



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1219317
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: _____

1219317

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	MB 'A' 1-35
Doc ID	1219317

All Electric Logs Run

DIL
DUCP
MEL
BHCS



INVOICE

*acct
Prod-MG*

PO Box 93999
Southlake, TX 76092

Invoice Number: 143270

Invoice Date: May 13, 2014

Page: 1

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

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	63284	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	May 13, 2014	6/12/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	MB A #1-35		
200.00	CEMENT MATERIALS	Class A Common	17.90	3,580.00
4.00	CEMENT MATERIALS	Gel	23.40	93.60
7.00	CEMENT MATERIALS	Chloride	64.00	448.00
216.27	CEMENT SERVICE	Cubic Feet Charge	2.48	536.35
493.50	CEMENT SERVICE	Ton Mileage Charge	2.60	1,283.10
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
50.00	CEMENT SERVICE	Pump Truck Mileage	7.70	385.00
1.00	CEMENT SERVICE	Manifold Rental	275.00	275.00
50.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	220.00
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	OPERATOR ASSISTANT	Brandon Wilkinson		
1.00	CEMENT SUPERVISOR	Andrew Forslund		

ALL PRICES ARE NET, PAYABLE
30 DAYS FOLLOWING DATE OF
INVOICE. 1 1/2% CHARGED
THEREAFTER. IF ACCOUNT IS
CURRENT, TAKE DISCOUNT OF *3%*

\$ 2,916.65 *JK*

ONLY IF PAID ON OR BEFORE
Jun 7, 2014

Subtotal	8,333.30
Sales Tax	325.61
Total Invoice Amount	8,658.91
Payment/Credit Applied	
TOTAL	8,658.91

OK SR

- 2916.65
5742.26

ALLIED OIL & GAS SERVICES, LLC 063284

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Oakley, KS
5/14/14

DATE <u>5-13-14</u>	SEC. <u>35</u>	TWP. <u>4</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION <u>6:00 pm</u>	JOB START <u>1:30 pm</u>	JOB FINISH <u>2:00 pm</u>
LEASE <u>MB "A"</u>		WELL # <u>1-35</u>		LOCATION <u>Rexford N to Y, 1W, 2N,</u>		COUNTY <u>Rawlins</u>	STATE <u>KS</u>
OLD OR NEW (Circle one) <u>NEW</u>				<u>3W4N, 3E2N, 1E, N4W into</u>			

CONTRACTOR <u>Martin 7</u>	OWNER <u>Same</u>
TYPE OF JOB <u>Surface</u>	
HOLE SIZE <u>12 1/4</u>	T.D. <u>220'</u>
CASING SIZE <u>8 7/8</u>	DEPTH <u>217.37'</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <u>15'</u>	
PERFS.	
DISPLACEMENT <u>13.08 bbl</u>	

CEMENT	
AMOUNT ORDERED <u>200 sks cement 380cc</u>	
<u>290 gal</u>	
COMMON <u>200 sks @ 12.90</u>	<u>2580.00</u>
POZMIX	@
GEL <u>45 sks @ 2.340</u>	<u>93.60</u>
CHLORIDE <u>75 sks @ 6.400</u>	<u>448.00</u>
ASC	@
	@
<u>Material Total</u>	<u>4,121.60</u>
<u>(1442.56/358)</u>	
	@
	@
	@
	@
HANDLING <u>216.22 sks @ 2.45</u>	<u>536.35</u>
MILEAGE <u>7.87 km x 35 x 2.60</u>	<u>1283.10</u>

EQUIPMENT

PUMP TRUCK # <u>431</u>	CEMENTER <u>Larone E Wank</u>
	HELPER <u>Brandon Wilkinson</u>
BULK TRUCK # _____	DRIVER <u>Andrew Forstland</u>
BULK TRUCK # <u>818/287</u>	DRIVER <u>Scott Ellis (TAD)</u>

REMARKS:

Mix 200 sks cement
Displace with water
Cement did circulate

Thank you

CHARGE TO: Martin
STREET _____
CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB <u>217.37'</u>	
PUMP TRUCK CHARGE <u>1512.25</u>	
EXTRA FOOTAGE	@
MILEAGE <u>MTHO 50 @ 2.70</u>	<u>385.00</u>
MANIFOLD	@
<u>MTHO 30 @ 4.40</u>	<u>225.00</u>
	@
<u>(1474.09/358)</u>	<u>4,211.70</u>
	TOTAL

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
<u>(08)</u>	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 Marcus Colson
SIGNATURE Marcus Colson

SALES TAX (If Any) _____
TOTAL CHARGES 8,333.30
DISCOUNT 2916.65 (35%) IF PAID IN 30 DAYS
5416.65 Net.



INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 143509
Invoice Date: May 25, 2014
Page: 1

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

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

IC103
FHR

Customer ID	Field Ticket #	Payment Terms	
Murfin	63302	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-02	Oakley	May 24, 2014	6/24/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	MB-A #1-35		
200.00	CEMENT MATERIALS	ASC	20.90	4,180.00
300.00	CEMENT MATERIALS	AMD Blend	25.90	7,770.00
1,000.00	CEMENT MATERIALS	Gilsonite	0.98	980.00
75.00	CEMENT MATERIALS	Flo Seal	2.97	222.75
12.00	CEMENT MATERIALS	Super Flush	58.70	704.40
1.00	CEMENT MATERIALS	KCL	34.40	34.40
589.73	CEMENT SERVICE	Cubic Feet Charge	2.48	1,462.53
1,229.05	CEMENT SERVICE	Ton Mileage Charge	2.60	3,195.53
1.00	CEMENT SERVICE	Production Casing	2,765.75	2,765.75
47.00	CEMENT SERVICE	Pump Truck Mileage	7.70	361.90
1.00	CEMENT SERVICE	Manifold Head Rental	275.00	275.00
47.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	206.80
1.00	CEMENT SERVICE	Waiting on Location -- No Charge		
15.00	EQUIPMENT SALES	5-1/2 Turbolizer	95.00	1,425.00
3.00	EQUIPMENT SALES	5-1/2 Basket	395.00	1,185.00
1.00	EQUIPMENT SALES	5-1/2 Plug & Latch Down	660.00	660.00
1.00	EQUIPMENT SALES	5-1/2 AFU Float Shoe	650.00	650.00
1.00	CEMENT SUPERVISOR	Talon Jones		
1.00	OPERATOR ASSISTANT	Brandon Wilkinson		
1.00	CEMENT SUPERVISOR	Kelly Gabel		

Subtotal	26,079.06
Sales Tax	1,407.11
Total Invoice Amount	27,486.17
Payment/Credit Applied	
TOTAL	27,486.17

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

\$ 7,755.67

ONLY IF PAID ON OR BEFORE
Jun 24, 2014

less 7,755.67
19,730.50

ALLIED OIL & GAS SERVICES, LLC 063302

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Orlando, FL

DATE <u>5-24-14</u>	SEC. <u>3S</u>	TWP. <u>4</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION <u>2am</u>	JOB START <u>9:30 am</u>	JOB FINISH <u>10:30 am</u>
LEASE <u>MB-A</u>	WELL# <u>1-35</u>	LOCATION <u>Rexford ks 7N, 1W, 2N</u>			COUNTY <u>Reelfoot</u>	STATE <u>ks</u>	
OLD OR NEW (Circle one)			<u>3 W, N to Rd 6.5 1/2 mi E SW into</u>				

CONTRACTOR <u>Murkin #7</u>	OWNER <u>Same</u>
TYPE OF JOB <u>Production</u>	
HOLE SIZE <u>7 7/8</u>	T.D. <u>4540</u>
CASING SIZE <u>5 1/2</u>	DEPTH <u>4527</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT <u>21.05</u>
CEMENT LEFT IN CSG. <u>2.05</u>	
PERFS.	
DISPLACEMENT <u>107 bbl</u>	

CEMENT	
AMOUNT ORDERED <u>300 sks AMD 4 1/2 lb</u>	
<u>Flo 200 sks ASC 5# Gilsenite</u>	
COMMON	@
POZMIX	@
GEL	@
CHLORIDE	@
ASC <u>200 sks</u>	@ <u>20.00</u> <u>4,180.00</u>
<u>AMD blend 300 sks</u>	@ <u>25.90</u> <u>7,770.00</u>
<u>120 lb Gilsenite</u>	@ <u>7.8</u> <u>980.00</u>
<u>75 lb Flo Seal</u>	@ <u>2.92</u> <u>222.75</u>
<u>12 bbl Super Flash</u>	@ <u>58.20</u> <u>704.40</u>
<u>KCl</u>	@ <u>34.90</u> <u>34.90</u>
<u>Material total</u>	@ <u></u> <u>13,991.55</u>
<u>(4,262.05 / 35%)</u>	@ <u></u> <u></u>
HANDLING <u>589.72 cut</u>	@ <u>2.48</u> <u>1462.53</u>
MILEAGE <u>26.85 mi x 47 mi</u>	@ <u>2.60</u> <u>3195.53</u>
TOTAL	

EQUIPMENT	
PUMP TRUCK	CEMENTER <u>Talon Jones</u>
# <u>431</u>	HELPER <u>Brandon/Kelley</u>
BULK TRUCK	
# <u>600</u>	DRIVER <u>Juan (TWS)</u>
BULK TRUCK	
# <u>821</u>	DRIVER <u>Enrique (TWS)</u>

REMARKS:
Ran float equipment
Circulate for half hour Ran Restat App
Circulate for 1 hour
Mix 200 sks Mix 12 bbl Mud Flush
Followed by KCl mix 30 sks AMD
Rth Mix 20 sks AMD M.H. Mix 250 sks
AMD followed by 200 sks ASC cleaned
up pump & lined displaced 107 bbl water
plug landed 2500 psi & hold shut-in way
300 psi cement to collar
 CHARGE TO: Murkin Drilling Trust you!

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 _____
 SIGNATURE [Signature]

SERVICE	
DEPTH OF JOB	<u>4527</u>
PUMP TRUCK CHARGE	<u>\$2,265.75</u>
EXTRA FOOTAGE	@
MILEAGE <u>H.V 47 mi</u>	@ <u>7.70</u> <u>361.90</u>
MANIFOLD <u>Head</u>	@ <u></u> <u>275.00</u>
<u>L.V 47 mi</u>	@ <u>4.40</u> <u>206.80</u>
<u>(2) Hours over pump time</u>	@ <u>N/C</u> <u>N/C</u>
<u>(2,893.62 / 35%)</u>	@ <u></u> <u></u>
TOTAL 8,262.51	

PLUG & FLOAT EQUIPMENT	
<u>(5 1/2)</u>	
<u>(15) Turbolizers</u>	@ <u>95.00</u> <u>1425.00</u>
<u>(3) baskets</u>	@ <u>395.00</u> <u>1185.00</u>
<u>plug & latchdown</u>	@ <u>660.00</u> <u>660.00</u>
<u>A.F.U. float skc</u>	@ <u>650.00</u>
TOTAL 3,920.00	

SALES TAX (If Any) _____
 TOTAL CHARGES 26,019.06
 DISCOUNT 7,755.67 (35%) IF PAID IN 30 DAYS
18,323.38 Net

MB 'A' #1-35
 Daily Drilling Report
 Page Three

MB 'A' #1-35 1560' FNL 1560' FWL Sec. 35-4S-31W 2906' KB							Schmidt-Vap #1-26 1545' FSL 880' FWL Sec. 26-4S-31W 2911' KB	
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	2640	+266	+12	2644	+262	+8	2657	+254
B/Anhydrite	2688	+218	-5	2677	+229	+6	2688	+223
Topeka	3712	-806	+3	3720	-814	-5	3720	-809
Heebner	3872	-966	+8	3884	-978	-4	3885	-974
Lansing	3925	-1019	+7	3933	-1027	-1	3937	-1026
Stark	4093	-1187	+6	4099	-1193	Flat	4104	-1193
BKC	4148	-1242	+6	4146	-1240	+8	4159	-1248
Pawnee	4256	-1350	+6	4260	-1354	+2	4267	-1356
Cherokee	4340	-1434	+7	4345	-1439	+2	4352	-1441
Mississippi	4466	-1560	-1	4460	-1554	+5	4470	-1559
RTD	4540						4543	
LTD				4546			4542	



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Keith Reavis

MB "A" #1-35

35-4s-31w Rawlins KS

Start Date: 2014.05.18 @ 01:47:00

End Date: 2014.05.18 @ 11:39:30

Job Ticket #: 56893 DST #: 1

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

Printed: 2014.05.23 @ 14:42:17

Murfin Drilling Co.
35-4s-31w Rawlins KS
MB "A" #1-35
DST # 1
Toronto - LKC "B"
2014.05.18



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water STE 300
 Wichita KS 67206
 ATTN: Keith Reavis

35-4s-31w Rawlins KS
MB "A" #1-35
 Job Ticket: 56893 **DST#: 1**
 Test Start: 2014.05.18 @ 01:47:00

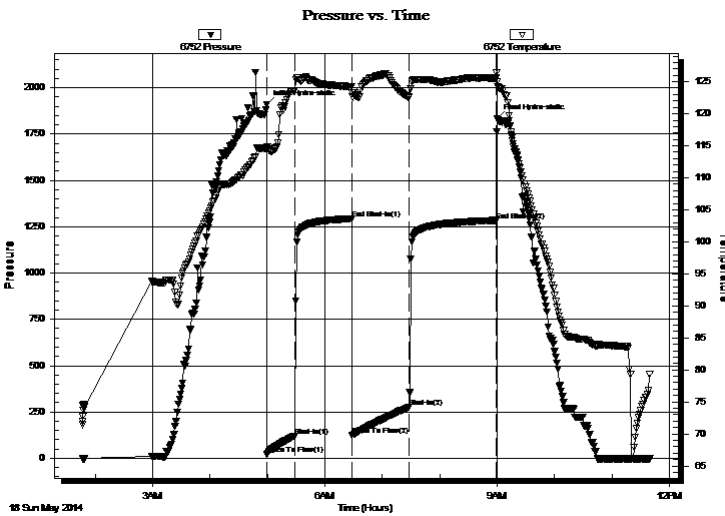
GENERAL INFORMATION:

Formation: **Toronto - LKC "B"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:59:20
 Time Test Ended: 11:39:30
 Interval: **3870.00 ft (KB) To 3960.00 ft (KB) (TVD)**
 Total Depth: 3960.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Nichols
 Unit No: 58
 Reference Elevations: 2906.00 ft (KB)
 2901.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6752 Inside
 Press@RunDepth: 276.23 psig @ 3871.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.18 End Date: 2014.05.18 Last Calib.: 2014.05.18
 Start Time: 01:47:01 End Time: 11:39:30 Time On Btm: 2014.05.18 @ 04:59:10
 Time Off Btm: 2014.05.18 @ 09:00:00

TEST COMMENT: 30 IF - 1" blow built to BoB @ 16 mins
 60 ISI - No return
 60 FF - Surface blow built to BoB @ 16 mins
 90 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1908.72	114.81	Initial Hydro-static
1	20.59	114.48	Open To Flow (1)
30	121.37	123.71	Shut-In(1)
89	1293.09	124.22	End Shut-In(1)
90	124.87	123.23	Open To Flow (2)
149	276.23	122.55	Shut-In(2)
240	1284.06	125.58	End Shut-In(2)
241	1831.86	124.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM - 35%o - 65%M	0.02
530.00	MCW - 5%M - 95%W	6.92

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 67206
ATTN: Keith Reavis

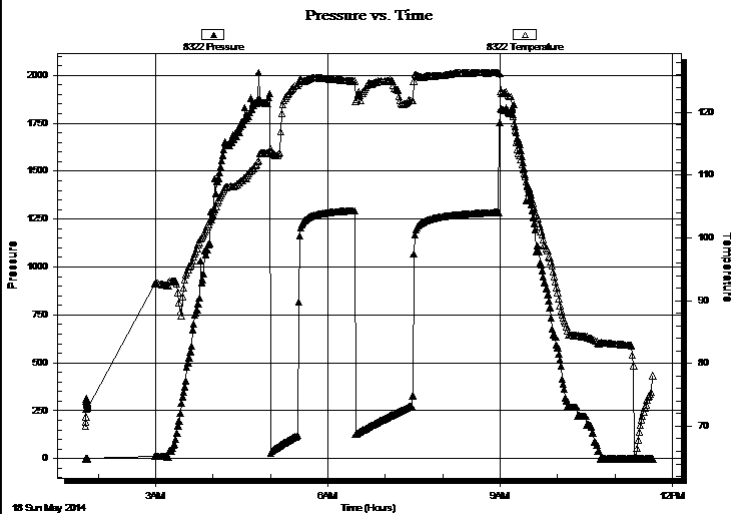
35-4s-31w Rawlins KS
MB "A" #1-35
Job Ticket: 56893 **DST#: 1**
Test Start: 2014.05.18 @ 01:47:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "B"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 04:59:20 Tester: Ryan Nichols
Time Test Ended: 11:39:30 Unit No: 58
Interval: 3870.00 ft (KB) To 3960.00 ft (KB) (TVD) Reference Elevations: 2906.00 ft (KB)
Total Depth: 3960.00 ft (KB) (TVD) 2901.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8322 Outside
Press@RunDepth: psig @ 3871.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.05.18 End Date: 2014.05.18 Last Calib.: 2014.05.18
Start Time: 01:47:01 End Time: 11:39:30 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 IF - 1" blow built to BoB @ 16 mins
60 ISI - No return
60 FF - Surface blow built to BoB @ 16 mins
90 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM - 35%O - 65%M	0.02
530.00	MCW - 5%M - 95%W	6.92

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56893

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.05.18 @ 01:47:00

Tool Information

Drill Pipe:	Length: 3801.00 ft	Diameter: 3.80 inches	Volume: 53.32 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: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 53.62 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3870.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	90.00 ft				
Tool Length:	117.00 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			3844.00	
Shut In Tool	5.00			3849.00	
Hydraulic tool	5.00			3854.00	
Jars	5.00			3859.00	
Safety Joint	2.00			3861.00	
Packer	5.00			3866.00	27.00 Bottom Of Top Packer
Packer	4.00			3870.00	
Stubb	1.00			3871.00	
Recorder	0.00	6752	Inside	3871.00	
Recorder	0.00	8322	Outside	3871.00	
Perforations	21.00			3892.00	
Change Over Sub	1.00			3893.00	
Drill Pipe	63.00			3956.00	
Change Over Sub	1.00			3957.00	
Bullnose	3.00			3960.00	90.00 Bottom Packers & Anchor

Total Tool Length: 117.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56893

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.05.18 @ 01:47:00

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:

8500 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	OCM - 35%o - 65%M	0.025
530.00	MCW - 5%M - 95%W	6.915

Total Length: 535.00 ft Total Volume: 6.940 bbf

Num Fluid Samples: 0

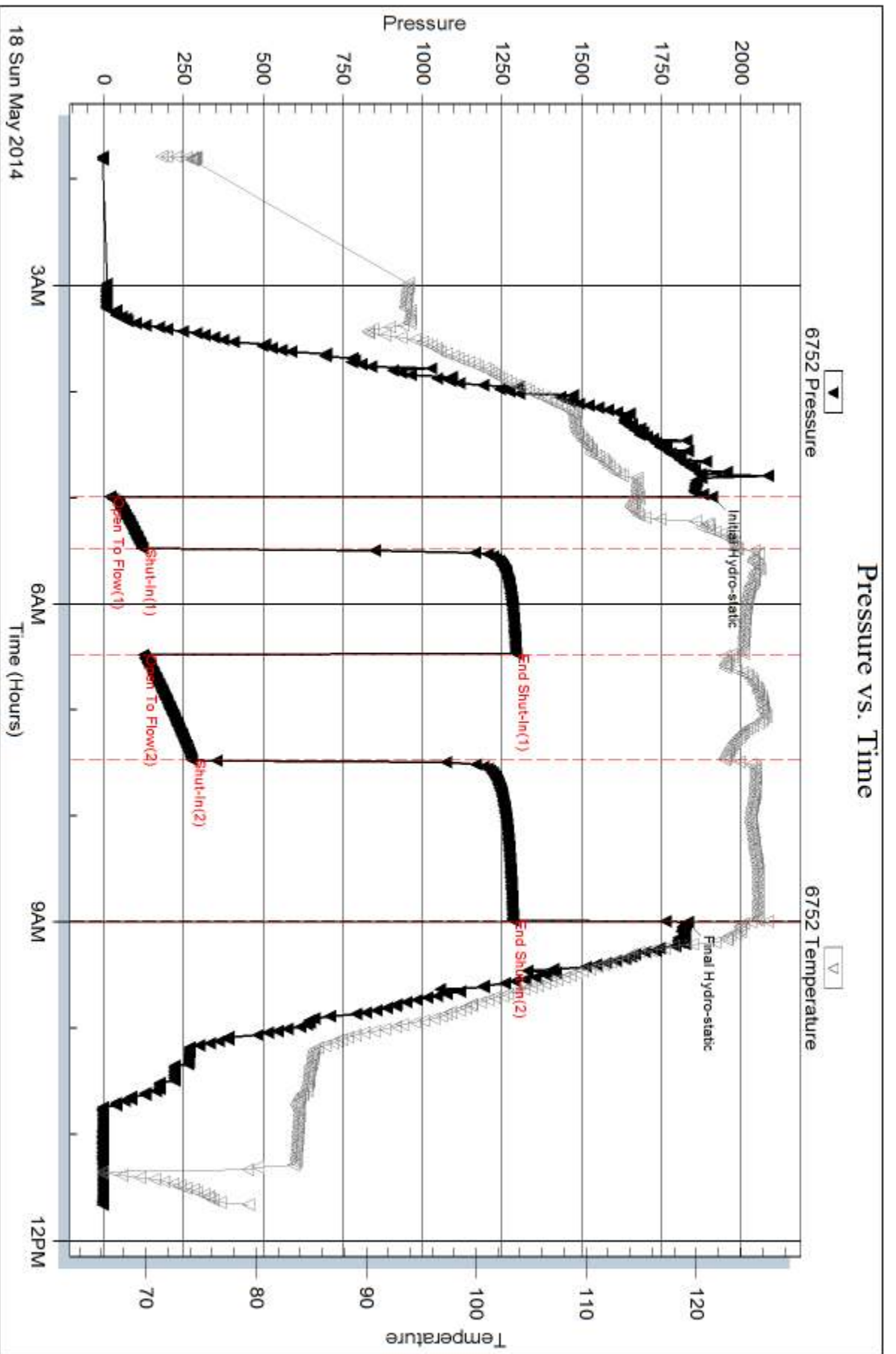
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .703 @ 71 DEG F = 8500

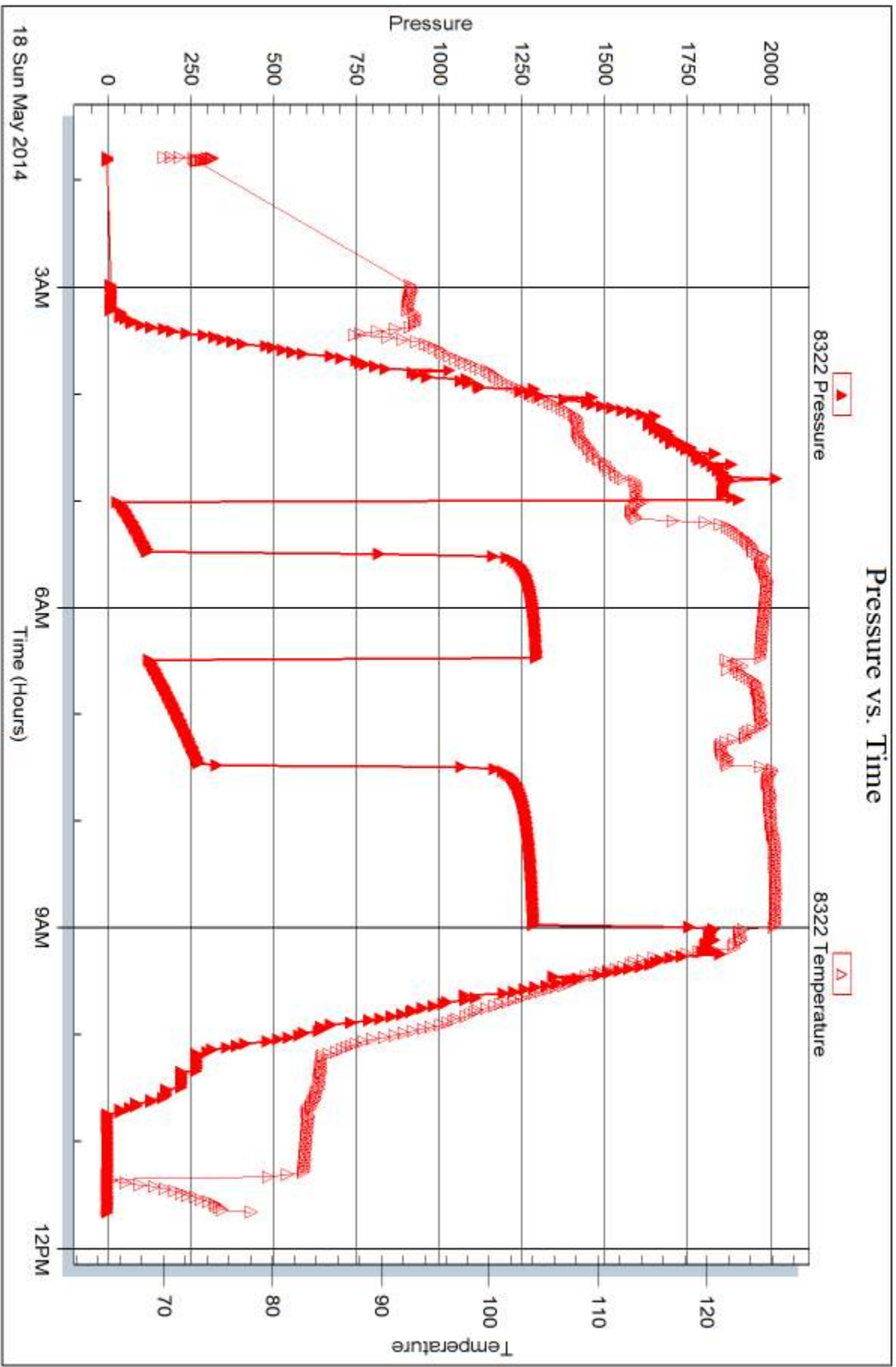


Serial #: 8322

Outside Murfin Drilling Co.

MB "A" #1-35

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Keith Reavis

MB "A" #1-35

35-4s-31w Rawlins KS

Start Date: 2014.05.18 @ 22:51:00

End Date: 2014.05.19 @ 09:50:40

Job Ticket #: 56894 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.23 @ 14:41:57

Murfin Drilling Co.
35-4s-31w Rawlins KS
MB "A" #1-35
DST # 2
LKC "D - G"
2014.05.18



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water STE 300
 Wichita KS 67206
 ATTN: Keith Reavis

35-4s-31w Rawlins KS
MB "A" #1-35
 Job Ticket: 56894 **DST#: 2**
 Test Start: 2014.05.18 @ 22:51:00

GENERAL INFORMATION:

Formation: **LKC "D - G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:07:20
 Time Test Ended: 09:50:40
 Interval: **3981.00 ft (KB) To 4018.00 ft (KB) (TVD)**
 Total Depth: 4018.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 58
 Reference Elevations: 2906.00 ft (KB)
 2901.00 ft (CF)
 KB to GR/CF: 5.00 ft

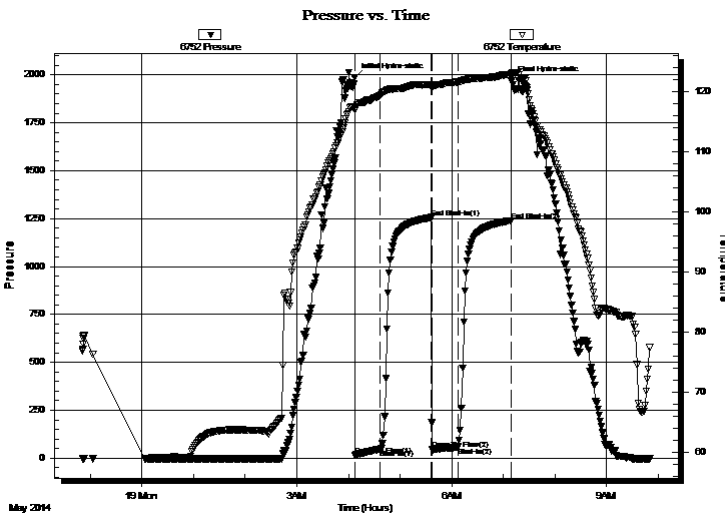
Serial #: 6752

Inside

Press@RunDepth: 56.34 psig @ 3982.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.18 End Date: 2014.05.19 Last Calib.: 2014.05.19
 Start Time: 22:51:01 End Time: 09:50:40 Time On Btm: 2014.05.19 @ 04:07:00
 Time Off Btm: 2014.05.19 @ 07:09:30

TEST COMMENT: 30 IF - Surface blow built to 3"
 60 ISI - No return
 30 FF - Surface blow built to 2 1/4"
 60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.07	117.48	Initial Hydro-static
1	14.76	116.87	Open To Flow (1)
30	46.49	119.31	Shut-In(1)
90	1255.89	121.10	End Shut-In(1)
90	47.56	120.88	Open To Flow (2)
120	56.34	121.52	Shut-In(2)
182	1239.67	122.79	End Shut-In(2)
183	1969.27	122.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCM - 10%o - 90%M	0.30
33.00	OCM - 20%o - 80%M	0.46

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56894

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.05.18 @ 22:51:00

GENERAL INFORMATION:

Formation: **LKC "D - G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:07:20

Time Test Ended: 09:50:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: **3981.00 ft (KB) To 4018.00 ft (KB) (TVD)**

Total Depth: 4018.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2906.00 ft (KB)

2901.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: **8322** Outside

Press@RunDepth: psig @ 3982.00 ft (KB)

Start Date: 2014.05.18

End Date: 2014.05.19

Capacity: 8000.00 psig

Last Calib.: 2014.05.19

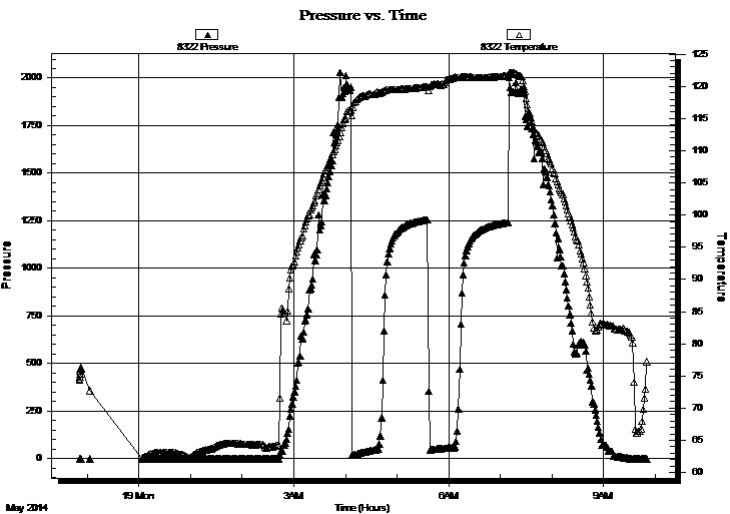
Start Time: 22:51:01

End Time: 09:50:49

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF - Surface blow built to 3"
60 ISI - No return
30 FF - Surface blow built to 2 1/4"
60 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCM - 10%o - 90%M	0.30
33.00	OCM - 20%o - 80%M	0.46

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56894

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.05.18 @ 22:51:00

Tool Information

Drill Pipe:	Length: 3925.00 ft	Diameter: 3.80 inches	Volume: 55.06 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: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 55.36 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3981.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	37.00 ft				
Tool Length:	64.00 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			3955.00	
Shut In Tool	5.00			3960.00	
Hydraulic tool	5.00			3965.00	
Jars	5.00			3970.00	
Safety Joint	2.00			3972.00	
Packer	5.00			3977.00	27.00 Bottom Of Top Packer
Packer	4.00			3981.00	
Stubb	1.00			3982.00	
Recorder	0.00	6752	Inside	3982.00	
Recorder	0.00	8322	Outside	3982.00	
Perforations	33.00			4015.00	
Bullnose	3.00			4018.00	37.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56894

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.05.18 @ 22:51:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	OCM - 10%o - 90%M	0.305
33.00	OCM - 20%o - 80%M	0.463

Total Length: 95.00 ft Total Volume: 0.768 bbl

Num Fluid Samples: 0

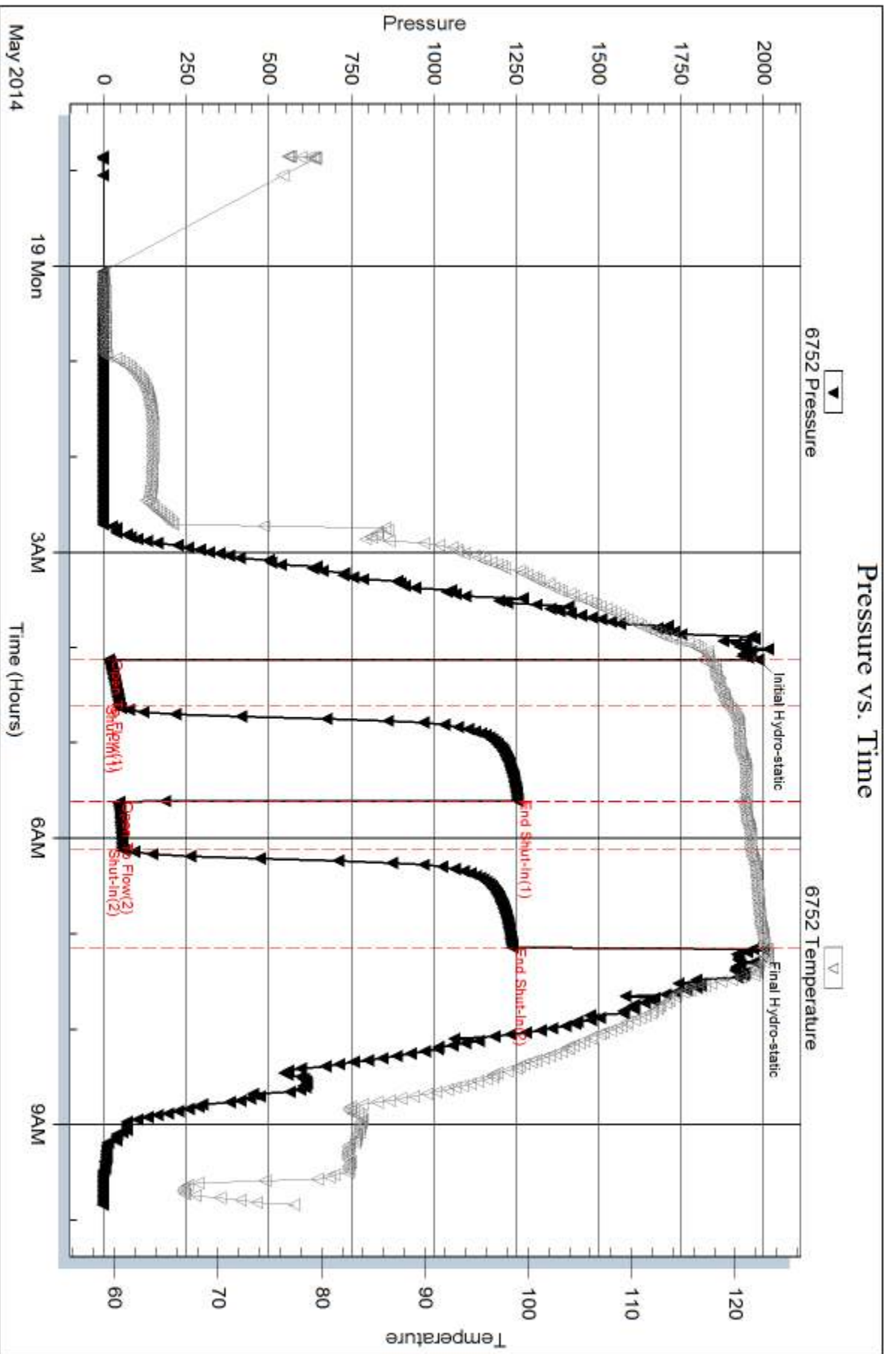
Num Gas Bombs: 0

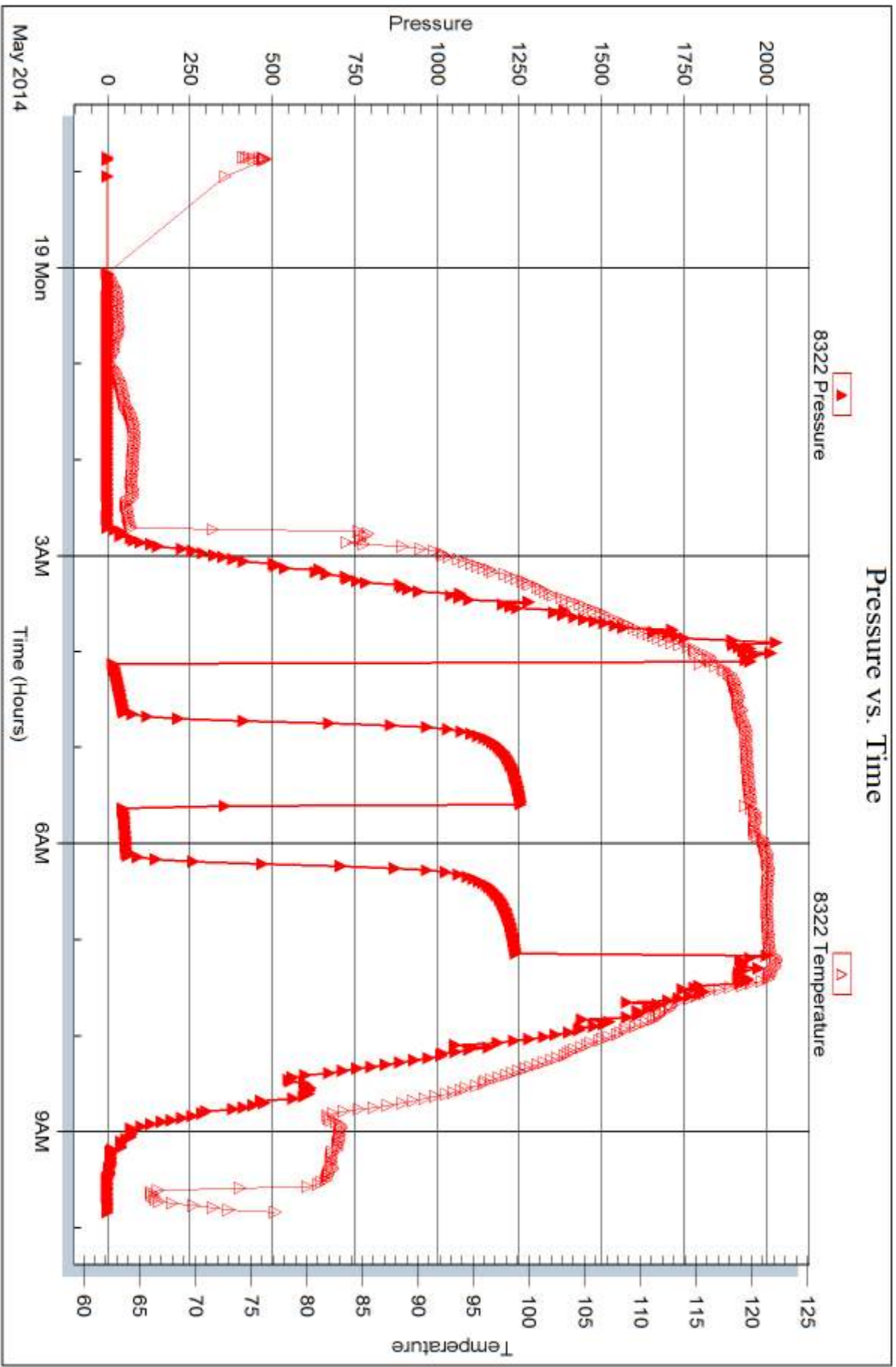
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Keith Reavis

MB "A" #1-35

35-4s-31w Rawlins KS

Start Date: 2014.05.19 @ 22:24:00

End Date: 2014.05.20 @ 06:36:20

Job Ticket #: 56895 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.23 @ 14:41:34



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water STE 300
 Wichita KS 67206
 ATTN: Keith Reavis

35-4s-31w Rawlins KS
MB "A" #1-35
 Job Ticket: 56895 **DST#: 3**
 Test Start: 2014.05.19 @ 22:24:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:16:00
 Time Test Ended: 06:36:20
 Interval: **4027.00 ft (KB) To 4100.00 ft (KB) (TVD)**
 Total Depth: 4100.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 58
 Reference Elevations: 2906.00 ft (KB)
 2901.00 ft (CF)
 KB to GR/CF: 5.00 ft

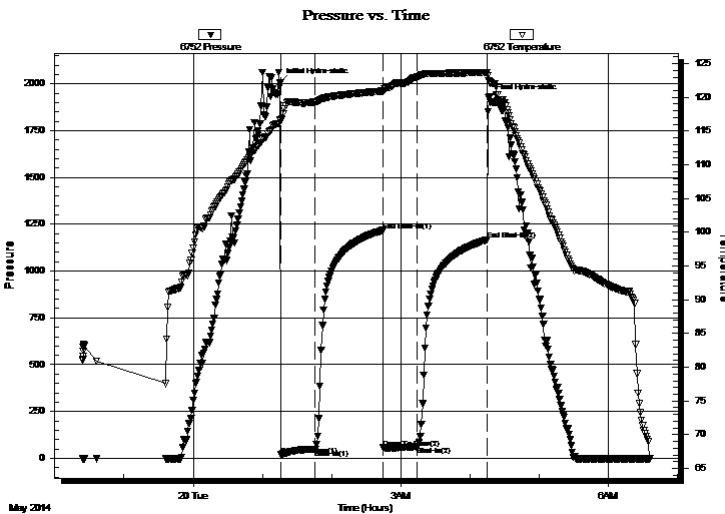
Serial #: 6752

Inside

Press@RunDepth: 62.30 psig @ 4028.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.19 End Date: 2014.05.20 Last Calib.: 2014.05.20
 Start Time: 22:24:01 End Time: 06:36:20 Time On Btm: 2014.05.20 @ 01:15:30
 Time Off Btm: 2014.05.20 @ 04:16:30

TEST COMMENT: 30 IF - 1/2" blow built to 3 1/2"
 60 ISI - No return
 30 FF - Surface blow started @ 5 mins built to 3"
 60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.03	116.67	Initial Hydro-static
1	17.97	116.53	Open To Flow (1)
30	49.13	119.32	Shut-In(1)
89	1213.23	120.93	End Shut-In(1)
90	55.03	120.92	Open To Flow (2)
119	62.30	123.04	Shut-In(2)
180	1167.60	123.70	End Shut-In(2)
181	1924.08	122.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCM - 25%o - 75%M	0.30
10.00	MCO - 70%o - 30%M	0.14

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water STE 300
Wichita KS 67206

ATTN: Keith Reavis

35-4s-31w Rawlins KS

MB "A" #1-35

Job Ticket: 56895

DST#: 3

Test Start: 2014.05.19 @ 22:24:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:16:00

Time Test Ended: 06:36:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: 4027.00 ft (KB) To 4100.00 ft (KB) (TVD)

Total Depth: 4100.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2906.00 ft (KB)

2901.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4028.00 ft (KB)

Start Date: 2014.05.19

End Date: 2014.05.20

Capacity: 8000.00 psig

Last Calib.: 2014.05.20

Start Time: 22:24:01

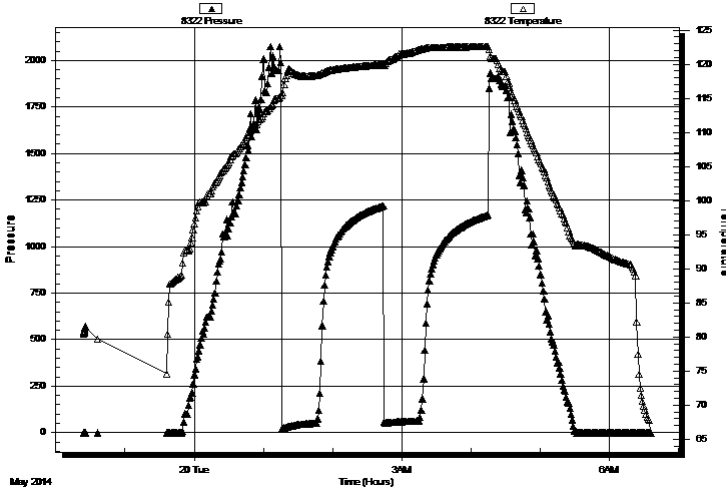
End Time: 06:36:20

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF - 1/2" blow built to 3 1/2"
60 ISI - No return
30 FF - Surface blow started @ 5 mins built to 3"
60 FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCM - 25%o - 75%M	0.30
10.00	MCO - 70%o - 30%M	0.14

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56895

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.05.19 @ 22:24:00

Tool Information

Drill Pipe:	Length: 3955.00 ft	Diameter: 3.80 inches	Volume: 55.48 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: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 63000.00 lb
			<u>Total Volume: 55.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4027.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	100.00 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			4001.00	
Shut In Tool	5.00			4006.00	
Hydraulic tool	5.00			4011.00	
Jars	5.00			4016.00	
Safety Joint	2.00			4018.00	
Packer	5.00			4023.00	27.00 Bottom Of Top Packer
Packer	4.00			4027.00	
Stubb	1.00			4028.00	
Recorder	0.00	6752	Inside	4028.00	
Recorder	0.00	8322	Outside	4028.00	
Perforations	36.00			4064.00	
Change Over Sub	1.00			4065.00	
Drill Pipe	31.00			4096.00	
Change Over Sub	1.00			4097.00	
Bullnose	3.00			4100.00	73.00 Bottom Packers & Anchor

Total Tool Length: 100.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56895

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.05.19 @ 22:24:00

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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	OCM - 25%o - 75%M	0.305
10.00	MCO - 70%o - 30%M	0.140

Total Length: 72.00 ft Total Volume: 0.445 bbl

Num Fluid Samples: 0

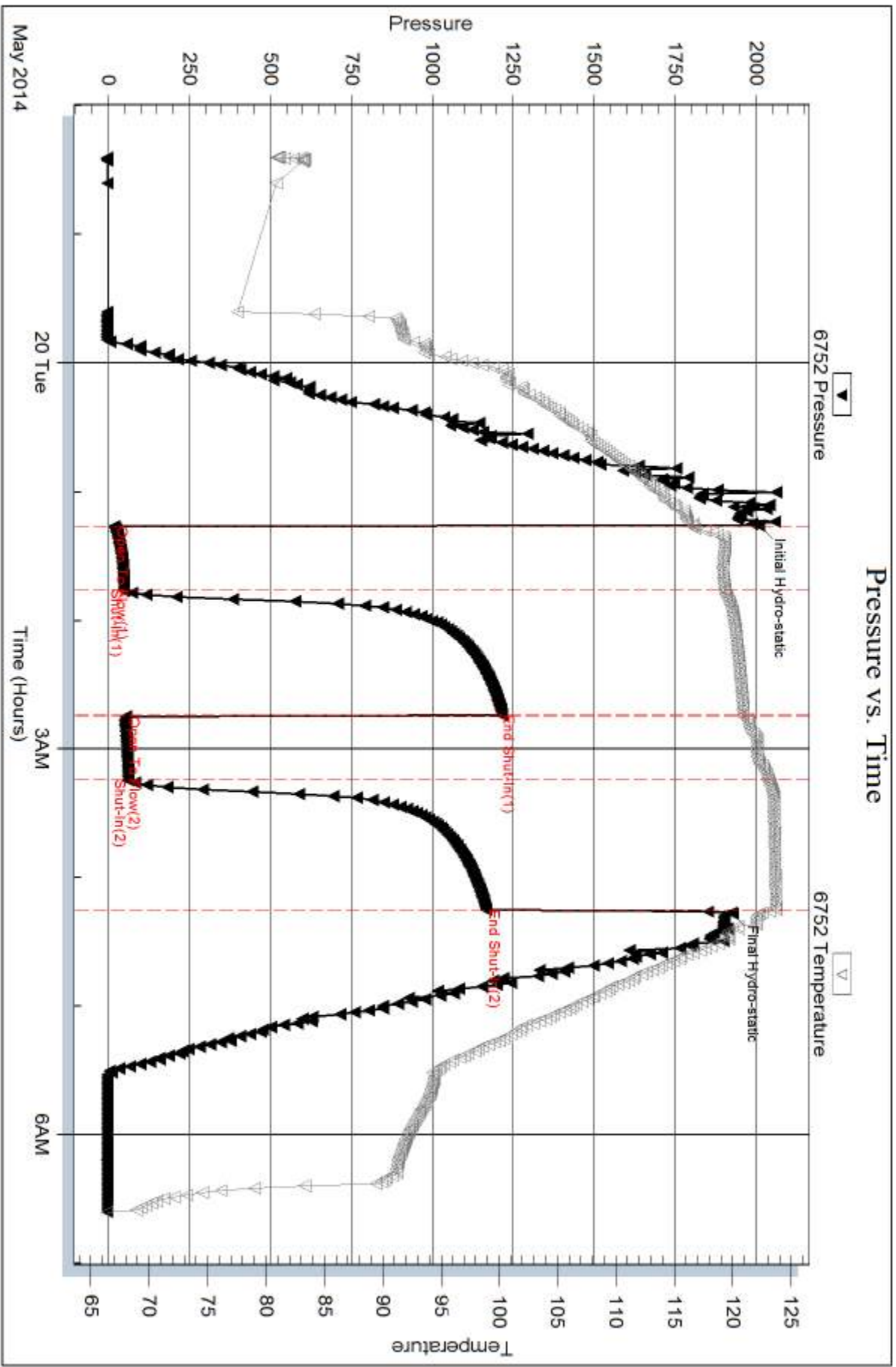
Num Gas Bombs: 0

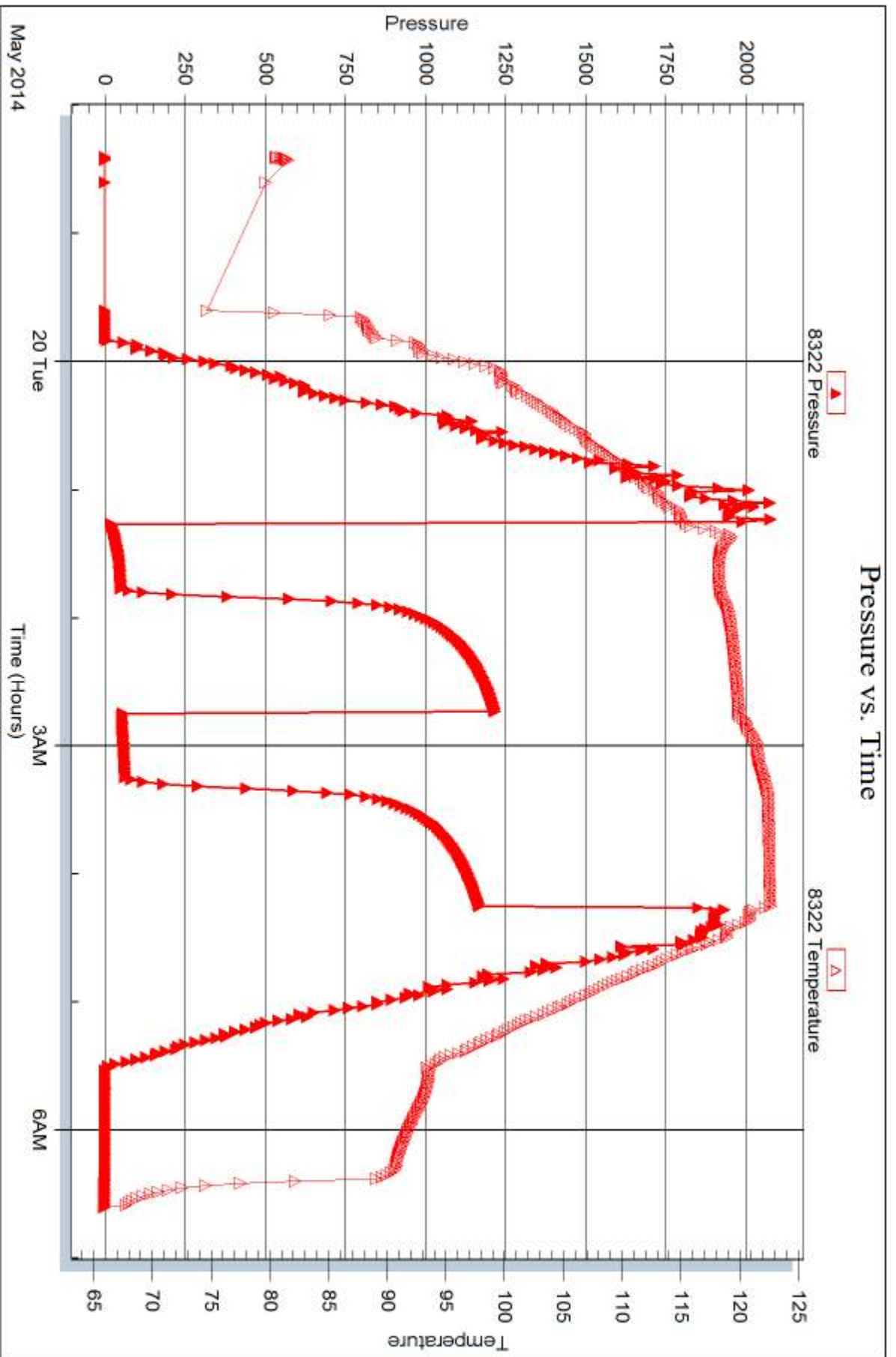
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Keith Reavis

MB "A" #1-35

35-4s-31w Rawlins KS

Start Date: 2014.05.20 @ 16:13:00

End Date: 2014.05.21 @ 00:23:30

Job Ticket #: 56896 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.23 @ 14:41:03



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N. Water STE 300
Wichita KS 67206
ATTN: Keith Reavis

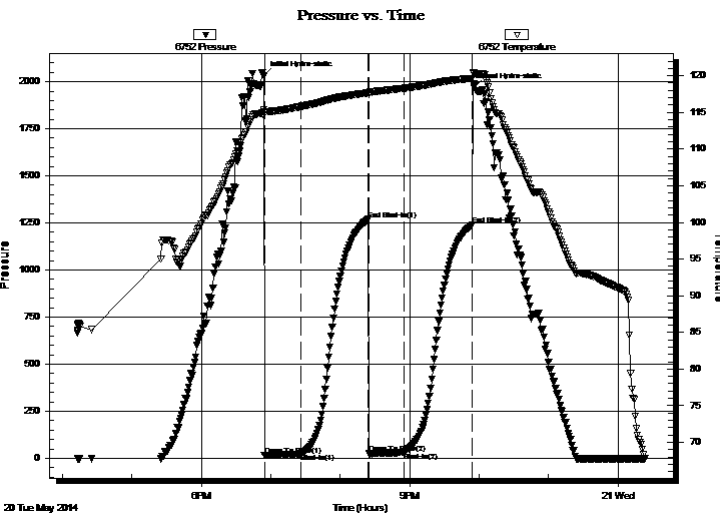
35-4s-31w Rawlins KS
MB "A" #1-35
Job Ticket: 56896 **DST#: 4**
Test Start: 2014.05.20 @ 16:13:00

GENERAL INFORMATION:

Formation: **LKC " K "**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 18:54:30 Tester: Ryan Nichols
Time Test Ended: 00:23:30 Unit No: 58
Interval: 4092.00 ft (KB) To 4136.00 ft (KB) (TVD) Reference Elevations: 2906.00 ft (KB)
Total Depth: 4136.00 ft (KB) (TVD) 2901.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 6752 Inside
Press@RunDepth: 34.34 psig @ 4093.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.05.20 End Date: 2014.05.21 Last Calib.: 2014.05.21
Start Time: 16:13:01 End Time: 00:23:30 Time On Btm: 2014.05.20 @ 18:54:00
Time Off Btm: 2014.05.20 @ 21:55:30

TEST COMMENT: 30 IF - Surface blow built to 1"
60 ISI - No return
30 FF - Surface blow built to 1 1/4"
60 ISI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.14	115.38	Initial Hydro-static
1	15.15	115.13	Open To Flow (1)
32	25.70	115.80	Shut-In(1)
90	1268.53	117.68	End Shut-In(1)
91	26.20	117.50	Open To Flow (2)
121	34.34	118.30	Shut-In(2)
180	1238.88	119.66	End Shut-In(2)
182	1970.49	120.32	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OCM - 20%o - 80%M	0.15

* 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.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56896

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.05.20 @ 16:13:00

Tool Information

Drill Pipe:	Length: 4020.00 ft	Diameter: 3.80 inches	Volume: 56.39 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: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 63000.00 lb
			<u>Total Volume: 56.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4092.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	71.00 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			4066.00	
Shut In Tool	5.00			4071.00	
Hydraulic tool	5.00			4076.00	
Jars	5.00			4081.00	
Safety Joint	2.00			4083.00	
Packer	5.00			4088.00	27.00 Bottom Of Top Packer
Packer	4.00			4092.00	
Stubb	1.00			4093.00	
Recorder	0.00	6752	Inside	4093.00	
Recorder	0.00	8322	Outside	4093.00	
Perforations	6.00			4099.00	
Change Over Sub	1.00			4100.00	
Drill Pipe	32.00			4132.00	
Change Over Sub	1.00			4133.00	
Bullnose	3.00			4136.00	44.00 Bottom Packers & Anchor

Total Tool Length: 71.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56896

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.05.20 @ 16:13:00

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: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 5.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OCM - 20%o - 80%M	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

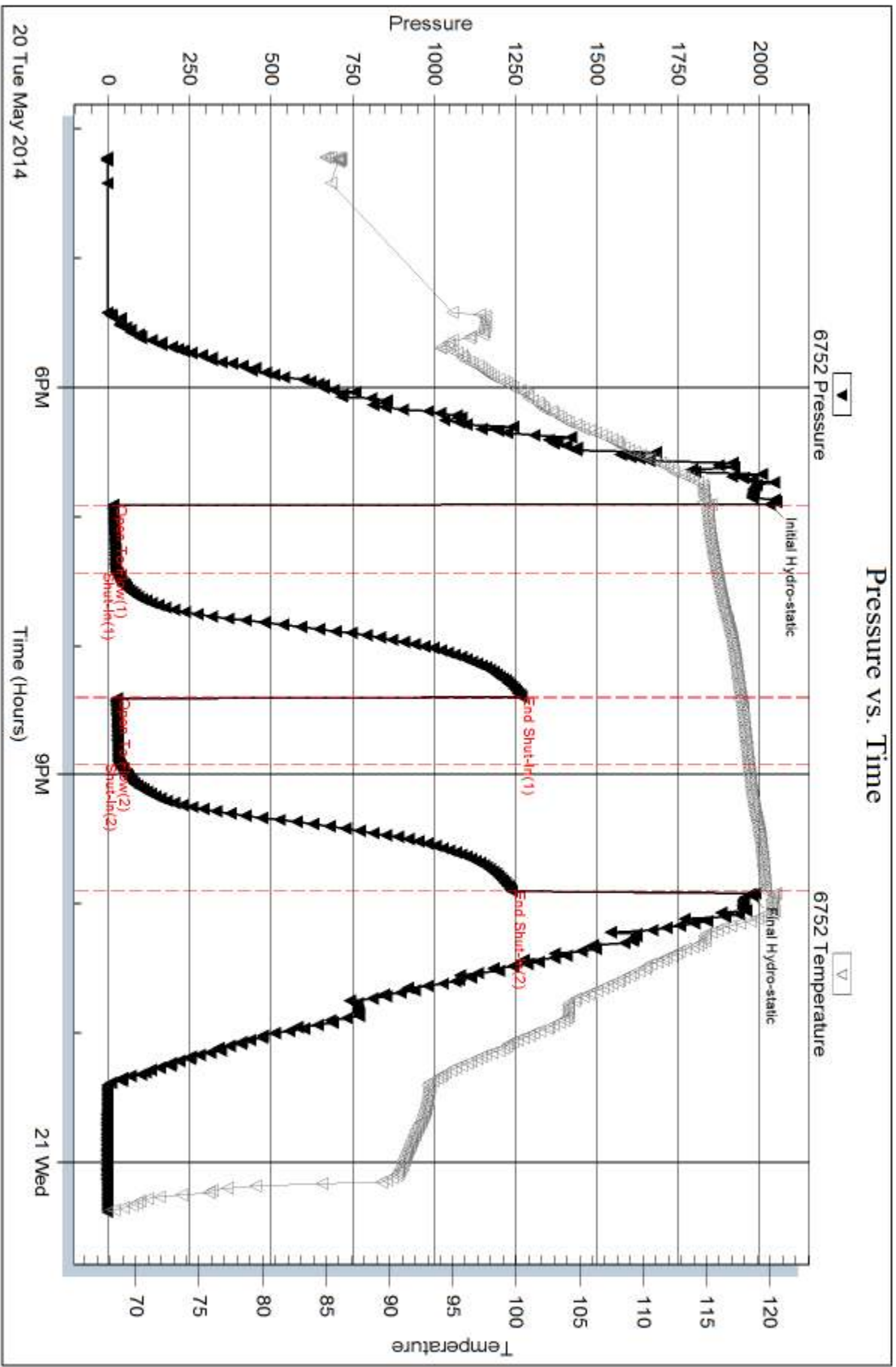
Num Gas Bombs: 0

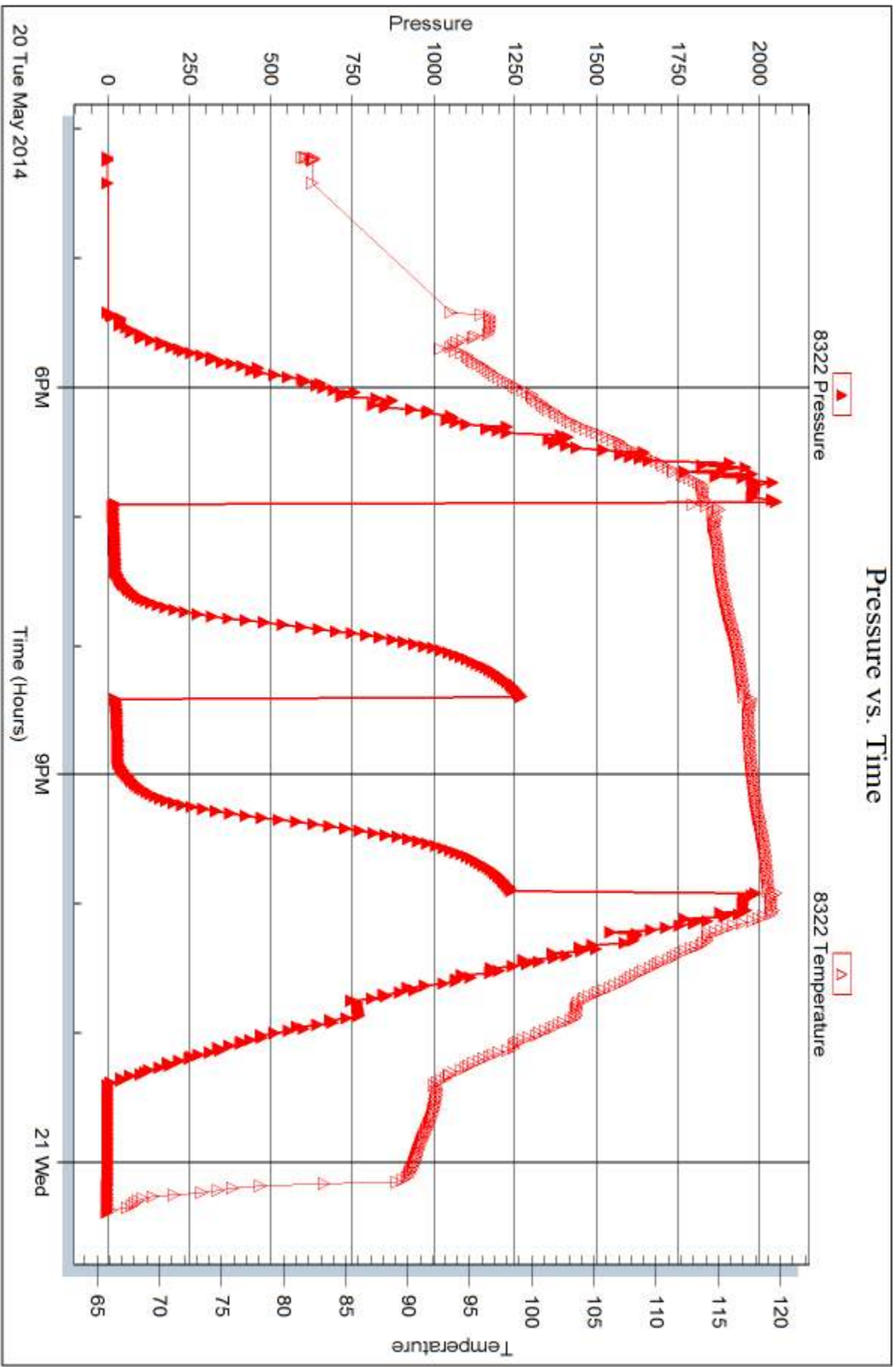
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Keith Reavis

MB "A" #1-35

35-4s-31w Rawlins KS

Start Date: 2014.05.22 @ 06:30:00

End Date: 2014.05.22 @ 14:07:30

Job Ticket #: 56987 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.23 @ 14:40:25



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water STE 300
 Wichita KS 67206
 ATTN: Keith Reavis

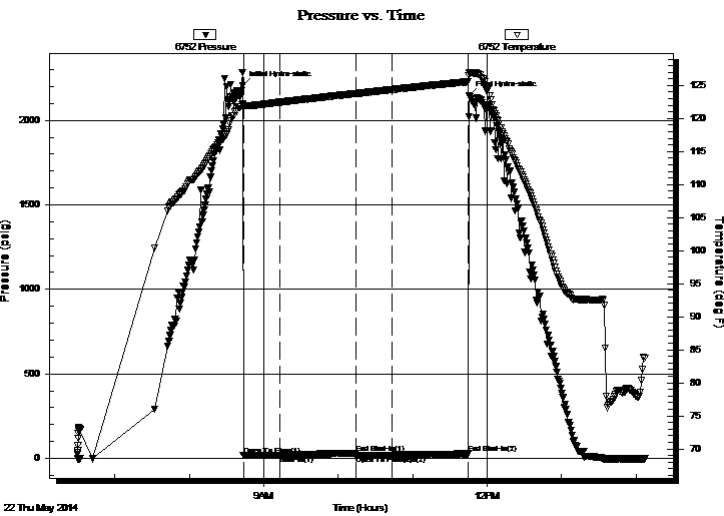
35-4s-31w Rawlins KS
MB "A" #1-35
 Job Ticket: 56987 **DST#: 5**
 Test Start: 2014.05.22 @ 06:30:00

GENERAL INFORMATION:

Formation: **Cherokee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:43:30
 Time Test Ended: 14:07:30
 Interval: **4338.00 ft (KB) To 4364.00 ft (KB) (TVD)**
 Total Depth: 4364.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 58
 Reference Elevations: 2906.00 ft (KB)
 2901.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6752 Inside
 Press@RunDepth: 18.93 psig @ 4339.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.22 End Date: 2014.05.22 Last Calib.: 2014.05.22
 Start Time: 06:30:01 End Time: 14:07:30 Time On Btm: 2014.05.22 @ 08:43:00
 Time Off Btm: 2014.05.22 @ 11:45:30

TEST COMMENT: 30 IF - Surface blow built to 1/4"
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2204.80	122.17	Initial Hydro-static
1	16.73	121.90	Open To Flow (1)
30	18.73	122.46	Shut-In(1)
92	31.06	123.79	End Shut-In(1)
92	18.78	123.78	Open To Flow (2)
121	18.93	124.38	Shut-In(2)
182	26.87	125.57	End Shut-In(2)
183	2148.61	126.94	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56987

DST#: 5

ATTN: Keith Reavis

Test Start: 2014.05.22 @ 06:30:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:43:30

Time Test Ended: 14:07:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

Interval: **4338.00 ft (KB) To 4364.00 ft (KB) (TVD)**

Reference Elevations: 2906.00 ft (KB)

Total Depth: 4364.00 ft (KB) (TVD)

2901.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4339.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.22

End Date:

2014.05.22

Last Calib.:

2014.05.22

Start Time: 06:30:01

End Time:

14:07:30

Time On Btm:

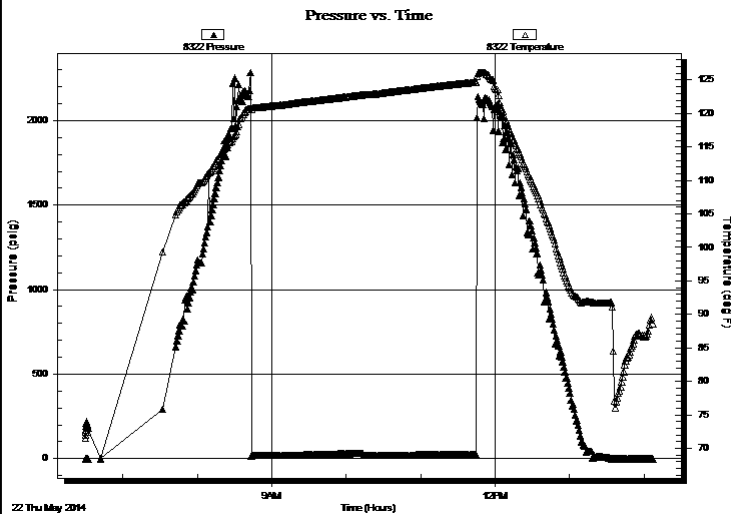
Time Off Btm:

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

60 ISI - No return

30 FF - No blow

60 FSI - No return



PRESSURE SUMMARY

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

Recovery

Gas Rates

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

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56987

DST#: 5

ATTN: Keith Reavis

Test Start: 2014.05.22 @ 06:30:00

Tool Information

Drill Pipe:	Length: 4273.00 ft	Diameter: 3.80 inches	Volume: 59.94 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: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4338.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 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			4312.00	
Shut In Tool	5.00			4317.00	
Hydraulic tool	5.00			4322.00	
Jars	5.00			4327.00	
Safety Joint	2.00			4329.00	
Packer	5.00			4334.00	27.00 Bottom Of Top Packer
Packer	4.00			4338.00	
Stubb	1.00			4339.00	
Recorder	0.00	6752	Inside	4339.00	
Recorder	0.00	8322	Outside	4339.00	
Perforations	22.00			4361.00	
Bullnose	3.00			4364.00	26.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

35-4s-31w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

MB "A" #1-35

Job Ticket: 56987

DST#: 5

ATTN: Keith Reavis

Test Start: 2014.05.22 @ 06:30:00

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:

bbf

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	Mud 100%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

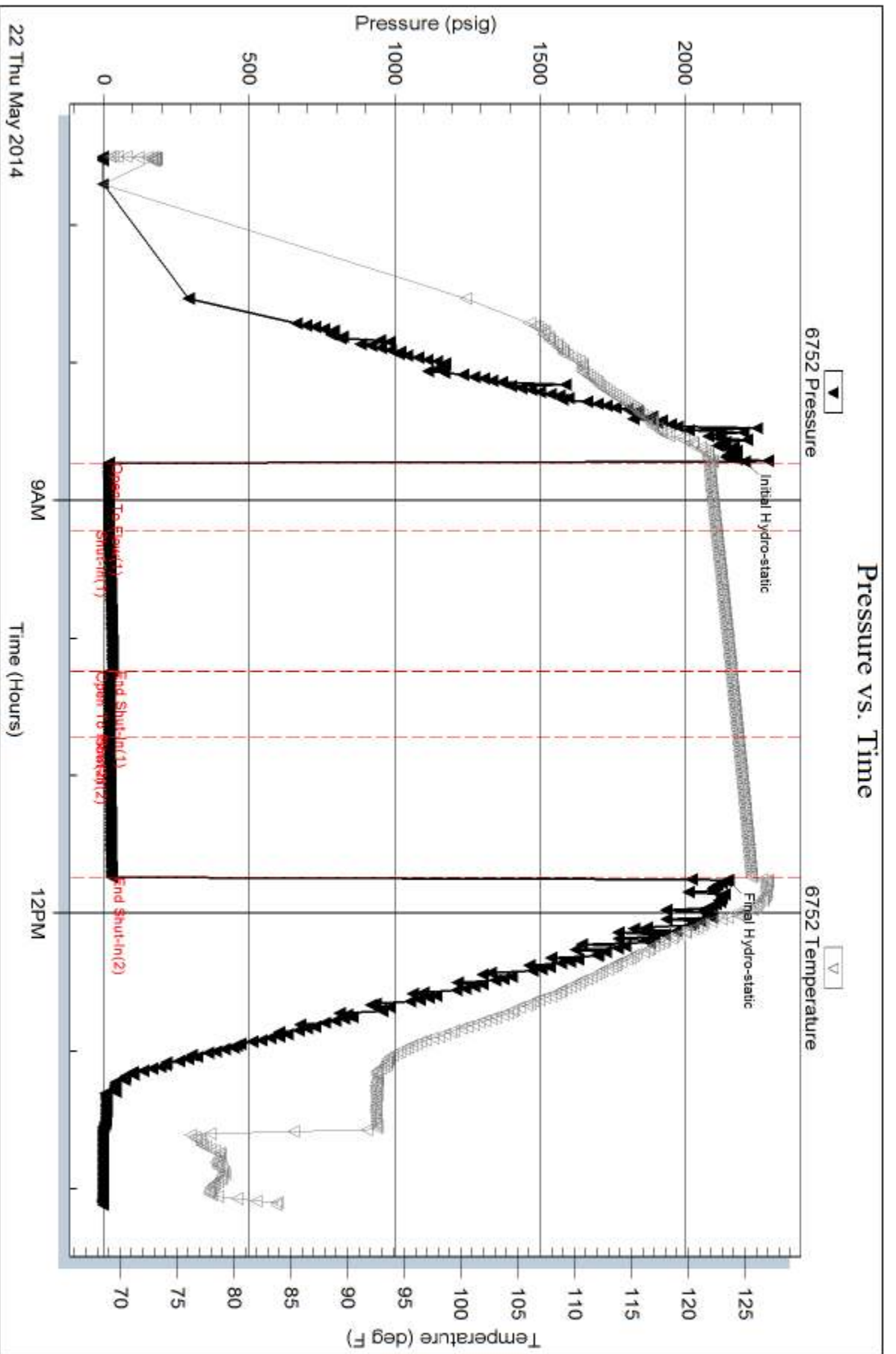
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Inside

Murfin Drilling Co.

MB "A" #1-35

DST Test Number: 5



Tribble Testing, Inc

Ref. No: 56987

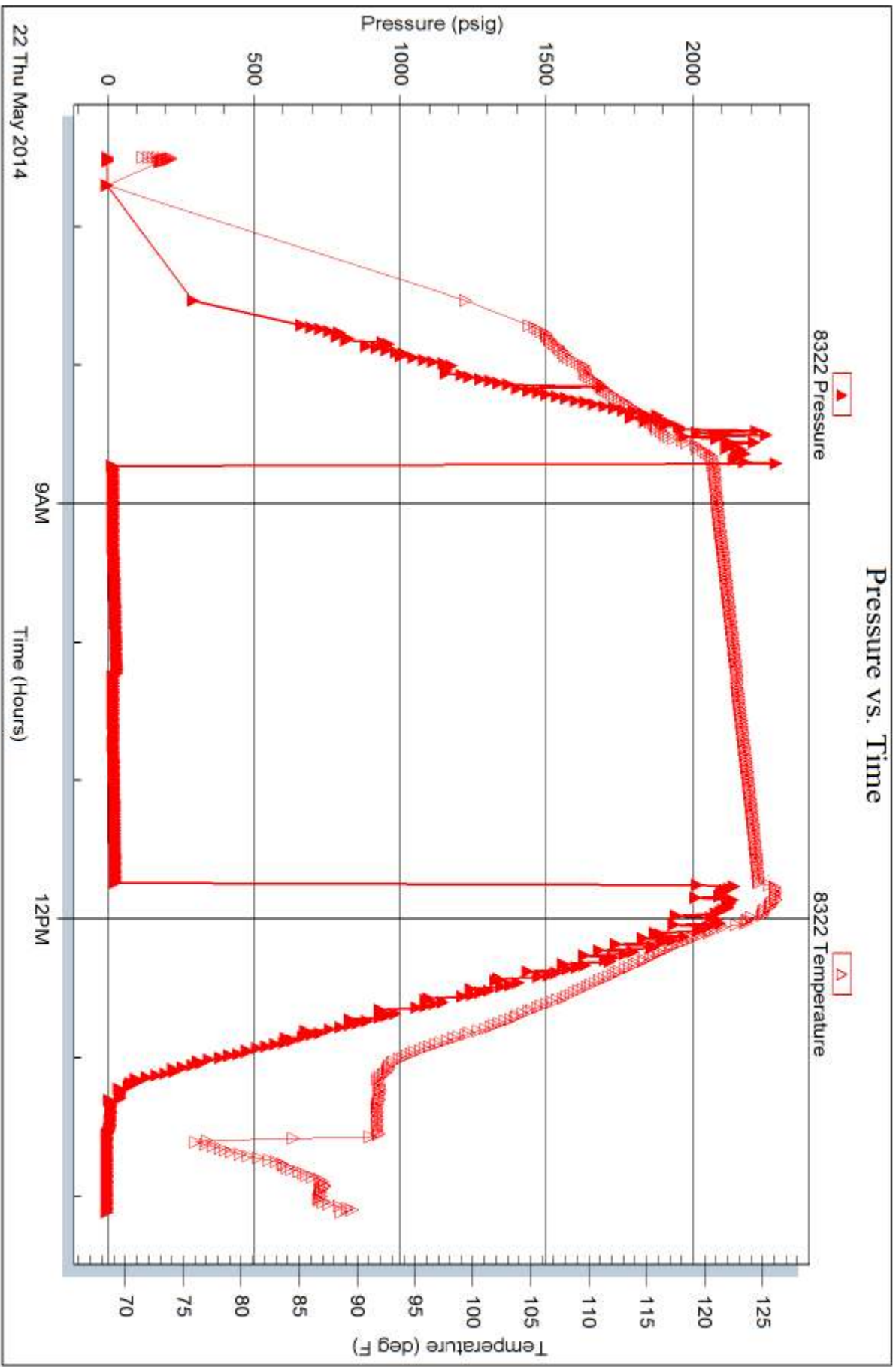
Printed: 2014.05.23 @ 14:40:26

Serial #: 8322

Outside Murfin Drilling Co.

MB "A" #1-35

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 56987

Printed: 2014.05.23 @ 14:40:27



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56893

Well Name & No. MB "A" # 1-35 Test No. 1 Date 5/18/14
 Company Murfin Drilling Company Elevation 2906 KB 2901 GL
 Address 250 N. Water STE 300 Wichita KS ~~67206~~
 Co. Rep / Geo. Keith Reavis Rig Murfin # 7
 Location: Sec. 35 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3870 - 3960 Zone Tested Toronto - LKC "A-B"
 Anchor Length 90' Drill Pipe Run ~~3802~~ Mud Wt. 8.9
 Top Packer Depth 3865 Drill Collars Run 62' Vis 55
 Bottom Packer Depth 3870 Wt. Pipe Run 0' WL 5.6
 Total Depth 3960 Chlorides 800 ppm System LCM 4
 Blow Description IF - 1" blow built to BoB @ 16 mins
ISI - No return
FF - Surface blow built to BoB @ 16 mins
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>OCM</u>	<u>35</u>		<u>65</u>	
<u>530</u>	<u>MCW</u>		<u>95</u>	<u>5</u>	

Rec Total 535' BHT 126° Gravity — API RW 703 @ 71 °F Chlorides 8500 ppm

(A) Initial Hydrostatic <u>1909</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>01:00</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>01:47</u>
(C) First Final Flow <u>121</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>04:58</u>
(D) Initial Shut-In <u>1293</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>08:58</u>
(E) Second Initial Flow <u>125</u>	<input type="checkbox"/> Hourly Standby	T-Out
(F) Second Final Flow <u>276</u>	<input checked="" type="checkbox"/> Mileage <u>54 RT</u> 83.70	Comments
(G) Final Shut-In <u>1284</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1832</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1558.70</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1558.70</u>	

Approved By _____

Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56894

4/10

Well Name & No. MB "A" #1-35 Test No. 2 Date 5/18/14
 Company Martin Drilling Co. Elevation 2906 KB 2901 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Keith Keavis Rig Martin # 7
 Location: Sec. 35 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3981 - 4018 Zone Tested LKC "D - G"
 Anchor Length ~~300~~ 37' Drill Pipe Run 3925' Mud Wt. 9.1
 Top Packer Depth 3976' Drill Collars Run 62' Vis 50
 Bottom Packer Depth 3981' Wt. Pipe Run 0' WL 6.4
 Total Depth 4018' Chlorides 1200 ppm System LCM 4

Blow Description TF - Surface blow built to 3"
ISI - No return
FF - Surface blow built to 2 1/4"
FSL - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>33'</u>	<u>OCM</u>	<u>20</u>		<u>80</u>	
<u>62'</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 95' BHT 123' Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>1984</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>22:15</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>22:51</u>
(C) First Final Flow <u>46</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>04:07</u>
(D) Initial Shut-In <u>1256</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>07:07</u>
(E) Second Initial Flow <u>48</u>	<input checked="" type="checkbox"/> Hourly Standby <u>X 2</u> 1h 100	T-Out <u>09:50</u>
(F) Second Final Flow <u>56</u>	<input checked="" type="checkbox"/> Mileage <u>52 RT</u> 80.60	Comments _____
(G) Final Shut-In <u>1240</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1969</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1755.60</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1755.60</u>	

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56895

4/10

Well Name & No. MB "A" # 1-35 Test No. 3 Date 5/19/14
 Company Murfin Drilling Company Elevation 2906 KB 201 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Keith Reavis Rig Murfin # 7
 Location: Sec. _____ Twp. _____ Rge. _____ Co. Rawlins State KS

Interval Tested 4027-4100 Zone Tested LKC "H-T"
 Anchor Length 73' Drill Pipe Run 3955' Mud Wt. 9.3
 Top Packer Depth 4022 Drill Collars Run 62' Vis 46
 Bottom Packer Depth 4027 Wt. Pipe Run 0' WL 6.8
 Total Depth 4100 Chlorides 1600 ppm System LCM 4
 Blow Description IF - 1/2 blow built to 3 1/2"
ISI - No return
FF - Surface blow started @ 5 mins built to 3"
ISI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>MCO</u>	<u>70</u>		<u>30</u>	
<u>62</u>	<u>OCM</u>	<u>25</u>		<u>75</u>	
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 72' BHT 124° Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2009</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>22:00</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>22:24</u>
(C) First Final Flow <u>49</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>01:16</u>
(D) Initial Shut-In <u>1213</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>04:16</u>
(E) Second Initial Flow <u>55</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>06:36</u>
(F) Second Final Flow <u>62</u>	<input checked="" type="checkbox"/> Mileage <u>52 RT</u> 80.60	Comments _____
(G) Final Shut-In <u>1168</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1924</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>1655.60</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1655.60</u>	

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56896

4/10

Well Name & No. MB "A" #1-35 Test No. 4 Date 5/30/14
 Company Murfin Drilling Co. Elevation 2906 KB 2901 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Keith Reavis Rig Murfin # 7
 Location: Sec. 35 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 4092 - 4136 Zone Tested LKC "K"
 Anchor Length 44' Drill Pipe Run 4020 Mud Wt. 9.0
 Top Packer Depth 4087 Drill Collars Run 62' Vis 45
 Bottom Packer Depth 4092 Wt. Pipe Run 0' WL 6.8
 Total Depth 4136 Chlorides 1600 ppm System LCM 5
 Blow Description IF - Surface blow built to 1"
ISI - No return
FF - Surface blow built to 1 1/4"
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30'</u>	<u>OCM</u>	<u>20</u>		<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20' BHT 1200 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2030</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>03:45</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>04:13</u>
(C) First Final Flow <u>26</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>18:55</u>
(D) Initial Shut-In <u>1269</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>21:55</u>
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>00:23</u>
(F) Second Final Flow <u>34</u>	<input checked="" type="checkbox"/> Mileage <u>52 RT</u> 80.60	Comments _____
(G) Final Shut-In <u>1239</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1970</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>1655.60</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1655.60</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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56897

4/10

Well Name & No. MB "A" 1-35 Test No. 5 Date 5/22/14
 Company Murfin Drilling Co. Elevation ~~2906~~ 2901 KB 2901 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Keith Keavis Rig Murfin # 7
 Location: Sec. 35 Twp. 4S Rge. 31W Co. Kawlin State KS

Interval Tested 4338 - 4364 Zone Tested Cherokee
 Anchor Length 26' Drill Pipe Run 4273' Mud Wt. 9.0
 Top Packer Depth 4333 Drill Collars Run 62' Vis 5.6
 Bottom Packer Depth 4338 Wt. Pipe Run 0' WL 6.4
 Total Depth 4364 Chlorides 1600 ppm System LCM 4
 Blow Description IF - Surface blow built to 1/4"
ISI - No return
FF - No blow
FBI - No return

Rec	Feet of	%gas	%oil	%water	%mud
5'	Mud			100	

Rec Total 5' BHT 126° Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 2205 Test 1250 T-On Location 06:00
 (B) First Initial Flow 17 Jars 250 T-Started 06:30
 (C) First Final Flow 19 Safety Joint 75 T-Open 08:44
 (D) Initial Shut-In 31 Circ Sub NC T-Pulled 11:44
 (E) Second Initial Flow 19 Hourly Standby _____ T-Out 14:07
 (F) Second Final Flow 19 Mileage 52 RT 80.60 Comments _____
 (G) Final Shut-In 27 Sampler _____
 (H) Final Hydrostatic 2149 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1655.60
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1655.60

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.

OPERATOR

Company: Murfin Drilling Company
 Address: 250 N. Water
 Suite 300
 Wichita, KS 67202
 Contact Geologist: Shauna Gunzelman
 Contact Phone Nbr: 316-267-3241
 Well Name: MB 'A' # 1-35
 Location: Sec. 35 - T4S - R31W
 Pool:
 State: Kansas

API: 15-153-21014-0000
 Field: Wildcat
 Country: USA



Scale 1:240 Imperial

Well Name: MB 'A' # 1-35
 Surface Location: Sec. 35 - T4S - R31W
 Bottom Location:
 API: 15-153-21014-0000
 License Number: 30606
 Spud Date: 5/14/2014 Time: 00:00
 Region: Rawlins County Time: 06:40
 Drilling Completed: 5/23/2014
 Surface Coordinates: 1560' FNL & 1560' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2901.00ft
 K.B. Elevation: 2906.00ft
 Logged Interval: 3620.00ft To: 4540.00ft
 Total Depth: 4540.00ft
 Formation:
 Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 1560' FNL
 E/W Co-ord: 1560' FWL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
 Address: 3420 22nd Street
 Great Bend, KS 67530

Phone Nbr: 620-617-4091
 Logged By: KLG #136 Name: Keith Reavis

CONTRACTOR

Contractor: Murfin Drilling Company
 Rig #: 7
 Rig Type: mud rotary
 Spud Date: 5/14/2014 Time: 00:00
 TD Date: 5/23/2014 Time: 06:40
 Rig Release: Time:

ELEVATIONS

ELEVATIONS

K.B. Elevation: 2906.00ft
 K.B. to Ground: 5.00ft

Ground Elevation: 2901.00ft

NOTES

Due to drill stem test evaluations and electrical log analysis, the operator elected to set 5 1/2" production casing and further test the Lansing through perforations and stimulation.

Log measurements on this well were from 4 to 12 ft. low to rotary measurements. While the gamma ray and caliper curves were imported into this mudlog, they were not shifted to match drill time plot, but left as recorded in the field.

Samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,
 Keith Reavis

Murfin Drilling Company

daily drilling report

DATE	7:00 AM DEPTH	REMARKS
05/16/2014		Geologists Keith Reavis and Logan Walker on location @ 1930 hrs, 3600 ft @ 3604 bit trip, out with PDC and in with button bit
05/17/2014	3699	resume drilling 0255 hrs, drilling ahead, Topeka, Heebner, Toronto, Lansing, shows in Toronto and Lansing A and B warrant test, short trip, TOH for DST
05/18/2014	3960	conducting DST #1, complete DST #1, successful test, TIH w/bit, resume drilling, show in F zone warrants test, TOH for DST #2 and in with tools
05/19/2014	4018	Conduct and complete DST #2, successful test, TIH w/bit, resume drilling, show in J warrants test, TOH for DST #3 and in w/tools
05/20/2014	4100	conduct and complete DST #3, successful test, TIH w/bit, resume drilling, show in K zone warrants test, TOH, conduct DST #4
05/21/2014	4174	complete DST #4, successful test, TIH w/bit, resume drilling BKC, Marmaton, Pawnee, Ft. Scott
05/22/2014	4364	drilling, Ft. Scott, Cherokee, show in upper Cherokee warrants test, Short trip, TOH for DST #5, conducting DST #5, complete DST #5, successful test, TIH w/bit, resume drilling, Cherokee
05/23/2014	4540	drilling rathole, Cherokee and Mississippian, Rotary TD @ 4540' - 0640 hrs conduct and complete logging operations, off location @ 1730 hrs

Murfin Drilling Company

well comparison sheet

DRILLING WELL					COMPARISON WELL			
MDC - MB 'A' #1-35 1560' FNL' & 1560' FWL Sec 35-T4S-R31W					MDC - Schmidt-Vap #1-26 1545' FSL & 880' FSL Sec 35-T4S-R31W			
2906 KB					2911 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Topeka	3712	-806	3719	-813	3721	-810	4	-3
Heebner	3872	-966	3884	-978	3884	-973	7	-5
Lansing	3925	-1019	3933	-1027	3937	-1026	7	-1
Stark	4093	-1187	4098	-1192	4103	-1192	5	0
BKC	4148	-1242	4153	-1247	4159	-1248	6	1
Pawnee	4256	-1350	4259	-1353	4267	-1356	6	3
Cherokee	4340	-1434	4344	-1438	4351	-1440	6	2

Mississippian	4466	-1560	4460	-1554	4474	-1563	3	9
Total Depth	4540	-1634	4546	-1640	4542	-1631	-3	-9

ROCK TYPES

Cht	Dolsec	shale, grn	Shcol
Cht vari	sdy lmst	shale, gry	Ss
Chtcongl	Lmst fw<7	Carbon Sh	Slstst
Dolprim	Lmst fw>7	shale, red	

ACCESSORIES

MINERAL

- Argillaceous
- P Pyrite
- ^ Siliceous
- Varicolored chert
- △ Chert White

FOSSIL

- ∩ Bioclastic or Fragmental
- F Fossils < 20%
- ⊕ Oolite
- ⊗ Pellets

STRINGER

- Sandstone
- Siltstone
- Shale
- red shale
- carb shale

TEXTURE

- C Chalky
- CX Cryptocrystalline
- L Lithogr

OTHER SYMBOLS

MISC

- Daily Report
- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

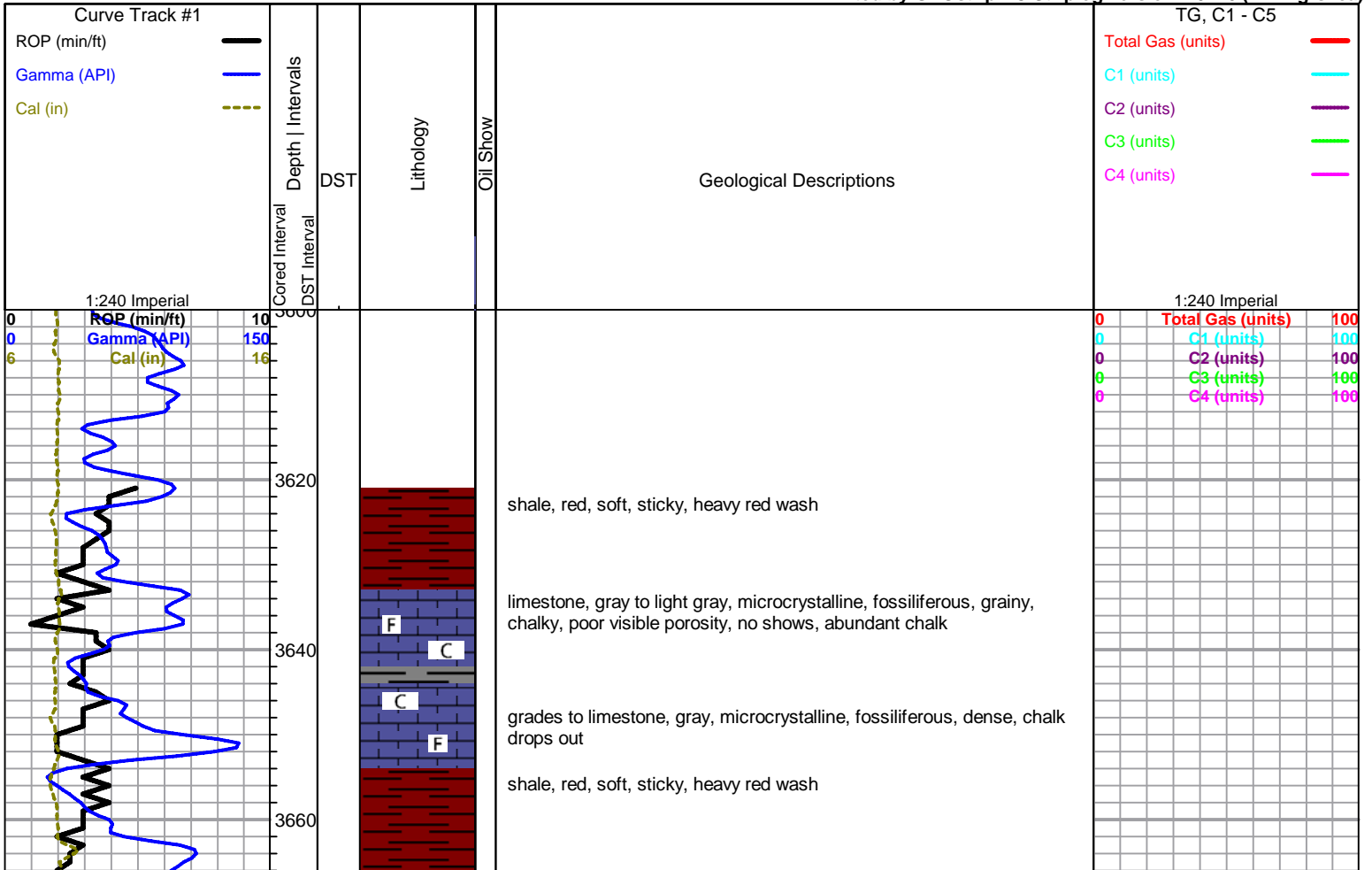
Oil Show

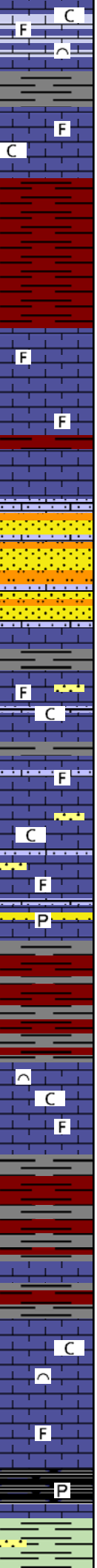
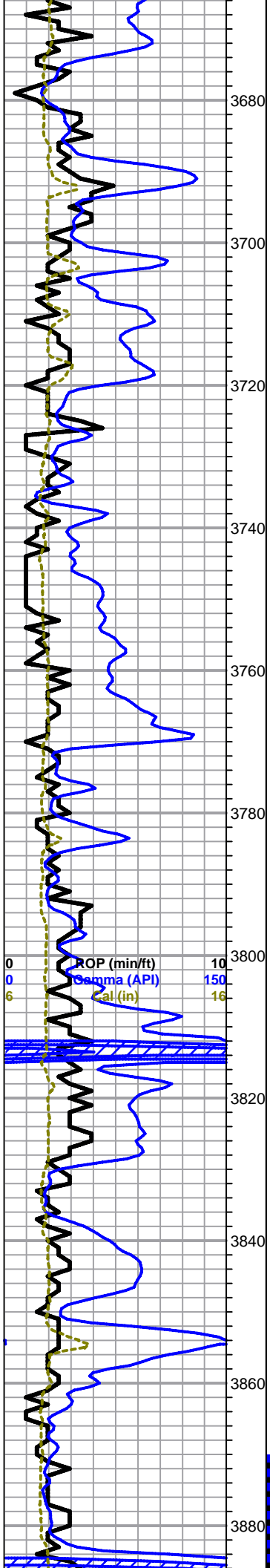
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Strn
- Dead Oil Stn
- Fluorescence
- * Gas

DST

- DST Int
- DST alt
- Core
- tail pipe

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limestone, cream to light gray, microcrystalline, fossiliferous to bioclastic, chalky, some interclast vugs

limestone as above, grading to pale green, gray/green, fossiliferous to arenaceous, fairly dense, no shows

shale, red, silty, slight blocky, some red siltstone

Topeka 3712 -806

limestone, gray to pale green and cream, some brown cast, microcrystalline, fossiliferous to arenaceous, few small vugs, otherwise dense with poor overall porosity, no shows

limestone, white to light gray, sandy, with sandstone and siltstone, white to light gray, very fine grain, fair sorted, rounded, well cemented, no visible porosity or shows

limestone, light gray, some gray/green, microcrystalline, fossiliferous, dense to chalky, poor visible porosity, no shows, abundant chalk, sand a.a.

as above, with some sandy limestone and sandstone/siltstone a.a.

trace fine grain sand, light green, rounded, well sorted, some pocked pyrite with sand grains

red and gray shales

limestone, cream to light gray, microcrystalline, fossiliferous, some bioclastic, chalky, poor visible porosity, abundant chalk, no shows

limestone, as above, abundant chalk, some white to pale green arenaceous limestones, no shows

Heebner 3872 -966

black carbonaceous shale, some pyritic

shale, light green, mushy and soft, with clusters of sandstone, green, shaly, fine grain, round to sub-rounded, poorly sorted, friable to fair

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Morgan Mud Inc.
 mud chk
 @ 3826 ft.
 1220 hrs. 5/17/14
 Vis. 55 Wt. 8.9
 PV 17 YP 18
 WL 5.6
 Cake 2/32,
 pH 11.0
 CHL 800 ppm
 Ca 10 ppm
 Sol 4.3 LCM 4#
 DMC \$864.00
 CMC \$18485.00

cemented, no shows

grades to shale, red to brick red, silty, with siltstone, red to brick

Toronto

limestone, light gray to white, microcrystalline, fossiliferous, chalk to dense, pyritic in part, some small vugs, dark staining in vugs, fair show slow bleeding heavy free oil, even fair fluorescence, good cut fluorescence with halo, faint odor



Lansing 3925 -1019

limestone, white to light gray/green, micro-cryptocrystalline, fossiliferous, chalky in part, few small vugs and fractures, few pieces very spotty black staining, one piece brown saturated siltstone, sheen on break, no odor in wet cup

sandstone, green to quartz, very fine grain, to siltstone, brown saturated to wormy black stain, rounded, poor sorting, well, few clusters fair show oil on break, no fluorescence, good cut, no odor

limestone, white to pale green, cryptocrystalline, fossiliferous, some sub-oolitic, good wormy stained crystal lined solution vugs, fair show free oil, fleeting odor, no fluorescence, excellent cut

limestone, white to cream, microcrystalline, agrillaceous, siliceous and cherty, trace arkosic and pyritic, fair vugs and surface etching, spotty-wormy black staining, slight show tarry-clingy oil, no odor, faint fluorescence, good cut with halo, no odor in wet cup

grades to limestone, white to light gray, cryptocrystalline, mostly lithographic, dense to chalky, no shows

limestone, cream, cryptocrystalline, mostly chalky lithographic, poor visible porosity, light black to brown saturated to spotty stain, no free oil, no odor, no fluorescence, no cut

limestone, light gray, microcrystalline, fossiliferous, cherty, very pyritic, good vuggy and interclast porosity, fair interclast and vug staining, slight show free oil, heavy streaming sheen, fleeting odor, poor fluorescence, excellent cut

limestone, white to gray/green, micro-cryptocrystalline, chalky, slightly fossiliferous and sub-oolitic, very chalky, some small wormy vugs with gilsonite/tarry stain, no free oil or odor, even fair mineral fluorescence, good excellent cut

limestone, white chalky bioclastic, trace oolitic, no shows

shale, mostly red, silty, some gray and green, red wash

limestone, white to light gray, microcrystalline, fossiliferous, pyritic, some secondary calcite, dense to chalky, poor visible porosity, trace spotty stain, no show free oil or odor, pale even fluorescence

red shale with other mixed shales

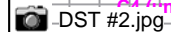
limestone, white to light gray, pale green, mostly cryptocrystalline, trace fossils, some secondary calcite, trace etching, some fractures, spotty to saturated light brown stain, flowing sheen in tray, show gassy oil on break, fleeting odor, fair fluorescence, good cut

Stark Shale 4093 -1187

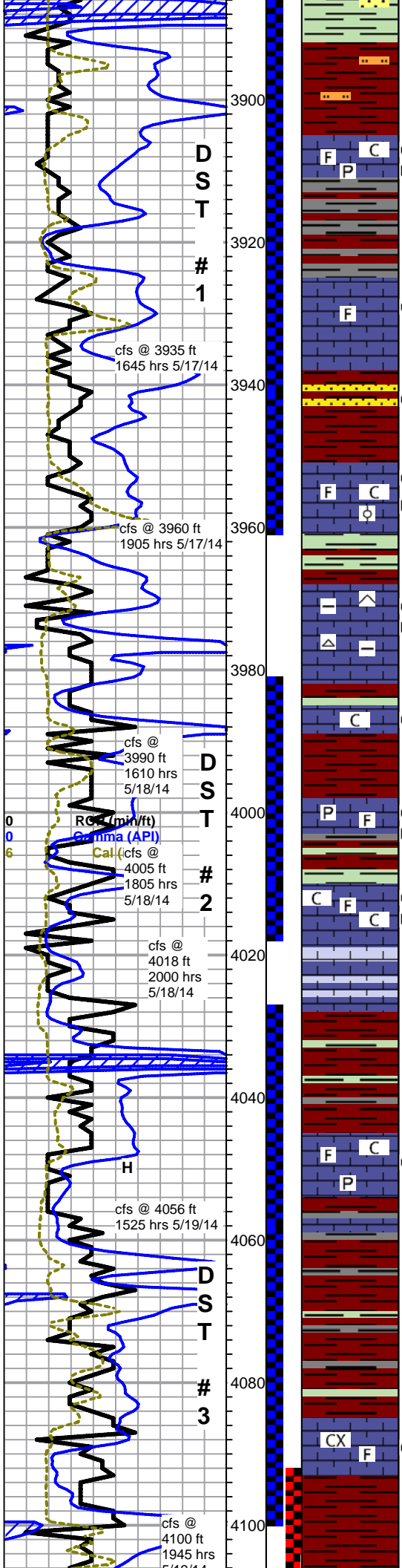
pipe strap 0.20 short to board deviation survey 1 1/2 deg

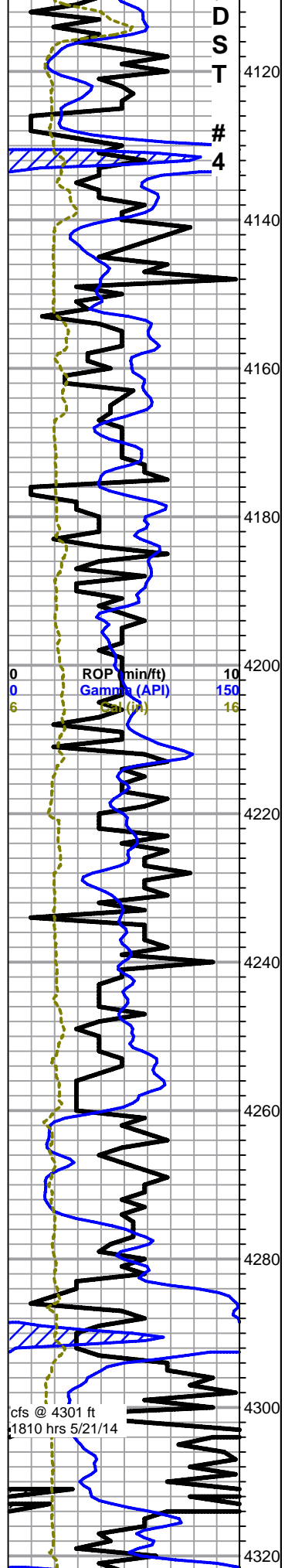
Morgan Mud Inc.
mud chk
@ 3974 ft.
1505 hrs. 5/18/14
Vis. 50 Wt. 9.1
PV 16 YP 16
WL 6.4
Cake 2/32,
pH 10.0
CHL 1200 ppm
Ca 10 ppm
Sol 5.7 LCM 4#

0	Total Ga	DMC \$0.00
0	C1 (units)	CMC \$18485.00
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100



Morgan Mud Inc.
mud chk
@ 4018 ft.
1115 hrs. 5/19/14
Vis. 46 Wt. 9.3
PV 14 YP 13
WL 6.8
Cake 2/32,
pH 9.0
CHL 1600 ppm
Ca 40 ppm
Sol 7.1 LCM 4#
DMC \$0.00
CMC \$18485.00

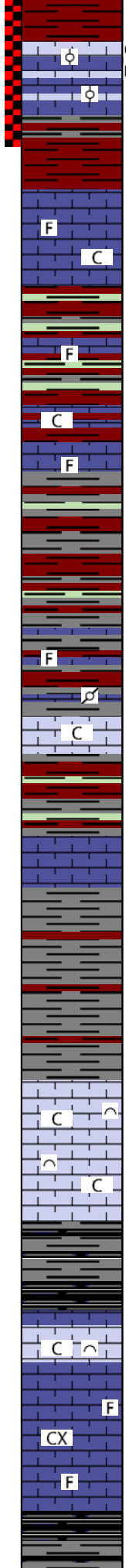




D
S
T

4

4120
4140
4160
4180
4200
4220
4240
4260
4280
4300
4320



limestone, white, micro-oolitic, chalky, some interoolite porosity, interoolite stain, show free oil on break, good fluorescence, good milky cut - with limestone, mostly cryptocrystalline, slightly fossiliferous, dense to chalky, no porosity or shows

limestone, white to light gray, microcrystalline, fossiliferous, chalky in part, poor visible porosity, no shows

Base KC 4148 -1242

limestone, as above, with gray arenaceous limestone, mixed shales, red, gray, maroon, green

shale, red silty to brick red, gray and green

shale as above, with limestone, mixed, maroon to gray and tan, arenaceous to fossiliferous, trace dense pelletal

some limestone, white to gray, microcrystalline, very soft and chalky, lithographic, no shows

poor samples, mostly shales as above, some lavender arenaceous limestone, pale green dense cryptocrystalline limestone, cream to light gray fossiliferous limestone, no shows

shale, grading to mostly variable gray, reds dropping out, heavy gray wash in samples

Pawnee 4256 -1350

limestone, white to cream, bioclastic, chalky to dense, some pinpoint and fracture porosity, otherwise mostly poor visible porosity, barren, abundant chalk

shale, black, gray and black carbonaceous

limestone, white to cream, bioclastic, chalky, some interclast porosity, no shows

grades to limestone, gray to cream, mostly cryptocrystalline, dense fossiliferous, some arenaceous, no shows

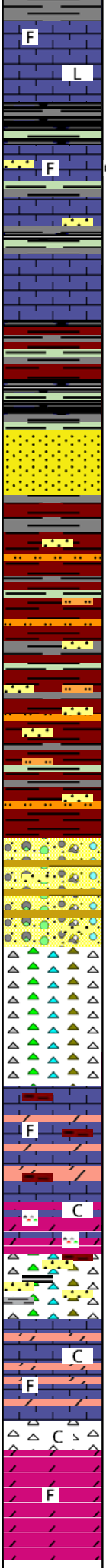
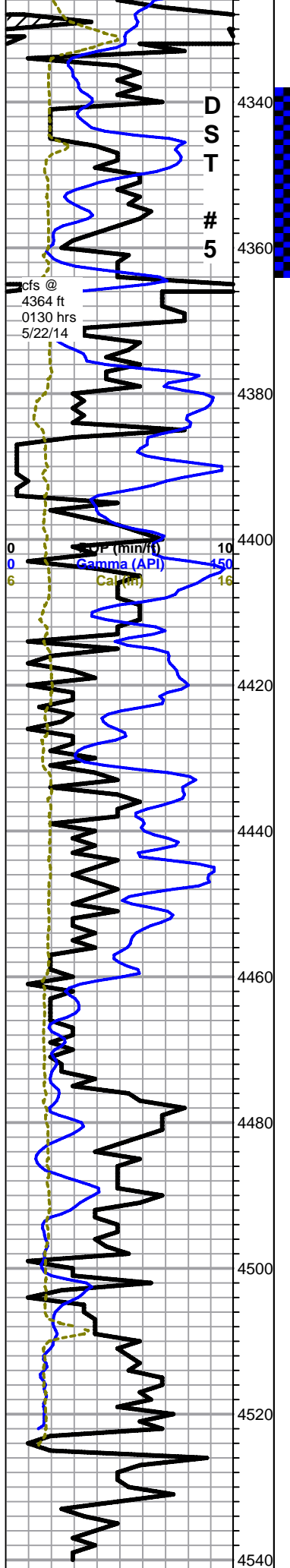
black carbonaceous and gray shales

Morgan Mud Inc.
 mud chk
 @ 4118 ft.
 1115 hrs. 5/20/14
 Vis. 45 Wt. 9.0
 PV 15 YP 14
 WL 6.8
 Cake 2/32,
 pH 10.5
 CHL 1600 ppm
 Ca 20 ppm
 Sol 5.0 LCM 5#
 DMC \$3841.00
 CMC \$22326.00

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Morgan Mud Inc.
 mud chk
 @ 4241t.
 1315 hrs. 5/21/14
 Vis. 56Wt. 9.0
 PV 18 YP 18
 WL 6.4
 Cake 2/32,
 pH 10.5
 CHL 1600 ppm
 Ca 10 ppm
 Sol 5.0 LCM 4#
 DMC \$696.00
 CMC \$23022.00

cfs @ 4301 ft
1810 hrs 5/21/14



limestone, light gray to cream, mostly cryptocrystalline, lithographic to fossiliferous, trace pyritic, dense, no shows

Cherokee 4340 -1434

limestone, light gray, microcrystalline, fossiliferous, some solution vugs and interclast/crystalline porosity, spotty black to wormy black stain, some clingy tarry oil, no odor, light fluorescence, good cut, with limestone, white oolitic, maroon to brown fossiliferous to arenaceous, dense to chalky, no staining, trace sandstone clusters, quartz, fair rounding, poorly sorted, fairly cemented, no shows

decreasing show in 30 and 60 samples

grades to limestone, white to light gray, mostly cryptocrystalline, dense, fossiliferous, no shows

shales, mixed, red, black, gray and green

sandstone, red to frosted to white, dirty quartz, fine to very fine grain, some glauconitic, poorly sorted, well rounded, fair cementing to friable, poor visible porosity, no shows

red shales and siltstones, other mixed shales, heavy red wash

some scattered sands as above

as above, heavy red wash

chert conglomerate, yellow chert, weathered, yellow shale, yellow dirty sandstone, white chert, weathered, some white sandstones, heavy yellow wash in samples

Mississippian 4456 -1560

chert, white to cream and tan, fresh and sharp to slightly weathered, mostly fossiliferous, some glauconitic, scattered rose and yellow chert, no shows

dolomitic limestone, white to pink cast cream, microcrystalline, fossiliferous, some chalky, mostly dense, no shows, some red shale, samples wash red

grading to more white dolomite and dolomitic limestone, microcrystalline, fossiliferous, some glauconitic, some soft and chalky, abundant chalk in samples, re-influx cherts as above

conglomerate, weathered cherts, red black and gray shales, sandstone, quartz, very fine grain, well cemented, abundant sand grains in bottom of tray

dolomite to dolomitic limestone, white to cream, microcrystalline, fossiliferous, chalky in part but mostly dense, some scattered cherts

chert, white to cream, fossiliferous, sub-tripolitic to tripolitic, some good porosity, barren, abundant chalk

dolomite, gray, microcrystalline, sub-sucrosic to sub-rhombic, recrystallized fossiliferous in part, vuggy, some good porosity, no shows

Rotary TD 4540 ft @ 0640 hrs 5/23/14


Pioneer TD 4546 ft.

DST #5.jpg

Morgan Mud Inc.
mud chk
@ 4241t.
1330 hrs. 5/22/14
Vis. 45 Wt. 9.2
PV 14 YP 13
WL 7.6
Cake 2/32,
pH 10.5
CHL 1600 ppm
Ca 30 ppm
Sol 6.4 LCM 4#
DMC \$180.00
CMC \$23202.00

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Complete Logging Operations @ 1715 hrs, 5/23/14

 <p>TRILOBITE TESTING, INC.</p>	<h2 style="margin: 0;">DRILL STEM TEST REPORT</h2>
Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4S-31W Rawlins KS MB "A" #1-35 Job Ticket: 56893 DST#: 1 Test Start: 2014.05.18 @ 01:47:00

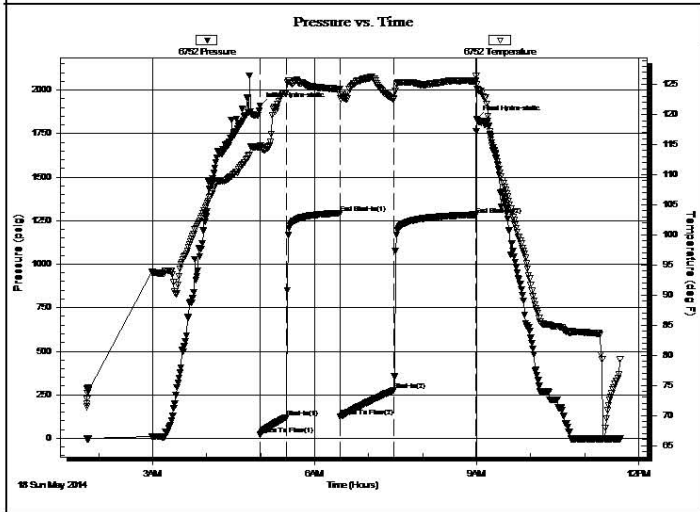
GENERAL INFORMATION:

Formation: Toronto - LKC "A-B"	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 04:59:20	Unit No: 58
Time Test Ended: 11:39:30	
Interval: 3870.00 ft (KB) To 3960.00 ft (KB) (TVD)	Reference Elevations: 2906.00 ft (KB)
Total Depth: 3960.00 ft (KB) (TVD)	2901.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good
	KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 276.23 psig @ 3871.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.18 End Date: 2014.05.18	Last Calib.: 2014.05.18
Start Time: 01:47:01 End Time: 11:39:30	Time On Btm: 2014.05.18 @ 04:59:10
	Time Off Btm: 2014.05.18 @ 09:00:00


TEST COMMENT: 30 IF - 1" blow built to BoB @ 16 mins
 60 ISI - No return
 60 FF - Surface blow built to BoB @ 16 mins
 90 FSI - No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1908.72	114.81	Initial Hydro-static
1	20.59	114.48	Open To Flow (1)
30	121.37	123.71	Shut-In(1)
89	1293.09	124.22	End Shut-In(1)
90	124.87	123.23	Open To Flow (2)
149	276.23	122.55	Shut-In(2)
240	1284.06	125.58	End Shut-In(2)
241	1831.86	124.93	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	OCM - 35%o - 65%M	0.02
530.00	MCW - 5%M - 95%W	2.61

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

 <p style="font-size: 24pt; font-weight: bold; margin: 0;">TRILOBITE TESTING, INC.</p>	DRILL STEM TEST REPORT	
	Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4S-31W Rawlins KS MB "A" #1-35 Job Ticket: 56894 DST#: 2 Test Start: 2014.05.18 @ 22:51:00

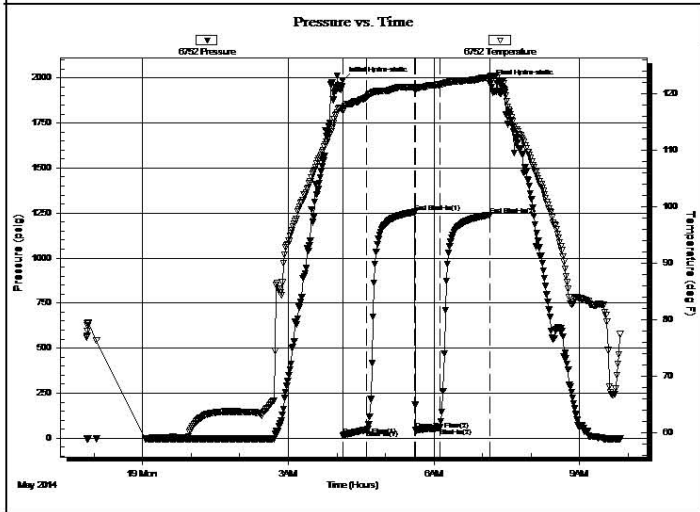
GENERAL INFORMATION:

Formation: LKC "D - G" Deviated: No Whipstock: ft (KB) Time Tool Opened: 04:07:20 Time Test Ended: 09:50:40	Test Type: Conventional Bottom Hole (Reset) Tester: Ryan Nichols Unit No: 58
Interval: 3981.00 ft (KB) To 4018.00 ft (KB) (TVD) Total Depth: 4018.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good	Reference Elevations: 2906.00 ft (KB) 2901.00 ft (CF) KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 56.34 psig @ 3982.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.18 End Date: 2014.05.19	Last Calib.: 2014.05.19
Start Time: 22:51:01 End Time: 09:50:40	Time On Btm: 2014.05.19 @ 04:07:00
	Time Off Btm: 2014.05.19 @ 07:09:30

TEST COMMENT: 30 IF - Surface blow built to 3"
 60 ISI - No return
 30 FF - Surface blow built to 2 1/4"
 60 FSI - No return




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.07	117.48	Initial Hydro-static
1	14.76	116.87	Open To Flow (1)
30	46.49	119.31	Shut-In(1)
90	1255.89	121.10	End Shut-In(1)
90	47.56	120.88	Open To Flow (2)
120	56.34	121.52	Shut-In(2)
182	1239.67	122.79	End Shut-In(2)
183	1969.27	122.96	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	OCM - 10%o - 90%M	0.30
33.00	OCM - 20%o - 80%M	0.46

* Recovery from multiple tests

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

	<h2 style="margin: 0;">DRILL STEM TEST REPORT</h2> <p>Murfin Drilling Co. 35-4S-31W Rawlins KS</p> <p>250 N. Water MB "A" #1-35 STE 300 Wichita KS 67206 ATTN: Keith Reavis Job Ticket: 56895 DST#: 3</p> <p style="text-align: right;">Test Start: 2014.05.19 @ 22:24:00</p>
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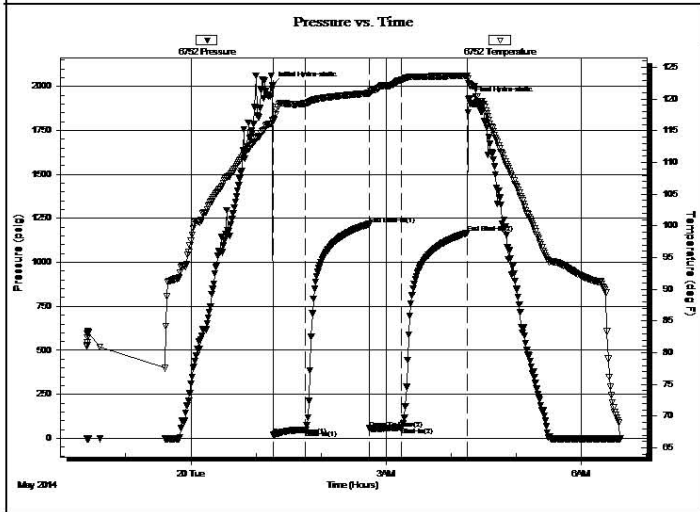
GENERAL INFORMATION:

Formation: LKC "H - J"	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 01:16:00	Unit No: 58
Time Test Ended: 06:36:20	Reference Elevations: 2906.00 ft (KB)
Interval: 4027.00 ft (KB) To 4100.00 ft (KB) (TVD)	2901.00 ft (CF)
Total Depth: 4100.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches Hole Condition: Good	

Serial #: 6752 Inside

Press@RunDepth: 62.30 psig @ 4028.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.19 End Date: 2014.05.20	Last Calib.: 2014.05.20
Start Time: 22:24:01 End Time: 06:36:20	Time On Btm: 2014.05.20 @ 01:15:30
	Time Off Btm: 2014.05.20 @ 04:16:30


TEST COMMENT: 30 IF - 1/2" blow built to 3 1/2"
 60 ISI - No return
 30 FF - Surface blow started @ 5 mins built to 3"
 60 FSI - No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.03	116.67	Initial Hydro-static
1	17.97	116.53	Open To Flow (1)
30	49.13	119.32	Shut-In(1)
89	1213.23	120.93	End Shut-In(1)
90	55.03	120.92	Open To Flow (2)
119	62.30	123.04	Shut-In(2)
180	1167.60	123.70	End Shut-In(2)
181	1924.08	122.48	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	OCM - 25%o - 75%M	0.30
10.00	MCO - 70%o - 30%M	0.14

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

 <p>TRILOBITE TESTING, INC.</p>	<h2>DRILL STEM TEST REPORT</h2>
Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4S-31W Rawlins KS MB "A" #1-35 Job Ticket: 56896 DST#: 4 Test Start: 2014.05.20 @ 16:13:00

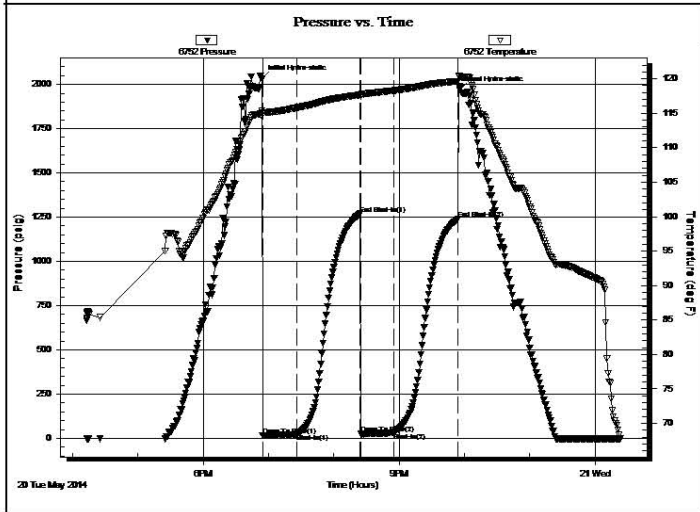
GENERAL INFORMATION:

Formation: LKC "K"	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 18:54:30	Unit No: 58
Time Test Ended: 00:23:30	
Interval: 4092.00 ft (KB) To 4136.00 ft (KB) (TVD)	Reference Elevations: 2906.00 ft (KB)
Total Depth: 4136.00 ft (KB) (TVD)	2901.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good
	KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 34.34 psig @ 4093.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.20 End Date: 2014.05.21	Last Calib.: 2014.05.21
Start Time: 16:13:01 End Time: 00:23:30	Time On Btm: 2014.05.20 @ 18:54:00
	Time Off Btm: 2014.05.20 @ 21:55:30

TEST COMMENT: 30 IF - Surface blow built to 1"
 60 ISI - No return
 30 FF - Surface blow built to 1 1/4"
 60 ISI - No return




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.14	115.38	Initial Hydro-static
1	15.15	115.13	Open To Flow (1)
32	25.70	115.80	Shut-In(1)
90	1268.53	117.68	End Shut-In(1)
91	26.20	117.50	Open To Flow (2)
121	34.34	118.30	Shut-In(2)
180	1238.88	119.66	End Shut-In(2)
182	1970.49	120.32	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
30.00	OCM - 20%o - 80%M	0.15

* Recovery from multiple tests

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

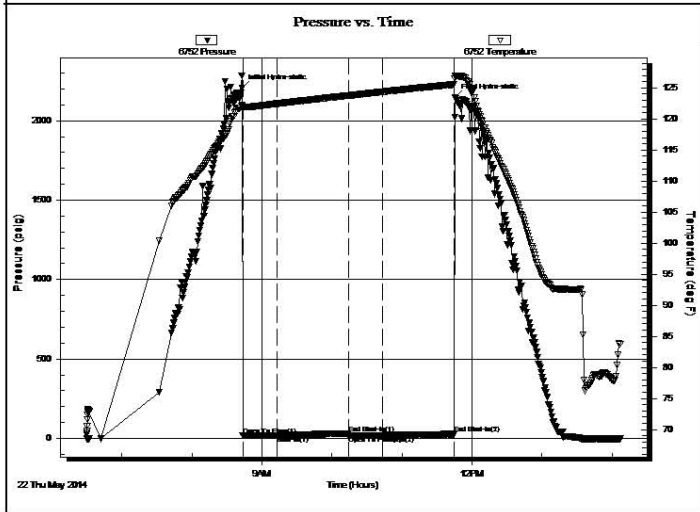
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4s-31w Rawlins KS MB "A" #1-35 Job Ticket: 56987 DST#: 5 Test Start: 2014.05.22 @ 06:30:00

GENERAL INFORMATION:

Formation: Cherokee Deviated: No Whipstock: ft (KB) Time Tool Opened: 08:43:30 Time Test Ended: 14:07:30	Test Type: Conventional Bottom Hole (Reset) Tester: Ryan Nichols Unit No: 58
Interval: 4338.00 ft (KB) To 4364.00 ft (KB) (TVD) Total Depth: 4364.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good	Reference Elevations: 2906.00 ft (KB) 2901.00 ft (CF) KB to GR/CF: 5.00 ft

Serial #: 6752	Inside				
Press@RunDepth:	18.93 psig @	4339.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2014.05.22	End Date:	2014.05.22	Last Calib.:	2014.05.22
Start Time:	06:30:01	End Time:	14:07:30	Time On Btm:	2014.05.22 @ 08:43:00
				Time Off Btm:	2014.05.22 @ 11:45:30

TEST COMMENT: 30 IF - Surface blow built to 1/4"
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2204.80	122.17	Initial Hydro-static
1	16.73	121.90	Open To Flow (1)
30	18.73	122.46	Shut-In(1)
92	31.06	123.79	End Shut-In(1)
92	18.78	123.78	Open To Flow (2)
121	18.93	124.38	Shut-In(2)
182	26.87	125.57	End Shut-In(2)
183	2148.61	126.94	Final Hydro-static

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

* Recovery from multiple tests

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