Tyler Elipse*

BULK TRUCK _____

540-287 DRIVER *Ty Schrock*

BULK TRUCK _____

_____ DRIVER _____

CEMENT AMOUNT ORDERED *260 SKs Com 396 CC*

COMMON *260 SKs @ \$17.92 = \$4654.00*

POZMIX _____ @ _____

GEL _____ @ _____

CHLORIDE *9 SKs @ \$64.92 = \$576.00*

ASC _____ @ _____

HANDLING *272.9' @ \$2.48 = \$676.72*

MILBOB *12.59' x 24' x 2 @ \$2.82 = \$374.96*

TOTAL *\$8656.45*

1057.46 SERVICE

DEPTH OF JOB *254'*

PUMP TRUCK CHARGE *\$1512.30*

EXTRA FOOTAGE _____ @ _____

MILEAGE *84 @ \$7.72 = \$646.80*

MANIFOLD *Swedge @ \$275.00 = \$275.00*

LV mileage @ \$4.72 = \$369.48

REMARKS:

mix cement

Displace with water

Cement did circulate

Thank You.

CHARGE TO: *Mer Pin*

STREET _____

CITY _____ STATE _____ ZIP _____

TOTAL *\$2803.65*

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 Church*

SIGNATURE *Greg Church*

SALES TAX (if Any) *421.01*

TOTAL CHARGES *11,460.10*

DISCOUNT *4011.03* IF PAID IN 30 DAYS

7449.07

~~*3510*~~



CONSOLIDATED
Oil Well Services, LLC

REMIT TO
Consolidated Oil Well Services, LLC
Dept. 970
P.O. Box 4346
Houston, TX 77210-4346

MAIN OFFICE
P.O. Box 884
Chanute, KS 66720
620/431-9210 • 1-800/467-8676
Fax 620/431-0012

Accty — cc: WF cc: Liz cc: LR-1

INVOICE

Invoice # 256727

Invoice Date: 02/14/2013 Terms: 10/10/30,n/30

Page 1

MURFIN DRILLING
P.O. BOX 288
RUSSELL KS 67665
() -

D
CULWELD 1-30
39317
30-1-36
02-12-2013
KS

USED FOR IC 103
APPROVED JRK

Description	Hours	Unit Price	Total
CEMENT PSI CHARGES	1.00	2950.00	2950.00
EQUIPMENT MILEAGE (ONE WAY)	65.00	5.00	325.00

Part Number	Description	Qty	Unit Price	Total
1126	OIL WELL CEMENT	275.00	22.5500	6201.25
1110A	KOL SEAL (50# BAG)	1375.00	.5600	770.00
4161	FLOAT SHOE 4 1/2" AFU	1.00	342.0000	342.00
4453	4 1/2" LATCH DOWN PLUG	1.00	276.0000	276.00
4139	TURBOLIZER 4 1/2"	15.00	60.0000	900.00
1144G	MUD FLUSH (SALE)	500.00	1.0000	500.00
1215	KCL SUB MB6875 CC3107	2.00	35.7000	71.40
4315	ROTATING SCRATCHERS	5.00	90.0000	450.00
1111	SODIUM CHLORIDE (GRANULA)	100.00	.0000	.00

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-943.93
9996-130	CEMENT MATERIAL DISCOUNT	-7.14
9995-130	CEMENT EQUIPMENT DISCOUNT	-467.77

Description	Hours	Unit Price	Total
460 TON MILEAGE DELIVERY	1.00	1402.70	1402.70

Amount Due 14948.22 if paid after 03/16/2013

Parts:	9510.65	Freight:	.00	Tax:	683.88	AR	13453.39
Labor:	.00	Misc:	.00	Total:	13453.39		
Sublt:	-1418.84	Supplies:	.00	Change:	.00		

Signed _____ Date _____



CONSOLIDATED
Oil Well Services, LLC

256727

TICKET NUMBER 39317
LOCATION Oakley, KS
FOREMAN Kelly Gabel
Walt Dinkel

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
2-12-13	5406	Culwell D 1-30	30	1	36	Rainbow	
CUSTOMER		MCDONALD		TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS		W TO RDI		399	DANNON M		
CITY		STATE		460	MIKE P.		
ZIP CODE		11 N					
		34 E					
		NINTA					

JOB TYPE PROD HOLE SIZE 7 1/8 HOLE DEPTH 4170 CASING SIZE & WEIGHT 4 1/2 11.6#
CASING DEPTH 4550' DRILL PIPE _____ TUBING _____ OTHER _____
SLURRY WEIGHT 142 SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT in CASING 20' (shoe)
DISPLACEMENT 70 bbl DISPLACEMENT PSI _____ MIX PSI _____ RATE 6 bbl/min

REMARKS: safety meeting ran float equip on at #5, turbolizers 1, 2, 3, 4, 5, 6, 7, 8, 10, 13, 14, 16, 18, 20, 22 ran 50 JTS & circulated for 30 min ran pipe to bottom, circulated 1 hr, mixed 2255# OWC ~~and~~ 5# KOI-seal down center, mixed 30sk RH 20sk SMH, washed out pump & lines, released plug & displaced with 69 bbl water, with a lift pressure of 850# & plug landed @ 1500#, released pressure, float held, rigged down.

Thank you
Walt, Kelly & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401P	1	PUMP CHARGE	2950.00	2950.00
5406	65 mi	MILEAGE	5.00	325.00
1126	275 sks	OWC	22.55	6201.25
110A	1375 #	KOI-seal	.56	770.00
5407A	12.92	Ton mileage delivery	110.00	1402.00
41161	1	4 1/2 AFU float shoe (F)	342.00	342.00
21453	1	4 1/2 latchdown w/plug	276.00	276.00
41139	15	4 1/2 turbolizer	60.00	900.00
11440	500 gal	mud flush	1.00	500.00
1215	2 gal	KCL	357.00	714.00
4315	5	Rotating scratchers	90.00	450.00
1111	100 #	salt		NC
				14,188.35
		100# disc		1418.84
				13769.51
		SALES TAX		683.88
		ESTIMATED TOTAL		13453.39

Completed

Revin 3737

11:15 AM AUTHORIZATION *[Signature]*

TITLE

DATE 2-12-13

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.