



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1160276
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: _____



1160276

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

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

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

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

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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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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Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

September 27, 2013

Leon Rodak
Murfin Drilling Co., Inc.
250 N WATER STE 300
WICHITA, KS 67202-1216

Re: ACO1
API 15-023-21368-00-00
Culwell 'A' 1-27
NE/4 Sec.27-01S-37W
Cheyenne County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Leon Rodak

MDCI
 Culwell 'A' #1-27
 1850' FNL 2000' FEL
 Sec. 27-T1S-R37W
 3304' KB

MDCI
 Johnsen 'D' #1-25
 2276' FSL 660' FWL
 Sec. 25-T1S-R37W
 3317' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum
Anhydrite	3240	+64	-11	3239	+65	+10	3242	+75
B/Anhydrite	3274	+30	-11	3273	+31	+10	3276	+41
Neva	3702	-398	+2	3702	-398	+2	3717	-400
Red Eagle	3772	-468	-4	3769	-465	-1	3781	-464
Foraker	3825	-521	-5	3814	-510	+6	3833	-516
Stotler	3968	-664	-3	3968	-664	-3	3978	-661
Topeka				4041	-737	-1	4053	-736
Oread	4178	-874	-7	4175	-871	-4	4184	-867
Lansing	4252	-948	+6	4253	-949	+5	4271	-954
Stark	4467	-1163	+7	4472	-1168	+2	4487	-1170
BKC	4524	-1220	+9	4525	-1221	+8	4546	-1229
Pawnee	4638	-1334	+9	4650	-1346	-3	4660	-1343
Cherokee	4727	-1423	+6	4732	-1428	+1	4746	-1429
Mississippi	NR			NR			4974	-1657
RTD	4840						5070	
LTD				4842			5070	



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. #1-27 Culwell "A"
Location: 1850' FNL, 2000' FEL of Section 27-1S-37W
License Number: API: 15-023-21368
Spud Date: 6-18-2013
Surface Coordinates: 1850' FNL, 2000' FEL of Section 27-1S-37W
Region: Cheyenne County, KS
Drilling Completed: 6-27-2013

Bottom Hole Vertical hole
Coordinates:
Ground Elevation (ft): 3294' **K.B. Elevation (ft):** 3304'
Logged Interval (ft): 3600' **To:** RTD **Total Depth (ft):** 4840'
Formation: Cherokee at RTD
Type of Drilling Fluid: Chemical - Displaced at 3400'

Printed by WellSight Log Viewer 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 #14
 Pusher: Greg Unruh

Surface Casing: 8 5/8" set at 223' w/190 sx
 Production Casing: P&A

Mud by: Morgan Mud - Mike Morgan and Dave Lines were the engineers

DST's by: Trilobite - Kevin Mack was the tester

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

Deviation Surveys: 1/2 deg. @ 226'; 3/4 deg. @ 1207'; 1 deg. @ 3618'; 1 1/2 deg. @ 4189'; 1 3/4 deg. @ 4840'

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"		retip	226'	226'	3 1/4
2	7 7/8"	HTC	Q605FX	3618'	3392'	40 3/4
3	7 7/8"	HTC	GX20C	4840'	1448'	59 1/2

FORMATION TOPS AND STRUCTURAL COMPARISON

FORMATION	SAMPLE TOPS		LOG TOPS		COMPARISON WELLS MDCI Johnson "D" 1-25 25-1S-37W 3317' KB
	Depth	Datum	Depth	Datum	
Anhydrite	3239'	+65	3239'	+65	-10
B/Anhydrite	3274'	+30	3273'	+31	-10
Neva	3702'	-398	3702'	-398	+12
Red Eagle	3772'	-468	3770'	-466	+2
Foraker	3825'	-521	3814'	-510	+5
Stotler	3968'	-664	3968'	-664	+3
Topeka	4045'	-741	4041'	-737	+1
Oread	4171'	-867	4174'	-870	-3
Lansing	4252'	-948	4254'	-950	+4
Stark Shale	4467'	-1163	4472'	-1168	+2
BKC	4524'	-1220	4525'	-1221	+4
Pawnee	4638'	-1334	4650'	-1346	-3
Cherokee Shale	4727'	-1423	4731'	-1427	+2
RTD	4840'	-1536			
LTD			4842'	-1538	

DRILL STEM TESTS

DST No. 1 Oread
Interval: 4132'-4189'
Times: 30-60-30-60
Recovery: 90' oil spotted mud
FP: 16-37/42-62 SIP: 1236-1216
HP: 2012-1934 BHT: 129 deg. F

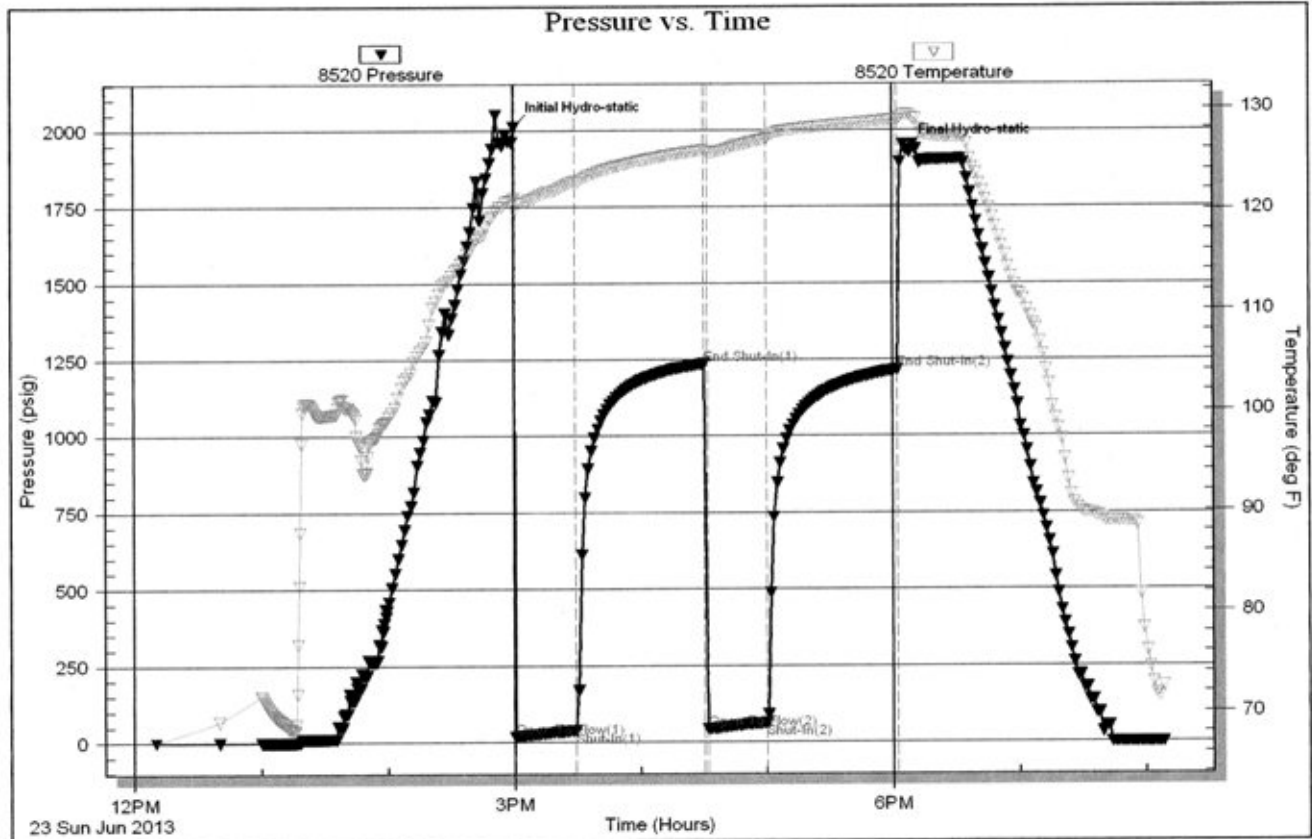
IFP: 1/4" blow bldg. to 2"
ISIP: no return blow
FFP: surface blow bldg. to 1"
FSIP: no return blow

Serial #: 8520

Outside Murfin Drilling, CO.

Culwell 'A' #1-27

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 52649

Printed: 2013.06.23 @ 08:20:10

DRILL STEM TESTS

DST No. 2 Lansing
 Interval: 4264'-4330'
 Times: 30-60-60-90
 Recovery: 100' oil spotted mud; 180' oil
 spotted MCW (50m, 50w)
 FP: 19-72/81-171 SIP: 1284-1281
 HP: 2105-2009 BHT: 136 deg. F

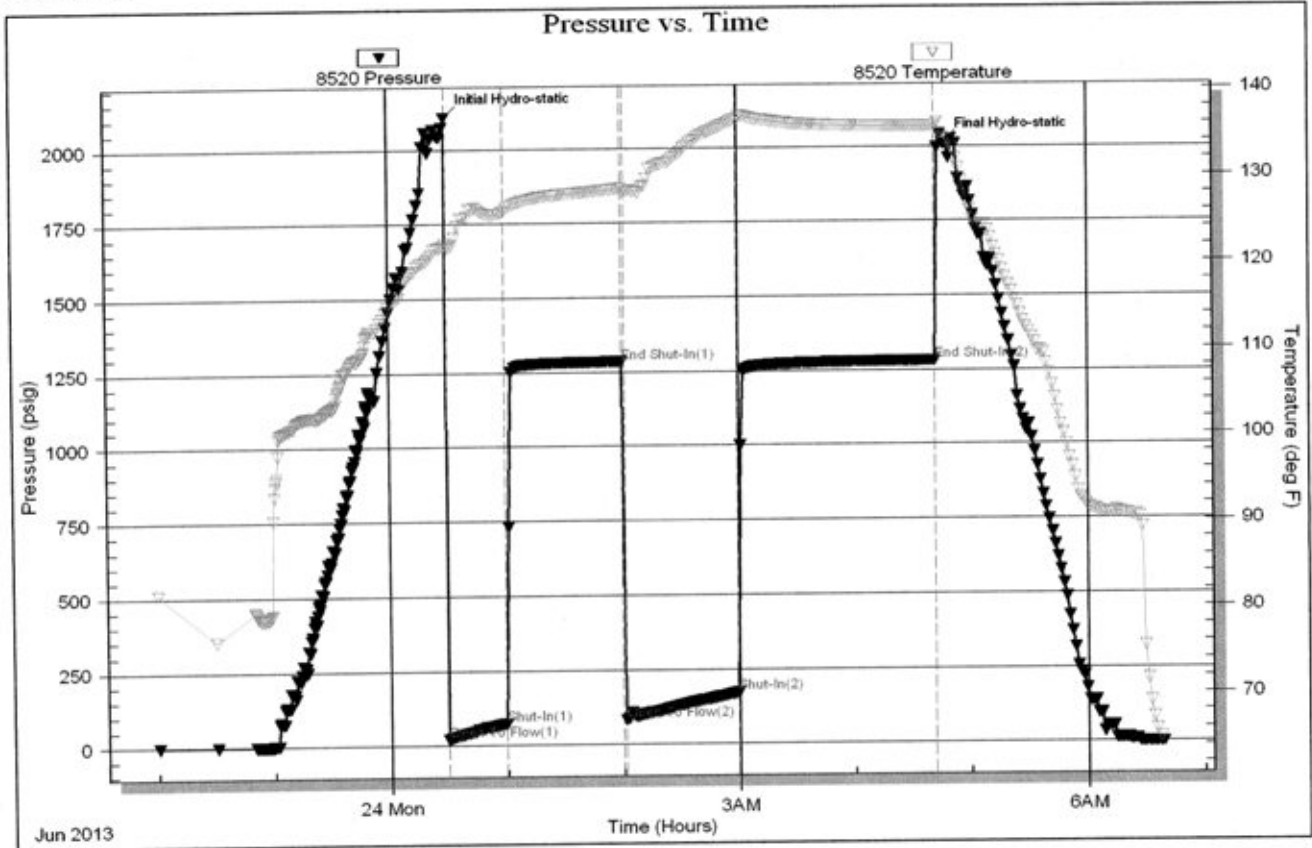
IFP: weak blow bldg. to 4"
 ISIP: surface return at 20 minutes, bldg. to 3/4"
 FFP: weak blow bldg. to 5"
 FSIP: no return blow

Serial #: 8520

Outside Murfin Drilling, CO.

Outwell 'A' #1-27

DST Test Number: 2



DRILL STEM TESTS

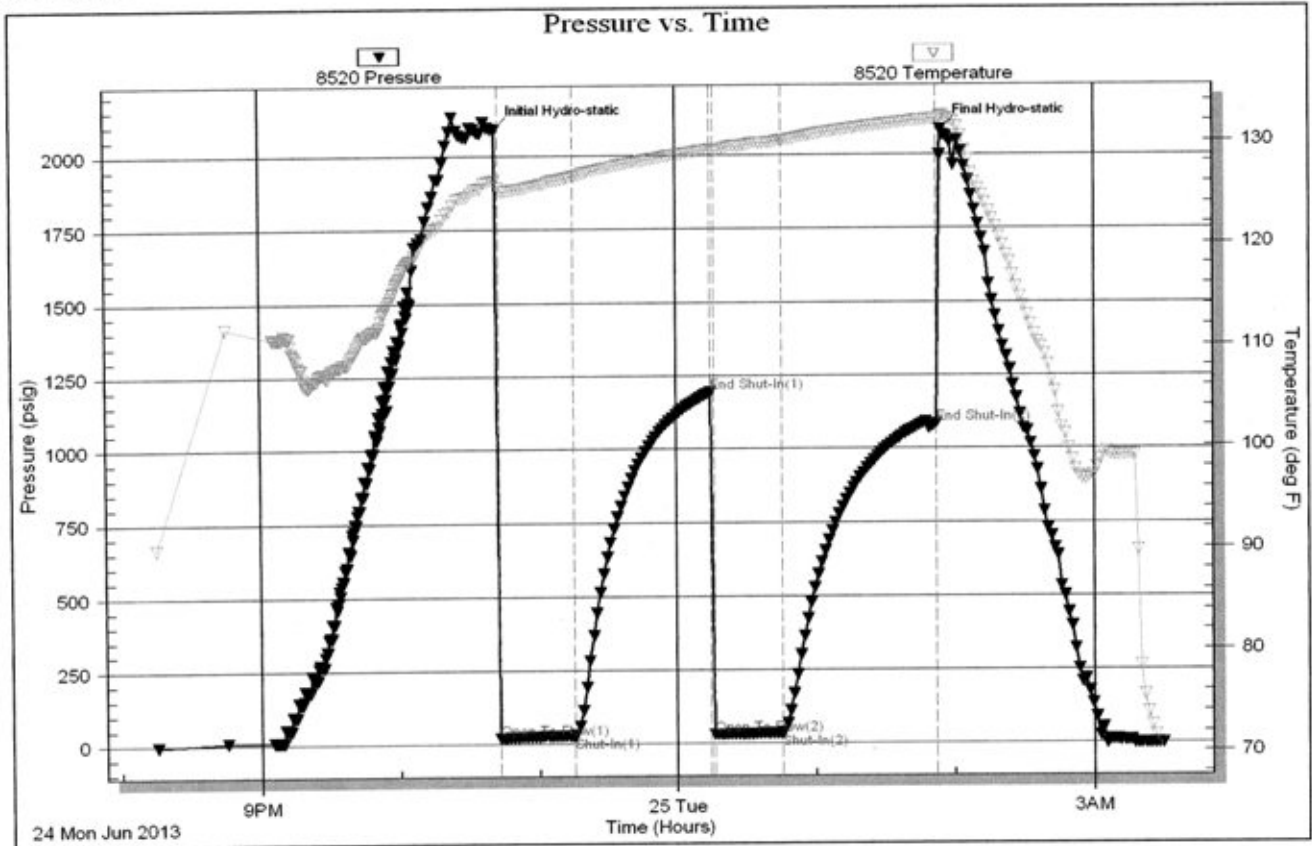
DST No. 3 Lansing
Interval: 4330'-4430'
Times: 30-60-30-60
Recovery: 10' mud
FP: 20-27/30-35 SIP: 1194-1085
HP: 2088-2083 BHT: 132 deg. F

IFP: 1/4" blow bldg. to 3/4"
ISIP: no return blow
FFP: no blow
FSIP: no return blow

Serial #: 8520 Outside Murfin Drilling, CO.

Culwell 'A' #1-27

DST Test Number: 3

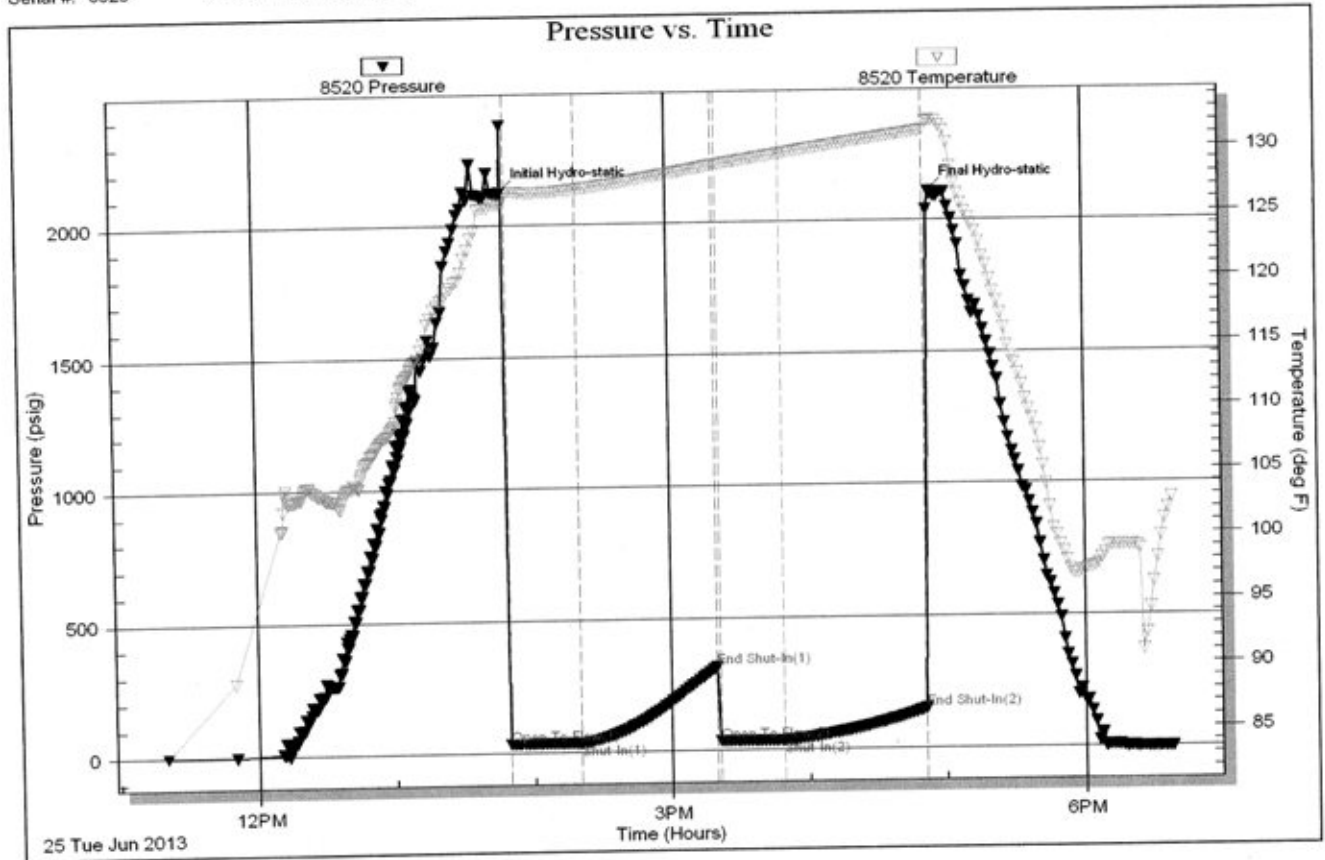


DRILL STEM TESTS

DST No. 4 Lansing "J"
Interval: 4424'-4474'
Times: 30-60-30-60
Recovery: 20' mud
FP: 34-35/35-36 SIP: 316-149
HP: 2122-2105 BHT: 131 deg. F

IFP: 1/4" blow, died in 25 minutes
ISIP: no return blow
FFP: no blow
FSIP: no return blow

Serial #: 8520 Outside Murfin Drilling, CO. Cuiwell 'A' #1-27 DST Test Number: 4



DRILL STEM TESTS

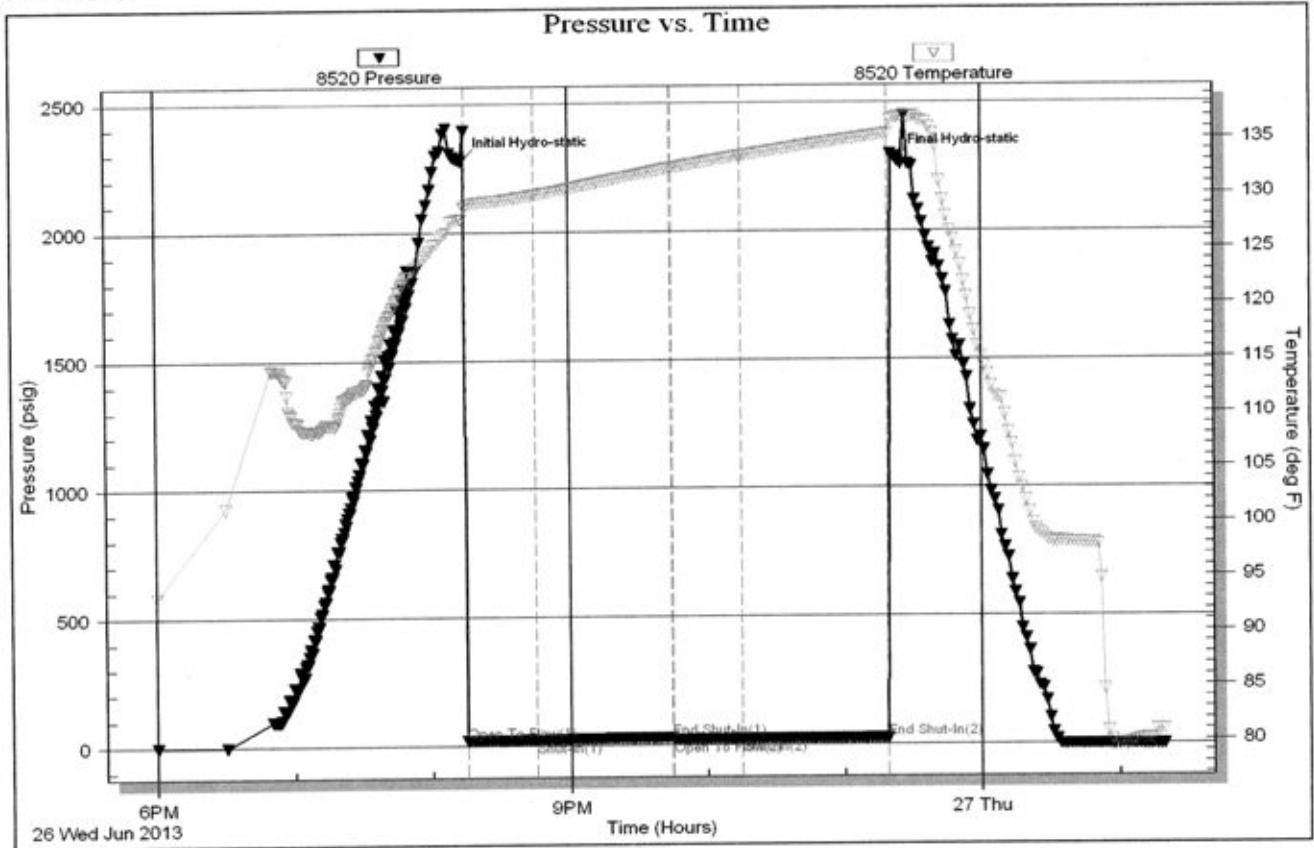
DST No. 5 Pawnee
 Interval: 4625'-4670'
 Times: 30-60-30-60
 Recovery: 5' mud
 FP: 20-21/21-22 SIP: 29-24
 HP: 2274-2273 BHT: 135 deg. F

IFP: 1/4" blow, died back to 1/8"
 ISIP: no return blow
 FFP: no blow
 FSIP: no return blow

Serial #: 8520 Outside Murfin Drilling, CO.

Culwell 'A' #1-27

DST Test Number: 5


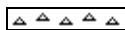


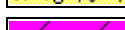





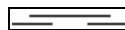

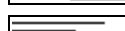



Tribble Testing, Inc




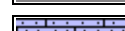
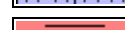
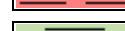
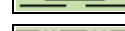
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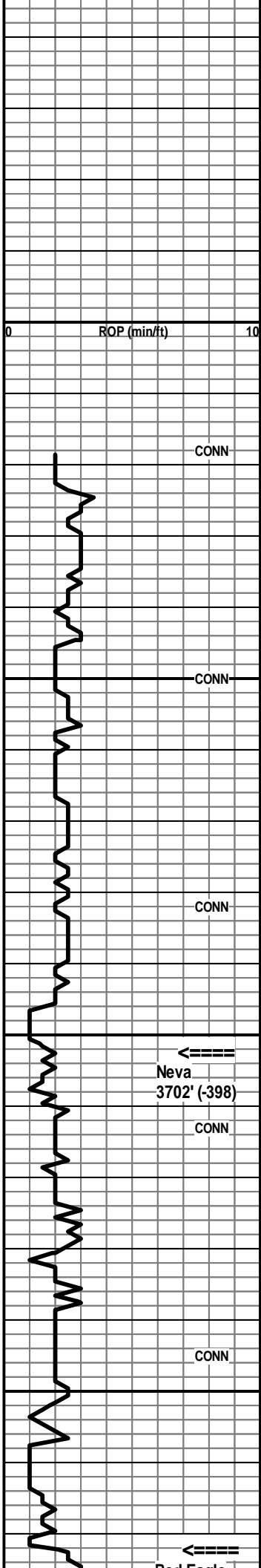
ROCK TYPES

 Anhy
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3600

CONN

3650

CONN

CONN

3700

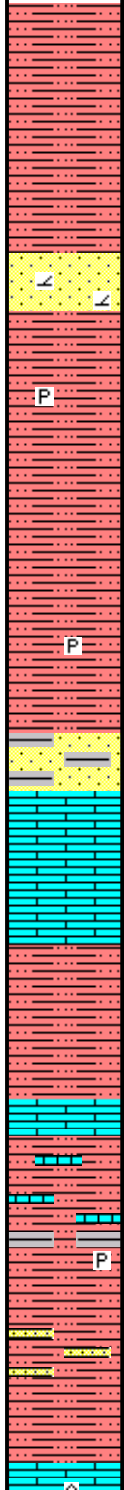
←==
Neva
3702' (-398)

CONN

CONN

3750

←==
Red Eagle
3772' (-468)



Sh: red-brn silty; lesser lt green, med gray; some lt gray sandy; occ Sst: lt gray vfg

Sh: mix AA, finely sandy IP; trace offwhite micxln dolomite and trace offwhite micxln Ls

Sh: red, red-brn silty and finely sandy; lesser gray and green shale; some offwhite vsI dolomitic vfg Sst

Sh: red, red-brn silty and sandy AA; definite influx med to dark gray shale, some lt green; decr. Sst AA

Sh: mix red, red-brn silty and sandy AA; med to dark gray; occ pyrite

Sh: silty and sandy mix AA

Sh: very predom. red-brn silty and finely micac.; much lesser lt gray, gray-green; trace sandy pyrite

Sst: some red-brn vfg silty and shaly with incr. med to dark gray shale

20' spl - Ls: good influx offwhite, tan fn granular, some gen. poor inter-particle por.; scatt. offwhite mixcIn subchalky, N.S.

30' spl - flood Ls: AA with lt gray med granular and lt brn cryptoxln, poor to NVP; incr. offwhite subchalky to chalky, N.S.

40' spl - decr. Ls %AA; influx Sst: lt to med red-brn vfg, shaly with lt to med red-brn sandy shale

predom. shaly Sst and sandy shale with inter-bedded Ls: tan, lt brn fn granular, NVP and offwhite mic-vfxln dense

60' spl - trashy from lost returns; predom. red, red-brn, some lt brn silty and finely sandy shale; lesser tan, offwhite fn granular Ls

70' spl - Sh: various red, red-brn AA with sl influx med to dark gray shale; some tan, offwhite Ls AA with vsI influx pyrite and sany pyrite

80' spl - Sh: red, red-brn silty and sandy AA with some very lt gray vvfsg sl dolomitic Sst, N.S.

90' spl - Ls: good influx lt gray, offwhite vfxln dense;

Report Depth & Activity

6-18-2013 Spud at 6:30 PM
 6-19 WOC @ 226'
 6-20 Drlg. @ 2081'
 6-21 Bit trip @ 3618'
 6-22 Drlg. @ 4005'
 6-23 TOH w/DST No. 1 @ 4189'
 6-24 TIHWB post DST No. 2 @ 4330'
 6-25 Drlg. @ 4450' post DST No. 3
 6-26 Drlg. @ 4611' post DST No. 4
 6-27 Drlg. @ 4705' post DST No. 5
 6-28 RTD at 4840', logs complete, P&A

Bit trip at 3618'

Geologist on location at 10:50 AM on 6-21-2013 at depth of 3624'

Pipe strap at 3618' was 1.75' short to the board - deviation was 1 deg.

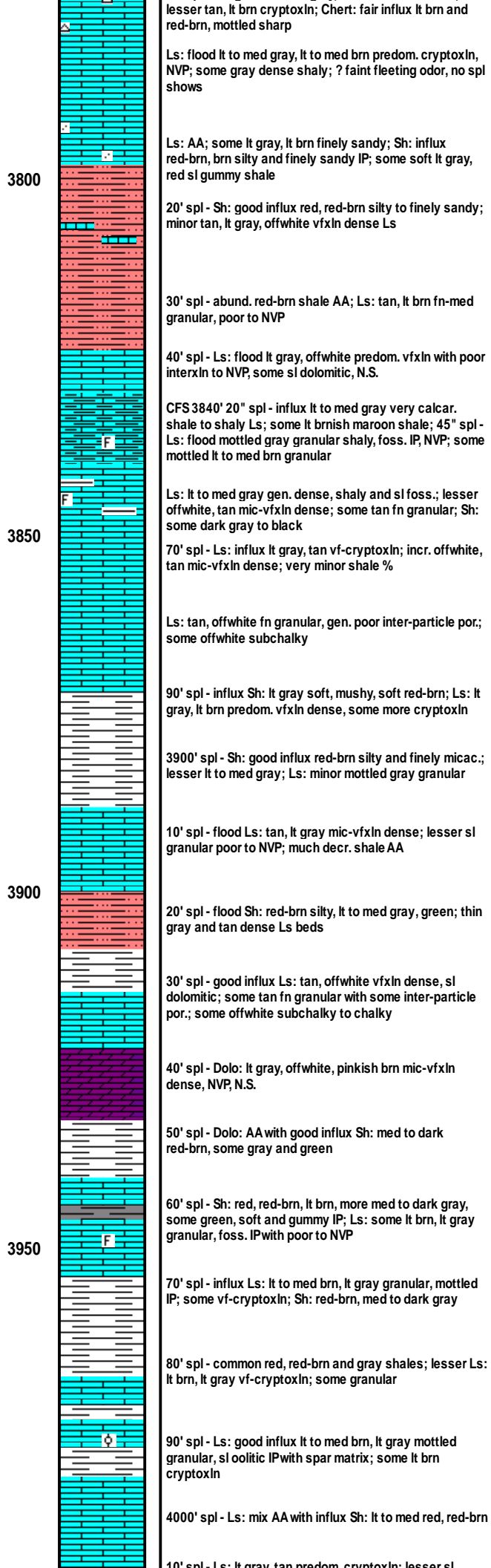
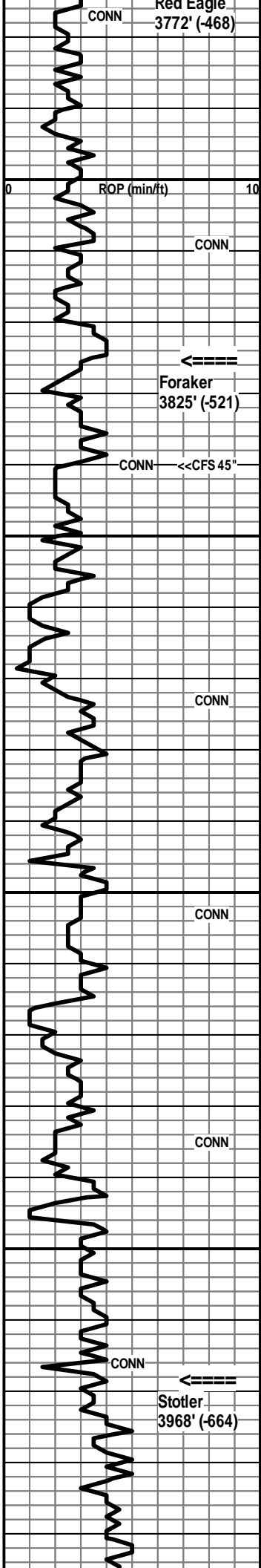
Morgan Mud Check at 3618'

7:15 AM on 6-21-2013
 wt vis wl pH chl
 8.7 40 6.0 11.0 500
 PV YP GeIS lcm solids
 15 20 5/15 6# 2.9%

Neva 3702' (-398)

Lost returns @ 3753'

Red Eagle 3772' (-468)



lesser tan, lt brn cryptoxln; Chert: fair influx lt brn and red-brn, mottled sharp

Ls: flood lt to med gray, lt to med brn predom. cryptoxln, NVP; some gray dense shaly; ? faint fleeting odor, no spl shows

Ls: AA; some lt gray, lt brn finely sandy; Sh: influx red-brn, brn silty and finely sandy IP; some soft lt gray, red sl gummy shale

20' spl - Sh: good influx red, red-brn silty to finely sandy; minor tan, lt gray, offwhite vfxln dense Ls

30' spl - abund. red-brn shale AA; Ls: tan, lt brn fn-med granular, poor to NVP

40' spl - Ls: flood lt gray, offwhite predom. vfxln with poor interxln to NVP, some sl dolomitic, N.S.

CFS 3840' 20" spl - influx lt to med gray very calcar. shale to shaly Ls; some lt brnsh maroon shale; 45" spl - Ls: flood mottled gray granular shaly, foss. IP, NVP; some mottled lt to med brn granular

Ls: lt to med gray gen. dense, shaly and sl foss.; lesser offwhite, tan mic-vfxln dense; some tan fn granular; Sh: some dark gray to black

70' spl - Ls: influx lt gray, tan vf-cryptoxln; incr. offwhite, tan mic-vfxln dense; very minor shale %

Ls: tan, offwhite fn granular, gen. poor inter-particle por.; some offwhite subchalky

90' spl - influx Sh: lt gray soft, mushy, soft red-brn; Ls: lt gray, lt brn predom. vfxln dense, some more cryptoxln

3900' spl - Sh: good influx red-brn silty and finely micac.; lesser lt to med gray; Ls: minor mottled gray granular

10' spl - flood Ls: tan, lt gray mic-vfxln dense; lesser sl granular poor to NVP; much depr. shale AA

20' spl - flood Sh: red-brn silty, lt to med gray, green; thin gray and tan dense Ls beds

30' spl - good influx Ls: tan, offwhite vfxln dense, sl dolomitic; some tan fn granular with some inter-particle por.; some offwhite subchalky to chalky

40' spl - Dolo: lt gray, offwhite, pinkish brn mic-vfxln dense, NVP, N.S.

50' spl - Dolo: AA with good influx Sh: med to dark red-brn, some gray and green

60' spl - Sh: red, red-brn, lt brn, more med to dark gray, some green, soft and gummy IP; Ls: some lt brn, lt gray granular, foss. IP with poor to NVP

70' spl - influx Ls: lt to med brn, lt gray granular, mottled IP; some vf-cryptoxln; Sh: red-brn, med to dark gray

80' spl - common red, red-brn and gray shales; lesser Ls: lt brn, lt gray vf-cryptoxln; some granular

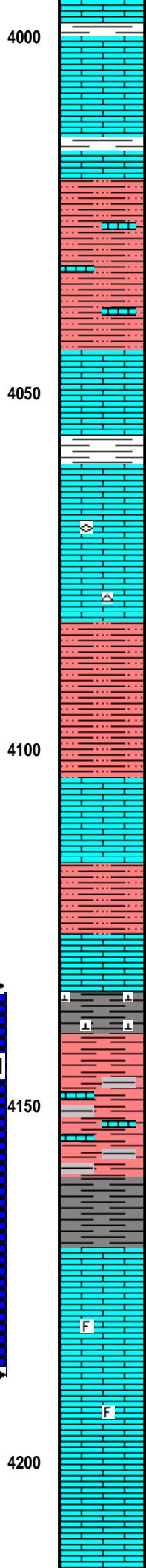
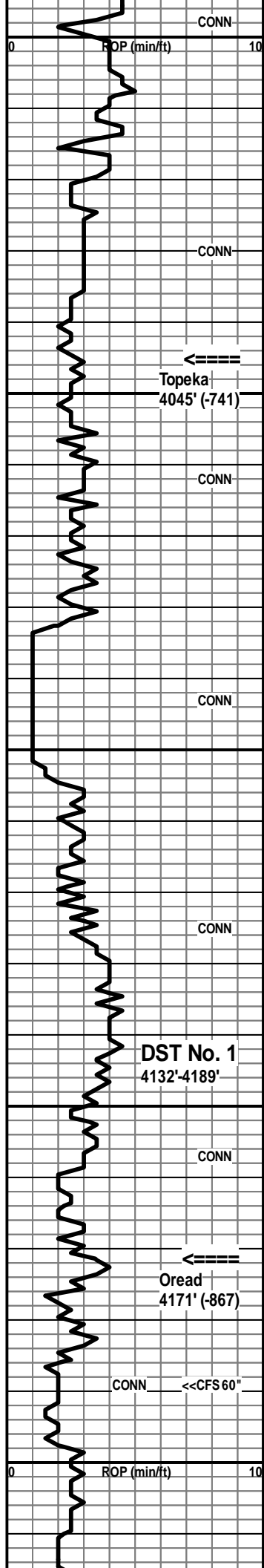
90' spl - Ls: good influx lt to med brn, lt gray mottled granular, sl oolitic IP with spar matrix; some lt brn cryptoxln

4000' spl - Ls: mix AA with influx Sh: lt to med red, red-brn

10' spl - Ls: lt gray tan predom. cryptoxln; lesser sl

Foraker 3825' (-521)

Stotler 3968' (-664)



10' spl - Ls: lt gray, tan predom. cryptoxln, lesser sil mottled tan, lt gray granular, NVP; Sh: lt to dark red, red-brn

20' spl - Ls: mix AA with fair influx offwhite fn granular with gen. poor inter-particle and vug. por. with spotty to subsat. dead black stain, no odor, nfo; influx offwhite, tan mic-vfxln dense, N.S.; some shales AA

30' spl - Ls: common chips with stain AA; other offwhite, lt gray, tan gen. dense; Sh: incr. red, red-brn

40' spl - Sh: abund. red, red-brn silty; Ls: some shows AA and other tan, lt gray, offwhite granular, poor to NVP

50' spl - very shaly AA, some lt gray; lesser Ls: lt brn, lt gray granular, NVP; offwhite mic-vfxln dense

60' spl - decr. shale % AA; Ls: various tan, offwhite, lt gray predom. granular, poor to NVP; lesser lt to med brn cryptoxln and offwhite dense, subchalky

70' spl - Ls: influx lt brn and pinkish brn vf-cryptoxln, mottled IP; some lt red-brn cryptoxln; fairly minor shale %

80' spl - Ls: good influx tan smooth cryptoxln and offwhite, tan sl granular, poor to NVP, trace fusulinids; minor shale

90' spl - flood Ls: tan, lt gray cryptoxln and lesser offwhite, tan mic-vfxln dense, subchalky; scatt. tan opq chert

10' spl - influx Sh: red, red-brn silty and finely sandy, N.S.

20' spl - shales AA with rare offwhite vfg calcar. Sst, N.S.; Ls: good influx tan, lt gray vf-cryptoxln, offwhite micxln to fn granular and offwhite subchalky to chalky, N.S.

30' spl - Ls: mix AA with good influx Sh: red, red-brn silty IP and some dark red non-silty

40' spl - flood Ls: lt to med brn, lt gray cryptoxln; much lesser offwhite mic-vfxln dense

50' spl - decr. % Ls AA; influx Sh: lt to med gray calcar. and lt to dark red-brn

60' spl - flood red-brn shale, some med gray

70' spl - Sh: red-brn AA with influx med gray; some Ls: med brn, med gray and tan cryptoxln

80' spl - Sh: strong influx med to dark gray, some black

4189' spl - Sh: very predom. grays AA; trace offwhite fn-vfxln Ls with spotty dark brn to black stain

CFS 4189' 30" spl - Ls: influx offwhite, tan mic-vfxln, dense, foss. with intra-particle por., lt gray fnxln with good interxln por., some tan, offwhite vf-cryptoxln, all with spotty dark stain, some subsat. stain, asphaltic IP, no odor, vsI sfo IP; 60" spl - Ls: various with shows AA; tan vfxln with fair-good pp por. and tan, lt brn granular, poor to NVP, N.S.; 4210' spl >>>>

20' spl - Ls: good influx lt to med gray, lt to med brn predom. cryptoxln; lesser med gray dense, shaly; some dark gray cryptoxln; occ pale green shale, sandy IP

30' spl - Ls: predom. various gray and brn cryptoxln AA; lesser gray dense, shaly

7:00 AM at 4005' on 6-22-2013

Morgan Mud Check at 4033'
8:25 AM on 6-22-2013
wt vis wl pH chl
8.8 65 6.0 9.0 500
PV YP GeIS lcm solids
22 28 7/26 16# 3.6%

Topeka 4045' (-741)

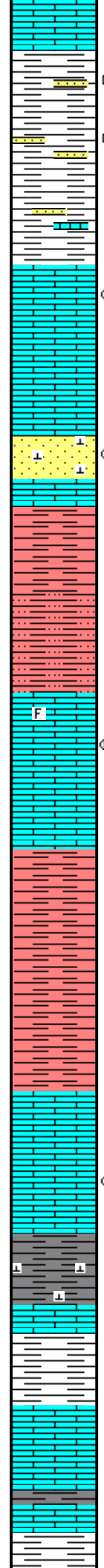
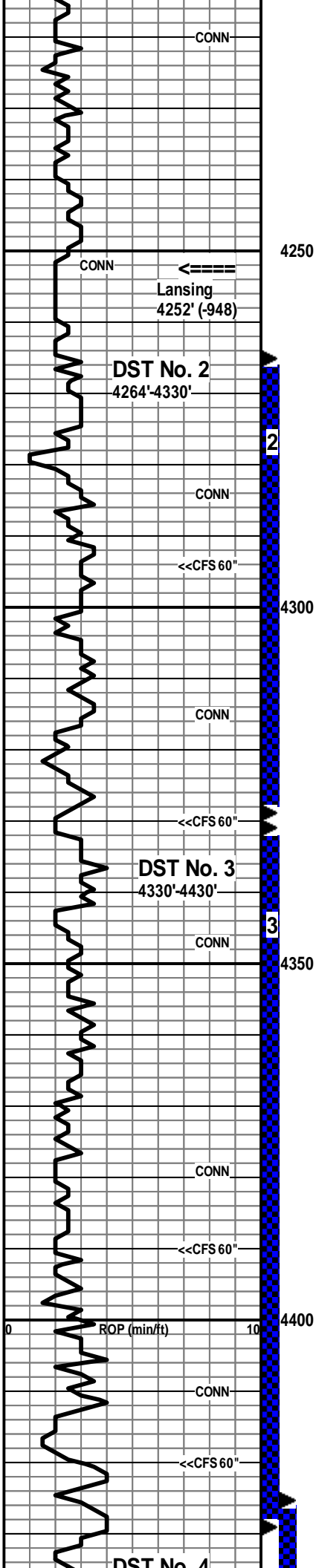
DST No. 1 Oread
Interval: 4132'-4189'
Times: 30-60-30-60
IFP: 1/4" blow bldg. to 2"
ISIP: no return blow
FFP: surface blow bldg. to 1"
FSIP: no return blow
Recovery: 90' oil spotted mud
FP: 16-37/42-62 SIP: 1236-1216
HP: 2012-1934 BHT: 129 deg. F

Oread 4171' (-867)

7:00 AM at 4189' on 6-23-2013

4210' spl - Ls: mix lt gray, tan granular and foss. with intra-particle por.; incr. tan cryptoxln; common offwhite mic-vfxln dense, subchalky to chalky, N.S.

Morgan Mud Check at 4189'
9:00 AM on 6-23-2013
wt vis wl pH chl
8.9 59 6.8 9.5 600
PV YP GeIS lcm solids



40' spl - Ls: lt to med brn and lt to med gray cryptoxln; sl incr. med gray and red-brn shales; sl influx Sst: offwhite, lt gray vvfg calcar. with dead spotty gilsonite flecks

50' spl - Sh: predom. red-brn silty IP with some offwhite, lt gray vvfg soft Sst with gilsonite flecks AA, no odor, nfo, weak cut; Ls: various dense AA, decr. %

60' spl - Sh: lt to med red, red-brn non-silty, some med gray; scatt. Sst: soft offwhite vfg with clay filled interstices; scatt. cryptoxln Ls's AA

70' spl - flood Ls: tan, offwhite, lt gray cryptoxln, NVP, N.S.; scatt. offwhite vf-cryptoxln with patchy brn stain, NVP, no odor, nfo; trace tan vf-cryptoxln with scatt. vug. por. with thick dark oily stain

80' spl - Ls: flood very predom. tan, lt brn smooth cryptoxln, NVP, N.S.; lesser offwhite mic-vfxln dense, N.S.

90' spl - Ls: mix AA with incr. offwhite mic-vfxln dense; trace tan vfg Sst with pp dark brn stain

CFS 4294' 20" spl - Sst: good influx lt gray vvfg soft, very calcar. with pp stain, no odor, sl sfo, some with N.S.; Sh: sl influx med to dark red-brn; 40" spl - decr. Sst AA; Ls: influx lt brn, tan, lt gray cryptoxln; 60" spl - all lcm

10' spl - good influx Sh: red-brn; various cryptoxln Ls's AA; very scatt. Sst AA

20' spl - Sh: various red-brn, silty, finely micac. and vf sandy IP; much lesser tan, lt gray cryptoxln Ls

30' spl - Ls: good influx offwhite cryptoxln with vug. and fossil moldic por., ? faint odor, fair sfo, dark brn oily stain in vugs, some subsat. to sat. stain in dry spls; common offwhite fn-med granular with pp and some inter-particle por., pp dark brn to black stain; some offwhite mic-vfxln dense, N.S.

CFS 4330' 30"/60" spls - Ls: common chips with shows AA; incr. offwhite mic-vfxln dense, N.S.; new lt gray, tan cryptoxln, NVP, N.S.; Sh: incr. med to dark gray, red-brn

50' spl - very shaly from trip; Ls: influx tan, lt gray, lt brn cryptoxln and offwhite, tan mic-vfxln, NVP, N.S.

60' spl - much decr. Ls %; Sh: good influx med to dark red-brn, some purplish brn and med to dark gray

70' spl - flood Sh: predom. med to dark red-brn, lesser lt to med gray, some orange

80' spl - very shaly AA; sl influx offwhite vf sandy clay?, no HCL react., very soft; fairly minor tan fn granular and cryptoxln Ls

90' spl - strong influx Ls: tan, offwhite mic-vfxln dense, subchalky IP; some tan, offwhite fn-med granular with some fair inter-particle and vug. por. with dark brn to black spotty stain, no odor, good shows dark brn listless oily residue, vsl sfo on break, several chips with black asphaltic stain

CFS 4390' 30" spl - Ls: several chips with shows AA; predom. tan, offwhite mic-vfxln dense, subchalky IP; lesser tan, lt brn cryptoxln; 60" spl - Ls: mix AA with incr. tan, lt gray cryptoxln and some lt gray dense, shaly; Sh: incr. lt to med gray

10' spl - Ls: lt to med gray vfxln dense, shaly with abund. lt to med gray calcar. shale; some mottled lt brn granular Ls

20' spl - Sh: med to dark gray with influx med to dark red-brn; some Ls: lt gray, lt brn cryptoxln and offwhite, tan mic-vfxln dense

CFS 4420' 30" spl - Ls: strong influx tan, lt gray vf-cryptoxln and offwhite, tan mic-vfxln dense; decr. shale %; 60" spl - >>>

30' spl - ? new rocks; Ls: predom. lt brn, lt gray sl mottled granular, N.S.; very scatt. chips tan, lt brn vfxln dense with spotty dark brn to black gilsonite flecks, no odor, nfo; Sh: med to dark gray; CFS 4430' spls - >>>

50' spl - still trashy from trip; very predom. Sh: med to dark red-brn, med to dark gray; Ls: mix AA with lt gray,

Lansing 4252' (-948)

DST No. 2 Lansing
Interval: 4264'-4330'
Times: 30-60-60-90
IFP: weak blow bldg. to 4"
ISIP: surface return at 20 minutes, bldg. to 3/4"
FFP: weak blow bldg. to 5"
FSIP: no return blow
Recovery: 100' oil spotted mud; 180' oil spotted MCV (50m, 50w)
FP: 19-72/81-171 SIP: 1284-1281
HP: 2105-2009 BHT: 136 deg. F

7:00 AM at 4330' on 6-24-2013

Morgan Mud Check at 4330'
8:20 AM on 6-24-2013
wt vis wl pH chl
9.1 69 6.8 9.5 600
PV YP GelS lcm solids
20 24 10/32 12# 5.7%

DST No. 3 Lansing
Interval: 4330'-4430'
Times: 30-60-30-60
IFP: 1/4" blow bldg. to 3/4"
ISIP: no return blow
FFP: no blow
FSIP: no return blow
Recovery: 10' mud
FP: 20-27/30-35 SIP: 1194-1085
HP: 2088-2083 BHT: 132 deg. F

DST No. 4 Lansing "J"
Interval: 4424'-4474'
Times: 30-60-30-60
IFP: 1/4" blow, died in 25 minutes
ISIP: no return blow
FFP: no blow
FSIP: no return blow
Recovery: 20' mud
FP: 34-35/35-36 SIP: 316-149
HP: 2122-2105 BHT: 131 deg. F

CFS 4420' 60" spl - Ls: mix AA; common tan, lt brn sl mottled granular, NVP, N.S.; some white chalky; one chip offwhite micxln with spotty stain, cave??

CFS 4430' 30" spl - Ls: various granular AA; sl influx lt gray, lt brn cryptoxln; incr. med gray shale; 60" spl - Ls: various gray, lt brn granular to cryptoxln, NVP, N.S.; Sh: med to dark gray

DST No. 4
4424'-4474'

CONN

4

4450

Stark Shale
4467' (-1163)

CONN <<CFS 60"

4500

CONN

BKC
4524' (-1220)

CONN

4550

CONN

ROP (min/ft) CONN 10

4600

DST No. 5
4625'-4670'

CONN

5

Pawnee
4638' (-1334)

<<CFS 60"

4650

med brn cryptoxln
60' spl - Sh: med to dark red-brn, med to dark gray; scatt. dense Ls's
70' spl - predom. shales AA; Ls: incr. lt gray, tan cryptoxln and offwhite mic-vfxln dense; one chip offwhite vf-cryptoxln with poor interxln por. with patchy stain
74' spl - Ls: good influx tan, lt gray vf-cryptoxln and offwhite mic-vfxln dense, NVP, N.S.; sl influx offwhite, tan mic-vfxln with patchy lt brn stain, vsI show listless oil and minute oil droplets on break, no odor

CFS 4474' 30" spl - flood Ls: various tan, lt gray vf-cryptoxln, NVP, N.S. incr. offwhite mic-vfxln subchalky IP; very scatt. chips with shows AA; 60" spl - Ls: mix AA with influx dark gray to black and red-brn shale

90' and 4500' spls - predom. Sh: red-brn, silty and finely sandy; lt to med gray; some Sst: lt gray vvfsg silty N.S.

10' spl - flood Ls: mix tan, lt gray cryptoxln; tan, lt brn sl mottled granular, NVP; and offwhite micxln subchalky

20' spl - Ls: predom. various cryptoxln and sl mottled granular AA; some red-brn and med gray shale

30' spl - Ls: influx med to dark brn granular; some offwhite chalky; sl incr. med to dark gray shale

40' spl - Ls: influx tan, lt brn cryptoxln and offwhite subchalky to chalky; some tan micxln, foss. NVP; Sh: streaks lt to med gray, red-brn

50' spl - Ls: lt to med brn, some red-brn cryptoxln to sl mottled granular; influx lt to med gray dense, shaly; Sh: incr. red-brn

60' spl - Ls: predom. lt to med gray, lt brn vf-cryptoxln, NVP, N.S.; some lt gray dense, shaly; minor Sh: dark red-brn, med gray, trace mottled yellow/gray

70' spl - Ls: mix AA with influx sl mottled lt to med brn and gray granular, some sl oolitic with spar matrix; some med to dark gray cryptoxln; one chip tan foss. with micxln matrix with spotty gilsonite stain; Sh: sl influx brick red, trace maroon

80' spl - Ls: decr. sl mottled AA; influx lt to med brn, lt gray cryptoxln and lt gray dense, shaly; fairly minor dark red-brn shale

90' spl - influx Sh: red-brn, maroon, lt to med gray, occ mottled yellow/gray; Ls: mix AA decr. %

4600' spl - predom. Sh: various red-brn, maroon, lt to med gray; minor mottled yellow/red granular and lt gray, tan cryptoxln Ls's

10' spl - predom. Sh: red-brn silty and finely sandy, maroon, lt to med gray; Ls: various lt gray, tan, lt brn vf-cryptoxln, sl mottled and granular IP

20' spl - still predom. shales AA; incr. % Ls: tan, lt gray vf-cryptoxln and offwhite dense, subchalky; one chip offwhite dense with spotty dead black gilsonite stain; scatt. tan fenestral bryozoan fragments with por., N.S.

30' spl - flood Ls: lt to med gray mic-vfxln dense, shaly, NVP, N.S.; much decr. shale %

40' spl - very predom. shaly dense Ls AA

50' spl - Ls: mix AA with occ med gray, gray-brn cryptoxln; Sh: influx lt to med gray and red-brn, occ maroon

CFS 4650' 30" spl - common lt gray shale; Ls: lt to med gray vf-cryptoxln, shaly IP, NVP, N.S.; one chip tan vf-cryptoxln with small vug. por. with live brn stain, nfo; 60" spl - Ls: influx mottled brn and mottled gray granular with NVP, N.S.; 2-3 chips offwhite granular with poor inter-particle por. with black pp tarry stain, trace bleeding gas, trace brn oil on break, tight, hard

70' spl - flood Ls: lt to med brn, lt gray cryptoxln; some

7:00 AM at 4450' on 6-25-2013

Stark Shale 4467' (-1163)

Morgan Mud Check at 4474'

8:45 AM on 6-25-2013
wt vis wl pH chl
9.1 65 6.0 10.0 1,000
PV YP GeIS lcm solids
20 22 12/35 9# 5.7%

BKC 4524' (-1220)

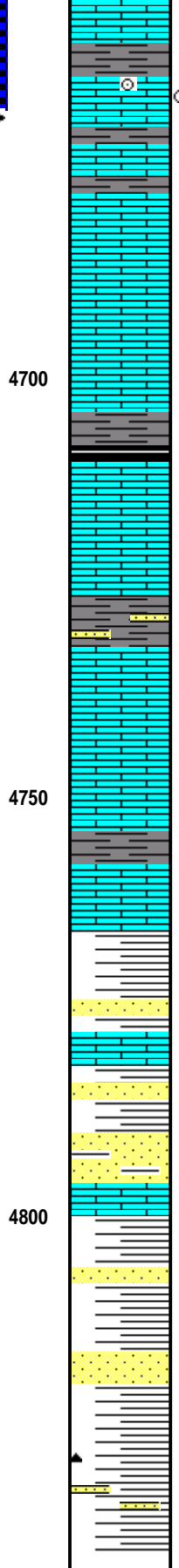
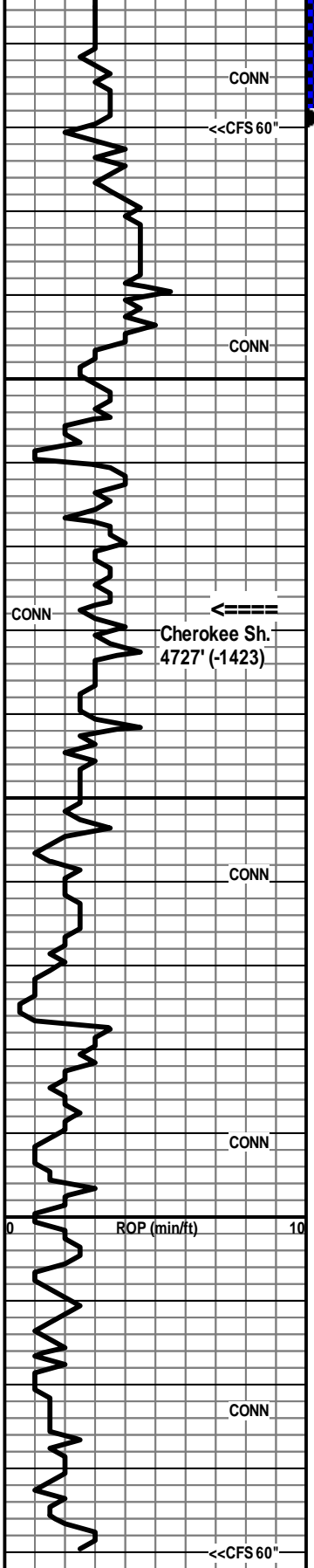
7:00 AM at 4611' on 6-26-2013

Morgan Mud Check at 4615'

7:10 AM on 6-26-2013
wt vis wl pH chl
9.1 69 6.8 9.0 1,000
PV YP GeIS lcm solids
19 22 14/39 8# 5.7%

Pawnee 4638' (-1334)

DST No. 5 Pawnee
Interval: 4625'-4670'
Times: 30-60-30-60
IFP: 1/4" blow, died back to 1/8"
ISIP: no return blow
FFP: no blow



80' spl - med Ls: lt to med brn, lt gray cryptoxln, some mottled granular AA; some gray dense shaly and med gray shale; one chip with stain AA

CFS 4670' 30" spl - Ls: strong influx med to dark gray dense, shaly IP; trace crinoid fragments; Sh: influx med to dark gray, occ foss.; 60" spl - Ls: dense shaly AA with lt to med gray, lt brn cryptoxln; one chip tan cryptoxln with vug. por. on edge with brn live stain, no odor, nfo

80' spl - trashy from trip; 90' spl - Sh: lt to med gray calcar.; Ls: lt to med brn granular with offwhite micxln matrix; sl influx lt gray, lt brn cryptoxln, N.S.

4700' spl - very predom. Ls: lt to med gray, lt brn predom. cryptoxln; lesser lt gray mic-vfxln dense, NVP; one cluster lt gray fg very glauc. Sst, N.S.

10' spl - Ls: various lt to med gray, tan cryptoxln and lt gray mic-vfxln dense, some shaly; Sh: incr. med gray

20' spl - Sh: good influx dark gray to black carbon., some carbon. laminae; Ls: various cryptoxln AA

30' spl - Sh: AA; Ls: lt to med brn granular, poor to NVP, N.S.; other tan, lt brn cryptoxln and offwhite, tan mic-vfxln dense

40' spl - incr. Ls: various tan, lt to med brn cryptoxln and granular; influx offwhite micxln subchalky; streaks med to dark gray shale

50' spl - Ls: various brn, tan granular, some cryptoxln; lesser tan, offwhite mic-vfxln dense; Sh: streaks AA; Sst: sl influx lt gray, tan fg quartzitic, NVP, N.S.

60' spl - predom. Ls's AA with lesser quartzitic Sst; trace coarse single grains; Sh: med to dark gray, red-brn, brick red

70' spl - Ls: more med brn cryptoxln and offwhite mic-vfxln dense, subchalky; Sh: occ pale green and sandy green shale; no Sst

80' spl - Ls: various brn granular and cryptoxln; no Sst; Sh: trace yellow and purple

90' spl - very predom. Ls: lt to med brn, lt gray cryptoxln; lesser Sh: lt to med gray, lt green, red-brn

4800' spl - very predom. Ls's AA; Sh: scatt. maroon, lt to med gray, trace yellow

10' spl - Sst: good influx predom. offwhite vf-fg, some fn-med grnd, subang-subrnd; lesser lt green and red-brn tinted; influx Sh: red-brn, med gray, occ maroon; Ls's still common

20' spl - Sh: influx dark maroon, some lt gray; Sst's and Ls's AA; trace very coarse single quartz grains

30' spl - Sh: influx sandy dark red-brn and maroon; some mottled red/offwhite sandy Ls; Sst: lt gray vvfng tight and tan fn-med grnd, scatt. clear, gray, yellow and orange very coarse single quartz grains; other multi-colored shales AA

40' spl - multi-colored shales, scatt. Sst and single grains, very minor Ls

CFS 4840' 30" spl - Sh: red-brn, maroon, purple, lt to med gray, gray-green, trace yellow; lesser gray, lt brn cryptoxln Ls; scatt. Sst and very coarse single grains; trace dark red chert

60" spl - multi-colored shales AA; lesser various gray and tan cryptoxln and offwhite dense Ls's; scatt. coarse to very coarse qtz grains and scatt. fn-med grnd Sst clusters, N.S.

FSIP: no return blow
 Recovery: 5' mud
 FP: 20-21/21-22 SIP: 29-24
 HP: 2274-2273 BHT: 135 deg. F

7:00 AM at 4705' on 6-27-2013

Cherokee Sh. 4727' (-1423)

Morgan Mud Check at 4750'
 9:10 AM on 6-27-2013
 wt vis wl pH chl
 9.2 72 7.6 8.0 1,000
 PV YP GeIS lcm solids
 19 31 18/47 8# 6.4%

RTD 4840' (-1536)
 LTD 4842' (-1538)

RTD of 4840' reached at 12:10 PM on 6-27-2013 - CFS 60" - short trip - CTCH 1 hour - survey - TOFL

Respectfully submitted,

Wesley D. Hansen
 Petroleum Geologist
 Kansas License No. 418



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**
250 N Water STE #300
Wichita, KS 67202

ATTN: Wes Hansen

Culwell 'A' #1-27

27-1s-37w Cheyenne, KS

Start Date: 2013.06.23 @ 12:00:00

End Date: 2013.06.23 @ 20:08:00

Job Ticket #: 52649 DST #: 1

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

Printed: 2013.06.27 @ 15:22:24



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 52649 **DST#: 1**
Test Start: 2013.06.23 @ 12:00:00

Tool Information

Drill Pipe:	Length: 3589.00 ft	Diameter: 3.80 inches	Volume: 50.34 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 52.96 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4132.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	85.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4105.00	
Shut In Tool	5.00			4110.00	
Hydraulic tool	5.00			4115.00	
Jars	5.00			4120.00	
Safety Joint	3.00			4123.00	
Packer	5.00			4128.00	28.00 Bottom Of Top Packer
Packer	4.00			4132.00	
Stubb	1.00			4133.00	
Recorder	0.00	8354	Inside	4133.00	
Recorder	0.00	8520	Outside	4133.00	
Perforations	17.00			4150.00	
Change Over Sub	1.00			4151.00	
Drill Pipe	32.00			4183.00	
Change Over Sub	1.00			4184.00	
Bullnose	5.00			4189.00	57.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 52649 **DST#: 1**
Test Start: 2013.06.23 @ 12:00:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.98 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 500.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	OSM 100M (oil spots)	0.443

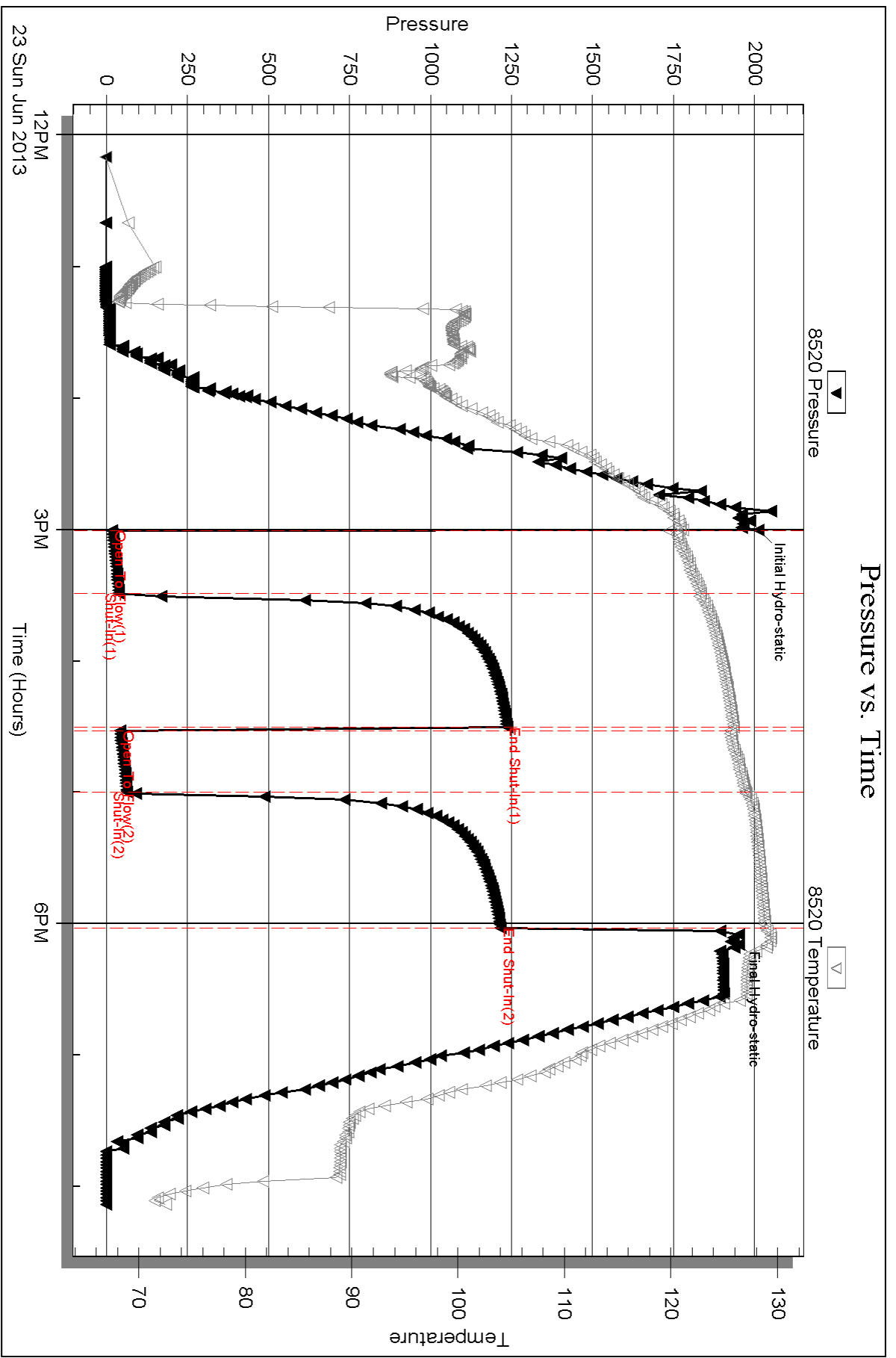
Total Length: 90.00 ft Total Volume: 0.443 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8520

Outside Murfin Drilling Co

Oilwell 'A' #1-27

DST Test Number: 1



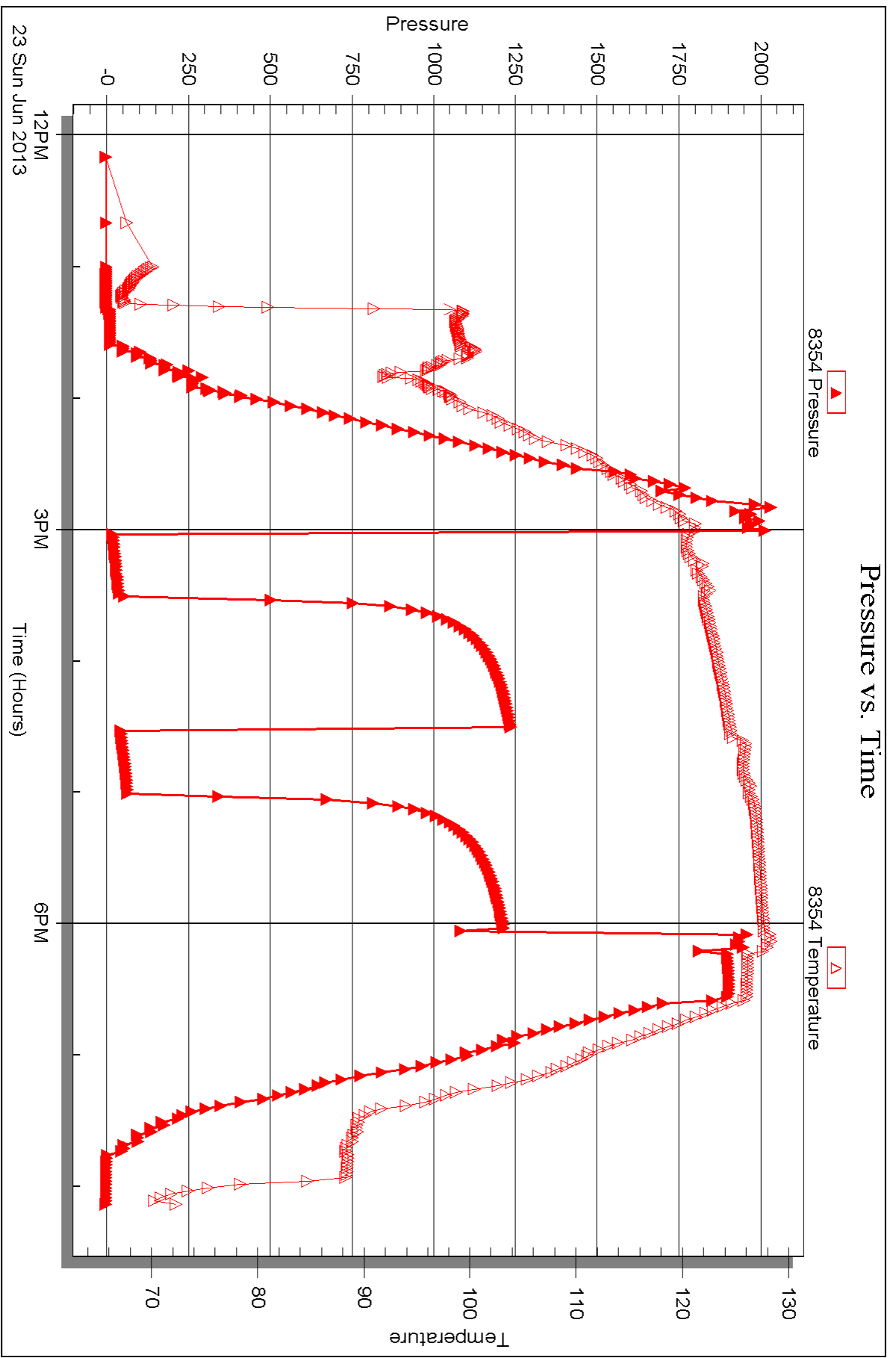
Serial #: 8354

Inside

Murfin Drilling Co

Oilwell 'A' #1-27

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 52649

Printed: 2013.06.27 @ 15:22:27



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water STE #300
Wichita, KS 67202

ATTN: Wes Hansen

Culwell 'A' #1-27

27-1s-37w Cheyenne, KS

Start Date: 2013.06.23 @ 21:50:00

End Date: 2013.06.24 @ 06:38:30

Job Ticket #: 52650 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.06.27 @ 15:21:39



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

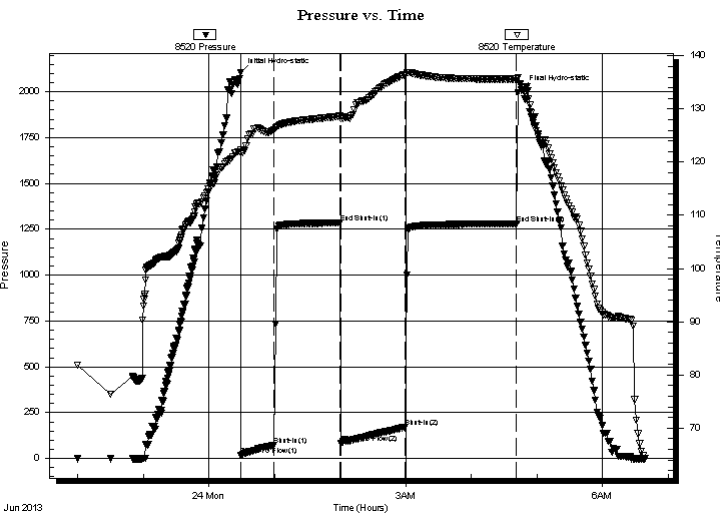
27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 52650 **DST#: 2**
Test Start: 2013.06.23 @ 21:50:00

GENERAL INFORMATION:

Formation: **LKC "D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:29:30
Time Test Ended: 06:38:30
Interval: **4264.00 ft (KB) To 4330.00 ft (KB) (TVD)**
Total Depth: 4330.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66
Reference Elevations: 3304.00 ft (KB)
3294.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8520 Outside
Press @ Run Depth: 171.04 psig @ 4265.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.06.23 End Date: 2013.06.24 Last Calib.: 2013.06.24
Start Time: 22:00:00 End Time: 06:38:30 Time On Btm: 2013.06.24 @ 00:29:00
Time Off Btm: 2013.06.24 @ 04:46:00

TEST COMMENT: 30 - IF Blow built to 4"
60 - IS- Surface Return started at 20 min. Built to 3/4"
60 - FF- Blow built to 5"
90 - FS- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2105.31	122.29	Initial Hydro-static
1	19.55	121.83	Open To Flow (1)
31	72.87	126.04	Shut-In(1)
91	1284.66	128.64	End Shut-In(1)
92	81.75	128.24	Open To Flow (2)
151	171.04	136.52	Shut-In(2)
253	1281.09	135.62	End Shut-In(2)
257	2009.21	134.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	OSMW 50M50W (oil spots)	0.89
100.00	OSM 100M (oil spots)	0.49

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 52650 **DST#: 2**
Test Start: 2013.06.23 @ 21:50:00

Tool Information

Drill Pipe:	Length: 3718.00 ft	Diameter: 3.80 inches	Volume: 52.15 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 54.77 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4264.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	66.00 ft			
Tool Length:	94.00 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			4237.00	
Shut In Tool	5.00			4242.00	
Hydraulic tool	5.00			4247.00	
Jars	5.00			4252.00	
Safety Joint	3.00			4255.00	
Packer	5.00			4260.00	28.00 Bottom Of Top Packer
Packer	4.00			4264.00	
Stubb	1.00			4265.00	
Recorder	0.00	8354	Inside	4265.00	
Recorder	0.00	8520	Outside	4265.00	
Perforations	26.00			4291.00	
Change Over Sub	1.00			4292.00	
Drill Pipe	32.00			4324.00	
Change Over Sub	1.00			4325.00	
Bullnose	5.00			4330.00	66.00 Bottom Packers & Anchor

Total Tool Length: 94.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 52650 **DST#: 2**
Test Start: 2013.06.23 @ 21:50:00

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:	28000 ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.78 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

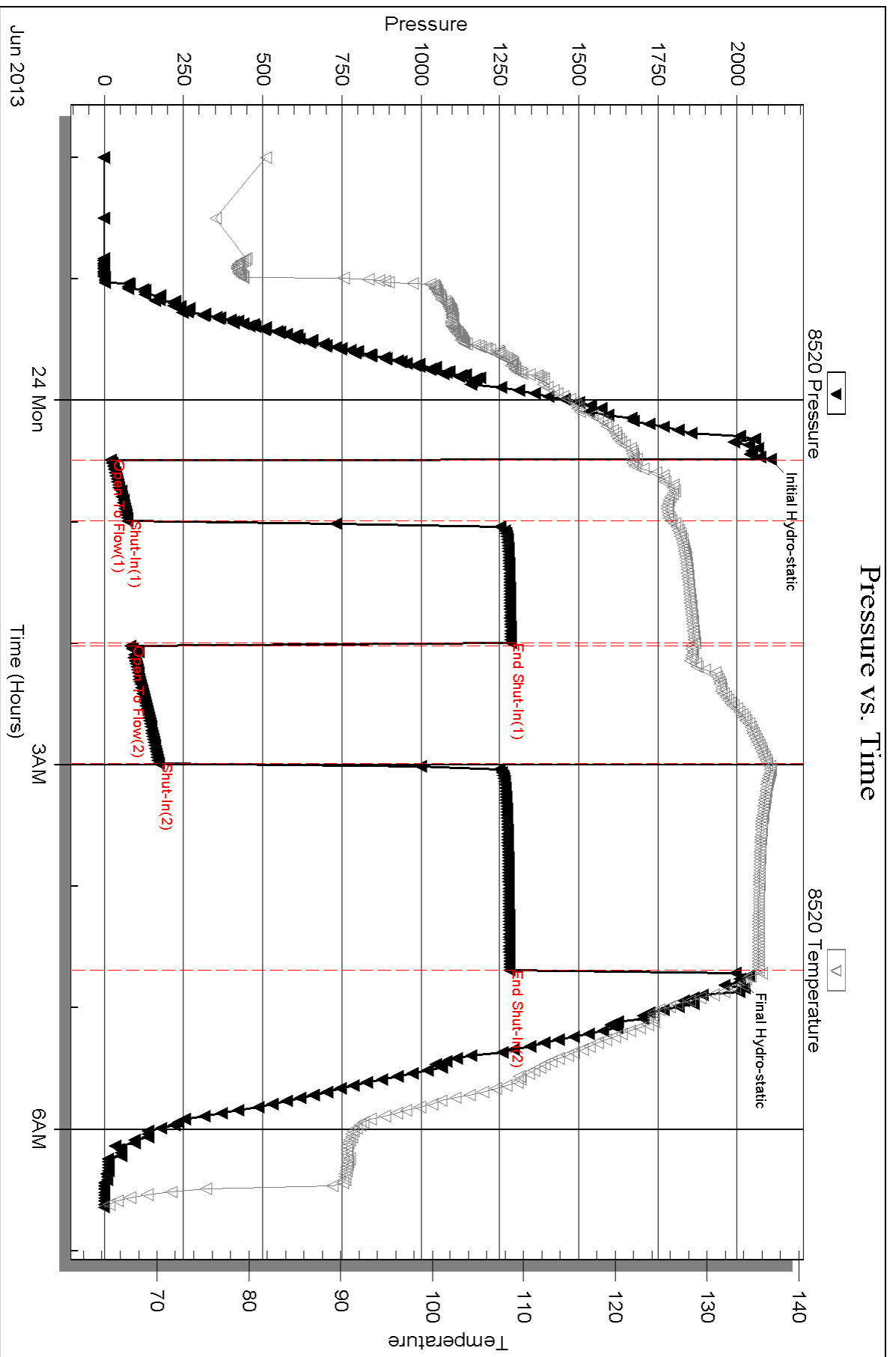
Length ft	Description	Volume bbl
180.00	OSMW 50M 50W (oil spots)	0.885
100.00	OSM 100M (oil spots)	0.492

Total Length: 280.00 ft Total Volume: 1.377 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW = .25 @ 71 deg = 28000ppm



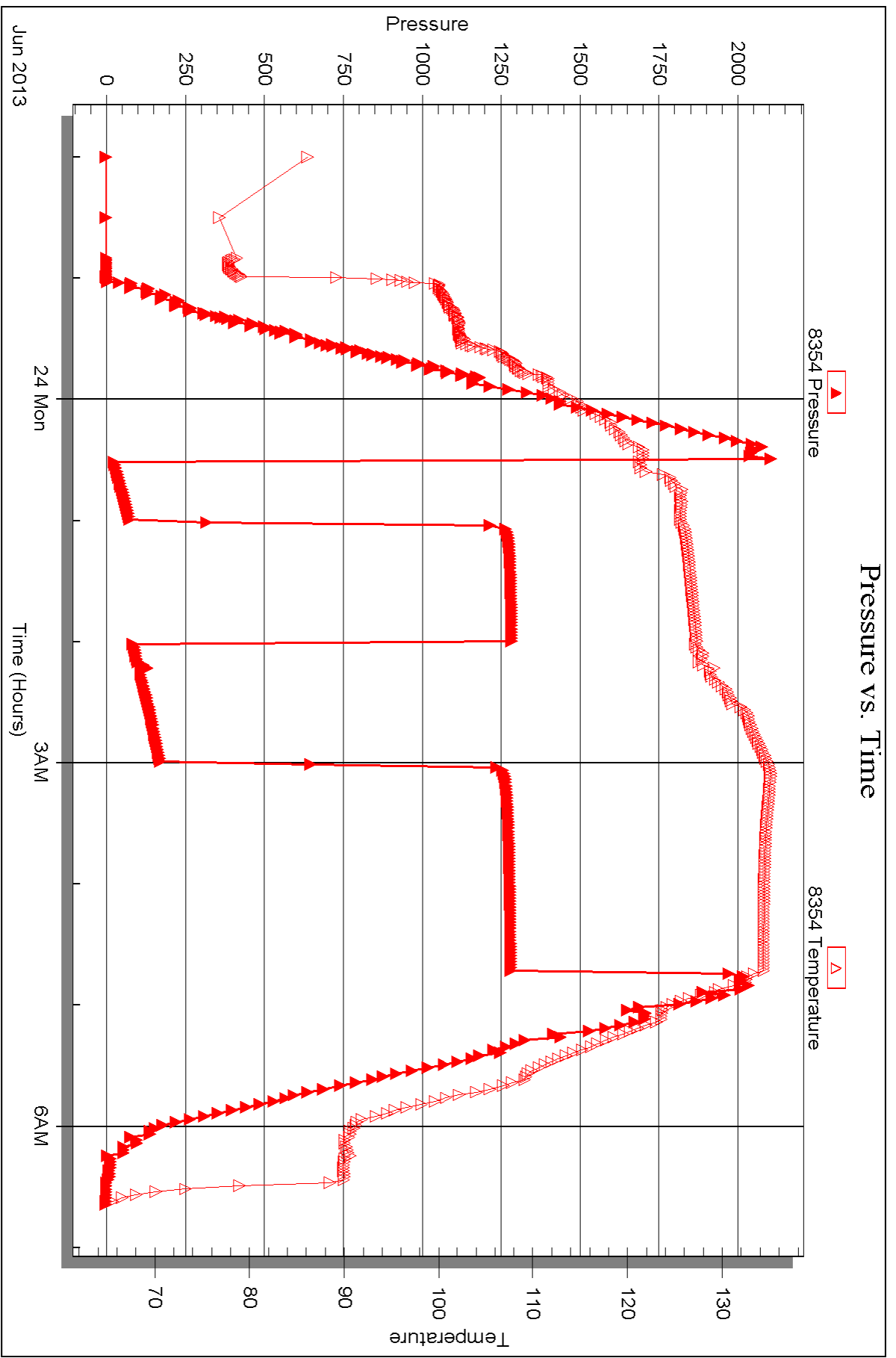
Serial #: 8354

Inside

Murfin Drilling Co

Oilwell 'A' #1-27

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**
250 N Water STE #300
Wichita, KS 67202

ATTN: Wes Hansen

Culwell 'A' #1-27

27-1s-37w Cheyenne, KS

Start Date: 2013.06.24 @ 20:05:00

End Date: 2013.06.25 @ 03:30:30

Job Ticket #: 51219 DST #: 3

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

Printed: 2013.06.27 @ 15:21:00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 51219 **DST#: 3**
Test Start: 2013.06.24 @ 20:05:00

GENERAL INFORMATION:

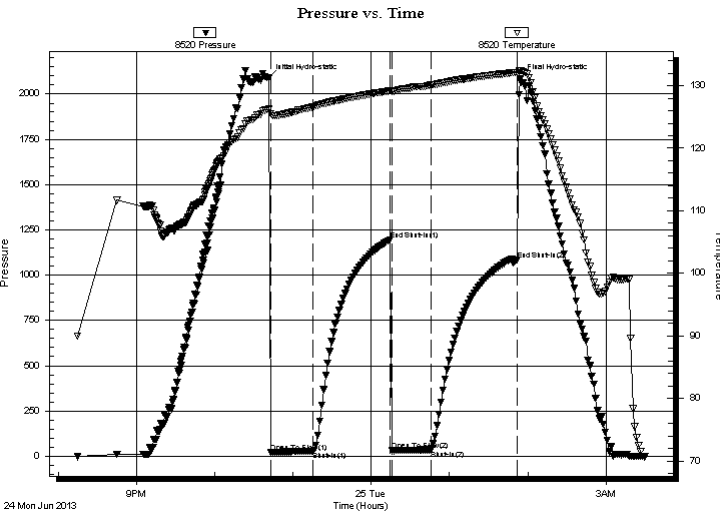
Formation: **LKC "G-I"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:43:00
Time Test Ended: 03:30:30
Interval: **4330.00 ft (KB) To 4430.00 ft (KB) (TVD)**
Total Depth: 4430.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66
Reference Elevations: 3304.00 ft (KB)
3294.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8520

Outside

Press @ Run Depth: 35.42 psig @ 4331.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.06.24 End Date: 2013.06.25 Last Calib.: 2013.06.25
Start Time: 20:15:00 End Time: 03:30:30 Time On Btm: 2013.06.24 @ 22:41:30
Time Off Btm: 2013.06.25 @ 01:54:00

TEST COMMENT: 30 - IF- 1/4" Blow built to 3/4"
60 - IS- No Return
30 - FF- No Blow
60 - FS- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2088.26	126.24	Initial Hydro-static
2	20.97	125.54	Open To Flow (1)
34	27.87	126.63	Shut-In(1)
93	1194.63	129.20	End Shut-In(1)
95	30.77	129.01	Open To Flow (2)
124	35.42	130.08	Shut-In(2)
191	1085.78	132.15	End Shut-In(2)
193	2083.19	132.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 51219 **DST#: 3**
Test Start: 2013.06.24 @ 20:05:00

Tool Information

Drill Pipe:	Length: 3809.00 ft	Diameter: 3.80 inches	Volume: 53.43 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 56.05 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	40.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4330.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	100.00 ft			
Tool Length:	128.00 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			4303.00	
Shut In Tool	5.00			4308.00	
Hydraulic tool	5.00			4313.00	
Jars	5.00			4318.00	
Safety Joint	3.00			4321.00	
Packer	5.00			4326.00	28.00 Bottom Of Top Packer
Packer	4.00			4330.00	
Stubb	1.00			4331.00	
Recorder	0.00	8354	Inside	4331.00	
Recorder	0.00	8520	Outside	4331.00	
Perforations	28.00			4359.00	
Change Over Sub	1.00			4360.00	
Drill Pipe	64.00			4424.00	
Change Over Sub	1.00			4425.00	
Bullnose	5.00			4430.00	100.00 Bottom Packers & Anchor

Total Tool Length: 128.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 51219 **DST#: 3**
Test Start: 2013.06.24 @ 20:05:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 69.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.79 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

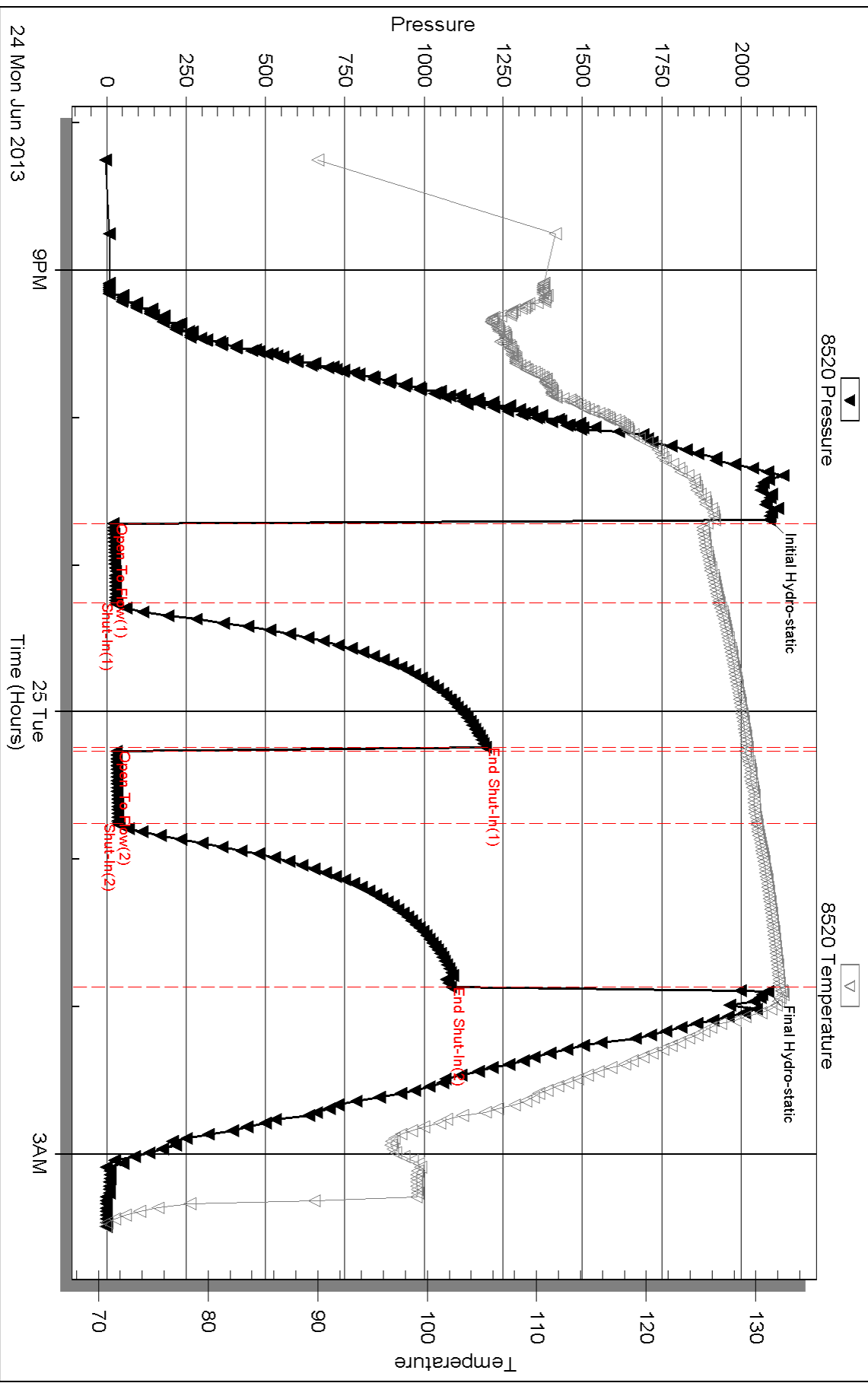
Serial #: 8520

Outside Murfin Drilling Co

Oilwell 'A' #1-27

DST Test Number: 3

Pressure vs. Time



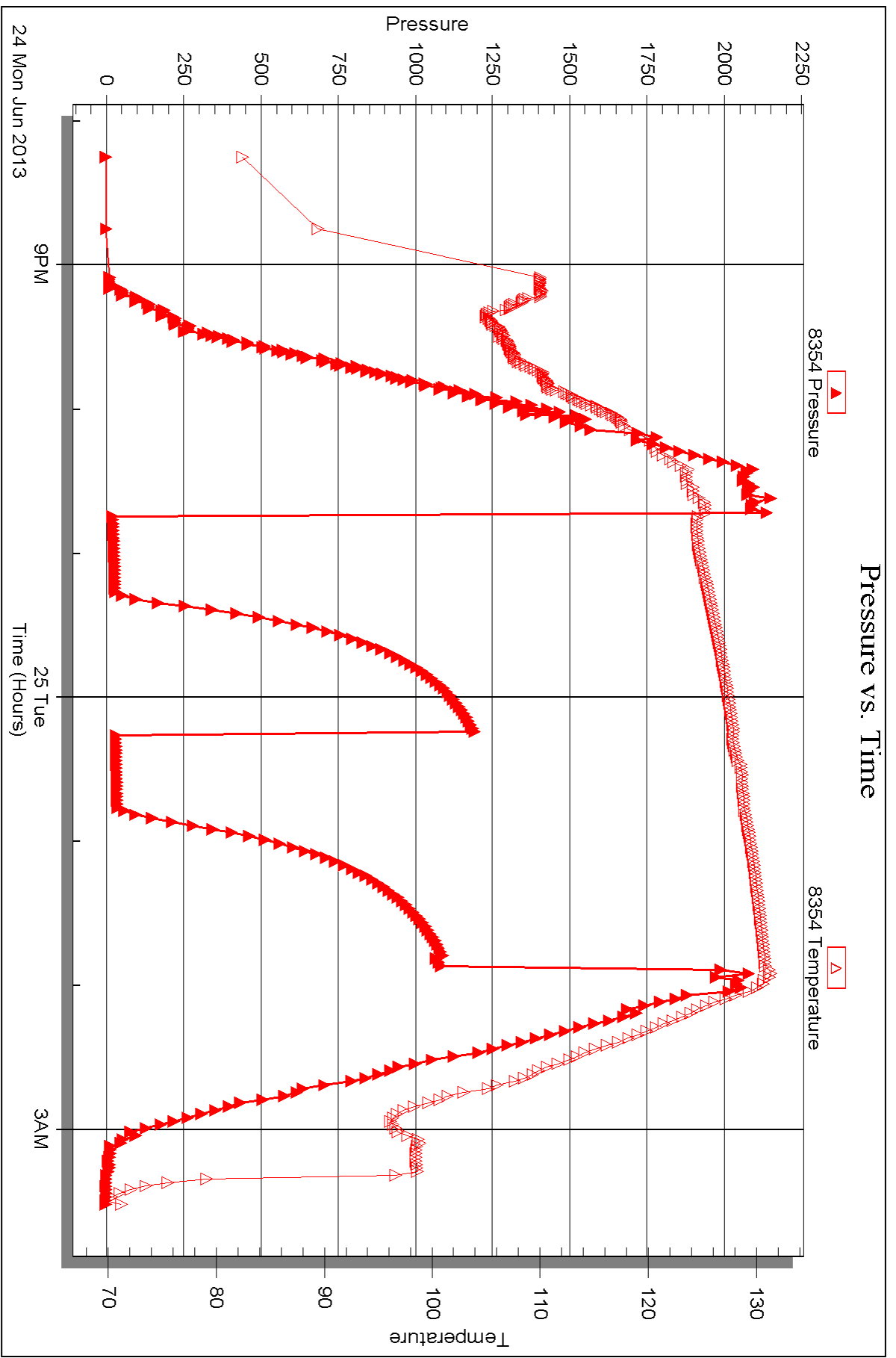
Serial #: 8354

Inside

Murfin Drilling Co

Oilwell 'A' #1-27

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**
250 N Water STE #300
Wichita, KS 67202

ATTN: Wes Hansen

Culwell 'A' #1-27

27-1s-37w Cheyenne, KS

Start Date: 2013.06.25 @ 11:10:00

End Date: 2013.06.25 @ 18:38:30

Job Ticket #: 51220 DST #: 4

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

Printed: 2013.06.27 @ 15:20:20

Murfin Drilling Co
27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
DST # 4
LKC "J"
2013.06.25



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 51220 **DST#: 4**
Test Start: 2013.06.25 @ 11:10:00

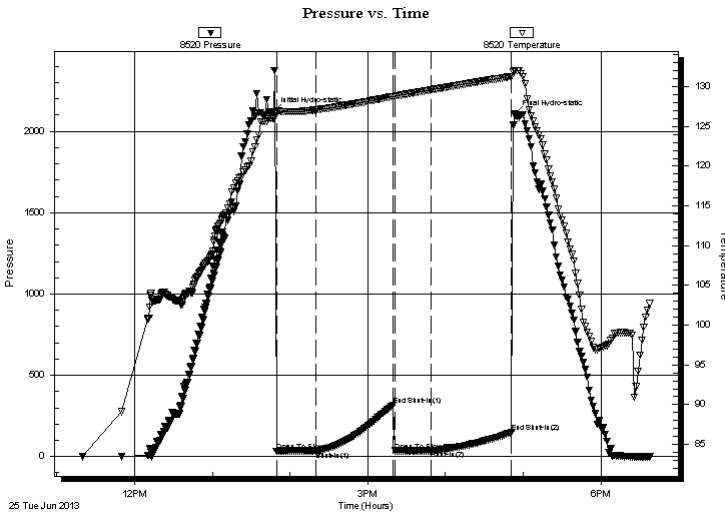
GENERAL INFORMATION:

Formation: **LKC "J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:49:30
Time Test Ended: 18:38:30
Interval: **4424.00 ft (KB) To 4427.00 ft (KB) (TVD)**
Total Depth: 4474.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66
Reference Elevations: 3304.00 ft (KB)
3294.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8520 Outside
Press @ Run Depth: 36.06 psig @ 4425.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.06.25 End Date: 2013.06.25 Last Calib.: 2013.06.25
Start Time: 11:20:00 End Time: 18:38:30 Time On Btm: 2013.06.25 @ 13:47:30
Time Off Btm: 2013.06.25 @ 16:53:30

TEST COMMENT: 30 - IF- 1/4" Blow Died in 25 min.
60 - IS- No Return
30 - FF- No Blow
60 - FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2122.59	125.97	Initial Hydro-static
2	34.01	126.89	Open To Flow (1)
33	35.21	127.09	Shut-In(1)
92	316.73	128.79	End Shut-In(1)
94	35.41	128.78	Open To Flow (2)
122	36.06	129.61	Shut-In(2)
184	149.91	131.31	End Shut-In(2)
186	2105.54	132.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100M	0.10

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 51220 **DST#: 4**
Test Start: 2013.06.25 @ 11:10:00

Tool Information

Drill Pipe:	Length: 3868.00 ft	Diameter: 3.80 inches	Volume: 54.26 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.88 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4424.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Bled off initial Surge from tool opening prematurely.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4397.00	
Shut In Tool	5.00			4402.00	
Hydraulic tool	5.00			4407.00	
Jars	5.00			4412.00	
Safety Joint	3.00			4415.00	
Packer	5.00			4420.00	28.00 Bottom Of Top Packer
Packer	4.00			4424.00	
Stubb	1.00			4425.00	
Recorder	0.00	8354	Inside	4425.00	
Recorder	0.00	8520	Outside	4425.00	
Perforations	10.00			4435.00	
Change Over Sub	1.00			4436.00	
Drill Pipe	32.00			4468.00	
Change Over Sub	1.00			4469.00	
Bullnose	5.00			4474.00	50.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 51220 **DST#: 4**
Test Start: 2013.06.25 @ 11:10:00

Mud and Cushion Information

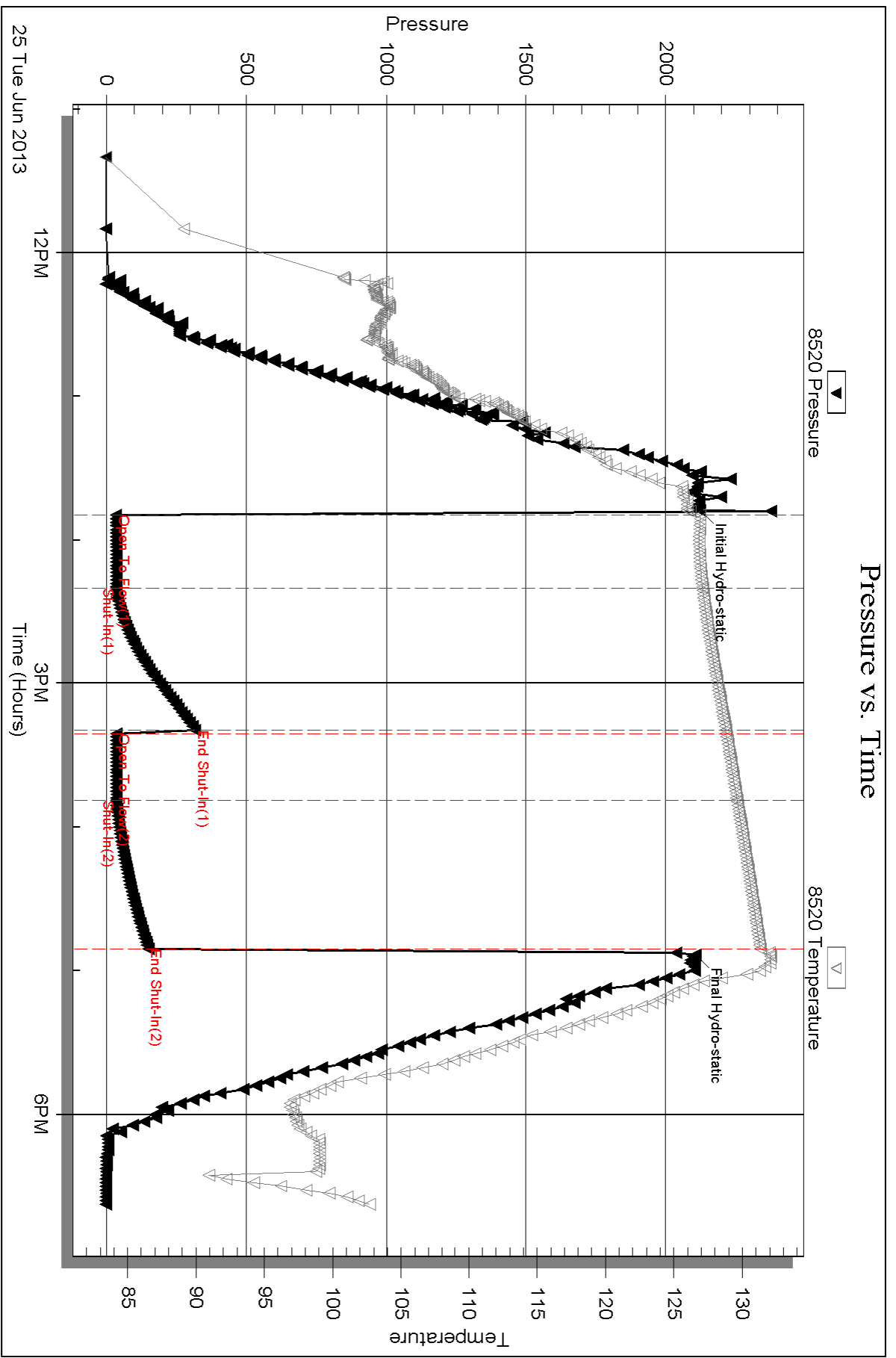
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.99 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud 100M	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:



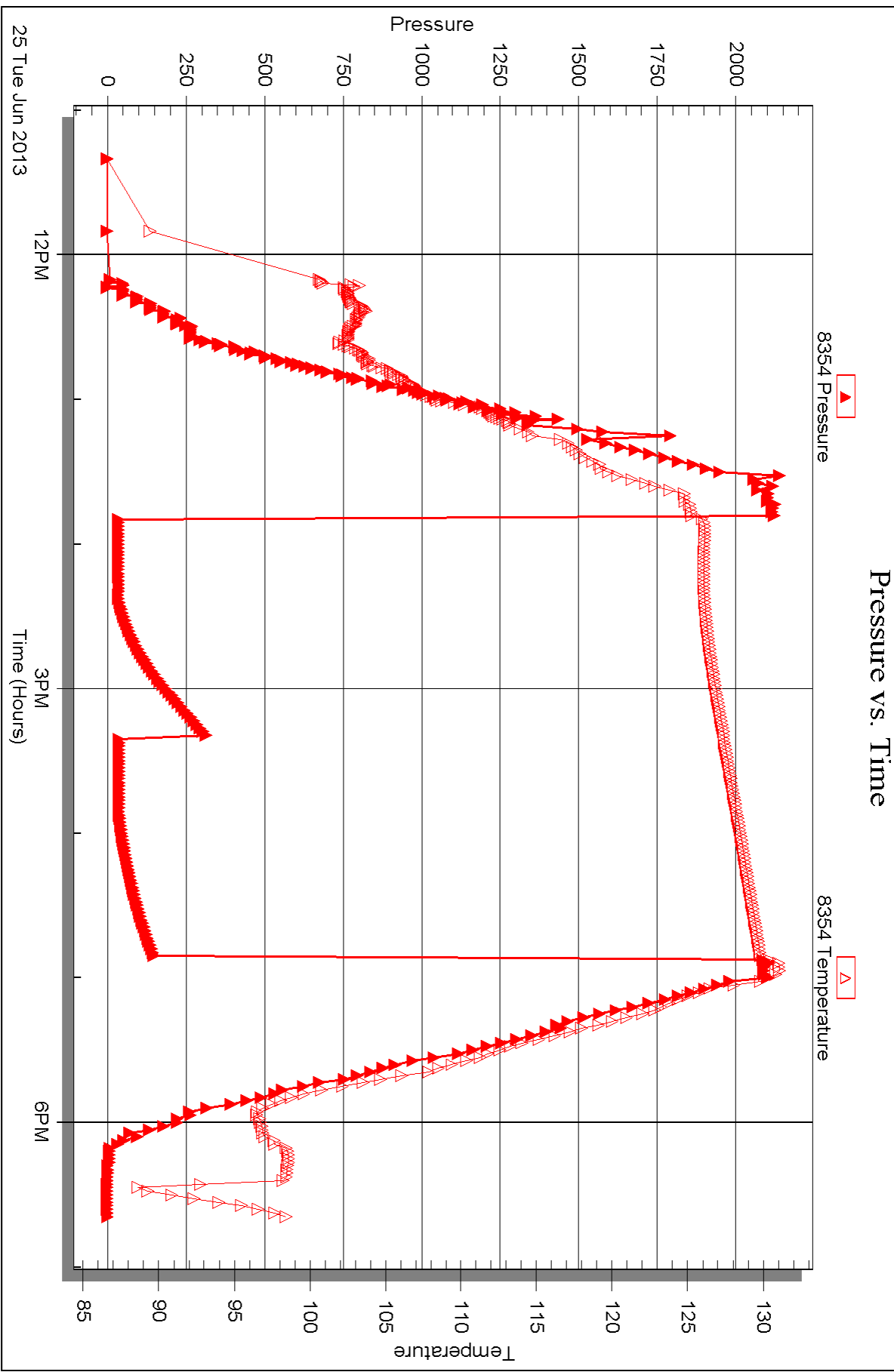
Serial #: 8354

Inside

Murfin Drilling Co

Oilwell 'A' #1-27

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**
250 N Water STE #300
Wichita, KS 67202

ATTN: Wes Hansen

Culwell 'A' #1-27

27-1s-37w Cheyenne, KS

Start Date: 2013.06.26 @ 17:50:00

End Date: 2013.06.27 @ 01:19:00

Job Ticket #: 52131 DST #: 5

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

Printed: 2013.06.27 @ 15:19:27



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co
 250 N Water STE #300
 Wichita, KS 67202
 ATTN: Wes Hansen

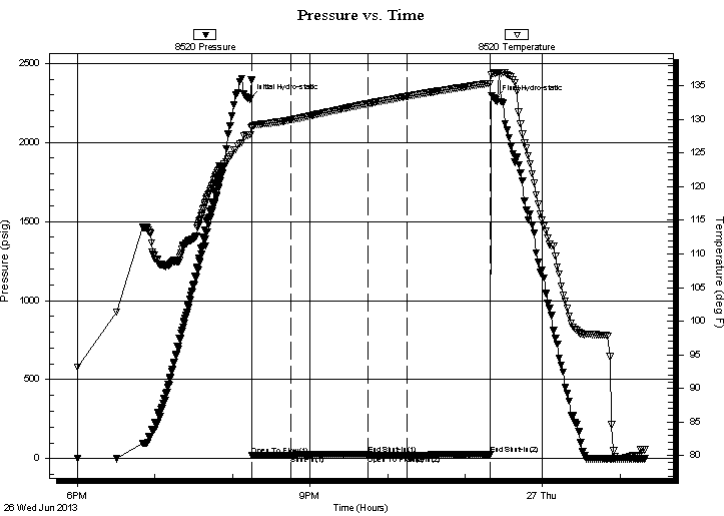
27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
 Job Ticket: 52131 **DST#: 5**
 Test Start: 2013.06.26 @ 17:50:00

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:15:00
 Time Test Ended: 01:19:00
 Interval: **4625.00 ft (KB) To 4670.00 ft (KB) (TVD)**
 Total Depth: 4670.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 66
 Reference Elevations: 3304.00 ft (KB)
 3294.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8520 Outside
 Press @ Run Depth: 22.86 psig @ 4626.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.06.26 End Date: 2013.06.27 Last Calib.: 2013.06.27
 Start Time: 18:00:00 End Time: 01:19:00 Time On Btm: 2013.06.26 @ 20:13:30
 Time Off Btm: 2013.06.26 @ 23:23:00

TEST COMMENT: 30 - IF- 1/4" Blow died back to 1/8"
 60 - IS- No Return
 30 - FF- No Blow
 60 - FS- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2274.58	127.75	Initial Hydro-static
2	20.60	128.85	Open To Flow (1)
32	21.19	129.94	Shut-In(1)
91	29.54	132.35	End Shut-In(1)
92	21.39	132.36	Open To Flow (2)
122	22.86	133.43	Shut-In(2)
186	24.54	135.39	End Shut-In(2)
190	2273.79	136.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100M	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co
250 N Water STE #300
Wichita, KS 67202
ATTN: Wes Hansen

27-1s-37w Cheyenne, KS
Culwell 'A' #1-27
Job Ticket: 52131 **DST#: 5**
Test Start: 2013.06.26 @ 17:50:00

Tool Information

Drill Pipe:	Length: 4089.00 ft	Diameter: 3.80 inches	Volume: 57.36 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 533.00 ft	Diameter: 2.25 inches	Volume: 2.62 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 59.98 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4625.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4598.00	
Shut In Tool	5.00			4603.00	
Hydraulic tool	5.00			4608.00	
Jars	5.00			4613.00	
Safety Joint	3.00			4616.00	
Packer	5.00			4621.00	28.00 Bottom Of Top Packer
Packer	4.00			4625.00	
Stubb	1.00			4626.00	
Recorder	0.00	8354	Inside	4626.00	
Recorder	0.00	8520	Outside	4626.00	
Perforations	5.00			4631.00	
Change Over Sub	1.00			4632.00	
Drill Pipe	32.00			4664.00	
Change Over Sub	1.00			4665.00	
Bullnose	5.00			4670.00	45.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

27-1s-37w Cheyenne, KS

250 N Water STE #300
Wichita, KS 67202

Culwell 'A' #1-27

Job Ticket: 52131

DST#: 5

ATTN: Wes Hansen

Test Start: 2013.06.26 @ 17:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

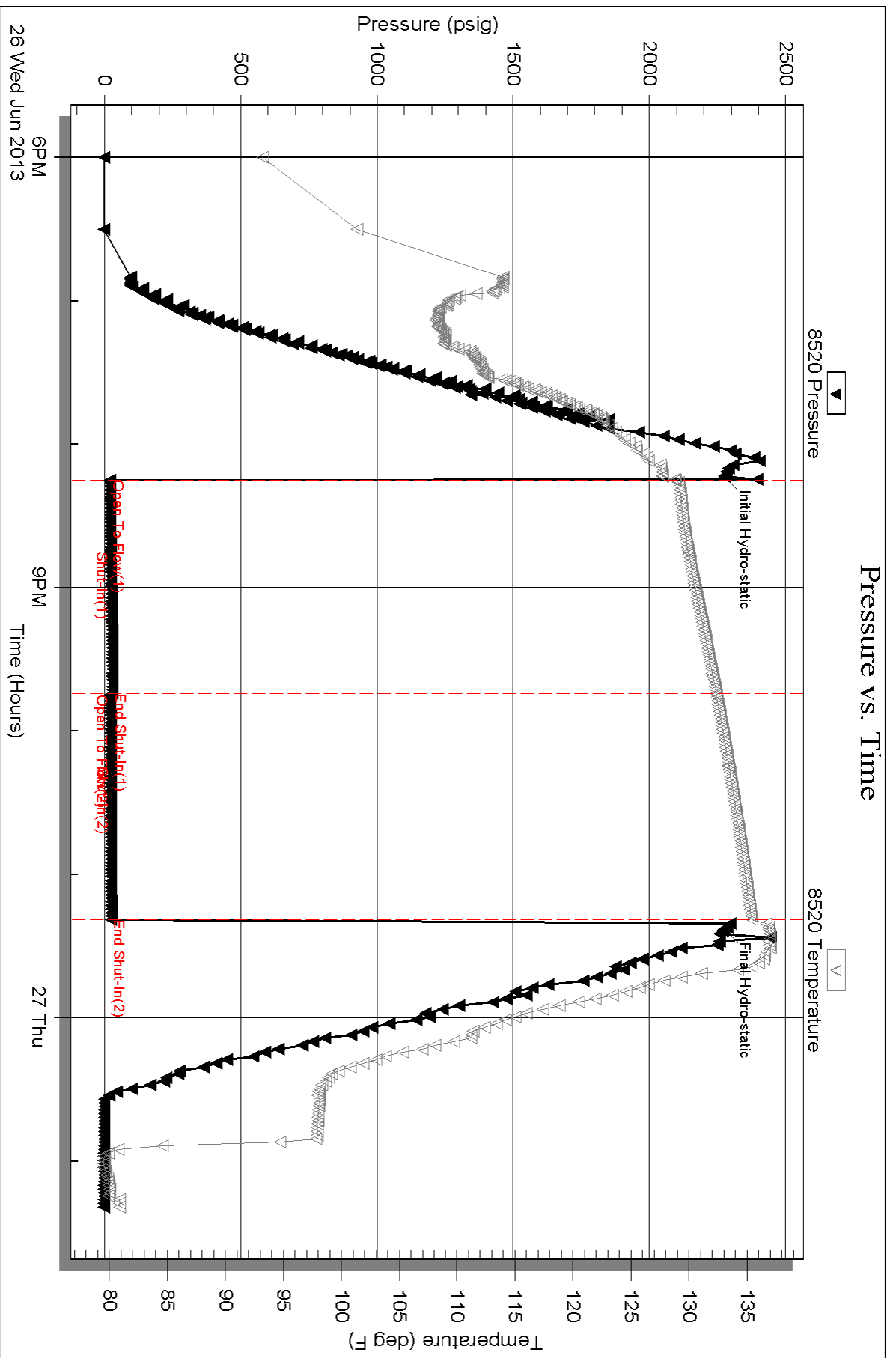
Recovery Comments:

Serial #: 8520

Outside Murfin Drilling Co

Oilwell 'A' #1-27

DST Test Number: 5



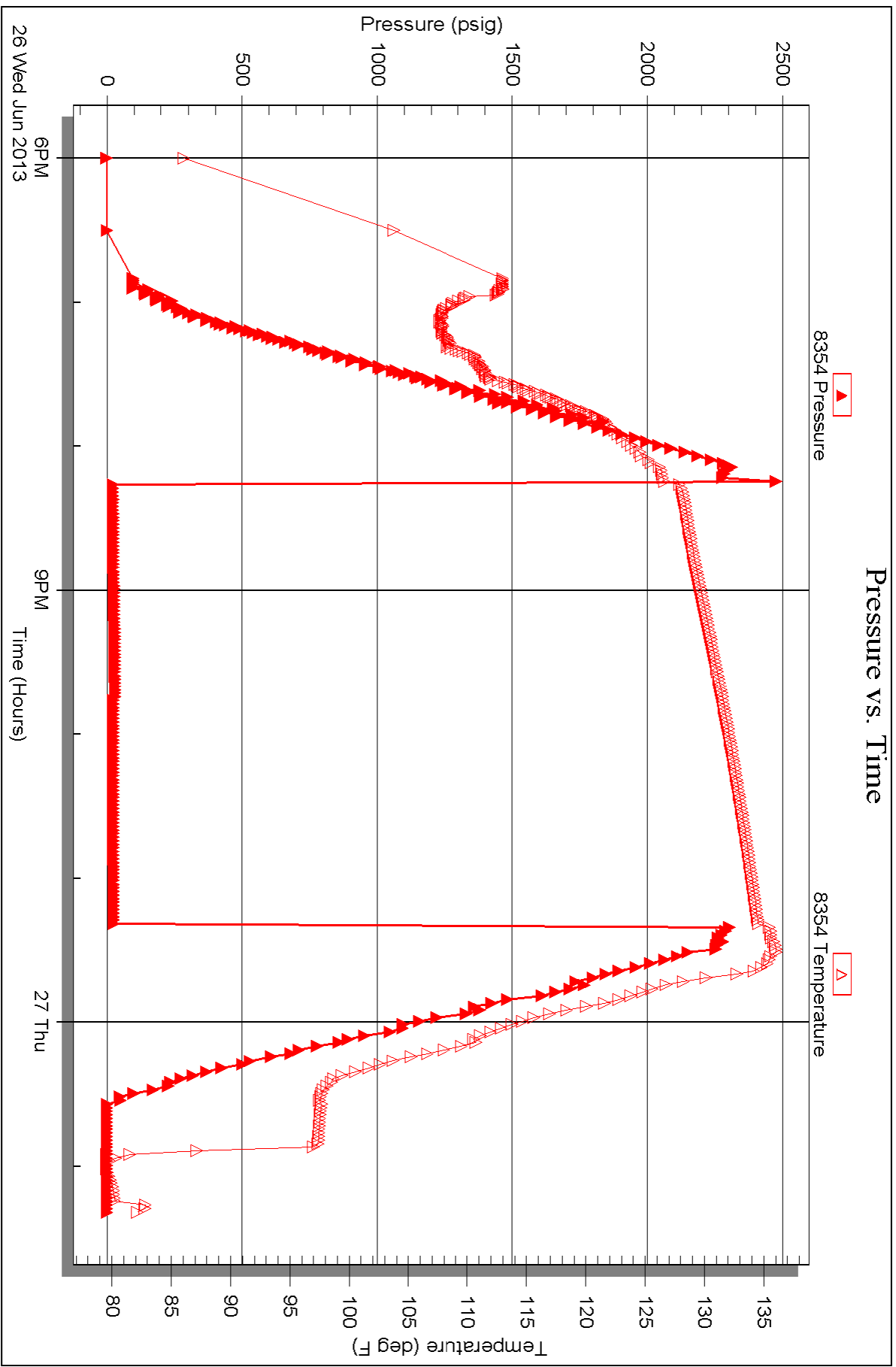
Serial #: 8354

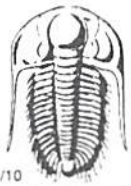
Inside

Murfin Drilling Co

Oilwell 'A' #1-27

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52649

Well Name & No. Culwell 'A' #1-27 Test No. 1 Date 6-22-13
 Company Murfin Drilling, Co. Elevation 3384 KB 3294 GL
 Address 250 N Water STE # 308 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin #14
 Location: Sec. 27 Twp. 1S Rge. 37W Co. Cheyenne State KS

Interval Tested 4132 - 4189 Zone Tested Uread
 Anchor Length 57' Drill Pipe Run 3589 Mud Wt. 8.8
 Top Packer Depth 4128 Drill Collars Run 533 Vis 65
 Bottom Packer Depth 4132 Wt. Pipe Run Ø WL 6.0
 Total Depth 4189 Chlorides 5000 ppm System LCM 16#

Blow Description IF- 1/4" Blow built to 2"
ISI- NO Return
FF- Surface Blow started at 1 min. 1"
FSL- NO Return

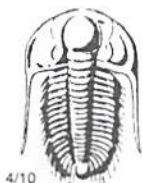
Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>OSM</u>	<u>SPOTS</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 90 BHT 129 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2012</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>9:00 PM</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>12:00 AM</u>
(C) First Final Flow <u>37</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>3:00 AM</u>
(D) Initial Shut-In <u>1236</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>6:00 AM</u>
(E) Second Initial Flow <u>43</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>8:15 AM</u>
(F) Second Final Flow <u>62</u>	<input checked="" type="checkbox"/> Mileage <u>150 RT</u> 232.50	Comments _____
(G) Final Shut-In <u>1216</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>1934</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>1807.50</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1807.50</u>	

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52650

Well Name & No. Culwell 'A' # 1-27 Test No. 2 Date 6-23-13
 Company Murfin Drilling, Co. Elevation 3304 KB 3294 GL
 Address 250 N water STE #3000 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin #14
 Location: Sec. 27 Twp. 15 Rge. 37W Co. Cheyeme State KS

Interval Tested 4264-4330 Zone Tested LKC "D"
 Anchor Length 66' Drill Pipe Run 3718 Mud Wt. 8.9
 Top Packer Depth 4260 Drill Collars Run 533 Vis 59
 Bottom Packer Depth 4264 Wt. Pipe Run 0 WL 6.8
 Total Depth 4330 Chlorides 6000 ppm System LCM 12#

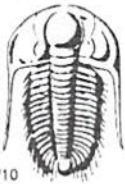
Blow Description IF - Blow built to 4"
ISI - Surface Return started at 20 min. Built to 3/4"
FF - Blow built to 5"
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1000</u>	<u>OSM</u>	<u>SPOTS</u>		<u>100</u>	
<u>1800</u>	<u>OSMW</u>	<u>SPOTS</u>	<u>50</u>	<u>50</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2800 BHT 136 Gravity - API RW .25 @ 71 ° F Chlorides 28,000 ppm
 (A) Initial Hydrostatic 2105 Test 1250 T-On Location 9:15 PM
 (B) First Initial Flow 19 Jars 250 T-Started 9:50 PM
 (C) First Final Flow 72 Safety Joint 75 T-Open 12:30 AM
 (D) Initial Shut-In 1284 Circ Sub T-Pulled 4:30 AM
 (E) Second Initial Flow 81 Hourly Standby T-Out 6:50 AM
 (F) Second Final Flow 171 Mileage 150RT 232.50 Comments
 (G) Final Shut-In 1281 Sampler Ruined Shale Packer
 (H) Final Hydrostatic 2009 Straddle Ruined Packer
 Initial Open 30 Shale Packer Extra Copies
 Initial Shut-In 60 Extra Packer Sub Total 0
 Final Flow 60 Extra Recorder Total 1807.50
 Final Shut-In 90 Day Standby MP/DST Disc't
 Sub Total 1807.50 Accessibility

Approved By _____ Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52129

Well Name & No. Curlwell 'A' #1-27 Test No. 3 Date 6-24-13
 Company Murfin Drilling, Co. Elevation 3304 KB 3294 GL
 Address 250 N Water STE #3000 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin #14
 Location: Sec. 27 Twp. 1S Rge. 37W Co. Cheyenne State KS

Interval Tested 4330-4430 Zone Tested LKC "G-I"
 Anchor Length 100 Drill Pipe Run 3809 Mud Wt. 9.1
 Top Packer Depth 4326 Drill Collars Run 533 Vis 69
 Bottom Packer Depth 4330 Wt. Pipe Run 0 WL 6.8
 Total Depth 4430 Chlorides 6000 ppm System LCM 12#

Blow Description IF - 1/4" Blow built to 3/4"
ISI - NO Return
FF - NO Blow
FST - NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 132 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic	<u>2088</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>7:15 PM</u>
(B) First Initial Flow	<u>20</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>8:05 PM</u>
(C) First Final Flow	<u>27</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>10:45 PM</u>
(D) Initial Shut-In	<u>1194</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NIL</u>	T-Pulled	<u>11:45 AM</u>
(E) Second Initial Flow	<u>30</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>3:45 AM</u>
(F) Second Final Flow	<u>35</u>	<input checked="" type="checkbox"/> Mileage	<u>150 RT</u> 232.50	Comments	
(G) Final Shut-In	<u>1085</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2083</u>	<input type="checkbox"/> Straddle			

Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Shale Packer	
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Final Flow	<u>30</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Shut-In	<u>60</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
		<input type="checkbox"/> Day Standby		Total	<u>1807.50</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1807.50</u>		

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52130

Well Name & No. Cul Well 'A' #1-27 Test No. 4 Date 6-25-13
 Company Murrin Drilling, CO Elevation 3304 KB 3294 GL
 Address 250 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murrin #14
 Location: Sec. 27 Twp. 1S Rge. 37W Co. Cheyenne State KS

Interval Tested 4424-4474 Zone Tested LKC "J"
 Anchor Length 50' Drill Pipe Run 3868 Mud Wt. 9.1
 Top Packer Depth 4420 Drill Collars Run 533' Vis 65
 Bottom Packer Depth 4424 Wt. Pipe Run 0 WL 6.0
 Total Depth 4474 Chlorides 1,000 ppm System LCM 9#

Blow Description IF- 1/4" Blow Died in 25 min.
ISI- NO Return
FF- NO Blow
FSI- NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 131 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2122</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>10:40 AM</u>
(B) First Initial Flow <u>34</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:10 AM</u>
(C) First Final Flow <u>35</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1:50 PM</u>
(D) Initial Shut-In <u>316</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>4:50 PM</u>
(E) Second Initial Flow <u>35</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>6:50 PM</u>
(F) Second Final Flow <u>36</u>	<input checked="" type="checkbox"/> Mileage <u>150 RT</u> 232.50	Comments <u>Tool opened early and stuck approx 5' to bottom.</u>
(G) Final Shut-In <u>149</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2105</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>1807.50</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1807.50</u>	

Approved By _____ Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52131

Well Name & No. Culwell 'A' #1-27 Test No. 5 Date 6-26-13
 Company Murfin Drilling, Co. Elevation 3304 KB 3294 GL
 Address 2508 N Water STE #3000 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin #14
 Location: Sec. 27 Twp. 1S Rge. 37W Co. Cheyenne State KS

Interval Tested 4625-4670 Zone Tested Pawnee
 Anchor Length 45' Drill Pipe Run 4089 Mud Wt. 9.1
 Top Packer Depth 4621 Drill Collars Run 533' Vis 69
 Bottom Packer Depth 4625 Wt. Pipe Run Ø WL 6.8
 Total Depth 4670 Chlorides 1,000 ppm System LCM 8#

Blow Description IF - 1/4" Blow died back to 1/8"
ISI - NO Return
FF - NO Blow
FSI - NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 135° Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>2274</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>4:20 PM</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>5:50 PM</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>8:15 PM</u>
(D) Initial Shut-In <u>29</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>11:15 PM</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1:25 AM</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>150 RT</u> 232.50	Comments
(G) Final Shut-In <u>24</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2273</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1807.50</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't

Sub Total 1807.50

Approved By _____ Our Representative [Signature]

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ALLIED

OIL & GAS SERVICES, LLC

PO Box 93999
Southlake, TX 76092

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

Acct. Prod. - LH

INVOICE

Invoice Number: 136896
Invoice Date: Jun 18, 2013
Page: 1

Now Includes:



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

Customer ID	Field Ticket #	Payment Terms	
Murfin	60313	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jun 18, 2013	7/18/13

Quantity	Item	Description	Unit Price	Amount
190.00	MAT	Culwell A #1-27	17.90	3,401.00
7.00	MAT	Class A Common Chloride	64.00	448.00
199.50	SER	Cubic Feet	2.48	494.76
920.00	SER	Ton Mileage	2.60	2,392.00
1.00	SER	Surface	1,512.25	1,512.25
100.00	SER	Pump Truck Mileage	7.70	770.00
1.00	SER	Swedge Manifold Rental	275.00	275.00
100.00	SER	Light Vehicle Mileage	4.40	440.00
1.00	CEMENTER	Darren Racette		
1.00	EQUIP OPER	Paul Beaver		
1.00	EQUIP OPER	D J Gray		
1.00	OPER ASSIST	David Scariano		
<i>ID203 3.</i>		<i>1218.0001</i>	<i>6645.93</i>	<i>Cement S. Csg. #1-27</i>

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

\$ 3,406.55

ONLY IF PAID ON OR BEFORE

Jul 13, 2013

Subtotal	9,733.01
Sales Tax	319.47
Total Invoice Amount	10,052.48
Payment/Credit Applied	
TOTAL	10,052.48

- 3406.55

6645.93

SR

ALLIED OIL & GAS SERVICES, LLC 060313

Federal Tax I.D. # 20-8651475

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

SERVICE POINT

Oakley

DATE 6/18/13	SEC. 27	TWP. 1	RANGE 37	CALLED OUT	ON LOCATION	JOB START 11:00 Am	JOB FINISH 11:30 Am
EASE <i>Culwell A</i>		WELL # 1-27		LOCATION <i>Bicol City N To Rd AA-Eto</i>		COUNTY <i>Cherokee</i>	STATE <i>Ks.</i>
LD OR NEW (Circle one) <i>NEW</i>				Dead End - IS - Finto			

CONTRACTOR *Murfin #14* OWNER *Same*

TYPE OF JOB *Suface* CEMENT AMOUNT ORDERED *190 SKs Com 39% CC*

OLE SIZE *12 1/4* T.D. *226*
ASING SIZE *8 5/8* DEPTH *226.19*
JBING SIZE DEPTH
RILL PIPE DEPTH
COL DEPTH
RES. MAX MINIMUM
EAS. LINE SHOE JOINT

MENT LEFT IN CSG. *15'*
RFS.
SPACEMENT *13.51*
EQUIPMENT

IMP TRUCK CEMENTER *Domen Pasotto*
431 HELPER *Paul Beaver + DJ Gray*
ILK TRUCK
376-306 DRIVER *David Scario*
ILK TRUCK DRIVER

HANDLING *199.50* x *2.48* = *494.76*
MILEAGE *9.20* x *100* = *920* = *2392.00*
TOTAL *6735.76*

REMARKS:
*mix 190 SKs Cement
to replace with water
cement did circulate*

Thank You

ORDER TO: *Murfin*
CITY STATE ZIP

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

ORDERED NAME *Culwell*
NATURE *Big Chuck*

COMMON *190 SKs @ \$17.90 = \$3401.00*
POZMIX @
GEL @
CHLORIDE *7 SKs @ \$67.00 = \$468.00*
ASC @
HANDLING *199.50* x *2.48* = *494.76*
MILEAGE *9.20* x *100* = *920* = *2392.00*
TOTAL *6735.76*

SERVICE
DEPTH OF JOB *226.19'*
PUMP TRUCK CHARGE *\$1512.22*
EXTRA FOOTAGE @
MILEAGE *100* @ *\$7.70* = *770.00*
MANIFOLD *Sledge* @ *\$275.00*
1.0 milege @ *\$4.00* = *4.00*
TOTAL *2997.25*

PLUG & FLOAT EQUIPMENT
TOTAL

SALES TAX (If Any)
TOTAL CHARGES *9733.01*
DISCOUNT *3406.55* IF PAID IN 30 DAYS
6326.45 Net.



acct. Prod-LH

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 137055

Invoice Date: Jun 28, 2013

Page: 1

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

Now Includes:



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

Customer ID	Field Ticket #	Payment Terms	
Murfin	60808	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Jun 28, 2013	7/28/13

Quantity	Item	Description	Unit Price	Amount
132.00	MAT	Cullwell A #1-27		
		Class A Common	17.90	2,362.80
88.00	MAT	Pozmix	9.35	822.80
8.00	MAT	Gel	23.40	187.20
55.00	MAT	Flo Seal	2.97	163.35
236.26	SER	Cubic Feet	2.48	585.94
1,085.22	SER	Ton Mileage	2.60	2,821.53
1.00	SER	Rotary Plug	2,600.47	2,600.47
100.00	SER	Pump Truck Mileage	7.70	770.00
100.00	SER	Light Vehicle Mileage	4.40	440.00
1.00	EQP	8.5/8 Wooden Plug	107.64	107.64
1.00	CEMENTER	Alan Ryan		
1.00	EQUIP OPER	Wayne McGhghy		
1.00	OPER ASSIST	Brandon Wilkinson		

Account	Unit	W	No.	Amount	Description
ID 203	3			7961.65	PTA #1-27
				1218.0001	

Subtotal	10,861.73
Sales Tax	901.52
Total Invoice Amount	11,763.25
Payment/Credit Applied	
TOTAL	11,763.25

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

\$ 3,801.61

ONLY IF PAID ON OR BEFORE

Jul 23, 2013

- 3801.60

7,961.65

OKM

ALLIED OIL & GAS SERVICES, LLC 060808

Federal Tax I.D. # 20-8661476

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

SERVICE POINT:

Quilley

DATE <i>6/28/13</i>	SEC <i>27</i>	TWP	RANGE <i>32</i>	CALLED OUT	ON LOCATION	JOB START <i>8:00am</i>	JOB FINISH <i>2:00pm</i>
LEASE <i>Cullwell A</i>	WELL # <i>1-27</i>	LOCATION <i>Perkolman 570AAA 4E 1/2 S</i>			COUNTY <i>Clayton</i>	STATE <i>TX</i>	
OLD OR NEW (Circle one) <i>NEW</i>							

CONTRACTOR <i>Murphy 14</i>	OWNER <i>Same</i>
TYPE OF JOB <i>PTA</i>	
HOLE SIZE <i>7 1/2</i>	T.D. <i>325</i>
CASING SIZE <i>8 1/2</i>	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT	

CEMENT AMOUNT ORDERED *220 60/40 4070 gal*
14 P/L

COMMON <i>132</i>	@ <i>12.25</i>	<i>2362.50</i>
POZMIX <i>88</i>	@ <i>2.25</i>	<i>882.00</i>
OEL <i>8</i>	@ <i>23.40</i>	<i>187.20</i>
CHLORIDE	@	
ASC	@	

EQUIPMENT

PUMP TRUCK CEMENTER	<i>At Ryan</i>
# <i>322</i>	HELPER <i>Wynn McGibghy</i>
BULK TRUCK	
# <i>327</i>	DRIVER <i>Brandon Wilkinson</i>
BULK TRUCK	
#	DRIVER

<i>Flowline 5716</i>	@ <i>2.22</i>	<i>163.30</i>
	@	
	@	
	@	
	@	
HANDLING <i>236.266</i>	@ <i>2.40</i>	<i>585.84</i>
MILEAGE <i>2 Tonville 9.867</i>	TON	<i>2821.57</i>
		TOTAL <i>6943.62</i>

REMARKS:

25 1/4 @ 285'
100 1/4 @ 285'
40 1/4 @ 275'
10 1/4 @ 40'
15 SKI MD
30 SKI RH

SERVICE

DEPTH OF JOB <i>325'</i>	
PUMP TRUCK CHARGE	<i>2600.00</i>
EXTRA FOOTAGE	@
MILEAGE <i>187</i>	@ <i>7.20</i> <i>700.00</i>
MANIFOLD <i>15766122 107</i>	@ <i>4.40</i> <i>440.00</i>
	@
TOTAL <i>3010.47</i>	

CHARGE TO: *Murphy Drilling Co*

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

<i>PSP 1000 1kg</i>	@	<i>107.64</i>
	@	
	@	
	@	
		TOTAL <i>107.64</i>

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

SALES TAX (If Any) _____

TOTAL CHARGES *10,861.73*

DISCOUNT *3,801.61* IF PAID IN 30 DAYS

7,060.12 Net.

PRINTED NAME *Robert W. Mickelson*

SIGNATURE *Robert W. M.*