

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1245144  
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: \_\_\_\_\_

1245144

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
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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> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Culwell 'E' 1-15
Doc ID	1245144

All Electric Logs Run

DIL
DUCP
MEL
BHCS





*acct.  
Prod-MG*

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 148305

Invoice Date: Jan 22, 2015

Page: 1

Voice: (817) 546-7282

Fax: (817) 246-3361

Federal Tax I.D.#: 20-8651475

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	64809	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jan 22, 2015	2/21/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Culwell E #1-15		
220.00	CEMENT MATERIALS	Class A Common	17.90	3,938.00
620.00	CEMENT MATERIALS	Chloride	1.10	682.00
231.00	CEMENT SERVICE	Cubic Feet Charge	2.48	572.88
1,065.00	CEMENT SERVICE	Ton Mileage Charge	2.75	2,928.75
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
100.00	CEMENT SERVICE	Pump Truck Mileage	7.70	770.00
1.00	CEMENT SERVICE	Swedge Manifold Rental	275.00	275.00
100.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	440.00
1.00	CEMENT SUPERVISOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Brandon Wilkinson		
1.00	EQUIPMENT OPERATOR	Darren Racette		

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

\$ 5,003.49

ONLY IF PAID ON OR BEFORE  
Feb 21, 2015

Subtotal	11,118.88
Sales Tax	376.53
Total Invoice Amount	11,495.41
Payment/Credit Applied	
<b>TOTAL</b>	<b>11,495.41</b>

*OK  
RA*

# ALLIED OIL & GAS SERVICES, LLC 064809

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley, KS

DATE <u>1-22-15</u>	SEC. <u>1</u>	TWP. <u>21</u>	RANGE <u>15</u>	CALLED OUT <u>(1-21-15)</u>	ON LOCATION <u>11:00 a.m.</u>	JOB START <u>1:00 p.m.</u>	JOB FINISH <u>1:30 p.m.</u>
LEASE <u>Culwell E</u> WELL # <u>1-15</u>		LOCATION <u>Bird City N to Rd AA, 4E,</u>		COUNTY <u>Pharos</u>	STATE <u>KS</u>		
OLD OR NEW (Circle one) <u>NEW</u>		2 N, N + E (call greg) into					

CONTRACTOR Murkin 20 OWNER Same

TYPE OF JOB Surface

HOLE SIZE 6 1/4 TD. 225'

CASING SIZE 8 5/8 DEPTH 225'

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. 15'

PERFS. \_\_\_\_\_

DISPLACEMENT 13.25 W. H<sub>2</sub>O

CEMENT AMOUNT ORDERED 220 sks Com 3/CC

COMMON	<u>220 sks @ 17.20</u>	<u>3784.00</u>
POZMIX	_____ @ _____	_____
GEL	_____ @ _____	_____
CHLORIDE	<u>620 # @ 1.10</u>	<u>682.00</u>
ASC	_____ @ _____	_____

EQUIPMENT

PUMP TRUCK # 373/281 CEMENTER Paul Beaver

BULK TRUCK # 870/241 HELPER Brandon Wilkinson

BULK TRUCK # \_\_\_\_\_ DRIVER Darren Racette

BULK TRUCK # \_\_\_\_\_ DRIVER \_\_\_\_\_

Material Total @ \_\_\_\_\_ 4620.00

(2079.00 / 45%) @ \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

REMARKS:

Max 220 sks Com 3/CC

Displace w/ water

cement did acc

(10 bbl to pit)

HANDLING 231 ft @ 2.40 572.88

MILEAGE 10.65 hrs @ 100 mi @ 2.75 2928.75

TOTAL \_\_\_\_\_

CHARGE TO: Murkin Dalg

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB 225'

PUMP TRUCK CHARGE 1512.25

EXTRA FOOTAGE @ \_\_\_\_\_ \_\_\_\_\_

MILEAGE ml/hr 100 @ 7.70 770.00

MANIFOLD Sledge @ 275.00 275.00

MLV 100 @ 4.90 490.00

(2924.49 / 45%) TOTAL 6498.88

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.

PLUG & FLOAT EQUIPMENT

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

TOTAL \_\_\_\_\_

PRINTED NAME Bree Cooper

SIGNATURE Bree Cooper

SALES TAX (if Any) \_\_\_\_\_

TOTAL CHARGES 11,118.88

DISCOUNT 5,003.49 (45%) IF PAID IN 30 DAYS

6,115.38 Net.



acet  
Prod-m G

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 148402  
Invoice Date: Jan 30, 2015  
Page: 1

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

Federal Tax I.D.#: 20-8651475

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

<b>Customer ID</b>	<b>Field Ticket #</b>	<b>Payment Terms</b>	
Murfin	64677	Net 30 Days	
<b>Job Location</b>	<b>Camp Location</b>	<b>Service Date</b>	<b>Due Date</b>
KS1-03	Oakley	Jan 30, 2015	3/1/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Culwell E #1-15		
255.00	CEMENT MATERIALS	60/40/4% Gel Blend	18.92	4,824.60
63.75	CEMENT MATERIALS	Flo Seal	2.97	189.34
273.87	CEMENT SERVICE	Cubic Feet Charge	2.48	679.20
1,143.00	CEMENT SERVICE	Ton Mileage Charge	2.75	3,143.25
1.00	CEMENT SERVICE	Plug to Abandon	2,600.47	2,600.47
100.00	CEMENT SERVICE	Pump Truck Mileage	7.70	770.00
100.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	440.00
1.00	EQUIPMENT SALES	8-5/8 Dry Hole Plug	110.00	110.00
1.00	CEMENT SUPERVISOR	Andrew Forslund		
1.00	EQUIPMENT OPERATOR	Darren Racette		
1.00	OPERATOR ASSISTANT	Cory Brown		

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

\$ 5,691.07

ONLY IF PAID ON OR BEFORE

Mar 1, 2015

Subtotal	12,756.86
Sales Tax	1,039.68
Total Invoice Amount	13,796.54
Payment/Credit Applied	
<b>TOTAL</b>	<b>13,796.54</b>

-5691.07  
8105.47

# ALLIED OIL & GAS SERVICES, LLC 064677

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Cody

DATE <u>1-30-15</u>	SEC. <u>1</u>	TWP. <u>21</u>	RANGE <u>15</u>	CALLED OUT	ON LOCATION <u>4:00pm</u>	JOB START <u>9:00pm</u>	JOB FINISH <u>10:00pm</u>
LEASE <u>C41W21 E</u>	WELL# <u>1-15</u>	LOCATION <u>Bickcity 13 N 45 2 N</u>	COUNTY <u>Cheyenne</u>	STATE <u>WY</u>			
OLD OR (NEW) (Circle one)							

CONTRACTOR Muc Fin 20 OWNER Same

TYPE OF JOB PTA

HOLE SIZE 7 7/8 T.D. 4651 CEMENT AMOUNT ORDERED 255 sks 60/100 40/80

CASING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE 4 1/2 DEPTH 3100'

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. \_\_\_\_\_

PERFS. \_\_\_\_\_

DISPLACEMENT \_\_\_\_\_

EQUIPMENT \_\_\_\_\_

PUMP TRUCK CEMENTER Andrew Folsom

# 495-281 HELPER Darren Rachtke

BULK TRUCK # 890 DRIVER Carey Brown

BULK TRUCK # \_\_\_\_\_ DRIVER \_\_\_\_\_

REMARKS: \_\_\_\_\_

50 sks @ 3100'

100 sks @ 2325'

50 sks @ 225'

10 sks @ 40'

15 sks @ mouse hole

30 sks Rat hole

Thank you

CHARGE TO: Muc Fin

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 Breg Condon

SIGNATURE Breg Condon

COMMON \_\_\_\_\_ @ \_\_\_\_\_

POZMIX \_\_\_\_\_ @ \_\_\_\_\_

GEL \_\_\_\_\_ @ \_\_\_\_\_

CHLORIDE \_\_\_\_\_ @ \_\_\_\_\_

ASC \_\_\_\_\_ @ \_\_\_\_\_

60/100 255 sks @ 18.92 4824.60

60/80 255 sks @ 2.97 189.33

Water @ 5,039.33

(2235.01/45%)

HANDLING 273.87 @ 2.48 679.19

MILEAGE 2.25 @ 11.43 25.72

TOTAL \_\_\_\_\_

### SERVICE

DEPTH OF JOB 3100'

PUMP TRUCK CHARGE 2600.00

EXTRA FOOTAGE \_\_\_\_\_ @ \_\_\_\_\_

MILEAGE 100 miles @ 2.20 220.00

MANIFOLD \_\_\_\_\_ @ \_\_\_\_\_

Light vehicle @ 44.00 44.00

(3439.80/45%) TOTAL 7632.91

### PLUG & FLOAT EQUIPMENT

8 5/8  
1 Dry hole plug @ \_\_\_\_\_ 110.00

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL 110.00

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 12,756.84

DISCOUNT 5,691.07 (45%) IF PAID IN 30 DAYS

7,065.76 Net



MDCI  
 Culwell 'E' #1-15  
 660' FNL 1980' FWL  
 Sec. 15-T1S-R37W  
 3141' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3085	+56	+2	3084	+57	+3
B/Anhydrite	3117	+24	Flat	3118	+23	-1
Neva	3539	-398	Flat	3539	-398	Flat
Red Eagle	3605	-464	-2	3603	-462	Flat
Foraker	3650	-509	-1	3649	-508	Flat
Topeka	3874	-733	Flat	3873	-732	+1
Oread	4004	-863	-1	4006	-865	-3
Lansing	4085	-944	+1	4087	-946	-1
Stark	4302	-1161	Flat	4304	-1163	-2
BKC	4357	-1216	+2	4357	-1216	+2
Pawnee	4475	-1334	Flat	4472	-1331	+3
Cherokee	4563	-1422	+1	4565	-1424	-1
RTD	4670	-1529				
LTD				4673	-1532	



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67202

ATTN: Charles Schmaltz

### **Culwell 'E' #1-15**

#### **15-1s-37w Cheyenne KS**

Start Date: 2015.01.26 @ 19:12:00

End Date: 2015.01.27 @ 03:29:09

Job Ticket #: 62571                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.02.02 @ 14:32:33



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62571

**DST#: 1**

ATTN: Charles Schmaltz

Test Start: 2015.01.26 @ 19:12:00

## GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:52:30

Time Test Ended: 03:29:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 78

**Interval: 4100.00 ft (KB) To 4160.00 ft (KB) (TVD)**

Reference Elevations: 3141.00 ft (KB)

Total Depth: 4160.00 ft (KB) (TVD)

3130.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6752**

**Inside**

Press@RunDepth: 110.47 psig @ 4101.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.26

End Date:

2015.01.27

Last Calib.:

2015.01.27

Start Time: 19:12:01

End Time:

03:29:10

Time On Btm:

2015.01.26 @ 21:50:30

Time Off Btm:

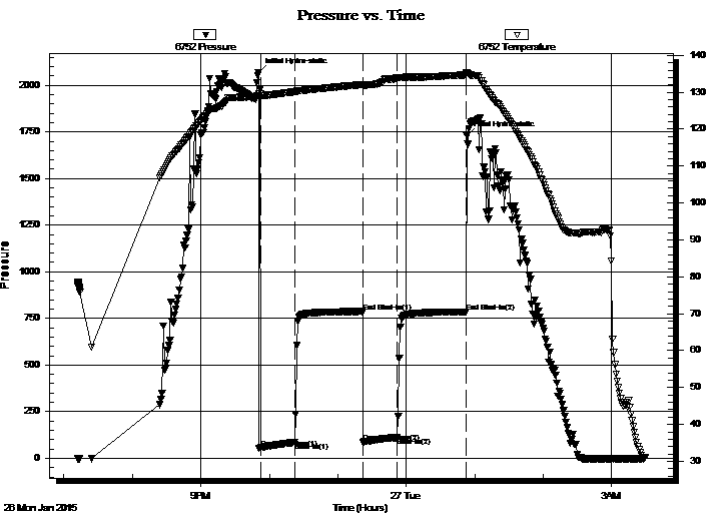
2015.01.27 @ 00:53:00

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

60 ISI - No return

30 FF - No blow

60 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2068.76	129.11	Initial Hydro-static
2	54.61	128.56	Open To Flow (1)
32	86.08	130.11	Shut-In(1)
92	784.50	132.06	End Shut-In(1)
92	87.19	131.89	Open To Flow (2)
122	110.47	133.83	Shut-In(2)
183	785.05	134.90	End Shut-In(2)
183	1729.13	135.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
190.00	Mud w/oil spots	0.98

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62571

**DST#: 1**

ATTN: Charles Schmaltz

Test Start: 2015.01.26 @ 19:12:00

## Tool Information

Drill Pipe:	Length: 3924.00 ft	Diameter: 3.80 inches	Volume: 55.04 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: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.95 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	36.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4100.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 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			4074.00	
Shut In Tool	5.00			4079.00	
Hydraulic tool	5.00			4084.00	
Jars	5.00			4089.00	
Safety Joint	2.00			4091.00	
Packer	5.00			4096.00	27.00 Bottom Of Top Packer
Packer	4.00			4100.00	
Stubb	1.00			4101.00	
Recorder	0.00	6752	Inside	4101.00	
Recorder	0.00	8322	Outside	4101.00	
Perforations	23.00			4124.00	
Change Over Sub	1.00			4125.00	
Drill Pipe	31.00			4156.00	
Change Over Sub	1.00			4157.00	
Bullnose	3.00			4160.00	60.00 Bottom Packers & Anchor

**Total Tool Length: 87.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62571

**DST#: 1**

ATTN: Charles Schmaltz

Test Start: 2015.01.26 @ 19:12:00

## 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: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	Mud w /oil spots	0.980

Total Length: 190.00 ft

Total Volume: bbl

Num Fluid Samples: 0

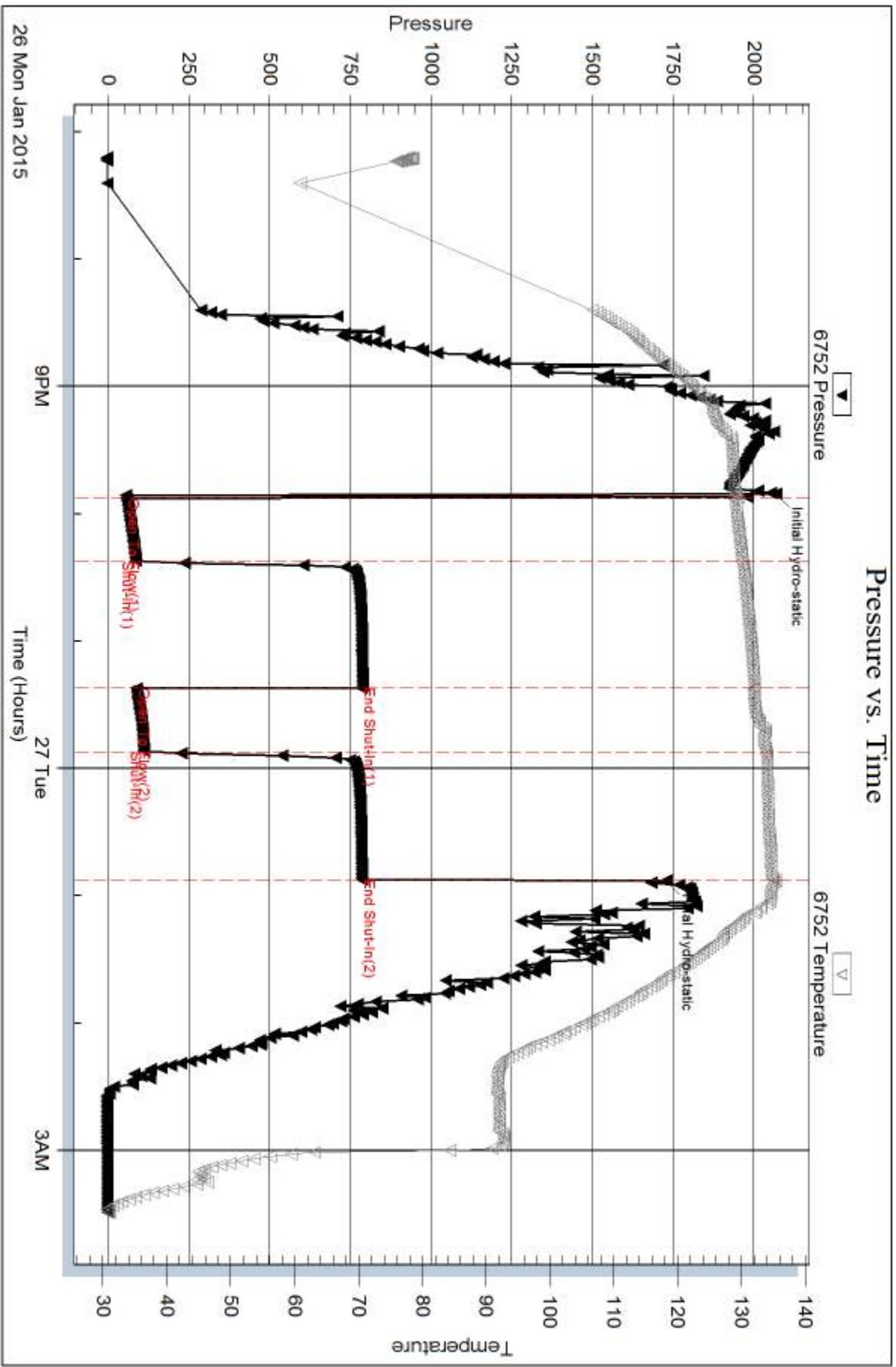
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

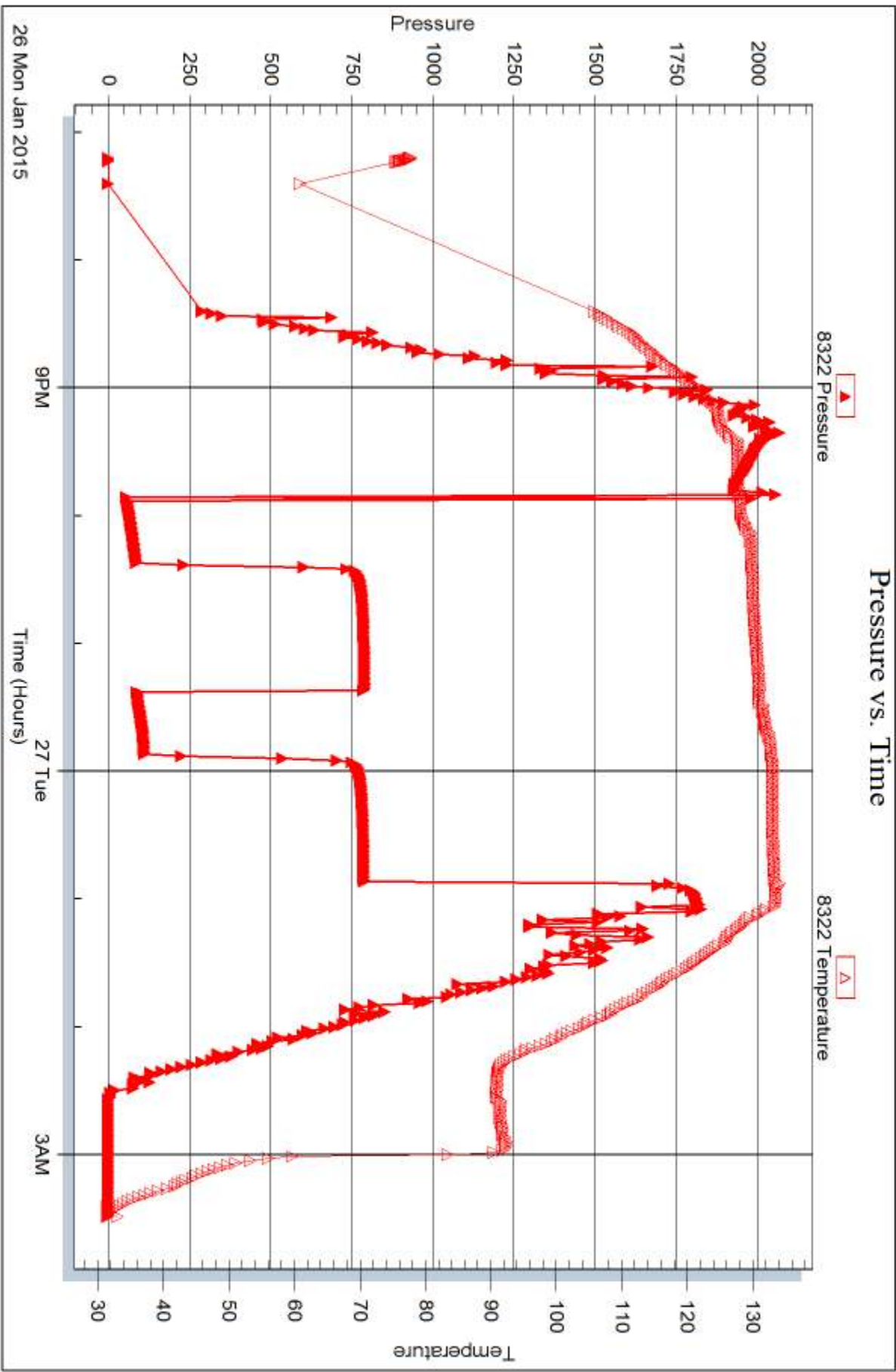


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Oilwell #1-15

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 62571

Printed: 2015.02.02 @ 14:32:36





## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67202

ATTN: Charles Schmaltz

### **Culwell 'E' #1-15**

#### **15-1s-37w Cheyenne KS**

Start Date: 2015.01.28 @ 01:48:00

End Date: 2015.01.28 @ 10:26:30

Job Ticket #: 62572                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.02.02 @ 14:32:01

Murfin Drilling Co. Inc.

15-1s-37w Cheyenne KS

Culwell 'E' #1-15

DST # 2

LKC " G - J "

2015.01.28



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62572

**DST#: 2**

ATTN: Charles Schmaltz

Test Start: 2015.01.28 @ 01:48:00

## GENERAL INFORMATION:

Formation: **LKC " G - J "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:25:20

Time Test Ended: 10:26:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

**Interval: 4155.00 ft (KB) To 4305.00 ft (KB) (TVD)**

Reference Elevations: 3141.00 ft (KB)

Total Depth: 4305.00 ft (KB) (TVD)

3130.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6752**

**Inside**

Press@RunDepth: 118.22 psig @ 4156.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.28

End Date: 2015.01.28

Last Calib.: 2015.01.28

Start Time: 01:48:01

End Time: 10:26:30

Time On Btm: 2015.01.28 @ 04:25:10

Time Off Btm: 2015.01.28 @ 08:27:09

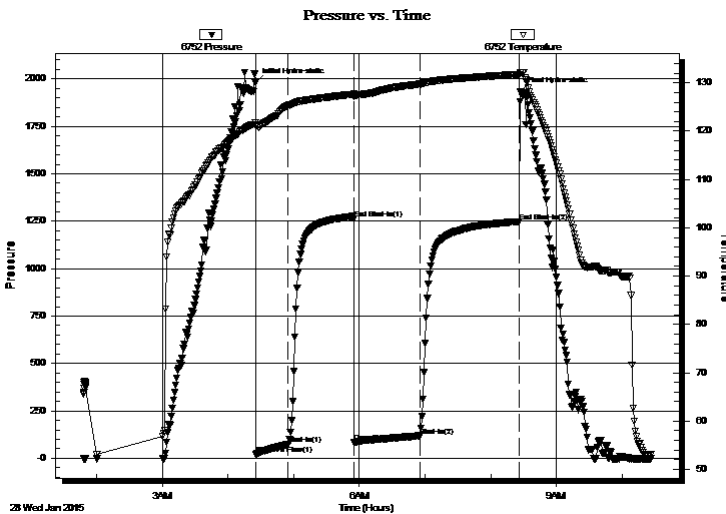
**TEST COMMENT:** 30 IF - 1" blow built to 7"

60 ISI - Surface blow started @ 5 mins died @ 15 mins

60 FF - Surface blow started @ 2 mins built to BoB @ 36 mins

90 FSI - Surface blow built to 1/4" @ 12 mins died @ 27 mins

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1980.11	121.73	Initial Hydro-static
1	20.60	121.00	Open To Flow (1)
29	71.89	125.18	Shut-In(1)
90	1263.72	127.65	End Shut-In(1)
90	84.32	127.17	Open To Flow (2)
150	118.22	129.71	Shut-In(2)
241	1248.02	131.77	End Shut-In(2)
242	1931.09	132.01	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	GMCO - 20%G - 35%M - 45%o	0.61
62.00	GOCM - 10%G - 45%o - 45%M	0.31
63.00	OCM - 40%o - 60%M	0.88
0.00	189' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62572

**DST#: 2**

ATTN: Charles Schmaltz

Test Start: 2015.01.28 @ 01:48:00

## Tool Information

Drill Pipe:	Length: 3953.00 ft	Diameter: 3.80 inches	Volume: 55.45 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: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.36 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4155.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	150.00 ft			
Tool Length:	177.00 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			4129.00	
Shut In Tool	5.00			4134.00	
Hydraulic tool	5.00			4139.00	
Jars	5.00			4144.00	
Safety Joint	2.00			4146.00	
Packer	5.00			4151.00	27.00 Bottom Of Top Packer
Packer	4.00			4155.00	
Stubb	1.00			4156.00	
Recorder	0.00	6752	Inside	4156.00	
Recorder	0.00	8322	Outside	4156.00	
Perforations	17.00			4173.00	
Change Over Sub	1.00			4174.00	
Drill Pipe	127.00			4301.00	
Change Over Sub	1.00			4302.00	
Bullnose	3.00			4305.00	150.00 Bottom Packers & Anchor

**Total Tool Length: 177.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62572

**DST#: 2**

ATTN: Charles Schmaltz

Test Start: 2015.01.28 @ 01:48:00

## 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:

bbf

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
124.00	GMCO - 20%G - 35%M - 45%o	0.610
62.00	GOCM - 10%G - 45%o - 45%M	0.314
63.00	OCM - 40%o - 60%M	0.884
0.00	189' GIP	0.000

Total Length: 249.00 ft

Total Volume: 1.808 bbf

Num Fluid Samples: 0

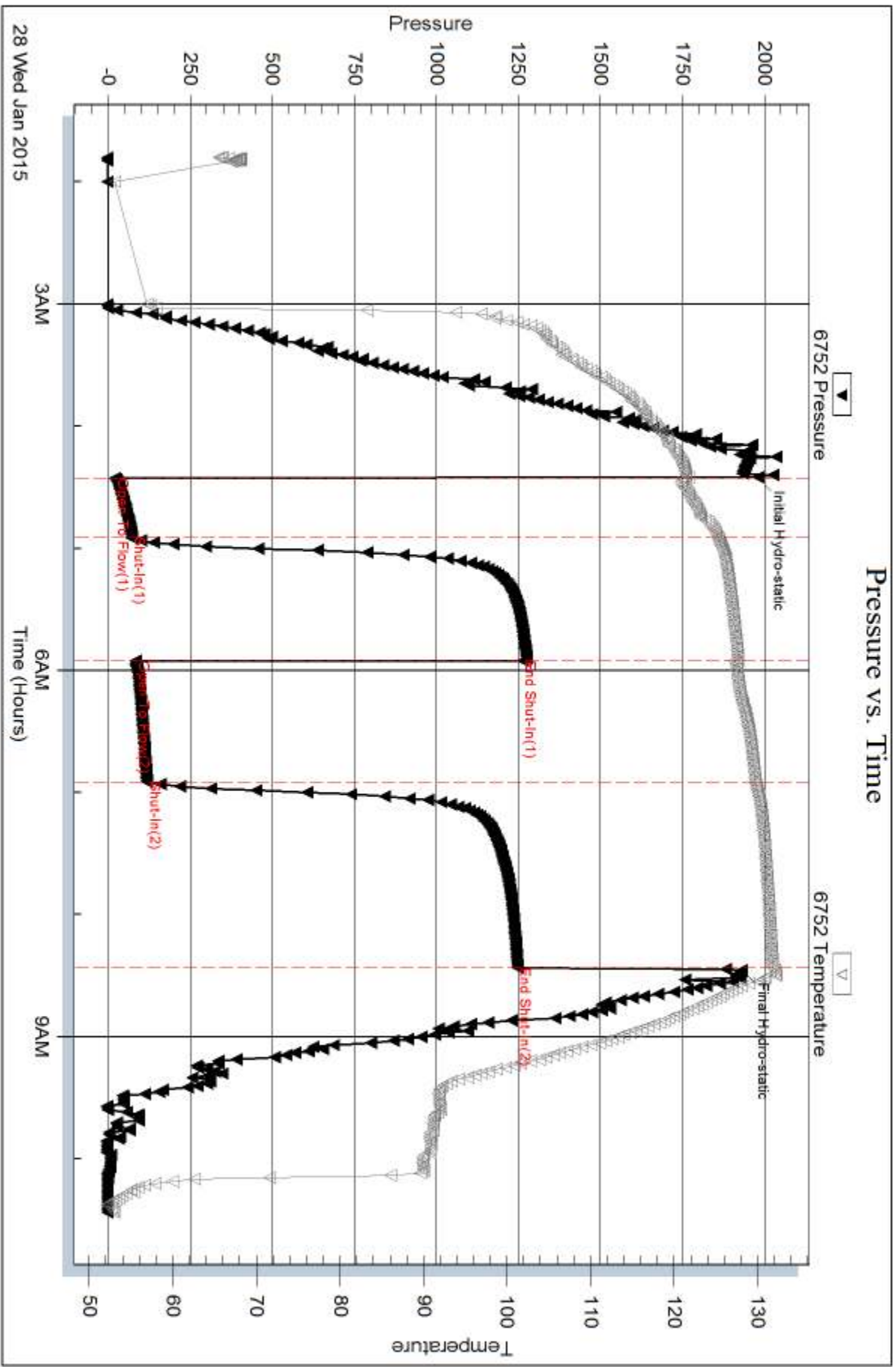
Num Gas Bombs: 0

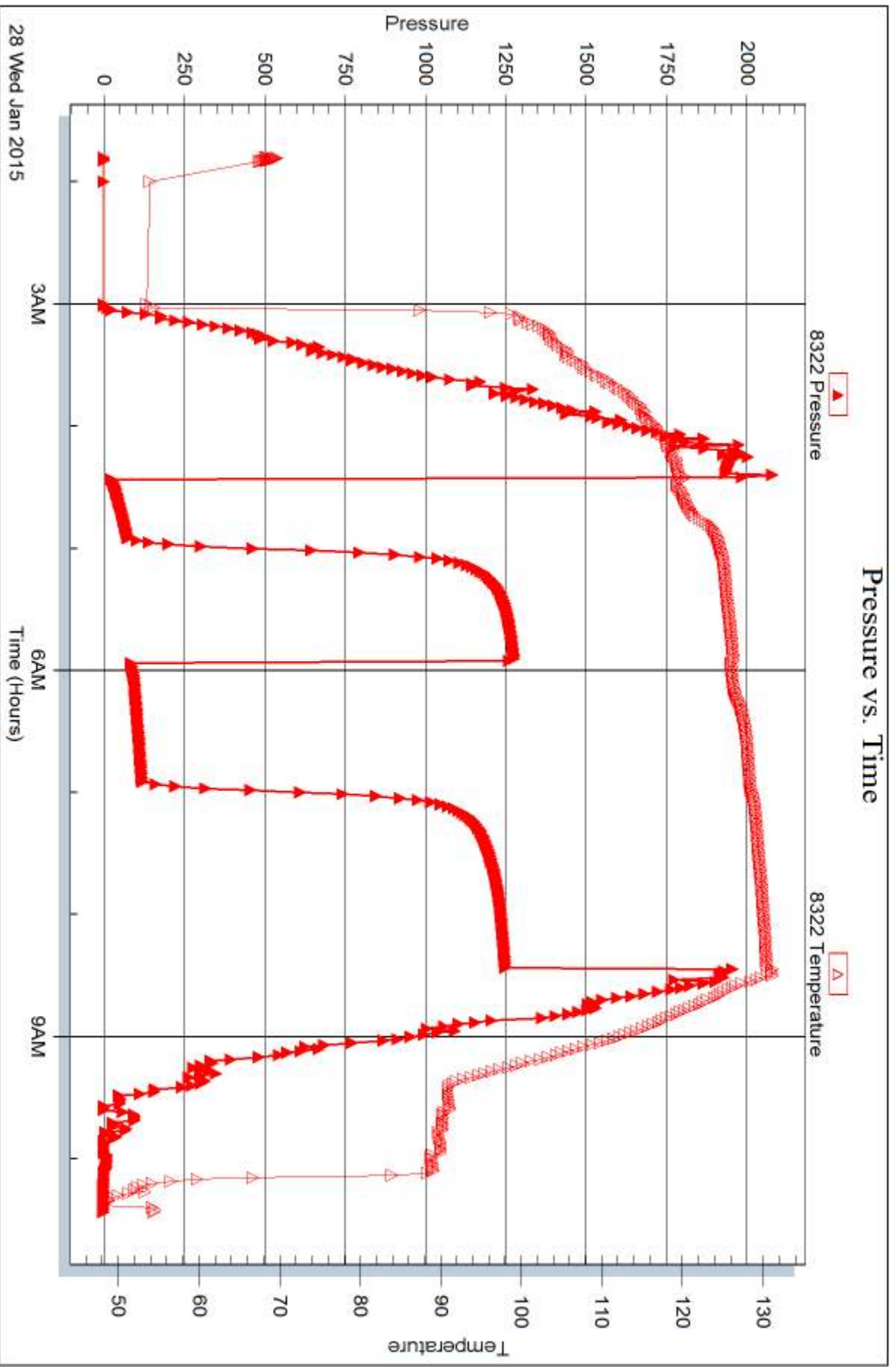
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67202

ATTN: Charles Schmaltz

### **Culwell 'E' #1-15**

#### **15-1s-37w Cheyenne KS**

Start Date: 2015.01.29 @ 05:47:00

End Date: 2015.01.29 @ 13:37:09

Job Ticket #: 62573                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.02.02 @ 14:31:07

Murfin Drilling Co. Inc.

15-1s-37w Cheyenne KS

Culwell 'E' #1-15

DST # 3

Pawnee

2015.01.29





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62573

**DST#: 3**

ATTN: Charles Schmaltz

Test Start: 2015.01.29 @ 05:47:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:25:00

Time Test Ended: 13:37:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

**Interval: 4452.00 ft (KB) To 4495.00 ft (KB) (TVD)**

Reference Elevations: 3141.00 ft (KB)

Total Depth: 4495.00 ft (KB) (TVD)

3130.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6752 Inside**

Press@RunDepth: 47.84 psig @ 4453.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.29

End Date:

2015.01.29

Last Calib.:

2015.01.29

Start Time: 05:47:01

End Time:

13:37:10

Time On Btm:

2015.01.29 @ 08:24:50

Time Off Btm:

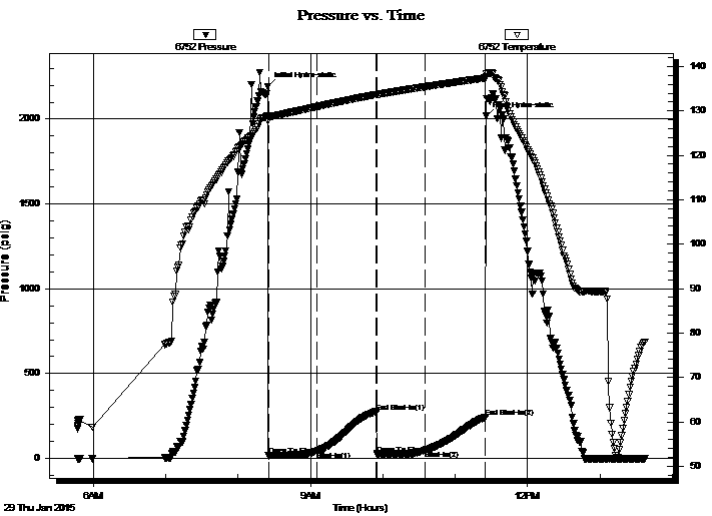
2015.01.29 @ 11:25:30

TEST COMMENT: 30 IF - Surface blow built to 3/4"

60 ISI - No return

30 FF - No blow

60 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2194.10	128.82	Initial Hydro-static
1	15.93	127.74	Open To Flow (1)
41	42.26	130.93	Shut-In(1)
90	271.49	133.67	End Shut-In(1)
91	23.93	133.64	Open To Flow (2)
131	47.84	135.43	Shut-In(2)
181	243.25	137.41	End Shut-In(2)
181	2016.93	137.78	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM - 30%o - 70%M	0.05

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62573

**DST#: 3**

ATTN: Charles Schmaltz

Test Start: 2015.01.29 @ 05:47:00

## Tool Information

Drill Pipe:	Length: 4267.00 ft	Diameter: 3.80 inches	Volume: 59.85 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: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4452.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	70.00 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			4426.00	
Shut In Tool	5.00			4431.00	
Hydraulic tool	5.00			4436.00	
Jars	5.00			4441.00	
Safety Joint	2.00			4443.00	
Packer	5.00			4448.00	27.00 Bottom Of Top Packer
Packer	4.00			4452.00	
Stubb	1.00			4453.00	
Recorder	0.00	6752	Inside	4453.00	
Recorder	0.00	8322	Outside	4453.00	
Perforations	6.00			4459.00	
Change Over Sub	1.00			4460.00	
Drill Pipe	31.00			4491.00	
Change Over Sub	1.00			4492.00	
Bullnose	3.00			4495.00	43.00 Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc.

**15-1s-37w Cheyenne KS**

250 N. Water STE 300  
Wichita KS 67202

**Culwell 'E' #1-15**

Job Ticket: 62573

**DST#: 3**

ATTN: Charles Schmaltz

Test Start: 2015.01.29 @ 05:47:00

## 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: 80.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM - 30%o - 70%M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

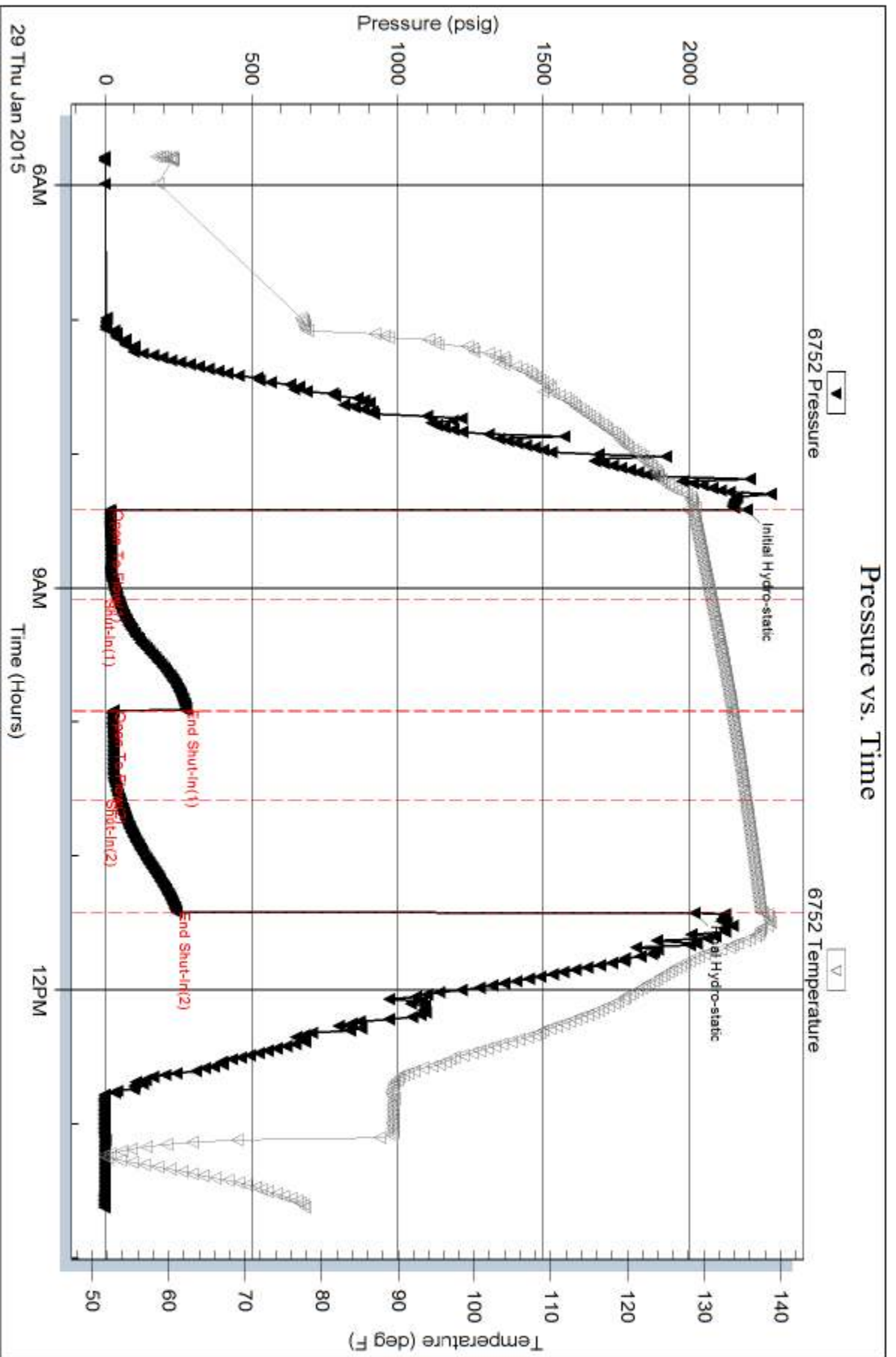
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

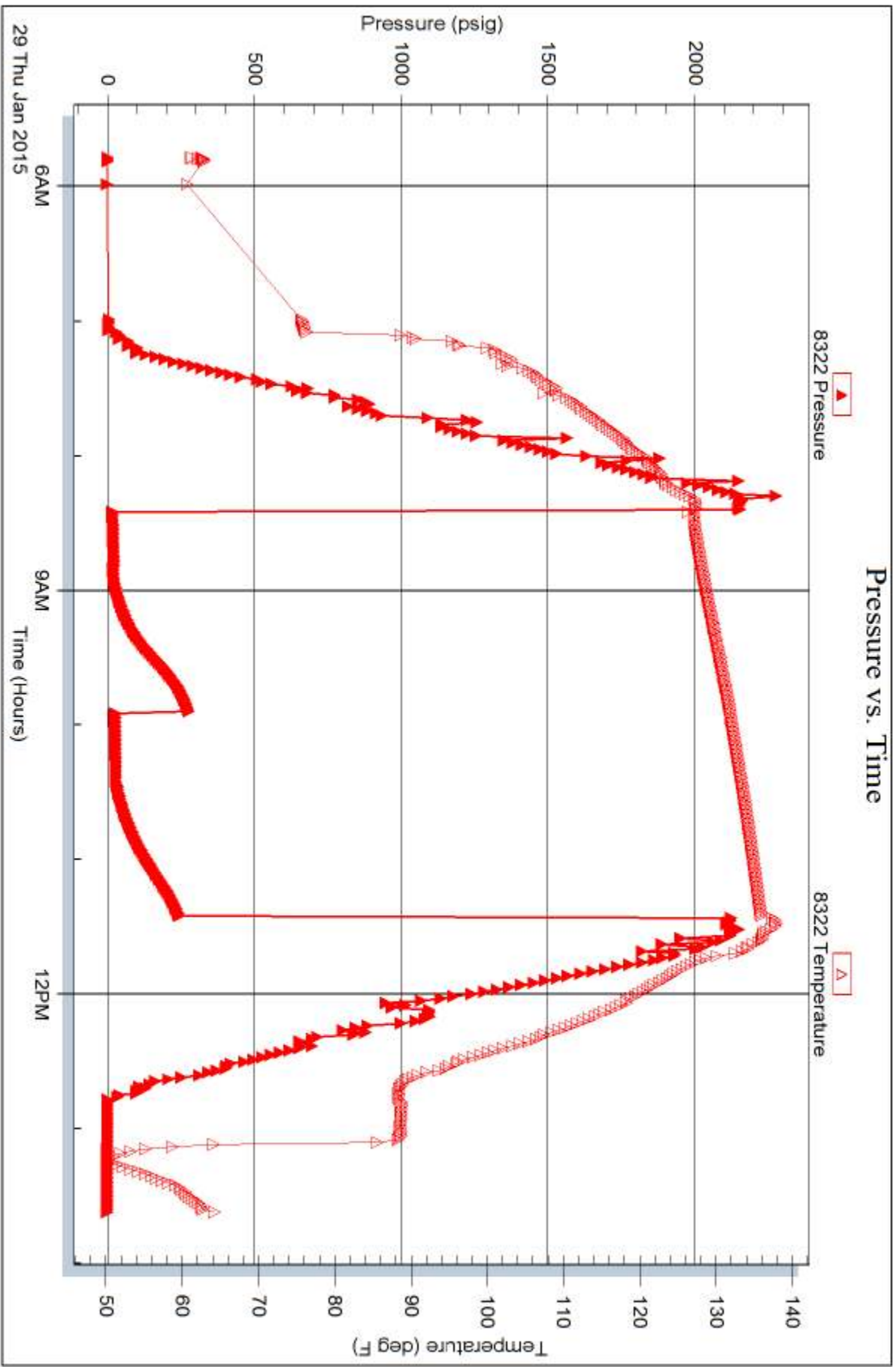


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Oilwell #1-15

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 62573

Printed: 2015.02.02 @ 14:31:08



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62571

Well Name & No. Culwell 'E' #1-15 Test No. 1 Date 1/26/15  
 Company Murfin Drilling Co. Inc. Elevation 31401 KB 3130 GL  
 Address 250 N. Water STE 300 Wichita KS 67203  
 Co. Rep / Geo. Charles Schmaltz Rig Murfin #20  
 Location: Sec. 15 Twp. 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 4100 - 4160 Zone Tested 2KC "D"  
 Anchor Length 60 Drill Pipe Run 3924' Mud Wt. 9.3  
 Top Packer Depth 4095 Drill Collars Run 185' Vis 56  
 Bottom Packer Depth 4100 Wt. Pipe Run 0' WL 7.2  
 Total Depth 4160 Chlorides 500 ppm System LCM 6  
 Blow Description IF - 1/4" blow built to 1 1/2"  
ISI - No return  
FI - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>190'</u>	<u>Mud w/oil spots</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 135° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2069  Test 1150 T-On Location 18:30  
 (B) First Initial Flow 55  Jars 250 T-Started 19:10  
 (C) First Final Flow 86  Safety Joint 75 T-Open 21:53  
 (D) Initial Shut-In 785  Circ Sub NC T-Pulled 00:53  
 (E) Second Initial Flow 87  Hourly Standby — T-Out 03:29  
 (F) Second Final Flow 110  Mileage 134 RT 134 Comments opened going through a bridge 10' off bottom  
 (G) Final Shut-In 785  Sampler —  
 (H) Final Hydrostatic 1729  Straddle —  
 Shale Packer —  Ruined Shale Packer —  
 Extra Packer —  Ruined Packer —  
 Extra Recorder —  Extra Copies —  
 Initial Open 30  Day Standby — Sub Total 0  
 Initial Shut-In 60  Accessibility — Total 1609  
 Final Flow 30  Sub Total 1609  
 Final Shut-In 60 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. 62572

Well Name & No. Culwell 'E' #1-15 Test No. 2 Date 1/28/15  
 Company Martin Drilling Co. Inc. Elevation 3141 KB 3130 GL  
 Address 250 N. Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Charles Schmalz Rig Martin # 20  
 Location: Sec. 15 Twp. 15 Rge. 37 W Co. Cheyenne State KS

Interval Tested 4155 - 4305 Zone Tested 2KC "G-J"  
 Anchor Length 150' Drill Pipe Run 3953' Mud Wt. 9.8  
 Top Packer Depth 4150 Drill Collars Run 185' Vis 60  
 Bottom Packer Depth 4155 Wt. Pipe Run 0' WL 6.8  
 Total Depth 4305 Chlorides 1000 ppm System LCM 8

Blow Description IF - 1" blow built to 7"  
ISI - Surface blow started @ 5 mins died @ 15 mins  
FF - Surface blow started @ 2 mins built to BoB @ 36 mins  
FSL - Surface blow built to 1/4" @ 12 mins died @ 27 mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>23</u>	<u>OCM</u>	<u>40</u>		<u>60</u>	
<u>62</u>	<u>GOCM</u>	<u>10</u>	<u>45</u>	<u>45</u>	
<u>124</u>	<u>GMCO</u>	<u>20</u>	<u>45</u>	<u>35</u>	

Rec Total 249' BHT 132° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 1980  Test 1150 T-On Location 01:30  
 (B) First Initial Flow 21  Jars 250 T-Started 01:48  
 (C) First Final Flow 72  Safety Joint 75 T-Open 04:26  
 (D) Initial Shut-In 1264  Circ Sub NC T-Pulled 08:26  
 (E) Second Initial Flow 84  Hourly Standby \_\_\_\_\_ T-Out 10:26  
 (F) Second Final Flow 118  Mileage 134 RT 134 Comments ~~189' GI~~  
 (G) Final Shut-In 1248  Sampler \_\_\_\_\_ 189' GI  
 (H) Final Hydrostatic 1931  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 1609

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. 62573

Well Name & No. Culwell 'E' #1-15 Test No. 3 Date 1/29/15  
 Company Murfin Drilling Co. Inc. Elevation 3141 KB 3130 GL  
 Address 250 N. Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Charles Schmalz Rig Murfin #20  
 Location: Sec. 15 Twp. 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 4452 - 4495 Zone Tested Pawnee  
 Anchor Length 43' Drill Pipe Run 4267' Mud Wt. 9.2  
 Top Packer Depth 4447 Drill Collars Run 185' Vis 80  
 Bottom Packer Depth 4452 Wt. Pipe Run 0' WL 6.0  
 Total Depth 4495 Chlorides 1000 ppm System LCM 10  
 Blow Description IF - Surface blow built to 3/4"  
ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OCM</u>		<u>30</u>	<u>70</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10' BHT 1370 Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>2194</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>05:30</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>05:47</u>
(C) First Final Flow <u>42</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>08:25</u>
(D) Initial Shut-In <u>271</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>11:25</u>
(E) Second Initial Flow <u>24</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>13:37</u>
(F) Second Final Flow <u>48</u>	<input checked="" type="checkbox"/> Mileage <u>134 RT</u> 134	Comments
(G) Final Shut-In <u>243</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2017</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>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1609</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1609</u>	

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.



