



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1090669  
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: \_\_\_\_\_

1090669

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

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

Sam Brownback, Governor

August 15, 2012

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

Re: ACO1  
API 15-153-20899-00-00  
Zola Unit 1-1  
NE/4 Sec.01-05S-31W  
Rawlins County, Kansas

Dear Production Department:

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

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

Respectfully,  
Leon Rodak

Zola Unit #1-1  
 1400' FNL 1200' FEL  
 Sec. 1-5S-31W  
 2871' KB

Brown #1  
 Mull Drlg Co.  
 Sec. 2-5S-31W  
 2848' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	2602	+269	-5	2606	+265	-9	2574	+274
B/Anhydrite	2642	+229	-7	2641	+230	-6	2612	+236
Topeka	3688	-817	-5	3688	-817	-5	3660	-812
Heebner	3855	-984	-5	3858	-987	-8	3827	-979
Lansing	3902	-1031	-2	3906	-1035	-6	3877	-1029
Stark	4069	-1198	-1	4070	-1199	-2	4045	-1197
BKC	4118	-1247	+2	4117	-1246	+3	4097	-1249
Pawnee	4229	-1358	-3	4233	-1362	-7	4203	-1355
Ft Scott	4300	-1429	-1	4305	-1434	-6	4176	-1428
Cherokee	4313	-1442	NA	4317	-1446	NA	NDE	
Mississippi	4425	-1554	NA	4430	-1559	NA	NDE	
RTD	4490						4280	
LTD				4492			4281	

# LITHOLOGY STRIP LOG

**WellSight Systems**  
Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: **Murfin Drilling Company, Inc. Zola Unit #1-1**  
 Location: **Approx. NW NW SE NE Section 1-T5S-R31W**  
 License Number: **API: 15-153-20899** Region: **Rawlins Co, KS**  
 Spud Date: **April 24, 2012** Drilling Completed: **May 3, 2012**  
 Surface Coordinates: **1400' FNL & 1200' FEL Section 1-T5S-R31W**

Bottom Hole Coordinates: **2866 K.B. Elevation (ft): 2871**  
 Ground Elevation (ft): **3600 To: 4490 Total Depth (ft): 4490**  
 Logged Interval (ft): **Mississippian RTD 4490(-1619), LTD 4492(-1621)**  
 Formation: **Displaced at 3086'**  
 Type of Drilling Fluid: **Chemical. Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com**

## OPERATOR

Company: **Murfin Drilling Company, Inc.**  
 Address: **250 N Water STE 300**  
**Wichita, KS 67202-1216**

## GEOLOGIST

Name: **Mikeal K. Maune**  
 Company: **Petroleum Geologist - Kansas Licensed No. 210**  
 Address: **Wichita, Kansas**  
 Office: **316-722-8173**

## COMMENTS

Surface Casing: 8 5/8" Csg set @ 220' w/190x3; Comm; (3%CC 2% Gel). PD @ 6:30 pm 4/24/2012. Cmt Circ.  
 Production Casing: 5 1/2" Csg set @ 4482'. Cement not available.  
 Deviation Surveys: 1/2 @ 220', 1/4 @ 217', 1 @ 3937', 1 @ 3937', 1/2 @ 4490' RTD.  
 Pipe Strap @3937' DST #1. Strap 3936.76'. Board 3937.37'. Strap short to Board .61'.

Murfin Drilling Rig #8 Bit Record:  
 #1 12 1/4" GT-C1 RR in @ GL, out @ 220'.  
 #2 7 7/8" HC GX20cin @ 222', out @ RTD 4490'.

Mud System: Morgan Mud, Inc.  
 DSTs: Trilobite Testing Inc. (5 DSTs).

Correlation of the OH Log with the Rotary drilling time indicates the OH Log depths are approximately two to three feet deep to the Rotary drilling time depths. The Gamma Ray curve on this report was adjusted uphole two feet to correlate with the drilling time depths.

OH Log Formation Tops: Anhydrite 2606 (+265), Base Anhydrite 2642 (+229), Topeka 3688 (-817), Heebner 3858 (-987), Toronto 3891 (-1020), Lansing 3906 (-1035), "F" 3976 (-1105), "J" 4049 (-1188), Stark Sh 4070 (-1199), BKC 4122 (-1251), Lenaph 4144 (-1273), Pawnee (4233 (-1362), Fort Scott 4305 (-1434), Cherokee 4317 (-1446), Miss Cht 4430 (-1559), LTD 4492 (-1621), RTD 4490 (-1619).

## DSTs

**DST #1 (Toronto, LKC 'A' & 'B') 3854-3937/30-60-60-90. 1st Op: BOB/30 min. No RB. 2nd Op: BOB/33 min. No RB. Recover: Total Fluid 376'. 10' FO (100% Oil), 62' OCM (20% Oil, 80% Mud), 124' OCWM (10% Oil, 10% Wtr, 80% Mud), 180' MW (90% Wtr, 10% Mud). API RW .76 @ 71 F, Ch 9,000. IH 1907, FFP 28-127#, ISIP 1239#, FFP 129-195#, FSIP 1216#, FH 1919#, BHT 117 F.**

**DST #2 (LKC 'F') 3958-3980/30-60-15-60. 1st Op: BOB/3 min. RB BOB/20 min. 2nd Op: BOB/5 min. RB BOB/40 min. Recover: 1260' GIP. Total Fluid 936'. 816' CGO (15% Gas, 85% Oil), Gly 43, 120' OCM (40% Oil, 60% Mud), IH 1961#, IFP 52-224#, ISIP 1316#, FFP 241-305#, FSIP 1316#, FH 1888#, BHT 125 F.**

**DST #3 (LKC 'J') 4020-4070/30-60-30-60. 1st Op: BOB/15 min. RB Build to 3 3/4". 2nd Op: BOB/8 min. RB BOB/22 min. Recover: 850' GIP. Total Fluid 460'. 280' FO (100% Oil) Gly 36, 120' MCO (80% Oil, 20% Mud), 60' MCO (60% Oil, 40% Mud), IH 2017#, IFP 36-113#, ISIP 1348#, FFP 122-164#, FSIP 1340#, FH 1968#, BHT 121 F.**

**DST #4 (LKC 'K' & 'L') 4066-4120/30-60-30-60. 1st Op: 3-1/4" Blow. 2nd Op: No Blow. Recover: 5' OSM (spots of Oil, 100% Mud), IH 2055#, IFP 19-21#, ISIP 53#, FFP 20-21#, FSIP 37#, FH 2026#, BHT 112 F.**

**DST #5 (Lower Pawnee, Ft Scott, Celia Sst) 4272-4340/30-60-30-30. 1st Op: Surf blow 1/8" died 25 min. 2nd Op: No Blow. Recover: 5' M (100% Mud), IH 2171#, IFP 19-20#, ISIP 42#, FFP 20-21#, FSIP 28#, FH 2143#, BHT 120 F.**

## ROCK TYPES

Anhy	Congly	Lmst	Gr sh
Bent	Shy dolo	Mlmt	Gly sh
Brec	Dol	Salt	Shale
Cht	Gyp	Shale	Shaltst
Clyst	Sdy lmst	Siltst	Siltysh
Coal		Ss	

## ACCESSORIES

Chlorite	Pelec	Grysh
Dol	Peloidal	Grysit
Sand	Pisolite	Lms
Silt	Plant	Sandylms
	Strom	Sh
	Fuss	Siltstn
	Oomoldic	

## STRINGER

Anhy	Bent	Dol
Coal	Gyp	Ls
Mlstrg	Sstrg	Carbsh
Clystn	Dol	

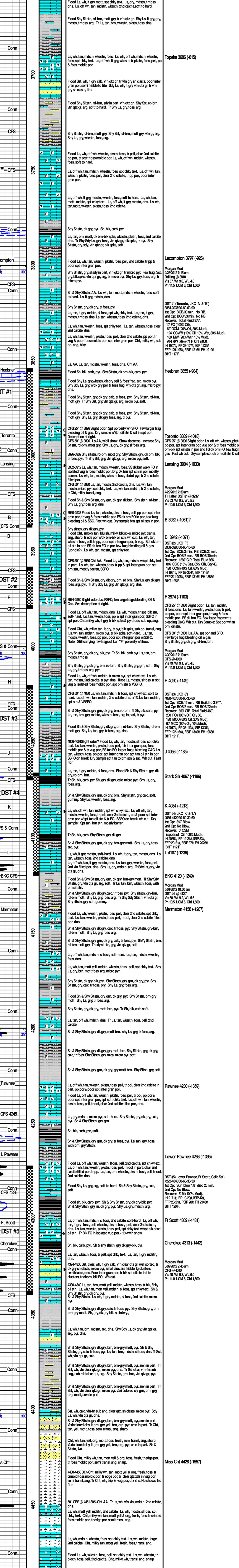
## TEXTURE

Boundst	Chalky
Crxyn	Earthy
Finexln	Grainst
Lithogr	Microxin
Mudst	Packst
Wackest	

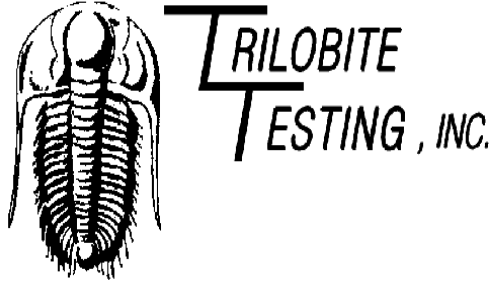
MINERAL: Anhy, Arg, Bent, Bit, Brefrac, Calc, Carb, Chttk, Chtlt, Dol, Ferrpel, Ferr, Glau, Gyp, Marl, Nodule, Phos, Pyr, Salt, Sandy, Silt.

FOSSIL: Algae, Amph, Belm, Bioclst, Bryozoa, Cephal, Coral, Echin, Fish, Lam, Fossil, Gastro, Oolite, Ostra.

Curve Track 1: ROP (min/ft), Gamma (API)



RTD 4490 (-1619)  
 LTD 4492 (-1621)



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300  
Wichita, KS 67202

ATTN: Mike Maune

### **Zola Unit #1-1**

### **1-5s-31w Rawlins,KS**

Start Date: 2012.04.28 @ 22:26:00

End Date: 2012.04.29 @ 07:01:30

Job Ticket #: 42487                      DST #: 1

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

Printed: 2012.05.07 @ 14:32:47



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N Water STE #300  
 Wichita, KS 67202  
 ATTN: Mike Maune

**1-5s-31w Rawlins,KS**  
**Zola Unit #1-1**  
 Job Ticket: 42487 **DST#: 1**  
 Test Start: 2012.04.28 @ 22:26:00

## GENERAL INFORMATION:

Formation: **Tor - LKC "A,B"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:52:45  
 Time Test Ended: 07:01:30  
 Interval: **3854.00 ft (KB) To 3937.00 ft (KB) (TVD)**  
 Total Depth: 3937.00 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: 2871.00 ft (KB)  
 2866.00 ft (CF)  
 KB to GR/CF: 5.00 ft

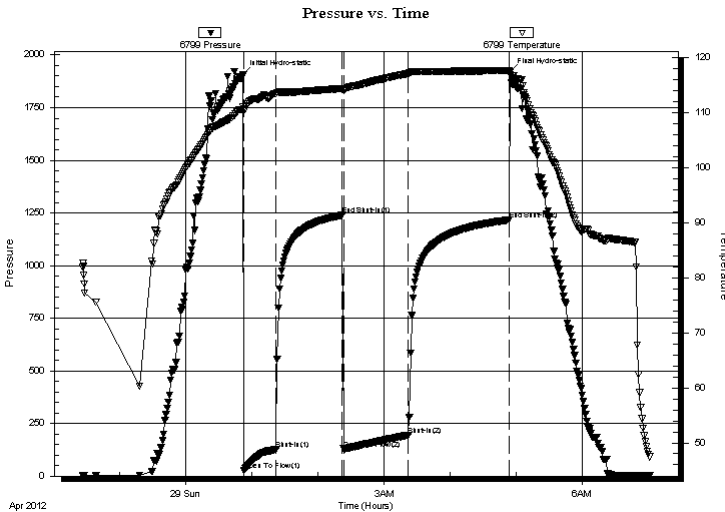
## Serial #: 6799

Inside

Press @ Run Depth: 195.10 psig @ 3855.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.04.28 End Date: 2012.04.29 Last Calib.: 2012.04.29  
 Start Time: 22:26:05 End Time: 07:01:30 Time On Btm: 2012.04.29 @ 00:51:45  
 Time Off Btm: 2012.04.29 @ 04:53:45

TEST COMMENT: 30 - IF- Blow built to BoB in 30 min.  
 60 - IS- No Return  
 60 - FF- Blow built to BoB in 33 min.  
 90 - FS- No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1907.93	110.96	Initial Hydro-static
1	28.45	110.36	Open To Flow (1)
30	127.58	113.39	Shut-In(1)
90	1239.27	114.35	End Shut-In(1)
91	129.24	114.08	Open To Flow (2)
150	195.10	117.10	Shut-In(2)
241	1216.32	117.65	End Shut-In(2)
242	1919.05	116.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	MW 90W 10M	0.89
124.00	OCWM 10o 10W 80M	1.74
62.00	OCM 20o 80M	0.87
10.00	Free oil 100o	0.14

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42487

**DST#: 1**

ATTN: Mike Maune

Test Start: 2012.04.28 @ 22:26:00

## Tool Information

Drill Pipe:	Length: 3665.00 ft	Diameter: 3.80 inches	Volume: 51.41 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 52.30 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3854.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	83.00 ft			
Tool Length:	112.00 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			3826.00	
Shut In Tool	5.00			3831.00	
Hydraulic tool	5.00			3836.00	
Jars	5.00			3841.00	
Safety Joint	3.00			3844.00	
Packer	5.00			3849.00	29.00 Bottom Of Top Packer
Packer	5.00			3854.00	
Stubb	1.00			3855.00	
Recorder	0.00	8648	Inside	3855.00	
Recorder	0.00	6799	Inside	3855.00	
Perforations	13.00			3868.00	
Change Over Sub	1.00			3869.00	
Drill Pipe	62.00			3931.00	
Change Over Sub	1.00			3932.00	
Bullnose	5.00			3937.00	83.00 Bottom Packers & Anchor

**Total Tool Length: 112.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42487

**DST#: 1**

ATTN: Mike Maune

Test Start: 2012.04.28 @ 22:26:00

## 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:

9000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 4.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
180.00	MW 90W 10M	0.885
124.00	OCWM 10o 10W 80M	1.739
62.00	OCM 20o 80M	0.870
10.00	Free oil 100o	0.140

Total Length: 376.00 ft

Total Volume: 3.634 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .76 @ 71 deg. = 9,000ppm

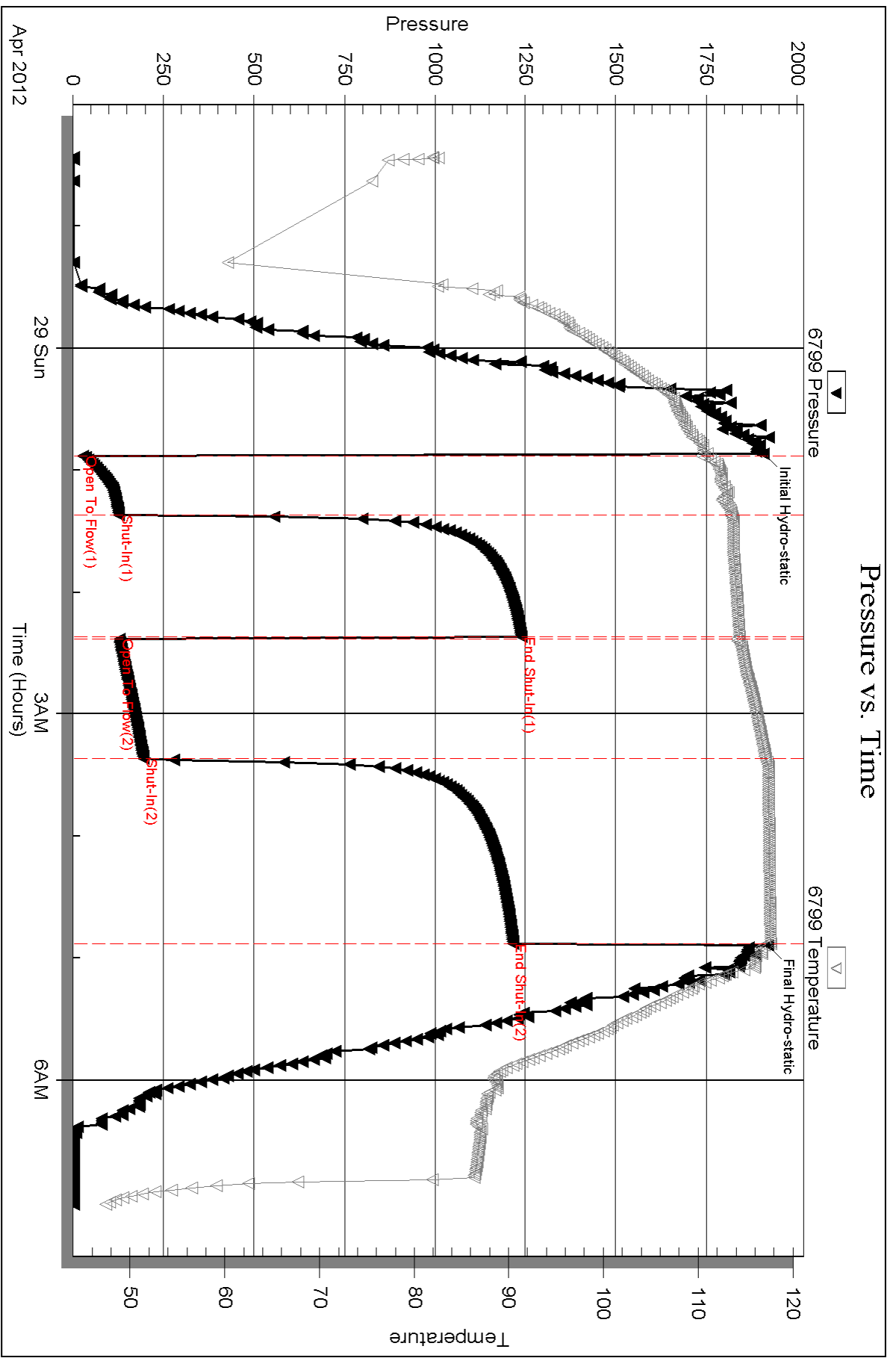
Serial #: 6799

Inside

Murfin Drilling Co.

Zola Unit #1-1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 42487

Printed: 2012.05.07 @ 14:32:49

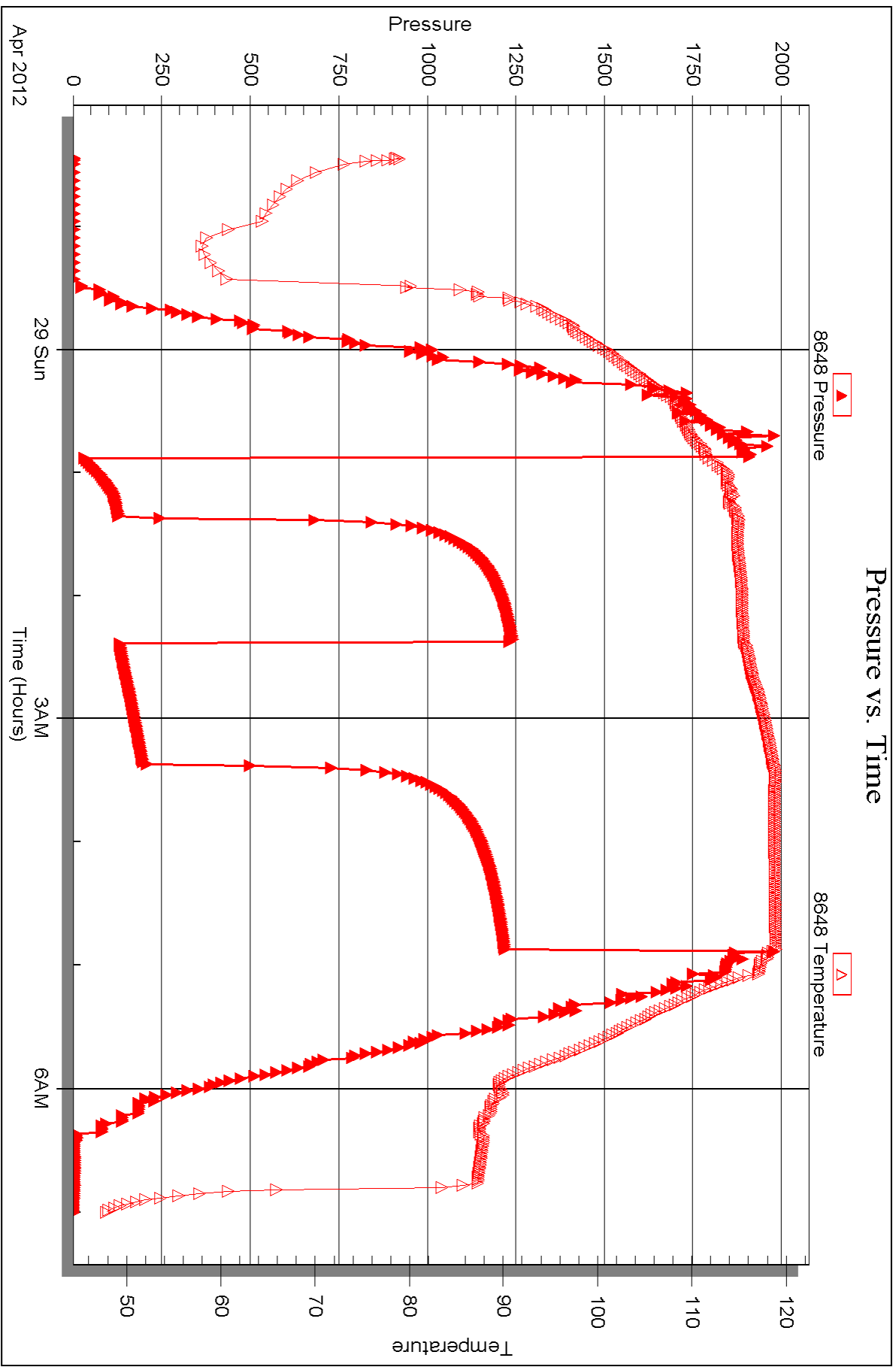
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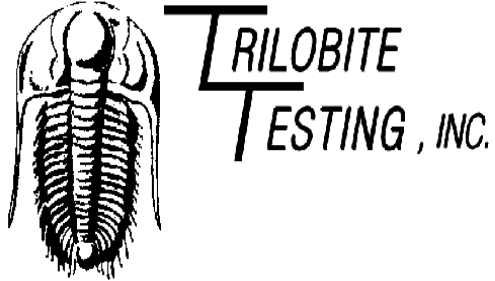
Inside

Murfin Drilling Co.

Zola Unit #1-1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300  
Wichita, KS 67202

ATTN: Mike Maune

### **Zola Unit #1-1**

### **1-5s-31w Rawlins,KS**

Start Date: 2012.04.29 @ 16:16:00

End Date: 2012.04.29 @ 23:16:45

Job Ticket #: 42488                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.07 @ 14:31:50



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Mike Maune

**1-5s-31w Rawlins,KS**  
**Zola Unit #1-1**  
Job Ticket: 42488 **DST#: 2**  
Test Start: 2012.04.29 @ 16:16:00

## GENERAL INFORMATION:

Formation: **LKC "F"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 18:03:15  
Time Test Ended: 23:16:45  
Interval: **3958.00 ft (KB) To 3980.00 ft (KB) (TVD)**  
Total Depth: 3980.00 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: 2871.00 ft (KB)  
2866.00 ft (CF)  
KB to GR/CF: 5.00 ft

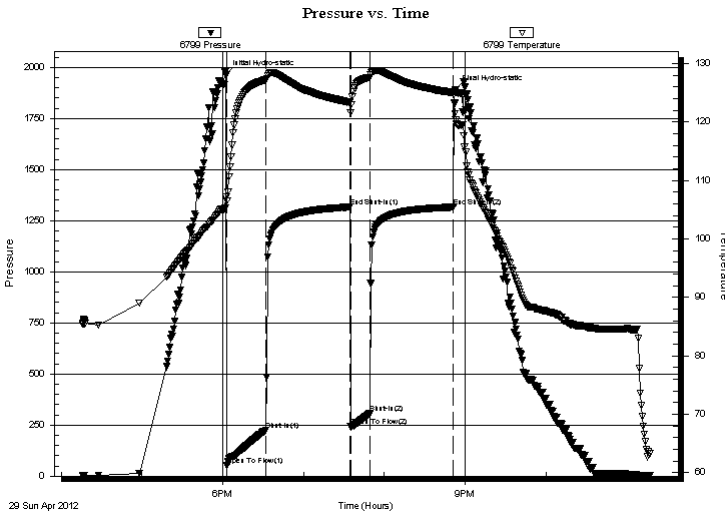
## Serial #: 6799

Inside

Press @ Run Depth: 305.58 psig @ 3959.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.04.29 End Date: 2012.04.29 Last Calib.: 2012.04.29  
Start Time: 16:16:05 End Time: 23:16:44 Time On Btm: 2012.04.29 @ 18:02:30  
Time Off Btm: 2012.04.29 @ 20:52:15

TEST COMMENT: 30 - IF- Blow Built to BoB in 3 min.  
60 - IS- Return Built to BoB in 20 min.  
15 - FF- Blow Built to BoB in 5 min.  
60 - FS- Return Built to BoB in 40 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1961.83	107.11	Initial Hydro-static
1	52.57	106.48	Open To Flow (1)
30	224.73	127.25	Shut-In(1)
92	1316.15	123.33	End Shut-In(1)
93	241.65	121.68	Open To Flow (2)
107	305.58	127.66	Shut-In(2)
169	1316.53	124.99	End Shut-In(2)
170	1888.63	121.42	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	OCM 60M 40o	0.59
816.00	Clean Gassy Oil 15G 85o	10.90
0.00	1260' GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42488

**DST#: 2**

ATTN: Mike Maune

Test Start: 2012.04.29 @ 16:16:00

## Tool Information

Drill Pipe:	Length: 3759.00 ft	Diameter: 3.80 inches	Volume: 52.73 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 53.62 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3958.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	51.00 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			3930.00	
Shut In Tool	5.00			3935.00	
Hydraulic tool	5.00			3940.00	
Jars	5.00			3945.00	
Safety Joint	3.00			3948.00	
Packer	5.00			3953.00	29.00 Bottom Of Top Packer
Packer	5.00			3958.00	
Stubb	1.00			3959.00	
Recorder	0.00	8648	Inside	3959.00	
Recorder	0.00	6799	Inside	3959.00	
Perforations	16.00			3975.00	
Bullnose	5.00			3980.00	22.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42488

**DST#: 2**

ATTN: Mike Maune

Test Start: 2012.04.29 @ 16:16:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

43 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	OCM 60M 40o	0.590
816.00	Clean Gassy Oil 15G 85o	10.900
0.00	1260' GIP	0.000

Total Length: 936.00 ft      Total Volume: 11.490 bbl

Num Fluid Samples: 0

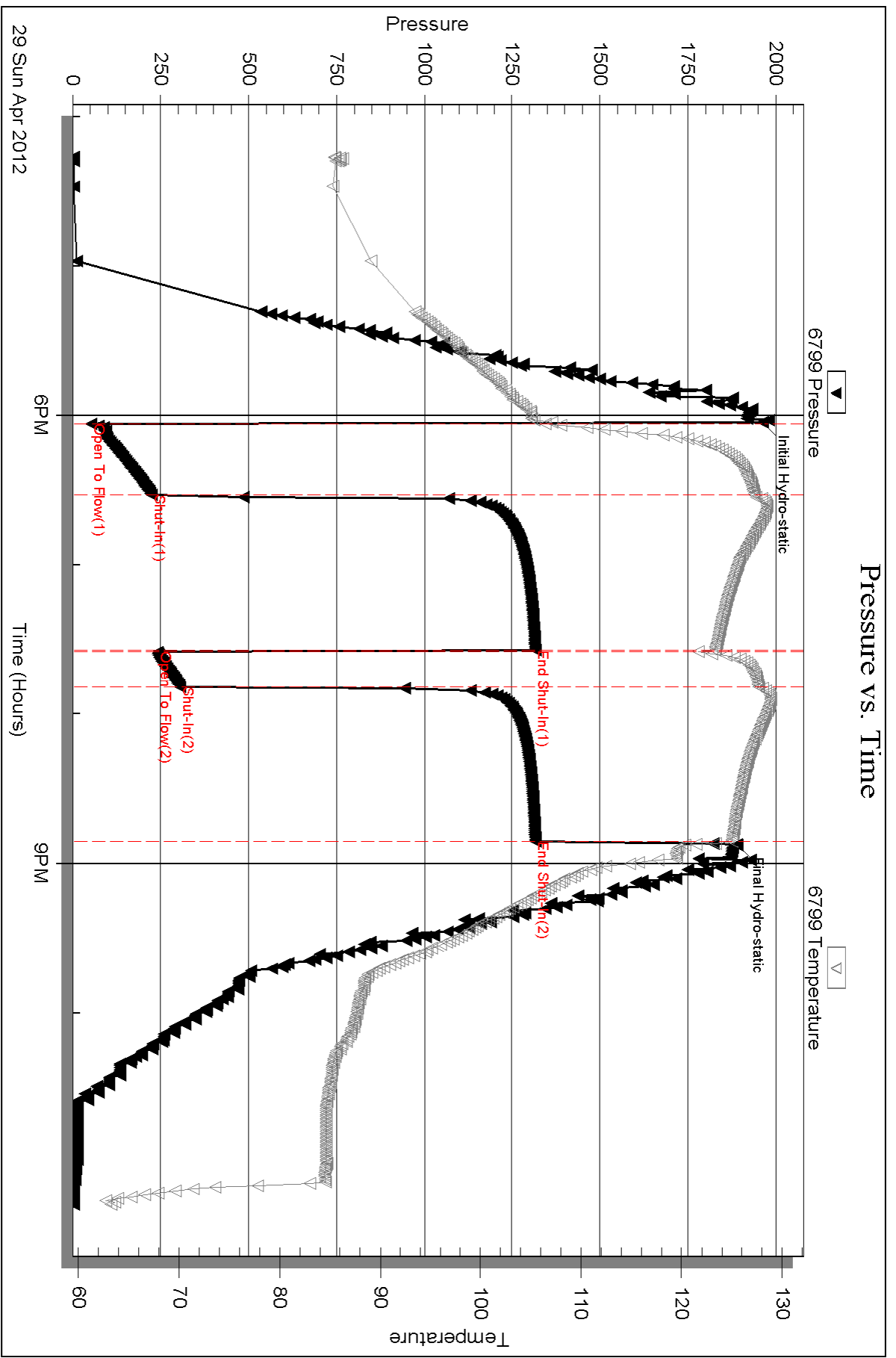
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API 44@80 deg. = 43



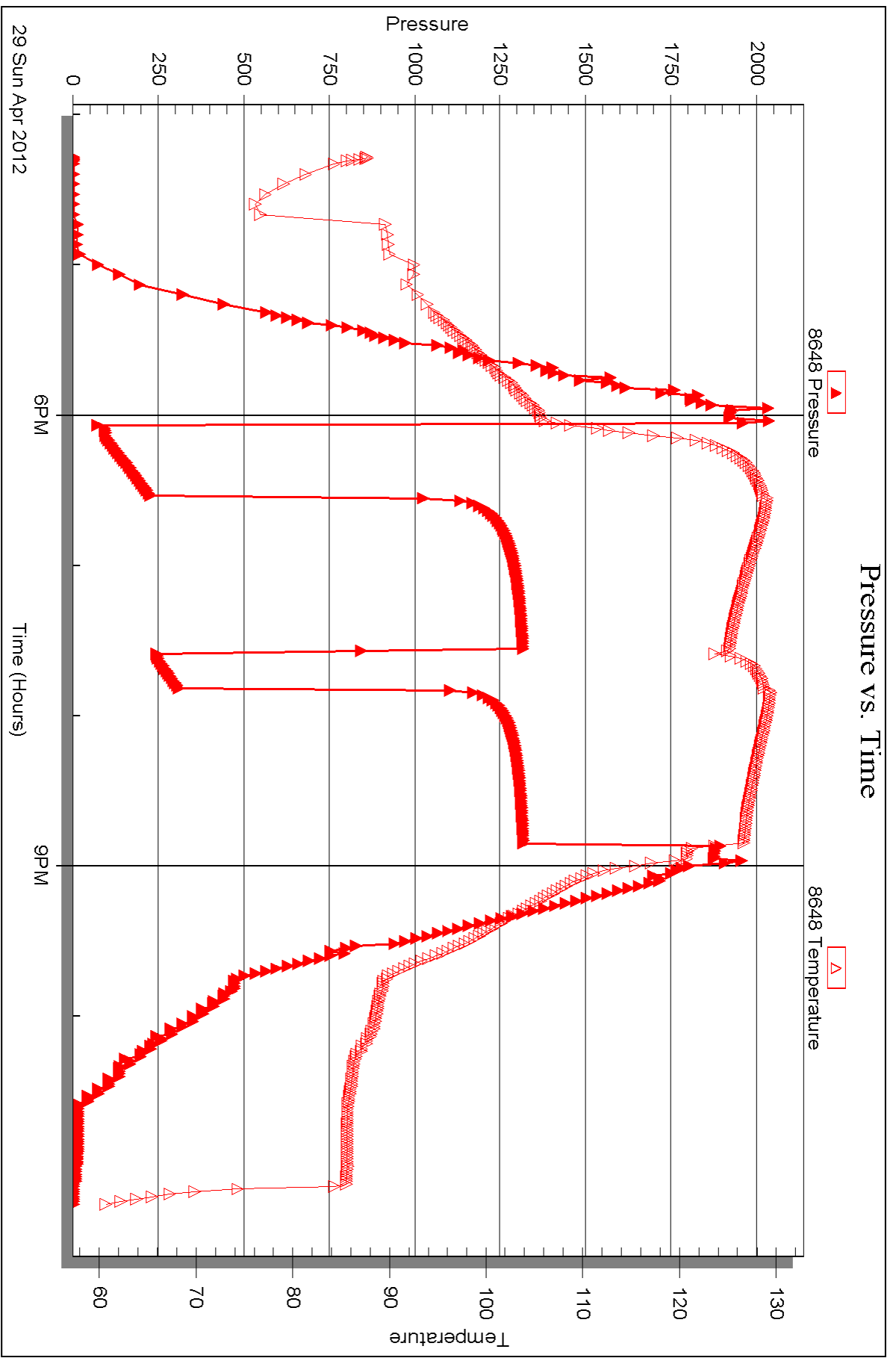
Serial #: 8648

Inside

Murfin Drilling Co.

Zola Unit #1-1

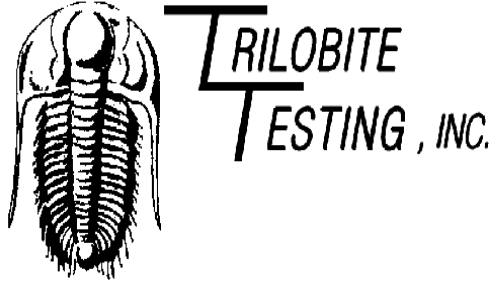
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 42488

Printed: 2012.05.07 @ 14:31:53



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300  
Wichita, KS 67202

ATTN: Mike Maune

### **Zola Unit #1-1**

### **1-5s-31w Rawlins,KS**

Start Date: 2012.04.30 @ 12:51:00

End Date: 2012.04.30 @ 20:52:45

Job Ticket #: 42489                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.07 @ 14:30:25

Murfin Drilling Co. 1-5s-31w Rawlins,KS Zola Unit #1-1 DST # 3 LKC "H,J,J" 2012.04.30



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Mike Maune

**1-5s-31w Rawlins,KS**  
**Zola Unit #1-1**  
Job Ticket: 42489      **DST#: 3**  
Test Start: 2012.04.30 @ 12:51:00

## GENERAL INFORMATION:

Formation: **LKC "H,I,J"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 15:33:45  
Time Test Ended: 20:52:45  
Interval: **4020.00 ft (KB) To 4070.00 ft (KB) (TVD)**  
Total Depth: 4070.00 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: 2871.00 ft (KB)  
2866.00 ft (CF)  
KB to GR/CF: 5.00 ft

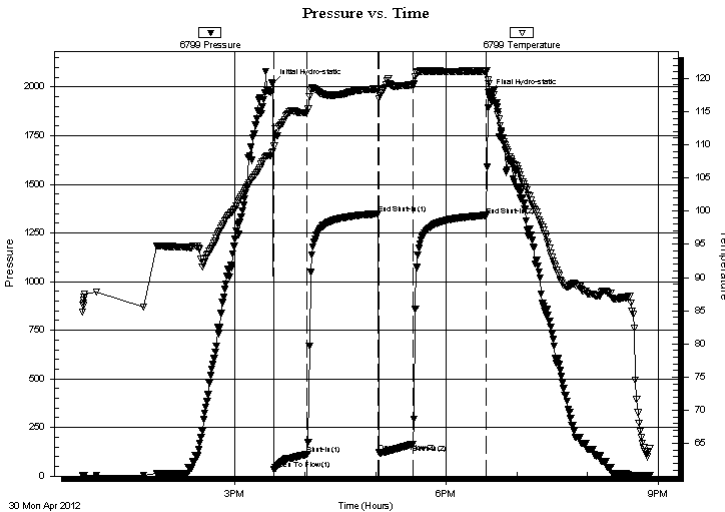
## Serial #: 6799

Inside

Press @ Run Depth: 164.60 psig @ 4021.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.04.30 End Date: 2012.04.30 Last Calib.: 2012.04.30  
Start Time: 12:51:05 End Time: 20:52:44 Time On Btm: 2012.04.30 @ 15:32:45  
Time Off Btm: 2012.04.30 @ 18:36:00

TEST COMMENT: 30- IF- Blow built to BoB in 15 min.  
60- IS- Return Blow built to 3 3/4"  
30- FF- Blow built to BoB in 8 min.  
60- FS- Return Blow built to BoB in 22 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2017.90	108.99	Initial Hydro-static
1	36.51	109.76	Open To Flow (1)
29	113.01	114.87	Shut-In(1)
89	1348.23	118.39	End Shut-In(1)
90	122.31	116.98	Open To Flow (2)
119	164.60	119.04	Shut-In(2)
181	1340.51	121.07	End Shut-In(2)
184	1968.73	119.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCO 60o 40M	0.30
120.00	MCO 80o 20M	0.59
280.00	Free Oil 100o	3.93
0.00	850' GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42489

**DST#: 3**

ATTN: Mike Maune

Test Start: 2012.04.30 @ 12:51:00

## Tool Information

Drill Pipe:	Length: 3822.00 ft	Diameter: 3.80 inches	Volume: 53.61 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 54.50 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4020.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	79.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3992.00	
Shut In Tool	5.00			3997.00	
Hydraulic tool	5.00			4002.00	
Jars	5.00			4007.00	
Safety Joint	3.00			4010.00	
Packer	5.00			4015.00	29.00 Bottom Of Top Packer
Packer	5.00			4020.00	
Stubb	1.00			4021.00	
Recorder	0.00	8648	Inside	4021.00	
Recorder	0.00	6799	Inside	4021.00	
Perforations	10.00			4031.00	
Change Over Sub	1.00			4032.00	
Drill Pipe	32.00			4064.00	
Change Over Sub	1.00			4065.00	
Bullnose	5.00			4070.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42489

**DST#: 3**

ATTN: Mike Maune

Test Start: 2012.04.30 @ 12:51:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 4.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	MCO 60o 40M	0.295
120.00	MCO 80o 20M	0.590
280.00	Free Oil 100o	3.928
0.00	850' GIP	0.000

Total Length: 460.00 ft      Total Volume: 4.813 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

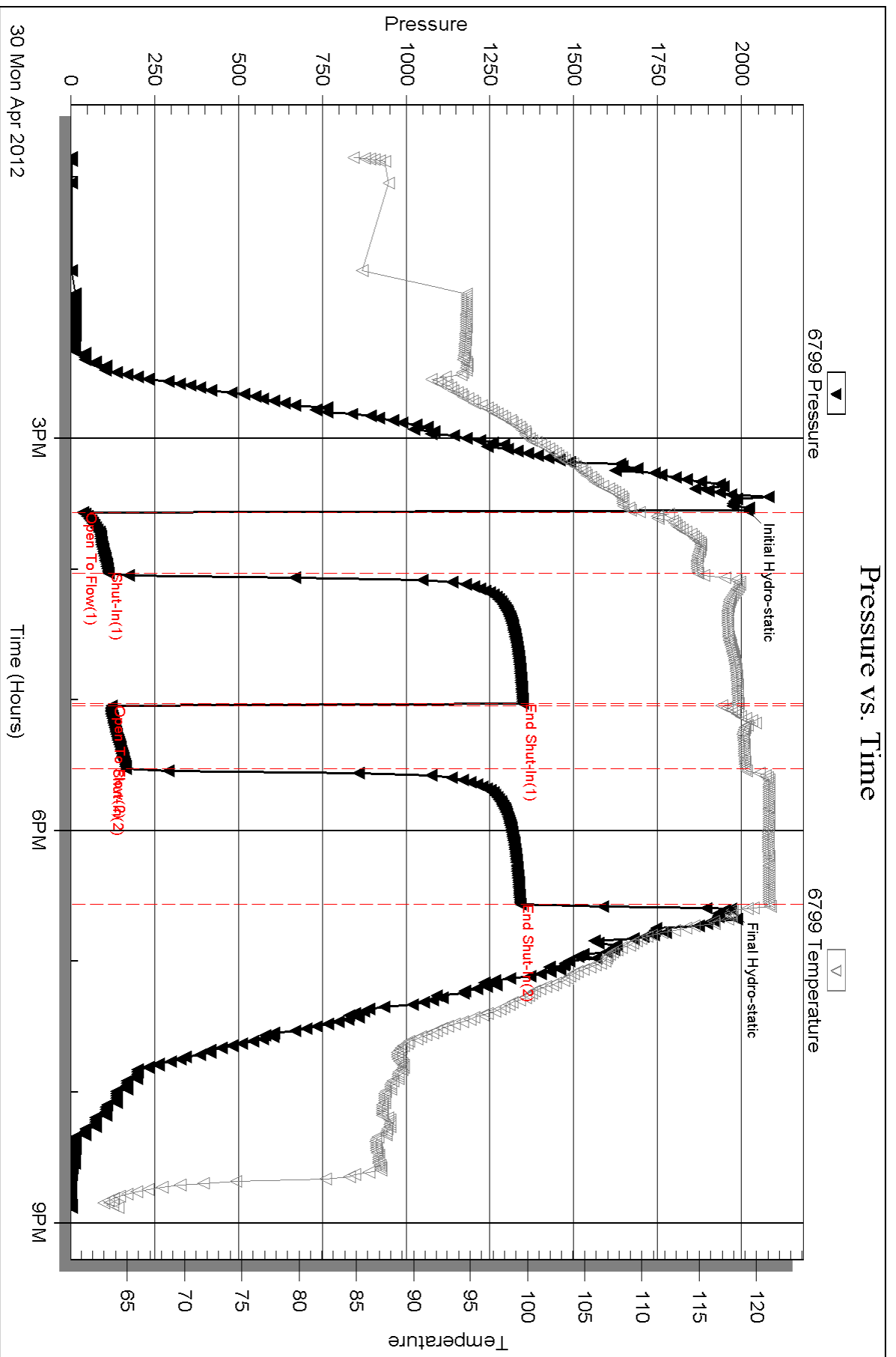
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API 38 @ 90 deg. = 36





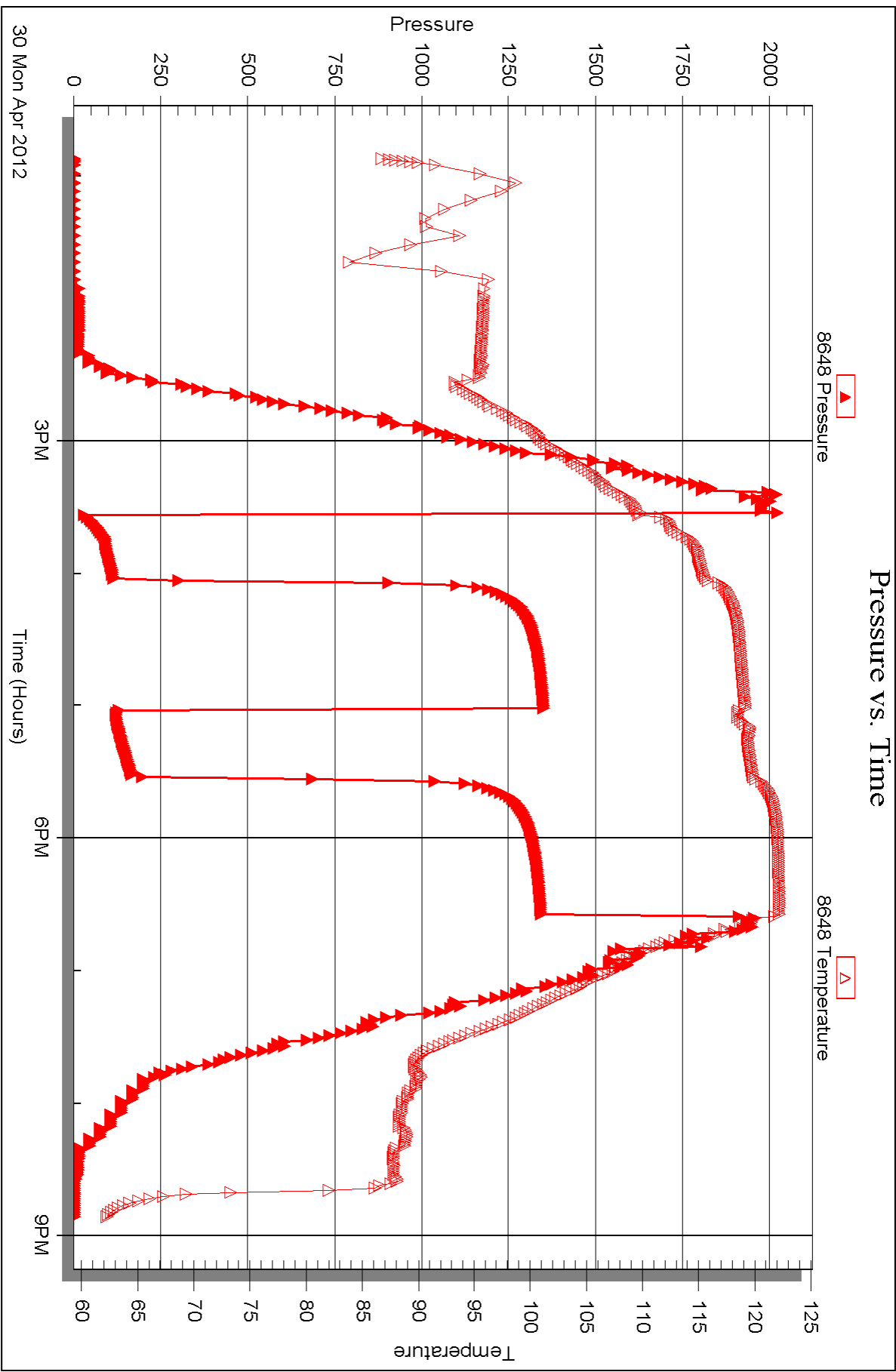
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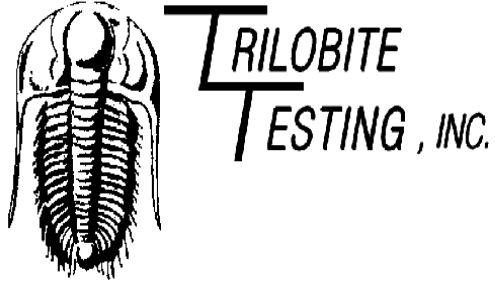
Inside

Murfin Drilling Co.

Zola Unit #1-1

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300  
Wichita, KS 67202

ATTN: Mike Maune

### **Zola Unit #1-1**

### **1-5s-31w Rawlins,KS**

Start Date: 2012.05.01 @ 07:08:00

End Date: 2012.05.01 @ 15:10:15

Job Ticket #: 42490                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.07 @ 14:29:07

Murfin Drilling Co.  
1-5s-31w Rawlins,KS  
Zola Unit #1-1  
DST # 4  
LKC "K.L."  
2012.05.01



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Mike Maune

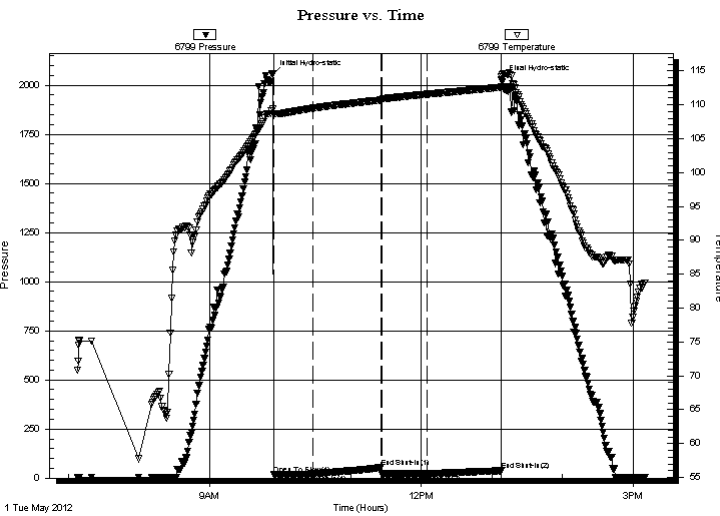
**1-5s-31w Rawlins,KS**  
**Zola Unit #1-1**  
Job Ticket: 42490      **DST#: 4**  
Test Start: 2012.05.01 @ 07:08:00

## GENERAL INFORMATION:

Formation: **LKC "K,L"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 09:54:45  
Time Test Ended: 15:10:15  
Interval: **4066.00 ft (KB) To 4120.00 ft (KB) (TVD)**  
Total Depth: 4120.00 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: 2871.00 ft (KB)  
2866.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 6799      Inside**  
Press @ Run Depth: 21.63 psig @ 4067.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.05.01      End Date: 2012.05.01      Last Calib.: 2012.05.01  
Start Time: 07:08:05      End Time: 15:10:14      Time On Btm: 2012.05.01 @ 09:53:45  
Time Off Btm: 2012.05.01 @ 13:08:15

**TEST COMMENT:** 30- IF- 1/4" Blow built to 3/4"  
60- IS- No Return  
30- FF- No Blow  
60- FS- No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2055.81	109.38	Initial Hydro-static
1	19.60	108.72	Open To Flow (1)
34	21.30	109.50	Shut-In(1)
92	53.27	110.70	End Shut-In(1)
93	20.75	110.81	Open To Flow (2)
131	21.63	111.56	Shut-In(2)
194	37.93	112.60	End Shut-In(2)
195	2026.18	114.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 100M (oil spots)	0.02

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Mike Maune

**1-5s-31w Rawlins,KS**  
**Zola Unit #1-1**  
Job Ticket: 42490      **DST#: 4**  
Test Start: 2012.05.01 @ 07:08:00

**Tool Information**

Drill Pipe:	Length: 3887.00 ft	Diameter: 3.80 inches	Volume: 54.52 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	67000.00 lb
			<u>Total Volume: 55.41 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4066.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	54.00 ft				
Tool Length:	83.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4038.00	
Shut In Tool	5.00			4043.00	
Hydraulic tool	5.00			4048.00	
Jars	5.00			4053.00	
Safety Joint	3.00			4056.00	
Packer	5.00			4061.00	29.00      Bottom Of Top Packer
Packer	5.00			4066.00	
Stubb	1.00			4067.00	
Recorder	0.00	8648	Inside	4067.00	
Recorder	0.00	6799	Inside	4067.00	
Perforations	14.00			4081.00	
Change Over Sub	1.00			4082.00	
Drill Pipe	32.00			4114.00	
Change Over Sub	1.00			4115.00	
Bullnose	5.00			4120.00	54.00      Bottom Packers & Anchor

**Total Tool Length: 83.00**



**TRILOBITE**  
**TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42490

**DST#: 4**

ATTN: Mike Maune

Test Start: 2012.05.01 @ 07:08:00

## 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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM 100M (oil spots)	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

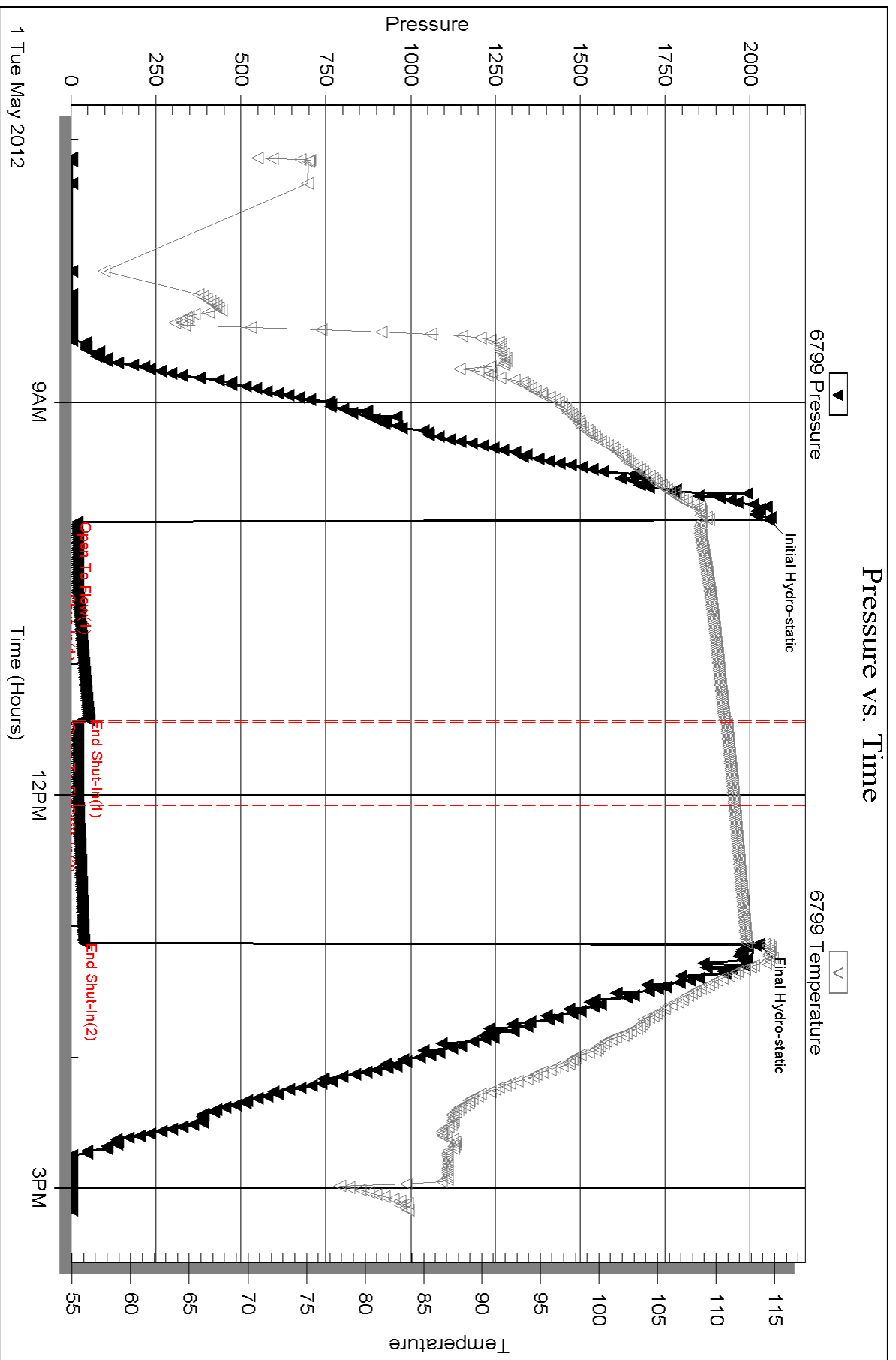
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





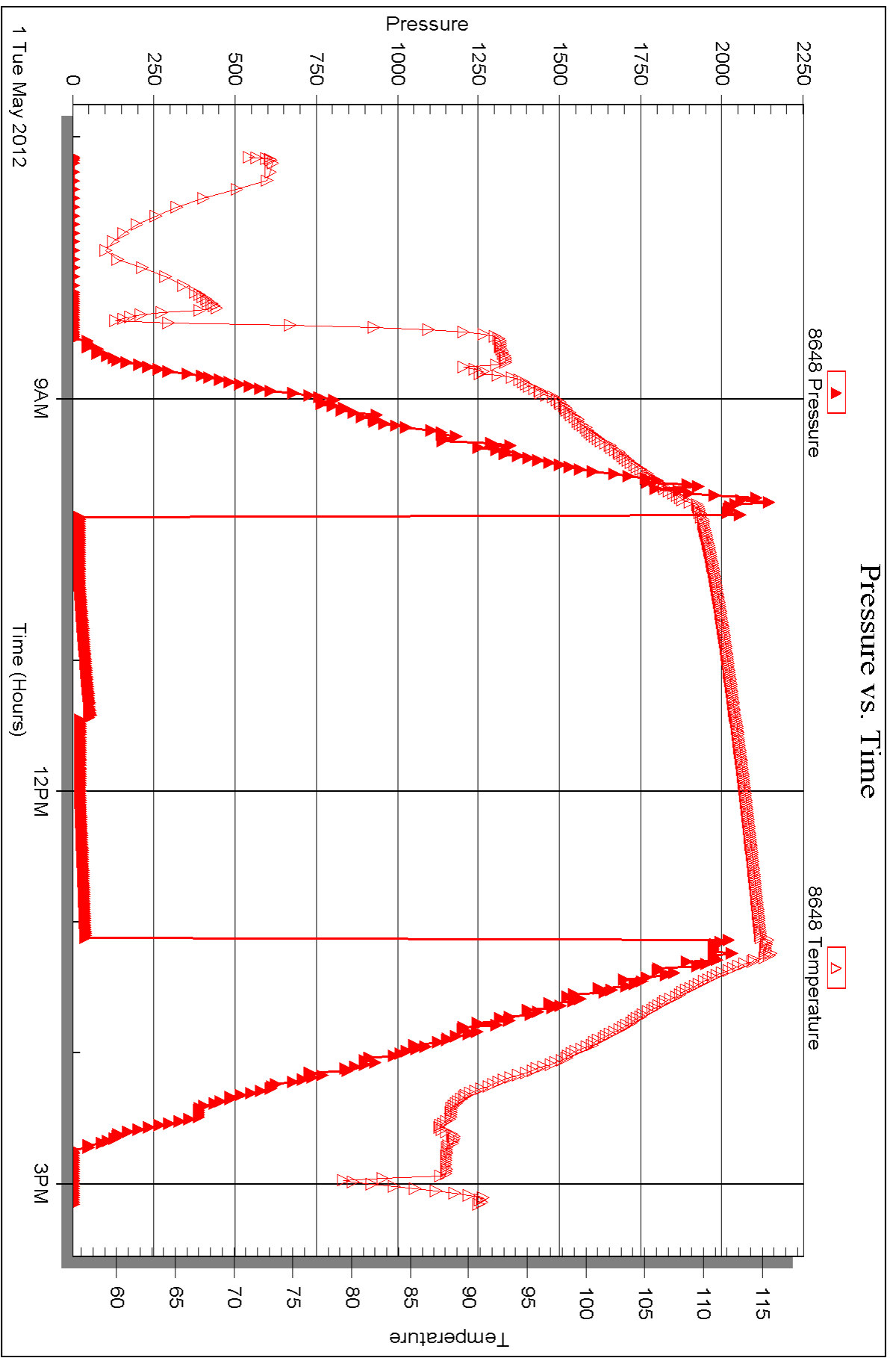
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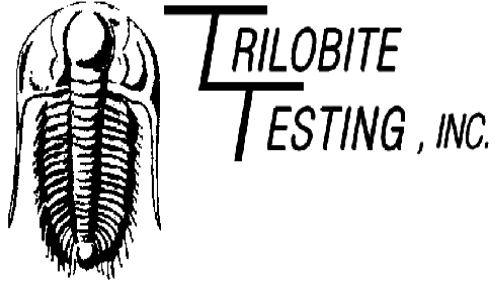
Inside

Murfin Drilling Co.

Zola Unit #1-1

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300  
Wichita, KS 67202

ATTN: Mike Maune

### **Zola Unit #1-1**

### **1-5s-31w Rawlins,KS**

Start Date: 2012.05.02 @ 12:01:00

End Date: 2012.05.02 @ 19:04:45

Job Ticket #: 42491                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.07 @ 14:28:13



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Mike Maune

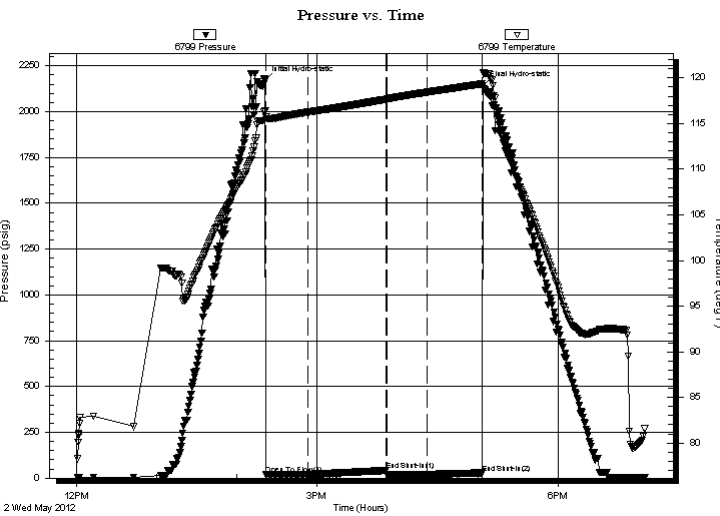
**1-5s-31w Rawlins,KS**  
**Zola Unit #1-1**  
Job Ticket: 42491 **DST#: 5**  
Test Start: 2012.05.02 @ 12:01:00

## GENERAL INFORMATION:

Formation: **Pawnee, Ft. Scott, S**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:22:00  
 Time Test Ended: 19:04:45  
 Interval: **4272.00 ft (KB) To 4340.00 ft (KB) (TVD)**  
 Total Depth: 4340.00 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: 2871.00 ft (KB)  
 2866.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6799 Inside**  
 Press @ Run Depth: 21.31 psig @ 4273.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.05.02 End Date: 2012.05.02 Last Calib.: 2012.05.02  
 Start Time: 12:01:05 End Time: 19:04:44 Time On Btm: 2012.05.02 @ 14:21:15  
 Time Off Btm: 2012.05.02 @ 17:04:00

**TEST COMMENT:** 30- IF-Weak surface blow built to 1/8" then died at 25 min.  
 60- IS- No Return  
 30- FF- No Blow  
 30- FS- No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2171.35	116.40	Initial Hydro-static
1	19.78	115.69	Open To Flow (1)
32	20.08	116.25	Shut-In(1)
90	42.33	117.65	End Shut-In(1)
91	20.44	117.66	Open To Flow (2)
121	21.31	118.44	Shut-In(2)
162	28.69	119.35	End Shut-In(2)
163	2143.07	120.61	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.  
250 N Water STE #300  
Wichita, KS 67202  
ATTN: Mike Maune

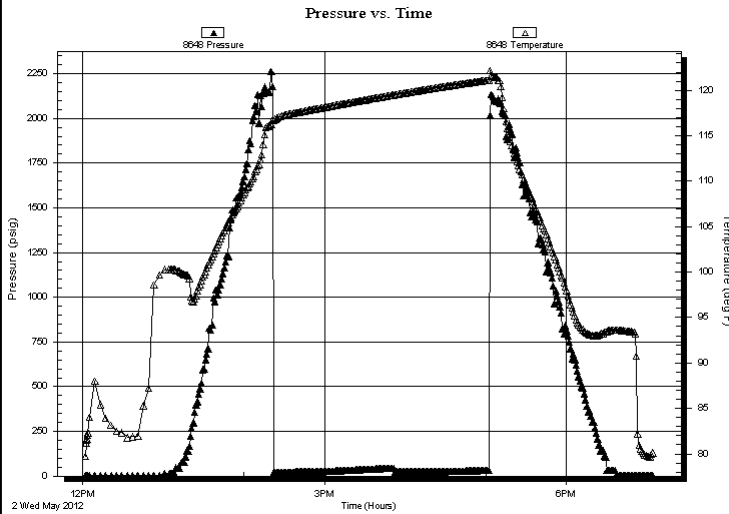
**1-5s-31w Rawlins,KS**  
**Zola Unit #1-1**  
Job Ticket: 42491      **DST#: 5**  
Test Start: 2012.05.02 @ 12:01:00

## GENERAL INFORMATION:

Formation: **Pawnee, Ft. Scott, S**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:22:00  
 Time Test Ended: 19:04:45  
 Interval: **4272.00 ft (KB) To 4340.00 ft (KB) (TVD)**  
 Total Depth: 4340.00 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: 2871.00 ft (KB)  
 2866.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8648      Inside**  
 Press @ Run Depth:      psig @      4273.00 ft (KB)      Capacity:      8000.00 psig  
 Start Date:      2012.05.02      End Date:      2012.05.02      Last Calib.:      2012.05.02  
 Start Time:      12:02:05      End Time:      19:04:14      Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30- IF-Weak surface blow built to 1/8" then died at 25 min.  
 60- IS- No Return  
 30- FF- No Blow  
 30- 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.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42491

**DST#: 5**

ATTN: Mike Maune

Test Start: 2012.05.02 @ 12:01:00

## Tool Information

Drill Pipe:	Length: 4075.00 ft	Diameter: 3.80 inches	Volume: 57.16 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 58.05 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4272.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	68.00 ft			
Tool Length:	97.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4244.00	
Shut In Tool	5.00			4249.00	
Hydraulic tool	5.00			4254.00	
Jars	5.00			4259.00	
Safety Joint	3.00			4262.00	
Packer	5.00			4267.00	29.00 Bottom Of Top Packer
Packer	5.00			4272.00	
Stubb	1.00			4273.00	
Recorder	0.00	8648	Inside	4273.00	
Recorder	0.00	6799	Inside	4273.00	
Perforations	28.00			4301.00	
Change Over Sub	1.00			4302.00	
Drill Pipe	32.00			4334.00	
Change Over Sub	1.00			4335.00	
Bullnose	5.00			4340.00	68.00 Bottom Packers & Anchor

**Total Tool Length: 97.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**1-5s-31w Rawlins,KS**

250 N Water STE #300  
Wichita, KS 67202

**Zola Unit #1-1**

Job Ticket: 42491

**DST#: 5**

ATTN: Mike Maune

Test Start: 2012.05.02 @ 12:01:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 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:

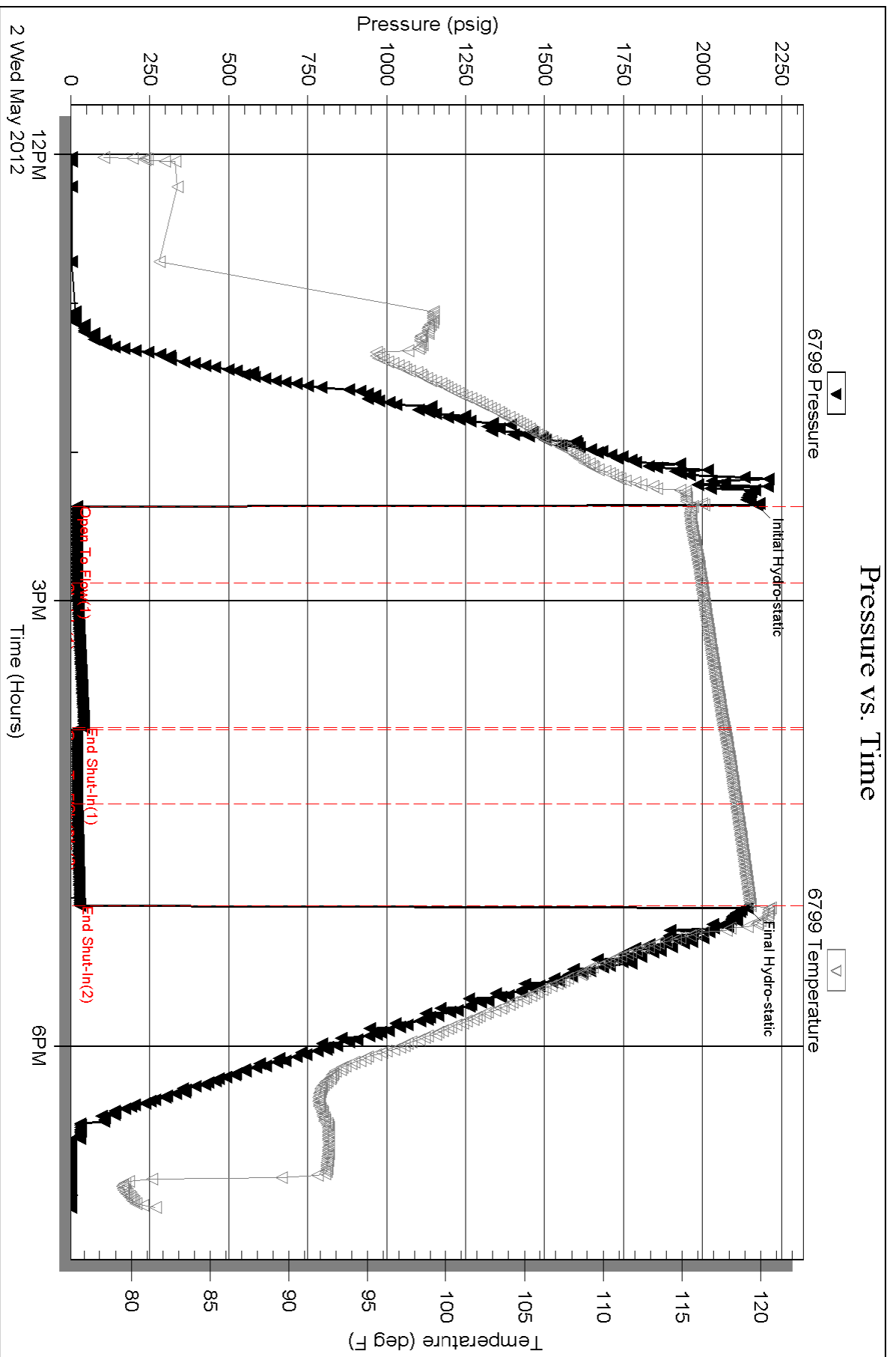
Serial #: 6799

Inside

Murfin Drilling Co.

Zola Unit #1-1

DST Test Number: 5



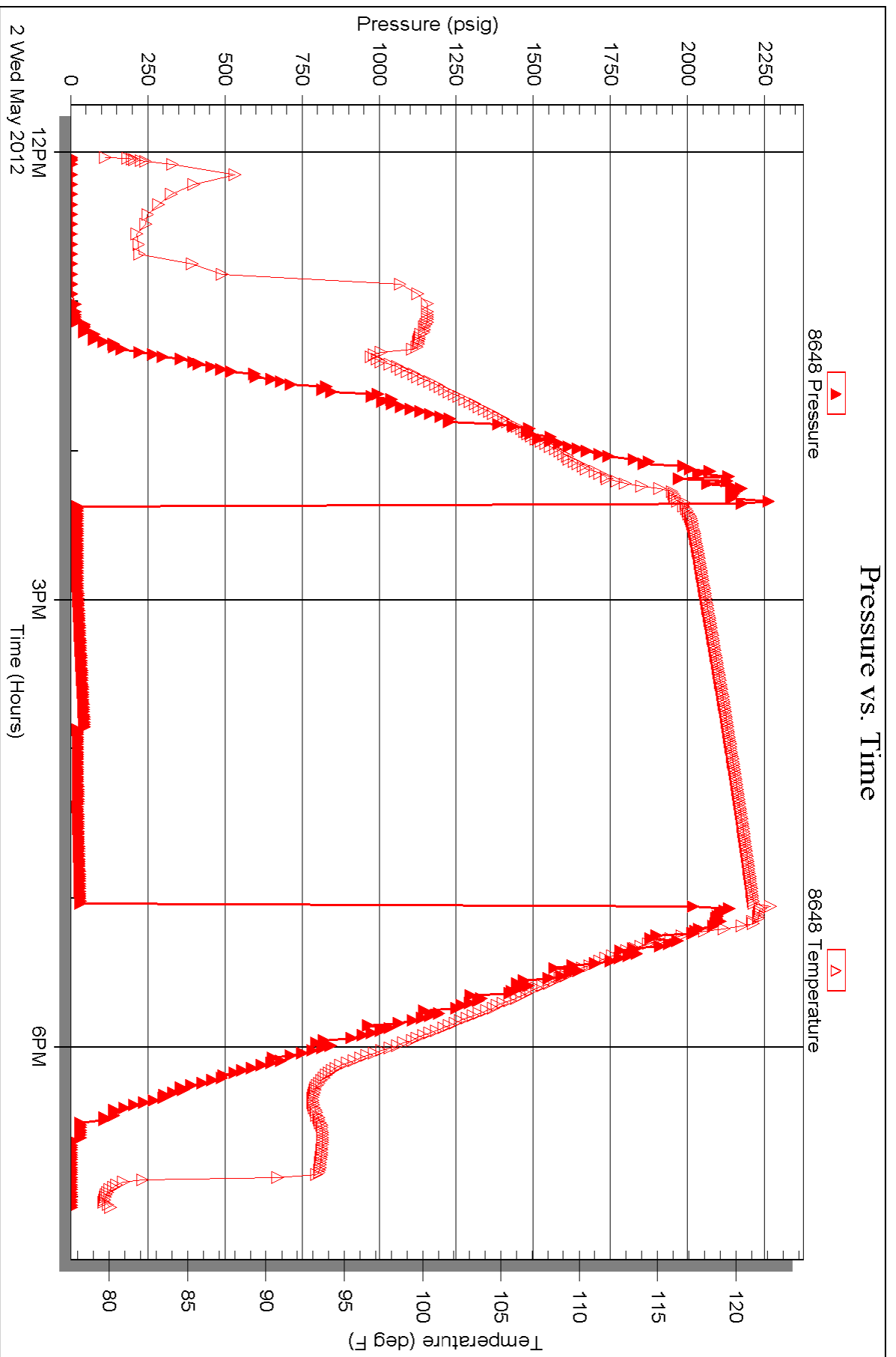
Serial #: 8648

Inside

Murfin Drilling Co.

Zola Unit #1-1

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 42491

Printed: 2012.05.07 @ 14:28:16





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 042487

Well Name & No. Murfin Drilling Co. Test No. 1 Date 4-28-12  
 Company Zola Unit #1-1 Elevation 2871 KB 2866 GL  
 Address 250 N. Water STE #300 Wichita, KS 67202  
 Co. Rep / Geo. Mike Maune Rig Murfin #8  
 Location: Sec. 1 Twp. 5s Rge. 31w Co. Rawlins State KS

Interval Tested 3854-3937 Zone Tested TOR - LKC "A, B"  
 Anchor Length 83' Drill Pipe Run 3665 Mud Wt. 9.0  
 Top Packer Depth 3850 Drill Collars Run 180 Vis 57  
 Bottom Packer Depth 3854 Wt. Pipe Run Ø WL 4.8  
 Total Depth 3937 Chlorides 1,500 ppm System LCM 6#  
 Blow Description IF - Blow built to BoB in 30 min  
IS - No Return  
FF - Blow built to BoB in 33 min.  
FS - No Return

Rec	Feet of	%gas	%oil	%water	%mud
10	Free Oil	100			
62	OCM	20		80	
124	OCWM	10	10	80	
180	MW		90	10	

Rec Total 376 BHT 117 Gravity - API RW .76 @ 71 °F Chlorides 9,000 ppm  
 (A) Initial Hydrostatic 1907  Test 1150 T-On Location 9:45 PM  
 (B) First Initial Flow 28  Jars 250 T-Started 10:26 PM  
 (C) First Final Flow 127  Safety Joint 75 T-Open 12:52 AM  
 (D) Initial Shut-In 1239  Circ Sub N/C T-Pulled 4:52 AM  
 (E) Second Initial Flow 129  Hourly Standby 1/4 hr 25 T-Out 7:02 AM  
 (F) Second Final Flow 195  Mileage 62 RT 960  
 (G) Final Shut-In 1216  Sampler  
 (H) Final Hydrostatic 1919  Straddle  
 Shale Packer  
 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 Ø  
 Total 1596.10  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1596.10

Approved By \_\_\_\_\_ Our Representative 

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



# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 042488

Well Name & No. Zula Unit #1-1 Test No. 2 Date 4-29-12  
 Company Murfin Drilling Co. Elevation 2871 KB 2866 GL  
 Address 250 N Water STE #300 Wichita KS 67202  
 Co. Rep / Geo. Mike Maune Rig Murfin #8  
 Location: Sec. 1 Twp. 5s Rge. 31w Co. Rawlins State KS

Interval Tested 3958-3980 Zone Tested LKC "F"  
 Anchor Length 22' Drill Pipe Run 3759 Mud Wt. 9.2  
 Top Packer Depth 3954 Drill Collars Run 180 Vis 53  
 Bottom Packer Depth 3958 Wt. Pipe Run Ø WL 5.2  
 Total Depth 3980 Chlorides 1500 ppm System LCM 6#

Blow Description IF - Blow built to BOB in 3 min  
IS - Return built to BOB in 20 min.  
FF - Blow built to BOB in 5 min  
FS - Blow built to BOB in 40 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>316</u>	<u>Feet of Clean Gassy Oil</u>	<u>15</u>	<u>78.5</u>	<u>Ø</u>	<u>Ø</u>
<u>120</u>	<u>Feet of OCM</u>	<u>Ø</u>	<u>40</u>	<u>60</u>	<u>Ø</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 936 BHT 125 Gravity 43 API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 1961  Test 1150 T-On Location 3:38 PM  
 (B) First Initial Flow 52  Jars 250 T-Started 4:16 PM  
 (C) First Final Flow 224  Safety Joint 75 T-Open 6:03 PM  
 (D) Initial Shut-In 1316  Circ Sub NIC T-Pulled 8:48 PM  
 (E) Second Initial Flow 241  Hourly Standby T-Out 11:17 PM  
 (F) Second Final Flow 305  Mileage 62 RT 96.10 Comments 1260 GIP  
 (G) Final Shut-In 1316  Sampler  
 (H) Final Hydrostatic 1888  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 15  
 Final Shut-In 60  
 Sub Total Ø  
 Total 1571.10  
 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 042489

Well Name & No. Zula Unit #1-1 Test No. 3 Date 4-30-12  
 Company Murfin Drilling Co. Elevation 2871 KB 2866 GL  
 Address 250 N Waver STE #300 Wichita, KS 67202  
 Co. Rep / Geo. Mike Mavne Rig Murfin #8  
 Location: Sec. 1 Twp. 5S Rge. 3/W Co. Rawlins State KS

Interval Tested 4020 - 4070 Zone Tested LKC "H<sub>1</sub>I<sub>1</sub>J<sub>1</sub>"  
 Anchor Length 50' Drill Pipe Run 3822 Mud Wt. 9.1  
 Top Packer Depth 4016 Drill Collars Run 180 Vis 49  
 Bottom Packer Depth 4020 Wt. Pipe Run Ø WL 4.8  
 Total Depth 4070 Chlorides 1,500 ppm System LCM 6#  
 Blow Description IF - Blow built to BoB in 15 min.  
IS - Return built to 3 3/4"  
FF - Blow built to BoB in 8 min.  
ES -

Rec	Feet of	%gas	%oil	%water	%mud
<u>280</u>	<u>Free Oil</u>	<u>100</u>			
<u>120</u>	<u>MCO</u>	<u>80</u>		<u>20</u>	
<u>60</u>	<u>MCO</u>	<u>60</u>		<u>40</u>	

Rec Total 460 BHT 121 Gravity 36 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic	<u>2017</u>	<input checked="" type="checkbox"/> Test	<u>1250'</u>	T-On Location	<u>12:00 PM</u>
(B) First Initial Flow	<u>36</u>	<input checked="" type="checkbox"/> Jars	<u>250'</u>	T-Started	<u>12:51 PM</u>
(C) First Final Flow	<u>113</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75'</u>	T-Open	<u>3:32 PM</u>
(D) Initial Shut-In	<u>1348</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NIC</u>	T-Pulled	<u>6:32 PM</u>
(E) Second Initial Flow	<u>122</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>8:53 PM</u>
(F) Second Final Flow	<u>164</u>	<input checked="" type="checkbox"/> Mileage	<u>62 RT 96.10</u>	Comments	<u>850' GFP</u>
(G) Final Shut-In	<u>1340</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>1968</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow	<u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>Ø</u>
Final Shut-In	<u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1671.10</u>
		<input type="checkbox"/> Accessibility	MP/DST Disc't
		Sub Total <u>1671.10</u>	

Approved By \_\_\_\_\_ Our Representative \_\_\_\_\_

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 042490

Well Name & No. Zola Unit #1-1 Test No. 4 Date 5-1-12  
 Company Murfin Drilling Co. Elevation 2871 KB 2866 GL  
 Address 250 N. Water STE #300 Wichita, KS 67202  
 Co. Rep / Geo. Mike Maune Rig Murfin #8  
 Location: Sec. 1 Twp. 5s Rge. 3lw Co. Rawlins State KS

Interval Tested 4066-4120 Zone Tested LKC "K,L"  
 Anchor Length 54' Drill Pipe Run 3887 Mud Wt. 9.2  
 Top Packer Depth 4062 Drill Collars Run 180' Vis 60  
 Bottom Packer Depth 4066 Wt. Pipe Run Ø WL 5.6  
 Total Depth 4120 Chlorides 1,500 ppm System LCM 6#  
 Blow Description IF- 1/4" Blow built to 3/4"  
IS- No Return  
FF- No Blow  
FS- No Return

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

Rec Total 5 BHT 112 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2055</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>6:50 AM</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>7:08 AM</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>9:54 AM</u>
(D) Initial Shut-In <u>53</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>12:54 PM</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>3:10 PM</u>
(F) Second Final Flow <u>21</u>	<input checked="" type="checkbox"/> Mileage <u>62 RT 96.10</u>	Comments
(G) Final Shut-In <u>37</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2026</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>Ø</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1671.10</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1671.10</u>	

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 042491

Well Name & No. Zola Unit #1 Test No. 5 Date 5-2-12  
 Company Murfin Drilling Co. Elevation 2871 KB 2866 GL  
 Address 250 N Water STE # 300 Wichita, KS 67202  
 Co. Rep / Geo. Mike Maune Rig Murfin #8  
 Location: Sec. 1 Twp. 5s Rge. 31w Co. Rawlins State KS

Interval Tested 4272-4340 Zone Tested Pawnee - Ft. Scott - Scorum Sp.  
 Anchor Length 68' Drill Pipe Run 4075 Mud Wt. 8.3  
 Top Packer Depth 4268 Drill Collars Run 180' Vis 50  
 Bottom Packer Depth 4272 Wt. Pipe Run 6 WL 6.0  
 Total Depth 4340 Chlorides 6500 ppm System LCM 6#

Blow Description IF - Weak surface blow built to 1/8" then died at 25 min.  
IS - No Return  
FF - No Blow  
FS - 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 Total 5 BHT 120 Gravity - API RW - @ - ° F Chlorides - ppm  
 (A) Initial Hydrostatic 2171  Test 1250' T-On Location 10:50 AM  
 (B) First Initial Flow 19  Jars 250' T-Started 12:01 PM  
 (C) First Final Flow 20  Safety Joint 75' T-Open 2:21 PM  
 (D) Initial Shut-In ~~42~~ 42  Circ Sub N/C T-Pulled 4:51 PM  
 (E) Second Initial Flow ~~20~~ 20  Hourly Standby \_\_\_\_\_ T-Out 7:05 PM  
 (F) Second Final Flow ~~21~~ 21  Mileage 62 RT 96.10 Comments \_\_\_\_\_  
 (G) Final Shut-In ~~28~~ 28  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2143  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 30  Day Standby \_\_\_\_\_ Total 1671.10  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1671.10

Approved By \_\_\_\_\_ Our Representative

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acct. by H.

# INVOICE

PO Box 93999  
Southlake, TX 76092

**OPERATOR PAY MDC**  
LEASE: BM

Invoice Number: 130952  
Invoice Date: Apr 24, 2012  
Page: 1

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



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

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Murfin	Zola Unit 1-1	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Apr 24, 2012	5/24/12

Quantity	Item	Description	Unit Price	Amount
190.00	MAT	Class A Common	16.25	3,087.50
7.00	MAT	Chloride	58.20	407.40
199.50	SER	Handling	2.10	418.95
8,844.00	SER	Ton Miles	0.11	972.84
1.00	SER	Surface	1,125.00	1,125.00
45.00	SER	Heavy Vehicle Mileage	7.00	315.00
45.00	SER	Light Vehicle Mileage	4.00	180.00
1.00	CEMENTER	Alan Ryan		
1.00	EQUIP OPER	Wayne McGhghy		
1.00	OPER ASSIST	Adam Holcomb		

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

**\$2277.35**

ONLY IF PAID ON OR BEFORE **May 19, 2012**

Subtotal	6,506.99
Sales Tax	281.34
Total Invoice Amount	6,788.03
Payment/Credit Applied	
<b>TOTAL</b>	<b>6,788.03</b>

Deduct 219.00  
4510.68





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



# Invoice

DATE	INVOICE #
5/14/2012	21719

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661
USED FOR <u>IC103</u>
APPROVED <u>[Signature]</u>

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-1	Zola Unit	Rawlins		Oil	Development	Cement Port Collar	Don
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				100	Miles	6.00	600.00
576D-D	Pump Charge - Port Collar - 2635 Feet				1	Job	1,250.00	1,250.00
290	D-Air				3	Gallon(s)	35.00	105.00T
330	Swift Multi-Density Standard (MIDCON II)				225	Sacks	16.50	3,712.50T
276	Flocele				150	Lb(s)	2.00	300.00T
581D	Service Charge Cement				300	Sacks	2.00	600.00
583D	Drayage				1,496.4	Ton Miles	1.00	1,496.40
	Subtotal							8,063.90
	Sales Tax Rawlins County						8.05%	331.46

<b>We Appreciate Your Business!</b>	<b>Total</b>	\$8,395.36
-------------------------------------	--------------	------------





CHARGE TO: Marlin Dole Co.  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET  
 No 21719

PAGE 1 OF 1

SERVICE LOCATIONS  
 1. Marlin Dole WELLPROJECT NO. 1-1 LEASE Zola Unit COUNTY/PARISH Randolph STATE KS CITY Marlin DATE 5-14-12 OWNER  
 2. Miss Coby CONTRACTOR Co RIG NAME/NO. Co SHIPPED VIA CT DELIVERED TO Mr Rexford, KS ORDER NO.  
 3. WELLS TYPE Oil WELLS CATEGORY Wildcat JOB PURPOSE Cement Port Callar WELLS PERMIT NO.  
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575					MILEAGE #1/13	100	mi				6000	600000
576 D					Energy Charge - east Port Callar	1	year	2635	ft.		125000	125000
290					D-Air	3	gal				3500	10500
330					SUD Cement	225	sts				1650	3712.50
276					Finole 1/2 sts	150	lbs				200	30000
581					Service Charge - Cement	370	STS	29778	lbs		200	600000
583						190	474	29928	lbs		100	199690

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS  
 X DATE SIGNED 5-14-12 TIME SIGNED 9:00  A.M.  P.M.  
Buck Palout

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

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	AGREE	UN-DECIDED	DIS-AGREE
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND			

PAGE TOTAL 80213.20  
 TAX 18.05%  
 TOTAL 83953.60

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

**JOB LOG**

**SWIFT Services, Inc.**

DATE 5-14-12 PAGE NO. 1

CUSTOMER Martin Digs Co WELL NO. 1-1 LEASE Zola Unit JOB TYPE Recoat Port Collar TICKET NO. 21719

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0845							DN location Set up Trks
	0910					1200	1200	P.C @ 21635 - Annal (8 1/2") Tbg (10") Tst P.C closed
	0915	3				C	550	Open P.C est. Rate - Shut Down Hook to 2 3/8" Tbg.
		3	3			550	C	Start 3381 H <sub>2</sub> O - Have mud returns
		3	5 / 40			550 / 450	C	Start SWD cut @ 11.2 #/gal
		3	110			400	C	200 SKS. Cut CIR - inc #/gal - 25 SKS (13 #/gal)
	0950	3	118			400	C	Fin cut - Displ 8 1/2 BBL
		0	8 1/2			C	1200	Fin Displ - Close P.C. & Tst
	1000							Run to Trk.
	1010	3					325	Recoat 2 flags
	1030							Fin Re-coat Wash up & Packup
	11:00							Job Complete

*[Signature]*  
*[Signature]*  
 Brian J. Lopez



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



# Invoice

DATE	INVOICE #
5/3/2012	21711

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

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-1	Zola	Rawlins	Company Rig	Oil	Development	Cement LongStri...	Don
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				100	Miles	6.00	600.00
578D-L	Pump Charge - Long String - 4490 Feet				1	Job	1,500.00	1,500.00
221	Liquid KCL (Clayfix)				4	Gallon(s)	25.00	100.00T
280	Flocheck 21				500	Gallon(s)	2.50	1,250.00T
290	D-Air				3	Gallon(s)	35.00	105.00T
403-5	5 1/2" Cement Basket				2	Each	250.00	500.00T
404-5	5 1/2" Port Collar				1	Each	2,400.00	2,400.00T
406-5	5 1/2" Latch Down Plug & Baffle				1	Each	250.00	250.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill				1	Each	350.00	350.00T
409-5	5 1/2" Turbolizer				15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher				20	Each	40.00	800.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
325	Standard Cement				225	Sacks	13.50	3,037.50T
276	Flocele				57	Lb(s)	2.00	114.00T
283	Salt				1,125	Lb(s)	0.20	225.00T
284	Calseal				11	Sack(s)	35.00	385.00T
285	CFR-1				159	Lb(s)	4.00	636.00T
581D	Service Charge Cement				225	Sacks	2.00	450.00
583D	Drayage				1,177.45	Ton Miles	1.00	1,177.45
	Subtotal							15,429.95
	Sales Tax Rawlins County						8.05%	942.05
USED FOR <u>IC 103</u>								
APPROVED <u>JL</u>								
<b>We Appreciate Your Business!</b>							<b>Total</b>	\$16,372.00



CHARGE TO: Martin Dug Co.  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET NO. 21711

PAGE 1 OF 2

SERVICE LOCATIONS

1. Hausk WELL/PROJECT NO. 101 LEASE Zola COUNTY/PARISH Roulin STATE KS DATE 5-3-12 OWNER

2. Ness City, KS CONTRACTOR Ce Res RIG NAME/NO. #8 SHIPPED VIA CT DELIVERED TO New Rockwell, KS ORDER NO.

3. WELL TYPE Oil WELL CATEGORY Oilfield JOB PURPOSE cut longstrng WELL PERMIT NO. WELL LOCATION

4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE #113	120	mi			6.00	720.00
578					Pump Charge - cut longstrng	1.00		4490	ft.	1500.00	1500.00
881					Liquid KIL	1	gal			100.00	100.00
880					Flocheck 21	500	gal			25.00	12500.00
890					D. Air	3	gal			35.00	105.00
403					Current Baskets	2	ea	5 1/2	in	250.00	500.00
404					Part B Mar	1	ea	5 1/2	in	2400.00	2400.00
406					Latex Drain Plug & Baffle	1	ea	5 1/2	in	250.00	250.00
407					Insert Float Valve w/ Photo Cell	1	ea	5 1/2	in	350.00	350.00
409					Turbidizers	15	ea	5 1/2	in	90.00	1350.00
413					2 1/2" Well Scrubbers	200	ea	5	ft.	4.00	800.00
419					2 1/2" Long Head Borehole	1	ea	5 1/2	in	200.00	200.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED: 5-3-12 TIME SIGNED: 8:00  A.M.  P.M.

DATE SIGNED: Bush TIME SIGNED: 8:00  A.M.  P.M.

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

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?

WE UNDERSTOOD AND MET YOUR NEEDS?

OUR SERVICE WAS PERFORMED WITHOUT DELAY?

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?

ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 9405.00

SUBTOTAL 15489.25

TAX 942.05

TOTAL 16431.30

SWIFT OPERATOR Alon Saunders APPROVAL

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket

Thank You!



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

TICKET CONTINUATION

TICKET No. 81711

CUSTOMER  
Martin Dry Co.

WELL  
1-1 2014

DATE  
5-3-12

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				UNIT PRICE	AMOUNT	
		LOC	ACCT	DF			QTY	UM	QTY	UM			
285		2				Standard Cement	285	SKS	1150	1bs		1350	3037.50
276		2				Fluorel	57	lbs				2100	119100
283		2				Salt	125	lbs				30	285100
284		2				Calseal	1058	lbs				3500	38500
285		2				CFR-1	159	lbs				400	63600
581		2				Cement	285	SKS				800	75000
583		2				MILEAGE CHARGE	235	WT				100	117745
SERVICE CHARGE							LOADED MILES	180					
CUBIC FEET							TON MILES	1177.45					
CONTINUATION TOTAL												6024.95	

JOB LOG

SWIFT Services, Inc.

DATE 5-3-12 PAGE NO.

CUSTOMER *Martin Drilling Co.* WELL NO. *1-1* LEASE *Zola* JOB TYPE *Cement Logging* TICKET NO. *21711*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
<i>5/3/12</i>	<i>2200</i>					<i>155 #</i>	<i>5 1/2</i>	<i>TD 4490</i>
<i>5/4/12</i>	<i>0040</i>							<i>On location - R/S LD DP</i>
								<i>Start 5 1/2" casing to 4482' - RB</i>
								<i>Insert Float Shoe w/ Auto-Fill</i>
								<i>LD. Baffle - SJ 20 3/4 @ 4461' = 106.17</i>
								<i>Turbolizers - 2 thru 15 &amp; 43</i>
								<i>Cut Baskets 43 &amp; 44</i>
								<i>P.C # 44 @ 21637'</i>
	<i>0145</i>							<i>Circulate on #48 1/2 HR</i>
								<i>Cont. run casing</i>
								<i>Drop fill up ball 3 sts out</i>
	<i>0330</i>							<i>Fin run casing</i>
	<i>0345</i>							<i>R/S cir / Rotate 1HR (Desco Used)</i>
	<i>0445</i>							<i>Fin cir - Hook to Swift</i>
								<i>start mix RH cut - Bulk tank empty</i>
	<i>0500</i>							<i>Washup P.T. Called for regular trip</i>
	<i>0520</i>							<i>R/S start cir / Rotate casing</i>
	<i>0800</i>							<i>On location with cut</i>
								<i>hook to 5 1/2" casing</i>
		<i>6</i>	<i>15</i>			<i>300</i>		<i>Pump 15 BBI KCL Plug</i>
		<i>5 1/2</i>	<i>12</i>			<i>300</i>		<i>Pump 500 gal Flochet #1</i>
		<i>5</i>	<i>5</i>			<i>300</i>		<i>Pump 5 BBI KCL Spacer</i>
		<i>4 1/2</i>				<i>250</i>		<i>Start 175 sts EA-2 cut down hole</i>
		<i>4</i>	<i>43</i>			<i>250</i>		<i>Fin cut - Wash out Pump &amp; Lines</i>
		<i>8</i>				<i>1100</i>		<i>Drop L.D. Plug - Start Displ.</i>
		<i>8</i>	<i>15</i>			<i>350</i>		<i>1st 15 BBI KCL w/ret containing Hel</i>
		<i>8</i>	<i>82</i>			<i>350</i>		<i>caught cut @ 8'2" BBI</i>
		<i>8 1/2</i>	<i>95</i>			<i>350</i>		<i>slow rate last 10 BBI</i>
	<i>0900</i>		<i>106</i>			<i>350</i>		<i>Plug Down - Held - Release &amp; Held</i>
			<i>7</i>			<i>1600</i>		<i>Plug RH - 30 sts met</i>
			<i>5</i>					<i>MH - 20 sts met</i>
	<i>0915</i>							<i>Job Complete</i>
								<i>Washup &amp; Packup</i>
	<i>0945</i>							<i>Swift</i>
								<i>J. Issiac</i>
								<i>Don, Brian &amp; T.J.</i>