

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1238137
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: _____

1238137

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: _____ _____
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Lundgren 3-36
Doc ID	1238137

All Electric Logs Run

DIL
DUCP
MEL
BHCS



QUALITY OILWELL CEMENTING, INC.

PO Box 32 - 740 West Wichita Ave, Russell KS 67665
 Phone: 785-324-1041 fax: 785-483-1087
 Email: cementing@ruraltel.net

Date: 10/17/2014
 Invoice # 714

P.O.#:

Due Date: 11/16/2014

Division: *Russell*

Invoice

Contact:

Murfin Drilling Company
Address/Job Location:
 Murfin Drilling Company
 P.O. Box 288
 Russell Ks 67665

USED FOR IC 103
 APPROVED JT. R

Reference:

LUNDGREN 3-36

Description of Work:

PROD STRING

Services / Items Included:

Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor	\$ 1,530.82	No	Salt (Fine)	19	\$296.44	Yes
Pro-C Cement	\$ 4,526.47	Yes	Bulk Truck Mileage-Job to Nearest Bulk Plant	48	\$313.30	No
Cement Port Collar, 5 1/2"	\$ 2,794.12	Yes	Latch Down Plug & Baffle, 5 1/2"	1	\$250.35	Yes
Gilsonite	\$ 1,886.03	Yes	KCL	4	\$133.49	Yes
Cement Scratchers Rotating Type	\$ 804.71	Yes	Rotating Head (4 1/2", 5 1/2", or 2 7/8")	1	\$40.24	No
5 1/2" Turbolizer	\$ 648.24	Yes				
Bulk Truck Matl-Material Service Charge	\$ 570.00	No				
Pump Truck Mileage-Job to Nearest Camp	\$ 535.40	No				
Mud Clear	\$ 413.53	Yes				
5 1/2" Basket	\$ 384.47	Yes				
Auto Fill Float Shoe, 5 1/2"	\$ 342.00	Yes				

Invoice Terms:

Net 30	SubTotal:	\$ 15,469.60
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$ (2,320.44)
	SubTotal for Taxable Items:	\$ 10,607.87
	SubTotal for Non-Taxable Items:	\$ 2,541.29
	Total:	\$ 13,149.16
	7.90% Gove County Sales Tax	\$ 838.02
	Amount Due:	\$ 13,987.18
	Applied Payments:	
	Balance Due:	\$ 13,987.18

Thank You For Your Business!

Past Due Invoices are subject to a service charge (annual rate of 24%)
 This does not include any applicable taxes unless it is listed.
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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 714

Date	10-17-14	Sec.	36	Twp.	14	Range	30	County	Wove	State	KS	On Location		Finish	8:00 AM
Location													Wove 10's to Rd I 6W to Rd 32 2S		

Lease	Lundgren	Well No.	3-36	Owner	E into
Contractor	Murfin JI	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Type Job	Production String	Charge To			
Hole Size	7 7/8	T.D.	4441'	To Murfin Dole	
Csg.	5 1/2	Depth	4437'	Street	
Tbg. Size		Depth		City State	
Tool	Port Collar	Depth	2078'	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	42'	Shoe Joint	42'	Cement Amount Ordered	
Meas Line		Displace	104 1/2 bbl	225 Q-Pro-C 1/4 flo 10% Salt 5% Wilsonite	

EQUIPMENT			Common
Pumptrk	16	No. Cementer Helper Rick	225 Q-pro-c
Bulktrk	15	No. Driver Tyson	Poz. Mix
Bulktrk	PU	No. Driver Brett	KCL 4 gal

JOB SERVICES & REMARKS		
Remarks:		Hulls
Rat Hole - 30 sx		Salt 19
Mouse Hole - 20 sx		Flowseal 1025
Centralizers - 1-5, 7, 9, 11, 13, 55		Kol-Seal 1025#
Baskets - 56		Mud CLR 48 - 500 gal
Port Collar J+ 56 @ 2078'		GFL-117 or OD110 SAE38 40 KCL
Run 4137' 5 1/2 + Est cir		Sand
Mix 15 bbl KCL then 500 gal Mud		Handling 255
Flush w/ 5 bbl KCL spacer		Mileage 5 1/2
Plug Rat + Mouse hole		FLOAT EQUIPMENT
Mix 175 Q-Pro-C down 5 1/2		Guide Shoe
Displaced 104 1/2 bbl, 1st 20 KCL		Centralizer - 10
Lift pressure @ 900 lbs		Baskets - 1
Landed @ 1600 lbs		AFU Inserts
Plug held		Float Shoe - 1
		Latch Down - 1
		Port Collar - 1
		Weld on Scratchers - 30 - 150 ft
		Pumptrk Charge Prod String
		Mileage 48

	Tax
	Discount
	Total Charge

X Signature



QUALITY OILWELL CEMENTING, INC.
 PO Box 32 - 740 West Wichita Ave, Russell KS 67665
 Phone: 785-324-1041 fax: 785-483-1087
 Email: cementing@ruraitel.net

Date: 10/27/2014
 Invoice # 828

P.O.#:
 Due Date: 11/26/2014
 Division: Russell

Invoice

Contact:
 Murfin Drilling Company
Address/Job Location:
 Murfin Drilling Company
 P.O. Box 288
 Russell Ks 67665

ENTERED

Reference:
 LANDGREN #
 LANDGREN
 LUNDGREN
Description of Work:
 PORT COLLAR JOB

USED FOR IC 103
 APPROVED [Signature]

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 1,020.55	No				
non, MetsoBeads, Plater, Gel, FloSeal, Calcium)	275	\$ 6,054.85	Yes				
Bulk Truck Mat-Material Service Charge	300	\$ 670.59	No				
Pump Truck Mileage-Job to Nearest Camp	48	\$ 535.40	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	48	\$ 313.30	No				
Flo Seal	75	\$ 167.65	Yes				
Premium Gel (Bentonite)	2	\$ 36.39	Yes				

Invoice Terms:

Net 30

SubTotal: \$ 8,798.72
 Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (1,319.81)

SubTotal for Taxable Items: \$ 5,320.06
 SubTotal for Non-Taxable Items: \$ 2,158.86

7.90% Gove County Sales Tax

Total: \$ 7,478.91
 Tax: \$ 420.28

Thank You For Your Business!

Amount Due: \$ 7,899.19
Applied Payments:
Balance Due: \$ 7,899.19

Past Due Invoices are subject to a service charge (annual rate of 24%)
 This does not include any applicable taxes unless it is listed.
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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Home Office P.O. Box 32 Russell, KS 67665

No. 828

Phone 785-483-2025
Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10-27-2014	1	15	30	Grove	Kansas		2:00PM
				Location Grove ^{KS} 10.S 6W 25 LE INTO			

Lease	LUNGREN	Well No.	3-36	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	Co. Tool's			Charge To	MURFIN DRILLING Co.
Type Job	Cement Port Collar			Street	
Hole Size		T.D.		City	State
Csg.	5 1/2	Depth	'EXPERT'	The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size	2 3/8	Depth	'NORMAN Post'	Cement Amount Ordered 300sx Qm Dc. w/ 1/4 # FLO-SEAL	
Tool	PORT COLLAR	Depth	2076	2 sx Gel inside (Used 275 sx)	
Cement Left in Csg.	Ø	Shoe Joint		Common	
Meas Line		Displace		EQUIPMENT	
Pumptrk	18	No.	Cementier	Glenn G.	Poz. Mix
			Helper	Cody B.	Gel.
Bulktrk	19	No.	Driver	Dody H.	Calcium
			Driver		Hulls
			Driver		Salt
JOB SERVICES & REMARKS				Flowseal	
Remarks:					Kol-Seal
Rat Hole					Mud CLR 48
Mouse Hole					CFL-117 or CD110 CAF 38
Centralizers					Sand
Baskets					Handling
D/V or Port Collar					Mileage
Port Collar @ 2076				FLOAT EQUIPMENT	
TEST TO 1,000# (Hold)				Guide Shoe	
Mixed 2 sx Gel & Received Circ				Centralizer	
Mixed 275 sx Qm Dc. 1/4 # FLO-SEAL				Baskets	
Cement Circulated Around Annulus				AFU Inserts	
Displaced 6 BBL H ₂ O				Float Shoe	
Closed P.C. + CK TO 1,000# (Hold)				Latch Down	
Ran 5 JTS 2 3/8 TUBING +				Pumptrk Charge	
WASHED CLEAN SHORT WAY (25 BBL)				Mileage	
Came out of Hole w/ opening Tool				Tax	
* Cement Did Circulate TO				Discount	
SURFACE.				Total Charge	
* STATE Rep. MARVIN MILLS REC ON LOCATION					
THANK'S					
Signature John Smith					

Lundgren #3-36
 Daily Drilling Report
 Page Two

- 10/15/14 Depth 4298'. Cut 85'. DT: None. CT: 17hrs. Dev.: 1/8° @ 4239'. **DST #3 4197-4239' (Ft Sc):** 30-60-60-90. IF: BOB in 5mins. ISI: wk surf blw ¼". FF: BOB in 5mins. FSI: wk surf blw to ¼". Rec.: 2780'GIP, 212'GO (20%G, 80%O), 283'GMCO (20%G, 10%M, 70%O). HP: 2090-1992. FP: 33/119, 132/214. SIP: 1081-1063. BHT: 138°. **Cher:** lst, micro xln, few gran, spots of oil on crush, very fnt odr. **Johnson Zn:** lst, micro xln, gran, semi-friable, spots med brn oil, very fnt odr. **DST #4 4245-4298' (Cher- Johnson Zn):** 30-60-30-60. IF: wk blw ½". FF: no blw. Rec.: 2'M w/oil spts. HP: 2126-2060. FP: 22/26, 24/27. SIP: 87-71. BHT: 126°.
- 10/16/14 Depth 4338'. Cut 40'. DT: None. CT: 21½ hrs. Dev.: None. **Miss:** dol, very fn xln, subsucro, ool grnstrn, pr-fr por, tr ppt vug por, patchy-sat stn, FSFO, gd odor. **DST #5 4322-4338' (Miss):** 30-60-30-60. IF: ½" blw. FF: no blw. Rec.: 63'SCM&O (5%M, 95%O), 63'CM&O (80%M, 20%O). HP: 2165-2094. FP: 15/39, 43/64. SIP: 1041-960. BHT: 133°.
- 10/17/14 RTD: 4441'. Cut 103'. DT: None. CT: 20¼ hrs. Dev.: ¼° @ 4441'. HC @ 10:45AM 10/16. Pioneer logged 3:15PM – 6:45PM 10/16. LTD: 4439'. Ran 106jts of 5 ½" prod csg, set @ 4439'. PC @ 2078'.
- 10/18/14 RTD: 4441'. Quality cmt w/175sxs QProC. PD @ 8:00AM 10/17. 30sxs RH, 20sxs MH. RR @ 12:00PM 10/17. FINAL REPORT

		MDCI Lundgren #3-36 500' FSL 1400' FEL Sec. 36-T14S-R30W 2665' KB					MDCI Lundgren #2-36 1240' FSL 890' FEL Sec. 36-T14S-R30W 2695' KB		
Formation	Sample Top	Datum	Ref	Log tops	Datum	Ref	Log Top	Datum	
Anhydrite	2074	+591	-2	2071	+594	+1	2102	+593	
B/Anhydrite	2106	+559	-4	2102	+664	+1	2132	+563	
Topeka	3442	-777	Flat	3449	-784	-7	3472	-777	
Heebner	3679	-1014	-12	3678	-1013	-11	3697	-1002	
Lansing	3715	-1050	-12	3714	-1049	-11	3733	-1038	
Stark	3960	-1295	-11	3958	-1293	-9	3979	-1284	
Pawnee	4149	-1484	-1	4144	-1479	+4	4178	-1483	
Ft. Scott	4207	-1542	Flat	4205	-1540	+2	4237	-1542	
Johnson	4282	-1617	-2	4277	-1612	+3	4310	-1615	
Mississippi	4309	-1644	-1	4307	-1642	+1	4338	-1643	
Mississippi Dol.	4324	-1659	-4	4320	-1655	Flat	4350	-1655	
RTD	4441						4450		
LTD				4439			4456		



DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren #3-36

36-14s30w Gove,KS

Start Date: 2014.10.12 @ 12:50:00

End Date: 2014.10.12 @ 19:22:00

Job Ticket #: 57480 DST #: 1

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

Printed: 2014.10.19 @ 13:45:52



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57480

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.10.12 @ 12:50:00

GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 14:36:00

Time Test Ended: 19:22:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 58

Interval: 3870.00 ft (KB) To 3958.00 ft (KB) (TVD)

Reference Elevations: 2665.00 ft (KB)

Total Depth: 3958.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 6625 Outside

Press@RunDepth: 40.97 psig @ 3939.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.12

End Date:

2014.10.12

Last Calib.: 2014.10.12

Start Time: 12:50:01

End Time:

19:22:00

Time On Btm: 2014.10.12 @ 14:35:30

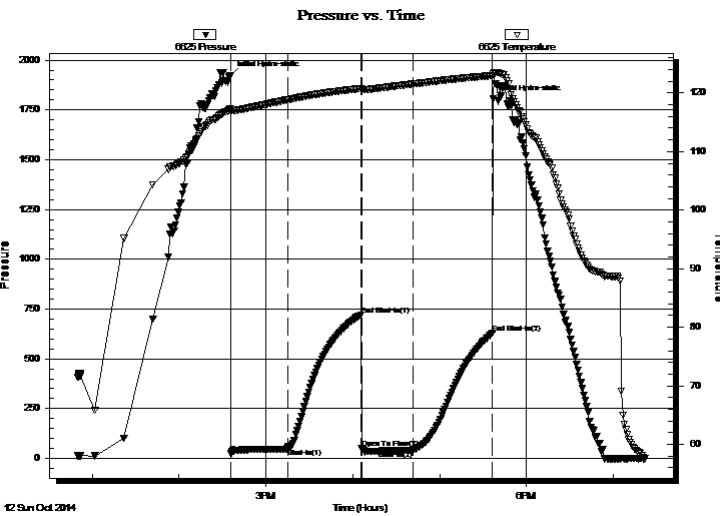
Time Off Btm: 2014.10.12 @ 17:37:00

TEST COMMENT: 30: Weak Blow Died in 22 min.

60: No Return.

30: No Blow .

60: No Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1922.95	117.30	Initial Hydro-static
1	23.16	116.99	Open To Flow (1)
40	49.04	118.85	Shut-In(1)
90	721.16	120.77	End Shut-In(1)
91	48.44	120.65	Open To Flow (2)
126	40.97	121.55	Shut-In(2)
181	629.09	122.98	End Shut-In(2)
182	1804.16	123.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud w ith oil spots	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57480

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.10.12 @ 12:50:00

Tool Information

Drill Pipe:	Length: 3578.80 ft	Diameter: 3.80 inches	Volume: 50.20 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	3870.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 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			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	4.00			3865.00	27.00 Bottom Of Top Packer
Packer	5.00			3870.00	
Stubb	1.00			3871.00	
Perforations	2.00			3873.00	
Change Over Sub	1.00			3874.00	
Drill Pipe	64.00			3938.00	
Change Over Sub	1.00			3939.00	
Recorder	0.00	6625	Outside	3939.00	
Recorder	0.00	8679	Inside	3939.00	
Perforations	15.00			3954.00	
Bullnose	4.00			3958.00	88.00 Bottom Packers & Anchor
Total Tool Length:	115.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57480

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.10.12 @ 12:50:00

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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.95 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud w ith oil spots	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

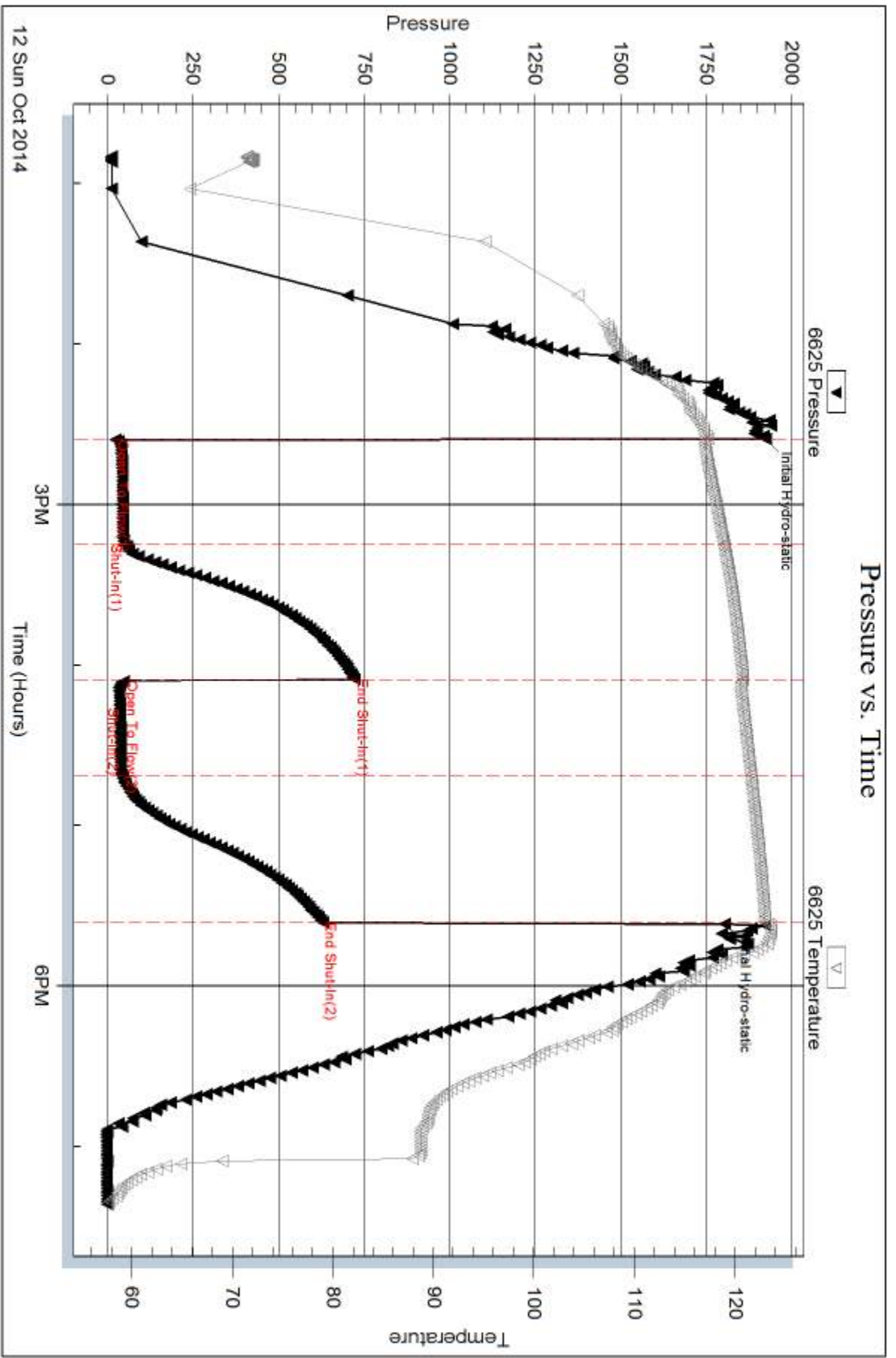
Num Gas Bombs: 0

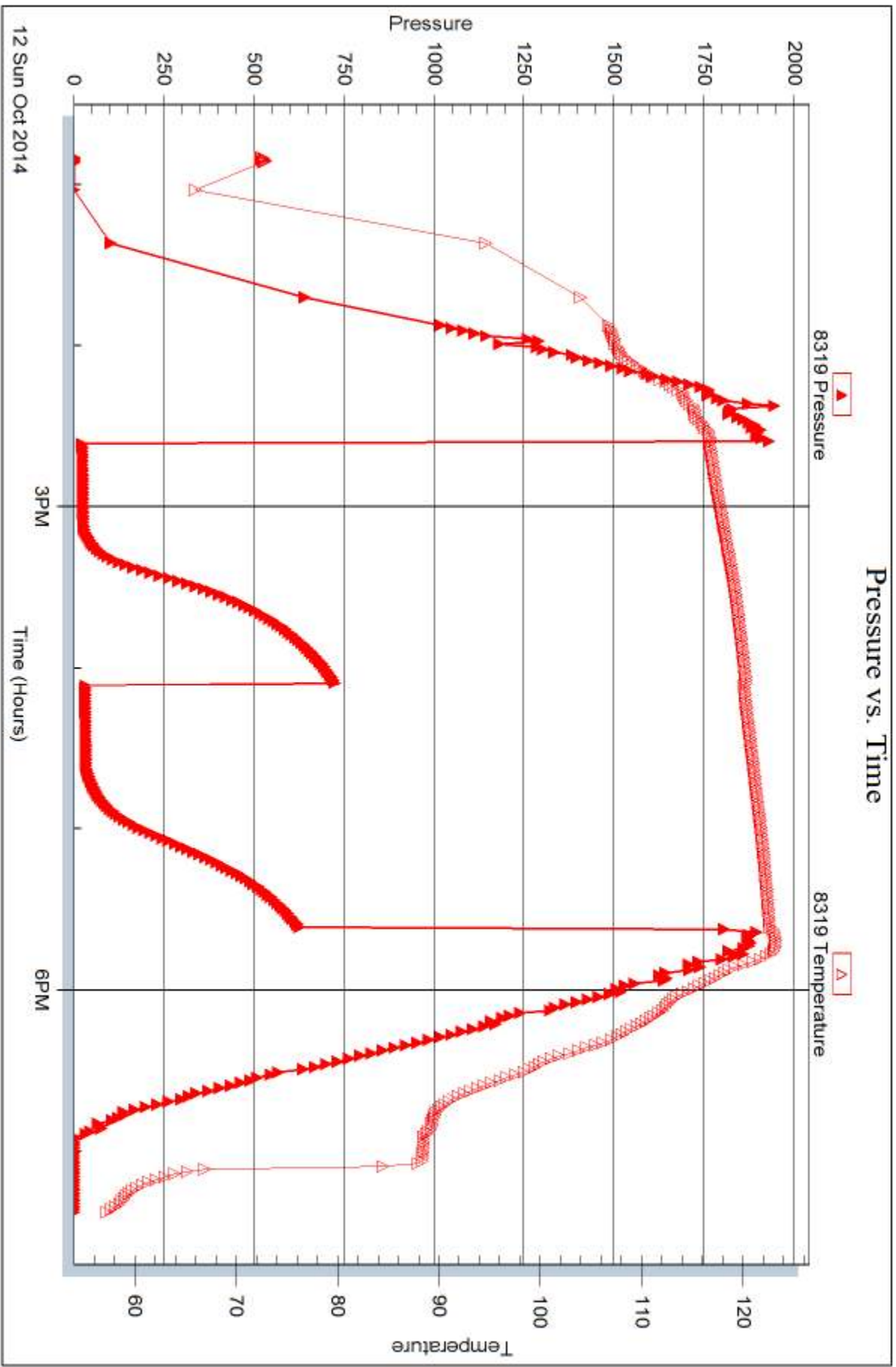
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren #3-36

36-14s30w Gove,KS

Start Date: 2014.10.13 @ 20:38:00

End Date: 2014.10.14 @ 04:37:30

Job Ticket #: 57481 DST #: 2

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

Printed: 2014.10.19 @ 13:45:16



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57481

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.10.13 @ 20:38:00

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 22:51:00

Time Test Ended: 04:37:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 58

Interval: 4138.00 ft (KB) To 4203.00 ft (KB) (TVD)

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4203.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 6625 Outside

Press@RunDepth: 84.19 psig @ 4174.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.13

End Date:

2014.10.14

Last Calib.: 2014.10.14

Start Time: 20:38:01

End Time:

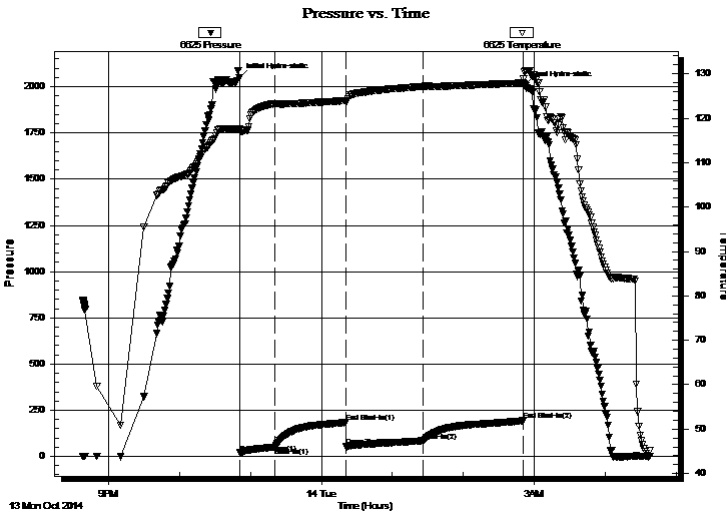
04:37:30

Time On Btm: 2014.10.13 @ 22:50:30

Time Off Btm: 2014.10.14 @ 02:51:00

TEST COMMENT: 30: B.O.B in 21 mins
60: No Return.
60: B.O.B in 4 mins
90: Weak surface blow.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2049.09	117.58	Initial Hydro-static
1	19.77	117.12	Open To Flow (1)
30	51.09	123.28	Shut-In(1)
90	183.33	123.95	End Shut-In(1)
91	54.40	123.91	Open To Flow (2)
156	84.19	127.18	Shut-In(2)
240	193.01	127.90	End Shut-In(2)
241	2004.81	128.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
189.00	gocm 10%g 20%o 70%m	0.93

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57481

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.10.13 @ 20:38:00

Tool Information

Drill Pipe:	Length: 3859.80 ft	Diameter: 3.80 inches	Volume: 54.14 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 55.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4138.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	92.00 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			4112.00	
Shut In Tool	5.00			4117.00	
Hydraulic tool	5.00			4122.00	
Jars	5.00			4127.00	
Safety Joint	2.00			4129.00	
Packer	4.00			4133.00	27.00 Bottom Of Top Packer
Packer	5.00			4138.00	
Stubb	1.00			4139.00	
Perforations	2.00			4141.00	
Change Over Sub	1.00			4142.00	
Drill Pipe	31.00			4173.00	
Change Over Sub	1.00			4174.00	
Recorder	0.00	6625	Outside	4174.00	
Recorder	0.00	8679	Inside	4174.00	
Perforations	25.00			4199.00	
Bullnose	4.00			4203.00	65.00 Bottom Packers & Anchor
Total Tool Length:	92.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57481

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.10.13 @ 20:38:00

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.36 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
189.00	gocm 10%g 20%o 70%m	0.929

Total Length: 189.00 ft

Total Volume: 0.929 bbl

Num Fluid Samples: 0

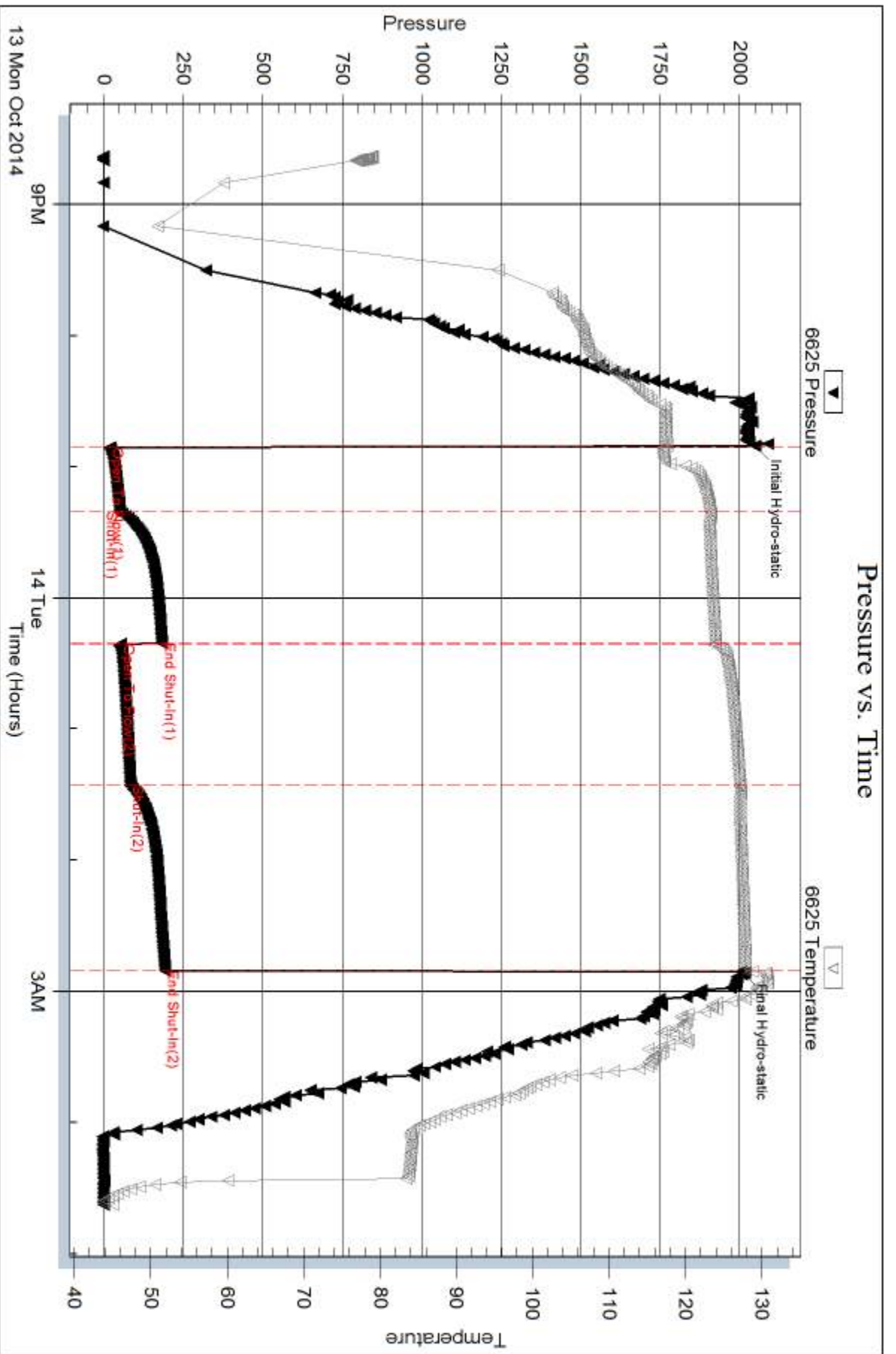
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren #3-36

36-14s30w Gove,KS

Start Date: 2014.10.14 @ 12:12:00

End Date: 2014.10.14 @ 20:08:00

Job Ticket #: 57482 DST #: 3

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

Printed: 2014.10.19 @ 13:31:59



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57482

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.10.14 @ 12:12:00

GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 13:51:30

Time Test Ended: 20:08:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 58

Interval: 4194.00 ft (KB) To 4239.00 ft (KB) (TVD)

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4239.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 6625 Outside

Press@RunDepth: 213.90 psig @ 4235.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.14

End Date:

2014.10.14

Last Calib.:

2014.10.14

Start Time: 12:12:01

End Time:

20:08:00

Time On Btm:

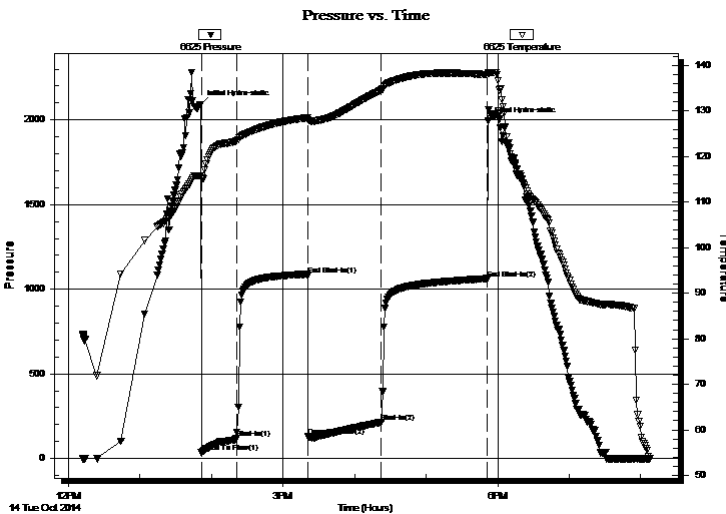
2014.10.14 @ 13:51:00

Time Off Btm:

2014.10.14 @ 17:52:00

TEST COMMENT: 30: B.O.B in 5 mins.
60: Weak surface blow 1/4".
30: B.O.B in 5 mins.
60: Weak surface blow to 1/4".

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2090.12	115.79	Initial Hydro-static
1	33.48	115.35	Open To Flow (1)
30	118.89	123.42	Shut-In(1)
90	1081.12	128.52	End Shut-In(1)
90	131.76	128.10	Open To Flow (2)
152	213.90	134.59	Shut-In(2)
241	1062.61	137.97	End Shut-In(2)
241	1991.78	138.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
283.00	gmco 20%g 10%m 70%o	1.45
212.00	Clean oil 20%g 80%o	2.97
0.00	GIP 2780'	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57482

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.10.14 @ 12:12:00

Tool Information

Drill Pipe:	Length: 3921.80 ft	Diameter: 3.80 inches	Volume: 55.01 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 56.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4196.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4170.00	
Shut In Tool	5.00			4175.00	
Hydraulic tool	5.00			4180.00	
Jars	5.00			4185.00	
Safety Joint	2.00			4187.00	
Packer	4.00			4191.00	27.00 Bottom Of Top Packer
Packer	5.00			4196.00	
Stubb	1.00			4197.00	
Perforations	5.00			4202.00	
Change Over Sub	1.00			4203.00	
Drill Pipe	31.00			4234.00	
Change Over Sub	1.00			4235.00	
Recorder	0.00	6625	Outside	4235.00	
Recorder	0.00	8679	Inside	4235.00	
Bullnose	4.00			4239.00	43.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57482

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.10.14 @ 12:12:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 5.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
283.00	gmco 20%g 10%m 70%o	1.454
212.00	Clean oil 20%g 80%o	2.974
0.00	GIP 2780'	0.000

Total Length: 495.00 ft Total Volume: 4.428 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

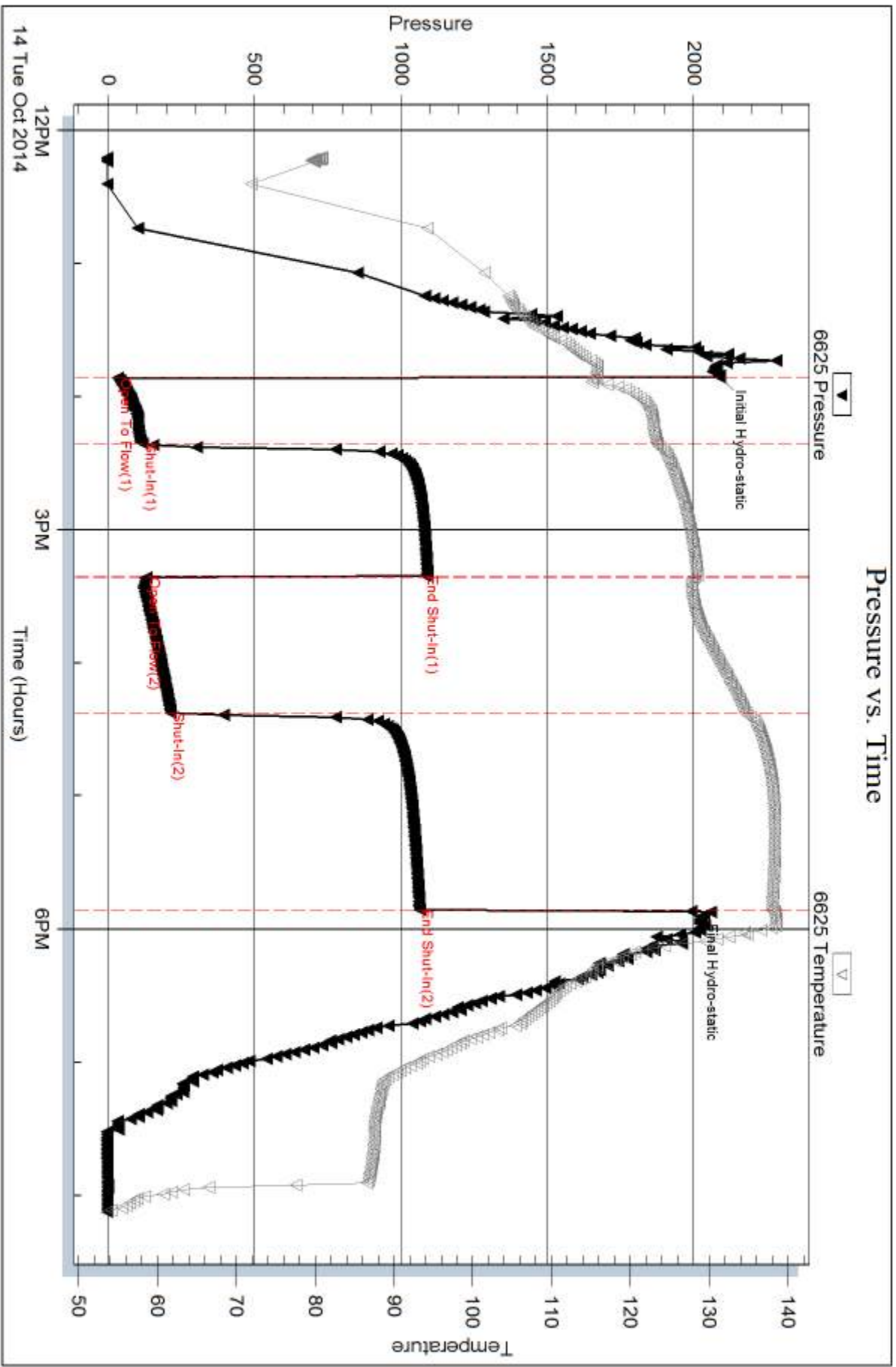
Recovery Comments:

Serial #: 6625

Outside Murfin Drilling Co, Inc

Lundgren #3-36

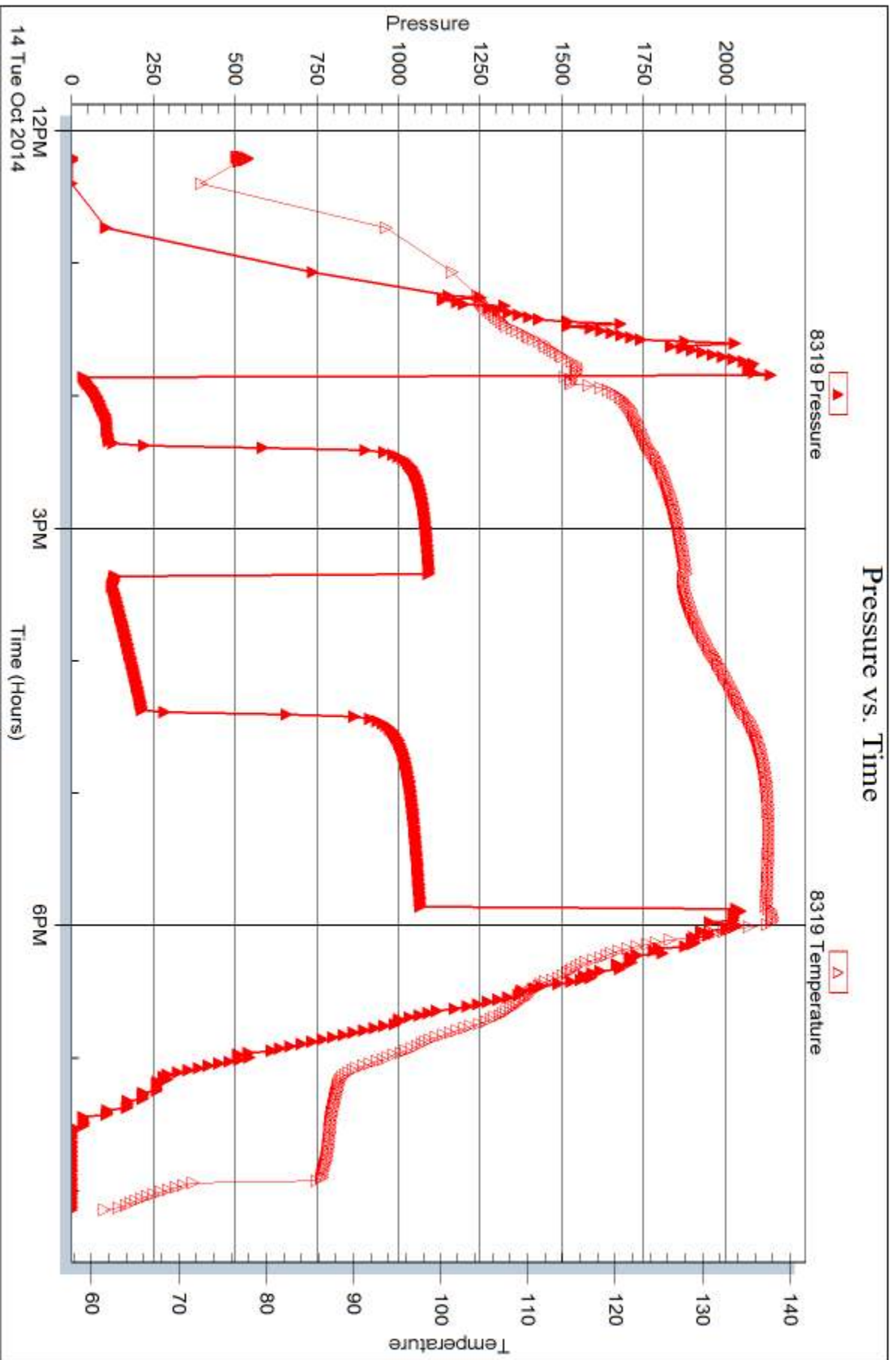
DST Test Number: 3



Triobite Testing, Inc

Ref. No: 57482

Printed: 2014, 10, 19 @ 13:32:00





DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren #3-36

36-14s30w Gove,KS

Start Date: 2014.10.15 @ 06:56:32

End Date: 2014.10.15 @ 13:29:01

Job Ticket #: 57358 DST #: 4

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

Printed: 2014.10.19 @ 13:30:14



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

36-14s30w Gove, KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57358

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 06:56:32

GENERAL INFORMATION:

Formation: **Ck Johnson**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 08:38:01

Time Test Ended: 13:29:01

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 58

Interval: 4245.00 ft (KB) To 4298.00 ft (KB) (TVD)

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4298.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 6625 Outside

Press@RunDepth: 26.87 psig @ 4279.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.15

End Date: 2014.10.15

Last Calib.: 2014.10.15

Start Time: 06:56:32

End Time: 13:29:01

Time On Btm: 2014.10.15 @ 08:35:31

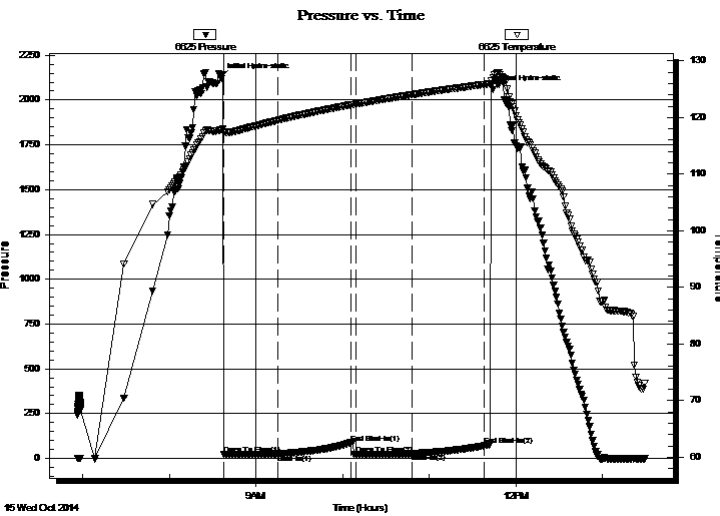
Time Off Btm: 2014.10.15 @ 11:44:01

TEST COMMENT: IF: Weak blow 1/2 "

IS: No return

FF: No blow

FS: No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2126.11	117.85	Initial Hydro-static
3	22.01	117.43	Open To Flow (1)
40	25.55	119.50	Shut-In(1)
90	87.21	122.24	End Shut-In(1)
94	23.75	122.39	Open To Flow (2)
133	26.87	124.04	Shut-In(2)
183	70.94	125.84	End Shut-In(2)
189	2060.14	127.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud w ith oil spots	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57358

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 06:56:32

Tool Information

Drill Pipe:	Length: 3957.00 ft	Diameter: 3.80 inches	Volume: 55.51 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	70000.00 lb
Drill Pipe Above KB:	15.20 ft			Final	70000.0 lb
Depth to Top Packer:	4245.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	80.00 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			4219.00	
Shut In Tool	5.00			4224.00	
Hydraulic tool	5.00			4229.00	
Jars	5.00			4234.00	
Safety Joint	2.00			4236.00	
Packer	4.00			4240.00	27.00 Bottom Of Top Packer
Packer	5.00			4245.00	
Stubb	1.00			4246.00	
Change Over Sub	1.00			4247.00	
Drill Pipe	31.00			4278.00	
Change Over Sub	1.00			4279.00	
Recorder	0.00	6625	Outside	4279.00	
Recorder	0.00	8679	Inside	4279.00	
Perforations	15.00			4294.00	
Bullnose	4.00			4298.00	53.00 Bottom Packers & Anchor

Total Tool Length: 80.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57358

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 06:56:32

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud w ith oil spots	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

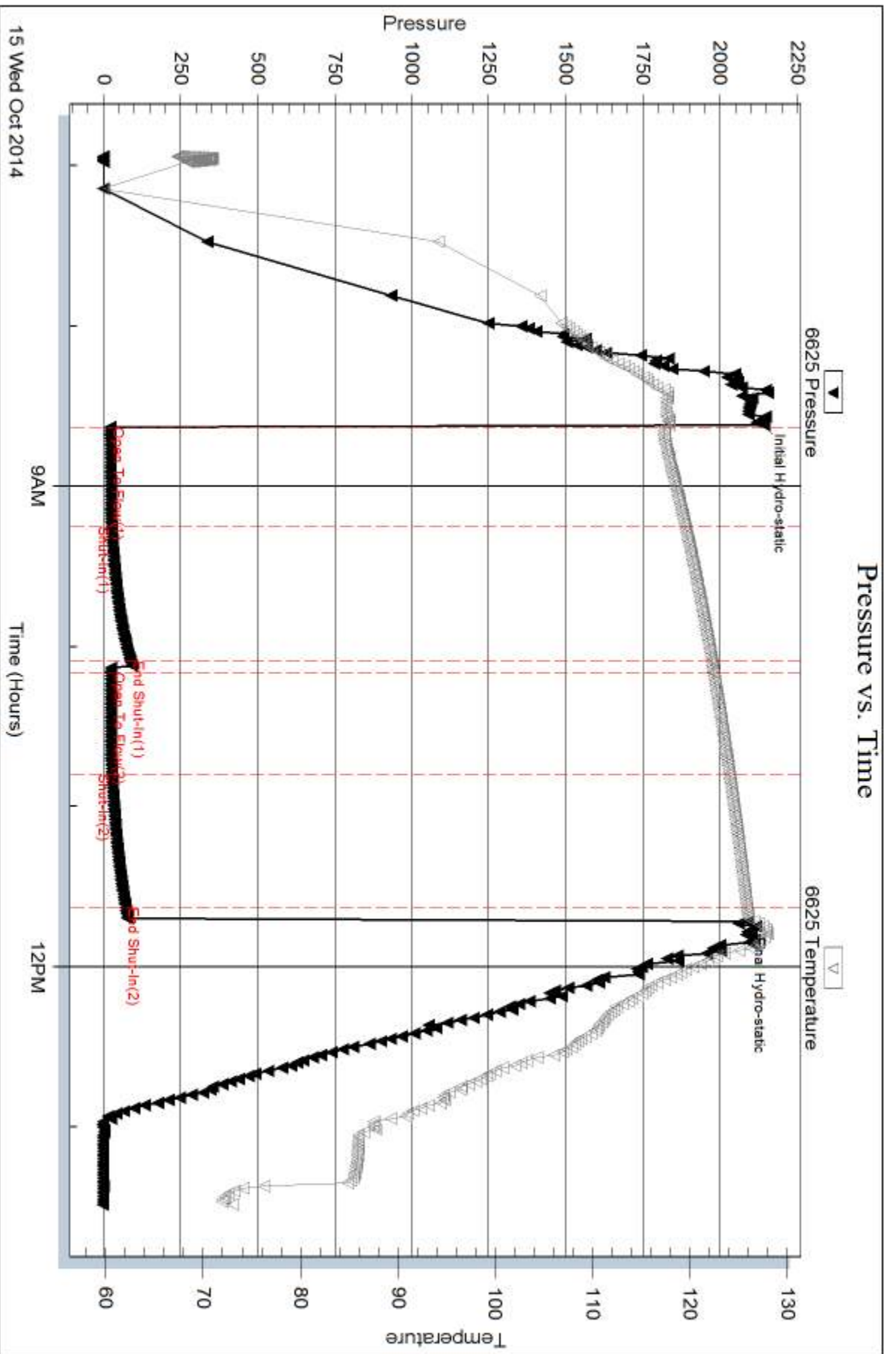
Num Gas Bombs: 0

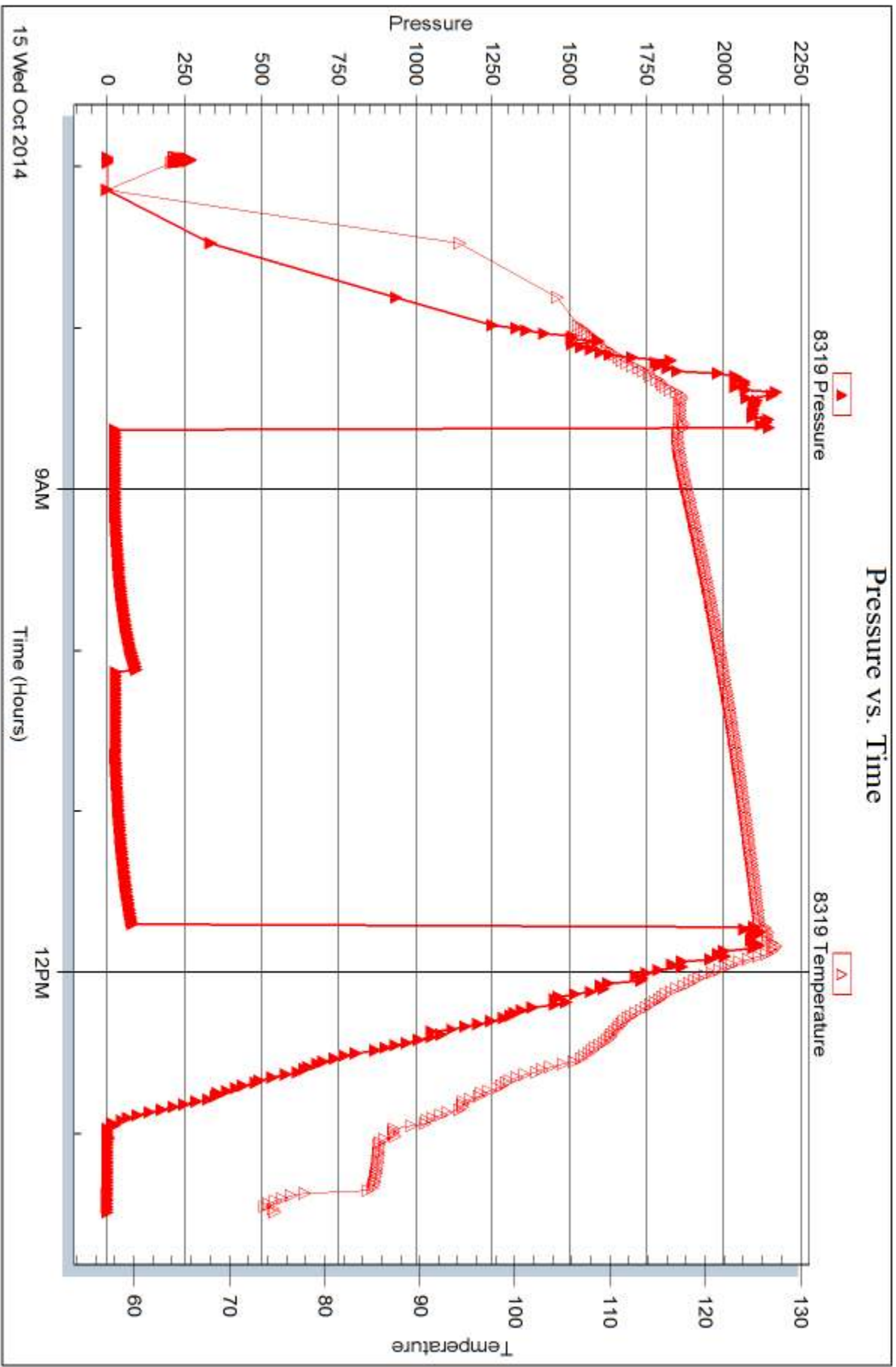
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Larry Nicholson

Lundgren #3-36

36-14s30w Gove,KS

Start Date: 2014.10.15 @ 22:43:11

End Date: 2014.10.16 @ 06:02:40

Job Ticket #: 57359 DST #: 5

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

Printed: 2014.10.19 @ 13:29:34



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57359

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 22:43:11

GENERAL INFORMATION:

Formation: **Miss / Dol**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 00:52:40

Time Test Ended: 06:02:40

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 58

Interval: 4322.00 ft (KB) To 4338.00 ft (KB) (TVD)

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4338.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 6625 Outside

Press@RunDepth: 63.56 psig @ 4323.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.15

End Date:

2014.10.16

Last Calib.: 2014.10.16

Start Time: 22:43:11

End Time:

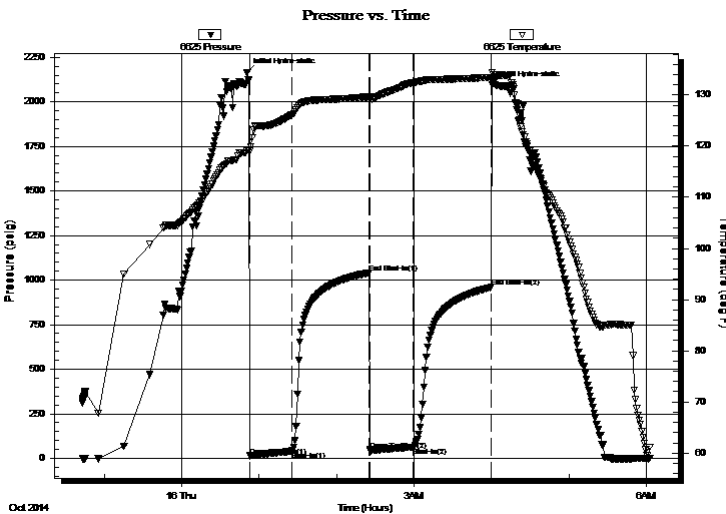
06:02:40

Time On Btm: 2014.10.16 @ 00:50:40

Time Off Btm: 2014.10.16 @ 04:00:40

TEST COMMENT: 30/ IF: 1/2 blow
60/ IS: No return
30/ FF: No blow
60/ FSI: No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2165.15	119.08	Initial Hydro-static
2	14.58	119.01	Open To Flow (1)
35	39.07	126.14	Shut-In(1)
95	1040.69	129.65	End Shut-In(1)
96	43.21	129.58	Open To Flow (2)
129	63.56	132.38	Shut-In(2)
189	959.53	133.46	End Shut-In(2)
190	2094.05	134.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	s c m & o 5% m 95% o	0.31
63.00	c m & o 80% m 20% o	0.31

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57359

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 22:43:11

Tool Information

Drill Pipe:	Length: 4044.00 ft	Diameter: 3.80 inches	Volume: 56.73 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	71000.00 lb
Drill Pipe Above KB:	24.20 ft			Final	lb
Depth to Top Packer:	4322.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	16.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

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

Shut In Tool	5.00			4301.00	
Hydraulic tool	5.00			4306.00	
Jars	5.00			4311.00	
Safety Joint	2.00			4313.00	
Packer	4.00			4317.00	26.00 Bottom Of Top Packer
Packer	5.00			4322.00	
Stubb	1.00			4323.00	
Recorder	0.00	6625	Outside	4323.00	
Recorder	0.00	8319	Inside	4323.00	
Perforations	11.00			4334.00	
Bullnose	4.00			4338.00	16.00 Bottom Packers & Anchor

Total Tool Length: 42.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc

36-14s30w Gove,KS

250 N Water STE 300
Wichita KS 67202

Lundgren #3-36

Job Ticket: 57359

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 22:43:11

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

20 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
63.00	s c m & o 5% m 95% o	0.310
63.00	c m & o 80% m 20% o	0.310

Total Length: 126.00 ft

Total Volume: 0.620 bbf

Num Fluid Samples: 0

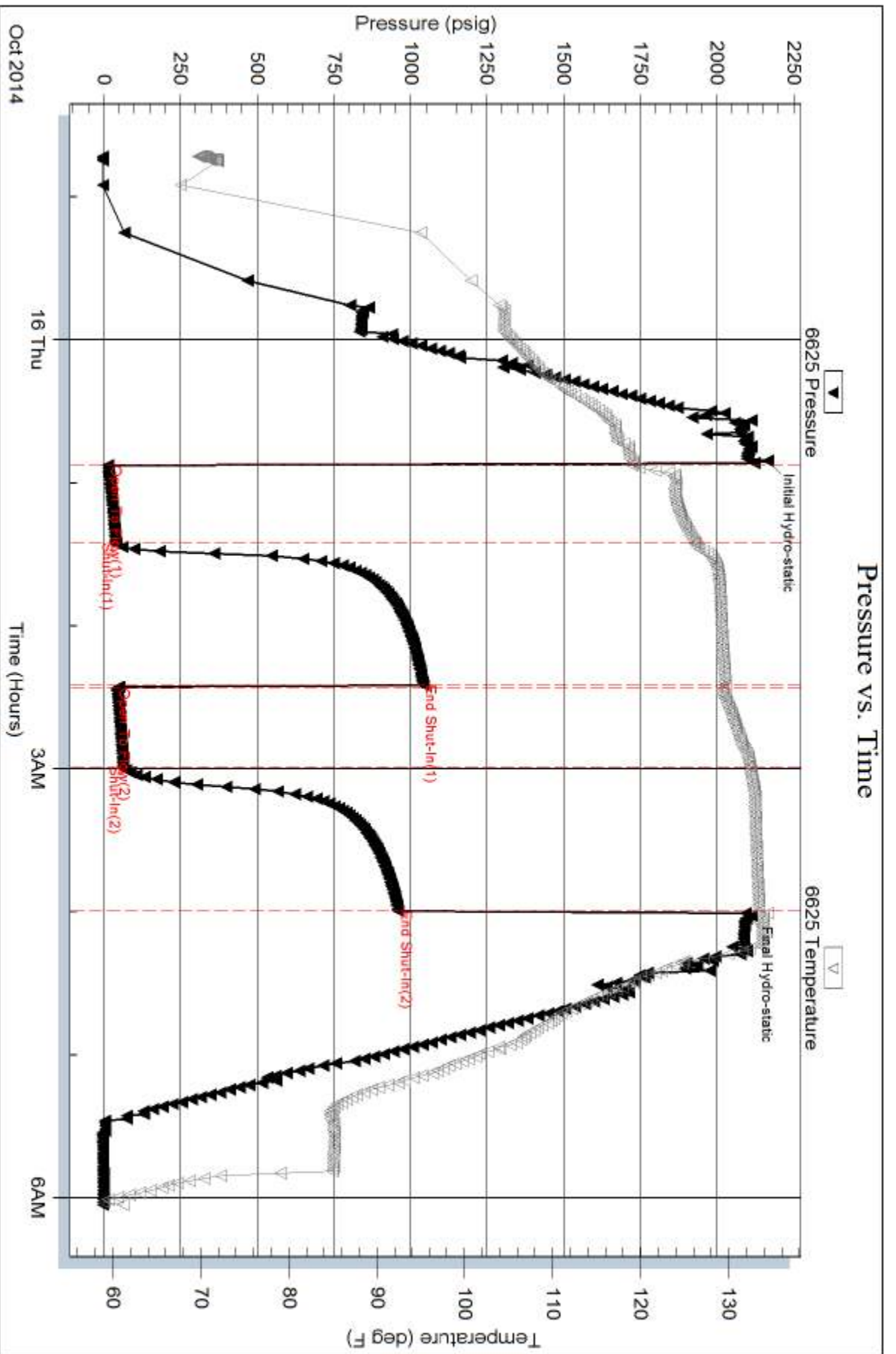
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



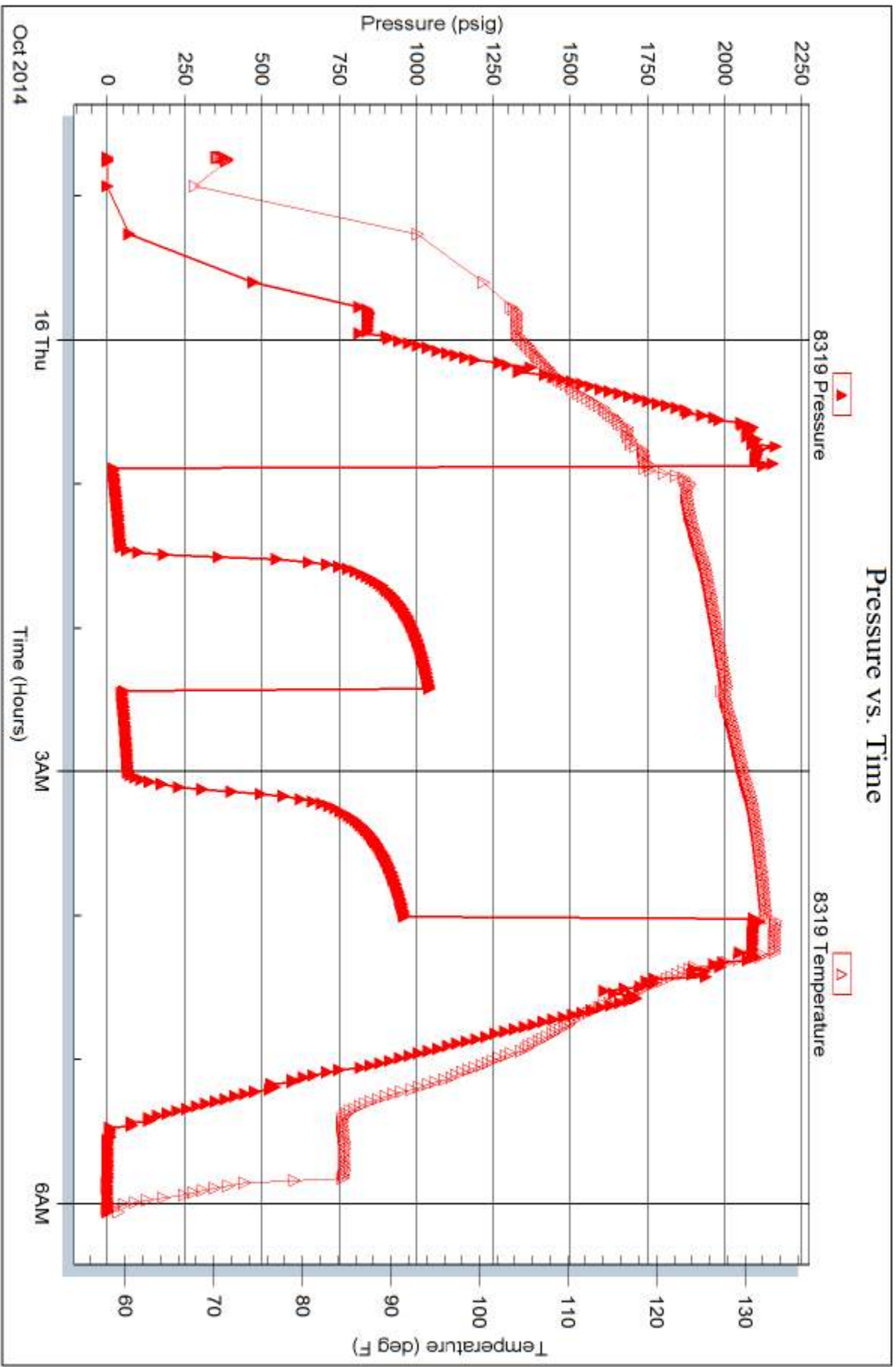
Serial #: 8319

Inside

Murfin Drilling Co, Inc

Lundgren #3-36

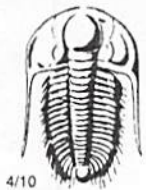
DST Test Number: 5



Tribble Testing, Inc

Ref. No: 57359

Printed: 2014, 10, 19 @ 13:29:35



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57480

Well Name & No. Lundgren # 3-36 Test No. 1 Date 10-12-14
 Company Morfia Drilling Company Inc. Elevation 2665 KB _____ GL _____
 Address 250 N Water STE 300 Wichita Ks 67202
 Co. Rep / Geo. Larry Nicholson Rig Morfia 21
 Location: Sec. 36 Twp. 14s Rge. 30w Co. Gove State KS

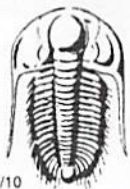
Interval Tested 3870 3958 Zone Tested Lansing H-J-
 Anchor Length 88 Drill Pipe Run 3578.8 Mud Wt. 9.0
 Top Packer Depth 3866 Drill Collars Run 276.2 Vis 59
 Bottom Packer Depth 3870 Wt. Pipe Run Ø WL 6.0
 Total Depth 3958 Chlorides 2500 ppm System LCM 5
 Blow Description 30 Weak Blow Died in 22 min
60 No Return
30 No Blow
60 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud oil spots</u>	<u>1</u>			<u>99%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 123 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1923</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>12:00</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:50</u>
(C) First Final Flow <u>49</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>14:36</u>
(D) Initial Shut-In <u>721</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>17:36</u>
(E) Second Initial Flow <u>48</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>19:22</u>
(F) Second Final Flow <u>41</u>	<input checked="" type="checkbox"/> Mileage <u>78 BT</u> 120.90	Comments _____
(G) Final Shut-In <u>429</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1804</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>1595.90</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1595.90</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. 57481

Well Name & No. Lundgren # 3-36 Test No. 2 Date 10-13-14
 Company Murfin Drilling Company Inc Elevation 2665 KB 2654 GL
 Address 250 N Water STE 300 Wichita KS, 67202
 Co. Rep / Geo. Larry Nicholson Rig Murfin #21
 Location: Sec. 36 Twp. 14S Rge. 30W Co. Gove State KS

Interval Tested 4138 4203 Zone Tested Pawnee
 Anchor Length 65 Drill Pipe Run 3859.8 Mud Wt. 9.2
 Top Packer Depth 4134 Drill Collars Run 276.2 Vis 51
 Bottom Packer Depth 4138 Wt. Pipe Run 8 WL 6.4
 Total Depth 4203 Chlorides 2000 ppm System LCM 5
 Blow Description 30 B.O.B in 21min
60 No Return
60 B.O.B in 4 min
90

Rec	Feet of	%gas	%oil	%water	%mud
<u>189</u>	<u>90cm</u>	<u>10</u>	<u>20</u>		<u>70</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

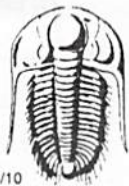
Rec Total 189 BHT 128 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2049</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>20:10</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>20:38</u>
(C) First Final Flow <u>51</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>22:50</u>
(D) Initial Shut-In <u>183</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>02:50</u>
(E) Second Initial Flow <u>54</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>04:37</u>
(F) Second Final Flow <u>84</u>	<input checked="" type="checkbox"/> Mileage <u>78 BT</u> 120.90	Comments
(G) Final Shut-In <u>193</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2005</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>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>16.67</u>
Final Shut-In <u>90</u>	<input checked="" type="checkbox"/> Day Standby <u>1d .5h</u>	Total <u>1712.17</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1695.50</u>	

Approved By _____

Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57482

Well Name & No. Lundgren # 3-B4 Test No. 3 Date 10-14-14
 Company Murfin Drilling Company Inc Elevation 2665 KB 2654 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21
 Location: Sec. 36 Twp. 14s Rge. 30w Co. Gove State KS

Interval Tested 4194 4239 Zone Tested FT. Scott
 Anchor Length 43 Drill Pipe Run 3921.8 Mud Wt. 9.2
 Top Packer Depth 4192 Drill Collars Run 276.2 Vis 51
 Bottom Packer Depth 4194 Wt. Pipe Run Ø WL 6.4
 Total Depth 4239 Chlorides 2000 ppm System LCM 5
 Blow Description 30 B.O.B in 5 min
60 Weak surface Blow
60 B.O.B in 5 min
90 Weak surface Blow Build to 14.1

Rec	Feet of	%gas	%oil	%water	%mud
<u>212</u>	<u>Gas oil (clean oil)</u>	<u>20</u>	<u>80</u>		
<u>283</u>	<u>gnco</u>	<u>20</u>	<u>70</u>		<u>10</u>
	<u>2780' G.I.P.</u>				

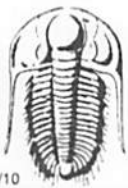
Rec Total 495 BHT 138 Gravity 32 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2090</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>11:50</u>
(B) First Initial Flow <u>33</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:12</u>
(C) First Final Flow <u>119</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:50</u>
(D) Initial Shut-In <u>1081</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>17:50</u>
(E) Second Initial Flow <u>132</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>20:08</u>
(F) Second Final Flow <u>214</u>	<input checked="" type="checkbox"/> Mileage <u>78 RT</u> <u>120.90</u>	Comments
(G) Final Shut-In <u>1043</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>199.2</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1695.90</u>
Final Flow <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>90</u>	Sub Total <u>1695.90</u>	

Approved By _____

Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57358

Well Name & No. Lundopen # 3-34 Test No. 4 Date 10/15/14
 Company Murtair Drilling Co Elevation 2665 KB 2654 GL
 Address 250 N Water St #300 Wichita Ks 67202
 Co. Rep / Geo. Lanny Nicholson Rig 21
 Location: Sec. 34 Twp. 14s Rge. 30w Co. Cove State Ks

Interval Tested 4245 - 4298 Zone Tested CL - Johnson
 Anchor Length 23 Drill Pipe Run 3957 Mud Wt. 9.2
 Top Packer Depth 4240 Drill Collars Run 276 Vis 51
 Bottom Packer Depth 4245 Wt. Pipe Run 0 WL 6.4
 Total Depth 4298 Chlorides 2300 ppm System LCM 5

Blow Description IF: Weak blow 1/2
ISI: NO RETURN
FF: No blow
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>map w/ oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2 BHT 127 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2124</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>0630</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0656</u>
(C) First Final Flow <u>25</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0837</u>
(D) Initial Shut-In <u>87</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/A</u>	T-Pulled <u>1140</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1330</u>
(F) Second Final Flow <u>26</u>	<input checked="" type="checkbox"/> Mileage <u>72 1/2</u> 120.90	Comments _____
(G) Final Shut-In <u>70</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2060</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale 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>30</u>	<input type="checkbox"/> Day Standby	Total <u>1695.90</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1695.90</u>	

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57359

Well Name & No. Lunopen #3-34 Test No. S Date 10/15/14
 Company Murfin Drilling Inc Elevation 2665 KB 2654 GL
 Address 250 N WATER STE 300 WICHITA KS 67202
 Co. Rep / Geo. Larry Nicholson Rig 31
 Location: Sec. 34 Twp. 14S Rge. 30W Co. Coye State KS

Interval Tested 4322-4338 Zone Tested Miss / Dol
 Anchor Length 16 Drill Pipe Run _____ Mud Wt. 9.7
 Top Packer Depth 4317 Drill Collars Run 276 Vis 50
 Bottom Packer Depth 4332 Wt. Pipe Run 0 WL 6.4
 Total Depth 4338 Chlorides 2500 ppm System LCM 5

Blow Description IF: 1/2 blow
ISI: NO RETURN
FF: NO BLOW
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>SCM & O</u>	<u>95</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>63</u>	<u>C M & O</u>	<u>20</u>	<u>80</u>	<u>80</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 134 BHT 134 Gravity 21 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2165 Test 1250 T-On Location 2230
 (B) First Initial Flow 20 Jars 250 T-Started 2243
 (C) First Final Flow 39 Safety Joint 75 T-Open 2353
 (D) Initial Shut-In 1035 Circ Sub N/C T-Pulled 0300
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 0445
 (F) Second Final Flow 63 Mileage 72 1/2 120.90 Comments _____
 (G) Final Shut-In 955 Sampler _____
 (H) Final Hydrostatic 2094 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

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

Sub Total 1695.90
 Total 1695.90
 MP/DST Disc _____

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GEOLOGICAL REPORT

Larry A. Nicholson

NAD 83
38.78193631
100.002684568

COMPANY & WELL: Murfin Drilling Co. Lundgren #3-36
LOCATION: 500' FSL 1400' FEL NE SE SW SE
SEC 36 TWP 14S RGE 30W
COUNTY: Gove STATE: KS

COMPANY: Murfin Drilling Company, Inc.
API #: 15-063-22221 FIELD: Lundgren
LEASE: Lundgren #3-36
LOCATION: NE SE SW SE
SURVEY: 500' FSL 1400' FEL
SECTION: 36 TWP 14S RGE 30W
COUNTY: Gove STATE: Kansas

CONTRACTOR: Murfin Drilling Company, Inc. Reg # 21
SPUD: 3:15 pm 10-08-14 COMP: ELEVATIONS
RTD: 10:40 am 10-16-14 LTD: 4439 D.F.: 2665
MUD UP AT: 3200 G.L.: 2654
MUD TYPE: Chemical, Morgan Mud All measurements from K.B. 2665

SAMPLES SAVED FROM 3400 TO RTD
DRILLING TIME FROM 3400 TO RTD
SAMPLES EXAMINED FROM 3400 TO RTD
GEOLOGICAL SUPERVISION BY: LARRY A. NICHOLSON
WELL SITE GEOLOGIST: LARRY A. NICHOLSON

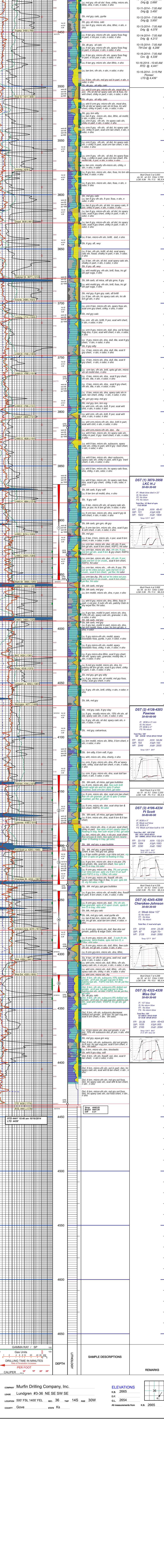
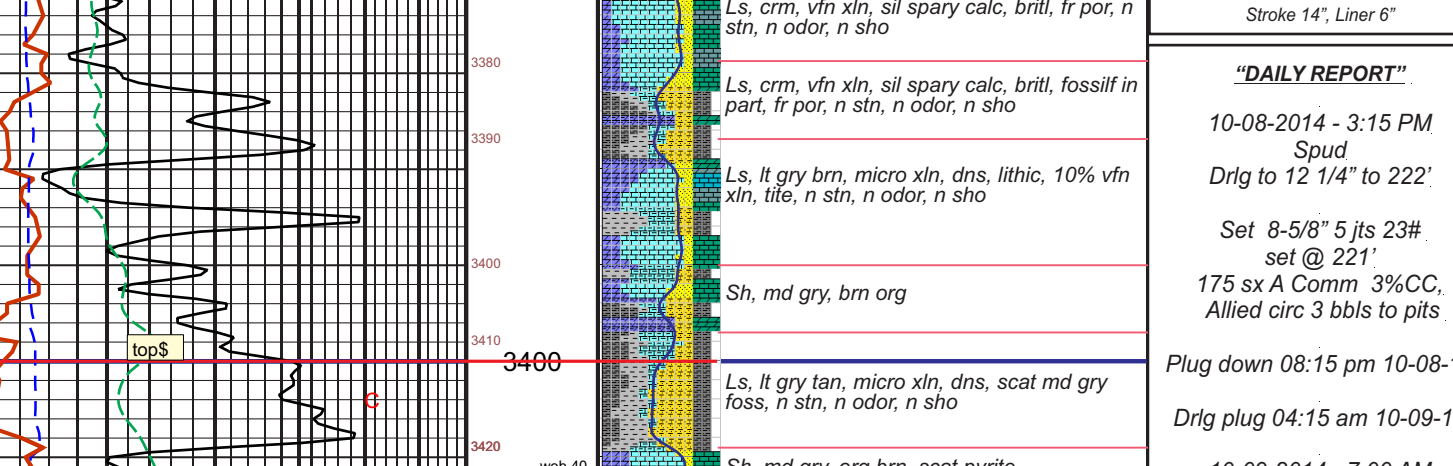
FORMATION	DEPTH TO TOP	SURFACE DATUM	ELEC LOG TO TOP	SURFACE DATUM	REFERENCE WELL	
Anhydrite	2671	+594	2071	+594	2096	+598 -4. 2102
Bu/Anhydrite	2102	+593	2102	+597	2127	+567 -4. 2132
Topoka	3450	-785	3450	-785	3470	-785 -9. 3472
Heebner Sh	3677	-1012	3677	-1012	3696	-1002 -10. 3697
Lansing	3714	-1049	3714	-1049	3732	-1038 -11. 3733
Stark Sh	3958	-1293	3958	-1293	3980	-1286 -7. 3979
Pawnee	4144	-1479	4144	-1479	4170	-1476 -3. 4178
Fort Scott Ls	4205	-1540	4205	-1540	4235	-1541 +1. 4237
Cherokee Sh	4232	-1567	4232	-1567	4262	-1568 +1. 4263
Johnson Zone	4278	-1613	4278	-1613	4309	-1615 +2. 4310
Miss	4306	-1641	4306	-1641	4339	-1636 -5. 4338
RTD	4441	-1776	4441	-1776	4450	
LTD	4439	-1774	4439	-1774	4448	4456

REFERENCE WELLS: A: Murfin Drilling Company Lundgren #1-36, 1805' FSL 330' FEL, Sec 36 T14S R30W KB 2694
B: Murfin Drilling Company Lundgren #2-36, 1215' FSL 665' FEL, Sec 36 T14S R30W KB 2685

REMARKS & RECOMMENDATIONS:
Based on dst results and sample shows 5/2 csq was set.
NOTE: ROP, DSTs, Circ, Conn, Lag, Shows have been move 3 ft up to match Elog depth. Depth error in collar measurement.

LAN 762, Modified 5/05, 11/11, 4/12 Hanover, KS 66845 1inch = 25.4mm 8.5 x 97.5 216 mm x 2460 mm

LEGEND



COMPANY: Murfin Drilling Company, Inc. ELEVATIONS: 2665
LEASE: Lundgren #3-36 NE SE SW SE D.F.: 2665
LOCATION: 500' FSL 1400' FEL SEC 36 TWP 14S RGE 30W G.L.: 2654
COUNTY: Gove STATE: KS All measurements from K.B. 2665