



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1102137
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: _____



1102137

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

November 20, 2012

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

Re: ACO1
API 15-141-20451-00-00
Thornburg 2-6
SW/4 Sec.06-08S-14W
Osborne County, Kansas

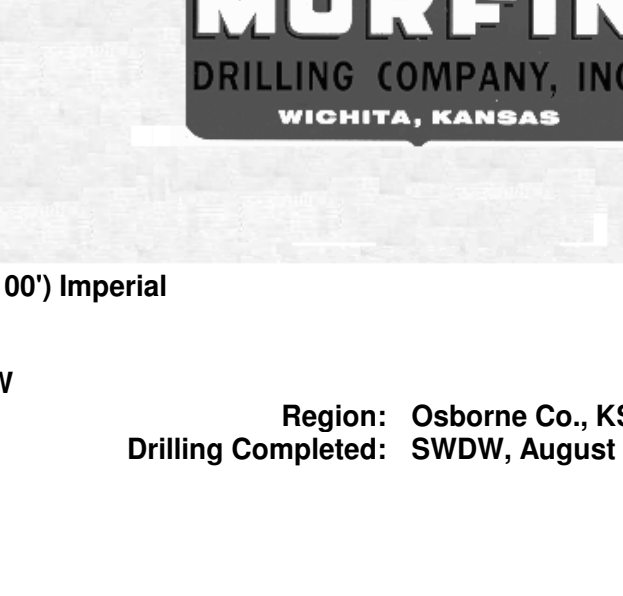
Dear Production Department:

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 Thornburg #2-6 1900' FSL 1980' FWL Sec. 6-T8S-R14W 1857' KB							MDCI Thornburg #1-6 2310' FSL 1000' FEL Sec. 6-T8S-R14W 1854' KB	
Formation	Sample Top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	1126	+731	-1	1126	+731	-1	1122	+732
B/Anhydrite	1163	+694	-1	1162	+695	Flat	1159	+695
Topeka	2780	-923	-4	2779	-922	-3	2773	-919
Heebner	3012	-1155	-5	3010	-1153	-2	3005	-1151
Toronto	3029	-1172	Flat	3032	-1175	-3	3026	-1172
Lansing	3057	-1200	-3	3056	-1199	-2	3051	-1197
Stark	3274	-1417	-4	3274	-1417	Flat	3271	-1417
BKC	3335	-1478	-4	3334	-1477	-3	3328	-1474
Viola	3593	-1736	-3	3533	-1676	+58	3588	-1734
Simpson	3675	-1818	-19	3671	-1814	-15	3653	-1799
Arbuckle	3726	-1869	-21	3722	-1865	-15	3704	-1850
RTD	3830						3767	
LTD				3829			3767	



VERNON C SCHMIG
CONSULTANT, GEOLOGIST

Scale 1:240 (5"-100') Imperial

Well Name: Thornburg #2-6
Location: M2 S2 NE SW SEC 06-08S-14W
Licence Number: API: 15-1-20451
Spud Date: July 27, 2012
Surface Coordinates: 1900' FSL & 1980' FWL
Region: Osborne Co., KS
Drilling Completed: SBDW, August 1, 2012

Bottom Hole Coordinates: K.B. Elevation (ft): 1857
Ground Elevation (ft): 1852
Logged Interval (ft): 1300'
Formation: Arbusckle
Type of Drilling Fluid: Chemical Premix (Displaced)
*Penned by MUDLOG from WellSight Systems 1-800-447-1534 www.WellSight.com

Company: Murfin Drilling Co., Inc.
Address: 2502 North
Wichita, KS 67202-1216

OPERATOR:
Well: SBDW

Murfin Drilling Company, Rig #16 (Company Tools)
DP 4.5" XH (16.8F); DC 6.25" x 2.50" x 415'; Kelly + Sub 417.5'; Tool Joint 5.5"; Bit: HTC GXZOC, 7-7/8"; jets 6-16-16; Kelly Bushing 5' above ground level; Andy Dinkel (tool pusher).

8-5/8" casing at 216'

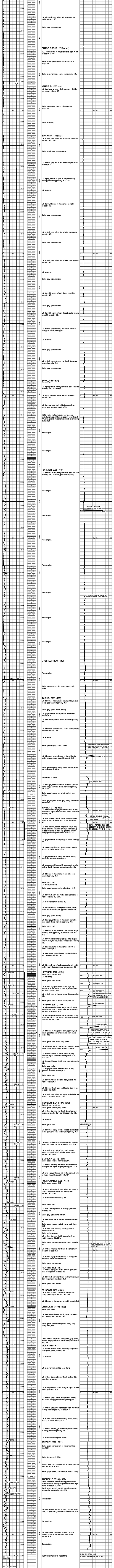
CONTAMINATION SURVEY: Circulation: Chemical, 60-62 spm, Synthetic, premix, Morgan Mud, Inc., McCook, Nebraska, David Lines.

GAS DETECTION SYSTEM: USB-1208LS-41, portable hot-wire, Delphin 3.0 volt catalytic bead combustible gas detector.

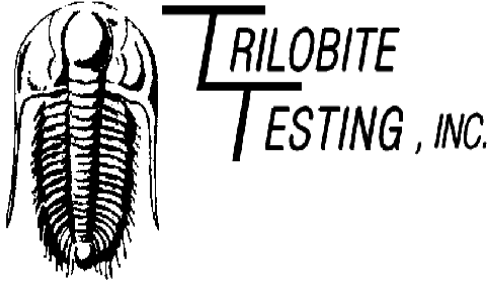
OPEN HOLE LOGS: DN, DI (SP) (Run-1); ML/Sonic (Run-2); 5" detail LTO-2700; 2" DI to surface casing; LogTech-Pioneer Wireline, Hays, KS, Kenyon Bange; Log total depth (3829') was one foot high to rotary total depth (3830').

DRILL STEM TEST #1: Topeka: Interval: 2800-2825 (25'); No Blow: Times: 30-60-30-60; Recovery: 2' mud w/oil spots; HP: 1354-1323; SIP: 220-186; FP: 16-16, 16-17; BHT: 93 F; dual packers, 30' DC, jars, joints; Tribolite Testing, Inc., Jason McLemore.

DRILL STEM TEST #2: Toronto, Lansing A thru D; Recovery: 11' 22" oil (100%), 31' grav, 122' MW (52%); 155-159; FP: 66-88, 90-123; BHT: 97 F; dual packers, 30' DC, jars, joints; Tribolite Testing, Inc., Jason McLemore.



ROTARY TOTAL DEPTH 3830 (-1973)



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Suite 300
Wichita, KS. 67202

ATTN: Vern Schrag

Thornburg #2-6

6-8s-14w Osborne,KS

Start Date: 2012.07.29 @ 09:53:12

End Date: 2012.07.29 @ 15:44:27

Job Ticket #: 47838 DST #: 1

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

Printed: 2012.08.03 @ 11:02:08



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling
250 N Water Suite 300
Wichita, KS. 67202
ATTN: Vern Schrag

6-8s-14w Osborne, KS
Thornburg #2-6
Job Ticket: 47838 **DST#: 1**
Test Start: 2012.07.29 @ 09:53:12

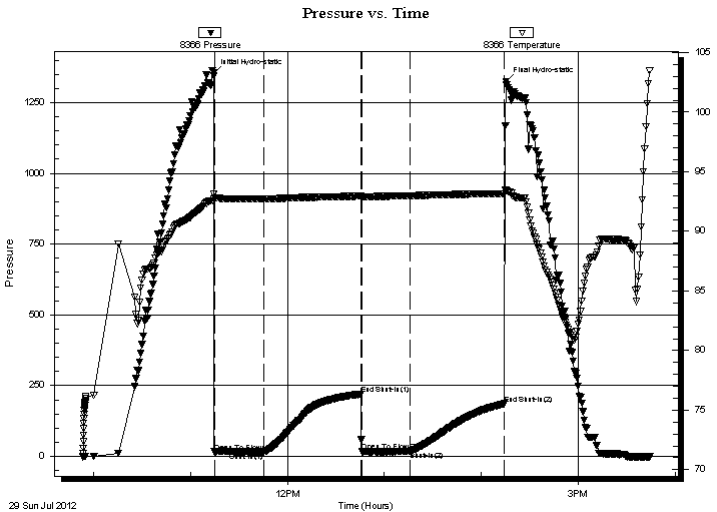
GENERAL INFORMATION:

Formation: **Topeka**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 11:14:42
Time Test Ended: 15:44:27
Interval: **2800.00 ft (KB) To 2825.00 ft (KB) (TVD)**
Total Depth: 2825.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Jason McLemore
Unit No: 54
Reference Elevations: 1857.00 ft (KB)
1852.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8366 Inside
Press @ Run Depth: 17.17 psig @ 2802.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.07.29 End Date: 2012.07.29 Last Calib.: 2012.07.29
Start Time: 09:53:14 End Time: 15:44:27 Time On Btm: 2012.07.29 @ 11:14:27
Time Off Btm: 2012.07.29 @ 14:15:27

TEST COMMENT: IFP-Dead
ISI-Dead
FFP-Dead
FSI-Dead

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1353.92	93.16	Initial Hydro-static
1	15.74	92.67	Open To Flow (1)
31	15.73	92.72	Shut-In(1)
91	219.98	92.96	End Shut-In(1)
92	16.46	92.88	Open To Flow (2)
122	17.17	92.99	Shut-In(2)
180	185.65	93.17	End Shut-In(2)
181	1323.30	93.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud W/Oil Spots	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling
250 N Water Suite 300
Wichita, KS. 67202
ATTN: Vern Schrag

6-8s-14w Osborne, KS

Thornburg #2-6

Job Ticket: 47838

DST#: 1

Test Start: 2012.07.29 @ 09:53:12

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 11:14:42

Time Test Ended: 15:44:27

Test Type: Conventional Bottom Hole (Initial)

Tester: Jason McLemore

Unit No: 54

Interval: 2800.00 ft (KB) To 2825.00 ft (KB) (TVD)

Reference Elevations: 1857.00 ft (KB)

Total Depth: 2825.00 ft (KB) (TVD)

1852.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8289 Outside

Press @ Run Depth: psig @ 2802.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.07.29

End Date: 2012.07.29

Last Calib.: 2012.07.29

Start Time: 09:53:14

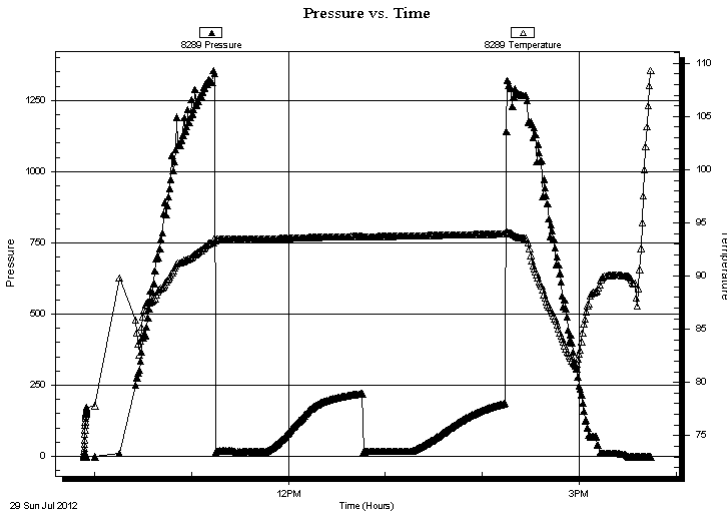
End Time: 15:44:42

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP-Dead
ISI-Dead
FFP-Dead
FSI-Dead

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud W/Oil Spots	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling
250 N Water Suite 300
Wichita, KS. 67202
ATTN: Vern Schrag

6-8s-14w Osborne, KS
Thornburg #2-6
Job Ticket: 47838 **DST#: 1**
Test Start: 2012.07.29 @ 09:53:12

Tool Information

Drill Pipe:	Length: 2756.00 ft	Diameter: 3.80 inches	Volume: 38.66 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	42000.00 lb
			<u>Total Volume: 38.81 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	2800.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	53.00 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			2773.00	
Shut In Tool	5.00			2778.00	
Hydraulic tool	5.00			2783.00	
Jars	5.00			2788.00	
Safety Joint	2.00			2790.00	
Packer	5.00			2795.00	28.00 Bottom Of Top Packer
Packer	5.00			2800.00	
Stubb	1.00			2801.00	
Perforations	1.00			2802.00	
Recorder	0.00	8366	Inside	2802.00	
Recorder	0.00	8289	Outside	2802.00	
Perforations	20.00			2822.00	
Bullnose	3.00			2825.00	25.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling
250 N Water Suite 300
Wichita, KS. 67202
ATTN: Vern Schrag

6-8s-14w Osborne, KS
Thornburg #2-6
Job Ticket: 47838 **DST#: 1**
Test Start: 2012.07.29 @ 09:53:12

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: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud W/Oil Spots	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

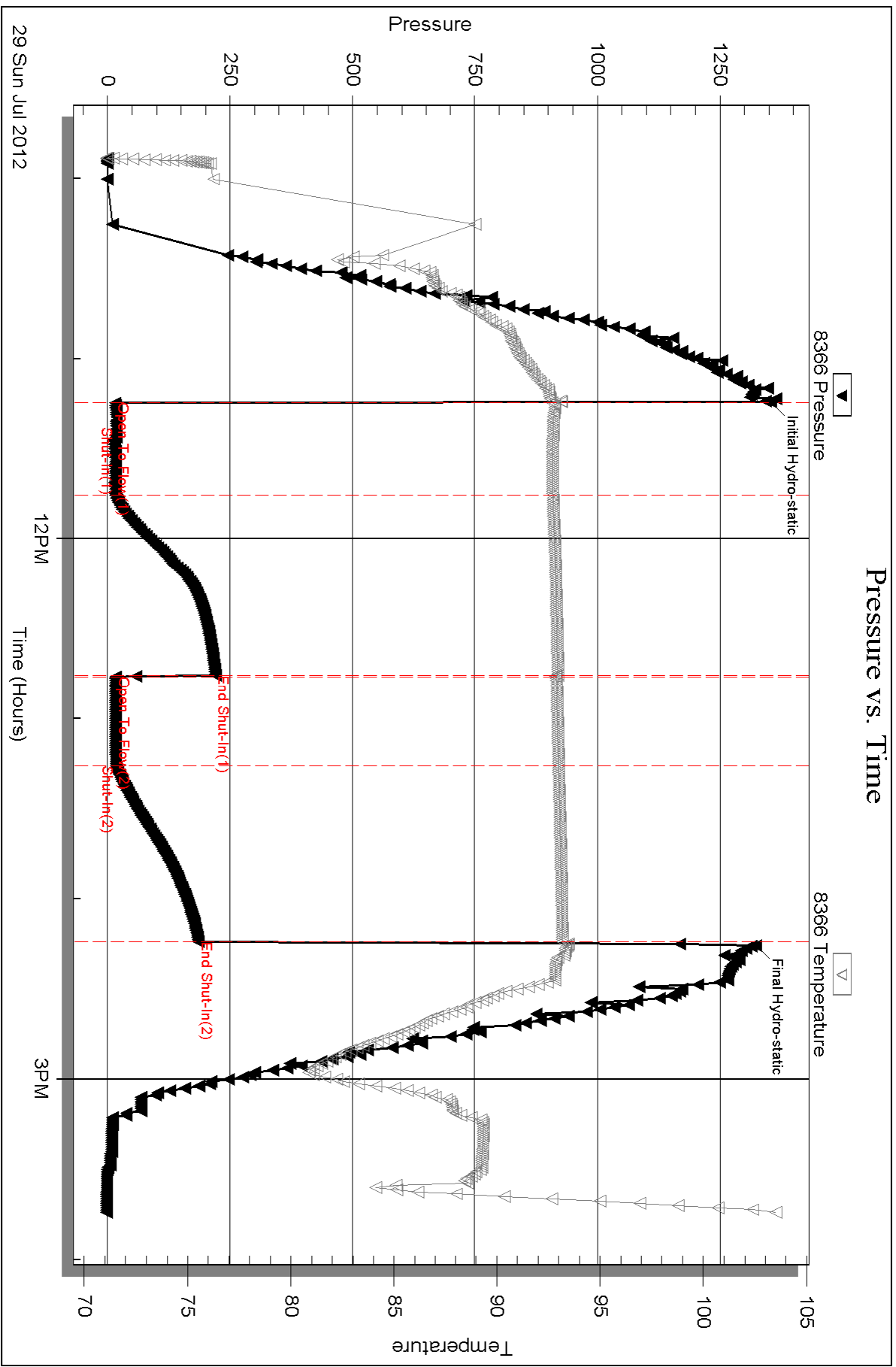
Serial #: 8366

Inside

Murfin Drilling

Thorburn #2-6

DST Test Number: 1

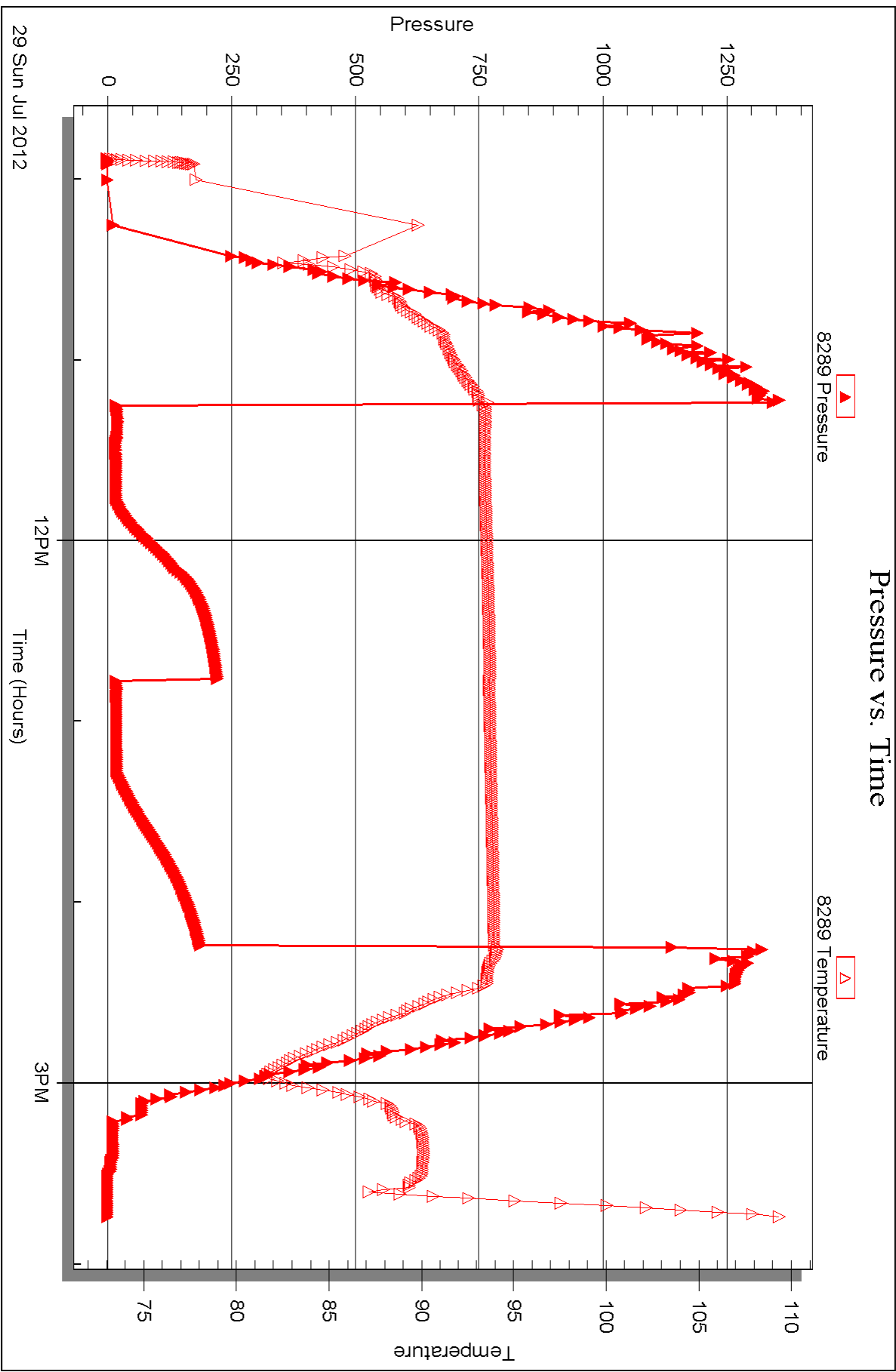


Serial #: 8289

Outside Murfin Drilling

Thorburn #2-6

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Suite 300
Wichita, KS. 67202

ATTN: Vern Schrag

Thornburg #2-6

6-8s-14w Osborne,KS

Start Date: 2012.07.30 @ 11:03:37

End Date: 2012.07.30 @ 19:03:37

Job Ticket #: 47839 DST #: 2

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

Printed: 2012.08.03 @ 11:00:34

Murfin Drilling
6-8s-14w Osborne,KS
Thornburg #2-6
DST # 2
Lansing
2012.07.30



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling
250 N Water Suite 300
Wichita, KS. 67202
ATTN: Vern Schrag

6-8s-14w Osborne, KS
Thornburg #2-6
Job Ticket: 47839 **DST#: 2**
Test Start: 2012.07.30 @ 11:03:37

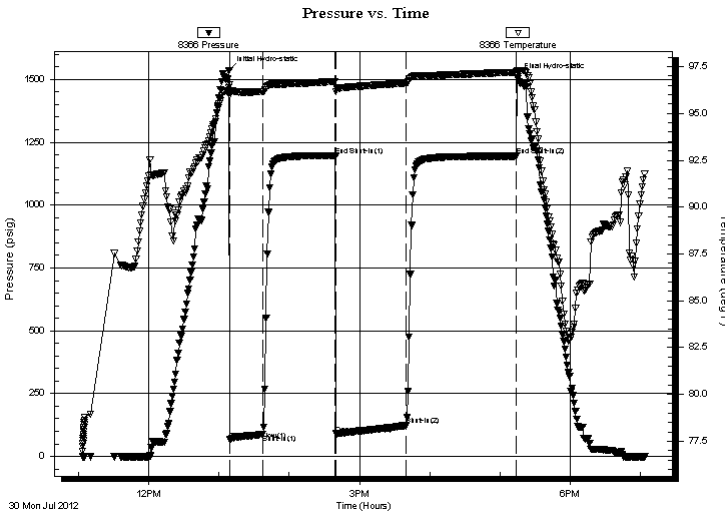
GENERAL INFORMATION:

Formation: **Lansing**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 13:09:07
Time Test Ended: 19:03:37
Interval: **3011.00 ft (KB) To 3125.00 ft (KB) (TVD)**
Total Depth: 3125.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Jason McLemore
Unit No: 54
Reference Elevations: 1857.00 ft (KB)
1852.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8366 Inside
Press @ Run Depth: 122.60 psig @ 3112.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.07.30 End Date: 2012.07.30 Last Calib.: 2012.07.30
Start Time: 11:03:39 End Time: 19:03:37 Time On Btm: 2012.07.30 @ 13:08:52
Time Off Btm: 2012.07.30 @ 17:14:22

TEST COMMENT: IFP-Weak Blow , Built to 2 1/4"
ISI-Dead
FFP-Weak Blow , Built to 3"
FSI-Dead

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1536.21	96.53	Initial Hydro-static
1	65.75	95.93	Open To Flow (1)
29	87.53	96.17	Shut-In(1)
91	1197.57	96.71	End Shut-In(1)
91	89.69	96.18	Open To Flow (2)
151	122.60	96.62	Shut-In(2)
245	1195.08	97.20	End Shut-In(2)
246	1508.64	97.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Muddy Water-95%W-5%M	1.41
2.00	Free Oil	0.03

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling
 250 N Water Suite 300
 Wichita, KS. 67202
 ATTN: Vern Schrag

6-8s-14w Osborne, KS
Thornburg #2-6
 Job Ticket: 47839 **DST#: 2**
 Test Start: 2012.07.30 @ 11:03:37

GENERAL INFORMATION:

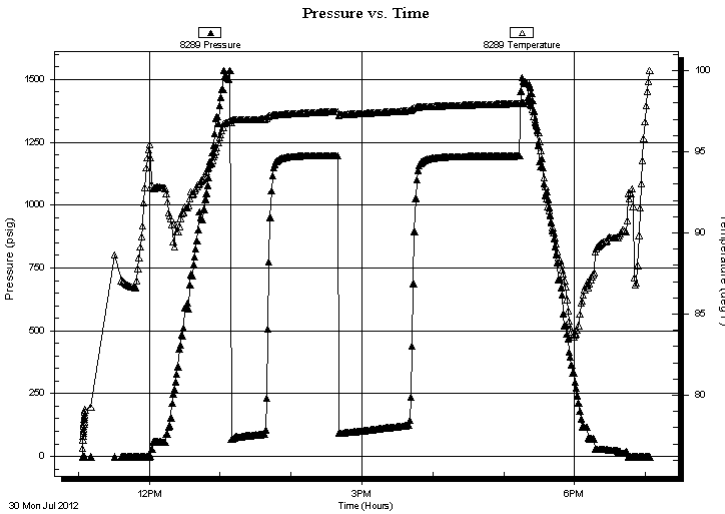
Formation: **Lansing**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 13:09:07
 Time Test Ended: 19:03:37
 Interval: **3011.00 ft (KB) To 3125.00 ft (KB) (TVD)**
 Total Depth: 3125.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jason McLemore
 Unit No: 54
 Reference Elevations: 1857.00 ft (KB)
 1852.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8289 Outside

Press @ Run Depth: psig @ 3112.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.07.30 End Date: 2012.07.30 Last Calib.: 2012.07.30
 Start Time: 11:03:38 End Time: 19:03:51 Time On Btm:
 Time Off Btm:

TEST COMMENT: IFP-Weak Blow , Built to 2 1/4"
 ISI-Dead
 FFP-Weak Blow , Built to 3"
 FSI-Dead

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Muddy Water-95%W-5%M	1.41
2.00	Free Oil	0.03

* 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
250 N Water Suite 300
Wichita, KS. 67202
ATTN: Vern Schrag

6-8s-14w Osborne, KS
Thornburg #2-6
Job Ticket: 47839 **DST#: 2**
Test Start: 2012.07.30 @ 11:03:37

Tool Information

Drill Pipe:	Length: 2977.00 ft	Diameter: 3.80 inches	Volume: 41.76 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 46000.00 lb
			<u>Total Volume: 41.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3011.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	114.00 ft			
Tool Length:	142.00 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			2984.00	
Shut In Tool	5.00			2989.00	
Hydraulic tool	5.00			2994.00	
Jars	5.00			2999.00	
Safety Joint	2.00			3001.00	
Packer	5.00			3006.00	28.00 Bottom Of Top Packer
Packer	5.00			3011.00	
Stubb	1.00			3012.00	
Perforations	3.00			3015.00	
Change Over Sub	1.00			3016.00	
Blank Spacing	95.00			3111.00	
Change Over Sub	1.00			3112.00	
Recorder	0.00	8366	Inside	3112.00	
Recorder	0.00	8289	Outside	3112.00	
Perforations	10.00			3122.00	
Bullnose	3.00			3125.00	114.00 Bottom Packers & Anchor
Total Tool Length:	142.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling
250 N Water Suite 300
Wichita, KS. 67202
ATTN: Vern Schrag

6-8s-14w Osborne, KS
Thornburg #2-6
Job Ticket: 47839 **DST#: 2**
Test Start: 2012.07.30 @ 11:03:37

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 31 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 12000 ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.78 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2000.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	Muddy Water-95%W-5%M	1.410
2.00	Free Oil	0.028

Total Length: 122.00 ft Total Volume: 1.438 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8366

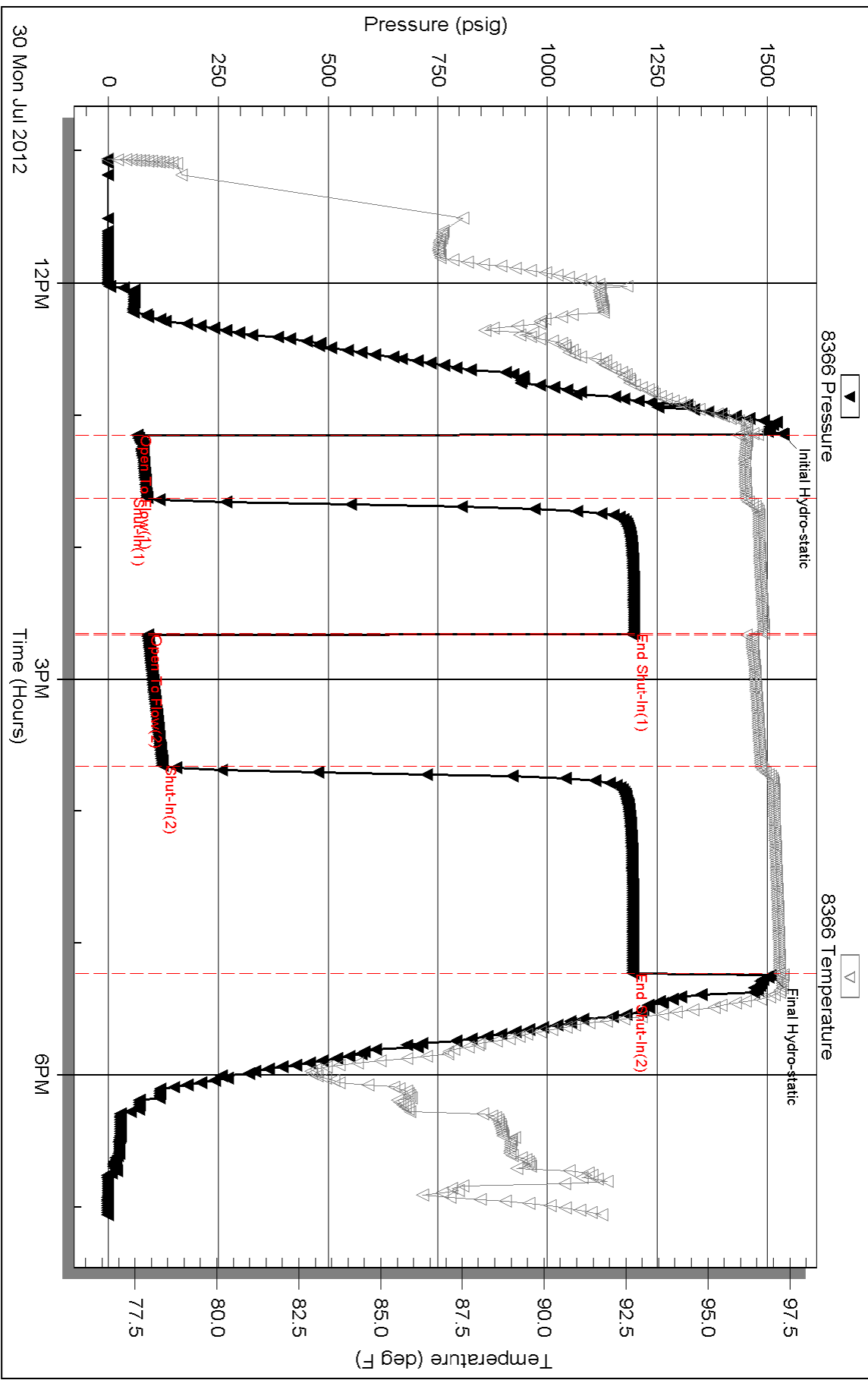
Inside

Murfin Drilling

Thorburg #2-6

DST Test Number: 2

Pressure vs. Time

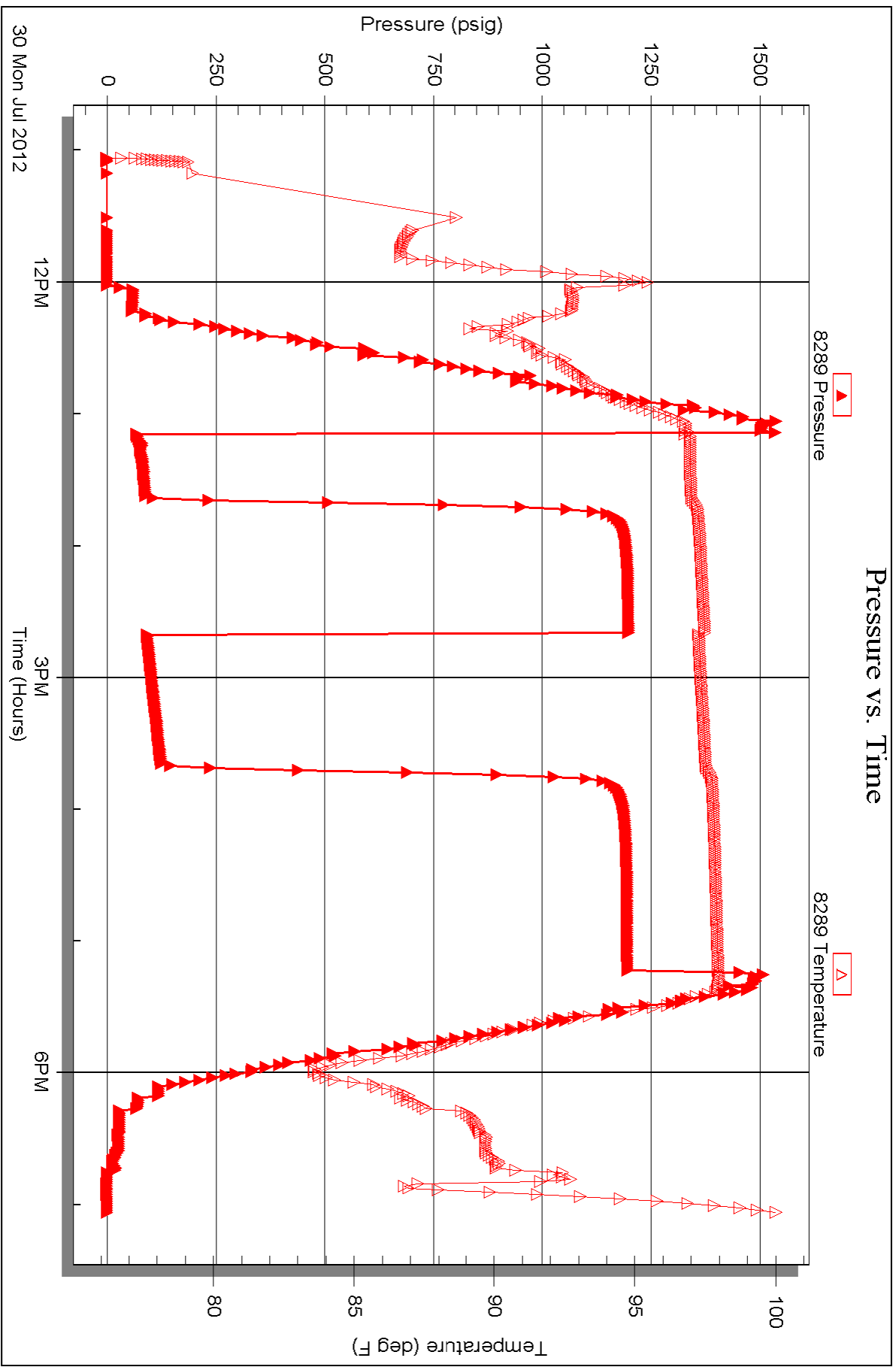


Serial #: 8289

Outside Murfin Drilling

Thorburn #2-6

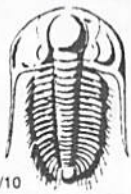
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 47839

Printed: 2012.08.03 @ 11:00:38



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47838

Well Name & No. Thorburg #2-6 Test No. 1 Date 7-29-12
 Company Murfin Drilling, Inc. Elevation 1857 KB. 1852 GL
 Address 250 N. Water, Suite 300, Wichita, KS. 67202
 Co. Rep / Geo. Vern Schrag Rig Murfin #16
 Location: Sec. 6 Twp. 8s Rge. 19w Co. Osborne State KS

Interval Tested 2800 - 2825 Zone Tested Topeka
 Anchor Length 25 Drill Pipe Run 2756 Mud Wt. 8.8
 Top Packer Depth 2795 Drill Collars Run 30 Vis 62
 Bottom Packer Depth 2800 Wt. Pipe Run 0 WL 6.8
 Total Depth 2825 Chlorides 2,000 ppm System LCM Ø
 Blow Description IFP- Dead
ISI- Dead
FFP- Dead
FSI- Dead

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Oil Specked mud</u>				

Rec Total 2 BHT 93° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1354 Test 1150 T-On Location 8:57
 (B) First Initial Flow 16 Jars 250 T-Started 9:51
 (C) First Final Flow 16 Safety Joint 75 T-Open 11:14
 (D) Initial Shut-In 220 Circ Sub T-Pulled 14:14
 (E) Second Initial Flow 16 Hourly Standby T-Out 15:43
 (F) Second Final Flow 17 Mileage 130 + 201.50 Comments _____
 (G) Final Shut-In 186 Sampler _____
 (H) Final Hydrostatic 1323 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 1676.50

MP/DST Disc't _____

Approved By _____

Our Representative Jason McJannet Thank you

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. 47839

Well Name & No. Thorburg #2-6 Test No. 2 Date 7-30-12
 Company Murfin Drilling, Inc. Elevation 1857 KB 1852 GL
 Address 250 N. Water, Suite 300, Wichita, KS. 67202
 Co. Rep / Geo. Vern Schrag Rig Murfin #16
 Location: Sec. 6 Twp. 8s Rge. 14w Co. _____ State KS

Interval Tested 3011-3125 Zone Tested Lansing
 Anchor Length 114' Drill Pipe Run 2977 Mud Wt. 8.8
 Top Packer Depth 3006 Drill Collars Run 30 Vis 62
 Bottom Packer Depth 3011 Wt. Pipe Run 0 WL 6.8
 Total Depth 3125 Chlorides 2,000 ppm System LCM 0
 Blow Description IFP-Weak Blow, Built to 2 1/4"
ISI-Dead
FFP-Weak Blow, Built to 3"
FSI-Dead

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Free Oil</u>				
<u>120</u>	<u>Muddy Water</u>		<u>95</u>		<u>5</u>
____	____				
____	____				
____	____				

Rec Total 122' BHT 97 Gravity 31 API RW 350 @ 110 °F Chlorides 12,000 ppm

(A) Initial Hydrostatic <u>1536</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>10:51</u>
(B) First Initial Flow <u>66</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:01</u>
(C) First Final Flow <u>88</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:08</u>
(D) Initial Shut-In <u>1198</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>17:08</u>
(E) Second Initial Flow <u>90</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>19:02</u>
(F) Second Final Flow <u>123</u>	<input checked="" type="checkbox"/> Mileage <u>201.50</u>	Comments _____
(G) Final Shut-In <u>1195</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1509</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>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>90</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 _____

Our Representative Jason McJannet Thank you

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.

acct.
Prod-Liz H



QUALITY OILWELL CEMENTING, INC.

PO Box 32 - 740 West Wichita Ave, Russell KS 67665
Phone: 785-324-1041 fax: 785-483-1087
Email: cementing@ruraltel.net

Date: 7/29/2012
Invoice # 924

P.O.#:

Due Date: 8/28/2012

Division: Russell

Invoice

Contact:
Murfin Drilling Company
Address/Job Location:
Murfin Drilling Company
P.O. Box 288
Russell Ks 67665

Surface Csg
USED FOR FC 103
APPROVED [Signature]

Reference:
THORNBURG 2-6

Description of Work:
SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
Common-Class A	150	\$ 1,986.86	Yes				
Pump Truck Mileage-Job to Nearest Camp	43	\$ 465.92	No				
Bulk Truck Matl-Material Service Charge	158	\$ 343.09	No	OKM			
Calcium Chloride	5	\$ 258.73	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	43	\$ 272.64	No				
Premium Gel (Bentonite)	3	\$ 53.03	Yes				

Invoice Terms:

Net 30

SubTotal: \$ 4,371.65

Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (655.75)

SubTotal for Taxable Items: \$ 1,953.82

SubTotal for Non-Taxable Items: \$ 1,762.08

Total: \$ 3,715.90

Tax: \$ 152.40

7.80% Osborne County Sales Tax

Amount Due: \$ 3,868.30

Applied Payments:

Balance Due: \$ 3,868.30

Thank You For Your Business!

Past Due Invoices are subject to a service charge (annual rate of 24%)
This does not include any applicable taxes unless it is listed.
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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

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

No. 924

Cell 785-324-1041

Date	7-26-12	Sec.	6	Twp.	8	Range	14	County	Osborne	State	Ks	On Location		Finish	9:30 PM		
Lease	Thornburg	Well No.	2-6		Location Natoma, Ks - 14 N to 388 Dr, 2E												
Contractor	Murfin #16				Owner to 240 Rd, 1/2 N E Jct												
Type Job	Surface				To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.												
Hole Size	12 1/4"		T.D.		217'		Charge To									Murfin Drilling	
Csg.	8 5/8"		Depth		216'		Street										
Tbg. Size			Depth				City									State	
Tool			Depth				City									State	
Cement Left in Csg.	15'		Shoe Joint		15'		The above was done to satisfaction and supervision of owner agent or contractor.										
Meas Line			Displace		12 3/4 BUS		Cement Amount Ordered									180 5x Common 30% CC	
EQUIPMENT							2% Gel										
Pumptrk	16	No.	Cementer	Travis		Common										150	
Bulktrk	14	No.	Driver	Rick		Poz. Mix											
Bulktrk	p.u.	No.	Driver	Clayton		Gel.										3	
JOB SERVICES & REMARKS							Calcium									5	
Remarks:	Hulls																
Rat Hole	Salt																
Mouse Hole	Flowseal																
Centralizers	Kol-Seal																
Baskets	Mud CLR 48																
D/V or Port Collar	CFL-117 or CD110 CAF 38																
Cement did Circulate,							Sand										
							Handling									158	
							Mileage										
							FLOAT EQUIPMENT										
							Guide Shoe										
							Centralizer										
							Baskets										
							AFU Inserts										
							Float Shoe										
							Latch Down										
							Pumptrk Charge									Surface	
							Mileage									43	
							Tax										
							Discount										
							Total Charge										
X Signature	Ag. Likel																

Accty -

cc: Ron
cc: WF
cc: Lea
cc: Lin



QUALITY OILWELL CEMENTING, INC.
PO Box 32 - 740 West Wichita Ave, Russell KS 67665
Phone: 785-324-1041 fax: 785-483-1087
Email: cementing@ruraltel.net

Date: 8/4/2012
Invoice # 998
P.O.#:
Due Date: 9/3/2012
Division: Russell

Invoice

USED FOR IC 103
APPROVED [Signature]

Contact:
Murfin Drilling Company
Address/Job Location:
Murfin Drilling Company
P.O. Box 288
Russell Ks 67665

Reference:
THORNBURG 2-6

Description of Work:
PROD LONG STRING BOTTOM STAGE

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No	Latch Down Plug & Baffle, 4 1/2"	1	\$212.80	Yes
Two Stage Cement Collar, 4 1/2"	1	\$ 3,268.00	Yes				
Common-Class A	235	\$ 3,112.74	Yes				
trial Rubber Cementing Shoe Packer Type, 4 1/2"	1	\$ 1,572.11	Yes				
4 1/2" Turbolizer	12	\$ 599.31	Yes				
Bulk Truck Matl-Material Service Charge	275	\$ 597.14	No				
4 1/2" Basket	2	\$ 456.00	Yes				
Pump Truck Mileage-Job to Nearest Camp	43	\$ 465.92	No				
Mud Clear	500	\$ 401.71	Yes				
Salt (Fine)	20	\$ 303.13	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	43	\$ 272.64	No				

Invoice Terms:

Net 30

SubTotal: \$ 12,252.92
Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (1,837.94)

SubTotal for Taxable Items:	\$ 8,436.94
SubTotal for Non-Taxable Items:	\$ 1,978.03
Total:	\$ 10,414.98
Tax:	\$ 658.08

7.80% Osborne County Sales Tax

Thank You For Your Business!

Amount Due: \$ 11,073.06
Applied Payments:
Balance Due: \$ 11,073.06

Past Due Invoices are subject to a service charge (annual rate of 24%)
This does not include any applicable taxes unless it is listed.
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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 0998

Date	Sec.	Twp.	Range	County	State	On Location	Finish
8-2-12	6	8	14	Osburne	Kansas		9:00 AM
Lease Thornburg	Well No. 2-6		Location Natoma 14N 2E 14W E10				
Contractor Murfin Drilling	Kig 16		Owner				
Type Job Bottom Stage	To Quality Oilwell Cementing, Inc.					You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
Hole Size 7 7/8	T.D. 3829		Charge To Murfin Drilg Co				
Csg. 4 1/2 11.60 lb	Depth 3728		Street				
Tbg. Size	Depth		City				
Tool D.V. #60	Depth 1139		State				
Cement Left in Csg. 22.56	Shoe Joint 22.56		The above was done to satisfaction and supervision of owner agent or contractor.				
Meas Line	Displace 57 3/4		Cement Amount Ordered 23.5 Common 10 1/2 Soft				

EQUIPMENT

Pumptrk	No.	Cementer	Helper	Common
9		Steve		23.5
Bulktrk	No.	Driver	Driver	Poz. Mix
8		Matt		
Bulktrk	No.	Driver	Driver	Gel.
		Coody		

JOB SERVICES & REMARKS

Remarks:	Calcium
Rat Hole	Hulls
Mouse Hole	Salt 20
Centralizers 1 3 5 7 9 11 13 15 17 19 21 23	Flowseal
Baskets 8 59	Kol Seal
D/V or Port Collar 60 @ 1139	Mud CLR 48 500 gal
	CFL-117 or CD110 CAF 38
	Sand
Land plug @ 1200 psi	Handling 255
	Mileage

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer 12 Tubos
	Baskets 2
	AFU Inserts
	Float Shoe
	Latch Down
	Packer Shoe w/ 5 1/2 - 4 1/2 Reducer
	D.V. Tool w/ latch down plug
	Pumptrk Charge prod Long String
	Mileage 43

Signature: *[Signature]*

Signature: *[Signature]*

Signature: *[Signature]*

Bottom Stage

Tax

Discount

Total Charge

Liz



QUALITY OILWELL CEMENTING, INC.

PO Box 32 - 740 West Wichita Ave, Russell KS 67665
Phone:785-324-1041 fax:785-483-1087
Email: cementing@ruraltel.net

Date: 8/4/2012
Invoice # 999

P.O.#:
Due Date: 9/3/2012
Division: Russell

Invoice

Contact:
Murfin Drilling Company
Address/Job Location:
Murfin Drilling Company
P.O. Box 288
Russell Ks 67665

USED FOR IC 103
APPROVED [Signature]

Reference:
THORNBURG 2-6

Description of Work:
PROD LONG STRING TOP STAGE

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
mon, MetsoBeads, Plater, Gel, FloSeal, Calcium)	275	\$ 5,708.69	Yes				
Bulk Truck Matl-Material Service Charge	275	\$ 597.14	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	43	\$ 272.64	No				
Flo Seal	68	\$ 147.66	Yes				

Invoice Terms:

Net 30

SubTotal: \$ 7,717.52
Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (1,157.63)

SubTotal for Taxable Items:	\$ 4,977.89
SubTotal for Non-Taxable Items:	\$ 1,582.00
Total:	\$ 6,559.89
Tax:	\$ 388.28

7.80% Osborne County Sales Tax

Thank You For Your Business!

Amount Due: \$ 6,948.17
Applied Payments:
Balance Due: \$ 6,948.17

Past Due Invoices are subject to a service charge (annual rate of 24%)
This does not include any applicable taxes unless it is listed.
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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

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

No. 0999

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
8-2-12	6	8	14	Osborne	Kansas		10:30 AM
Lease Thornburg	Well No. 26		Location Natoma 14N 2E 14W E1/4				
Contractor <u>Murkin Drilling Rig 16</u>				Owner			
Type Job <u>Top Stage</u>				To Quality Oilwell Cementing, Inc.			
Hole Size <u>7 7/8</u>				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Csg. <u>4 1/2 11.60 lb</u>				Charge To <u>Murkin Drly Co</u>			
Tbg. Size				Street			
Tool <u>D.V. #60</u>				City State			
Cement Left in Csg.				The above was done to satisfaction and supervision of owner agent or contractor.			
Meas Line				Displace <u>17.4351</u>			
Cement Amount Ordered <u>275 Q-MDC</u>							
EQUIPMENT				<u>4 lb Flo Seal</u>			
Pumptrk <u>9</u>	No.	Cementer	Common <u>275</u>				
		Helper <u>Steve</u>					
Bulktrk <u>12</u>	No.	Driver <u>Matt</u>	Poz. Mix				
		Driver <u>Matt</u>					
Bulktrk	No.	Driver <u>Jennie</u>	Gel.				
		Driver <u>Jennie</u>					
JOB SERVICES & REMARKS				Calcium			
Remarks:				Hulls			
Rat Hole <u>30sx Rat Hole</u>				Salt			
Mouse Hole				Flowseal <u>68#</u>			
Centralizers				Kol-Seal			
Baskets				Mud CLR 48			
DV or Port Collar <u>#60 @ 1139</u>				CFL-117 or CD110 CAF 38			
<u>Open D.V. Tool & Circ. 1 hr</u>				Sand			
<u>Mix 275sx Q-MDC 4 lb Flo Seal / 1/2</u>				Handling <u>275</u>			
<u>Land plug @ 1800 psi</u>				Mileage			
<u>& Close D.V. Tool</u>				FLOAT EQUIPMENT			
<u>30 sx Rat Hole</u>				Guide Shoe			
<u>Cement did Circulate</u>				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge <u>prad long string</u>			
				Mileage <u>NK</u>			
				Tax			
				Discount			
Signature <u>Matt Rollin</u>				Total Charge			