



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1235354
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: _____

1235354

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

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> <i>(Submit ACO-4)</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	Frisbie 'A' 1-6
Doc ID	1235354

All Electric Logs Run

DIL
DUCP
MEL
BHCS



*uwr
Prod-MG*

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 145642

Invoice Date: Sep 8, 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	64148	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Sep 8, 2014	10/8/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Frisbie A #1-6		
220.00	CEMENT MATERIALS	Class A Common	17.90	3,938.00
620.00	CEMENT MATERIALS	Chloride	1.10	682.00
231.00	CEMENT SERVICE	Cubic Feet Charge	2.48	572.88
798.75	CEMENT SERVICE	Ton Mileage Charge	2.75	2,196.56
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
75.00	CEMENT SERVICE	Pump Truck Mileage	7.70	577.50
1.00	CEMENT SERVICE	Swedge Manifold Rental	275.00	275.00
75.00	CEMENT SERVICE	Light Vehicle Mileage -- No Charge		
1.00	EQUIPMENT OPERATOR	Paul Beaver		

Subtotal	9,754.19
Sales Tax	364.98
Total Invoice Amount	10,119.17
Payment/Credit Applied	
TOTAL	10,119.17

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

\$ 3,413.96 *v*

ONLY IF PAID ON OR BEFORE
Oct 8, 2014

- 3413.96
6705.21

OK JR

ALLIED OIL & GAS SERVICES, LLC 064148

Federal Tax I.D. # 20-8651475

REMIT TO: P.O. BOX 93999

SOUTH LAKE, TEXAS 76092

SERVICE POINT
Oakley KS

DATE <u>9-8-14</u>	SEC. <u>6</u>	TWP. <u>2</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION <u>6:30pm</u>	JOB START <u>7:30pm</u>	JOB FINISH <u>8:00pm</u>
LEASE <u>Frisbie-2A</u>	WELL# <u>1-6</u>	LOCATION <u>McDonald N to W</u>	COUNTY <u>Rawlins</u>	STATE <u>KS</u>			
OLD OR NEW (Circle one) <u>NEW</u>				LOCATION <u>2W, 13/4 N, Ginto</u>			

CONTRACTOR Murkin D.
 TYPE OF JOB Surface
 HOLE SIZE 2 7/8 T.D. 265'
 CASING SIZE 8 5/8 DEPTH 264 21'
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG. 15'
 PERFS.
 DISPLACEMENT 15.5 bbl water
 EQUIPMENT
 PUMP TRUCK CEMENTER Paul Beaver
 # 22 HELPER Paul Beaver
 BULK TRUCK
 # 87/310 DRIVER Ramero (TWS)
 BULK TRUCK
 # DRIVER

OWNER Same
 CEMENT AMOUNT ORDERED 220 sks Com 3%
 COMMON 220 sks @ 17.70 3884.00
 POZMIX @
 GEL @
 CHLORIDE 620 @ 1.10 682.00
 ASC @
 Material total @ 4566.00
 (1612.00 / 3.5%)
 HANDLING 231.95 @ 2.48 576.88
 MILEAGE 10.65 hrs @ 7.50 79.88
 TOTAL 2196.56

REMARKS:
Min 220 sks
Displace w/ water
account did circ
Thank you!
Paul & Ramero
 CHARGE TO: Murkin Drlg.
 STREET
 CITY STATE ZIP

SERVICE
 DEPTH OF JOB 265'
 PUMP TRUCK CHARGE 1512.25
 EXTRA FOOTAGE @
 MILEAGE MLHV 75 @ 7.70 577.50
 MANIFOLD Sledge @ 275.00
 MLLV 75 @ 4.40 330.00
 TOTAL 5,134.19
 (1796.96 / 35%)

PLUG & FLOAT EQUIPMENT
 @
 @
 @
 @
 @
 TOTAL

To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Arno Cebeczo
 SIGNATURE Arno Cebeczo

SALES TAX (If Any)
 TOTAL CHARGES 9,754.19
 DISCOUNT 3,413.96 / 35% IF PAID IN 30 DAYS
6,340.22 Net

SWIFT



Services, Inc.

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

COPY

Invoice

DATE	INVOICE #
9/18/2014	26557

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661
USED FOR <u>IC 103</u>
APPROVED <u>SI/FA</u>

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-6	Frisbee A	Rawlins	Company Tools	Oil	Development	5-1/2" LongString	Wayne

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	150	Miles	6.00	900.00
579D	Pump Charge - Top To Bottom LongString - 4815 Feet	1	Job	2,000.00	2,000.00
221	Liquid KCL (Clayfix)	4	Gallon(s)	25.00	100.00T
281	Mud Flush	500	Gallon(s)	1.25	625.00T
403-5	5 1/2" Cement Basket	3	Each	300.00	900.00T
406-5	5 1/2" Latch Down Plug & Baffle	1	Each	275.00	275.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill	1	Each	375.00	375.00T
409-5	5 1/2" Turbolizer	15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher	20	Each	40.00	800.00T
419-5	5 1/2" Rotating Head Rental	1	Each	200.00	200.00T
325	Standard Cement	200	Sacks	14.50	2,900.00T
330	Swift Multi-Density Standard (MIDCON II)	300	Sacks	18.50	5,550.00T
276	Flocele	125	Lb(s)	2.50	312.50T
283	Salt	1,000	Lb(s)	0.20	200.00T
284	Calseal	9	Sack(s)	35.00	315.00T
285	CFR-1	150	Lb(s)	4.50	675.00T
290	D-Air	5	Gallon(s)	42.00	210.00T
581D	Service Charge Cement	500	Sacks	2.00	1,000.00
583D	Drayage	3,808.13	Ton Miles	1.00	3,808.13
	Subtotal				22,495.63
	Sales Tax Rawlins County			7.90%	1,168.21

We Appreciate Your Business!

Total

\$23,663.84



Services, Inc.

TICKET 26557

PAGE 1 OF 2

CHARGE TO: **MURRAY DRUG CO, INC**
 ADDRESS: _____
 CITY, STATE, ZIP CODE: _____

SERVICE LOCATIONS

1. **Ness City, KS**

WELL/PROJECT NO. **1-6** LEASE **FORBEE 'A'** COUNTY/PARISH **RAVENS** STATE **KS** DATE **9-18-14** OWNER **same**

TICKET TYPE **SALES** CONTRACTOR **Go Tools** RIG NAME/NO. _____ ORDER NO. _____

WELL TYPE **Oil** WELL CATEGORY **Development** JOB PURPOSE **5 1/2" horizontal** DELIVERED TO **Location** WELL LOCATION **N/McDonna, KS**

INVOICE INSTRUCTIONS _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING		DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT							
575				MILEAGE # 115	150	ME			6.00	900.00
579				Pump Charge - Top to Bottom	1	MOB	4815	FT	2000.00	2000.00
221				LEAD KIL	4	EA			25.00	100.00
281				MUD FLUSH	500	GAL			1.25	625.00
403				CENSTR BASKETS	3	EA		5 1/2"	300.00	900.00
406				LATCH DOWN RIG - Baffle	1	EA			275.00	275.00
407				TRUSS FLOAT SHOE w/ AUTO FILL	1	EA			375.00	375.00
409				TUB BOLTERS	15	EA			90.00	1350.00
413				ROTOWAL SPAREPARTS	20	EA			40.00	800.00
419				ROTOWAL HEAD ASSEMBLY	1	MOB			200.00	200.00

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

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

DATE SIGNED **9-18-14** TIME SIGNED **1400**

SIGNED **[Signature]** P.M.

REMIT PAYMENT TO:

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

SURVEY		AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?					#1 7525.00
WE UNDERSTOOD AND MET YOUR NEEDS?					
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					#2 14970.63
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					
ARE YOU SATISFIED WITH OUR SERVICE?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO			Sub total 23,495.63
					TAX 1,168.21
					TOTAL 23,663.84

SWIFT OPERATOR **Wayne Watson** APPROVAL _____

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

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 9-18-14 PAGE NO. 1

CUSTOMER MURFIN DRILG. Co. Inc.

WELL NO. 1-6

LEASE FRISBEE "A"

JOB TYPE 5 1/2" LONGSTRAW

TICKET NO. 26557

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL)(GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1330							ON LOCATION
	1430							START 5 1/2" CASING IN WELL
								TD-4820 SET = 4815 TP-4815 5 1/2" # 15.5 ST-22
								CENTRALIZERS-1,2,3,4,5,6,7,8,9,10,12,14,17,39,63 CNT RSRS-18,40,64
	1640							DROP BALL- CIRCULATE ROTATE
	1745	6	12		✓		500	PUMP 500 GAL MUDFLUSH
	1747	6	20		✓		500	PUMP 20 BBLS KCL FLUSH
	1755		7-5					PLUG RH (30SKS) MH (20SKS)
	1800	6 1/4	140		✓		500	MAX CEMENT - 250 SKS SMD @ 11.2 PPG
		4 1/2	48		✓		200	200 SKS FA-2 @ 15.5 PPG
	1840							WASH OUT PUMP & LINES
	1840							RELEASE LATCH DOWN PLUG
	1843	7	0		✓		0	DISPLACE PLUG (1ST TANK KCL WATER)
		7	110				1000	
	1900	6	114				1750	PLUG DOWN - PSE UP LATCH IN PLUG
	1905						OK	RELEASE PSE - HELD
								CIRCULATED 10 SKS CEMENT TO PER
								WASH TRUCK
	2000							JOB COMPLETE

THANK YOU
WAYNE, JASON, JOHN, ISAAC

Frisbie 'A' #1-6
 Daily Drilling Report
 Page Two

- 9/15/14 Depth 4334'. Cut 69'. DT: None. CT: 19¾ hrs. Dev.: ½° @ 4334'. **LKC G**: Ls white to tan, f-mxln, sl chalky, oolitic, foss, pr interxln por, ns. **DST #4 4280-4334 (LKC G)**: 30-60-30-60. IF: surf blw built to BOB in 3mins. FF: surf blw built to BOB in 3mins. Rec.: 393' pulled FO, 1764' Reversed out w/samples taken incrementally, 285'FO, 493'WCO (10%W, 90%O), 493'OCW (20%O, 80%W), 493'OCW(2%O, 98%W). HP: 2057-2037. FP: 168/544, 552/835. SIP: 1278-1275. BHT: 153°. Grav.: 27°.
- 9/16/14 Depth 4410'. Cut 76'. DT: None. CT: 19hrs. Dev.: None. **LKC H**: Ls white, fxln, sl chalky, foss, no vis por, 5 pieces lt spotty stn, v-slsfo on brk, no odr. **LKC J**: Ls white, f-mxln, sl chalky, oolitic in part, foss, dense in part, 25% sample pr interxln por, lt sat stn, slsfo, no odr. **DST #5 4338-4410 (LKC H-J)**: 30-60-60-90. IF: blw built to 1¼". FF: wk surf blw started @ 27mins stayed until close. Rec.: 78'OCM (20%O, 80%M). HP: 2223-2197. FP: 15/36, 36/63. SIP: 1321-1296. BHT: 138°.
- 9/17/14 Depth 4640'. Cut 230'. DT: None. CT: 5hrs. Dev.: None.
- 9/18/14 RTD: 4820'. Cut 180'. DT: None. CT: 12hrs. Dev.: 1° @ 4820'. HC @ 8:00PM 9/17. Pioneer logged 1:45AM – 6:30AM 9/18. LTD: 4820'.
- 9/19/14 RTD: 4820'. CT: 16hrs. Ran 115jts of 5½" prod csg, set @ 4815'. Swift cmt w/450sxs (250SMD, 200EA-2). PD @ 7:00PM 9/18. 30sxs RH, 20sxs MH. Circ 10sxs. RR @ 11:00PM 9/18. FINAL REPORT.

MDCI Frisbie 'A' #1-6 2310' FSL 330'FEL Sec. 6-2S-36W 3267' KB							Samuel Gary Krueger Trust #1-6 2310' FNL 330'FEL Sec. 6-2S-36W 3321' KB	
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	3158	+109	+9	3156	+111	+11	3221	+100
B/Anhydrite	3194	+73	+1	3192	+75	+3	3249	+72
Neva	3649	-382	-1	3642	-375	+6	3702	-381
Stotler	3916	-649	-1	3909	-642	+6	3969	-648
Topeka	3979	-712	+2	3976	-709	+5	4035	-714
Oread	4106	-839	+1	4105	-838	+2	4161	-840
Lansing	4193	-926	+5	4192	-925	+7	4252	-931
Stark	4412	-1145	+6	4410	-1143	+8	4472	-1151
BKC	4464	-1197	+6	4464	-1197	+6	4524	-1203
Pawnee	4592	-1325	+7	4590	-1323	+9	4653	-1332
Cherokee	4665	-1398	+12	4669	-1402	+8	4731	-1410
Mississippi							4952	-1631
RTD	4820						5045	-1724
LTD				4820			5039	-1718



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita KS 67202

ATTN: Robert Hendrix

Frisbie 'A' #1-6

6-2s-36w Rawlins,KS

Start Date: 2014.09.12 @ 08:44:00

End Date: 2014.09.12 @ 17:38:30

Job Ticket #: 60117 DST #: 1

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

Printed: 2014.09.18 @ 14:16:59



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60117

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.09.12 @ 08:44:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:51:45

Time Test Ended: 17:38:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 54

Interval: 4058.00 ft (KB) To 4116.00 ft (KB) (TVD)

Reference Elevations: 3267.00 ft (KB)

Total Depth: 4116.00 ft (KB) (TVD)

3256.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 6753 Outside

Press@RunDepth: 194.69 psig @ 4059.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.12

End Date: 2014.09.12

Last Calib.: 2014.09.12

Start Time: 08:44:05

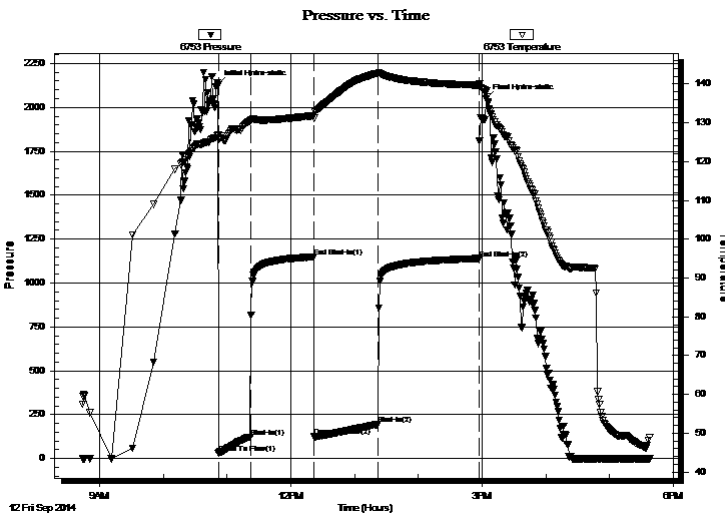
End Time: 17:38:30

Time On Btm: 2014.09.12 @ 10:51:30

Time Off Btm: 2014.09.12 @ 15:03:45

TEST COMMENT: 30 - IF - Surface blow built to 8"
60 - ISI - No Return
60 - FF - Surface blow built to bottom of the bucket in 53 min.
90 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2128.01	126.76	Initial Hydro-static
1	29.27	125.58	Open To Flow (1)
31	121.54	130.46	Shut-In(1)
91	1148.42	131.81	End Shut-In(1)
91	124.61	131.18	Open To Flow (2)
151	194.69	142.74	Shut-In(2)
246	1139.54	139.68	End Shut-In(2)
253	2048.10	137.79	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
189.00	MW - 5M - 95W	0.93
126.00	MW - 30M - 70W	1.60
63.00	WM - 70M - 30W	0.88
20.00	M - 100M	0.28

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60117

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.09.12 @ 08:44:00

Tool Information

Drill Pipe:	Length: 3848.69 ft	Diameter: 3.80 inches	Volume: 53.99 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: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume: 55.01 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.03 ft			String Weight: Initial	80000.00 lb
Depth to Top Packer:	4058.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	58.00 ft				
Tool Length:	85.00 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			4036.00	
Hydraulic tool	5.00			4041.00	
Jars	5.00			4046.00	
Safety Joint	3.00			4049.00	
Packer	4.00			4053.00	27.00 Bottom Of Top Packer
Packer	5.00			4058.00	
Stubb	1.00			4059.00	
Recorder	0.00	8368	Inside	4059.00	
Recorder	0.00	6753	Outside	4059.00	
Perforations	20.00			4079.00	
Change Over Sub	1.00			4080.00	
Drill Pipe	31.00			4111.00	
Change Over Sub	1.00			4112.00	
Bullnose	4.00			4116.00	58.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60117

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.09.12 @ 08:44:00

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:

55000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
189.00	MW - 5M - 95W	0.929
126.00	MW - 30M - 70W	1.600
63.00	WM - 70M - 30W	0.884
20.00	M - 100M	0.281

Total Length: 398.00 ft

Total Volume: 3.694 bbl

Num Fluid Samples: 0

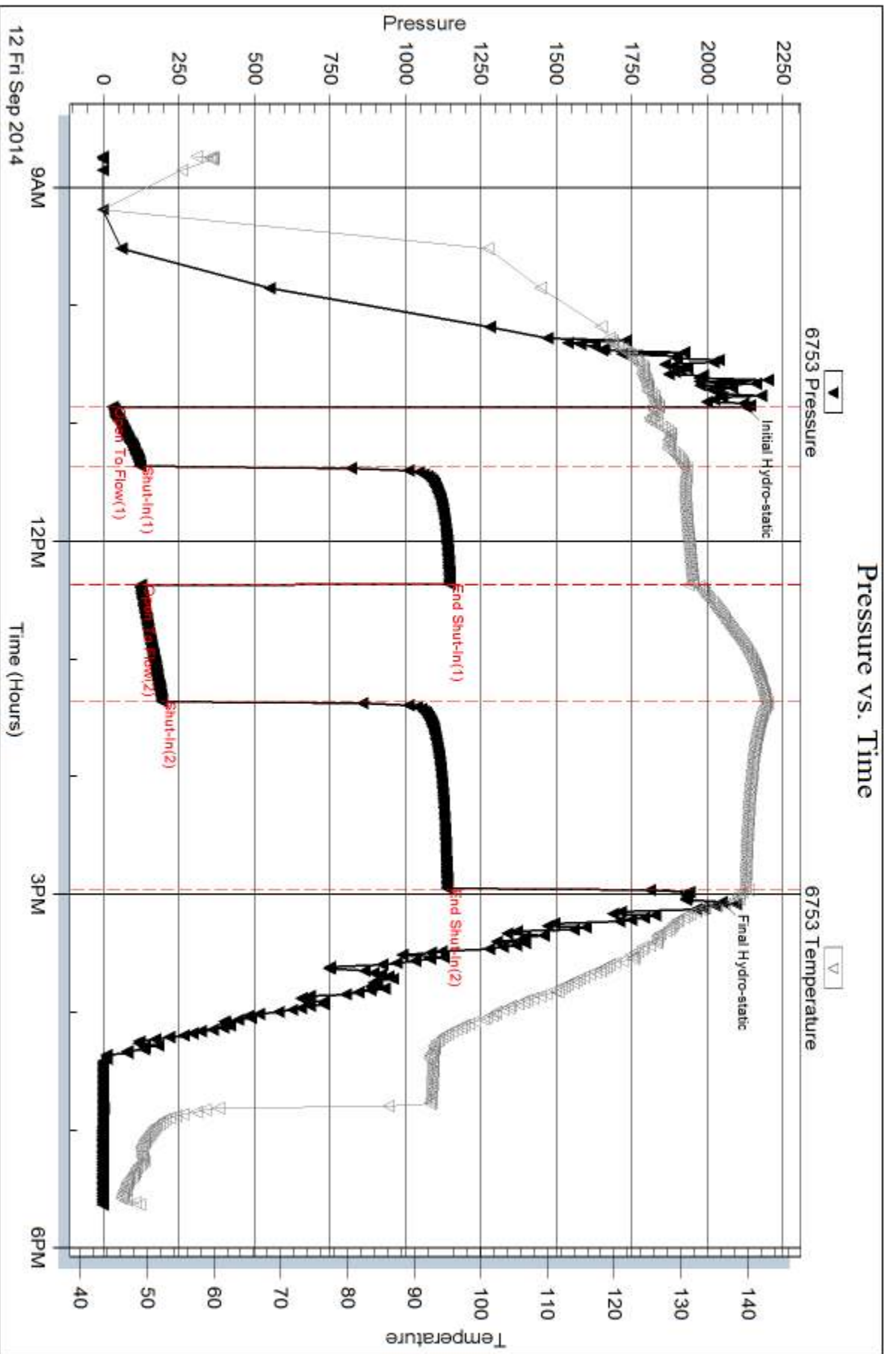
Num Gas Bombs: 0

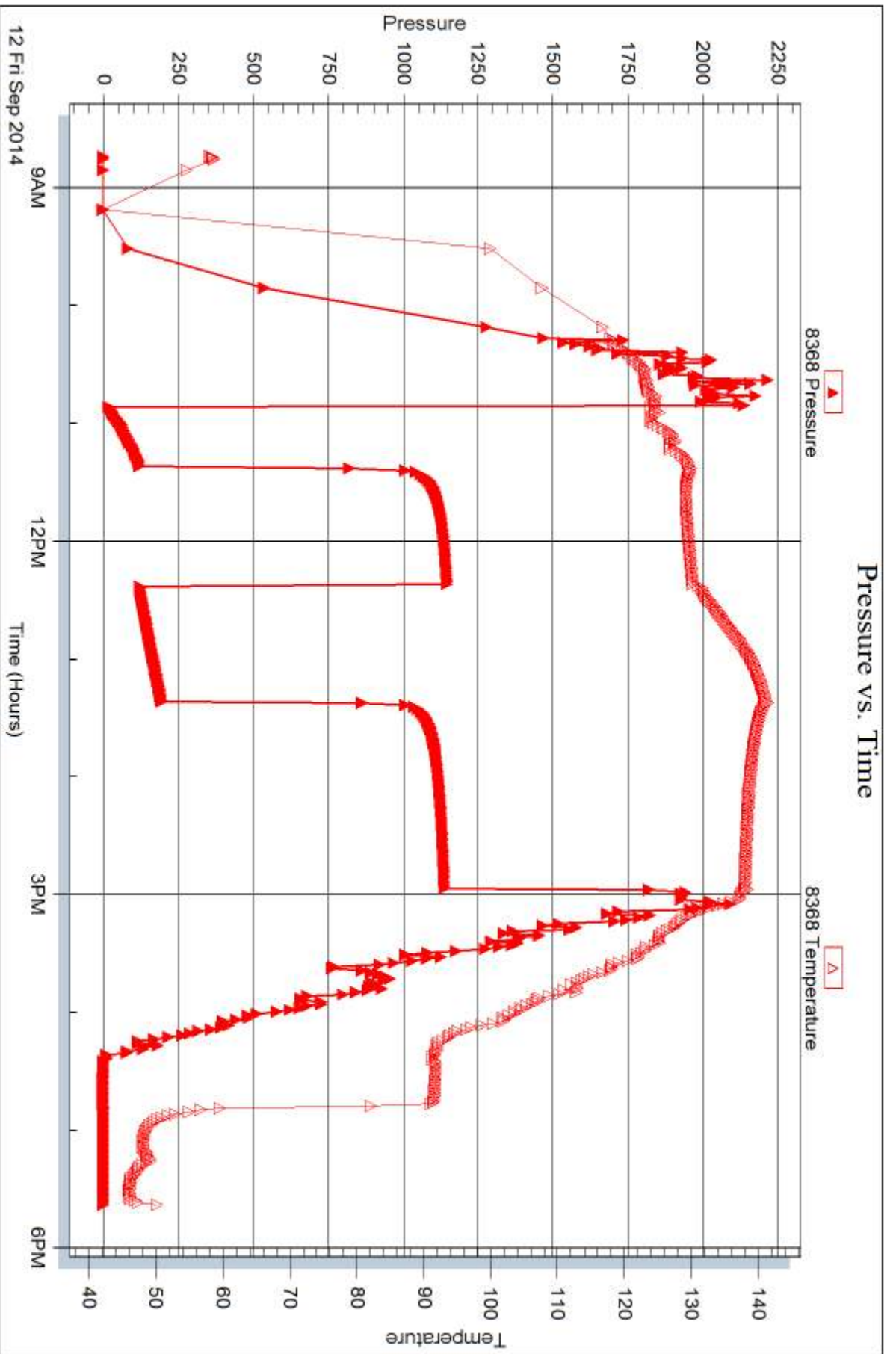
Serial #:

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: Robert Hendrix

Frisbie 'A' #1-6

6-2s-36w Rawlins,KS

Start Date: 2014.09.13 @ 08:20:00

End Date: 2014.09.13 @ 16:58:45

Job Ticket #: 60119 DST #: 2

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

Printed: 2014.09.18 @ 14:16:32



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60119

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.09.13 @ 08:20:00

GENERAL INFORMATION:

Formation: **LKC 'A'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:10:15

Time Test Ended: 16:58:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 54

Interval: 4139.00 ft (KB) To 4230.00 ft (KB) (TVD)

Reference Elevations: 3267.00 ft (KB)

Total Depth: 4230.00 ft (KB) (TVD)

3256.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 6753 Outside

Press@RunDepth: 150.79 psig @ 4140.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.13

End Date: 2014.09.13

Last Calib.: 2014.09.13

Start Time: 08:20:05

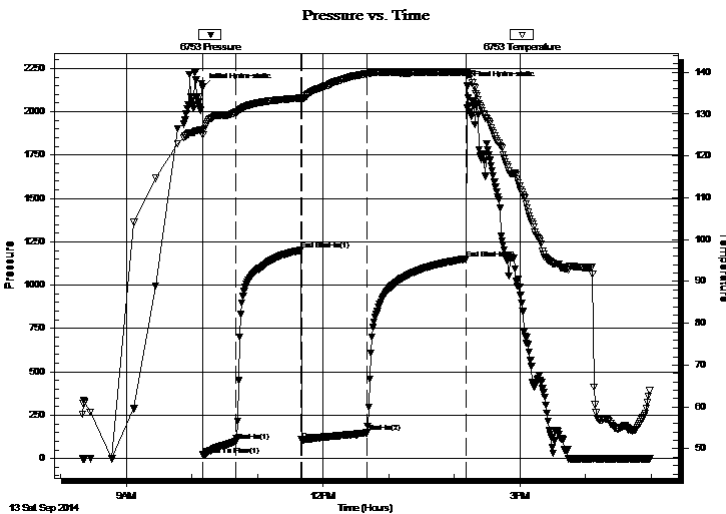
End Time: 16:58:45

Time On Btm: 2014.09.13 @ 10:10:00

Time Off Btm: 2014.09.13 @ 14:12:00

TEST COMMENT: 30 - IF - Surface blow built up to 8 3/4"
60 - ISI - No Return
60 - FF - Surface blow built to bottom of bucket in 42 min.
90 - FSI - Return started 8 min. in and built to 2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2141.28	126.28	Initial Hydro-static
1	21.47	125.01	Open To Flow (1)
31	97.61	130.41	Shut-In(1)
90	1202.06	133.85	End Shut-In(1)
91	108.50	133.49	Open To Flow (2)
151	150.79	139.67	Shut-In(2)
241	1152.29	139.96	End Shut-In(2)
242	2149.22	139.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCWM - 50M - 30W - 20o	0.62
174.00	WMCO - 30M - 10W - 60o	1.70
30.00	Free Oil - 100o	0.42

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60119

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.09.13 @ 08:20:00

Tool Information

Drill Pipe:	Length: 3937.35 ft	Diameter: 3.80 inches	Volume: 55.23 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: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 86000.00 lb
			<u>Total Volume: 56.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.69 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4139.00 ft			Final 81000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	91.00 ft			
Tool Length:	118.00 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			4117.00	
Hydraulic tool	5.00			4122.00	
Jars	5.00			4127.00	
Safety Joint	3.00			4130.00	
Packer	4.00			4134.00	27.00 Bottom Of Top Packer
Packer	5.00			4139.00	
Stubb	1.00			4140.00	
Recorder	0.00	8368	Inside	4140.00	
Recorder	0.00	6753	Outside	4140.00	
Perforations	21.00			4161.00	
Change Over Sub	1.00			4162.00	
Drill Pipe	63.00			4225.00	
Change Over Sub	1.00			4226.00	
Bullnose	4.00			4230.00	91.00 Bottom Packers & Anchor

Total Tool Length: 118.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60119

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.09.13 @ 08:20:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	OCWM - 50M - 30W - 20o	0.620
174.00	WMCO - 30M - 10W - 60o	1.700
30.00	Free Oil - 100o	0.421

Total Length: 330.00 ft Total Volume: 2.741 bbl

Num Fluid Samples: 0

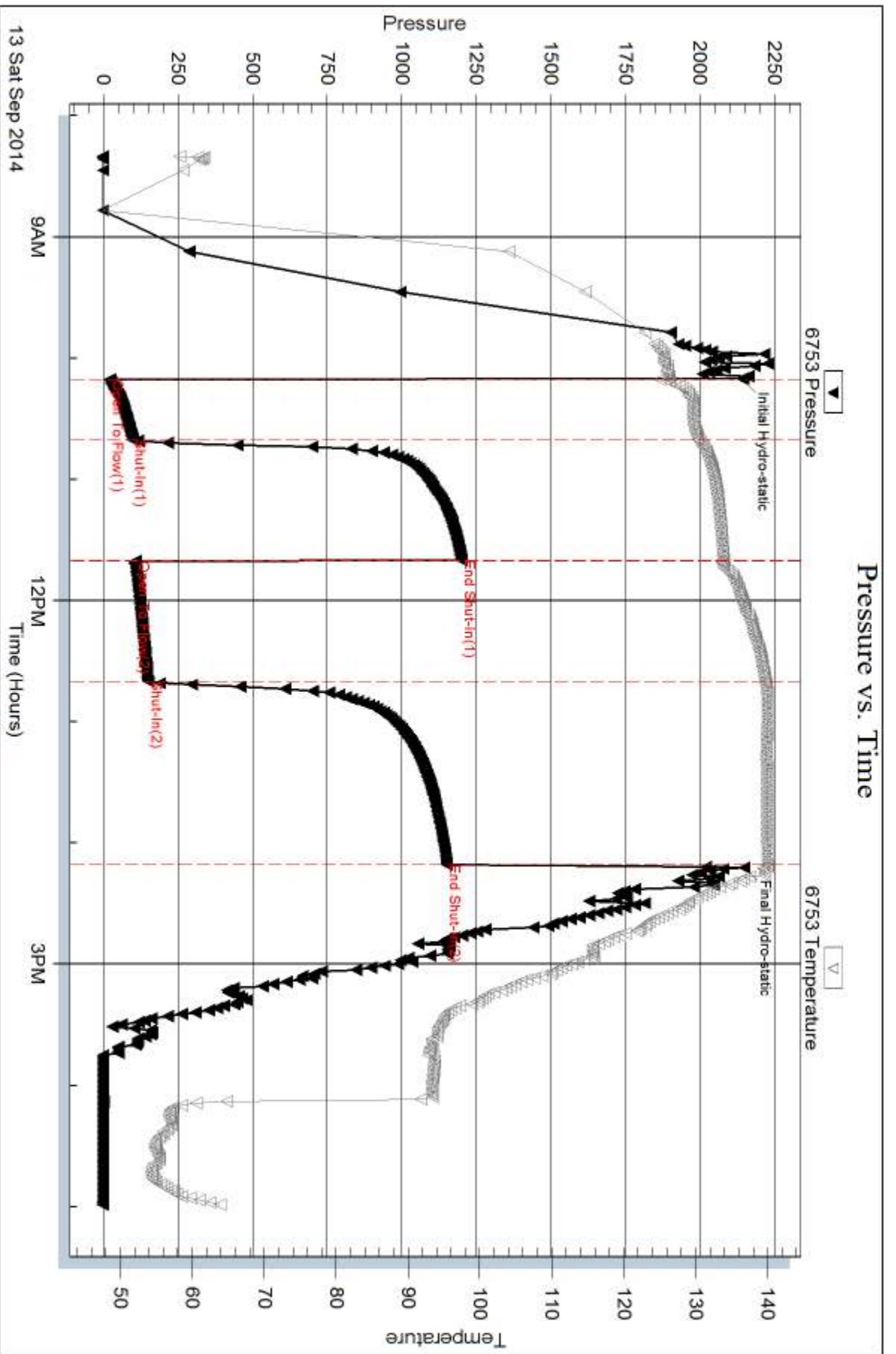
Num Gas Bombs: 0

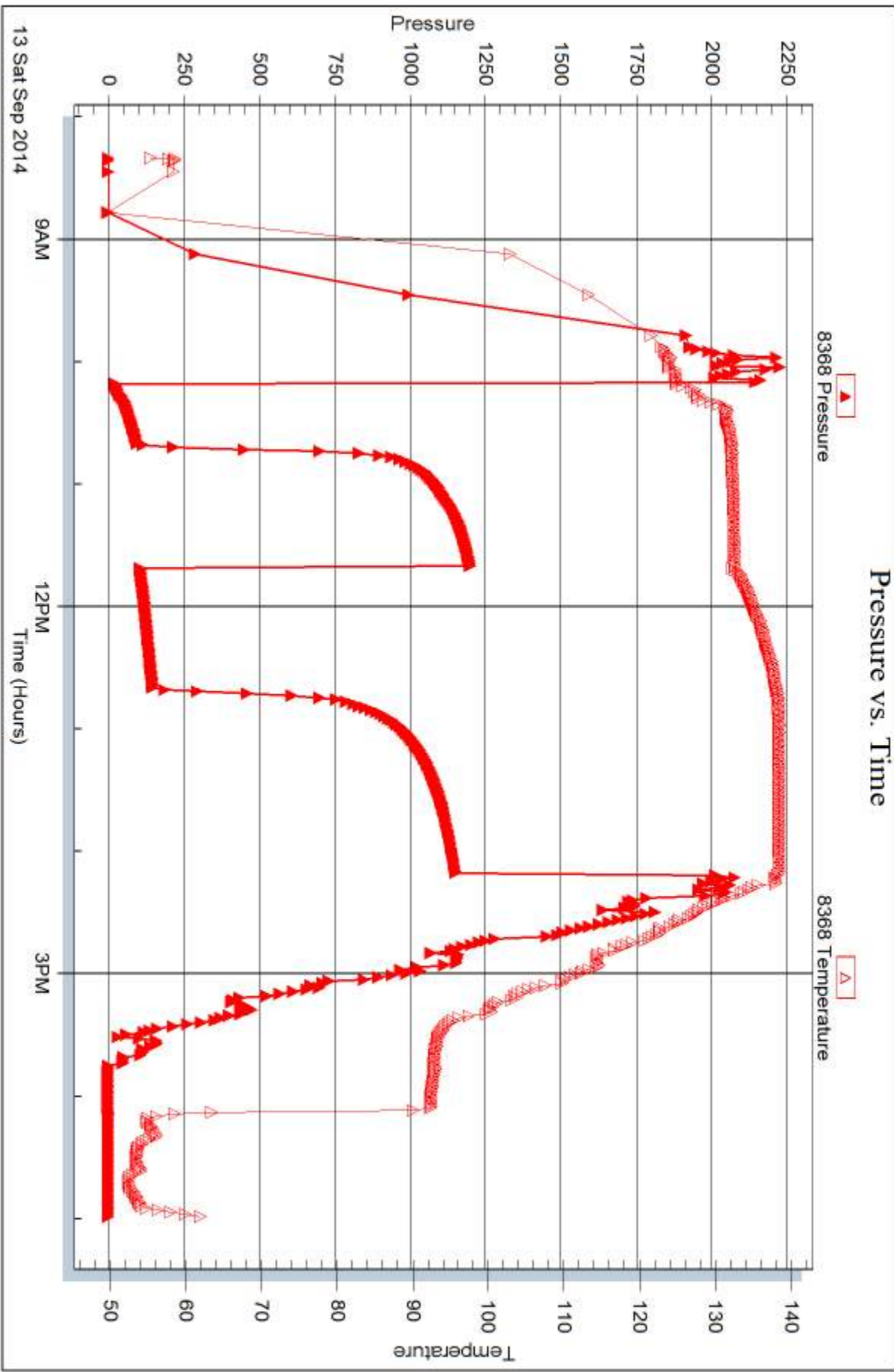
Serial #:

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: Robert Hendrix

Frisbie 'A' #1-6

6-2s-36w Rawlins,KS

Start Date: 2014.09.14 @ 02:05:00

End Date: 2014.09.14 @ 09:32:30

Job Ticket #: 60120 DST #: 3

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

Printed: 2014.09.18 @ 14:16:10



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60120

DST#: 3

ATTN: Robert Hendrix

Test Start: 2014.09.14 @ 02:05:00

GENERAL INFORMATION:

Formation: **LKC 'D'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:03:00

Time Test Ended: 09:32:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 4219.00 ft (KB) To 4265.00 ft (KB) (TVD)

Reference Elevations: 3267.00 ft (KB)

Total Depth: 4265.00 ft (KB) (TVD)

3256.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 6753 Outside

Press@RunDepth: 987.12 psig @ 4220.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.14

End Date:

2014.09.14

Last Calib.: 2014.09.14

Start Time: 02:05:05

End Time:

09:32:29

Time On Btm: 2014.09.14 @ 04:02:45

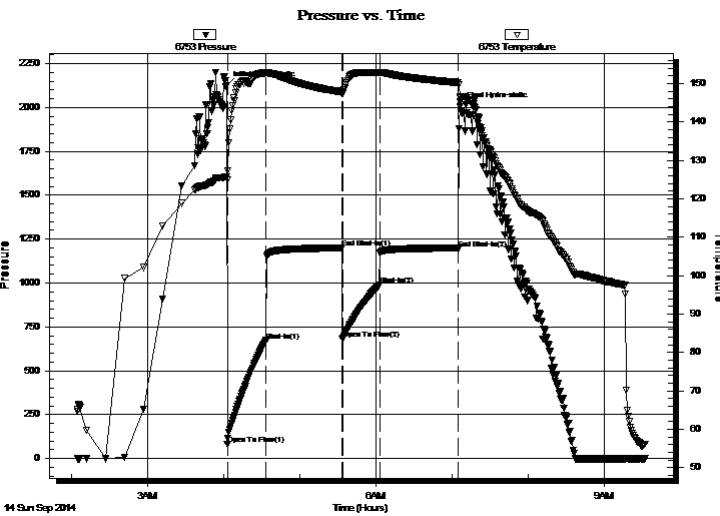
Time Off Btm: 2014.09.14 @ 07:06:45

TEST COMMENT: 30 - IF - Surface blow built to bottom of the bucket in 2 min.

60 - ISI - No Return

30 - FF - Surface blow built to bottom of bucket in 4 min.

60 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2124.28	125.79	Initial Hydro-static
1	80.57	124.98	Open To Flow (1)
31	671.81	152.81	Shut-In(1)
91	1199.89	147.81	End Shut-In(1)
91	679.47	147.51	Open To Flow (2)
121	987.12	152.88	Shut-In(2)
183	1196.32	150.28	End Shut-In(2)
184	2003.08	146.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
945.00	MW - 5M - 95W	11.37
630.00	OSMW - 15M - 85W - Oil spots	8.84
630.00	OSMW - 45M - 55W - Oil spots	8.84

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60120

DST#: 3

ATTN: Robert Hendrix

Test Start: 2014.09.14 @ 02:05:00

Tool Information

Drill Pipe:	Length: 4005.88 ft	Diameter: 3.80 inches	Volume: 56.19 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: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 96000.00 lb
			<u>Total Volume: 57.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.22 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4219.00 ft			Final 90000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	73.00 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			4197.00	
Hydraulic tool	5.00			4202.00	
Jars	5.00			4207.00	
Safety Joint	3.00			4210.00	
Packer	4.00			4214.00	27.00 Bottom Of Top Packer
Packer	5.00			4219.00	
Stubb	1.00			4220.00	
Recorder	0.00	8368	Inside	4220.00	
Recorder	0.00	6753	Outside	4220.00	
Perforations	8.00			4228.00	
Change Over Sub	1.00			4229.00	
Drill Pipe	31.00			4260.00	
Change Over Sub	1.00			4261.00	
Bullnose	4.00			4265.00	46.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60120

DST#: 3

ATTN: Robert Hendrix

Test Start: 2014.09.14 @ 02:05:00

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:

32000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
945.00	MW - 5M - 95W	11.367
630.00	OSMW - 15M - 85W - Oil spots	8.837
630.00	OSMW - 45M - 55W - Oil spots	8.837

Total Length: 2205.00 ft Total Volume: 29.041 bbl

Num Fluid Samples: 0

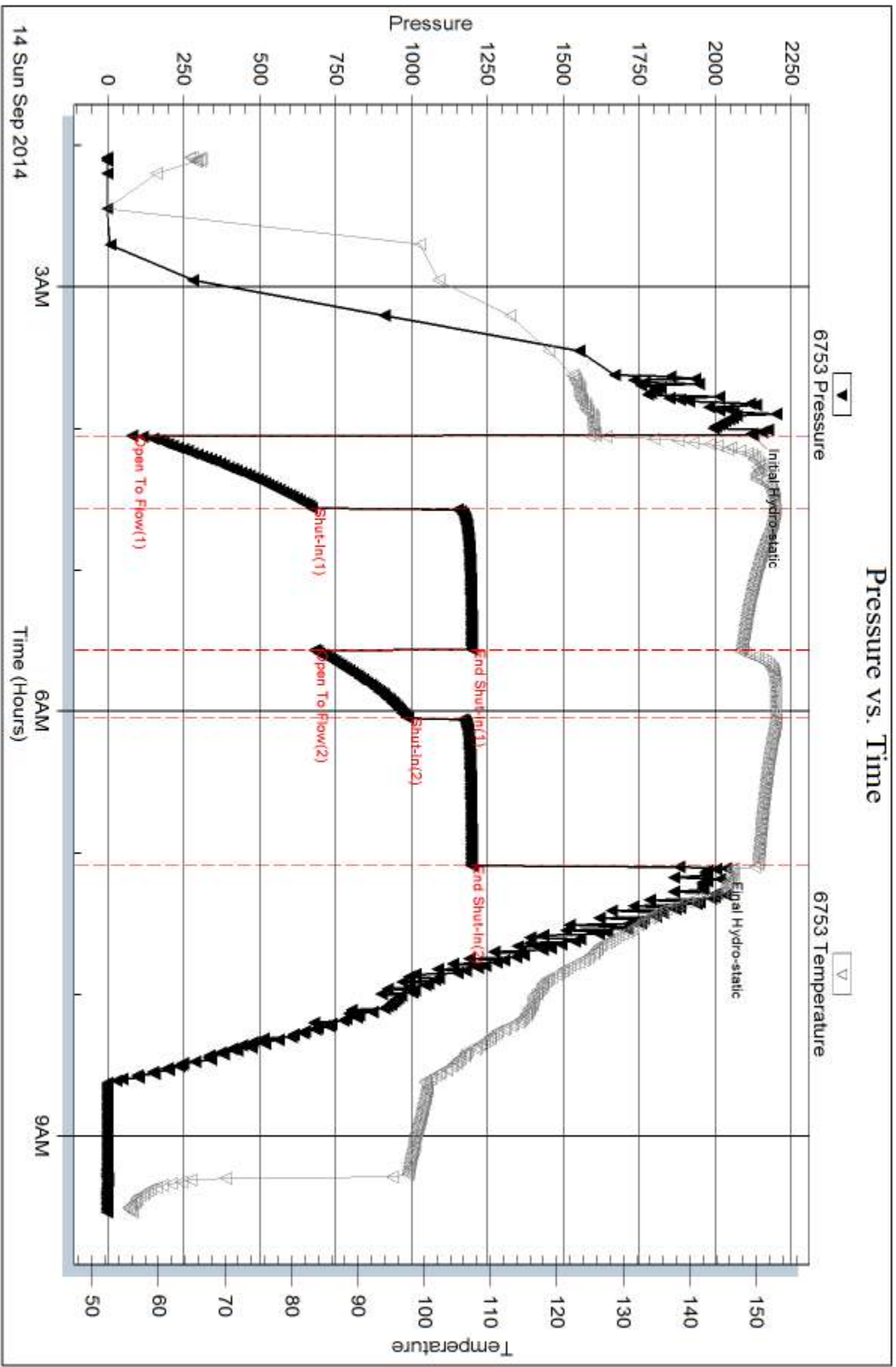
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

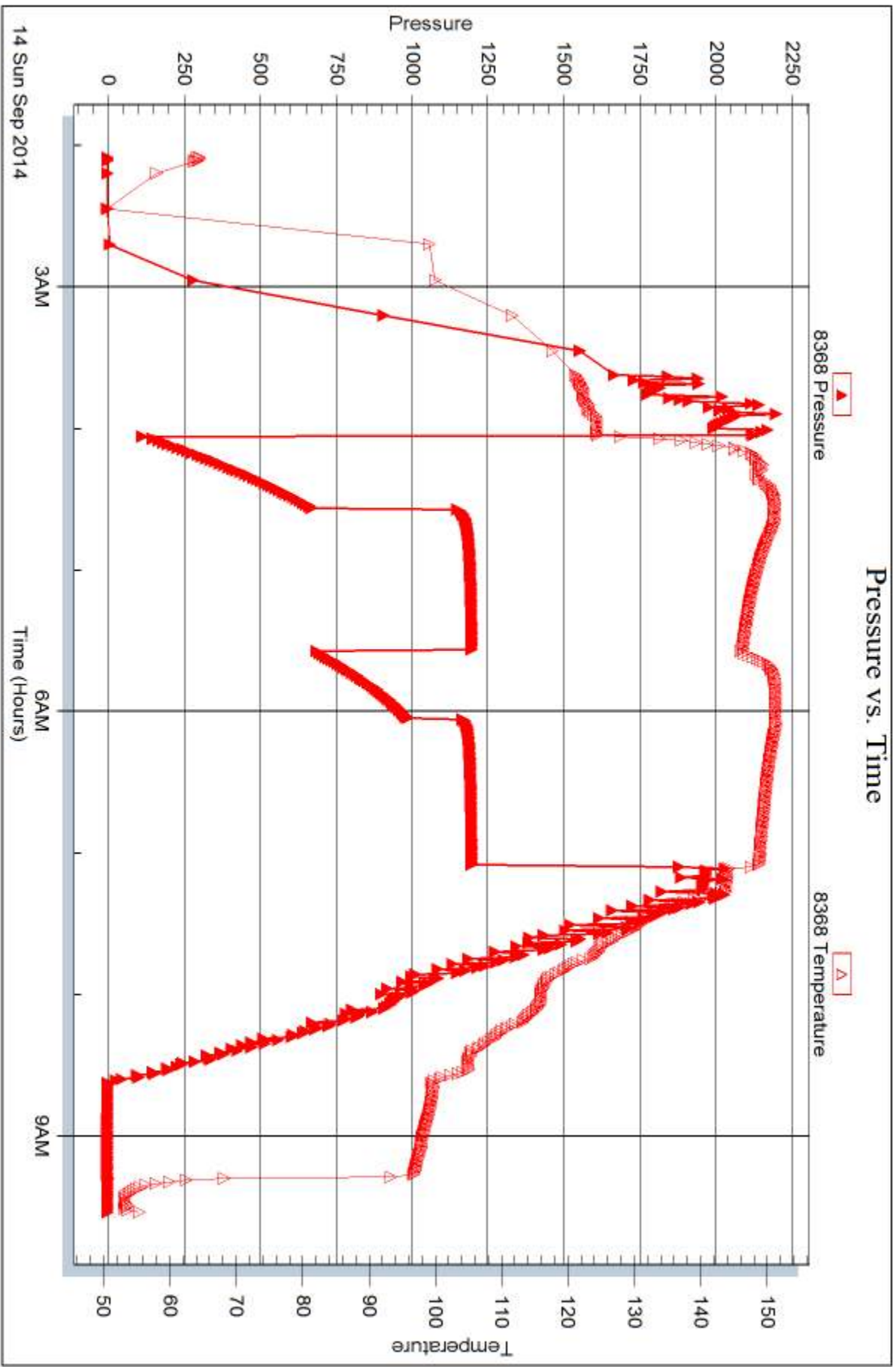


Serial #: 8368

Murfin Drilling Co., Inc.

Frisbie 'A' #1-6

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 60120

Printed: 2014.09.18 @ 14:16:11



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita KS 67202

ATTN: Robert Hendrix

Frisbie 'A' #1-6

6-2s-36w Rawlins,KS

Start Date: 2014.09.14 @ 21:06:00

End Date: 2014.09.15 @ 08:26:00

Job Ticket #: 60121 DST #: 4

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

Printed: 2014.09.18 @ 14:15:42



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60121

DST#: 4

ATTN: Robert Hendrix

Test Start: 2014.09.14 @ 21:06:00

GENERAL INFORMATION:

Formation: **LKC 'G'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:38:00

Time Test Ended: 08:26:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 4280.00 ft (KB) To 4334.00 ft (KB) (TVD)

Reference Elevations: 3267.00 ft (KB)

Total Depth: 4334.00 ft (KB) (TVD)

3256.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 6753 Outside

Press@RunDepth: 835.41 psig @ 4281.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.14

End Date:

2014.09.15

Last Calib.:

2014.09.15

Start Time:

21:06:05

End Time:

08:26:00

Time On Btm:

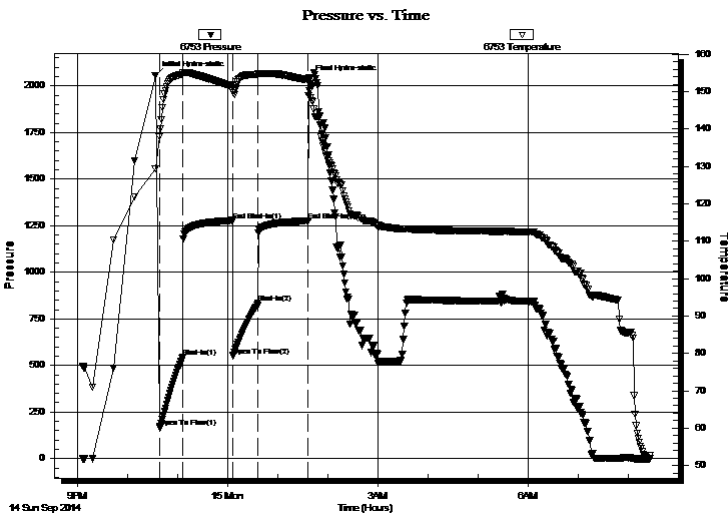
2014.09.14 @ 22:33:00

Time Off Btm:

2014.09.15 @ 01:37:00

TEST COMMENT: 30 - IF - Surface blow built to bottom of bucket in 3 min.
60 - ISI - No Return
30 - FF - Surface blow built to bottom of bucket in 3 min.
60 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2056.65	129.43	Initial Hydro-static
5	167.56	137.95	Open To Flow (1)
33	543.86	154.63	Shut-In(1)
93	1278.43	151.51	End Shut-In(1)
93	551.80	150.96	Open To Flow (2)
123	835.41	154.63	Shut-In(2)
184	1275.32	153.12	End Shut-In(2)
184	2036.50	152.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
493.00	OCW - 98W - 2o	5.03
493.00	OCW - 80W - 20o	6.92
493.00	OCW - 10W 0 90o	6.92
678.00	FO - 100o	9.51

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60121

DST#: 4

ATTN: Robert Hendrix

Test Start: 2014.09.14 @ 21:06:00

Tool Information

Drill Pipe:	Length: 4069.23 ft	Diameter: 3.80 inches	Volume: 57.08 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: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 96000.00 lb
			<u>Total Volume: 58.10 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.57 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4280.00 ft			Final 90000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	81.00 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			4258.00	
Hydraulic tool	5.00			4263.00	
Jars	5.00			4268.00	
Safety Joint	3.00			4271.00	
Packer	4.00			4275.00	27.00 Bottom Of Top Packer
Packer	5.00			4280.00	
Stubb	1.00			4281.00	
Recorder	0.00	8368	Inside	4281.00	
Recorder	0.00	6753	Outside	4281.00	
Perforations	16.00			4297.00	
Change Over Sub	1.00			4298.00	
Drill Pipe	31.00			4329.00	
Change Over Sub	1.00			4330.00	
Bullnose	4.00			4334.00	54.00 Bottom Packers & Anchor

Total Tool Length: 81.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60121

DST#: 4

ATTN: Robert Hendrix

Test Start: 2014.09.14 @ 21:06:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

27 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

50000 ppm

Viscosity: 76.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
493.00	OCW - 98W - 2o	5.027
493.00	OCW - 80W - 20o	6.915
493.00	OCW - 10W 0 90o	6.915
678.00	FO - 100o	9.511

Total Length: 2157.00 ft Total Volume: 28.368 bbf

Num Fluid Samples: 0

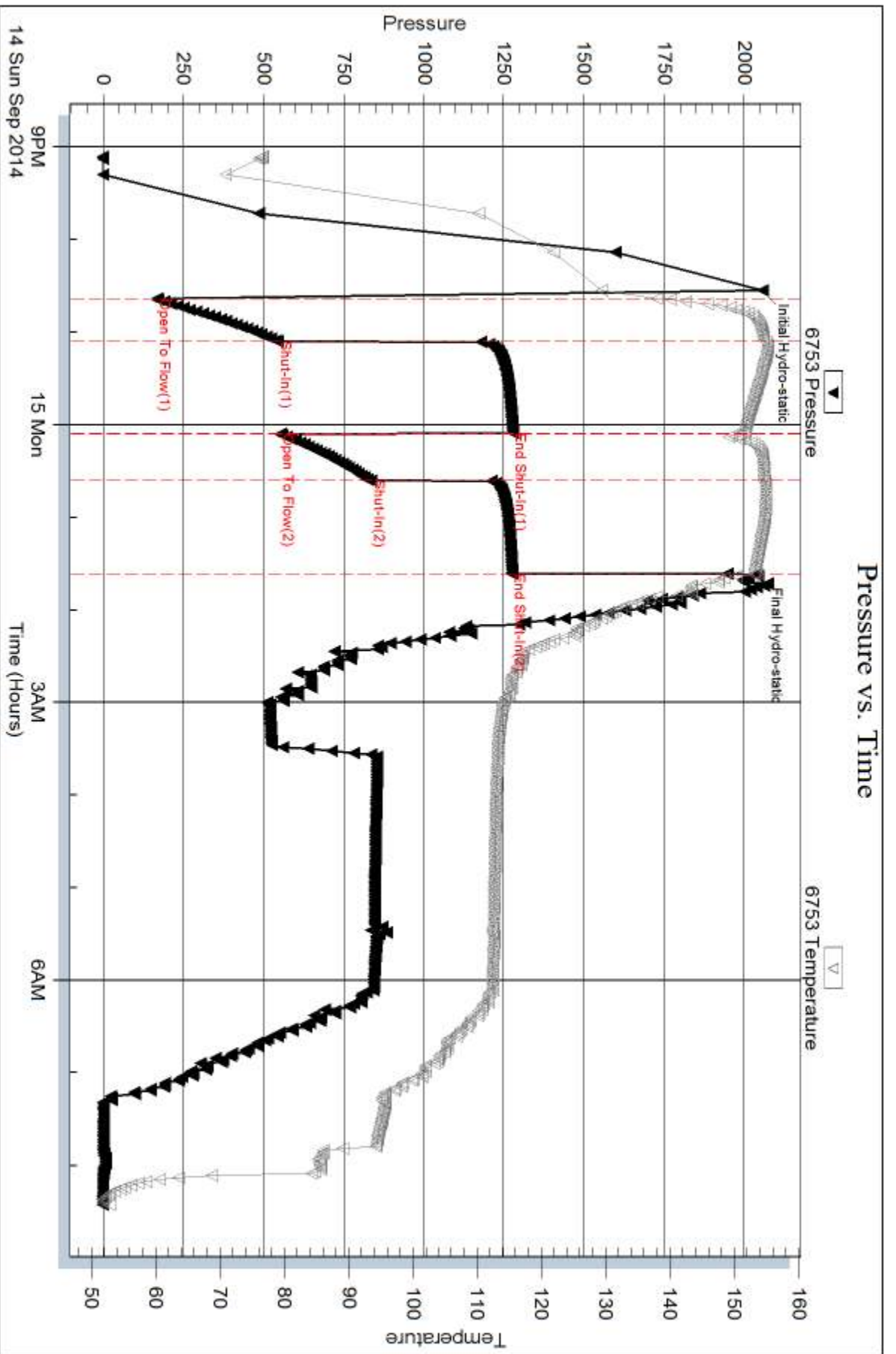
Num Gas Bombs: 0

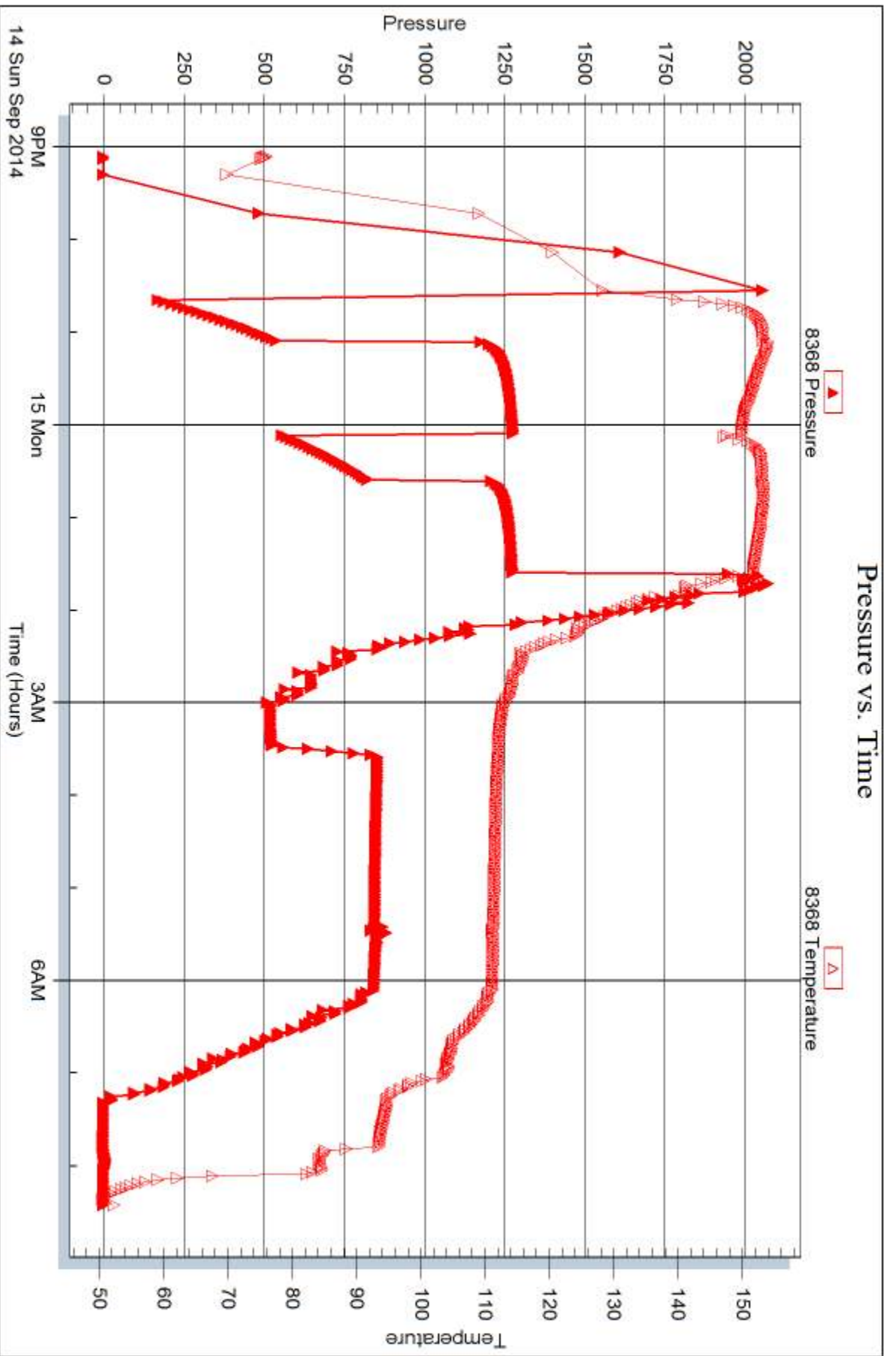
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Waited on a truck from 2:55am to 5:00am







DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita KS 67202

ATTN: Robert Hendrix

Frisbie 'A' #1-6

6-2s-36w Rawlins,KS

Start Date: 2014.09.15 @ 21:30:00

End Date: 2014.09.16 @ 06:11:30

Job Ticket #: 60122 DST #: 5

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

Printed: 2014.09.18 @ 14:14:27



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60122

DST#: 5

ATTN: Robert Hendrix

Test Start: 2014.09.15 @ 21:30:00

GENERAL INFORMATION:

Formation: **LKC 'H - J'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:41:45

Time Test Ended: 06:11:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 4338.00 ft (KB) To 4410.00 ft (KB) (TVD)

Reference Elevations: 3267.00 ft (KB)

Total Depth: 4410.00 ft (KB) (TVD)

3256.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8368

Inside

Press@RunDepth: 63.12 psig @ 4339.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.15

End Date:

2014.09.16

Last Calib.:

2014.09.16

Start Time: 21:30:05

End Time:

06:11:30

Time On Btm:

2014.09.15 @ 23:41:30

Time Off Btm:

2014.09.16 @ 03:42:15

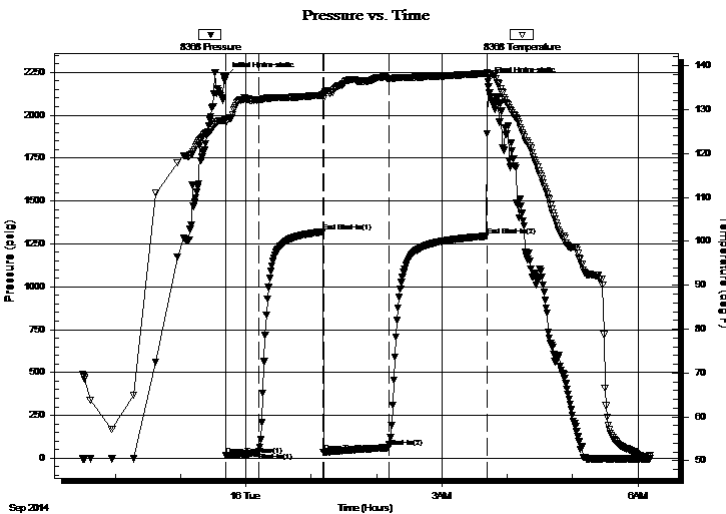
TEST COMMENT: 30 - IF - Surface blow built to 1 1/4"

60 - ISI - No Return

60 - FF - Surface blow started 27 min in, and held a weak surface blow

90 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2223.13	127.67	Initial Hydro-static
1	15.37	127.19	Open To Flow (1)
30	36.22	132.34	Shut-In(1)
90	1320.51	133.33	End Shut-In(1)
90	36.25	132.47	Open To Flow (2)
150	63.12	137.17	Shut-In(2)
240	1295.59	138.29	End Shut-In(2)
241	2197.06	137.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
78.00	OCM - 80M - 20o	0.38

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60122

DST#: 5

ATTN: Robert Hendrix

Test Start: 2014.09.15 @ 21:30:00

Tool Information

Drill Pipe:	Length: 4132.00 ft	Diameter: 3.80 inches	Volume: 57.96 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: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume: 58.98 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.34 ft			String Weight: Initial	84000.00 lb
Depth to Top Packer:	4338.00 ft			Final	84000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	72.00 ft				
Tool Length:	99.00 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			4316.00	
Hydraulic tool	5.00			4321.00	
Jars	5.00			4326.00	
Safety Joint	3.00			4329.00	
Packer	4.00			4333.00	27.00 Bottom Of Top Packer
Packer	5.00			4338.00	
Stubb	1.00			4339.00	
Recorder	0.00	8368	Inside	4339.00	
Recorder	0.00	6753	Outside	4339.00	
Perforations	34.00			4373.00	
Change Over Sub	1.00			4374.00	
Drill Pipe	31.00			4405.00	
Change Over Sub	1.00			4406.00	
Bullnose	4.00			4410.00	72.00 Bottom Packers & Anchor

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

6-2s-36w Rawlins,KS

250 N. Water, Ste 300
Wichita KS 67202

Frisbie 'A' #1-6

Job Ticket: 60122

DST#: 5

ATTN: Robert Hendrix

Test Start: 2014.09.15 @ 21:30:00

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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
78.00	OCM - 80M - 20o	0.384

Total Length: 78.00 ft Total Volume: 0.384 bbl

Num Fluid Samples: 0

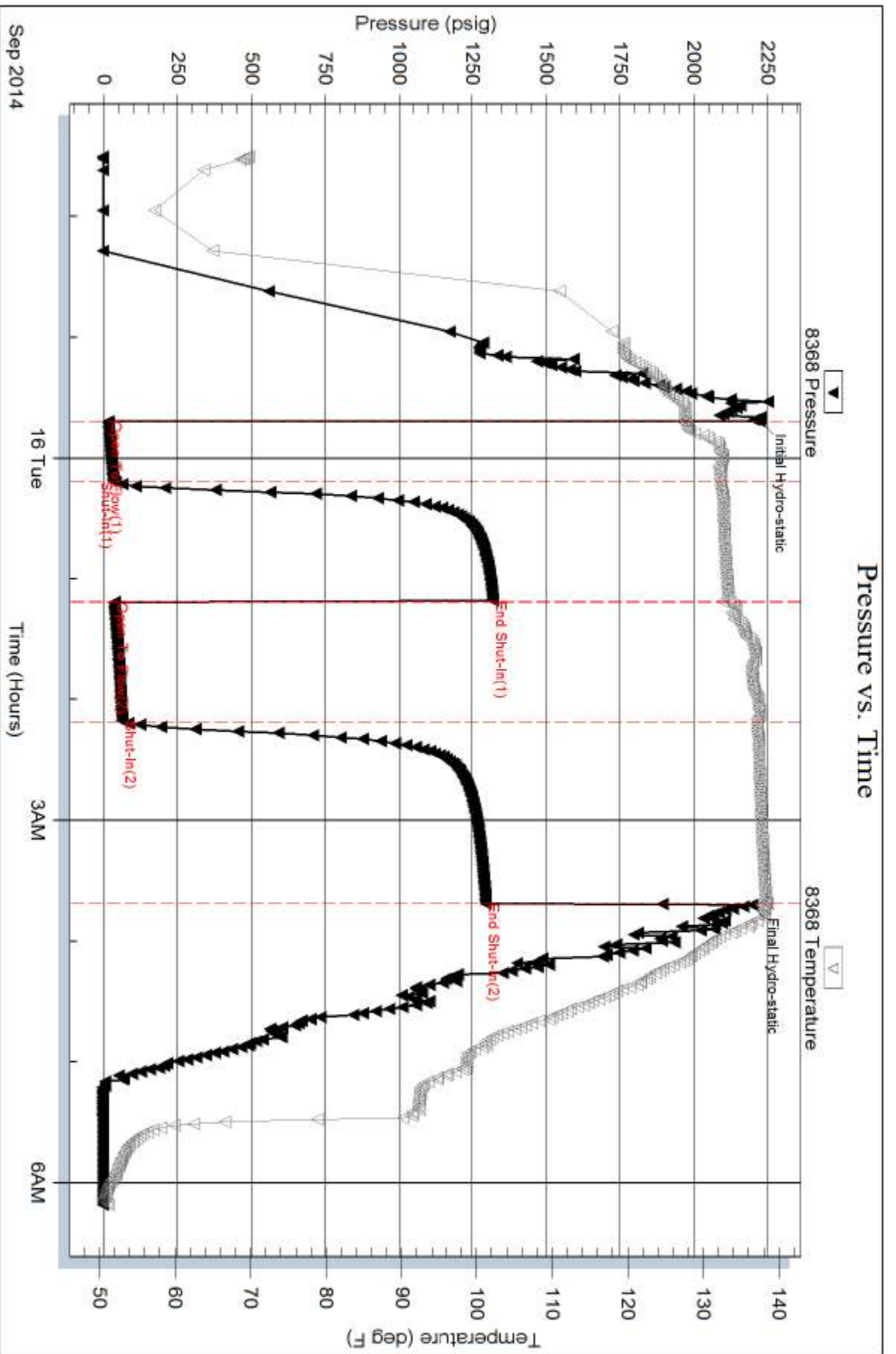
Num Gas Bombs: 0

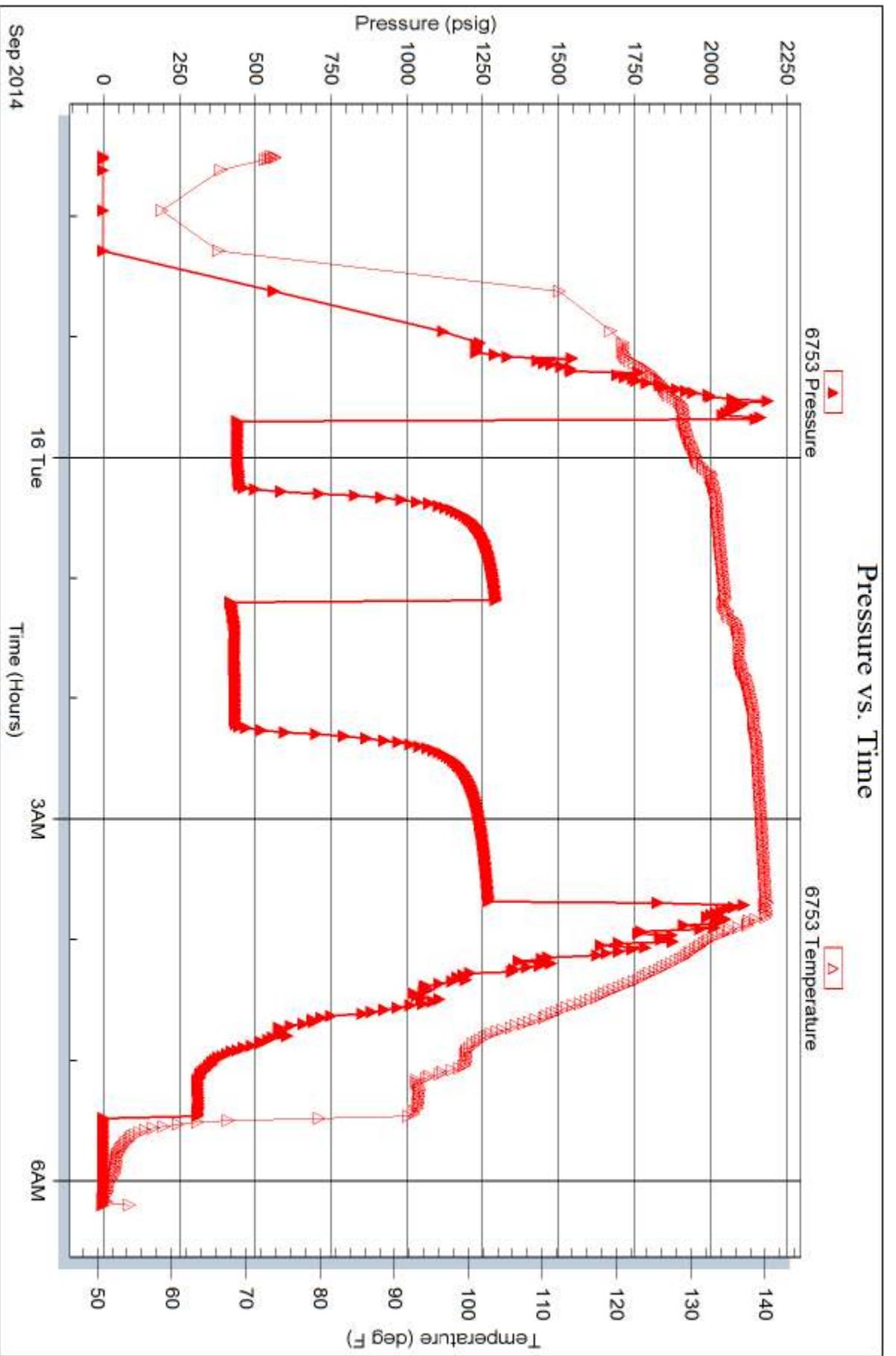
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60117

4/10

Well Name & No. Frisbie 'A' #1-6 Test No. 1 Date 9-12-14
 Company Murfin Drilling Co., Inc. Elevation 3267 KB 3256 GL
 Address 250 N Water, Ste 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendricks Rig Murfin #2
 Location: Sec. 6 Twp. 2S Rge. 36W Co. Lawlins State KS

Interval Tested 4058 - 4116 Zone Tested Oread
 Anchor Length 58' Drill Pipe Run 3848.69' Mud Wt. 9.0
 Top Packer Depth 4053 Drill Collars Run 207.34' Vis 62
 Bottom Packer Depth 4058 Wt. Pipe Run Ø WL 7.2
 Total Depth 4116 Chlorides 600 ppm System LCM 10#

Blow Description IF-Surface blow built up to 8"
ISI-No Return
FF-Surface blow built to bottom of the bucket in 53 min.
FST-No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20'</u>	<u>Mud</u>			<u>100</u>	
<u>63'</u>	<u>WM</u>		<u>30</u>	<u>70</u>	
<u>126'</u>	<u>MW</u>		<u>70</u>	<u>30</u>	
<u>189'</u>	<u>MW</u>		<u>95</u>	<u>5</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec Total <u>398'</u>	BHT <u>139°F</u>	Gravity	API RW <u>.180 @ 57 °F</u>	Chlorides <u>55,000</u>	ppm

(A) Initial Hydrostatic 2128 Test 1250 T-On Location 7:25 am
 (B) First Initial Flow 29 Jars 250 T-Started 8:44 am
 (C) First Final Flow 121 Safety Joint 75 T-Open 10:52 am
 (D) Initial Shut-In 1148 Circ Sub N/C T-Pulled 2:52 pm
 (E) Second Initial Flow 124 Hourly Standby _____ T-Out 5:38 pm
 (F) Second Final Flow 194 Mileage 114 RT 176.70 Comments _____
 (G) Final Shut-In 1139 Sampler _____
 (H) Final Hydrostatic 2048 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1751.70
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1751.70

Approved By _____

Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60119

Well Name & No. Frisbie 'A' #1-6 Test No. 2 Date 9-13-14
 Company Murfin Drilling Co., Inc Elevation 3267 KB 3256 GL
 Address 250 N. Water, Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Robert Hendricks Rig Murfin #2
 Location: Sec. 6 Twp. 2S Rge. 36W Co. Rawlins State Ks

Interval Tested 4139-4230 Zone Tested Lans. 'A'
 Anchor Length 91' Drill Pipe Run 3937.35' Mud Wt. 9.4
 Top Packer Depth 4134 Drill Collars Run 207.34' Vis 54
 Bottom Packer Depth 4139 Wt. Pipe Run 0 WL 8.0
 Total Depth 4230 Chlorides 800 ppm System LCM 8#

Blow Description IF-Surface blow built to 8 3/4"
ISI-No Return
FF-Surface blow built to bottom of bucket in 42 min.
FST-Return started 8min. in and built to 2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>30'</u>	<u>Free Oil</u>	<u>100</u>			
<u>174'</u>	<u>ccwm</u>	<u>60</u>	<u>10</u>	<u>30</u>	
<u>126'</u>	<u>ccwm</u>	<u>20</u>	<u>30</u>	<u>50</u>	

Rec Total 330' BHT 140°F Gravity 36@60 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2141 Test 1250 T-On Location 7:45am
 (B) First Initial Flow 21 Jars 250 T-Started 8:20am
 (C) First Final Flow 97 Safety Joint 75 T-Open 10:10am
 (D) Initial Shut-In 1202 Circ Sub N/C T-Pulled 2:10pm
 (E) Second Initial Flow 108 Hourly Standby T-Out 4:59pm
 (F) Second Final Flow 150 Mileage 114 R/T 176.70 Comments Bull nose keeps
 (G) Final Shut-In 1152 Sampler plugging up.
 (H) Final Hydrostatic 2149 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder Sub Total
 Day Standby Total
 Accessibility MP/DST Disc't

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1751.70

Approved By Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60120

Well Name & No. Frisbie 'A' #1-6 Test No. 3 Date 9-14-14
 Company Murfin Drilling Co., Inc Elevation 3267 KB 3256 GL
 Address 250 N. Water, Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Robert Hendricks Rig Murfin #2
 Location: Sec. 6 Twp. 2N Rge. 36W Co. Rawlins State Ks

Interval Tested 4219'-4265' Zone Tested Lans. - 'D'
 Anchor Length 46' Drill Pipe Run 4005.88' Mud Wt. 9.4
 Top Packer Depth 4214' Drill Collars Run 207.34' Vis 54
 Bottom Packer Depth 4219' Wt. Pipe Run Ø WL 8.0
 Total Depth 4265' Chlorides 800 ppm System LCM 8#

Blow Description IF - Surface blow built to bottom of bucket in 2 min.
ISZ - No return
FF - Surface blow built to bottom of bucket in 4 min.
FSZ - No return

Rec	Feet of	%gas	spots	%oil	%water	%mud
<u>630'</u>	<u>OSMW</u>			<u>55</u>	<u>45</u>	
<u>630</u>	<u>OSMW</u>			<u>85</u>	<u>15</u>	
<u>945'</u>	<u>Ø MW</u>			<u>95</u>	<u>5</u>	
Rec	Feet of	%gas		%oil	%water	%mud
Rec	Feet of	%gas		%oil	%water	%mud

Rec Total 2205' BHT 150°F Gravity _____ API RW .393 @ 51 °F Chlorides 32,000 ppm

(A) Initial Hydrostatic 2124 Test 1250 T-On Location 1:45 am
 (B) First Initial Flow 80 Jars 250 T-Started 2:05 am
 (C) First Final Flow 671 Safety Joint 75 T-Open 4:03 am
 (D) Initial Shut-In 1199 Circ Sub N/C T-Pulled 7:03 am
 (E) Second Initial Flow 679 Hourly Standby _____ T-Out 9:33 am
 (F) Second Final Flow 987 Mileage 114 RT 176.70 Comments _____
 (G) Final Shut-In 1196 Sampler _____
 (H) Final Hydrostatic 2003 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 0
 Total 1751.70
 Sub Total 1751.70
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60121

Well Name & No. Frisbie 'A' #1-6 Test No. 4 Date 9-14-14
 Company Murfin Drilling Co., Inc. Elevation 3267 KB 3256 GL
 Address 250 N. Water, Ste 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendricks Rig Murfin #2
 Location: Sec. 6 Twp. 2N Rge. 36W Co. Rawlins State KS

Interval Tested 4280 - 4334 Zone Tested Lans. - 'G'
 Anchor Length 54 Drill Pipe Run 4069.23 Mud Wt. 9.1
 Top Packer Depth 4275 Drill Collars Run 207.34 Vis 76
 Bottom Packer Depth 4280 Wt. Pipe Run 0 WL 5.6
 Total Depth 4334 Chlorides 800 ppm System LCM 10#

Blow Description IF - Surface blow built to bottom of bucket in 3 min.
ISI - No Return
FF - Surface blow built to bottom of bucket in 3 min.

678' FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
493	<u>Free Oil - 493</u>	<u>100</u>			
<u>493</u>	<u>OCW</u>	<u>910</u>	<u>8</u>	<u>10</u>	
<u>493</u>	<u>OCW</u>	<u>20</u>	<u>80</u>		
<u>493</u>	<u>OCW</u>	<u>2</u>	<u>98</u>		

Rec Total 2157' BHT 153°F Gravity 27 corrected API RW .195 @ 54 °F Chlorides 50,000 ppm

(A) Initial Hydrostatic 2056 Test 1250 T-On Location 9:00pm
 (B) First Initial Flow 167 Jars 250 T-Started 9:06pm
 (C) First Final Flow 543 Safety Joint 75 T-Open 10:36pm
 (D) Initial Shut-In 1278 Circ Sub Dropped bar T-Pulled 1:36am
 (E) Second Initial Flow 557 Hourly Standby 1.5h 150 50 T-Out 8:27am
 (F) Second Final Flow 835 Mileage 114 RT 176.70 Comments waited on a truck from 2:55am to 5:00am
 (G) Final Shut-In 1275 Sampler _____
 (H) Final Hydrostatic 2036 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 30 Extra Copies _____
 Final Shut-In 60 Sub Total 0
 Total 1951.70
 Sub Total 1951.70 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60122

Well Name & No. Frisbie A' #1-6 Test No. 5 Date 9-15-14
 Company Murkin Drilling Co., Inc. Elevation 3267 KB 3256 GL
 Address 250 N. water, Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Robert Hendrix Rig Murkin #2
 Location: Sec. 6 Twp. 2S Rge. 36W Co. Rawlins State Ks

Interval Tested 4338 - 4410 Zone Tested Lans, H-J
 Anchor Length 72' Drill Pipe Run 4132 Mud Wt. 9.2
 Top Packer Depth 4333 Drill Collars Run 207.34' Vis 69
 Bottom Packer Depth 4338 Wt. Pipe Run 0 WL 5.6
 Total Depth 4410 Chlorides 800 ppm System LCM 9#
 Blow Description IF - surface blow built to 1 1/4"
ISI - No Return
FF - surface blow started 27 min. in and built to
FST - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>78'</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	Feet of	%gas	%oil	%water	%mud

Rec Total 78' BHT 138°F Gravity 1250 API RW 250 @ 176.70 °F Chlorides 800 ppm

(A) Initial Hydrostatic 2223 Test 1250 T-On Location 9:10 pm
 (B) First Initial Flow 15 Jars 250 T-Started 9:30 pm
 (C) First Final Flow 36 Safety Joint 75 T-Open 11:41 pm
 (D) Initial Shut-In 1320 Circ Sub N/C T-Pulled 3:41 am
 (E) Second Initial Flow 36 Hourly Standby T-Out 6:12 am
 (F) Second Final Flow 63 Mileage 114 RT 176.70 Comments Picked up tool
 (G) Final Shut-In 1295 Sampler 176.70 on 9-17-14 on location from
 (H) Final Hydrostatic 2197 Straddle 3:35 pm to 5:00 pm
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Initial Open 33 Shale Packer
 Initial Shut-In 60 Extra Packer
 Final Flow 60 Extra Recorder
 Final Shut-In 90 Day Standby 1d 8.75h Sub Total 800
 Accessibility Total 2728.40
 Sub Total 1928.40 MP/DST Disc't

Approved By _____ Our Representative [Signature]
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Robert D. Hendrix

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

Murfin Drilling Co, Inc.

LEASE: Frisbie, A#1-6

FIELD: Wildcat

LOCATION: 23101st & 3307el

SEC: 6 TWP: 2S R: 30W

COUNTY: Rawlins STATE: Kansas

CONTRACTOR: Murfin Drilling Co, Inc. Rig #2

SPUD: 9/8/2014 COMP: 9/18/2014

RTD: 48240' TYPE MUD: Chemical

MUD UP: 3245' TO TD

SAMPLES SAVED FROM: 3550' TO TD

DRILLING TIME KEPT FROM: 3550' TO TD

SAMPLES EXAMINED FROM: 3550' TO TD

ELECTRICAL SURVEYS

PRODUCTION: 5-1/2" at 4815'

GEOLOGICAL SUPERVISION FROM: 3564'

GEOLOGIST ON WELL: Robert D. Hendrix

Company: Murfin Drilling Co, Inc.

Company: Frisbie, A#1-6

Company: Wildcat

Company: 23101st & 3307el

Company: 6 TWP: 2S R: 30W

Company: Rawlins STATE: Kansas

Company: Murfin Drilling Co, Inc. Rig #2

Company: 9/8/2014 COMP: 9/18/2014

Company: 48240' TYPE MUD: Chemical

Company: 3245' TO TD

Company: 3550' TO TD

Company: 3550' TO TD

Company: ELECTRICAL SURVEYS

Company: PRODUCTION: 5-1/2" at 4815'

Company: GEOLOGICAL SUPERVISION FROM: 3564'

Company: GEOLOGIST ON WELL: Robert D. Hendrix

Company: Murfin Drilling Co, Inc.

Company: Frisbie, A#1-6

Company: Wildcat

Company: 23101st & 3307el

Company: 6 TWP: 2S R: 30W

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	3156 (+111)	3158 (+109)
Neva	3642 (-273)	3649 (-382)
Topeka	4075 (-808)	3979 (-712)
Oread	4105 (-838)	4106 (-839)
Lansing	4192 (-926)	4193 (-926)
BKC	4410 (-1143)	4412 (-1145)
Stark	4464 (-1197)	4464 (-1197)
Lawrence	4531 (-1324)	4532 (-1325)
Cherokee Shale	4658 (-1401)	4655 (-1398)

REMARKS:

APPL 15-153-21053

DEPTH	DRILLING TIME IN MINUTES PER FOOT	Rate of Penetration Decreases
5		
10		
15		

DEPTH	LITHOLOGY	DESCRIPTION	REMARKS
3100	Anhydrite		Anhydrite 3158 (+109)
3200	Base Anhydrite		Base Anhydrite 3194 (+73)
3550	Sandstone: red, gray, brown, silty, v-fn gr, prly sorted, subang, friable, calcareously cemented, no vis por		Geologist on location 3564' at 2:00 pm 9/10/2014
3600	Shale: red, gray, brown, silty, v-sandy in part		
3650	Sandstone: white to lt gray, v-fn gr, prly sorted, subang, semi-friable, no vis por		
3700	Shale: red, gray, brown, silty, v-sandy in part		
3750	Limestone: white, mxn, sl chalky, oolitic, fossiliferous, no vis por, small amount of black flaky dead oil stain, nfo, no odor		Neva 3649 (-382)
3800	Shale: red, brown, silty, sandy		
3850	Shale: red, brown, silty, sandy		
3900	Sandstone: gray to green, hard, biotitic, frng, submd, mod sorted, calcareous, no vis por		
3950	Shale: red, brown, silty, sandy		
4000	Limestone: gray to tan, fxn, cherty, fossiliferous, no vis por, ns		Red Eagle 3713 (-446)
4050	Shale: red, brown, gray, silty		
4100	Shale: red, brown, gray, silty		
4150	Limestone: tan to gray, f-mxn, sl cherty, no vis por, ns		Foraker 3759 (-492)
4200	Limestone: tan, fxn, granular, sl fossiliferous, no vis por, ns		
4250	Shale: gray, green, silty		
4300	Limestone: tan, fxn, sl chalky, granular, fossiliferous, no vis por		
4350	Shale: gray, green, silty		
4400	Shale: gray, red, black		
4450	Limestone: tan to white, fxn, sl cherty, granular, no vis por		8:00am, 9/11/2014
4500	Shale: red, gray, silty		wt 9.0, vis. 62, lcm 10# Morgan Mud, Dave Lines
4550	Limestone: tan to white, fxn, granular, fossiliferous, no vis por		
4600	Shale: red, gray, silty		
4650	Limestone: gray to brown, fxn, sl fossiliferous, no vis por		
4700	Shale: red, gray, silty		
4750	Limestone: white, m-ixn, v-fossiliferous, fr interxn por, ns		Stotter 3916 (-649)
4800	Limestone: white, mxn, oolitic, v-fossiliferous, no vis por, gd black flaky dead oil stain, nfo, no odor		
4850	Shale: gray, red, silty		
4900	Limestone: white, mxn, v-fossiliferous, pyritic, sl interxn por, gd black asphaltic stain, nfo, no odor		
4950	Shale: gray, red, silty		
5000	Limestone: white, mxn, sl chalky, oolitic, v-fossiliferous, no vis por, ns		Topeka 3979 (-712)
5050	Limestone: white, m-ixn, oolitic, v-fossiliferous, fr interxn por, ns		
5100	Limestone: white, mxn, oolitic, v-fossiliferous, pyritic, sl interxn por, gd black asphaltic stain, nfo, no odor		
5150	Shale: gray, red, silty		
5200	Limestone: white, mxn, sl chalky, oolitic, v-fossiliferous, no vis por, ns		
5250	Limestone: white, fxn, dense, sl fossiliferous, no vis por, ns		
5300	Shale: gray, red, purple, silty		DST #1 4058-4116 30-60-60-90 1st open: blow built to 8" 2nd open: bob in 53 min no returns Rec: 20' mud 63' wco 30/70 126' mw 30/70 189' mw 5/95 hydro: 2128-2048 psi ff: 124-194 psi sfp: 1148-1139 psi bht: 139°F chl: 55,000 ppm
5350	Limestone: white, f-mxn, fossiliferous, sl oolitic, fr pp to vug por, gd dark sat stain, gdsfo, faint odor		Oread 4106 (-839)
5400	Limestone: white, f-mxn, chalky, sl pyritic, fossiliferous, sl interxn por, pr dark spotty stain, nfo		8:00am, 9/12/2014 wt 9.2, vis. 69, lcm 10# Morgan Mud, Dave Lines
5450	Shale: red, gray, brown black		
5500	Limestone: brown, fxn, dense, no vis por, ns		
5550	Shale: black, gray, brown, silty		
5600	Sandstone: gray, frng, mod sorted, submd, semi-friable, gd intergranular por, fl sat stain, gdsfo on break, faint odor		
5650	Shale: red, gray, brown black		
5700	Limestone: tan to white, f-mxn, oolitic, fossiliferous, 1% of sample of sl calcareous por, gd dark sat stain, prsfo, faint odor		Lansing 4193 (-926)
5750	Limestone: tan to white, fxn, dense, sl fossiliferous, no vis por		
5800	Shale: gray, red		
5850	Sandstone: tan, gray to white, frng, mod sorted, submd, calcareous, no vis por, flaky dead oil stain, nfo, no odor		
5900	Shale: gray, red, brown, black		
5950	Limestone: white, f-mxn, sl chalky, fossiliferous, pyritic, 25% sample fr interxn por, black sat stain, frsfo (some dead), faint odor		
6000	Limestone: tan to brown, fxn, dense, fossiliferous, no vis por		8:00am, 9/13/2014 wt 9.3, vis. 54, lcm 9# Morgan Mud, Dave Lines
6050	Shale: gray, red, black		
6100	Limestone: tan, fxn, granular, fossiliferous, sl cherty, no vis por		8:00am, 9/14/2014 wt 9.1, vis. 76, lcm 10# Morgan Mud, Dave Lines
6150	Shale: gray, red, silty		
6200	Limestone: white to tan, f-mxn, sl chalky, oolitic, fossiliferous, no vis por, ns		
6250	Limestone: white, fxn, sl chalky, dense, fossiliferous, no vis por, ns		
6300	Upon 3rd examination of samples I was able to locate 3 pieces with dark sat stain in the dry sample		
6350	Shale: gray light to dark, red blocky		
6400	Limestone: tan to brown, fxn, dense, fossiliferous, no vis por		8:00am, 9/15/2014 wt 9.2, vis. 69, lcm 9# Morgan Mud, Dave Lines
6450	Shale: gray, red, brown, silty, blocky		
6500	Limestone: white, fxn, sl chalky, fossiliferous, sl pp por, 5 pieces fl spotty stain, v-satfo on break, no odor		
6550	Shale: gray, red		
6600	Limestone: white to lt gray, fxn, sl fossiliferous, no vis por, 10 pieces fl spotty, v-satfo on break, no odor		
6650	Limestone: white, f-mxn, sl chalky, oolitic in part, fossiliferous, dense in part, 25% sample pr interxn por, fl sat stain, sfsfo, no odor		8:00am, 9/16/2014
6700	Shale: gray light to dark, red		Stark 4412 (-1145)
6750	Limestone: white, f-mxn, chalky, oolitic in part, fossiliferous, dense, no vis por, ns		wt 9.0, vis. 60, lcm 8# Morgan Mud, Dave Lines
6800	Shale: gray, green, red, silty		
6850	Limestone: white to lt gray, fxn, sl chalky, fossiliferous, dense, no vis por		
6900	Shale: gray, red		
6950	Sandstone: brown, biotitic, vfrng, sub md, well sorted, sl calcareous, no vis por, ns		
7000	Limestone: white, f-mxn, chalky, fossiliferous, no vis por		
7050	Shale: gray, green, red, brown, sl sandy		
7100	Limestone: tan, fxn, sl chalky, dense, fossiliferous, no vis por		
7150	Shale: gray, red, brown, silty		
7200	Limestone: tan to white, fxn, sl chalky, dense, fossiliferous, no vis por		
7250	Shale: gray, red, silty		
7300	Limestone: white, f-mxn, oolitic, sl cherty, fossiliferous, no vis por		
7350	Limestone: white, fxn, dense, fossiliferous, no vis por		
7400	Limestone: white to tan, fxn, oolitic, fossiliferous, no vis por		
7450	Limestone: tan to brown, fxn, dense, pyritic, no vis por		
7500	Shale: black carbonaceous, gray		8:00am, 9/17/2014
7550	Limestone: white to tan, fxn, sl chalky, oolitic in part, fossiliferous, no vis por		
7600	Shale: gray, red		
7650	Limestone: white to tan, fxn, sl chalky, dense, hard, fossiliferous, no vis por		
7700	Sandstone: white, lt, biotitic, mdgrn, sub ang, moderately sorted, calcareous, hard, no vis por, ns		
7750	Limestone: tan to brown, fxn, dense, hard, sl fossiliferous, no vis por		
7800	Shale: gray, red		wt 9.3, vis. 55, lcm 8# Morgan Mud, Dave Lines
7850	Shale: gray, red		
7900	Shale: gray, green, brown, red		
7950	Limestone: white to tan, fxn, sl chalky, dense, sl fossiliferous, no vis por		
8000	Sandstone: white to tan, sl biotitic, fr-mdgrn, sub md, mod sorted, calcareous, semi-friable, no vis por, ns		
8050	Shale: gray, green, yellow, brown, red, v-sandy		
8100	Limestone: tan to white, fxn, chalky, sl fossiliferous, no vis por		
8150	Shale: gray, green, yellow, red		
8200	Sandstone: white, lt, sl biotitic, mdgrn, sub md, mod sorted, calcareous, hard, no vis por, ns		
8250	Shale: red, yellow, gray		
8300	Sandstone: white, lt, sl biotitic, mdgrn, sub md, mod sorted, calcareous, hard, no vis por, ns		
8350	Limestone: tan to white, fxn, chalky, no vis por		
8400	Shale: gray, red, yellow		
8450	Limestone: tan to white, fxn, chalky, no vis por		
8500	Shale: gray, red, yellow		
8550	Limestone: tan to white, fxn, chalky, no vis por		
8600	Shale: gray, red, yellow		
8650	Limestone: tan to white, fxn, chalky, no vis por		
8700	Shale: gray, red, yellow		
8750	Limestone: tan to white, fxn, chalky, no vis por		
8800	Shale: gray, red, yellow		
8850	Limestone: tan to white, fxn, chalky, no vis por		
8900	Shale: gray, red, yellow		
8950	Limestone: tan to white, fxn, chalky, no vis por		
9000	Shale: gray, red, yellow		
9050	Limestone: tan to white, fxn, chalky, no vis por		
9100	Shale: gray, red, yellow		
9150	Limestone: tan to white, fxn, chalky, no vis por		
9200	Shale: gray, red, yellow		
9250	Limestone: tan to white, fxn, chalky, no vis por		
9300	Shale: gray, red, yellow		
9350	Limestone: tan to white, fxn, chalky, no vis por		
9400	Shale: gray, red, yellow		
9450	Limestone: tan to white, fxn, chalky, no vis por		
9500	Shale: gray, red, yellow		
9550	Limestone: tan to white, fxn, chalky, no vis por		
9600	Shale: gray, red, yellow		
9650	Limestone: tan to white, fxn, chalky, no vis por		
9700	Shale: gray, red, yellow		
9750	Limestone: tan to white, fxn, chalky, no vis por		
9800	Shale: gray, red, yellow		
9850	Limestone: tan to white, fxn, chalky, no vis por		
9900	Shale: gray, red, yellow		
9950	Limestone: tan to white, fxn, chalky, no vis por		
10000	Shale: gray, red, yellow		