



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1206604
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
-----------------------------------	-----------------	---

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: _____

1206604

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
--	---

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
----------------	-------	---------	------------	---

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	Beckman 1-18
Doc ID	1206604

All Electric Logs Run

Dual Induction
Dual Compensated
Microresistivity
Borehole Compensated



PO Box 93999
Southlake, TX 76092

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

*acct
Prod-LH*

INVOICE

Invoice Number: 142183
Invoice Date: Mar 27, 2014
Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	55174	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Russell	Mar 27, 2014	4/26/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Beckman #1-16 1-18		
300.00	CEMENT MATERIALS	60/40 Blend	14.93	4,479.00
516.00	CEMENT MATERIALS	Gel	0.24	123.84
774.00	CEMENT MATERIALS	Chloride	0.80	619.20
300.00	CEMENT SERVICE	Cubic Feet Charge	2.48	744.00
322.50	CEMENT SERVICE	Ton Mileage Charge	2.60	838.50
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
50.00	CEMENT SERVICE	Heavy Vehicle Mileage	7.70	385.00
25.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	110.00
1.00	CEMENT SUPERVISOR	Tony Pfannenstiel		
1.00	OPERATOR ASSISTANT	Danny Sinner		
1.00	OPERATOR ASSISTANT	Joe Goodson		

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

\$ 3,084.12 *du 336*

ONLY IF PAID ON OR BEFORE

Apr 21, 2014

Subtotal	8,811.79
Sales Tax	425.60
Total Invoice Amount	9,237.39
Payment/Credit Applied	
TOTAL	9,237.39

OK JR

3084.12
6153.27

ALLIED OIL & GAS SERVICES, LLC 055174

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT
Russell Kc

DATE <u>3.27.14</u>	SEC <u>18</u>	TWP <u>7</u>	RANGE <u>29</u>	CALLED OUT	ON LOCATION	JOB START <u>6:00</u>	JOB FINISH <u>6:30 AM</u>
LEASE <u>Bedeman</u>	WELL # <u>1-18</u>	LOCATION <u>Box 18</u>	COUNTY <u>Shelden</u>	STATE <u>Ks</u>			
OLD OR <input checked="" type="radio"/> NEW (Circle one)		<u>ID W 3 n 1/2 e n 140</u>					

CONTRACTOR <u>Murfin #7</u>	OWNER
TYPE OF JOB <u>12 1/4 SW/90</u>	CEMENT
HOLE SIZE <u>8 5/8</u>	AMOUNT ORDERED <u>300 SK</u>
CASING SIZE <u>8 5/8</u>	<u>60' 40 + 2' 80 + 31' 00</u>
TUBING SIZE	
DRILL PIPE	
TOOL	
PRES. MAX	COMMON <u>300 SK @ 1493.44/99.00</u>
MEAS. LINE	POZMIX @
CEMENT LEFT IN CSG. <u>15'</u>	GEL <u>516 @ .24 123.84</u>
PERFS.	CHLORIDE <u>774 lb @ .80 \$ 619.20</u>
DISPLACEMENT <u>18.86 H2O</u>	ASC @

EQUIPMENT		
PUMP TRUCK	CEMENTER <u>Andy Henrich</u>	
# <u>417</u>	HELPER <u>Denny S</u>	
BULK TRUCK		
# <u>473</u>	DRIVER <u>Joe C</u>	
BULK TRUCK		
#	DRIVER	
	HANDLING <u>300 Pcs @ 2.48 \$ 744.00</u>	
	MILEAGE <u>328.50 TM @ 2.50 \$ 821.50</u>	
REMARKS:	TOTAL <u>\$ 6804.54</u>	

SERVICE	
DEPTH OF JOB <u>311'</u>	
PUMP TRUCK CHARGE <u>1513.25</u>	
EXTRA FOOTAGE @	
MILEAGE <u>heavy 50m @ 7.70 \$ 385.00</u>	
MANIFOLD <u>high 25m @ 4.40 \$ 110.00</u>	
CHARGE TO: <u>Martin Drilling</u>	TOTAL <u>\$ 2009.25</u>

STREET _____

CITY _____ STATE _____ ZIP 67665

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 Fred Williams

SIGNATURE [Signature]

PLUG & FLOAT EQUIPMENT	
	@
	@
	@
	@
	@
TOTAL	

SALES TAX (if Any) _____

TOTAL CHARGES \$ 8811.79

DISCOUNT 3084.12 IF PAID IN 30 DAYS

Net 5727.67



acct. Prod-MG

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 142364
Invoice Date: Apr 4, 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	61335	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Apr 4, 2014	5/4/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Beckman #1-46 /- / 8		
132.00	CEMENT MATERIALS	Class A Common	17.90	2,362.80
88.00	CEMENT MATERIALS	Pozmix	9.35	822.80
8.00	CEMENT MATERIALS	Gel	23.40	187.20
55.00	CEMENT MATERIALS	Flo Seal	2.97	163.35
236.28	CEMENT SERVICE	Cubic Feet Charge	2.48	585.97
394.80	CEMENT SERVICE	Ton Mileage Charge	2.60	1,026.48
1.00	CEMENT SERVICE	Plug to Abandon	2,483.59	2,483.59
40.00	CEMENT SERVICE	Pump Truck Mileage	7.70	308.00
40.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	176.00
1.00	EQUIPMENT SALES	8-5/8 Wooden Plug	110.00	110.00
1.00	EQUIPMENT OPERATOR	Paul Beaver		
1.00	OPERATOR ASSISTANT	Brandon Wilkinson		

Subtotal	8,226.19
Sales Tax	670.43
Total Invoice Amount	8,896.62
Payment/Credit Applied	
TOTAL	8,896.62

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

\$ 2,840.66 ✓

ONLY IF PAID ON OR BEFORE
Apr 29, 2014

ok

$8,896.62 - 2,840.66 = 6,055.96$

ALLIED OIL & GAS SERVICES, LLC 061335

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley KS

DATE <u>4-4-14</u>	SEC <u>18</u>	TWP <u>7</u>	RANGE <u>29</u>	CALLED OUT	ON LOCATION <u>7:00 p.m.</u>	JOB START <u>9:30 am</u>	JOB FINISH <u>10:30 am</u>
LEASE <u>Bedman</u> WELL# <u>1-10</u>		LOCATION <u>Hoxie 10 W 3 N 1/2 E</u>		COUNTY <u>Sheridan</u>	STATE <u>KS</u>		
OLD OR <u>NEW</u> (Circle one)		<u>N+E into</u>					

CONTRACTOR Murfin 7 OWNER Same

TYPE OF JOB PTA

HOLE SIZE <u>7 7/8</u>	T.D. <u>4580'</u>
CASING SIZE	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE <u>4 1/2</u>	DEPTH <u>2560'</u>
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT <u>5 bl water / 27.85 bl mud</u>	

EQUIPMENT

CEMENT			
AMOUNT ORDERED	<u>220 sks 60/40</u>		
<u>4% gel 1/4" Flo-seal</u>			
COMMON	<u>132 sks @ 17.90</u>	<u>2362.80</u>	
POZMIX	<u>88 sks @ 2.35</u>	<u>202.80</u>	
GEL	<u>8 sks @ 23.40</u>	<u>187.20</u>	
CHLORIDE	@		
ASC	@		
<u>Flo-seal</u>	<u>55 @ 2.97</u>	<u>163.35</u>	
	@		
	@		
	@		
	@		
	@		
	@		
	@		
HANDLING	<u>236.2845 @ 2.48</u>	<u>585.97</u>	
MILEAGE	<u>9.87 hrs x 40 mi/h</u>	<u>2.66</u>	<u>1026.48</u>
		TOTAL	<u>5148.60</u>

PUMP TRUCK # <u>431</u>	CEMENTER <u>Paul Brewer</u>
	HELPER <u>Brandon Wilkinson</u>
BULK TRUCK # <u>396</u>	DRIVER <u>Tuan 1 (TWS)</u>
BULK TRUCK #	DRIVER

REMARKS:

1st plug mix 25 sks @ 2560'
Disp Place w/ mud

2nd plug mix 100 sks @ 1710'
Displace w/ water

3rd plug mix 40 sks @ 350'

4th plug mix 10 sks @ 40' w/ plug

mix 30 sks in R.H

mix 15 sks in m.H

CHARGE TO: Murfin Dring

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB	<u>2560'</u>	
PUMP TRUCK CHARGE	<u>2483.57</u>	
EXTRA FOOTAGE	@	
MILEAGE MILV	<u>40 @ 7.70</u>	<u>308.00</u>
MANIFOLD	@	
MILV	<u>40 @ 4.46</u>	<u>176.00</u>
	@	
		TOTAL <u>2967.57</u>

PLUG & FLOAT EQUIPMENT

<u>8 5/8 wooden plug</u>	@	<u>110.00</u>
	@	
	@	
	@	
	@	
		TOTAL <u>110.00</u>

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 Fred Williams

SIGNATURE [Signature]

SALES TAX (if Any) _____

TOTAL CHARGES 8,226.19

DISCOUNT 2,840.66 (35%) IF PAID IN 30 DAYS

5,385.52 Net.

Beckman #1-18
 Daily Drilling Report
 Page Two

4/4/14 Depth 4580'. Cut 260'. DT: None. CT: 4¼ hrs. Dev.: None. HC @ 5:00AM 4/4.
 CF Log

4/5/14 RTD: 4580'. CT: 19½ hrs. Pioneer logged 10:30AM -3:45PM 4/4. LTD: 4578'.
 Allied plugged from 7:30PM – 10:30PM 4/4, using 60/40 Poz, 4%Gel, ¼#Flo seal,
 25sxs @ 2650', 100sxs @ 1710', 40sxs @ 350', 10sxs @ 40', 30sxs RH, 15sxs
 MH. Orders by Pat Staab KCC Hays. RR@ 2:30AM 4/5/14. FINAL REPORT.

Beckman #1-18 2150' FNL 2310' FEL Sec. 18-7S-29W 2886' KB							Beckman 'A' #1-16 1903' FSL 1340' FWL Sec. 16-7S-29W 2876' KB	
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	2550	+336	Flat	2551	+335	-1	2540	+336
B/Anhydrite	2587	+299	-1	2580	+306	+6	2576	+300
Topeka	3748	-862	-4	3741	-855	+3	3734	-858
Heebner	3934	-1048	+6	3934	-1048	+6	3930	-1054
Lansing	3977	-1091	+7	3974	-1088	+10	3974	-1098
Stark	4146	-1260	+13	4148	-1262	+11	4149	-1273
BKC	4194	-1308	+10	4196	-1310	+8	4194	-1318
Pawnee	4307	-1421	+9	4308	-1422	+8	4306	-1430
Ft Scott	4386	-1500	+14	4387	-1501	+13	4390	-1514
Cherokee	4403	-1517	+16	4405	-1519	+14	4409	-1533
Mississippi	4504	-1618	+9	4506	-1620	+7	4503	-1627
RTD	4580						4580	
LTD				4578			4580	



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Bob Stolzle

Beckman #1-18

18-7s-29w Sheridan,KS

Start Date: 2014.04.01 @ 02:45:00

End Date: 2014.04.01 @ 12:54:00

Job Ticket #: 56965 DST #: 1

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

Printed: 2014.04.04 @ 10:20:51

Murfin Drilling Co. 18-7s-29w Sheridan,KS Beckman #1-18 DST # 1 LKC "A&B" 2014.04.01



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N Water Ste 300
Wichita, KS 67202
ATTN: Bob Stolzle

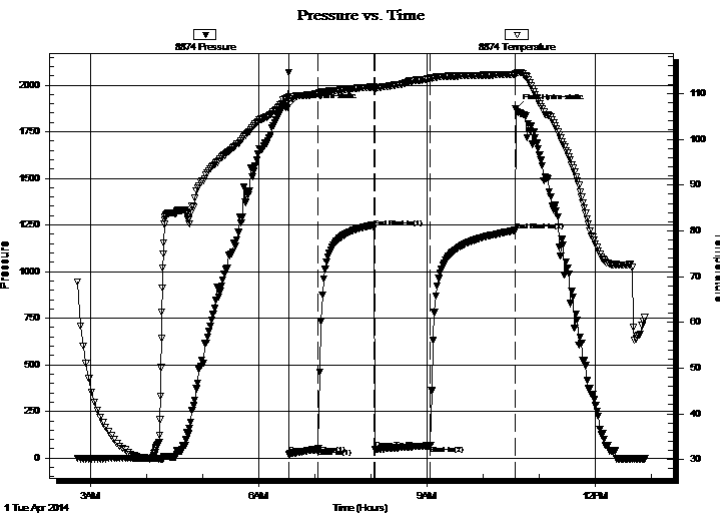
18-7s-29w Sheridan,KS
Beckman #1-18
Job Ticket: 56965 **DST#: 1**
Test Start: 2014.04.01 @ 02:45:00

GENERAL INFORMATION:

Formation: **LKC "A&B"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:32:30
Time Test Ended: 12:54:00
Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack/Brandon Q
Unit No: 66
Interval: **3933.00 ft (KB) To 4015.00 ft (KB) (TVD)**
Reference Elevations: 2886.00 ft (KB)
Total Depth: 4015.00 ft (KB) (TVD) 2881.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8874 Inside
Press@RunDepth: 69.50 psig @ 3934.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.01 End Date: 2014.04.01 Last Calib.: 2014.04.01
Start Time: 02:46:00 End Time: 12:54:00 Time On Btm: 2014.04.01 @ 06:30:30
Time Off Btm: 2014.04.01 @ 10:35:00

TEST COMMENT: 30 - IF - Opened @ 1" built to 4"
60 - ISI - No Return
60 - FF - Surface blow built to 4"
90 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1878.47	108.96	Initial Hydro-static
2	21.11	108.78	Open To Flow (1)
33	51.76	109.99	Shut-In(1)
93	1233.15	111.43	End Shut-In(1)
94	47.08	111.15	Open To Flow (2)
153	69.50	113.26	Shut-In(2)
244	1221.18	114.19	End Shut-In(2)
245	1873.48	114.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
109.00	Mud	0.97

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N Water Ste 300
Wichita, KS 67202
ATTN: Bob Stolzle

18-7s-29w Sheridan, KS
Beckman #1-18
Job Ticket: 56965 **DST#: 1**
Test Start: 2014.04.01 @ 02:45:00

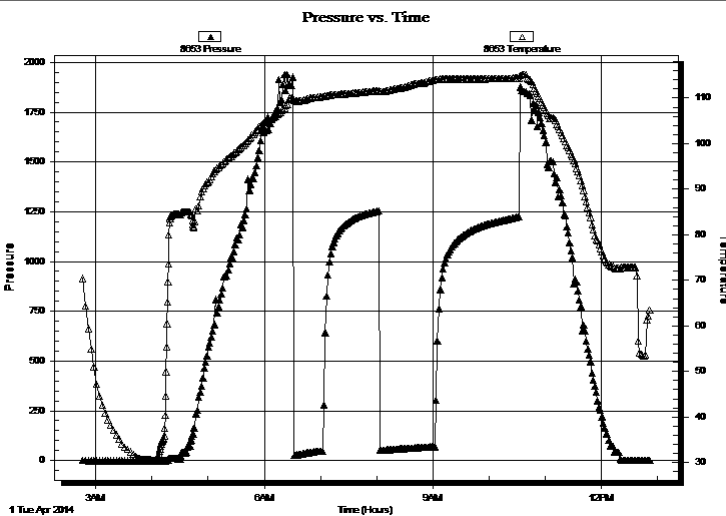
GENERAL INFORMATION:

Formation: **LKC "A&B"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 06:32:30 Tester: Kevin Mack/Brandon Q
Time Test Ended: 12:54:00 Unit No: 66
Interval: 3933.00 ft (KB) To 4015.00 ft (KB) (TVD) Reference Elevations: 2886.00 ft (KB)
Total Depth: 4015.00 ft (KB) (TVD) 2881.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8653 Outside
Press@RunDepth: psig @ 3934.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.01 End Date: 2014.04.01 Last Calib.: 2014.04.01
Start Time: 02:46:00 End Time: 12:52:00 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF - Opened @ 1" built to 4"
60 - ISI - No Return
60 - FF - Surface blow built to 4"
90 - FSI - No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
109.00	Mud	0.97

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

18-7s-29w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Beckman #1-18

Job Ticket: 56965

DST#: 1

ATTN: Bob Stolzle

Test Start: 2014.04.01 @ 02:45:00

Tool Information

Drill Pipe:	Length: 3859.00 ft	Diameter: 3.80 inches	Volume: 54.13 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: 61.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.43 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3933.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	110.00 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			3906.00	
Shut In Tool	5.00			3911.00	
Hydraulic tool	5.00			3916.00	
Jars	5.00			3921.00	
Safety Joint	3.00			3924.00	
Packer	5.00			3929.00	28.00 Bottom Of Top Packer
Packer	4.00			3933.00	
Stubb	1.00			3934.00	
Recorder	0.00	8653	Outside	3934.00	
Recorder	0.00	8874	Inside	3934.00	
Perforations	11.00			3945.00	
Change Over Sub	1.00			3946.00	
Drill Pipe	63.00			4009.00	
Change Over Sub	1.00			4010.00	
Bullnose	5.00			4015.00	82.00 Bottom Packers & Anchor

Total Tool Length: 110.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

18-7s-29w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Beckman #1-18

Job Ticket: 56965

DST#: 1

ATTN: Bob Stolzle

Test Start: 2014.04.01 @ 02:45:00

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
109.00	Mud	0.973

Total Length: 109.00 ft Total Volume: 0.973 bbl

Num Fluid Samples: 0

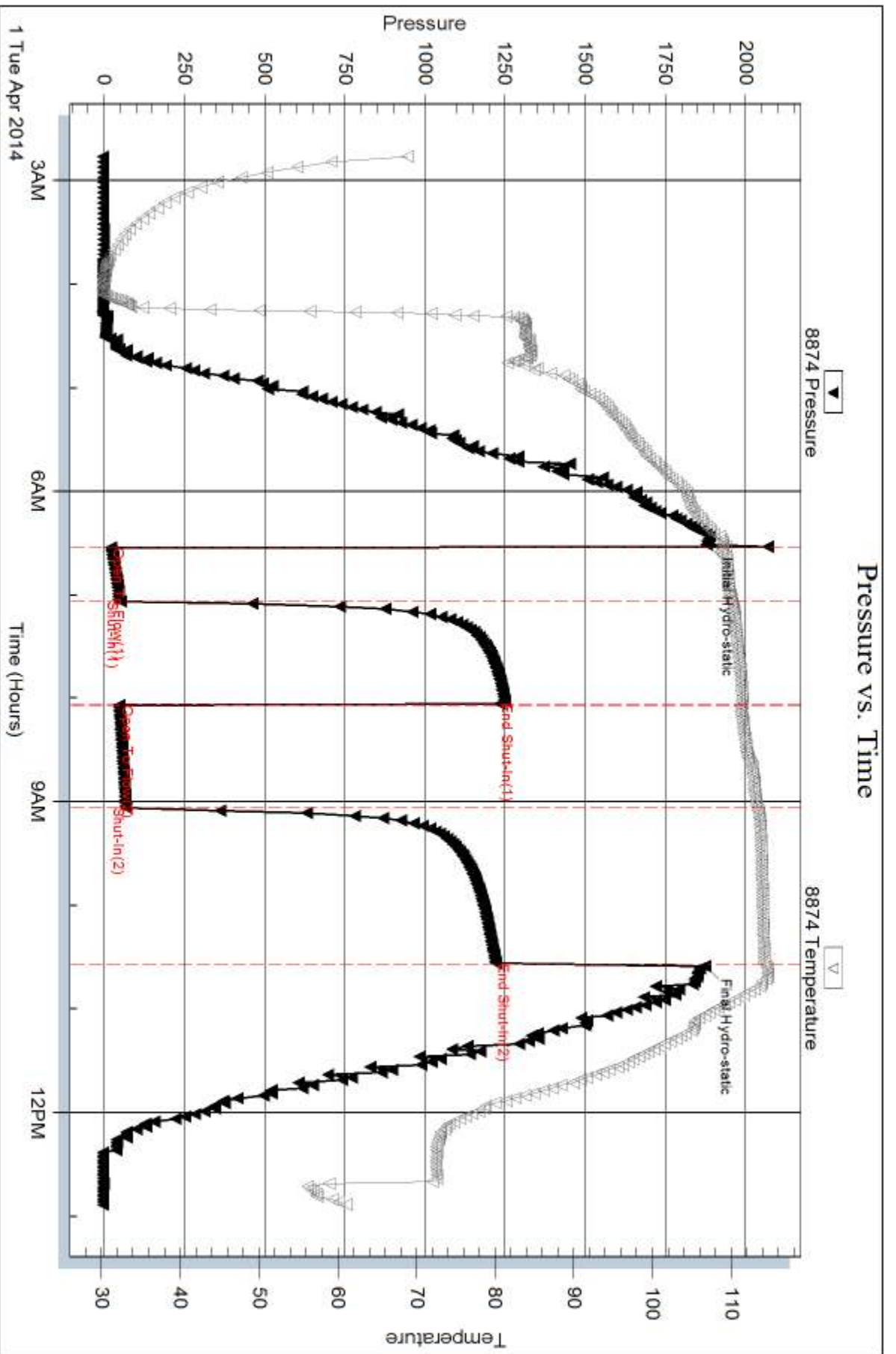
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

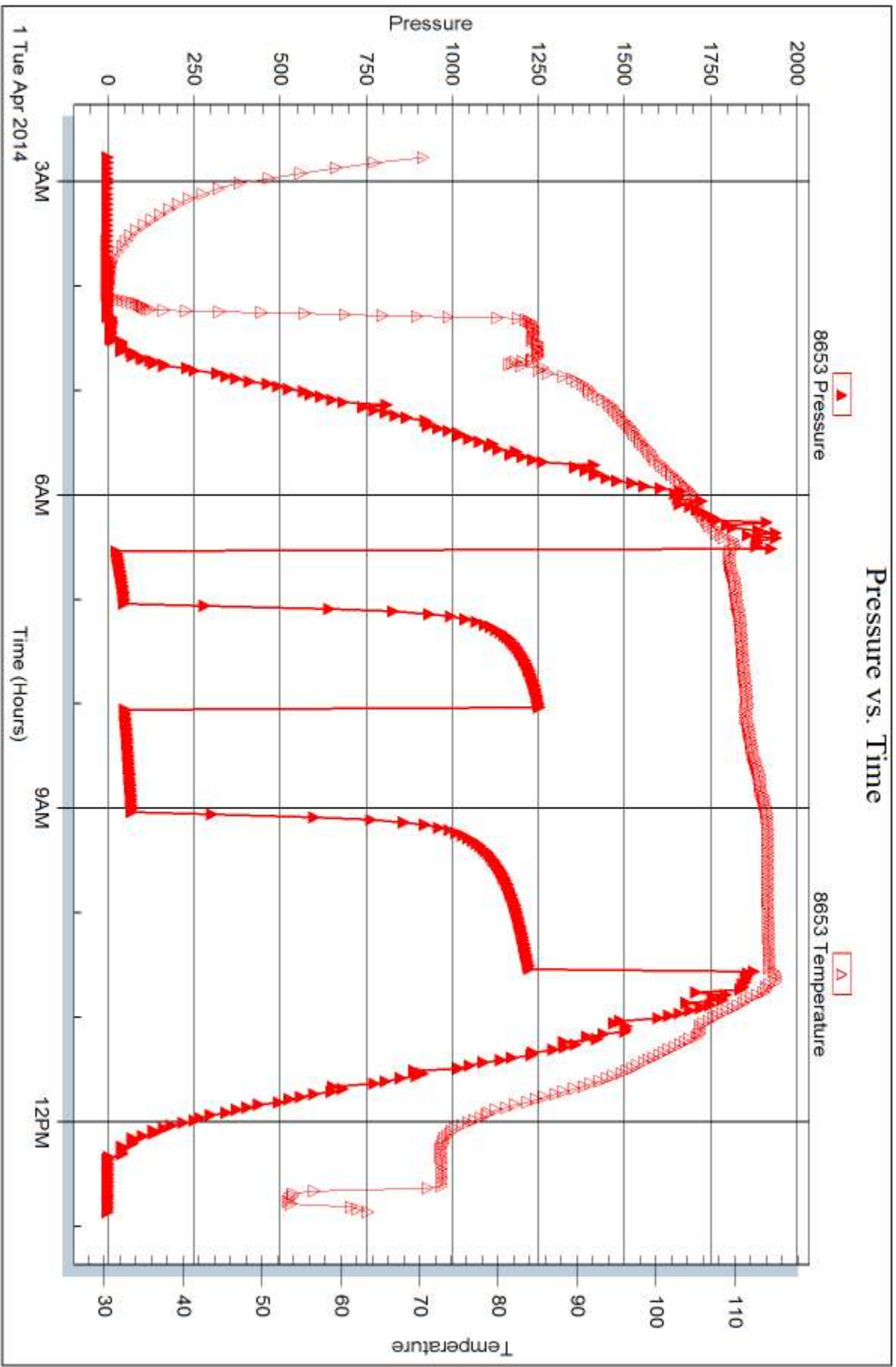


Serial #: 8653

Outside Murfin Drilling Co.

Beckman #1-18

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 56965

Printed: 2014.04.04 @ 10:20:53



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Bob Stolze

Beckman #1-18

18-7s-29w Sheridan,KS

Start Date: 2014.04.02 @ 08:20:00

End Date: 2014.04.02 @ 17:55:30

Job Ticket #: 56966 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.04.04 @ 10:20:18

Murfin Drilling Co.

18-7s-29w Sheridan,KS

Beckman #1-18

DST # 2

LKC "H J & K"

2014.04.02



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Bob Stolzle

18-7s-29w Sheridan,KS
Beckman #1-18
 Job Ticket: 56966 **DST#: 2**
 Test Start: 2014.04.02 @ 08:20:00

GENERAL INFORMATION:

Formation: **LKC "H J & K"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 11:13:00 Tester: Kevin Mack/Brandon Q
 Time Test Ended: 17:55:30 Unit No: 66
 Interval: **4117.00 ft (KB) To 4178.00 ft (KB) (TVD)** Reference Elevations: 2886.00 ft (KB)
 Total Depth: 4178.00 ft (KB) (TVD) 2881.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

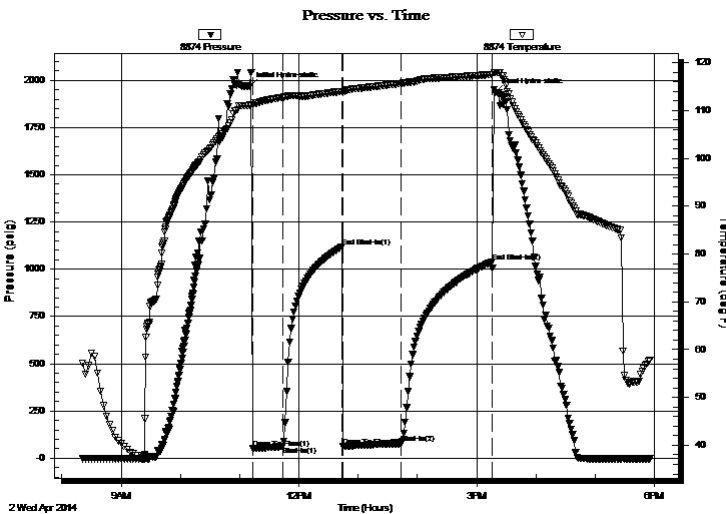
Serial #: 8874

Inside

Press@RunDepth: 76.79 psig @ 4118.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.02 End Date: 2014.04.02 Last Calib.: 2014.04.02
 Start Time: 08:21:00 End Time: 17:55:30 Time On Btm: 2014.04.02 @ 11:10:30
 Time Off Btm: 2014.04.02 @ 15:18:30

TEST COMMENT: 30 - IF - Surface blow built to 3 1/4"
 60 - ISI - No Return
 60 - FF - Surface blow started in 2 minutes and built to 4 3/4"
 90 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1968.00	111.11	Initial Hydro-static
3	50.50	111.20	Open To Flow (1)
33	61.23	112.75	Shut-In(1)
93	1119.23	114.02	End Shut-In(1)
94	63.36	113.82	Open To Flow (2)
153	76.79	115.67	Shut-In(2)
245	1039.05	117.52	End Shut-In(2)
248	1936.83	117.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
61.00	WOCM 15%O 5%W 80%M	
68.00	OCM 20%O 80%M	

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.

18-7s-29w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Beckman #1-18

ATTN: Bob Stolzle

Job Ticket: 56966

DST#: 2

Test Start: 2014.04.02 @ 08:20:00

GENERAL INFORMATION:

Formation: **LKC "H J & K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:13:00

Time Test Ended: 17:55:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack/Brandon Q

Unit No: 66

Interval: 4117.00 ft (KB) To 4178.00 ft (KB) (TVD)

Reference Elevations: 2886.00 ft (KB)

Total Depth: 4178.00 ft (KB) (TVD)

2881.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8653 Outside

Press@RunDepth: psig @ 4118.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.02 End Date: 2014.04.02

Last Calib.: 2014.04.02

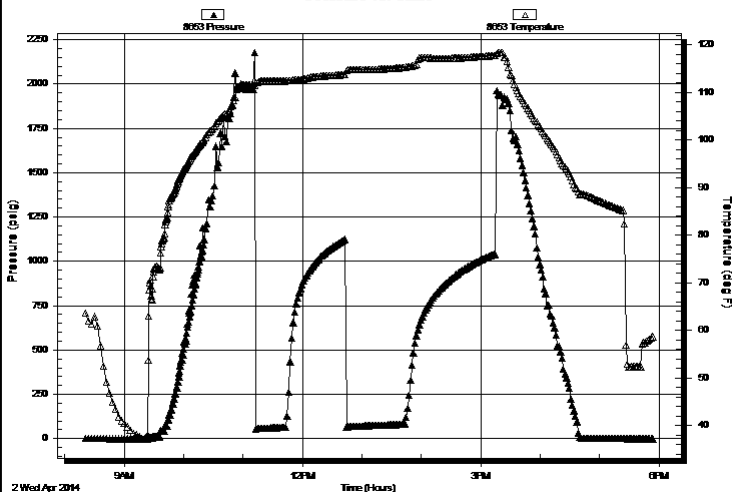
Start Time: 08:21:00 End Time: 17:53:30

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to 3 1/4"
60 - ISI - No Return
60 - FF - Surface blow started in 2 minutes and built to 4 3/4"
90 - FSI - No Return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
61.00	WOCM 15%O 5%W 80%M	
68.00	OCM 20%O 80%M	

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

18-7s-29w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Beckman #1-18

Job Ticket: 56966

DST#: 2

ATTN: Bob Stolzle

Test Start: 2014.04.02 @ 08:20:00

Tool Information

Drill Pipe:	Length: 4056.00 ft	Diameter:	inches	Volume: 3940090 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter:	inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 61.00 ft	Diameter:	inches	Volume: 5925678 bbl	Weight to Pull Loose:	70000.00 lb
				<u>Total Volume: 3999347 bbl</u>	Tool Chased	15.00 ft
Drill Pipe Above KB:	28.00 ft				String Weight: Initial	60000.00 lb
Depth to Top Packer:	4117.00 ft				Final	60000.00 lb
Depth to Bottom Packer:	ft					
Interval between Packers:	61.00 ft					
Tool Length:	89.00 ft					
Number of Packers:	2	Diameter:	6.75 inches			

Tool Comments: Tool slid 15', chased tool another 5', 20' total slide
Bull nose came out completely plugged.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4090.00	
Shut In Tool	5.00			4095.00	
Hydraulic tool	5.00			4100.00	
Jars	5.00			4105.00	
Safety Joint	3.00			4108.00	
Packer	5.00			4113.00	28.00 Bottom Of Top Packer
Packer	4.00			4117.00	
Stubb	1.00			4118.00	
Recorder	0.00	8653	Outside	4118.00	
Recorder	0.00	8874	Inside	4118.00	
Perforations	21.00			4139.00	
Change Over Sub	1.00			4140.00	
Drill Pipe	32.00			4172.00	
Change Over Sub	1.00			4173.00	
Bullnose	5.00			4178.00	61.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

18-7s-29w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Beckman #1-18

Job Ticket: 56966

DST#: 2

ATTN: Bob Stolzle

Test Start: 2014.04.02 @ 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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
61.00	WOCM 15%O 5%W 80%M	
68.00	OCM 20%O 80%M	

Total Length: 129.00 ft

Total Volume: bbl

Num Fluid Samples: 0

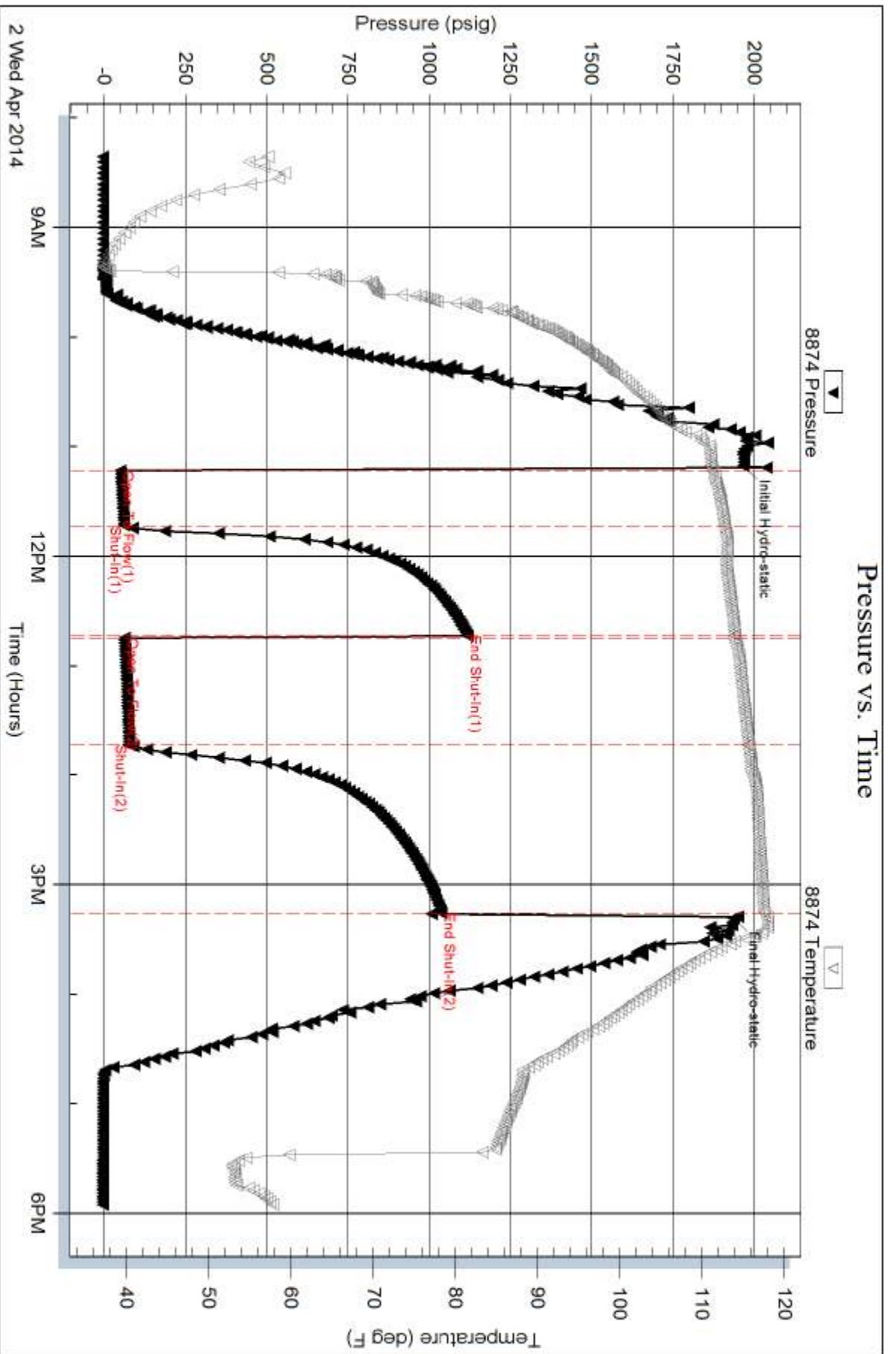
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

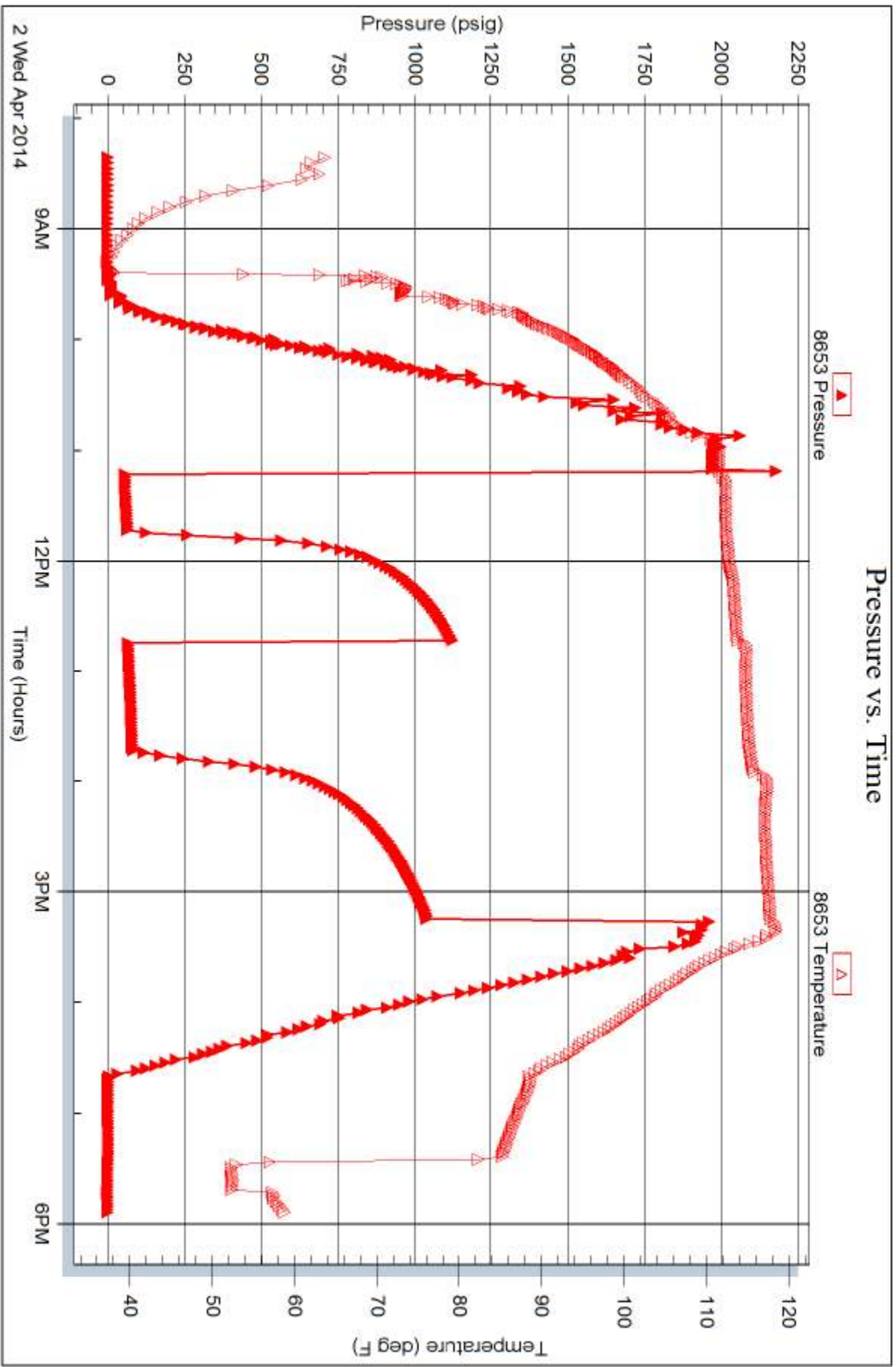


Serial #: 8653

Outside Murfin Drilling Co.

Beckman #1-18

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 56966

Printed: 2014.04.04 @ 10:20:20



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **56965**

4/10

Well Name & No. Beckman #1-18 Test No. 1 Date 03-31-2014
 Company Murfin Drilling Co. Elevation 2886 KB 2881 GL
 Address 250 N Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Bob Stolzle Rig Murfin #7
 Location: Sec. 18 Twp. 7s Rge. 29w Co. Sheridan State KS

Interval Tested 3933-4015 Zone Tested LKC "A+B"
 Anchor Length 82' Drill Pipe Run 3859 Mud Wt. 9
 Top Packer Depth 3929 Drill Collars Run 61' Vis 55
 Bottom Packer Depth 3933 Wt. Pipe Run — WL 6
 Total Depth 4015 Chlorides 1500 ppm System LCM 2
 Blow Description IF-Opened @ 1" built to 4"
ISI- No Return
FF- Surface blow built to 4"
FSI- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>109</u>	<u>Mud</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	Feet of	%gas	%oil	%water	%mud

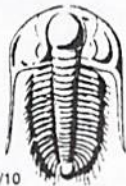
Rec Total 109 BHT 114 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>1878</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>11:30 P.M.</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2:45 AM</u>
(C) First Final Flow <u>51</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>6:35 AM</u>
(D) Initial Shut-In <u>1233</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>10:35 AM</u>
(E) Second Initial Flow <u>47</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1:00 PM</u>
(F) Second Final Flow <u>69</u>	<input checked="" type="checkbox"/> Mileage <u>60 R.T.</u> 93	Comments
(G) Final Shut-In <u>1221</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1873</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>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>1668</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1668</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. 56966

Well Name & No. Murfin Drilling Co. Beckman H-8 Test No. 2 Date 04-02-2014
 Company Murfin Drilling Co. Elevation 2886 KB 2881 GL
 Address 250 N Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Bob Stolzle Rig Murfin #7
 Location: Sec. 18 Twp. 7S Rge. 29W Co. Sheridan State KS

Interval Tested 4117-4178 Zone Tested LKC HJ+K
 Anchor Length 61' Drill Pipe Run 4056 Mud Wt. 9
 Top Packer Depth 4113 Drill Collars Run 61' Vis 69
 Bottom Packer Depth 4117 Wt. Pipe Run — WL 6
 Total Depth 4178 Chlorides 2400 ppm System LCM 4
 Blow Description IF - Surface blow built to 3 1/4"
ISI - No Return
FF - Surface blow started in 2 minutes & built to 4 3/4"
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>68</u>	<u>OCM</u>		<u>20</u>		<u>80</u>
<u>61</u>	<u>WOCM</u>		<u>15</u>	<u>5</u>	<u>80</u>

Rec Total 129' BHT 118 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>1968</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>7:30 AM</u>
(B) First Initial Flow <u>50</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>8:20 AM</u>
(C) First Final Flow <u>61</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>11:15 AM</u>
(D) Initial Shut-In <u>1119</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>3:15 PM</u>
(E) Second Initial Flow <u>63</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>6:00 PM</u>
(F) Second Final Flow <u>77</u>	<input checked="" type="checkbox"/> Mileage <u>60 R.T. 42</u> 186	Comments <u>Tool slid 5'</u>
(G) Final Shut-In <u>1039</u>	<input type="checkbox"/> Sampler	<u>chased tool another</u>
(H) Final Hydrostatic <u>1937</u>	<input type="checkbox"/> Straddle	<u>15; 20' total slide</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<u>But nose came out plugged</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<u>loaded tools 8:00 PM</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Shale Packer
Final Shut-In <u>90</u>	<input checked="" type="checkbox"/> Day Standby <u>1d 2h</u>	<input type="checkbox"/> Ruined Packer <u>43-14</u>
	<input type="checkbox"/> Accessibility	<input type="checkbox"/> Extra Copies
	Sub Total <u>1761</u>	Sub Total <u>800</u>
		Total <u>2561</u>
		MP/DST Disc't

Approved By _____ Our Representative [Signature] [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

OPERATOR: 109 Drilling Co., Inc.	LEASE: Backman	FIELD: Wichita	LOCATION: 150 E. 11th St. (150 E. 11th St.)	SEC.: 18	TWP.: 7 S	RANGE: 29 W	COUNTY: Shelby	STATE: KS	WELL NO.: 15-179-11356-00-00	CONTRACT: 109 Drilling Co., Inc. 109	DATE: March 26, 1950	LOG TOTAL: 4550	LOG TOTAL CORRECTED: 4578	DETAILED STRATIGRAPHY FROM: 33-40	LOG TYPE: Chemical Foliolet
FORMATION: Stark	STAGE: 1117	LOG NO.: 15-179-11356-00-00	LOG SHEET NO.: 1117	LOG SHEET TOTAL: 1117	LOG SHEET USED: 1117	LOG SHEET REMAINING: 0	LOG SHEET TOTAL CORRECTED: 1117	LOG SHEET CORRECTED USED: 1117	LOG SHEET CORRECTED REMAINING: 0	LOG SHEET TOTAL CORRECTED USED CORRECTED: 1117	LOG SHEET TOTAL CORRECTED REMAINING CORRECTED: 0	LOG SHEET TOTAL CORRECTED USED CORRECTED REMAINING CORRECTED: 0	LOG SHEET TOTAL CORRECTED USED CORRECTED REMAINING CORRECTED: 0	LOG SHEET TOTAL CORRECTED USED CORRECTED REMAINING CORRECTED: 0	LOG SHEET TOTAL CORRECTED USED CORRECTED REMAINING CORRECTED: 0

DST # 1 ZONE: Lansing A+B Zones	DST # 1	Chart: 8874
INTERVAL: 3933-4015'	Interval: 3933-4015'	Depth: 3934
Pressure: Time Press. RECOVERY		
1. Initial Hydrostatic	1878 psi	109 Drilling Mud (100% Mud)
2. Initial Flow: Start	0	
3. Initial Flow: End	30	
4. Initial Shut-in: End	60	Blow Desc.
5. Final Flow: Start	0	I.E. - 1" - 4"
6. Final Flow: End	70	I.S.I. - No blow
7. Final Shut-in: End	90	F.E. - surf - 4"
8. Final Hydrostatic	1873 psi	F.S.I. - No blow
BIT: 1 1/4"		
Re: Deviation 3/4" strap 1.08' long		

DST # 2 ZONE: LKC "H", "I", "K" Zones	DST # 2	Chart: 8874
INTERVAL: 4117-4178'	Interval: 4117-4178'	Depth: 4118
Pressure: Time Press. RECOVERY		
1. Initial Hydrostatic	1968 psi	68 Oil Cut Mud (20% Oil)
2. Initial Flow: Start	0	
3. Initial Flow: End	30	61 Oil Cut Mud (15% Oil, 5% Water)
4. Initial Shut-in: End	60	Blow Desc.
5. Final Flow: Start	0	I.E. - surf to 3 1/4"
6. Final Flow: End	70	I.S.I. - No blow
7. Final Shut-in: End	90	F.E. - surf to 4 3/4"
8. Final Hydrostatic	1937 psi	F.S.I. - No blow
BIT: 1 1/8"		
Re: Tool slid 20' to bottom		

DST # _____ ZONE: _____	DST # _____	Chart: _____
INTERVAL: _____	Interval: _____	Depth: _____
Pressure: Time Press. RECOVERY		
1. Initial Hydrostatic	_____ psi	_____
2. Initial Flow: Start	_____	_____
3. Initial Flow: End	_____	_____
4. Initial Shut-in: End	_____	_____
5. Final Flow: Start	_____	_____
6. Final Flow: End	_____	_____
7. Final Shut-in: End	_____	_____
8. Final Hydrostatic	_____ psi	_____
BIT: _____		
Re: _____		

ROCK TYPES:	ABBREVIATIONS USED
Limestone Shale Sandstone Siltstone Conglomerate Gypsum Chert Dolomite Anhydrite	FAUCI: Fm - Fine grained Vfg - Very fine grained Med - Medium grained Cgs - Coarse grained Dol - Dolomite An - Anhydrite Ch - Chert G - Gypsum C - Conglomerate S - Sandstone Sl - Siltstone L - Limestone
COLOR: White Light Yellow Orange Red Brown Black Grey Dark Mottled	OTHER TERMS: Fin - Finest Med - Medium Co - Coarse Dol - Dolomite An - Anhydrite Ch - Chert G - Gypsum C - Conglomerate S - Sandstone Sl - Siltstone L - Limestone
HARDNESS: Soft Moderately soft Hard Very hard	TEXTURE: Dns - Dense Fr - Fair Ex - Excellent V - Very Med - Medium Co - Coarse Dol - Dolomite An - Anhydrite Ch - Chert G - Gypsum C - Conglomerate S - Sandstone Sl - Siltstone L - Limestone

SANDSTONE	LIMESTONE
SILTSTONE	CHERT
SHALE	ANHYDRITE
SALT	CONGLOMERATE
COLLITIC	DOLOMITE
QUARTZITE	GRANITE

