



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1197351
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
-----------------------------------	-----------------	---

API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1197351

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
--	---	---

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Zweygartd 'HP' 1-3
Doc ID	1197351

All Electric Logs Run

Dual Induction
Dual Compensated
Microresistivity
Borehole Compensated

Zweygardt 'HP' #1-3 330 FSL 330 FEL Sec. 3-T3S-R41W 3599' KB							Phyllis #1-2 1350 FSL 330 FEL Sec. 2-T3S-R41W 3600' KB	
Formation	Sample Top	Datum	Ref	Log top	Datum	Ref	Log Top	Datum
Anhydrite				3447	+152	-10	3438	+162
B/Anhydrite				3477	+122	-4	3474	+126
Topeka	4248	-649	-5	4246	-647	-3	4244	-644
Oread	4358	-759	-2	4365	-766	-9	4357	-757
Lansing	4432	-833	Flat	4434	-835	-2	4433	-833
Stark Sh	4670	-1071	-9	4664	-1065	-3	4662	-1062
BKC	4736	-1137	-4	4737	-1138	-5	4733	-1133
Marmaton	4763	-1164	Flat	4771	-1172	-8	4764	-1164
Pawnee	4859	-1260	-9	4858	-1259	-8	4851	-1251
Cherokee	4932	-1333	-5	4930	-1331	-2	4928	-1328
Mississippi	5206	-1607		5194	-1595		DNR	
RTD	5300						4975	
LTD				5299			4979	



DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Saman ShariFaie

Zweygartd 'HP' #1-3

3-3s-41w Cheyenne,KS

Start Date: 2013.12.14 @ 02:53:00

End Date: 2013.12.14 @ 10:42:00

Job Ticket #: 53559 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.12.23 @ 10:14:57



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53559

DST#: 1

ATTN: Saman ShariFaie

Test Start: 2013.12.14 @ 02:53:00

GENERAL INFORMATION:

Formation: **LKC "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:35:40

Time Test Ended: 10:42:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 4391.00 ft (KB) To 4500.00 ft (KB) (TVD)

Reference Elevations: 3601.00 ft (KB)

Total Depth: 4500.00 ft (KB) (TVD)

3591.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8874

Inside

Press@RunDepth: 340.23 psig @ 4392.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.12.14

End Date:

2013.12.14

Last Calib.:

2013.12.14

Start Time: 02:54:00

End Time:

10:42:00

Time On Btm:

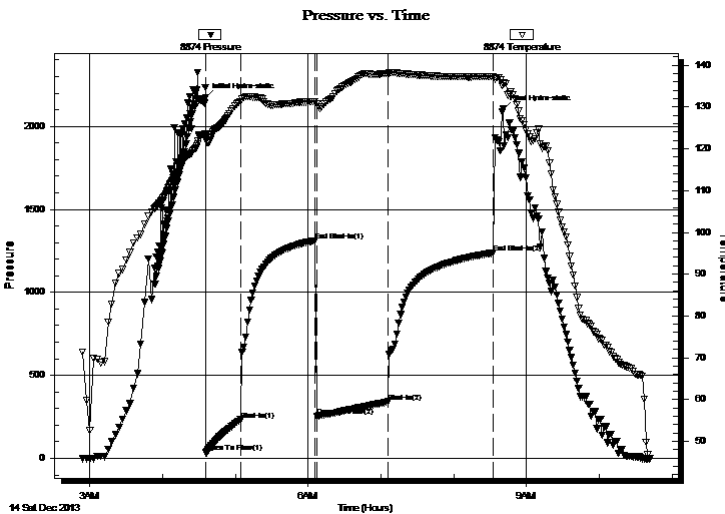
2013.12.14 @ 04:35:30

Time Off Btm:

2013.12.14 @ 08:40:30

TEST COMMENT: 30 - IF- BoB in 13 min.
60 - IS- No Return
60 - FF- BoB in 15 min
90 - FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2173.91	123.48	Initial Hydro-static
1	33.30	122.08	Open To Flow (1)
29	232.05	131.36	Shut-In(1)
90	1311.53	131.29	End Shut-In(1)
92	250.94	130.74	Open To Flow (2)
150	340.23	137.98	Shut-In(2)
237	1237.17	137.28	End Shut-In(2)
245	2103.56	135.47	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
270.00	MCO 50M 50o	1.33
180.00	MCO 40M 60o	0.89
180.00	MCO 20M 80o	1.52
150.00	Free Oil 100o	2.10

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N Water STE #300
Wichita, KS 67202
ATTN: Saman ShariFaie

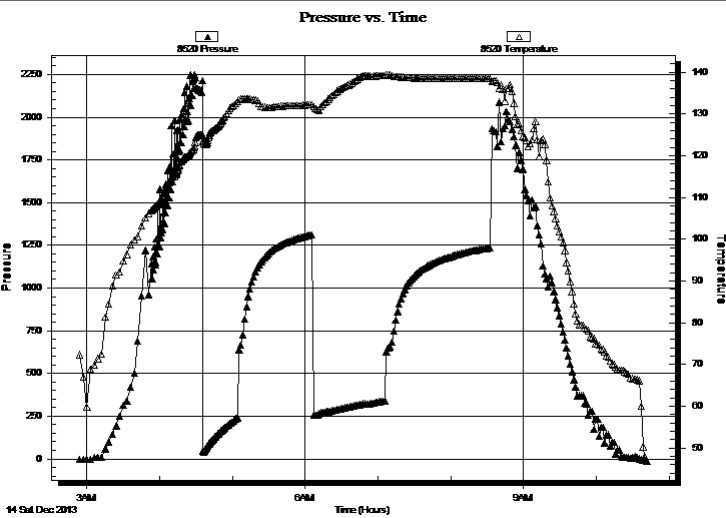
3-3s-41w Cheyenne, KS
Zweygardt 'HP' #1-3
Job Ticket: 53559 **DST#: 1**
Test Start: 2013.12.14 @ 02:53:00

GENERAL INFORMATION:

Formation: **LKC "A-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:35:40
Time Test Ended: 10:42:00
Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66
Interval: 4391.00 ft (KB) To 4500.00 ft (KB) (TVD)
Total Depth: 4500.00 ft (KB) (TVD)
Reference Elevations: 3601.00 ft (KB)
3591.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good
KB to GR/CF: 10.00 ft

Serial #: 8520 **Outside**
Press@RunDepth: psig @ 4392.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.12.14 End Date: 2013.12.14 Last Calib.: 2013.12.14
Start Time: 02:54:00 End Time: 10:42:00 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF- BoB in 13 min.
60 - IS- No Return
60 - FF- BoB in 15 min
90 - FS- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
270.00	MCO 50M 50o	1.33
180.00	MCO 40M 60o	0.89
180.00	MCO 20M 80o	1.52
150.00	Free Oil 100o	2.10

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53559

DST#: 1

ATTN: Saman ShariFaie

Test Start: 2013.12.14 @ 02:53:00

Tool Information

Drill Pipe:	Length: 3833.00 ft	Diameter: 3.80 inches	Volume: 53.77 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: 560.00 ft	Diameter: 2.25 inches	Volume: 2.75 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 56.52 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4391.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	109.00 ft			
Tool Length:	137.00 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			4364.00	
Shut In Tool	5.00			4369.00	
Hydraulic tool	5.00			4374.00	
Jars	5.00			4379.00	
Safety Joint	3.00			4382.00	
Packer	5.00			4387.00	28.00 Bottom Of Top Packer
Packer	4.00			4391.00	
Stubb	1.00			4392.00	
Recorder	0.00	8520	Outside	4392.00	
Recorder	0.00	8874	Inside	4392.00	
Perforations	6.00			4398.00	
Change Over Sub	1.00			4399.00	
Drill Pipe	95.00			4494.00	
Change Over Sub	1.00			4495.00	
Bullnose	5.00			4500.00	109.00 Bottom Packers & Anchor

Total Tool Length: 137.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53559

DST#: 1

ATTN: Saman ShariFaie

Test Start: 2013.12.14 @ 02:53:00

Mud and Cushion Information

Mud Type: Polymer	Cushion Type:	Oil API:	29 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.59 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
270.00	MCO 50M 50o	1.328
180.00	MCO 40M 60o	0.885
180.00	MCO 20M 80o	1.523
150.00	Free Oil 100o	2.104

Total Length: 780.00 ft Total Volume: 5.840 bbl

Num Fluid Samples: 0

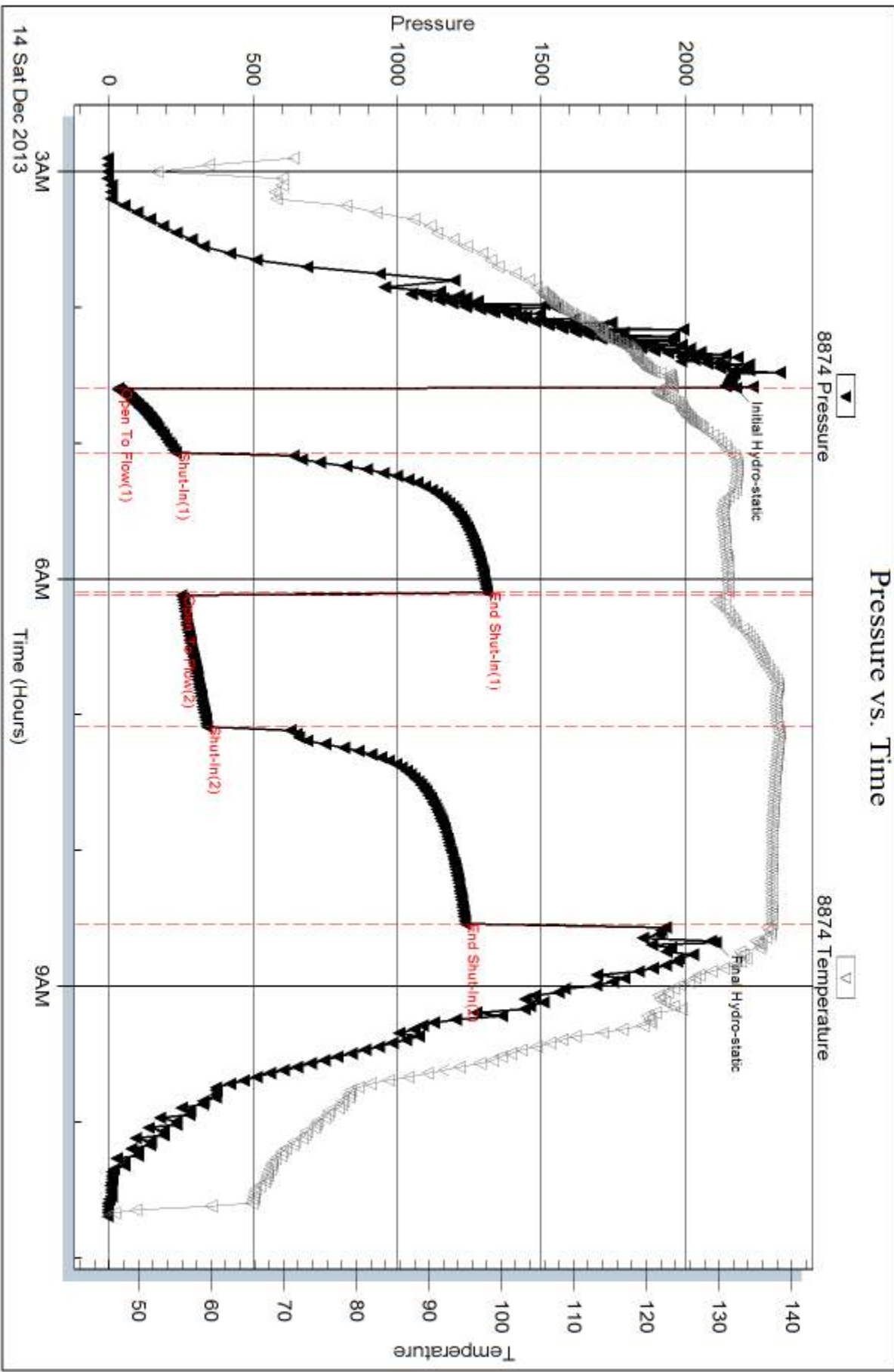
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API 29 @ 60 deg = 29

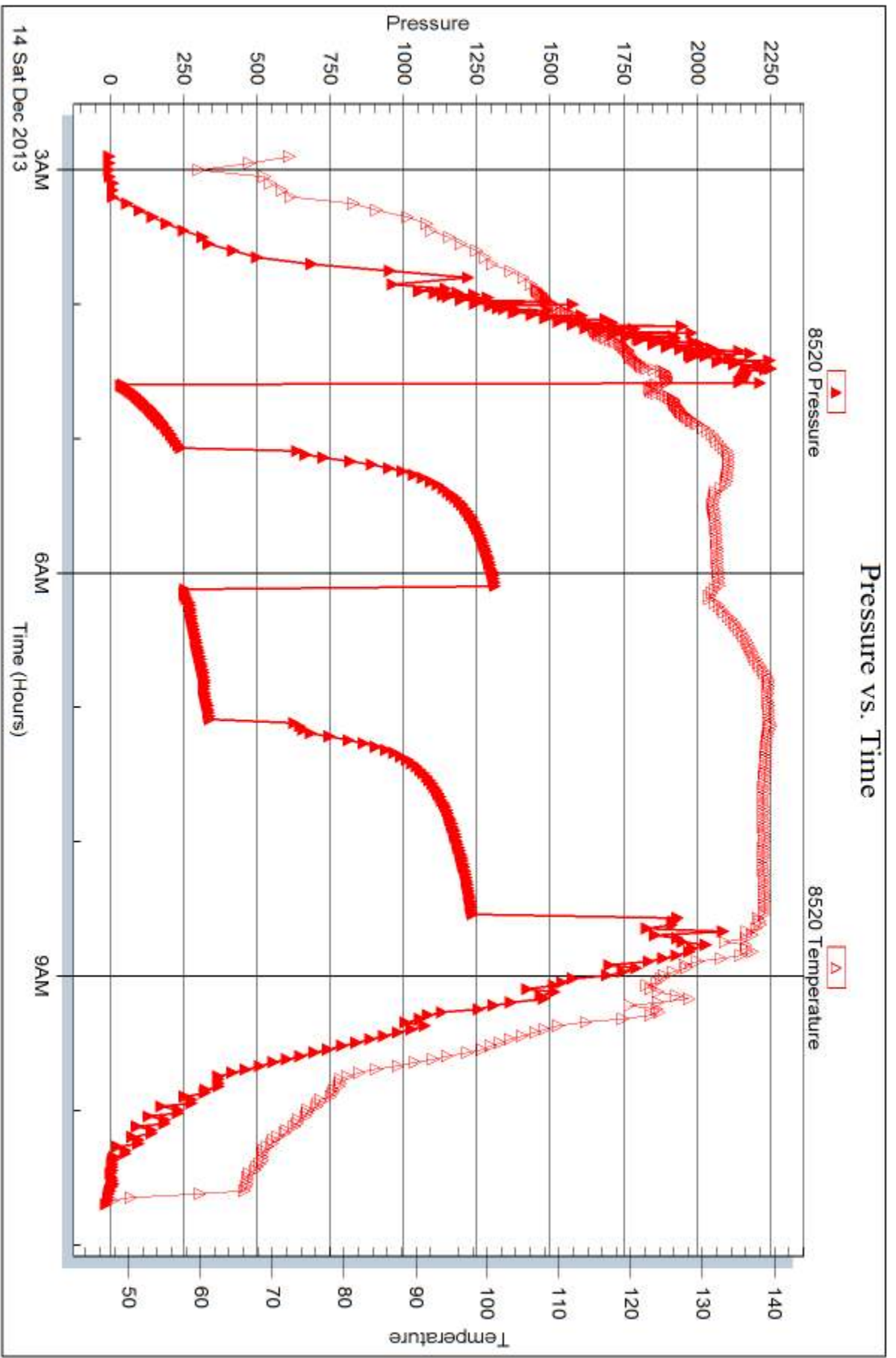


Serial #: 8520

Outside Murfin Drilling Co.

Zweygardt HP #1-3

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Saman ShariFaie

Zweygardt 'HP' #1-3

3-3s-41w Cheyenne,KS

Start Date: 2013.12.14 @ 21:55:00

End Date: 2013.12.15 @ 06:49:30

Job Ticket #: 53560 DST #: 2

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

Printed: 2013.12.23 @ 10:13:31

Murfin Driling Co. 3-3s-41w Cheyenne,KS Zweygardt 'HP' #1-3 DST # 2 LKC "G" 2013.12.14



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53560

DST#: 2

ATTN: Saman ShariFaie

Test Start: 2013.12.14 @ 21:55:00

GENERAL INFORMATION:

Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 23:58:30 Tester: Kevin Mack
 Time Test Ended: 06:49:30 Unit No: 66
 Interval: **4507.00 ft (KB) To 4580.00 ft (KB) (TVD)** Reference Elevations: 3601.00 ft (KB)
 Total Depth: 4580.00 ft (KB) (TVD) 3591.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

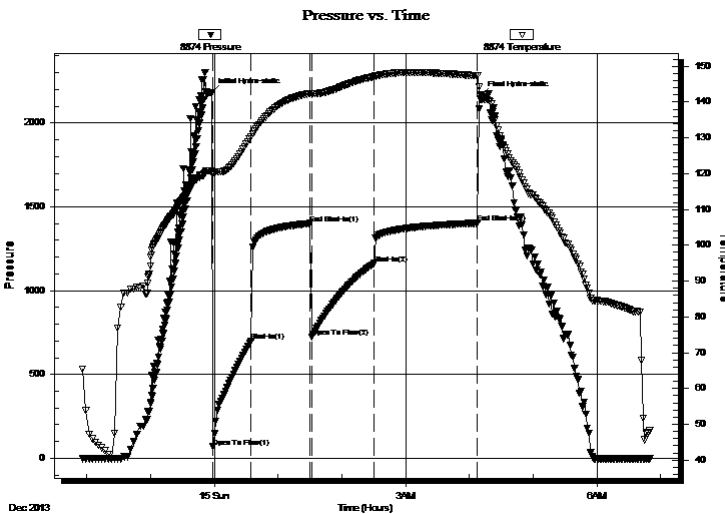
Serial #: 8874

Inside

Press@RunDepth: 1162.29 psig @ 4508.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.12.14 End Date: 2013.12.15 Last Calib.: 2013.12.15
 Start Time: 21:56:00 End Time: 06:49:30 Time On Btm: 2013.12.14 @ 23:57:00
 Time Off Btm: 2013.12.15 @ 04:11:00

TEST COMMENT: 30 - IF- BoB in 2 min.
 60 - IS- No Return
 60 - FF- BoB in 3 1/2 min.
 90 - FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2179.05	120.79	Initial Hydro-static
2	68.03	119.80	Open To Flow (1)
38	700.11	130.27	Shut-In(1)
93	1400.52	142.42	End Shut-In(1)
95	721.69	142.28	Open To Flow (2)
153	1162.29	147.14	Shut-In(2)
251	1402.92	147.33	End Shut-In(2)
254	2163.79	140.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
1495.00	MW 5M 95W	15.92
376.00	MW 30M 70W	5.27
282.00	MW 50M 50W	3.96
470.00	WM 80M 20W	6.59

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53560

DST#: 2

ATTN: Saman ShariFaie

Test Start: 2013.12.14 @ 21:55:00

Tool Information

Drill Pipe:	Length: 3929.00 ft	Diameter: 3.80 inches	Volume: 55.11 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: 560.00 ft	Diameter: 2.25 inches	Volume: 2.75 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 57.86 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4507.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	101.00 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			4480.00	
Shut In Tool	5.00			4485.00	
Hydraulic tool	5.00			4490.00	
Jars	5.00			4495.00	
Safety Joint	3.00			4498.00	
Packer	5.00			4503.00	28.00 Bottom Of Top Packer
Packer	4.00			4507.00	
Stubb	1.00			4508.00	
Recorder	0.00	8653	Outside	4508.00	
Recorder	0.00	8874	Inside	4508.00	
Perforations	1.00			4509.00	
Change Over Sub	1.00			4510.00	
Drill Pipe	64.00			4574.00	
Change Over Sub	1.00			4575.00	
Bullnose	5.00			4580.00	73.00 Bottom Packers & Anchor

Total Tool Length: 101.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53560

DST#: 2

ATTN: Saman ShariFaie

Test Start: 2013.12.14 @ 21:55:00

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:

30000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud (Heavy) 100M	0.025
1495.00	MW 5M 95W	15.915
376.00	MW 30M 70W	5.274
282.00	MW 50M 50W	3.956
470.00	WM 80M 20W	6.593

Total Length: 2628.00 ft Total Volume: 31.763 bbl

Num Fluid Samples: 0

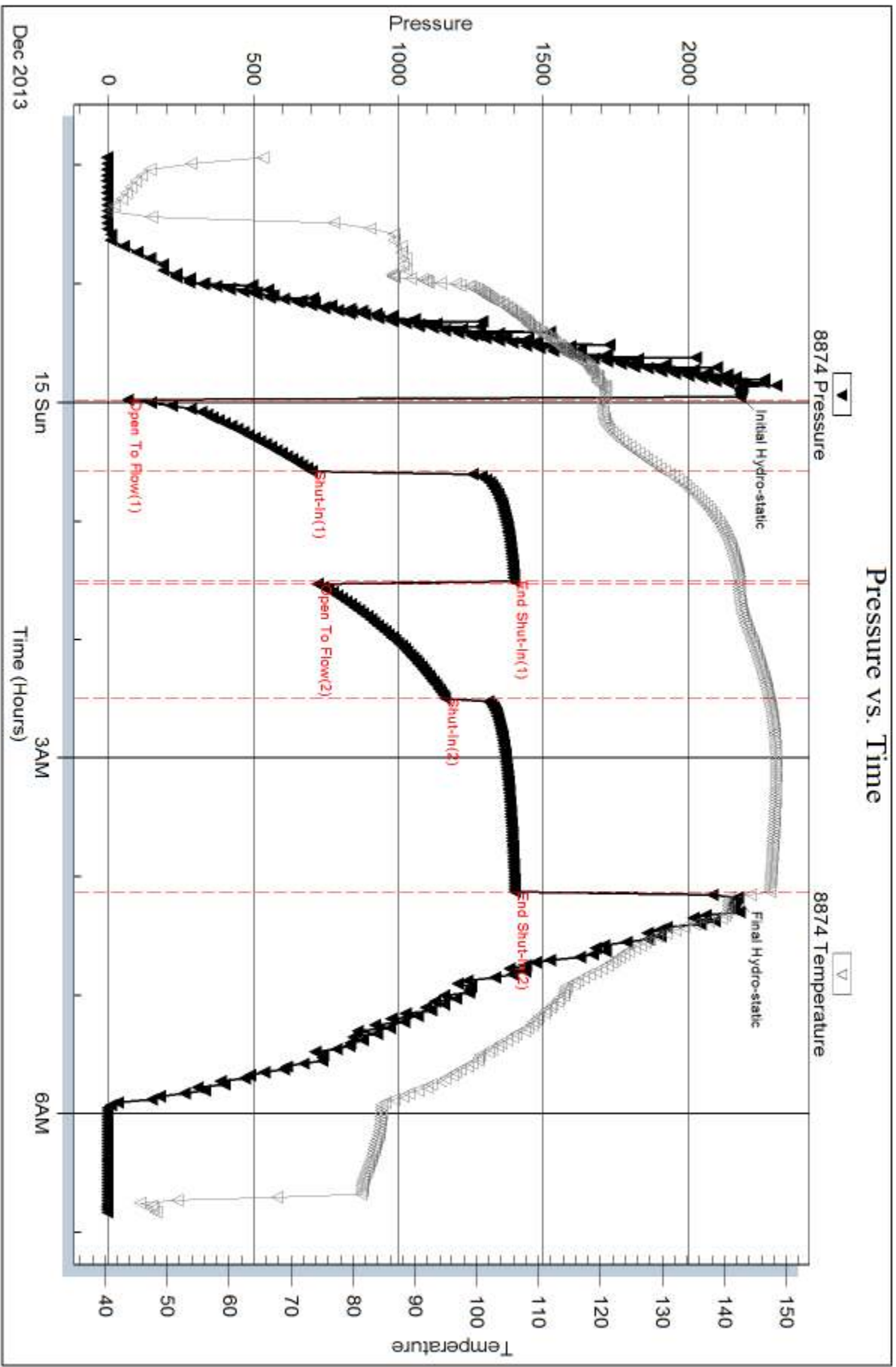
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW . 423 @ 38 deg = 30,000ppm

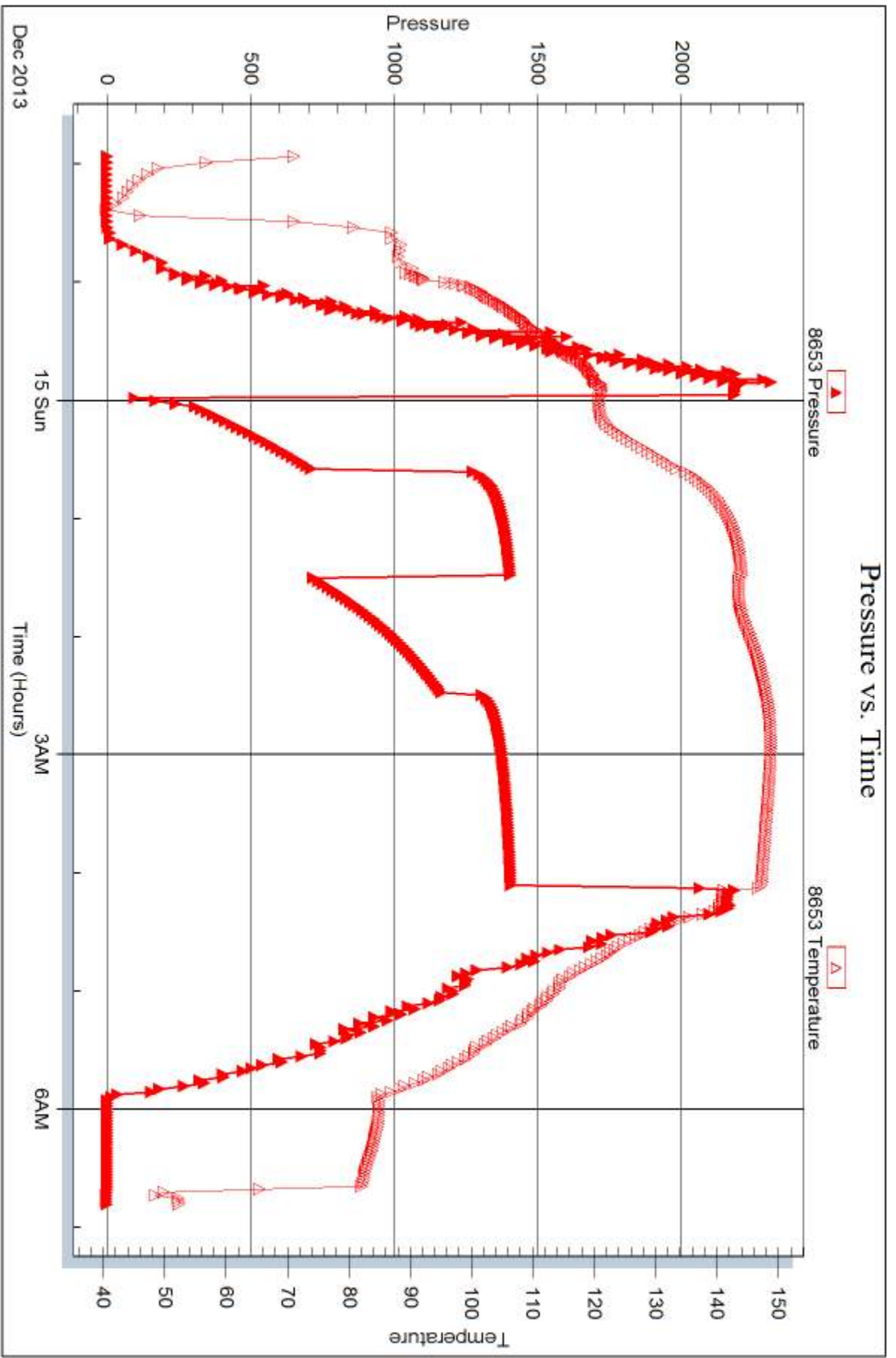


Serial #: 8653

Outside Murfin Drilling Co.

Zweygardt HP #1-3

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Saman ShariFaie

Zweygartd 'HP' #1-3

3-3s-41w Cheyenne,KS

Start Date: 2013.12.15 @ 09:35:00

End Date: 2013.12.15 @ 18:26:30

Job Ticket #: 53561 DST #: 3

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

Printed: 2013.12.23 @ 10:12:50



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

3-3s-41w Cheyenne, KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53561

DST#: 3

ATTN: Saman ShariFaie

Test Start: 2013.12.15 @ 09:35:00

GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:58:00

Time Test Ended: 18:26:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 4575.00 ft (KB) To 4720.00 ft (KB) (TVD)

Reference Elevations: 3601.00 ft (KB)

Total Depth: 4720.00 ft (KB) (TVD)

3591.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8874

Inside

Press@RunDepth: 222.08 psig @ 4576.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.12.15

End Date:

2013.12.16

Last Calib.:

2013.12.16

Start Time: 21:35:00

End Time:

06:25:30

Time On Btm:

2013.12.15 @ 23:55:00

Time Off Btm:

2013.12.16 @ 04:06:00

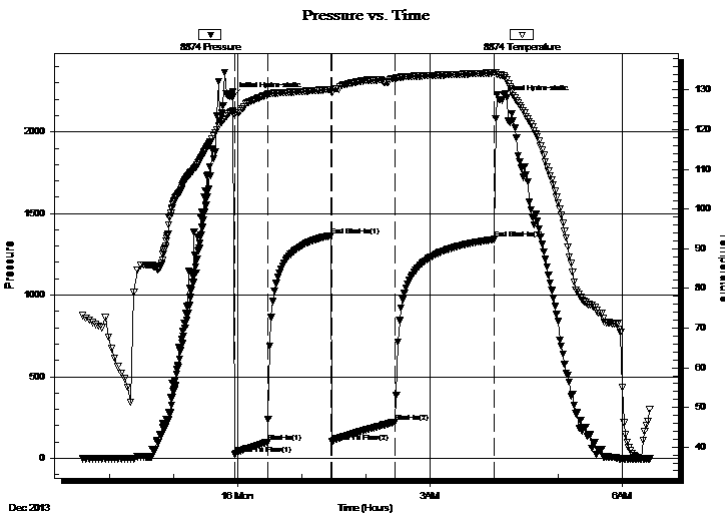
TEST COMMENT: 30 - IF- 1" Blow built to 7 1/4"

60 - IS- No Return

60 - FF- Blow started at 7 min. built to 7"

90 - FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2214.10	124.60	Initial Hydro-static
2	25.29	123.86	Open To Flow (1)
33	99.24	128.81	Shut-In(1)
92	1365.06	130.13	End Shut-In(1)
94	100.65	129.31	Open To Flow (2)
152	222.08	132.93	Shut-In(2)
245	1341.52	134.33	End Shut-In(2)
251	2196.66	133.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	WM 30W 70M	0.89
185.00	Mud 100M	0.91

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N Water STE #300
Wichita, KS 67202
ATTN: Saman ShariFaie

3-3s-41w Cheyenne,KS

Zweygardt 'HP' #1-3

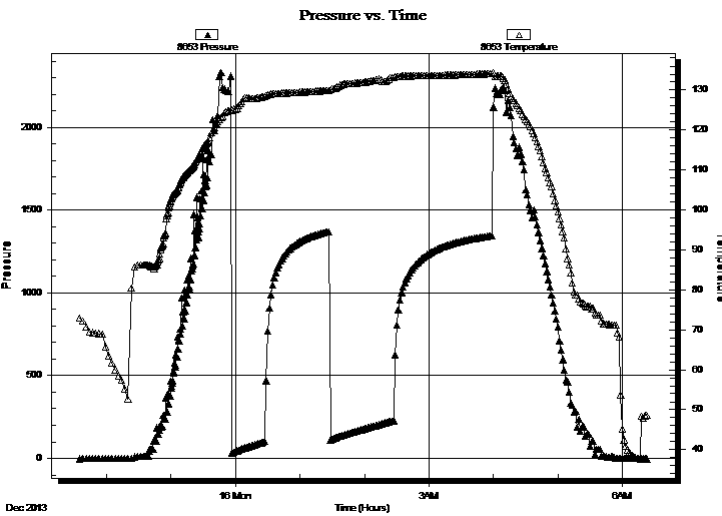
Job Ticket: 53561 **DST#: 3**
Test Start: 2013.12.15 @ 09:35:00

GENERAL INFORMATION:

Formation: **LKC "H-K"**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 11:58:00 Tester: Kevin Mack
 Time Test Ended: 18:26:30 Unit No: 66
Interval: 4575.00 ft (KB) To 4720.00 ft (KB) (TVD) Reference Elevations: 3601.00 ft (KB)
 Total Depth: 4720.00 ft (KB) (TVD) 3591.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

Serial #: 8653 Outside
 Press@RunDepth: psig @ 4576.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.12.15 End Date: 2013.12.16 Last Calib.: 2013.12.16
 Start Time: 21:35:00 End Time: 06:23:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF- 1" Blow built to 7 1/4"
 60 - IS- No Return
 60 - FF- Blow started at 7 min. built to 7"
 90 - FS- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	WM 30W 70M	0.89
185.00	Mud 100M	0.91

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygartd 'HP' #1-3

Job Ticket: 53561

DST#: 3

ATTN: Saman ShariFaie

Test Start: 2013.12.15 @ 09:35:00

Tool Information

Drill Pipe:	Length: 3997.00 ft	Diameter: 3.80 inches	Volume: 56.07 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: 560.00 ft	Diameter: 2.25 inches	Volume: 2.75 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 58.82 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4575.00 ft			Final 77000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	145.00 ft			
Tool Length:	173.00 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			4548.00	
Shut In Tool	5.00			4553.00	
Hydraulic tool	5.00			4558.00	
Jars	5.00			4563.00	
Safety Joint	3.00			4566.00	
Packer	5.00			4571.00	28.00 Bottom Of Top Packer
Packer	4.00			4575.00	
Stubb	1.00			4576.00	
Recorder	0.00	8653	Outside	4576.00	
Recorder	0.00	8874	Inside	4576.00	
Perforations	11.00			4587.00	
Change Over Sub	1.00			4588.00	
Drill Pipe	126.00			4714.00	
Change Over Sub	1.00			4715.00	
Bullnose	5.00			4720.00	145.00 Bottom Packers & Anchor

Total Tool Length: 173.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53561

DST#: 3

ATTN: Saman ShariFaie

Test Start: 2013.12.15 @ 09:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
180.00	WM 30W 70M	0.885
185.00	Mud 100M	0.910

Total Length: 365.00 ft

Total Volume: 1.795 bbl

Num Fluid Samples: 0

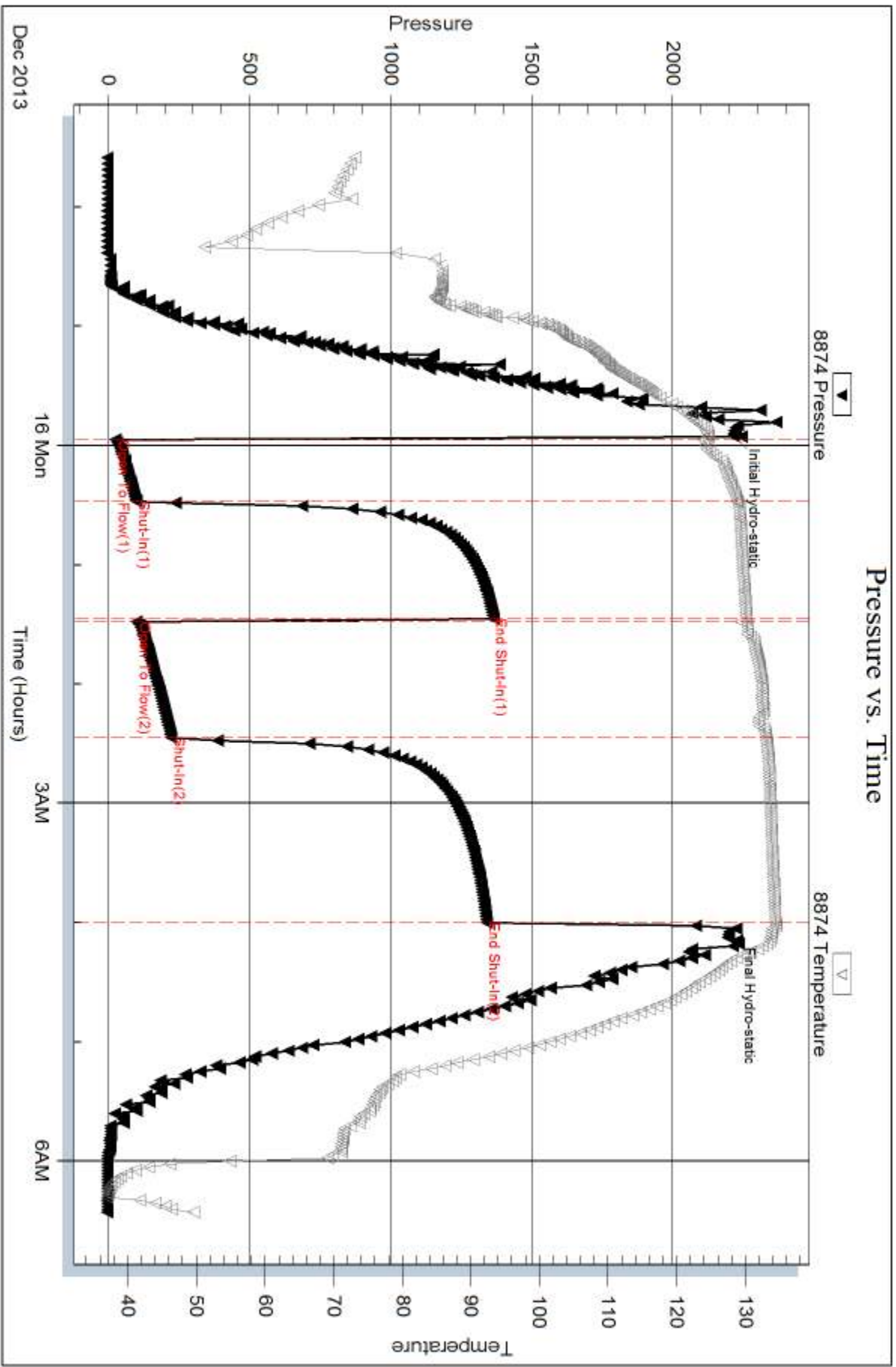
Num Gas Bombs: 0

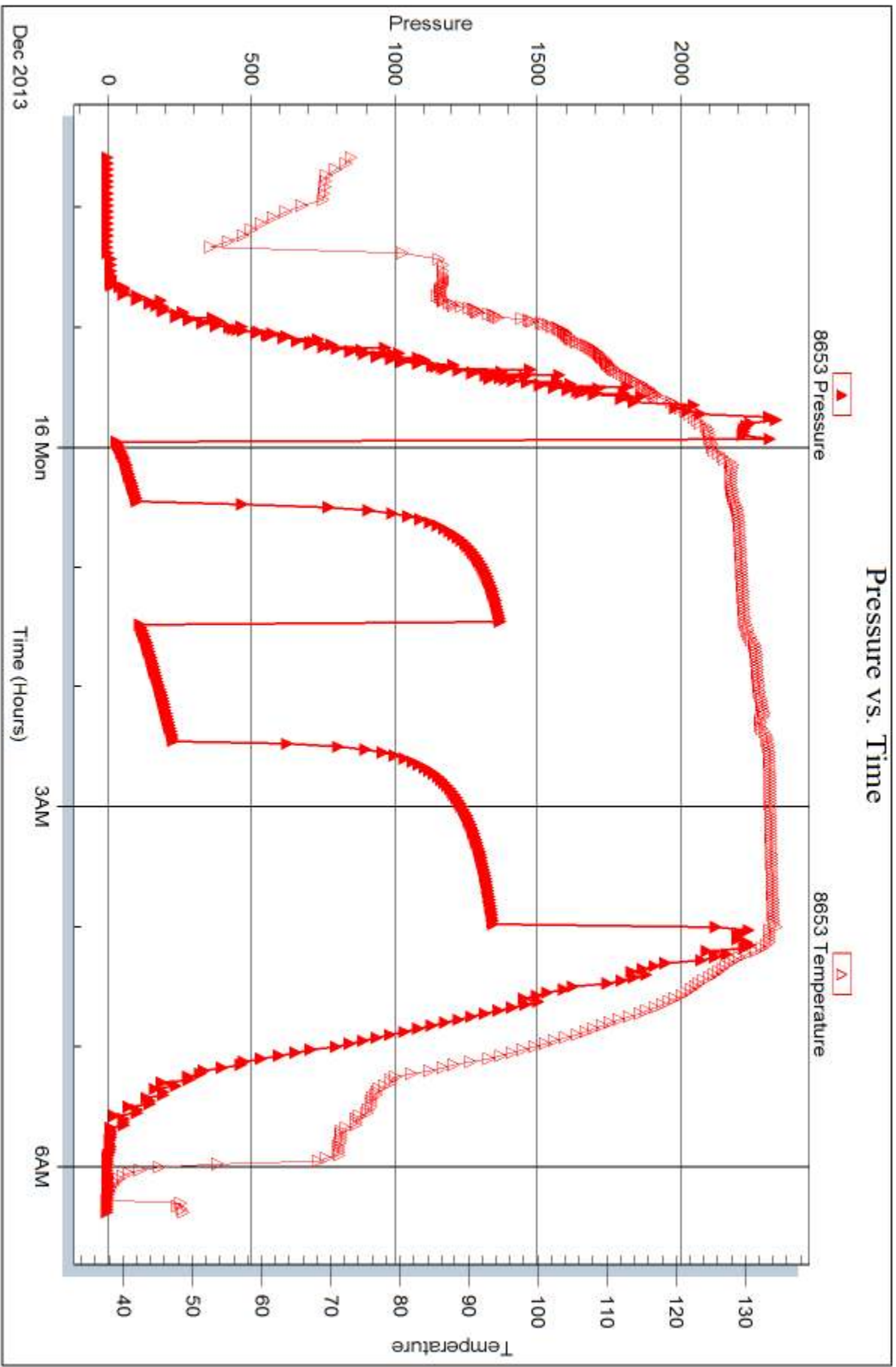
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Saman ShariFaie

Zweygardt 'HP' #1-3

3-3s-41w Cheyenne,KS

Start Date: 2013.12.16 @ 23:12:00

End Date: 2013.12.17 @ 08:30:00

Job Ticket #: 53562 DST #: 4

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

Printed: 2013.12.23 @ 10:11:03



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53562

DST#: 4

ATTN: Saman ShariFaie

Test Start: 2013.12.16 @ 23:12:00

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:05:00

Time Test Ended: 08:30:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 4835.00 ft (KB) To 4900.00 ft (KB) (TVD)

Reference Elevations: 3601.00 ft (KB)

Total Depth: 4900.00 ft (KB) (TVD)

3591.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8874 Inside

Press@RunDepth: 963.18 psig @ 4836.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.12.16

End Date:

2013.12.17

Last Calib.:

2013.12.17

Start Time: 23:13:00

End Time:

08:30:00

Time On Btm:

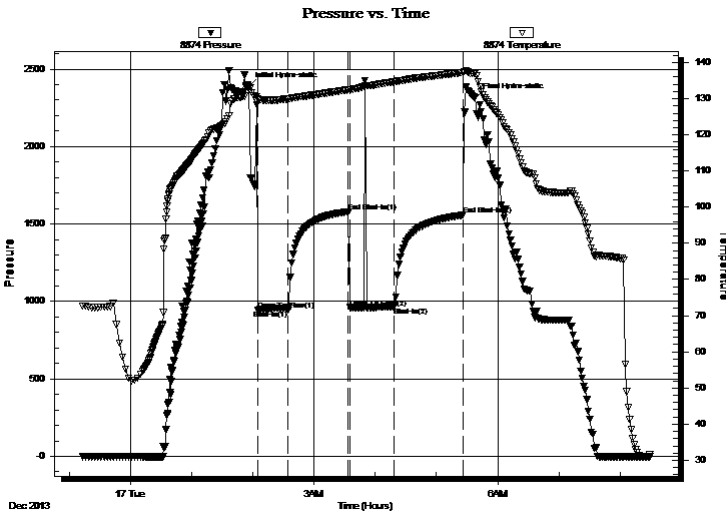
2013.12.17 @ 01:55:30

Time Off Btm:

2013.12.17 @ 05:38:30

TEST COMMENT: 30 - IF- No Blow
60 - IS- No Return
45 - FF- No Blow - Flushed tool at 15 min - No Blow
60 - FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2388.25	132.96	Initial Hydro-static
10	943.67	129.97	Open To Flow (1)
39	943.30	129.89	Shut-In(1)
98	1581.04	132.46	End Shut-In(1)
100	959.76	132.41	Open To Flow (2)
143	963.18	134.62	Shut-In(2)
211	1556.84	137.21	End Shut-In(2)
223	2314.63	136.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1805.00	Mud 100M	20.22

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co.

3-3s-41w Cheyenne, KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53562

DST#: 4

ATTN: Saman ShariFaie

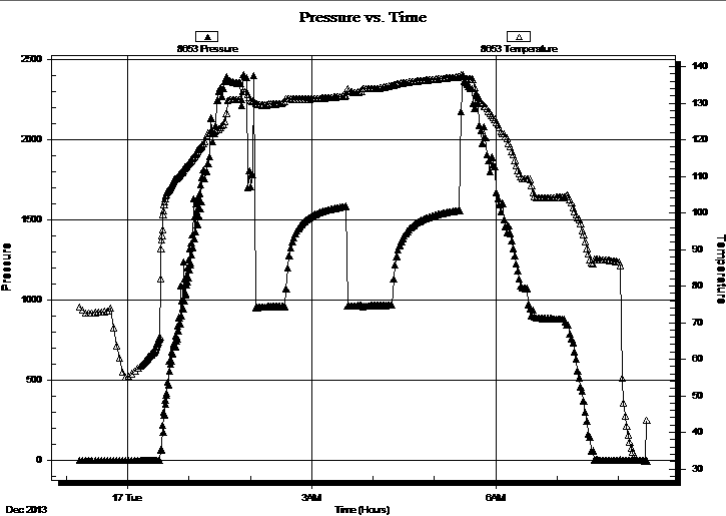
Test Start: 2013.12.16 @ 23:12:00

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 02:05:00
 Tester: Kevin Mack
 Time Test Ended: 08:30:00
 Unit No: 66
Interval: 4835.00 ft (KB) To 4900.00 ft (KB) (TVD)
 Reference Elevations: 3601.00 ft (KB)
 Total Depth: 4900.00 ft (KB) (TVD)
 3591.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Good
 KB to GR/CF: 10.00 ft

Serial #: 8653 Outside
 Press@RunDepth: psig @ 4836.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.12.16 End Date: 2013.12.17 Last Calib.: 2013.12.17
 Start Time: 23:13:00 End Time: 08:28:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF- No Blow
 60 - ISI- No Return
 45 - FF- No Blow - Flushed tool at 15 min - No Blow
 60 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1805.00	Mud 100M	20.22

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53562

DST#: 4

ATTN: Saman ShariFaie

Test Start: 2013.12.16 @ 23:12:00

Tool Information

Drill Pipe:	Length: 4279.00 ft	Diameter: 3.80 inches	Volume: 60.02 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: 560.00 ft	Diameter: 2.25 inches	Volume: 2.75 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 62.77 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4835.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	93.00 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			4808.00	
Shut In Tool	5.00			4813.00	
Hydraulic tool	5.00			4818.00	
Jars	5.00			4823.00	
Safety Joint	3.00			4826.00	
Packer	5.00			4831.00	28.00 Bottom Of Top Packer
Packer	4.00			4835.00	
Stubb	1.00			4836.00	
Recorder	0.00	8653	Outside	4836.00	
Recorder	0.00	8874	Inside	4836.00	
Perforations	25.00			4861.00	
Change Over Sub	1.00			4862.00	
Drill Pipe	32.00			4894.00	
Change Over Sub	1.00			4895.00	
Bullnose	5.00			4900.00	65.00 Bottom Packers & Anchor

Total Tool Length: 93.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53562

DST#: 4

ATTN: Saman ShariFaie

Test Start: 2013.12.16 @ 23:12:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1805.00	Mud 100M	20.218

Total Length: 1805.00 ft Total Volume: 20.218 bbl

Num Fluid Samples: 0

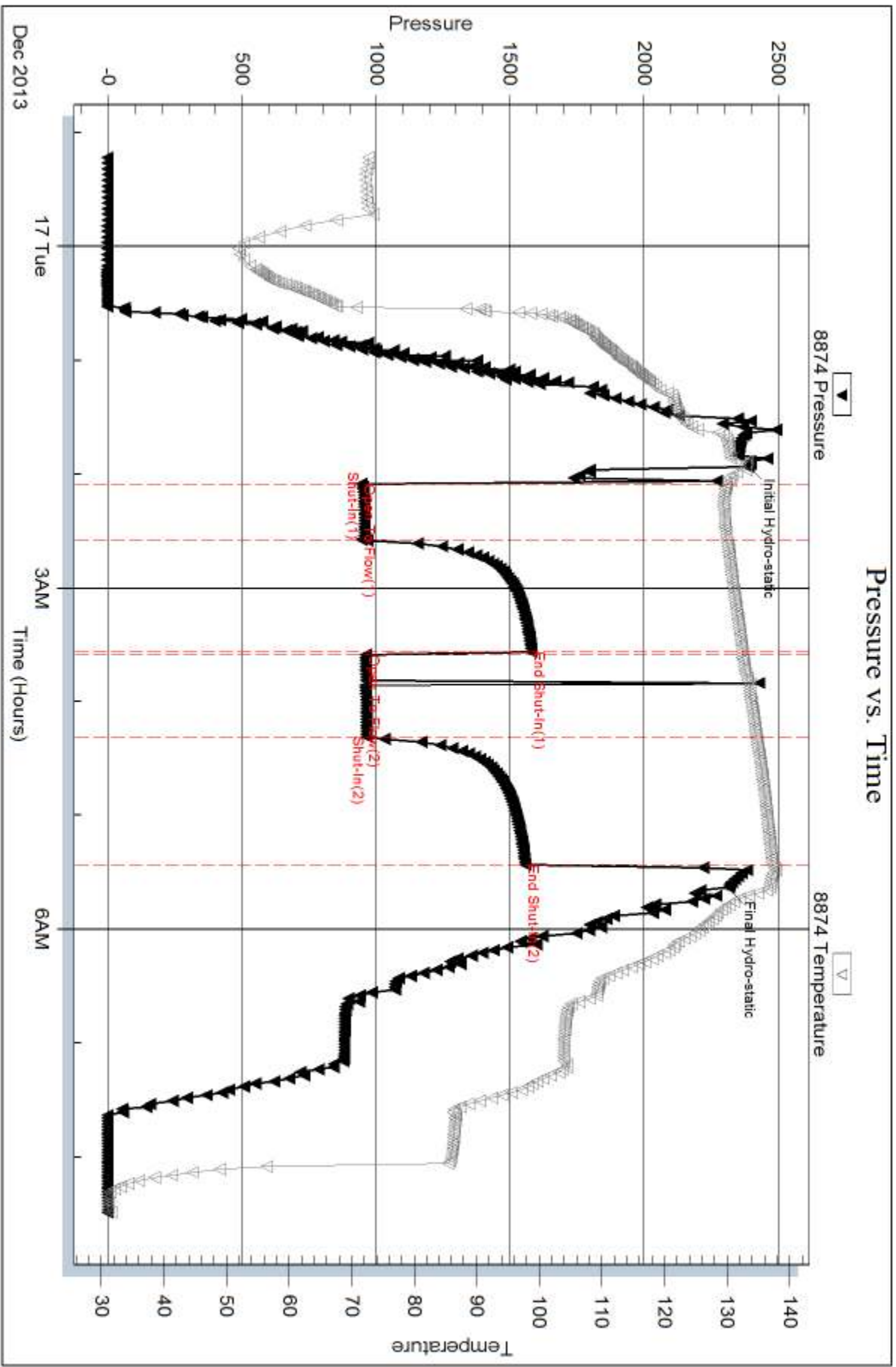
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

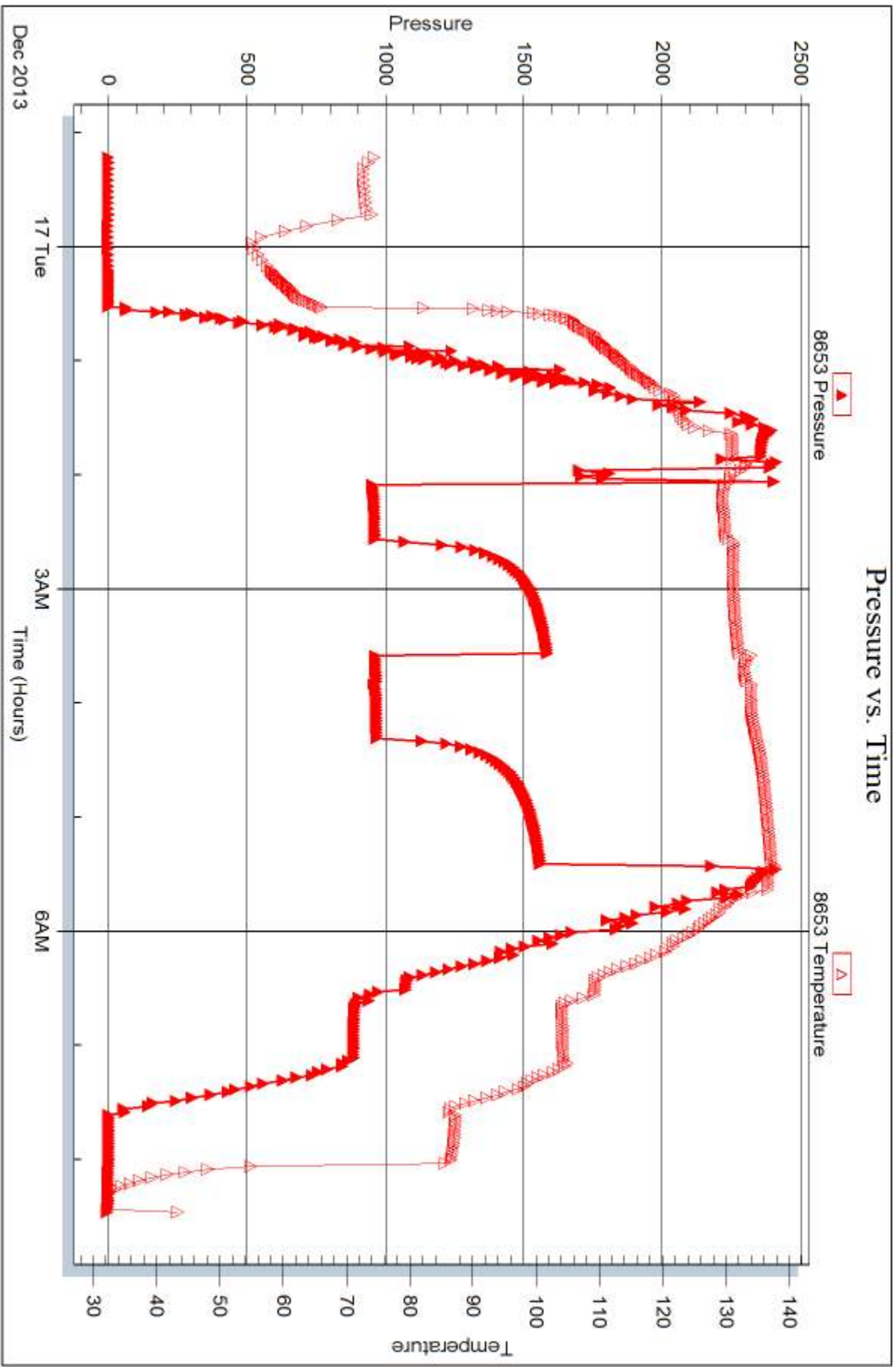


Serial #: 8653

Outside Murfin Drilling Co.

Zweygardt HP #1-3

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Saman ShariFaie

Zweygardt 'HP' #1-3

3-3s-41w Cheyenne,KS

Start Date: 2013.12.17 @ 18:20:00

End Date: 2013.12.18 @ 03:13:00

Job Ticket #: 53564 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.12.23 @ 10:09:08



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53564

DST#: 5

ATTN: Saman ShariFaie

Test Start: 2013.12.17 @ 18:20:00

GENERAL INFORMATION:

Formation: **Pawnee, Ft.Scott, Ch**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:17:10

Time Test Ended: 03:13:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 4840.00 ft (KB) To 4950.00 ft (KB) (TVD)

Reference Elevations: 3601.00 ft (KB)

Total Depth: 4950.00 ft (KB) (TVD)

3591.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8874

Inside

Press@RunDepth: 238.61 psig @ 4841.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.12.17

End Date:

2013.12.18

Last Calib.:

2013.12.18

Start Time: 18:21:00

End Time:

03:13:00

Time On Btm:

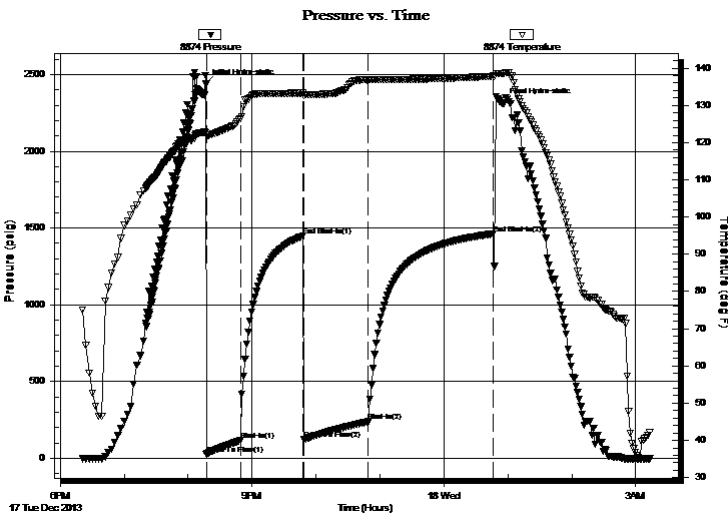
2013.12.17 @ 20:16:40

Time Off Btm:

2013.12.18 @ 00:55:30

TEST COMMENT: 30 - IF- Surface Blow built to 5 1/2"
60 - IS- No Return
60 - FF- Surface Blow started at 6 1/2 min. Built to 7"
90 - FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2437.63	122.67	Initial Hydro-static
1	25.98	122.00	Open To Flow (1)
33	115.30	126.36	Shut-In(1)
91	1447.52	133.34	End Shut-In(1)
93	123.72	132.55	Open To Flow (2)
153	238.61	136.83	Shut-In(2)
270	1461.72	137.83	End Shut-In(2)
279	2312.93	138.55	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
180.00	WM 70M 30W	0.89
275.00	Mud 100M	1.35

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53564

DST#: 5

ATTN: Saman ShariFaie

Test Start: 2013.12.17 @ 18:20:00

GENERAL INFORMATION:

Formation: **Pawnee, Ft.Scott, Ch**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:17:10

Time Test Ended: 03:13:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 4840.00 ft (KB) To 4950.00 ft (KB) (TVD)

Reference Elevations: 3601.00 ft (KB)

Total Depth: 4950.00 ft (KB) (TVD)

3591.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8653 Outside

Press@RunDepth: psig @ 4841.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.12.17 End Date: 2013.12.18

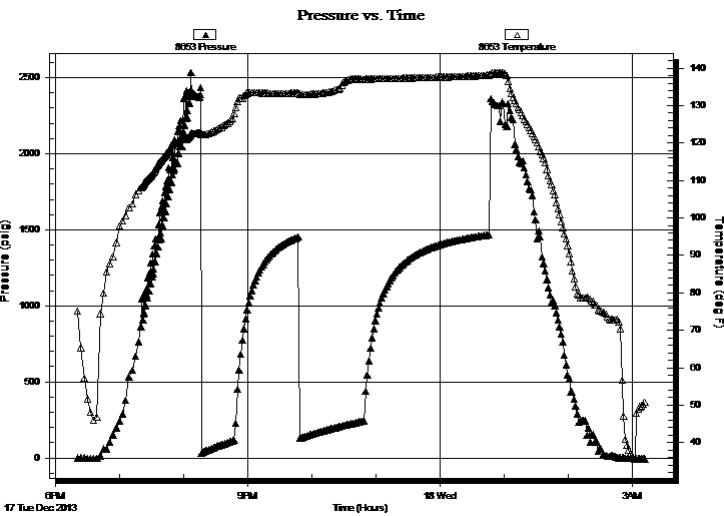
Last Calib.: 2013.12.18

Start Time: 18:21:00 End Time: 03:11:30

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF- Surface Blow built to 5 1/2"
60 - IS- No Return
60 - FF- Surface Blow started at 6 1/2 min. Built to 7"
90 - FS- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	WM 70M 30W	0.89
275.00	Mud 100M	1.35

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygardt 'HP' #1-3

Job Ticket: 53564

DST#: 5

ATTN: Saman ShariFaie

Test Start: 2013.12.17 @ 18:20:00

Tool Information

Drill Pipe:	Length: 4282.00 ft	Diameter: 3.80 inches	Volume: 60.07 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: 560.00 ft	Diameter: 2.25 inches	Volume: 2.75 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 62.82 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4840.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	110.00 ft			
Tool Length:	138.00 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			4813.00	
Shut In Tool	5.00			4818.00	
Hydraulic tool	5.00			4823.00	
Jars	5.00			4828.00	
Safety Joint	3.00			4831.00	
Packer	5.00			4836.00	28.00 Bottom Of Top Packer
Packer	4.00			4840.00	
Stubb	1.00			4841.00	
Recorder	0.00	8653	Outside	4841.00	
Recorder	0.00	8874	Inside	4841.00	
Perforations	7.00			4848.00	
Change Over Sub	1.00			4849.00	
Drill Pipe	95.00			4944.00	
Change Over Sub	1.00			4945.00	
Bullnose	5.00			4950.00	110.00 Bottom Packers & Anchor

Total Tool Length: 138.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

3-3s-41w Cheyenne,KS

250 N Water STE #300
Wichita, KS 67202

Zweygartd 'HP' #1-3

Job Ticket: 53564

DST#: 5

ATTN: Saman ShariFaie

Test Start: 2013.12.17 @ 18:20:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	WM 70M 30W	0.885
275.00	Mud 100M	1.352

Total Length: 455.00 ft Total Volume: 2.237 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8874

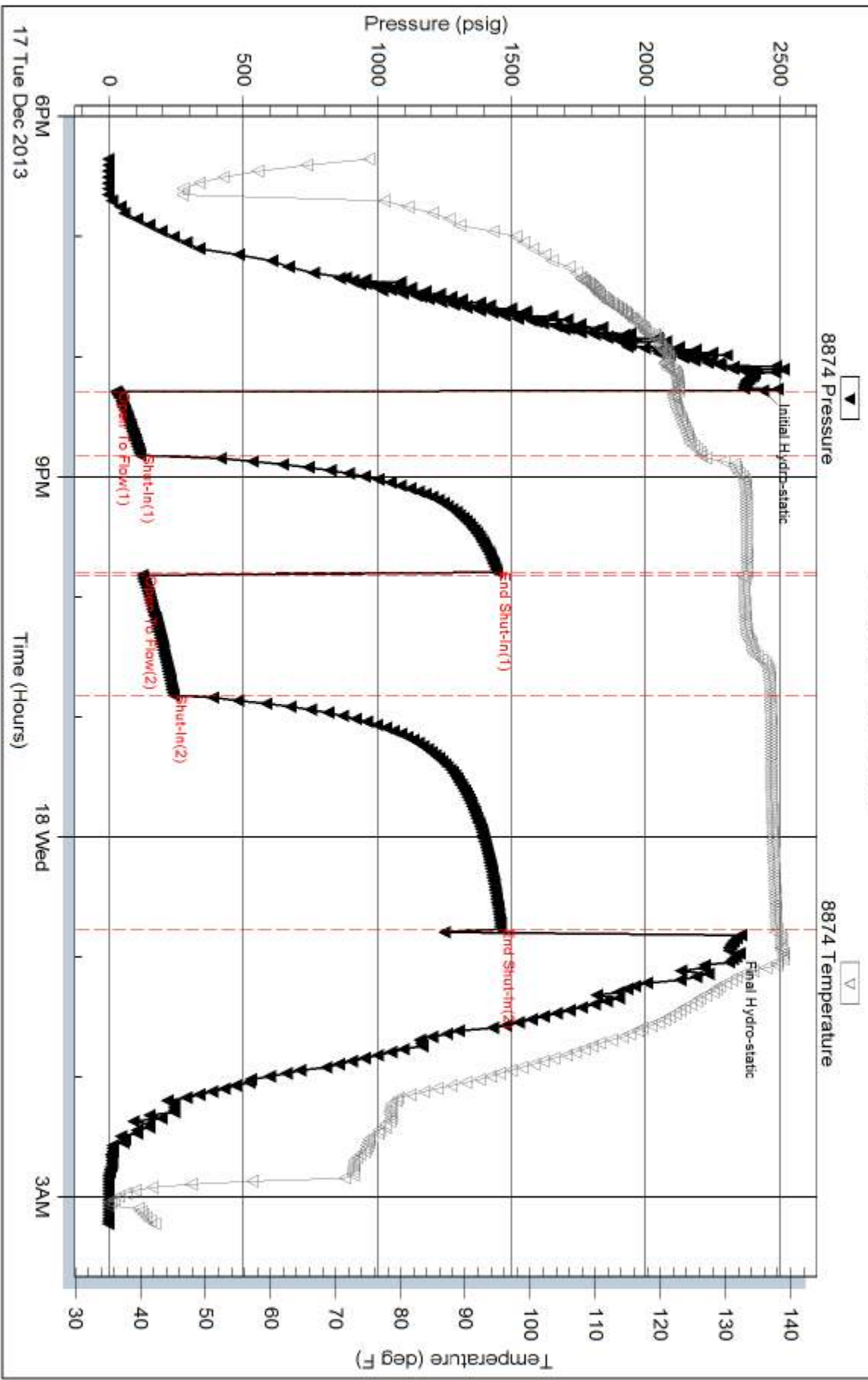
Inside

Murfin Drilling Co.

Zweygardt HP #1-3

DST Test Number: 5

Pressure vs. Time

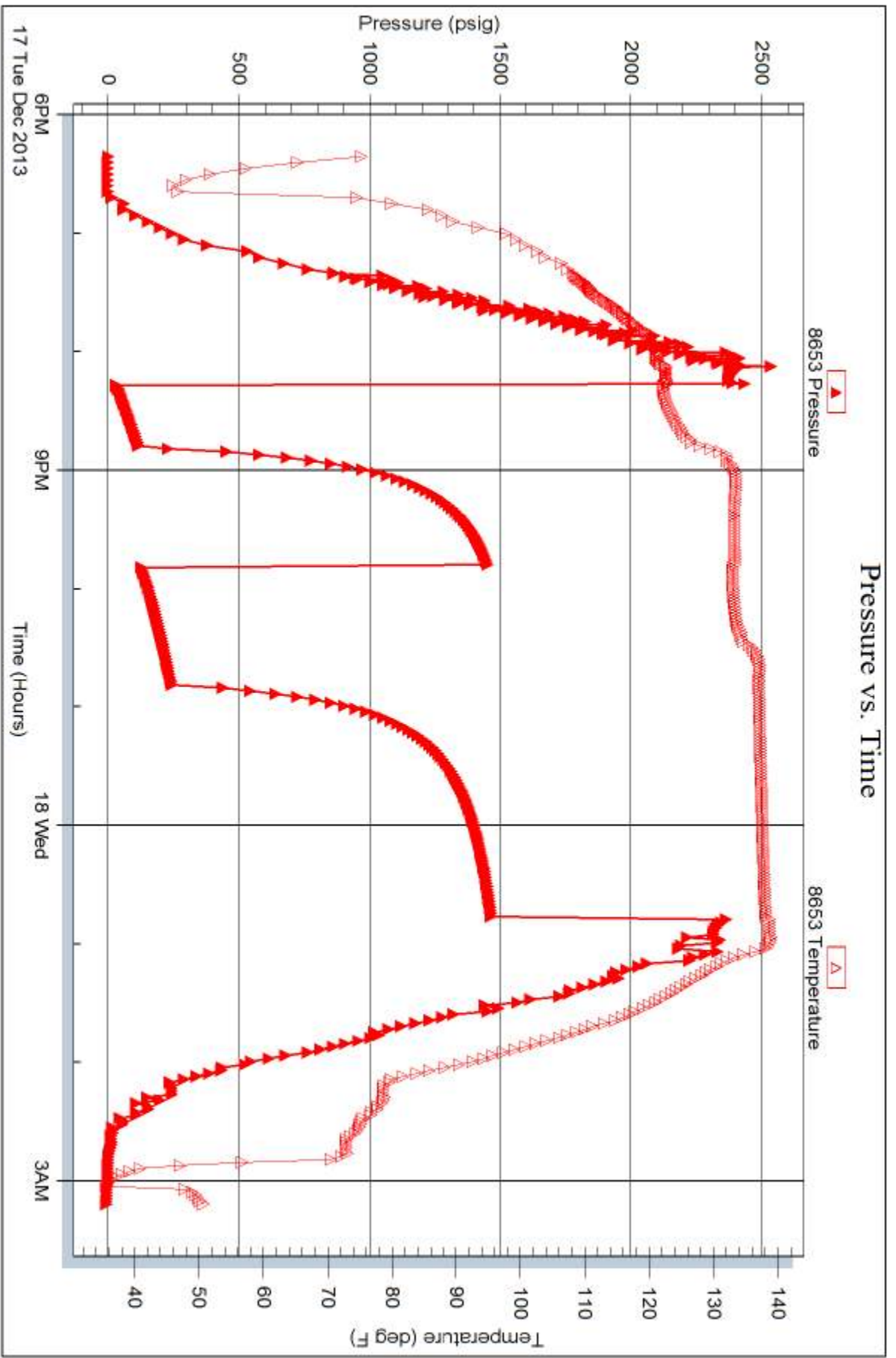


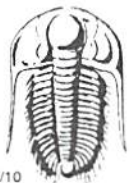
Serial #: 8653

Outside Murfin Drilling Co.

Zweygardt HP #1-3

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53559

Well Name & No. Zweygardt 'HP' #1-3 Test No. 1 Date 12-14-13
 Company Murfin Drilling Co. Elevation 3601 KB 3591 GL
 Address 250 N Water STE # 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #14
 Location: Sec. 3 Twp. 35 Rge. 41 W Co. Cheyenne State KS

Interval Tested 4391-4500 Zone Tested LKC "A-D"
 Anchor Length 109' Drill Pipe Run 3833" Mud Wt. 9.0
 Top Packer Depth 4387 Drill Collars Run 560' Vis 65
 Bottom Packer Depth 4391 Wt. Pipe Run 0 WL 5.6
 Total Depth 4500 Chlorides 000 ppm System LCM 5#

Blow Description IF - 1/4" Blow built to Bob in 13 min.
ISI - No Return
FF - Bob in 15 min.
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>Free oil</u>	<u>100</u>			
<u>180</u>	<u>MCO</u>	<u>80</u>		<u>20</u>	
<u>180</u>	<u>MCO</u>	<u>60</u>		<u>40</u>	
<u>270</u>	<u>MCO</u>	<u>50</u>		<u>50</u>	
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 780 BHT 137 Gravity 29 API RW - @ - ° F Chlorides - ppm

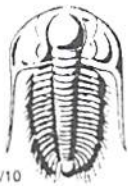
(A) Initial Hydrostatic 2173 Test 1250 T-On Location 1:55 AM
 (B) First Initial Flow 33 Jars 250 T-Started 2:53 AM
 (C) First Final Flow 232 Safety Joint 75 T-Open 4:35 AM
 (D) Initial Shut-In 1311 Circ Sub NIC T-Pulled 8:35 AM
 (E) Second Initial Flow 250 Hourly Standby _____ T-Out 10:43 AM
 (F) Second Final Flow 340 Mileage 156 RT 241.80 Comments _____
 (G) Final Shut-In 1237 Sampler _____
 (H) Final Hydrostatic 2103 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 300
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

Sub Total 1816.80
 Total 1816.80
 MP/DST Disc't _____

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. 53560

Well Name & No. Zweygardt 'HP' #1-3 Test No. 2 Date 12-14-13
 Company Murkin Drilling Co. Elevation 3601 KB 3591 GL
 Address 250 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Samman Sharifaic Rig Murkin #14
 Location: Sec. 3 Twp. 3S Rge. 41W Co. Cheyenne State KS

Interval Tested 4507-4580 Zone Tested LKC "G"
 Anchor Length 73' Drill Pipe Run 3929 Mud Wt. 9.1
 Top Packer Depth 4503 Drill Collars Run 508 Vis 59
 Bottom Packer Depth 4507 Wt. Pipe Run 0 WL 5.6
 Total Depth 4580 Chlorides 6000 ppm System LCM 4#

Blow Description IF- BoB in 2 min.
ISI- No Return
FF- BoB in 3 1/2 min.
FSI- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>470</u>	<u>WM</u>		<u>20</u>	<u>80</u>	
<u>282</u>	<u>MW</u>		<u>50</u>	<u>50</u>	
<u>376</u>	<u>MW</u>		<u>70</u>	<u>30</u>	
<u>1495</u>	<u>MW</u>		<u>95</u>	<u>5</u>	
<u>5</u>	<u>Mud (heavy)</u>			<u>100</u>	

Rec Total 2628 BHT 147 Gravity - API RW .423 @ 38.2 ° F Chlorides 30,000 ppm

(A) Initial Hydrostatic 2179 Test 1250 T-On Location 9:30 PM
 (B) First Initial Flow 68 Jars 250 T-Started 9:55 PM
 (C) First Final Flow 7000 Safety Joint 75 T-Open 12:00 AM
 (D) Initial Shut-In 1400 Circ Sub NIC T-Pulled 4:00 AM
 (E) Second Initial Flow 721 Hourly Standby T-Out 6:50 AM
 (F) Second Final Flow 1162 Mileage 156 RT 241.80
 (G) Final Shut-In 1402 Sampler
 (H) Final Hydrostatic 2163 Straddle
 Shale Packer
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

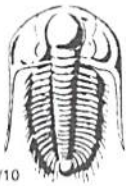
Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

Sub Total 0
 Total 1816.80
 MP/DST Disc't

Sub Total 1816.80

Approved By _____ Our Representative

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. 53561

4/10

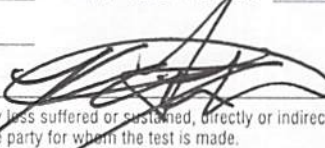
Well Name & No. Zweygarde "HP" #1-3 Test No. 3 Date 12-15-13
 Company Murfin Drilling Co. Elevation 3601 KB 3591 GL
 Address 250 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sherifaic Rig Murfin #14
 Location: Sec. 3 Twp. 3S Rge. 41W Co. Cheyenne State KS

Interval Tested 4575-4720 Zone Tested LKC "H-K"
 Anchor Length 145' Drill Pipe Run 3997 Mud Wt. 9.1
 Top Packer Depth 4571 Drill Collars Run 560' Vis 53
 Bottom Packer Depth 4575 Wt. Pipe Run 0 WL 6.0
 Total Depth 4720 Chlorides 2,000 ppm System LCM 3#
 Blow Description IF-1" Blow built to 7 1/4"
ISI - NO Return
FF - Surface Blow started @ 7 min. Built to 7"
FSI - NO Return

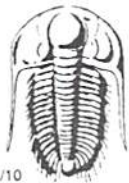
Rec	Feet of	%gas	%oil	%water	%mud
<u>185</u>	<u>Mud</u>			<u>100%</u>	
<u>180</u>	<u>WM</u>		<u>30%</u>	<u>70%</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 365 BHT 134 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>2214</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>9:05 PM</u>
(B) First Initial Flow <u>25</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>9:35 PM</u>
(C) First Final Flow <u>99</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>12:00 AM</u>
(D) Initial Shut-In <u>1365</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/L</u>	T-Pulled <u>4:00 AM</u>
(E) Second Initial Flow <u>1000</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>6:30 AM</u>
(F) Second Final Flow <u>222</u>	<input checked="" type="checkbox"/> Mileage <u>156 RT</u> 241.80	Comments
(G) Final Shut-In <u>1341</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2196</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>1816.80</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1816.80</u>	

Approved By _____ Our Representative 

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. 53562

Well Name & No. Zweygardt 'HP' #1-3 Test No. 4 Date 12-16-13
 Company Murrin Drilling, Co. Elevation 3601 KB 3591 GL
 Address 250 N Water STE #3000 Wichita, KS 67202
 Co. Rep / Geo. Saman ShariFaie Rig Murrin #14
 Location: Sec. 3 Twp. 3S Rge. 41W Co. Cheyenne State KS

Interval Tested 4835-4900 Zone Tested Pawnee
 Anchor Length 65' Drill Pipe Run _____ Mud Wt. 9.0
 Top Packer Depth 4831 Drill Collars Run 560' Vis 55
 Bottom Packer Depth 4835 Wt. Pipe Run 0 WL 5.2
 Total Depth 4900 Chlorides 1,7000 ppm System LCM 4#

Blow Description IF - No Blow
ISI - No Return
FF - No Blow - flushed tool at 15 min - NO Blow
FSI - No Return

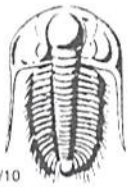
Rec	Feet of	%gas	%oil	%water	%mud
<u>1805</u>	<u>mud</u>			<u>1000</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1805 BHT 137 Gravity _____ API RW - @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2388 Test 1050 T-On Location 11:10 PM
 (B) First Initial Flow 943 Jars 250 T-Started 11:12 PM
 (C) First Final Flow 943 Safety Joint 75 T-Open 2:05 AM
 (D) Initial Shut-In 1581 Circ Sub Charge X 50 T-Pulled 5:20 AM
 (E) Second Initial Flow 959 Hourly Standby _____ T-Out 8:30 AM
 (F) Second Final Flow 963 Mileage 156 RT 241.80 Comments Tool slid approx
 (G) Final Shut-In 1556 Sampler _____ 5' to bottom. Had to
 (H) Final Hydrostatic 2314 Straddle _____ reset tool and pick up 1 Jt.
 Shale Packer _____ to make bottom.
 Extra Packer _____ But plug was full of clip
 Extra Recorder _____ pins

Initial Open 300 #1 Extra Copies _____
 Initial Shut-In 60 Sub Total 0
 Final Flow 45 Total 1666.80
 Final Shut-In 60 MP/DST Disc't _____
 Sub Total 1666.80

Approved By _____ Our Representative _____
 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. 53564

Well Name & No. Zwegardt 'HP' #1-3 Test No. 5 Date 12-17-13
 Company Murphy Drilling Co. Elevation 3601 KB 3591 GL
 Address 250 N Weyer St #300 Wichita, KS 67202
 Co. Rep / Geo. Samen Sherifovic Rig Murphy #14
 Location: Sec. 3 Twp. 3S Rge. 41W Co. Cheyenne State KS

Interval Tested 4840-4950 Zone Tested Pawnee, Fr. Scott, Cherokee
 Anchor Length 110' Drill Pipe Run 4282 Mud Wt. 9.2
 Top Packer Depth 4836 Drill Collars Run 560 Vis 69
 Bottom Packer Depth 4840 Wt. Pipe Run 0 WL 5.2
 Total Depth 4950 Chlorides 16000 ppm System LCM 4#
 Blow Description IF - Surface Blow built to 5 1/2"
ISI - NO Return
FF - Surface Blow started at 6 1/2 min. Built to 7"
FSI - NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>275</u>	<u>Mud</u>			<u>100</u>	
<u>180</u>	<u>WM</u>		<u>30</u>	<u>70</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 455 BHT 138 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>2437</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>6:15 PM</u>
(B) First Initial Flow <u>25</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>6:20 PM</u>
(C) First Final Flow <u>115</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>8:20 PM</u>
(D) Initial Shut-In <u>1447</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>12:20 AM</u>
(E) Second Initial Flow <u>123</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>3:15 AM</u>
(F) Second Final Flow <u>238</u>	<input checked="" type="checkbox"/> Mileage <u>156 RT X2</u>	Comments <u>Loaded tools</u>
(G) Final Shut-In <u>1461</u>	<input type="checkbox"/> Sampler <u>483.60</u>	<u>4:00 PM 12-19-13</u>
(H) Final Hydrostatic <u>2312</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>800</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby <u>1d 12.75h</u>	Total <u>2856.60</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>2058.60</u>	

Approved By _____ Our Representative [Signature]
 Trilobite Testing Inc. shall not be liable for damaged or 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.



*act
Prod-LH*

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 140252

Invoice Date: Dec 9, 2013

Page: 1

Voice: (817) 546-7282

Fax: (817) 246-3361

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	61422	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Dec 9, 2013	1/8/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Zweygardt HP #1-3		
280.00	CEMENT MATERIALS	Class A Common	17.90	5,012.00
5.00	CEMENT MATERIALS	Gel	23.40	117.00
10.00	CEMENT MATERIALS	Chloride	64.00	640.00
302.77	CEMENT SERVICE	Cubic Feet Charge	2.48	750.87
1,381.00	CEMENT SERVICE	Ton Mileage Charge	2.60	3,590.60
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
100.00	CEMENT SERVICE	Pump Truck Mileage	7.70	770.00
1.00	CEMENT SERVICE	Manifold Head Rental	275.00	275.00
100.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	440.00
1.00	CEMENT SUPERVISOR	Andrew Forslund		

Subtotal	13,107.72
Sales Tax	470.17
Total Invoice Amount	13,577.89
Payment/Credit Applied	
TOTAL	13,577.89

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

\$ 4,587.69

ONLY IF PAID ON OR BEFORE
Jan 3, 2014

-4587.69

OK

ALLIED OIL & GAS SERVICES, LLC 061422

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999

SOUTHLAKE, TEXAS 76092

SERVICE POINT:
Sakley

DATE <u>12-9-13</u>	SEC. <u>3</u>	TWP. <u>3</u>	RANGE <u>41</u>	CALLED OUT	ON LOCATION	JOB START <u>7:00 Am</u>	JOB FINISH <u>2:30 Am</u>
LEASEE <u>20 eygardt</u>		WELL# <u>1-3</u>		LOCATION <u>ST Francis 2nd SW</u>		COUNTY <u>Cheyenne</u>	STATE <u>WY</u>
OLD OR <input checked="" type="radio"/> (NEW) (Circle one)				<u>3rd Ninto</u>			

CONTRACTOR <u>Murfin 14</u>	OWNER <u>Same</u>
TYPE OF JOB <u>Surface</u>	
HOLE SIZE <u>12 1/4</u> T.D. <u>308'</u>	CEMENT
CASING SIZE <u>8 5/8</u> DEPTH <u>308'</u>	AMOUNT ORDERED <u>280 sks com</u>
TUBING SIZE	<u>3% cc 2% gel</u>
DRILL PIPE	
TOOL	
PRES. MAX	COMMON <u>280 sks @ 12.90 5012.00</u>
MEAS. LINE	POZMIX @
CEMENT LEFT IN CSG. <u>15'</u>	GEL <u>5 sks @ 23.40 117.00</u>
PERFS.	CHLORIDE <u>10 sks @ 6.40 640.00</u>
DISPLACEMENT <u>18.66 OOL</u>	ASC @

EQUIPMENT

PUMP TRUCK # <u>431</u>	CEMENTER <u>Andrew Forstlund</u>
	HELPER <u>Terry Heinrich</u>
BULK TRUCK # <u>386</u>	DRIVER <u>CT (TWS)</u>
BULK TRUCK # <u>566</u>	DRIVER <u>Eddy (TWS)</u>

HANDLING <u>302.77 c/y @ 3.48</u>	<u>1050.86</u>
MILEAGE <u>2.60 ton/mile 13.81 ton</u>	<u>359.00</u>
TOTAL <u>1010.96</u>	

REMARKS:

Cement did circulate

SERVICE

DEPTH OF JOB <u>308'</u>	
PUMP TRUCK CHARGE	<u>1512.25</u>
EXTRA FOOTAGE @	
MILEAGE <u>100 miles @ 2.20</u>	<u>220.00</u>
MANIFOLD <u>head @</u>	<u>225.00</u>
<u>Light vehicle @ 4.40</u>	<u>440.00</u>
TOTAL <u>2997.25</u>	

CHARGE TO: Murfin

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
TOTAL _____		

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

PRINTED NAME Greg Wrench

SIGNATURE Greg Wrench

SALES TAX (If Any) _____

TOTAL CHARGES 13,107.71

DISCOUNT 4,587.69 IF PAID IN 30 DAYS

8,520.01 Net.



CONSOLIDATED
Oil Well Services, LLC

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

cc: W.F.
cc: hie
cc: l-l
MAIN OFFICE
P.O. Box 884
Chanute, KS 66720
620/431-9210 • 1-800/467-8676
Fax 620/431-0012

INVOICE

Invoice # 264932

Invoice Date: 12/26/2013 Terms: 10/10/30,n/30

Page 1

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

ZWEYGARDT HP 1-3
44559
3-3S-41W
12-19-2013
KS

USED FOR 10 103

APPROVED JLR
FH

Part Number	Description	Qty	Unit Price	Total
1126	OIL WELL CEMENT	350.00	23.7000	8295.00
1110A	KOL SEAL (50# BAG)	1750.00	.5600	980.00
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"	1.00	290.0000	290.00
4136	TURBOLIZER 5 1/2"	15.00	75.7500	1136.25
4159	FLOAT SHOE AFU 5 1/2"	1.00	433.7500	433.75
4310	ROTATING HEAD	1.00	150.0000	150.00
4454	5 1/2" LATCH DOWN PLUG	1.00	318.2500	318.25
4315	ROTATING SCRATCHERS	5.00	94.5000	472.50

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1289.80
9995-130	CEMENT EQUIPMENT DISCOUNT	-647.17

Description	Hours	Unit Price	Total
T-118 CEMENT PSI CHARGES	1.00	3400.00	3400.00
T-118 EQUIPMENT MILEAGE (ONE WAY)	90.00	5.25	472.50
T-127 MIN. BULK DELIVERY	1.00	2599.20	2599.20

Amount Due 20420.84 if paid after 01/25/2014

Parts:	12897.95	Freight:	.00	Tax:	946.07	AR	18378.75
Labor:	.00	Misc:	.00	Total:	18378.75		
Sublt:	-1936.97	Supplies:	.00	Change:	.00		

Signed _____

Date _____



CONSOLIDATED
Oil Well Services, LLC

264932

TICKET NUMBER 44559
LOCATION Oakley, CA
FOREMAN Mike Stone
Fuzzy McCulloch

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

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
12-19-13	5406	2444yard + HP #1-3	3	35	4W	Chevy Chase	
CUSTOMER		ST Francis		TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS		1/4 W		450718	Jerome		
CITY		STATE		ZIP CODE	2WMS		
				530727	Jerome		

JOB TYPE Long String HOLE SIZE 7 7/8 HOLE DEPTH 528.45 CASING SIZE & WEIGHT 5 1/2" 15.5#
CASING DEPTH 526.7 DRILL PIPE _____ TUBING _____ OTHER _____
SLURRY WEIGHT 14.2 SLURRY VOL 1.42 WATER gal/sk _____ CEMENT LEFT in CASING 21.05'
DISPLACEMENT 127 bbls DISPLACEMENT PSI 1300 MIX PSI 1200 RATE _____

REMARKS: Safety meeting and rig up on Martin drilling rig # 14 flat equipment
Turbulizers sets # 1, 3, 5, 7, 9, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21 Basket on bottom #
22 Run casing to bottom Circulate casing 1 hr pump. Flo check mix 300 S/G
over with 5# Nul seal shutdown clear pump line displace 127 bbls water
with 1300 psi lift plug landed + held @ 1200 psi

Mix 300 S/G RH/20 S/GS MH Thanks Mike & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401P	1	PUMP CHARGE	3400.00	3400.00
5406	90	MILEAGE	5.25	472.50
5407	1665 Ton	Ton material delivery	1.75	2913.75
1126	350 S/GS	OWC	23.70	8296.50
1110A	1750 #	Nul seal	1.50	2625.00
1142A	2 gal	KCl	411.60	823.20
1144C	1	Flo check	740.00	740.00
4104	1	5 1/2" Basket	290.00	290.00
4136	15	5 1/2" Turbulizer	75.75	1136.25
4159	1	5 1/2" AFH Flat Shoe	433.75	433.75
4310	1	Rotating head	150.00	150.00
4454	1	latch down plug	308.25	308.25
4315	5	Rotating scratches	99.50	497.50
		Subtotal		19369.15
		Less 10% discount		17432.24
		Subtotal		17432.24
		SALES TAX 8.15		946.07
		ESTIMATED TOTAL		18378.31

Revin 3737

AUTHORIZATION Book Sales 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.

Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Martin Drilling Co., Inc.**
LEASER **Zweygardt #1P #1-3**

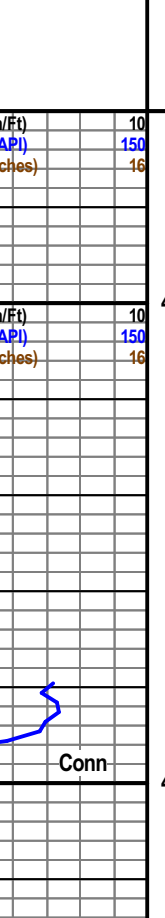
FIELD **Widcat**
LOCATION **330' FSL & 330' FFL**
SEC **3** TWP **3S** RGE **41W**
COUNTY **Cheyenne** STATE **Kansas**
CONTRACTOR **Martin Drilling #14**
SPUD **12/09/13** COMP **12/20/13**
RTD **5300'** LTD **5299'**
MUD UP **3000'** TYPE MUD **Chemical**

SAMPLES SAVED FROM **4240'** TO RTD
DRILLING TIME KEPT FROM **4240'** TO RTD
SAMPLES EXAMINED FROM **4240'** TO RTD
GEOLOGICAL SUPERVISION FROM **3940'**
REFERENCE WELL **Phyllis #1-2**

ELEVATIONS
KB **3599'**
DF _____
GL **3589'**
Measurements Are All From Kelly Bushing
CASING
CONDUCTOR _____
SURFACE **8-5/8"** at **305'**
PRODUCTION **5-1/2"** at **528'**

ELECTRICAL SURVEYS
CND; DIL; MEL; SANC
Pioneer Hydrilite

Formation	Sample Tops	E-log Tops	Strat Pos.
Anhydrite		3447 (+152)	-10
Basest Anhydrite	4348 (-640)	4246 (-647)	-4
Tussock	4358 (-750)	4365 (-760)	0
Orestid	4420 (-833)	4424 (-835)	-2
Lutshildig	4670 (-1071)	4664 (-1065)	-2
Stark	4859 (-1260)	4858 (-1259)	-8
Pawnee	4952 (-1353)	4950 (-1351)	-2
Cherokee		5194 (-1595)	DNR
Mississippian			



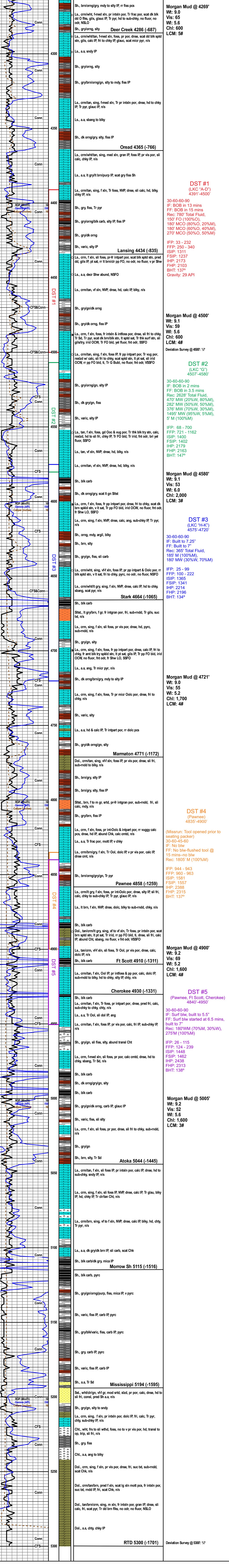
REMARKS Due to fair shows of oil in multiple pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,

API #15-023-21373

Saman Sharifaie
Petroleum Geologist

*Tops have been adjusted to electric logs
**Anhydrite drill time was not recorded



Depth (ft)	Geological Descriptions	Engineering Data
4240 - 4245	DAILY PENETRATION @ 7:00 AM 12/09/13 - Spudded at 3:45 PM 12/10/13 - WOC at 308' 12/11/13 - Drilling at 1519' 12/12/13 - Drilling at 3595' 12/13/13 - Drilling at 4235' 12/14/13 - Testing at 4500' 12/15/13 - Testing at 4580' 12/16/13 - Testing at 4720' 12/17/13 - Testing at 4900' 12/18/13 - Drilling at 4955' 12/19/13 - Logging at 5300'	Pipe Strap @ 3962': 1.81' Short to Board Deviation Survey: 1/2"
4245 - 4300	Sh, orgn/gry/gn, mdy to stly IP, Tr dk gry mica Topeka 4246 (-645) Ls, crm/whit/tan, f xln, Oalc IP, pr por, scat dk blk dd O flls, glis, sub-chly IP, blyly IP, no odr, NSLO Ls, crm/tan/pnk, v-f xln, v pr intbn por, pred NVP, dnse, blyly, calc, glauc IP, n/s Sh, brn/orgn/gry, mdy to stly IP, rr fss pcs Ls, crm/whit, f-med xln, pr intbn por, Tr frac por, scat dk blk dd O flls, glis, glauc IP, Tr pyr, hd to sub-chly, no fluor, no odr, NSLO Sh, gry/orgn, stly Deer Creek 4286 (-687) Ls, crm/whit/tan, f-med xln, foss, pr por, dnse, scat dd blk spdt stn, stn, glis, calc IP, fri to chly IP, gluc, scat micr pyr, n/s Ls, a, a, snydy IP Sh, gry/orgn, stly Sh, gry/brn/orgn/gn, stly to mdy, fss IP Ls, crm/tan, sing, f-med xln, Tr, pr intbn por, dnse, hd to chly IP, Tr pyr, glauc IP, n/s Ls, a, a, sbang to blyly Sh, dk orgn/gry, stly, fss IP	Morgan Mud @ 4269' Wt: 9.0 Vis: 65 Wl: 5.6 Chl: 600 LCM: 5#
4300 - 4400	Oread 4365 (-766) Ls, crm/whit/tan, sing, med xln, gran IP, foss IP, pr vis por, sli calc, chly IP, n/s Ls, a, a, It gry/lt brn/por IP, scat gry fss Sh Ls, crm/tan, sing, f xln, Tr, foss, NVP, dnse, sli calc, hd, blyly, chly IP, n/s Sh, gry fss, Tr pyr Sh, gry/orgn/blk carb, stly IP, fss IP Sh, gry/dk orgn Sh, varic, stly IP	DST #1 (LKC "A-D") 30-60-60-90 IF: BOB in 13 mins FF: BOB in 15 mins Rec: 780' Total Fluid, 150' FO (100%O), 180' MCO (80%O, 20%M), 180' MCO (60%O, 40%M), 270' MCO (50%O, 50%M)
4400 - 4500	Lansing 4434 (-835) Ls, crm, f xln, sil foss, pr-f intpart por, scat blk spdt stn, pred dd, glis IP, frnt odr, fr Shw LO, SSFO Ls, a, a, decr Shw abund, NSFO Ls, crm/tan, v f xln, NVP, dnse, hd, calc IP, blyly, n/s Sh, gry/blk orgn Sh, gry/dk orgn, fss IP Ls, crm, f xln, foss, pr-f intpart por, scat blk spdt stn, It pt sat, sli irid OCW, rr pp FO bid, tr, Tr G Bubbl, no fluor, frt odr, VSSFO	Morgan Mud @ 4500' Wt: 9.1 Vis: 5.9 Wl: 5.6 Chl: 600 LCM: 4# Deviation Survey @ 4500: 1/2"
4500 - 4600	Sh, gry/orgn/gn, stly IP Sh, dk gry/gn, fss Sh, varic, stly IP Ls, tan, f xln, foss, gd Ooc & vug por, Tr thk blk try stn, calc, reatdz, hd IP, abund Chk, calc cmtld, n/s Ls, tan, v f xln, NVP, dnse, hd, blyly, n/s Ls, crm/tan, v f xln, NVP, dnse, hd, blyly, n/s Sh, blk carb Sh, dk orgn/gry, scat lt gn Stst Ls, crm, f xln, foss, fr pp intpart por, dnse, fri to chly, scat dk brn spdt stn, v lt sat, Tr pp FO bid, irid OCW, no fluor, frt odr, fr Shw LO, SSFO Ls, crm, sing, f xln, NVP, dnse, calc, ang, sub-chly IP, Tr pyr, n/s Sh, orgn, mdy, argil, blyly Sh, brn, stly Sh, gry/gn, fss, sli carb Ls, crm/whit, sing, v-f xln, foss IP, pr pp intpart & Oalc por, rr blk spdt stn, v lt sat, fri to chly, pyr, no odr, no fluor, NSFO Ls, crm/whit/lt gry, sing, f xln, NVP, dnse, calc IP, hd to chly, sbang, scat pyr, n/s	DST #2 (LKC "G") 30-60-60-90 IF: BOB in 2 mins FF: BOB in 3.5 mins Rec: 2628' Total Fluid, 470' MW (20%W, 80%M), 282' MW (50%W, 50%M), 376' MW (70%W, 30%M), 1495' MW (95%W, 5%M), 5' M (100%M)
4600 - 4700	Stark 4664 (-1065) Sh, blk carb Slst, lt gry/brn, f gr, fr intgran por, fri, sub-rndd, Tr glis, suc bt, n/s Ls, crm, sing, f xln, sil foss, pr vis por, dnse, hd, pyr, sub-rndd, n/s Sh, gry/gn, stly Ls, crm, sing, f xln, foss, fr pp intpart por, dnse, calc IP, fri to chly, fr amt blk try spdt stn, It pt sat, glis IP, Tr pp FO bid, irid OCW, no fluor, frt odr, fr Shw LO, SSFO Ls, a, a, ang, Tr micr pyr, n/s Sh, dk orgn/brn/gry, mdy to stly IP Ls, crm, sing, f xln, foss, Tr pr micr Oalc por, dnse, fri to chly, n/s Sh, varic, stly Ls, a, a, hd & calc IP, Tr intpart por, rr dolc pcs Sh, gry/dk orgn/gn, stly	Morgan Mud @ 4580' Wt: 9.1 Vis: 53 Wl: 6.0 Chl: 2000 LCM: 3#
4700 - 4800	Marmaton 4771 (-1172) Dol, crm/tan, sing, v-f xln, foss IP, pr vis por, dnse, sli fri, sub-rndd to blyly, n/s Sh, brn/gry, stly IP Sh, brn/gry, stly, fss IP Slst, brn, f to m gr, srt, pr-f intgran por, sub-rndd, fri, sli calc, mdy, n/s Sh, gry/brn, fss IP Ls, crm, f xln, foss, pr int-Oalc & intpart por, rr vuggy calc pcs, dnse, hd IP, abund Chk, calc cmtld, n/s Ls, a, a, Tr frac por, mott IP, v chly Ls, crm/brn/gry, f xln, Tr Ool, dolc IP, v pr vis por, calc IP, dnse cmt, n/s Sh, brn/orgn/gry/gn, Tr pyr	DST #3 (LKC "H-C") 30-60-60-90 IF: Built to 7.25" Rec: 365' Total Fluid, 185' M (100%M), 180' MW (30%W, 70%M)
4800 - 4900	Pawnee 4858 (-1259) Ls, crm/lt gry, f xln, foss, pr int-Oalc por, dnse, stly IP, sli fri, calc, chly to sub-chly IP, Tr pyr, glauc IP, n/s Ls, lt brn, f xln, NVP, dnse, dolc, blyly to sub-rndd, chly, n/s Sh, blk carb Dol, tan/crm/lt gry, sing, of to v f xln, Tr, foss, pr intbn por, scat brn spdt stn, It pt sat, Tr irid, rr pp FO bid, ti, dnse, sli fri, calc IP, abund Chk, sbang, no fluor, v frt odr, VSSFO Ls, tan/crm, v-f xln, sil foss, Tr Ool, pr vis por, dnse, calc, dolc IP, n/s Sh, blk carb	Morgan Mud @ 4900' Wt: 9.2 Vis: 6.9 Wl: 5.2 Chl: 1,600 LCM: 4#
4900 - 5000	Ft Scott 4910 (-1311) Ls, crm/tan, f xln, Ool IP, pr intfoss & pp por, calc, dolc IP, sub-rndd to blyly, hd to chly, stly IP, chly, n/s Cherokee 4930 (-1331) Sh, blk carb Ls, crm/tan, f xln, Tr, foss, pr intpart por, dnse, pred fri, calc, sub-chly to chly, chly, n/s Ls, a, a, Tr Ool, sli dol IP, ang Ls, crm/tan, f xln, foss IP, pr vis por, calc, fri IP, sub-chly IP, n/s Sh, gry/gn, sli fss, stly, abund transl Chl Ls, crm, f-med xln, sil foss, pr por, calc cmtld, dnse, hd to chly, sbang, Tr Sd, n/s Sh, blk carb Sh, dk orgn/gry/gn, stly Sh, blk carb Sh, gry/blk orgn, carb IP, glauc IP Ls, crm, f xln, sil foss, pr por, dnse, sli fri to chly, sub-rndd, n/s Sh, gry/gn Sh, brn, stly, Tr Sd	DST #4 (Pawnee) 4835-4900' DST #5 (Pawnee, Ft Scott, Cherokee) 4840-4950' 30-60-60-90 IF: Surf blw, built to 5.5" FF: Surf blw started at 6.5 mins, built to 7" Rec: 180' MW (70%W, 30%W), 275' M (100%M)
5000 - 5100	Atoka 5044 (-1445) Ls, crm/tan, f xln, sil foss IP, pr intbn por, calc IP, dnse, hd to sub-chly, snydy IP, n/s Ls, crm, sing, f xln, sil foss IP, NVP, dnse, calc IP, Tr glauc, blyly IP, hd, chly IP, Tr dr/tan Chk, n/s Ls, crm/brn, sing, v-f to f xln, NVP, dnse, calc IP, blyly, hd, chly, Tr pyr, n/s Ls, a, a, dk gry/dk brn IP, sli carb, scat Chk Sh, blk carb/blk gry, mica IP	Morgan Mud @ 4721' Wt: 9.0 Vis: 55 Wl: 5.2 Chl: 1,700 LCM: 4#
5100 - 5200	Morrow Sh 5115 (-1516) Sh, blk carb, pyr Sh, gry/gn/orgn/porp, fss, mica IP, v pyr Sh, varic, fss IP, carb IP, pyr Sh, gry/blk varic, fss, carb IP, pyr Sh, gry, carb IP, pyr Sh, varic, fss IP, carb IP Sh, a, a, Tr Sd	DST #4 (Pawnee) 4835-4900' DST #5 (Pawnee, Ft Scott, Cherokee) 4840-4950' 30-60-60-90 IF: Surf blw, built to 5.5" FF: Surf blw started at 6.5 mins, built to 7" Rec: 180' MW (70%W, 30%W), 275' M (100%M)
5200 - 5300	Mississippi 5194 (-1595) Sd, whit/gr/gn, v-f gr, mod srt, xztd, pr por, calc, dnse, hd to sli fri, consl, pred Sh a, a, n/s Sh, gry/gn, stly to snydy Ls, crm, sing, f xln, pr intbn por, dolc IP, fri, calc, Tr pyr, chly, sub-chly IP, n/s Chl, whit, frs to sli whd, foss, no to v pr vis por, hd, transl to op, trip, sli fri, n/s Sh, gry, fss Chl, a, a, ang to blyly Dol, crm, sing, f xln, pr vis por, dnse, fri, suc txt, sub-rndd, scat Chk, n/s Dol, crm/tan/brn, pred f xln, scat lg xln mott pcs, fr intbn por, suc txt, rdd IP, fri, scat Chk, n/s Dol, tan/brn/crm, sing, m xln, fr intbn por, gran IP, dnse, sli calc, fri, scat pyr, Tr dd brn flls, no odr, no fluor, NSLO Dol, a, a, chly, chly IP	Morgan Mud @ 5005' Wt: 9.2 Vis: 5.6 Wl: 5.6 Chl: 1,600 LCM: 3#
5300	RTD 5300 (-1701)	Deviation Survey @ 5300: 1/2"