



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1141005
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: _____



1141005

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> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



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

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

Sam Brownback, Governor

May 22, 2013

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

Re: ACO1
API 15-051-26473-00-00
Kraus 'JW' 1-28
SE/4 Sec.28-14S-18W
Ellis 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 Kraus JW #1-28 1400' FSL 335' FEL Sec. 28-T14S-R18W 2068' KB							Tengasco, Inc Kraus AA #3 SE SW NE Sec. 28-T14S-R18W 2068' KB	
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	1256	+812	+5	1246	+822	+15	1231	+807
B/Anhydrite	1293	+775	+10	1290	+778	+13	1303	+765
Topeka	3041	-973	+7	3039	-971	+10	3049	-981
Heebner	3299	-1231	+6	3296	-1228	+9	3305	-1237
Toronto	3319	-1251	+6	3315	-1247	+10	3325	-1257
Lansing	3344	-1276	+8	3341	-1273	+11	3352	-1284
Stark	3534	-1466	+8	3526	-1458	+16	3542	-1474
BKC	3584	-1516	+10	3575	-1507	+19	3594	-1526
Arbuckle	3674	-1606	-8	3668	-1600	-2	3666	-1598
RTD	3770						3740	
LTD				3769			3738	



GEOLOGISTS' REPORT

OPERATOR MURFIN DRILLING COMPANY, INC.

LEASE KRAUS 'JW' # 1-28

LOCATION 1400 FSL & 335 FEL

SEC. 28 TWPSP 14S RGE 18W

COUNTY ELLIS STATE KANSAS

FIELD LEONHARDT S.E.

CONTRACTOR Murfin Drilling Company

COMMENCED 25 Jan 2013 COMPLETED 3 Feb 2013

MUD DISPLACED 2730 WLD TYPE Chemical

DRILLING TIME KEPT FROM 2950 TO 3770

SAMPLES SAVED FROM 2950 TO 3770

SAMPLES EXAMINED FROM 2950 TO 3770

GEOLOGICAL SUPERVISION FROM 3030 TO 3770

GEOLOGIST ON WELL Paul Guizelman

FORMATION LOG table with columns: NAME, TOP DATUM, LOG, TOP DATUM, SAMPLE, DATUM

Table with columns: NAME, TOP DATUM, LOG, TOP DATUM, SAMPLE, DATUM

ELEVATIONS

KB 2068 Ft.

GL 2063 Ft.

ALL MEASUREMENTS FROM K.B.

CASING RECORD

Conductor None

Surface 8.5in @ 217

Production 5.1/2 @ 3788

ELECTRICAL SURVEYS:

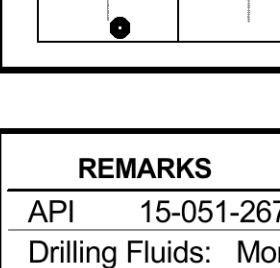
Pioneer Energy Services

Comp. Neutron Density

Dual Induction

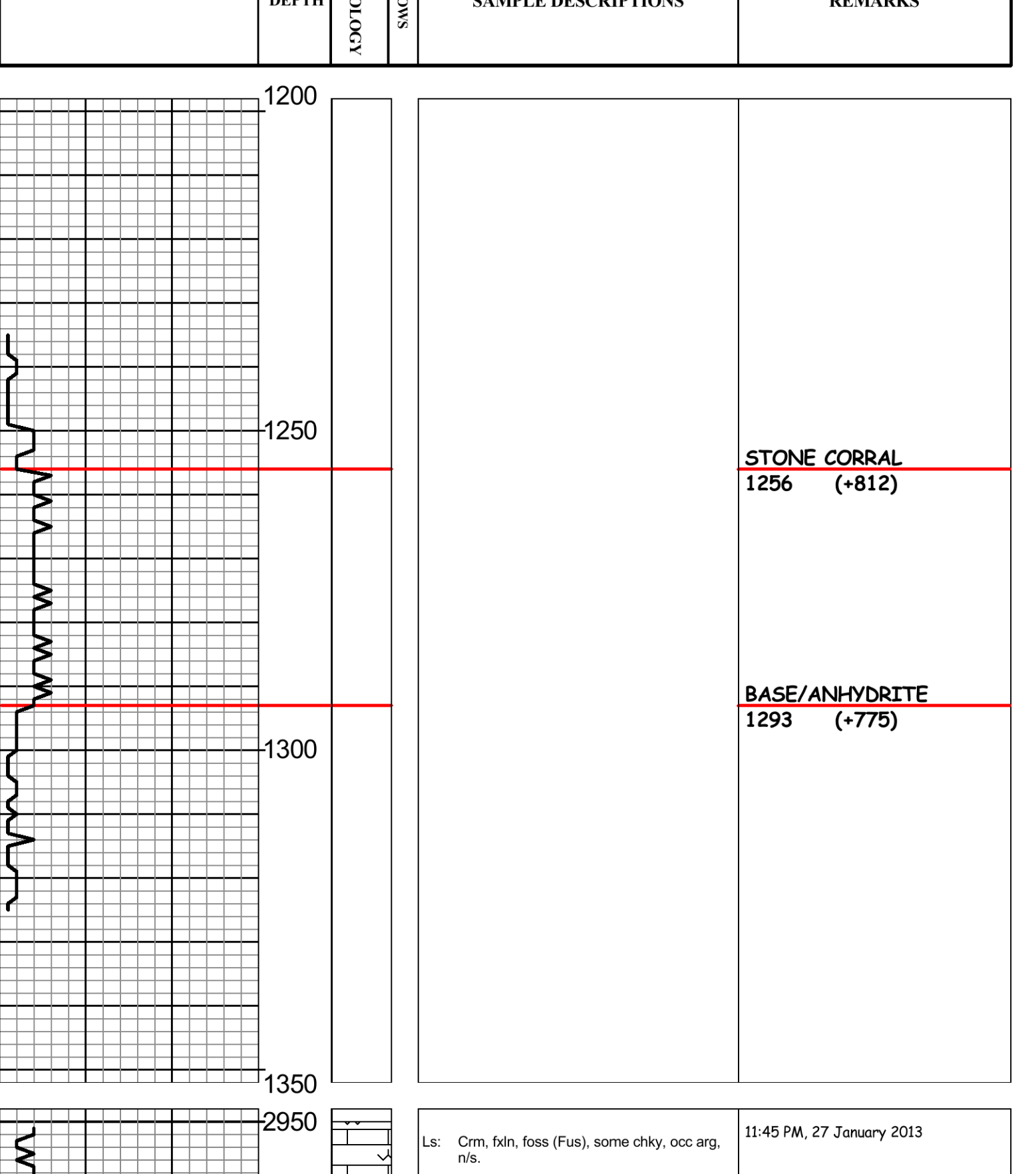
Micro-resistivity

Comp. Sonic



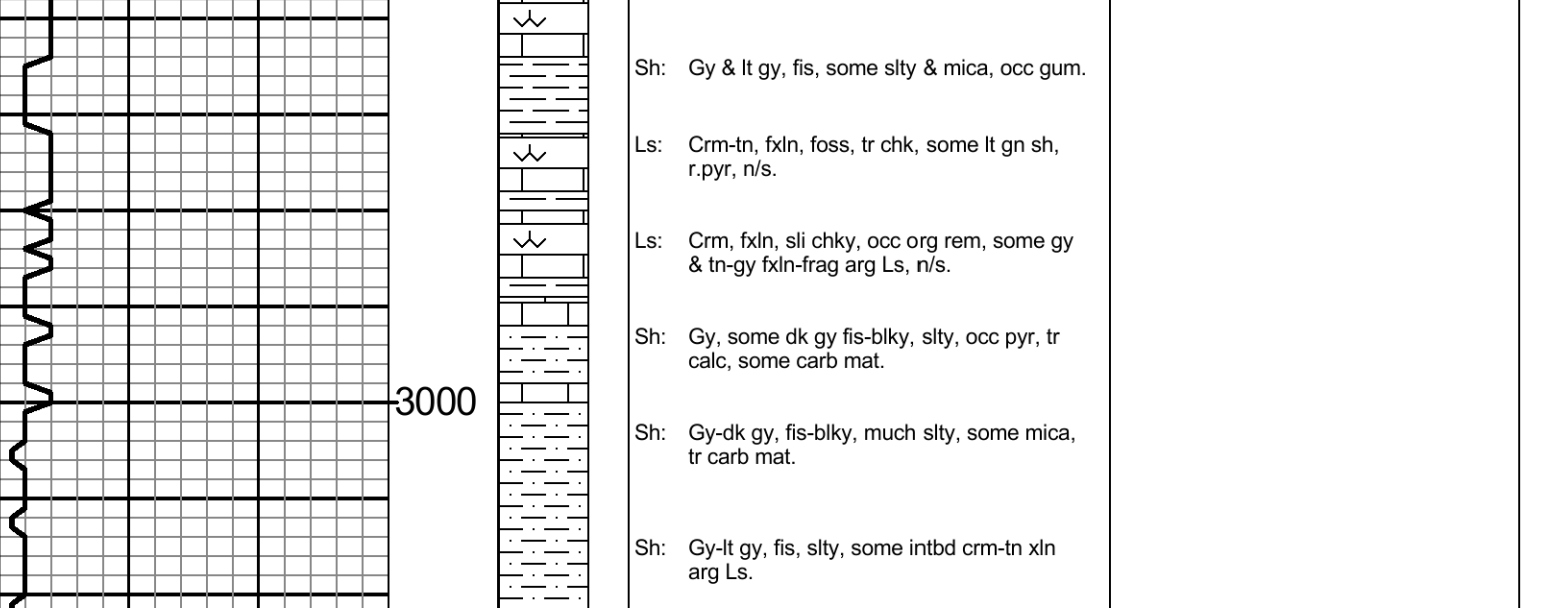
REMARKS: API 15-051-26743-00-00, Drilling Fluids: Morgan Mud, Inc. (David Lines, engineer), Drill Stem Testing: Trilobite Testing, Inc. (Andy Carreira, tester), Gas Trailer: No Gas Trailer, Reserve Pit Chlorides: 52.500 ppm.

Table with columns: DRILL TIME (MIN/FT), DEPTH, LITHOLOGY, SAMPLE DESCRIPTIONS, REMARKS



STONE CORRAL 1256 (+812)

BASE/ANHYDRITE 1293 (+775)

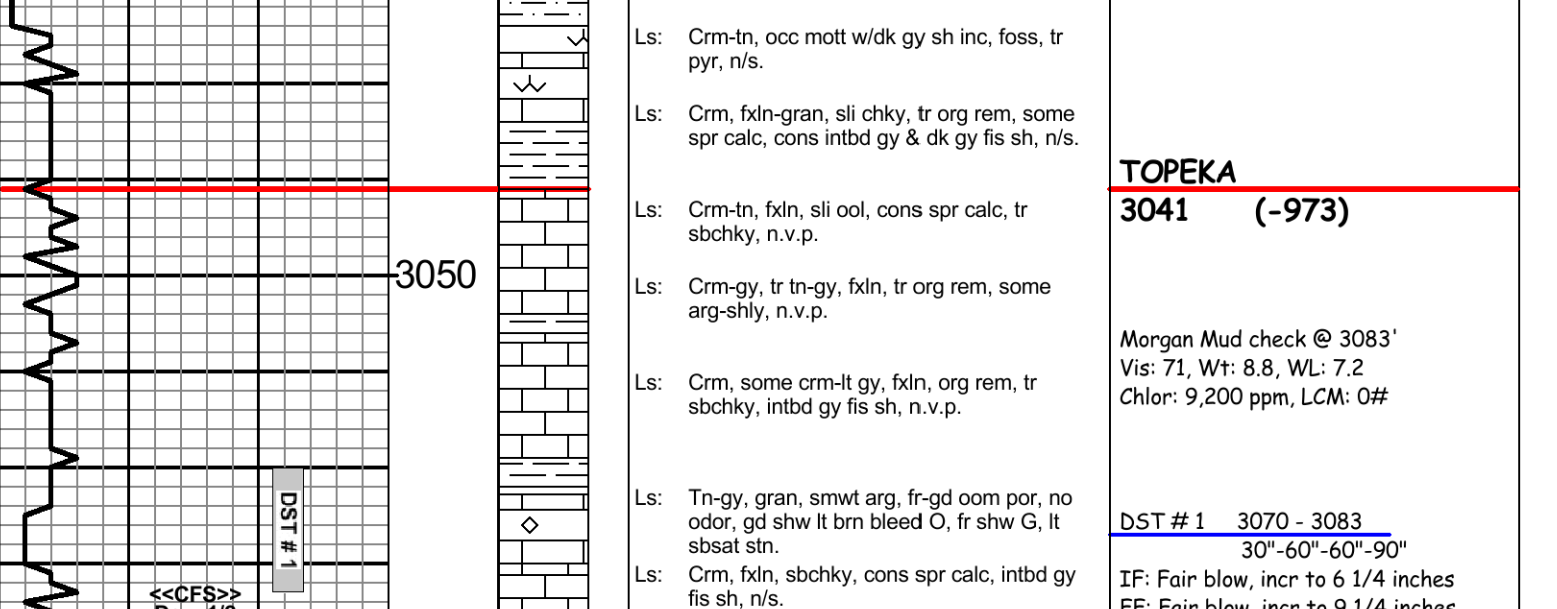
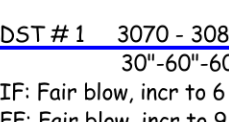


TOPEKA 3041 (-973)

Morgan Mud check @ 3083' Vis: 71, Wt: 8.8, WL: 7.2 Chlor: 9,200 ppm, LCM: 0#

DST # 1 3070 - 3083

30"-60"-60"-90" IF: Fair blow, incr to 6 1/4 inches FF: Fair blow, incr to 9 1/4 inches RECOVERY: 125 Ft. Water w/1 inch of Oil (Chlor: 70,000 ppm) IHP: 1502 psi. FHP: 1436 psi. IFP: 15-42 psi. ISIP: 1023 psi. FFP: 45-80 psi. FSSIP: 1003 psi. BHT: 99 deg. F.

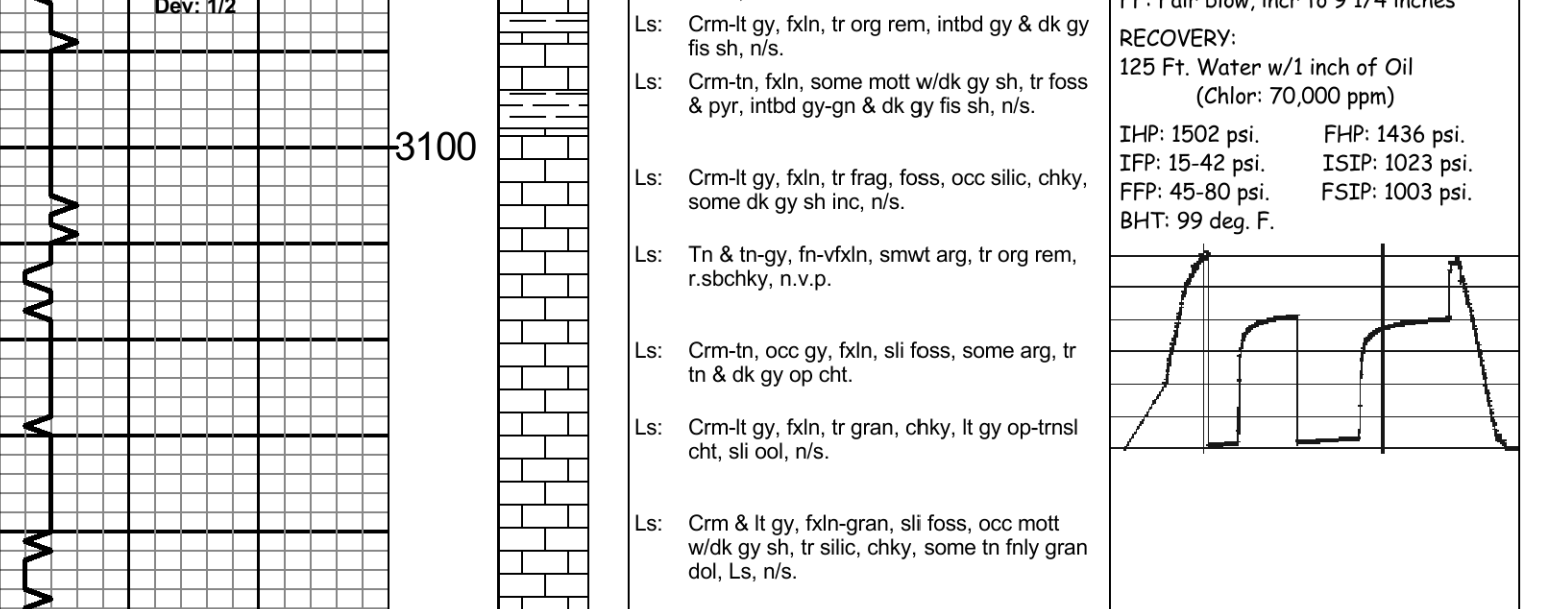


TORONTO 3319 (-1251)

Morgan Mud check @ 3277' Vis: 60, Wt: 8.9, WL: 7.6 Chlor: 14,000 ppm, LCM: 0#

DST # 2 3299 - 3383

30"-60"-30"-60" IF: Weak surf blow, died in 15 min. FF: No Blow RECOVERY: 30 Ft. Mud IHP: 1654 psi. FHP: 1608 psi. IFP: 29-30 psi. ISIP: 400 psi. FFP: 31-31 psi. FSSIP: 295 psi. BHT: 95 deg. F.

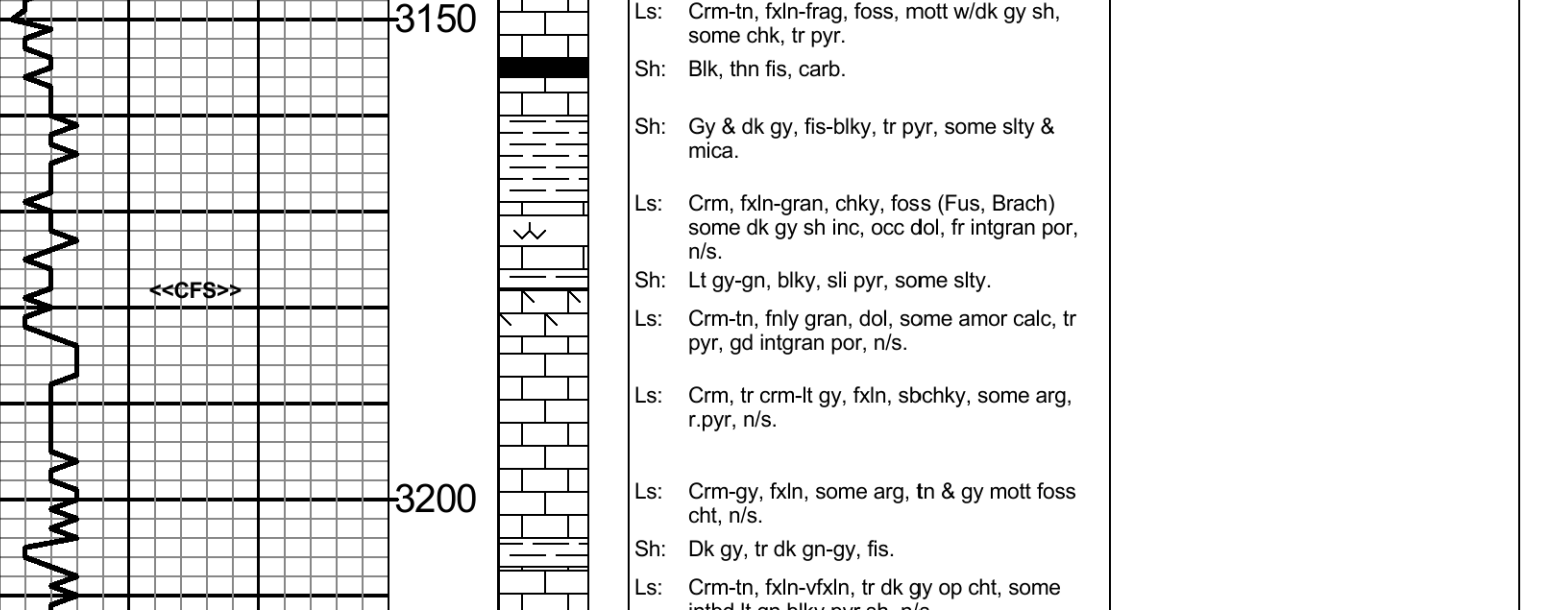


HEEBNER SHALE 3299 (-1231)

Morgan Mud check @ 3433' Vis: 54, Wt: 9.2, WL: 7.6 Chlor: 14,000 ppm, LCM: 0#

DST # 3 3383 - 3433

30"-60"-60"-90" IF: Gd blow, BOB in 15 min. FF: Gd blow, BOB in 42 min. RECOVERY: 300 Ft. Muddy Water (Chlor: 98,000 ppm) IHP: 1682 psi. FHP: 1644 psi. IFP: 21-80 psi. ISIP: 330 psi. FFP: 86-158 psi. FSSIP: 322 psi. BHT: 107 deg. F.

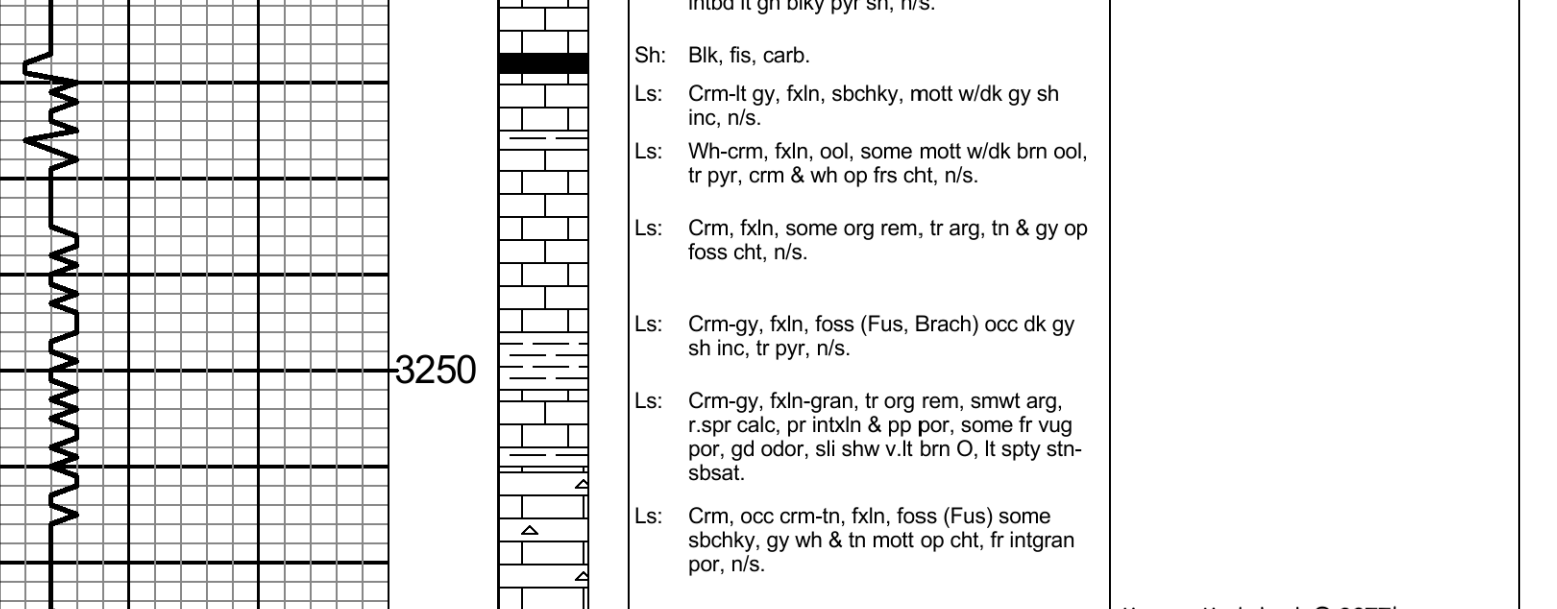
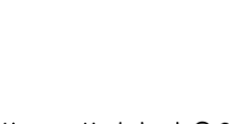


TORONTO 3319 (-1251)

Morgan Mud check @ 3433' Vis: 54, Wt: 9.2, WL: 7.6 Chlor: 14,000 ppm, LCM: 0#

DST # 4 3489-3558

30"-60"-30"-60" IF: Weak 1 inch blow FF: Weak surface blow RECOVERY: 32 Ft. Watery Mud IHP: 1738 psi. FHP: 1712 psi. IFP: 17-23 psi. ISIP: 330 psi. FFP: 26-30 psi. FSSIP: 525 psi. BHT: 100 deg. F.

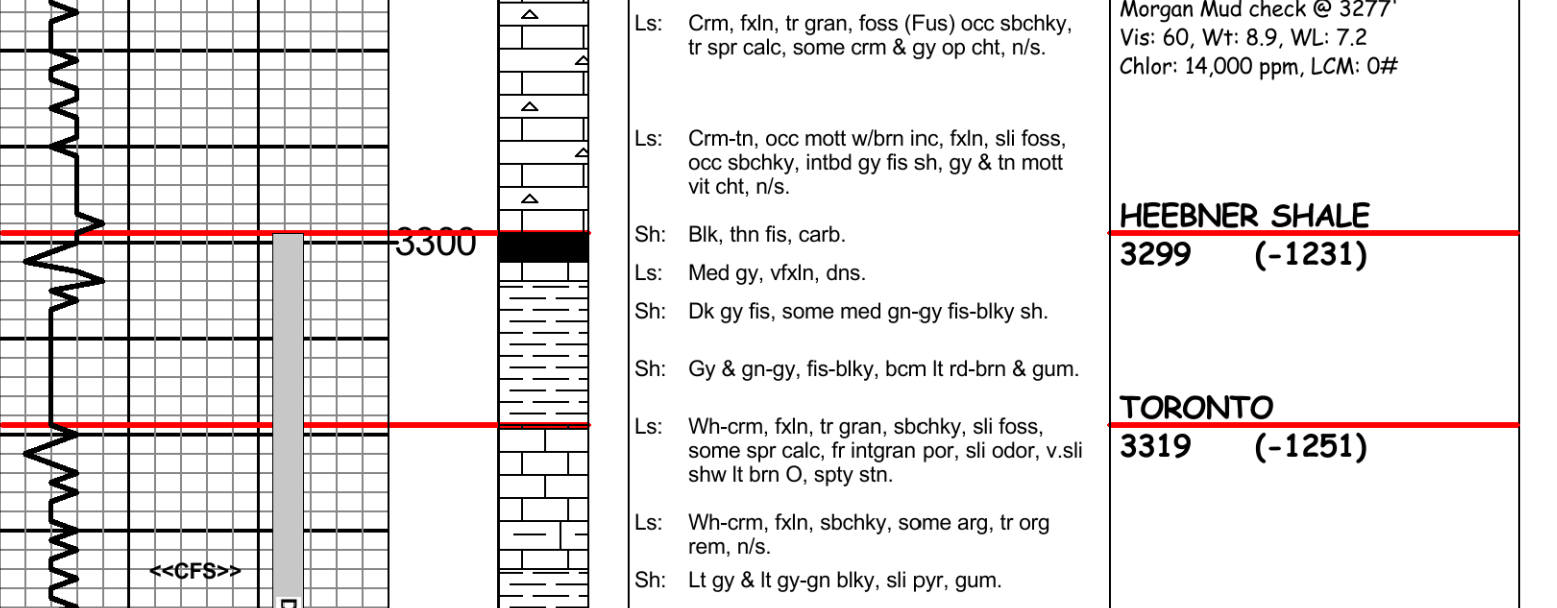


BASE/KANSAS CITY 3578 (-1510)

Morgan Mud check @ 3558' Vis: 50, Wt: 9.2, WL: 7.6 Chlor: 13,400 ppm, LCM: 2#

DST # 5 3616 - 3678

30"-60"-30"-60" IF: Good blow, BOB in 15 min. FF: Good blow, BOB in 16 min. Surface blow during shut-ins RECOVERY: 90 Ft. Gas Tn Pipe 315 Ft. Clean Gas Cut Oil (27 grav. API) 120 Ft. Oil & Gas Cut Mud IHP: 1871 psi. FHP: 1809 psi. IFP: 29-85 psi. ISIP: 1184 psi. FFP: 87-175 psi. FSSIP: 1095 psi. BHT: 107 deg. F.

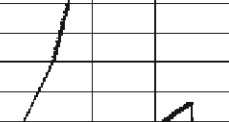


ARBUCKLE 3673 (-1605)

Morgan Mud check @ 3678' Vis: 69, Wt: 9.2, WL: 7.6 Chlor: 12,400 ppm, LCM: 7#

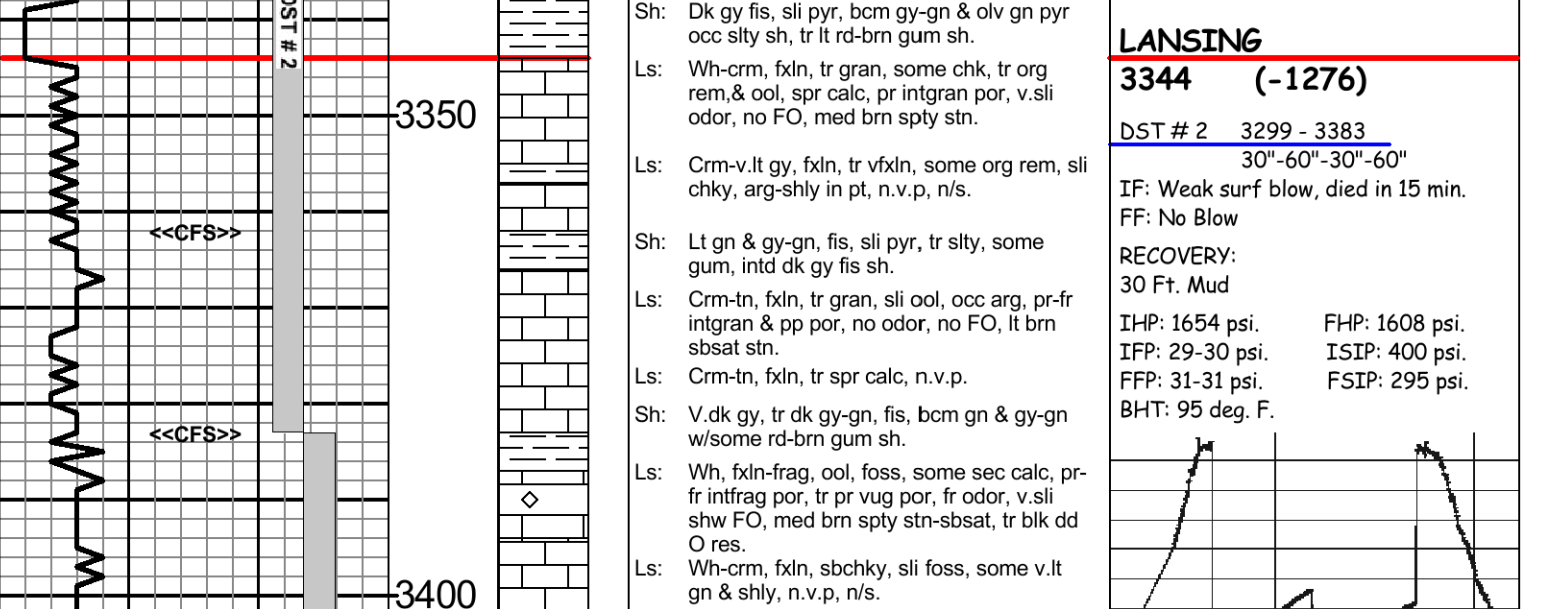
DST # 6 3678 - 3688

30"-60"-30"-60" IF: Strong blow, BOB in 2 min. FF: Strong blow, BOB in 1 min. RECOVERY: 65 Ft. Oil specked Watery Mud 1765 Ft. Oil specked Watery Water (Chlor: 35,000 ppm) IHP: 1882 psi. FHP: 1844 psi. IFP: 63-553 psi. ISIP: 1184 psi. FFP: 566-846 psi. FSSIP: 1186 psi. BHT: 117 deg. F.



TOTAL DEPTH 3770 (-1702)

7:50 AM, 2 February 2013



Operator: MURFIN DRILLING COMPANY, INC. Lease: KRAUS 'JW' # 1-28 Location: 1400 FSL & 335 FEL SEC. 28 TWPSP 14S RGE 18W County: ELLIS State: KANSAS



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co. inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Kraus "JW" #1-28

28-14s-18w Ellis,KS

Start Date: 2013.01.28 @ 10:20:05

End Date: 2013.01.28 @ 17:29:20

Job Ticket #: 51462 DST #: 1

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

Printed: 2013.02.05 @ 11:12:02



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51462

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2013.01.28 @ 10:20:05

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:04:50

Time Test Ended: 17:29:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 39

Interval: 3070.00 ft (KB) To 3083.00 ft (KB) (TVD)

Reference Elevations: 2068.00 ft (KB)

Total Depth: 3083.00 ft (KB) (TVD)

2063.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 80.97 psig @ 3071.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.28

End Date: 2013.01.28

Last Calib.: 2013.01.28

Start Time: 10:20:05

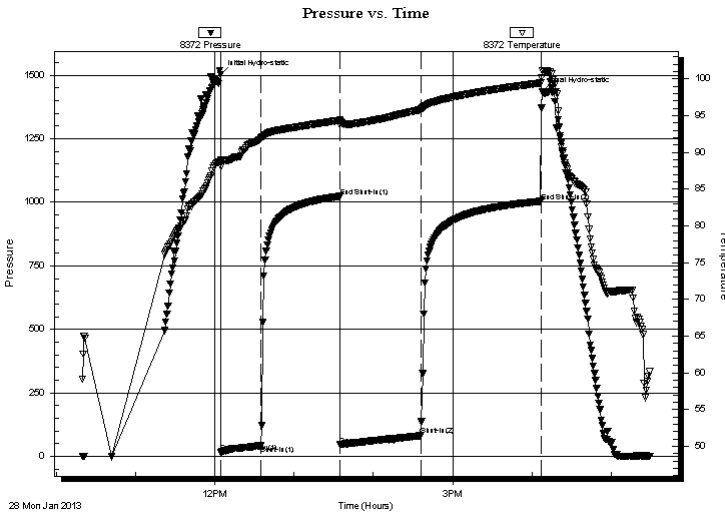
End Time: 17:29:20

Time On Btm: 2013.01.28 @ 12:04:30

Time Off Btm: 2013.01.28 @ 16:07:50

TEST COMMENT: IF:(30min) 1" blow in 3 min. 4" in 16 min. built to 6.25" in 30 min.
ISl:(60min) Intermittent return surface blow 5 min. after bleed off.
FF:(60min) 1" blow in 4 min. 4" in 20 min. 6" in 34 min. built to 9.25" in 60 min.
FSl:(90min) Very weak intermittent surface blow.

PRESSURE SUMMARY



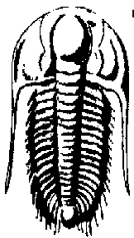
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1502.68	88.95	Initial Hydro-static
1	15.17	88.13	Open To Flow (1)
31	42.42	91.98	Shut-In(1)
90	1023.52	94.38	End Shut-In(1)
91	45.52	93.80	Open To Flow (2)
152	80.97	95.82	Shut-In(2)
242	1003.78	99.44	End Shut-In(2)
244	1436.43	101.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	Water w/ skim of oil on top	1.75

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51462

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2013.01.28 @ 10:20:05

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:04:50

Time Test Ended: 17:29:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 39

Interval: 3070.00 ft (KB) To 3083.00 ft (KB) (TVD)

Total Depth: 3083.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2068.00 ft (KB)

2063.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8844 Inside

Press @ Run Depth: psig @ 3071.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.28

End Date: 2013.01.28

Last Calib.: 2013.01.28

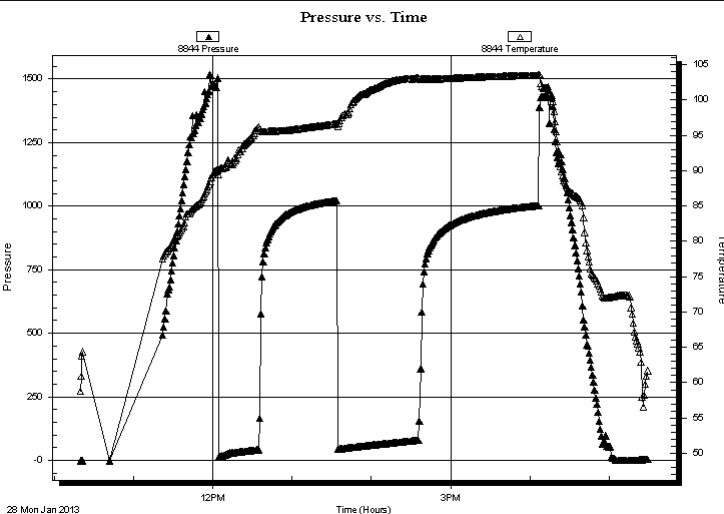
Start Time: 10:20:05

End Time: 17:29:10

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(30min) 1" blow in 3 min. 4" in 16 min. built to 6.25" in 30 min.
 IS:(60min) Intermittent return surface blow 5 min. after bleed off.
 FF:(60min) 1" blow in 4 min. 4" in 20 min. 6" in 34 min. built to 9.25" in 60 min.
 FS:(90min) Very weak intermittent surface blow.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
125.00	Water w/ skim of oil on top	1.75

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51462

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2013.01.28 @ 10:20:05

Tool Information

Drill Pipe:	Length: 3067.00 ft	Diameter: 3.80 inches	Volume: 43.02 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:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume: 43.02 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	47000.00 lb
Depth to Top Packer:	3070.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	13.00 ft				
Tool Length:	36.00 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			3048.00	
Shut In Tool	5.00			3053.00	
Hydraulic tool	5.00			3058.00	
Safety Joint	3.00			3061.00	
Packer	5.00			3066.00	23.00 Bottom Of Top Packer
Packer	4.00			3070.00	
Stubb	1.00			3071.00	
Recorder	0.00	8844	Inside	3071.00	
Recorder	0.00	8372	Outside	3071.00	
Perforations	9.00			3080.00	
Bullnose	3.00			3083.00	13.00 Bottom Packers & Anchor

Total Tool Length: 36.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51462

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2013.01.28 @ 10:20:05

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:

70000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.15 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	Water w / skim of oil on top	1.753

Total Length: 125.00 ft

Total Volume: 1.753 bbl

Num Fluid Samples: 0

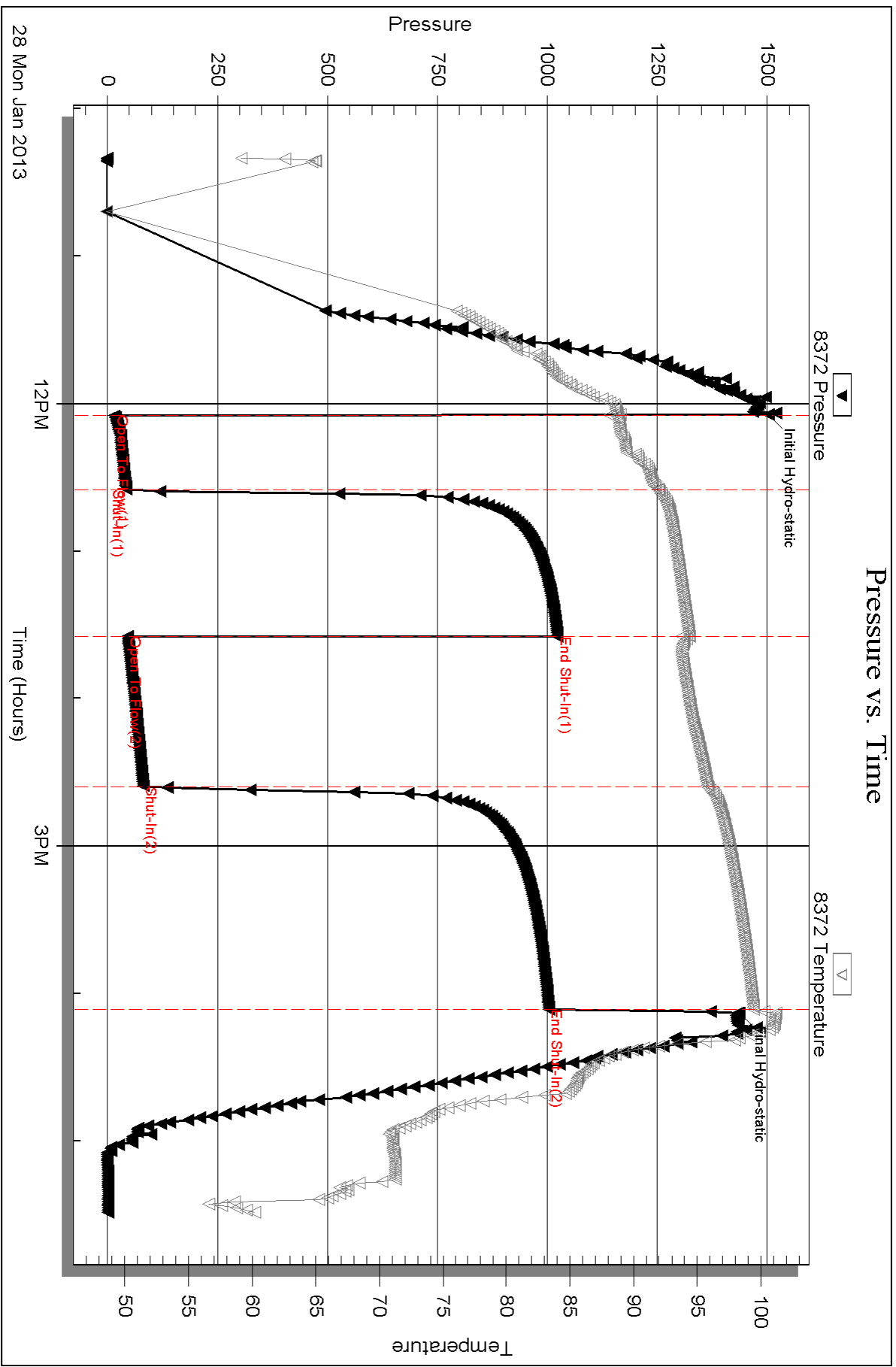
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



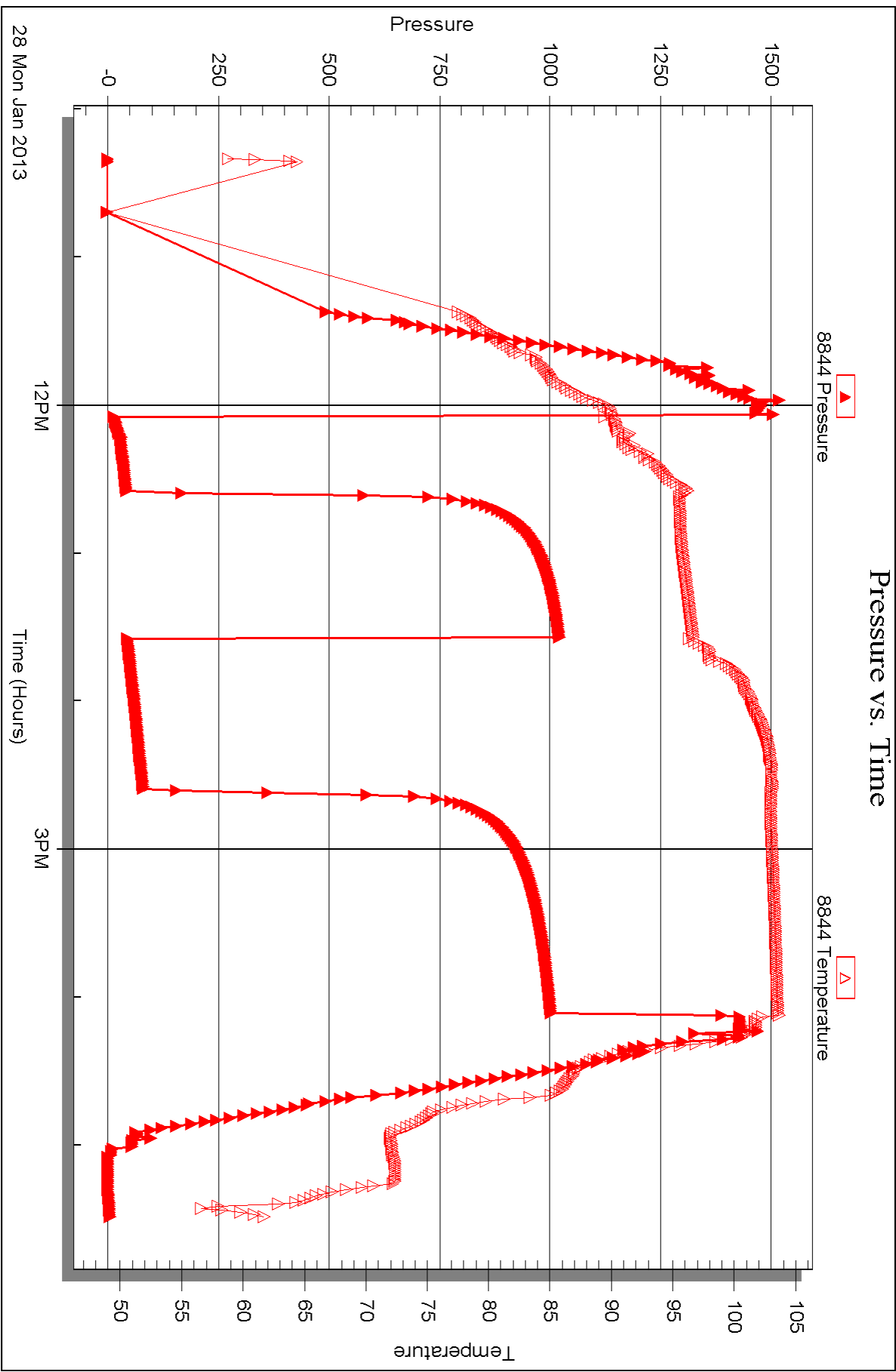
Serial #: 8844

Inside

Murfin Dtg. Co. Inc.

Kraus "JW" #1-28

DST Test Number: 1



28 Mon Jan 2013

12PM

Time (Hours)

3PM



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co. inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Kraus "JW" #1-28

28-14s-18w Ellis,KS

Start Date: 2013.01.29 @ 18:26:05

End Date: 2013.01.30 @ 00:59:59

Job Ticket #: 51463 DST #: 2

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

Printed: 2013.02.05 @ 11:11:27

Murfin Drlg. Co. inc. 28-14s-18w Ellis,KS Kraus "JW" #1-28 DST # 2 Tor & "A-B" 2013.01.29



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 400
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51463

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.01.29 @ 18:26:05

GENERAL INFORMATION:

Formation: **Tor & "A-B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:02:50

Time Test Ended: 00:59:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3299.00 ft (KB) To 3383.00 ft (KB) (TVD)

Reference Elevations: 2068.00 ft (KB)

Total Depth: 3383.00 ft (KB) (TVD)

2063.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @RunDepth: 31.07 psig @ 3306.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.29

End Date:

2013.01.30

Last Calib.: 2013.01.30

Start Time: 18:26:05

End Time:

00:59:59

Time On Btm: 2013.01.29 @ 20:01:40

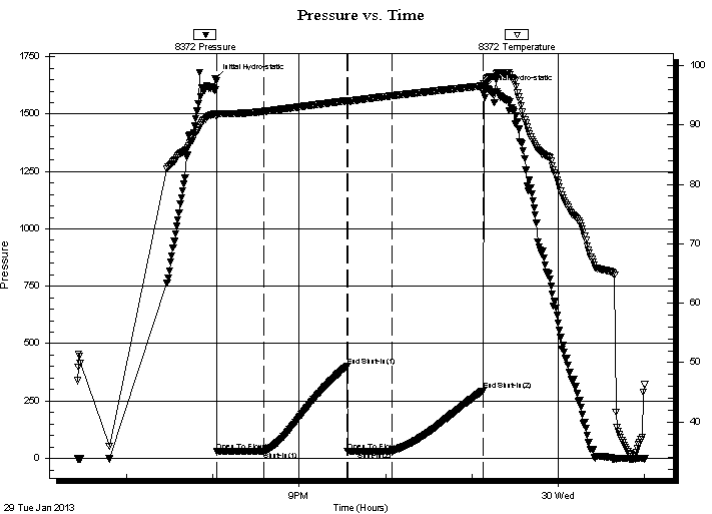
Time Off Btm: 2013.01.29 @ 23:08:39

TEST COMMENT: IF:(30min) Blow died in 15 min.

ISl:(60min) No Return

FF:(30min) No Blow

FSl:(60min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1654.03	91.89	Initial Hydro-static
2	29.84	91.36	Open To Flow (1)
34	30.94	92.27	Shut-In(1)
92	400.64	94.06	End Shut-In(1)
92	31.51	93.92	Open To Flow (2)
123	31.07	94.89	Shut-In(2)
186	295.28	96.57	End Shut-In(2)
187	1608.63	96.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud	0.42

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

ATTN: Paul Gunzelman

Job Ticket: 51463

DST#: 2

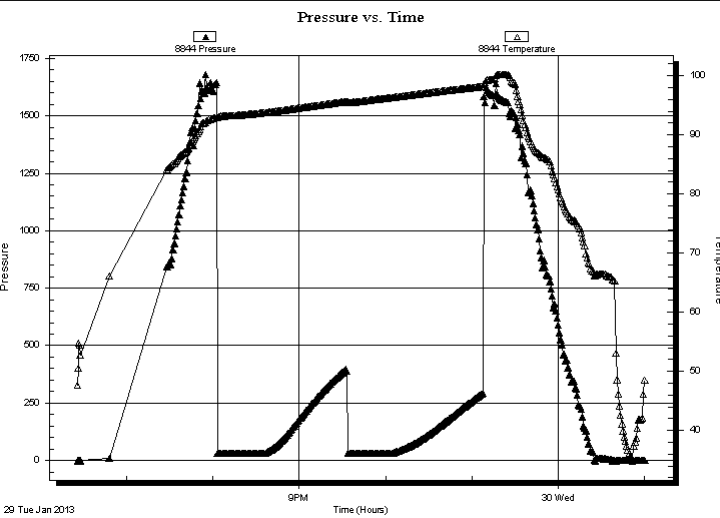
Test Start: 2013.01.29 @ 18:26:05

GENERAL INFORMATION:

Formation: Tor & "A-B"		Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock:	ft (KB)	Tester: Andy Carreira
Time Tool Opened: 20:02:50		Unit No: 39
Time Test Ended: 00:59:59		
Interval: 3299.00 ft (KB) To 3383.00 ft (KB) (TVD)		Reference Elevations: 2068.00 ft (KB)
Total Depth: 3383.00 ft (KB) (TVD)		2063.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF: 5.00 ft

Serial #: 8844	Inside				
Press @ Run Depth:	psig @	3306.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2013.01.29	End Date:	2013.01.30	Last Calib.:	2013.01.30
Start Time:	18:26:05	End Time:	00:59:50	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF:(30min) Blow died in 15 min.
 ISl:(60min) No Return
 FF:(30min) No Blow
 FSl:(60min) No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud	0.42

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51463

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.01.29 @ 18:26:05

Tool Information

Drill Pipe:	Length: 3296.00 ft	Diameter: 3.80 inches	Volume: 46.23 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 46.23 bbl</u>	Tool Chased	6.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	3299.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	84.00 ft				
Tool Length:	107.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3277.00	
Shut In Tool	5.00			3282.00	
Hydraulic tool	5.00			3287.00	
Safety Joint	3.00			3290.00	
Packer	5.00			3295.00	23.00 Bottom Of Top Packer
Packer	4.00			3299.00	
Stubb	1.00			3300.00	
Perforations	5.00			3305.00	
Change Over Sub	1.00			3306.00	
Recorder	0.00	8844	Inside	3306.00	
Recorder	0.00	8372	Outside	3306.00	
Drill Pipe	63.00			3369.00	
Change Over Sub	1.00			3370.00	
Perforations	10.00			3380.00	
Bullnose	3.00			3383.00	84.00 Bottom Packers & Anchor

Total Tool Length: 107.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51463

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.01.29 @ 18:26:05

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.16 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 14000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0

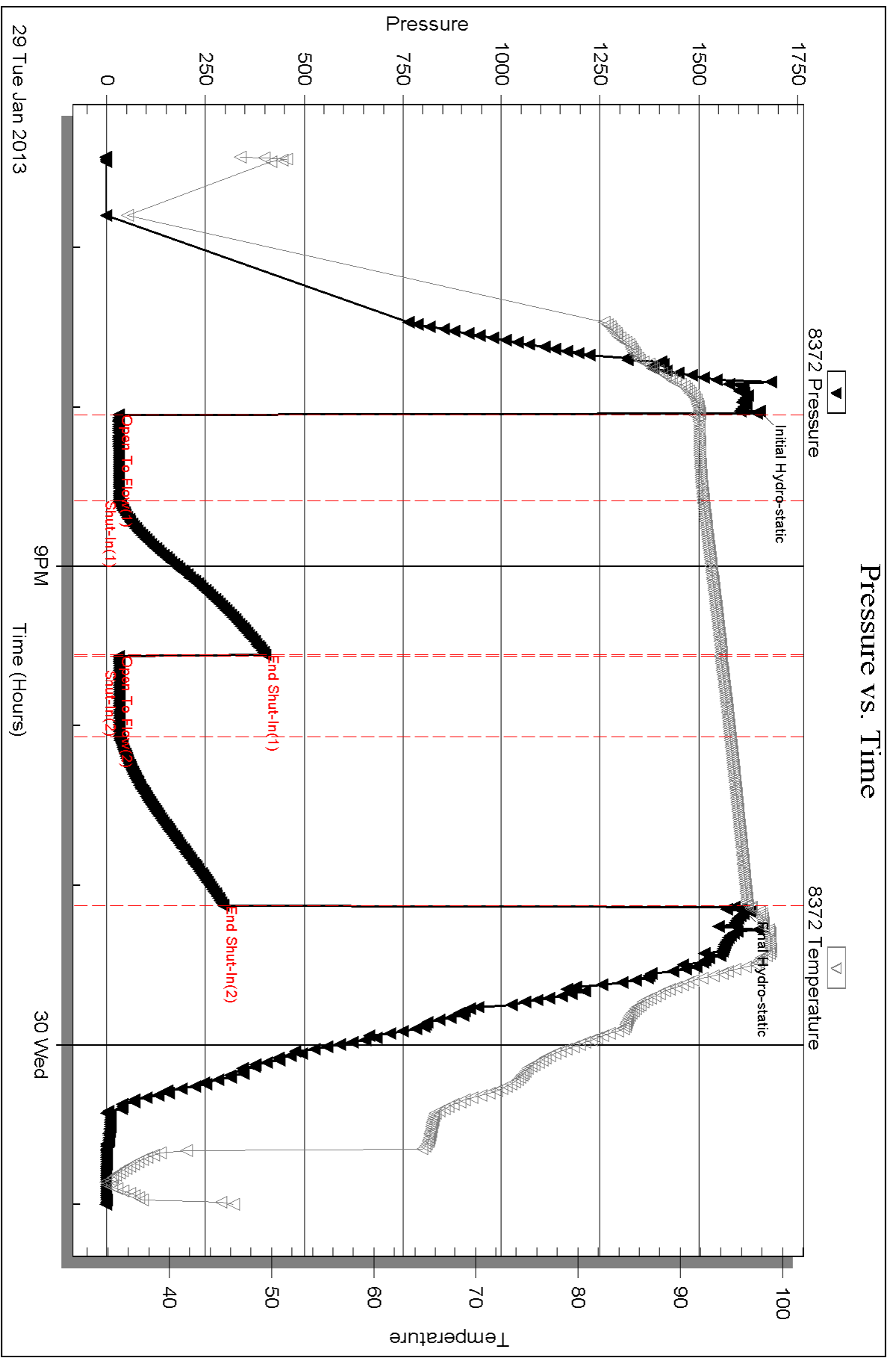
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



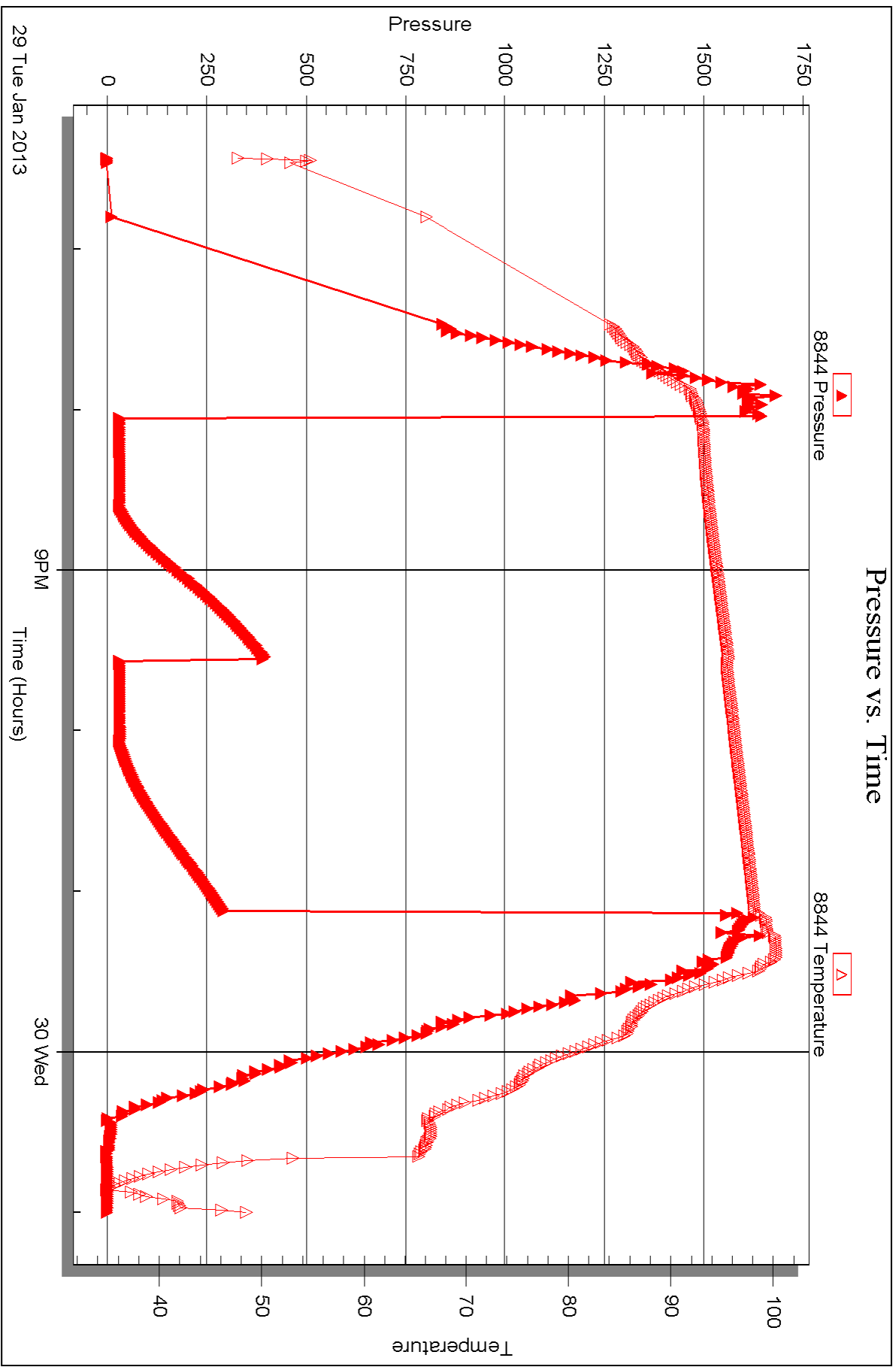
Serial #: 8844

Inside

Murfin Dtg. Co. Inc.

Kraus "JW" #1-28

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 51463

Printed: 2013.02.05 @ 11:11:30



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co. inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Kraus "JW" #1-28

28-14s-18w Ellis,KS

Start Date: 2013.01.30 @ 10:17:05

End Date: 2013.01.30 @ 17:15:59

Job Ticket #: 51464 DST #: 3

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

Printed: 2013.02.05 @ 11:10:48

Murfin Drlg. Co. inc. 28-14s-18w Ellis,KS Kraus "JW" #1-28 DST # 3 LKC "D-F" 2013.01.30



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51464

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.01.30 @ 10:17:05

GENERAL INFORMATION:

Formation: **LKC"D-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:41:30

Time Test Ended: 17:15:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3383.00 ft (KB) To 3433.00 ft (KB) (TVD)

Reference Elevations: 2068.00 ft (KB)

Total Depth: 3433.00 ft (KB) (TVD)

2063.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @ RunDepth: 158.30 psig @ 3390.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.30

End Date: 2013.01.30

Last Calib.: 2013.01.30

Start Time: 10:17:05

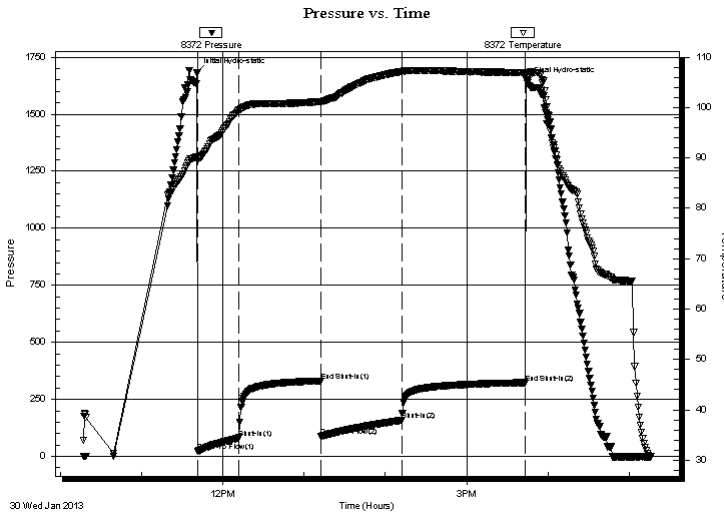
End Time: 17:15:59

Time On Btm: 2013.01.30 @ 11:40:30

Time Off Btm: 2013.01.30 @ 15:44:29

TEST COMMENT: IF:(30min) 2" blow in 1 min. 4" in 3 min. 8" in 9 min. BOB in 15 min.
IS:(60min) Weak surface return blow died in 45 min.
FF:(60min) 2" blow in 3 min. 4" in 7 min. 8" in 16 min. BOB in 25 min.
FS:(90min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1682.75	90.19	Initial Hydro-static
1	21.51	89.70	Open To Flow (1)
32	80.92	99.43	Shut-In(1)
92	330.96	101.17	End Shut-In(1)
92	86.21	101.07	Open To Flow (2)
152	158.30	107.11	Shut-In(2)
243	322.32	106.92	End Shut-In(2)
244	1644.62	106.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	MW w / oil spks in tool	4.21

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51464

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.01.30 @ 10:17:05

GENERAL INFORMATION:

Formation: **LKC"D-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:41:30

Time Test Ended: 17:15:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3383.00 ft (KB) To 3433.00 ft (KB) (TVD)

Reference Elevations: 2068.00 ft (KB)

Total Depth: 3433.00 ft (KB) (TVD)

2063.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8844 **Inside**

Press @ Run Depth: psig @ 3390.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.30

End Date:

2013.01.30

Last Calib.:

2013.01.30

Start Time:

10:17:05

End Time:

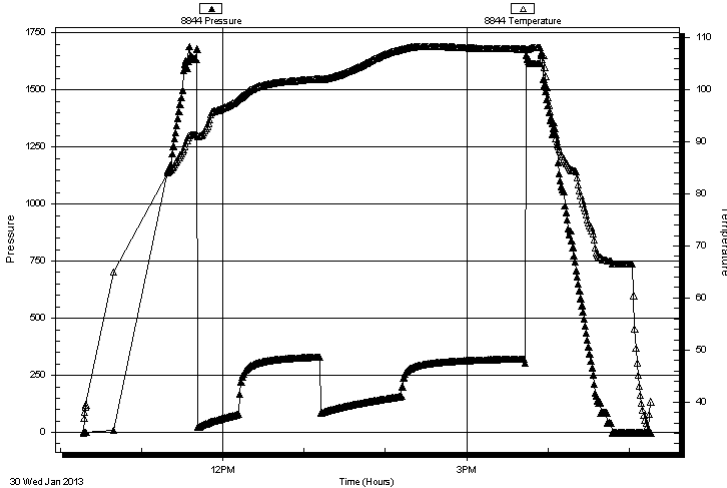
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Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(30min) 2" blow in 1 min. 4" in 3 min. 8" in 9 min. BOB in 15 min.
IS:(60min) Weak surface return blow died in 45 min.
FF:(60min) 2" blow in 3 min. 4" in 7 min. 8" in 16 min. BOB in 25 min.
FS:(90min) No Return

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
300.00	MW w / oil spks in tool	4.21

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51464

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.01.30 @ 10:17:05

Tool Information

Drill Pipe:	Length: 3390.00 ft	Diameter: 3.80 inches	Volume: 47.55 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: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 54000.00 lb
			<u>Total Volume: 47.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3383.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	73.00 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			3361.00	
Shut In Tool	5.00			3366.00	
Hydraulic tool	5.00			3371.00	
Safety Joint	3.00			3374.00	
Packer	5.00			3379.00	23.00 Bottom Of Top Packer
Packer	4.00			3383.00	
Stubb	1.00			3384.00	
Perforations	5.00			3389.00	
Change Over Sub	1.00			3390.00	
Recorder	0.00	8844	Inside	3390.00	
Recorder	0.00	8372	Outside	3390.00	
Drill Pipe	32.00			3422.00	
Change Over Sub	1.00			3423.00	
Perforations	7.00			3430.00	
Bullnose	3.00			3433.00	50.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51464

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.01.30 @ 10:17:05

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:

98000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.56 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 14000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	MW w / oil spks in tool	4.208

Total Length: 300.00 ft Total Volume: 4.208 bbl

Num Fluid Samples: 0

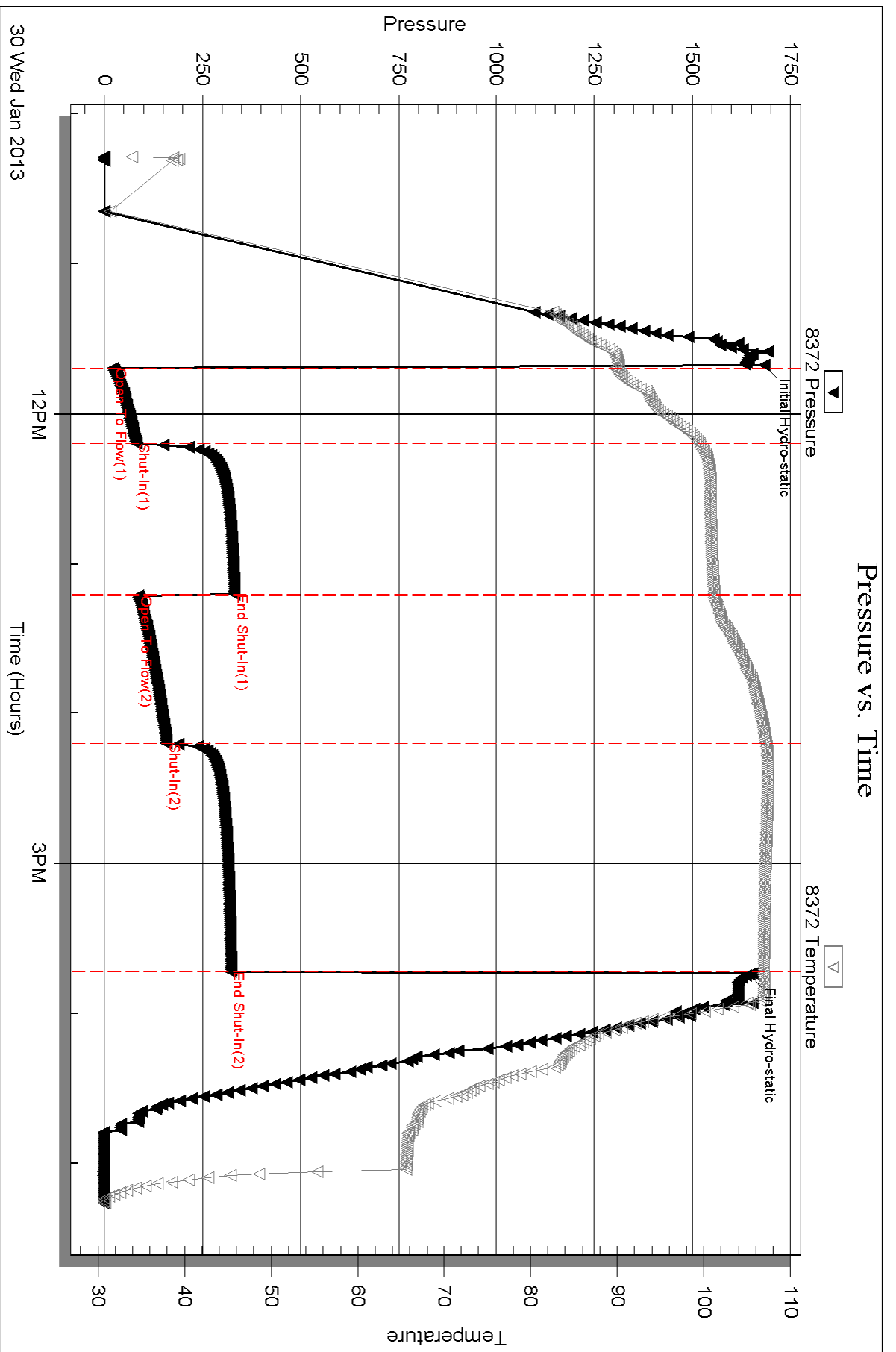
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



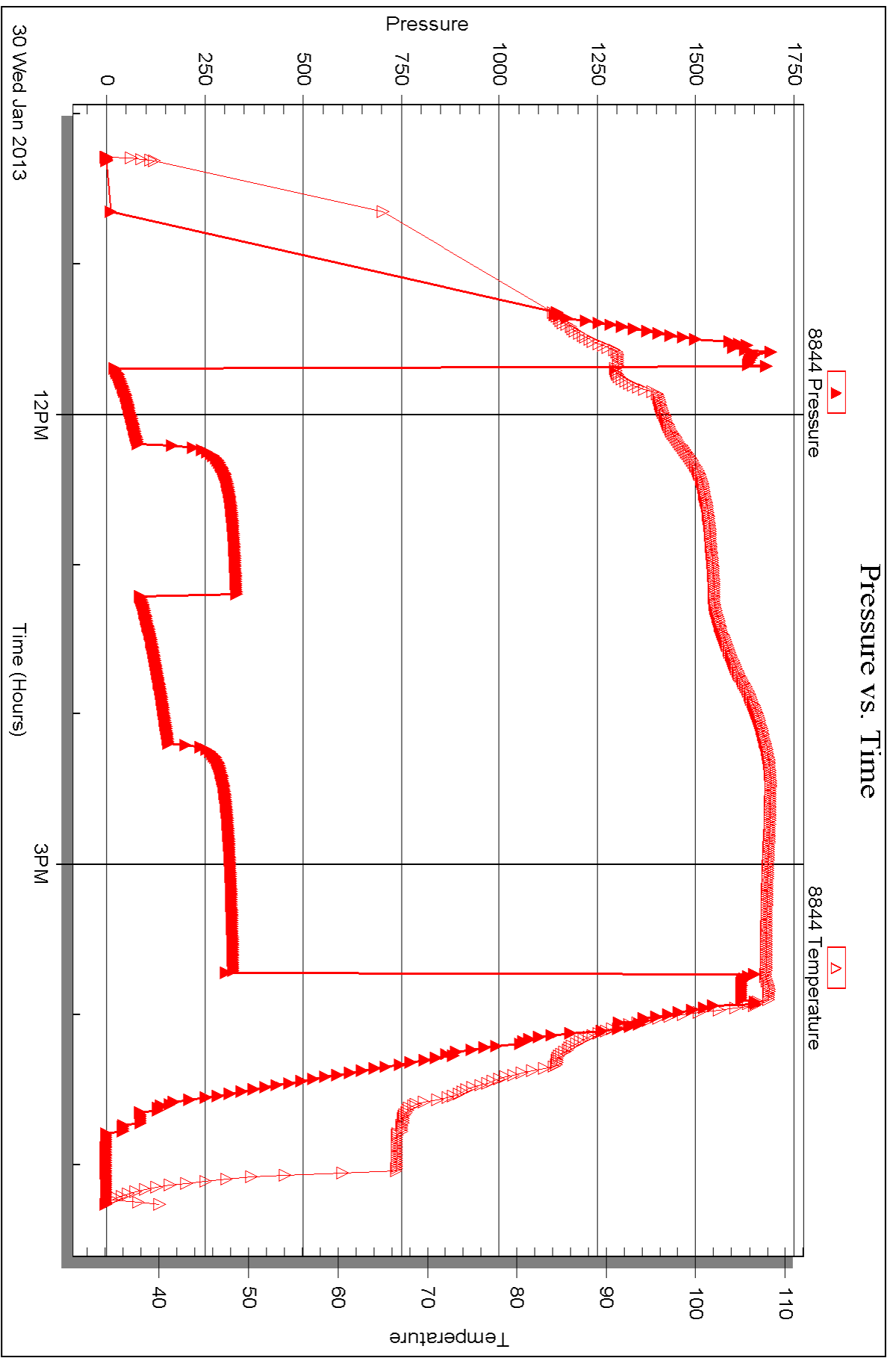
Serial #: 8844

Inside

Murfin Dtg. Co. Inc.

Kraus "JW" #1-28

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 51464

Printed: 2013.02.05 @ 11:10:51



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co. inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Kraus "JW" #1-28

28-14s-18w Ellis,KS

Start Date: 2013.01.31 @ 08:21:05

End Date: 2013.01.31 @ 14:42:50

Job Ticket #: 51465 DST #: 4

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

Printed: 2013.02.05 @ 11:10:09



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51465

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.01.31 @ 08:21:05

GENERAL INFORMATION:

Formation: **LKC "I-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:14:30

Time Test Ended: 14:42:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3489.00 ft (KB) To 3558.00 ft (KB) (TVD)

Reference Elevations: 2068.00 ft (KB)

Total Depth: 3558.00 ft (KB) (TVD)

2063.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @ RunDepth: 30.80 psig @ 3496.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.31

End Date:

2013.01.31

Last Calib.: 2013.01.31

Start Time: 08:21:05

End Time:

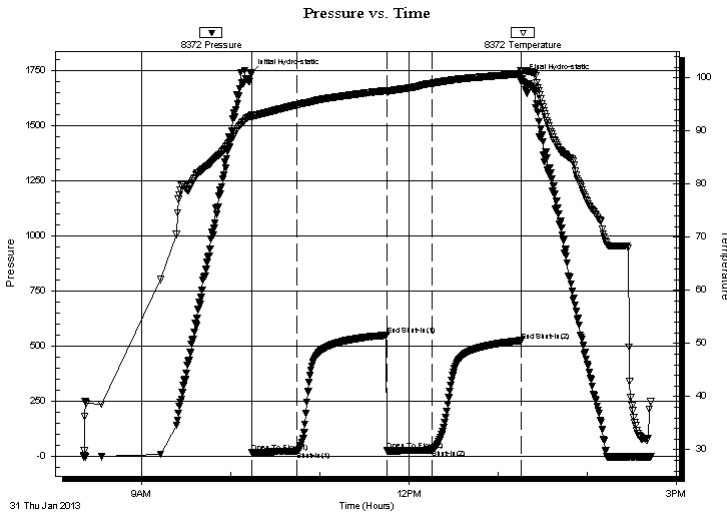
14:42:50

Time On Btm: 2013.01.31 @ 10:13:40

Time Off Btm: 2013.01.31 @ 13:16:09

TEST COMMENT: IF:(30min) 1" Blow
IS:(60min) No Return
FF:(30min) Weak surface blow
FS:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1738.06	92.96	Initial Hydro-static
1	17.10	92.52	Open To Flow (1)
32	23.75	94.95	Shut-In(1)
92	550.27	97.62	End Shut-In(1)
92	26.52	97.32	Open To Flow (2)
122	30.80	98.99	Shut-In(2)
182	525.93	100.79	End Shut-In(2)
183	1712.66	101.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
32.00	WM w =30% m=70%	0.45

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Paul Gunzelman

28-14s-18w Ellis,KS

Kraus "JW" #1-28

Job Ticket: 51465

DST#: 4

Test Start: 2013.01.31 @ 08:21:05

GENERAL INFORMATION:

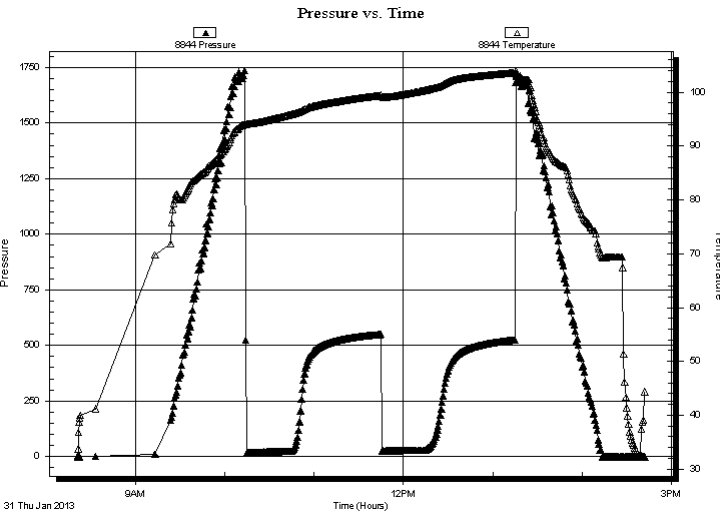
Formation: **LKC "I-K"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 10:14:30
 Tester: Andy Carreira
 Time Test Ended: 14:42:50
 Unit No: 39
Interval: 3489.00 ft (KB) To 3558.00 ft (KB) (TVD)
 Reference Elevations: 2068.00 ft (KB)
 Total Depth: 3558.00 ft (KB) (TVD)
 2063.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 8844

Inside

Press @ Run Depth: psig @ 3496.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2013.01.31	End Date: 2013.01.31
Start Time: 08:21:05	End Time: 14:42:40
	Last Calib.: 2013.01.31
	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF:(30min) 1" Blow
 IS:(60min) No Return
 FF:(30min) Weak surface blow
 FS:(60min) No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
32.00	WM w =30% m=70%	0.45

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51465

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.01.31 @ 08:21:05

Tool Information

Drill Pipe:	Length: 3488.00 ft	Diameter: 3.80 inches	Volume: 48.93 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:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	56000.00 lb
			<u>Total Volume: 48.93 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	3489.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	69.00 ft				
Tool Length:	92.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3467.00	
Shut In Tool	5.00			3472.00	
Hydraulic tool	5.00			3477.00	
Safety Joint	3.00			3480.00	
Packer	5.00			3485.00	23.00 Bottom Of Top Packer
Packer	4.00			3489.00	
Stubb	1.00			3490.00	
Perforations	5.00			3495.00	
Change Over Sub	1.00			3496.00	
Recorder	0.00	8844	Inside	3496.00	
Recorder	0.00	8372	Outside	3496.00	
Drill Pipe	32.00			3528.00	
Change Over Sub	1.00			3529.00	
Perforations	26.00			3555.00	
Bullnose	3.00			3558.00	69.00 Bottom Packers & Anchor

Total Tool Length: 92.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51465

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.01.31 @ 08:21:05

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:

52000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 13400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
32.00	WM w =30% m=70%	0.449

Total Length: 32.00 ft Total Volume: 0.449 bbl

Num Fluid Samples: 0

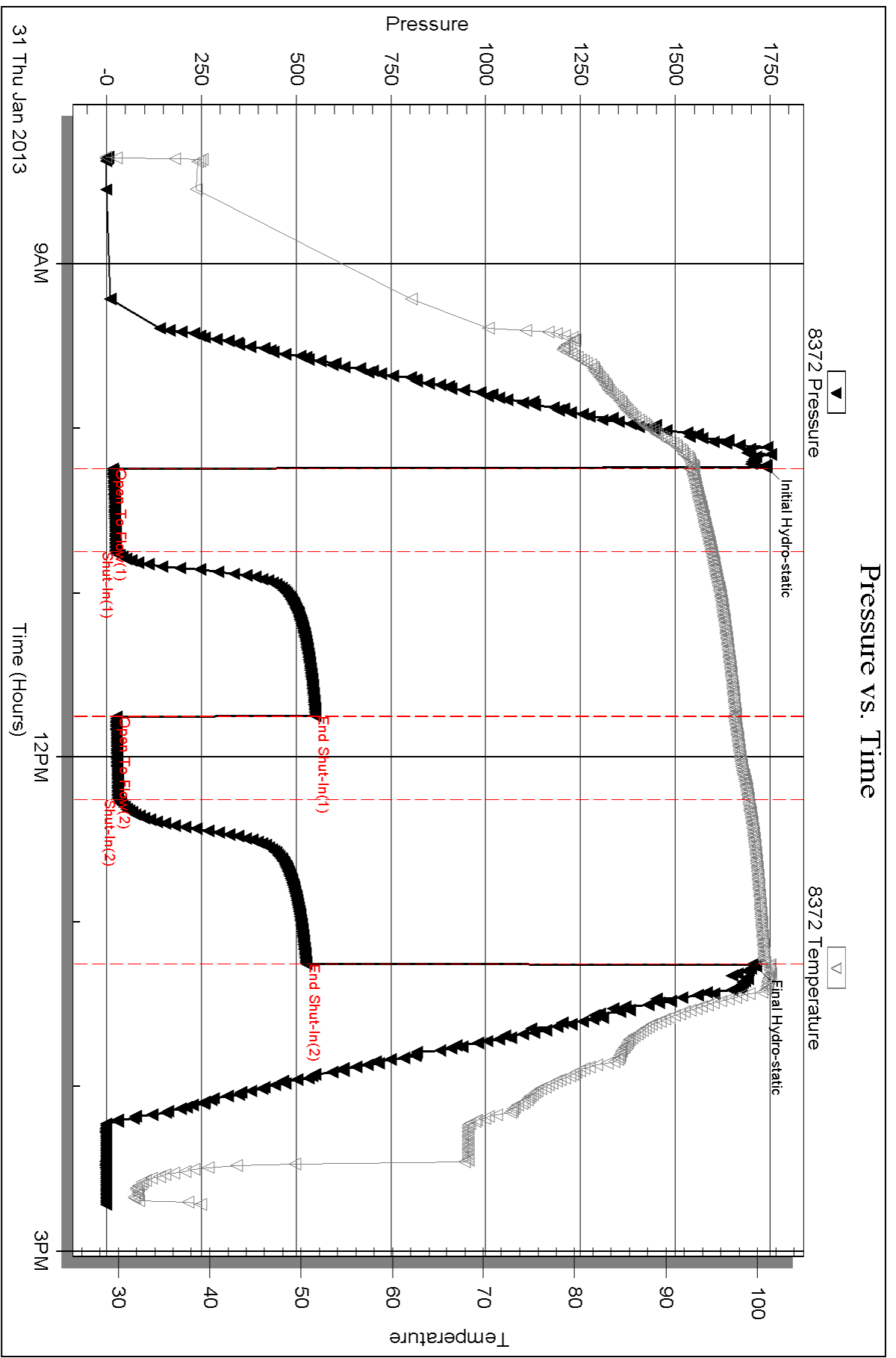
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



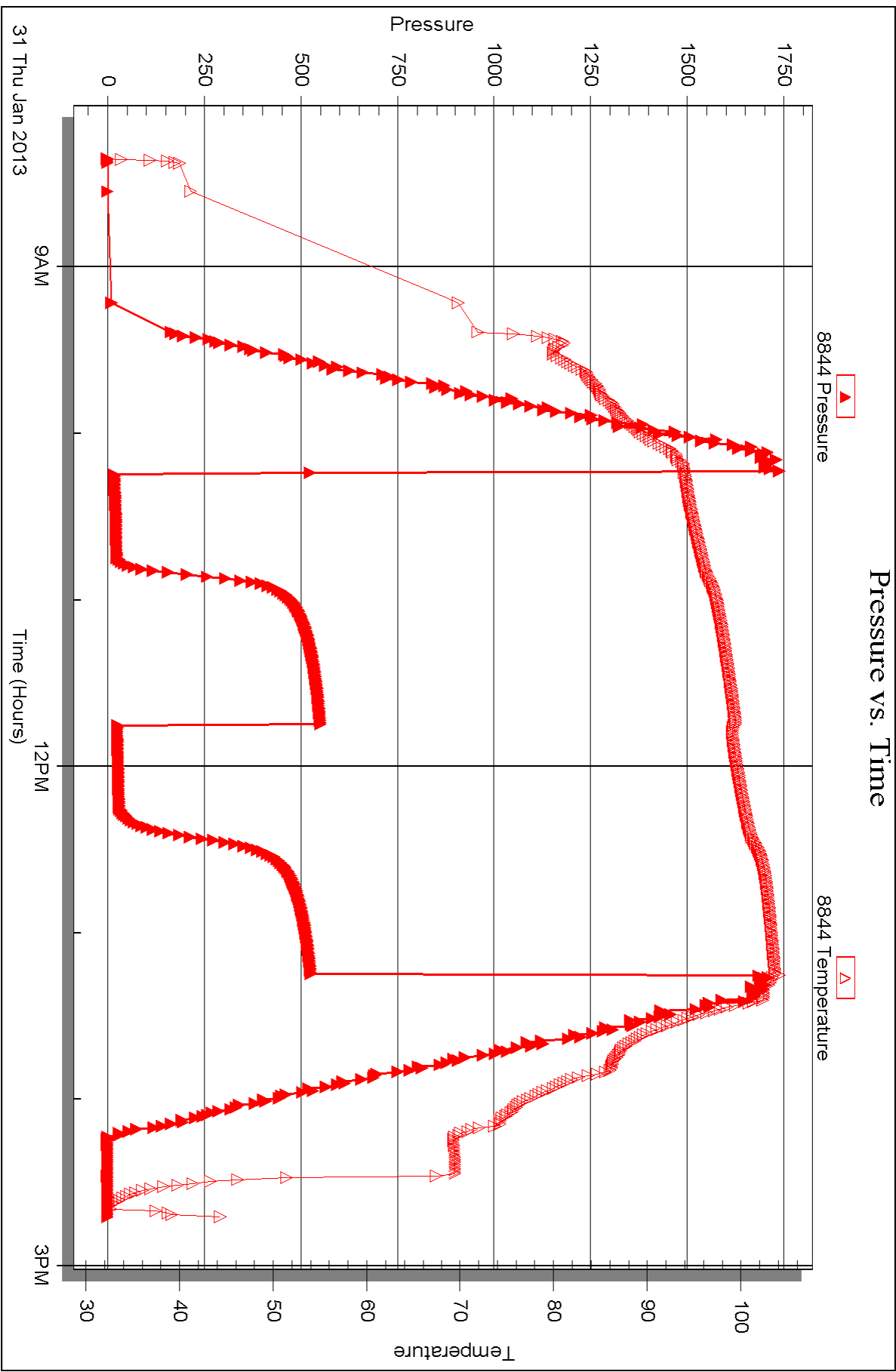
Serial #: 8844

Inside

Murfin Dtg. Co. Inc.

Kraus "JW" #1-28

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co. inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Kraus "JW" #1-28

28-14s-18w Ellis,KS

Start Date: 2013.02.01 @ 02:56:05

End Date: 2013.02.01 @ 11:05:29

Job Ticket #: 51467 DST #: 5

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

Printed: 2013.02.05 @ 11:09:22



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

ATTN: Paul Gunzelman

Job Ticket: 51467

DST#: 5

Test Start: 2013.02.01 @ 02:56:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:45:00

Time Test Ended: 11:05:29

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3616.00 ft (KB) To 3678.00 ft (KB) (TVD)

Reference Elevations: 2068.00 ft (KB)

Total Depth: 3678.00 ft (KB) (TVD)

2063.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 175.73 psig @ 3622.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.01

End Date:

2013.02.01

Last Calib.:

2013.02.01

Start Time: 02:56:05

End Time:

11:05:29

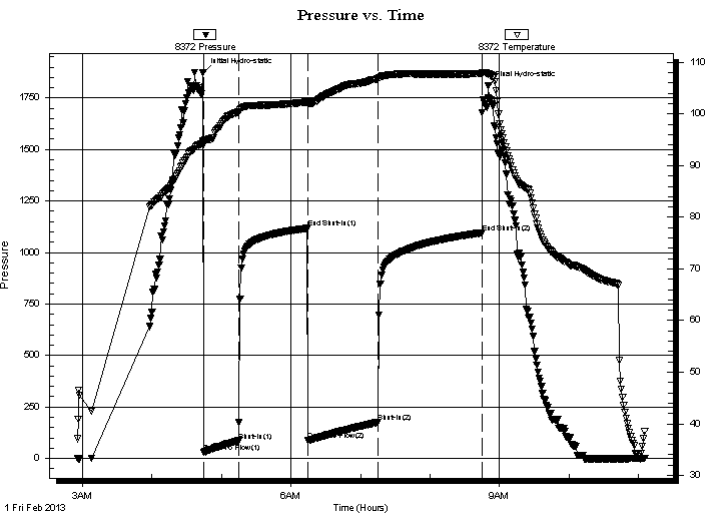
Time On Btm:

2013.02.01 @ 04:44:30

Time Off Btm:

2013.02.01 @ 08:50:29

TEST COMMENT: IF:(30min) 2" blow in 2 min. 6" in 7 min. 10" in 14 min. BOB in 15 min.
ISl:(60min) Bled off 5 min. Return surface blow 7 min after bleed off. Died in 46 min.
FF:(60min) 2" blow in 2 min. 6" in 7 min. 10" in 14 min. BOB in 16 min.
FSl:(90min) Bled off 10 min. Return surface blow 6 min after bleed off. Weak surface blow through out.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1871.82	94.74	Initial Hydro-static
1	29.22	94.04	Open To Flow (1)
31	85.26	100.35	Shut-In(1)
90	1117.26	102.31	End Shut-In(1)
91	87.83	101.94	Open To Flow (2)
151	175.73	106.80	Shut-In(2)
241	1095.56	107.81	End Shut-In(2)
246	1809.36	107.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	SOCGM g=5% o=10% m=85%	0.84
60.00	OCCGM g=5% o=15% m=80%	0.84
315.00	GO g=15% o=85%	4.42
0.00	GIP=90ft	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis, KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51467

DST#: 5

ATTN: Paul Gunzelman

Test Start: 2013.02.01 @ 02:56:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:45:00

Time Test Ended: 11:05:29

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3616.00 ft (KB) To 3678.00 ft (KB) (TVD)

Reference Elevations: 2068.00 ft (KB)

Total Depth: 3678.00 ft (KB) (TVD)

2063.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8844 Inside

Press @ Run Depth: psig @ 3622.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.01

End Date:

2013.02.01

Last Calib.:

2013.02.01

Start Time: 02:56:05

End Time:

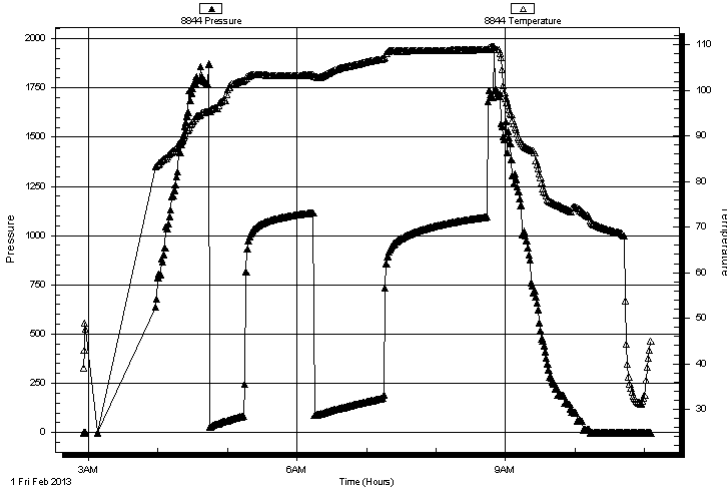
11:05:20

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(30min) 2" blow in 2 min. 6" in 7 min. 10" in 14 min. BOB in 15 min.
IS:(60min) Bled off 5 min. Return surface blow 7 min after bleed off. Died in 46 min.
FF:(60min) 2" blow in 2 min. 6" in 7 min. 10" in 14 min. BOB in 16 min.
FS:(90min) Bled off 10 min. Return surface blow 6 min after bleed off. Weak surface blow through out.

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	SOCGM g=5% o=10% m=85%	0.84
60.00	OCGM g=5% o=15% m=80%	0.84
315.00	GO g=15% o=85%	4.42
0.00	GIP=90ft	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51467

DST#: 5

ATTN: Paul Gunzelman

Test Start: 2013.02.01 @ 02:56:05

Tool Information

Drill Pipe:	Length: 3613.00 ft	Diameter: 3.80 inches	Volume: 50.68 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:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume: 50.68 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3616.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	62.00 ft				
Tool Length:	85.00 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			3594.00	
Shut In Tool	5.00			3599.00	
Hydraulic tool	5.00			3604.00	
Safety Joint	3.00			3607.00	
Packer	5.00			3612.00	23.00 Bottom Of Top Packer
Packer	4.00			3616.00	
Stubb	1.00			3617.00	
Perforations	4.00			3621.00	
Change Over Sub	1.00			3622.00	
Recorder	0.00	8844	Inside	3622.00	
Recorder	0.00	8372	Outside	3622.00	
Drill Pipe	32.00			3654.00	
Change Over Sub	1.00			3655.00	
Perforations	20.00			3675.00	
Bullnose	3.00			3678.00	62.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51467

DST#: 5

ATTN: Paul Gunzelman

Test Start: 2013.02.01 @ 02:56:05

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 13400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	SOCGM g=5% o=10% m=85%	0.842
60.00	OCCGM g=5% o=15% m=80%	0.842
315.00	GO g=15% o=85%	4.419
0.00	GIP=90ft	0.000

Total Length: 435.00 ft

Total Volume: 6.103 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

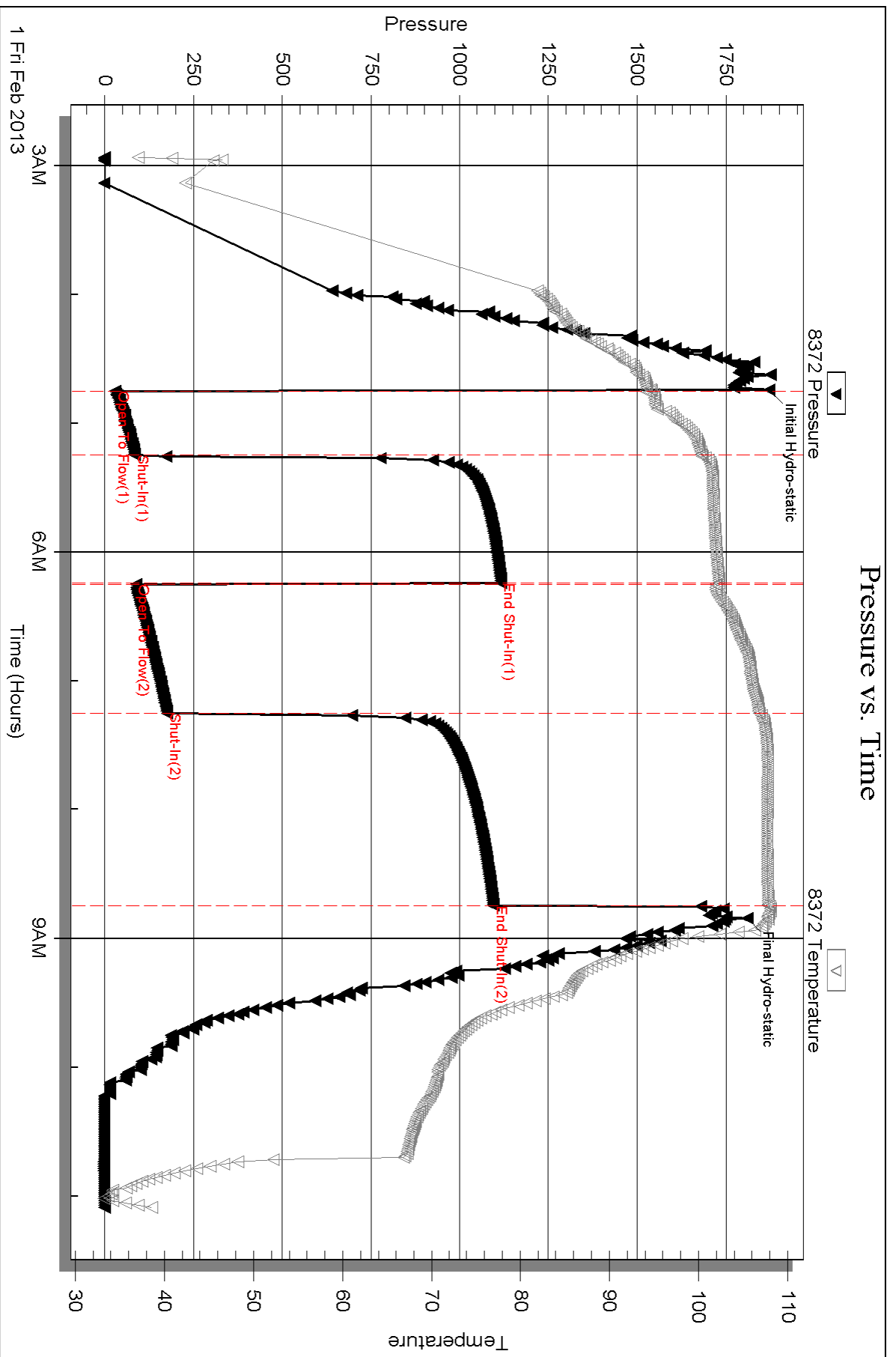
Recovery Comments:

Serial #: 8372

Outside Murfin Drtg. Co. Inc.

Kraus "JW" #1-28

DST Test Number: 5



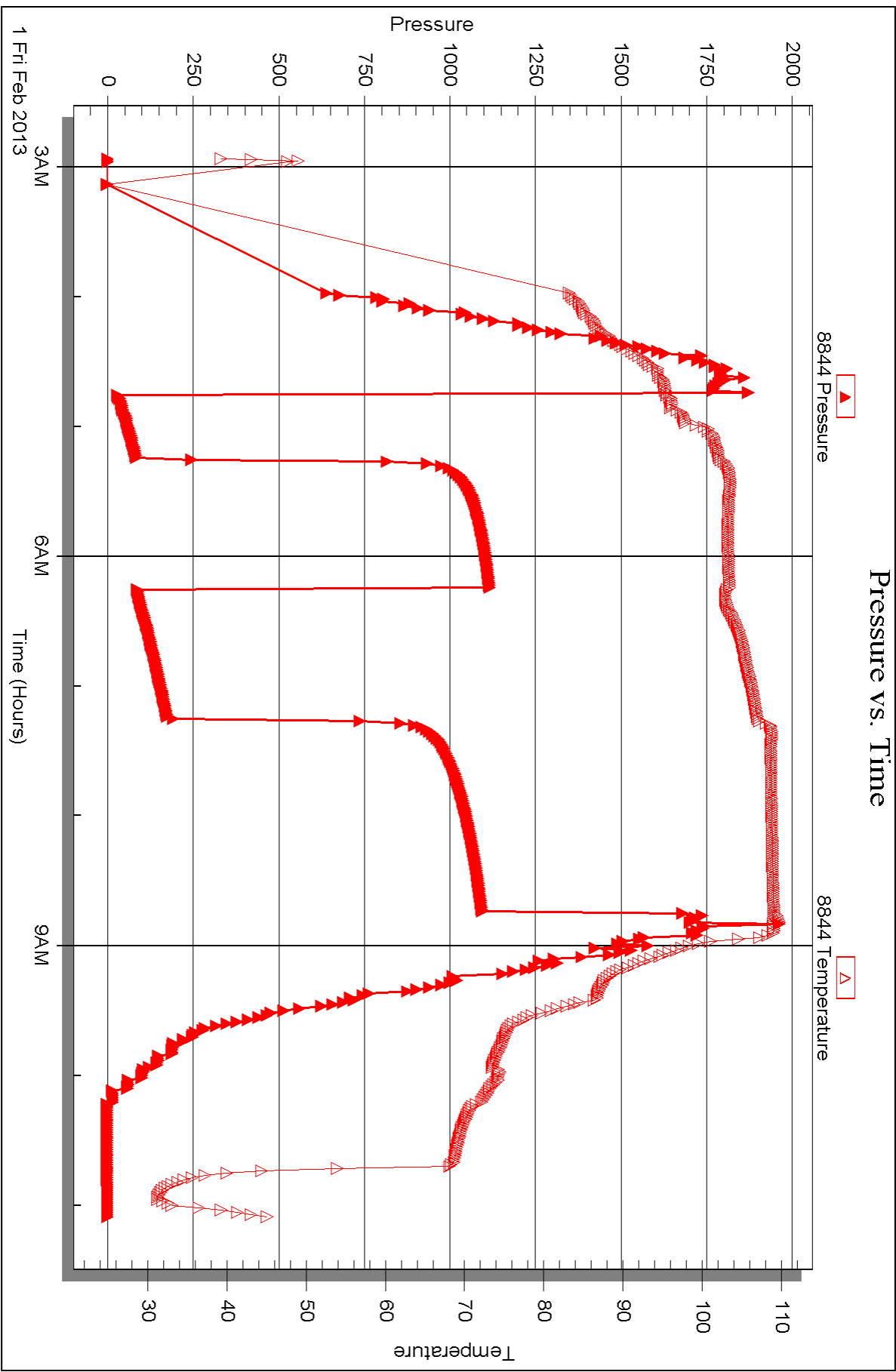
Serial #: 8844

Inside

Murfin Dtg. Co. Inc.

Kraus "JW" #1-28

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co. inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Kraus "JW" #1-28

28-14s-18w Ellis,KS

Start Date: 2013.02.01 @ 18:23:05

End Date: 2013.02.02 @ 01:59:29

Job Ticket #: 51468 DST #: 6

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

Printed: 2013.02.05 @ 11:08:42



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51468

DST#: 6

ATTN: Paul Gunzelman

Test Start: 2013.02.01 @ 18:23:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:17:00

Time Test Ended: 01:59:29

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3678.00 ft (KB) To 3688.00 ft (KB) (TVD)

Reference Elevations: 2068.00 ft (KB)

Total Depth: 3688.00 ft (KB) (TVD)

2063.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @RunDepth: 846.90 psig @ 3679.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.01

End Date:

2013.02.02

Last Calib.:

2013.02.02

Start Time: 18:23:05

End Time:

01:59:29

Time On Btm:

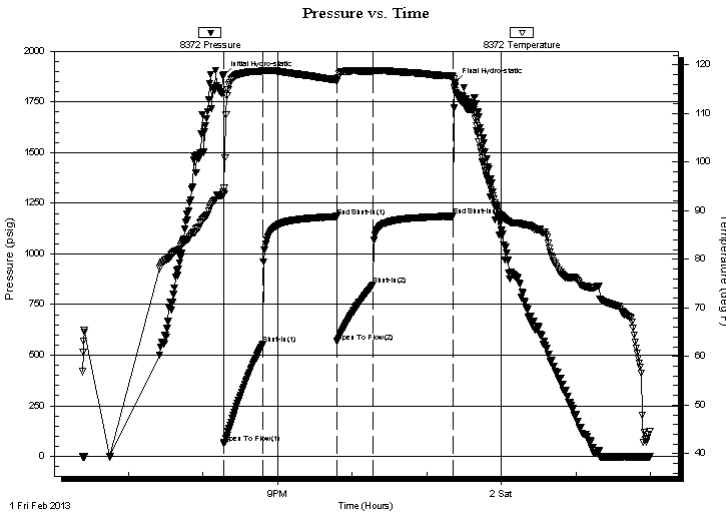
2013.02.01 @ 20:16:20

Time Off Btm:

2013.02.01 @ 23:22:20

TEST COMMENT: IF:(30min) BOB 1 min.
IS:(60min) No Return
FF:(30min) BOB 2 min.
FS:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1882.47	93.89	Initial Hydro-static
1	63.27	94.74	Open To Flow (1)
32	553.40	118.72	Shut-In(1)
92	1184.63	116.99	End Shut-In(1)
92	566.91	116.77	Open To Flow (2)
121	846.90	118.73	Shut-In(2)
185	1186.45	117.68	End Shut-In(2)
186	1844.34	115.31	Final Hydro-static

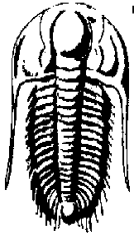
Recovery

Length (ft)	Description	Volume (bbl)
60.00	OSWM o=tr w=45% m=55%	0.84
1765.00	OSMW o=tr m=5% w=95%	24.76
5.00	OSWM o=tr w=40% m=60%	0.07

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drlg. Co. inc.

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

28-14s-18w Ellis, KS

Kraus "JW" #1-28

Job Ticket: 51468 **DST#: 6**

Test Start: 2013.02.01 @ 18:23:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:17:00

Time Test Ended: 01:59:29

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3678.00 ft (KB) To 3688.00 ft (KB) (TVD)

Total Depth: 3688.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2068.00 ft (KB)

2063.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8844 **Inside**

Press @ Run Depth: psig @ 3679.00 ft (KB)

Start Date: 2013.02.01

End Date:

2013.02.02

Start Time: 18:23:05

End Time:

01:59:10

Capacity: 8000.00 psig

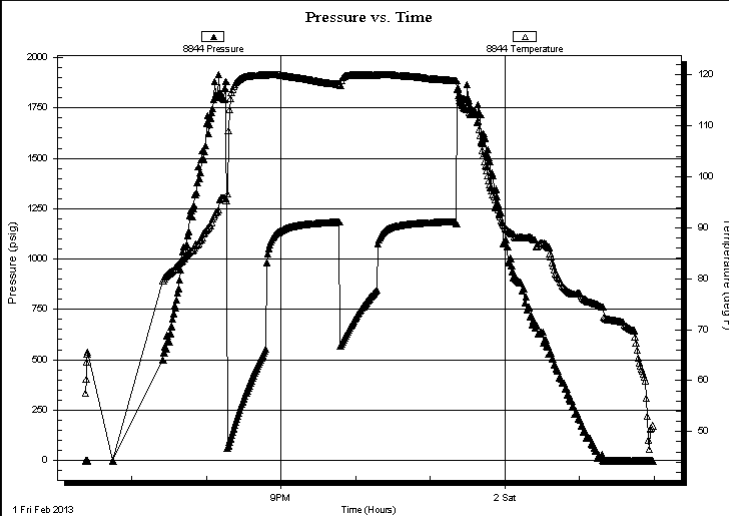
Last Calib.:

2013.02.02

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(30min) BOB 1 min.
IS:(60min) No Return
FF:(30min) BOB 2 min.
FS:(60min) No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OSWM o=tr w =45% m=55%	0.84
1765.00	OSMW o=tr m=5% w =95%	24.76
5.00	OSWM o=tr w =40% m=60%	0.07

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51468

DST#: 6

ATTN: Paul Gunzelman

Test Start: 2013.02.01 @ 18:23:05

Tool Information

Drill Pipe:	Length: 3675.00 ft	Diameter: 3.80 inches	Volume: 51.55 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: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 51.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3678.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	33.00 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			3656.00	
Shut In Tool	5.00			3661.00	
Hydraulic tool	5.00			3666.00	
Safety Joint	3.00			3669.00	
Packer	5.00			3674.00	23.00 Bottom Of Top Packer
Packer	4.00			3678.00	
Stubb	1.00			3679.00	
Recorder	0.00	8844	Inside	3679.00	
Recorder	0.00	8372	Outside	3679.00	
Perforations	6.00			3685.00	
Bullnose	3.00			3688.00	10.00 Bottom Packers & Anchor

Total Tool Length: 33.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co. inc.

28-14s-18w Ellis,KS

250 N Water STE 300
Wichita KS 67202

Kraus "JW" #1-28

Job Ticket: 51468

DST#: 6

ATTN: Paul Gunzelman

Test Start: 2013.02.01 @ 18:23:05

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:

35000 ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 12400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OSWM o=tr w =45% m=55%	0.842
1765.00	OSMW o=tr m=5% w =95%	24.758
5.00	OSWM o=tr w =40% m=60%	0.070

Total Length: 1830.00 ft

Total Volume: 25.670 bbl

Num Fluid Samples: 0

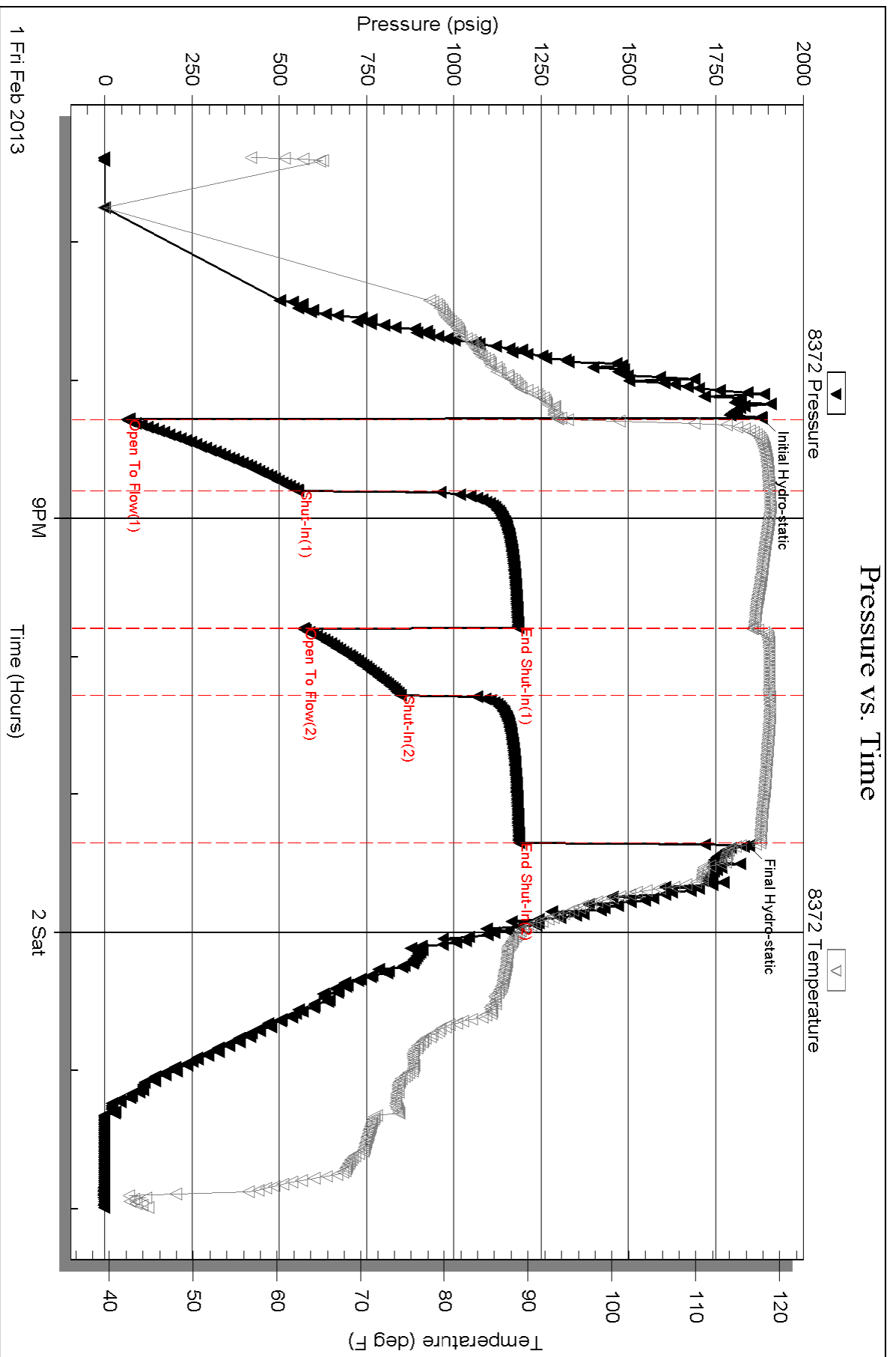
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



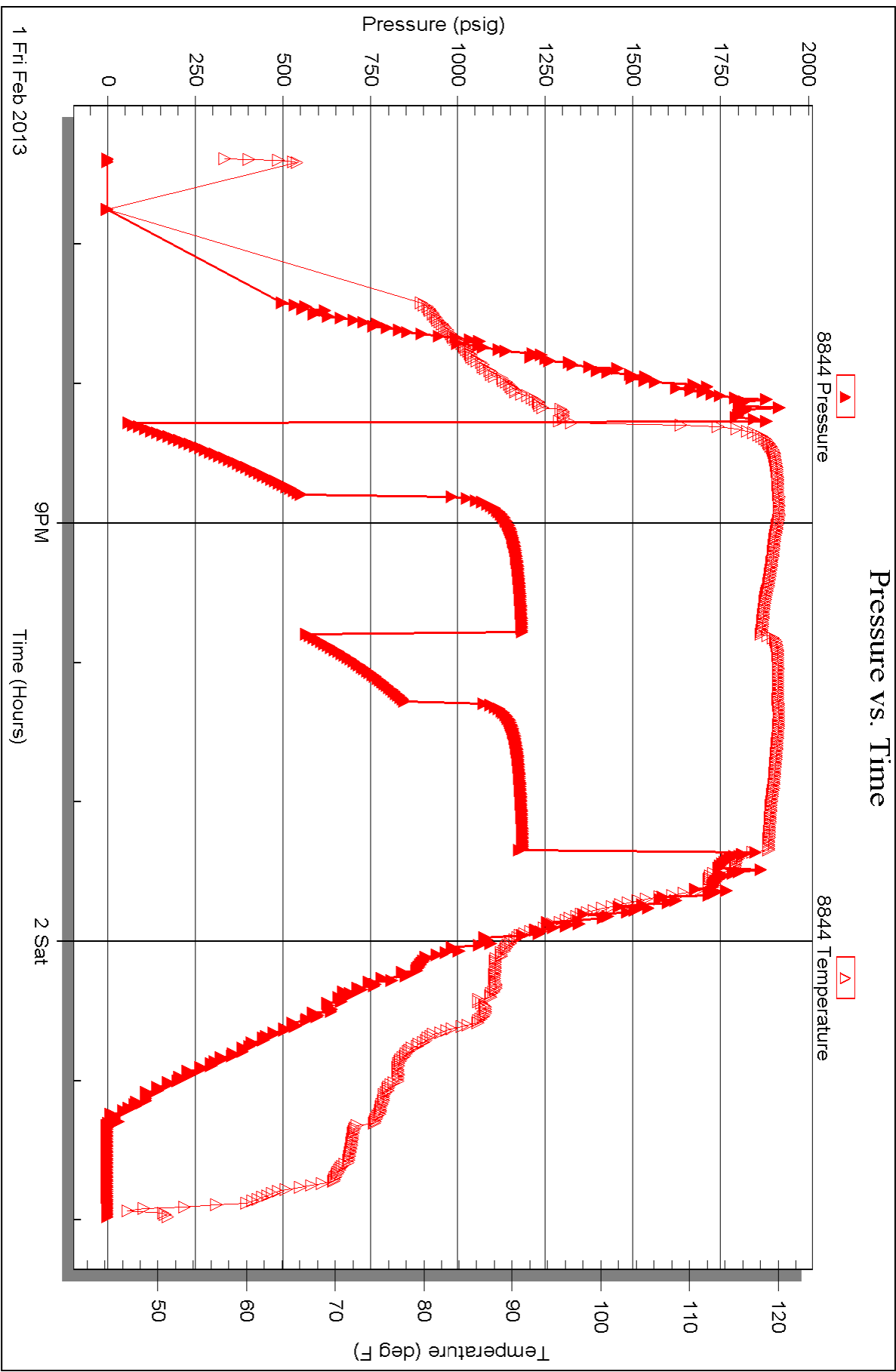
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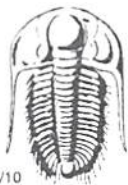
Inside

Murfin Dtg. Co. Inc.

Kraus "JW" #1-28

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51462

Well Name & No. KRAUS "JW" 1-28 Test No. 1 Date 1-28-13
 Company MURFIN DRUG CO. INC. Elevation 2068 KB 2063 GL
 Address 250 N WATER STE 300 WICHITA KS. 67202
 Co. Rep / Geo. PAUL GUNZELMAN Rig MURFIN 16
 Location: Sec. 28 Twp. 14S Rge. 18W Co. ELLIS State Ks

Interval Tested 3070 - 3083 Zone Tested TOPEKA
 Anchor Length 13 Drill Pipe Run _____ Mud Wt. 8.9
 Top Packer Depth 3065 Drill Collars Run 29.05 Vis 57
 Bottom Packer Depth 3070 Wt. Pipe Run 0 WL 7.2
 Total Depth 3083 Chlorides 6000 ppm System LCM 0

Blow Description IF: 1" blow in 3min, 4" in 16min, Built to 6 1/4" in 30min.
ISI: Intermittent Return surface blow, 5min. after bleed off
FF: 1" blow in 4min, 4" in 20min, 6" in 34min, Built to 9 1/4" in 60min.
FSI: Very weak intermittent surface blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>Water w/ skin of oil on top</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 125' BHT 99° Gravity _____ API RW -128 @ 64 °F Chlorides 70,000 ppm

(A) Initial Hydrostatic <u>1502</u>	<input checked="" type="checkbox"/> Test @ 1150	T-On Location <u>08:01</u>
(B) First Initial Flow <u>15</u>	<input type="checkbox"/> Jars _____	T-Started <u>10:20</u>
(C) First Final Flow <u>42</u>	<input checked="" type="checkbox"/> Safety Joint @ 75	T-Open <u>12:05</u>
(D) Initial Shut-In <u>1023</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>16:05</u>
(E) Second Initial Flow <u>45</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>17:29</u>
(F) Second Final Flow <u>80</u>	<input checked="" type="checkbox"/> Mileage <u>15 RTE</u> 23.25	Comments _____
(G) Final Shut-In <u>1003</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1436</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

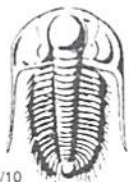
Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1248.25

Total 1248.25
 MP/DST Disc't _____

Approved By _____ Our Representative Andy Car

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51463

4/10

Well Name & No. Kraus JW" 1-28 Test No. 2 Date 1-29-13
 Company Muefin Dele Co. inc Elevation 2068 KB 2063 GL
 Address 250 N Water STE 300 Wichita Ks. 67202
 Co. Rep / Geo. Paul Gunzelman Rig Muefin 16
 Location: Sec. 28 Twp. 14s Rge. 18w Co. Ellis State Ks

Interval Tested 3299 - 3383 Zone Tested Top & LKC "A&B"
 Anchor Length 84 Drill Pipe Run 3296 Mud Wt. 8.9
 Top Packer Depth 3294 Drill Collars Run 0 Vis 60
 Bottom Packer Depth 3299 Wt. Pipe Run 0 WL 7.2
 Total Depth 3383 Chlorides 14000 ppm System LCM 0

Blow Description IF: Blow died in 15 min
ISF: No Return
FF: No Blow
FSI: No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

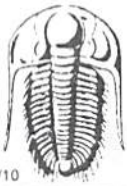
Rec Total 30 BHT 95° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1654 Test ← 1150 T-On Location 17:48
 (B) First Initial Flow 29 Jars _____ T-Started 18:26
 (C) First Final Flow 30 Safety Joint ← 75 T-Open 20:04
 (D) Initial Shut-In 400 Circ Sub _____ T-Pulled 23:04
 (E) Second Initial Flow 31 Hourly Standby _____ T-Out 01:00
 (F) Second Final Flow 31 Mileage 15 RTE 23.25 Comments _____
 (G) Final Shut-In 295 Sampler _____
 (H) Final Hydrostatic 1608 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 60 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1248.25
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1248.25

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51464

Well Name & No. Kraus JW 1-28 Test No. 3 Date 1-30-13
 Company Murfin Delc Co in Elevation 2068 KB 2063 GL
 Address 250 N Water STE 300 Wichita Ks 67202
 Co. Rep / Geo. Paul Bunzelman Rig Murfin 16
 Location: Sec. 28 Twp. 14s Rge. 18W Co. Ellis State Ks

Interval Tested 3383 - 3433 Zone Tested LKC "D-F"
 Anchor Length 50 Drill Pipe Run 3390 Mud Wt. 9.2
 Top Packer Depth 3378 Drill Collars Run 0 Vis 54
 Bottom Packer Depth 3383 Wt. Pipe Run 0 WL 7.6
 Total Depth 3433 Chlorides 14000 ppm System LCM 0

Blow Description IF: 2" blow in 1min, 4" in 3min, 8" in 9min, BOB in 15min
ISF: Weak surface return blow, died in 45min
FF: 2" blow in 3min, 4" in 7min, 8" in 16min, BOB in 25min
FSL: No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>MW w/oil spks in Tool</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 300 BHT 107 Gravity _____ API RW .216 @ 25° F Chlorides 98000 ppm

(A) Initial Hydrostatic <u>1682</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>10:08</u>
(B) First Initial Flow <u>21</u>	<input type="checkbox"/> Jars	T-Started <u>10:17</u>
(C) First Final Flow <u>80</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>11:42</u>
(D) Initial Shut-In <u>330</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>15:42</u>
(E) Second Initial Flow <u>86</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>17:17</u>
(F) Second Final Flow <u>158</u>	<input checked="" type="checkbox"/> Mileage <u>15 RT</u> 23.25	Comments _____
(G) Final Shut-In <u>322</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1644</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

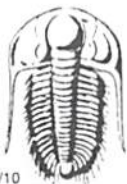
Sub Total 1248.25

Total 1248.25

MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51465

4/10

Well Name & No. KRAUS "JW" 1-28 Test No. 4 Date 1-31-13
 Company MURFIN Delg. Co. inc Elevation 2068 KB 2063 GL
 Address 250 N WATER STE 300 WICHITA KS. 67202
 Co. Rep / Geo. PAUL GUNZELMAN Rig MURFIN 16
 Location: Sec. 28 Twp. 14S Rge. 18W Co. ELLIS State Ks.

Interval Tested 3489-3558 Zone Tested LKC "IK"
 Anchor Length 69' Drill Pipe Run 3488 Mud Wt. 9.2
 Top Packer Depth 3484 Drill Collars Run 0 Vis 50
 Bottom Packer Depth 3489 Wt. Pipe Run 0 WL 8.0
 Total Depth 3538 Chlorides 13400 ppm System LCM 2

Blow Description IF: 1" blow
ISI: NO RETURN
FF: WEAK surface blow
FSL: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>32</u>	<u>WM</u>			<u>30%</u>	<u>70%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

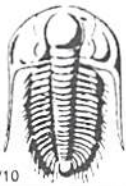
Rec Total 32 BHT 100° Gravity _____ API RW .421 @ 23° F Chlorides 52000 ppm

(A) Initial Hydrostatic 1738 Test 1150 T-On Location 07:47
 (B) First Initial Flow 17 Jars _____ T-Started 08:21
 (C) First Final Flow 23 Safety Joint 75 T-Open 10:15
 (D) Initial Shut-In 550 Circ Sub _____ T-Pulled 13:15
 (E) Second Initial Flow 26 Hourly Standby _____ T-Out 14:45
 (F) Second Final Flow 30 Mileage 15RT 23.25 Comments _____
 (G) Final Shut-In 525 Sampler _____
 (H) Final Hydrostatic 1712 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 60 Extra Recorder _____
 Sub Total 0
 Total 1248.25
 Sub Total 1248.25 MP/DST Disc't _____

Approved By _____ Our Representative Andy Con

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51467

Well Name & No. KRAUS "JW" 1-28 Test No. 5 Date 2-1-13
 Company MURFIN DOLA CO. INC Elevation 2068 KB 2063 GL
 Address 250 N WATER STE 300 WICHITA KS. 67202
 Co. Rep / Geo. PAUL GUNZELMAN Rig MURFIN 16
 Location: Sec. 28 Twp. 14s Rge. 18W Co. ELLIS State Ks.

Interval Tested 3616-3678 Zone Tested ARBuckle
 Anchor Length 62' Drill Pipe Run 3613 Mud Wt. 9.2
 Top Packer Depth 3611 Drill Collars Run 0 Vis 50
 Bottom Packer Depth 3616 Wt. Pipe Run 0 WL 8.0
 Total Depth 3678 Chlorides 13400 ppm System LCM 2

Blow Description IF: 2" blow in 2min, 6" in 7min, 10" in 14min, BOB in 15min
ISI: Bled off 5min. Return surface blow 7min after bleed off, Sied in 46min
FF: 2" blow in 2min, 6" in 7min, 10" in 14min, BOB in 16min
FSL: Bled off 10min. Return surface blow 6min after bleed off. WEAK SURFACE blow throughout

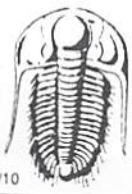
Rec	Feet of	%gas	%oil	%water	%mud
<u>315</u>	<u>SOBM 60</u>	<u>15</u>	<u>85</u>		
<u>60</u>	<u>OCBM</u>	<u>5</u>	<u>15</u>		<u>80</u>
<u>60</u>	<u>OCBM</u>	<u>5</u>	<u>10</u>		<u>85</u>
<u>90</u>	<u>BIP</u>	<u>100</u>			

Rec Total 435' BHT 107' Gravity 27 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1871 Test 1150 T-On Location 02:10
 (B) First Initial Flow 29 Jars T-Started 02:56
 (C) First Final Flow 85 Safety Joint 75 T-Open 04:45
 (D) Initial Shut-In 1117 Circ Sub T-Pulled 08:45
 (E) Second Initial Flow 87 Hourly Standby T-Out 11:06
 (F) Second Final Flow 175 Mileage 15RT 23.25 Comments _____
 (G) Final Shut-In 1095 Sampler _____
 (H) Final Hydrostatic 1809 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 60 Extra Recorder _____
 Final Shut-In 90 Day Standby _____
 Sub Total 0 Accessibility _____
 Total 1248.25 MP/DST Disc't _____
 Sub Total 1248.25

Approved By _____ Our Representative [Signature]
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51468

Well Name & No. KRAUS JW 1-28 Test No. 6 Date 2-1-13
 Company MURFIN DELG. CO INC Elevation 2068 KB 2063 GL
 Address 250N WATER STE 300 WICHITA KS 67202
 Co. Rep / Geo. PAUL GUNZELMAN Rig MURFIN 1P
 Location: Sec. 28 Twp. 14S Rge. 18W Co. ELLIS State KS

Interval Tested 3678-3688 Zone Tested ARBUCKLE
 Anchor Length 10' Drill Pipe Run 3675 Mud Wt. 9.2
 Top Packer Depth 3673 Drill Collars Run 0 Vis 50 69
 Bottom Packer Depth 3678 Wt. Pipe Run 0 WL 50 7.6
 Total Depth 3688 Chlorides 12400 ppm System LCM 2 7

Blow Description FF: BOB 1min.
IST: NO RETURN
FF: BOB 2min.
FSL: NO RETURN

Rec	Feet of	%gas	TR	%oil	%water	%mud
<u>5</u>	<u>OSWM</u>				<u>40</u>	<u>60</u>
<u>1765</u>	<u>OSMW</u>				<u>95</u>	<u>5</u>
<u>60</u>	<u>OSWM</u>				<u>45</u>	<u>55</u>
		%gas		%oil	%water	%mud
		%gas		%oil	%water	%mud

Rec Total 1830 BHT 117° Gravity API RW 321 @ 42° F Chlorides 35000 ppm

(A) Initial Hydrostatic 1882 Test 1150 T-On Location 16:51
 (B) First Initial Flow 63 Jars _____ T-Started 18:23
 (C) First Final Flow 553 Safety Joint 75 T-Open 20:18
 (D) Initial Shut-In 1184 Circ Sub _____ T-Pulled 23:18
 (E) Second Initial Flow 566 Hourly Standby _____ T-Out 02:00
 (F) Second Final Flow 846 Mileage 15RT 23.25 Comments _____
 (G) Final Shut-In 1186 Sampler _____
 (H) Final Hydrostatic 1844 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 0
 Total 1248.25
 MP/DST Disc't _____
 Sub Total 1248.25

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.

acct.
Prod-lizH

Date: 1/30/2013
Invoice # 6346

P.O.#:

Due Date: 3/1/2013

Division: Russell



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

Invoice

USED FOR Drilling
APPROVED [Signature]

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

Reference:
KRAUS JW 1-28

Description of Work:
SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
Common-Class A	165	\$ 2,246.45	Yes				
Bulk Truck Matl-Material Service Charge	173	\$ 375.66	No				
Calcium Chloride	5	\$ 258.73	Yes				
Premium Gel (Bentonite)	3	\$ 53.03	Yes				
Pump Truck Mileage-Job to Nearest Camp	4	\$ 43.34	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	4	\$ 25.36	No				

OKD

Invoice Terms:

Net 30

SubTotal: \$ 3,993.95
Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (599.09)

SubTotal for Taxable Items:	\$ 2,174.47
SubTotal for Non-Taxable Items:	\$ 1,220.39
Total:	\$ 3,394.86
Tax:	\$ 136.99

6.30% Ellis County Sales Tax

Thank You For Your Business!

Amount Due: \$ 3,531.85
Applied Payments:
Balance Due: \$ 3,531.85

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. 6346

Date	Sec.	Twp.	Range	County	State	On Location	Finish
1-25-13	28	14	18	Ellis	KS		4:15pm
Location <i>Hwy 45 Winto</i>							

Lease <i>Kraus SW</i>	Well No. <i>1-28</i>	Owner
Contractor <i>Murfin #16</i>		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Type Job <i>Surface</i>		Charge To <i>Murfin Drly</i>
Hole Size <i>12 1/4</i>	T.D. <i>218</i>	Street
Csg. <i>8 5/8</i>	Depth <i>218</i>	City
Tbg. Size	Depth	State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. <i>15'</i>	Shoe Joint	Cement Amount Ordered <i>16.5 com. 3 1/2 cc 2 1/2 pl</i>
Meas Line	Displace <i>13RC</i>	

EQUIPMENT

Pumptrk	No.	Cementer	
9		<i>Craig</i>	
		Helper	
Bulktrk	No.	Driver	
		<i>Cody</i>	
		Driver	
Bulktrk	No.	Driver	
10		<i>Heath</i>	
		Driver	

Common *165*

Poz. Mix

Gel. *3*

Calcium *5*

JOB SERVICES & REMARKS

Hulls

Salt

Flowseal

Kol-Seal

Mud CLR 48

CFL-117 or CD110 CAF 38

Sand

Handling *173*

Mileage

FLOAT EQUIPMENT

Guide Shoe

Centralizer *8 5/8 Swage*

Baskets

AFU Inserts

Float Shoe

Latch Down

Pumptrk Charge *Surface*

Mileage *4*

Tax

Discount

Total Charge

X Signature *A. J. [unclear]*

Acly -

cc: WF
cc: Liu
cc: L-1

Date: 3/5/2013
Invoice # 6423

P.O.#:

Due Date: 4/4/2013

Division: Russell



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

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:
KRAUS JW 1-28

Description of Work:
PORT COLLAR JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
mon, MetsoBeads, Plater, Gel, FloSeal, Calcium)	200	\$ 4,151.77	Yes				
Bulk Truck Mat-Material Service Charge	200	\$ 434.29	No				
Flo Seal	50	\$ 108.57	Yes				
Pump Truck Mileage-Job to Nearest Camp	5	\$ 54.18	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	5	\$ 31.70	No				

Invoice Terms:

Net 30

SubTotal: \$ 5,771.90

Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (865.78)

SubTotal for Taxable Items: \$ 3,621.29

SubTotal for Non-Taxable Items: \$ 1,284.82

Total: \$ 4,906.12

Tax: \$ 228.14

6.30% Ellis County Sales Tax

Thank You For Your Business!

Amount Due: \$ 5,134.26

Applied Payments:

Balance Due: \$ 5,134.26

Past Due Invoices are subject to a service charge (annual rate of 24%)
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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. 6423

Date	3-1-13	Sec.	Twp.	Range	County	State	On Location	Finish
					ELLIS	KANSAS		1:00 pm

Lease KRAUS "JW" Well No. #1-28 Location HAYS-4S-W/INTO

Owner MURETN DRILLING
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.

Contractor MURETN

Type Job PORT-COLLAR

Hole Size 7 3/8" T.D. Charge To MURETN DRILLING

Csg. 5 1/2" Depth Street

Tbg. Size 2 3/8" Depth City State

Tool PORT COLLAR Depth 1,276' The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. Shoe Joint Cement Amount Ordered 200SKS-Qmdc - 1/4# FLOWSEAL

Meas Line Displace

EQUIPMENT Common 200 Qmdc

Pumptrk # 15 No. Cementer Helper NRCK W. Poz. Mix

Bulktrk # 12 No. Driver CLAYTON B. Gel.

Bulktrk # 7u No. Driver CTSAO A. Calcium

JOB SERVICES & REMARKS Hulls

Remarks: Salt

Rat Hole Flowseal 50 #

Mouse Hole Kol-Seal

Centralizers Mud CLR 48

Baskets CFL-117 or CD110 CAF 38

~~or~~ Port Collar @ 1,276' Sand

TESTED TOOL TO 1,000# TOOL HELD Handling

ESTABLISHED CIRCULATION MIXED Mileage

AND PUMPED 200SKS - BROKE CONNOC

TRON - TESTED TOOL - TOOL HELD - RAN

5 JOINTS - WASHED AROUND TOOL -

CEMENT DID NOT ~~CIRCULATE!~~

THANK YOU!

Signature

Pumptrk Charge port collar

Mileage 5

Tax

Discount

Total Charge

Accts —
cc: w
cc: h
cc: l



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

Date: 3/8/2013
Invoice # 6447

P.O.#:
Due Date: 4/7/2013
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:
KRAUS JW 1-28

Description of Work:
CIRCULATE CEMENT

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
Common-Class A	39	\$ 530.98	Yes				
Bulk Truck Matl-Material Service Charge	150	\$ 325.71	No				
POZ Mix-Standard	26	\$ 129.85	Yes				
Pump Truck Mileage-Job to Nearest Camp	5	\$ 54.18	No				
Premium Gel (Bentonite)	2	\$ 35.35	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	5	\$ 31.70	No				

Invoice Terms:
Net 30

	SubTotal:	\$ 2,099.16
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$ (314.87)
<hr/>		
	SubTotal for Taxable Items:	\$ 591.75
	SubTotal for Non-Taxable Items:	\$ 1,192.53
<hr/>		
	Total:	\$ 1,784.29
	Tax:	\$ 37.28
	Amount Due:	\$ 1,821.57
	Applied Payments:	
	Balance Due:	\$ 1,821.57

6.30% Ellis County Sales Tax

Thank You For Your Business!

Past Due Invoices are subject to a service charge (annual rate of 24%)
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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. 6477

Date	3-4-13	Sec.		Twp.		Range		County	ELLIS	State	KANSAS	On Location		Finish	3:00 PM
Lease								Location							
KRAUS "JW"								HAYS - 45 - W/INTO							
Well No. # 1-28								Owner MURFIN DRILLING							
Contractor MURFIN								To Quality Oilwell Cementing, Inc.							
Type Job 1" AC - TO SURFACE								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								T.D.		Charge To MURFIN DRILLING					
Csg.								Depth		Street					
Tbg. Size								Depth		City State					
Tool PORT-COLLAR								Depth 1,276'		The above was done to satisfaction and supervision of owner agent or contractor.					
Cement Left in Csg.								Shoe Joint		Cement Amount Ordered 150 @ 40 - 4% GEL					
Meas Line								Displace		Used 65					
EQUIPMENT															
Pumptrk # 15		No.		Cementer		Helper		Common		39					
Bulktrk # 1		No.		Driver		NICK W.		Poz. Mix		26					
Bulktrk # 1		No.		Driver		LONNIE M.		Gel.		2					
Bulktrk # 1		No.		Driver		CISCOA.		Calcium							
JOB SERVICES & REMARKS															
Remarks:								Hulls							
Rat Hole								Salt							
Mouse Hole								Flowseal							
Centralizers								Kol-Seal							
Baskets								Mud CLR 48							
Port Collar @ 1,276'								CFL-117 or CD110 CAF 38							
MADE CONNECTION TO 1" PUMPED & MIXED 65 SKS - TO BRING CEMENT TO SURFACE - CEMENT DID CIRCULATE!								Sand							
								Handling 150							
								Mileage							
FLOAT EQUIPMENT															
								Guide Shoe							
								Centralizer							
								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge 15 15							
								Mileage 15							
								Tax							
								Discount							
								Total Charge							
X Signature								<p>THANK YOU'S</p> <p><i>[Signature]</i></p>							



QUALITY OILWELL CEMENT
 PO Box 32 - 740 West Wichita Ave, Russ
 Phone: 785-324-1041 fax: 785-483
 Email: cementing@ruraltel.net

Accto —
 cc: WT
 cc: Li'z
 cc: LR-1

Date: 2/6/2013
 Invoice # 6427
 P.O.#:
 Due Date: 3/8/2013
 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:
 KRAUS JW 1-28

Description of Work:
 PROD LONG STRING

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No	Pump Truck Mileage-Job to Nearest Camp	4	\$43.34	No
Common-Class A	195	\$ 2,654.90	Yes	Bulk Truck Mileage-Job to Nearest Bulk Plant	4	\$25.36	No
Gilsonite	950	\$ 1,547.14	Yes				
5 1/2" Turbolizer	15	\$ 944.57	Yes				
Cement Scratchers Cable Type, 5 1/2"	9	\$ 684.00	Yes				
Bulk Truck Matl-Material Service Charge	220	\$ 477.71	No				
Mud Clear	500	\$ 401.71	Yes				
Auto Fill Float Shoe, 5 1/2"	1	\$ 332.23	Yes				
5 1/2" Basket	1	\$ 249.71	Yes				
Latch Down Plug & Baffle, 5 1/2"	1	\$ 243.20	Yes				
Salt (Fine)	16	\$ 242.51	Yes				

Invoice Terms:

Net 30

	SubTotal:	\$ 8,915.95
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$ (1,325.67)
<hr/>		
	SubTotal for Taxable Items:	\$ 6,204.98
	SubTotal for Non-Taxable Items:	\$ 1,307.13
<hr/>		
	Total:	\$ 7,590.28
	Tax:	\$ 390.91
<hr/>		
	Amount Due:	\$ 7,981.19

6.30% Ellis County Sales Tax

Thank You For Your Business!

Applied Payments:
Balance Due: \$ 7,981.19

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. 8427

Date	2-2-13	Sec.	28	Twp.	14	Range	18	County	Ellis	State	KS	On Location	10:00 PM	Finish	3:00 AM
Location										Hays 45 West into					

Lease	Kraws SW	Well No.	F-28	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.										
Contractor	Martin 16			Charge To	Martin Dily										
Type Job	Long string			Street											
Hole Size	7 7/8	T.D.	3770	City	State										
Csg.	5 1/2	Depth	3769	The above was done to satisfaction and supervision of owner agent or contractor.											
Tbg. Size		Depth		Cement Amount Ordered 195 Com 10% Salt											
Tool		Depth		5% @ 150 wts											
Cement Left in Csg.	22.43	Shoe Joint	22.43	Common 195											
Meas Line		Displace	89.14	Poz. Mix											

EQUIPMENT

Pumptrk	15	No.	Cementer	Matt											
			Helper												
Bulktrk	14	No.	Driver	hick											
			Driver												
Bulktrk	pu	No.	Driver	bonne											
			Driver												

JOB SERVICES & REMARKS

Remarks:	Salt 16														
Rat Hole	30 SX	Flowseal													
Mouse Hole	15 SX	Kol-Seal 950 #													
Centralizers	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29	Mud CLR 48 500 gal													
Baskets	#57	CFL-117 or CD110 CAF 38													
D/V or Port Collar	58 Sount	Sand													
		Handling 220													
		Mileage													

Dropped Ball Circulated
for 1 hour sent mud flush
plugged Rat mouse hole mix
150 st down hole
left pressure 8 loads plug
1800 psi

FLOAT EQUIPMENT

Guide Shoe															
Centralizer	turbos	15	5 1/2												
Baskets	1	5 1/2													
AFU Inserts															
Float Shoe	5 1/2	1													
Latch Down	5 1/2	1													
	9 Reap Scratchers														
Pumptrk Charge	proal Long string														
Mileage	4														

X Signature	Mark Rolden	Tax	
		Discount	
		Total Charge	