



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1206577
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: _____

1206577

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> _____
---	--

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Goetz 1-32
Doc ID	1206577

All Electric Logs Run

Dual Induction
Dual Compensated
Microresistivity
Borehole Compensated



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N. Water St
Wichita, KS 67202

ATTN: Chuck Schmaltz

Goetz #1-32

32-9S-27W Sheridan,KS

Start Date: 2014.03.17 @ 18:48:00

End Date: 2014.03.18 @ 03:47:00

Job Ticket #: 57526 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.03.21 @ 15:03:24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: 57526

DST#: 1

ATTN: Chuck Schmalz

Test Start: 2014.03.17 @ 18:48:00

GENERAL INFORMATION:

Formation: **LKC A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:53:30

Time Test Ended: 03:47:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Tim Phillips

Unit No: 59

Interval: 3876.00 ft (KB) To 3922.00 ft (KB) (TVD)

Reference Elevations: 2704.00 ft (KB)

Total Depth: 3922.00 ft (KB) (TVD)

2699.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8934

Inside

Press@RunDepth: 75.89 psig @ 3886.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.17

End Date:

2014.03.18

Last Calib.:

2014.03.18

Start Time:

18:48:05

End Time:

03:46:15

Time On Btm:

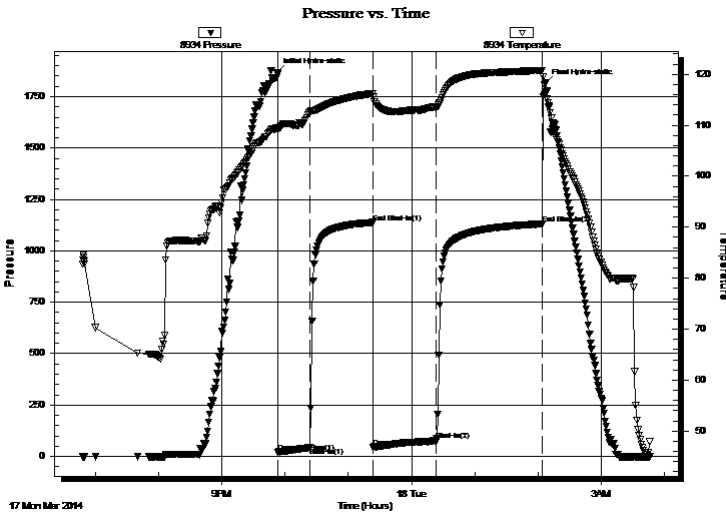
2014.03.17 @ 21:52:30

Time Off Btm:

2014.03.18 @ 02:06:45

TEST COMMENT: IFP- Blow built to 3"
ISI-Dead no blow back
FF- Blow built to 2 1/4"
FSI-Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1865.70	109.39	Initial Hydro-static
1	21.12	109.11	Open To Flow (1)
32	44.18	112.68	Shut-In(1)
91	1138.23	116.23	End Shut-In(1)
92	45.99	115.67	Open To Flow (2)
151	75.89	113.54	Shut-In(2)
252	1129.02	120.76	End Shut-In(2)
255	1814.04	116.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	WCM 40%M, 60%W	0.82

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: 57526

DST#: 1

ATTN: Chuck Schmaltz

Test Start: 2014.03.17 @ 18:48:00

GENERAL INFORMATION:

Formation: **LKC A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:53:30

Time Test Ended: 03:47:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Tim Phillips

Unit No: 59

Interval: 3876.00 ft (KB) To 3922.00 ft (KB) (TVD)

Reference Elevations: 2704.00 ft (KB)

Total Depth: 3922.00 ft (KB) (TVD)

2699.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8736 Outside

Press@RunDepth: psig @ 3886.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.17

End Date:

2014.03.18

Last Calib.:

2014.03.18

Start Time: 18:48:05

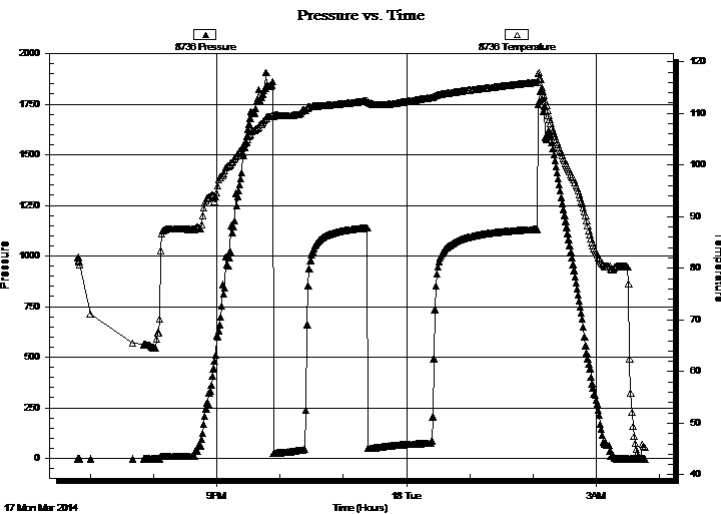
End Time:

03:46:15

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP- Blow built to 3"
ISI-Dead no blow back
FF- Blow built to 2 1/4"
FSI-Dead no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
140.00	WCM 40%M, 60%W	0.82

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: 57526

DST#: 1

ATTN: Chuck Schmaltz

Test Start: 2014.03.17 @ 18:48:00

Tool Information

Drill Pipe:	Length: 3740.00 ft	Diameter: 3.80 inches	Volume: 52.46 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 126.00 ft	Diameter: 2.25 inches	Volume: 0.62 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 53.08 bbl</u>	Tool Chased 8.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3876.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3854.00	
Hydraulic tool	5.00			3859.00	
Jars	5.00			3864.00	
Safety Joint	2.00			3866.00	
Packer	5.00			3871.00	27.00 Bottom Of Top Packer
Packer	5.00			3876.00	
Stubb	1.00			3877.00	
Perforations	9.00			3886.00	
Recorder	0.00	8934	Inside	3886.00	
Recorder	0.00	8736	Outside	3886.00	
Change Over Sub	1.00			3887.00	
Drill Pipe	31.00			3918.00	
Change Over Sub	1.00			3919.00	
Bullnose	3.00			3922.00	46.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: 57526

DST#: 1

ATTN: Chuck Schmaltz

Test Start: 2014.03.17 @ 18:48:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
140.00	WCM 40%M, 60%W	0.816

Total Length: 140.00 ft Total Volume: 0.816 bbl

Num Fluid Samples: 0

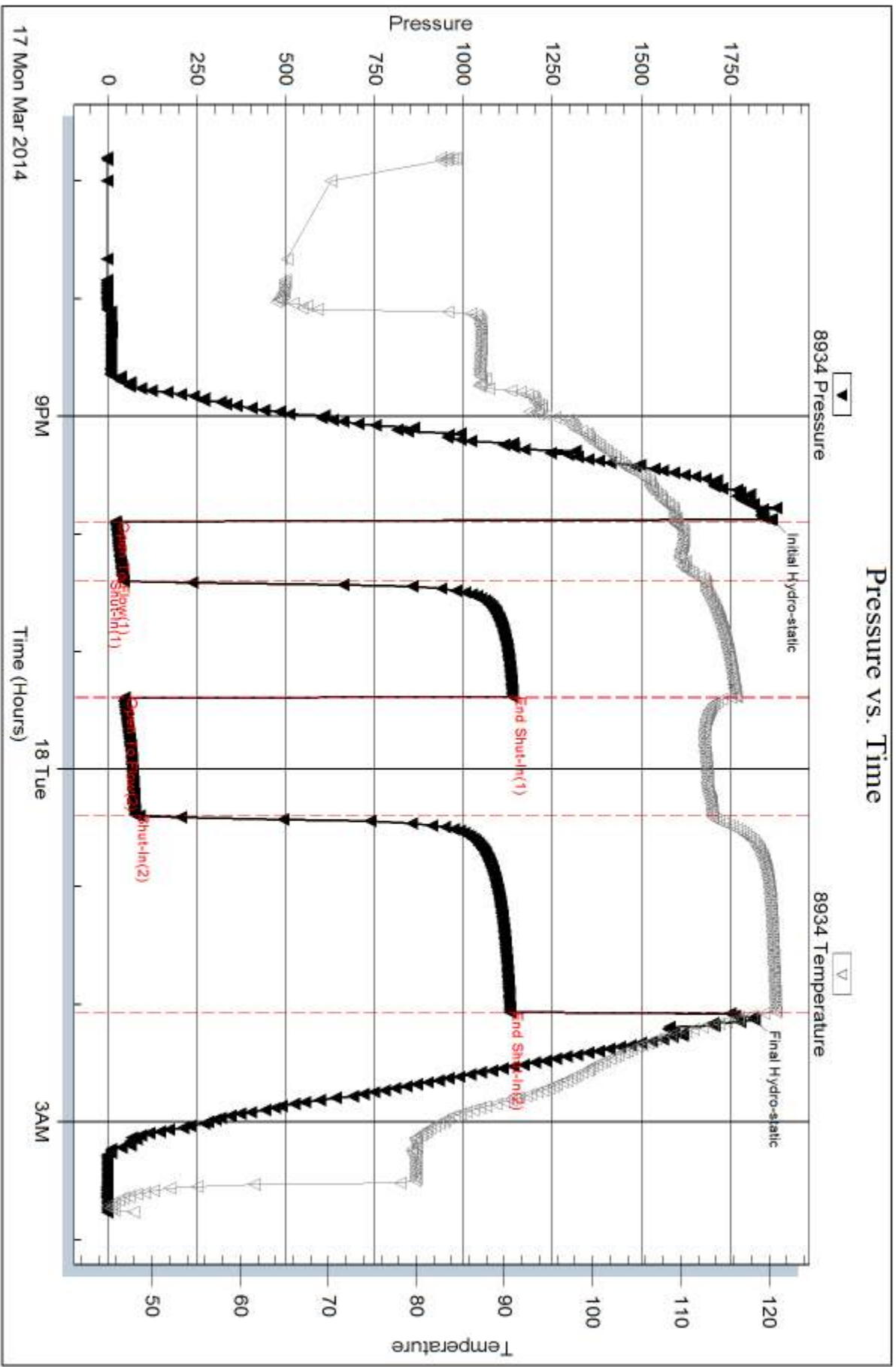
Num Gas Bombs: 0

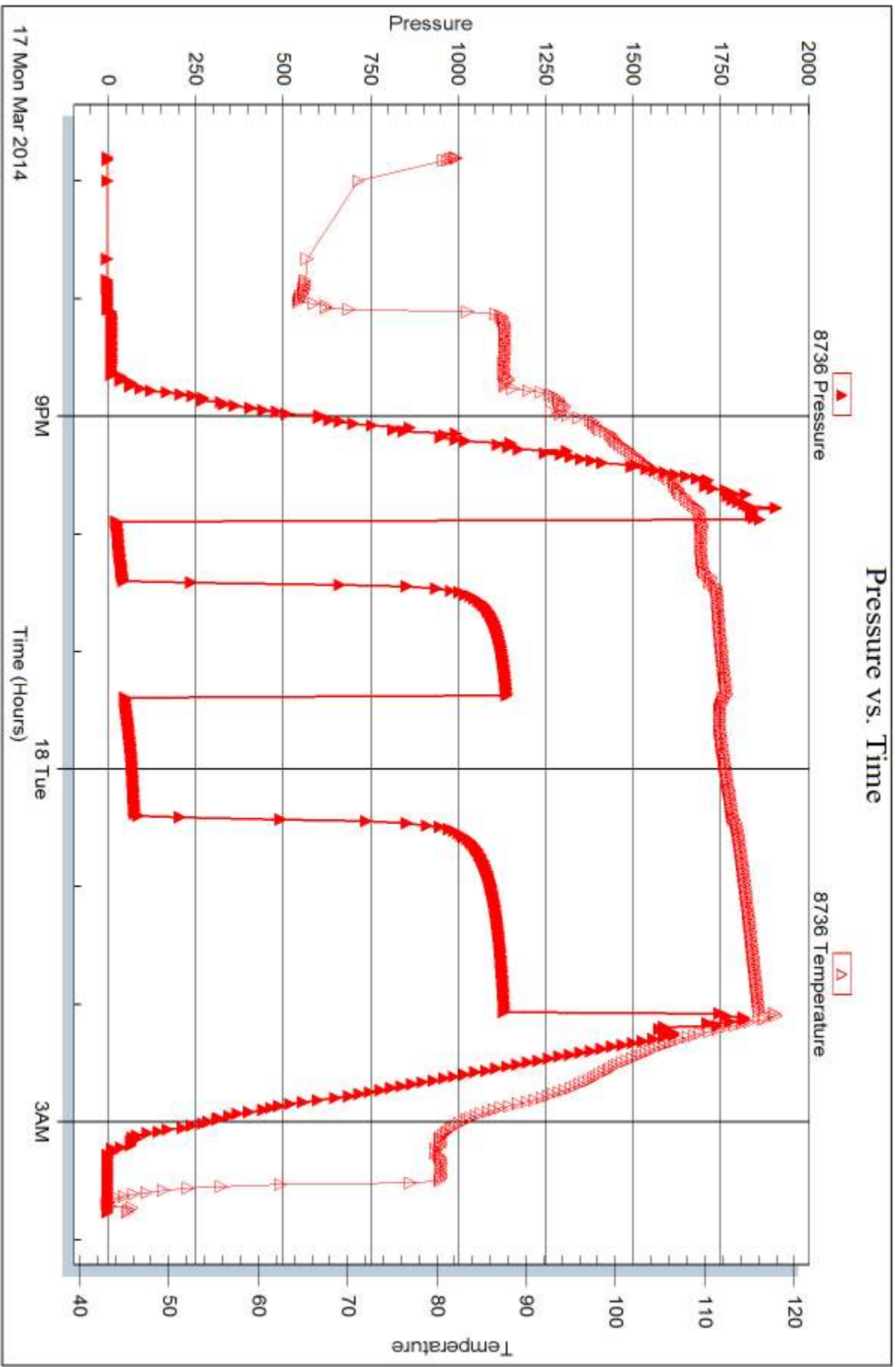
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N. Water St
Wichita, KS 67202

ATTN: Chuck Schmaltz

Goetz #1-32

32-9S-27W Sheridian,KS

Start Date: 2014.03.18 @ 09:55:00

End Date: 2014.03.18 @ 17:18:00

Job Ticket #: 57527 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.03.21 @ 15:09:56



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: 57527

DST#: 2

ATTN: Chuck Schmaltz

Test Start: 2014.03.18 @ 09:55:00

GENERAL INFORMATION:

Formation: **LKC "F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:29:45

Time Test Ended: 17:18:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Tim Phillips

Unit No: 59

Interval: 3919.00 ft (KB) To 3937.00 ft (KB) (TVD)

Reference Elevations: 2704.00 ft (KB)

Total Depth: 3937.00 ft (KB) (TVD)

2699.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8934

Inside

Press@RunDepth: 15.32 psig @ 3934.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.18

End Date:

2014.03.18

Last Calib.:

2014.03.18

Start Time: 09:55:05

End Time:

17:17:44

Time On Btm:

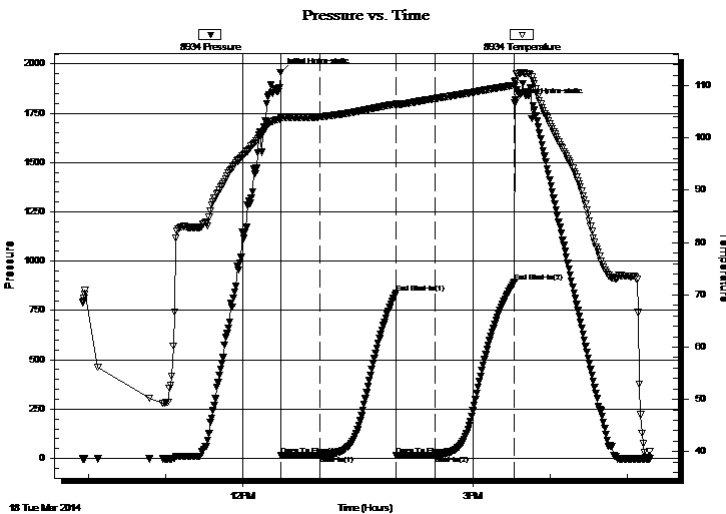
2014.03.18 @ 12:29:30

Time Off Btm:

2014.03.18 @ 15:32:30

TEST COMMENT: IFP- Blow built to 3/4"
ISI- Dead no blow back
FF- Dead no blow
FSI- Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1956.88	104.10	Initial Hydro-static
1	14.01	103.55	Open To Flow (1)
31	14.56	104.02	Shut-In(1)
91	839.86	106.48	End Shut-In(1)
91	14.62	106.13	Open To Flow (2)
121	15.32	107.52	Shut-In(2)
183	895.13	110.07	End Shut-In(2)
183	1801.61	110.69	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co

32-9S-27W Sheridian, KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: 57527

DST#: 2

ATTN: Chuck Schmaltz

Test Start: 2014.03.18 @ 09:55:00

GENERAL INFORMATION:

Formation: **LKC "F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:29:45

Time Test Ended: 17:18:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Tim Phillips

Unit No: 59

Interval: 3919.00 ft (KB) To 3937.00 ft (KB) (TVD)

Reference Elevations: 2704.00 ft (KB)

Total Depth: 3937.00 ft (KB) (TVD)

2699.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8736 Outside

Press@RunDepth: psig @ 3934.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.18

End Date: 2014.03.18

Last Calib.: 2014.03.18

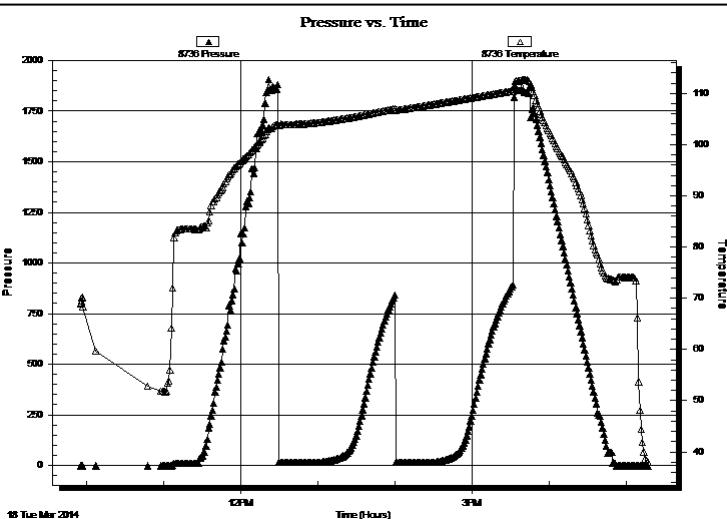
Start Time: 09:55:05

End Time: 17:17:29

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP- Blow built to 3/4"
IS- Dead no blow back
FF- Dead no blow
FS- Dead no blow back



PRESSURE SUMMARY

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

Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: 57527

DST#: 2

ATTN: Chuck Schmaltz

Test Start: 2014.03.18 @ 09:55:00

Tool Information

Drill Pipe:	Length: 3792.00 ft	Diameter: 3.80 inches	Volume: 53.19 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 53.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3919.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3897.00	
Hydraulic tool	5.00			3902.00	
Jars	5.00			3907.00	
Safety Joint	2.00			3909.00	
Packer	5.00			3914.00	27.00 Bottom Of Top Packer
Packer	5.00			3919.00	
Stubb	1.00			3920.00	
Perforations	14.00			3934.00	
Recorder	0.00	8934	Inside	3934.00	
Recorder	0.00	8736	Outside	3934.00	
Bullnose	3.00			3937.00	18.00 Bottom Packers & Anchor

Total Tool Length: 45.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: 57527

DST#: 2

ATTN: Chuck Schmaltz

Test Start: 2014.03.18 @ 09:55:00

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:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100%M	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:

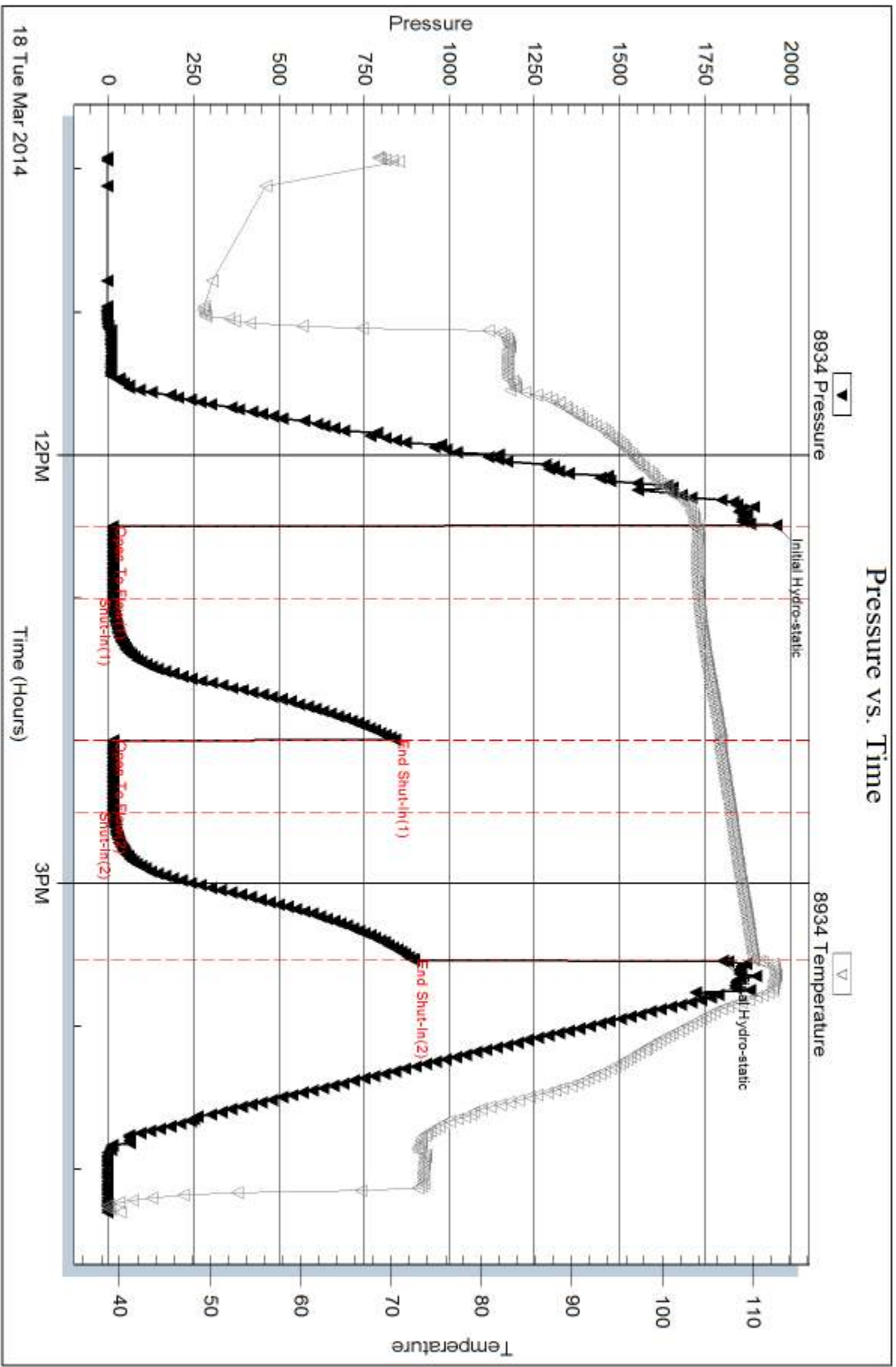
Serial #: 8934

Inside

Murfin Drilling Co

Goeltz #1-32

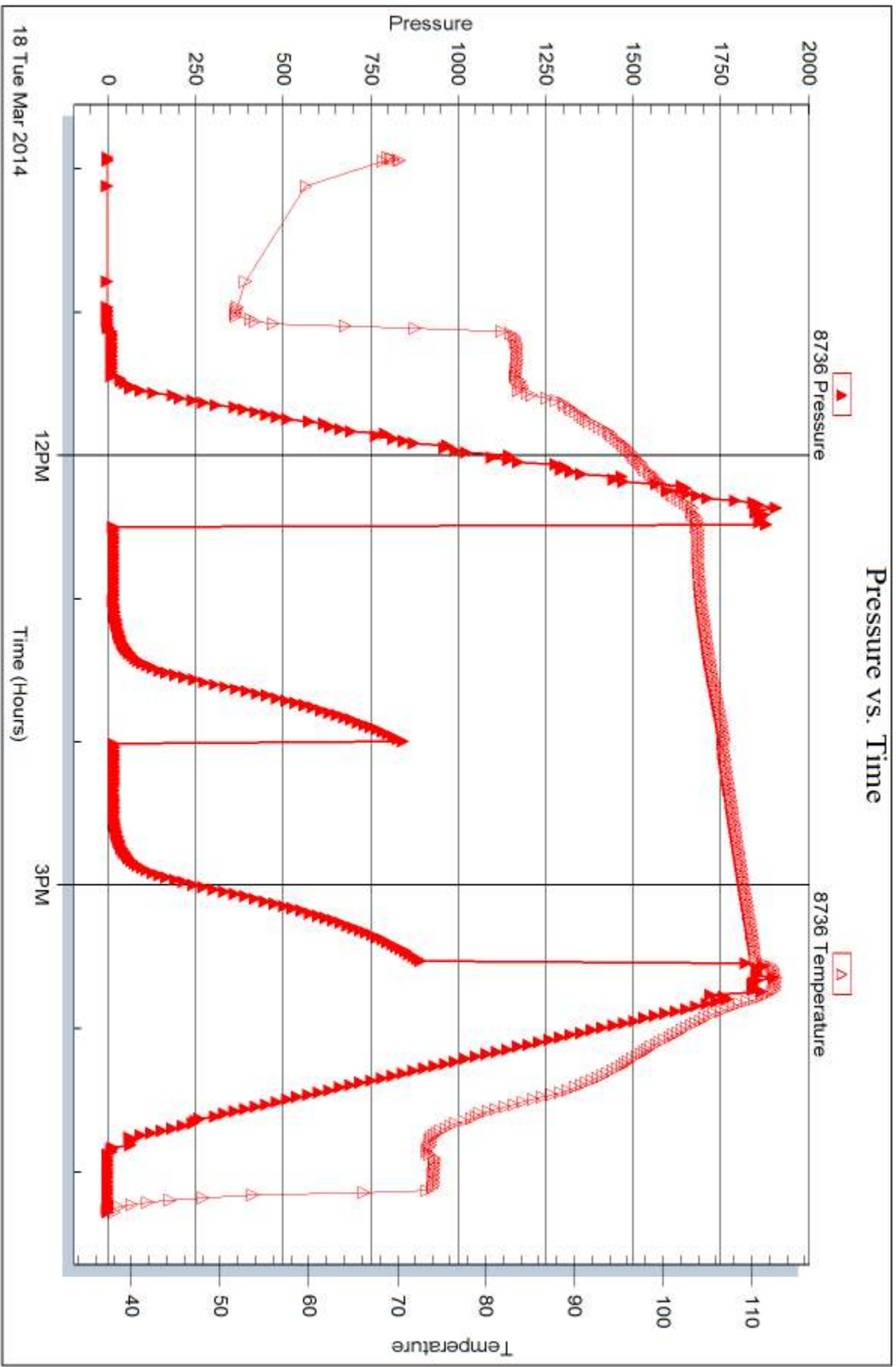
DST Test Number: 2



Tribble Testing, Inc

Ref. No: 57527

Printed: 2014.03.21 @ 15:09:58





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N. Water St
Wichita, KS 67202

ATTN: Chuck Schmaltz

Goetz #1-32

32-9S-27W Sheridian,KS

Start Date: 2014.03.19 @ 10:21:00

End Date: 2014.03.19 @ 19:11:00

Job Ticket #: DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.03.21 @ 15:01:06



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: **DST#: 3**

ATTN: Chuck Schmaltz

Test Start: 2014.03.19 @ 10:21:00

GENERAL INFORMATION:

Formation: **LKC J-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:13:30

Time Test Ended: 19:11:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Tim Phillips

Unit No: 59

Interval: 3998.00 ft (KB) To 4095.00 ft (KB) (TVD)

Reference Elevations: 2704.00 ft (KB)

Total Depth: 4095.00 ft (KB) (TVD)

2699.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8934 Inside

Press@RunDepth: 37.25 psig @ 4028.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.19

End Date:

2014.03.19

Last Calib.:

2014.03.19

Start Time: 10:21:05

End Time:

19:11:00

Time On Btm:

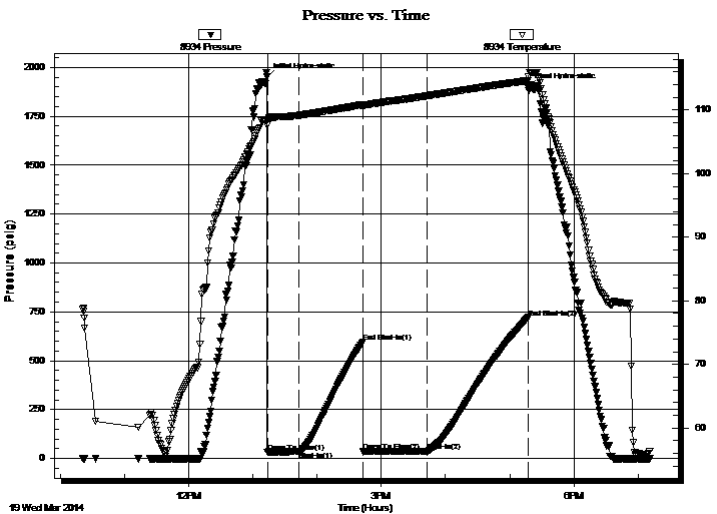
2014.03.19 @ 13:13:00

Time Off Btm:

2014.03.19 @ 17:17:30

TEST COMMENT: IFP- Blow built to 2 1/4"
IS- Dead no blow back
FF- Blow built to 1/8"
FS- Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1950.40	108.52	Initial Hydro-static
1	32.90	107.60	Open To Flow (1)
30	34.64	109.17	Shut-In(1)
90	595.85	110.84	End Shut-In(1)
90	35.02	110.58	Open To Flow (2)
150	37.25	112.24	Shut-In(2)
245	720.37	114.64	End Shut-In(2)
245	1894.76	115.21	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: **DST#: 3**

ATTN: Chuck Schmaltz

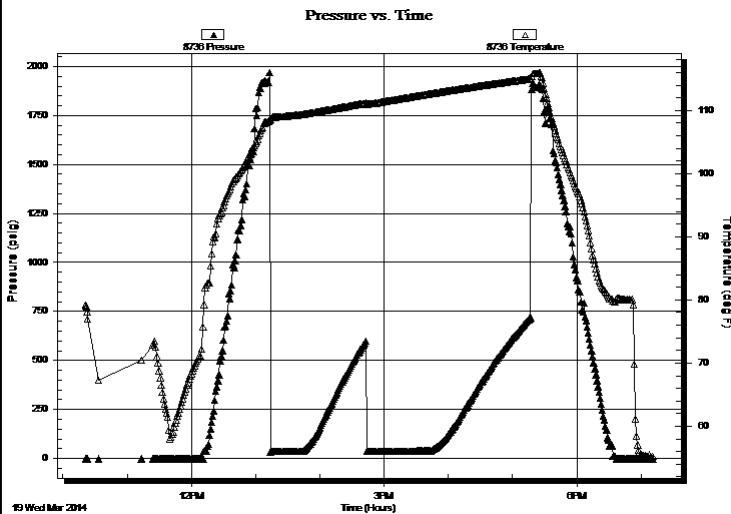
Test Start: 2014.03.19 @ 10:21:00

GENERAL INFORMATION:

Formation: **LKC J-L**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 13:13:30 Tester: Tim Phillips
 Time Test Ended: 19:11:00 Unit No: 59
 Interval: **3998.00 ft (KB) To 4095.00 ft (KB) (TVD)** Reference Elevations: 2704.00 ft (KB)
 Total Depth: 4095.00 ft (KB) (TVD) 2699.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8736 Outside
 Press@RunDepth: psig @ 4028.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.03.19 End Date: 2014.03.19 Last Calib.: 2014.03.19
 Start Time: 10:21:11 End Time: 19:11:06 Time On Btm:
 Time Off Btm:

TEST COMMENT: IFP- Blow built to 2 1/4"
 IS- Dead no blow back
 FF- Blow built to 1/8"
 FS- Dead no blow back



PRESSURE SUMMARY

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

Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket:

DST#: 3

ATTN: Chuck Schmaltz

Test Start: 2014.03.19 @ 10:21:00

Tool Information

Drill Pipe:	Length: 3861.00 ft	Diameter: 3.80 inches	Volume: 54.16 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 54.75 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3998.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	97.00 ft			
Tool Length:	124.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3976.00	
Hydraulic tool	5.00			3981.00	
Jars	5.00			3986.00	
Safety Joint	2.00			3988.00	
Packer	5.00			3993.00	27.00 Bottom Of Top Packer
Packer	5.00			3998.00	
Stubb	1.00			3999.00	
Perforations	29.00			4028.00	
Recorder	0.00	8934	Inside	4028.00	
Recorder	0.00	8736	Outside	4028.00	
Change Over Sub	1.00			4029.00	
Drill Pipe	62.00			4091.00	
Change Over Sub	1.00			4092.00	
Bullnose	3.00			4095.00	97.00 Bottom Packers & Anchor

Total Tool Length: 124.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

32-9S-27W Sheridian,KS

250 N. Water St
Wichita, KS 67202

Goetz #1-32

Job Ticket: **DST#: 3**

ATTN: Chuck Schmaltz

Test Start: 2014.03.19 @ 10:21:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% Mud	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

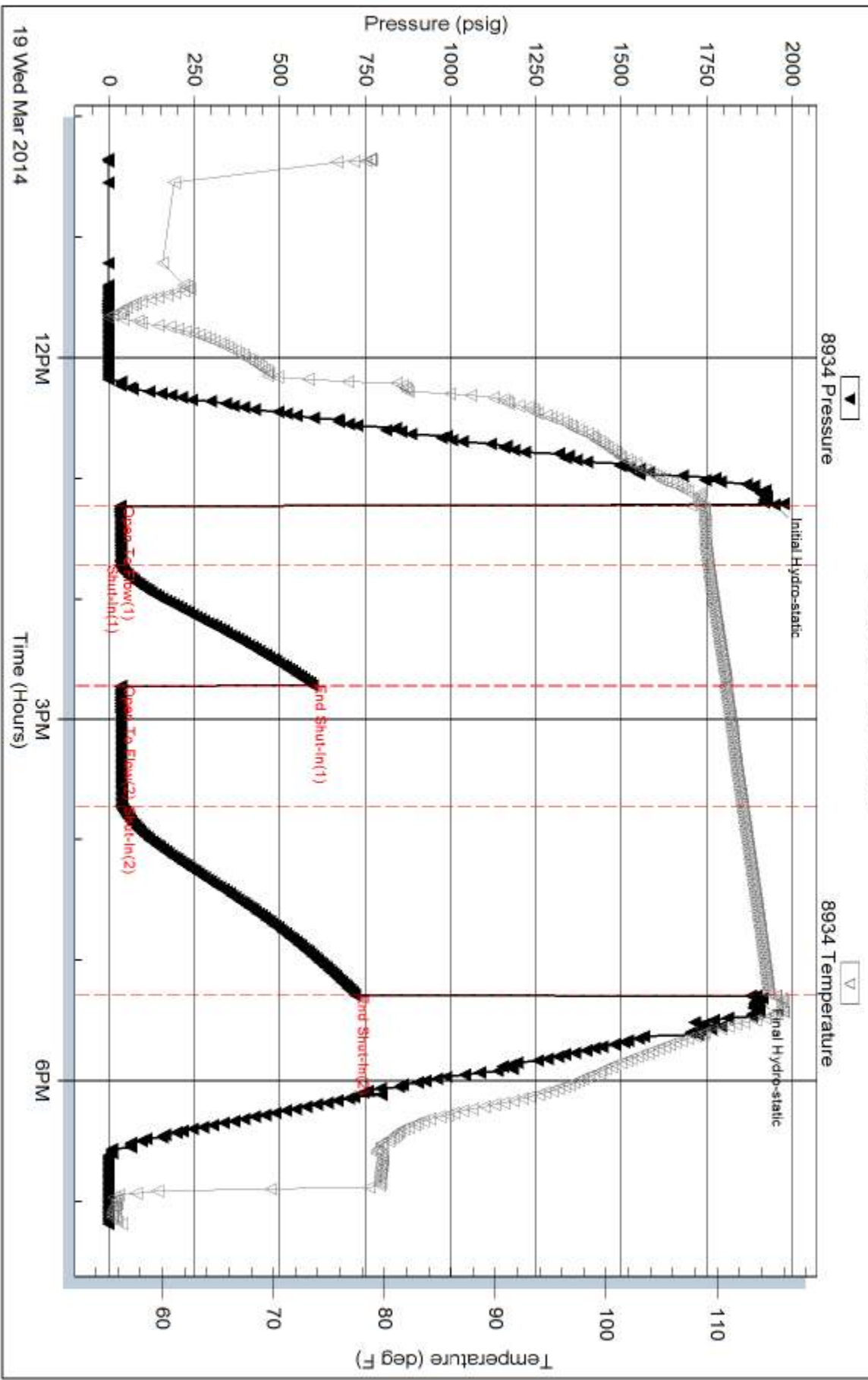
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

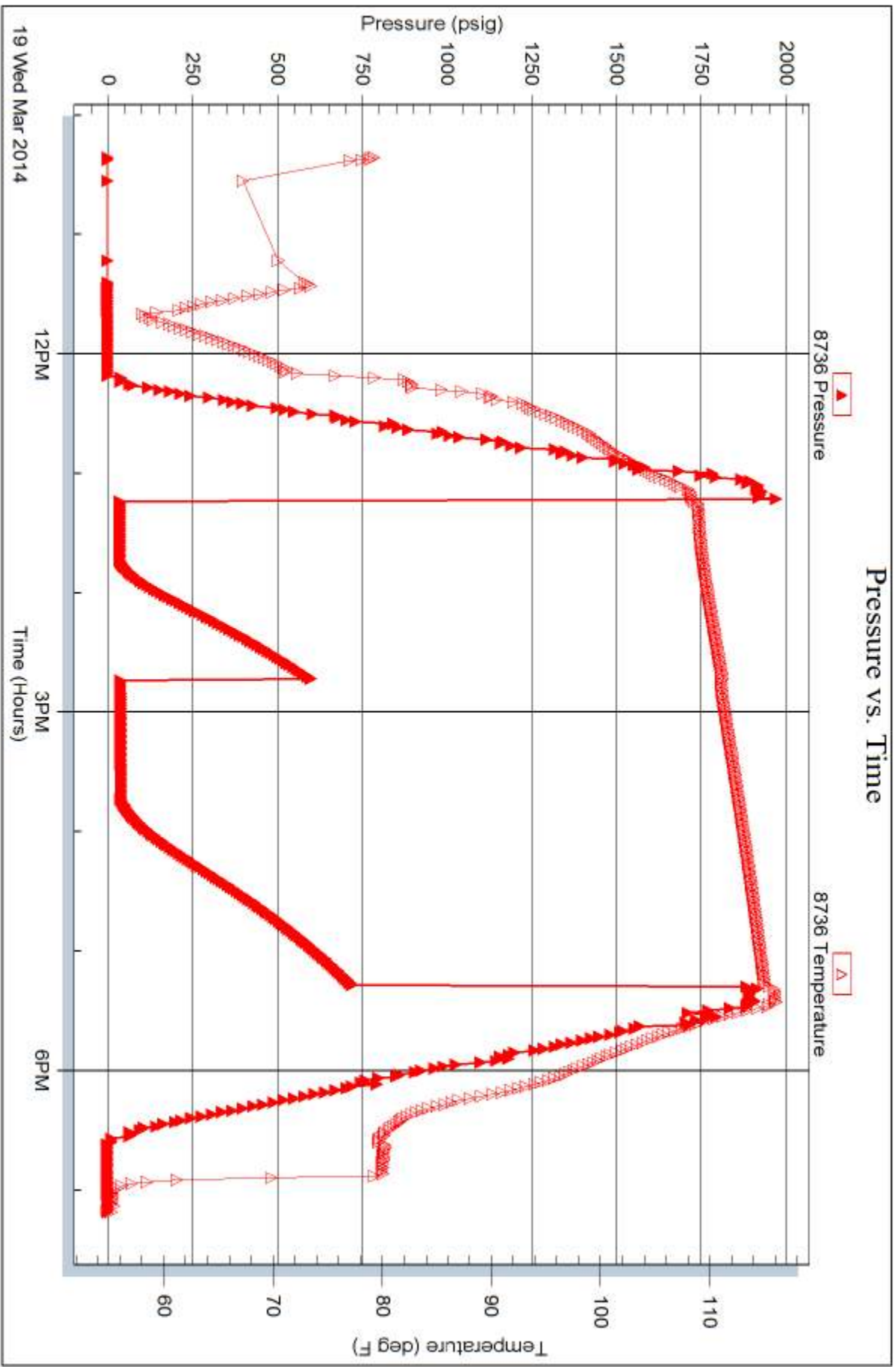


Serial #: 8736

Outside Murfin Drilling Co

Goetz #1-32

DST Test Number: 3



Trilobite Testing, Inc

Ref. No:

Printed: 2014.03.21 @ 15:01:08



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57526

Well Name & No. Goetz #1-32 Test No. 1 Date 03/17/2014
 Company Murfin Drilling Co Elevation 2704 KB 2699 GL
 Address 250 N Water St Wichita, KS 67202
 Co. Rep / Geo. Chuck Schmalz Rig Murfin #24
 Location: Sec. 32 Twp. 9S Rge. 27W Co. Sheeidean State KS

Interval Tested 3876-3922 Zone Tested LKC A-D
 Anchor Length 46 Drill Pipe Run 3740 Mud Wt. 8.9
 Top Packer Depth 3872 Drill Collars Run 126 Vis 50
 Bottom Packer Depth 3876 Wt. Pipe Run 0 WL 6.0
 Total Depth 3922 Chlorides 2000 ppm System LCM 3[#]

Blow Description IFP- Blow built to 3in
ISI- DEAD NO blow back
FF- Blow built to 2.25in
FSI- DEAD NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>140</u>	<u>WCM</u>		<u>60</u>	<u>40</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

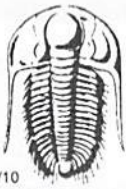
Rec Total 140 BHT 120 Gravity — API RW .19 @ 46 °F Chlorides 62,000 ppm

(A) Initial Hydrostatic 1865 Test 1150 T-On Location 1753
 (B) First Initial Flow 21 Jars 250 T-Started 1848
 (C) First Final Flow 44 Safety Joint 75 T-Open 2154
 (D) Initial Shut-In 1138 Circ Sub _____ T-Pulled 0154
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 0347
 (F) Second Final Flow 75 Mileage 166 R/T 104rt 161.20 Comments _____
 (G) Final Shut-In 1129 Sampler _____
 (H) Final Hydrostatic 1814 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 60 Day Standby _____ Total 1636.20
 Final Shut-In 90 Accessibility _____ MP/DST Disc't _____
 Sub Total 1636.20

Approved By _____ Our Representative Jim Phillips

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57527

Well Name & No. Goetz #1-32 Test No. 2 Date 03/18/2014
 Company Muefin Drilling CO Elevation 2704 KB 2699 GL
 Address 250N. Water ST Wichita, KS 67202
 Co. Rep / Geo. Chuck Schmaltz Rig Muefin #24
 Location: Sec. 32 Twp. 9 S Rge. 27W Co. Sheevidian State KS

Interval Tested 3918 - 3937 Zone Tested LKC "F"
 Anchor Length 18 Drill Pipe Run 3792 Mud Wt. 8.9
 Top Packer Depth 3914 Drill Collars Run 120 Vis 50
 Bottom Packer Depth 3918 Wt. Pipe Run 0 WL 6.0
 Total Depth 3937 Chlorides 2000 ppm System LCM 3#
 Blow Description IFP - Blow built to 3/4 IN
ISI - DEAD NO blow back
FF - DEAD NO blow
FSI - DEAD NO blow back

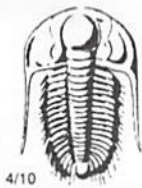
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 110 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1956</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0946</u>
(B) First Initial Flow <u>14</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0955</u>
(C) First Final Flow <u>14</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1230</u>
(D) Initial Shut-In <u>839</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1530</u>
(E) Second Initial Flow <u>14</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1718</u>
(F) Second Final Flow <u>15</u>	<input checked="" type="checkbox"/> Mileage <u>166 R/T</u> 161.20	Comments
(G) Final Shut-In <u>895</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1801</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1636.20</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1636.20</u>	

Approved By _____ Our Representative Jim Phillips

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57528

Well Name & No. Groetz # 1-32 Test No. 3 Date 03/19/2014
 Company Murfin Drilling Co Elevation 2704 KB 2699 GL
 Address 250 N. Water St Wichita, KS 67202
 Co. Rep / Geo. Chuck Schmaltz Rig Murfin # 24
 Location: Sec. 32 Twp. 9 S Rge. 27 W Co. Sheridan State KS

Interval Tested 3998 - 4095 Zone Tested LKC J-L
 Anchor Length 97 Drill Pipe Run 3861 Mud Wt. 9.0
 Top Packer Depth 3994 Drill Collars Run 120 Vis 50
 Bottom Packer Depth 3998 Wt. Pipe Run 0 WL 6.0
 Total Depth 4095 Chlorides 2100 ppm System LCM 3rd

Blow Description IFP- Blow built to 2.25 in
ISI - DEAD NO blow back
FF - DEAD NO blow
FSI - DEAD NO blow back

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	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 115 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1950 Test 1250 T-On Location 0943
 (B) First Initial Flow 32 Jars 250 T-Started 1022
 (C) First Final Flow 34 Safety Joint 75 T-Open 1313
 (D) Initial Shut-In 595 Circ Sub _____ T-Pulled 1413 1711
 (E) Second Initial Flow 35 Hourly Standby _____ T-Out 1910
 (F) Second Final Flow 37 Mileage 166 R/T 161.20 Comments _____
 (G) Final Shut-In 720 Sampler _____
 (H) Final Hydrostatic 1894 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 40 Day Standby _____ Total 1636.20
 Final Shut-In 90 Accessibility _____ MP/DST Disc't _____
 Sub Total 1636.20

Approved By _____ Our Representative Jim Phillips

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CHARLES SCHWALTZ

CONSULTING GEOLOGIST
WICHITA, KANSAS

GEOLOGIC REPORT LOG

COMPANY: **MURFIN DRILLING Co.**

WELL: **Goetz #1-32**

LOCATION: **330' FSL 1900' FEL**

SEC: **32** TNSP: **9S** RGE: **27W**

COUNTY: **SHERIDAN**

STATE: **KANSAS**

LOG COMPANY: **MORGAN Mud, Inc.**

CONTRACTOR: **MURFIN DRILLING Co. Rig #24**

COMMENCED: **13 MAR 14** COMPLETED: **20 MAR 14**

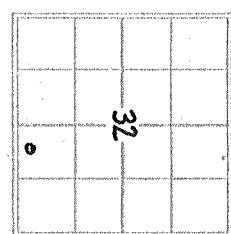
SERVICE: **8 5/8 @ 220'** PRODUCTION: _____

TOTAL DEPTH: **4215**

TOTAL DEPTH LOG: **4213**

27 W

9S



PRODUCTION:

ELEVATION: ID _____ OF _____ RTD

DRILLING LOGGED FOR _____ RTD

STARTED LOG FROM 10' - 3500' TO RTD

DRILLING TIME LEFT FROM 1' - 3500' TO RTD

SAMPLES OBTAINED FROM 3500' TO RTD

CONDUCTED SURVEY FROM 3450' TO TOTAL DEPTH

DRILL TESTS: **TRILDBITE TESTING INC.**

DEVELOPMENT: **PIONEER ENERGY SEC.**

DEVELOPMENT: **DIL/MEL**

DEVELOPMENT: **CNL/CDL**

DEVELOPMENT: **BHGS**

FORMATION TOPS & STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATA	STRUCTURAL POSITION
ANHYDRITE - TOP	2285	2286	+ 419	+11
ANHYDRITE - BASE	2321	2320	+ 384	+10
TOPEKA	3600	3602	- 898	+1
HEEBNER	3816	3820	- 1116	-3
LANSING	3856	3860	- 1156	-4
STARKE	4045	4046	- 1342	-8
BKC	4089	4090	- 1386	-8
MARMATON	4124	4126	- 1422	-11
UPPER PAWNEE	4208	NDE		
TOTAL DEPTH	4215	4213	- 1509	+261

REFERENCE WELL FOR STRUCTURE: **MURFIN DRILLING CO. HAAS-GOETZ #1-33**
2130' FNL, 2570' FEL, SEC 33-T9S-R27W, SHERIDAN CNTY

DRILL STEM TESTS

No.	Interval	RP/Time	ISD/Time	FPD/Time	FSI/Time	IN-PEL
1	3876-3922 LANS '8'-'0'	21'-44" 30"	1138 # 60"	45'-75" 60"	1129 # 90"	1865 # 1814 # 120° F
2	3919-3937 LANS '1'-'1'	14'-14" 30"	839 # 60"	14'-15" 30"	895 # 60"	1956 # 1801 # 110° F
3	3998-4095 LANS '1'-'1'	32'-34" 30"	595 # 60"	35'-37" 60"	720 # 90"	1950 # 1894 # 115° F

BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS
1	12/4		G44C	220	220	2 1/4
2	7 7/8		DP506	3497	3277	49 1/4
3	7 7/8		GK20C	4215	718	31

DAILY PENETRATION

DATE	DEPTH	NO	DATE	DEPTH	ACTIVITY	BT	VS	W	FI
3-13	MRT / SPUD								
3-14	220'	3	3-16	3497'	BIT TRIP	8.6	6.3	6.8	22
3-15	2210'	4	3-17	3922'	QFS	8.9	5.0	6.0	16
3-16	3265'	5	3-18	3937'	DST # 2	9.0	5.0	6.0	16
3-17	3775'	6	3-19	4095'	DST # 3	9.2	5.6	6.0	20
3-18	3935'								
3-19	4085'								
3-20	4215'								

MUD RECORD

DATE	DEPTH	NO	DATE	DEPTH	ACTIVITY	BT	VS	W	FI

PIPE STRAP

PIPE STD

DEVIATION @ 3497 @ 349 @ 421

W/OIL SPITS
M, 60% W/
DD PPM SYS: 2000

400

400

S. 2. DEV. SURVEYS

RAPS:

97 - 1.62 LING

ON SURVEYS:

5' - 3/4"
7' - 1/4"
5' - 3/4"

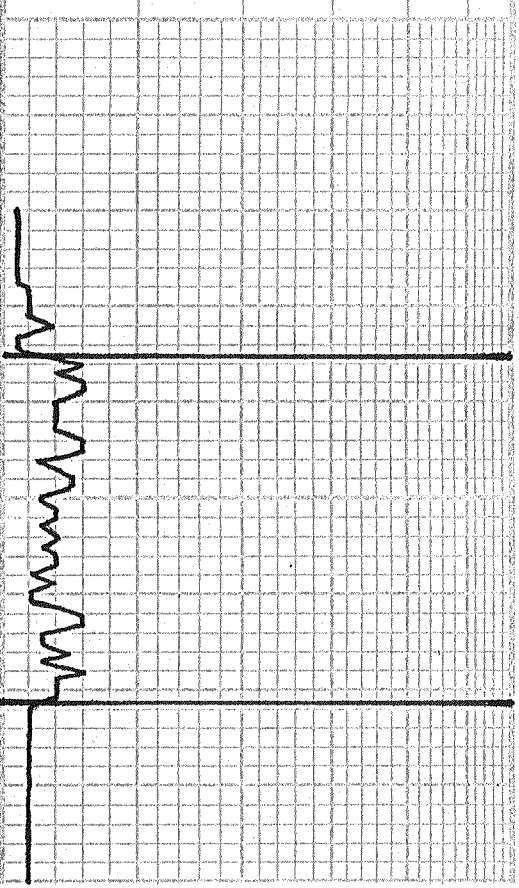
8/30	7/28	6/24	4/24	3#	2200
3#	3#	3#	3#	2000	
				2100	
				2200	

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool.Lime	Chert	Dolomite

DRILLING TIME IN MINUTES
PER FOOT
Rate of Penetration Decreases

5" 10" 15" 20" 25"



DEPTH

2250

60

70

80

90

2300

10

20

30

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

ANHYDRITE-TOP
2285 (+419)

ANHYDRITE-BASE
2321 (+383)

3500

10

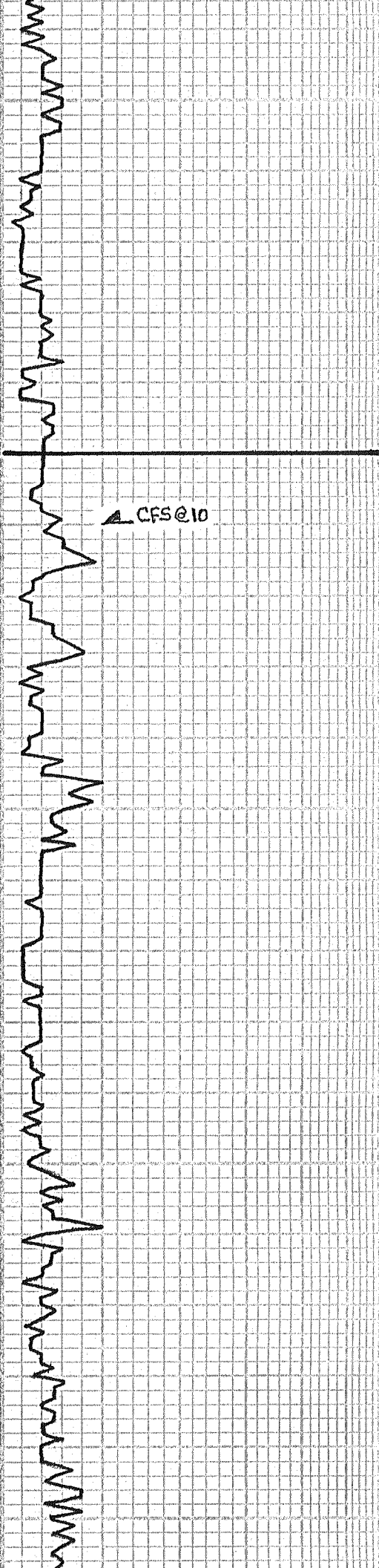
20

30

sample mostly orange, rust,
grey, green

ls: tan, grey, fn-med xtn, foss
scat pr interxtn ϕ , N.S

sh: grey
ls: tan, brown fn-med xtn, slit foss
no vis ϕ , NS



3550

3600

3650

3700

3750

sh: grey, green-grey, sli sandy, in part

ls: tan, brown, brown-grey, fn-medxtln sli dol, sli foss, scat pr interxtln ϕ , no st, cut, odor

ls: as above

sh: grey, green-grey, calc in pt.

sh: as above, scat foss frags; few clusters brown, fn grained, well-sorted, firm ss: no vis ϕ N.S.

ls: brown, grey, fn-medxtln, foss, calcitic in part, v. scat pr interxtln ϕ , N.S.

sh: grey, grey-green, mica. in part w/ ls: tan, brown, fn-medxtln, sli. foss, no vis ϕ , no show

ls: tan, brown, grey, fn-medxtln, sli. foss, scat sli. sandy, few pcs w/ pr interxtln ϕ , no show

ls: tan, brown, v. fn - some medxtln, dense; no vis ϕ , no show

sh: grey, purple
ls: off-wh, tan, fn-medxtln, sli foss calcitic, app pr - tr fr interxtln & vuggy (isolated) ϕ , no show

sh: grey, green-grey

ls: tan, grey-tan, fn. some medxtln, sli. foss, granular, scat calcite, app pr interxtln ϕ ; no show
ls: as above; no vis ϕ ; no show

sh: grey, silty - sli. sandy, calc in part.

ls: tan, lt. brown, fn. medxtln, sli. dol & foss, app pr interool ϕ , & pr some fr interxtln ϕ ; no show

ls: tan, lt. brown, fn. medxtln, granular, sli foss, scat pr vuggy & interxtln ϕ ; no show

ls: as above; no show

ls: tan, greyish-tan, fn. medxtln, granular, some reworked, foss; pr-fr vuggy ϕ , v. scat fr foss ϕ ; no show

ls: tan, grey, fnxtln, dense

few pcs blk carb sh
ls: grey, brown, dk brown, fn-medxtln, granular, mottled in part, scat pr interxtln/granular ϕ ; no show

sh: grey, pale grey, silty - sandy ss: brown, fn grained, calc (dol) - no vis ϕ ; no show

ls: lt. brown, brown, mostly fn - some medxtln, sli. foss, no vis ϕ , no show

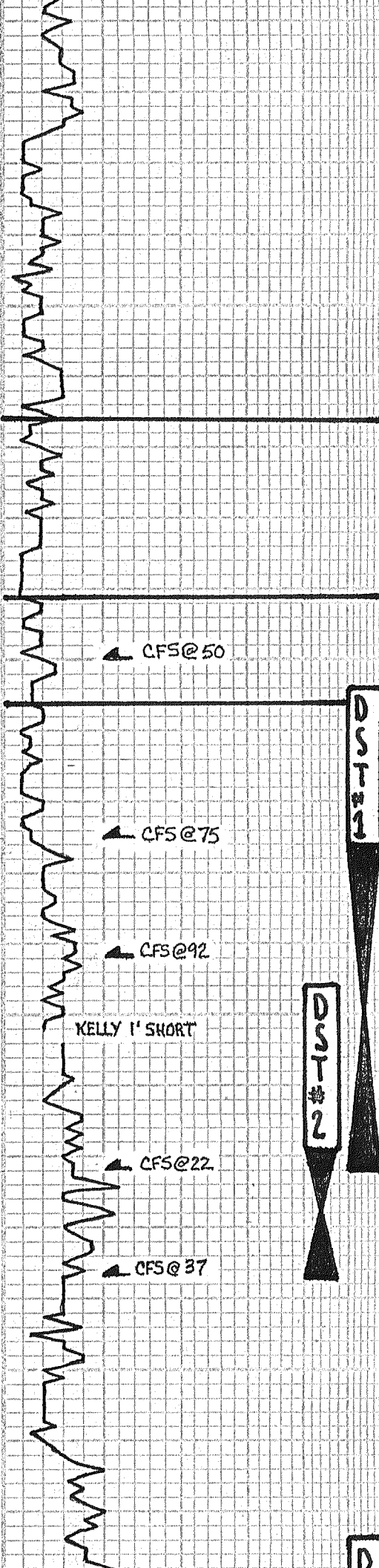
ls: as above; no vis ϕ ; no show

ss: lt. grey, silty - sli. sandy; dol: grey, v. fn. fnxtln, dense

TOPEKA

3600

(-896)



60
70
80
90
3800
10
20
30
40
3850
60
70
80
90
3900
10
20
30
40
3950
60
70

ls: tan, lt. brown, fn-med xtn, sli. foss; granular in part; epl pcs w/ pr interxtn ϕ ; mostly dense; no show
few pcs blk carb sh & emerald grn sh
ls: brown, tan, grey fn-med xtn, drs

ls: tan, lt. grey, fn-med xtn, foss, granular, calcite infill, scat app pr interxtn ϕ ; no show

ls: grey, micro xtn, dense; ls: tan, fn xtn, chalky in part; no vis ϕ ; no show; considerable sh: grey, green-grey, some calc
ls: as above; no show

ls: grey, fn xtn, dense

sh: blk, carb
ls: tan, vfn-fn xtn, dns
sh: grey, calc in part
sh: grey, grey-green, sli silty, calc in part

ls: off-wh, tan, fn-med xtn, some granular in part; few pcs w/ app pr interxtn ϕ ; no show
sh: grey, lt. grey, sli mica.

ls: off-wh, tan, lt. brown, fn-med xtn, sli foss, sli ool, calcite in part; scat pr interxtn ϕ ; pr. tr fr vuggy ϕ ; few pcs w/ pr interod. drs; no show

ls: as above; no show, w/ ls: wh fn xtn, chalky \rightarrow wh chalk

sh: grey, green-grey, calc in part
ls: wh, off-wh, fn xtn, ool, pr inter-ool ϕ , most w/ calcite cement, few pcs w/ ss hvy, dk, inert/tarry oil, scat spotty blk hvy st; NS liveoil
sh: grey, lt. grey, sli calc

ls: lt. grey, some tan, fn-med xtn, granular in part, sli foss, app pr - tr fr ppt vuggy ϕ , scat isolated larger vugs, pr interxtn ϕ , few pcs w/ minor bleed natural, ss ppts FO, epl pcs F5FO, pr. tr fr med brown \rightarrow blk st w/ spotty sat, v ft odor after break

sh: grey, green, few pcs brown-rust

ls: off-wh, tan, lt. grey, fn-med xtn, epl pcs ool & v sli. ool, tr foss, scat pr vuggy ϕ /interxtn ϕ ; epl pcs pr interool ϕ , vss ppts FO on break; pr spotty dk. brown st; no odor

ls: beige, tan, fn-med xtn, sli ool & ool, scat pr interxtn ϕ , pr scat ool ϕ , no show

ls: tan, beige, fn-med xtn, sli ool & ool, scat pr - frocc ϕ , pr vuggy ϕ , no show

ls: tan, lt brown, fn-med xtn, few pcs w/ pr interxtn ϕ , no show w/ ls: gry, micro-vfn xtn, dense

ls: tan, lt grey, vfn-fn xtn, dense; w/ shale grey, calc in part, few pcs blk carb shale

HEEBNER SH.

3816 (-1112)

TORONTO

3841 (-1137)

LANSING

3856 (-1152)

DST #1
(3876 - 3922)
30" - 60" - 60" - 90"
IFP: 1/2" BLOW BLDG TO 3"
ISIP: NO BLOW
FFP: SURF BLOW BLDG TO 2 1/4"
ISIP: NO BLOW
RECOVERY:
140' MW w/ ALL SPOTS
CHL: 62000 PPM SYS: 2000 PPM
HSP: 1865# - 1814#
FP: 21#-44# / 45#-75#
SIP: 1138# - 1129#
BMT: 120° F

DST #2
(3919 - 3937)
30" - 60" - 30" - 60"
IFP: SURF BLOW BLDG TO 3/4"
FFP: NO BLOW
RECOVERY:
5' MUD
HSP: 1956# - 1801#
FP: 14#-14# / 14#-15#
SIP: 820# - 805#

ST #3

4000

10

20

30

40

4050

60

70

80

90

4100

10

20

30

40

4150

60

70

80

90

ls: tan, lt. brown, fn-medxtln, no vis ϕ , w/ sh: lt. grey, green-grey, purple

ls: tan lt. brown fn-medxtln, col in part, some calcite cement w/ tr pr interxtln ϕ , no st, NSO

ls: lt. grey, grey, micro-fnxtln, dense; few pcs tan, fn-medxtln, sli chalky no vis ϕ

ls: as above w/ sh: grey, green, tr purple, calc in part

ls: tan, brown, grey mostly micro-fnxtln, dense, few tan, fn-medxtln sli col, no vis ϕ NS: w/ sh: grey

greenish-grey, some brown, sli silty \rightarrow sli sandy in part

ls: tan, lt brown, fn-medxtln, sli col & foss, chalky in part, scat vpr-pr interxtln & ppt vuggy ϕ , no show sh: black, carb.

ls: grey brown vfn-fnxtln dense w/ sh: grey, green-grey, calc in part, few pcs purple

ls: off-wh, tan, lt. grey, fn-medxtln, v sli col, scat pr interxtln & ppt vuggy ϕ , PS blk hvy oil, 2-3 pcs/tray w SS ppts, FO on brk, scat pr sootly dk brwn/blk st, scat dd oil residue.

ls: grey, brown, micro-fnxtln dense w/ sh: grey, calc in part

ls: off-wh tan lt. grey fnxtln, vpr interxtln & ppt vuggy ϕ scat dd oil residue, apl spots blk hvy immobile oil/tar, NS live oil @ CFS 85

ls: tan, grey, vfn-medxtln, dense sh: grey, green, brown, rust, calc in part

sh: mostly grey, some green, brwn rust; some silty \rightarrow sli sandy, few clusters lt grey, fngrained, shaley ss: no show

sh: as above w/ brown, rust, silty \rightarrow sandy shale; few clusters brown, red fngrained shaley ss; no show

ls: lt. grey, grey vfn-fnxtln, dense ls: tan, fn-medxtln, dense

sh: grey, some w/ ls/foss frags included; sh: grey, mica, some brown, silty, sandy

sh: as above w/ few clusters ss: grey, brown, fngrained, shaley

ls: grey, medxtln, mottled in part, dense; few pcs tan, fn-medxtln, dense; considerable grey, brwn sh

sh: grey, purple, calc (dolo), brown, w/ ls: grey, tan, fnxtln dense; few pcs grey, fnxtln, shaley dolo.

ls: off wh, tan, grey, fn-medxtln, sli sandy, no vis ϕ ; no show; sh: brown, grey, silty

sh: grey, greyish-purple dolomitic to dolo: grey, purple, vfn-fnxtln shaley; ls: tan, grey, fnxtln, dense sh: brown, rust-brown, silty \rightarrow sli. sandy in part sh, dolo & ls; as above

CFS @ 45

CFS @ 85

CFS @ 95

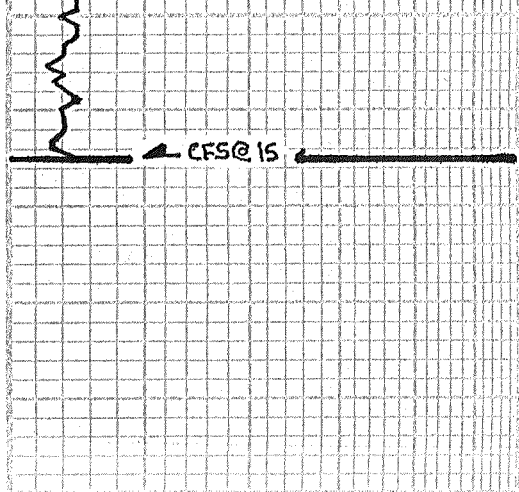
BHT: 110° F

DST #3
(3998 - 4095)
30" - 60" - 60" - 90"
IFP: WK BLOW BLDG TO 2 1/4"
FFP: SURF BLOW DIED IN 5"
RECOVERY:
10' MUD
HSP: 1950# - 1894#
FP: 32# - 34# / 36# - 37#
SIP: 595# - 720#
BHT: 115° F

STARK
4045 (-1341)

BKC
4089 (-1385)

MARMATON
4124 (-1420)



5" 10" 15" 20" 25"
 DRILLING TIME Minutes/Foot

Rate of Penetration Decreases

4200

10



LITHOLOGY

mostly sh: brown, rust-brown,
 purple, some grey, green w/ l
 ls: off wh, tan, brown, fr-med xtn,
 v sh cal, seat chalky, sandy, tr
 v pr-pr interxtn ϕ ; no show

SAMPLE DESCRIPTIONS

UPPER PAWNEE 4208 (?)

RTD 4215 (-1511)

LTD 4213 (-1509)

SHALES TID

REMARKS



PO Box 93999
Southlake, TX 76092

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

INVOICE

*act.
Prod-LH*

Invoice Number: 141900
Invoice Date: Mar 13, 2014
Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	62582	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Mar 13, 2014	4/12/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Goetz #1-32		
180.00	CEMENT MATERIALS	Class A Common	17.90	3,222.00
6.00	CEMENT MATERIALS	Chloride	64.00	384.00
189.00	CEMENT SERVICE	Cubic Feet Charge	2.48	468.72
304.98	CEMENT SERVICE	Ton Mileage Charge	2.60	792.95
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
35.00	CEMENT SERVICE	Pump Truck Mileage	7.70	269.50
1.00	CEMENT SERVICE	Manifold Rental	275.00	275.00
35.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	154.00
1.00	CEMENT SUPERVISOR	Alan Ryan		
1.00	EQUIPMENT OPERATOR	Kevin Ryan		

Subtotal	7,078.42
Sales Tax	293.89
Total Invoice Amount	7,372.31
Payment/Credit Applied	
TOTAL	7,372.31

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

\$ 2,477.45 *gh 356*

ONLY IF PAID ON OR BEFORE

Apr 7, 2014

*- 2477.45
4894.86*

ok MSR

ALLIED OIL & GAS SERVICES, LLC 062582

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Dakley K9

DATE <u>3/13/14</u>	SEC <u>32</u>	TWP <u>9</u>	RANGE <u>2</u>	CALLED OUT	ON LOCATION	JOB START <u>11:30 AM</u>	JOB FINISH <u>12:00 PM</u>
LEASE <u>COPT 2</u>	WELL # <u>1-32</u>	LOCATION <u>Path ETD FIDC Club N TOT</u>			COUNTY <u>Sheridan</u>	STATE <u>W.S.</u>	
OLD OR NEW (Circle one) <u>NEW</u>			<u>1/2 E 3 N 1/2 W N into</u>				

CONTRACTOR MacFin Drilling OWNER Same

TYPE OF JOB Surf Seal
 HOLE SIZE 12 1/4 T.D. 220' CEMENT AMOUNT ORDERED 180 Com 390 CC
 CASING SIZE 8 1/8 DEPTH 220'

TUBING SIZE _____ DEPTH _____
 DRILL PIPE _____ DEPTH _____
 TOOL _____ DEPTH _____
 PRES. MAX _____ MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. 15'
 PERFS. _____
 DISPLACEMENT 13.0585 BBL

EQUIPMENT

PUMP TRUCK CEMENTER <u>Alan Ryan</u>	COMMON <u>180</u>	@ <u>17.90</u>	<u>3222.00</u>
# <u>42281</u> HELPER <u>Kevin Ryan</u>	POZMIX	@	
BULK TRUCK	GEL	@	
# <u>818</u> DRIVER <u>Tuan T (two)</u>	CHLORIDE	@ <u>6.40</u>	<u>384.00</u>
BULK TRUCK	ASC	@	
# _____ DRIVER _____		@	

REMARKS:
Rinse, Circulate, Mix Cement,
Displace Cement, Shut in.

Cement Bid Circulate
Franklin Alan Ryan, Tuan

CHARGE TO: MacFin Drilling CO
 STREET _____
 CITY _____ STATE _____ ZIP _____

HANDLING	<u>189.000 CC</u>	@ <u>2.48</u>	<u>468.72</u>
MILEAGE	<u>2.60 ton/mile 2.214 ton</u>	@ <u>292.27</u>	<u>760.00</u>
TOTAL			<u>4867.69</u>

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE		@ <u>15.10</u>	<u>25</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>35 miles</u>	@ <u>7.72</u>	<u>269.50</u>
MANIFOLD		@	<u>25.00</u>
<u>Latavelli ole 35 miles</u>		@ <u>4.40</u>	<u>154.00</u>
TOTAL			<u>2210.25</u>

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 Anthony Martin
 SIGNATURE Anthony Martin

SALES TAX (if Any) _____
 TOTAL CHARGES 7,078.44
 DISCOUNT 2,477.45 IF PAID IN 30 DAYS
4,600.98 Net.

PO Box 93999
Southlake, TX 76092

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

INVOICE

uacx Prod-LH

Invoice Number: 1420 34

Invoice Date: Mar 20, 2014

Page: 1

Bill To:

Murfin Drlg. Co., Inc.
250 N. Water
STE #300
Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	61991	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Mar 20, 2014	4/19/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Goetz #1-32		
132.00	CEMENT MATERIALS	Class A Common	17.90	2,362.80
88.00	CEMENT MATERIALS	Pozmix	9.35	822.80
7.00	CEMENT MATERIALS	Gel	23.40	163.80
55.00	CEMENT MATERIALS	Flo Seal	2.97	163.35
236.27	CEMENT SERVICE	Cubic Feet Charge	2.48	585.95
331.10	CEMENT SERVICE	Ton Mileage Charge	2.60	860.86
1.00	CEMENT SERVICE	Plug to Abandon	1,250.00	1,250.00
35.00	CEMENT SERVICE	Pump Truck Mileage	7.70	269.50
35.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	154.00
1.00	EQUIPMENT SALES	8-5/8 Wooden Plug	110.00	110.00
1.00	CEMENT SUPERVISOR	Kelly Gabel		
1.00	EQUIPMENT OPERATOR	Wayne McGhghy		

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

\$ 2,321.57 *ma*

ONLY IF PAID ON OR BEFORE

Apr 14, 2014

Subtotal	6,743.06
Sales Tax	549.56
Total Invoice Amount	7,292.62
Payment/Credit Applied	
TOTAL	7,292.62

- 2321.57
4971.05

OKMSTR

ALLIED OIL & GAS SERVICES, LLC 061991

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:

*Corkley, KS
3-21-14 3:51-14*

DATE <i>3-20-14</i>	SEC. <i>30</i>	TWP. <i>9S</i>	RANGE <i>27W</i>	CALLED OUT	ON LOCATION	JOB START <i>2:00 AM</i>	JOB FINISH <i>2:30 PM</i>
LEASE <i>Goetz</i>		WELL # <i>1-32</i>	LOCATION <i>Park Field Club N to T</i>		COUNTY <i>Shepherd</i>	STATE <i>KS</i>	
OLD OR <u>NEW</u> (Circle one)		3 N 1/2 W N into					

CONTRACTOR *Muffin #24* OWNER *James*

TYPE OF JOB *PTA*
HOLE SIZE *7 7/8* T.D. *4215*
CASING SIZE _____ 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 *320 SKS 60/40 P02*
490 gel 1/4 # flo-seal

COMMON	<i>132 SKS @ 17¢</i>	<i>2243.20</i>
POZMIX	<i>88 SKS @ 9.3¢</i>	<i>818.64</i>
GEL	<i>75 SKS @ 23.4¢</i>	<i>163.80</i>
CHLORIDE	@	
ASC	@	
<i>Flo-seal</i>	<i>5.5 # @ 2.97</i>	<i>163.35</i>
	@	
	@	
	@	
	@	
	@	
	@	
	@	
	@	
	@	
	@	
HANDLING	<i>336.22 cu ft @ 2.48</i>	<i>823.62</i>
MILBAGE	<i>9.46 ton x 35 x 2.50</i>	<i>823.50</i>
		TOTAL <i>4920.84</i>

EQUIPMENT

PUMP TRUCK CEMENTER *Kelly Gabel*
422 HELPER *Wayne McElhugh*
BULK TRUCK
341 DRIVER *Thomas (Tws)*
BULK TRUCK
_____ DRIVER _____

REMARKS:
25 @ 23.00
100 @ 14.50
40 @ 27.00
10 @ 40
30 RH
15 MH

Thank You
Kelly Gabel

CHARGE TO: *Muffin*
STREET _____
CITY _____ STATE _____ ZIP _____

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 *Anthony Martin*
SIGNATURE *[Signature]*

SERVICE

DEPTH OF JOB		<i>2300</i>
PUMP TRUCK CHARGE		<i>1250.00</i>
EXTRA FOOTAGE	@	
MILBAGE	<i>MILV 35 @ 7.70</i>	<i>269.50</i>
MANIFOLD	@	
	<i>MILV 35 @ 4.10</i>	<i>154.00</i>
	@	
		TOTAL <i>1673.50</i>

PLUG & FLOAT EQUIPMENT

	@	
	@	
<i>1-8 9/8 Wooden Plug</i>	@	<i>110.00</i>
	@	
		TOTAL <i>110.00</i>

SALES TAX (if Any) _____
TOTAL CHARGES *6,704.34*
DISCOUNT *2,308.01* IF PAID IN 30 DAYS
4,396.33 Net.

Goetz #1-32
 Daily Drilling Report
 Page Two

3/21/14 RTD: 4215'. CT: 23½ hrs. Pioneer logged 12:45PM – 5:45PM 3/20. LTD 4213'. Allied plugged hole as follows using 60/40Poz, 4%Gel, ¼# Floseal, 25sxs @ 2300', 100sxs @ 1450', 40sxs @ 270', 10sxs @ 40', 30sxs RH, 15sxs MH. Started @ 11:00PM 3/20, Compl 2:30AM 3/21. Orders by Darrell Dipman, KCC Hays. RR @ 6:30AM 3/21/14.
 FINAL REPORT

Goetz #1-32 330' FSL 1900' FEL Sec. 32-T9S-R27W 2704' KB							Haas-Goetz #1-33 2130' FNL 2570' FEL Sec. 33-T9S-R27W 2709' KB	
Formation	Sample tops	Datum	Ref	Log Tops	Datum	Ref	Log Tops	Datum
Anhydrite	2286	+418	+10	2286	+418	+10	2301	+408
B/Anhydrite	2313	+391	+17	2320	+384	+10	2335	+374
Topeka	3600	-896	+3	3602	-898	+1	3608	-899
Heebner	3816	-1112	+1	3821	-1117	-4	3822	-1113
Lansing	3856	-1152	Flat	3860	-1156	-4	3861	-1152
Stark	4042	-1338	-4	4046	-1342	-8	4043	-1334
BKC	4088	-1384	-6	4090	-1386	-8	4087	-1378
Marmaton	4124	-1420	-8	4127	-1423	-11	4121	-1412
Upper Pawnee	4207	-1503	-6	NR			4206	-1497
RTD	4215						4480	
LTD				4213				