



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1212608
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: _____

1212608

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
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Stevenson 1-14
Doc ID	1212608

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

*under
Prod-LH*

INVOICE

Invoice Number: 141893

Invoice Date: Mar 11, 2014

Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	62513	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Mar 11, 2014	4/10/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Stevenson #1-14		
275.00	CEMENT MATERIALS	Class A Common	17.90	4,922.50
10.00	CEMENT MATERIALS	Chloride	64.00	640.00
288.75	CEMENT SERVICE	Cubic Feet Charge	2.48	716.10
465.85	CEMENT SERVICE	Ton Mileage Charge	2.60	1,211.21
100.00	CEMENT MATERIALS	Class A Commn	17.90	1,790.00
4.00	CEMENT MATERIALS	Chloride	64.00	256.00
105.00	CEMENT SERVICE	Cubic Feet Charge	2.48	260.40
169.40	CEMENT SERVICE	Ton Mileage Charge	2.60	440.44
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
35.00	CEMENT SERVICE	Pump Truck Mileage	7.70	269.50
1.00	CEMENT SERVICE	Manifold Rental	275.00	275.00
35.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	154.00
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	CEMENT SUPERVISOR	Andrew Forslund		

Subtotal	12,447.40
Sales Tax	620.09
Total Invoice Amount	13,067.49
Payment/Credit Applied	
TOTAL	13,067.49

ALL PRICES ARE NET, PAYABLE
30 DAYS FOLLOWING DATE OF
INVOICE. 1 1/2% CHARGED
THEREAFTER. IF ACCOUNT IS
CURRENT, TAKE DISCOUNT OF *356*

\$ 4,356.59 *356*

ONLY IF PAID ON OR BEFORE

Apr 5, 2014

4356.59
8710.90

OK MTR



CONSOLIDATED
Oil Well Services, LLC

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

MAIN OFFICE
P.O. Box 884
Chanute, KS 66720
620/431-9210 • 1-800/467-8676
Fax 620/431-0012

INVOICE

Invoice # 266819

Invoice Date: 03/26/2014 Terms: 10/10/30,n/30

Page 1

MURFIN DRILLING
P.O. BOX 288
RUSSELL KS 67665
() -

STEVENSON 1-14
47566
14-7-30
03-22-2014
KS

USED FOR IC103
APPROVED JT.R

Part Number	Description	Qty	Unit Price	Total
1126	OIL WELL CEMENT	225.00	23.7000	5332.50
1110A	KOL SEAL (50# BAG)	1125.00	.5600	630.00
1102	CALCIUM CHLORIDE (50#)	564.00	.9400	530.16
1111A	SODIUM METASILICATE	564.00	2.5200	1421.28
1142A	KCL SUB MB6875 CC3107 (1	2.00	41.1000	82.20
4159	FLOAT SHOE AFU 5 1/2"	1.00	433.7500	433.75
4454	5 1/2" LATCH DOWN PLUG	1.00	567.0000	567.00
4136	TURBOLIZER 5 1/2"	10.00	75.7500	757.50
4104	CEMENT BASKET 5 1/2"	1.00	290.0000	290.00
4315	ROTATING SCRATCHERS	15.00	94.5000	1417.50
4310	ROTATING HEAD	1.00	.0000	.00

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1146.19
9995-130	CEMENT EQUIPMENT DISCOUNT	-423.83

	Description	Hours	Unit Price	Total
405	SINGLE PUMP	1.00	3175.00	3175.00
405	EQUIPMENT MILEAGE (ONE WAY)	45.00	5.25	236.25
460	TON MILEAGE DELIVERY	1.00	827.10	827.10

Amount Due 16634.40 if paid after 04/25/2014

Parts:	11461.89	Freight:	.00	Tax:	840.75	AR	14970.97
Labor:	.00	Misc:	.00	Total:	14970.97		
Sublt:	-1570.02	Supplies:	.00	Change:	.00		

Signed _____

Date _____

BARTLESVILLE, OK 918/338-0808 EL DORADO, KS 316/322-7022 EUREKA, KS 620/583-7664 PONCA CITY, OK 580/762-2303 OAKLEY, KS 785/672-8822 OTTAWA, KS 785/242-4044 THAYER, KS 620/839-5269 GILLETTE, WY 307/686-4914 CUSHING, OK 918/225-2650



PO Box 884, Chanute, KS 66720
620-437-3210 or 800-467-8676

266819

TICKET NUMBER 47566
LOCATION Oakley KS
FOREMAN Dane Retzlaff

FIELD TICKET & TREATMENT REPORT

CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
3-22-11	5406	Stevenson 1-14	14	7	30	Sheridan
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS			405	Jordan		
CITY			460	Lance		
STATE			Helper	Dale		
ZIP CODE			Supervisor	Walt		

JOB TYPE Production HOLE SIZE 7 7/8 HOLE DEPTH 4585 CASING SIZE & WEIGHT 5 1/2 15.5
 CASING DEPTH 4582 DRILL PIPE 4.5 TUBING _____ OTHER Art collar at 2572
 SLURRY WEIGHT 14.5 SLURRY VOL 1.56 WATER gal/sk 6.97 CEMENT LEFT In CASING 17
 DISPLACEMENT 100.5 to 112 DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Jetty meeting on Murfin Rig 7. Rig up pump truck. Run float equipment. Turbos on joints 1' 2' 3' 4' 5' 7' 9' 11' 13' and 47. Basket on bottom of 48. Art collar on top of joint 48. Depth 2572'. Circulate 60 joints in for 30 min. Run rest of casing. Break circulation for 1 hr. on bottom. Pump 5 BBL fresh water. Pump 300 gal of calcium chloride. Pump 500 gal of water. Pump 300 gal of metasilicate & 5 lbs Freshline. Pump 20 sks in mouse. 30 in Art. Mix 175 down hole. Wash up pump & lines. Displace 100.5 BBLs. Lift was 800. Labeled plug at 1500 psi. Plug hole. Leave shut in. Rig Down.

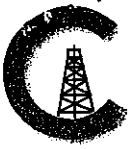
Thanks Dane & Crew

ACCOUNT CODE	QUANTITY of UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401c	1	PUMP CHARGE	3175.00	3175.00
5406	45	MILEAGE	5.25	236.25
5407	10.5	Ton mileage Delivery	1.75	183.75
1126	225 sks	OWC cement	23.70	5332.50
1110a	1125	KOI seal	.36	405.00
1122	564	Calcium chloride	.94	530.16
1111A	564	metasilicate	2.52	1421.28
1142a	2 gal	KCL	41.10	82.20
4159	1	5/8 AFU float shoe	433.75	433.75
4491	1	5/8 latch down plug assembly	567.00	567.00
4136	10	5/8 Turboliners	75.75	757.50
4104	1	5/8 Basket	290.00	290.00
5315	15	Rotating scratchers	94.50	1417.50
4310	1	5/8 Rotating		
			Sub	15700.24
			less 10%	1570.02
			Sub	14130.22
			8.15	SALES TAX
				ESTIMATED
				TOTAL

Revin 3797

AUTHORIZATION Wade King TITLE _____ DATE _____

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



CONSOLIDATED
Oil Well Services, LLC

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

MAIN OFFICE
P.O. Box 884
Chanute, KS 66720
620/431-9210 • 1-800/467-8676
Fax 620/431-0012

INVOICE

Invoice # 267137

Invoice Date: 04/08/2014 Terms: 10/10/30,n/30

Page 1

MURFIN DRILLING
P.O. BOX 288
RUSSELL KS 67665
() -

Pont Gollar

STEVENSON 1-14 -
38166
14-7-30
04-02-2014
KS

IC 103
[Signature]

Part Number	Description	Qty	Unit Price	Total
1104D	CLASS "A" CEMENT CMD	175.00	27.9200	4886.00
1107	FLO-SEAL (25#)	44.00	2.9700	130.68

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-501.67
9995-130	CEMENT EQUIPMENT DISCOUNT	-266.70

Description	Hours	Unit Price	Total
397 TON MILEAGE DELIVERY	1.00	322.87	322.87
405 SQUEEZE PUMP (KICK OFF PLUG PUMP)	1.00	1785.00	1785.00
405 EQUIPMENT MILEAGE (ONE WAY)	45.00	5.25	236.25
460 TON MILEAGE DELIVERY	1.00	322.88	322.88

Amount Due 8092.54 if paid after 05/08/2014

Parts:	5016.68	Freight:	.00	Tax:	367.97	AR	7283.28
Labor:	.00	Misc:	.00	Total:	7283.28		
Sublt:	-768.37	Supplies:	.00	Change:	.00		

Signed _____

Date _____



CONSOLIDATED
Oil Well Services, LLC

267137

TICKET NUMBER 38166
LOCATION Oakley Ks
FOREMAN Jerry Y
Darren R

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

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-2-14	5406	Stevenson 1-14	14	7	30	Sheridan
CUSTOMER		Mailing Address		TRUCK #		DRIVER
Martin Drillings		1104N 1E Now into		405	Cory D	
CITY		STATE	ZIP CODE	460	STEVEN O	
				397	DOC R	

JOB TYPE port collar HOLE SIZE _____ HOLE DEPTH _____ CASING SIZE & WEIGHT 5 1/2 15 1/2
 CASING DEPTH _____ DRILL PIPE _____ TUBING 2 3/8 OTHER PC @ 25.72
 SLURRY WEIGHT 11.0 SLURRY VOL _____ WATER gal/ek _____ CEMENT LEFT in CASING _____
 DISPLACEMENT 8.9 DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting & rig upon wellhead test to 1200* psi: tool held opened port collar took in rate of 4 1/2 bbl/min @ 250* mixed 175 sks CMD 1/4 * flo seal shut down close tool and press to 1200* & held, run 5 pts in & reversed clean 420 bbl fresh water circulated approx 10 bbl to pit

Thank you Jerry
Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5406	1	PUMP CHARGE	1785 ⁰⁰	1785 ⁰⁰ ✓
5406	45	MILEAGE	5 ²⁵	236 ²⁵ ✓
54074	8.2	ton mileage - delivery	1 ⁷⁵	695 ⁷⁵ ✓
1104D	175 sks	CMD multi dense cement	27 ⁹²	4886 ⁰⁰ ✓
1107	44 #	flo seal	2 ⁹²	130 ⁶⁸ ✓
			subtotal	7683 ⁶⁸
			less 10% disc	768 ³⁷ ✓
			subtotal	6915 ³¹

completed

Ravin 3737 AUTHORIZATION John Lewis TITLE _____ DATE _____
 SALES TAX ESTIMATED TOTAL 3167.97
 7283.28 ✓

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

Stevenson #1-14
 Daily Drilling Report
 Page Two

- 3/19/14 Depth 4184'. Cut 154'. DT: None. CT: 15¾ hrs. Dev.: None. **LKC J:** Ist, dense, sl foss, very sct pcs VSSFO, no odor, dk brn spt stn. **LKC K:** NS. **DST #3 4108-4184' (LKC J-K):**
- 3/20/14 Depth 4331'. Cut 147'. DT: None. CT: 12hrs. Dev.: ¾° @ 4184'. **DST #3 4108-4184' (LKC J-K):** 30-60-30-60. IF: wk surf blw, dead in 21mins. FF: no blw. Rec.: 20'M. HP: 2263-2002. FP: 21/22, 22/22. SIP: 45/33. BHT: 114°. **Lwr Pawnee:** ool, pr-fr interool-tr vug por, S-FSFO, sl odor, rich brn mostly sat stn. **DST #4 4347-4370 (L Pawnee)**
- 3/21/14 Depth 4370'. Cut 39'. DT: None. CT: 21½ hrs. Dev.: None. **DST #4 4347-4370 (L Pawnee):** Tool Failure. Tried to close tool & wouldn't turn, torqued up, chained out of hole. When out of hole shut in tool wouldn't turn. Changed tools. **DST #5 4345-4370 (L Pawnee):** 30-60-30-60. IF: wk blw built to ¾" over 30mins. FF: wk blw built to ¾" over 60mins. Rec.: 15'M w/oil spcs. HP: 2168-2105. FP: 17/40, 35/49. SIP: 1254-1253. BHT: 125°.
- 3/22/14 RTD: 4585'. Cut 215'. DT: None. CT: 11¾ hrs. Dev.: MR @ 4585'. HC @ 12:30AM. Pioneer started logging @ 6:00AM. LTD: 4589'.
- 3/23/14 RTD: 4585'. CT: 24hrs. Dev.: ¾° @ 4585'. Pioneer finished logging @ 12:00PM 3/22. Ran 110jts of 15.5# 5 ½" prod csg, set @ 4580'. C.O.W.S cmt w/ 175sxs OWC. PD @ 6:00AM 3/23. 30sxs RH, 20sxs MH. PC @ 2572'.
- 3/24/14 RTD: 4585'. CT: 3hrs. RR @ 10:00AM 3/23. FINAL REPORT

Stevenson #1-14 1440' FSL 930' FEL Sec. 14-7S-30W 2902' 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	2555	+347	+11	2556	+348	+12	2540	+336
B/Anhydrite	2594	+308	+8	2594	+308	+8	2576	+300
Topeka	3741	-839	+19	3742	-840	+18	3734	-858
Heebner	3934	-1032	+22	3933	-1031	+23	3930	-1054
Lansing	3976	-1074	+24	3972	-1070	+28	3974	-1098
Stark	4155	-1253	+20	4154	-1252	+21	4149	-1273
BKC	4201	-1299	+19	4202	-1300	+18	4194	-1318
Pawnee	4315	-1413	+17	4317	-1415	+15	4306	-1430
Ft Scott	4396	-1494	+20	4397	-1495	+19	4390	-1514
Cherokee	4414	-1512	+21	4416	-1514	+19	4409	-1533
Mississippi	4515	-1613	+14	4514	-1612	+15	4503	-1627
Arbuckle								
RTD	4585						4580	
LTD				4590			4580	



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Stevenson #1-14

14-7s-30w Sheridan,KS

Start Date: 2014.03.17 @ 02:44:15

End Date: 2014.03.17 @ 12:39:45

Job Ticket #: 55648 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.03.24 @ 11:08:36



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 55648

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.03.17 @ 02:44:15

GENERAL INFORMATION:

Formation: **Toronto- LKC A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:35:45

Time Test Ended: 12:39:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 60

Interval: 3931.00 ft (KB) To 3991.00 ft (KB) (TVD)

Reference Elevations: 2902.00 ft (KB)

Total Depth: 3991.00 ft (KB) (TVD)

2897.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8373

Inside

Press@RunDepth: 172.22 psig @ 3932.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.17

End Date:

2014.03.17

Last Calib.:

2014.03.17

Start Time:

02:44:20

End Time:

12:39:45

Time On Btm:

2014.03.17 @ 05:34:45

Time Off Btm:

2014.03.17 @ 09:40:15

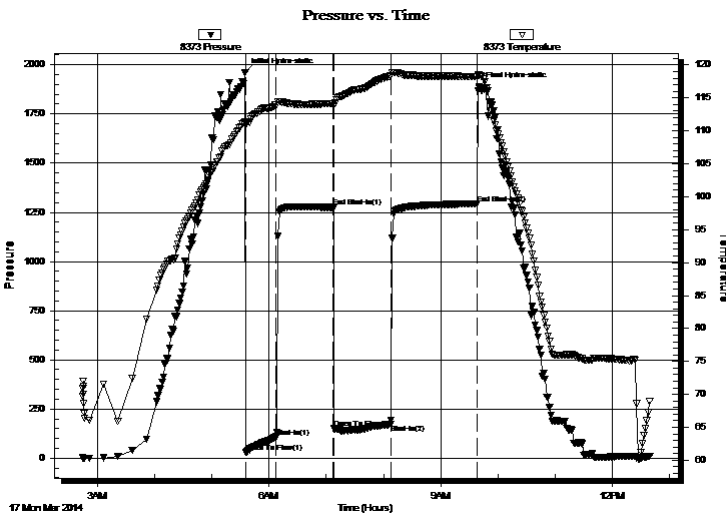
TEST COMMENT: IF: 1/2" blow built to 9"

IS: No return.

FF: BOB in 35 min.

FS: Surface blow built to 1/4" died in 30 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1961.58	111.33	Initial Hydro-static
1	29.41	111.18	Open To Flow (1)
33	108.66	113.92	Shut-In(1)
93	1276.56	114.17	End Shut-In(1)
94	149.73	113.79	Open To Flow (2)
153	172.22	118.32	Shut-In(2)
244	1294.00	118.25	End Shut-In(2)
246	1888.25	118.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	gocm 10%g 10%o 80%m	0.61
124.00	ocm 10%o 90%m	0.61
124.00	ocm 50%o 50%m	1.74

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 55648

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.03.17 @ 02:44:15

Tool Information

Drill Pipe:	Length: 3670.00 ft	Diameter: 3.80 inches	Volume: 51.48 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 52.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3931.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	88.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			3904.00	
Shut In Tool	5.00			3909.00	
Hydraulic tool	5.00			3914.00	
Jars	5.00			3919.00	
Safety Joint	3.00			3922.00	
Packer	5.00			3927.00	28.00 Bottom Of Top Packer
Packer	4.00			3931.00	
Stubb	1.00			3932.00	
Recorder	0.00	8373	Inside	3932.00	
Recorder	0.00	8356	Outside	3932.00	
Perforations	20.00			3952.00	
Change Over Sub	1.00			3953.00	
Drill Pipe	32.00			3985.00	
Change Over Sub	1.00			3986.00	
Bullnose	5.00			3991.00	60.00 Bottom Packers & Anchor

Total Tool Length: 88.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 55648

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.03.17 @ 02:44:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
124.00	gocm 10%g 10%o 80%m	0.610
124.00	ocm 10%o 90%m	0.610
124.00	ocm 50%o 50%m	1.739

Total Length: 372.00 ft

Total Volume: 2.959 bbl

Num Fluid Samples: 0

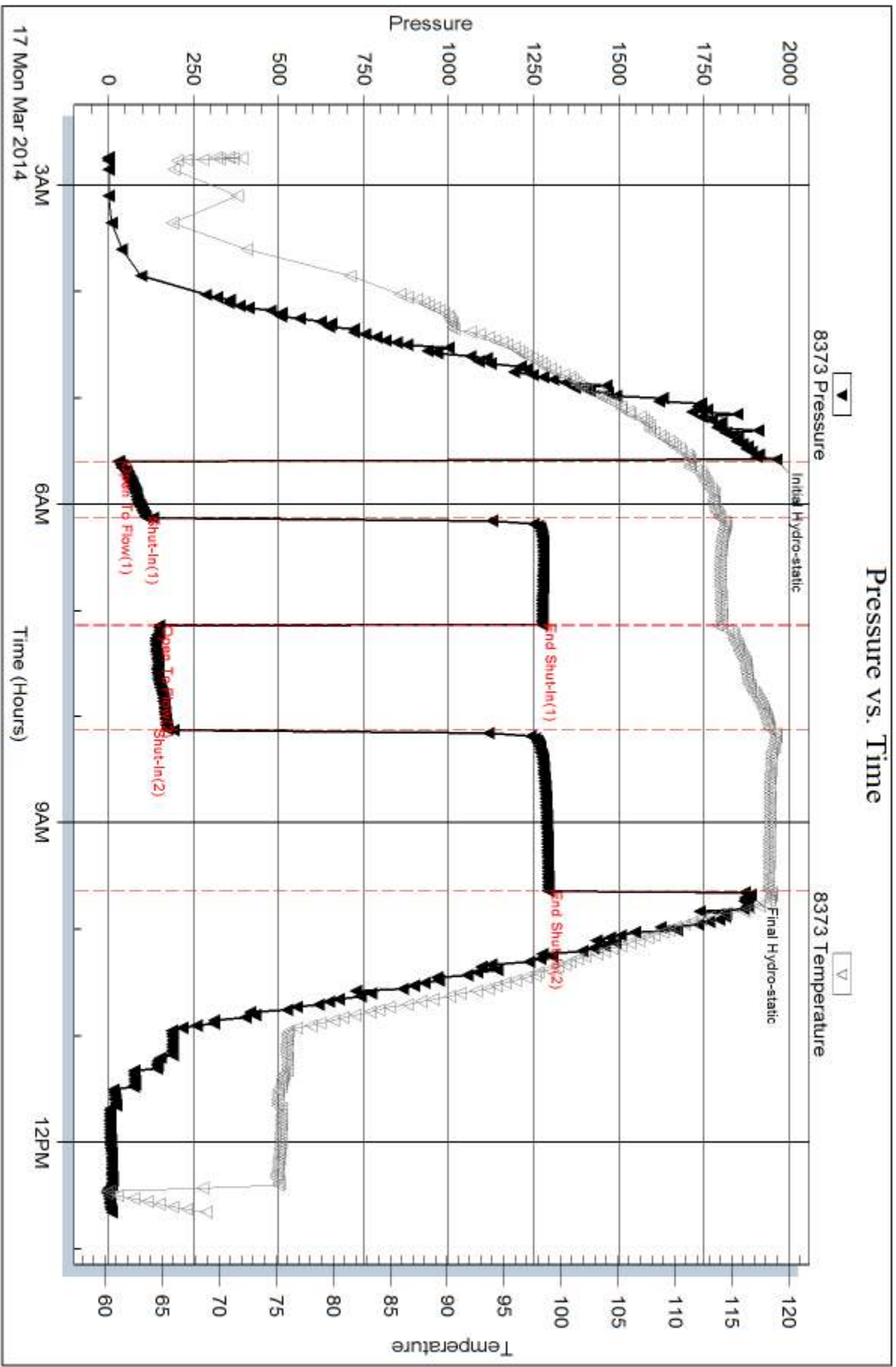
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

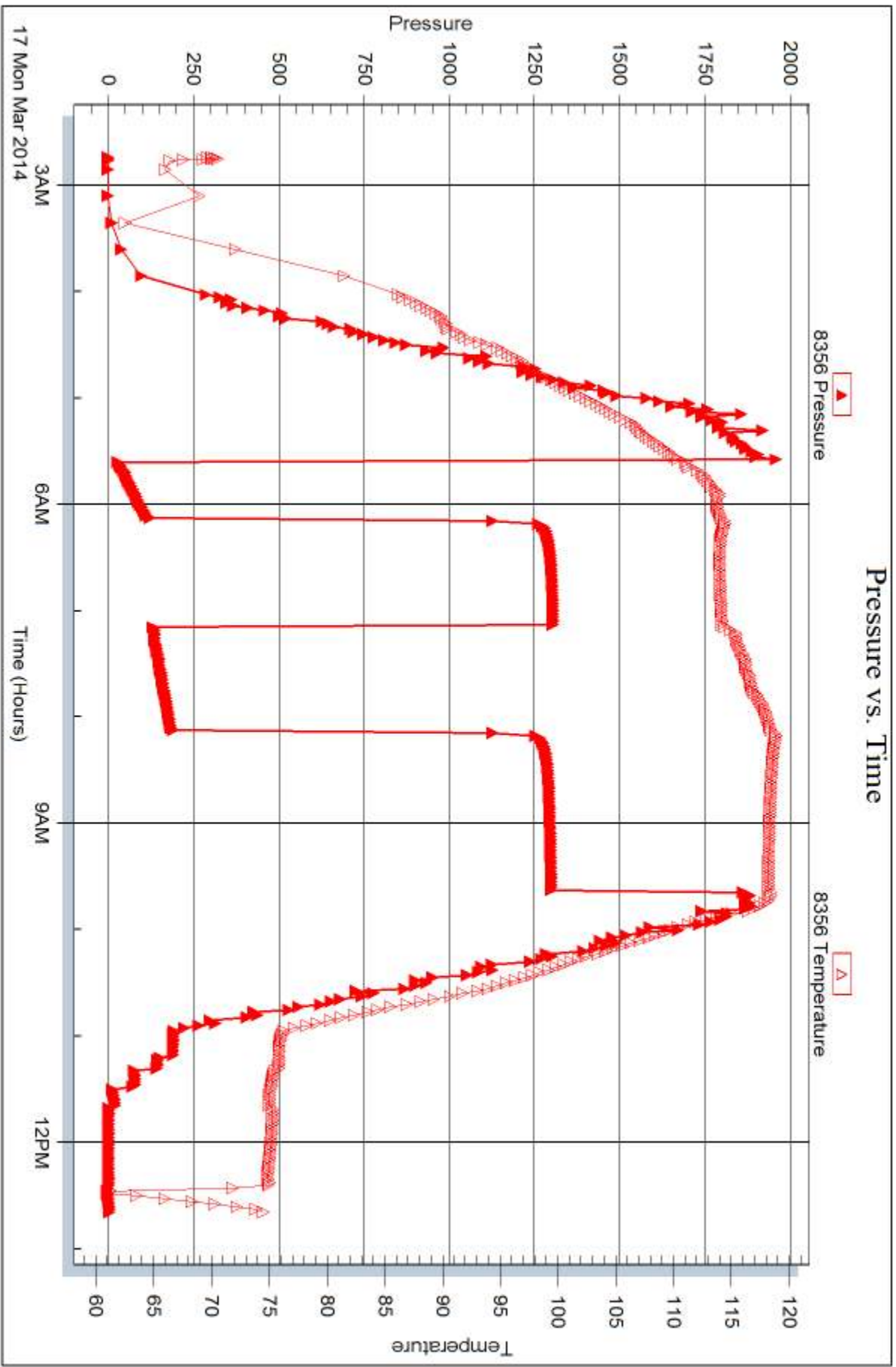


Serial #: 8356

Outside Murfin Drilling Company

Stevenson #1-14

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Stevenson #1-14

14-7s-30w Sheridan,KS

Start Date: 2014.03.17 @ 23:00:00

End Date: 2014.03.18 @ 09:37:00

Job Ticket #: 56809 DST #: 2

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

Printed: 2014.03.24 @ 11:08:12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56809

DST#: 2

ATTN: Jeff Christian

Test Start: 2014.03.17 @ 23:00:00

GENERAL INFORMATION:

Formation: **LKC-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:34:30

Time Test Ended: 09:37:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Kreuzer Jr.

Unit No: 61

Interval: 3990.00 ft (KB) To 4030.00 ft (KB) (TVD)

Reference Elevations: 2902.00 ft (KB)

Total Depth: 4030.00 ft (KB) (TVD)

2897.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8673

Inside

Press@RunDepth: 403.31 psig @ 3991.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.17

End Date:

2014.03.18

Last Calib.:

2014.03.18

Start Time:

23:00:05

End Time:

09:37:00

Time On Btm:

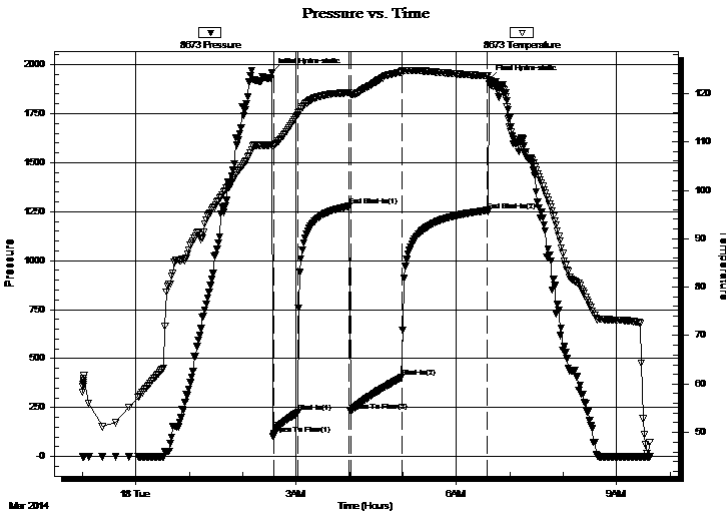
2014.03.18 @ 02:32:30

Time Off Btm:

2014.03.18 @ 06:36:30

TEST COMMENT: IF: Fair blow , Built to B.O.B in 12 mins.
IS: No blow back
FF: Fair blow , Built to B.O.B in 20 mins
FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1957.17	109.38	Initial Hydro-static
2	111.59	109.31	Open To Flow (1)
30	225.43	115.62	Shut-In(1)
87	1277.49	120.12	End Shut-In(1)
89	233.09	119.80	Open To Flow (2)
146	403.31	124.44	Shut-In(2)
242	1255.72	123.64	End Shut-In(2)
244	1922.27	122.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	mcw -20%m80%w	2.09
186.00	mcw -40%m60%w	2.61
124.00	w cm-50%m50%w	1.74
134.00	w cm-20%w 80%m	1.88

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56809

DST#: 2

ATTN: Jeff Christian

Test Start: 2014.03.17 @ 23:00:00

Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 bbl	Tool Weight: 2400.00 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: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.53 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3990.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3967.00	
Hydraulic tool	5.00			3972.00	
Jars	5.00			3977.00	
Safety Joint	3.00			3980.00	
Packer	5.00			3985.00	28.00 Bottom Of Top Packer
Packer	5.00			3990.00	
Stubb	1.00			3991.00	
Recorder	0.00	8673	Inside	3991.00	
Recorder	0.00	8651	Outside	3991.00	
Perforations	2.00			3993.00	
change Over Sub	1.00			3994.00	
Blank Spacing	32.00			4026.00	
Change Over Sub	1.00			4027.00	
Bullnose	3.00			4030.00	40.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56809

DST#: 2

ATTN: Jeff Christian

Test Start: 2014.03.17 @ 23:00:00

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in³

Gas Cushion Type:

Resistivity: 1500.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
310.00	mcw -20%m80%w	2.089
186.00	mcw -40%m60%w	2.609
124.00	w cm-50%m50%w	1.739
134.00	w cm-20%w 80%m	1.880

Total Length: 754.00 ft

Total Volume: 8.317 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

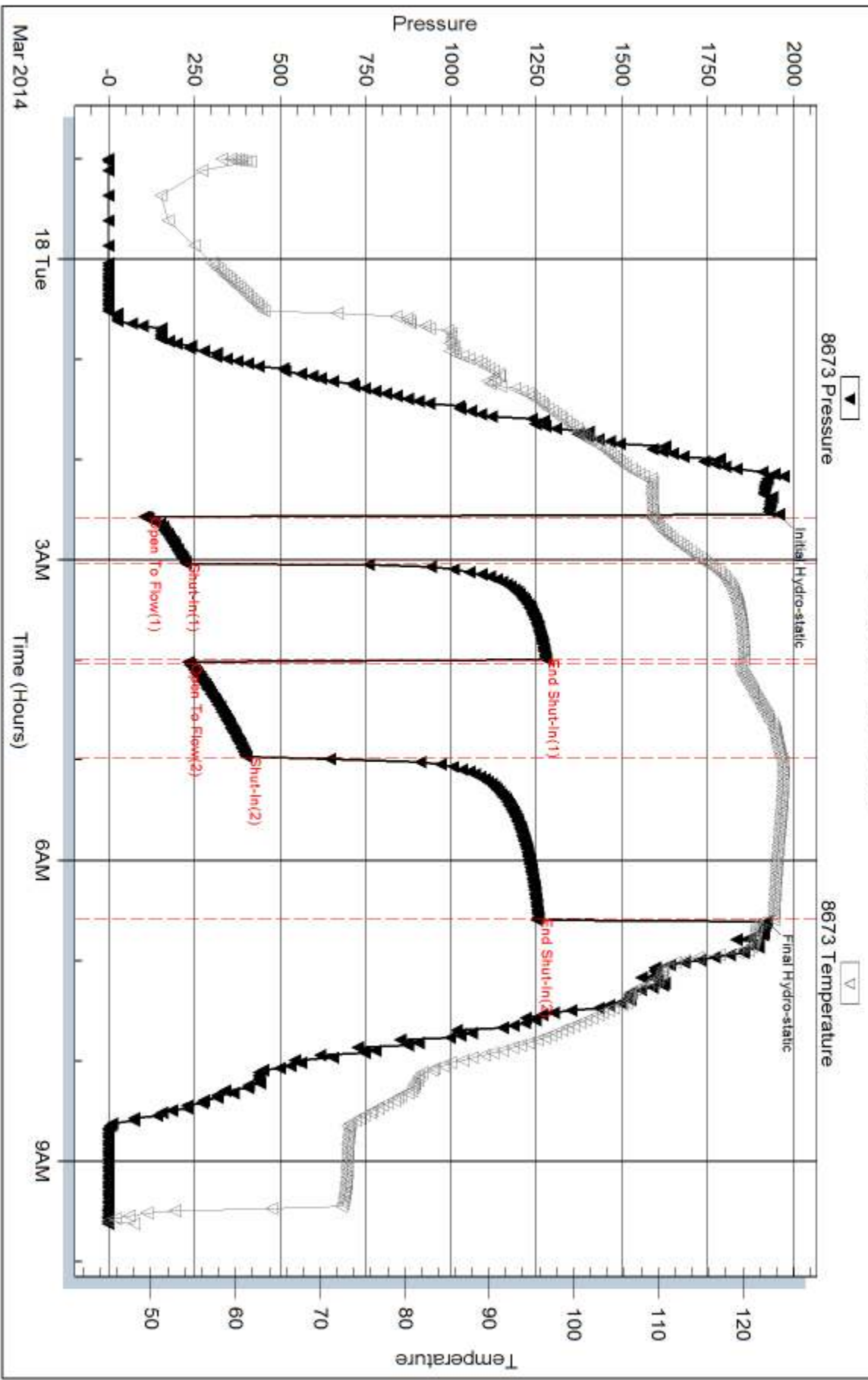
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

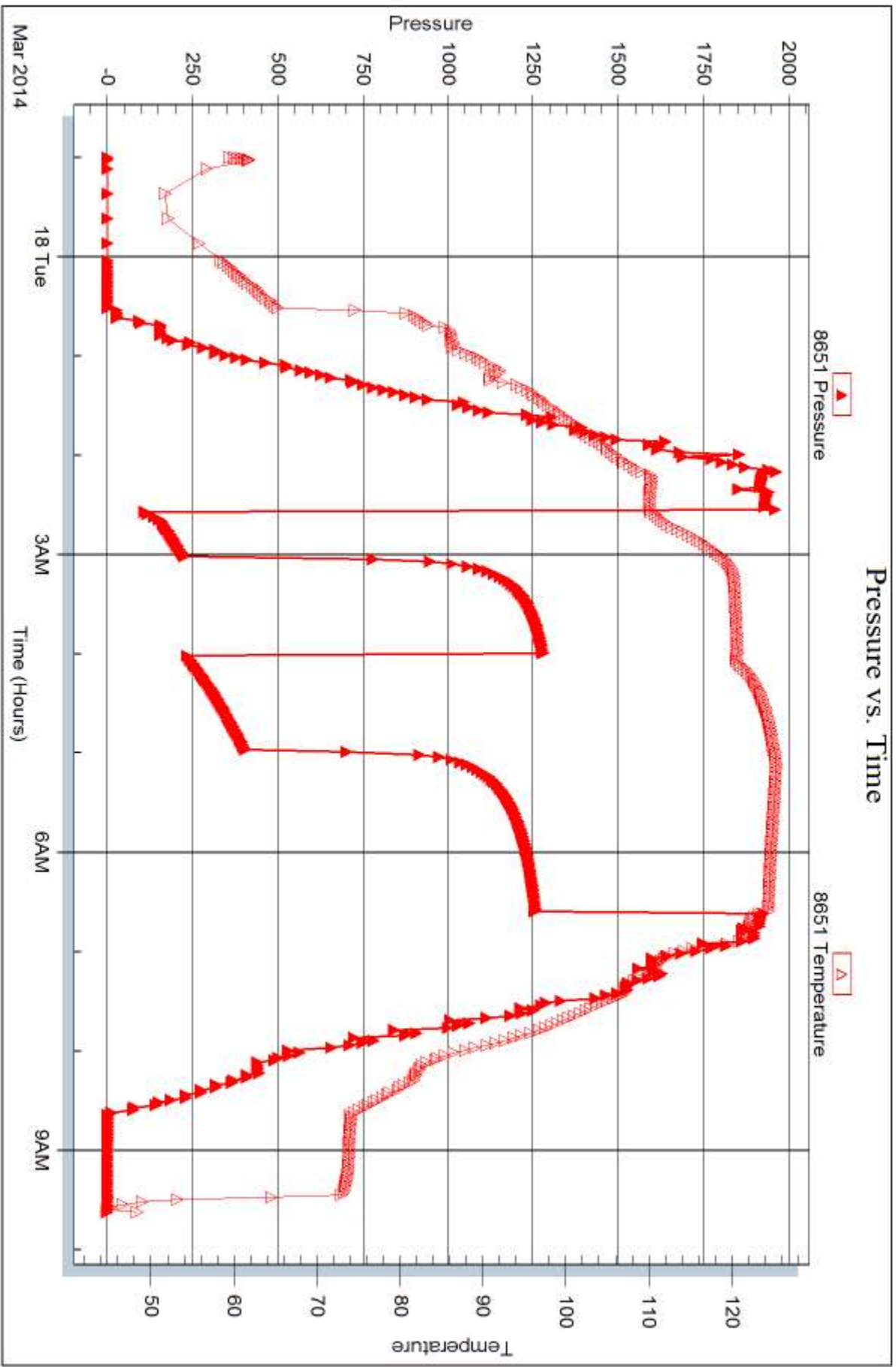


Serial #: 8651

Outside Murfin Drilling Company

Stevenson #1-14

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Stevenson #1-14

14-7s-30w Sheridan,KS

Start Date: 2014.03.19 @ 09:00:00

End Date: 2014.03.19 @ 17:17:00

Job Ticket #: 56810 DST #: 3

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

Printed: 2014.03.24 @ 11:07:48



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56810

DST#: 3

ATTN: Jeff Christian

Test Start: 2014.03.19 @ 09:00:00

GENERAL INFORMATION:

Formation: **LKC-J,K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:40:30

Time Test Ended: 17:17:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Kreuzer Jr.

Unit No: 61

Interval: 4108.00 ft (KB) To 4184.00 ft (KB) (TVD)

Reference Elevations: 2902.00 ft (KB)

Total Depth: 4184.00 ft (KB) (TVD)

2897.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8673

Inside

Press@RunDepth: 22.11 psig @ 4109.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.19

End Date:

2014.03.19

Last Calib.:

2014.03.19

Start Time: 09:00:05

End Time:

17:16:59

Time On Btm:

2014.03.19 @ 11:27:00

Time Off Btm:

2014.03.19 @ 14:45:30

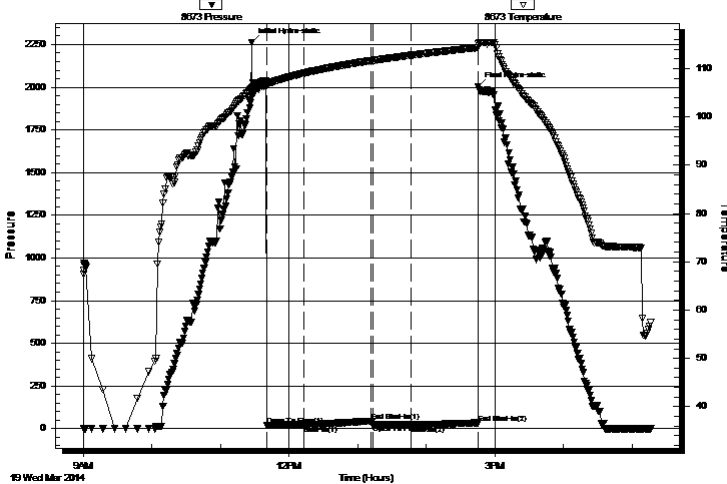
TEST COMMENT: IF: Weak surface blow , Dead in 21 mins.

IS: No blow back

FF: No blow

FS: No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2262.56	106.06	Initial Hydro-static
14	20.87	106.97	Open To Flow (1)
46	21.81	109.02	Shut-In(1)
105	44.86	111.67	End Shut-In(1)
106	22.36	111.69	Open To Flow (2)
140	22.11	112.78	Shut-In(2)
198	33.39	114.34	End Shut-In(2)
199	2002.06	115.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud-100%m	0.10

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56810

DST#: 3

ATTN: Jeff Christian

Test Start: 2014.03.19 @ 09:00:00

Tool Information

Drill Pipe:	Length: 3864.00 ft	Diameter: 3.80 inches	Volume: 54.20 bbl	Tool Weight: 2400.00 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: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.42 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4108.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	104.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4085.00	
Hydraulic tool	5.00			4090.00	
Jars	5.00			4095.00	
Safety Joint	3.00			4098.00	
Packer	5.00			4103.00	28.00 Bottom Of Top Packer
Packer	5.00			4108.00	
Stubb	1.00			4109.00	
Recorder	0.00	8673	Inside	4109.00	
Recorder	0.00	8651	Outside	4109.00	
Perforations	6.00			4115.00	
change Over Sub	1.00			4116.00	
Drill Pipe	64.00			4180.00	
Change Over Sub	1.00			4181.00	
Bullnose	3.00			4184.00	76.00 Bottom Packers & Anchor

Total Tool Length: 104.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56810

DST#: 3

ATTN: Jeff Christian

Test Start: 2014.03.19 @ 09:00:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 1600.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud-100%m	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

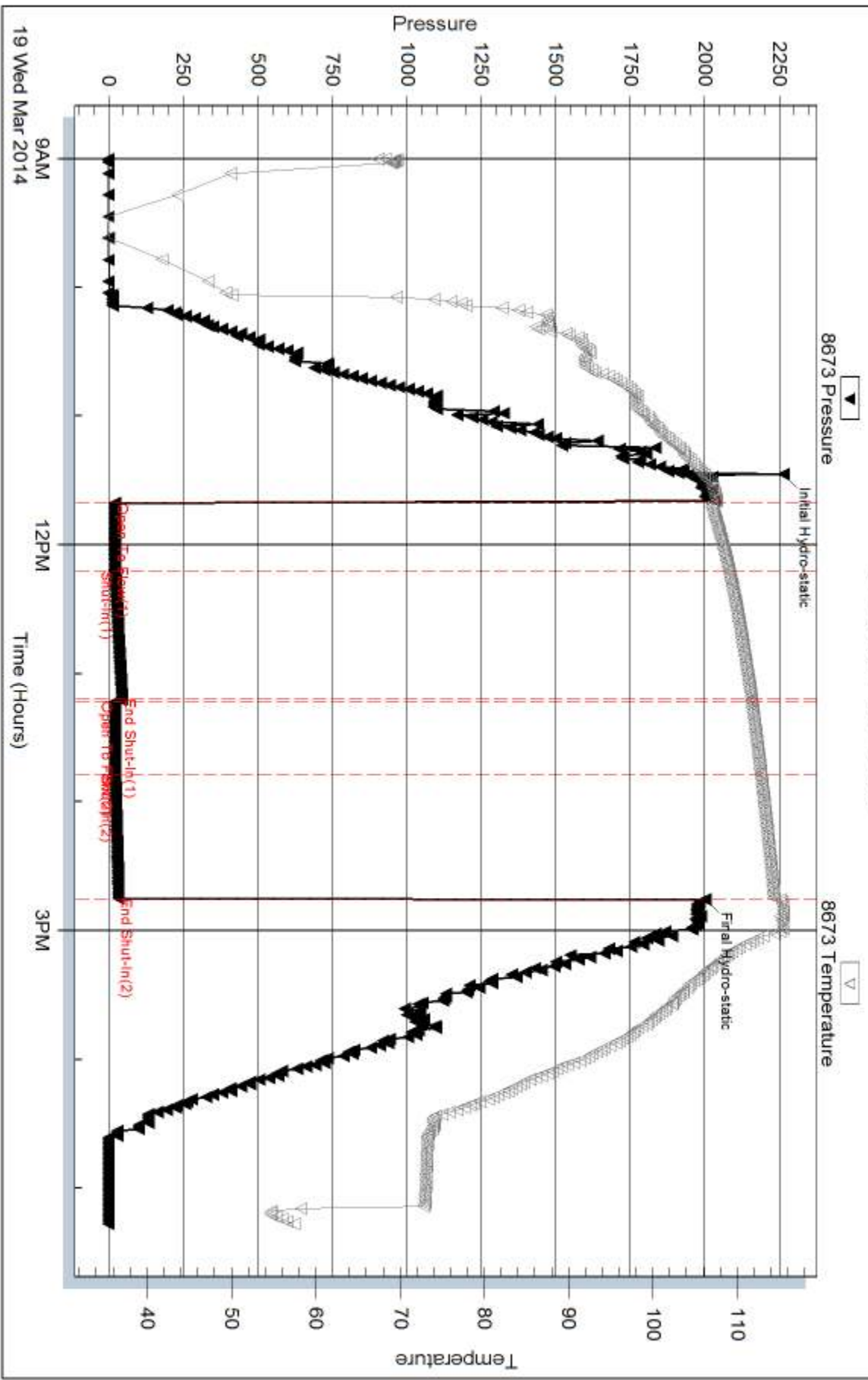
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

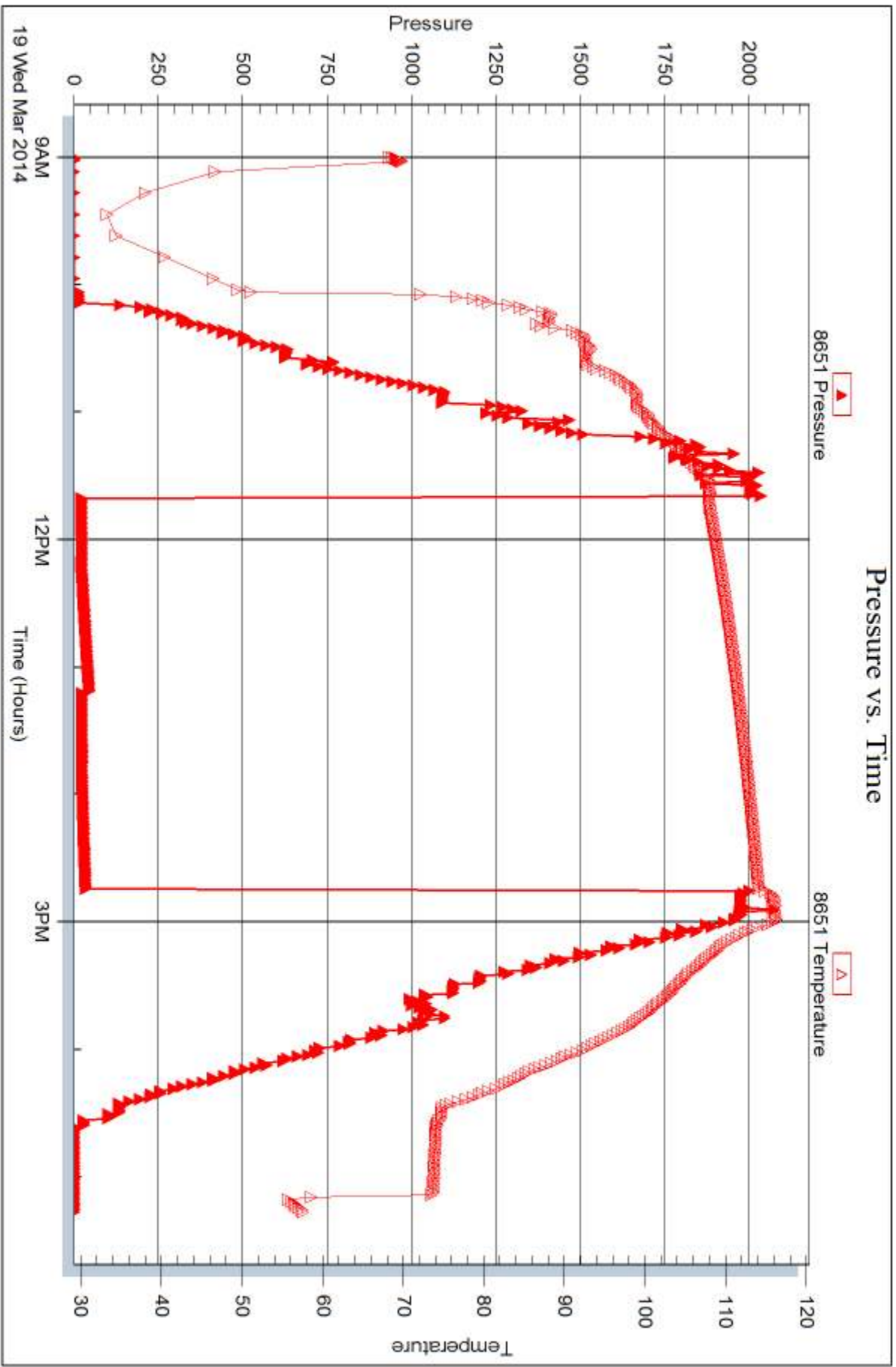


Serial #: 8651

Outside Murfin Drilling Company

Stevenson #1-14

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Stevenson #1-14

14-7s-30w Sheridan,KS

Start Date: 2014.03.20 @ 16:40:00

End Date: 2014.03.21 @ 00:22:30

Job Ticket #: 56811 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.03.24 @ 11:07:11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56811

DST#: 4

ATTN: Jeff Christian

Test Start: 2014.03.20 @ 16:40:00

GENERAL INFORMATION:

Formation: **Lw Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:45:30

Time Test Ended: 00:22:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Kreutzer Jr.

Unit No: 61

Interval: 4347.00 ft (KB) To 4370.00 ft (KB) (TVD)

Reference Elevations: 2902.00 ft (KB)

Total Depth: 4030.00 ft (KB) (TVD)

2897.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8673 Inside

Press@RunDepth: psig @ 4348.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.20

End Date:

2014.03.21

Last Calib.: 2014.03.21

Start Time: 16:40:05

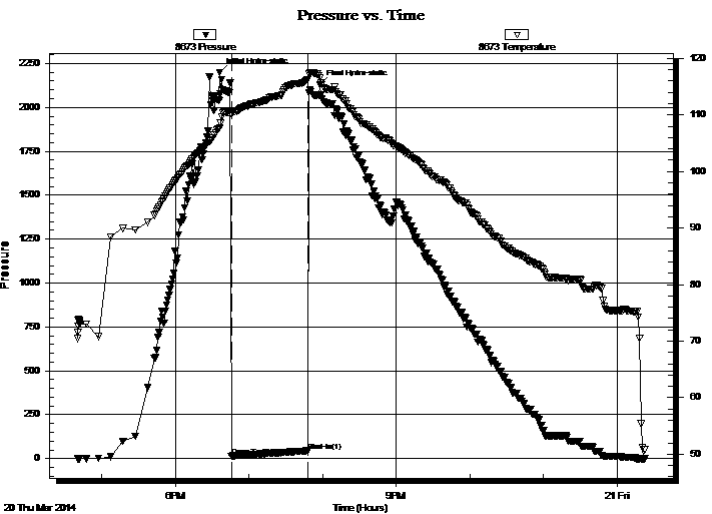
End Time:

00:22:29

Time On Btm: 2014.03.20 @ 18:36:00

Time Off Btm: 2014.03.20 @ 19:57:30

TEST COMMENT:



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2199.39	107.70	Initial Hydro-static
10	15.14	110.16	Open To Flow (1)
72	44.26	116.30	Shut-In(1)
82	2127.78	116.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	mud w ith oil specs	0.07

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56811

DST#: 4

ATTN: Jeff Christian

Test Start: 2014.03.20 @ 16:40:00

Tool Information

Drill Pipe:	Length: 4086.00 ft	Diameter: 3.80 inches	Volume: 57.32 bbl	Tool Weight: 2400.00 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: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 58.54 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4347.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4324.00	
Hydraulic tool	5.00			4329.00	
Jars	5.00			4334.00	
Safety Joint	3.00			4337.00	
Packer	5.00			4342.00	28.00 Bottom Of Top Packer
Packer	5.00			4347.00	
Stubb	1.00			4348.00	
Recorder	0.00	8673	Inside	4348.00	
Recorder	0.00	8651	Outside	4348.00	
Perforations	2.00			4350.00	
change Over Sub	1.00			4351.00	
Blank Spacing	32.00			4383.00	
Change Over Sub	1.00			4384.00	
Bullnose	3.00			4387.00	40.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56811

DST#: 4

ATTN: Jeff Christian

Test Start: 2014.03.20 @ 16:40:00

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in³

Gas Cushion Type:

Resistivity: 1600.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	mud w ith oil specs	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

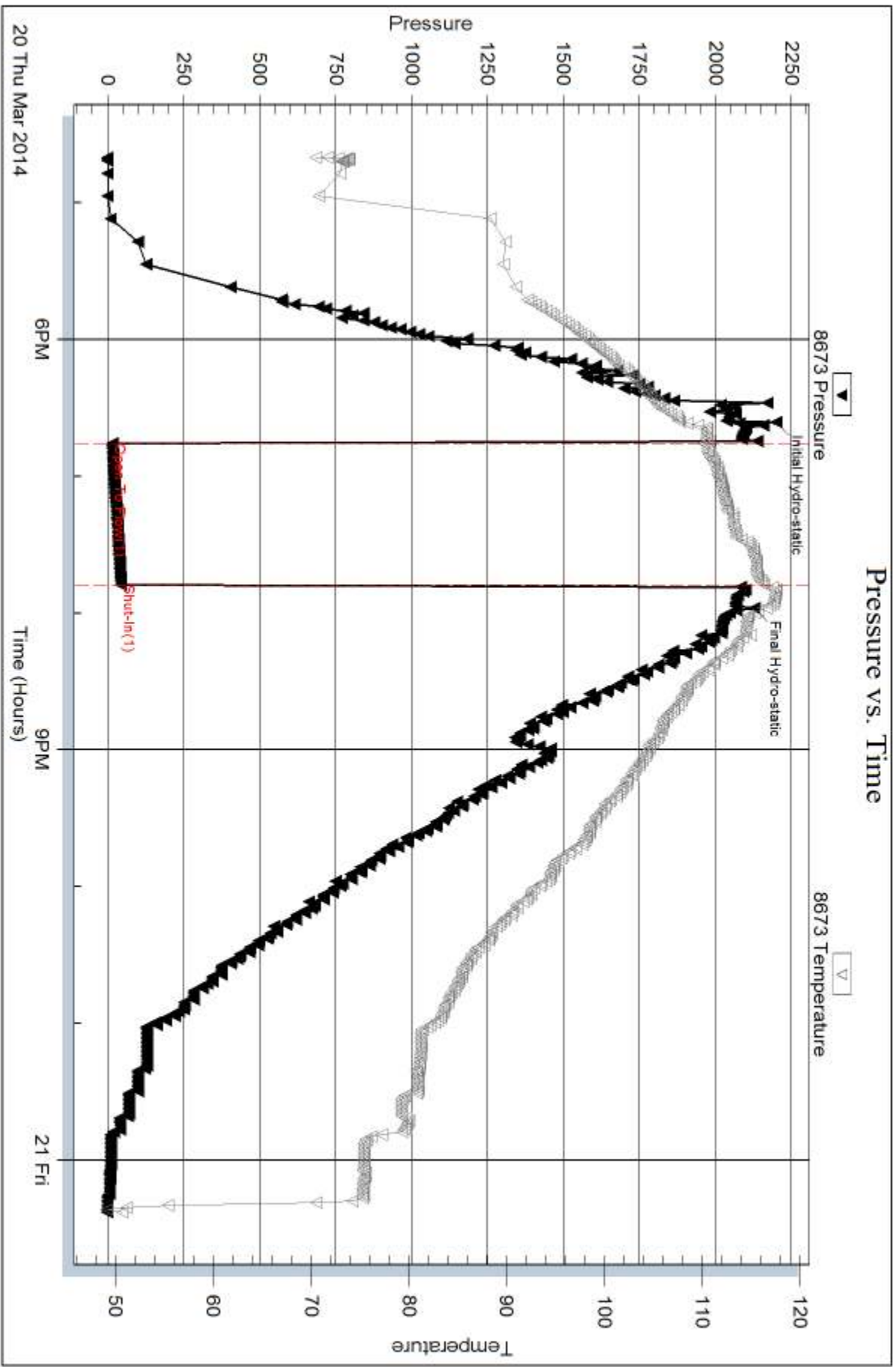
Serial #: 8673

Inside

Murfin Drilling Company

Stevenson #1-14

DST Test Number: 4

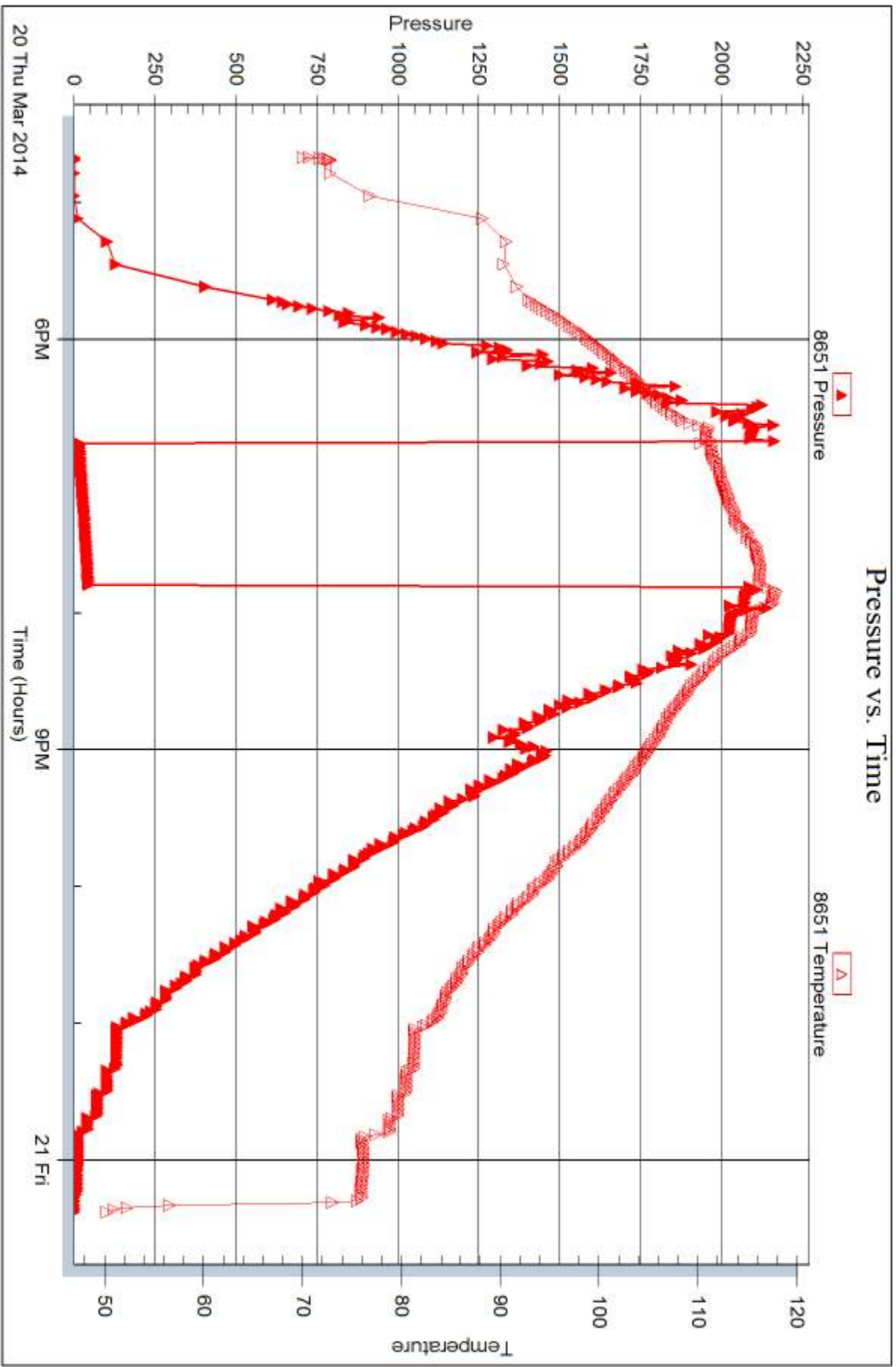


Serial #: 8651

Outside Murfin Drilling Company

Stevenson #1-14

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Christian

Stevenson #1-14

14-7s-30w Sheridan,KS

Start Date: 2014.03.21 @ 00:43:00

End Date: 2014.03.21 @ 09:11:00

Job Ticket #: 56812 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.03.24 @ 11:06:05



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56812

DST#: 5

ATTN: Jeff Christian

Test Start: 2014.03.21 @ 00:43:00

GENERAL INFORMATION:

Formation: **LWS Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:23:30

Time Test Ended: 09:11:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Kreuzer Jr.

Unit No: 61

Interval: 4345.00 ft (KB) To 4370.00 ft (KB) (TVD)

Reference Elevations: 2902.00 ft (KB)

Total Depth: 4370.00 ft (KB) (TVD)

2897.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8673

Inside

Press@RunDepth: 48.69 psig @ 4346.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.21

End Date:

2014.03.21

Last Calib.:

2014.03.21

Start Time: 00:43:05

End Time:

09:10:59

Time On Btm:

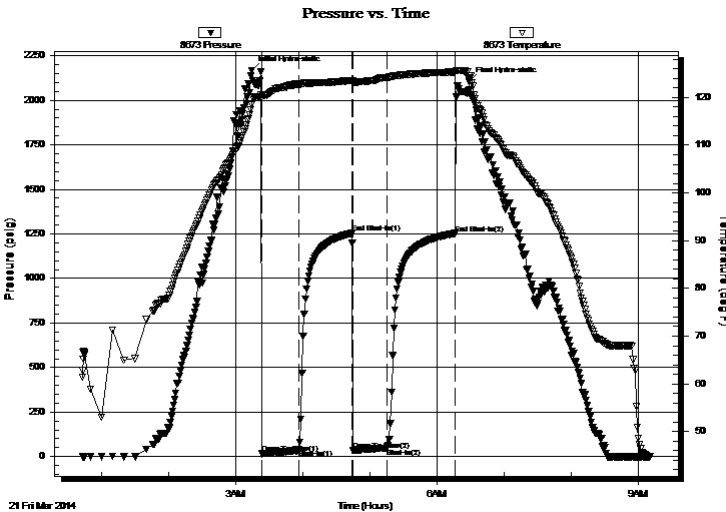
2014.03.21 @ 03:14:30

Time Off Btm:

2014.03.21 @ 06:29:00

TEST COMMENT: IF: Weak blow , Built to 3/4 in. Over 30 mins.
IS: No blow back
FF: Weak blow , Built to 3/4 in. over 60 mins.
FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2167.67	118.52	Initial Hydro-static
9	16.71	119.93	Open To Flow (1)
42	39.86	122.75	Shut-In(1)
90	1253.71	123.55	End Shut-In(1)
91	34.91	123.18	Open To Flow (2)
121	48.69	124.17	Shut-In(2)
182	1252.85	125.33	End Shut-In(2)
195	2105.11	124.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	mud w ith oil specs	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56812

DST#: 5

ATTN: Jeff Christian

Test Start: 2014.03.21 @ 00:43:00

Tool Information

Drill Pipe:	Length: 4084.00 ft	Diameter: 3.80 inches	Volume: 57.29 bbl	Tool Weight: 2400.00 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: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 58.51 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4345.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4322.00	
Hydraulic tool	5.00			4327.00	
Jars	5.00			4332.00	
Safety Joint	3.00			4335.00	
Packer	5.00			4340.00	28.00 Bottom Of Top Packer
Packer	5.00			4345.00	
Stubb	1.00			4346.00	
Recorder	0.00	8673	Inside	4346.00	
Recorder	0.00	8651	Outside	4346.00	
Perforations	21.00			4367.00	
Bullnose	3.00			4370.00	25.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

14-7s-30w Sheridan,KS

250 N Water Ste 300
Wichita, KS 67202

Stevenson #1-14

Job Ticket: 56812

DST#: 5

ATTN: Jeff Christian

Test Start: 2014.03.21 @ 00:43:00

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: 1600.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	mud w ith oil specs	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

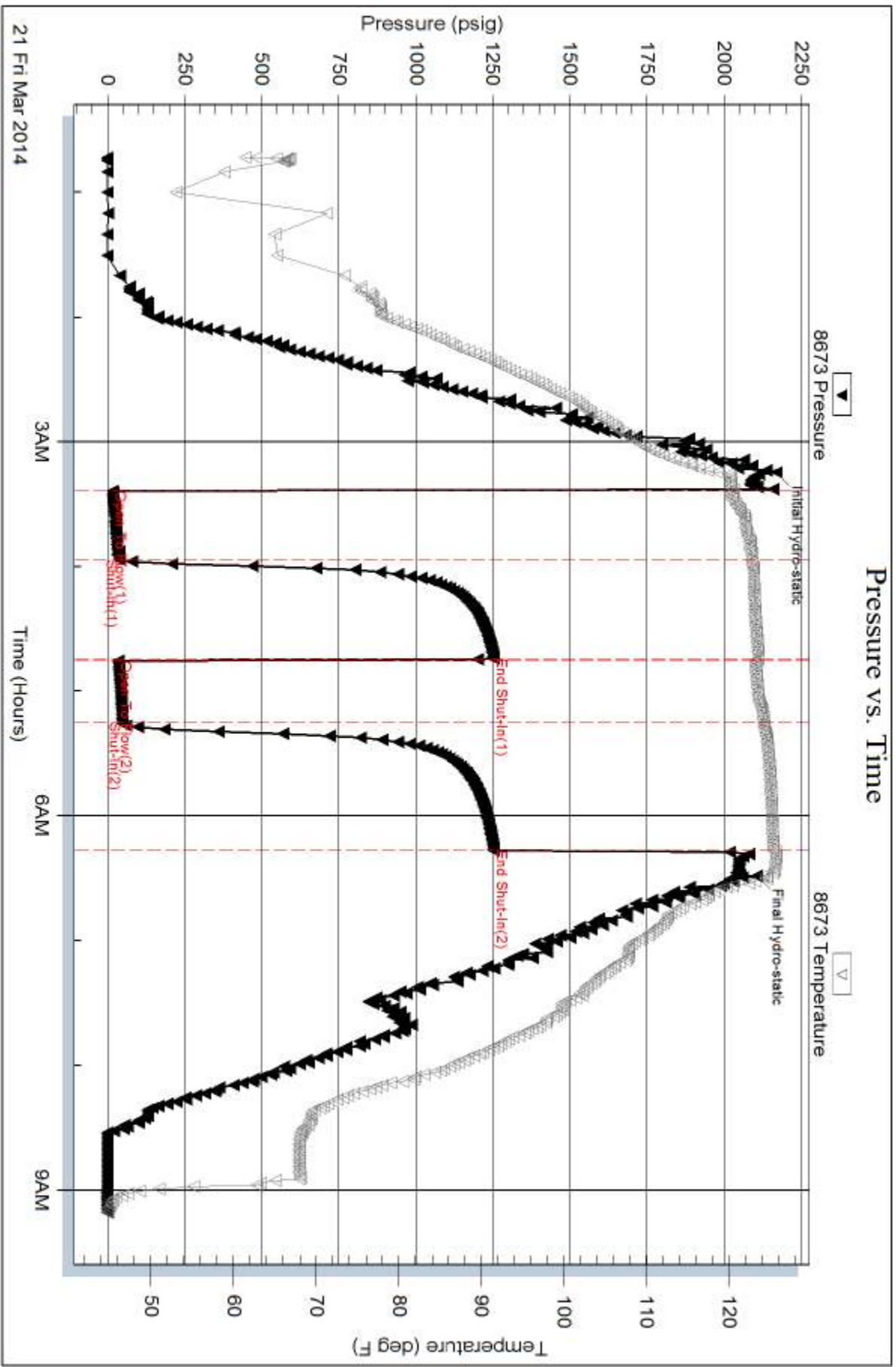
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

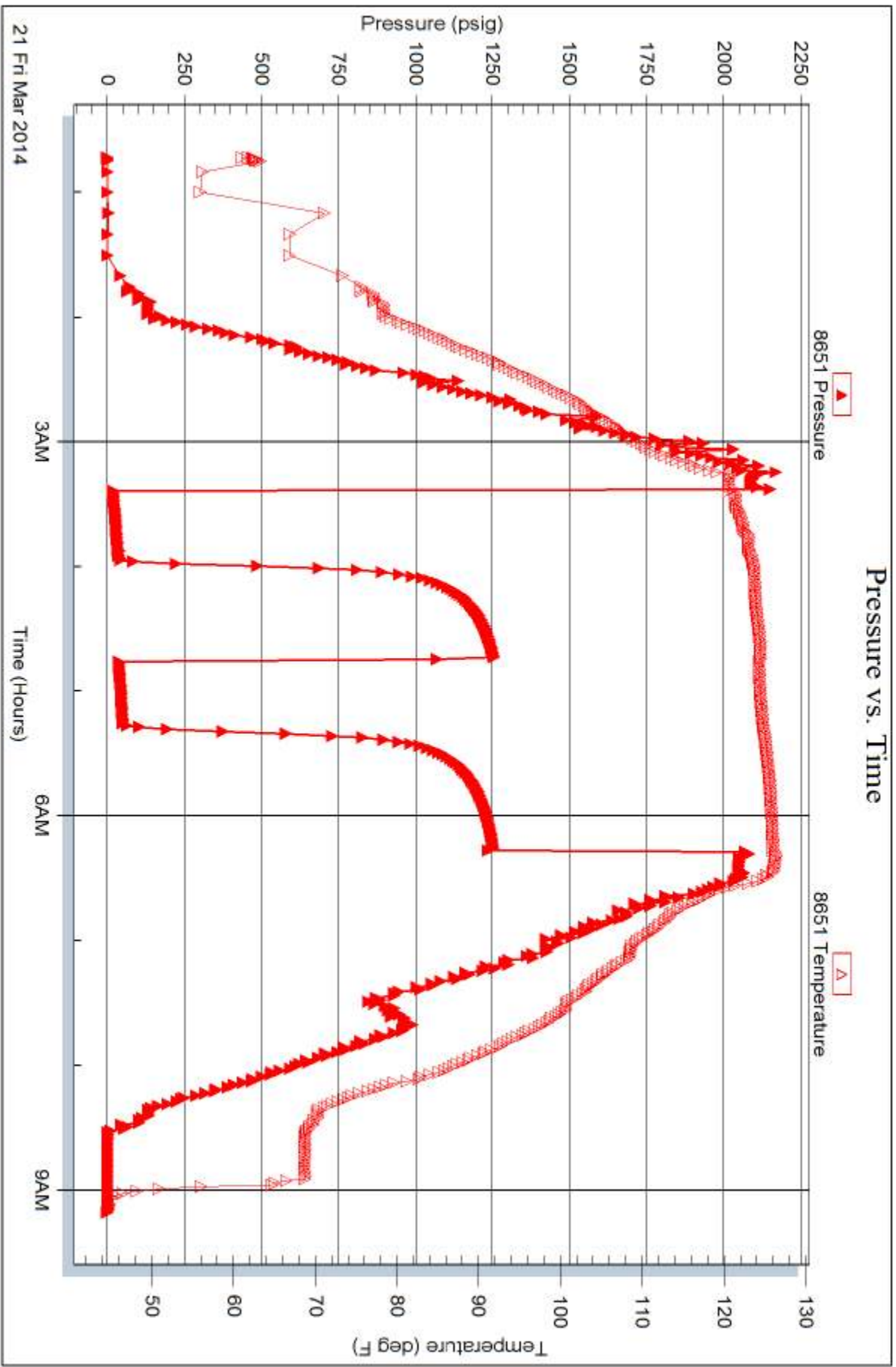


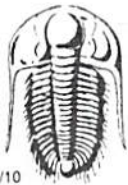
Serial #: 8651

Outside Murfin Drilling Company

Stevenson #1-14

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55648

Well Name & No. Stevenson 1-14 Test No. 1 Date 3-16-14
 Company Murfin Drilling Company Elevation 2902 KB 2897 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #17
 Location: Sec. 14 Twp. 7S Rge. 30W Co. Sheridan State KS

Interval Tested 3931 3991 Zone Tested Toronto-LKO A
 Anchor Length 60 Drill Pipe Run 3670 Mud Wt. 9.2
 Top Packer Depth 3926 Drill Collars Run 248 Vis 60
 Bottom Packer Depth 3931 Wt. Pipe Run WL 6.4
 Total Depth 3991 Chlorides 1800 ppm System LCM 2

Blow Description ±F: 1/2 blow built to 9,
±S: No return,
FK: BOB in 35 min,
F3: work surface blow built to 1/4 died in 30 min,

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>0cm</u>	<u>50</u>		<u>50</u>	
<u>124</u>	<u>0cm</u>	<u>10</u>		<u>90</u>	
<u>124</u>	<u>90cm</u>	<u>10</u>		<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 372 BHT 118 Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 1961 Test 1150 T-On Location 23:30
 (B) First Initial Flow 29 Jars 250 T-Started 2:44
 (C) First Final Flow 108 Safety Joint 75 T-Open 5:35
 (D) Initial Shut-In 1276 Circ Sub N/C 2h 200 T-Pulled 9:35
 (E) Second Initial Flow 149 Hourly Standby 4-400.00 T-Out 12:35
 (F) Second Final Flow 172 Mileage 162 - 74rt 114.70
 (G) Final Shut-In 1294 Sampler
 (H) Final Hydrostatic 1888 Straddle

Initial Open 30 Shale Packer Ruined Shale Packer
 Initial Shut-In 60 Extra Packer Ruined Packer
 Final Flow 60 Extra Recorder Sub Total 0
 Final Shut-In 90 Day Standby Total 1789.70
 Accessibility MP/DST Disc't
 Sub Total 1789.70

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56809

Well Name & No. Stevenson # 1-14 Test No. 2 Date 3-17-2014
 Company Murfin Drilling Co. Elevation 2902 KB 2897 GL
 Address 250 N. Water St 300 Wichita Ks
 Co. Rep / Geo. Jeff Christation Rig Murfin #7
 Location: Sec. 14 Twp. 7S Rge. 30W Co. Sheridan State Ks

Interval Tested 3990 4030 Zone Tested LKC
 Anchor Length 40 Drill Pipe Run 2729 Mud Wt. 9.1
 Top Packer Depth 3985 Drill Collars Run 248 Vis 52
 Bottom Packer Depth 3990 Wt. Pipe Run -0' WL 6-8
 Total Depth 4030 Chlorides 1,500 ppm System LCM 1.5 #

Blow Description IF: Fair blow, Built to B.O.B in 12 mins.

ISJ: No blow back

FF: Fair blow, Built to B.O.B in 20 mins.

FSJ: No blow back

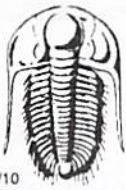
Rec	Feet of	%gas	%oil	%water	%mud
<u>134</u>	<u>wcm</u>			<u>20%</u>	<u>80%</u>
<u>124</u>	<u>wcm</u>			<u>50%</u>	<u>50%</u>
<u>186</u>	<u>mcw</u>			<u>60%</u>	<u>40%</u>
<u>310</u>	<u>water mcw</u>			<u>80%</u>	<u>20%</u>
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 754 BHT 121 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1957</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>2200</u>
(B) First Initial Flow <u>112</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:00</u>
(C) First Final Flow <u>225</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2:34</u>
(D) Initial Shut-In <u>1277</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>6:30</u>
(E) Second Initial Flow <u>233</u>	<input checked="" type="checkbox"/> Hourly Standby <u>.5h 50</u>	T-Out <u>9:37</u>
(F) Second Final Flow <u>403</u>	<input checked="" type="checkbox"/> Mileage <u>37x2 = 74x1.55</u> 114.70	Comments _____
(G) Final Shut-In <u>1256</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1922</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>1739.70</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1739.70</u>	

Approved By _____ Our Representative Chad Vgo

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **56810**

4/10

Well Name & No. Stevenson #114 Test No. 3 Date 3-19-2014
 Company Murfin Drilling Co. Elevation 2902 KB 2897 GL
 Address 250 N. water ste. 300 Wichita Ks.
 Co. Rep / Geo. Jeff Christobn Rig Murfin #1
 Location: Sec. 14 Twp. 7s Rge. 30w Co. Shertdon State KS

Interval Tested 4108 4184 Zone Tested LHF-J, K
 Anchor Length 76 Drill Pipe Run 3864 Mud Wt. 92
 Top Packer Depth 4103 Drill Collars Run 248 Vis 53
 Bottom Packer Depth 4108 Wt. Pipe Run - 0 - WL 6.4
 Total Depth 4184 Chlorides 1,600 ppm System LCM 4#

Blow Description IFI Weak blow, Dead in 21 mins.

ISI: No blow back

FF: No blow

FSI: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</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

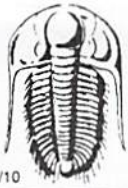
Rec Total 10 BHT 113 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2263 Test 1250 T-On Location 8:45
 (B) First Initial Flow 21 Jars 250 T-Started 9:00
 (C) First Final Flow 22 Safety Joint 75 T-Open 11:40
 (D) Initial Shut-In 45 Circ Sub _____ T-Pulled 14:45
 (E) Second Initial Flow 22 Hourly Standby _____ T-Out 17:17
 (F) Second Final Flow 22 Mileage 3742 = 74 x 1.55 = 114.70 Comments _____
 (G) Final Shut-In 33 Sampler _____
 (H) Final Hydrostatic 2002 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 30 Day Standby _____ Total 1689.70
 Final Shut-In 60 Accessibility _____ MP/DST Disc't _____
 Sub Total 1689.70

Approved By _____ Our Representative Chub King

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56811

4/10

Well Name & No. Stevenson #1-14 Test No. 4 Date 3-20-2014
 Company Murphy Drilling Elevation 2902 KB 2897 GL
 Address 250 N. Water Ste. 300 Wichita KS
 Co. Rep / Geo. Jeff Christian Rig Murphy #7
 Location: Sec. 14 Twp. 17S Rge. 30W Co. Sheridan State Ks

Interval Tested 4347 4370 Zone Tested LWR Pawnee
 Anchor Length 23 Drill Pipe Run _____ Mud Wt. 9.1
 Top Packer Depth 4342 Drill Collars Run 249 Vis 48
 Bottom Packer Depth 4347 Wt. Pipe Run 0 WL 6.8
 Total Depth 4370 Chlorides 1,600 ppm System LCM 4#

Blow Description IF: Weak blow, Built to 3/4 in over 30 mins.
Went to shut in. Picked up slacked off turned my tool 6 times. Driller Ricked it out and the tool started to back latch. I ~~reached~~ Reached over and locked the table. Never did shut in Ran 60 min Flow and then started out of Hole.

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>mud with specs</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 15 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2199</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>16:00</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>18:40</u>
(C) First Final Flow <u>44</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>18:45</u>
(D) Initial Shut-In _____	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>6:00</u>
(E) Second Initial Flow _____	<input type="checkbox"/> Hourly Standby _____	T-Out <u>00:22</u>
(F) Second Final Flow _____	<input checked="" type="checkbox"/> Mileage <u>37x2=74x1.55</u> 114.70	Comments _____
(G) Final Shut-In _____	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2128</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

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

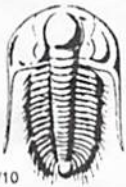
Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1489.70

Total 1489.70
 MP/DST Disc't _____

Approved By _____ Our Representative Chris [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56812

Well Name & No. Stevenson #1-14 Test No. 5 Date 2-26-2014
 Company MURFIN Drilling Co. Elevation 2402 KB 2897 GL
 Address 250 N. Water ste 200 wchdstraks
 Co. Rep / Geo. JEFF CHRISTIAN Rig MURFIN #7
 Location: Sec. 14 Twp. 17S Rge. 30W Co. Sheridan State KS

Interval Tested 4345 4370 Zone Tested LWS Packer
 Anchor Length 25 Drill Pipe Run 4084 Mud Wt. 9.1
 Top Packer Depth 4330 Drill Collars Run 244 Vis 48
 Bottom Packer Depth 4335 Wt. Pipe Run - 0 WL 6.8
 Total Depth 4370 Chlorides 11600 ppm System LCM 4#

Blow Description IF: Weak blow, Built to 3/4 in. over 30 mins.
ISE: No blow back
FF: Weak blow, Built to 3/4 in. over 60 mins.
FSE: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
15	mud with oil specs				

Rec Total 15 BHT 124 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2168</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>New left from DST #4</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:43</u>
(C) First Final Flow <u>40</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:23</u>
(D) Initial Shut-In <u>1254</u>	<input type="checkbox"/> Cjrc Sub _____	T-Pulled <u>6:00</u>
(E) Second Initial Flow <u>35</u>	<input checked="" type="checkbox"/> Hourly Standby _____	T-Out <u>9:11</u>
(F) Second Final Flow <u>49</u>	<input checked="" type="checkbox"/> Mileage <u>37x2 = 74x1.55 = 114.70</u>	Comments _____
(G) Final Shut-In <u>1253</u>	<input checked="" type="checkbox"/> Sampler <u>washed rods</u> <u>ON 3-22-14 at 1300</u>	
(H) Final Hydrostatic <u>2105</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>800</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Day Standby <u>1d 3.75h</u>	Total <u>2489.70</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1689.70</u>	

Approved By _____ Our Representative [Signature]

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Remarks

5 1/2" production casing set to further test the Toronto, Lansing / Kansas City and Pawnee formations.

Electric log measurements correlate about even to 2' deep compared to rotary measurements.

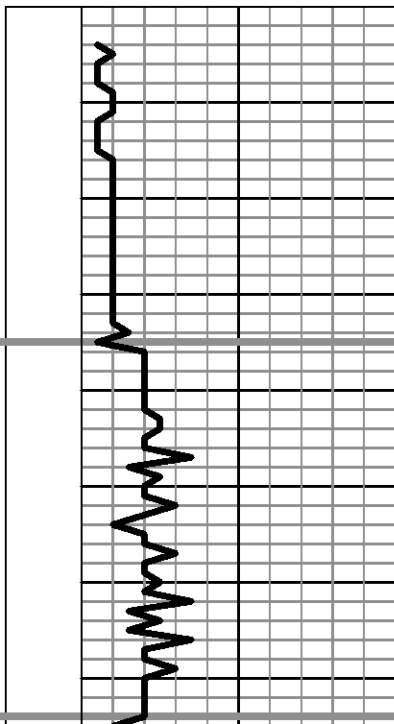
Samples deposited at the Kansas Geological Survey.

Respectfully Submitted,

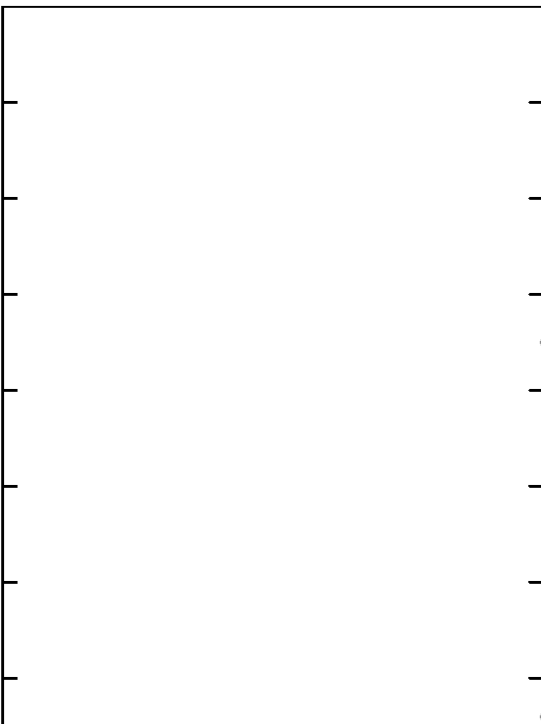
Jeff Christian

Jeff Christian

LITH.	0	DRILL TIME (MIN/FT)	10	DEPTH	SHW	SAMPLE DESCRIPTIONS	REMARKS
-------	---	---------------------	----	-------	-----	---------------------	---------



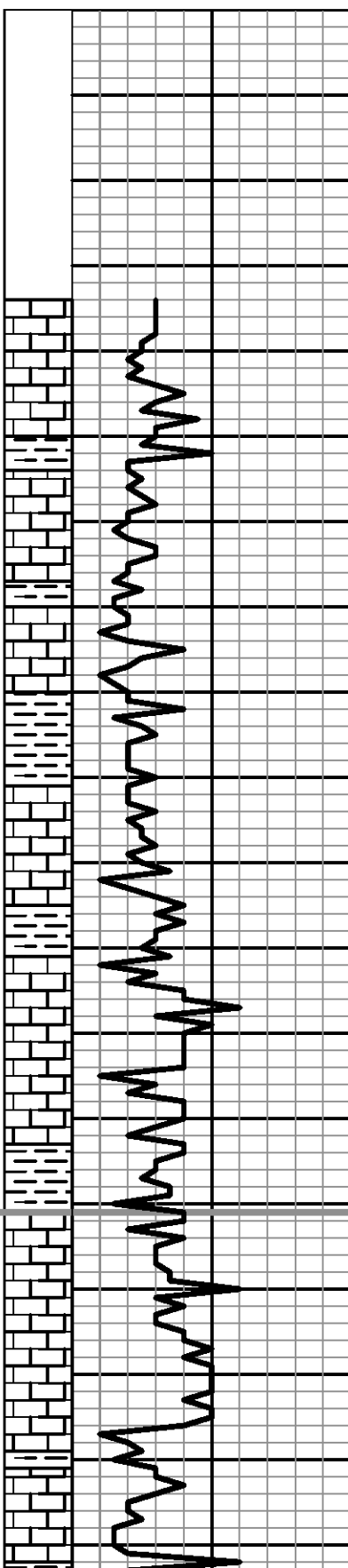
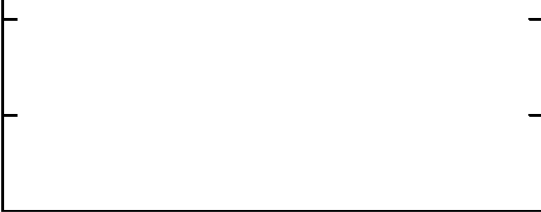
2550



<p>ANHYDRITE 2555' (+347)</p> <p>E Log 2556' (+346)</p>
<p>Base ANHYDRITE 2594' (+308)</p>



2600



3600

Note: Extra joint of pipe, not tallied on board, was found in hole when pipe was strapped on dst # 1. 27' Up Hole Correction made.

3650

Ls: crm-lt gry, fn xln, dns, foss-ool in part, cpl pcs pr vug por, drk brn tarry stn, nsfo, no odor

Ls: crm-lt gry, fn xln, dns, foss-ool in part, sli glauc in part, pr vis por, ns

Ls: crm-lt brn, fn xln, sli grnlr, subchlky, foss-ool in part, sct fr intrxln-foss por, ns

Ls: crm-lt gry, fn xln, dns, foss-ool in part, pr vis por, ns

Ls: as above w/ Sh: gry

Sh: gry

3700

Ls: crm-lt gry, fn xln, dns, sli foss, sli chrty, pr vis por, ns

Same

Ls: off wt-crm-lt gry, fn xln, subchlky, subool, pr introol por, blk sptd asph stn, nsfo, no odor

Sh: rdd/brn-some gry

TOPEKA 3741' (-839)

3750

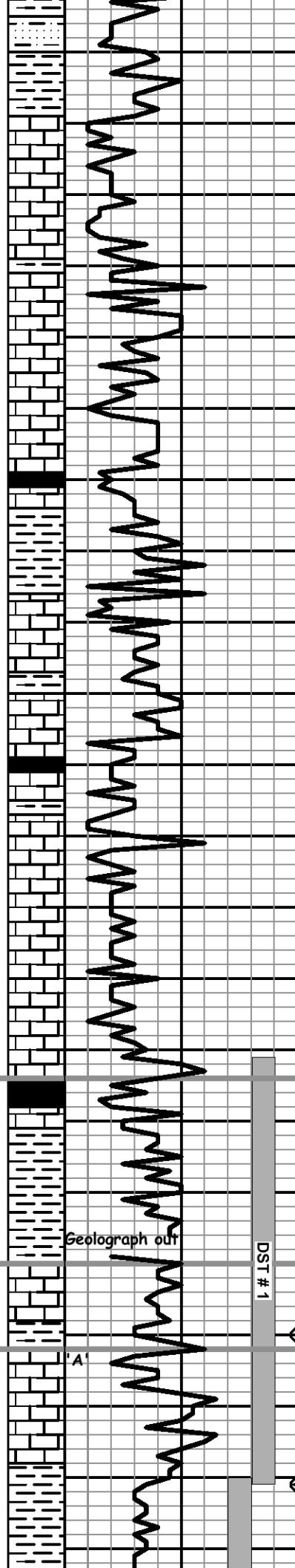
Ls: crm-lt brn, fn xln, sli grnlr, part dns, shly, por vis por, ns

E Log 3742' (-840)

Ls: lt gry, fn xln, dns, sli foss, pr vis por, trc asph stn, nsfo, no odor

Ls: crm-lt brn-lt gry, fn xln, sli grnlr, foss-ool in part, sct fr intrpart-vug por, ns

Ls: as above w/ sct wt chlk



3800

Sst: lt gry, vy fn-fn grn, calc, hard, pr vis por, ns w/ Sh: gry-some lt grn & red/brn

Sh: gry-grn-red/brn

Ls: crm-lt brn, fn xln, sli grnlr, sli foss, pr intrxln por, ns

Ls: crm-lt gry, fn xln, sli grnlr, chlky in part, sli foss, pr-fr pp-intrxln por, ns

Ls: crm-lt gry, fn xln, dns, sli foss, pr vis por, ns

Ls: crm-lt gry, fn xln, sli grnlr, sli foss, pr vis por, ns

3850

Sh: blk, carb

mostly Ls: crm-lt gry, fn xln, dns, foss w/ sct Sh: gry-lt grn & trc Sltst: lt gry, calc, soft, ns

Sh: gry

Ls: crm-lt brn-lt gry, fn xln, part dns, ool in part, pr introol-vug por, ns w/ sct wt chlk

Ls: crm-lt brn-lt gry, fn xln, sli grnlr, part dns, sli foss, pr intrxln por, ns

trc Sh: blk, carb

3900

Ls: crm-lt brn-lt gry, fn xln, foss-ool in part, sct fr intrpart-vug por, ns

Ls: as above w/ abndnt wt chlk, trc asph stn

Same, vy chlky

Ls: lt gry, fn xln, dns, sli foss, pr vis por, ns

Sh: blk, carb

Ls: lt brn, fn xln, dns, sli foss

3950

Sh: gry-lt grn, gummy in part

Geolograph out

Ls: lt gry, fn xln, ool, pr-some fr introol por, sli-fr s hvy fo, sli odor, drk brn subsat-sat stn

Ls: crm-lt gry, fn xln, dns, chrty, sct blk asph stn

'A'

Ls: crm-lt gry, fn xln, ool, pr-some fr introol-vug por, ss hvy fo, sli odor, drk brn sptd-subsat stn

20" Ls: crm-lt gry, fn xln, part dns, foss-ool, pr-fr intrpart-vug por, ssfo, fnt odor, brn sptd-subsat stn

Sh: red/brn-lt grn-gry

4000

DST # 1 3931' to 3991'
 30"-60"-60"90"
 IF: Blow Built to 9" ISI: No Return
 FF: BOB/35" FSI: 1/4" Blow Back
 RECOVERY: 372' total fluid
 124' MCO (50%O, 50%M)
 124' OCM (10%O, 90%M)
 124' G&OCM (10%G, 10%O, 80%M)
 IFP: 29-108# ISIP: 1276#
 FFP: 149-172# FSIP: 1294#
 IHP: 1961# FHP: 1888#
 BHT: 118 deg. F

HEEBNER 3934' (-1032)
 E Log 3934' (-1032)

PipeStrap @ 3991': 26.62' short to board
 27' Up Hole Correction Made

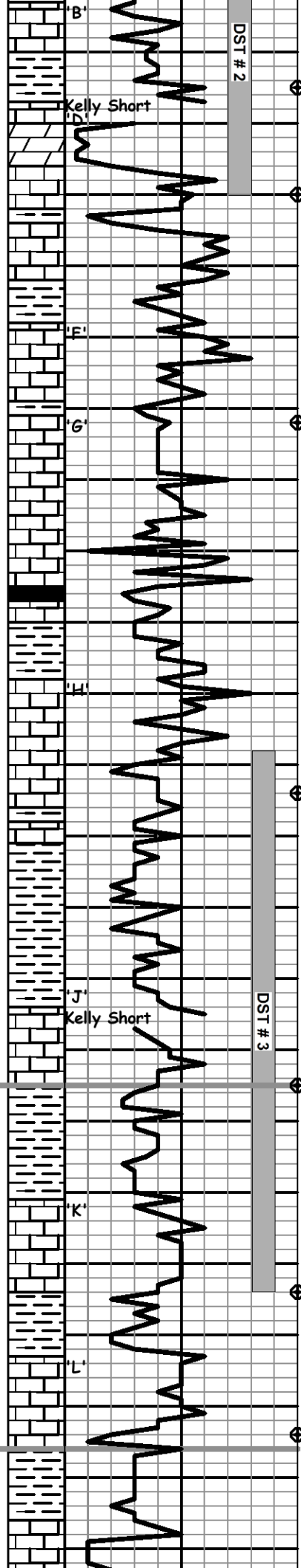
TORONTO 3960' (-1058)
 E Log 3960' (-1058)

LANSING 3972' (-1070)
 E Log 3972' (-1070)

Morgan Mud: 3991': 3/16/14
 Wt. 9.2, Vis. 60, WL. 6.4, Chl. 1,800, LCM. 2

Morgan Mud: 3991': 3/17/14
 Wt. 9.1, Vis. 52, WL. 6.8, Chl. 1,500, LCM. 1.5

DST # 2 3990' to 4030'



Ls: crm-lt gry, fn xln, ool, pr-trc fr introol-vug por, ssfo, fnt odor, lt brn sptd-subsat stn
 Sh: red/brn-lt grn

 Dolo: crm-lt gry, fn xln, suc, fr intrxln-trc vug por, few pcs blk gil stn, nsfo, fnt odor
 sct pcs Ls: as above
 Ls: crm-lt gry, fn xln, dns, chlky in part, sli chrty, no vis por, ns
 Ls & Dolo: as above

 Ls: crm-lt gry, fn xln, dns, foss-sli ool, no vis por, ns
 Sh: red/brn-gry/grn

 Ls: crm-lt gry, fn xln, dns, subchlky, sli foss, sct pr pp por, ns, no odor

 Ls: crm-lt gry, fn xln, sli grnlr in part, chlky, part dns, pr intrxln-pp por, ns, no odor

 Ls: off wt-crm, fn xln, chlky, part dns, chrty, no vis por, ns

 Ls: lt brn-lt gry, fn xln, dns, chrty
 Sh: blk, carb
 Ls: brn, fn xln, dns, foss
 Sh: gry-grn

 Ls: crm-lt gry, fn xln, dns, sli foss-ool in part, no vis por, ns

 Same
 Sh: gry-grn-some red/brn w/ Ls: gry, fn xln, dns, foss
 Sh: red/brn-some gry & grn

 Same

 Ls: crm-lt gry, fn xln, dns, sli foss in part, pr vug por, sct pcs ssfo, no odor, drk brn sptd stn

 Sh: drk gry-grn, few pcs blk, carb

 Sh: red/brn-some gry & grn

 Ls: off wt-lt gry, fn xln, dns, chlky in part, pr vis por, ns
 Ls: as above, few pcs ool, no vis por, ns
 Sh: red/brn-gry-grn

 Ls: crm-lt gryfn xln, dns, chlky in part, sli foss in part, pr vis por, ns
 Ls: crm-lt gry, fn xln, dns, subchlky, pr vis por, ns

 Sh: red/brn-some grn-lt brn, trc lt prpl

 Sh: red/brn, some grn & gry, trc lt prpl w/ trc sct lt gry w/ fn xln, fnt, calc, ns

30"-60"-60"90"
 IF: BOB/12" ISI: No Return
 FF: BOB/20" FSI: No Return
 RECOVERY: 754' total fluid
 258' WCM (34%W, 66%M)
 496' MCW (72%W, 28%M)
 IFP: 112-225# ISIP: 1277#
 FFP: 233-403# FSIP: 1256#
 IHP: 1957# FHP: 1922#
 BHT: 121 deg. F

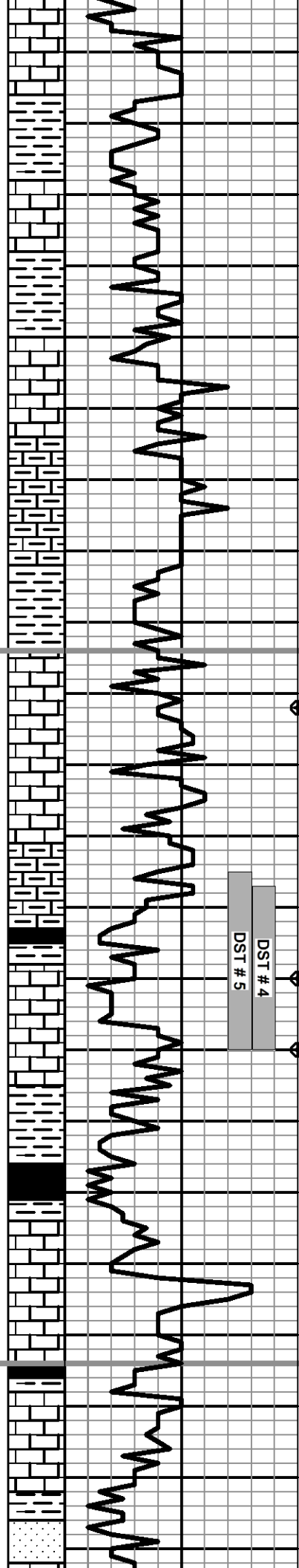
 Morgan Mud: 4030'; 3/18/14
 Wt. 9.3, Vis. 54, WL. 7.2, Chl. 1,600, LCM. 2.0

 DST # 3 4108' to 4184'
 30"-60"-30"60"
 IF: Surface Blow Died/21"
 FF: No Blow
 RECOVERY: 20' Mud nso
 IFP: 21-22# ISIP: 45#
 FFP: 22-22# FSIP: 33#
 IHP: 2203# FHP: 2002#
 BHT: 113 deg. F

STARK 4155' (-1253)
 E Log 4154' (-1252)

 Morgan Mud: 4184'; 3/19/14
 Wt. 9.2, Vis. 53, WL. 6.4, Chl. 1,600, LCM. 4.0

BKC 4206' (-1304)
 E Log 4205' (-1303)



4250

Sst: n gry, vy fr grn, fm, calc, ns

Ls: crm-lt gry, fn xln, dns, subchlky, pr vis por, ns

Ls & Sh: as above

Ls: crm-lt gry, fn xln, dns, subchlky, few pcs ool, pr vis por, ns

Sh: red/brn, slty w/ Ls: as above

Same

Ls: crm-lt gry, fn xln, subchlky, part dns, sct chrt (lt orng, sli grnlr), pr vis por, ns

4300

Ls: lt gry-lt brn, fn xln, sli grnlr in part, part dns w/ chrt, lt orng, grnlr-lt brn, vit, pr vis por, ns

Sh: lt gry-lt prpl, calc

Sh: gry

PAWNEE 4314' (-1412)

E Log 4316' (-1414)

Ls: crm-lt brn-lt gry, fn xln, part chlky, part dns, sli chrty, pr vis por, ns

Ls: crm-lt brn-lt gry, fn xln, part dns, sli ool, sct chrt, few pcs pr pp por, ns

Same

4350

Sh: grk gry-blk, carb on part

Ls: lt gry, fn xln, subool, pr-fr pp-vug por, sli-fr sfo, sli odor, rich brn mostly sat stn

Ls: crm-lt gry, fn xln, subchlky, subool in part, pr vis por, ns

Ls: lt gry, fn xln, part dns, argil in part, pyritic in part, pr vis por, ns w/ Sh: gry-grn, somered/brn & prpl

Sh: drk gry-blk, carb in part

DST # 4 4347' to 4370'
 30"-Tool Malfunction
 IF: Surface Blow Built to 3/4"
 ISI: Tool Would Not Rotate
 RECOVERY: 15' Mud oil spts
 IFP: 15-44# ISIP: not taken
 FFP: not taken FSIP: not taken
 IHP: 2194# FHP: 2128#
 BHT: 116 deg. F

Morgan Mud: 4370'; 3/20/14
 Wt. 9.1, Vis. 48, WL. 6.8, Chl. 1,600, LCM. 4.0

DST # 5 4345' to 4370'
 30"-60"-30"60"
 IF: Blow Built to 3/4"
 FF: Blow Built to 3/4"
 RECOVERY: 15' Mud w/ oil spts
 IFP: 17-40# ISIP: 1254#
 FFP: 35-49# FSIP: 1253#
 IHP: 2168# FHP: 2105#
 BHT: 124 deg. F

4400

Ls: crm-lt gry, fn xln, comp, part dns, foss, pr vis por, ns

Ls: lt gry-lt brn, fn xln, dns, sli foss, no vis por, ns

sct Sh: drk gry-blk, carb in part

Ls: lt brn-lt gry, fn xln, dns, sli foss, some crm, chlky, no vis por, ns

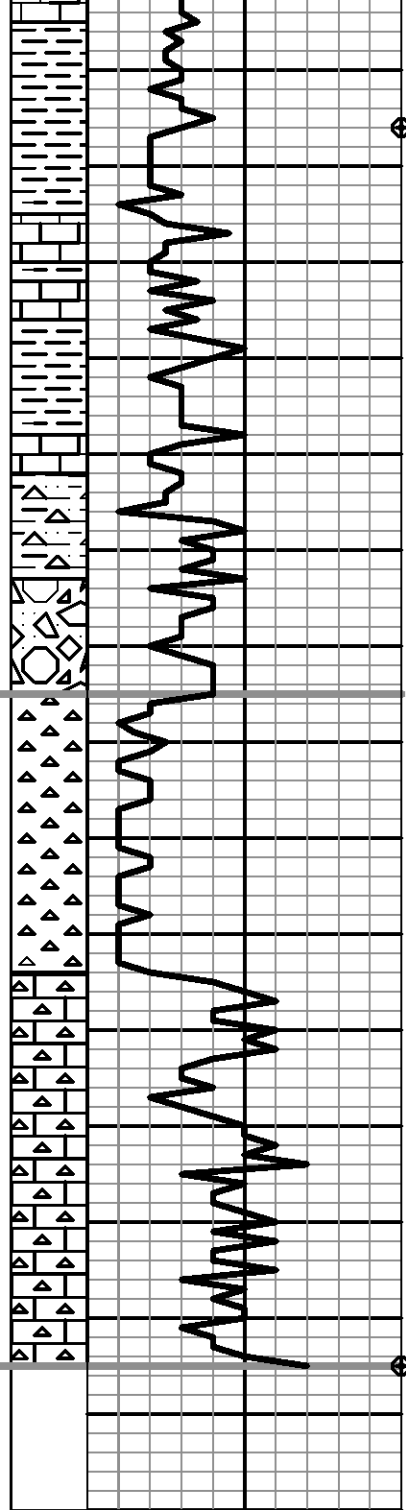
Sst: crm-lt gry, fn-med-some crs grn, pr srt, subfri, calc, glauc, fr por, ns

Ls: crm-lt gry, fn xln, dns, chlky in part, pr vis

CHEROKEE 4414' (-1512)

E Log 4416' (-1514)

Morgan Mud: 4440'; 3/21/14



4450

4500

4550

4600

por, ns

Ls: crm-lt gry-red std, fn xln, dns, ns

Sh: red/brn

Sh: red/brn, sndy, some gry & grn

Sh: as above w/ Ls: crm-lt gry-lt brn, fn xln, subchky, part dns, ns

Sh: red/brn-lt grn, sndy, trc yell sh, w/ Ls: lt gry-lt brn-prpl/brn, fn xln, dns, ns

Sh: as above, incrs yell w/ sct cgl type chrt, orng, yell, vit, subopq

Sh & Chrt: as above w/ Chrt: wt-crm, wthrd, some fresh, ns

Chrt: tan-lt gry, fresh, vit, some wt-crm, wthrd, ns

Chrt: mostly wt-lt gry, fresh/wthrd 50/50, foss in part, trip in part, some tan fresh, ns

Chrt: wt-crm-lt gry, fresh/wthrd 70/30, foss, some trip, gd vug-trip por, ns

Ls: wt-crm, fn xln, chlky, chrty, por vis por, ns

Ls: wt-crm-lt gry, fn xln, chlky, subool in part, chrty, pr vis por, ns

Ls: crm-lt gry-lt brn, fn xln, chlky, subool in part, chrty, pr vis por, ns

Ls: as above, fr amnt wt chlk, ns

Mississippian 4515' (-1613)

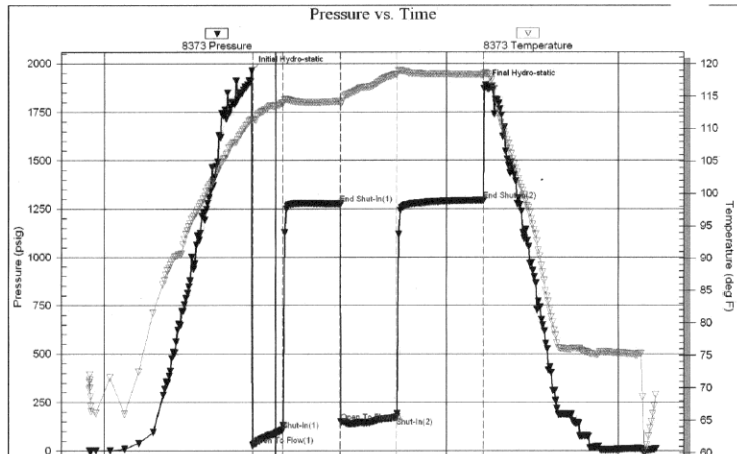
E Log 4516' (-1614)

RTD 4585' (-1683)

E Log 4589' (-1687)

Drill Stem Test Charts

Serial #: 8373 Inside Murfin Drilling Company Stevenson 1-14 DST Test Number: #1



Serial #: 8673 Inside Murfin Drilling Stevenson #1-14 DST Test Number: #2

