



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1215706
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: _____

1215706

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Racette 2-12
Doc ID	1215706

All Electric Logs Run

Dual Induction
Dual Compensated
Microresistivity
Borehole Compensated



WESLEY D. HANSEN Consulting Petroleum Geologist

212 N. Market, Suite 257, Wichita, KS 67202
Office: 316-267-7313 Cellular ; 316-772-6188

**KGS
AAPG
Kansas License #418**



**Scale 1:240 (5"=100') Imperial
Measured Depth Log**

Well Name: Murfin Drilling Co., Inc. #2-12 Racette
Location: 1320' FNL, 990' FEL of Section 12-13S-33W
License Number: API: 15-109-21274 **Region:** Logan County, KS
Spud Date: 4-8-2014 **Drilling Completed:** 4-20-2014
Surface Coordinates: 1320' FNL, 990' FEL of Section 12-13S-33W

**Bottom Hole Vertical hole
Coordinates:**
Ground Elevation (ft): 3033' **K.B. Elevation (ft):** 3044'
Logged Interval (ft): 3650' **To:** RTD **Total Depth (ft):** 4770'
Formation: Mississippian at RTD
Type of Drilling Fluid: Chemical - Displaced at 3212'

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Murfin Drilling Co., Inc.
Address: 250 N. Water
Suite 300
Wichita, KS 67202

GEOLOGIST

Name: Wesley D. Hansen
Company: Wesley D. Hansen - Consulting Petroleum Geologist
Address: 212 N. Market, Suite 257
Wichita, KS 67202
Office: 316-263-7313 **Cellular:** 316-772-6188

COMMENTS

Contractor: Murfin Drilling Co., Inc. Rig #22
Pusher: Sammy Fabela

Surface Casing: 8 5/8" set at 225' w/180sx
Production Casing: 5 1/2" set at 4761' w/175sx

Mud by: Morgan Mud - Cade Lines was the engineer.

DST's by: Trilobite - Will MacLean was the tester.

Logs by: Pioneer Wireline (DIL, CN-CD, MEL, BHCS)

Deviation Surveys: 0.25 deg. @ 225'; 0.5 deg. @ 1831'; 0.5 deg. @ 2710'; 1 deg. @ 3900'; 1/2 deg. @ 4010'; 3/4 deg. @ 4118'; 1 1/2 deg. @ 4286'; 1 1/2 deg. @ 4507'; 1 3/4 deg. @ 4685'; 1 1/2 deg. @ 4770'

BIT RECORD

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"		GT-C1	225'	225'	2 3/4
2	7 7/8"	HTC	DP506F	3900'	3675'	35 1/2
3	7 7/8"	HTC	GX20C	4685'	785'	69
4	7 7/8"	HTC	DP506F	4770'	85'	3 1/2

FORMATION TOPS AND STRUCTURAL COMPARISON

FORMATION	SAMPLE TOPS		LOG TOPS		COMPARISON WELL	
	Depth	Datum	Depth	Datum	MDCI Racette #1-12 335' FNL, 1100' FEL 12-13S-33W 3052' KB	
Anhydrite	2518'	+526	2517'	+527	+530	-3
B/Anhydrite	2539'	+505	2539'	+505	+506	-1
Topeka	3746'	-702	3747'	-703	-705	+2
Heebner	3969'	-925	3970'	-926	-927	+1
Lansing	4018'	-974	4017'	-973	-976	+3
Muncie Creek Shale	4168'	-1124	4169'	-1125	-1121	-4
Stark Shale	4254'	-1210	4255'	-1211	-1207	-4
BKC	4323'	-1279	4320'	-1276	-1275	-1
Pawnee	4453'	-1409	4454'	-1410	-1405	-5
Cherokee Shale	4536'	-1489	4538'	-1491	-1489	-2
Johnson Zone	4579'	-1535	4580'	-1536	-1532	-4
Mississippian	4672'	-1628	4674'	-1630	-1612	-18
RTD	4770'	-1726				
LTD			4773'	-1729		

DRILL STEM TESTS

DST No. 1 Toronto
Interval: 3968'-4010'
Times: 30-60-30-60
Recovery: 171' WCM w/few oil spots (42w, 58m);
248' MCW (37m, 63w); 434' MCW (8m, 92w);
1354' MCW (3m, 97w), total fluid 2207'
FP: 214-799/816-1041 SIP: 1153-1156
HP: 1969-1866 BHT: 117 deg. F

IFP: strong blow, B.O.B. in 1 1/4 minutes
ISIP: no return blow
FFP: strong blow, B.O.B. in 2 1/2 minutes
FSIP: no return blow

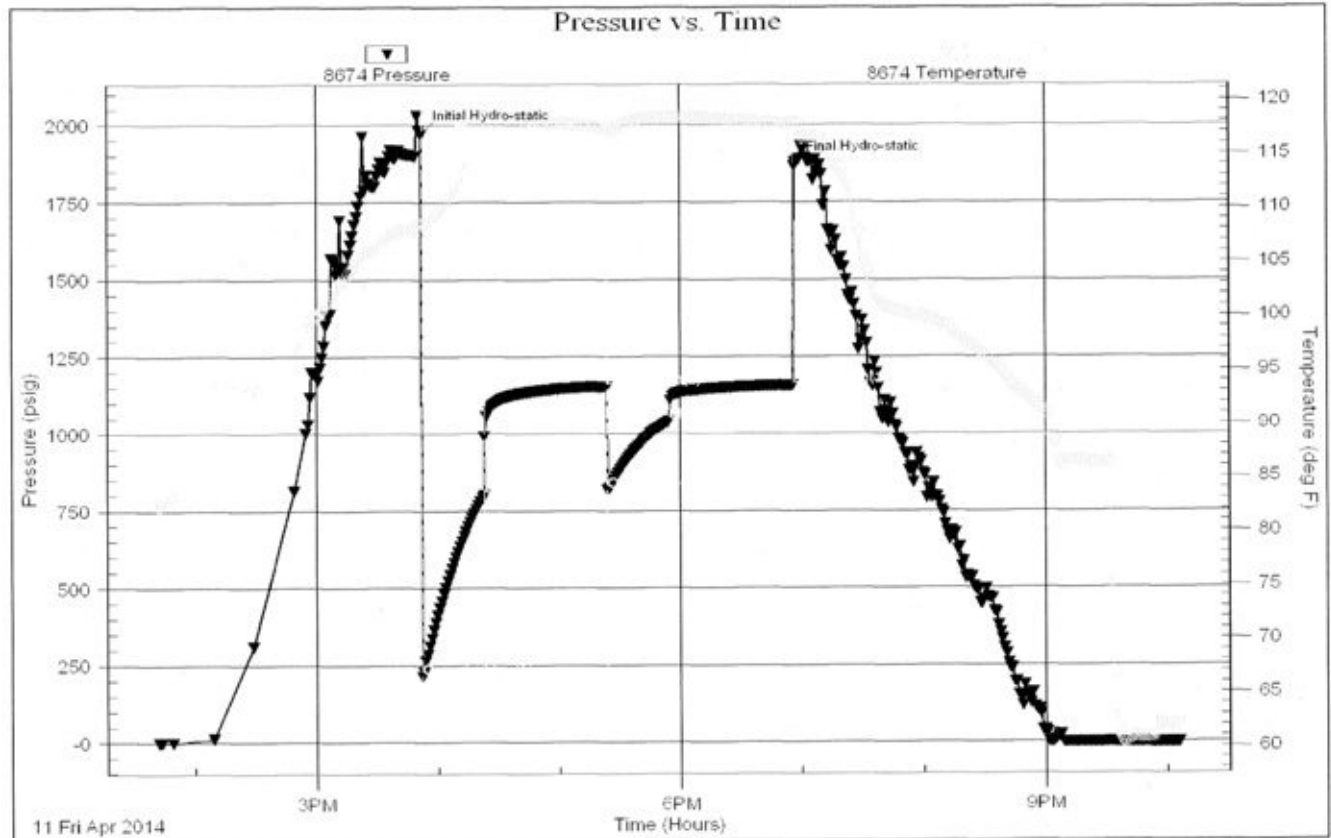
Serial #: 8674

Inside

Murfin Drilling Co. Inc

Racette # 2-12

DST Test Number: 1



Tillobite Testing, Inc

Ref. No: 57239

Printed: 2014.04.11 @ 22:21:58

DRILL STEM TESTS

DST No. 2 Lansing "B" and "D"
Interval: 4041'-4100'
Times: 30-60-60-90
Recovery: 122' WCM (41w, 59m); 186' MCW (34m, 66w); 300' MCW (21m, 79w), total fluid 608'; chl. 43,500
FP: 20-166/168-299 SIP: 1156-1146
HP: 2069-1882 BHT: 116 deg. F

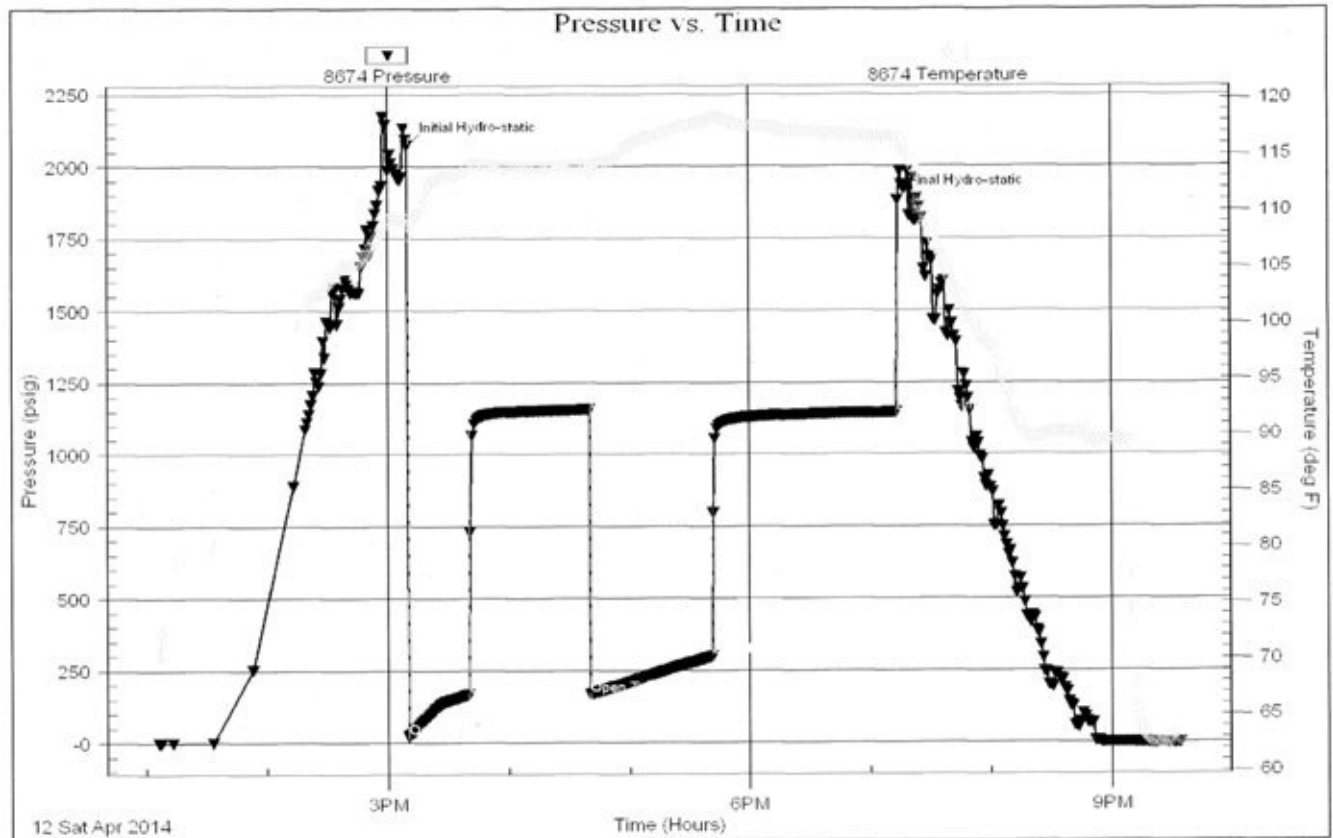
IFP: weak blow built to 11 inches
ISIP: no return blow
FFP: weak blow built to B.O.B. in 52 minutes
FSIP: no return blow

Serial #: 8674

Inside Murfin Drilling Co. Inc.

Racette # 2-12

DST Test Number: 2



Tribolite Testing, Inc.

Ref. No: 57240

Printed: 2014.04.12 @ 21:50:17

DRILL STEM TESTS

DST No. 3 Lansing "E"
Interval: 4100'-4118'
Times: 30-60-60-90
Recovery: 30' WCM (46w, 54m); 120' MCW (39m,
61w) chl. 22,500
FP: 19-41/43-91 SIP: 1155-1151
HP: 2089-1845 BHT: 113 deg. F

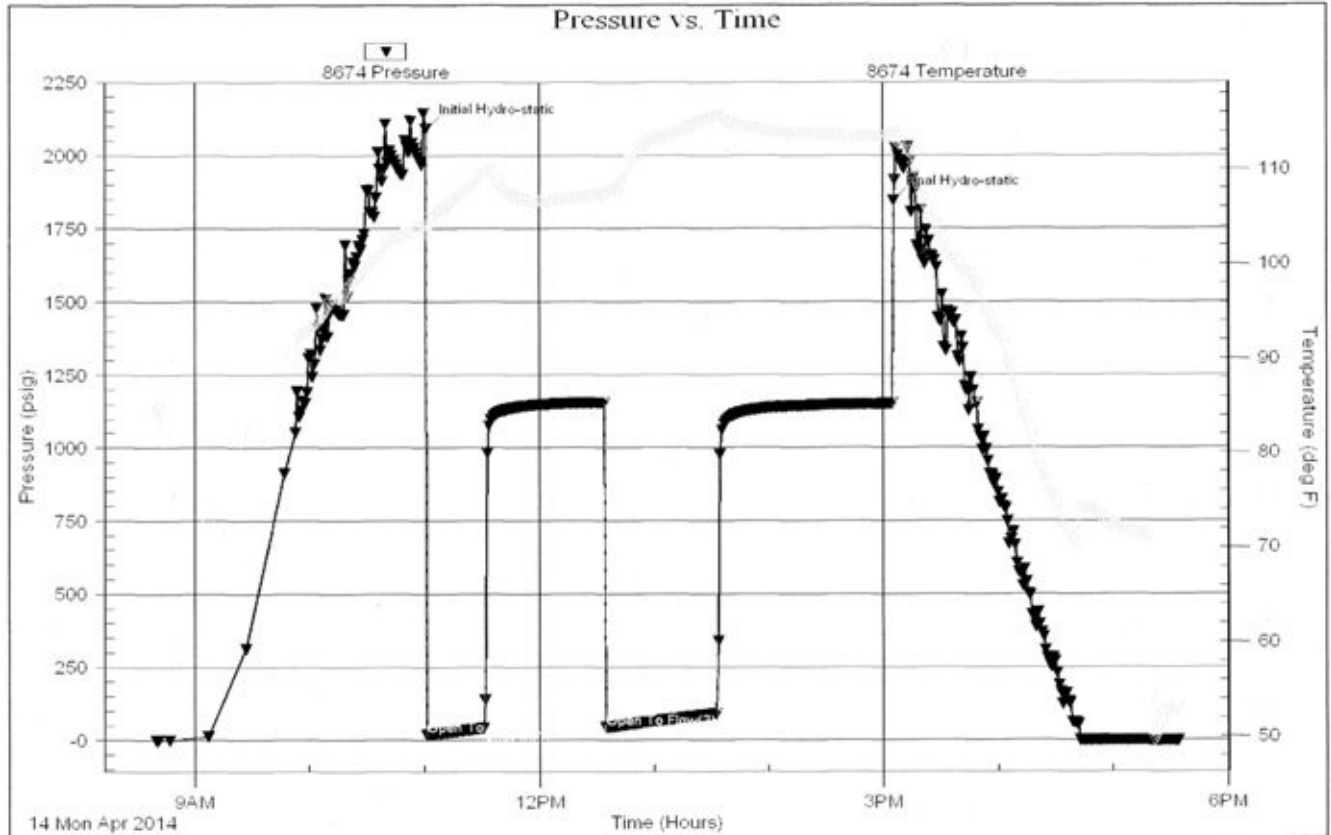
IFP: weak blow built to 1 3/4 inches
ISIP: no return blow
FFP: weak blow built to 3 inches
FSIP: no return blow

Serial #: 8674

Inside Martin Drilling Co, Inc

Recette # 2-12

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 57241

Printed: 2014.04.14 @ 17:53:55

DRILL STEM TESTS

DST No. 4 Lansing "H" and "I"
Interval: 4168'-4230'
Times: 30-60-60-60
Recovery: 61' WCM w/skim of oil (4w, 96m); 60'
WCM w/skim of oil (23w, 77m) chl. 25,200
FP: 19-40/43-78 SIP: 895-866
HP: 2149-2019 BHT: 114 deg. F

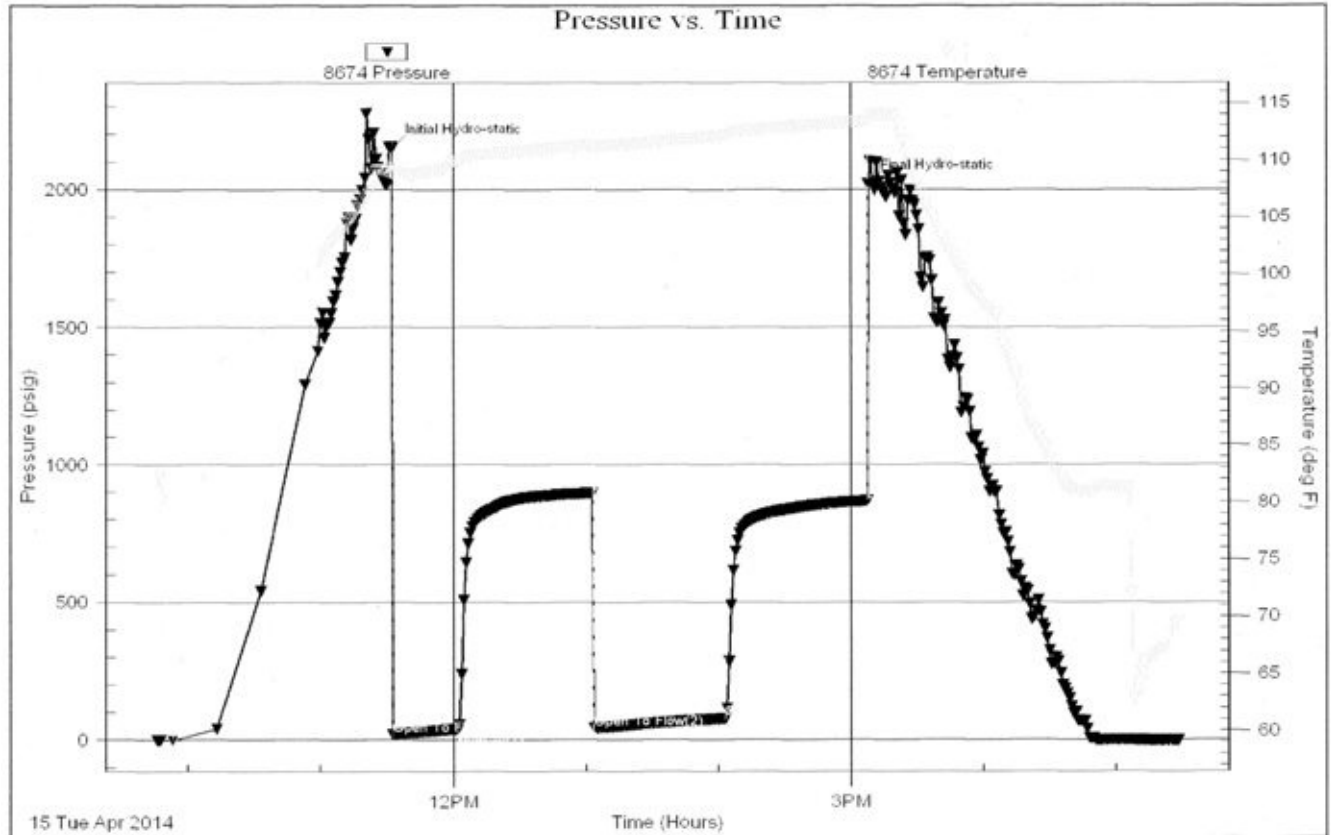
IFP: weak surface blow built to 3/4 inch
ISIP: no return blow
FFP: weak surface blow built to 1 inch
FSIP: no return blow

Serial #: 8674

Inside Murfin Drilling Co. Inc

Racette # 2-12

DST Test Number: 4



Tilcoite Testing, Inc

Ref. No: 57242

Printed: 2014.04.15 @ 17:40:13

DRILL STEM TESTS

DST No. 5 Lansing "J" and "K"
Interval: 4230'-4286'
Times: 30-60-60-90
Recovery: 5' W&OCM (2w, 5o, 93m); 60'
WG&OCM (2w, 3g, 6o, 89m)
FP: 22-34/38-56 SIP: 1098-1075
HP: 2124-1973 BHT: 116 deg. F

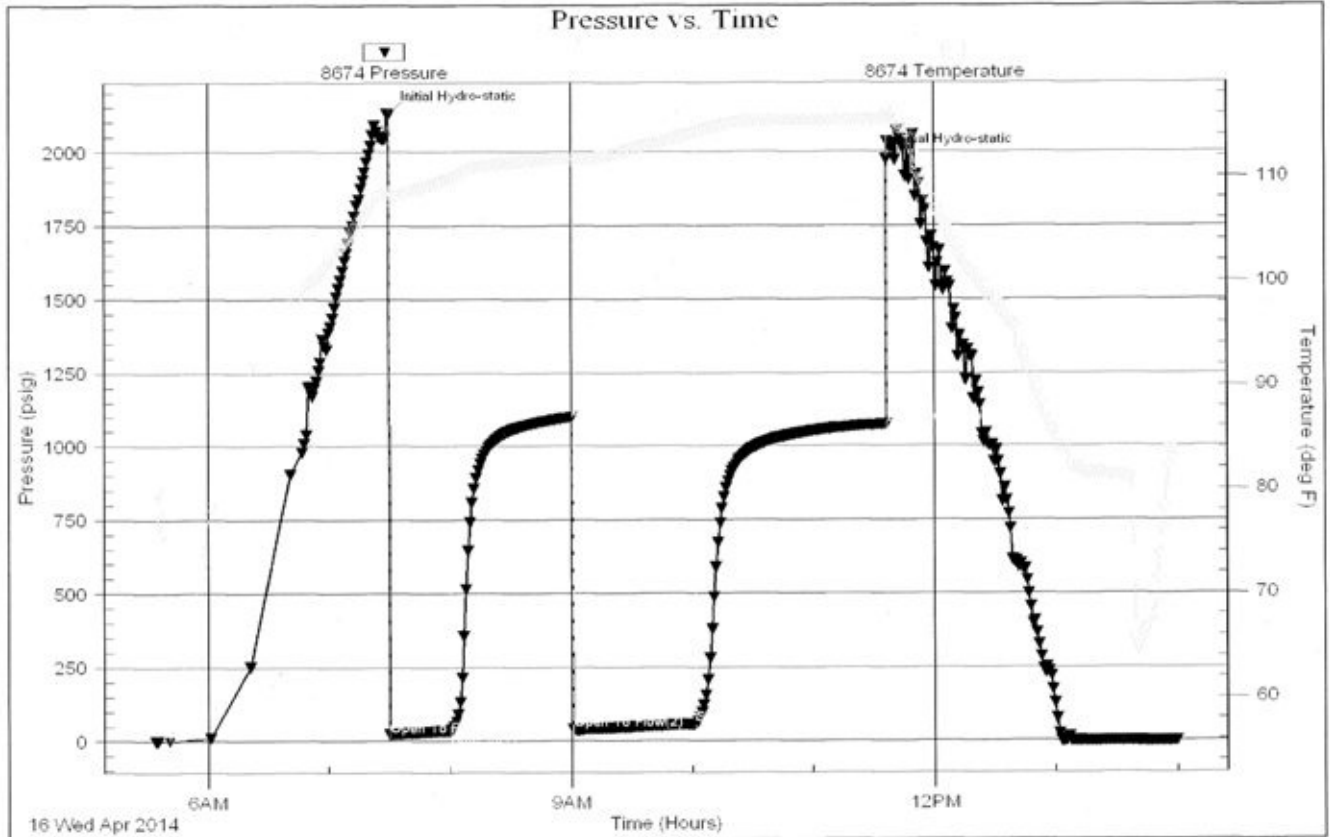
IFP: weak surface blow built to 1 inch
ISIP: no return blow
FFP: very weak surface blow
FSIP: no return blow

Serial #: 8674

Inside Murfin Drilling Co. Inc

Racette # 2-12

DST Test Number: 5



Tribolite Testing, Inc

Ref. No: 57243

Printed: 2014.04.16 @ 14:12:56

DRILL STEM TESTS

DST No. 6 Marmaton/Pawnee
Interval: 4345'-4507'
Times: 30-60-30-60
Recovery: 62' G&OCM (2g, 2o, 96m)
FP: 24-41/44-57 SIP: 676-608
HP: 2200-2110 BHT: 117 deg. F

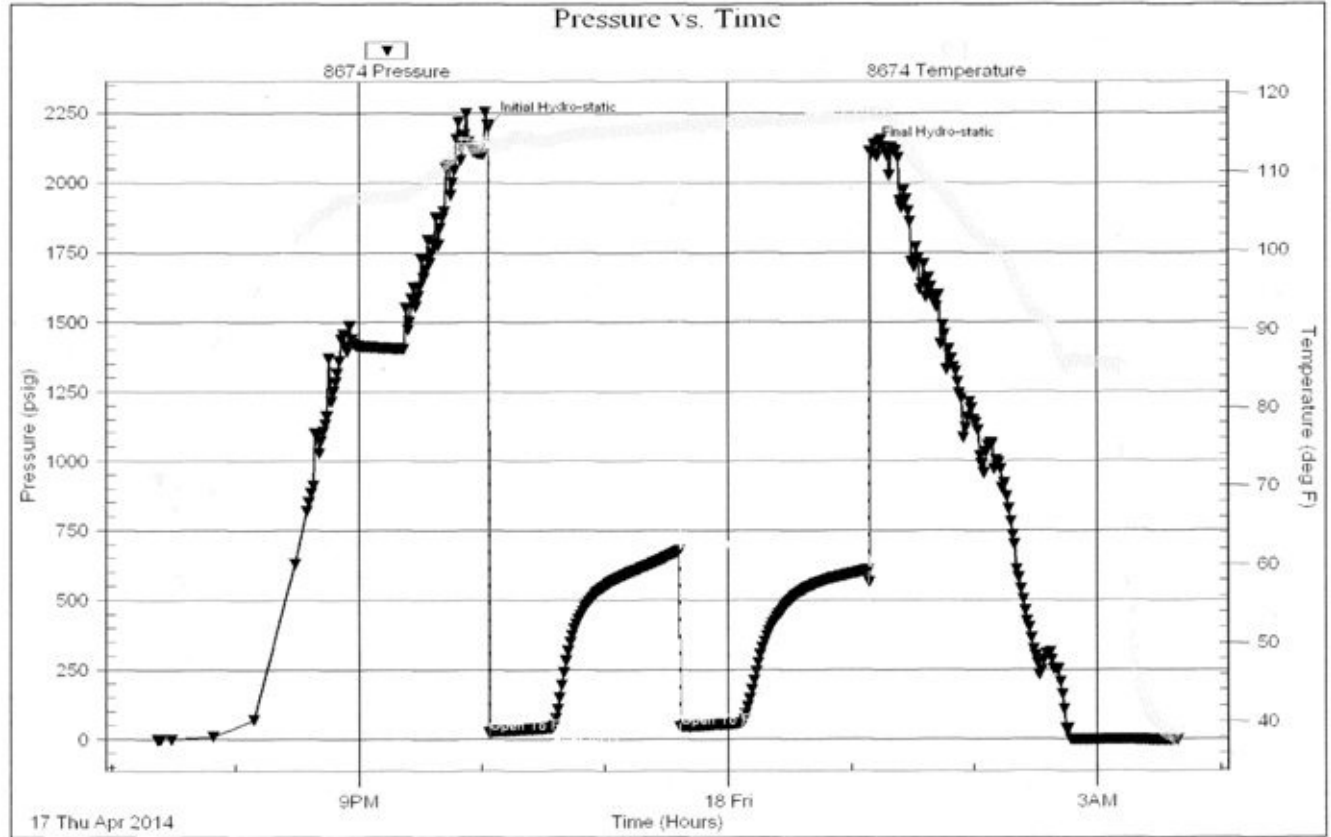
IFP: weak surface blow built to 1/2 inch
ISIP: no return blow
FFP: no blow
FSIP: no return blow

Serial #: 8674

Inside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 6



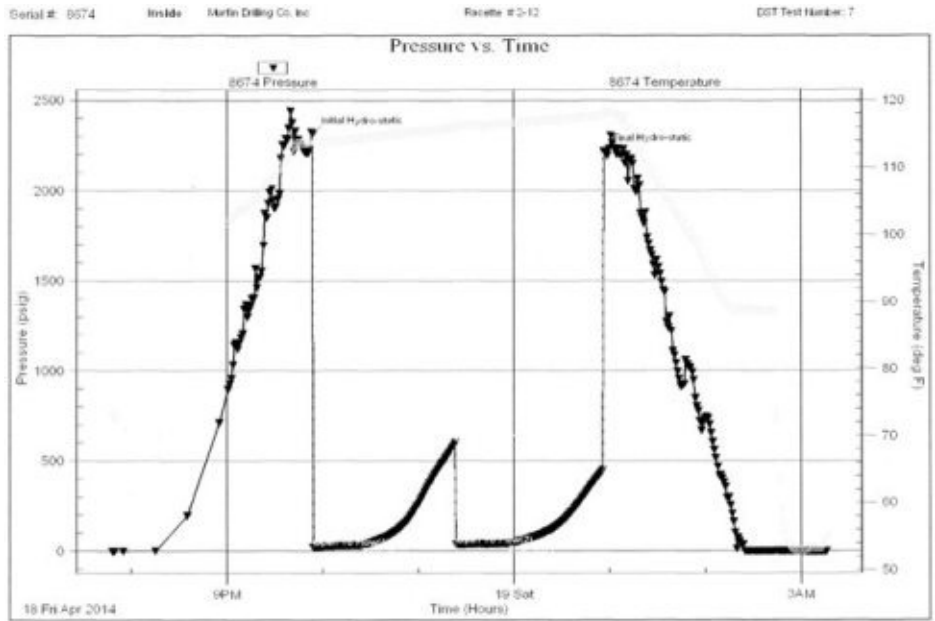
Triobite Testing, Inc

Ref. No: 57244

Printed: 2014.04.18 @ 03:51:19

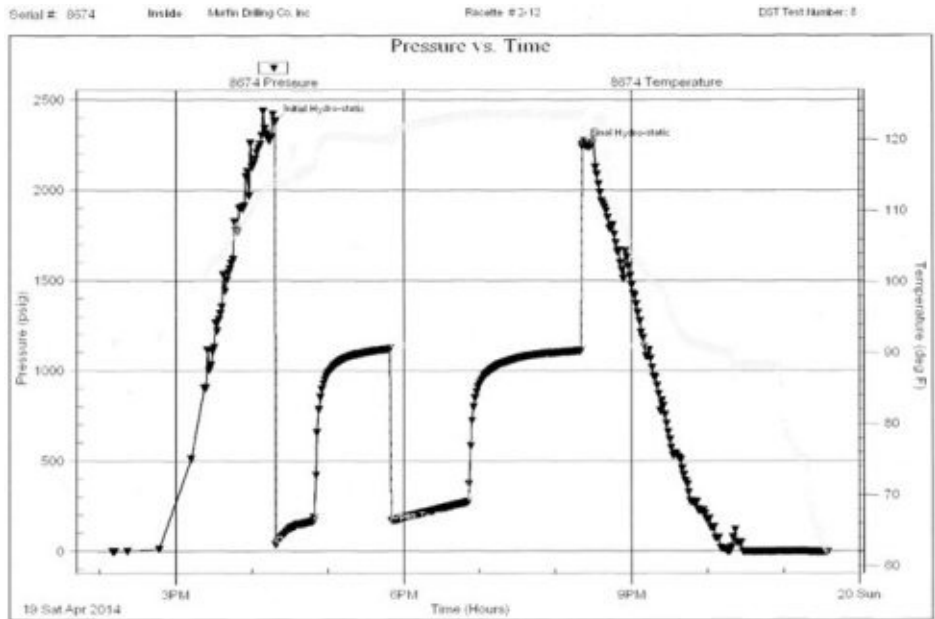
DRILL STEM TESTS

DST No. 7 Fort Scott - Johnson Zone
 Interval: 4504'-4610'
 Times: 30-60-30-60
 IFP: weak surface blow built to 3/4"
 ISIP: no return blow
 FFP: no blow
 FSIP: no return blow
 Recovery: 40' G&OCM (2g, 3o, 95m)
 FP: 21-30/36-41 SIP: 598-449
 HP: 2311-2217 BHT: 118 deg. F



Tribble Testing, Inc. Ref. No.: 57245 Rpted: 2014.04.19 @ 03:27:24

DST No. 8 Basal Penn. Sand
 Interval: 4610'-4685'
 Times: 30-60-60-90
 IFP: weak blow built to B.O.B. in 20 minutes
 ISIP: very weak surface return in 26 minutes, died in 45 minutes
 FFP: weak blow built to B.O.B. in 10 1/4 minutes
 FSIP: weak surface return in 2 minutes, built to 7 inches
 Recovery: 759' weak GIP; 47' G&MCO (6g, 8m, 86o); 124' G&OCM (15g, 24o, 61m); 186' O&GCM (18o, 35g, 47m); 60' G&OCM (19g, 22o, 59m); 60' WO&GCM (16w, 24o, 27g, 33m); 120' GO&WCM (4g, 7o, 30w, 59m)



Tribble Testing, Inc. Ref. No.: 57246 Rpted: 2014.04.19 @ 23:53:49

Total fluid 597'

FP: 35-167/169-271
 SIP: 1118-1108
 HP: 2374-2238
 BHT: 123 deg. F

ROCK TYPES

Anhy
 Cht
 Coal
 Congl
 Dol
 Gyp
 Lmst

Salt
 green shale
 Shale
 Shcol
 Sltst
 Ss
 Carb sh

Dol
 Dtd
 Gry sh
 Sandylms
 redshale
 Shale
 Sltstn

Shlyslts
 Sltysch
 Sdy dolo
 Shy dolo
 Shaly ls
 light dolomite

ACCESSORIES

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite

- Plant
- Strom
- Fuss
- Oomold

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr

- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sltly

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

OTHER SYMBOLS

INTERVALS

- Core
- Dst
- Dst

EVENTS

- Rft
- Dst top/base

OIL SHOWS

- Even
- Spotted
- Quest.

- Trace
- Dead
- Gas show

Curve Track 1 ROP (min/ft)	Depth	Lithology	Geological Descriptions	Remarks
	2550		<p style="text-align: center;">Oil Shows</p>	<p>Anhydrite 2518' (+526)</p> <p>Base/Anhydrite 2539' (+505)</p> <p>Report Depth and Activity 4-8-2014 MIRT, Spud at 3:00 PM 4-9 Drlg. @ 320' 4-10 Drlg. @ 3210' 4-11 Drlg. @ 3970' 4-12 CFS @ 4070' - post DST No. 1 DST No. 2 ran at 4100' 4-13 Trip in with test tool @ 4118' - shut down due to high winds 4-14 TOH to put on test tool for DST No. 3 - made wiper trip and reset recorder clocks - depth 4118' 4-15 CFS @ 4230' for DST No. 4 4-16 tripping @ 4286' for DST No. 5 4-17 Drlg. @ 4425' 4-18 Drlg. @ 4510' post DST No. 6 4-19 Drlg. @ 4620' post DST No. 7 4-20 RTD @ 4770'</p>

Ls: mix tan fnxln, foss with gd pp and foss moldic por., most barren. 3-4 chips with patchy to sat brn stain. no

Morgan Mud Check at 3554'
12:25 PM on 4-10-2014
wt vis wl pH chl
8.8 51 6.4 12.0 3800
PV YP GelS lcm solids
16 15 7/24 5# 3.6%

Topeka 3746' (-702)

Geologist on location at 6:45 PM
on 4-10-2014 at 3868'

Tripped PDC bit at 3900'

odor, vs! sfo; other offwhite, lt gray mic-vfxln dense; Sh: red-brn and vc gray

Siltst: lt gray, lt red, some yellow-tan, micac.; Sh mix AA; minor Ls: offwhite, gray dense and mottled lt gray granular, N.S.

Ls: mix offwhite mic-vfxln dense; scatt dark gray cryptoxln and lt brn granular, N.S.

Sh: lt to med gray, silty and occ pyritic; much decr. Siltst AA

Ls: offwhite, tan, some lt brn mic-fnxln with pp por., N.S.; lesser lt brn, gray more granular, NVP, N.S.; some offwhite mic-vfxln subchalky

Ls: mix AA with fair influx mottled gray/brn granular, poor-NVP, N.S.; Sh: med to dark gray, occ red-brn, brick red

Ls: mix tan, lt gray, offwhite mic-vfxln dense and mottled gray/ lt brn more granular, N.S.; incr. Sh: vc gray, occ black

Ls: influx offwhite, tan mic-fnxln with pp por. and mic-vfxln dense, subchalky; decr. shale % AA; some Siltst: lt gray, offwhite, red-brn

Ls: influx white chalky and offwhite, tan mic-fnxln with pp and inter-particle por.; lesser lt brn and gray dense; Sh: incr. med to dark gray

Ls: offwhite, tan, lt gray mic-vfxln dense; Sh: lt to med gray, silty IP; some black carbon.

flood Siltst: predom. lt red-brn, lesser lt gray; very scatt. lt gray vf-fg Sst, N.S.

CFS 3900' 15" spl - decr. Siltst AA with influx Sh: med to dark gray; Ls: influx offwhite mic-vfxln and offwhite, lt gray vfxln, NVP, N.S.

CFS 3900' 30" spl - Ls: mix AA with influx lt gray, lt brn vf-cryptoxln, NVP; spls still carry shales and siltst's AA

Sh: vc gray, red-brn; scatt. lt gray fg pyritic Sst

Ls: tan, lt gray cryptoxln, NVP and tan, lt brn, lt gray granular, trace pyritic, NVP, N.S.

3700
3750
3800
3850
3900

CONN

CONN

Topeka
3746' (-702)

CONN

ROP (min/ft)

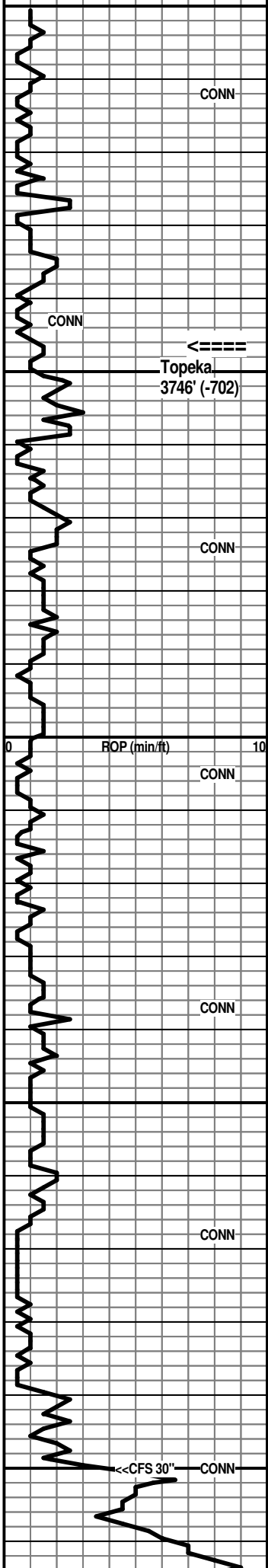
CONN

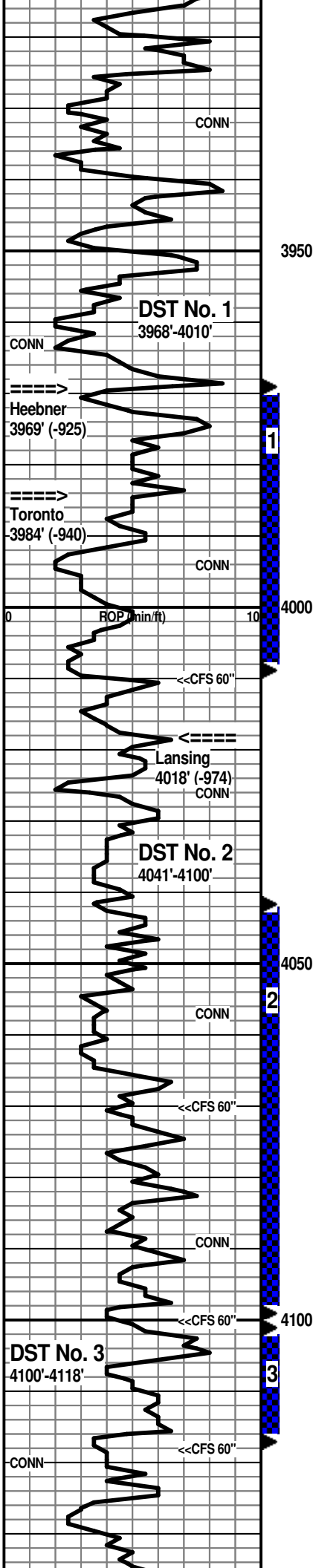
CONN

CONN

CONN

<<CFS 30"





Ls: very predom. tan, lt gray vf-cryptoxln AA; 3-4 chips lt brn vfxln with poor pp brn stain, no odor, nfo; Sh: streaks of gray

Ls: mix tan, lt gray vf-cryptoxln and offwhite mic-vfxln dense; scatt. lt gray-brn fn granular with poor inter-particle por. with pp stain, milky to slow streaming cut, no odor, nfo; some pyrite and chalcocopyrite in Ls; occ gray opq chert

Ls: influx offwhite micxln subchalky and some tan vfxln, foss. with poor intra-particle por.

Ls: tan mic-vfxln dense

Sh: gray

Ls: mix offwhite, tan mic-vfxln dense, subchalky with some pp por. and tan fnxln with some inter-particle por., N.S.

Ls: AA with some lt gray vfxln dense; influx mottled lt to med brn mic-vfxln

Sh: black carbon.

Ls: lt to med brn, gray vf-cryptoxln, NVP

Sh: med to dark gray, gray-green, soft lt gray

Ls: tan, lt brn granular with some inter-particle por. with patchy to subsat, lt brn stain, no odor, vsf sfo, some listless

Ls: offwhite subchalky to chalky, N.S.

Ls: predom. offwhite subchalky to chalky; other tan, lt brn vf-cryptoxln

Ls: lt gray, tan vf-cryptoxln, fn granular IP with gen. poor por., N.S.

Sh: gray-green, red-brn

Ls: tan, offwhite sl oolitic with spar matrix to oolitic with gen. poor inter-oolitic por. with pp brn stain on ooid contacts, sl odor, sl sfo on break; some better por. with dark brn gen. listless oil, spotty to sat. stain in dry spls

Ls: flood tan cryptoxln and tan, offwhite mic-vfxln dense, subchalky IP, NVP, N.S.

Ls: mix AA with some med brn, sl granular and mottled; occ tan, brn granular with stain AA; Sh: incr. % of red-brn, dark gray to black carbon.

Ls: various tan, lt brn, lt gray cryptoxln to granular, some scatt. inter-particle por.; scatt. oolitic to granular with some inter-particle and vug. por. with spotty stain (?new?); some tan opq chert

Ls: flood tan, offwhite mic-vfxln dense, subchalky to chalky IP, N.S.; occ offwhite mic-vfxln with spotty black stain; trace-occ lt brn gran/ool with pp dark brn to black stain, vsf-sl sfo, most listless

CFS 4070' spls - >>>

Ls: flood tan, lt brn fn granular, poor-NVP

Ls: various granular AA with offwhite subchalky to chalky and tan, lt brn, lt gray more cryptoxln

Ls: various dense to cryptoxln AA; sl influx tan, lt gray granular with inter-particle and vug. por, N.S.

CFS 4100' 30" spl - Ls: flood lt to med brn gran. NVP, some vf-cryptoxln NVP; Sh: some med to dark gray, black; 60" spl - >>>

Ls: sl incr. med brn cryptoxln, NVP, N.S.; 2-3 chips tan, lt brn gran. to oolitic with inter-particle/inter-oolitic por. with spotty pp brn stain, vsf sfo on break, gen. listless

Ls: various tan, lt brn vf-cryptoxln and gran., NVP, N.S.; several chips with shows AA, ft odor on break; good influx lt gray/gray-green cryptoxln and lt gray-green shale; CFS 4118' spls - flood Ls: tan, offwhite vf-cryptoxln NVP, some offwhite chalky, N.S.; influx offwhite opq chert

Ls: tan, lt brn sl granular, poor-NVP and offwhite mic-vfxln dense; some tan oolitic with spar matrix; Sh: common lt green with vc gray, red-brn

DST No. 1 Toronto
Interval: 3968'-4010'
Times: 30-60-30-60
IFP: strong blow, B.O.B. in 1 1/4 minutes
ISIP: no return blow
FFP: strong blow, B.O.B. in 2 1/2 minutes
FSIP: no return blow
Recovery: 171' WCM w/few oil spots (42w, 58m); 248' MCW (37m, 63w); 434' MCW (8m, 92w); 1354' MCW (3m, 97w), total fluid 2207'
FP: 214-799/816-1041 SIP: 1153-1156
HP: 1969-1866 BHT: 117 deg. F

Heebner Shale 3969' (-925)
7:00 AM at 3970' on 4-11-2014

Toronto 3984' (-940)

Morgan Mud Check at 4010'
11:40 AM on 4-11-2014
wt vis wl pH chl
9.0 61 6.4 12.0 5900
PV YP GeIS lcm solids
19 21 10/34 4# 5.0%

Lansing 4018' (-974)

DST No. 2 Lansing "B" and "D"
Interval: 4041'-4100'
Times: 30-60-60-90
IFP: weak blow built to 11 inches
ISIP: no return blow
FFP: weak blow built to B.O.B. in 52 minutes
FSIP: no return blow
Recovery: 122' WCM (41w, 59m); 186' MCW (34m, 66w); 300' MCW (21m, 79w), total fluid 608'; chl. 43,500
FP: 20-166/168-299 SIP: 1156-1146
HP: 2069-1882 BHT: 116 deg. F

CFS 4070' 30" spl - Ls: influx tan, lt gray more granular, NVP, N.S.; scatt. shows AA; Sh: lt to med gray, gray-green calcar.; 60" spl - Ls: tan, offwhite mic-vfxln dense; Sh: gray-green, lt gray silty

7:00 AM at 4070' on 4-12-2014

Morgan Mud Check at 4100'
2:55 PM on 4-12-2014
wt vis wl pH chl
9.3 94 7.2 11.5 8200
PV YP GeIS lcm solids
25 31 15/48 6# 7.1%

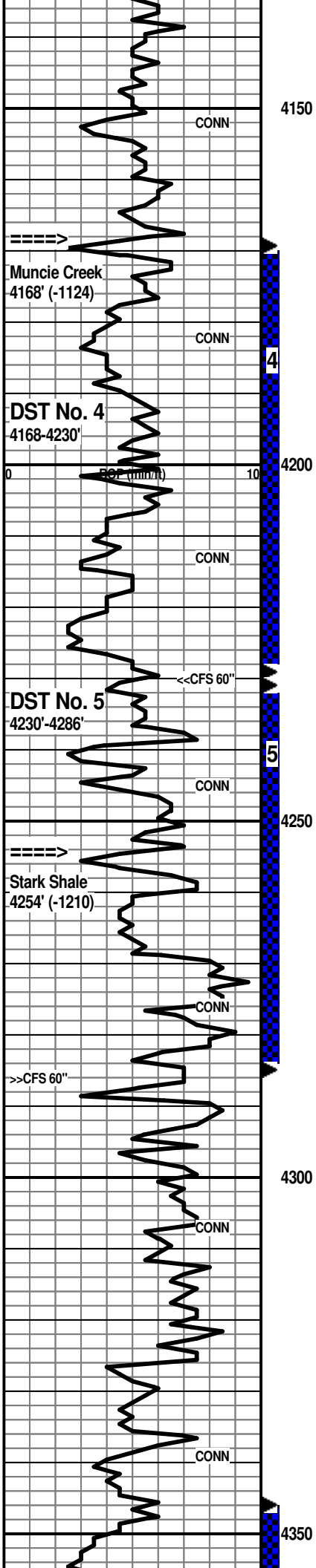
CFS 4100 60" spl - Ls: tan, lt brn predom. gran. with poor inter-particle por., one chip with spotty lt brn stain

Morgan Mud Check at 4118'
2:35 PM on 4-13-2014

wt vis wl pH chl
9.3 151 8.0 11.0 7700
PV YP GeIS lcm solids
29 43 27/66 5# 7.1%

7:00 AM at 4118' on 4-13/14-2014

High winds shut down tripping operations for DST No. 3. No progress as of 10:00 PM 4-13-2014 - Will do wiper trip before attempting DST



4150

CONN

4200

CONN

4250

CONN

4300

CONN

4350

BO (mm/m)

4

5

Ls: mix tan, lt brn sl granular and lt to med brn, lt gray predom. cryptoxln; sl incr. offwhite mic-vfxln dense, subchalky IP, N.S.

Ls: tan, lt to med brn, some lt gray cryptoxln; tan sl granular; offwhite, tan mic-vfxln dense

Ls: mix AA, sl incr. med gray cryptoxln; Sh: occ gray, black

Sh: black carbon.

Ls: med to dark brn, gray-brn cryptoxln, NVP

Sh: dark gray to black

Ls: various cryptoxln AA, some sl granular, N.S.; 3-4 chips lt brn vfxln with lt brn pp stain, vsl sfo, ft odor to fair odor on break

Ls: various cryptoxln, some granular; offwhite, tan dense; occ tan vfxln dolomite, N.S.; trace offwhite opq chert

Ls: tan, lt to med brn, lt gray predom. cryptoxln; lesser tan gran. and offwhite mic-vfxln dense

Ls: influx med to dark brn, gray-brn cryptoxln; Sh: sl incr. med to dark gray, some black; scatt. offwhite opq chert

Ls: still predom. various cryptoxln AA; incr. offwhite micvxn subchalky to chalky; several chips tan fn granular, sl oolitic with fair inter-particle por. with fair odor, lt brn pp stain, fair sfo on break (very light to lt brn)

CFS 4230' 30" spl - Ls: abund. lt to med brn, lt to dark gray cryptoxln; other tan, lt brn sl gran.; scatt. shows AA; some Dolo: tan vfxln trace with patchy stain; Sh: fairly common dark gray to black; 60" spl - >>>

trashy spls from trip; var. dense Ls's with abund. Sh: brick red, vc gray, gray-green

50' spl - Ls: influx offwhite, lt gray, tan oolitic, occ foss. with inter-oolitic, inter-particle and vug por., sl odor, spotty lt brn stain, vsl sfo; some offwhite oolitic with some oomoldic por., N.S.; scatt. offwhite oolitic chert; 60' spl - Ls: predom. tan, lt brn, lt gray cryptoxln to sl granular, NVP

Sh: black carbon.

Ls: med brn fn-med xln with poor por., vsl sfo, bleeding gas, vsl odor; predom. med to dark gray, med to dark brn mottled cryptoxln to gran., NVP, N.S.; Sh: med to dark gray, some pyritic, some lt green

80' spl - Ls: predom. med to dark gray cryptoxln; influx lt gray, tan cryptoxln to gran., NVP, N.S.; 3-4 chips lt brn gran. with some poor inter-particle por., poss. ft odor, spotty pp brn stain, sl sfo, some floating in tray; 86' spl - Ls: tan, lt gray cryptoxln and offwhite, lt gray mic-vfxln dense, N.S.; CFS 4286' spls - >>>

Sh: black carbon., dark gray

Ls: flood med to dark brn, sl mottled cryptoxln, some more granular, NVP, N.S.

Ls: lt to med brn, lt gray predom. cryptoxln, some sl granular, NVP, N.S.

Ls: various cryptoxln AA; influx tan, offwhite mic-vfxln dense, dark gray cryptoxln and tan sl granular, N.S.; Sh: sl influx med to dark gray and black

Ls: abund. various lt to dark brn, lt to dark gray cryptoxln and granular, NVP; lesser offwhite mic-vfxln dense, N.S.; Sh: incr. % dark gray, black

40' spl - predom. various cryptoxln and dense Ls's AA; Sh: incr. med to dark gray, gray-green, mushy pale gray

50' spl - Ls: various cryptoxln and granular AA; new lt gray cryptoxln mottled with yellow tint; trace offwhite, opq chert; decr. shales AA

60' spl - Ls: lt to med brn, tan, lt gray cryptoxln; Sh: some soft offwhite clayey; Siltst: scatt. offwhite, lt gray finely micac. and vvtg sandy, N.S.

Morgan Mud Check at 4118
10:55 AM on 4-14-2014
wt vis wl pH chl
9.2 62 7.2 11.0 7400
PV YP GeIS lcm solids
21 27 12/34 5# 6.4%

DST No. 3 Lansing "E"
Interval: 4100'-4118'
Times: 30-60-60-90
IFP: weak blow built to 1 3/4 inches
ISIP: no return blow
FFP: weak blow built to 3 inches
FSIP: no return blow
Recovery: 30' WCM (46w, 54m); 120' MCW (39m, 61w) chl. 22,500
FP: 19-41/43-91 SIP: 1155-1151
HP: 2089-1845 BHT: 113 deg. F

DST No. 4 Lansing "H" and "I"
Interval: 4168'-4230'
Times: 30-60-60-60
IFP: weak surface blow built to 3/4 inch
ISIP: no return blow
FFP: weak surface blow built to 1 inch
FSIP: no return blow
Recovery: 61' WCM w/skim of oil (4w, 96m); 60' WCM w/skim of oil (23w, 77m) chl. 25,200
FP: 19-40/43-78 SIP: 895-866
HP: 2149-2019 BHT: 114 deg. F

CFS 4230' 60" spl - Ls: more tan, lt gray, lt brn cryptoxln and offwhite, tan mic-vfxln dense, subchalky to occ chalky, N.S.

7:00 AM at 4230' on 4-15-2014

Morgan Mud Check at 4230'
10:15 AM on 4-15-2014
wt vis wl pH chl
9.4 62 8.8 11.0 8400
PV YP GeIS lcm solids
20 30 26/44 6# 7.8%

Stark Shale 4254' (-1210)

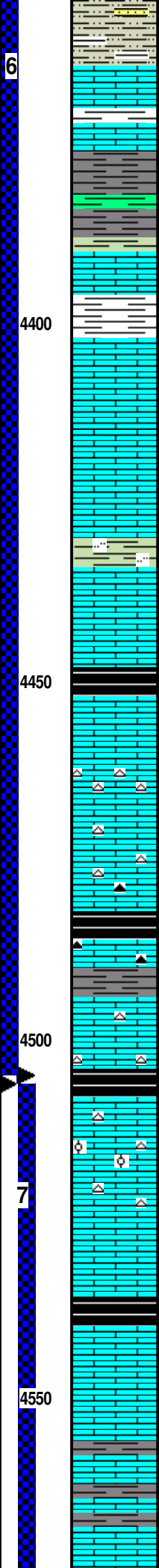
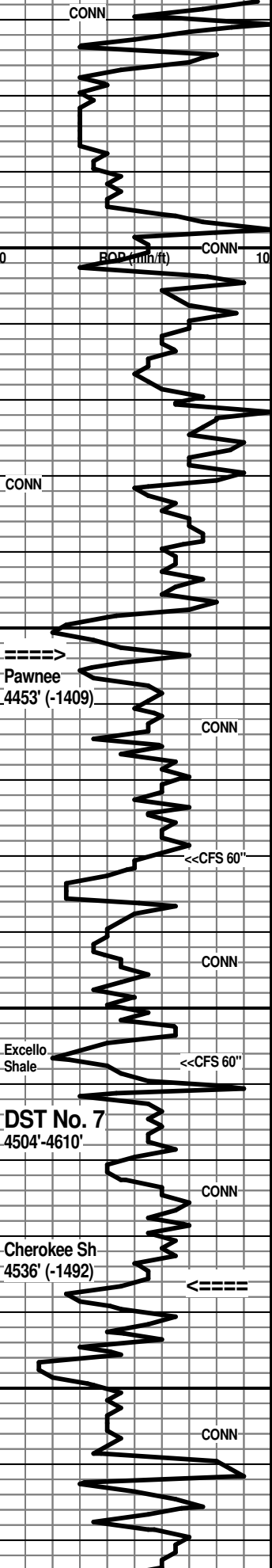
CFS 4286' 30" spl - Ls: tan, lt brn, lt gray cryptoxln; much decr. offwhite mic-vfxln subchalky; sl influx offwhite opq chert; 60" spl - Ls: mix AA with influx med brn, med gray cryptoxln, decr. chert

7:00 AM at 4286' on 4-16-2014

Morgan Mud Check at 4286'
11:00 AM on 4-16-2014
wt vis wl pH chl
9.3 67 8.0 10.5 8300
PV YP GeIS lcm solids
21 27 14/36 6# 7.1%

DST No. 5 Lansing "J" and "K"
Interval: 4230'-4286'
Times: 30-60-60-90
IFP: weak surface blow built to 1 inch
ISIP: no return blow
FFP: very weak surface blow
FSIP: no return blow
Recovery: 5' W&OCM (2w, 5o, 93m); 60' WG&OCM (2w, 3g, 6o, 89m)
FP: 22-34/38-56 SIP: 1098-1075
HP: 2124-1973 BHT: 116 deg. F

DST No. 6
4345'-4507'



Siltst: light gray, offwhite, lt med, micac. and vavg sandy IP; Sh: vc gray, red-brn, soft lt red

Ls: abund. various cryptoxln and granular, NVP, N.S.; 2 chips lt brn granular with patchy stain

Ls: tan, lt to med brn, lt gray cryptoxln; some tan, offwhite sl granular, NVP, N.S.; 3 chips lt brn sl granular with poor pp por., no odor, pp dark stain, trace fo, some listless, hard

90' spl - Ls: mix AA, several chips with shows, sl odor; Sh: influx med to dark gray, gray-green, some black carbon.

4400' spl - Sh: good influx lt to med gray, gray-green, soft red-brn, purplish-gray

10' spl - Ls: mottled tan, brn, gray predom. granular, poor-NVP, N.S.; flood Sh: med to dark gray, dull red-gray, red-brn, gray-green

20' spl - flood Ls: predom. tan, lt brn cryptoxln and lesser offwhite mic-vfxln dense; some tan cryptoxln with spotty stain; several chips tan granular with poor inter-particle por, with pp dark stain, no odor, sfo

Ls: lt to med brn, gray-brn, tan cryptoxln to sl granular; occ dark brn cryptoxln, scatt. shows AA; Sh: influx lt to med gray, silty IP

Ls: flood lt to med brn and gray, predom. sl granular, NVP; other lt to med brn cryptoxln, NVP, N.S.; trace tan fn granular with fair-good inter-particle por. with pp brn stain, sfo, no odor

Ls: lt to med brn, some gray and gray-brn cryptoxln to sl granular; lesser offwhite mic-vfxln dense, N.S.

Sh: good influx black carbon., dark gray

Ls: new dark brn cryptoxln

Ls: 4-5 chips tan fn-vfxln with poor visible interxln por. with pp brn stain, no odor, bleeds gas and oil; flood tan, offwhite mic-vfxln dense; strong influx of Chert: lt gray, offwhite oopq

Ls: flood lt to med brn and gray mottled granular, NVP, most with micxln matrix; Chert: AA, decr. %, some mottled gray/offwhite

CFS 4480' spls - Ls: flood med to dark brn, gray-brn granular to cryptoxln, NVP, N.S.; Chert: scatt. mottled gray/offwhite, dark brn to black, lt brn

Sh: black carbon.; Ls: dark brn, dark gray-brn cryptoxln; more dark brn to black chert; Sh: dark gray

Ls: flood tan, offwhite mic-vfxln dense, subchalky IP; lesser tan, lt brn cryptoxln; several chips tan fnxln with scatt. vug. por. with no odor, spotty pp brn stain, vsf sfo on break; sl influx offwhite opq chert

CFS 4507' spls - Ls: predom. tan, lt brn granular to cryptoxln; Chert: offwhite, gray; Sh: influx black carbon.

Ls: various lt to med brn, gray cryptoxln to granular, NVP; sl cherty AA

Ls: flood mottled brn/gray granular to oolitic, NVP, N.S.; lesser brn, gray cryptoxln and tan, offwhite mic-vfxln dense; scatt. tan vf-cryptoxln with vug. por. and stain, no odor, nfo, (new?); sl cherty AA;

Ls: lt to med brn, lt to med gray vf-cryptoxln, NVP, N.S.; lesser tan, lt gray mic-vfxln dense

Sh: black carbon.

Ls: influx dark brn, dark gray cryptoxln and mottled dark brn/gray granular with micxln matrix

Ls: influx tan, offwhite mic-vfxln subchalky; various tan, lt to med brn granular; occ tan, lt brn mic-vfxln with pp por. with lt brn stain, no odor, vsf sfo, slow bleeding gas

Ls: various tan, lt to med brn, gray cryptoxln, granular IP, NVP, N.S.; Sh: influx black and dark gray

Ls: various AA with more gray-brn vf-cryptoxln, NVP; Sh: beds of dark gray to black

7:00 AM at 4425' on 4-17-2014

Pawnee 4453' (-1409)

Morgan Mud Check at 4455'
10:50 AM on 4-17-2014
wt vis wl pH chl
9.3 54 6.8 10.5 7000
PV YP GeIS lcm solids
17 22 9/31 5# 7.1%

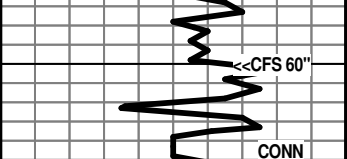
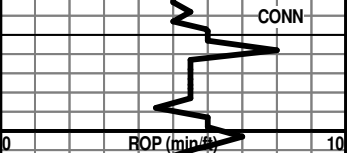
DST No. 6 Marmaton/Pawnee
Interval: 4345'-4507'
Times: 30-60-30-60
IFP: weak surface blow built to 1/2 inch
ISIP: no return blow
FFP: no blow
FSIP: no return blow
Recovery: 62' G&OCM (2g, 2o, 96m)
FP: 24-41/44-57 SIP: 676-608
HP: 2200-2110 BHT: 117 deg. F

7:00 AM at 4510' on 4-18-2014

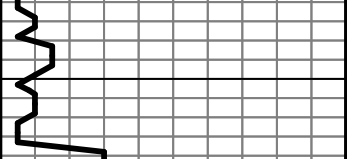
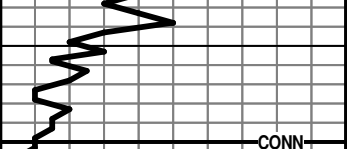
Cherokee Shale 4536' (-1492)

Morgan Mud Check at 4569'
12:35 PM on 4-18-2014
wt vis wl pH chl
9.2 51 8.4 10.5 8000
PV YP GeIS lcm solids
15 22 10/39 5# 5.7%

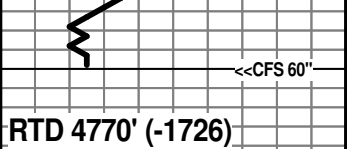
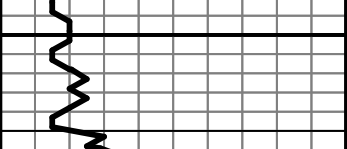
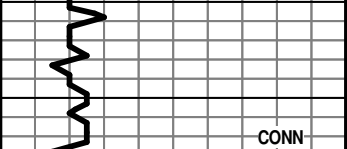
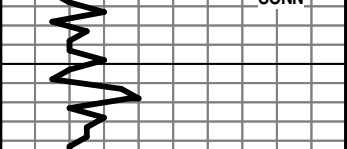
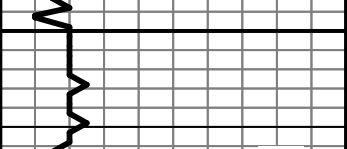
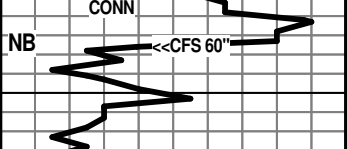
Johnson Zone
4579' (-1535)



DST No. 8
4610'-4685'



Mississippian
4672' (-1628)



RTD 4770' (-1726)
LTD 4773' (-1729)

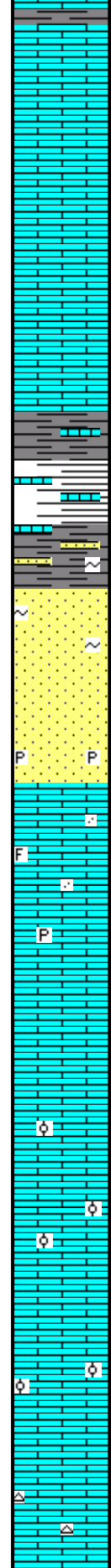
4600

4650

4700

4750

<<CFS 60"



90' spl - Sh: AA; Ls: predom. med to dark brn, gray cryptoxln, NVP, N.S.; sl influx med brn granular with patchy to sat. stain, fair to good odor, good sfo, sg in some vug. and inter-particle por.

4600' spl - Ls: scatt. chips with shows AA, good more pungent odor; influx various brn, gray cryptoxln to granular, NVP and lesser offwhite, lt gray mic-vfxln dense, N.S.

Ls: various brn and gray cryptoxln to sl mottled granular, NVP; occ chips with shows AA, some less por. with edge stain

CFS 4610' spls - Ls: various cryptoxln AA; offwhite, lt gray mic-vfxln dense; occ shows new?; minor shale

Ls: various brn, gray cryptoxln to mottled granular; occ chips with spotty stain; sl trashy with various shales

Ls: lt to med brn, med to dark gray predom. cryptoxln, some granular; lesser offwhite mic-vfxln dense; scatt. lt gray and dark brn-black chert; Sh: med to dark gray, black, some greenish-gray

Sh: good influx vari-colored, med to dark gray, black, lt green, dark yellow, ochre, red-maroon; spls carry abund. various dense Ls's

Sh: good influx dark gray to black; abund dense Ls's in spls

60' spl - adund shales and Ls's AA; Sst: sl influx lt gray fg, sl glauc. tight, shaly IP, N.S.

70'/80' spls - Sst: good influx lt gray fg tight, N.S. and clear vfg-fg subang-subrnd, well sorted, sl glauc., well cmt'd IP with pp brn stain to sat. stain, good shows fo, sl odor, some gassy oil on break, common listless oil, some clusters of fg with good inter-granular por.; occ sandy pyrite

85' spl - flood Ls: tan, lt brn cryptoxln to sl granular; offwhite, tan mic-vfxln dense, subchalky; occ finely arenaceous, NVP, N.S.

CFS 4685' spls - Ls: mix AA some sl foss, sl incr. in finely arenaceous; 60" spl - AA with sl influx tan, lt brn fn granular with micxln matrix, N.S.

sl trashy spls; Ls: mix tan, lt brn cryptoxln and lesser offwhite, tan mic-vfxln dense, subchalky; occ tan granular, pyritic

Ls: lt to med brn, lt gray cryptoxln; incr. tan, offwhite granular with micxln matrix, N.S.

Ls: various cryptoxln to granular AA; some lt brn granular, sl oolitic with inter-particle por., N.S.

Ls: mix AA with sl incr. brn granular to sl oolitic

Ls: predom. tan, lt brn, lt gray granular, sl oolitic IP with micxln matrix

Ls: predom. mix AA; sl influx med brn oolitic with offwhite micxln matrix; common ofwhite dense, subchalky

Ls: mix AA with sl incr. lt gray, lt brn cryptoxln

Ls: various tan, lt brn granular with micxln matrix and offwhite, tan micxln dense, subchalky; fair influx offwhite opq chert

Because of the positive results of DST No. 8, 5 1/2" casing was set for testing of the Basal Penn. Sand.

Respectfully submitted,

Johnson Zone 4579' (-1535)

DST No. 7 Fort Scott - Johnson Zone
Interval: 4504'-4610'
Times: 30-60-30-60
IFP: weak surface blow built to 3/4"
ISIP: no return blow
FFP: no blow
FSIP: no return blow
Recovery: 40' G&OCM (2g, 3o, 95m)
FP: 21-30/36-41 SIP: 598-449
HP: 2311-2217 BHT: 118 deg. F

7:00 AM at 4620' on 4-19-2014

DST No. 8 Basal Penn. Sand
Interval: 4610'-4685'
Times: 30-60-60-90
IFP: weak blow built to B.O.B. in 20 minutes
ISIP: very weak surface return in 26 minutes, died in 45 minutes
FFP: weak blow built to B.O.B. in 10 1/4 minutes
FSIP: weak surface return in 2 minutes, built to 7 inches
Recovery: 759' weak GIP; 47' G&MCO (6g, 8m, 86o); 124' G&OCM (15g, 24o, 61m); 186' O&GCM (18o, 35g, 47m); 60' G&OCM (19g, 22o, 59m); 60' WO&GCM (16w, 24o, 27g, 33m); 120' GO&WCM (4g, 7o, 30w, 59m)

Total fluid 597'
FP: 35-167/169-271
SIP: 1118-1108
HP: 2374-2238
BHT: 123 deg. F

Mississippian 4672' (-1628)

Ran PDC bit back in to finish well.

Morgan Mud Check at 4685'
2:00 PM on 4-19-2014
wt vis wl pH chl
9.4 57 9.2 10.0 9000
PV YP GelS lcm solids
15 27 14/42 5# 7.8%

7:00 AM at 4770' on 4-20-2014

RTD reached at 5:45 AM
CFS/CTCH 1 1/2 hours - Survey
TOFL



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.11 @ 13:42:00

End Date: 2014.04.11 @ 22:05:54

Job Ticket #: 57239 DST #: 1

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

Printed: 2014.04.24 @ 11:38:50



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

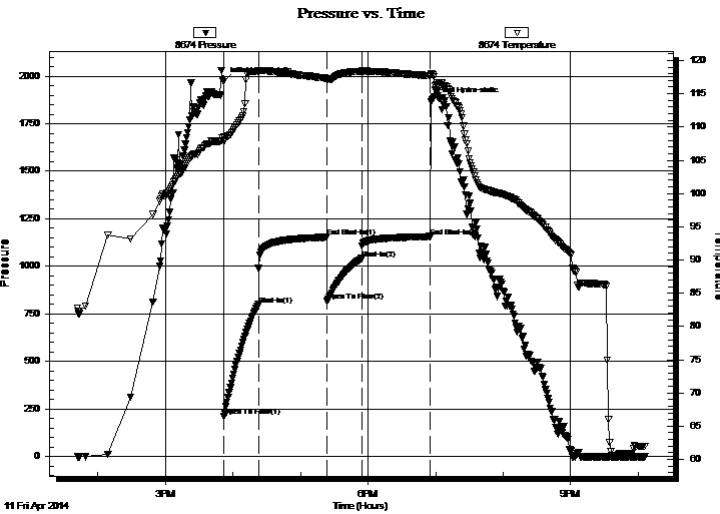
12-13s-33w Logan, KS.
Racette #2-12
 Job Ticket: 57239 **DST#: 1**
 Test Start: 2014.04.11 @ 13:42:00

GENERAL INFORMATION:

Formation: **Toronto**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:52:10
 Time Test Ended: 22:05:54
 Interval: **3968.00 ft (KB) To 4010.00 ft (KB) (TVD)**
 Total Depth: 4010.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Will MacLean
 Unit No: 72
 Reference Elevations: 3044.00 ft (KB)
 3032.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8674 Inside
 Press@RunDepth: 1041.27 psig @ 3969.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.11 End Date: 2014.04.11 Last Calib.: 2014.04.11
 Start Time: 13:42:00 End Time: 22:05:54 Time On Btm: 2014.04.11 @ 15:51:40
 Time Off Btm: 2014.04.11 @ 18:56:09

TEST COMMENT: IF- Surface Blow Built to BOB in 1 1/4 min
 IS- No Blow
 FF- Surface Blow Built to BOB in 2 1/2 min
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1969.99	108.45	Initial Hydro-static
1	214.35	107.85	Open To Flow (1)
31	799.36	118.38	Shut-In(1)
92	1153.99	117.32	End Shut-In(1)
92	816.71	117.19	Open To Flow (2)
123	1041.27	118.38	Shut-In(2)
184	1156.78	117.72	End Shut-In(2)
185	1866.33	117.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1354.00	MCW 3% <i>m</i> 97% <i>w</i>	16.82
434.00	MCW 8% <i>m</i> 92% <i>w</i>	6.09
248.00	MCW 37% <i>m</i> 63% <i>w</i>	3.48
171.00	WCM 42% <i>w</i> 58% <i>m</i> with a Few Oil Spots	2.40

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57239 **DST#: 1**
Test Start: 2014.04.11 @ 13:42:00

Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 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: 30000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 16000.00 lb
			<u>Total Volume: 53.48 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	3968.00 ft			Final 86000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	69.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3942.00	
Shut In Tool	5.00			3947.00	
Hydraulic tool	5.00			3952.00	
Jars	5.00			3957.00	
Safety Joint	2.00			3959.00	
Packer	5.00			3964.00	27.00 Bottom Of Top Packer
Packer	4.00			3968.00	
Stubb	1.00			3969.00	
Recorder	0.00	8355	Outside	3969.00	
Recorder	0.00	8674	Inside	3969.00	
Perforations	3.00			3972.00	
Change Over Sub	1.00			3973.00	
Drill Pipe	31.00			4004.00	
Change Over Sub	1.00			4005.00	
Bullnose	5.00			4010.00	42.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57239 **DST#: 1**
Test Start: 2014.04.11 @ 13:42:00

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:	41000 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.30 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5900.00 ppm			
Filter Cake: 2.00 inches			

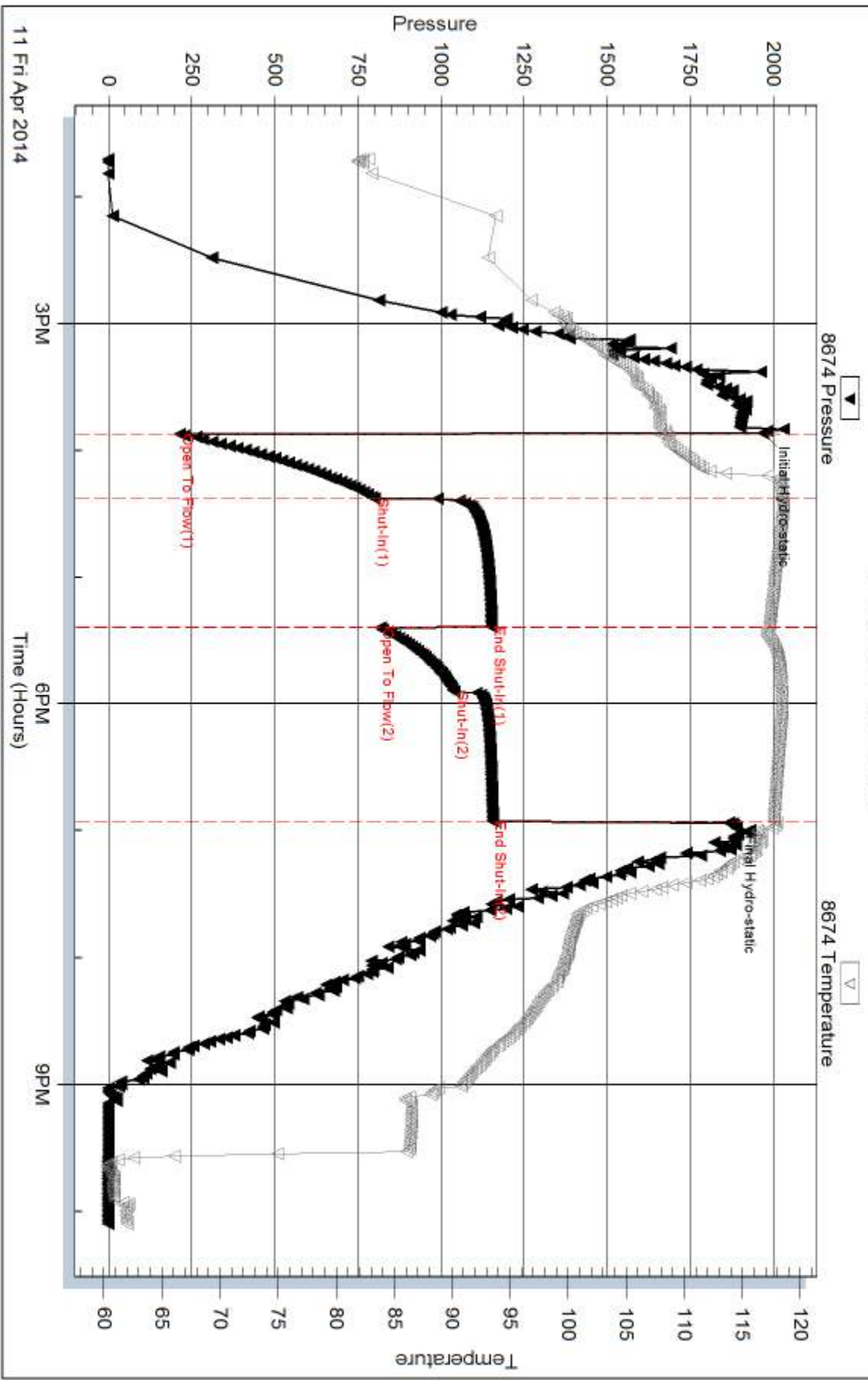
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1354.00	MCW 3%m 97%w	16.825
434.00	MCW 8%m 92%w	6.088
248.00	MCW 37%m 63%w	3.479
171.00	WCM 42%w 58%m with a Few Oil Spots	2.399

Total Length: 2207.00 ft Total Volume: 28.791 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is.138 @ 84f = 41000

Pressure vs. Time

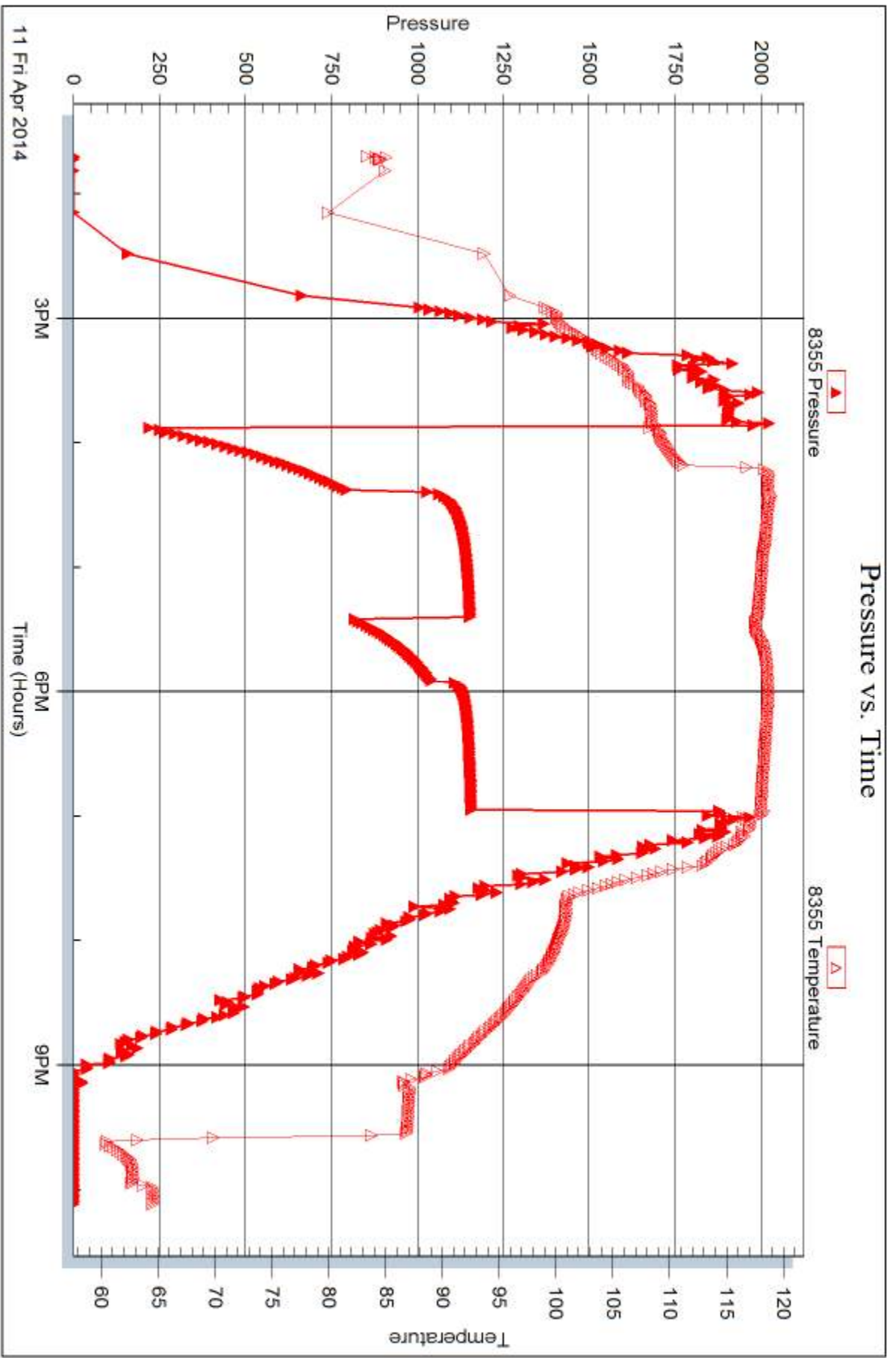


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57239

Printed: 2014.04.24 @ 11:38:51



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.12 @ 13:06:00

End Date: 2014.04.12 @ 21:34:24

Job Ticket #: 57240 DST #: 2

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

Printed: 2014.04.24 @ 11:38:27



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

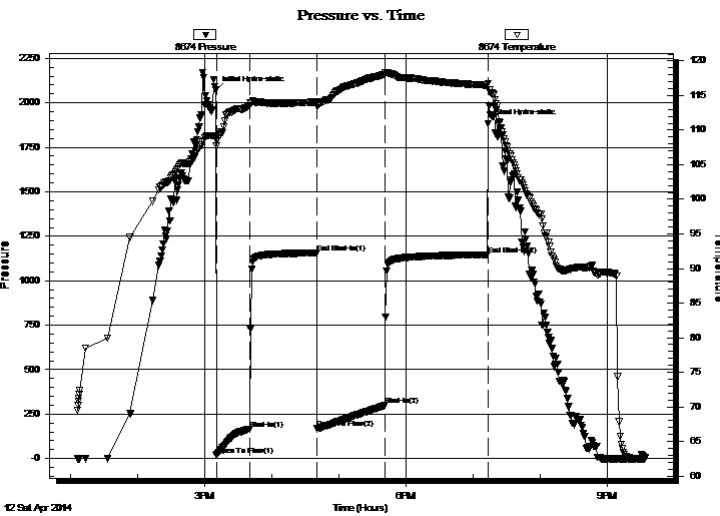
12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57240 **DST#: 2**
Test Start: 2014.04.12 @ 13:06:00

GENERAL INFORMATION:

Formation: **LKC "B - D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:10:10
Time Test Ended: 21:34:24
Interval: **4041.00 ft (KB) To 4100.00 ft (KB) (TVD)**
Total Depth: 4100.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 72
Reference Elevations: 3044.00 ft (KB)
3032.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8674 Inside
Press@RunDepth: 299.09 psig @ 4042.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.12 End Date: 2014.04.12 Last Calib.: 2014.04.12
Start Time: 13:06:00 End Time: 21:34:24 Time On Btm: 2014.04.12 @ 15:09:55
Time Off Btm: 2014.04.12 @ 19:13:39

TEST COMMENT: IF- Weak Surface Blow Built to 11"
IS- No Blow
FF- Weak Surface Blow Built to BOB in 52 min
FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2069.89	109.15	Initial Hydro-static
1	20.67	107.72	Open To Flow (1)
31	166.70	113.54	Shut-In(1)
91	1156.42	114.02	End Shut-In(1)
91	168.14	113.45	Open To Flow (2)
152	299.09	118.06	Shut-In(2)
244	1146.61	116.49	End Shut-In(2)
244	1882.13	116.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	MCW 21%m 79%w	2.04
186.00	MCW 34%m 66%w	2.61
122.00	WCM 41%w 59%m	1.71

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57240 **DST#: 2**
Test Start: 2014.04.12 @ 13:06:00

Tool Information

Drill Pipe:	Length: 3794.00 ft	Diameter: 3.80 inches	Volume: 53.22 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:	34000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	10000.00 lb
			<u>Total Volume: 54.39 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	78000.00 lb
Depth to Top Packer:	4041.00 ft			Final	78000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	59.00 ft				
Tool Length:	86.00 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
Change Over Sub	1.00			4015.00	
Shut In Tool	5.00			4020.00	
Hydraulic tool	5.00			4025.00	
Jars	5.00			4030.00	
Safety Joint	2.00			4032.00	
Packer	5.00			4037.00	27.00 Bottom Of Top Packer
Packer	4.00			4041.00	
Stubb	1.00			4042.00	
Recorder	0.00	8355	Outside	4042.00	
Recorder	0.00	8674	Inside	4042.00	
Perforations	20.00			4062.00	
Change Over Sub	1.00			4063.00	
Drill Pipe	31.00			4094.00	
Change Over Sub	1.00			4095.00	
Bullnose	5.00			4100.00	59.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57240 **DST#: 2**
Test Start: 2014.04.12 @ 13:06:00

Mud and Cushion Information

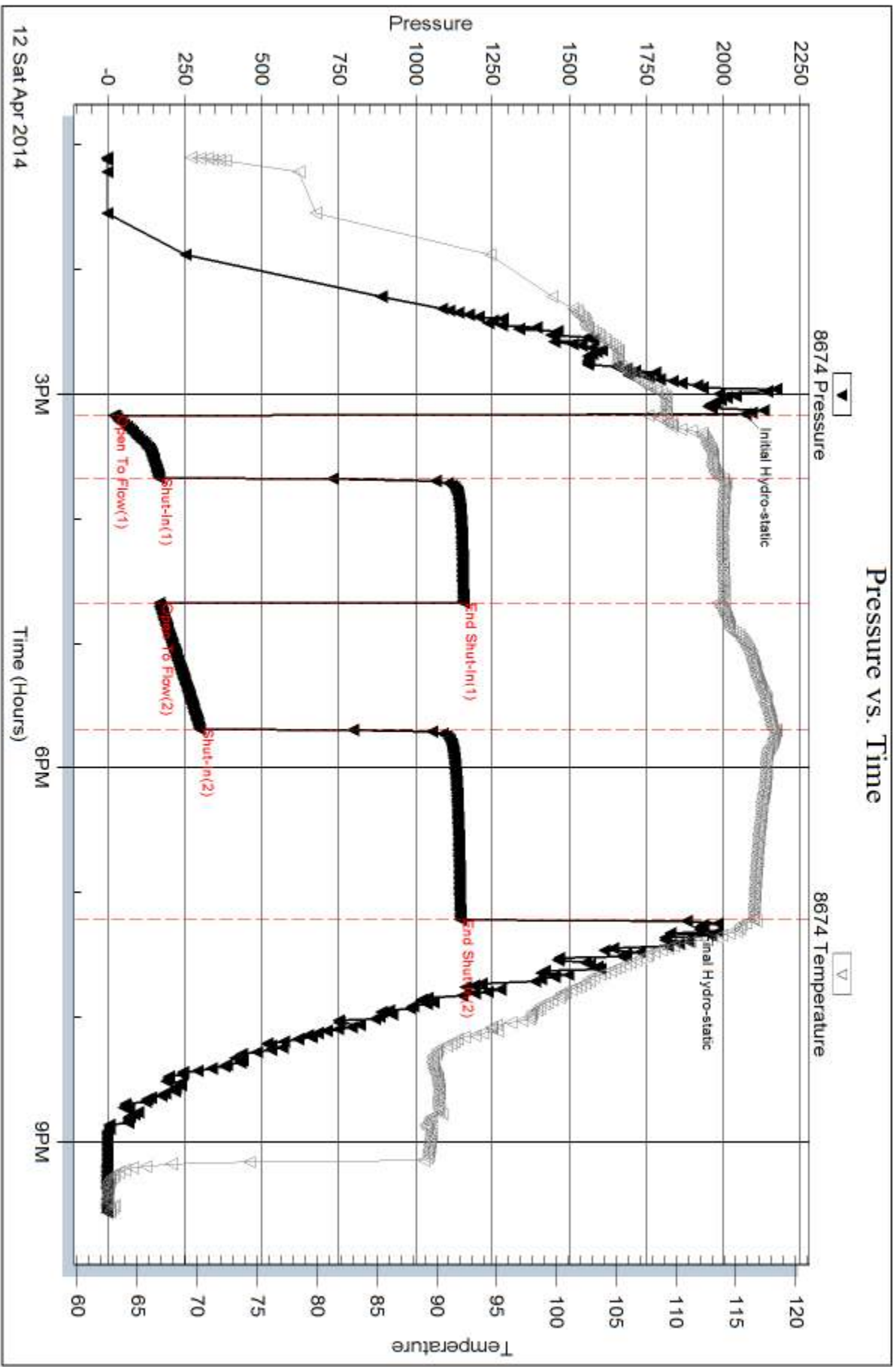
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	43500 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.32 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5900.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	MCW 21%m 79%w	2.040
186.00	MCW 34%m 66%w	2.609
122.00	WCM 41%w 59%m	1.711

Total Length: 608.00 ft Total Volume: 6.360 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is .165 @ 65f = 43500

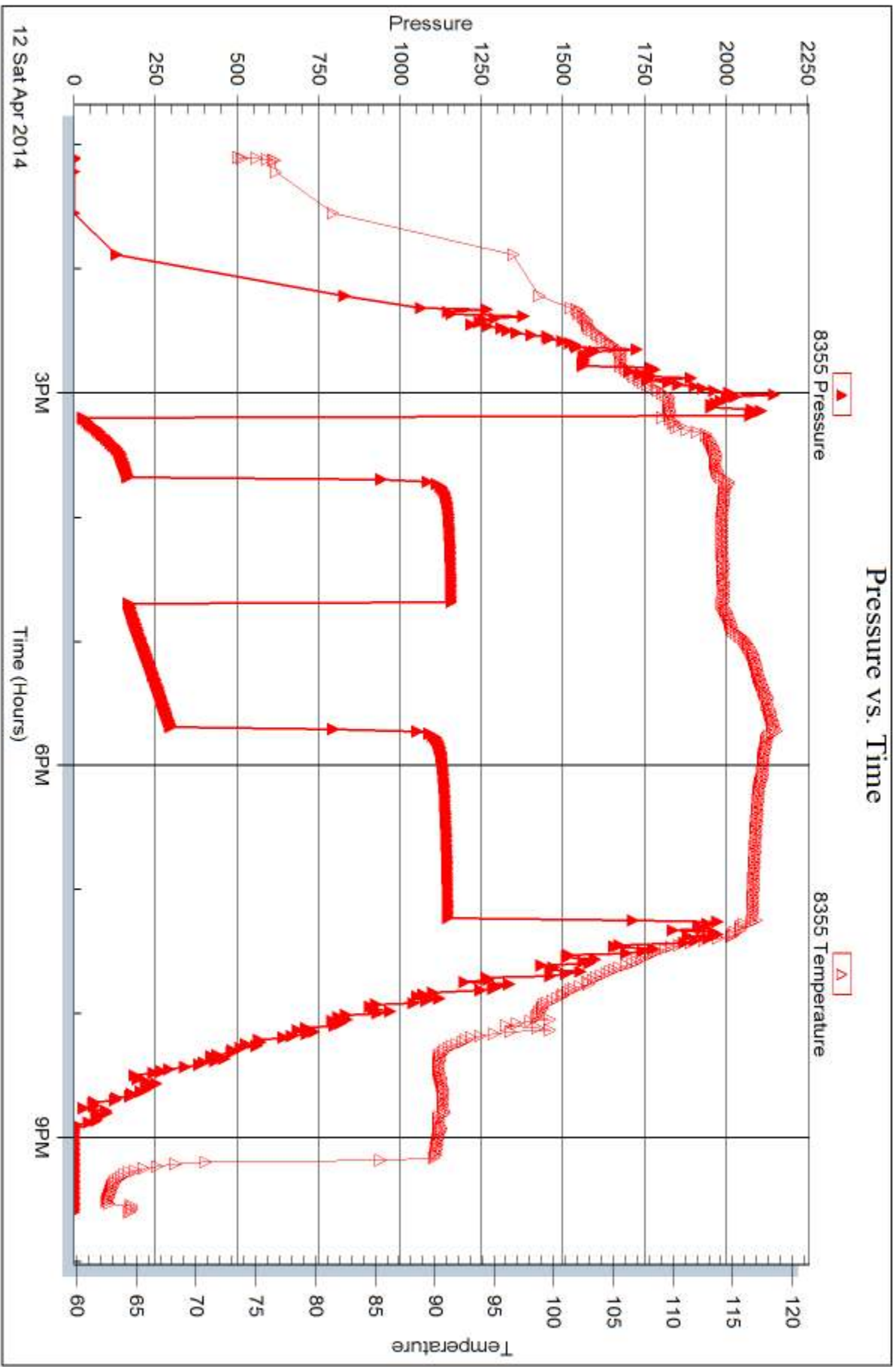


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 57240

Printed: 2014.04.24 @ 11:38:28



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.14 @ 08:40:00

End Date: 2014.04.14 @ 17:33:40

Job Ticket #: 57241 DST #: 3

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

Printed: 2014.04.24 @ 11:38:02

Murfin Drilling Co. Inc
12-13s-33w Logan,KS.
Racette #2-12
DST # 3
LKC " E "
2014.04.14



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57241 **DST#: 3**
Test Start: 2014.04.14 @ 08:40:00

GENERAL INFORMATION:

Formation: **LKC " E "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:01:25
Time Test Ended: 17:33:40
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 72
Interval: **4100.00 ft (KB) To 4118.00 ft (KB) (TVD)**
Reference Elevations: 3044.00 ft (KB)
Total Depth: 4118.00 ft (KB) (TVD) 3032.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

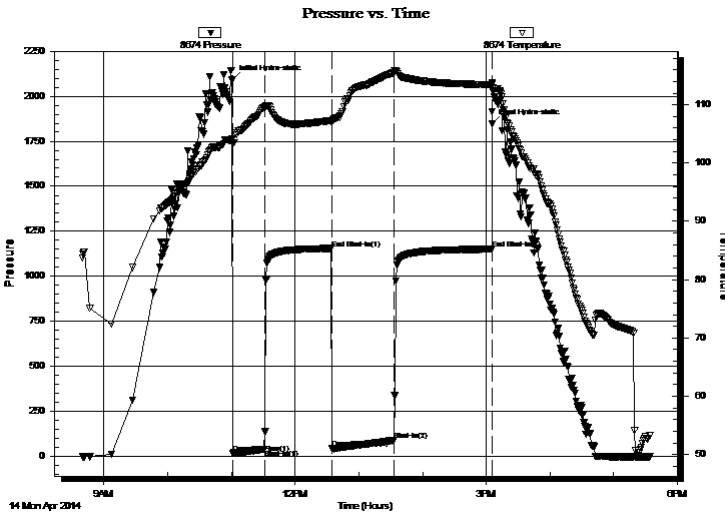
Serial #: 8674

Inside

Press@RunDepth: 91.57 psig @ 4103.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.14 End Date: 2014.04.14 Last Calib.: 2014.04.14
Start Time: 08:40:00 End Time: 17:33:40 Time On Btm: 2014.04.14 @ 11:01:10
Time Off Btm: 2014.04.14 @ 15:05:24

TEST COMMENT: IF- Weak Surface Blow Built to 1 3/4"
IS- No Blow
FF- Weak Surface Blow Built to 3"
FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2089.62	104.20	Initial Hydro-static
1	19.46	103.22	Open To Flow (1)
30	41.57	109.52	Shut-In(1)
93	1155.44	107.32	End Shut-In(1)
94	43.79	106.87	Open To Flow (2)
152	91.57	115.57	Shut-In(2)
244	1151.17	113.42	End Shut-In(2)
245	1845.84	113.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW 39%w 61%w	0.59
30.00	WCM 46%w 54%w	0.15

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc

12-13s-33w Logan, KS.

250 N. Water Ste 300
Wichita KS. 67202

Racette #2-12

Job Ticket: 57241

DST#: 3

ATTN: Wes Hansen

Test Start: 2014.04.14 @ 08:40:00

Tool Information

Drill Pipe:	Length: 3855.00 ft	Diameter: 3.80 inches	Volume: 54.08 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: 30000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 14000.00 lb
			<u>Total Volume: 55.25 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4100.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	45.00 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			4074.00	
Shut In Tool	5.00			4079.00	
Hydraulic tool	5.00			4084.00	
Jars	5.00			4089.00	
Safety Joint	2.00			4091.00	
Packer	5.00			4096.00	27.00 Bottom Of Top Packer
Packer	4.00			4100.00	
Stubb	1.00			4101.00	
Perforations	2.00			4103.00	
Recorder	0.00	8355	Outside	4103.00	
Recorder	0.00	8674	Inside	4103.00	
Perforations	10.00			4113.00	
Bullnose	5.00			4118.00	18.00 Bottom Packers & Anchor

Total Tool Length: 45.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57241 **DST#: 3**
Test Start: 2014.04.14 @ 08:40:00

Mud and Cushion Information

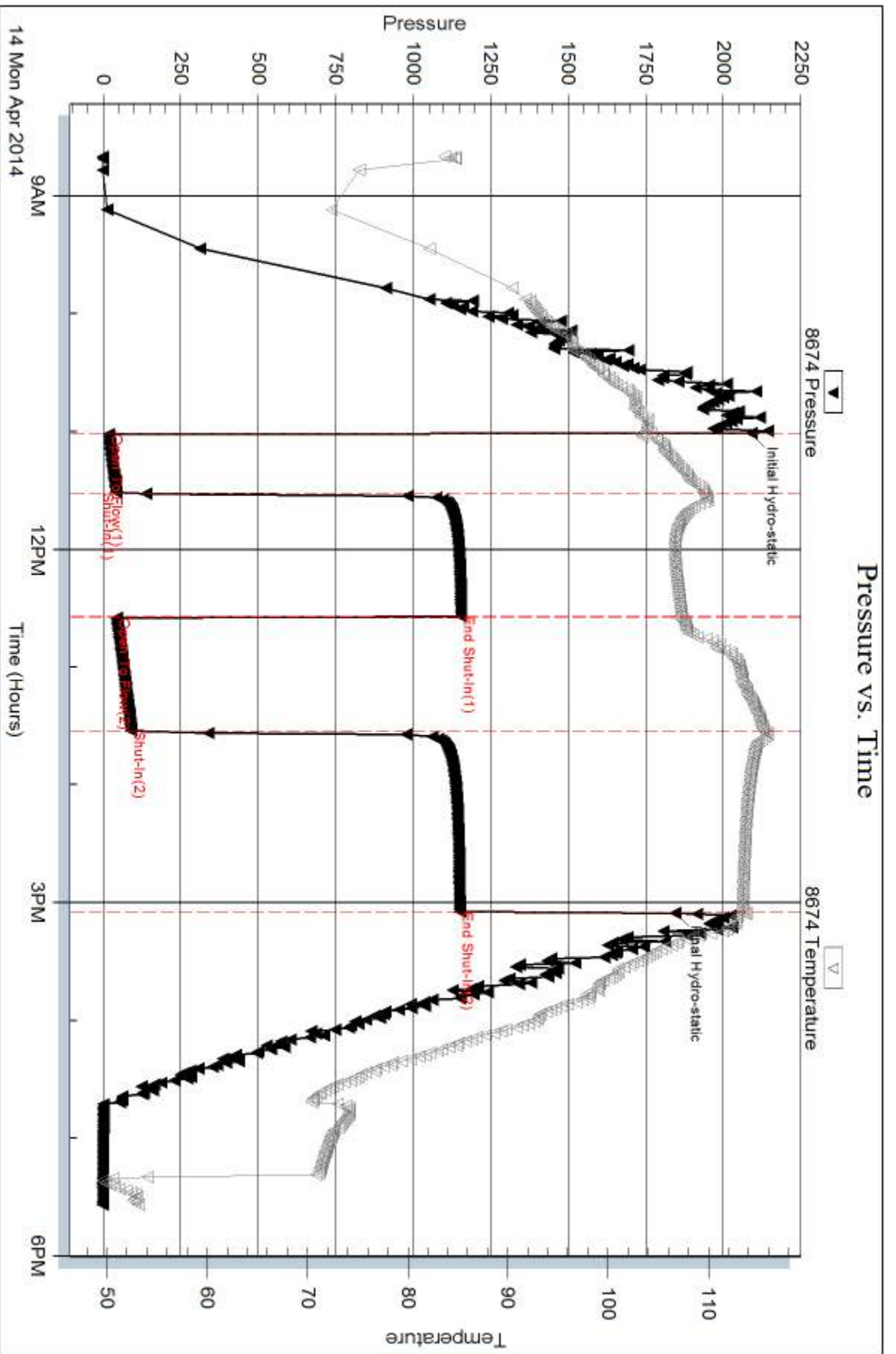
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	22500 ppm
Viscosity: 151.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.92 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7700.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MCW 39%m 61%w	0.590
30.00	WCM 46%w 54%m	0.148

Total Length: 150.00 ft Total Volume: 0.738 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is .521 @ 40f = 22500

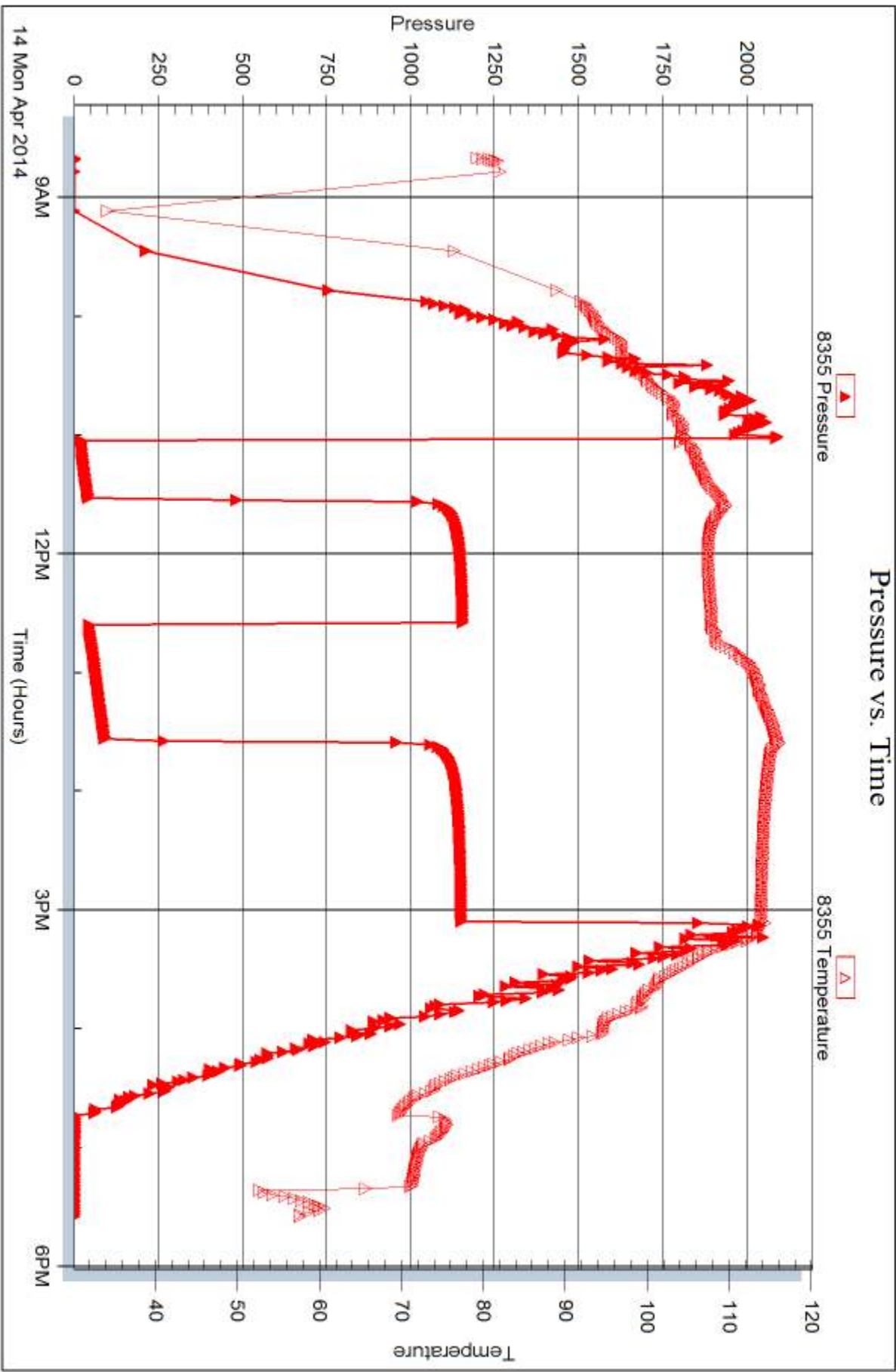


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 57241

Printed: 2014.04.24 @ 11:38:03



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.15 @ 09:46:00

End Date: 2014.04.15 @ 17:27:39

Job Ticket #: 57242 DST #: 4

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

Printed: 2014.04.24 @ 11:37:38



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
 Job Ticket: 57242 **DST#: 4**
 Test Start: 2014.04.15 @ 09:46:00

GENERAL INFORMATION:

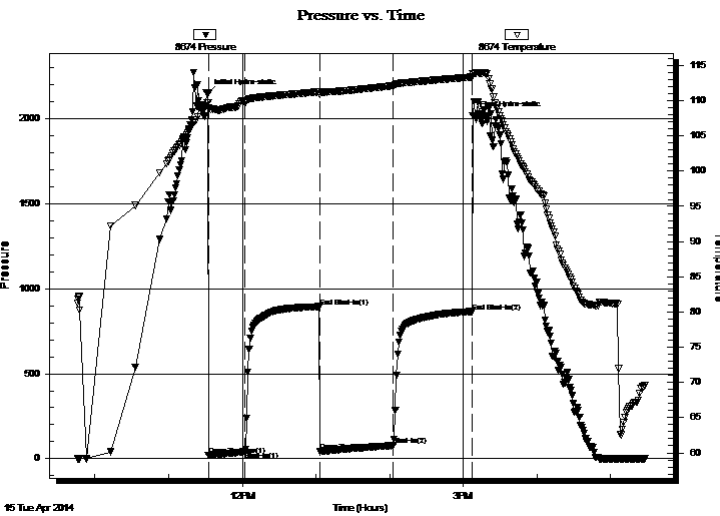
Formation: **LKC "H-1"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 11:32:25 Tester: Will MacLean
 Time Test Ended: 17:27:39 Unit No: 72
 Interval: **4168.00 ft (KB) To 4230.00 ft (KB) (TVD)** Reference Elevations: 3044.00 ft (KB)
 Total Depth: 4230.00 ft (KB) (TVD) 3032.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

Serial #: 8674

Inside

Press@RunDepth: 78.00 psig @ 4171.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.15 End Date: 2014.04.15 Last Calib.: 2014.04.15
 Start Time: 09:46:00 End Time: 17:27:39 Time On Btm: 2014.04.15 @ 11:32:10
 Time Off Btm: 2014.04.15 @ 15:07:39

TEST COMMENT: IF- Weak Surface Blow Built to 3/4"
 IS- No Blow
 FF- Weak Surface Blow in 25 min Built to 1"
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2149.32	109.77	Initial Hydro-static
1	19.88	108.84	Open To Flow (1)
30	40.70	109.76	Shut-In(1)
91	895.20	111.28	End Shut-In(1)
92	43.11	110.91	Open To Flow (2)
151	78.00	112.12	Shut-In(2)
215	866.57	113.37	End Shut-In(2)
216	2019.16	113.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM 23%w 77% m with a Skim of Oil on 0.30	
61.00	WCM 4%w 96% m with a Skim of Oil on 0.30	

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57242 **DST#: 4**
Test Start: 2014.04.15 @ 09:46:00

Tool Information

Drill Pipe:	Length: 3919.00 ft	Diameter: 3.80 inches	Volume: 54.97 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: 28000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 56.14 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4168.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	89.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4142.00	
Shut In Tool	5.00			4147.00	
Hydraulic tool	5.00			4152.00	
Jars	5.00			4157.00	
Safety Joint	2.00			4159.00	
Packer	5.00			4164.00	27.00 Bottom Of Top Packer
Packer	4.00			4168.00	
Stubb	1.00			4169.00	
Perforations	2.00			4171.00	
Recorder	0.00	8355	Outside	4171.00	
Recorder	0.00	8674	Inside	4171.00	
Perforations	20.00			4191.00	
Change Over Sub	1.00			4192.00	
Drill Pipe	31.00			4223.00	
Change Over Sub	1.00			4224.00	
Perforations	1.00			4225.00	
Bullnose	5.00			4230.00	62.00 Bottom Packers & Anchor
Total Tool Length:	89.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57242 **DST#: 4**
Test Start: 2014.04.15 @ 09:46:00

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:	25200 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.30 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5900.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	WCM 23%w 77%w with a Skim of Oil on To	0.295
61.00	WCM 4%w 96%w with a Skim of Oil on Top	0.300

Total Length: 121.00 ft Total Volume: 0.595 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: RW is .261 @ 71f = 25200

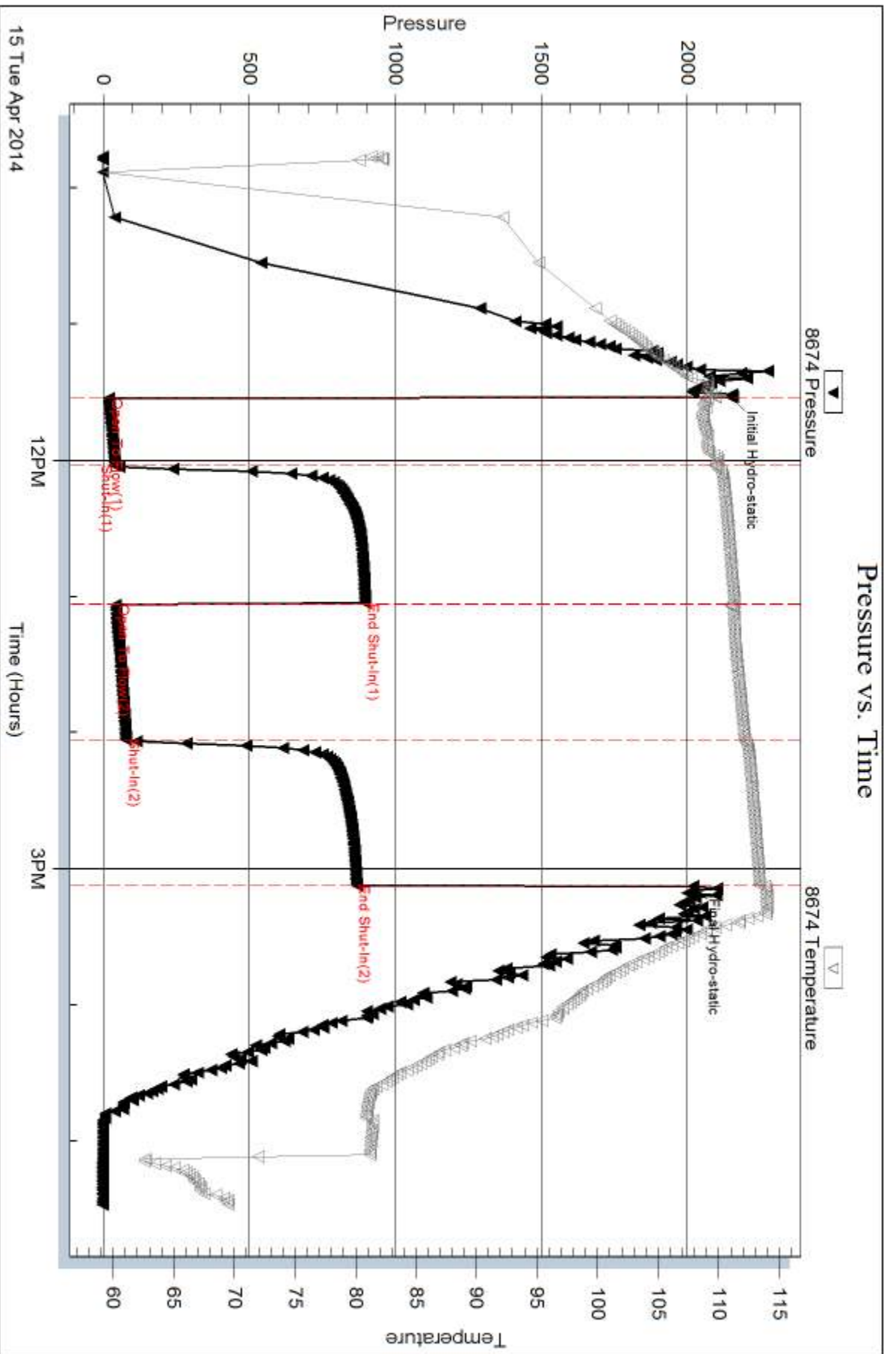
Serial #: 8674

Inside

Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 57242

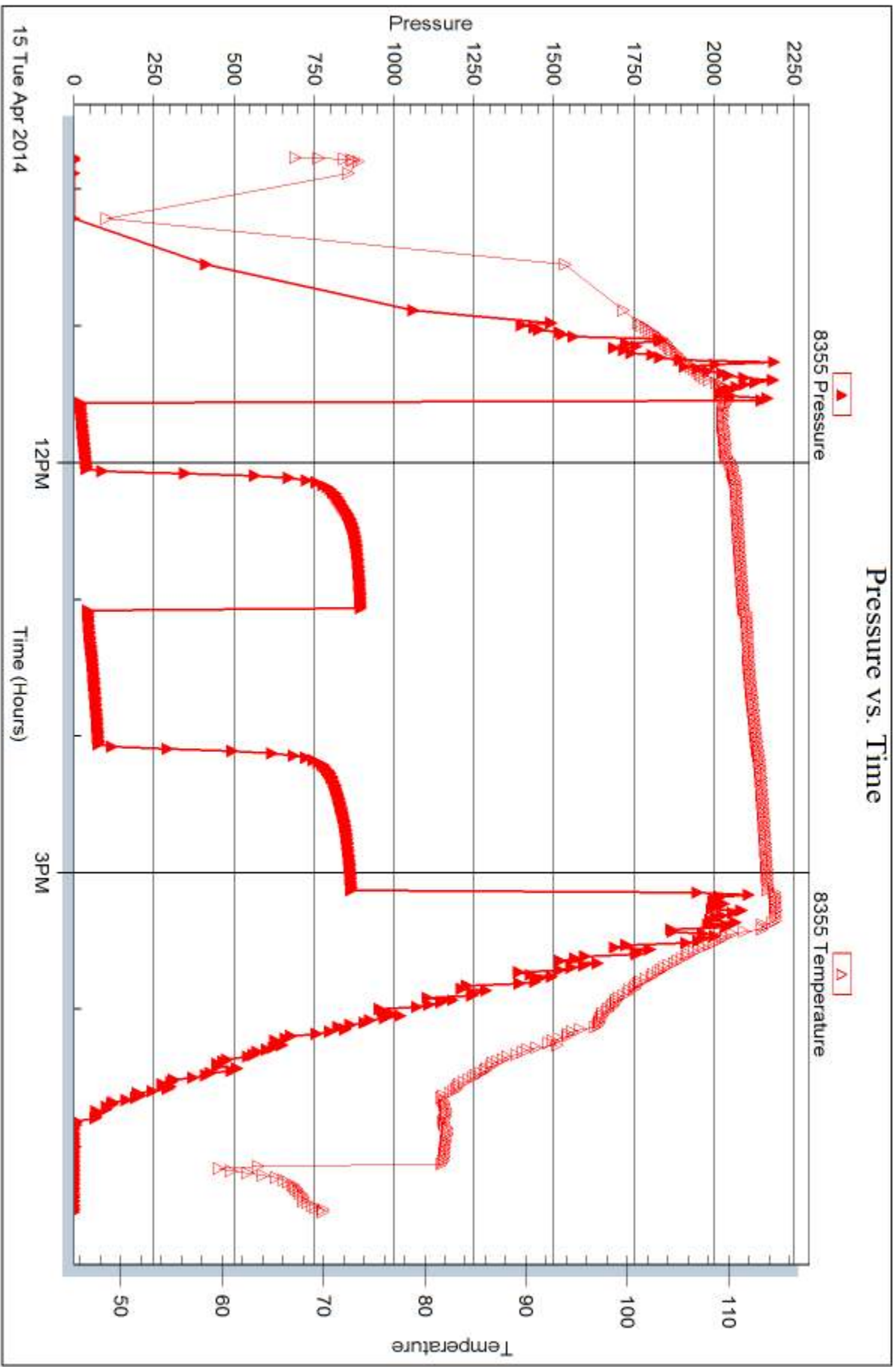
Printed: 2014.04.24 @ 11:37:39

Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 57242

Printed: 2014.04.24 @ 11:37:40



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.16 @ 05:34:00

End Date: 2014.04.16 @ 14:00:09

Job Ticket #: 57243 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.04.24 @ 11:37:04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
 Job Ticket: 57243 **DST#: 5**
 Test Start: 2014.04.16 @ 05:34:00

GENERAL INFORMATION:

Formation: **LKC "J - K"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 07:29:40 Tester: Will MacLean
 Time Test Ended: 14:00:09 Unit No: 72
 Interval: **4230.00 ft (KB) To 4286.00 ft (KB) (TVD)** Reference Elevations: 3044.00 ft (KB)
 Total Depth: 4286.00 ft (KB) (TVD) 3032.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

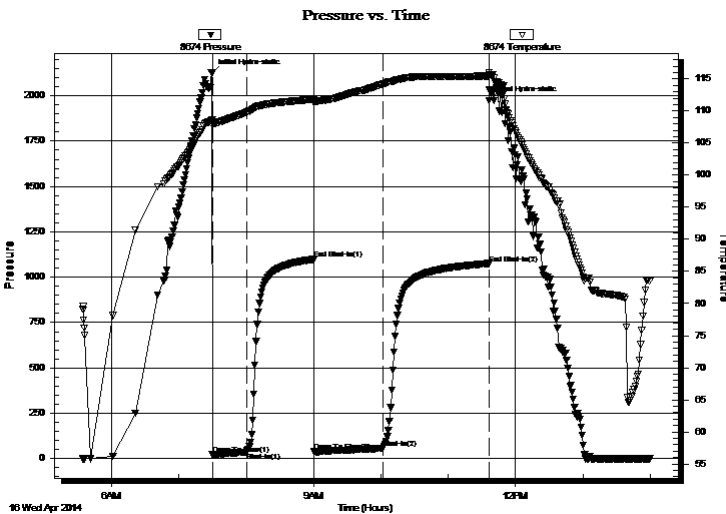
Serial #: 8674

Inside

Press@RunDepth: 56.97 psig @ 4233.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.16 End Date: 2014.04.16 Last Calib.: 2014.04.16
 Start Time: 05:34:00 End Time: 14:00:09 Time On Btm: 2014.04.16 @ 07:29:25
 Time Off Btm: 2014.04.16 @ 11:36:24

TEST COMMENT: IF- Weak Surface Blow Built to 1"
 IS- No Blow
 FF- Very Weak Surface Blow in 50 min
 FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2124.95	108.57	Initial Hydro-static
1	22.00	107.69	Open To Flow (1)
31	34.79	109.79	Shut-In(1)
91	1098.88	111.82	End Shut-In(1)
92	38.87	111.30	Open To Flow (2)
153	56.97	114.19	Shut-In(2)
247	1075.49	115.43	End Shut-In(2)
247	1973.39	116.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	WGOCM 2%w 3%g 6%oil 89%m	0.30
5.00	WOCM 2%w 5%oil 93%m	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57243 **DST#: 5**
Test Start: 2014.04.16 @ 05:34:00

Tool Information

Drill Pipe:	Length: 3981.00 ft	Diameter: 3.80 inches	Volume: 55.84 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: 32000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 28000.00 lb
			<u>Total Volume: 57.01 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4230.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	83.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4204.00	
Shut In Tool	5.00			4209.00	
Hydraulic tool	5.00			4214.00	
Jars	5.00			4219.00	
Safety Joint	2.00			4221.00	
Packer	5.00			4226.00	27.00 Bottom Of Top Packer
Packer	4.00			4230.00	
Stubb	1.00			4231.00	
Perforations	2.00			4233.00	
Recorder	0.00	8355	Outside	4233.00	
Recorder	0.00	8674	Inside	4233.00	
Perforations	15.00			4248.00	
Change Over Sub	1.00			4249.00	
Drill Pipe	31.00			4280.00	
Change Over Sub	1.00			4281.00	
Bullnose	5.00			4286.00	56.00 Bottom Packers & Anchor
Total Tool Length:	83.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57243 **DST#: 5**
Test Start: 2014.04.16 @ 05:34:00

Mud and Cushion Information

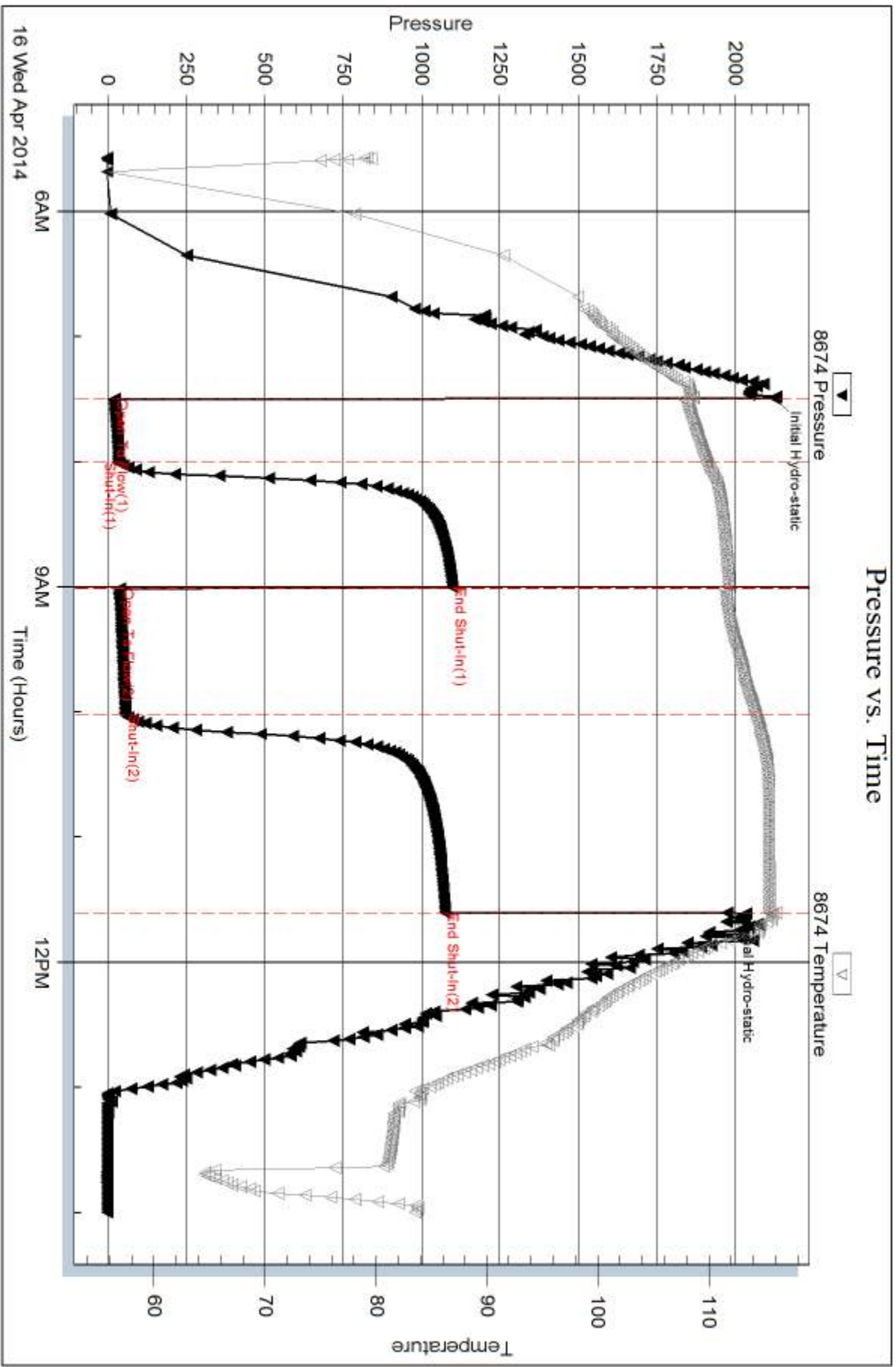
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.73 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8400.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	WGOCM 2%w 3%g 6%oil 89%m	0.295
5.00	WOCM 2%w 5%oil 93%m	0.025

Total Length: 65.00 ft Total Volume: 0.320 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

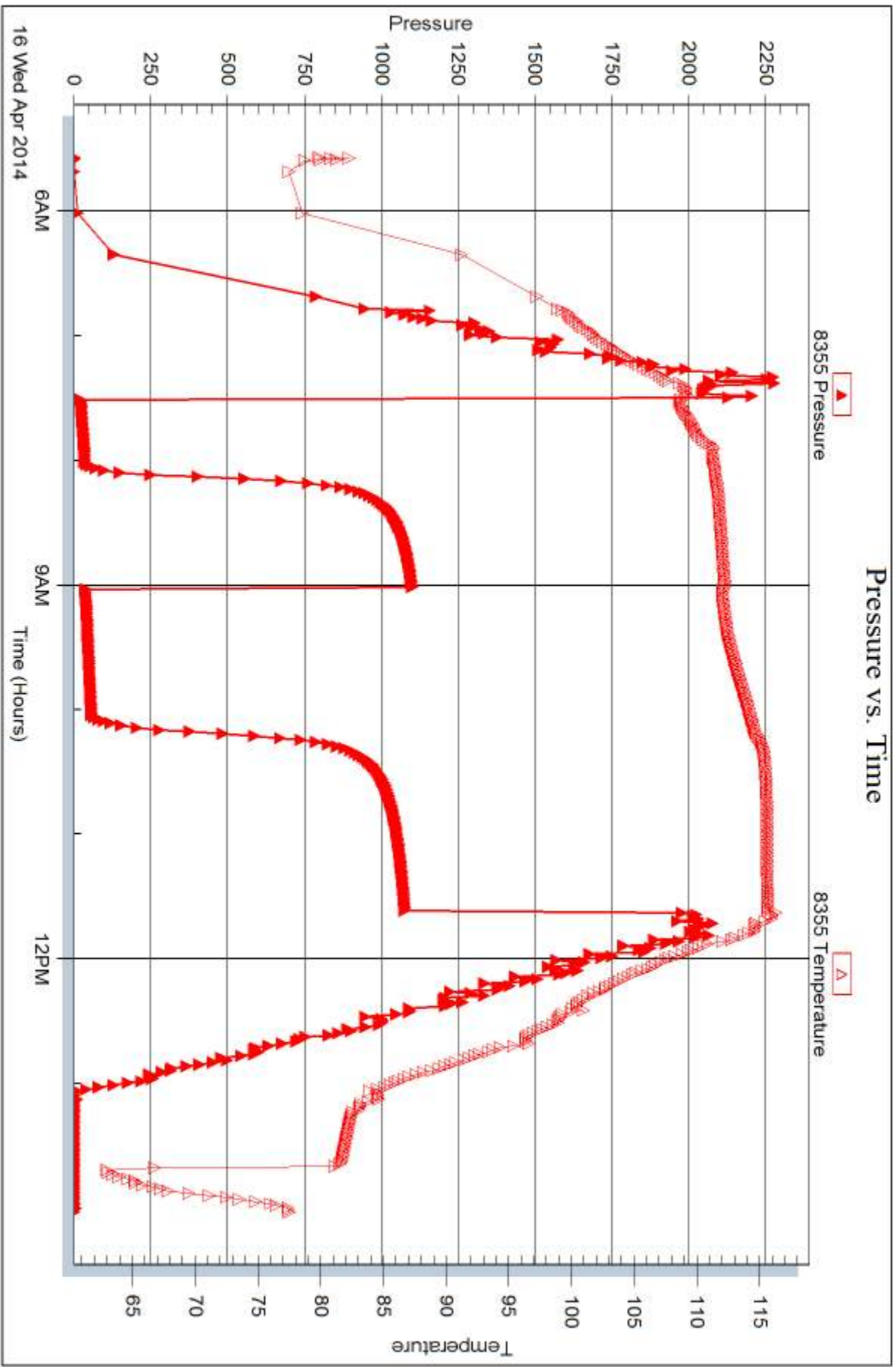


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 5





DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.17 @ 19:22:00

End Date: 2014.04.18 @ 03:39:24

Job Ticket #: 57244 DST #: 6

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

Printed: 2014.04.24 @ 11:36:40



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

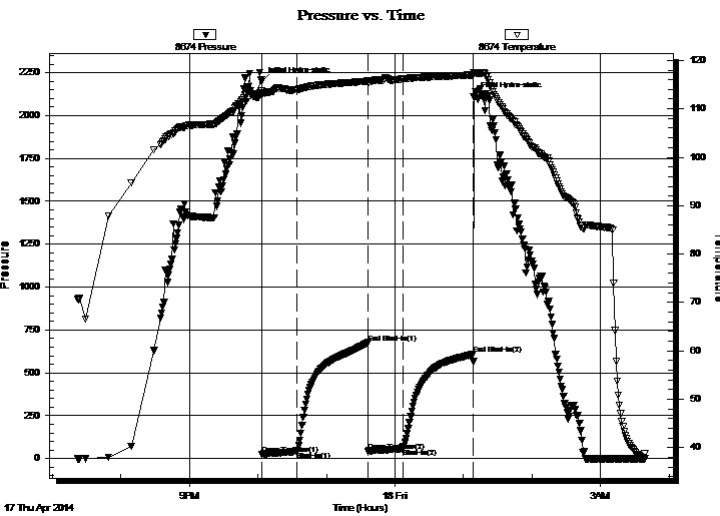
12-13s-33w Logan,KS.
Racette #2-12
 Job Ticket: 57244 **DST#: 6**
 Test Start: 2014.04.17 @ 19:22:00

GENERAL INFORMATION:

Formation: **Marmanton - Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:03:25
 Time Test Ended: 03:39:24
 Interval: **4345.00 ft (KB) To 4507.00 ft (KB) (TVD)**
 Total Depth: 4507.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 72
 Reference Elevations: 3044.00 ft (KB)
 3032.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8674 Inside
 Press@RunDepth: 57.97 psig @ 4347.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.17 End Date: 2014.04.18 Last Calib.: 2014.04.18
 Start Time: 19:22:00 End Time: 03:39:24 Time On Btm: 2014.04.17 @ 22:03:10
 Time Off Btm: 2014.04.18 @ 01:08:54

TEST COMMENT: IF- Weak Surface Blow Built to 1/2"
 IS- No Blow
 FF- No Blow
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.42	113.77	Initial Hydro-static
1	24.22	112.79	Open To Flow (1)
31	41.25	113.98	Shut-In(1)
94	676.48	115.71	End Shut-In(1)
94	44.10	115.31	Open To Flow (2)
124	57.97	116.15	Shut-In(2)
186	608.60	116.99	End Shut-In(2)
186	2110.21	117.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	GOCM 2%g 2%oil 96%m	0.30

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
Job Ticket: 57244 **DST#: 6**
Test Start: 2014.04.17 @ 19:22:00

Tool Information

Drill Pipe:	Length: 4104.00 ft	Diameter: 3.80 inches	Volume: 57.57 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: 30000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 58.74 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4345.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	162.00 ft			
Tool Length:	189.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4319.00	
Shut In Tool	5.00			4324.00	
Hydraulic tool	5.00			4329.00	
Jars	5.00			4334.00	
Safety Joint	2.00			4336.00	
Packer	5.00			4341.00	27.00 Bottom Of Top Packer
Packer	4.00			4345.00	
Stubb	1.00			4346.00	
Perforations	1.00			4347.00	
Recorder	0.00	8355	Outside	4347.00	
Recorder	0.00	8674	Inside	4347.00	
Perforations	28.00			4375.00	
Change Over Sub	1.00			4376.00	
Drill Pipe	125.00			4501.00	
Change Over Sub	1.00			4502.00	
Bullnose	5.00			4507.00	162.00 Bottom Packers & Anchor
Total Tool Length:	189.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57244 **DST#: 6**
Test Start: 2014.04.17 @ 19:22:00

Mud and Cushion Information

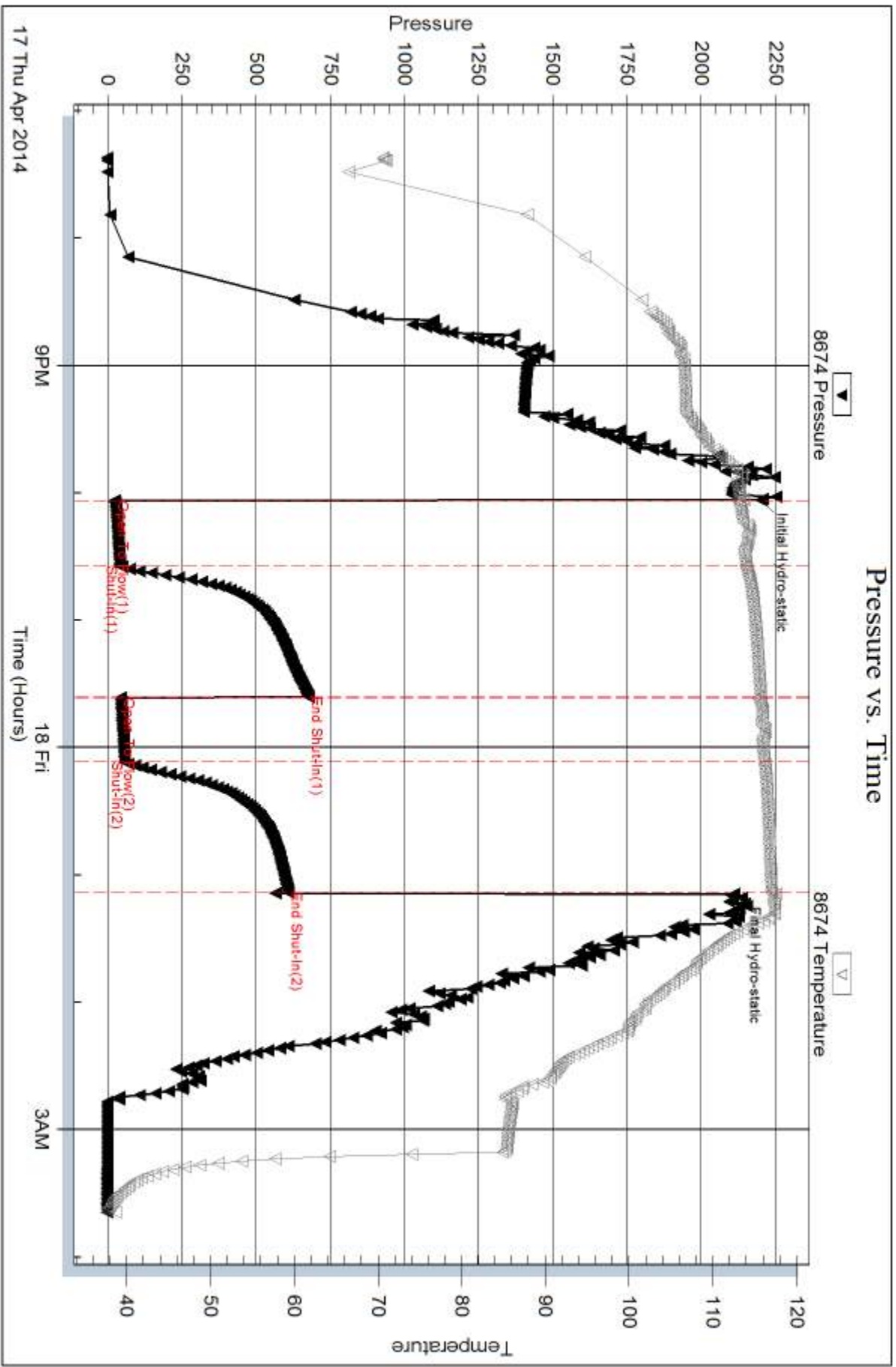
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	GOCM 2%g 2%oil 96%m	0.305

Total Length: 62.00 ft Total Volume: 0.305 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:





DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.18 @ 19:48:00

End Date: 2014.04.19 @ 03:15:39

Job Ticket #: 57245 DST #: 7

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

Printed: 2014.04.24 @ 11:36:13

Murfin Drilling Co. Inc

12-13s-33w Logan,KS.

Racette #2-12

DST # 7

Ft. Scott / Johnson

2014.04.18



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
 Job Ticket: 57245 **DST#: 7**
 Test Start: 2014.04.18 @ 19:48:00

GENERAL INFORMATION:

Formation: **Ft. Scott / Johnson**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:53:40
 Time Test Ended: 03:15:39
 Interval: **4504.00 ft (KB) To 4610.00 ft (KB) (TVD)**
 Total Depth: 4610.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 72
 Reference Elevations: 3044.00 ft (KB)
 3032.00 ft (CF)
 KB to GR/CF: 12.00 ft

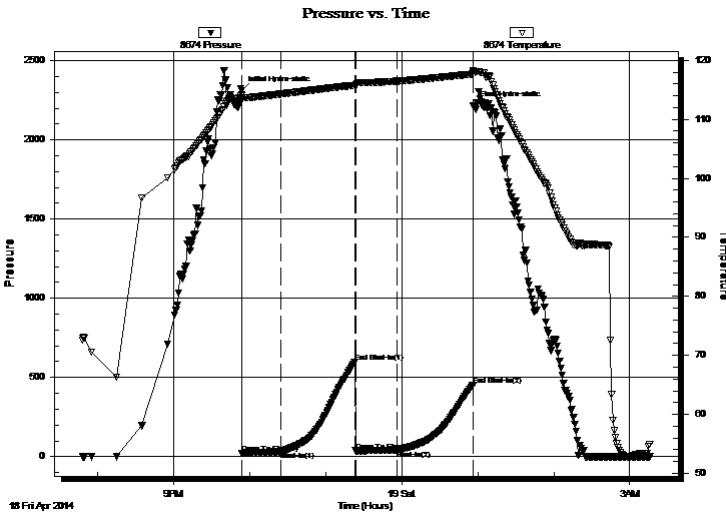
Serial #: 8674

Inside

Press@RunDepth: 41.77 psig @ 4505.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.18 End Date: 2014.04.19 Last Calib.: 2014.04.19
 Start Time: 19:48:00 End Time: 03:15:39 Time On Btm: 2014.04.18 @ 21:53:25
 Time Off Btm: 2014.04.19 @ 00:56:24

TEST COMMENT: IF- Weak Surface Blow Built to 3/4"
 IS- No Blow
 FF- No Blow
 FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2311.97	114.10	Initial Hydro-static
1	21.45	113.14	Open To Flow (1)
31	30.80	114.29	Shut-In(1)
90	598.84	115.77	End Shut-In(1)
90	36.26	115.58	Open To Flow (2)
123	41.77	116.49	Shut-In(2)
183	449.24	117.65	End Shut-In(2)
183	2217.43	118.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	GOCM 2%g 3%oil 95%m	0.20

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
Job Ticket: 57245 **DST#: 7**
Test Start: 2014.04.18 @ 19:48:00

Tool Information

Drill Pipe:	Length: 4261.00 ft	Diameter: 3.80 inches	Volume: 59.77 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: 30000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 28000.00 lb
			<u>Total Volume: 60.94 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4504.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	106.00 ft			
Tool Length:	133.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4478.00	
Shut In Tool	5.00			4483.00	
Hydraulic tool	5.00			4488.00	
Jars	5.00			4493.00	
Safety Joint	2.00			4495.00	
Packer	5.00			4500.00	27.00 Bottom Of Top Packer
Packer	4.00			4504.00	
Stubb	1.00			4505.00	
Recorder	0.00	8355	Outside	4505.00	
Recorder	0.00	8674	Inside	4505.00	
Perforations	35.00			4540.00	
Change Over Sub	1.00			4541.00	
Drill Pipe	63.00			4604.00	
Change Over Sub	1.00			4605.00	
Bullnose	5.00			4610.00	106.00 Bottom Packers & Anchor

Total Tool Length: 133.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57245 **DST#: 7**
Test Start: 2014.04.18 @ 19:48:00

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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.36 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	GOCM 2%g 3%oil 95%m	0.197

Total Length: 40.00 ft Total Volume: 0.197 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

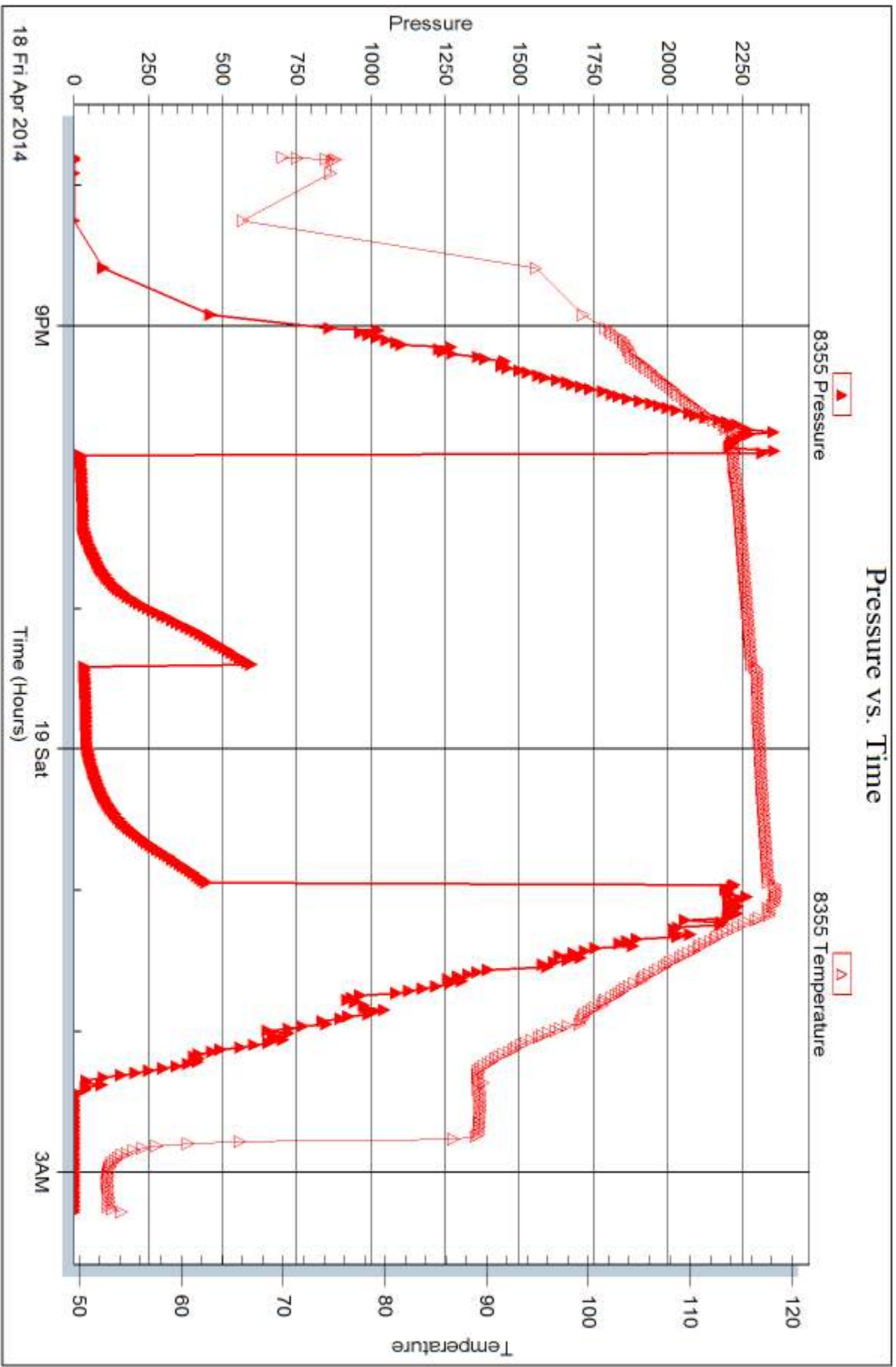
Recovery Comments:

Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 7



Triobite Testing, Inc

Ref. No: 57245

Printed: 2014.04.24 @ 11:36:14



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.19 @ 14:10:00

End Date: 2014.04.19 @ 23:36:10

Job Ticket #: 57246 DST #: 8

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

Printed: 2014.04.24 @ 11:35:32



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57246 **DST#: 8**
Test Start: 2014.04.19 @ 14:10:00

GENERAL INFORMATION:

Formation: **Basal Penn Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:18:40
Time Test Ended: 23:36:10
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 72
Interval: **4610.00 ft (KB) To 4685.00 ft (KB) (TVD)**
Reference Elevations: 3044.00 ft (KB)
Total Depth: 4685.00 ft (KB) (TVD) 3032.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

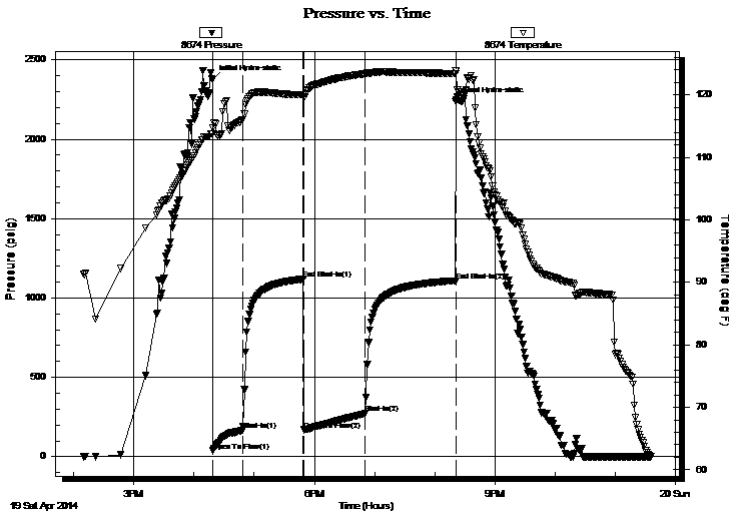
Serial #: 8674

Inside

Press@RunDepth: 271.60 psig @ 4611.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.19 End Date: 2014.04.19 Last Calib.: 2014.04.19
Start Time: 14:10:00 End Time: 23:36:10 Time On Btm: 2014.04.19 @ 16:18:10
Time Off Btm: 2014.04.19 @ 20:20:54

TEST COMMENT: IF- Weak Surface Blow Built to BOB in 20 min
IS- Very Weak Surface Blow in 26 min Died in 45 min
FF- Weak Surface Blow Built to BOB in 10 1/4 min
FS- Weak Surface Blow in 2 min Built to 7"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2374.61	113.82	Initial Hydro-static
1	35.92	113.85	Open To Flow (1)
31	167.71	116.04	Shut-In(1)
91	1118.86	120.04	End Shut-In(1)
92	169.18	119.60	Open To Flow (2)
153	271.60	123.41	Shut-In(2)
243	1108.86	123.48	End Shut-In(2)
243	2238.54	123.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GOWCM 4%g 7%oil 30%w 59%m	0.59
60.00	WOGCM 16%w 24%oil 27%g 33%m	0.30
60.00	GOCM 19%g 22%oil 59%m	0.31
186.00	OGCM 18%oil 35%g 47%m	2.61
124.00	GOCM 15%g 24%oil 61%m	1.74
47.00	GMCO 6%g 8%m 86%oil	0.66

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57246 **DST#: 8**
Test Start: 2014.04.19 @ 14:10:00

Tool Information

Drill Pipe:	Length: 4357.00 ft	Diameter: 3.80 inches	Volume: 61.12 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: 32000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 30000.00 lb
			<u>Total Volume: 62.29 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	4610.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.00 ft			
Tool Length:	102.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4584.00	
Shut In Tool	5.00			4589.00	
Hydraulic tool	5.00			4594.00	
Jars	5.00			4599.00	
Safety Joint	2.00			4601.00	
Packer	5.00			4606.00	27.00 Bottom Of Top Packer
Packer	4.00			4610.00	
Stubb	1.00			4611.00	
Recorder	0.00	8355	Outside	4611.00	
Recorder	0.00	8674	Inside	4611.00	
Perforations	5.00			4616.00	
Change Over Sub	1.00			4617.00	
Drill Pipe	62.00			4679.00	
Change Over Sub	1.00			4680.00	
Bullnose	5.00			4685.00	75.00 Bottom Packers & Anchor

Total Tool Length: 102.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57246 **DST#: 8**
Test Start: 2014.04.19 @ 14:10:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 26 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 28100 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.15 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 9000.00 ppm		
Filter Cake: 2.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GOWCM 4%g 7%oil 30%w 59%m	0.590
60.00	WOGCM 16%w 24%oil 27%g 33%m	0.295
60.00	GOCM 19%g 22%oil 59%m	0.313
186.00	OGCM 18%oil 35%g 47%m	2.609
124.00	GOCM 15%g 24%oil 61%m	1.739
47.00	GMCO 6%g 8%m 86%oil	0.659
0.00	759' of Weak GIP	0.000

Total Length: 597.00 ft Total Volume: 6.205 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is .235 @ 70f = 28100
 API is 27 @ 70f =26

Serial #: 8674

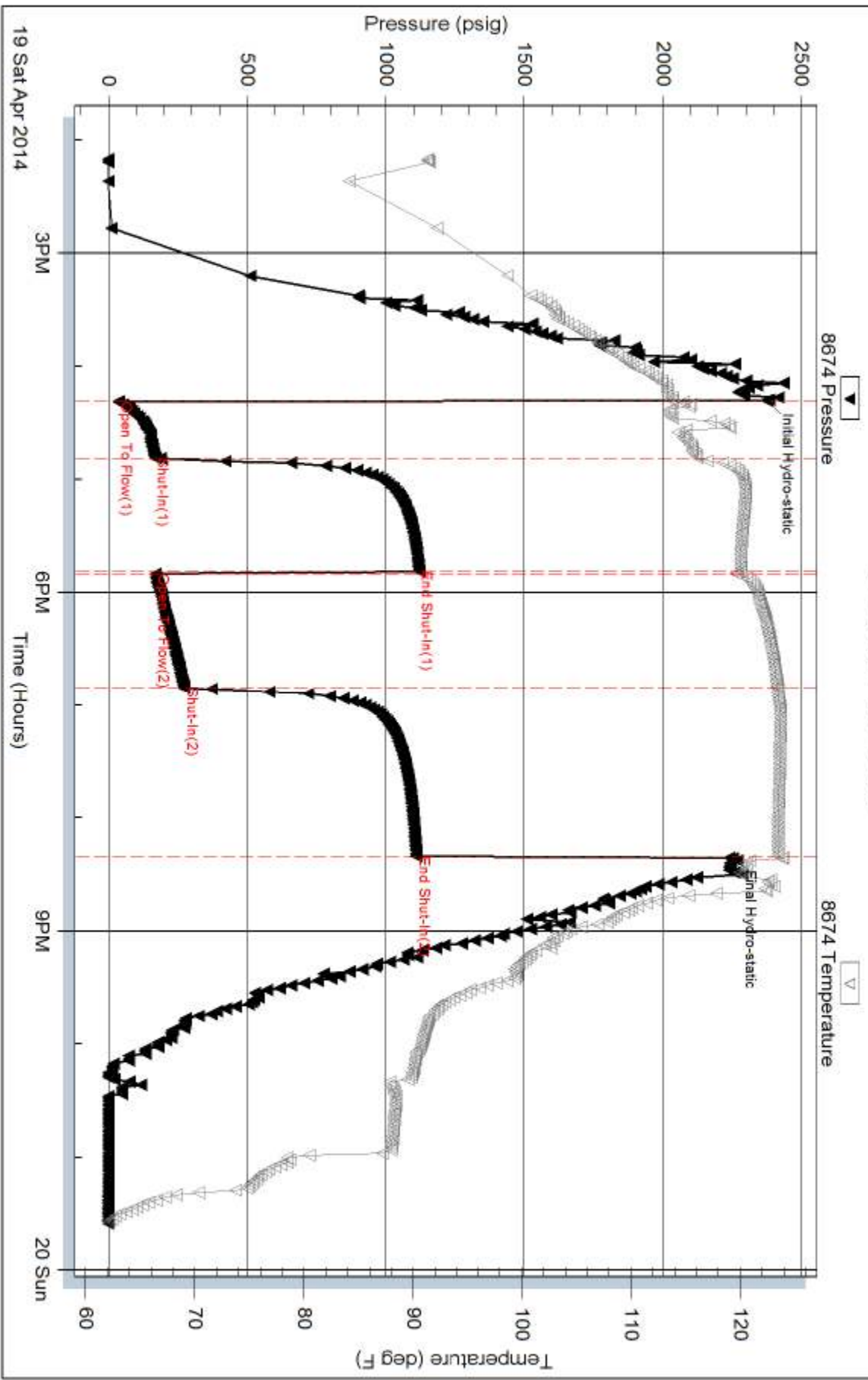
Inside

Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 8

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 57246

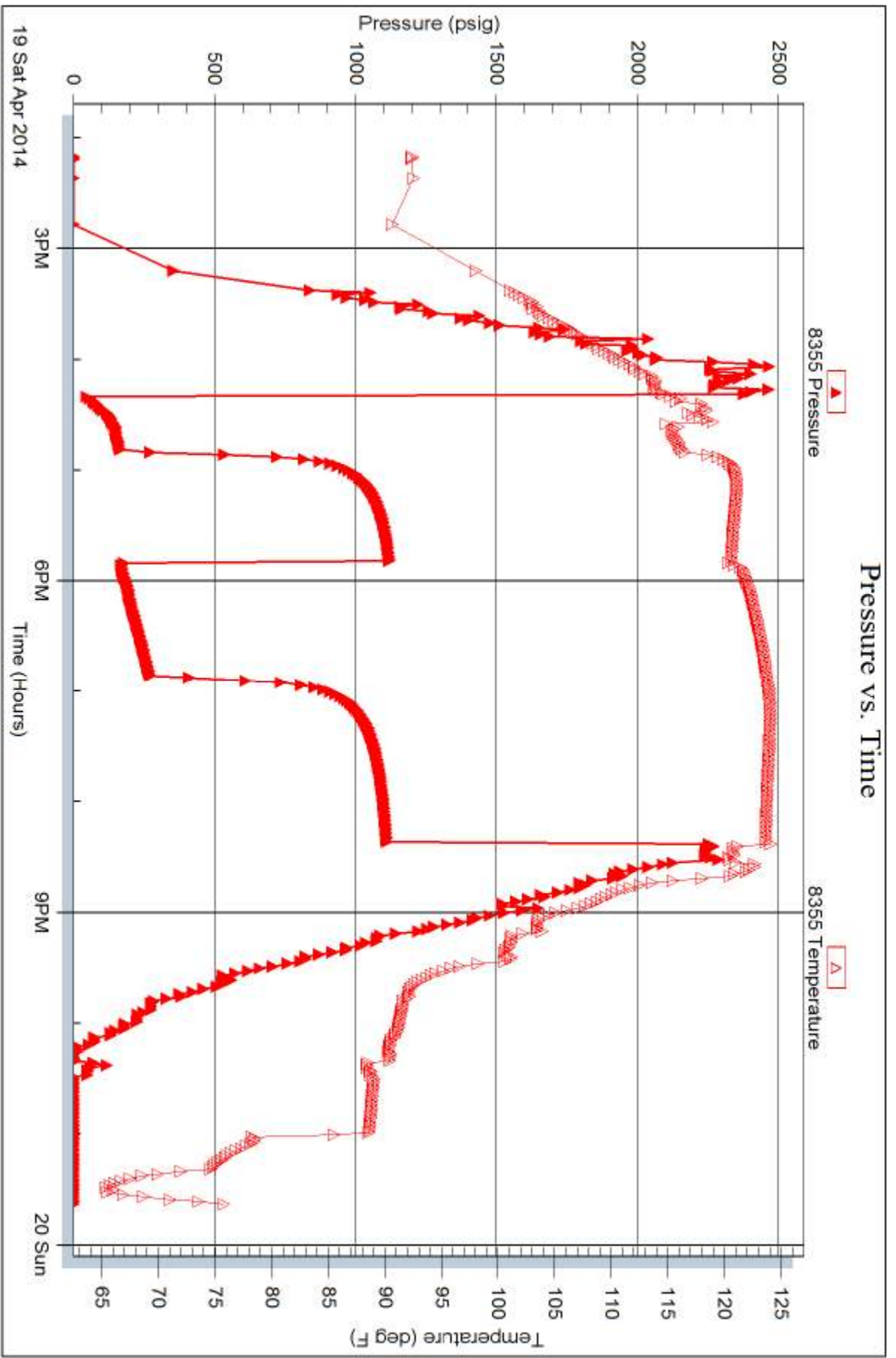
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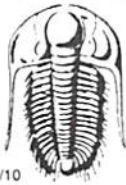
Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 8





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57239

Well Name & No. Racette # 2-12 Test No. DST #1 Date 4-11-14
 Company Murfin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita KS, 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 3968-4010 Zone Tested Toronto
 Anchor Length 42 Drill Pipe Run 3729 Mud Wt. 9.0
 Top Packer Depth 3964 Drill Collars Run 238 Vis 6.1
 Bottom Packer Depth 3968 Wt. Pipe Run 0 WL 6.4
 Total Depth 4010 Chlorides 5900 ppm System LCM 4/6
 Blow Description IF - Surface Blow Built to BOB in 1 1/4 min
ISI - No Blow
FF - Surface Blow Built to BOB in 2 1/2 min
FST - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>171</u>	<u>WCM a few oil spots</u>		<u>42</u>	<u>58</u>	
<u>248</u>	<u>MCW</u>		<u>63</u>	<u>37</u>	
<u>334</u>	<u>MCW</u>		<u>92</u>	<u>8</u>	
<u>1354</u>	<u>MCW</u>		<u>97</u>	<u>3</u>	

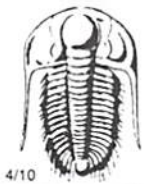
Rec Total 2207 BHT 117 Gravity 1.38 @ 84 ° F Chlorides 41000 ppm
 Test 1250 T-On Location 13:14
 Jars 250 T-Started 13:42
 Safety Joint 75 T-Open 15:52
 Circ Sub N/C T-Pulled 18:56
 Hourly Standby T-Out 22:05
 Mileage 84 R/T 130.20
 Sampler
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 1705.20

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

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1705.20
 MP/DST Disc't _____

Approved By _____ Our Representative Wes Hansen

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. 57240

Well Name & No. Racette # 2-12 Test No. DST #2 Date 4-12-14
 Company Murfin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 4041 - 4100 Zone Tested LKC "B + D"
 Anchor Length 59 Drill Pipe Run 3794 Mud Wt. 9.0
 Top Packer Depth 4037 Drill Collars Run 238 Vis 61
 Bottom Packer Depth 4041 Wt. Pipe Run 0 WL 6.4
 Total Depth 4100 Chlorides 5900 ppm System LCM 416

Blow Description IF - Weak Surface Blow Built to 11"
FSI - No Blow
FF - Weak Surface Blow Built to BOB in 52 min
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>122</u>	<u>WC M</u>		<u>41</u>	<u>59</u>	
<u>186</u>	<u>M CW</u>		<u>66</u>	<u>34</u>	
<u>300</u>	<u>M CW</u>		<u>79</u>	<u>21</u>	

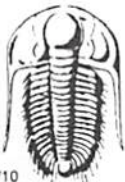
Rec Total 608 BHT 116 Gravity _____ API RW 165 @ 65 °F Chlorides 43500 ppm

(A) Initial Hydrostatic 2069 Test 1250 T-On Location 12:26
 (B) First Initial Flow 20 Jars 250 T-Started 13:06
 (C) First Final Flow 166 Safety Joint 75 T-Open 15:10
 (D) Initial Shut-In 1156 Circ Sub N/C T-Pulled 19:13
 (E) Second Initial Flow 168 Hourly Standby _____ T-Out 21:34
 (F) Second Final Flow 299 Mileage 84 RIT 130.20 Comments _____
 (G) Final Shut-In 1146 Sampler _____
 (H) Final Hydrostatic 1882 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 30 Sub Total 0
 Initial Shut-In 60 Total 1705.20
 Final Flow 60 MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1705.20

Approved By Wesley Hansen Our Representative Tim M...

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57241

Well Name & No. Recette # 2-12 Test No. DST #3 Date 4-13-14/4-14-14
 Company Murfin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 No Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 4100-4118 Zone Tested LRC "E"
 Anchor Length 18 Drill Pipe Run 3855 Mud Wt. 9.3
 Top Packer Depth 4096 Drill Collars Run 238 Vis 151
 Bottom Packer Depth 4100 Wt. Pipe Run 0 WL 8.0
 Total Depth 4118 Chlorides 7700 ppm System LCM 516

Blow Description IF- Weak Surface Blow Built to 134
ISI- No Blow
FF- Weak Surface Blow Built to 3"
FST- No Blow

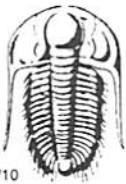
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>WCM</u>		<u>46</u>	<u>34</u>	
<u>120</u>	<u>MCW</u>		<u>61</u>	<u>39</u>	

Rec Total 150 BHT 113 Gravity _____ API RW, 521 @ 40 ° F Chlorides 22500 ppm
 (A) Initial Hydrostatic 2089 Test 1250 T-On Location 5:46 | 7:56
 (B) First Initial Flow 19 Jars 250 T-Started 6:56 | 8:40
 (C) First Final Flow 41 Safety Joint 75 T-Open _____ | 11:01
 (D) Initial Shut-In 1155 Circ Sub N/C T-Pulled _____ | 15:05
 (E) Second Initial Flow 43 Hourly Standby _____ T-Out 10:02 | 17:33
 (F) Second Final Flow 91 Mileage 84 RIT x 2 Comments _____
 (G) Final Shut-In 1151 Sampler _____ | 260.40
 (H) Final Hydrostatic 1845 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 80 Extra Copies _____
 Final Shut-In 90 Sub Total 0
 Total 1835.40
 MP/DST Disc't _____
 Sub Total 1835.40

Approved By Wesley Hansen Our Representative Wesley Hansen

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57242

4/10

Well Name & No. Racette # 2-12 Test No. DST #4 Date 4-15-14
 Company Murfin Drilling Co Inc Elevation 3044 KB 3032 GL
 Address 250 W. Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 4168-4230 Zone Tested LKC "H-I"
 Anchor Length 62 Drill Pipe Run 3919 Mud Wt. 9.0
 Top Packer Depth 4164 Drill Collars Run 238 Vis 61
 Bottom Packer Depth 4168 Wt. Pipe Run 0 WL 6.4
 Total Depth 4230 Chlorides 5900 ppm System LCM 515
 Blow Description JF- Weak Surface Blow Built to 34"
TSI- No Blow
FF- Weak Surface Blow Built to 1"
FSI- No Blow

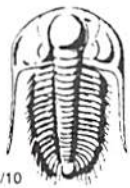
Rec	Feet of	%gas	%oil	%water	%mud
<u>61</u>	<u>WCH with skin of oil</u>		<u>4</u>	<u>96</u>	
<u>60</u>	<u>WCM with skin of oil</u>		<u>23</u>	<u>77</u>	

Rec Total 121 BHT 114 Gravity _____ API RW 261 @ 71 °F Chlorides 25,200 ppm

(A) Initial Hydrostatic 2149 Test 1250 T-On Location 9:02
 (B) First Initial Flow 19 Jars 250 T-Started 9:46
 (C) First Final Flow 40 Safety Joint 75 T-Open 11:32
 (D) Initial Shut-In 895 Circ Sub NIC T-Pulled 15:07
 (E) Second Initial Flow 43 Hourly Standby _____ T-Out 17:27
 (F) Second Final Flow 78 Mileage 84 RIT 130.20 Comments _____
 (G) Final Shut-In 866 Sampler _____
 (H) Final Hydrostatic 2019 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1705.20
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1705.20

Approved By Wesley Hansen Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57243

Well Name & No. Racette #2-12 Test No. DST #5 Date 4-16-14
 Company Martin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Martin 22
 Location: Sec. 12 Twp. 13s Rge. 33w Co. Logan State KS

Interval Tested 4230-4286 Zone Tested LRC "J-K"
 Anchor Length 56 Drill Pipe Run 3981 Mud Wt. 9.4
 Top Packer Depth 4226 Drill Collars Run 238 Vis 62
 Bottom Packer Depth 4230 Wt. Pipe Run 0 WL 8.8
 Total Depth 4286 Chlorides 8400 ppm System LCM 6/b
 Blow Description IF - Weak Surface Blow Built to 1"
ISI - No Blow
FF - Very Weak Surface Blow in 50 min
FSI - No Blow

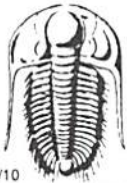
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>WOCM</u>	<u>5</u>	<u>2</u>	<u>93</u>	
<u>60</u>	<u>WOCM</u>	<u>3</u>	<u>6</u>	<u>89</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2124 Test 1250 T-On Location 5:16
 (B) First Initial Flow 22 Jars 250 T-Started 5:34
 (C) First Final Flow 34 Safety Joint 75 T-Open 7:29
 (D) Initial Shut-In 1098 Circ Sub NIC T-Pulled 11:36
 (E) Second Initial Flow 38 Hourly Standby _____ T-Out 14:00
 (F) Second Final Flow 56 Mileage 84 R/T 130.20 Comments _____
 (G) Final Shut-In 1075 Sampler _____
 (H) Final Hydrostatic 1973 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1705.20
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1705.20

Approved By Wesley Hansen Our Representative Wesley Hansen

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57244

4/10

Well Name & No. Racette #2-12 Test No. DST #6 Date 4-17-14
 Company Murfin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita KS. 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13s Rge. 33W Co. Logan State KS

Interval Tested 4345-4507 Zone Tested Marmanton - Pawnee
 Anchor Length 162 Drill Pipe Run 4104 Mud Wt. 9.3
 Top Packer Depth 4341 Drill Collars Run 238 Vis 54
 Bottom Packer Depth 4345 Wt. Pipe Run 0 WL 68
 Total Depth 4507 Chlorides 7000 ppm System LCM 516
 Blow Description IF- Weak Surface Blow Built to 1/2"
ISI- No Blow
FF- No Blow
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>60 CM</u>	<u>2</u>	<u>2</u>	<u>96</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

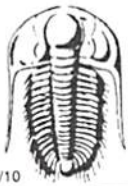
Rec Total 62 BHT 117 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2200 Test 1250 T-On Location 18:58
 (B) First Initial Flow 24 Jars 250 T-Started 19:22
 (C) First Final Flow 41 Safety Joint 75 T-Open 22:03
 (D) Initial Shut-In 676 Circ Sub NIC T-Pulled 1:08
 (E) Second Initial Flow 44 Hourly Standby _____ T-Out 3:39
 (F) Second Final Flow 57 Mileage 84 R/T 130.20 Comments _____
 (G) Final Shut-In 608 Sampler _____
 (H) Final Hydrostatic 2110 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1705.20
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 1705.20

Approved By _____ Our Representative Wes Hansen

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57245

Well Name & No. Racette #2-12 Test No. DST #17 Date 4-18-14
 Company Martin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Martin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 4504-4610 Zone Tested Ft. Scott - Johnson
 Anchor Length 106 Drill Pipe Run 4261 Mud Wt. 9.2
 Top Packer Depth 4500 Drill Collars Run 238 Vis 51
 Bottom Packer Depth 4504 Wt. Pipe Run 0 WL 8.4
 Total Depth 4610 Chlorides 8000 ppm System LCM 516
 Blow Description IF- Weak Surface Blow Built to 34"
ISI- No Blow
FF- No Blow
FST- No Blow

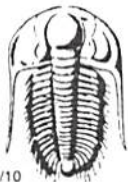
Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>60CM</u>	<u>2</u>	<u>3</u>	<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 40 BHT 118 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2311</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>19:28</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:48</u>
(C) First Final Flow <u>30</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:53</u>
(D) Initial Shut-In <u>598</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>00:56</u>
(E) Second Initial Flow <u>36</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>3:15</u>
(F) Second Final Flow <u>41</u>	<input checked="" type="checkbox"/> Mileage <u>84 RIT</u> 130.20	Comments _____
(G) Final Shut-In <u>449</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>2217</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1705.20</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1705.20</u>	

Approved By Wes Hansen Our Representative Wes Hansen

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57246

Well Name & No. Racette #2-12 Test No. DST #8 Date 4-19-14
 Company Martin Drilling Co Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Stc 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Martin 22
 Location: Sec. 12 Twp. 13s Rge. 33w Co. Logan State KS

Interval Tested 4600-4685 Zone Tested Basal Perm Sand
 Anchor Length 75 Drill Pipe Run 4357 Mud Wt. 9.4
 Top Packer Depth 4606 Drill Collars Run 238 Vis 57
 Bottom Packer Depth 4610 Wt. Pipe Run 0 WL 9.2
 Total Depth 4685 Chlorides 9000 ppm System LCM 515

Blow Description TF- Weak Surface Blow Built to BOB in 20min
ISI- Very Weak Surface in 26min Died in 45min
FF- Weak Surface Blow Built to BOB in 10 1/4
FSL Weak Surface Blow in 2min Built to 7"

Rec	Feet of	%gas	%oil	%water	%mud
<u>47</u>	<u>G-MCO</u>	<u>6</u>	<u>86</u>	<u>8</u>	<u>8</u>
<u>124</u>	<u>G-OCM</u>	<u>15</u>	<u>24</u>	<u>61</u>	<u>61</u>
<u>186</u>	<u>O-GCM</u>	<u>35</u>	<u>18</u>	<u>47</u>	<u>47</u>
<u>60</u>	<u>G-OCM</u>	<u>19</u>	<u>22</u>	<u>59</u>	<u>59</u>
<u>60</u>	<u>WOG-EM</u>	<u>27</u>	<u>24</u>	<u>16</u>	<u>33</u>
<u>120</u>	<u>GOW-EM</u>	<u>4</u>	<u>235</u>	<u>30</u>	<u>59</u>
Rec Total	<u>597</u>				

Gravity 26 API RW 235 @ 70 ° F Chlorides 28,100 ppm
 (A) Initial Hydrostatic 2374 Test 1250 T-On Location 13:34
 (B) First Initial Flow 35 Jars 250 T-Started 14:10
 (C) First Final Flow 167 Safety Joint 75 T-Open 16:18
 (D) Initial Shut-In 1118 Circ Sub NIC T-Pulled 20:20
 (E) Second Initial Flow 169 Hourly Standby _____ T-Out 23:36
 (F) Second Final Flow 271 Mileage 84 RIT 130.20
 (G) Final Shut-In 1108 Sampler _____
 (H) Final Hydrostatic 2238 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 0
 Total 1705.20
 MP/DST Disc't _____
 Sub Total 1705.20

Approved By Wesley Hansen 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.



PO Box 93999
Southlake, TX 76092

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

*acct
Prod-MG*

INVOICE

Invoice Number: 1425 12

Invoice Date: Apr 8, 2014

Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	62088	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Apr 8, 2014	5/8/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Racette #2-12		
185.00	CEMENT MATERIALS	Class A Common	17.90	3,311.50
7.00	CEMENT MATERIALS	Chloride	64.00	448.00
194.25	CEMENT SERVICE	Cubic Feet Charge	2.48	481.74
134.40	CEMENT SERVICE	Ton Mileage Charge	2.60	349.44
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
15.00	CEMENT SERVICE	Pump Truck Mileage	7.70	115.50
1.00	CEMENT SERVICE	Swedge Manifold Rental	275.00	275.00
15.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	66.00
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	CEMENT SUPERVISOR	Andrew Forslund		
1.00	OPERATOR ASSISTANT	Brandon Wilkinson		

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

\$ 2,295.80 *van*

ONLY IF PAID ON OR BEFORE
May 3, 2014

Subtotal	6,559.43
Sales Tax	287.60
Total Invoice Amount	6,847.03
Payment/Credit Applied	
TOTAL	6,847.03

SR

*- 2295.80
4551.23*



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 # 267562

Invoice Date: 04/23/2014 Terms: 10/10/30,n/30

Page 1

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

RACETTE 2-12
47646
12-13S-33W
04-21-2014
KS

USED FOR LC 102
APPROVED J. Miller

Part Number	Description	Qty	Unit Price	Total
1110A	KOL SEAL (50# BAG)	1125.00	.5600	630.00
1126	OIL WELL CEMENT	225.00	23.7000	5332.50
1142A	KCL SUB MB6875 CC3107 (1	2.00	41.1000	82.20
1144C	FLO-CHECK MUD FLUSH	1.00	740.0000	740.00
4104	CEMENT BASKET 5 1/2"	2.00	290.0000	580.00
4136	TURBOLIZER 5 1/2"	15.00	75.7500	1136.25
4159	FLOAT SHOE AFU 5 1/2"	1.00	433.7500	433.75
4285	5 1/2" PORT COLLAR	1.00	2178.7500	2178.75
4310	ROTATING HEAD	1.00	200.0000	200.00
4315	ROTATING SCRATCHERS	5.00	94.5000	472.50
4454	5 1/2" LATCH DOWN PLUG	1.00	567.0000	567.00

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1235.30
9995-130	CEMENT EQUIPMENT DISCOUNT	-368.37

Description	Hours	Unit Price	Total
460 MIN. BULK DELIVERY	1.00	430.00	430.00
T-118 SINGLE PUMP	1.00	3175.00	3175.00
T-118 EQUIPMENT MILEAGE (ONE WAY)	15.00	5.25	78.75

Amount Due 16981.71 if paid after 05/23/2014

Parts:	12352.95	Freight:	.00	Tax:	850.51	AR	15283.54
Labor:	.00	Misc:	.00	Total:	15283.54		
Sublt:	-1603.67	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



267562

TICKET NUMBER 47646
 LOCATION Oakley 16
 FOREMAN Mites Shaw

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

FIELD TICKET & TREATMENT REPORT
 CEMENT 15

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-21-14	5406	Recette #2-12	12	135	33W	Logan
CUSTOMER		Maurice Drilling		OAKLEY KS		
MAILING ADDRESS				TRUCK #	DRIVER	TRUCK #
CITY		STATE	ZIP CODE	528718	Jeremy R	
				4101	DAIR	

JOB TYPE long string HOLE SIZE 7 7/8" HOLE DEPTH 4770' CASING SIZE & WEIGHT 5 1/2" 15.5#
 CASING DEPTH 4761' DRILL PIPE _____ TUBING _____ OTHER Pctool @ 2544
 SLURRY WEIGHT 14.2 SLURRY VOL 1.42 WATER gal/sk _____ CEMENT LEFT in CASING 21.23'
 DISPLACEMENT 11442 DISPLACEMENT PSI 1100 MIX PSI 1700 RATE _____

REMARKS: Safety meeting and rig up on Maurice drilling rig #22 float equipment
turbolizers on joints # 1, 2, 4, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20, 51, 52 Baskets on joints # 52 +
53 Pctool on top of joint # 53 @ 2544 Run casing to bottom circulate casing casing
half way in. Circulate casing 1 hr mix 175 sls OWC with 5# Hols seal down
casing shutdown close pump lines release plug displace 11 1/2 bbls water with
1100 psi lift plug landed & hold @ 1700 psi

Mix 30 sls R# 20 sls MH

Thanks Mites & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5406C	1	PUMP CHARGE	3175. ⁰⁰	3175. ⁰⁰
5406	15	MILEAGE	5.25	78.75
5407	10.6 Tons	Ton Mileage delivery	430. ⁰⁰	430. ⁰⁰
1110A	1125 #	Hols seal	1.56	1630. ⁰⁰
1120	225 sls	OWC	23.70	5332. ⁵⁰
1140A	2 gal	UCL	41.10	82.20
1144C	1	Flu check	740. ⁰⁰	740. ⁰⁰
4104	2	5 1/2" Cement Baskets	290. ⁰⁰	580. ⁰⁰
4136	15	5 1/2" Turbolizers	75.75	1136.25
4159	1	5 1/2" Float shoe AFH	433.75	433.75
4285	1	5 1/2" Port collar tool	2178.75	2178.75
4310	1	Rotating head charge	200. ⁰⁰	200. ⁰⁰
4315	5	Rotating Scratchers	94.50	472.50
4454	1	Latchdown plug	567. ⁰⁰	567. ⁰⁰
			Subtotal	16086.70
			Loss 10% discount	16086.7
			Subtotal	14433.03
			SALES TAX	850.51
			ESTIMATED TOTAL	15283.54

completed

Ravin 3737

AUTHORIZATION [Signature] 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.



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



Invoice

DATE	INVOICE #
5/1/2014	26602

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#2-12	Racette	Gove	Company Tools	Oil	Development	Cement Port Collar	Roger
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				100	Miles	6.00	600.00
576D-D	Pump Charge - Port Collar				1	Job	1,500.00	1,500.00
290	D-Air				1	Gallon(s)	42.00	42.00T
330	Swift Multi-Density Standard (MIDCON II)				200	Sacks	18.50	3,700.00T
276	Flocele				94	Lb(s)	2.50	235.00T
581D	Service Charge Cement				375	Sacks	2.00	750.00
583D	Drayage				1,866	Ton Miles	1.00	1,866.00
	Subtotal							8,693.00
	Sales Tax Gove County						7.90%	314.18
USED FOR <u>IC 101</u> APPROVED <u>JT [Signature]</u>								
We Appreciate Your Business!							Total	\$9,007.18



CHARGE TO: Mudco Oil Co.
 ADDRESS: _____
 CITY, STATE, ZIP CODE: _____

TICKET 26602

PAGE 1 OF 1

SERVICE LOCATIONS

1. 1. Hwy 10 WELLS/PROJECT NO. 2-12 LEASE Racette COUNTY/PARISH Gene STATE Ks CITY _____ DATE 5-1-14 OWNER Same

2. _____ TICKET TYPE SERVICE CONTRACTOR Co. Tools RIG NAME/NO. _____ SHIPPED BY ET DELIVERED TO Loc ORDER NO. _____

3. _____ WELLS TYPE D11 WELLS CATEGORY Development JOB PURPOSE Co. Port Collar WELLS PERMIT NO. _____ WELLS LOCATION _____

4. _____ REFERRAL LOCATION _____ INVOICE INSTRUCTIONS _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE #113	100	mi.			6.00	600.00
576 D					Pump Service	1	hr			1500.00	1500.00
290					D-Air	1	hr			42.00	42.00
581					Service Charge	375	hrs			2.00	750.00
583					Drayage	1866	TON miles			1.00	1866.00
330					5MD Cement	200	515			18.50	3700.00
296					Flocele	94	#			2.50	235.00
299					Port Collar Cost						

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

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

DATE SIGNED: [Signature] TIME SIGNED: A.M. P.M.

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

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN? YES NO

WE UNDERSTOOD AND MET YOUR NEEDS? YES NO

OUR SERVICE WAS PERFORMED WITHOUT DELAY? YES NO

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY? YES NO

ARE YOU SATISFIED WITH OUR SERVICE? YES NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL: 8,693.00

TOTAL: 9007.18

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

SWIFT OPERATOR: [Signature] APPROVAL: _____

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 5-1-14 PAGE NO. 1

CUSTOMER Murkin Delg. Co. WELL NO. 2-12 LEASE Racette JOB TYPE Cmt. Port Collar TICKET NO. 26602

CHART NO.	TIME	RATE (BPM)	VOLUME (85) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	12:00							On loc. Set up truck
	12:00					1200	1200	test Csg 1200 psi hold
								Open Port Collar @ 2543'
		2 1/2				300		Pump 2 1/2 BPM 300 psi Blow on Ann.
	12:39							Start Mix 375 sks SMO Cement
								6" pumped established Circulation
	13:13							Cement Circulated 180 sks sks mixed
								Mix 20 sks 14"
	13:20					1200	1200	Close P.C. test to 1200 psi hold
	13:35							Run 6 Jts Reverse OUT
								Pumped 30" hole clean
								Wash & back up truck
	14:30							Job Complete

Thompson
Logan Jon Terney

Racette #2-12
 Daily Drilling Report
 Page Three

4/20/14 RTD 4770'. Cut 150'. DT: None. CT: 16½ hrs. Dev.: 1¼° @ 4686'. **Basal Sd:** clear vf - fn grained, subang - round, well sorted, well cemented in general, sl glauconitic, some shale partings, w/brn stn on grain contacts, gd shows of mostly listless oil on break, some clusters more friable w/gassy oil on break, sl odor on break. **DST #8 4610-4685 (Basal Sd):** 30-60-60-90. IF: BOB in 20 min. ISI: Wk surf blw died in 45 min. FF: BOB in 10 min. FSI: Blt to 7". Rec: 47' GMCO (6%g, 8%m, 86%o), 124' OGCM (24%o, 15%g), 186' GOCM (35%g, 18%o), 60' OGCM (22%o, 19%g), 60' GOWCM (27%g, 24%o, 16%w), 120' WOGCM (30%w, 7%o, 4%g). (API: 26.) HP: 2375-2239. FP: 36/168, 169/272. SIP: 1119-1109. BHT: 123°. HC @ 5:45AM 4/20.

4/21/14 RTD: 4770'. CT: 24 hrs. Dev.: 1½° @ 4770'. Pioneer logged 9:15AM-3:00PM 4/20. LTD: 4773'. Ran 112jts of 5 ½" prod csg, set @ 4761'. C.O.W.S. cmt w/175sxs of OWC. PD @ 5:00AM 4/21. 30sxs RH, 20sxs MH. PC @ 2544'.

4/22/14 RTD: 4770'. CT: 2hrs. RR @ 9:00AM 4/21/14. FINAL REPORT

Racette #2-12 1320' FNL 990' FEL Sec. 12-T13S-R33W 3044' KB							Racette #1-12 335' FNL 1100' FEL Sec. 12-T13S-R33W 3052' KB	
Formation	SampleTops	Datum	Ref	Log Tops	Datum	Ref	Log Tops	Datum
Anhydrite	2518	+526	-4	2517	+527	-3	2522	+530
B/Anhydrite	2539	+505	-1	2539	+505	-1	2546	+506
Topeka	3746	-702	+3	3747	-703	+2	3757	-705
Heebner	3969	-925	+2	3970	-926	+1	3979	-927
Lansing	4018	-974	+2	4017	-973	+3	4028	-976
Stark	4254	-1210	-3	4255	-1211	-4	4259	-1207
BKC	4323	-1279	-4	4320	-1276	-1	4327	-1275
Pawnee	4453	-1409	-4	4454	-1410	-5	4457	-1405
Mississippi	4672	-1629	-16	4674	-1630	-18	4664	-1612
RTD	4770						4760	
LTD				4773			4761	