



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1155578
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: _____



1155578

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

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

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



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

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

Sam Brownback, Governor

August 19, 2013

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

Re: ACO1
API 15-023-21364-00-00
Patti 1-10
NW/4 Sec.10-01S-37W
Cheyenne County, Kansas

Dear Production Department:

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

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

Respectfully,
Leon Rodak

MDCI Patti #1-10 1820' FNL 660' FWL Sec. 10-T1S-R37W 3200' KB							Berexco Mears 'A' #1-9 1820' FNL 620' FEL Sec. 9-T1S-R37W 3140' KB	
Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum
Anhydrite	3137	+63	+11	3148	+52	flat	3088	+52
B/Anhydrite	3182	+18	+1	3180	+20	+3	3123	+17
Neva	3600	-400	+4	3601	-401	+3	3544	-404
Red Eagle	3664	-464	+3	3665	-465	+2	3607	-467
Foraker	3712	-512	+4	3715	-515	+1	3656	-516
Topeka	3934	-734	+3	3935	-735	+2	3877	-737
Oread	4068	-868	+2	4070	-870	Flat	4010	-870
Lansing	4149	-949	+3	4151	-951	+1	4092	-952
Stark	4367	-1167	+1	4369	-1169	-1	4308	-1168
BKC	4424	-1224	Flat	4424	-1224	Flat	4364	-1224
Pawnee	4545	-1345	+1	4547	-1347	-1	4486	-1346
Cherokee	4634	-1434	-1	4635	-1435	-2	4673	-1433
Mississippi							4802	-1662
RTD	4735	-1535					5142	-2002
LTD				4736	-1536		5084	-1944

Jeff Christian

PETROLEUM GEOLOGIST
Wichita, Kansas

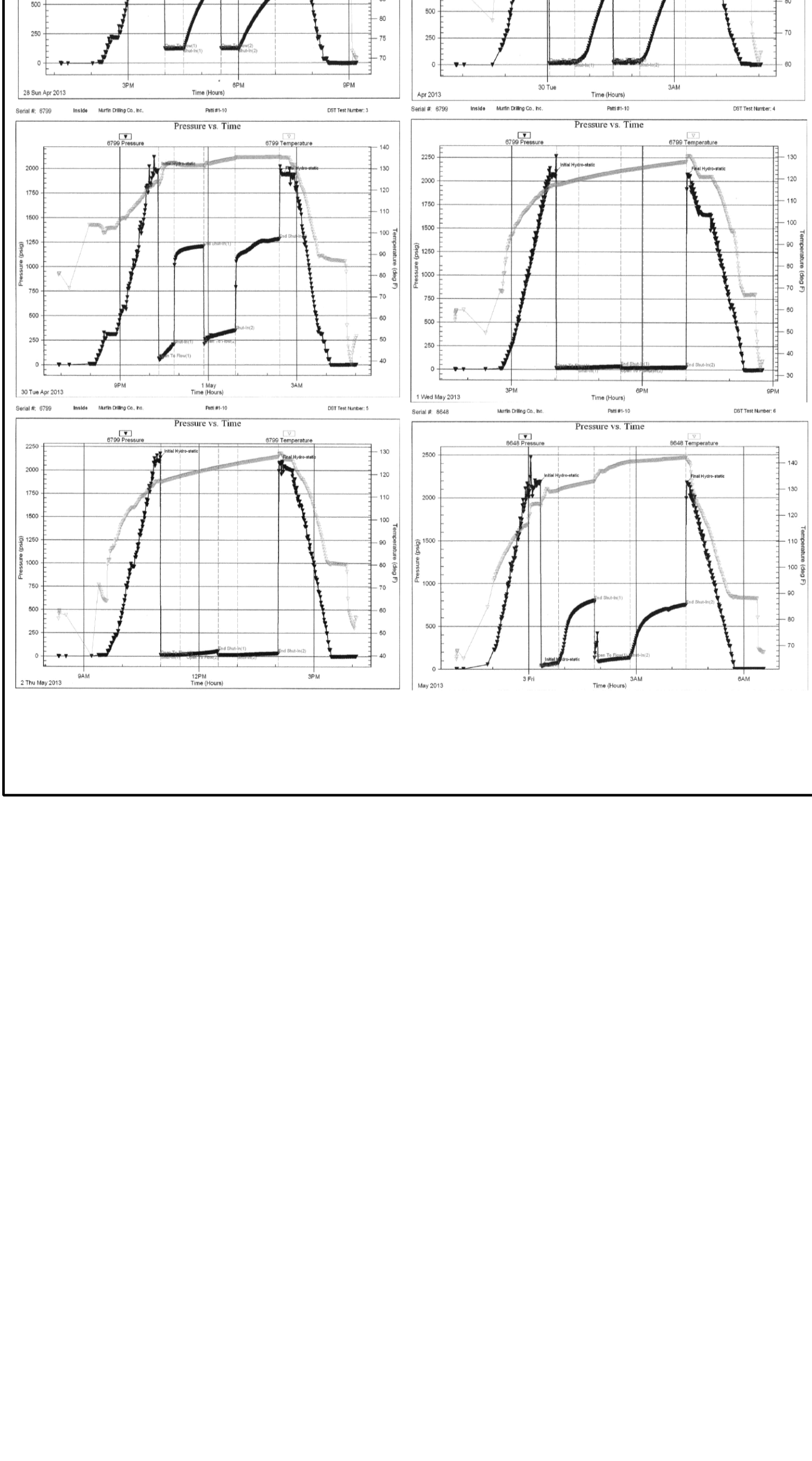
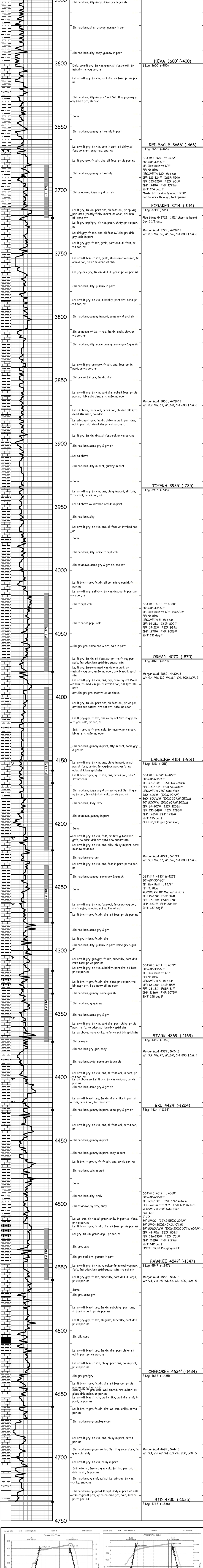
GEOLOGISTS REPORT
 DRILLING TIME AND SAMPLE LOGS
OPERATOR MURKIN DRILLING COMPANY
LEASE PATTI # 1-10
LOCATION 1820' FINL & 660' F/WL
ELVATIONS
 HUB 3200'
 COL. 3190'

SEC. 10 **TWP.** 1 S **RNG.** 3 W
COUNTY CHEYENNE **STATE** KANSAS
FIELD JONES CANNON SE
API 16-023-21364
OPERATOR COMPANY/TOOLIS RIG NO. 14
DRILLING STARTED DATE 02/24/2013 **COMPLETED** 05/04/2013
MUD DEPTH/ACCD 3270' **MUD TYPE** CHEMICAL
DRILLING TIME KEPT FROM 3000' **TO RTD**
SAMPLES SAVED FROM 3000' **TO RTD**
SAMPLES EXAMINED FROM 3000' **TO RTD**
GEOLOGICAL SUPERVISION FROM 3075' **TO RTD**

FORMATION NAME	TOP	LOG	TOP	SAMPLE	DEPTH
ANHYDRITE	3148'	(432)	3147'	(433)	
NEVA	3100'	(400)	3100'	(400)	
FORAKER	3174'	(514)	3172'	(512)	
TOPEKA	3393'	(723)	3394'	(724)	
LANSING	4151'	(951)	4149'	(949)	
STARK	4369'	(1169)	4367'	(1167)	
BKC	4424'	(1224)	4424'	(1224)	
PAWNEE	4847'	(1347)	4845'	(1345)	
CHEROKEE	4835'	(1335)	4834'	(1334)	
TOTAL DEPTH	4736'	(1536)	4735'	(1535)	

DATE	7:00 AM DEPTH	REMARKS
4/24/13	MIRT	SPUD @ 5:45 pm
4/25/13	227'	WOC dev. 1/2 deg.
4/26/13	2000'	DRL6.
4/27/13	3150'	DRL6.
4/28/13	3722'	CFS dev. 1/2 deg.
4/29/13	3825'	DRL6.
4/30/13	4080'	TIH after DST # 2
5/1/13	4221'	TIH after DST # 3
5/2/13	4372'	CFS
5/3/13	4545'	DRL6. dev. 2 deg. @ 4560'
5/4/13	4665'	DRL6. RTD 4735' @ 9:15 am dev. 3 3/4 deg. Finish Logging @ 7:30 pm

Remarks
 5 1/2" production casing set to further test the Pawnee and Lansing / Kansas City formations.
 Electric log measurements correlate about the same as rotary measurements.
 Samples deposited at the Kansas Geological Survey.
 Respectfully Submitted,
Jeff Christian
 Jeff Christian





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Jeff Christian

Patti #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.04.28 @ 13:10:00

End Date: 2013.04.28 @ 21:12:30

Job Ticket #: 50713 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.10 @ 10:49:54



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

10-1s-37w Cheyenne, KS

Patti #1-10

Job Ticket: 50713

DST#: 1

Test Start: 2013.04.28 @ 13:10:00

GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:59:45

Time Test Ended: 21:12:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: 3680.00 ft (KB) To 3722.00 ft (KB) (TVD)

Reference Elevations: 3200.00 ft (KB)

Total Depth: 3722.00 ft (KB) (TVD)

3190.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6799

Inside

Press @ Run Depth: 125.97 psig @ 3681.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.28

End Date:

2013.04.28

Last Calib.:

2013.04.28

Start Time:

13:10:05

End Time:

21:12:29

Time On Btm:

2013.04.28 @ 15:57:45

Time Off Btm:

2013.04.28 @ 19:01:45

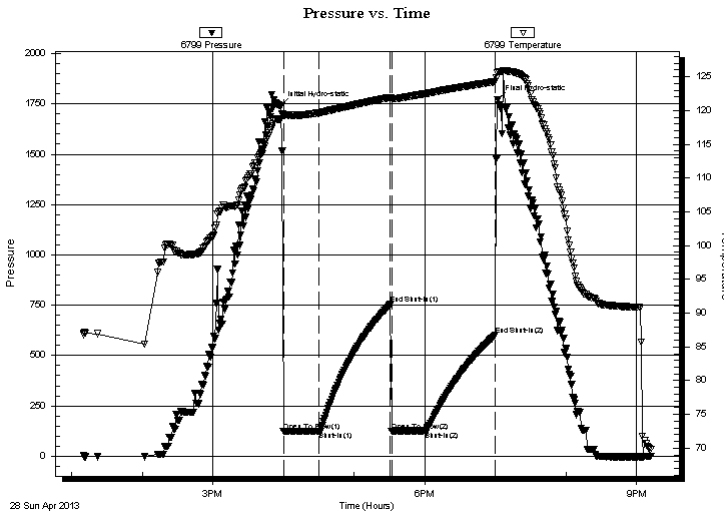
TEST COMMENT: 30 - IF - Surface Blow built to 1/8" Then died back to Weak Surface Blow

60 - ISI - No Return

30 - FF - No Blow

60 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1740.88	118.71	Initial Hydro-static
2	123.07	119.29	Open To Flow (1)
33	124.88	119.66	Shut-In(1)
93	754.14	121.95	End Shut-In(1)
94	123.00	121.75	Open To Flow (2)
122	125.97	122.47	Shut-In(2)
182	601.28	124.26	End Shut-In(2)
184	1772.16	125.65	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
190.00	Mud 100M	0.93

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne, KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50713

DST#: 1

ATTN: Jeff Christian

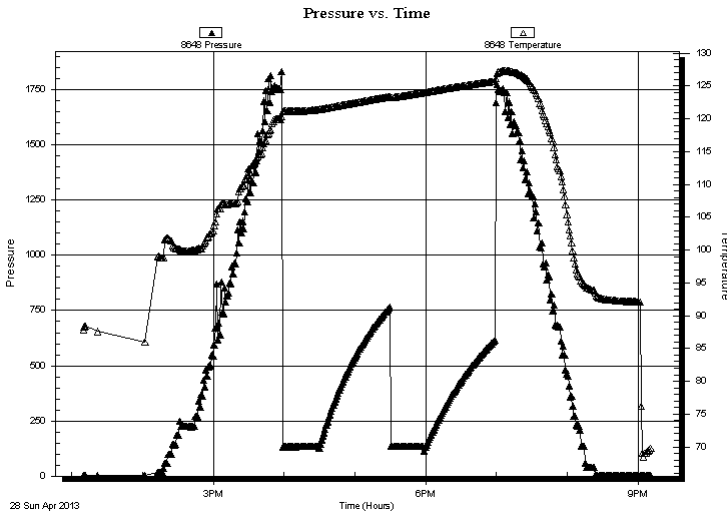
Test Start: 2013.04.28 @ 13:10:00

GENERAL INFORMATION:

Formation:	Foraker		Test Type:	Conventional Bottom Hole (Initial)
Deviated:	No Whipstock:	ft (KB)	Tester:	Kevin Mack
Time Tool Opened:	15:59:45		Unit No:	43
Time Test Ended:	21:12:30			
Interval:	3680.00 ft (KB) To 3722.00 ft (KB) (TVD)		Reference Elevations:	3200.00 ft (KB)
Total Depth:	3722.00 ft (KB) (TVD)			3190.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition: Good	KB to GR/CF:	10.00 ft

Serial #: 8648	Inside			Capacity:	8000.00 psig
Press @ Run Depth:	psig @	3681.00 ft (KB)		Last Calib.:	2013.04.28
Start Date:	2013.04.28	End Date:	2013.04.28	Time On Btm:	
Start Time:	13:10:05	End Time:	21:10:44	Time Off Btm:	

TEST COMMENT: 30 - IF - Surface Blow built to 1/8" Then died back to Weak Surface Blow
60 - ISI - No Return
30 - FF - No Blow
60 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
190.00	Mud 100M	0.93

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50713

DST#: 1

ATTN: Jeff Christian

Test Start: 2013.04.28 @ 13:10:00

Tool Information

Drill Pipe:	Length: 3140.00 ft	Diameter: 3.80 inches	Volume: 44.05 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 46.68 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3680.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	71.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: tol slid approx 10' to bottom

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3652.00	
Shut In Tool	5.00			3657.00	
Hydraulic tool	5.00			3662.00	
Jars	5.00			3667.00	
Safety Joint	3.00			3670.00	
Packer	5.00			3675.00	29.00 Bottom Of Top Packer
Packer	5.00			3680.00	
Stubb	1.00			3681.00	
Recorder	0.00	6799	Inside	3681.00	
Recorder	0.00	8648	Inside	3681.00	
Perforations	3.00			3684.00	
Change Over Sub	1.00			3685.00	
Drill Pipe	31.00			3716.00	
Change Over Sub	1.00			3717.00	
Bullnose	5.00			3722.00	42.00 Bottom Packers & Anchor

Total Tool Length: 71.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50713

DST#: 1

ATTN: Jeff Christian

Test Start: 2013.04.28 @ 13:10:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	Mud 100M	0.934

Total Length: 190.00 ft Total Volume: 0.934 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

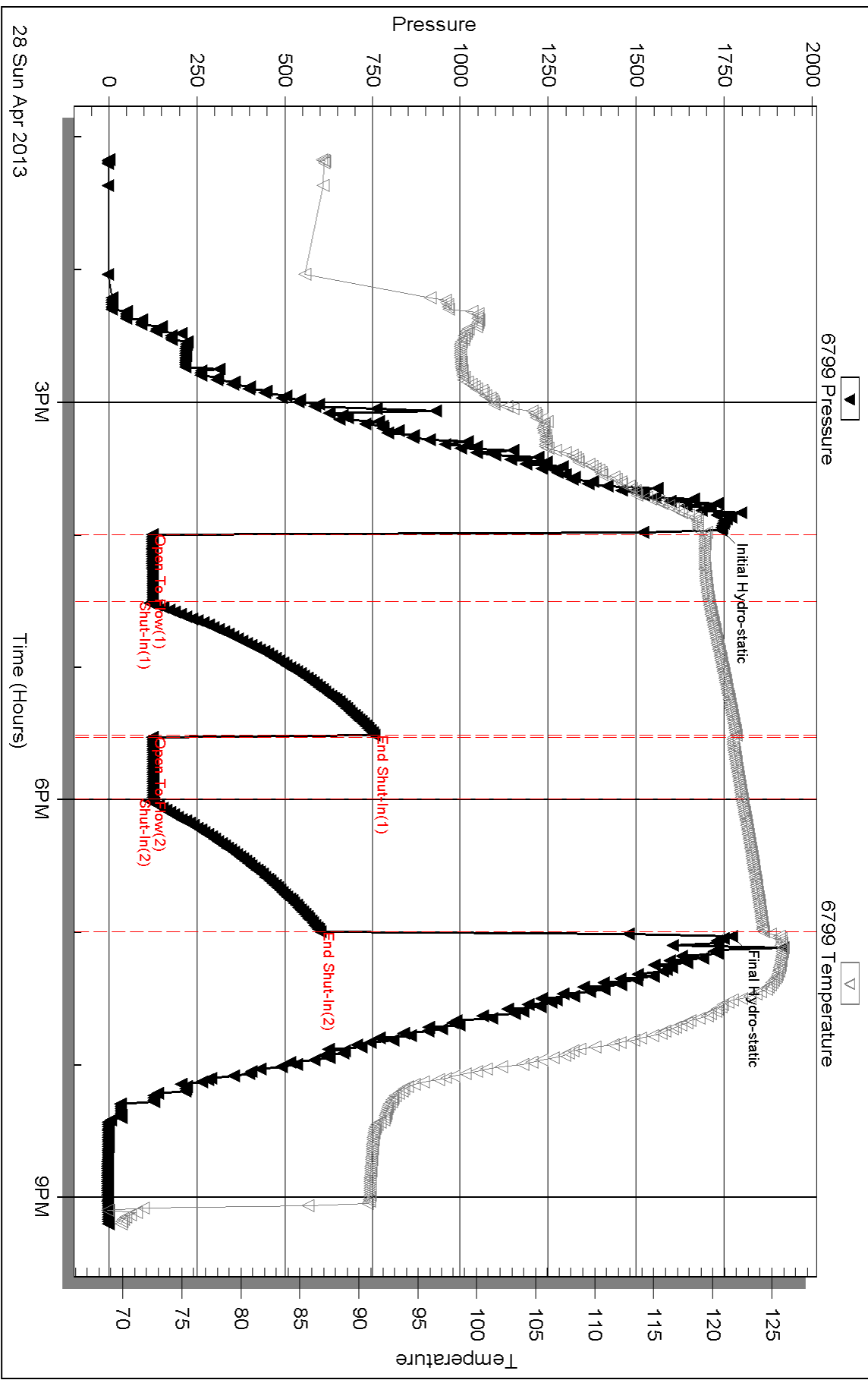
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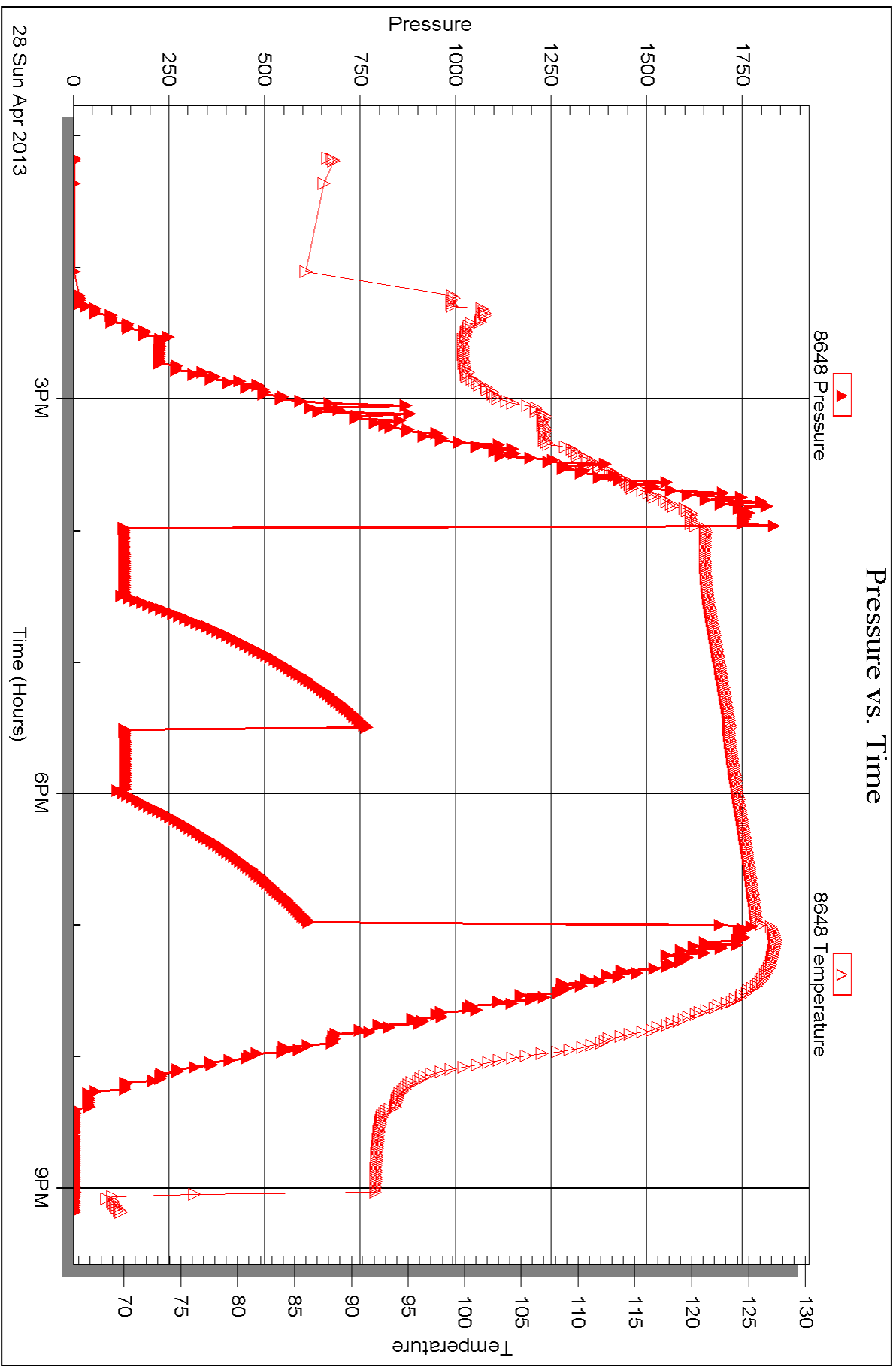
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Jeff Christian

Patti #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.04.29 @ 21:50:00

End Date: 2013.04.30 @ 05:02:45

Job Ticket #: 50714 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.10 @ 10:48:58



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne, KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50714

DST#: 2

ATTN: Jeff Christian

Test Start: 2013.04.29 @ 21:50:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:02:45

Time Test Ended: 05:02:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: 4018.00 ft (KB) To 4080.00 ft (KB) (TVD)

Reference Elevations: 3200.00 ft (KB)

Total Depth: 4080.00 ft (KB) (TVD)

3190.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6799

Inside

Press @ Run Depth: 22.86 psig @ 4019.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.29

End Date:

2013.04.30

Last Calib.: 2013.04.30

Start Time: 21:50:05

End Time:

05:02:44

Time On Btm: 2013.04.30 @ 00:00:45

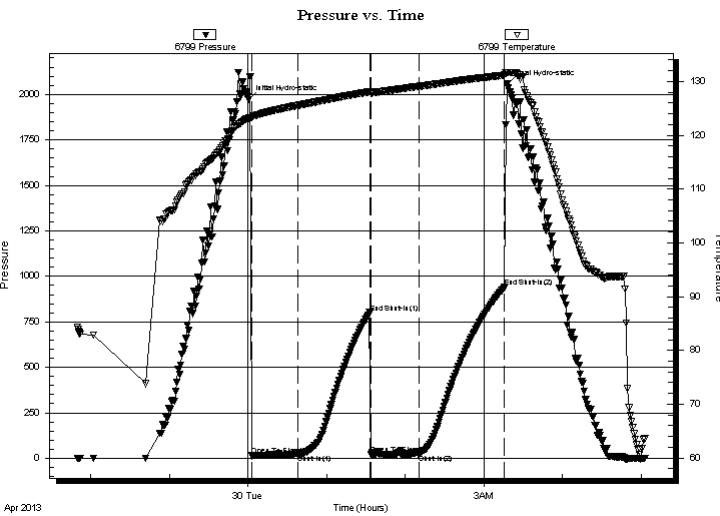
Time Off Btm: 2013.04.30 @ 03:17:45

TEST COMMENT: 30 - IF- Surface Blow built to 1/8" then died in 25 min.

60 - IS- No Return

30 - FF- No Blow

60 - FS- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1970.69	123.18	Initial Hydro-static
2	14.12	123.31	Open To Flow (1)
38	21.24	125.55	Shut-In(1)
92	800.91	128.08	End Shut-In(1)
93	19.64	127.85	Open To Flow (2)
130	22.86	129.10	Shut-In(2)
195	939.60	131.17	End Shut-In(2)
197	2056.55	131.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100M	0.02

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50714

DST#: 2

ATTN: Jeff Christian

Test Start: 2013.04.29 @ 21:50:00

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:02:45
 Time Test Ended: 05:02:45

Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 43

Interval: 4018.00 ft (KB) To 4080.00 ft (KB) (TVD)
 Total Depth: 4080.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3200.00 ft (KB)
 3190.00 ft (CF)
 KB to GR/CF: 10.00 ft

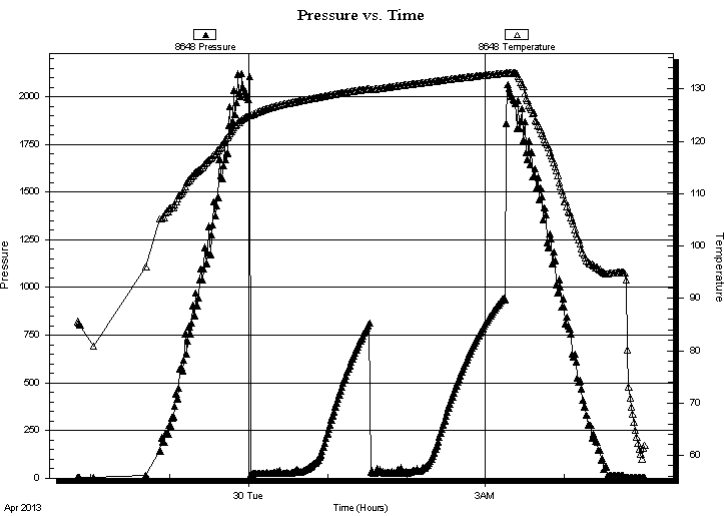
Serial #: 8648

Inside

Press@RunDepth: psig @ 4019.00 ft (KB)
 Start Date: 2013.04.29 End Date: 2013.04.30
 Start Time: 21:50:05 End Time: 05:01:14

Capacity: 8000.00 psig
 Last Calib.: 2013.04.30
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF- Surface Blow built to 1/8" then died in 25 min.
 60 - IS- No Return
 30 - FF- No Blow
 60 - FS- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100M	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50714

DST#: 2

ATTN: Jeff Christian

Test Start: 2013.04.29 @ 21:50:00

Tool Information

Drill Pipe:	Length: 3486.00 ft	Diameter: 3.80 inches	Volume: 48.90 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 51.53 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4018.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	91.00 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			3990.00	
Shut In Tool	5.00			3995.00	
Hydraulic tool	5.00			4000.00	
Jars	5.00			4005.00	
Safety Joint	3.00			4008.00	
Packer	5.00			4013.00	29.00 Bottom Of Top Packer
Packer	5.00			4018.00	
Stubb	1.00			4019.00	
Recorder	0.00	6799	Inside	4019.00	
Recorder	0.00	8648	Inside	4019.00	
Perforations	23.00			4042.00	
Change Over Sub	1.00			4043.00	
Drill Pipe	31.00			4074.00	
Change Over Sub	1.00			4075.00	
Bullnose	5.00			4080.00	62.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

10-1s-37w Cheyenne,KS
Patti #1-10
Job Ticket: 50714 **DST#: 2**
Test Start: 2013.04.29 @ 21:50:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 63.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.78 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100M	0.025

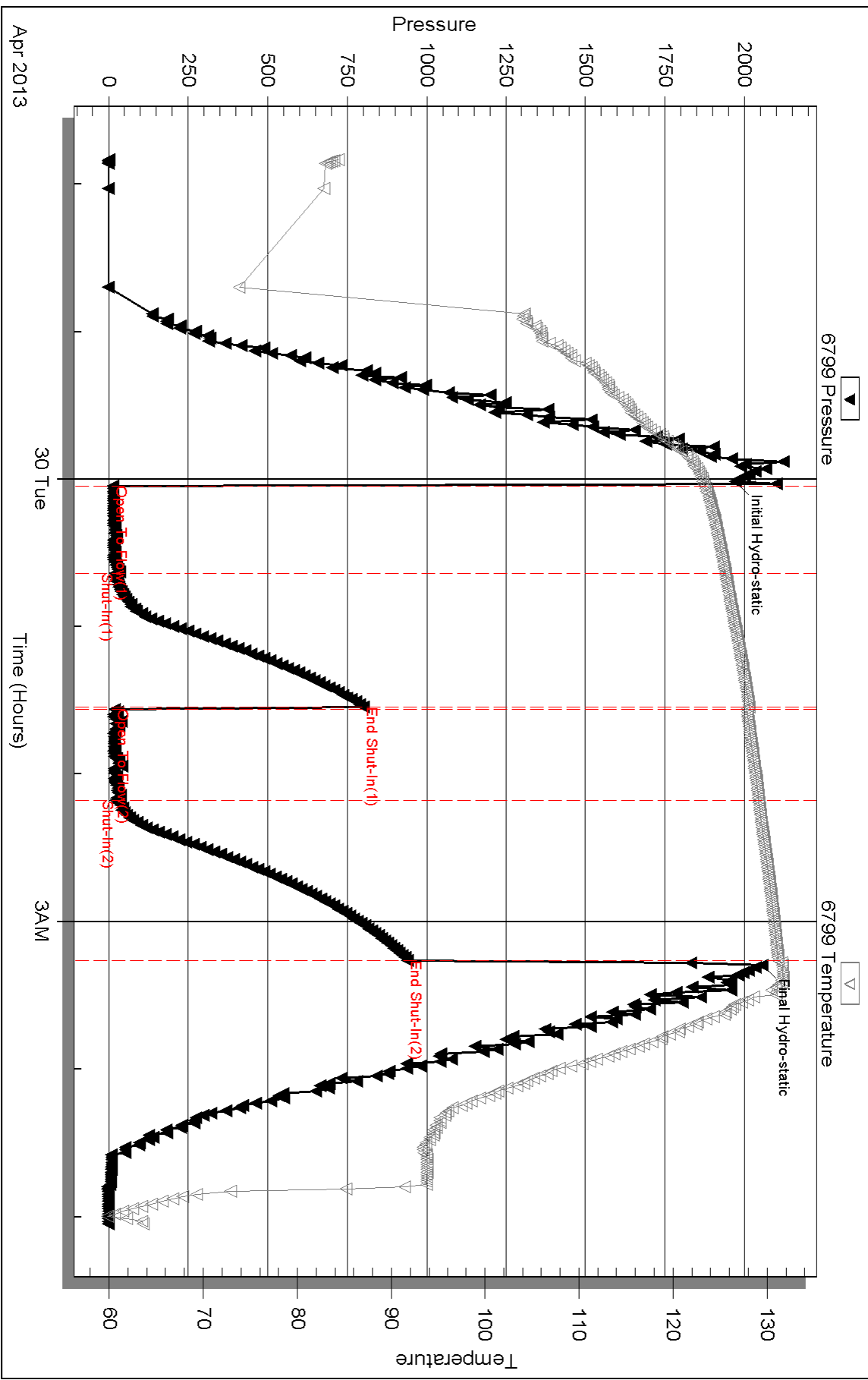
Total Length: 5.00 ft Total Volume: 0.025 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time



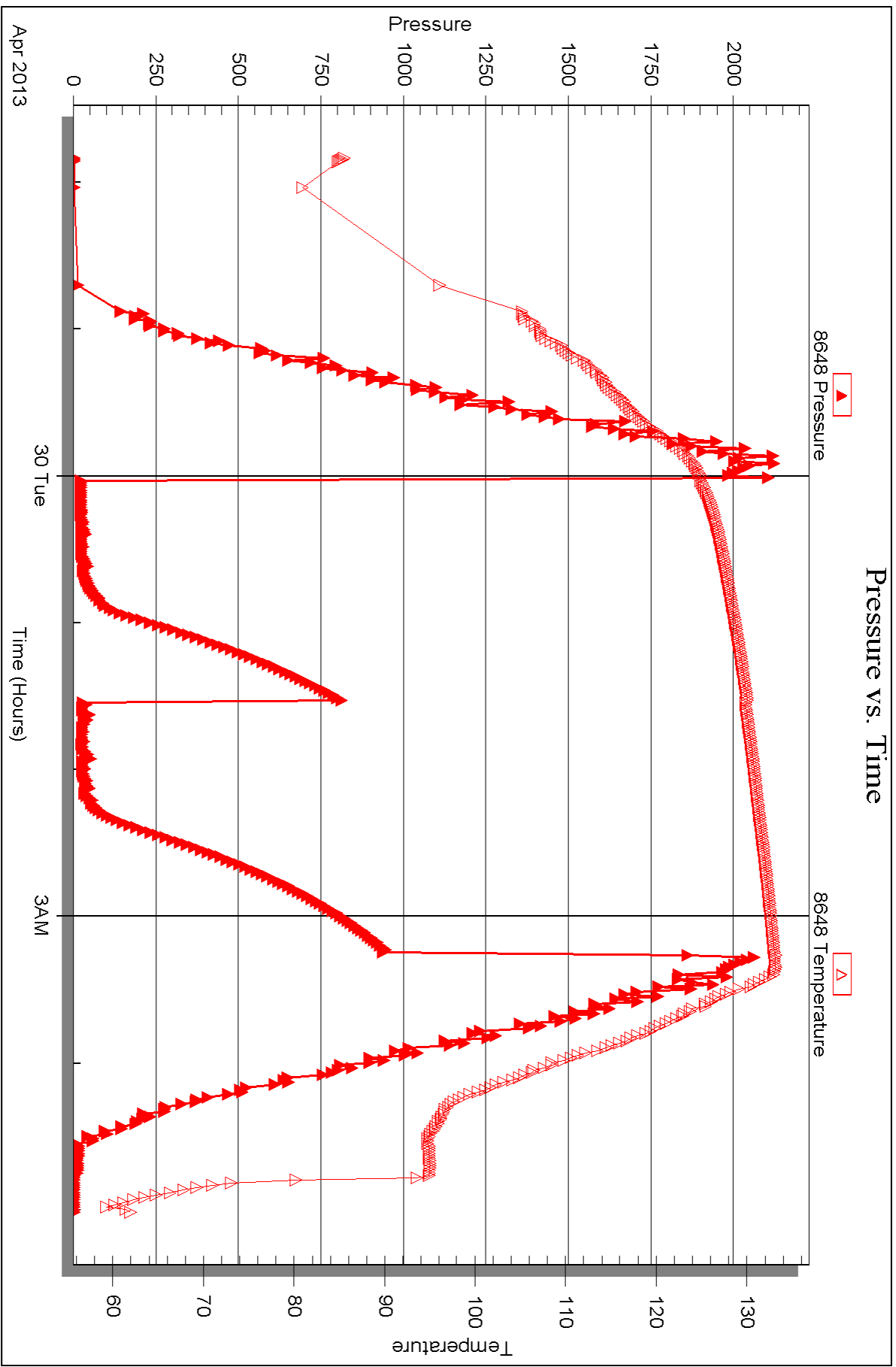
Serial #: 8648

Inside

Murfin Drilling Co., Inc.

Patti #1-10

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 50714

Printed: 2013.05.10 @ 10:49:01



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Jeff Christian

Patti #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.04.30 @ 18:55:00

End Date: 2013.05.01 @ 05:02:00

Job Ticket #: 50715 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.10 @ 10:48:12



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne, KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50715

DST#: 3

ATTN: Jeff Christian

Test Start: 2013.04.30 @ 18:55:00

GENERAL INFORMATION:

Formation: **LKC "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:18:30

Time Test Ended: 05:02:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: 4092.00 ft (KB) To 4221.00 ft (KB) (TVD)

Reference Elevations: 3200.00 ft (KB)

Total Depth: 4221.00 ft (KB) (TVD)

3190.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6799

Inside

Press @ Run Depth: 349.88 psig @ 4093.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.30

End Date:

2013.05.01

Last Calib.:

2013.05.01

Start Time:

18:55:05

End Time:

05:02:00

Time On Btm:

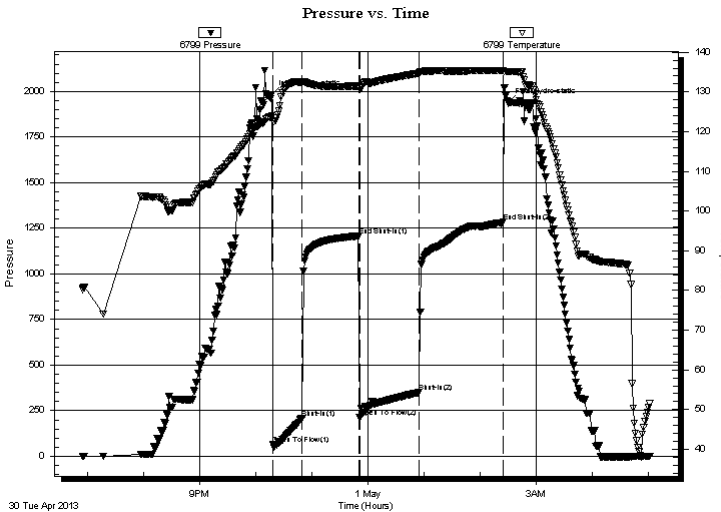
2013.04.30 @ 22:17:15

Time Off Btm:

2013.05.01 @ 02:29:45

TEST COMMENT: 30 - IF- BoB in 28 min.
60 - IS- No Return
60 - FF- Blow started at 2 min. BoB in 32 min.
90 - FS- No Return

PRESSURE SUMMARY



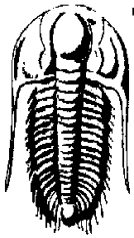
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1981.52	123.94	Initial Hydro-static
2	64.07	122.80	Open To Flow (1)
33	207.18	132.43	Shut-In(1)
93	1208.09	131.51	End Shut-In(1)
94	211.94	131.13	Open To Flow (2)
158	349.88	134.74	Shut-In(2)
248	1283.79	135.42	End Shut-In(2)
253	1936.65	135.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	OCMW 5o 65W 30M	0.44
180.00	OCWM 10o 40W 50M	0.89
180.00	OCWM 10o 30W 60M	0.89
280.00	OCM 10o 90M	3.16

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50715

DST#: 3

ATTN: Jeff Christian

Test Start: 2013.04.30 @ 18:55:00

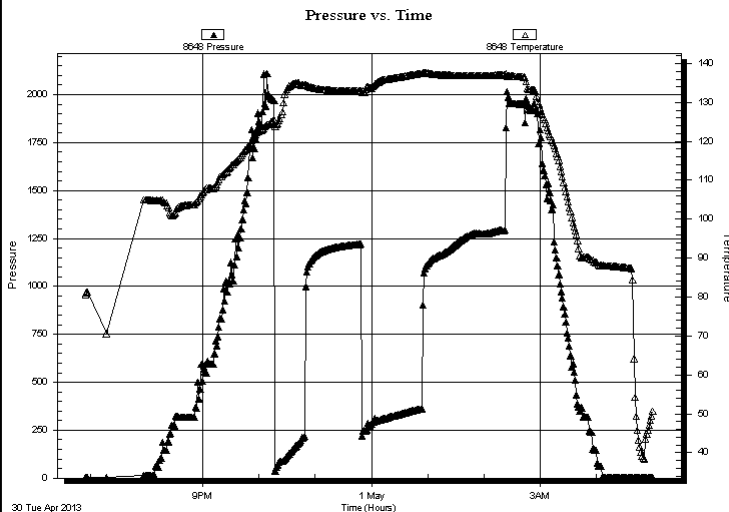
GENERAL INFORMATION:

Formation: **LKC "A-D"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 22:18:30
 Tester: Kevin Mack
 Time Test Ended: 05:02:00
 Unit No: 43
Interval: 4092.00 ft (KB) To 4221.00 ft (KB) (TVD)
 Reference Elevations: 3200.00 ft (KB)
 Total Depth: 4221.00 ft (KB) (TVD) 3190.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Good
 KB to GR/CF: 10.00 ft

Serial #: 8648 Inside

Press@RunDepth: psig @ 4093.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2013.04.30	End Date: 2013.05.01
Start Time: 18:55:05	End Time: 04:59:45
	Last Calib.: 2013.05.01
	Time On Btm:
	Time Off Btm:

TEST COMMENT: 30 - IF- BoB in 28 min.
 60 - IS- No Return
 60 - FF- Blow started at 2 min. BoB in 32 min.
 90 - FS- No Return



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

Recovery		
Length (ft)	Description	Volume (bbl)
90.00	OCMW 5o 65W 30M	0.44
180.00	OCWM 10o 40W 50M	0.89
180.00	OCWM 10o 30W 60M	0.89
280.00	OCM 10o 90M	3.16

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50715

DST#: 3

ATTN: Jeff Christian

Test Start: 2013.04.30 @ 18:55:00

Tool Information

Drill Pipe:	Length: 3550.00 ft	Diameter: 3.80 inches	Volume: 49.80 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 52.43 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4092.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	129.00 ft			
Tool Length:	158.00 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			4064.00	
Shut In Tool	5.00			4069.00	
Hydraulic tool	5.00			4074.00	
Jars	5.00			4079.00	
Safety Joint	3.00			4082.00	
Packer	5.00			4087.00	29.00 Bottom Of Top Packer
Packer	5.00			4092.00	
Stubb	1.00			4093.00	
Recorder	0.00	6799	Inside	4093.00	
Recorder	0.00	8648	Inside	4093.00	
Perforations	27.00			4120.00	
Change Over Sub	1.00			4121.00	
Drill Pipe	94.00			4215.00	
Change Over Sub	1.00			4216.00	
Bullnose	5.00			4221.00	129.00 Bottom Packers & Anchor

Total Tool Length: 158.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

10-1s-37w Cheyenne,KS
Patti #1-10
Job Ticket: 50715 **DST#: 3**
Test Start: 2013.04.30 @ 18:55:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	7500 ppm
Viscosity: 120.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.37 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 3.00 inches			

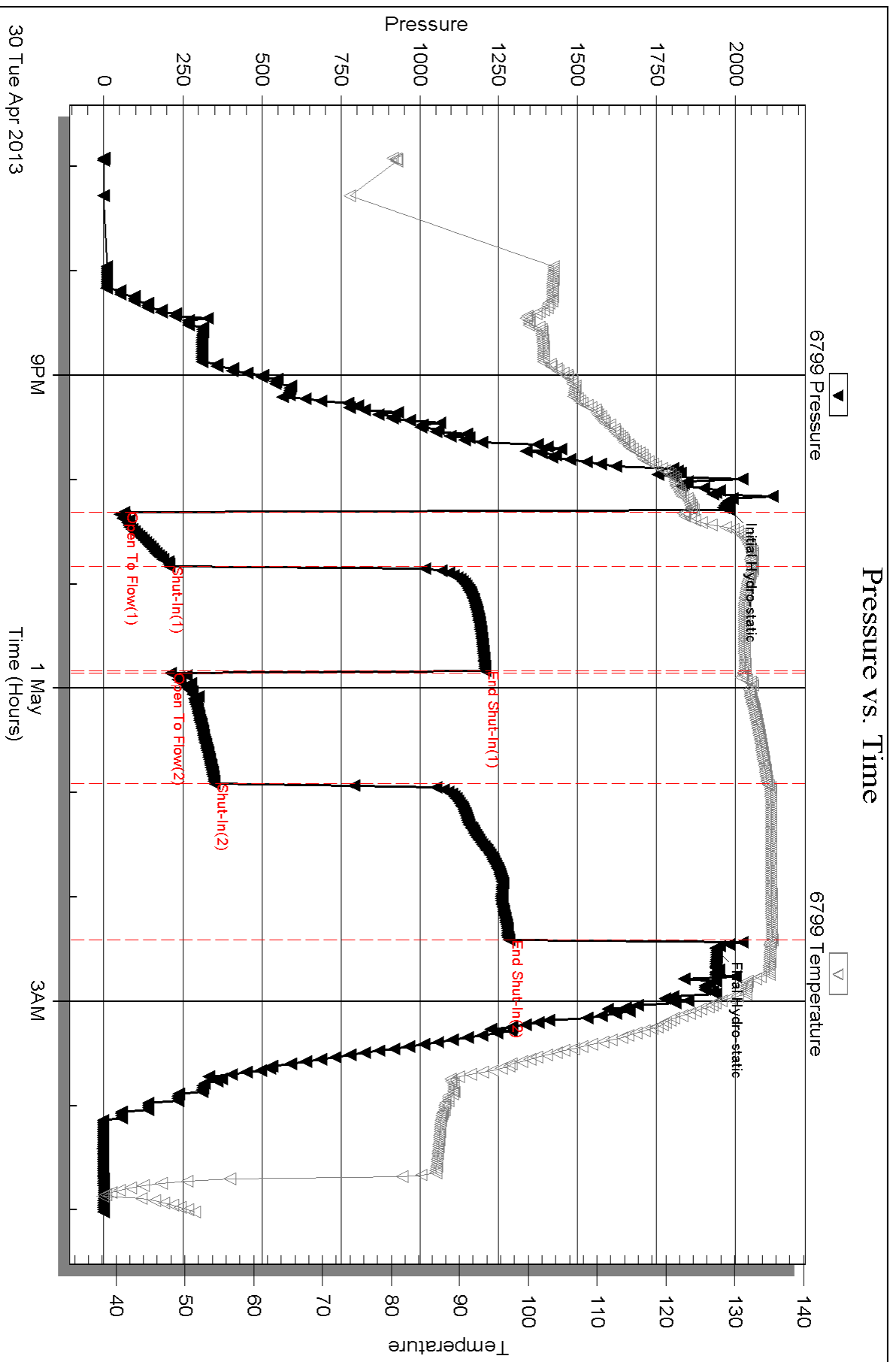
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	OCMW 5o 65W 30M	0.443
180.00	OCWM 10o 40W 50M	0.885
180.00	OCWM 10o 30W 60M	0.885
280.00	OCM 10o 90M	3.162

Total Length: 730.00 ft Total Volume: 5.375 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW .98 @ 66 deg = 7,500 ppm

Pressure vs. Time



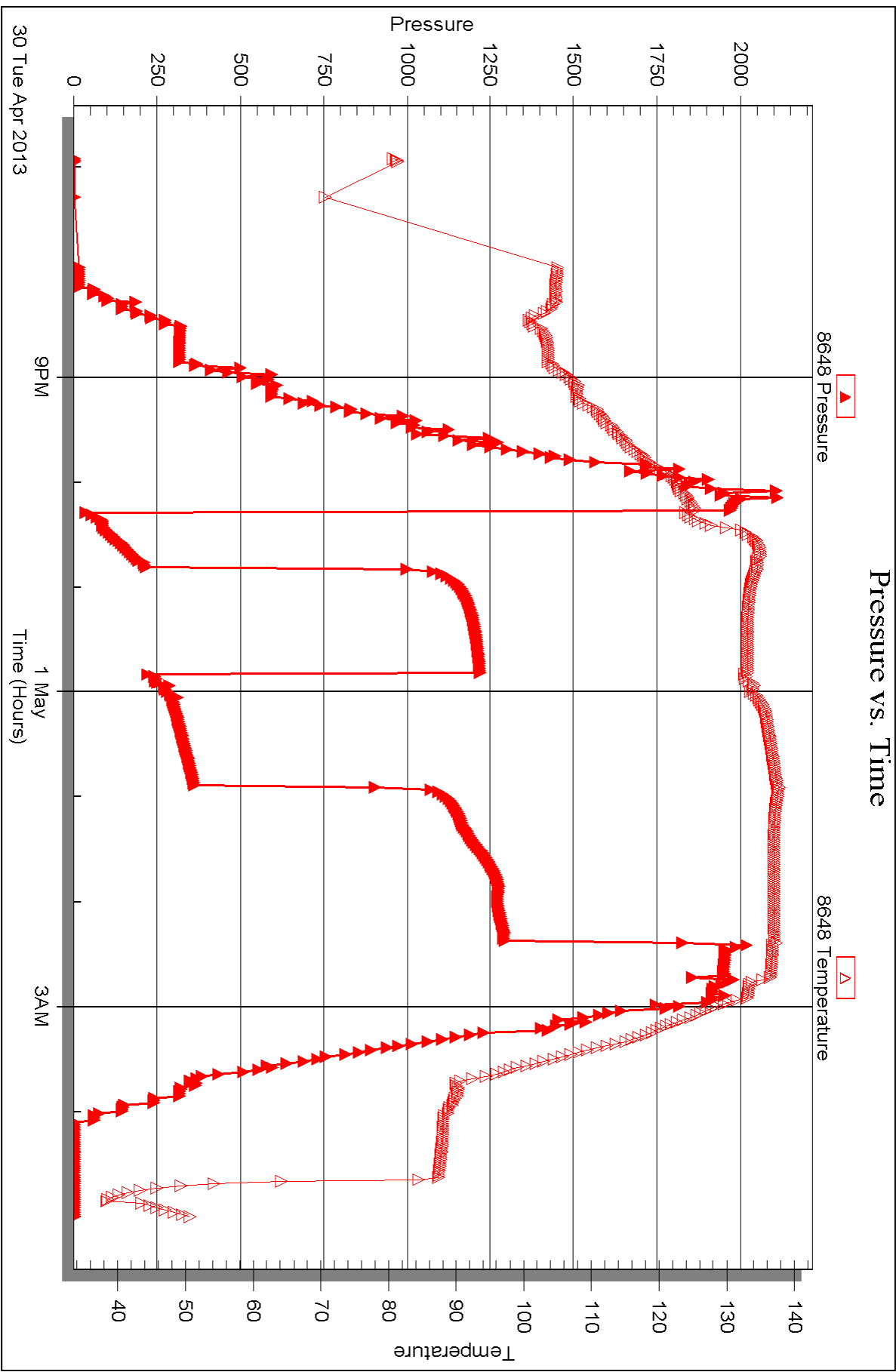
Serial #: 8648

Inside

Murfin Drilling Co., Inc.

Patti #1-10

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Jeff Christian

Patti #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.05.01 @ 13:42:00

End Date: 2013.05.01 @ 20:45:15

Job Ticket #: 50716 DST #: 4

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

Printed: 2013.05.10 @ 10:47:36



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne, KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50716

DST#: 4

ATTN: Jeff Christian

Test Start: 2013.05.01 @ 13:42:00

GENERAL INFORMATION:

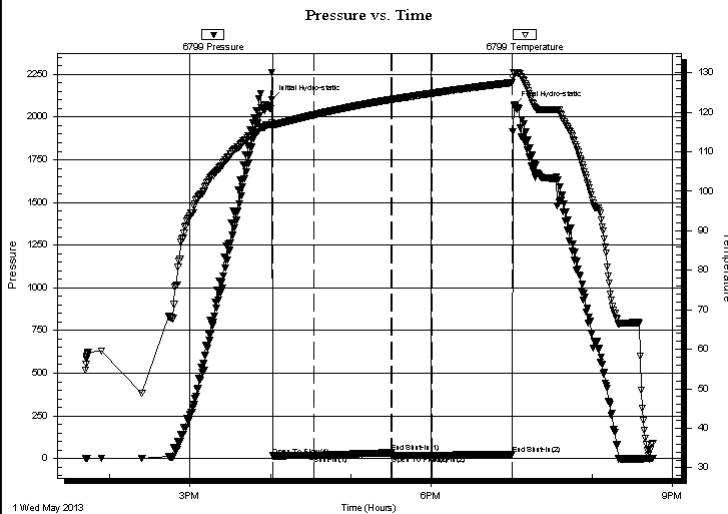
Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:01:30
 Time Test Ended: 20:45:15
 Interval: **4233.00 ft (KB) To 4278.00 ft (KB) (TVD)**
 Total Depth: 4278.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 43
 Reference Elevations: 3200.00 ft (KB)
 3190.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 6799

Inside

Press @ Run Depth: 17.70 psig @ 4234.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.01 End Date: 2013.05.01 Last Calib.: 2013.05.01
 Start Time: 13:42:05 End Time: 20:45:14 Time On Btm: 2013.05.01 @ 16:01:00
 Time Off Btm: 2013.05.01 @ 19:02:00

TEST COMMENT: 30 - IF- 1/4" Blow built to 1 1/2"
 60 - IS- No Return
 30 - FF- No Blow
 60 - FS- No Return



PRESSURE SUMMARY

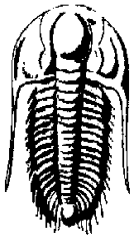
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2101.79	117.39	Initial Hydro-static
1	15.63	116.88	Open To Flow (1)
31	17.36	119.33	Shut-In(1)
89	34.39	123.24	End Shut-In(1)
90	17.52	123.25	Open To Flow (2)
120	17.70	124.80	Shut-In(2)
179	27.31	127.50	End Shut-In(2)
181	2064.54	130.01	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne, KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50716

DST#: 4

ATTN: Jeff Christian

Test Start: 2013.05.01 @ 13:42:00

GENERAL INFORMATION:

Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:01:30
 Time Test Ended: 20:45:15
Interval: 4233.00 ft (KB) To 4278.00 ft (KB) (TVD)
 Total Depth: 4278.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 43
 Reference Elevations: 3200.00 ft (KB)
 3190.00 ft (CF)
 KB to GR/CF: 10.00 ft

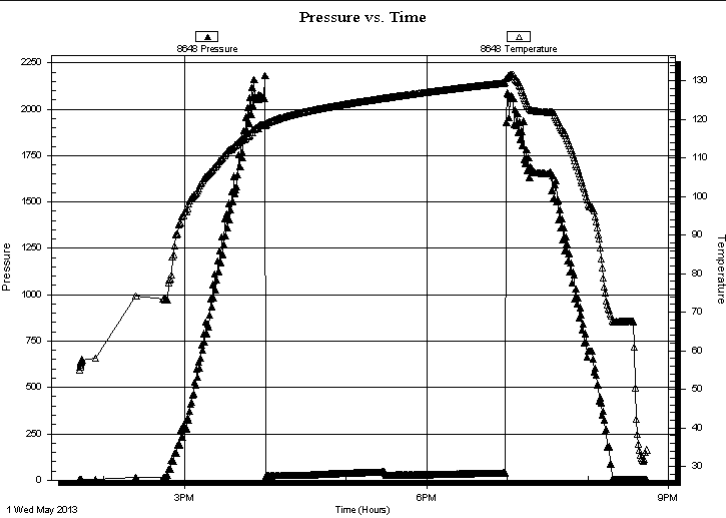
Serial #: 8648

Inside

Press @ Run Depth: psig @ 4234.00 ft (KB)
 Start Date: 2013.05.01 End Date: 2013.05.01 Capacity: 8000.00 psig
 Start Time: 13:42:05 End Time: 20:43:44 Last Calib.: 2013.05.01
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF- 1/4" Blow built to 1 1/2"

- 60 - IS- No Return
- 30 - FF- No Blow
- 60 - FS- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50716

DST#: 4

ATTN: Jeff Christian

Test Start: 2013.05.01 @ 13:42:00

Tool Information

Drill Pipe:	Length: 3675.00 ft	Diameter: 3.80 inches	Volume: 51.55 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 54.18 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4233.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	74.00 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			4205.00	
Shut In Tool	5.00			4210.00	
Hydraulic tool	5.00			4215.00	
Jars	5.00			4220.00	
Safety Joint	3.00			4223.00	
Packer	5.00			4228.00	29.00 Bottom Of Top Packer
Packer	5.00			4233.00	
Stubb	1.00			4234.00	
Recorder	0.00	6799	Inside	4234.00	
Recorder	0.00	8648	Inside	4234.00	
Perforations	5.00			4239.00	
Change Over Sub	1.00			4240.00	
Drill Pipe	32.00			4272.00	
Change Over Sub	1.00			4273.00	
Bullnose	5.00			4278.00	45.00 Bottom Packers & Anchor

Total Tool Length: 74.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50716

DST#: 4

ATTN: Jeff Christian

Test Start: 2013.05.01 @ 13:42:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM 100M (oil spots)	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

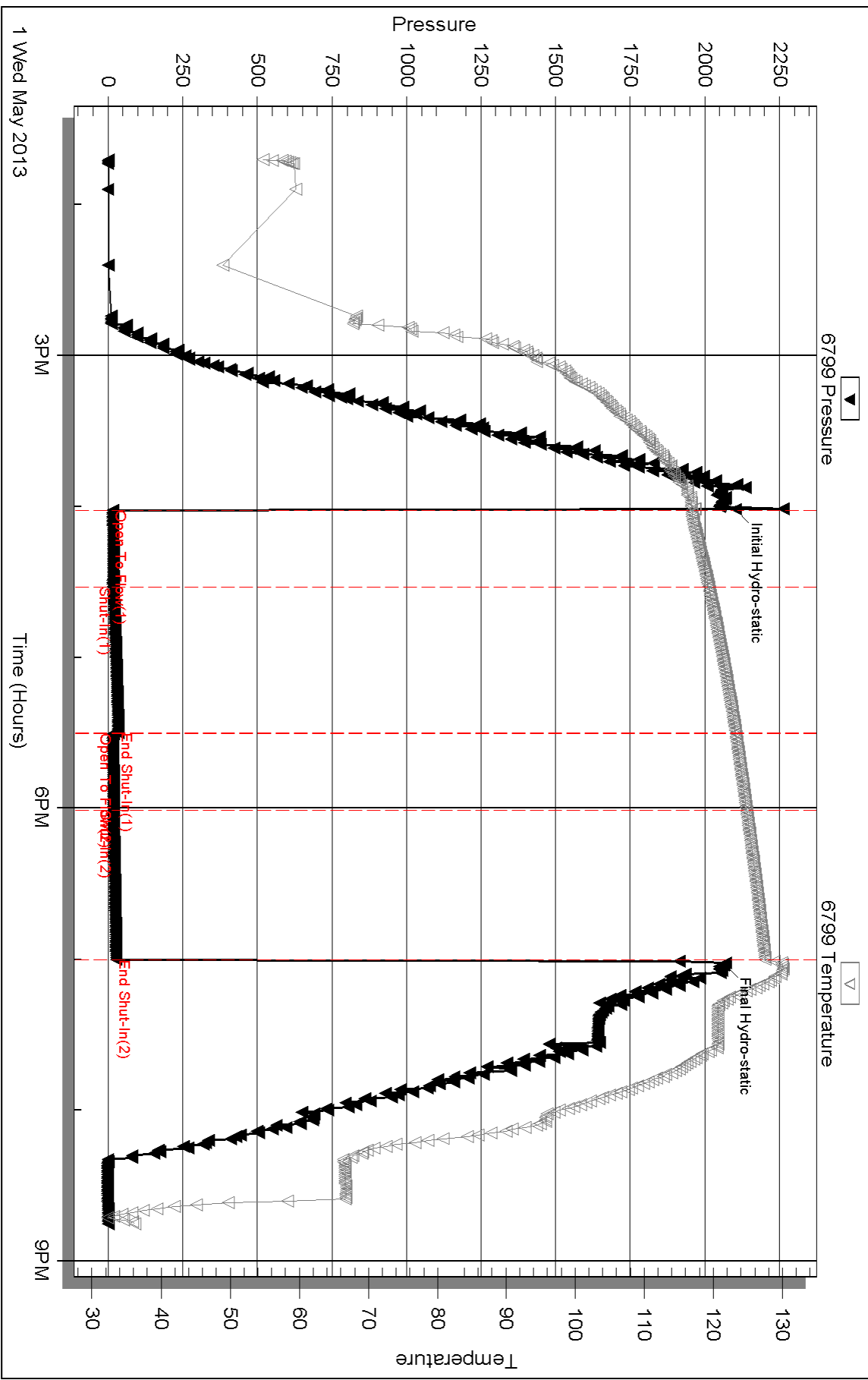
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



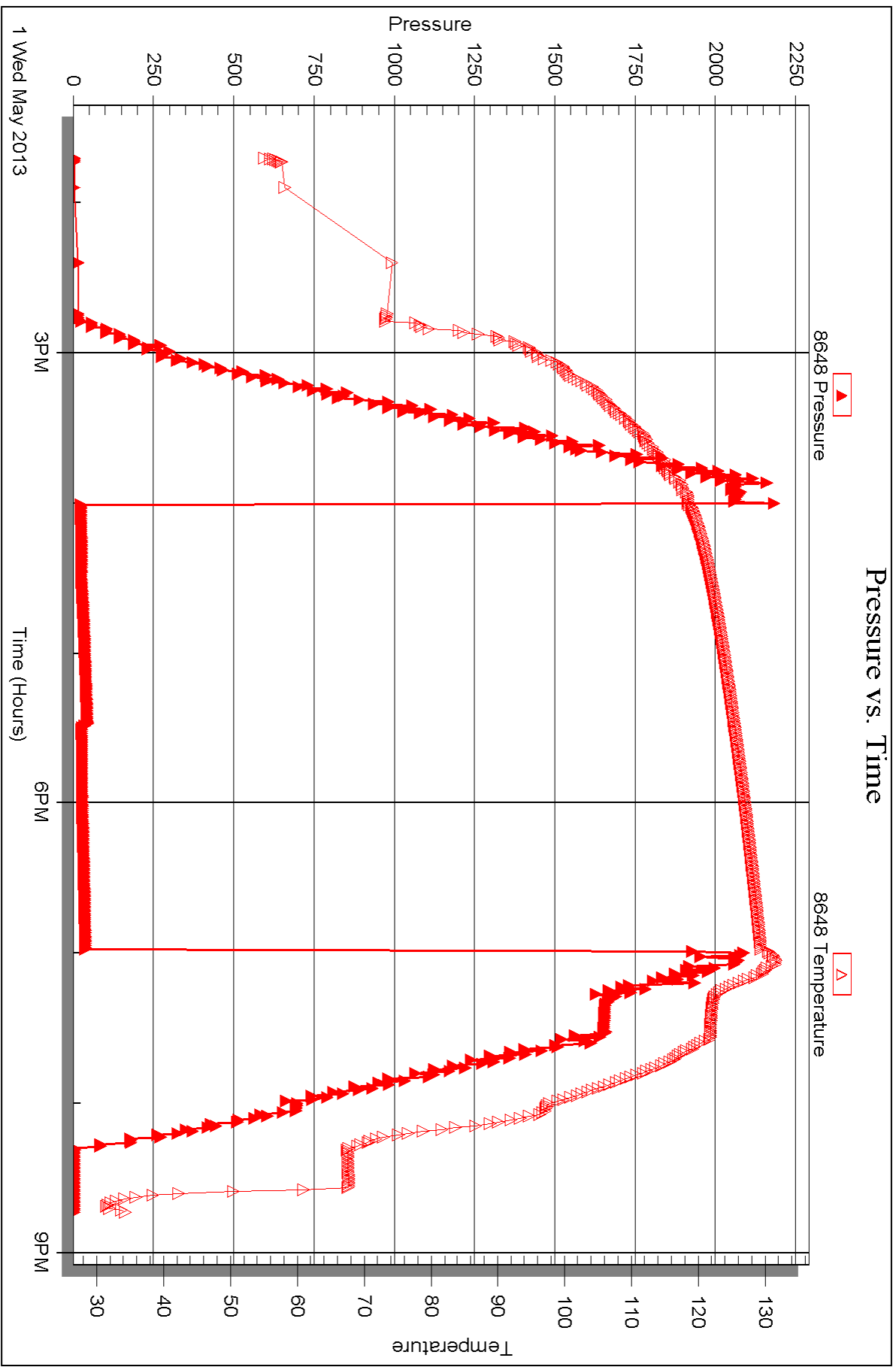
Serial #: 8648

Inside

Murfin Drilling Co., Inc.

Patti #1-10

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 50716

Printed: 2013.05.10 @ 10:47:39



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Jeff Christian

Patti #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.05.02 @ 08:20:00

End Date: 2013.05.02 @ 16:05:45

Job Ticket #: 50717 DST #: 5

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

Printed: 2013.05.10 @ 10:46:51



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

10-1s-37w Cheyenne, KS

Patti #1-10

Job Ticket: 50717

DST#: 5

Test Start: 2013.05.02 @ 08:20:00

GENERAL INFORMATION:

Formation: **LKC "I-J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:59:45
 Time Test Ended: 16:05:45
 Interval: **4314.00 ft (KB) To 4372.00 ft (KB) (TVD)**
 Total Depth: 4372.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 43
 Reference Elevations: 3200.00 ft (KB)
 3190.00 ft (CF)
 KB to GR/CF: 10.00 ft

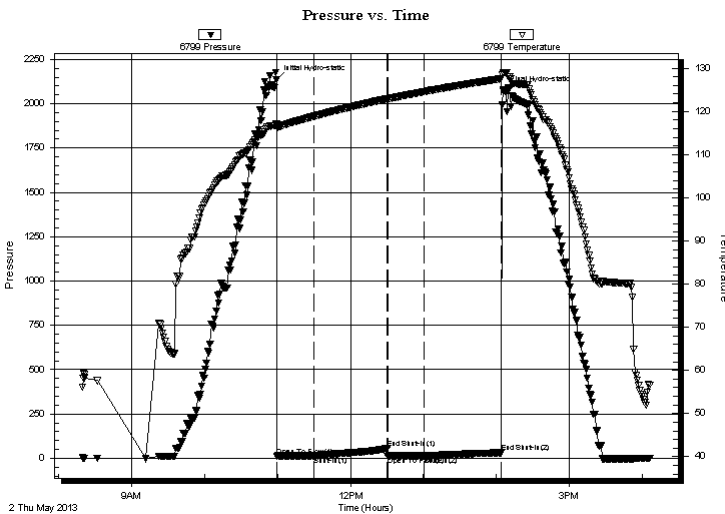
Serial #: 6799

Inside

Press @ Run Depth: 13.44 psig @ 4315.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.02 End Date: 2013.05.02 Last Calib.: 2013.05.02
 Start Time: 08:20:05 End Time: 16:05:44 Time On Btm: 2013.05.02 @ 10:59:15
 Time Off Btm: 2013.05.02 @ 14:05:15

TEST COMMENT: 30 - IF- 1/8" Blow built to 1/2"
 60 - IS- No Return
 30 - FF- No Blow
 60 - FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2136.47	117.02	Initial Hydro-static
1	12.97	116.36	Open To Flow (1)
31	13.30	118.87	Shut-In(1)
91	55.93	122.90	End Shut-In(1)
92	13.03	122.90	Open To Flow (2)
121	13.44	124.53	Shut-In(2)
185	31.72	127.57	End Shut-In(2)
186	2075.55	128.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100M	0.02

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

10-1s-37w Cheyenne, KS

Patti #1-10

Job Ticket: 50717

DST#: 5

Test Start: 2013.05.02 @ 08:20:00

GENERAL INFORMATION:

Formation: **LKC "I-J"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 10:59:45 Tester: Kevin Mack
 Time Test Ended: 16:05:45 Unit No: 43
Interval: 4314.00 ft (KB) To 4372.00 ft (KB) (TVD)
 Reference Elevations: 3200.00 ft (KB)
 Total Depth: 4372.00 ft (KB) (TVD) 3190.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

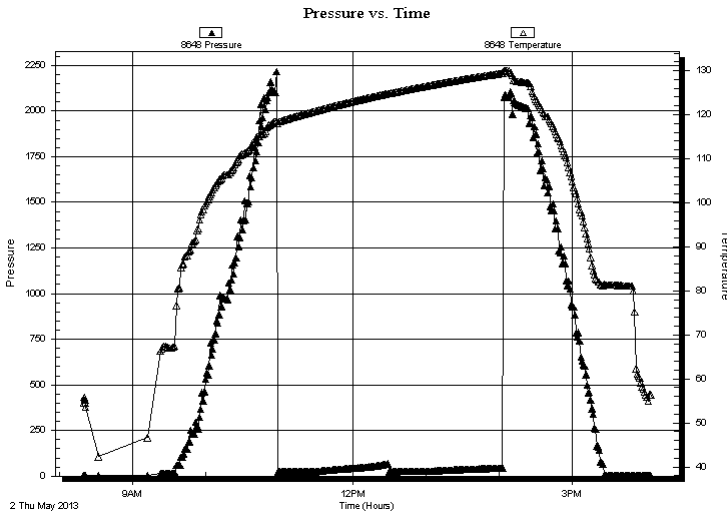
Serial #: 8648

Inside

Press @ Run Depth: psig @ 4315.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.02 End Date: 2013.05.02 Last Calib.: 2013.05.02
 Start Time: 08:20:05 End Time: 16:03:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF- 1/8" Blow built to 1/2"
 60 - IS- No Return
 30 - FF- No Blow
 60 - FS- No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100M	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50717

DST#: 5

ATTN: Jeff Christian

Test Start: 2013.05.02 @ 08:20:00

Tool Information

Drill Pipe:	Length: 3771.00 ft	Diameter: 3.80 inches	Volume: 52.90 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.53 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4314.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	87.00 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			4286.00	
Shut In Tool	5.00			4291.00	
Hydraulic tool	5.00			4296.00	
Jars	5.00			4301.00	
Safety Joint	3.00			4304.00	
Packer	5.00			4309.00	29.00 Bottom Of Top Packer
Packer	5.00			4314.00	
Stubb	1.00			4315.00	
Recorder	0.00	6799	Inside	4315.00	
Recorder	0.00	8648	Inside	4315.00	
Perforations	18.00			4333.00	
Change Over Sub	1.00			4334.00	
Drill Pipe	32.00			4366.00	
Change Over Sub	1.00			4367.00	
Bullnose	5.00			4372.00	58.00 Bottom Packers & Anchor

Total Tool Length: 87.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50717

DST#: 5

ATTN: Jeff Christian

Test Start: 2013.05.02 @ 08:20:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

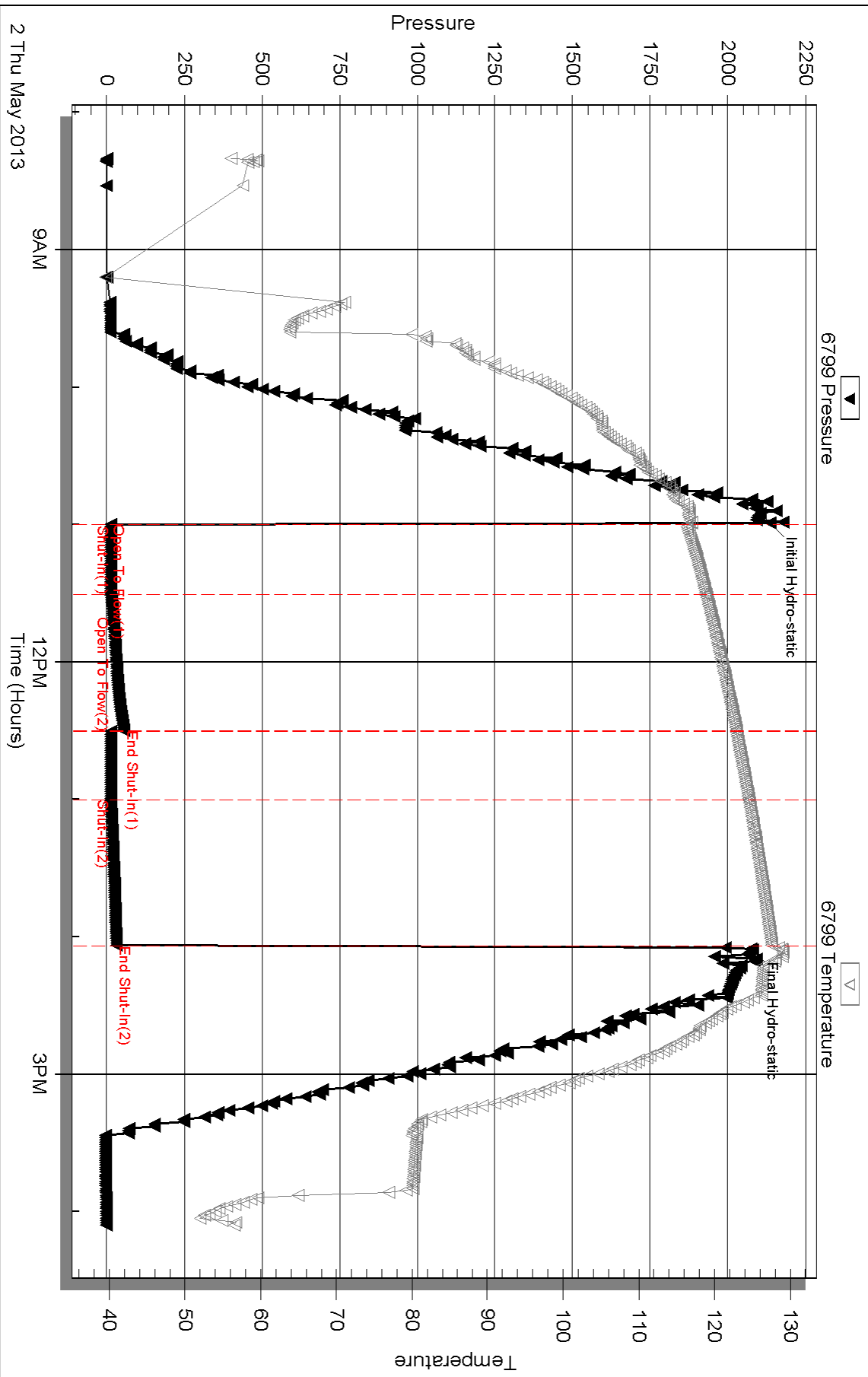
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



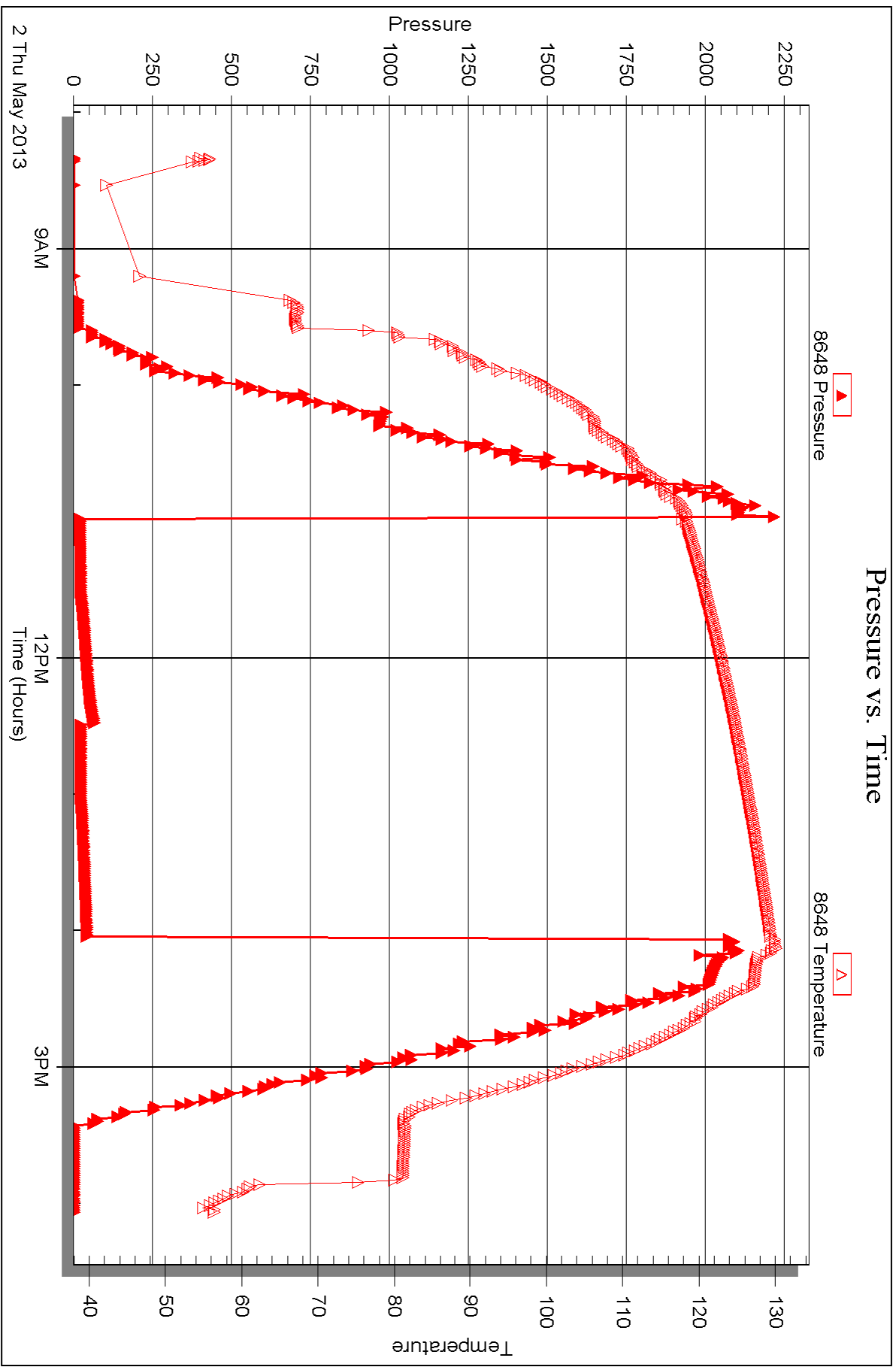
Serial #: 8648

Inside

Murfin Drilling Co., Inc.

Patti #1-10

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 50717

Printed: 2013.05.10 @ 10:46:55



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Jeff Christian

Patti #1-10

10-1s-37w Cheyenne,KS

Start Date: 2013.05.02 @ 09:59:00

End Date: 2013.05.02 @ 18:32:45

Job Ticket #: 50736 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.10 @ 10:46:05



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

10-1s-37w Cheyenne, KS

Patti #1-10

Job Ticket: 50736

DST#: 6

Test Start: 2013.05.02 @ 09:59:00

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:20:45
 Time Test Ended: 18:32:45
 Interval: **4519.00 ft (KB) To 4560.00 ft (KB) (TVD)**
 Total Depth: 4560.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Nichols
 Unit No: 43
 Reference Elevations: 3200.00 ft (KB)
 3190.00 ft (CF)
 KB to GR/CF: 10.00 ft

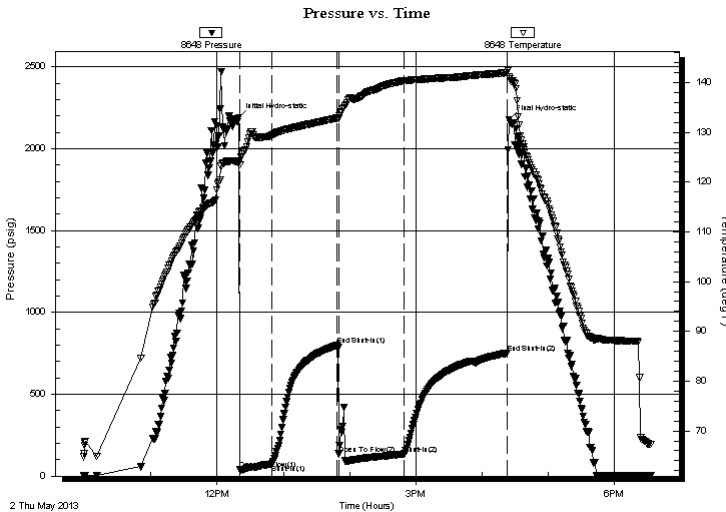
Serial #: 8648

Inside

Press @ Run Depth: 135.22 psig @ 4520.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.02 End Date: 2013.05.02 Last Calib.: 2013.05.03
 Start Time: 09:59:05 End Time: 18:32:45 Time On Btm: 2013.05.02 @ 12:19:45
 Time Off Btm: 2013.05.02 @ 16:24:45

TEST COMMENT: 30 IF - 1/2" blow built to BoB @ 30mins 10"
 60 ISI - Surface blow started @ 6 mins built to 1/4"
 60 FF - Surface blow built to 9 1/2"
 90 FSI - Surface blow started @ 3 mins built to 1/4"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2188.75	123.70	Initial Hydro-static
1	42.19	123.52	Open To Flow (1)
30	74.74	129.40	Shut-In(1)
89	800.17	132.88	End Shut-In(1)
91	135.74	132.71	Open To Flow (2)
150	135.22	140.37	Shut-In(2)
243	751.31	142.00	End Shut-In(2)
245	2178.50	141.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
89.00	GOWCM - 10%G - 10%W - 20%o 60%M	0.44
89.00	GOCM - 20%G - 40%o - 40%M	0.44
89.00	GMCO - 25%G - 20%M - 55%o	0.44
1.00	Oil - 100%o	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

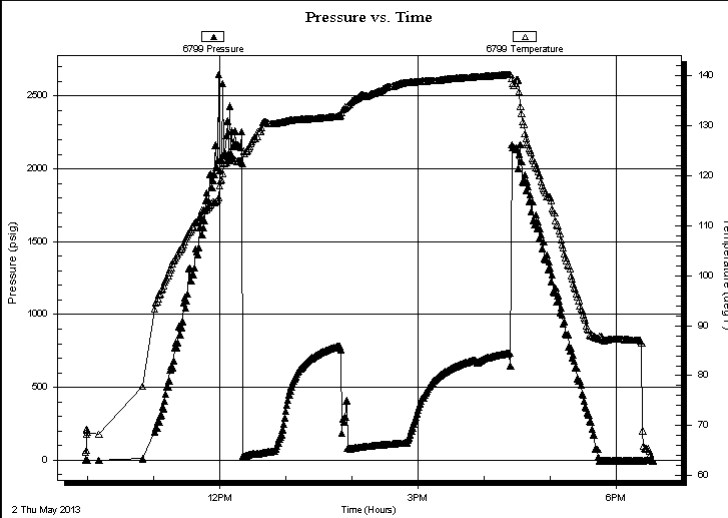
10-1s-37w Cheyenne,KS
Patti #1-10
 Job Ticket: 50736 **DST#: 6**
 Test Start: 2013.05.02 @ 09:59:00

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:20:45
 Time Test Ended: 18:32:45
 Interval: **4519.00 ft (KB) To 4560.00 ft (KB) (TVD)**
 Total Depth: 4560.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Nichols
 Unit No: 43
 Reference Elevations: 3200.00 ft (KB)
 3190.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 6799 Inside
 Press @ Run Depth: psig @ 4520.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.02 End Date: 2013.05.02 Last Calib.: 2013.05.03
 Start Time: 09:58:35 End Time: 18:34:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 IF - 1/2" blow built to BoB @ 30mins 10"
 60 ISI - Surface blow started @ 6 mins built to 1/4"
 60 FF - Surface blow built to 9 1/2"
 90 FSI - Surface blow started @ 3 mins built to 1/4"



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

Recovery		
Length (ft)	Description	Volume (bbl)
89.00	GOWCM - 10%G - 10%W - 20%o 60%M	0.44
89.00	GOCM - 20%G - 40%o - 40%M	0.44
89.00	GMCO - 25%G - 20%M - 55%o	0.44
1.00	Oil - 100%o	0.00

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50736

DST#: 6

ATTN: Jeff Christian

Test Start: 2013.05.02 @ 09:59:00

Tool Information

Drill Pipe:	Length: 3966.00 ft	Diameter: 3.80 inches	Volume: 55.63 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 58.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4519.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	41.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.25 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4491.00	
Shut In Tool	5.00			4496.00	
Hydraulic tool	5.00			4501.00	
Jars	5.00			4506.00	
Safety Joint	3.00			4509.00	
Packer	5.00			4514.00	29.00 Bottom Of Top Packer
Packer	5.00			4519.00	
Stubb	1.00			4520.00	
Recorder	0.00	6799	Inside	4520.00	
Recorder	0.00	8648	Inside	4520.00	
Perforations	35.00			4555.00	
Bullnose	5.00			4560.00	41.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

10-1s-37w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Patti #1-10

Job Ticket: 50736

DST#: 6

ATTN: Jeff Christian

Test Start: 2013.05.02 @ 09:59:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 75.00 sec/qt
Water Loss: 5.59 in³
Resistivity: ohm.m
Salinity: 800.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 37 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
89.00	GOWCM - 10%G - 10%W - 20%o 60%M	0.438
89.00	GOCM - 20%G - 40%o - 40%M	0.438
89.00	GMCO - 25%G - 20%M - 55%o	0.438
1.00	Oil - 100%o	0.005

Total Length: 268.00 ft Total Volume: 1.319 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

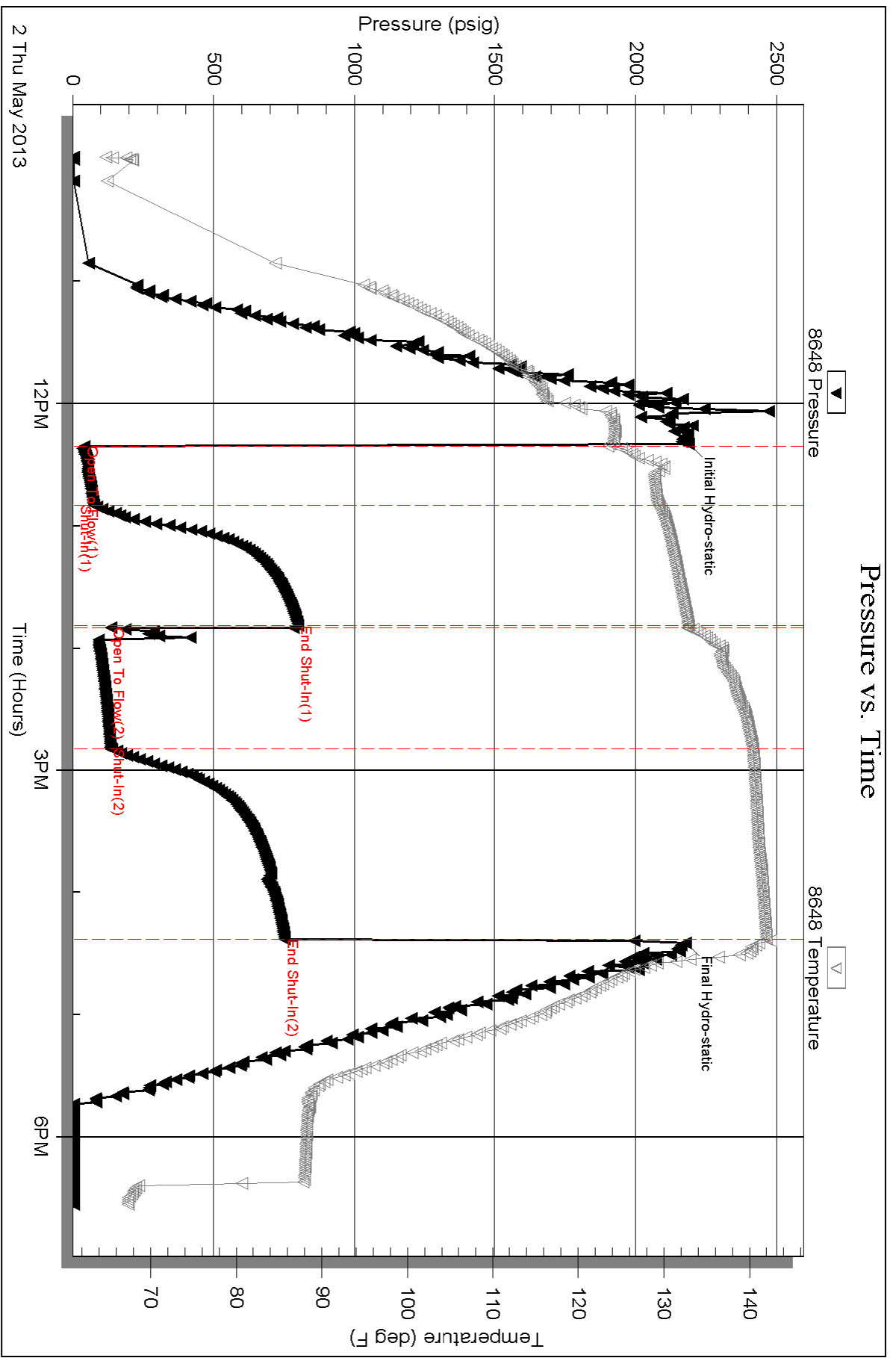
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 361' GIP

Oil API = 36 @ 50 Deg. F = 37 COR 60 Deg F



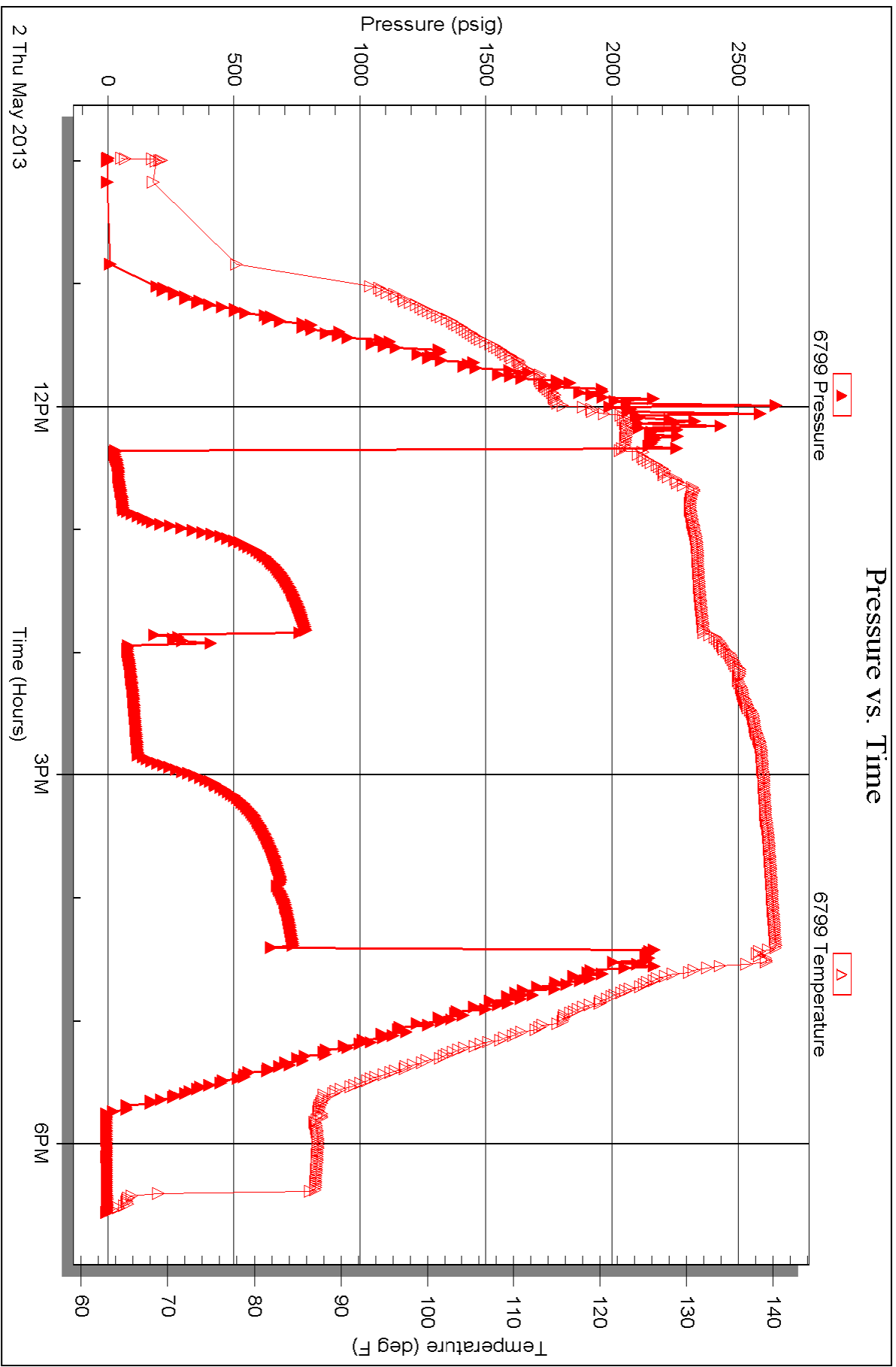
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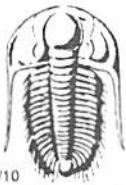
Inside

Murfin Drilling Co., Inc.

Patti #1-10

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

19148

NO. 50713

Well Name & No. Patti #1-10 Test No. 1 Date 4-28-13
 Company Murkin Drilling Co., Inc. Elevation 3200 KB 3190 GL
 Address 250 N Water STE #3000 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murkin #14
 Location: Sec. 10 Twp. 1S Rge. 37W Co. Chexenge State KS

Interval Tested 3680-3722 Zone Tested Foraker
 Anchor Length 42' Drill Pipe Run 3140 Mud Wt. 8.8
 Top Packer Depth 7676 Drill Collars Run 534' Vis 56
 Bottom Packer Depth 3680 Wt. Pipe Run 0 WL 5.6
 Total Depth 3722 Chlorides 800 ppm System LCM 6#

Blow Description IF - Surface Blow built to 1/8" then died back to weak surface
ISI - NO Return Blow
FF - NO Blow
FSI - NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>190</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

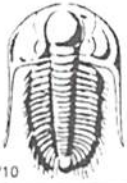
Rec Total 190 BHT 124 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic	<u>1740</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	T-On Location	<u>11:00 AM</u>
(B) First Initial Flow	<u>123</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>1:10 PM</u>
(C) First Final Flow	<u>124</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>4:00 PM</u>
(D) Initial Shut-In	<u>754</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NIC</u>	T-Pulled	<u>7:00 PM</u>
(E) Second Initial Flow	<u>123</u>	<input checked="" type="checkbox"/> Hourly Standby	<u>X1 100</u>	T-Out	<u>9:30 PM</u>
(F) Second Final Flow	<u>125</u>	<input checked="" type="checkbox"/> Mileage	<u>136 RT</u> 210.80	Comments	<u>I was told there</u>
(G) Final Shut-In	<u>601</u>	<input type="checkbox"/> Sampler			<u>rig would be out by</u>
(H) Final Hydrostatic	<u>1772</u>	<input type="checkbox"/> Straddle			<u>noon. Short trip was longer</u>

Initial Open 30 Ruined Shale Packer
 Initial Shut-In 60 Ruined Packer More had approx 10' OF fill
 Final Flow 30 Extra Copies
 Final Shut-In 60 Extra Recorder
 Sub Total 0
 Total 1785.80
 MP/DST Disc't _____
 Sub Total 1785.80

Approved By _____ Our Representative

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 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. 50714

Well Name & No. Patti #1-10 Test No. 2 Date 4-29-13
 Company Murfin Drilling Co, Inc. Elevation 3200 KB 3190 GL
 Address 2500 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #14
 Location: Sec. 10 Twp. 1S Rge. 37W Co. Cheyenne State KS

Interval Tested 4018-4080 Zone Tested Oread
 Anchor Length 62' Drill Pipe Run 3486' Mud Wt. 8.9
 Top Packer Depth 4014 Drill Collars Run 534' Vis 63
 Bottom Packer Depth 4018 Wt. Pipe Run 0 WL 6.8
 Total Depth 4080 Chlorides 600 ppm System LCM 6#

Blow Description IF - Surface Blow built to 1/8" then died in 25 min.
ISI - NO Return
FF - NO Blow
FSL - NO Return

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

Rec Total 5 BHT 131 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic	<u>1970</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>9:50 PM</u>
(B) First Initial Flow	<u>14</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>10:20 PM</u>
(C) First Final Flow	<u>21</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>12:35 AM</u>
(D) Initial Shut-In	<u>800</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NIC</u>	T-Pulled	<u>3:35 AM</u>
(E) Second Initial Flow	<u>19</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>5:30 AM</u>
(F) Second Final Flow	<u>22</u>	<input checked="" type="checkbox"/> Mileage	<u>136 RT</u> 210.80	Comments	
(G) Final Shut-In	<u>939</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2056</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

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

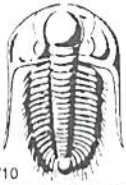
Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1785.80

Total 1785.80
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **50715**

4/10

Well Name & No. Patti # H08 Test No. 3 Date 4-30-13
 Company Murrin Drilling, Co. Inc. Elevation 3200 KB 3190 GL
 Address 250 N Water STE #300D Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murrin #14
 Location: Sec. 10 Twp. 1S Rge. 37W Co. Cheyenne State Ks

Interval Tested 4092-4221 Zone Tested LKC "A-D"
 Anchor Length 129' Drill Pipe Run 3550 Mud Wt. 9.4
 Top Packer Depth 4088 Drill Collars Run 534' Vis 120
 Bottom Packer Depth 4092 Wt. Pipe Run 0 WL 8.4
 Total Depth 4221 Chlorides 6000 ppm System LCM 5#

Blow Description IF - BoB in 28 min
ISI - No Return
FF - Blow started at 2 min. BoB in 32 min.
FSI - No Return

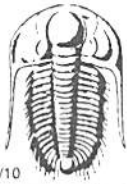
Rec	Feet of	%gas	%oil	%water	%mud
<u>280</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	
<u>180</u>	<u>OCWM</u>	<u>10</u>	<u>30</u>	<u>60</u>	
<u>180</u>	<u>OCWM</u>	<u>10</u>	<u>40</u>	<u>50</u>	
<u>90</u>	<u>OCMW</u>	<u>5</u>	<u>65</u>	<u>30</u>	

Rec Total 730 BHT 135 Gravity - API RW .98 @ 66 °F Chlorides 7,500 ppm
 (A) Initial Hydrostatic 1981 Test 1250 T-On Location 6:30 PM
 (B) First Initial Flow 64 Jars 250 T-Started 6:55 PM
 (C) First Final Flow 207 Safety Joint 75 T-Open 10:20 PM
 (D) Initial Shut-In 1208 Circ Sub NIC T-Pulled 2:20 AM
 (E) Second Initial Flow 211 Hourly Standby T-Out 5:10 AM
 (F) Second Final Flow 349 Mileage 136 RT 210.80 Comments _____
 (G) Final Shut-In 1283 Sampler _____
 (H) Final Hydrostatic 1936 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1785.80
 Total 1785.80
 MP/DST Disc't _____

Approved By _____ Our Representative

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. 50716

Well Name & No. Patti #110 Test No. 4 Date 5-1-13
 Company Murfin Drilling Co., Inc. Elevation 3200 KB 3190 GL
 Address 250 N Wacker STE #300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #14
 Location: Sec. 10 Twp. 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 4233-4278 Zone Tested LKC "G"
 Anchor Length 45' Drill Pipe Run 3675 Mud Wt. 9.8
 Top Packer Depth 4229 Drill Collars Run 534' Vis 67
 Bottom Packer Depth 4233 Wt. Pipe Run Ø WL 5.6
 Total Depth 4278 Chlorides 8000 ppm System LCM 6#

Blow Description IF - 1/4" Blow built to 1 1/2"
ISI - No Return
FF - No Blow
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OSM</u>	<u>spds</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

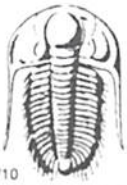
Rec Total 10 BHT 127° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 2101 Test 1250 T-On Location 1:30 PM
 (B) First Initial Flow 15 Jars 250 T-Started 1:42 PM
 (C) First Final Flow 17 Safety Joint 75 T-Open 4:00 PM
 (D) Initial Shut-In 34 Circ Sub N/C T-Pulled 7:00 PM
 (E) Second Initial Flow 17 Hourly Standby T-Out 8:55 PM
 (F) Second Final Flow 17 Mileage 136 RT 210.80
 (G) Final Shut-In 27 Sampler
 (H) Final Hydrostatic 2064 Straddle

Initial Open 30 Shale Packer Ruined Shale Packer
 Initial Shut-In 60 Extra Packer Ruined Packer
 Final Flow 30 Extra Recorder Extra Copies
 Final Shut-In 60 Day Standby Accessibility
 Sub Total 1785.80 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. 50717

Well Name & No. Patti #1-10 Test No. 5 Date 5-2-13
 Company Murfin Drilling Co., Inc. Elevation 3200 KB 3190 GL
 Address 250 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. JEFF Christian Rig Murfin #14
 Location: Sec. 10 Twp. 1S Rge. 37W Co. Cheyenne State KS

Interval Tested 4314-4372 Zone Tested LKC "I-J"
 Anchor Length 58 Drill Pipe Run 3771 Mud Wt. 9.0
 Top Packer Depth 4310 Drill Collars Run 534 Vis 67
 Bottom Packer Depth ~~4300~~ 4314 Wt. Pipe Run 0 WL 5.6
 Total Depth 4372 Chlorides 800 ppm System LCM 6#

Blow Description IF - 1/8" Blow built to 1/2"
ISI - NO Return
FF - NO Blow
FSI - NO Return

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

Rec Total 5 BHT 1280 Gravity - API RW - @ - ° F Chlorides - ppm

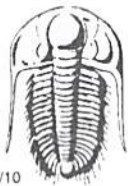
(A) Initial Hydrostatic	<u>2136</u>
(B) First Initial Flow	<u>12</u>
(C) First Final Flow	<u>13</u>
(D) Initial Shut-In	<u>55</u>
(E) Second Initial Flow	<u>13</u>
(F) Second Final Flow	<u>13</u>
(G) Final Shut-In	<u>31</u>
(H) Final Hydrostatic	<u>2075</u>
Initial Open	<u>30</u>
Initial Shut-In	<u>60</u>
Final Flow	<u>30</u>
Final Shut-In	<u>60</u>

- Test 1250
- Jars 250
- Safety Joint 75
- Circ Sub N/C
- Hourly Standby
- Mileage 136 RT 210.80
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1785.80

T-On Location 8:00 AM
 T-Started 8:20 AM
 T-Open 11:00 AM
 T-Pulled 2:00 PM
 T-Out 4:15 PM
 Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1785.80
 MP/DST Disc't _____

Approved By _____ Our Representative 

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50718

Well Name & No. Patti # ~~0000~~ 2-10 Test No. 6 Date 5/3/13
 Company Murfin Drilling Co. Elevation 3200 KB 3190 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin # 14
 Location: Sec. 10 Twp. 15 Rge. 37W Co. Dundy State NE

Interval Tested 4519-4560 Zone Tested Pawnee
 Anchor Length 41' Drill Pipe Run _____ Mud Wt. 9.1
 Top Packer Depth 4514 Drill Collars Run 534' Vis 75
 Bottom Packer Depth 4519 Wt. Pipe Run 0' WL 5.6
 Total Depth 4560 Chlorides 800 ppm System LCM 5
 Blow Description IF - 1/2" blow built to BOB @ 30 mins 10"
ISI - Surface blow started @ 6 mins built to 1/4"
FF - Surface blow built to 9 1/2"
FSI - Surface blow started @ 3 mins built to

Rec	Feet of	%gas	%oil	%water	%mud
1	Oil	100			
89	GMCO	25	55	20	
89	60CM	20	40	40	
89	GOWCM	10	20	10	60
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 268' BHT 142° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2189 Test 1250 T-On Location 09:30
 (B) First Initial Flow 42 Jars 250 T-Started 09:59
 (C) First Final Flow 75 Safety Joint 75 T-Open 12:21
 (D) Initial Shut-In 802 Circ Sub NC T-Pulled 16:21
 (E) Second Initial Flow 136 Hourly Standby _____ T-Out 17:35
 (F) Second Final Flow 135 Mileage 136 RT 210.80 Comments 361' GIP
 (G) Final Shut-In 751 Sampler _____
 (H) Final Hydrostatic 2179 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1785.80
 Accessibility _____ MP/DST Disc't _____

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

Sub Total 1785.80

Approved By _____

Our Representative [Signature]

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PO Box 93999
Southlake, TX 76092

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

acet.
Prod-LH

INVOICE

Invoice Number: 135934
Invoice Date: Apr 24, 2013
Page: 1

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

Now Includes:



Customer ID	Field Ticket #	Payment Terms	
Murfin	60162	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Apr 24, 2013	5/24/13

Quantity	Item	Description	Unit Price	Amount
190.00	MAT	Patti #1-10	17.90	3,401.00
7.00	MAT	Class A Common	64.00	448.00
199.49	SER	Chloride	2.48	494.74
920.00	SER	Cubic Feet	2.60	2,392.00
1.00	SER	Ton Mileage	1,512.25	1,512.25
100.00	SER	Surface	7.70	770.00
1.00	SER	Pump Truck Mileage	275.00	275.00
100.00	SER	Manifold Rental	4.40	440.00
1.00	CEMENTER	Light Vehicle Mileage		
1.00	EQUIP OPER	Alan Ryan		
1.00	OPER ASSIST	Wayne McGhghy		
1.00		Kevin Rupp		

JD

Subtotal	9,732.99
Sales Tax	319.47
Total Invoice Amount	10,052.46
Payment/Credit Applied	
TOTAL	10,052.46

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

\$ 3,406.54 *3510*

ONLY IF PAID ON OR BEFORE
May 19, 2013

-3406.54
6645.92

ALLIED OIL & GAS SERVICES, LLC 060162

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Bokley, Ky

DATE <u>4/14/13</u>	SEC. <u>10</u>	TWP. <u>15</u>	RANGE <u>37</u>	CALLED OUT	ON LOCATION	JOB START <u>11:00</u>	JOB FINISH <u>11:30</u>
EASE <u>Part 100</u>	WELL # <u>1-10</u>	LOCATION <u>Bull Run 5 To AA E To Dead End</u>			COUNTY <u>Chapman</u>	STATE <u>Ky</u>	
OLD OR NEW (Circle one)		2N 2E 10W E 10N E 10E 10S					

CONTRACTOR Murkin 14 OWNER Sam

TYPE OF JOB Surface CEMENT AMOUNT ORDERED Com 390 CC

HOLE SIZE 10 7/8 T.D. 227
CASING SIZE 8 7/8 DEPTH 227
TUBING SIZE DEPTH
DRILL PIPE 4 1/2 DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15
PERFS.
DISPLACEMENT 12,504

EQUIPMENT
PUMP TRUCK CEMENTER Alan
HELPER Wayne
BULK TRUCK DRIVER Kevin
BULK TRUCK DRIVER

COMMON 190 SK @ 17⁰⁰ 3421⁰⁰
POZ MIX @
GEL @
CHLORIDE 7 @ 64⁰⁰ 448⁰⁰
ASC @
HANDLING 199.49 CF @ 2⁴⁰ 494⁷⁴
MILEAGE 2⁰⁰ 700 9.2 700 700 2392⁰⁰
TOTAL 6735⁷⁴

REMARKS:
Bokley, Circulate Mix Cement
Displace, Shut in
Cement Dis Circulate
Alan, Wayne, Kevin

SERVICE
DEPTH OF JOB 217
PUMP TRUCK CHARGE 1512²⁵
EXTRA FOOTAGE @
MILEAGE 100 miles @ 7²⁰ 770⁰⁰
MANIFOLD @ 4¹⁰ 440⁰⁰
TOTAL 2997²⁵

CHARGE TO: Murkin Drilling
STREET
CITY STATE ZIP

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

PRINTED NAME Coreco Murkin
SIGNATURE Coreco Murkin

PLUG & FLOAT EQUIPMENT
@
@
@
@
@
TOTAL

SALES TAX (if Any)
TOTAL CHARGES 9,732.99
DISCOUNT 3,406.54 IF PAID IN 30 DAYS
6,326.44 Net.

Accty

cc: L-12

cc: WT

cc: L-1



CONSOLIDATED
Oil Well Services, LLC

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

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

INVOICE

Invoice # 258523

Invoice Date: 05/08/2013 Terms: 10/10/30,n/30

Page 1

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

PATTI 1-10
39898 USED FOR 1C-103
10-1-37
05-05-2013 APPROVED [Signature]
KS

Part Number	Description	Qty	Unit Price	Total
1126	OIL WELL CEMENT	200.00	23.7000	4740.00
1110A	KOL SEAL (50# BAG)	1000.00	.5600	560.00
1104S	CLASS "A" CEMENT (SALE)	300.00	18.5500	5565.00
1102	CALCIUM CHLORIDE (50#)	564.00	.9400	530.16
1107	FLO-SEAL (25#)	50.00	2.9700	148.50
1111A	SODIUM METASILICATE	564.00	2.5200	1421.28
1118B	PREMIUM GEL / BENTONITE	564.00	.2700	152.28
1101	CAL SEAL	564.00	.5200	293.28
1144G	MUD FLUSH (SALE)	500.00	1.0000	500.00
1142A	KCL SUB MB6875 CC3107 (1	2.00	41.1000	82.20
4104	CEMENT BASKET 5 1/2"	3.00	290.0000	870.00
4136	TURBOLIZER 5 1/2"	15.00	75.7500	1136.25
4159	FLOAT SHOE AFU 5 1/2"	1.00	433.7500	433.75
4454	5 1/2" LATCH DOWN PLUG	1.00	318.2500	318.25

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1675.10
9995-130	CEMENT EQUIPMENT DISCOUNT	-665.35

Description	Hours	Unit Price	Total
399 SINGLE PUMP	1.00	3175.00	3175.00
399 EQUIPMENT MILEAGE (ONE WAY)	75.00	5.25	393.75
460 TON MILEAGE DELIVERY	1.00	1542.37	1542.37
T-129 TON MILEAGE DELIVERY	1.00	1542.38	1542.38

Amount Due 24794.78 if paid after 06/07/2013

Parts:	16750.95	Freight:	.00	Tax:	1251.30	AR	22315.30
Labor:	.00	Misc:	.00	Total:	22315.30		
Sublt:	-2340.45	Supplies:	.00	Change:	.00		

Signed _____

Date _____



CONSOLIDATED
Oil Well Services, LLC

258523

TICKET NUMBER 39898

LOCATION Oakley 45

FOREMAN Mites Shaw
Walt Dinko

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

FIELD TICKET & TREATMENT REPORT

CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
S-543	5406	Path #1-10	10	15	374	Cherokee	
CUSTOMER		Mailing Address		TRUCK #	DRIVER	TRUCK #	DRIVER
Murfin Drilling		Medwells 411 14N N+E into		899	Barry Y		
CITY		STATE	ZIP CODE	580701	Scott J / Mike P		
				460	Travis		

JOB TYPE long string HOLE SIZE 7 7/8 HOLE DEPTH 4735' CASING SIZE & WEIGHT 5 1/2" 15.5#
 CASING DEPTH 4733' DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 1127/142 SLURRY VOL 2.9/1.42 WATER gal/sk _____ CEMENT LEFT in CASING 21.20#
 DISPLACEMENT 113/115 DISPLACEMENT PSI 180 MIX PSI 2000 RATE _____

REMARKS: Setback monitoring and rig up on Murfin Drilling #14. Place equipment to this on seats # 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 34, 44 baskets on bottoms of 12, 35, 45 Run casing to half way circulate casing 15 min. Sin # 50 Run casing to bottom circulate 45 min. mix 200 SKS ACS multi density tailed in with 200 SKS out 5th hole seal. Shut down cleared pump and lines Released plug displace 200 SKS HCL water 93 bbl water with 1500 psi hcl Plus landed & hold @ 2000 psi Cement did circulate 20 bbls to pit mix 20 SKS RH 20 SKS MH

Thanks Mites Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5406	1	PUMP CHARGE	3175.00	3175.00
5406	75	MILEAGE	5.25	393.75
5407	23.5 Tons	Ton mileage delivery	1.75	3084.75
1126	300 SKS	OWC	13.70	4740.00
1110A	1000#	Hole seal	1.56	560.00
1104S	300 SKS	Class A cement	18.55	5565.00
1102	564#	Calcium Chloride	.94	530.16
1107	50#	Fine sand	2.97	148.50
1111A	564#	1500 Mat asilicate	2.52	1421.28
1118B	564#	Bentonite gel	1.27	752.28
1101	564#	Calc seal OWC	1.52	293.28
1144G	500 gal	Mud flush	1.00	500.00
1142A	2	HCL	41.10	82.20
4104	3	5 1/2" Cement Basket	290.00	870.00
4136	15	5 1/2" Turbulizer	75.75	1136.25
4159	1	5 1/2" Post Shoe APU	433.75	433.75
4454	1	5 1/2" Latch dam plug	318.25	318.25
			Subtotal	23404.45
			SALES TAX	21064.00
			ESTIMATED TOTAL	22315.30

Completed

Ravin 3737

AUTHORIZATION Nathan [Signature]

TITLE _____

DATE _____

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