

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1245710  
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: \_\_\_\_\_

1245710

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	Frahm 'A' 2-20
Doc ID	1245710

All Electric Logs Run

DIL
DUCP
MEL
BHCS





PO Box 93999  
Southlake, TX 76092

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

*acct  
Prod-MG*

# INVOICE

Invoice Number: 147391  
Invoice Date: Nov 28, 2014  
Page: 1

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	64774	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Nov 28, 2014	12/28/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Frahm A #2-20		
200.00	CEMENT MATERIALS	Class A Common	17.90	3,580.00
564.00	CEMENT MATERIALS	Chloride	1.10	620.40
210.00	CEMENT SERVICE	Cubic Feet Charge	2.48	520.80
193.60	CEMENT SERVICE	Ton Mileage Charge	2.75	532.40
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
20.00	CEMENT SERVICE	Pump Truck Mileage	7.70	154.00
1.00	CEMENT SERVICE	Manifold Head Rental	275.00	275.00
20.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	88.00
1.00	CEMENT SUPERVISOR	Andrew Forslund		
1.00	EQUIPMENT OPERATOR	Brandon Wilkinson		
1.00	OPERATOR ASSISTANT	Shawn Tatro		

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

\$ 2,548.99

ONLY IF PAID ON OR BEFORE

Dec 28, 2014

Subtotal	7,282.85
Sales Tax	300.33
Total Invoice Amount	7,583.18
Payment/Credit Applied	
<b>TOTAL</b>	<b>7,583.18</b>

*OK JR*

# ALLIED OIL & GAS SERVICES, LLC 064774

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:

Oakley

DATE <u>11-28-14</u>	SEC. <u>20</u>	TWP. <u>10S</u>	RANGE <u>34W</u>	CALLED OUT	ON LOCATION <u>7:30pm</u>	JOB START <u>8:30pm</u>	JOB FINISH <u>9:00pm</u>
LEASE <u>Frahm A</u>		WELL # <u>2-20</u>		LOCATION <u>Monument 2w 2N 4w</u>		COUNTY <u>Thomas</u>	STATE <u>TX</u>
OLD OR NEW (Circle one) <u>NEW</u>			<u>2 1/4" wind</u>				

CONTRACTOR MurFin 22  
 TYPE OF JOB Syface  
 HOLE SIZE 12 1/4" T.D. 263'  
 CASING SIZE 8 7/8" DEPTH 263'  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. 15'  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT 15.29

OWNER same  
 CEMENT AMOUNT ORDERED 200 stb con effec  
 COMMON 200 stb @ 17.90 3580.00  
 POZMIX \_\_\_\_\_ @ \_\_\_\_\_  
 GEL \_\_\_\_\_ @ \_\_\_\_\_  
 CHLORIDE 56.4% @ 1.10 620.40  
 ASC \_\_\_\_\_ @ \_\_\_\_\_

**EQUIPMENT**

PUMP TRUCK # 421 CEMENTER Andrew Farhead  
 # 818 HELPER Brandon Wilkinson  
 BULK TRUCK # 818 DRIVER Shawn Tatro  
 BULK TRUCK # \_\_\_\_\_ DRIVER \_\_\_\_\_

Material Total @ \_\_\_\_\_ 4,200.40

HANDLING 210 cu ft @ 2.48 520.80  
 MILEAGE 2.25 to pump @ 96.80 539.40

**REMARKS:**

**TOTAL** \_\_\_\_\_

Cement did circulate

Thank you

CHARGE TO: MurFin  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**SERVICE**

DEPTH OF JOB 263'  
 PUMP TRUCK CHARGE 1512.25  
 EXTRA FOOTAGE @ \_\_\_\_\_  
 MILEAGE 20 miles @ 7.20 154.00  
 MANIFOLD thead @ \_\_\_\_\_ 225.00  
light vehicle @ 4.40 88.00

(1078.85/35%) TOTAL 3,082.40

**PLUG & FLOAT EQUIPMENT**

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

**TOTAL** \_\_\_\_\_

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 \_\_\_\_\_

SIGNATURE Shawn Tatro

SALES TAX (if Any) \_\_\_\_\_  
 TOTAL CHARGES 7,282.85  
 DISCOUNT 2,548.99 (35%) IF PAID IN 30 DAYS

4,733.85 Net



**CONSOLIDATED**  
Oil Well Services, LLC

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

**COPY**

MAIN OFFICE

P.O.Box884  
Chanute,KS 66720  
620/431-9210,1-800/467-8676  
Fax 620/431-0012

Invoice

Invoice#

802542

Invoice Date: 12/10/14

Terms: Net 30

Page 1

MURFIN DRILLING

P.O. BOX 288  
RUSSELL KS 67665  
USA

USED FOR 1C 103

FRAHM A #2-20

*Cement long string*

APPROVED JTW

Part No	Description	Quantity	Unit Price	Discount(%)	Total
5401C	Single Pump	1.000	3,175.0000	10.000	2,857.50
5406	Mileage Charge	20.000	5.2500	10.000	94.50
5407	Min. Bulk Delivery Charge	1.000	430.0000	10.000	387.00
1126	Oil Well Cement	225.000	23.7000	10.000	4,799.25
1110A	Kol Seal (50# BAG)	1,125.000	0.5600	10.000	567.00
4454	5 1/2 Latch Down Plug	1.000	318.2500	10.000	286.43
4104	Cement Basket 5 1/2	2.000	290.0000	10.000	522.00
4130	Centralizer 5 1/2	17.000	61.0000	10.000	933.30
4159	Float Shoe AFU 5 1/2	1.000	433.7500	10.000	390.38
4285	5 1/2 Port Collar	1.000	2,178.7500	10.000	1,960.88
1144G-0130	Mud Flush - Oakley	500.000	1.0000	10.000	450.00

Subtotal 14,720.25

Discounted Amount 1,472.03

SubTotal After Discount 13,248.22

Amount Due 15,507.48 If paid after 01/09/15

Tax: 708.51

Total: 13,956.75

BARTLESVILLE, OK  
918/338-0808

EL DORADO, KS  
316/322-7022

EUREKA, KS  
620/583-7554

PONCA CITY, OK  
580/762-2303

OAKLEY, KS  
785/672-8822

OTTAWA, KS  
785/242-4044

THAYER, KS  
620/839-5269

GILLETTE, WY  
307/686-4914

CUSHING, OK  
918/225-2650



**CONSOLIDATED**  
Oil Well Services, LLC

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

1371  
1324

802542

TICKET NUMBER 46574

LOCATION Oakley, KS

FOREMAN Kelly Gabe

Miles snow

**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
12-7-14	5406	Franm A #2-20	20	105	34W	Thomas
CUSTOMER		Munif-n		Monument		
MAILING ADDRESS		2 W-10		TRUCK #	DRIVER	TRUCK #
		K 25		399 ✓	Michael ✓	
		N-10 P&D				
CITY		STATE	ZIP CODE	2 W-105		
				W-4 N-10		

JOB TYPE Prod HOLE SIZE 7 7/8 HOLE DEPTH 4900 CASING SIZE & WEIGHT 5 1/2 15.5#  
 CASING DEPTH 4895 DRILL PIPE \_\_\_\_\_ TUBING PC serial # 1450406 OTHER PC @ 275  
 SLURRY WEIGHT 142 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING \_\_\_\_\_  
 DISPLACEMENT 116 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting, ran float equip on JTS cent 1-6, 8-11, 13, 15-18, 48, 49 baskets - 49, 50 PC top # 50 ran pipe to bottom & circulated for 1 hrs, mixed 15 SKS MRH, 10 SKS MH, mixed 200 SKS OWC 5# Kol-seal down center, washed up, displaced plug with 115 bbl water, lift pressure to 1650# Plug landed @ 2000# ran 60 JTS & circulated 30 min released pressure float held

*Thank You*  
*Miles, Kelly & crew*

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401C	1	PUMP CHARGE	3175 <sup>00</sup>	3175 <sup>00</sup>
5406	20	MILEAGE	5 <sup>35</sup>	105 <sup>00</sup>
5407	10.57 ton	ton mileage delivery	4 <sup>75</sup>	430 <sup>00</sup>
1126	225 SKS	OWC	23 <sup>70</sup>	5332 <sup>50</sup>
1104	1125	Kol-seal	1 <sup>56</sup>	630 <sup>00</sup>
4154	1	5 1/2 latch down / w plug (w)	318 <sup>25</sup>	318 <sup>25</sup>
4104	3	5 1/2 basket (w)	290 <sup>00</sup>	580 <sup>00</sup>
4130	17	5 1/2 centralizer (w)	61 <sup>00</sup>	1037 <sup>00</sup>
4159	1	5 1/2 AFU floatshoe (w)	433 <sup>75</sup>	433 <sup>75</sup>
4285	1	5 1/2 part collar (I)	2178 <sup>25</sup>	2178 <sup>25</sup>
1146	500 gal	mud flush	1 <sup>00</sup>	500 <sup>00</sup>
			560	14,720 <sup>25</sup>
			1070	1,472 <sup>00</sup>
			1070	13,248 <sup>25</sup>
		SALES TAX		108.51
		ESTIMATED TOTAL		13954.73

Ravin 3737

AUTHORIZATION [Signature] TITLE \_\_\_\_\_

DATE 12-7-14

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



## TERMS

In consideration of the prices to be charged for Consolidated Oil Well Services, LLC (COWS) services, equipment and products and for the performance of services and supplying of materials, Customer agrees to the following terms and conditions.

Terms. Cash in advance unless satisfactory credit is established. On credit sales, invoices are payable within 30 days of the invoice date. On all invoices not paid within 30 days, Customer agrees to pay COWS interest at the rate of 18% per annum or the maximum rate allowed by law, whichever is higher. In the event COWS retains an attorney to pursue collection of any account, Customer agrees to pay all collection costs and attorney's fees incurred by COWS.

Any applicable federal, state or local sales, use occupation, consumer's or emergency taxes shall be added to the quoted price. All process license fees required to be paid to others will be added to the scheduled prices.

All COWS' prices are subject to change without notice.

## SERVICE CONDITIONS

Customer warrants that the well is in proper condition to receive the services, equipment, products and materials to be supplied by COWS. The Customer shall at all time have complete care, custody, and control of the well, the drilling and production equipment at the well, and the premises about the well. A responsible representative of the Customer shall be present to specify depths, pressures, or materials used for any service which is to be performed.

(a) COWS shall not be responsible for any claim, cause of action or demand (hereinafter referred to as a 'claim') for damage to property, or injury to or death of employees and representatives, of Customer or the well owner (if different from Customer), unless such damage, injury or death is caused by the willful misconduct or gross negligence of COWS, including but not limited to sub-surface damage and surface damage arising from sub-surface damage.

(b) Unless a claim is the result of the sole willful misconduct or gross negligence of COWS, Customer shall be responsible for and indemnify and hold COWS harmless from any claim for: (1) reservoir loss or damage, or property damage resulting from sub-surface pressure, losing control of the well and/or a well blowout; (2) damages as a result of a subsurface trespass, or an action in the nature thereof, arising from a service operation performed by COWS; (3) injury to or death of persons, other than employees of COWS, or damage to property (including, but not limited to, injury to the well), or any damages whatsoever, irrespective of cause, growing out of or in any way connected with the use of radioactive material in the well hole; and (4) well damage or reservoir damage caused by (i) loss of circulation, cement invasion, cement misplacement, pumping cement or cement plugs on wells with loss of circulation, including the failure to displace plug to proper depth, (ii) sub-surface pressure and resulting failure to complete pumping of cement or cement plug, including dehydration of cement slurry or flashing, plugged float-shoe, annulus bridging or plugging, or (iii) down hole tools being lost or left in the well, or becoming stuck in the well for any reason and by any cause. COWS may furnish down hole tools and may supply supervision for the running and placement of such tools but will not be liable for any damage, loss or result caused by the use of such tools.

Furthermore, Customer will be responsible for the cost to replace such tools if they are lost or left in the well.

(c) COWS makes no guarantee of the effectiveness of any COWS' products, supplies or materials, or the results of any COWS' treatment or services.

(d) Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, COWS is unable to guarantee the accuracy of any chart interpretation, research analysis, job recommendation or other data furnished by COWS. COWS' personnel will use their best efforts in gathering such information and their best judgement in interpreting it, but Customer agrees that COWS shall not be responsible for any damage arising from the use of such information except where due to COWS' gross negligence or willful misconduct in the preparation or furnishing of it.

(e) COWS may buy and re-sell to Customer down hole equipment, including but not limited to float equipment, DV tools, port collars, type A & B packers, and Customer agrees that COWS is not an agent or dealer for the companies who manufacture such items, and further agrees that Customer shall be solely responsible for and indemnify COWS against any claim with regard to the effectiveness, malfunction of, or functionality of such items.

## WARRANTIES - LIMITATION OF LIABILITY

COWS warrants title to the products, supplies and materials, and that the same are free from defects in workmanship and materials. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, NOR ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE, WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. COWS's liability and Customer's exclusive remedy in any claim (whether in contract, tort, breach of warranty or otherwise,) arising out of the sale or use of any COWS' products, supplies, materials or services is expressly limited to the replacement of such products, supplies, materials or services or their return to COWS, or, at COWS' option, an allowance to Customer of credit for the cost of such items.

Customer waives and releases all claims against COWS for any special, incidental, indirect, consequential or punitive damages.



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



# Invoice

DATE	INVOICE #
12/16/2014	28132

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	#2-20	Frahm A	Thomas	Company Tools	Oil	Development	Cement Port Collar	Blaine
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				80	Miles	6.00	480.00
576D-D	Pump Charge - Port Collar				1	Job	1,500.00	1,500.00
330	Swift Multi-Density Standard (MIDCON II)				240	Sacks	18.50	4,440.00T
276	Flocele				50	Lb(s)	2.50	125.00T
290	D-Air				2	Gallon(s)	42.00	84.00T
581D	Service Charge Cement				375	Sacks	2.00	750.00
583D	Drayage				1,532.65	Ton Miles	1.00	1,532.65
	Subtotal							8,911.65
	Sales Tax Thomas County						7.15%	332.40
USED FOR <u>IC 123 R</u> APPROVED <u>JJ JUI</u>								

**Thank You For Your Business &  
 Best Wishes For A Wonderful Holiday Season!!**

**Total** \$9,244.05



Services, Inc.

CHARGE TO: Martin Drilling  
 ADDRESS \_\_\_\_\_  
 CITY, STATE, ZIP CODE \_\_\_\_\_

TICKET 28132

PAGE 1 OF 1

SERVICE LOCATIONS: Well City KS WELL/PROJECT NO. 2-20 LEASE Frahm A COUNTY/PARISH Thomas STATE KS CITY Monmouth DATE 16 Dec 14 OWNER \_\_\_\_\_

TICKET TYPE CONTRACTOR CONTRACTOR \_\_\_\_\_ RIG NAME/NO. \_\_\_\_\_ ORDER NO. \_\_\_\_\_

WELL TYPE o-1 WELL CATEGORY Development JOB PURPOSE Development SHIPPED WCT DELIVERED TO Location WELL PERMIT NO. \_\_\_\_\_ WELL LOCATION \_\_\_\_\_

INVOICE INSTRUCTIONS \_\_\_\_\_

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575					TRK 114	SD	1/20				6.00	480.00
576.D					Pump Charge						1500.00	1500.00
33D					SWD cement	240	dk				18.50	4440.00
276					Flare	52	lb				2.50	125.00
290					D-AIR	2	gal				42.00	84.00
583					Drayage	58	316	16		1.53	8.44	711.65
581					Seize charge	375	gal				2.00	750.00

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 \_\_\_\_\_ TIME SIGNED \_\_\_\_\_

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?  YES  NO

WE UNDERSTOOD AND MET YOUR NEEDS?  YES  NO

OUR SERVICE WAS PERFORMED WITHOUT DELAY?  YES  NO

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?  YES  NO

ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 8911.65

TOTAL 9244.05

Thomas TAX 7.15%

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

SWIFT OPERATOR \_\_\_\_\_ APPROVAL \_\_\_\_\_

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 16 DEC 14 PAGE NO. 1

CUSTOMER MURPHY DRILLING WELL NO. 2-20 LEASE Frahm A JOB TYPE cement port collar TICKET NO. 28132

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								375 sk SMD cement w/ 1/2" floater 2 3/8" x 5 1/2" Port Collar - 2750'
	1130							on loc TRK 114
	130					1200	1200	test to 1200 psi - held open port collar
	1320	3 1/2	2			300	300	inj rate 3 1/2 bpm @ 300 psi
	1322	3 1/2				400		mix SMD cement @ 11.2 ft/sk - fluid to surface - - cement to surface - { 2 40 sk mixed } 20 top
		3 1/2	7			400		
		3 1/2	130			600		
			9 1/2					Displace with H <sub>2</sub> O close port collar
	1405					1200	1200	test to 1200 psi - held Run 6 joints
	1412							
	1424							- Reverse hole clean - - 2 cement plugs -
	1500							wash truck Rack up job complete

MDCI  
 Frahm 'A' #2-20  
 1310' FSL 1000' FEL  
 Sec. 20-T10S-R34W  
 3231' KB

Formation	Sample Top	Datum	Ref	Log Tops	Datum	Ref
Anhydrite	2733	+498	+2	2734	+497	+1
B/Anhydrite	2761	+470	+2	2761	+470	+2
Topeka	3897	-666	-1	3895	-664	+1
Heebner	4109	-878	Flat	4112	-881	-3
Lansing	4149	-918	+3	4152	-921	Flat
Stark	4377	-1146	+2	4380	-1149	-1
Pawnee	4569	-1338	+5	4574	-1343	Flat
Lwr Pawn	4606	-1375	+2	4611	-1380	-3
Fort Scott	4625	-1394	+2	4630	-1399	-3
Johnson Zn	4696	-1465	+1	4702	-1471	-5
Mississippi	4796	-1565	-4	4801	-1570	-9
RTD	4900					
LTD				4906		



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Tom Funk

### **Frahm A #2-20**

#### **20-10s-34w Thomas,KS**

Start Date: 2014.12.02 @ 20:03:00

End Date: 2014.12.03 @ 05:46:00

Job Ticket #: 58599                      DST #: 1

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

Printed: 2014.12.10 @ 13:53:57



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N Water Ste 300  
Wichita, KS 67202  
ATTN: Tom Funk

**20-10s-34w Thomas,KS**

**Frahm A #2-20**

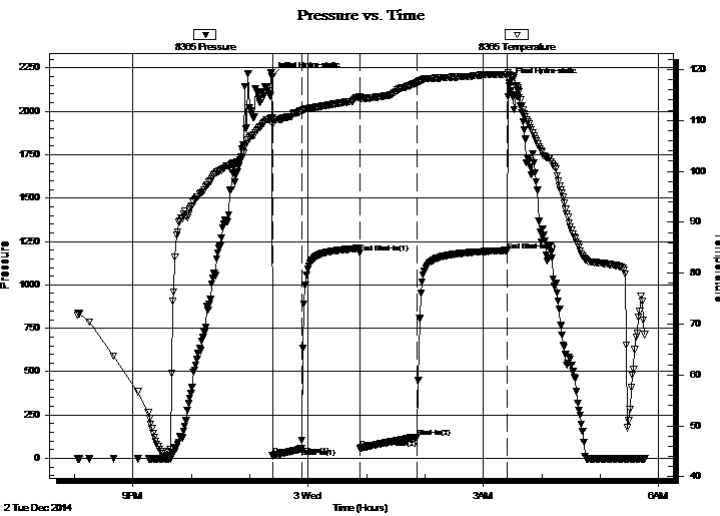
Job Ticket: 58599      **DST#: 1**  
Test Start: 2014.12.02 @ 20:03:00

## GENERAL INFORMATION:

Formation: **LKC H-J**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:23:15  
 Time Test Ended: 05:46:00  
 Interval: **4284.00 ft (KB) To 4370.00 ft (KB) (TVD)**  
 Total Depth: 4370.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Bradley Walter  
 Unit No: 69  
 Reference Elevations: 3231.00 ft (KB)  
 3219.00 ft (CF)  
 KB to GR/CF: 12.00 ft

**Serial #: 8365      Inside**  
 Press@RunDepth: 122.46 psig @ 4285.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.12.02      End Date: 2014.12.03      Last Calib.: 2014.12.03  
 Start Time: 20:03:05      End Time: 05:46:00      Time On Btm: 2014.12.02 @ 23:23:00  
 Time Off Btm: 2014.12.03 @ 03:26:45

TEST COMMENT: IF: 1" blow  
 IS: No return.  
 FF: 1 1/2" blow.  
 FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2202.15	110.53	Initial Hydro-static
1	15.27	109.18	Open To Flow (1)
30	56.12	111.82	Shut-In(1)
90	1184.20	114.56	End Shut-In(1)
91	59.19	114.25	Open To Flow (2)
150	122.46	117.39	Shut-In(2)
242	1198.77	119.02	End Shut-In(2)
244	2164.57	118.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
239.00	socm 2o 98m	1.22
1.00	oil 100o	0.01

## 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: Tom Funk

**20-10s-34w Thomas, KS**  
**Frahm A #2-20**  
 Job Ticket: 58599 **DST#: 1**  
 Test Start: 2014.12.02 @ 20:03:00

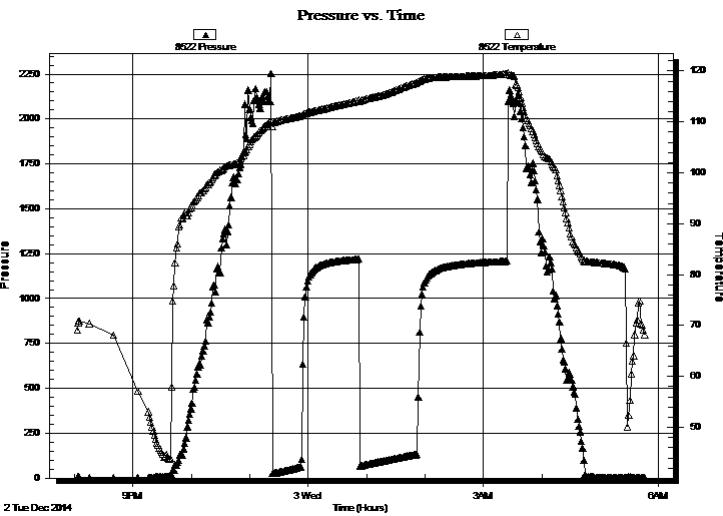
### GENERAL INFORMATION:

Formation: <b>LKC H-J</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Bradley Walter
Time Tool Opened: 23:23:15	Unit No: 69
Time Test Ended: 05:46:00	Reference Elevations: 3231.00 ft (KB)
<b>Interval: 4284.00 ft (KB) To 4370.00 ft (KB) (TVD)</b>	3219.00 ft (CF)
Total Depth: 4370.00 ft (KB) (TVD)	KB to GR/CF: 12.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

### Serial #: 8522 Outside

Press@RunDepth: psig @ 4285.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.12.02	End Date: 2014.12.03
Start Time: 20:03:05	End Time: 05:46:00
	Last Calib.: 2014.12.03
	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF: 1" blow  
 IS: No return.  
 FF: 1 1/2" blow.  
 FS: No return.



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
239.00	socm 2o 98m	1.22
1.00	oil 100o	0.01

### Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**20-10s-34w Thomas,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

Job Ticket: 58599

**DST#: 1**

ATTN: Tom Funk

Test Start: 2014.12.02 @ 20:03:00

## Tool Information

Drill Pipe:	Length: 4041.00 ft	Diameter: 3.80 inches	Volume: 56.68 bbl	Tool Weight: 2000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	4284.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 ft			
Tool Length:	106.00 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			4265.00	
Shut In Tool	5.00			4270.00	
Hydraulic tool	5.00			4275.00	
Packer	5.00			4280.00	20.00 Bottom Of Top Packer
Packer	4.00			4284.00	
Stubb	1.00			4285.00	
Recorder	0.00	8365	Inside	4285.00	
Recorder	0.00	8522	Outside	4285.00	
Perforations	18.00			4303.00	
Change Over Sub	1.00			4304.00	
Drill Pipe	62.00			4366.00	
Change Over Sub	1.00			4367.00	
Bullnose	3.00			4370.00	86.00 Bottom Packers & Anchor

**Total Tool Length: 106.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**20-10s-34w Thomas,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

Job Ticket: 58599

**DST#: 1**

ATTN: Tom Funk

Test Start: 2014.12.02 @ 20:03:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 12000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
239.00	socm 2o 98m	1.221
1.00	oil 100o	0.014

Total Length: 240.00 ft      Total Volume: 1.235 bbf

Num Fluid Samples: 0

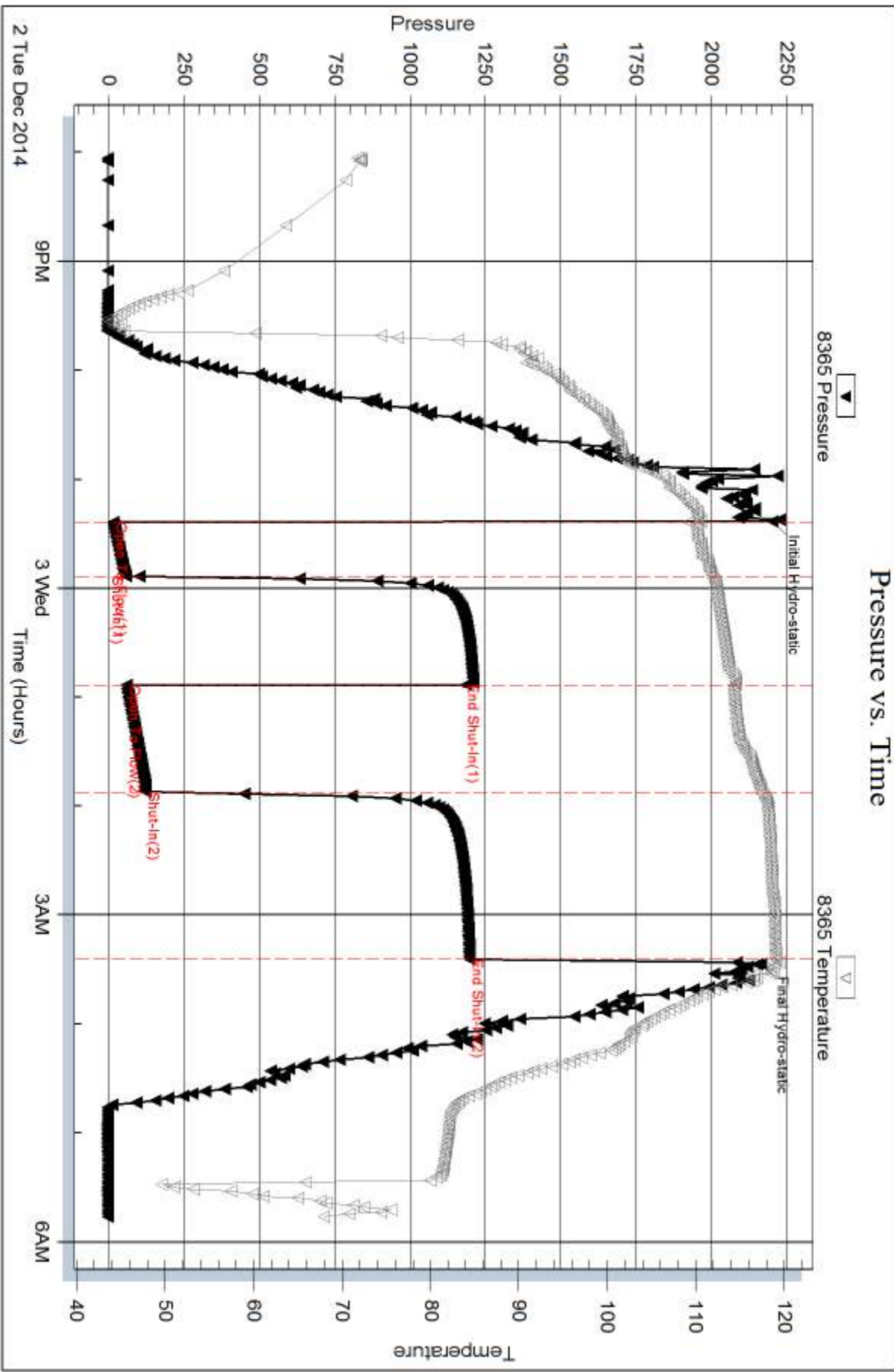
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

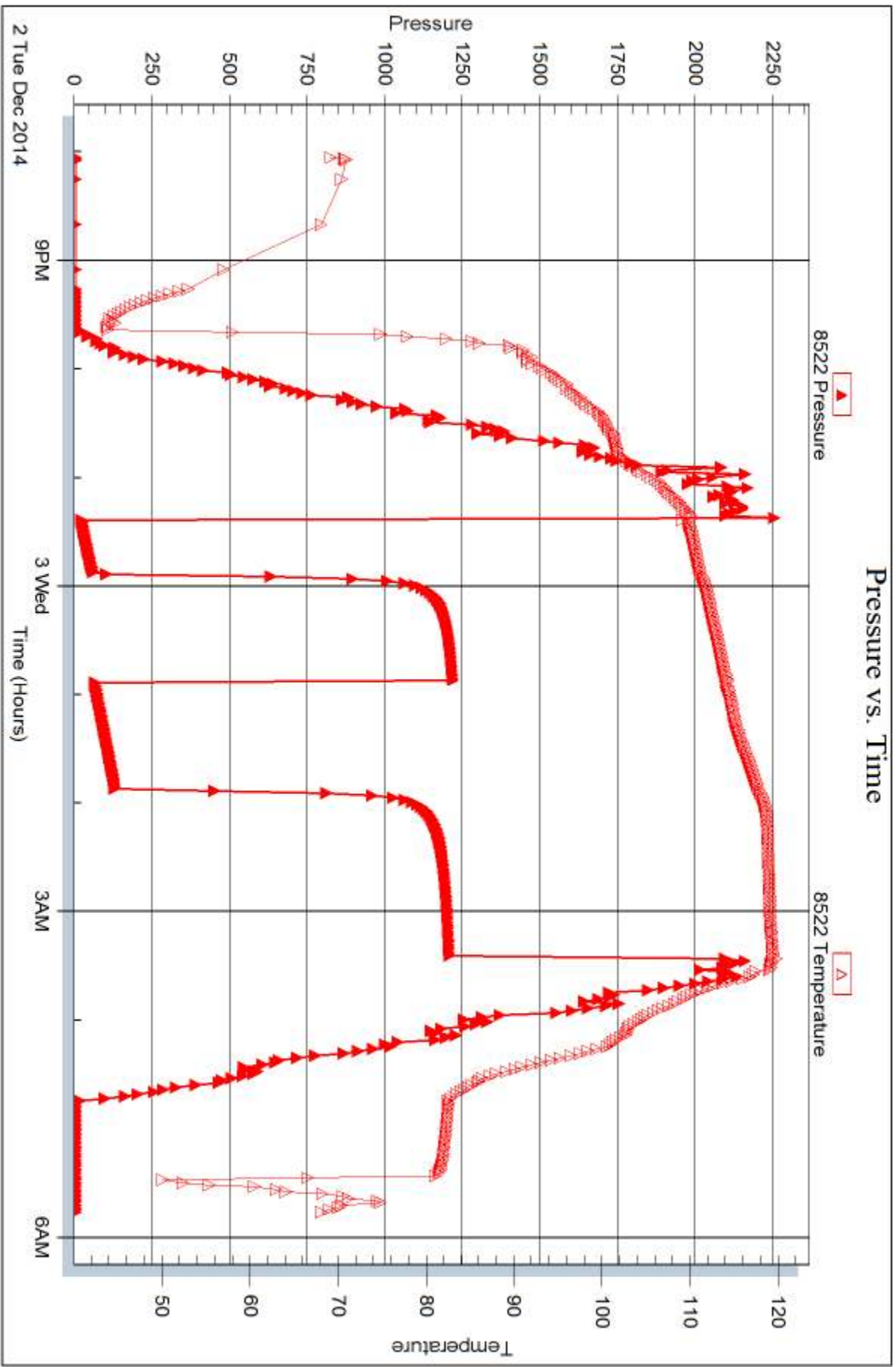


Serial #: 8522

Outside Murfin Drilling Co.

Frahm A #2-20

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58599

Printed: 2014.12.10 @ 13:53:58



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Tom Funk

### **Frahm A #2-20**

#### **20-10s-34w Thomas,KS**

Start Date: 2014.12.03 @ 14:33:00

End Date: 2014.12.03 @ 22:59:30

Job Ticket #: 58600                      DST #: 2

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

Printed: 2014.12.10 @ 13:53:35



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N Water Ste 300  
 Wichita, KS 67202  
 ATTN: Tom Funk

**20-10s-34w Thomas,KS**

**Frahm A #2-20**

Job Ticket: 58600      **DST#: 2**  
 Test Start: 2014.12.03 @ 14:33:00

## GENERAL INFORMATION:

Formation: **LKC K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:50:30  
 Time Test Ended: 22:59:30  
 Interval: **4374.00 ft (KB) To 4400.00 ft (KB) (TVD)**  
 Total Depth: 4400.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 69  
 Reference Elevations: 3231.00 ft (KB)  
 3219.00 ft (CF)  
 KB to GR/CF: 12.00 ft

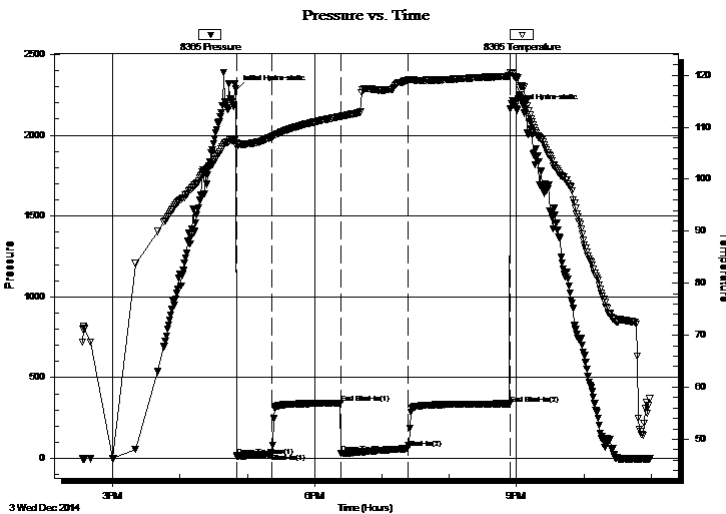
## Serial #: 8365

Inside

Press@RunDepth: 61.18 psig @ 4375.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.12.03      End Date: 2014.12.03      Last Calib.: 2014.12.03  
 Start Time: 14:33:05      End Time: 22:59:29      Time On Btm: 2014.12.03 @ 16:50:15  
 Time Off Btm: 2014.12.03 @ 20:54:30

TEST COMMENT: IF: 1" blow.  
 IS: No return.  
 FF: 1/2" blow.  
 FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2284.98	107.87	Initial Hydro-static
1	15.89	106.14	Open To Flow (1)
32	28.16	108.17	Shut-In(1)
93	341.50	112.09	End Shut-In(1)
94	30.15	112.09	Open To Flow (2)
153	61.18	119.05	Shut-In(2)
244	338.15	119.81	End Shut-In(2)
245	2166.50	120.48	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	mud 100m (oil spots)	0.44

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

20-10s-34w Thomas, KS

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

ATTN: Tom Funk

Job Ticket: 58600

**DST#: 2**

Test Start: 2014.12.03 @ 14:33:00

**GENERAL INFORMATION:**

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 16:50:30

Tester: Bradley Walter

Time Test Ended: 22:59:30

Unit No: 69

**Interval: 4374.00 ft (KB) To 4400.00 ft (KB) (TVD)**

Reference Elevations: 3231.00 ft (KB)

Total Depth: 4400.00 ft (KB) (TVD)

3219.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 8522 Outside**

Press@RunDepth: psig @ 4375.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.03 End Date: 2014.12.03

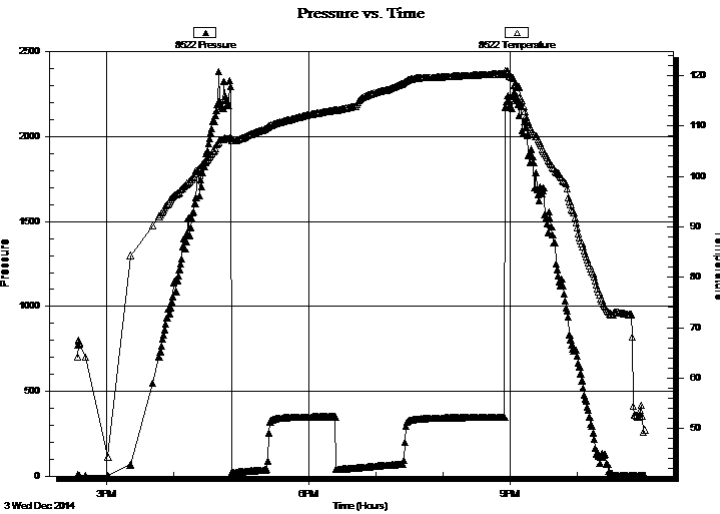
Last Calib.: 2014.12.03

Start Time: 14:34:05 End Time: 23:00:29

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1" blow .  
IS: No return.  
FF: 1/2" blow .  
FS: No return.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
90.00	mud 100m (oil spots)	0.44

\* 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.

**20-10s-34w Thomas,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

Job Ticket: 58600

**DST#: 2**

ATTN: Tom Funk

Test Start: 2014.12.03 @ 14:33:00

## Tool Information

Drill Pipe:	Length: 4136.00 ft	Diameter: 3.80 inches	Volume: 58.02 bbl	Tool Weight:	2000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 59.17 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	67000.00 lb
Depth to Top Packer:	4374.00 ft			Final	67000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	26.00 ft				
Tool Length:	46.00 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			4355.00	
Shut In Tool	5.00			4360.00	
Hydraulic tool	5.00			4365.00	
Packer	5.00			4370.00	20.00 Bottom Of Top Packer
Packer	4.00			4374.00	
Stubb	1.00			4375.00	
Recorder	0.00	8365	Inside	4375.00	
Recorder	0.00	8522	Outside	4375.00	
Perforations	22.00			4397.00	
Bullnose	3.00			4400.00	26.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>46.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**20-10s-34w Thomas,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

Job Ticket: 58600

**DST#: 2**

ATTN: Tom Funk

Test Start: 2014.12.03 @ 14:33:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 12000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	mud 100m (oil spots)	0.443

Total Length: 90.00 ft      Total Volume: 0.443 bbl

Num Fluid Samples: 0

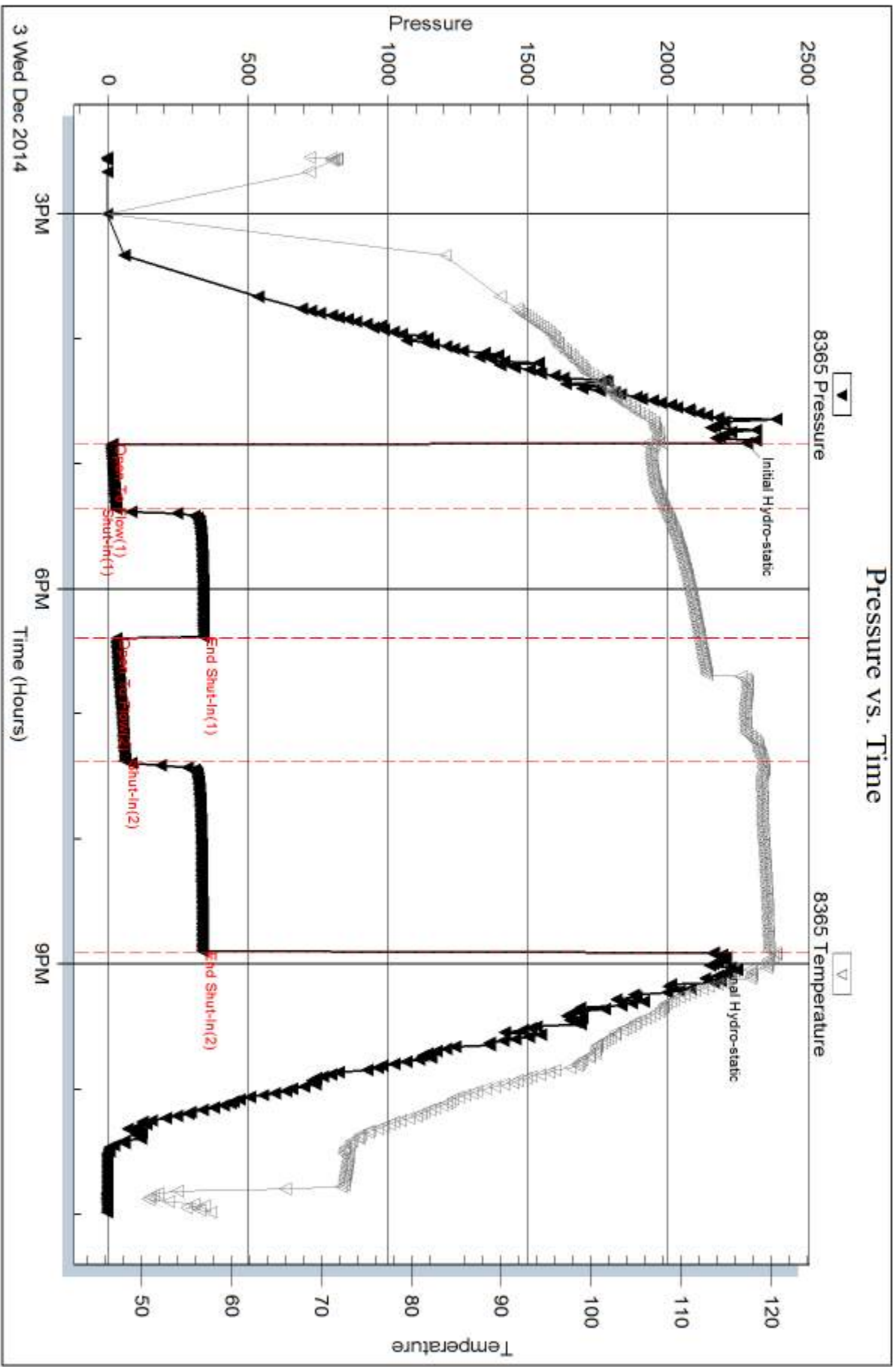
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

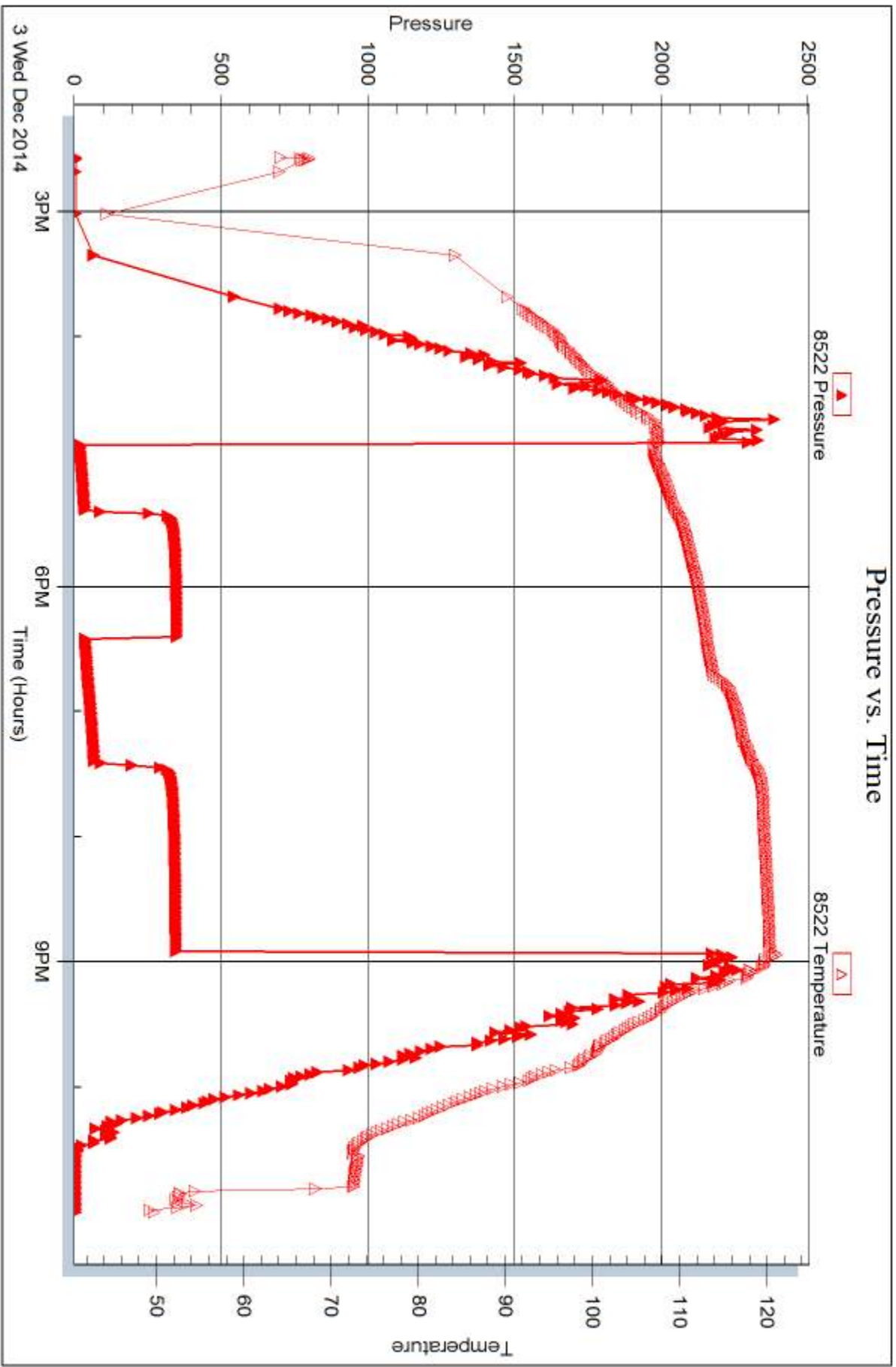


Serial #: 8522

Outside Murfin Drilling Co.

Frahm A #2-20

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 59600

Printed: 2014.12.10 @ 13:53:36



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Tom Funk

### **Frahm A #2-20**

#### **20-10s-34w Thomas,KS**

Start Date: 2014.12.04 @ 23:00:00

End Date: 2014.12.05 @ 09:13:30

Job Ticket #: 58638                      DST #: 3

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

Printed: 2014.12.10 @ 13:53:09



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N Water Ste 300  
 Wichita, KS 67202  
 ATTN: Tom Funk

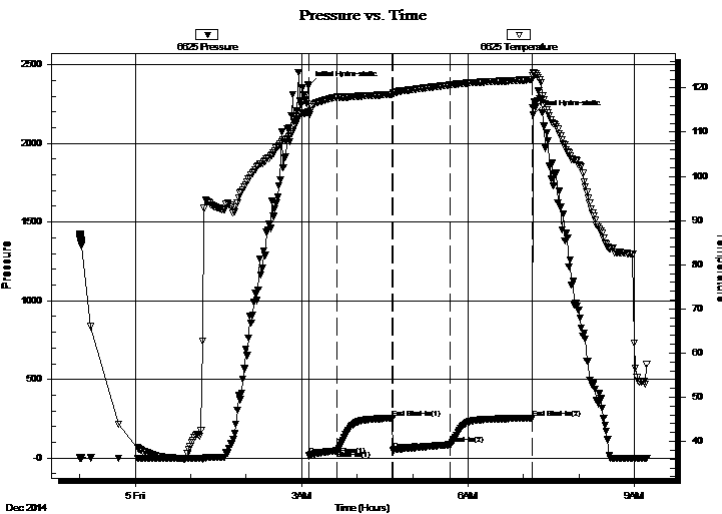
**20-10s-34w Thomas,KS**  
**Frahm A #2-20**  
 Job Ticket: 58638 **DST#: 3**  
 Test Start: 2014.12.04 @ 23:00:00

## GENERAL INFORMATION:

Formation: **Pawnee - Ft Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:08:00  
 Time Test Ended: 09:13:30  
 Interval: **4555.00 ft (KB) To 4650.00 ft (KB) (TVD)**  
 Total Depth: 4650.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Justin Harris  
 Unit No: 58  
 Reference Elevations: 3231.00 ft (KB)  
 3219.00 ft (CF)  
 KB to GR/CF: 12.00 ft

**Serial #: 6625 Inside**  
 Press@RunDepth: 85.27 psig @ 4556.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.12.04 End Date: 2014.12.05 Last Calib.: 2014.12.05  
 Start Time: 23:00:01 End Time: 09:13:30 Time On Btm: 2014.12.05 @ 03:07:30  
 Time Off Btm: 2014.12.05 @ 07:10:30

TEST COMMENT: 30: B.O.B in 23 mins.  
 60: No Return.  
 60: B.O.B in 25 mins.  
 90: No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2369.64	114.47	Initial Hydro-static
1	15.26	114.07	Open To Flow (1)
31	46.85	117.88	Shut-In(1)
91	253.43	118.55	End Shut-In(1)
91	47.99	118.84	Open To Flow (2)
154	85.27	120.65	Shut-In(2)
242	254.84	121.83	End Shut-In(2)
243	2181.76	123.50	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
146.00	ocm 2%o 98%m	0.72

## Gas Rates

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

\* Recovery from multiple tests



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N Water Ste 300  
Wichita, KS 67202  
ATTN: Tom Funk

**20-10s-34w Thomas, KS**  
**Frahm A #2-20**  
Job Ticket: 58638      **DST#: 3**  
Test Start: 2014.12.04 @ 23:00:00

### GENERAL INFORMATION:

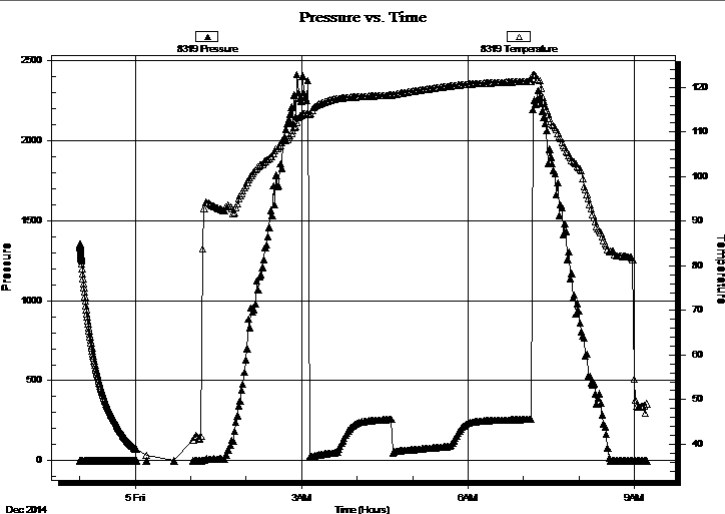
Formation: **Pawnee - Ft Scott**  
Deviated: No      Whipstock:      ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 03:08:00      Tester: Justin Harris  
Time Test Ended: 09:13:30      Unit No: 58  
**Interval: 4555.00 ft (KB) To 4650.00 ft (KB) (TVD)**      Reference Elevations: 3231.00 ft (KB)  
Total Depth: 4650.00 ft (KB) (TVD)      3219.00 ft (CF)  
Hole Diameter: 7.88 inches      Hole Condition: Poor      KB to GR/CF: 12.00 ft

### Serial #: 8319

Outside

Press@RunDepth:      psig @ 4556.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.12.04      End Date: 2014.12.05      Last Calib.: 2014.12.05  
Start Time: 23:00:01      End Time: 09:13:00      Time On Btm:  
Time Off Btm:

TEST COMMENT: 30: B.O.B in 23 mins.  
60: No Return.  
60: B.O.B in 25 mins.  
90: No Return.



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
146.00	ocm 2%o 98%m	0.72

\* 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.

**20-10s-34w Thomas,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

Job Ticket: 58638

**DST#: 3**

ATTN: Tom Funk

Test Start: 2014.12.04 @ 23:00:00

## Tool Information

Drill Pipe:	Length: 4320.00 ft	Diameter: 3.80 inches	Volume: 60.60 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 61.75 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4555.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	95.00 ft			
Tool Length:	115.00 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			4536.00	
Shut In Tool	5.00			4541.00	
Hydraulic tool	5.00			4546.00	
Packer	5.00			4551.00	20.00 Bottom Of Top Packer
Packer	4.00			4555.00	
Stubb	1.00			4556.00	
Recorder	0.00	6625	Inside	4556.00	
Recorder	0.00	8319	Outside	4556.00	
Perforations	25.00			4581.00	
Change Over Sub	1.00			4582.00	
Drill Pipe	63.00			4645.00	
Change Over Sub	1.00			4646.00	
Bullnose	4.00			4650.00	95.00 Bottom Packers & Anchor

**Total Tool Length: 115.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**20-10s-34w Thomas,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

Job Ticket: 58638

**DST#: 3**

ATTN: Tom Funk

Test Start: 2014.12.04 @ 23:00:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbf

Water Loss: 9.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 12900.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
146.00	ocm 2%o 98%m	0.718

Total Length: 146.00 ft

Total Volume: 0.718 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

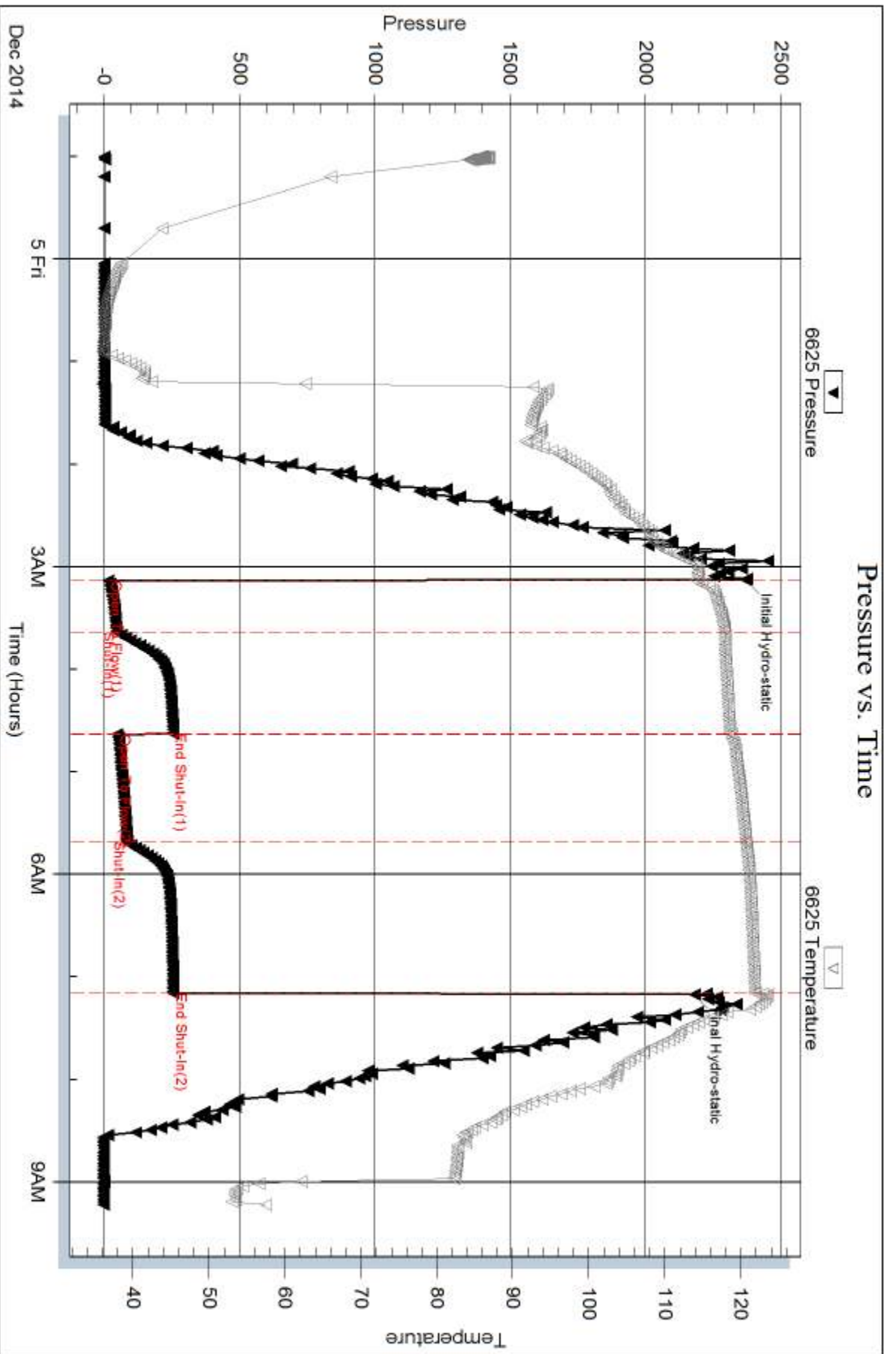
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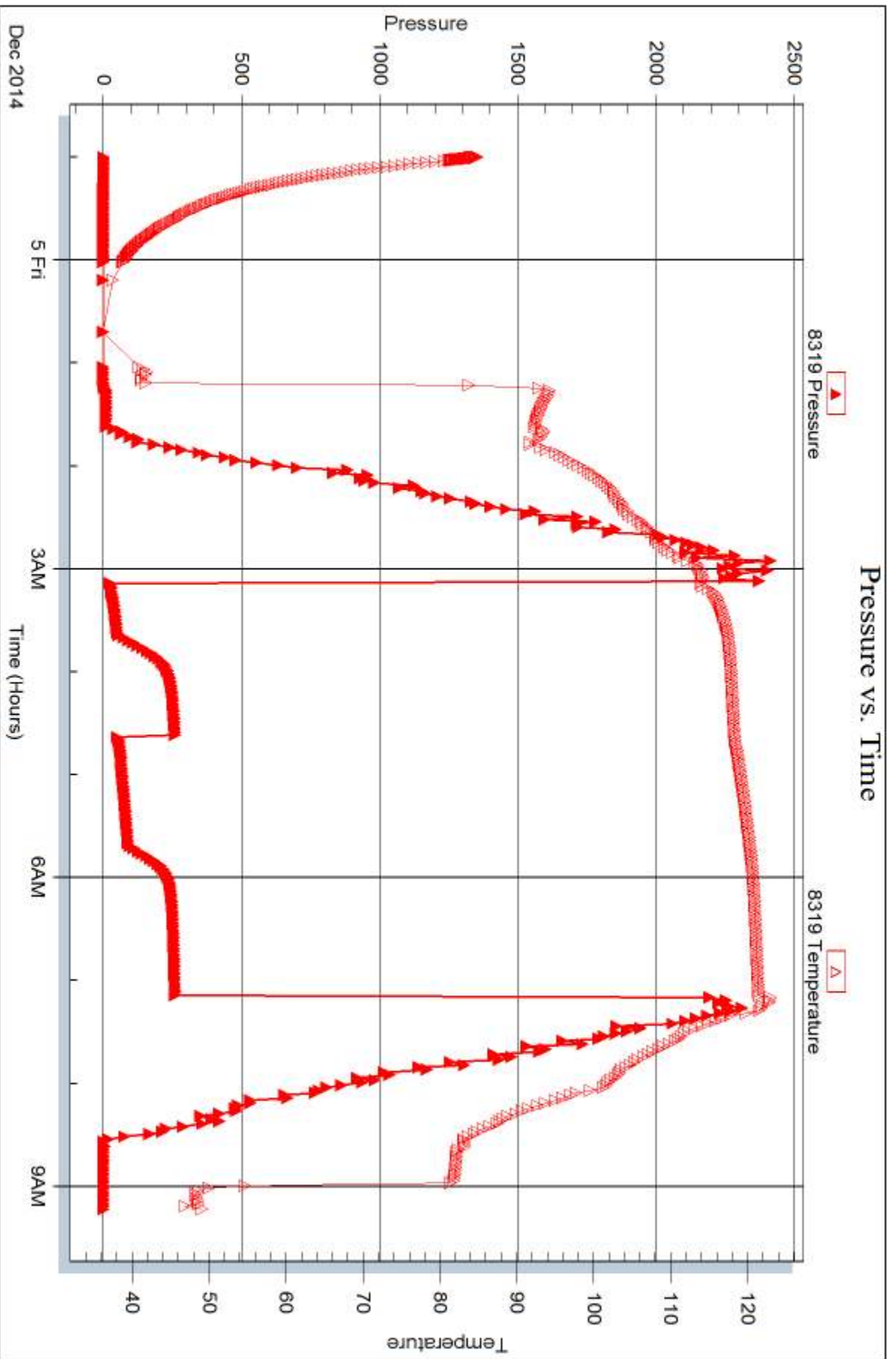
Laboratory Name:

Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Tom Funk

### **Frahm A #2-20**

#### **20-10s-34w Thomas,KS**

Start Date: 2014.12.05 @ 19:12:00

End Date: 2014.12.06 @ 03:40:30

Job Ticket #: 58639                      DST #: 4

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

Printed: 2014.12.10 @ 13:52:02



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N Water Ste 300  
Wichita, KS 67202  
ATTN: Tom Funk

**20-10s-34w Thomas,KS**

**Frahm A #2-20**

Job Ticket: 58639 **DST#: 4**

Test Start: 2014.12.05 @ 19:12:00

## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:31:30  
 Time Test Ended: 03:40:30  
 Interval: **4674.00 ft (KB) To 4715.00 ft (KB) (TVD)**  
 Total Depth: 4715.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Justin Harris  
 Unit No: 58  
 Reference Elevations: 3231.00 ft (KB)  
 3219.00 ft (CF)  
 KB to GR/CF: 12.00 ft

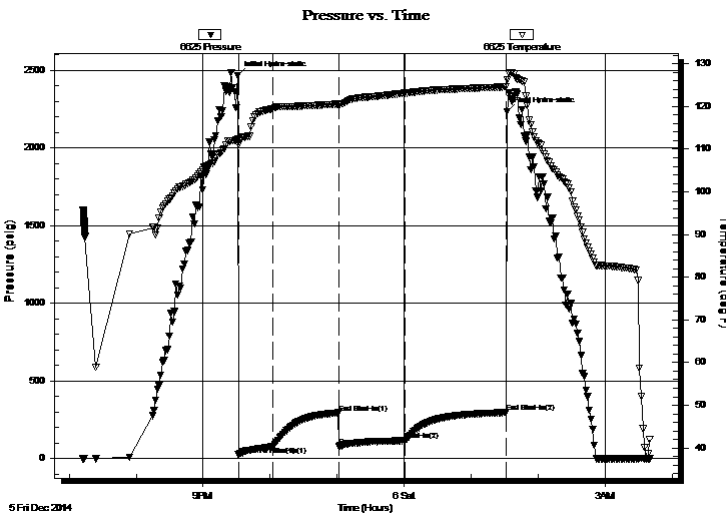
## Serial #: 6625

Inside

Press@RunDepth: 116.22 psig @ 4675.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.12.05 End Date: 2014.12.06 Last Calib.: 2014.12.06  
 Start Time: 19:12:01 End Time: 03:40:30 Time On Btm: 2014.12.05 @ 21:31:00  
 Time Off Btm: 2014.12.06 @ 01:32:30

TEST COMMENT: 30: B.O.B in 19 mins.  
 60: No Return.  
 60: B.O.B. in 8 mins.  
 90: Weak surface blow.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2466.28	112.40	Initial Hydro-static
1	24.08	111.05	Open To Flow (1)
31	75.53	119.44	Shut-In(1)
91	294.68	120.60	End Shut-In(1)
91	79.45	120.56	Open To Flow (2)
150	116.22	123.11	Shut-In(2)
241	296.46	124.63	End Shut-In(2)
242	2237.05	126.20	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	gocm 20g 20o 60m	0.62
136.00	gmco 20g 30m 50o	0.92

\* Recovery from multiple tests

## 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: Tom Funk

**20-10s-34w Thomas,KS**

**Frahm A #2-20**

Job Ticket: 58639

**DST#: 4**

Test Start: 2014.12.05 @ 19:12:00

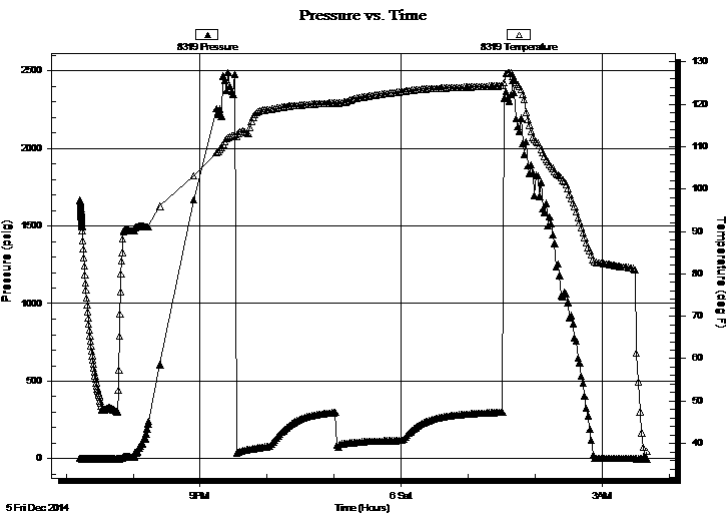
## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 21:31:30  
 Tester: Justin Harris  
 Time Test Ended: 03:40:30  
 Unit No: 58  
 Interval: **4674.00 ft (KB) To 4715.00 ft (KB) (TVD)**  
 Reference Elevations: 3231.00 ft (KB)  
 Total Depth: 4715.00 ft (KB) (TVD)  
 3219.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Poor  
 KB to GR/CF: 12.00 ft

**Serial #: 8319 Outside**

Press@RunDepth: psig @ 4675.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.12.05 End Date: 2014.12.06 Last Calib.: 2014.12.06  
 Start Time: 19:12:01 End Time: 03:41:00 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30: B.O.B in 19 mins.  
 60: No Return.  
 60: B.O.B. in 8 mins.  
 90: Weak surface blow.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	gocm 20g 20o 60m	0.62
136.00	gmco 20g 30m 50o	0.92

\* 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.

**20-10s-34w Thomas,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

Job Ticket: 58639

**DST#: 4**

ATTN: Tom Funk

Test Start: 2014.12.05 @ 19:12:00

## Tool Information

Drill Pipe:	Length: 4445.00 ft	Diameter: 3.80 inches	Volume: 62.35 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 63.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 69000.00 lb
Depth to Top Packer:	4674.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	41.00 ft			
Tool Length:	61.00 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			4655.00	
Shut In Tool	5.00			4660.00	
Hydraulic tool	5.00			4665.00	
Packer	5.00			4670.00	20.00 Bottom Of Top Packer
Packer	4.00			4674.00	
Stubb	1.00			4675.00	
Recorder	0.00	6625	Inside	4675.00	
Recorder	0.00	8319	Outside	4675.00	
Perforations	3.00			4678.00	
Change Over Sub	1.00			4679.00	
Drill Pipe	31.00			4710.00	
Change Over Sub	1.00			4711.00	
Bullnose	4.00			4715.00	41.00 Bottom Packers & Anchor

**Total Tool Length: 61.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**20-10s-34w Thomas,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Frahm A #2-20**

Job Ticket: 58639

**DST#: 4**

ATTN: Tom Funk

Test Start: 2014.12.05 @ 19:12:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 12000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
126.00	gocm 20g 20o 60m	0.620
136.00	gmco 20g 30m 50o	0.924

Total Length: 262.00 ft

Total Volume: 1.544 bbf

Num Fluid Samples: 0

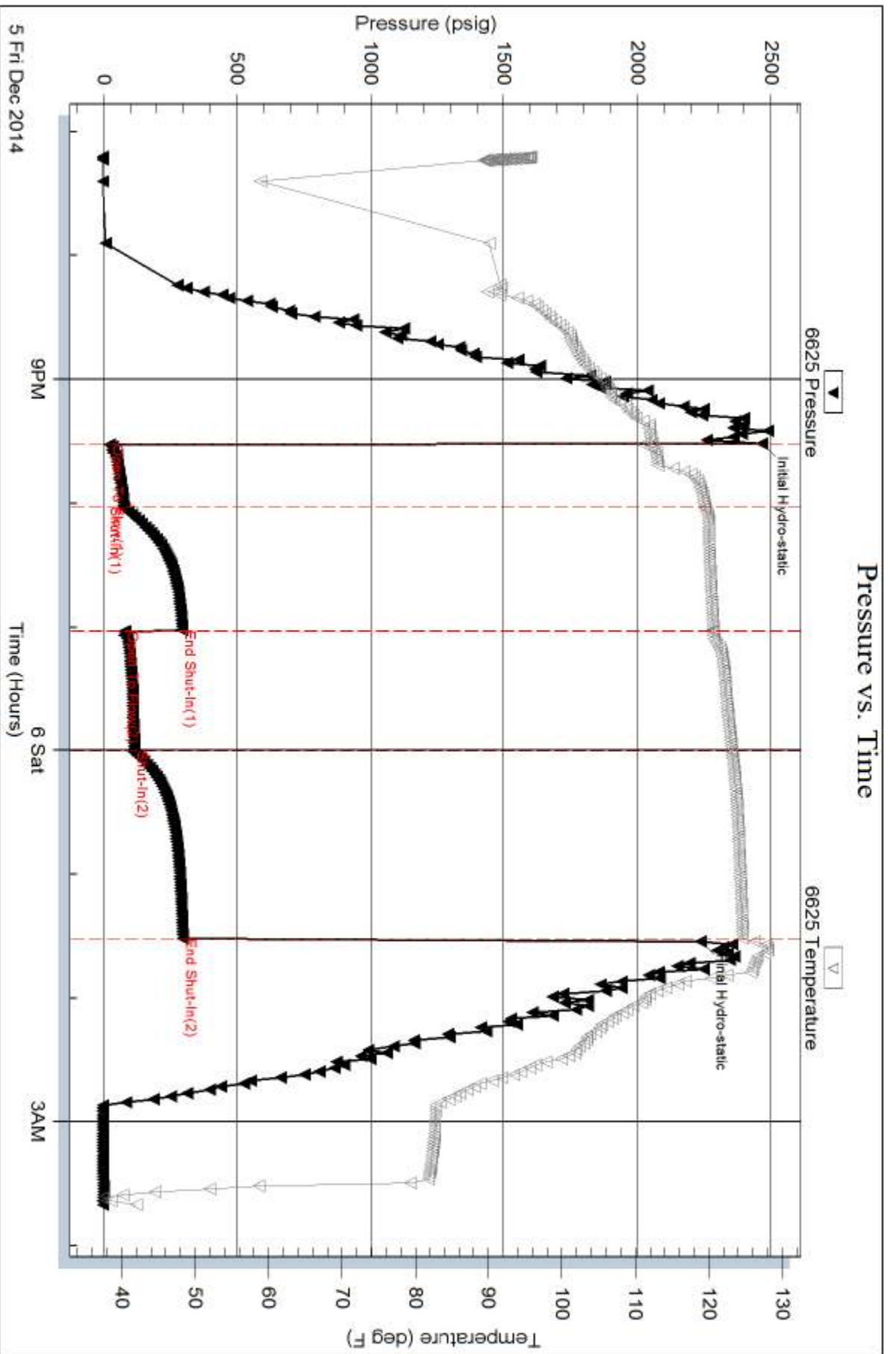
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



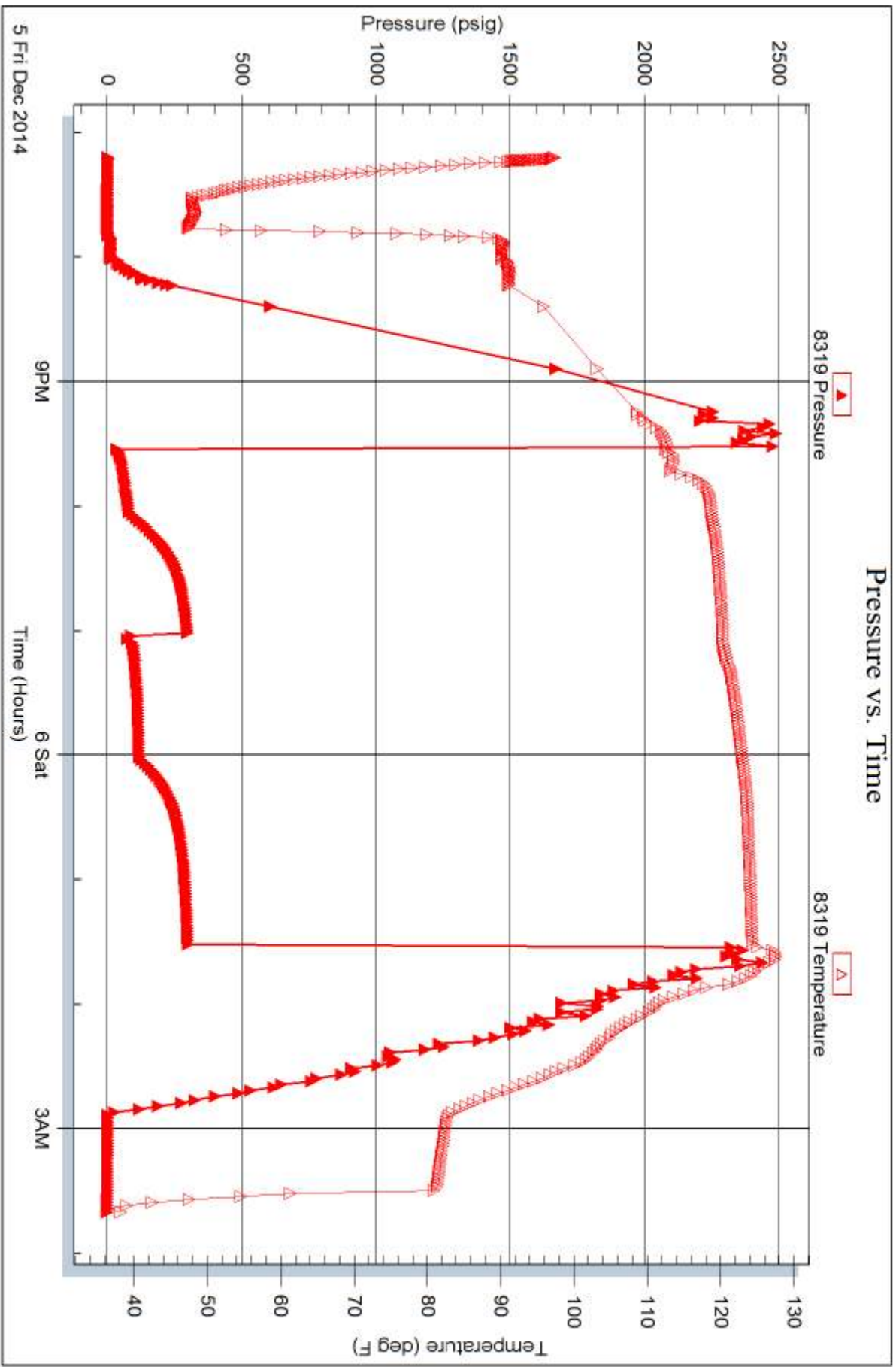


Serial #: 8319

Outside Murfin Drilling Co.

Frahm A #2-20

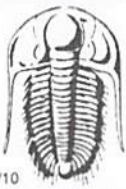
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 58639

Printed: 2014.12.10 @ 13:52:03



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58599

4/10

Well Name & No. Frahan A #2-20 Test No. 1 Date 12/03/2014  
 Company Martin Drilling Co Elevation 3231 KB 3214 GL  
 Address 250 N Water Ste 300 Wichita, ks 67202  
 Co. Rep / Geo. Tom Funk Rig Martin 22  
 Location: Sec. 20 Twp. 10s Rge. 34w Co. Thomas State Ks

Interval Tested 4284 - 4370 Zone Tested LKC H, I & J  
 Anchor Length 4286 Drill Pipe Run 4041 Mud Wt. 9.3  
 Top Packer Depth 4279 Drill Collars Run 234 Vis 54  
 Bottom Packer Depth 4284 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4370 Chlorides 12000 ppm System LCM 4#

Blow Description IF 1" blow  
ISI No return.  
FF 1 1/2" blow  
FSI No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>0 IL</u>	<u>100</u>			
<u>239</u>	<u>50cm</u>	<u>2</u>		<u>98</u>	

Rec Total 240 BHT 119 Gravity — API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 2202  Test 1250 T-On Location 2000  
 (B) First Initial Flow 15  Jars T-Started 2003  
 (C) First Final Flow 56  Safety Joint T-Open 2523  
 (D) Initial Shut-In 1184  Circ Sub N/C T-Pulled 0323 12/03  
 (E) Second Initial Flow 59  Hourly Standby T-Out 0546  
 (F) Second Final Flow 122  Mileage 137.24 212.35 Comments \_\_\_\_\_  
 (G) Final Shut-In 1199  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2165  Straddle \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Shale Packer \_\_\_\_\_  
 Final Flow 60  Extra Packer \_\_\_\_\_  
 Final Shut-In 90  Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1462.35  
 Sub Total 1462.35 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. 58600

4/10

Well Name & No. Frahm A #2-20 Test No. 2 Date 12/03/2014  
 Company Martin Drilling Co Elevation 3231 KB 3214 GL  
 Address 250 N Water Ste 300 Wichita, KS 67202  
 Co. Rep / Geo. Tom Funk Rig Martin 22  
 Location: Sec. 20 Twp. 10g Rge. 34w Co. Thomas State ks

Interval Tested 4374 4400 Zone Tested LKC - K  
 Anchor Length 26' Drill Pipe Run 4136 Mud Wt. 9.3  
 Top Packer Depth 4369 Drill Collars Run 234 Vis 66  
 Bottom Packer Depth 4374 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4400 Chlorides 1200 ppm System LCM 4#

Blow Description IF: 1" blow  
ISI: No return.  
FF: 1/2" blow  
FSI: No return.

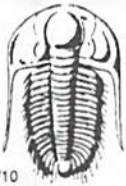
Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>MUD (OIR spots)</u>			<u>100</u>	

Rec Total 90 BHT 120 Gravity — API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 2285  Test 1250 T-On Location 1400  
 (B) First Initial Flow 16  Collars — T-Started 1435  
 (C) First Final Flow 29  Safety Joint — T-Open 1642  
 (D) Initial Shut-In 342  Circ Sub NC T-Pulled 2042  
 (E) Second Initial Flow 30  Hourly Standby — T-Out 2300  
 (F) Second Final Flow 61  Mileage 137 RT 212.35 Comments —  
 (G) Final Shut-In 338  Sampler —  
 (H) Final Hydrostatic 2167  Straddle —  Ruined Shale Packer —  
 Shale Packer —  Ruined Packer —  
 Extra Packer —  Extra Copies —  
 Extra Recorder — Sub Total 0  
 Day Standby — Total 1462.35  
 Accessibility — MP/DST Disc't —

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 1462.35

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58638

4/10

Well Name & No. Fahm A 2-20 Test No. 3 Date 12/4 12/5  
 Company Murfin Drilling Co. Elevation 3231 KB 3219 GL  
 Address 250 N Water Ste 300 Wichita, KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfin 22  
 Location: Sec. 20 Twp. 10s Rge. 34w Co. Thomas State KS

Interval Tested 4555 4650 Zone Tested Pawn, lower Pawn, FS  
 Anchor Length 95 Drill Pipe Run 4320 Mud Wt. 9.4  
 Top Packer Depth 4555 Drill Collars Run 234 Vis 47  
 Bottom Packer Depth 4555 Wt. Pipe Run Ø WL 9.2  
 Total Depth 4650 Chlorides 12,900 ppm System LCM 4  
 Blow Description 30 No Return  
60 B.O.B. in 23 min  
60 No Return  
60 B.O.B. in 25 min  
90 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>146</u>	<u>0cm</u>		<u>2</u>		<u>98</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 146 BHT 122 Gravity - API RW - @ - ° F Chlorides - ppm  
 (A) Initial Hydrostatic 2370  Test 1250 T-On Location 2245  
 (B) First Initial Flow 15  Jars \_\_\_\_\_ T-Started 2300  
 (C) First Final Flow 47  Safety Joint \_\_\_\_\_ T-Open 0307  
 (D) Initial Shut-In 253  Circ Sub N/C T-Pulled 0707  
 (E) Second Initial Flow 48  Hourly Standby \_\_\_\_\_ T-Out 09:13  
 (F) Second Final Flow 85  Mileage 134 RT 212.35 Comments \_\_\_\_\_  
 (G) Final Shut-In 255  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2182  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 60  Day Standby \_\_\_\_\_ Total 1462.35  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1462.35

Approved By [Signature] 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. 58639

4/10

Well Name & No. Frabm A 2-20 Test No. 4 Date 12/5 12/6  
 Company Murfin Drilling Co Elevation 3231 KB 3219 GL  
 Address 250 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfin 22  
 Location: Sec. 20 Twp. 10S Rge. 34W Co. Thomas State Ks

Interval Tested 4674 4715 Zone Tested Johnson  
 Anchor Length 41 Drill Pipe Run 4475 Mud Wt. 9.3  
 Top Packer Depth 4670 Drill Collars Run 234 Vis 60  
 Bottom Packer Depth 4674 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4715 Chlorides 12,900 ppm System LCM 4  
 Blow Description 30 B.O.B in 19 min  
60 No Return  
60 B.O.B in 8 min  
90 Weak surface blow

Rec	Feet of	%gas	%oil	%water	%mud
126	gocm	20	20	40	
136	@gmc0	20	50	30	

Rec Total 262 BHT 125 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 2464  Test 1250 T-On Location 19:00  
 (B) First Initial Flow 24  Jars \_\_\_\_\_ T-Started 19:12  
 (C) First Final Flow 76  Safety Joint \_\_\_\_\_ T-Open 21:32  
 (D) Initial Shut-In 295  Circ Sub N/C T-Pulled 1:32  
 (E) Second Initial Flow 79  Hourly Standby \_\_\_\_\_ T-Out 3:41  
 (F) Second Final Flow 116  Mileage 134 RT 212.35 Comments \_\_\_\_\_  
 (G) Final Shut-In 296  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2237  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1462.35  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1462.35

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

Approved By [Signature] Our Representative [Signature]

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