



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1198599
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: _____

1198599

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> <i>(Submit ACO-4)</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	Ziegler 1-30
Doc ID	1198599

All Electric Logs Run

Dual Induction
Dual Compensated
Microresistivity
Borehole Compensated Sonic Log

Ziegler #1-30
 Daily Drilling Report
 Page Two

Ziegler #1-30 990' FNL 2200' FWL Sec. 30-T9S-R27W 2767' KB							Haffner #2-20 1600' FNL 2130' FEL Sec. 20-T9S-R27W 2360' KB	
Formation	Sample tops	Datum	Ref	Log Tops	Datum	Ref	Log Tops	Datum
Anhydrite	2362	+405	-8	2366	+401	-12	2341	+413
B/Anhydrite	2400	+367	-6	2400	+367	-6	2381	+373
Topeka	3664	-897	-5	3666	-899	-7	3646	-892
Heebner	3879	-1112	-6	3880	-1111	-5	3860	-1106
Lansing	3915	-1148	-5	3913	-1146	-3	3897	-1143
Stark	4100	-1333	-9	4104	-1337	-13	4078	-1324
BKC	4144	-1377	-9	4153	-1386	-18	4122	-1368
RTD	4245						4500	
LTD				4247				



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Ziegler #1-30

30-9s-27w,Sheridan,KS

Start Date: 2014.01.14 @ 11:05:00

End Date: 2014.01.14 @ 18:43:15

Job Ticket #: 55496 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.17 @ 13:02:06



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.

30-9s-27w, Sheridan, KS

250 N Water STE 300
Wichita KS 67202

Ziegler #1-30

Job Ticket: 55496

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.01.14 @ 11:05:00

GENERAL INFORMATION:

Formation: **KC"B-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:01:00

Time Test Ended: 18:43:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Brett Dickinson

Unit No: 59

Interval: 3932.00 ft (KB) To 3974.00 ft (KB) (TVD)

Reference Elevations: 2767.00 ft (KB)

Total Depth: 3974.00 ft (KB) (TVD)

2762.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8018

Inside

Press@RunDepth: 19.89 psig @ 3933.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.14

End Date:

2014.01.14

Last Calib.:

2014.01.14

Start Time: 11:05:05

End Time:

18:43:14

Time On Btm:

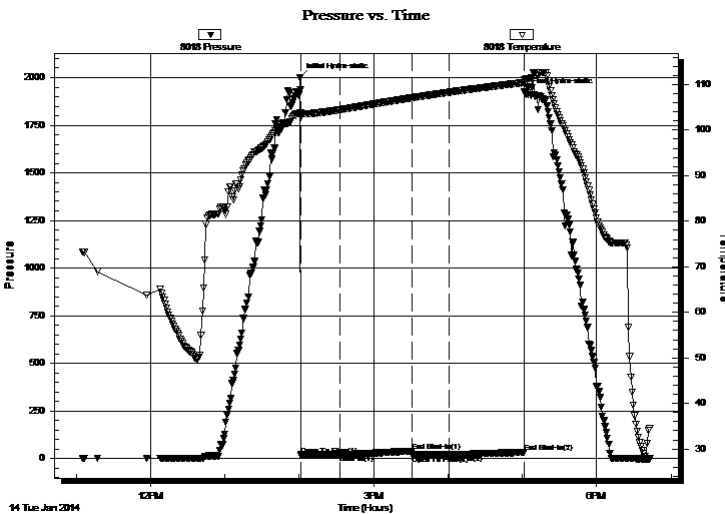
2014.01.14 @ 14:00:15

Time Off Btm:

2014.01.14 @ 17:02:30

TEST COMMENT: IF-1/2" blow
IS-No blow
FF-No blow
FSI-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1997.90	103.69	Initial Hydro-static
1	18.20	102.83	Open To Flow (1)
33	19.63	104.46	Shut-In(1)
91	38.81	107.07	End Shut-In(1)
91	18.84	107.08	Open To Flow (2)
121	19.89	108.29	Shut-In(2)
181	32.17	110.43	End Shut-In(2)
183	1920.77	111.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil Spotted Mud	0.02

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co.

30-9s-27w, Sheridan, KS

250 N Water STE 300
Wichita KS 67202

Ziegler #1-30

Job Ticket: 55496

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.01.14 @ 11:05:00

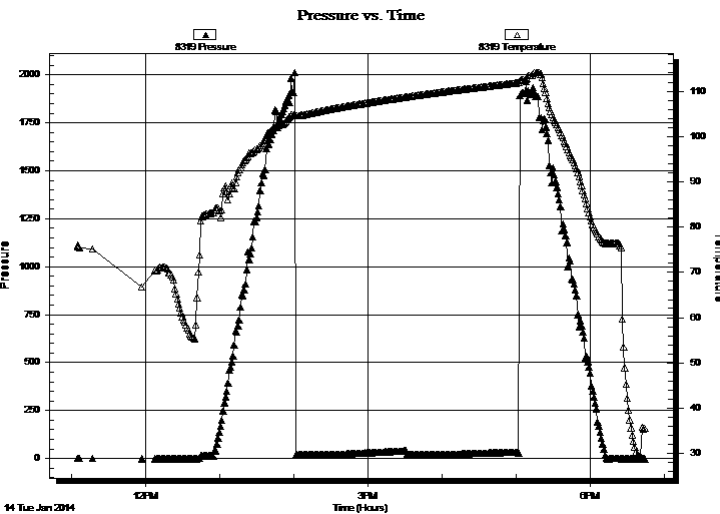
GENERAL INFORMATION:

Formation: **KC"B-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:01:00
 Time Test Ended: 18:43:15
 Interval: **3932.00 ft (KB) To 3974.00 ft (KB) (TVD)**
 Total Depth: 3974.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brett Dickinson
 Unit No: 59
 Reference Elevations: 2767.00 ft (KB)
 2762.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8319 Outside

Press@RunDepth: psig @ 3933.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.01.14 End Date: 2014.01.14 Last Calib.: 2014.01.14
 Start Time: 11:05:05 End Time: 18:43:44 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF-1/2" blow
 IS- No blow
 FF- No blow
 FS- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil Spotted Mud	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

30-9s-27w, Sheridan, KS

250 N Water STE 300
Wichita KS 67202

Ziegler #1-30

Job Ticket: 55496

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.01.14 @ 11:05:00

Tool Information

Drill Pipe:	Length: 3894.00 ft	Diameter: 3.80 inches	Volume: 54.62 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3932.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	70.00 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			3905.00	
Shut In Tool	5.00			3910.00	
Hydraulic tool	5.00			3915.00	
Jars	5.00			3920.00	
Safety Joint	2.00			3922.00	
Packer	5.00			3927.00	28.00 Bottom Of Top Packer
Packer	5.00			3932.00	
Stubb	1.00			3933.00	
Recorder	0.00	8018	Inside	3933.00	
Recorder	0.00	8319	Outside	3933.00	
Perforations	4.00			3937.00	
Change Over Sub	1.00			3938.00	
Blank Spacing	32.00			3970.00	
Change Over Sub	1.00			3971.00	
Bullnose	3.00			3974.00	42.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

30-9s-27w, Sheridan, KS

250 N Water STE 300
Wichita KS 67202

Ziegler #1-30

Job Ticket: 55496

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.01.14 @ 11:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Oil Spotted Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

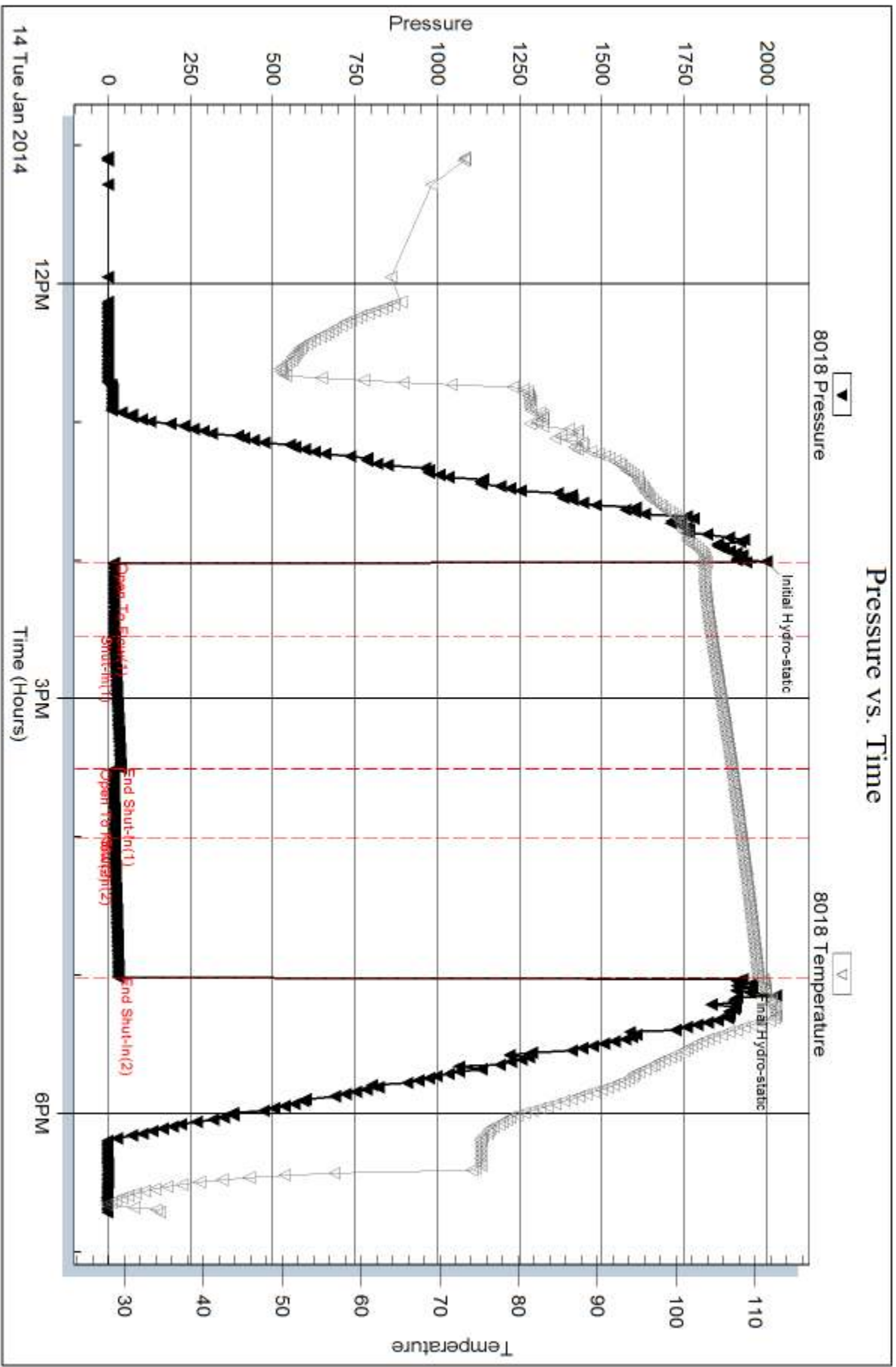
Num Gas Bombs: 0

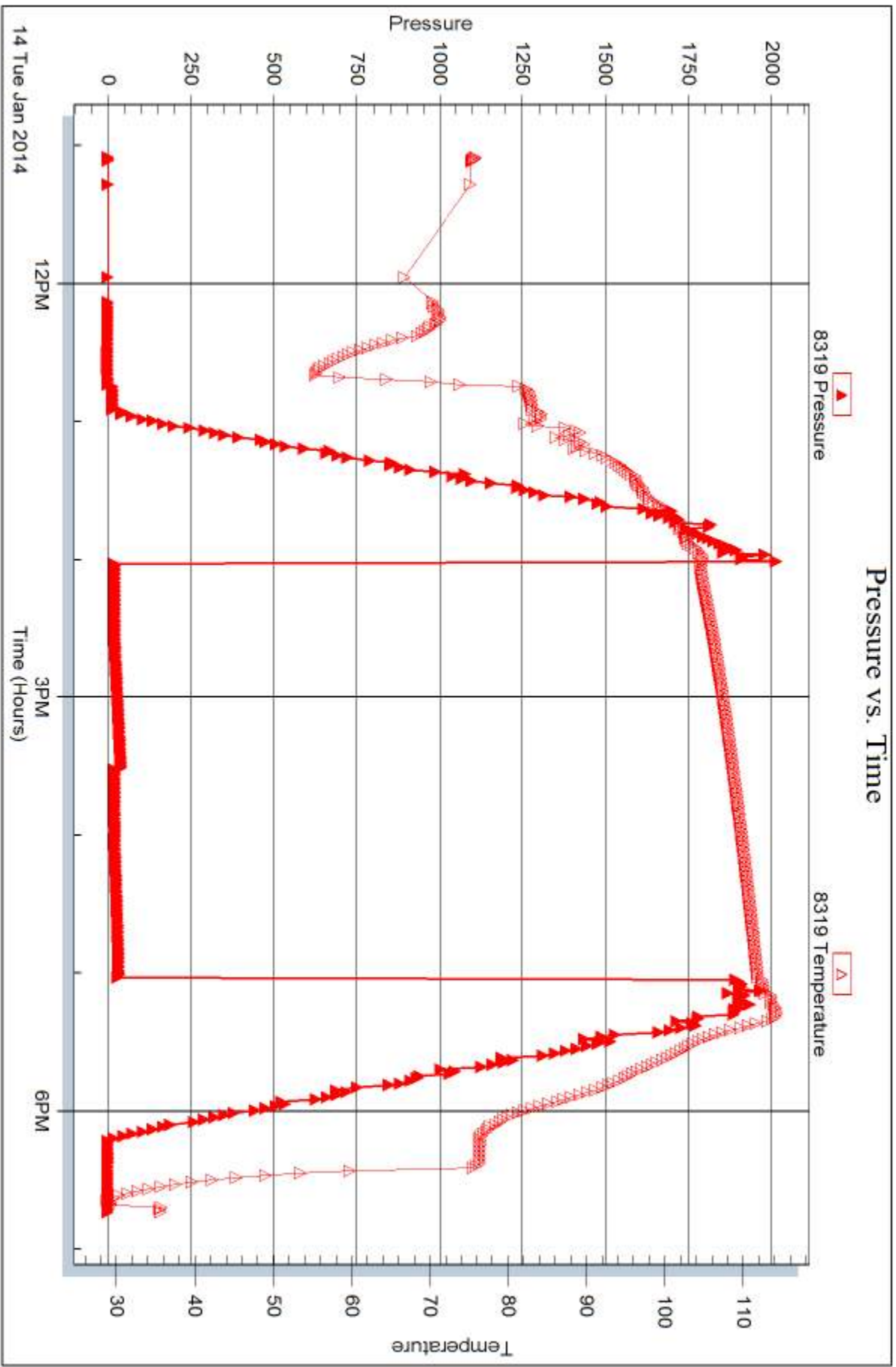
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Ziegler #1-30

30-9s-27w,Sheridan,KS

Start Date: 2014.01.15 @ 01:45:00

End Date: 2014.01.15 @ 09:30:00

Job Ticket #: 55497 DST #: 2

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

Printed: 2014.01.17 @ 13:01:40

Murfin Drilling Co. 30-9s-27w,Sheridan,KS Ziegler #1-30 DST # 2 KC"E-F" 2014.01.15



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co.

30-9s-27w, Sheridan, KS

250 N Water STE 300
Wichita KS 67202

Ziegler #1-30

Job Ticket: 55497

DST#: 2

ATTN: Jeff Christian

Test Start: 2014.01.15 @ 01:45:00

GENERAL INFORMATION:

Formation: **KC"E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:53:45

Time Test Ended: 09:30:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3971.00 ft (KB) To 3999.00 ft (KB) (TVD)

Reference Elevations: 2767.00 ft (KB)

Total Depth: 3999.00 ft (KB) (TVD)

2762.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8018

Inside

Press@RunDepth: 77.82 psig @ 3972.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.15

End Date:

2014.01.15

Last Calib.:

2014.01.15

Start Time: 01:45:05

End Time:

09:29:59

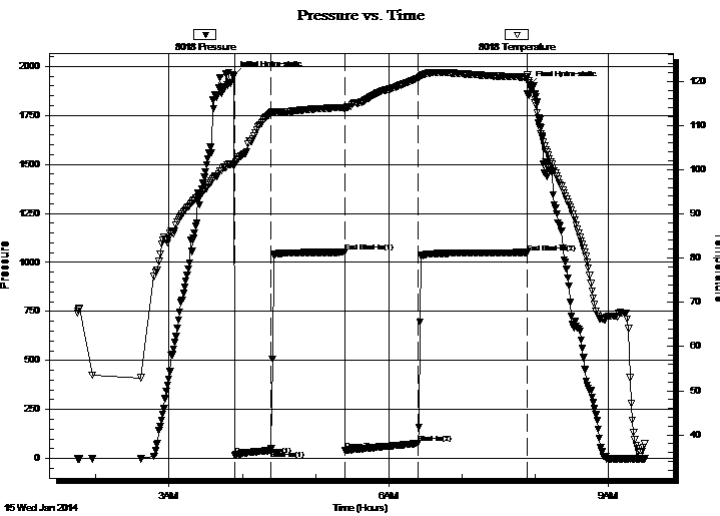
Time On Btm:

2014.01.15 @ 03:52:45

Time Off Btm:

2014.01.15 @ 07:55:00

TEST COMMENT: IF-4 1/2" blow
IS-Very weak surface blow
FF-6in blow
FS-Very weak surface blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1950.24	101.31	Initial Hydro-static
1	16.81	101.11	Open To Flow (1)
31	41.87	112.78	Shut-In(1)
92	1052.06	114.09	End Shut-In(1)
92	43.73	113.61	Open To Flow (2)
151	77.82	120.64	Shut-In(2)
241	1050.53	120.93	End Shut-In(2)
243	1903.74	119.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	WCM 35%W 65%M	1.55

* Recovery from multiple tests

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: Jeff Christian

30-9s-27w, Sheridan, KS

Ziegler #1-30

Job Ticket: 55497

DST#: 2

Test Start: 2014.01.15 @ 01:45:00

GENERAL INFORMATION:

Formation: **KC"E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:53:45

Time Test Ended: 09:30:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3971.00 ft (KB) To 3999.00 ft (KB) (TVD)

Total Depth: 3999.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2767.00 ft (KB)

2762.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8319 Outside

Press@RunDepth: psig @ 3972.00 ft (KB)

Start Date: 2014.01.15

End Date:

2014.01.15

Capacity: 8000.00 psig

Last Calib.:

2014.01.15

Start Time: 01:45:05

End Time:

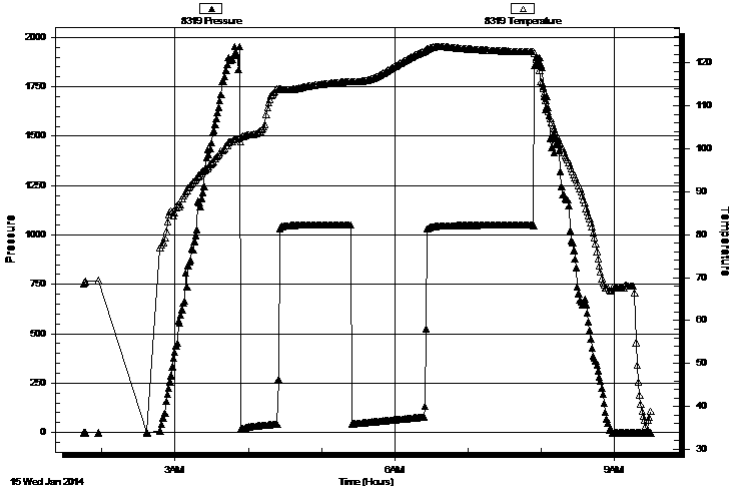
09:30:14

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-4 1/2" blow
IS-Very weak surface blow
FF-6in blow
FS-Very weak surface blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
130.00	WCM 35%W 65%M	1.55

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

30-9s-27w, Sheridan, KS

250 N Water STE 300
Wichita KS 67202

Ziegler #1-30

Job Ticket: 55497

DST#: 2

ATTN: Jeff Christian

Test Start: 2014.01.15 @ 01:45:00

Tool Information

Drill Pipe:	Length: 3925.00 ft	Diameter: 3.80 inches	Volume: 55.06 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3971.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	56.00 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			3944.00	
Shut In Tool	5.00			3949.00	
Hydraulic tool	5.00			3954.00	
Jars	5.00			3959.00	
Safety Joint	2.00			3961.00	
Packer	5.00			3966.00	28.00 Bottom Of Top Packer
Packer	5.00			3971.00	
Stubb	1.00			3972.00	
Recorder	0.00	8018	Inside	3972.00	
Recorder	0.00	8319	Outside	3972.00	
Perforations	24.00			3996.00	
Bullnose	3.00			3999.00	28.00 Bottom Packers & Anchor

Total Tool Length: 56.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

30-9s-27w, Sheridan, KS

250 N Water STE 300
Wichita KS 67202

Ziegler #1-30

Job Ticket: 55497

DST#: 2

ATTN: Jeff Christian

Test Start: 2014.01.15 @ 01:45:00

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:

45000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	WCM 35%W 65%M	1.550

Total Length: 130.00 ft

Total Volume: 1.550 bbl

Num Fluid Samples: 0

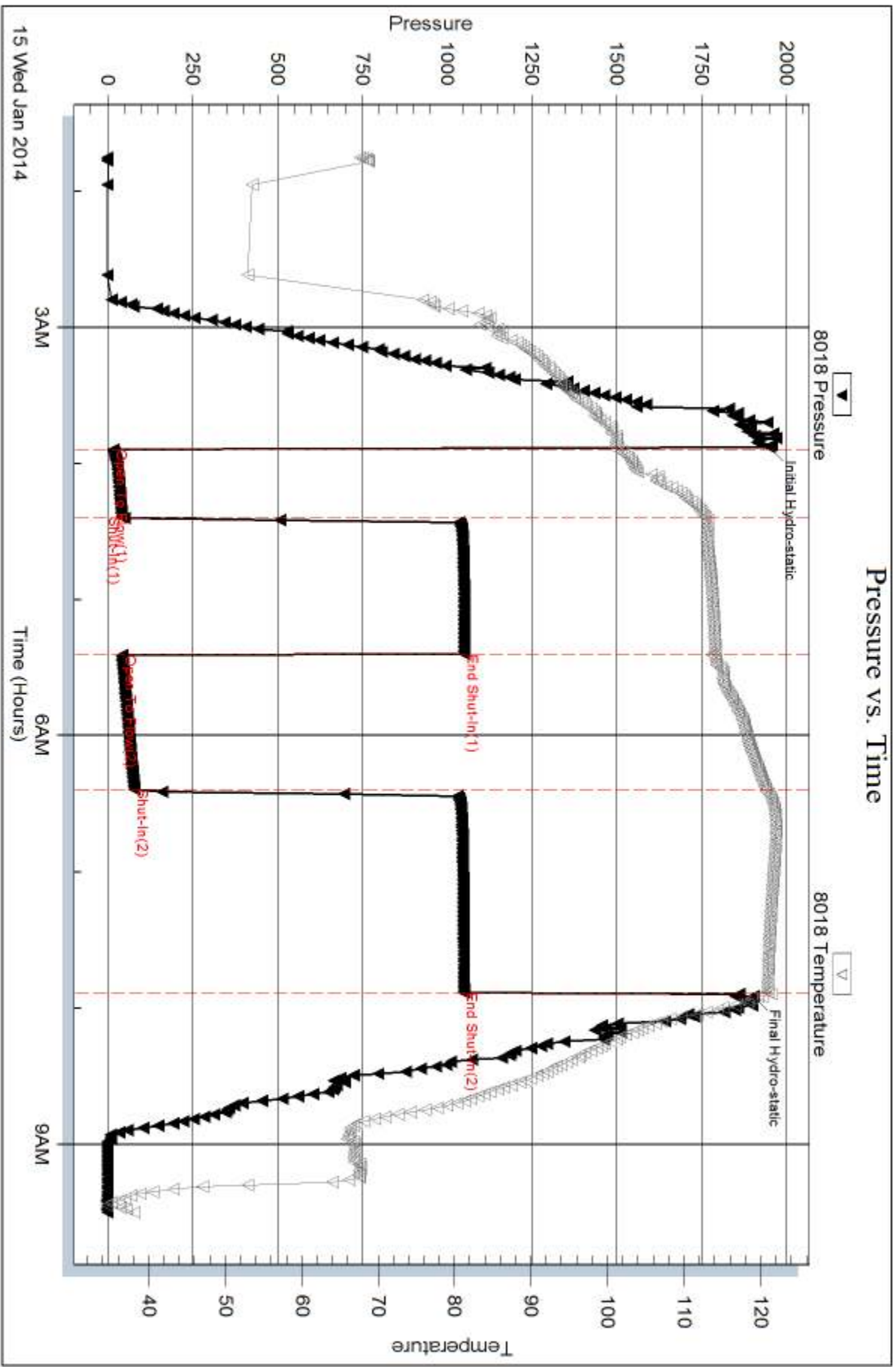
Num Gas Bombs: 0

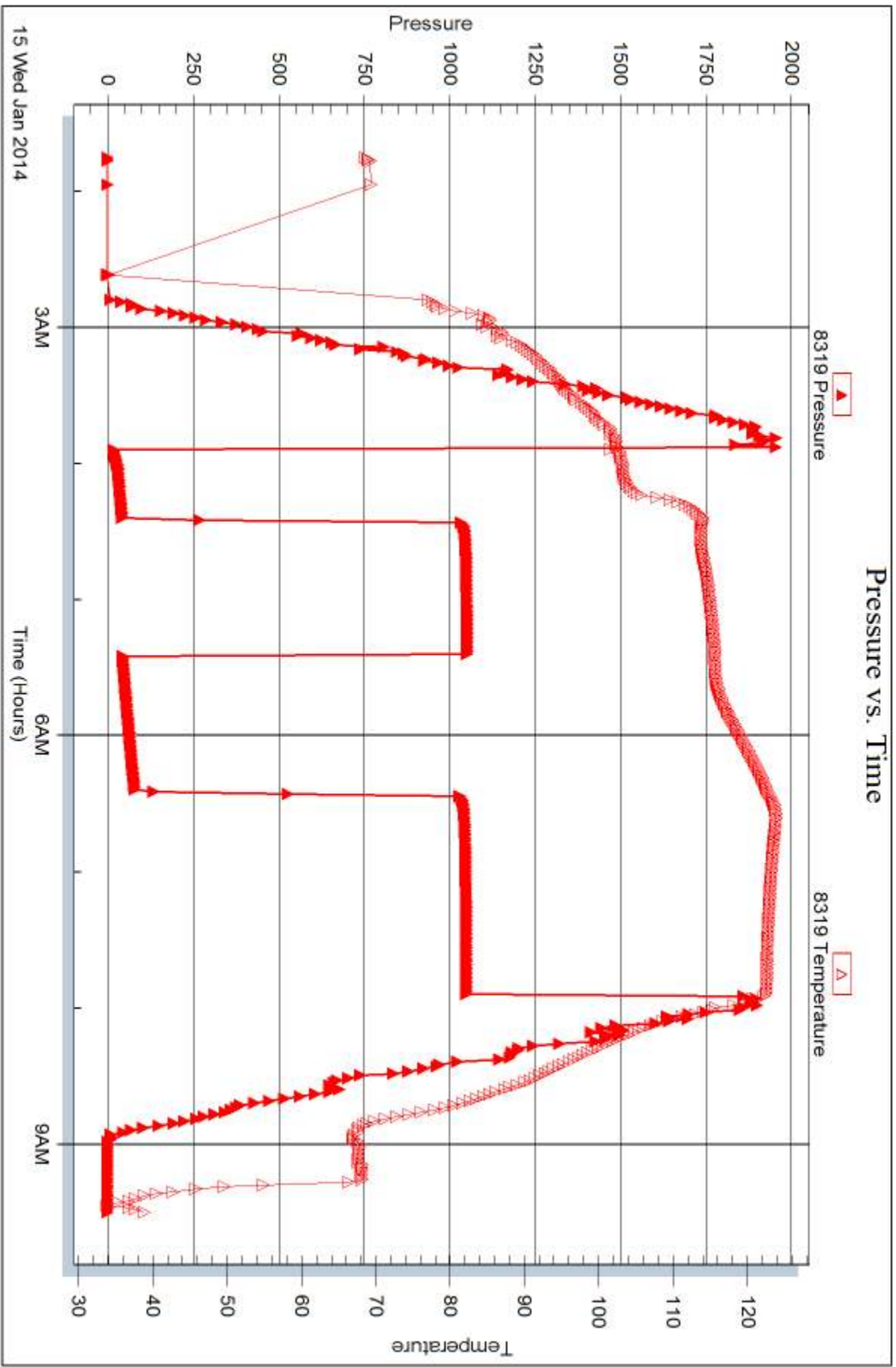
Serial #:

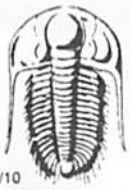
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55496**

Well Name & No. Ziegler #1-30 Test No. 1 Date 1/14/14
 Company Murfin Drilling Co. Elevation 2767 KB 2762 GL
 Address 250 N water STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #16
 Location: Sec. 30 Twp. 9s Rge. 27w Co. Sheridan State KS

Interval Tested 3932 - 3974 Zone Tested KC "B-D"
 Anchor Length 42 Drill Pipe Run 3894 Mud Wt. 9.1
 Top Packer Depth 3927 Drill Collars Run 30 Vis 57
 Bottom Packer Depth 3932 Wt. Pipe Run - WL 6.4
 Total Depth 3974 Chlorides 1,400 ppm System LCM #1

Blow Description IF - 1/2 in blow
IS2 - No blow
FF - No blow
FS1 - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OS Mud</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 <u>5</u>	BHT <u>110</u>	Gravity	API RW	@	° F Chlorides

(A) Initial Hydrostatic 1998 Test 1150 T-On Location 11:00
 (B) First Initial Flow 18 Jars 250 T-Started 11:05
 (C) First Final Flow 20 Safety Joint 75 T-Open 13:58
 (D) Initial Shut-In 39 Circ Sub _____ T-Pulled 16:58
 (E) Second Initial Flow 19 ~~20~~ Hourly Standby _____ T-Out 18:40
 (F) Second Final Flow 20 ~~21~~ Mileage 187rt 98rt 151.90 Comments slayed Note 1
 (G) Final Shut-In 32 Sampler _____
 (H) Final Hydrostatic 1921 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer 320
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1946.90
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1626.90

Approved By _____ Our Representative Bruce Durr

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. 55497

Well Name & No. Ziegler # 1-30 Test No. 2 Date 1/15/14
 Company Murfin Drilling Co Elevation 2767 KB 2762 GL
 Address 250 N water STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #16
 Location: Sec. 30 Twp. 9s Rge. 27w Co. Sheridan State KS

Interval Tested 3971-3999 Zone Tested KC"E-F"
 Anchor Length 28 Drill Pipe Run _____ Mud Wt. 9.1
 Top Packer Depth 3966- Drill Collars Run 30 Vis 57
 Bottom Packer Depth 3971 Wt. Pipe Run - WL 6.4
 Total Depth 3999 Chlorides 4,400 ppm System LCM #1
 Blow Description IF - 4 1/2 in blow
IST - very weak surface blow
FF - 6 in blow
FSI - very weak surface blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>130</u>	<u>wcm</u>		<u>35</u>	<u>65</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 130 BHT 121 Gravity _____ API RW 3 @ 40 °F Chlorides 45000 ppm
 (A) Initial Hydrostatic 1,950 Test 1150 T-On Location 1:05
 (B) First Initial Flow 17 Jars 250 T-Started 1:45
 (C) First Final Flow 42 Safety Joint 75 T-Open 3:52
 (D) Initial Shut-In 1,052 Circ Sub _____ T-Pulled 7:52
 (E) Second Initial Flow 44 Hourly Standby _____ T-Out 9:30
 (F) Second Final Flow 78 Mileage 162.7 151.90 Comments steel motor
 (G) Final Shut-In 1,051 Sampler _____ loaded 10:15?
 (H) Final Hydrostatic 1,904 Straddle _____ 1/16/14
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Extra Packer _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 800
 Final Flow 60 Day Standby 1d .75h Total 2426.90
 Final Shut-In 90 Accessibility _____ MP/DST Disc't _____
 Sub Total 1626.90

Approved By _____ Our Representative Butt

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.

Remarks

The Ziegler # 1-30 was declared dry and abandoned.

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

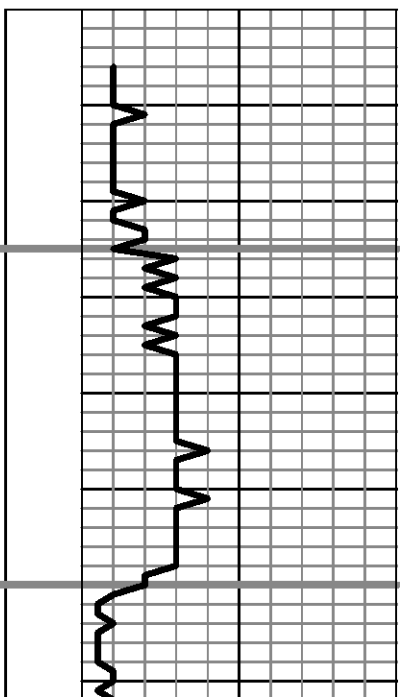
Samples deposited at the Kansas Geological Survey.

Respectfully Submitted,

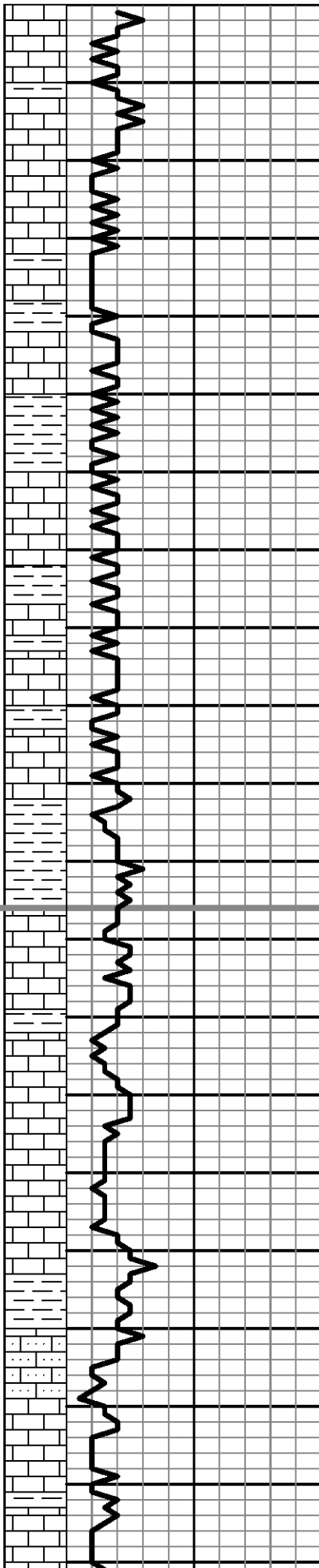


Jeff Christian

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



2350	ANHYDRITE 2365' (+402) E Log 2366' (+401)
2400	Base ANHYDRITE 2400' (+367) E Log 2400' (+367)



3550

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

Sh: gry

Ls: lt brn-lt gry, fn xln, dns, foss-ool, pr vis por, ns

Ls: as above, trc intrxln-pp por, ns

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

3600

Sh: gry-some grn

Ls: lt brn-lt gry, fn xln, sli grnlr, dolo in part, foss in part, sct pr intrxln-foss por, ns

Sh: gry w/ Ls: lt brn-lt gry, fn xln, dns

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

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

3650

Sh: gry-red/brn, some grn w/ Ls: gry, dns

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

Same

Ls: crm-lt gry, some w/ yell tent, fn xln, dns, sli foss-ool in part, trc chrt, pr vis por, ns

Ls: crm-lt gry, fn xln, grnlr, sli chlky, sli foss, trc chrt, fr intrxln por, ns

3700

Ls: as above, incrs dns ls

Sh: gry w/ Ls: brn-gry, fn xln, dns

sct Sst: gry, vy fn-fn grn, calc, hard-sndy lm

Ls: crm-lt brn, fn xln, sli grnlr, sli foss, sli chrty, sct fr intrxln-foss por, ns

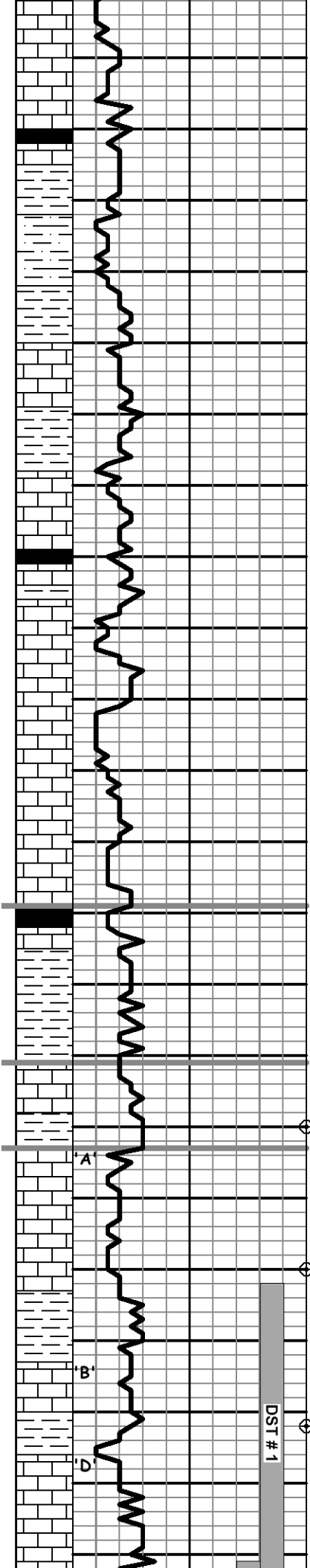
3750

Ls: crm-lt brn, fn xln, sli grnlr, chlky in part, sli foss, sct chrt, fr intrxln-trc foss por, ns

Morgan Mud: 3392'; 1/13/14
Wt. 8.6, Vis. 79, WL. 5.6, Chl. 1,300, LCM. 1.5

TOPEKA 3666' (-899)

E Log 3666' (-899)



Ls: as above, sli dolo, ns

Sh: blk, carb

Sh: gry

Sst-Sltst: lt gry-gry; vy fn-fn grn, calc, subfri-hard, pr vis por, ns

Sh: gry-red/brn

3800

Ls: crm-lt brn, fn xln, dns, sli foss, trc chrt, pr vis por, ns

Sh: gry-red/brn

Ls: crm-lt gry, fn xln, sli grnlr, chlky in part, vy sct intrxln-pp por, ns

Ls: crm-lt brn-lt gry, fn xln, grnlr, part dns, sli foss, vy sct chrt, sct fr intrxln-foss-vug por, ns

Same, incrs dns ls

3850

Ls: crm-lt brn-lt gry, fn xln, grnlr, sli dolo, foss, fr intrxln-foss-vug por, ns

Ls: as above

HEEBNER 3879' (-1112)

Sh: blk, carb

E Log 3880' (-1113)

Sh: gry-grn-red/brn

3900

TORONTO 3901' (-1134)

Ls: off wt-lt gry, fn xln, subchlky, part dns, sli foss, trc chrt, pr vis por, ns

E Log 3902' (-1135)

Sh: gry-red/brn

LANSING 3913' (-1146)

Ls: crm-lt gry, fn xln, sli grnlr, few pcs sli ool, trc chrt, pr-fr intrxln por, ns

E Log 3914' (-1147)

Ls: crm-lt gry, fn xln, part dns, part chlky, trc chrt, rare pp-vug por, ns

Sh: gry-red/brn, some grn

DST # 1 3932' to 3974'

30"-60"-30"-60"

IF: Blow Built to 1/2"

FF: No Blow

RECOVERY: 5' Mud w/ oil spts

IFP: 18-20# ISIP: 39#

FFP: 19-20# FSIP: 32#

IHP: 1998# FHP: 1921#

BHT: 110 deg. F

3950

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

Ls: crm-lt gry, fn xln, part dns, ool in part, sli chrt, pr-fr introol-vig por, vssfo, no odor, brn-blk sptd stn

Ls: crm-lt gry, fn xln, dns, part chlky, vy sct chrt, no vis por, ns

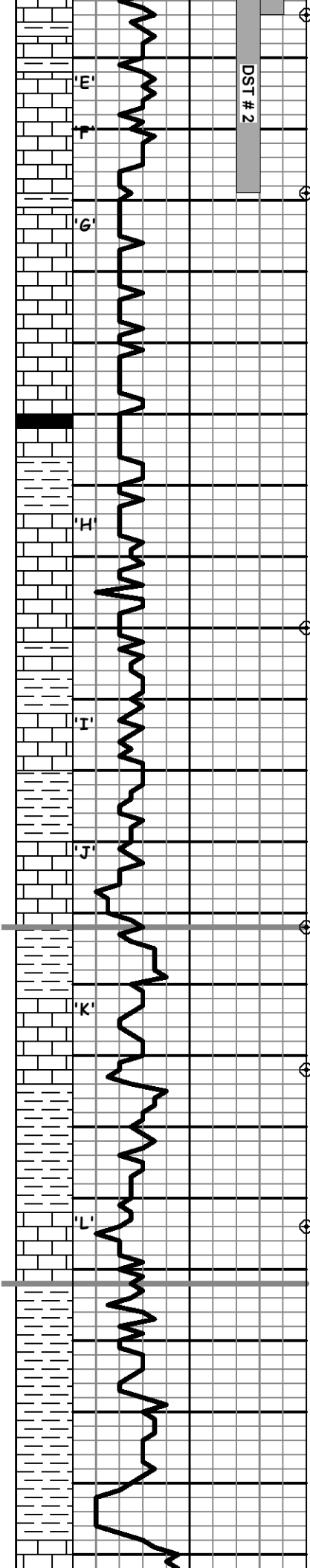
Morgan Mud: 3974': 1/14/14

DST # 1

A

B

D



4000

4050

4100

4150

DST # 2

Sh: gry-grn-red/brn w/ Ls: lt brn-lt gry, fn xln, dns, ool-sli foss, pr vis por, ns
 Ls: lt brn, fn xln, part dns, pr-trc fr vug por, few pcs ssfo, no odor, drk brn sptd stn
 Ls: crm-lt gry, fn xln, foss-ool, few pcs ssfo, fnt odor, vy sct drk brn-blk stn
 Ls: wt-crm, fn xln, chlky, sli ool-suboomld, pr oomld por, nsfo, trc stn

Ls: wt-lt gry, fn xln, part chlky, part dns, pr vis por, ns
 Ls: wt-crm-lt gry, fn xln, chlky, part dns, pr vis por, ns
 Ls: as above, vy chrty

Sh: blk, carb
 Ls: lt brn-lt gry, fn xln, dns, ns
 Sh: gry-grn-red/brn

Ls: crm-lt gry, fn xln, part dns, part chlky, pr vis por, ns
 Ls: crm-lt gry, fn xln, dns, cpl pcs dolo, pr vis por, ns
 Ls: lt brn-lt gry, fn xln, dns, vy foss

Ls: lt brn-lt gry, fn xln, dns, foss, pr vis por, ns
 Sh: gry-grn, some red/brn, trc prpl

Ls: crm-lt gry, fn xln, part dns, foss, chrty, pr vis por, ns
 Ls: wt-crm-lt gry, fn xln, subchlky, chrty, pr vis por, ns
 Sh: gry, some grn & red/brn

Ls: crm-lt brn, fn-some med xln, sli chlky, part dns, ool-subool, vy ct pr introol-vug por, ns
 Ls: crm-lt gry, fn xln, subchlky, part dns, pr vis por, ns

Sh: gry-grn-red/brn
 Ls: crm-lt gry-gry, fn xln, dns, pr vis por, ns

Sh: gry-some red/brn
 Sh: gry-red/brn w/ Ls: crm-lt brn-lt gry, fn xln, dns, chlky in part, ns
 Sh: gry-grn-red/brn
 Sh: as above, sli sndy

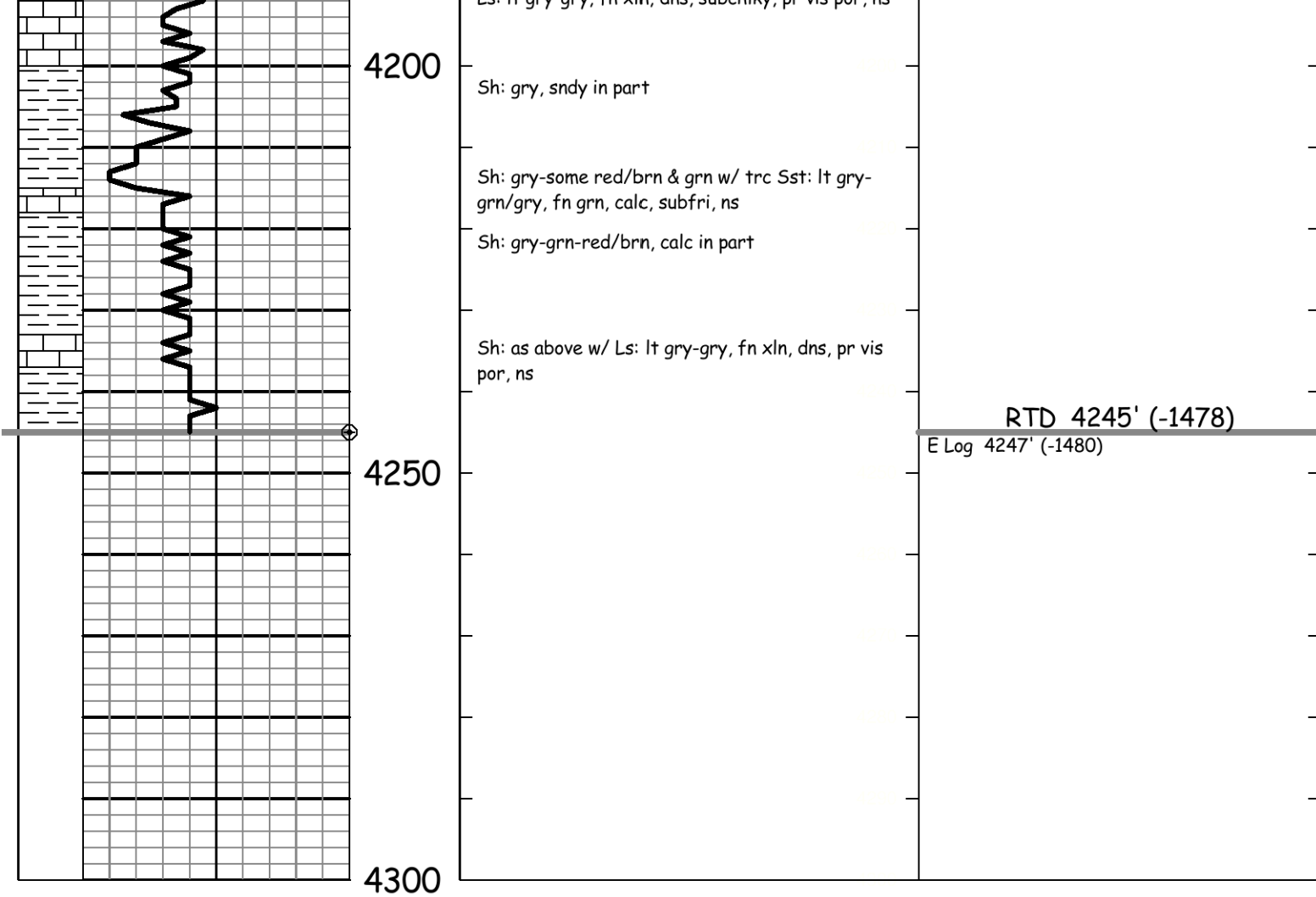
Ls: lt gry-gry, fn xln, dns, subchlky, pr vis por, ns

Morgan Mud: 3971'; 1/11/14
 Wt. 9.1, Vis. 57, WL. 6.4, Chl. 1,400, LCM. 1.0
 DST # 2 3971' to 3999'
 30"-60"-60"-90"
 IF: Blow Built to 4.5" ISI: vy wk surface blow
 FF: Blow Built to 6" FSI: vy wk surface blow
 RECOVERY: 130' WM (35%W, 65%M)
 IFP: 17-42# ISIP: 1052#
 FFP: 44-78# FSIP: 1051#
 IHP: 1950# FHP: 1904#
 BHT: 121 deg. F
 CHL: 45,000 ppm

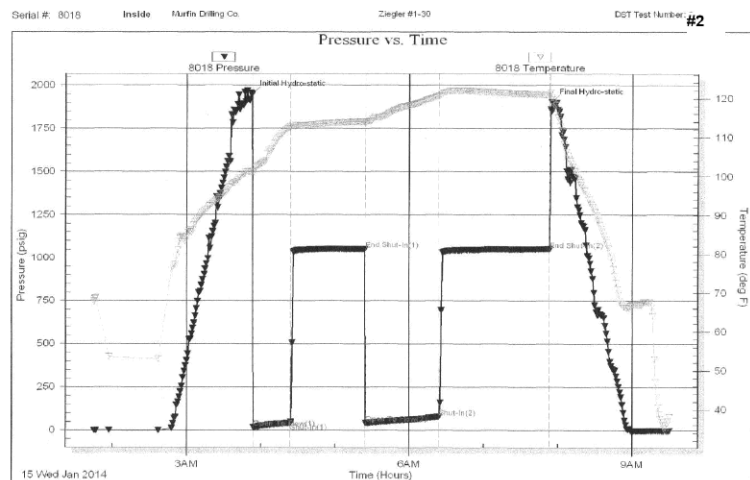
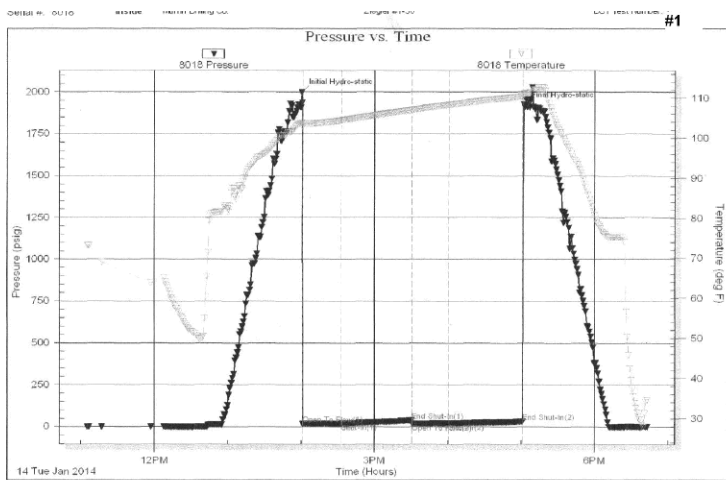
Morgan Mud: 4089'; 1/15/14
 Wt. 9.1, Vis. 63, WL. 6.4, Chl. 1,600, LCM. 5.0

STARK 4102' (-1335)
 E Log 4104' (-1337)

BKC 4152' (-1385)
 E Log 4154' (-1387)



Drill Stem Test Charts





Prod-LH

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 1409 11

Invoice Date: Jan 16, 2014

Page: 1

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

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	62534	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Jan 16, 2014	2/15/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Ziegler #1-30		
132.00	CEMENT MATERIALS	Class A Common	17.90	2,362.80
88.00	CEMENT MATERIALS	Pozmix	9.35	822.80
8.00	CEMENT MATERIALS	Gel	23.40	187.20
55.00	CEMENT MATERIALS	Flo Seal	2.97	163.35
236.28	CEMENT SERVICE	Cubic Feet Charge	2.48	585.97
345.45	CEMENT SERVICE	Ton Mileage Charge	2.60	898.17
1.00	CEMENT SERVICE	Plug to Abandon	2,483.59	2,483.59
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	107.64	107.64
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	CEMENT SUPERVISOR	Andrew Forslund		

OK

Subtotal	8,035.02
Sales Tax	654.85
Total Invoice Amount	8,689.87
Payment/Credit Applied	
TOTAL	8,689.87

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

\$ 2,774.58

35%
OK

ONLY IF PAID ON OR BEFORE

Feb 10, 2014

close

- 2774.58

5915.29

ALLIED OIL & GAS SERVICES, LLC 062534

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Dakley, KS

DATE <i>1-16-19</i>	SEC. <i>30</i>	TWP. <i>9</i>	RANGE <i>27</i>	CALLED OUT	ON LOCATION <i>1:50 pm</i>	JOB START <i>2:20 pm</i>	JOB FINISH <i>4:50 pm</i>
LEASE <i>Ziegler</i>	WELL # <i>1-30</i>		LOCATION <i>Gramfield, UH 38</i>		COUNTY <i>Sevier</i>	STATE <i>KS</i>	
OLD OR NEW (Circle one)			<i>15, 1/2", 5' into</i>				

CONTRACTOR *Murfin K*

TYPE OF JOB *PTA*

HOLE SIZE *7 7/8* T.D. *4245'*

CASING SIZE _____ DEPTH _____

TUBING SIZE _____ DEPTH _____

DRILL PIPE *4 1/2* DEPTH *2380'*

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. _____

PERFS. _____

DISPLACEMENT *30,28661*

OWNBR *same*

CEMENT AMOUNT ORDERED *220 sks 60740 420 gal*
1 qt # 5-10-9-00

COMMON	<i>132 sks @ 17.90</i>	<i>2362.80</i>
POZMIX	<i>88 sks @ 2.35</i>	<i>207.20</i>
GEL	<i>8 sks @ 23.90</i>	<i>191.20</i>
CHLORIDE	@	
ASC	@	
<i>Flow-sal</i>	<i>55 # @ 2.97</i>	<i>163.33</i>
HANDLING	<i>23628 sks @ 2.48</i>	<i>587.97</i>
MILEAGE	<i>297 miles @ 33¢</i>	<i>99.21</i>
TOTAL		<i>5820.27</i>

EQUIPMENT

PUMP TRUCK CEMENTER *Lakane E. White*

431 HELPER *Andrew Forslund*

BULK TRUCK DRIVER *Eddy Coronado (two)*

875/281

BULK TRUCK DRIVER _____

REMARKS:

Mix 29 sks 2380'

Mix 100 sks 1512'

Mix 40 sks 335'

Mix 105 sks 40' w/ plug

Plug M.H. 15 sks

Plug R.H. 30 sks

CHARGE TO: *Murfin Drilling*

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB *2380'*

PUMP TRUCK CHARGE *2483.57*

EXTRA FOOTAGE @ _____

MILEAGE *M.H. 35 @ 2.90* *101.50*

MANIFOLD @ _____

M.H. 35 @ 4.80 *168.00*

TOTAL *2962.07*

PLUG & FLOAT EQUIPMENT

Wooden plug @ 107.64

TOTAL *107.64*

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 *AFD*

SIGNATURE *Aly Sild*

SALES TAX (if Any) _____

TOTAL CHARGES *8,035.02*

DISCOUNT *2,774.58* IF PAID IN 30 DAYS

5,260.43 Net.



PO Box 93999
Southlake, TX 76092

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

*creat.
Prod-UH*

INVOICE

Invoice Number: 140747
Invoice Date: Jan 10, 2014
Page: 1

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	61440	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jan 10, 2014	2/9/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Zeigler #1-30		
245.00	CEMENT MATERIALS	Class A Common	17.90	4,385.50
9.00	CEMENT MATERIALS	Chloride	64.00	576.00
257.25	CEMENT SERVICE	Cubic Feet Charge	2.48	637.98
474.40	CEMENT SERVICE	Ton Mileage Charge	2.60	1,233.44
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
40.00	CEMENT SERVICE	Pump Truck Mileage	7.70	308.00
1.00	CEMENT SERVICE	Swedge Manifold Rental	275.00	275.00
40.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	176.00
1.00	EQUIPMENT OPERATOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Tyler Flipse		

DD

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

\$ 3,186.45 *356*

ONLY IF PAID ON OR BEFORE
Feb 4, 2014

Subtotal	9,104.17
Sales Tax	404.36
Total Invoice Amount	9,508.53
Payment/Credit Applied	
TOTAL	9,508.53

- 3186.45
6322.08

ALLIED OIL & GAS SERVICES, LLC 061440

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley KS

DATE <u>1-10-14</u>	SEC <u>30</u>	TWP <u>9</u>	RANGE <u>27</u>	CALLED OUT	ON LOCATION <u>7:10 p.m.</u>	JOB START <u>7:00 p.m.</u>	JOB FINISH <u>8:30 p.m.</u>
LEASE <u>Zeigler</u>	WELL# <u>1-30</u>	LOCATION <u>Grainfield San 23 to</u>		COUNTY <u>Shannon</u>	STATE <u>KS</u>		
OLD OR <u>NEW</u> (Circle one)		Rail line 3:6 1 S 1/4 S 1/4 into					

CONTRACTOR <u>Murfin 116</u>	OWNER <u>Same</u>
TYPE OF JOB <u>Surface</u>	
HOLE SIZE <u>12 1/4</u>	T.D. <u>286</u>
CASING SIZE <u>8 5/8</u>	DEPTH <u>285.47</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <u>15'</u>	
PERFS.	
DISPLACEMENT <u>17.23 bbl</u>	
EQUIPMENT	

CEMENT	AMOUNT ORDERED <u>245 sks Com</u>
	<u>3% CC</u>
COMMON	<u>245 sks @ 17.90 4385.50</u>
POZMIX	@
GEL	@
CHLORIDE	<u>9 sks @ 14.00 576.00</u>
ASC	@
	@
	@
	@
	@
	@
	@
	@
HANDLING	<u>257.25 ft³ @ 2.48 637.98</u>
MILEAGE	<u>11.86 tons x 40mi x 2.60 1233.44</u>
TOTAL	<u>6832.92</u>

PUMP TRUCK # <u>120</u>	CEMENTER <u>Paul Beaver</u>
BULK TRUCK # <u>600</u>	HELPER <u>Tyler Elyse</u>
BULK TRUCK #	DRIVER <u>Juan I (TWS)</u>
BULK TRUCK #	DRIVER

REMARKS:
mix 245 sks Com 3% CC
replace w/ water
cement and circ

CHARGE TO: Murfin Drlg
STREET _____
CITY _____ STATE _____ ZIP _____

SERVICE	
DEPTH OF JOB	<u>286'</u>
PUMP TRUCK CHARGE	<u>1512.25</u>
EXTRA FOOTAGE	@
MILEAGE <u>MHW 40</u>	<u>@ 7.70 308.00</u>
MANIFOLD <u>swedge</u>	<u>@ 275.00</u>
<u>MILV 40</u>	<u>@ 4.40 176.00</u>
	@
TOTAL	<u>2271.25</u>

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.

PLUG & FLOAT EQUIPMENT	
	@
	@
	@
	@
	@
TOTAL	_____
SALES TAX (If Any)	_____
TOTAL CHARGES	<u>9,104.17</u>
DISCOUNT <u>3,186.45</u>	IF PAID IN 30 DAYS
	<u>5,917.71 Net.</u>

PRINTED NAME AFD
SIGNATURE Ag [Signature]