

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1248836
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: _____

1248836

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> _____ <input type="checkbox"/> Commingled <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	DAMW 'A' 1-11
Doc ID	1248836

All Electric Logs Run

DIL
DUCP
MEL
BHCS



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, INC.**

250 N Water STE 300
Wichita KS 67202

ATTN: Kent Matson

DAMW 'A' # 1-11

S11-17s-33w Scott,KS

Start Date: 2015.02.13 @ 06:44:05

End Date: 2015.02.13 @ 14:45:14

Job Ticket #: 61520 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.02.19 @ 14:40:45

Murfin Drilling Co, INC. S11-17s-33w Scott,KS DAMW 'A' # 1-11 DST # 1 LKC B-D 2015.02.13



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co, INC.
250 N Water STE 300
Wichita KS 67202
ATTN: Kent Matson

S11-17s-33w Scott,KS

DAMW 'A' # 1-11

Job Ticket: 61520

DST#: 1

Test Start: 2015.02.13 @ 06:44:05

GENERAL INFORMATION:

Formation: **LKC B-D**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 08:28:45

Time Test Ended: 14:45:14

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 71

Interval: 4016.00 ft (KB) To 4080.00 ft (KB) (TVD)

Reference Elevations: 3021.00 ft (KB)

Total Depth: 4080.00 ft (KB) (TVD)

3010.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 8674

Inside

Press@RunDepth: 913.64 psig @ 4017.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.13

End Date:

2015.02.13

Last Calib.: 2015.02.13

Start Time: 06:44:05

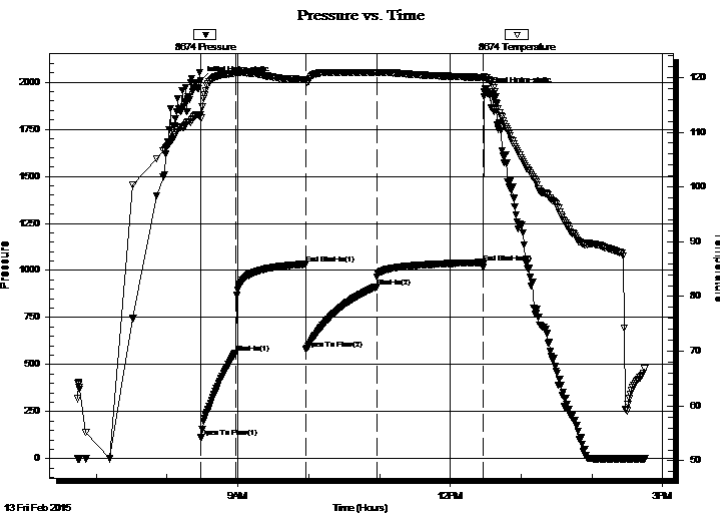
End Time:

14:45:14

Time On Btm: 2015.02.13 @ 08:28:15

Time Off Btm: 2015.02.13 @ 12:28:30

TEST COMMENT: 30: B.O.B in 2 mins.
60: No Return.
60: B.O.B in 4 mins.
90: No Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2010.08	113.16	Initial Hydro-static
1	111.35	112.54	Open To Flow (1)
30	562.11	120.73	Shut-In(1)
90	1034.17	119.58	End Shut-In(1)
90	580.45	119.31	Open To Flow (2)
150	913.64	120.84	Shut-In(2)
240	1041.36	119.99	End Shut-In(2)
241	1948.38	120.01	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
276.00	mcw 45m 55w	1.36
826.00	mcw 05m 95w	11.59
827.00	mcw 10m 90w	11.60
0.00	total 1929'	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61520

DST#: 1

ATTN: Kent Matson

Test Start: 2015.02.13 @ 06:44:05

Tool Information

Drill Pipe:	Length: 3736.00 ft	Diameter: 3.80 inches	Volume: 52.41 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4016.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	91.00 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			3990.00	
Shut In Tool	5.00			3995.00	
Hydraulic tool	5.00			4000.00	
Jars	5.00			4005.00	
Safety Joint	2.00			4007.00	
Packer	5.00			4012.00	27.00 Bottom Of Top Packer
Packer	4.00			4016.00	
Stubb	1.00			4017.00	
Recorder	0.00	8355	Outside	4017.00	
Recorder	0.00	8674	Inside	4017.00	
Perforations	25.00			4042.00	
Change Over Sub	1.00			4043.00	
Drill Pipe	31.00			4074.00	
Change Over Sub	1.00			4075.00	
Bullnose	5.00			4080.00	64.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61520

DST#: 1

ATTN: Kent Matson

Test Start: 2015.02.13 @ 06:44:05

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

48000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
276.00	mcw 45m 55w	1.357
826.00	mcw 05m 95w	11.587
827.00	mcw 10m 90w	11.601
0.00	total 1929'	0.000

Total Length: 1929.00 ft Total Volume: 24.545 bbl

Num Fluid Samples: 0

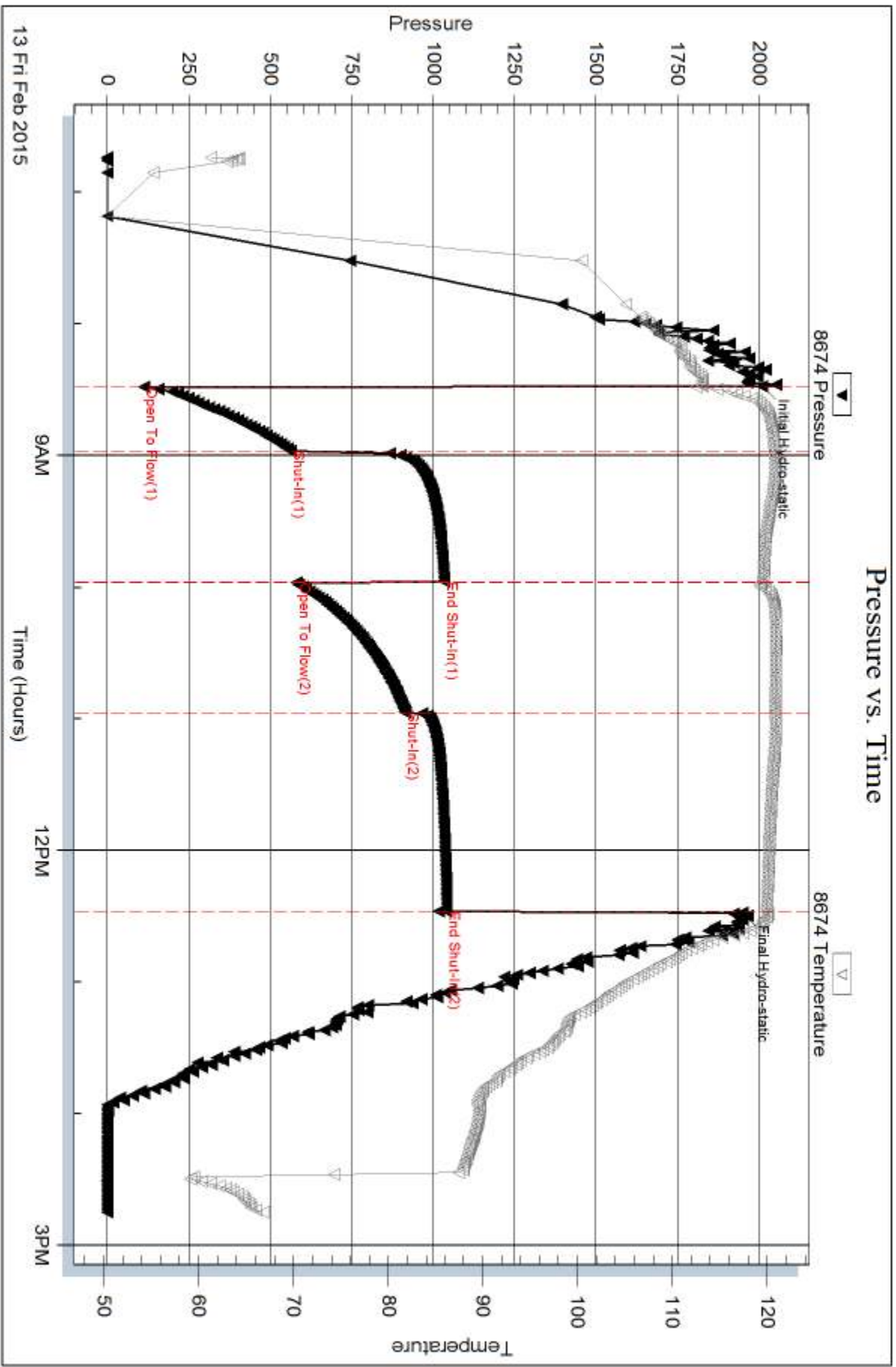
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API RW .14 @72 F = 48000

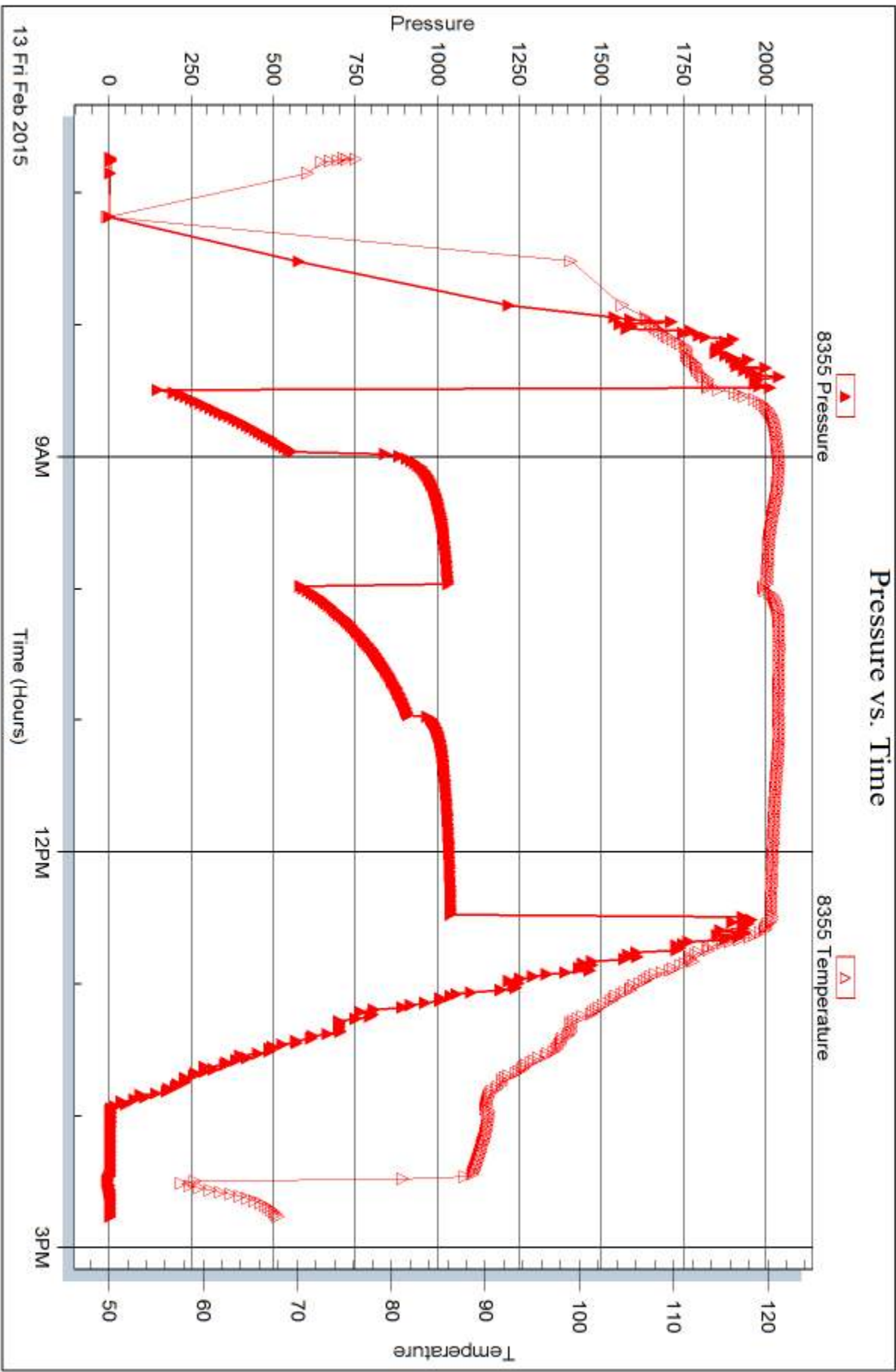


Serial #: 8355

Outside Murfin Drilling Co. INC.

DAMW/A' # 1-11

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 61520

Printed: 2015.02.19 @ 14:40:46



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, INC.**

250 N Water STE 300
Wichita KS 67202

ATTN: Kent Matson

DAMW 'A' # 1-11

S11-17s-33w Scott,KS

Start Date: 2015.02.14 @ 18:15:00

End Date: 2015.02.15 @ 02:30:20

Job Ticket #: 61562 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.02.19 @ 14:40:23



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co, INC.
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Kent Matson

S11-17s-33w Scott,KS

DAMW 'A' # 1-11

Job Ticket: 61562 **DST#: 2**

Test Start: 2015.02.14 @ 18:15:00

GENERAL INFORMATION:

Formation: **LKC 'K'**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 20:39:20
 Time Test Ended: 02:30:20
 Interval: **4272.00 ft (KB) To 4320.00 ft (KB) (TVD)**
 Total Depth: 4320.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Chuck Smith
 Unit No: 61
 Reference Elevations: 3021.00 ft (KB)
 3010.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8357

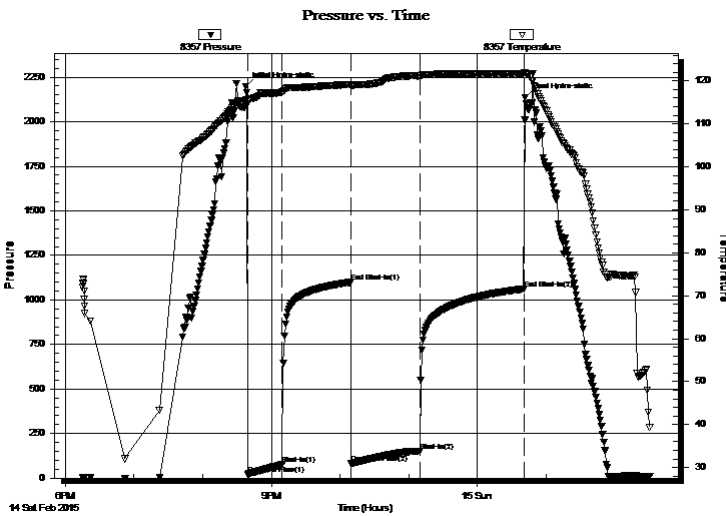
Inside

Press@RunDepth: 152.33 psig @ 4274.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.02.14 End Date: 2015.02.15 Last Calib.: 2015.02.15
 Start Time: 18:15:02 End Time: 02:30:19 Time On Btm: 2015.02.14 @ 20:37:40
 Time Off Btm: 2015.02.15 @ 00:41:40

TEST COMMENT: 30- 4" Blow .
 60- No return.
 60- 3 1/2" Blow .
 90-No return.

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2196.83	115.49	Initial Hydro-static
2	21.59	114.78	Open To Flow (1)
32	75.73	117.35	Shut-In(1)
92	1099.52	119.10	End Shut-In(1)
92	80.32	118.85	Open To Flow (2)
152	152.33	121.16	Shut-In(2)
243	1062.15	121.73	End Shut-In(2)
244	2134.49	121.87	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
277.00	WM 25w 75m	1.36
15.00	OSM 100m	0.21

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61562

DST#: 2

ATTN: Kent Matson

Test Start: 2015.02.14 @ 18:15:00

Tool Information

Drill Pipe:	Length: 3988.00 ft	Diameter: 3.82 inches	Volume: 56.53 bbl	Tool Weight:	2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 277.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose:	82000.00 lb
			<u>Total Volume: 57.89 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.50 ft			String Weight: Initial	76000.00 lb
Depth to Top Packer:	4272.00 ft			Final	78000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	48.00 ft				
Tool Length:	75.50 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			4245.50	
Shut In Tool	5.00			4250.50	
Hydraulic tool	5.00			4255.50	
Jars	5.00			4260.50	
Safety Joint	2.50			4263.00	
Packer	5.00			4268.00	27.50 Bottom Of Top Packer
Packer	4.00			4272.00	
Stubb	1.00			4273.00	
Perforations	1.00			4274.00	
Recorder	0.00	8357	Inside	4274.00	
Recorder	0.00	6751	Outside	4274.00	
Perforations	10.00			4284.00	
Change Over Sub	1.00			4285.00	
Drill Pipe	31.00			4316.00	
Change Over Sub	1.00			4317.00	
Bullnose	3.00			4320.00	48.00 Bottom Packers & Anchor
Total Tool Length:	75.50				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61562

DST#: 2

ATTN: Kent Matson

Test Start: 2015.02.14 @ 18:15:00

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:

34000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
277.00	WM 25w 75m	1.362
15.00	OSM 100m	0.213

Total Length: 292.00 ft Total Volume: 1.575 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .580 @ 25 Degrees F = 34000 PPM

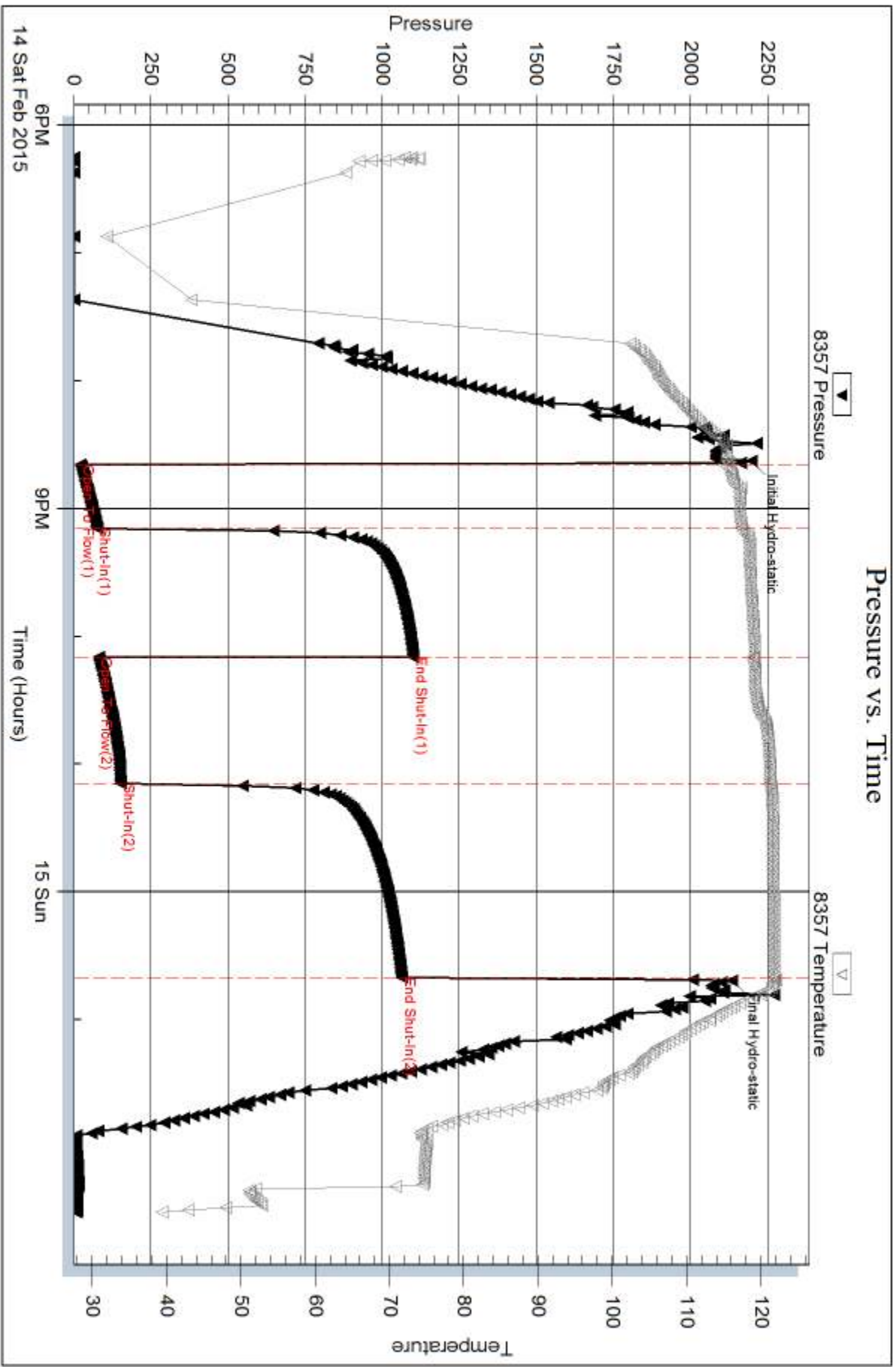
Serial #: 8357

Inside

Murfin Drilling Co. INC.

DAMW A' # 1-11

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 61562

Printed: 2015.02.19 @ 14:40:24



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, INC.**

250 N Water STE 300
Wichita KS 67202

ATTN: Kent Matson

DAMW 'A' # 1-11

S11-17s-33w Scott,KS

Start Date: 2015.02.15 @ 23:20:00

End Date: 2015.02.16 @ 08:21:19

Job Ticket #: 61563 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.02.19 @ 14:38:22



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61563

DST#: 3

ATTN: Kent Matson

Test Start: 2015.02.15 @ 23:20:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 01:27:30

Time Test Ended: 08:21:19

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

Interval: 4394.00 ft (KB) To 4490.00 ft (KB) (TVD)

Reference Elevations: 3021.00 ft (KB)

Total Depth: 4490.00 ft (KB) (TVD)

3010.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8357

Inside

Press@RunDepth: 609.51 psig @ 4397.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.15

End Date:

2015.02.16

Last Calib.:

2015.02.16

Start Time: 23:20:02

End Time:

08:21:19

Time On Btm:

2015.02.16 @ 01:25:00

Time Off Btm:

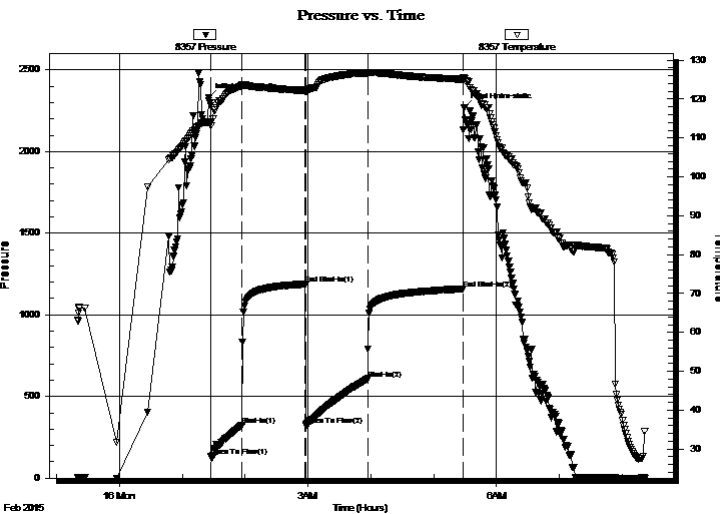
2015.02.16 @ 05:29:20

TEST COMMENT: 30- B.O.B. @ 7 min.

60- No return.

60- B.O.B. @ 8 min.

90- No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2327.27	114.16	Initial Hydro-static
3	131.22	113.25	Open To Flow (1)
32	325.44	123.38	Shut-In(1)
93	1188.39	122.34	End Shut-In(1)
93	325.14	122.04	Open To Flow (2)
153	609.51	126.71	Shut-In(2)
244	1159.46	125.09	End Shut-In(2)
245	2269.50	125.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
680.00	OSMW 10m 90w	7.07
370.00	GMCW 5g 45m 50w	5.24
280.00	OWCM 2o 38w 60m	3.97

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61563

DST#: 3

ATTN: Kent Matson

Test Start: 2015.02.15 @ 23:20:00

Tool Information

Drill Pipe:	Length: 4110.00 ft	Diameter: 3.82 inches	Volume: 58.26 bbl	Tool Weight:	2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 277.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 59.62 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.50 ft			String Weight: Initial	76000.00 lb
Depth to Top Packer:	4394.00 ft			Final	79000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	96.00 ft				
Tool Length:	123.50 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			4367.50	
Shut In Tool	5.00			4372.50	
Hydraulic tool	5.00			4377.50	
Jars	5.00			4382.50	
Safety Joint	2.50			4385.00	
Packer	5.00			4390.00	27.50 Bottom Of Top Packer
Packer	4.00			4394.00	
Stubb	1.00			4395.00	
Perforations	2.00			4397.00	
Recorder	0.00	8357	Inside	4397.00	
Recorder	0.00	6751	Outside	4397.00	
Perforations	25.00			4422.00	
Change Over Sub	1.00			4423.00	
Drill Pipe	63.00			4486.00	
Change Over Sub	1.00			4487.00	
Bullnose	3.00			4490.00	96.00 Bottom Packers & Anchor
Total Tool Length:	123.50				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61563

DST#: 3

ATTN: Kent Matson

Test Start: 2015.02.15 @ 23:20:00

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:

48000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
680.00	OSMW 10m 90w	7.075
370.00	GMCW 5g 45m 50w	5.245
280.00	OWCM 2o 38w 60m	3.969

Total Length: 1330.00 ft Total Volume: 16.289 bbl

Num Fluid Samples: 0

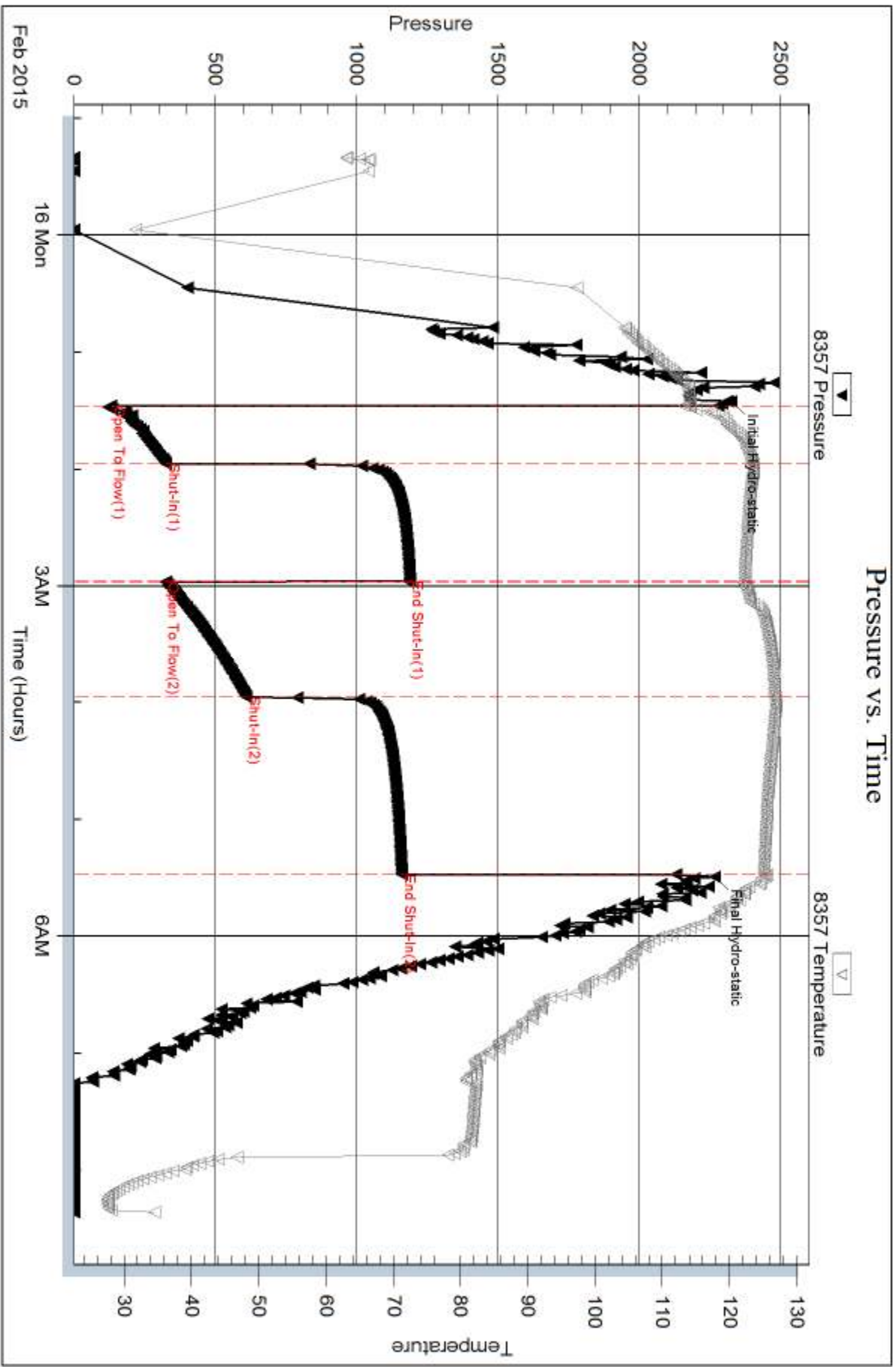
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .390 @ 28 Degrees F = 48000 PPM

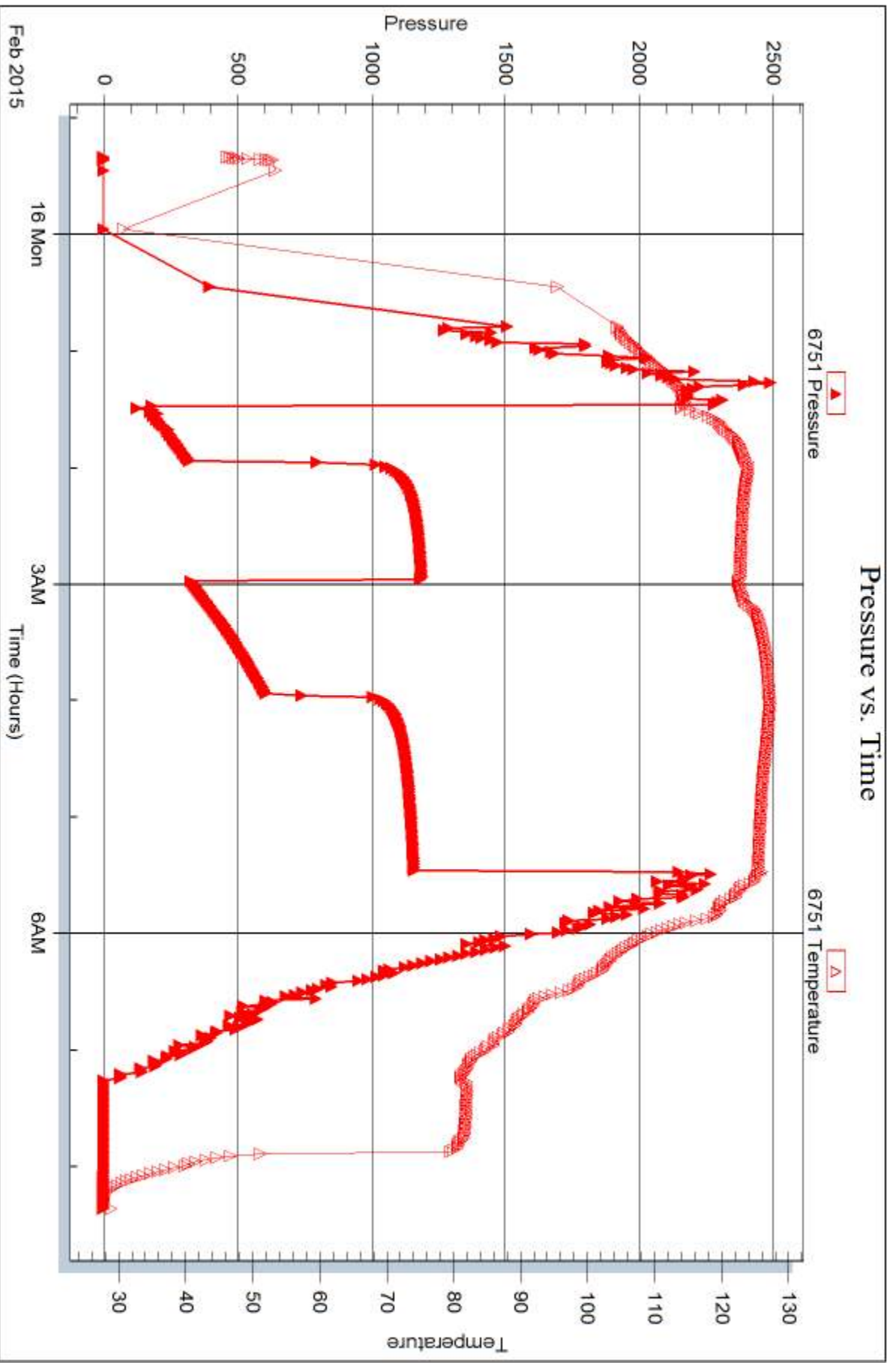


Serial #: 6751

Outside Murfin Drilling Co. INC.

DAMW/A' # 1-11

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, INC.**

250 N Water STE 300
Wichita KS 67202

ATTN: Kent Matson

DAMW 'A' # 1-11

S11-17s-33w Scott,KS

Start Date: 2015.02.17 @ 08:12:00

End Date: 2015.02.17 @ 15:56:39

Job Ticket #: 61564 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.02.19 @ 14:37:41

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

DAMW 'A' # 1-11

DST # 4

Verdigrits - Atoka

2015.02.17



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co, INC.
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Kent Matson

S11-17s-33w Scott,KS

DAMW 'A' # 1-11

Job Ticket: 61564 **DST#: 4**

Test Start: 2015.02.17 @ 08:12:00

GENERAL INFORMATION:

Formation: **Verdigris - Atoka**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 10:34:30
 Time Test Ended: 15:56:39
 Interval: **4569.00 ft (KB) To 4680.00 ft (KB) (TVD)**
 Total Depth: 4680.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Chuck Smith
 Unit No: 61
 Reference Elevations: 3021.00 ft (KB)
 3010.00 ft (CF)
 KB to GR/CF: 11.00 ft

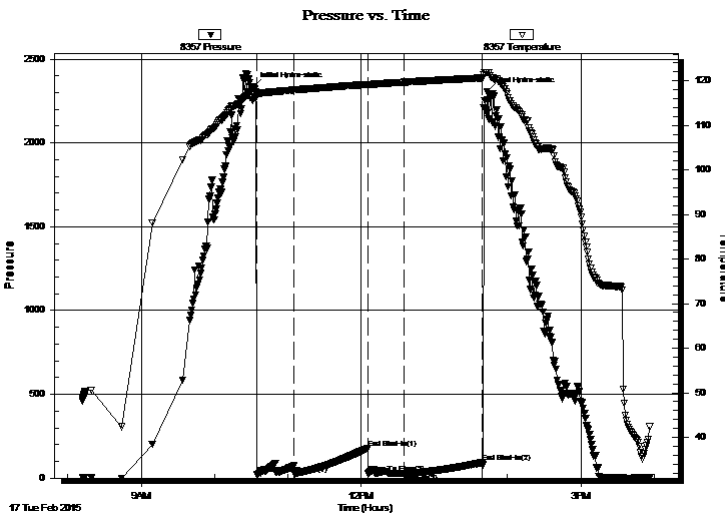
Serial #: 8357

Inside

Press@RunDepth: 27.94 psig @ 4571.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.02.17 End Date: 2015.02.17 Last Calib.: 2015.02.17
 Start Time: 08:12:02 End Time: 15:56:40 Time On Btm: 2015.02.17 @ 10:32:10
 Time Off Btm: 2015.02.17 @ 13:43:30

TEST COMMENT: 30- Decreasing 1/2" Blow .
 60- No return.
 30- No blow .
 60- No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2333.46	116.30	Initial Hydro-static
3	23.78	116.58	Open To Flow (1)
33	74.47	117.93	Shut-In(1)
94	179.27	119.17	End Shut-In(1)
94	26.55	119.13	Open To Flow (2)
124	27.94	119.70	Shut-In(2)
188	93.11	120.64	End Shut-In(2)
192	2304.12	121.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 100m	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61564

DST#: 4

ATTN: Kent Matson

Test Start: 2015.02.17 @ 08:12:00

Tool Information

Drill Pipe:	Length: 4270.00 ft	Diameter: 3.82 inches	Volume: 60.53 bbl	Tool Weight:	2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 277.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose:	100000.0 lb
			<u>Total Volume: 61.89 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.50 ft			String Weight: Initial	77000.00 lb
Depth to Top Packer:	4569.00 ft			Final	77000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	111.00 ft				
Tool Length:	138.50 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			4542.50	
Shut In Tool	5.00			4547.50	
Hydraulic tool	5.00			4552.50	
Jars	5.00			4557.50	
Safety Joint	2.50			4560.00	
Packer	5.00			4565.00	27.50 Bottom Of Top Packer
Packer	4.00			4569.00	
Stubb	1.00			4570.00	
Perforations	1.00			4571.00	
Recorder	0.00	8357	Inside	4571.00	
Recorder	0.00	6751	Outside	4571.00	
Perforations	10.00			4581.00	
Change Over Sub	1.00			4582.00	
Drill Pipe	94.00			4676.00	
Change Over Sub	1.00			4677.00	
Bullnose	3.00			4680.00	111.00 Bottom Packers & Anchor
Total Tool Length:	138.50				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61564

DST#: 4

ATTN: Kent Matson

Test Start: 2015.02.17 @ 08:12:00

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: 9.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM 100m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

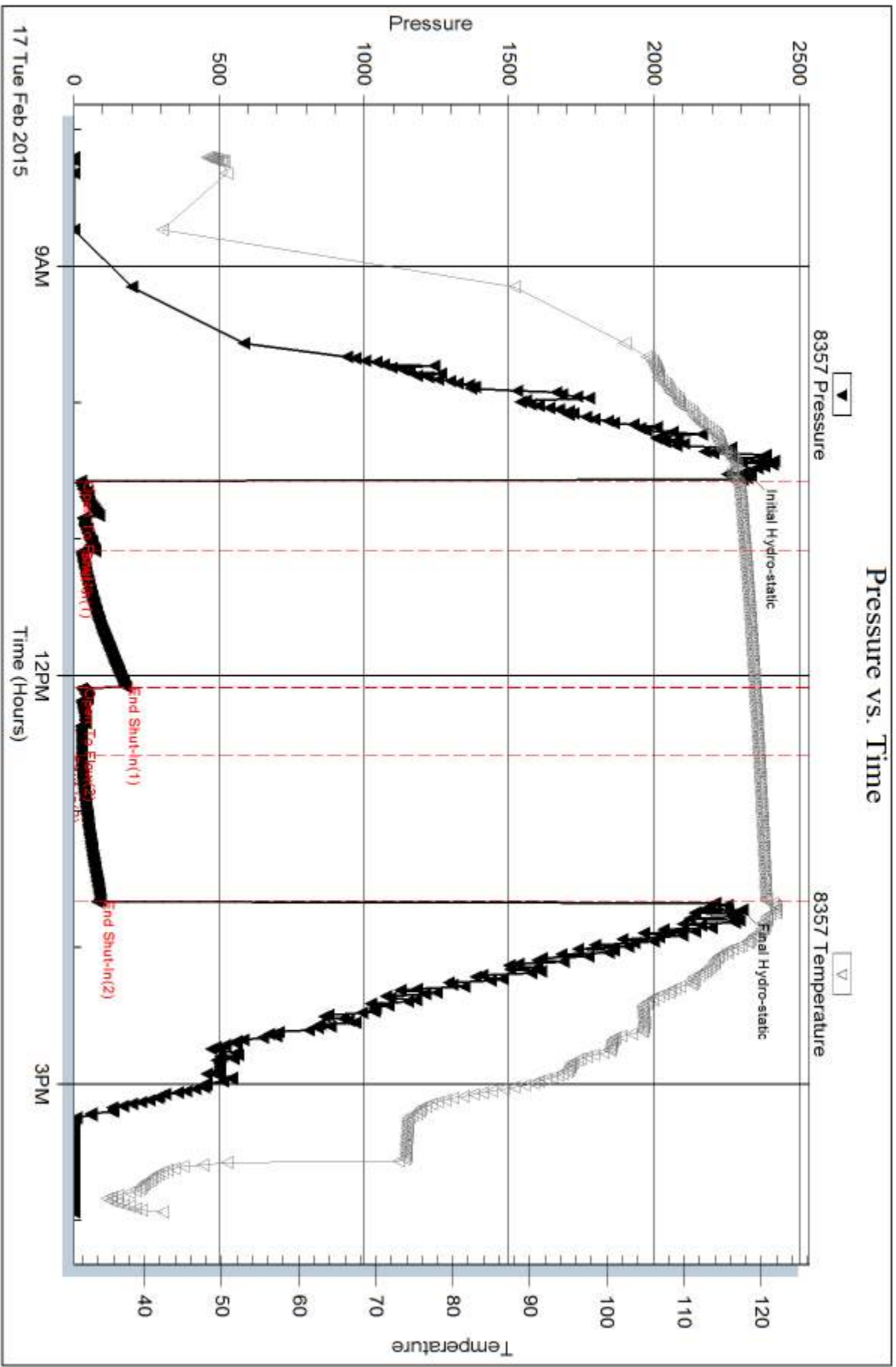
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

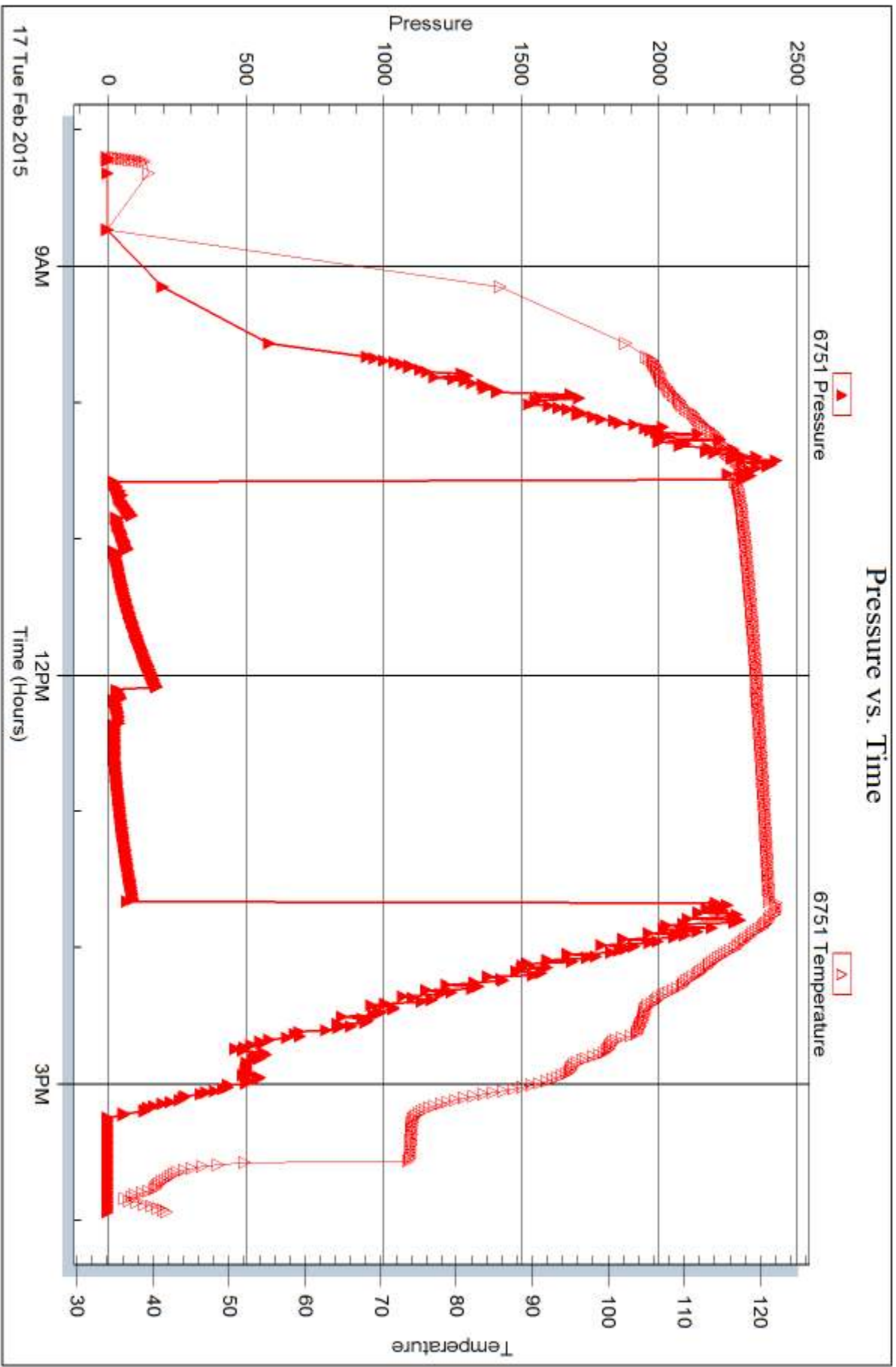


Serial #: 6751

Outside Murfin Drilling Co. INC.

DAMW/A' # 1-11

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 61564

Printed: 2015.02.19 @ 14:37:42



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, INC.**

250 N Water STE 300
Wichita KS 67202

ATTN: Kent Matson

DAMW 'A' # 1-11

S11-17s-33w Scott,KS

Start Date: 2015.02.17 @ 23:45:00

End Date: 2015.02.18 @ 07:10:50

Job Ticket #: 61565 DST #: 5

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.02.19 @ 14:36:35



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co, INC.
250 N Water STE 300
Wichita KS 67202
ATTN: Kent Matson

S11-17s-33w Scott,KS

DAMW 'A' # 1-11

Job Ticket: 61565

DST#: 5

Test Start: 2015.02.17 @ 23:45:00

GENERAL INFORMATION:

Formation: **Morrow - Upper Missi**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 02:09:20

Time Test Ended: 07:10:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

Interval: 4644.00 ft (KB) To 4730.00 ft (KB) (TVD)

Reference Elevations: 3021.00 ft (KB)

Total Depth: 4730.00 ft (KB) (TVD)

3010.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8357

Inside

Press@RunDepth: 59.60 psig @ 4646.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.17

End Date:

2015.02.18

Last Calib.: 2015.02.18

Start Time: 23:45:02

End Time:

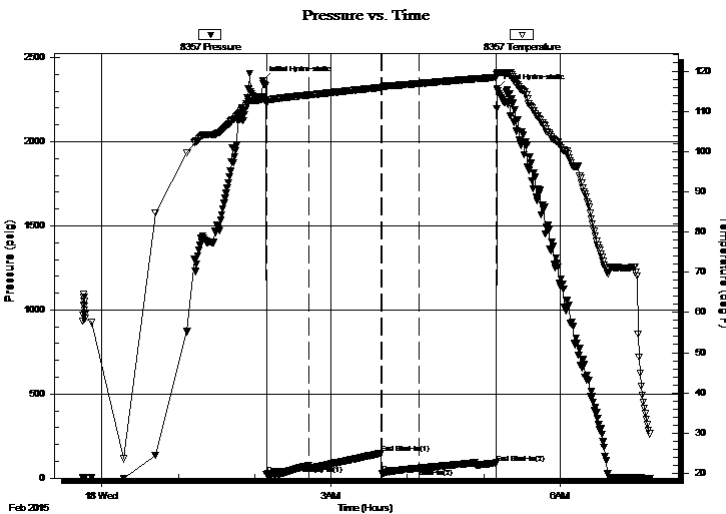
07:10:49

Time On Btm: 2015.02.18 @ 02:06:30

Time Off Btm: 2015.02.18 @ 05:10:39

TEST COMMENT: 30- 1" Decreasing blow .
60- No return.
30- No blow .
60- No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2365.57	113.19	Initial Hydro-static
3	23.80	112.01	Open To Flow (1)
36	75.14	114.04	Shut-In(1)
93	149.40	115.93	End Shut-In(1)
94	27.27	115.94	Open To Flow (2)
123	59.60	116.90	Shut-In(2)
184	90.18	118.45	End Shut-In(2)
185	2314.08	119.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 100m	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, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61565

DST#: 5

ATTN: Kent Matson

Test Start: 2015.02.17 @ 23:45:00

Tool Information

Drill Pipe:	Length: 4364.00 ft	Diameter: 3.82 inches	Volume: 61.86 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 277.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 63.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.50 ft			String Weight: Initial 79000.00 lb
Depth to Top Packer:	4644.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 ft			
Tool Length:	113.50 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			4617.50	
Shut In Tool	5.00			4622.50	
Hydraulic tool	5.00			4627.50	
Jars	5.00			4632.50	
Safety Joint	2.50			4635.00	
Packer	5.00			4640.00	27.50 Bottom Of Top Packer
Packer	4.00			4644.00	
Stubb	1.00			4645.00	
Perforations	1.00			4646.00	
Recorder	0.00	8357	Inside	4646.00	
Recorder	0.00	6751	Outside	4646.00	
Perforations	16.00			4662.00	
Change Over Sub	1.00			4663.00	
Drill Pipe	63.00			4726.00	
Change Over Sub	1.00			4727.00	
Bullnose	3.00			4730.00	86.00 Bottom Packers & Anchor
Total Tool Length:	113.50				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, INC.

S11-17s-33w Scott,KS

250 N Water STE 300
Wichita KS 67202

DAMW 'A' # 1-11

Job Ticket: 61565

DST#: 5

ATTN: Kent Matson

Test Start: 2015.02.17 @ 23:45:00

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:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM 100m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

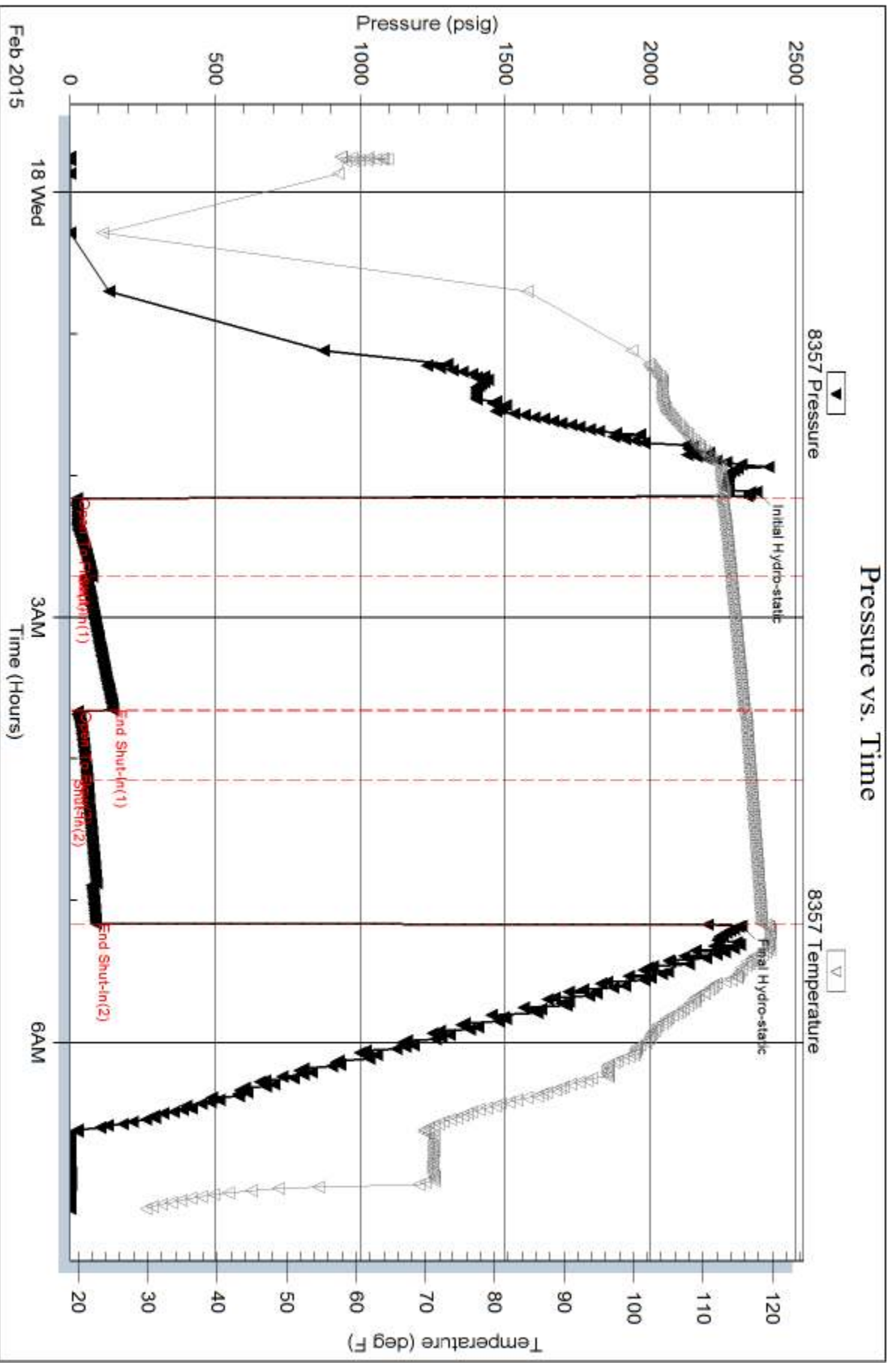
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

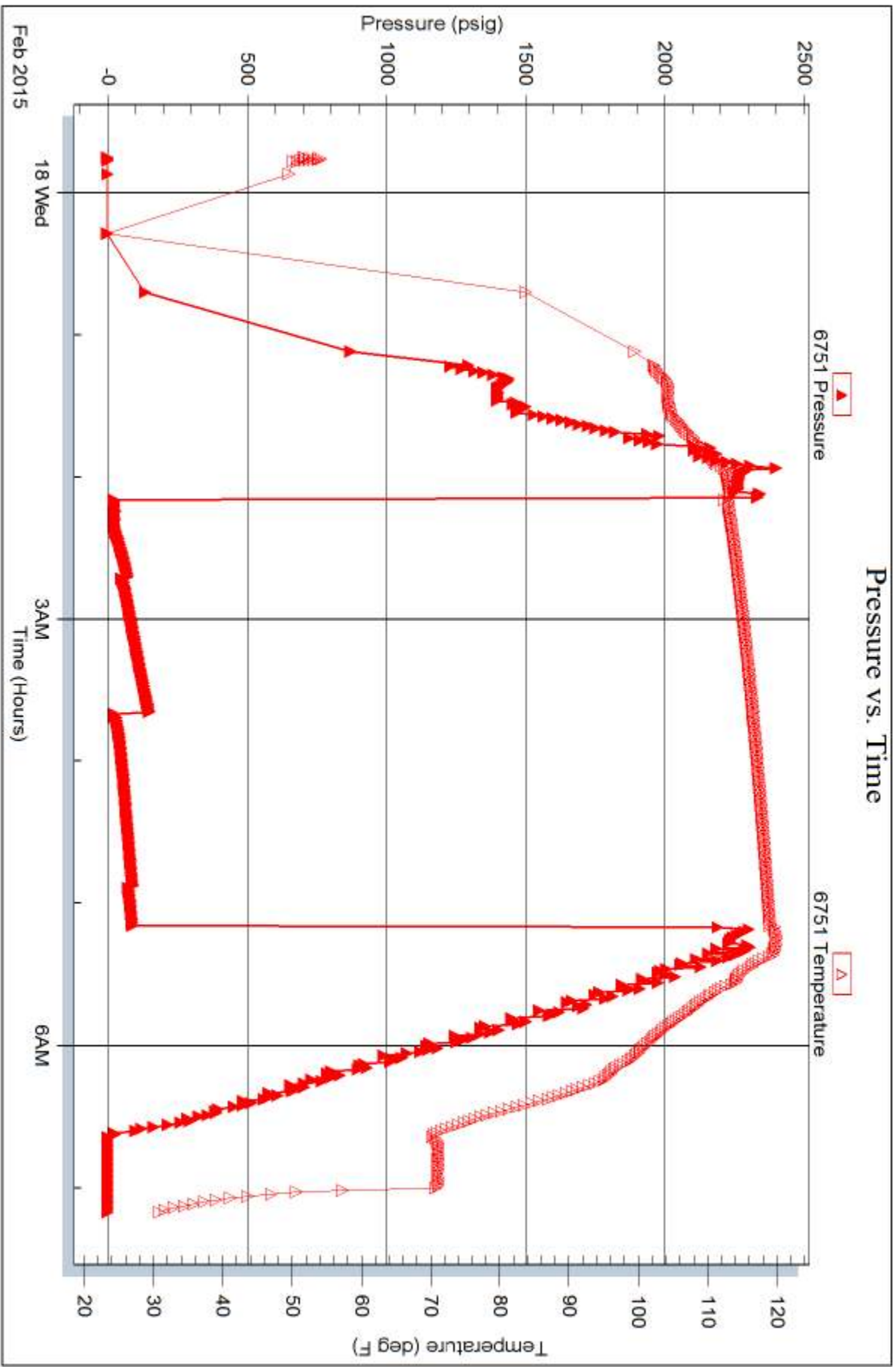


Serial #: 6751

Outside Murfin Drilling Co. INC.

DAMW/A' # 1-11

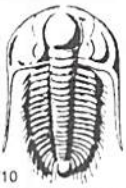
DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 61565

Printed: 2015.02.19 @ 14:36:37



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **61520**

4/10

Well Name & No. DAMW 'A' # 1-11 Test No. 1 Date 2/13
 Company Murfin Drilling Co, Inc Elevation 3021 KB 3010 GL
 Address 250 N Water STE 300 Wichita KS, 67202
 Co. Rep / Geo. Kent Mason Rig Murfin 21
 Location: Sec. 11 Twp. 17S Rge. 33W Co. Scott State Ks

Interval Tested 4016 4090 Zone Tested Lensing B-D
 Anchor Length 64 Drill Pipe Run 3734 Mud Wt. 9.2
 Top Packer Depth 4012 Drill Collars Run 276 Vis 49
 Bottom Packer Depth 4014 Wt. Pipe Run Ø WL 7.2
 Total Depth 4090 Chlorides 5000 ppm System LCM 4

Blow Description 30 B.O.B in 2 mins.
60 No Return.
60 B.O.B in 3 mins.
90 No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>821</u>	<u>new</u>			<u>95</u>	<u>05</u>
<u>827</u>	<u>new</u>			<u>90</u>	<u>10</u>
<u>276</u>	<u>new</u>			<u>55</u>	<u>45</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1929 BHT 120 Gravity — API RW .14 @ 72° F Chlorides 28000 ppm

(A) Initial Hydrostatic 2010 Test 1150 T-On Location 6:00
 (B) First Initial Flow 111 Jars 250 T-Started 6:44
 (C) First Final Flow 562 Safety Joint 75 T-Open 8:25
 (D) Initial Shut-In 1034 Circ Sub N/C T-Pulled 1225
 (E) Second Initial Flow 580 Hourly Standby _____ T-Out 1445
 (F) Second Final Flow 904 Mileage 26 RT ²⁶ Comments _____
 (G) Final Shut-In 1041 Sampler _____
 (H) Final Hydrostatic 1948 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1501
 Total 1501
 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. 61562

Well Name & No. DAMW 'A' 1-11 Test No. 2 Date 2-14-15
 Company Muffin Drilling Co., Inc. Elevation 3021 KB 3010 GL
 Address 250 N. Water St. 300 Wichita, KS 67202
 Co. Rep / Geo. Kent Matson Rig MDC#21
 Location: Sec. 11 Twp. 17s Rge. 33w Co. Scott State KS

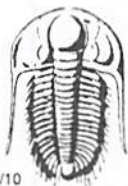
Interval Tested 4272-4320 Zone Tested Lansing 'K'
 Anchor Length 48 Drill Pipe Run 3988 Mud Wt. 9.2
 Top Packer Depth 4268 Drill Collars Run 277 Vis 53
 Bottom Packer Depth 4272 Wt. Pipe Run 0 WL 7.2
 Total Depth 4320 Chlorides 6500 ppm System LCM 4"
 Blow Description 4" Blow.
No return.
3 1/2" Blow.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>15</u>	Feet of <u>OSM</u>				<u>100</u>
Rec <u>277</u>	Feet of <u>WM</u>			<u>25</u>	<u>75</u>
Rec _____	Feet of _____				
Rec _____	Feet of _____				

Rec Total 292 BHT 122 Gravity — API RW .580 @ 25 °F Chlorides 34000 ppm
 (A) Initial Hydrostatic 2197 Test 1150 T-On Location 18:15
 (B) First Initial Flow 22 Jars 250 T-Started 18:15
 (C) First Final Flow 76 Safety Joint 75 T-Open 20:39
 (D) Initial Shut-In 1100 Circ Sub NIC T-Pulled 00:41
 (E) Second Initial Flow 80 Hourly Standby _____ T-Out 2:30
 (F) Second Final Flow 152 Mileage 26RT 26 Comments _____
 (G) Final Shut-In 1062 Sampler _____
 (H) Final Hydrostatic 2134 Straddle _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Initial Open 30 Day Standby _____ Sub Total 0
 Initial Shut-In 60 Accessibility _____ Total 1501
 Final Flow 60 Sub Total 1501 MP/DST Disc't _____
 Final Shut-In 90

Approved By [Signature] Our Representative Chuck Aniel

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. **61563**

4/10

Well Name & No. DAMWA 1-11 Test No. 3 Date 2-15-15
 Company Murfin Drilling Co., Inc. Elevation 3021 KB 3010 GL
 Address 250 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Kent Matson Rig M.D.C. #21
 Location: Sec. 11 Twp. 17s Rge. 33w Co. Scott State Ks

Interval Tested 4394 - 4490 Zone Tested Macmaton
 Anchor Length 96 Drill Pipe Run 4110 Mud Wt. 9.3
 Top Packer Depth 4390 Drill Collars Run 277 Vis 50
 Bottom Packer Depth 4394 Wt. Pipe Run 0 WL 7.2
 Total Depth 4490 Chlorides 7600 ppm System LCM 4#

Blow Description B.O.B. @ 7 min.
No return.
B.O.B. @ 8 min.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>280</u>	Feet of <u>OWCM</u>	%gas	<u>2</u> %oil	<u>38</u> %water	<u>60</u> %mud
Rec <u>370</u>	Feet of <u>GMCW</u>	<u>5</u> %gas	%oil	<u>50</u> %water	<u>45</u> %mud
Rec <u>680</u>	Feet of <u>OSMW</u>	%gas	%oil	<u>90</u> %water	<u>10</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1330 BHT 125 Gravity — API RW 390 @ 28 °F Chlorides 46000 ppm

(A) Initial Hydrostatic 2327 Test 1150 T-On Location 23:10
 (B) First Initial Flow 131 Jars 250 T-Started 23:20
 (C) First Final Flow 325 Safety Joint 75 T-Open 1:28
 (D) Initial Shut-In 1188 Circ Sub NIC T-Pulled 5:28
 (E) Second Initial Flow 325 Hourly Standby _____ T-Out 8:21
 (F) Second Final Flow 610 Mileage 26 Comments Some rubber may be in the hole.
 (G) Final Shut-In 1159 Sampler _____
 (H) Final Hydrostatic 2270 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer 320
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 320
 Day Standby _____ Total 1821
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1501

Approved By [Signature] Our Representative Chuck Smith

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. 61564

4/10

Well Name & No. DAMW 'A' 1-11 Test No. 4 Date 2-17-15
 Company Murfin Drilling Co., Inc. Elevation 3021 KB 3010 GL
 Address 250 N. Water St. 300 Wichita, KS 67202
 Co. Rep / Geo. Kent Matson Rig M.D.C. #21
 Location: Sec. 11 Twp. 17s Rge. 33w Co. Scott State KS

Interval Tested 4569-4680 Zone Tested Verdigris - Atoka
 Anchor Length 111 Drill Pipe Run 4270 Mud Wt. 9.3
 Top Packer Depth 4565 Drill Collars Run 277 Vis 55
 Bottom Packer Depth 4569 Wt. Pipe Run 0 WL 9.2
 Total Depth 4680 Chlorides 9600 ppm System LCM 4#
 Blow Description 1/2" Decreasing blow.
No return
No blow.
No return.

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

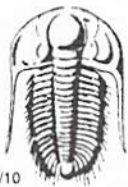
Rec Total 5 BHT 120 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	<u>2333</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	T-On Location	<u>8:12</u>
(B) First Initial Flow	<u>24</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>8:12</u>
(C) First Final Flow	<u>74</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>10:35</u>
(D) Initial Shut-In	<u>179</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NIC</u>	T-Pulled	<u>13:40</u>
(E) Second Initial Flow	<u>27</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>15:57</u>
(F) Second Final Flow	<u>28</u>	<input checked="" type="checkbox"/> Mileage	<u>26</u>	Comments	
(G) Final Shut-In	<u>93</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2304</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	
Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Flow	<u>30</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Shut-In	<u>60</u>	<input type="checkbox"/> Day Standby		Total	<u>1501</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1501</u>		

Approved By [Signature]

Our Representative Chuck Smith

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. **61565**

4/10

Well Name & No. DAMW 'A' 1-11 Test No. 5 Date 2-17-15
 Company Musfin Drilling Co., Inc. Elevation 3021 KB 3010 GL
 Address 250 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Kent Matson Rig MDC#21
 Location: Sec. 11 Twp. 17s Rge. 33w Co. Scott State KS

Interval Tested 4644 - 4730 Zone Tested Morrow - Upper Mississippian
 Anchor Length 86 Drill Pipe Run 4364 Mud Wt. 9.2
 Top Packer Depth 4640 Drill Collars Run 277 Vis 60
 Bottom Packer Depth 4644 Wt. Pipe Run 0 WL 8.0
 Total Depth 4730 Chlorides 7000 ppm System LCM 4th
 Blow Description Decreasing blow
No return.
No blow.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>5</u>	Feet of <u>OSM</u>				<u>100</u> %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 118 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2366</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>23:45</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:45</u>
(C) First Final Flow <u>75</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2:09</u>
(D) Initial Shut-In <u>149</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>5:10</u>
(E) Second Initial Flow <u>27</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>7:11</u>
(F) Second Final Flow <u>60</u>	<input checked="" type="checkbox"/> Mileage <u>x2 26+26</u>	Comments <u>Loaded tool 2-19</u>
(G) Final Shut-In <u>90</u>	<input type="checkbox"/> Sampler	<u>3:00 a.m.</u>
(H) Final Hydrostatic <u>2314</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1777</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1777</u>	

Approved By [Signature] Our Representative Chuck Smith

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.



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

Well Name: DAMW 'A' #1-11
Location: 2305' FNL, 1675' FEL, Sec 11-T17S-R33W, Scott County, Kansas
License Number: API: 15-171-21128 Region: Scott County
Spud Date: 02/09/2015 Drilling Completed: 02/18/2015
Surface Coordinates: Lat: 38.5919427
Long: -100.9313912
Bottom Hole Vertical hole
Coordinates:
Ground Elevation (ft): 3010' K.B. Elevation (ft): 3021'
Logged Interval (ft): 3600' To: RTD Total Depth (ft): 4817'
Formation: Mississippian at RTD
Type of Drilling Fluid: Chemical

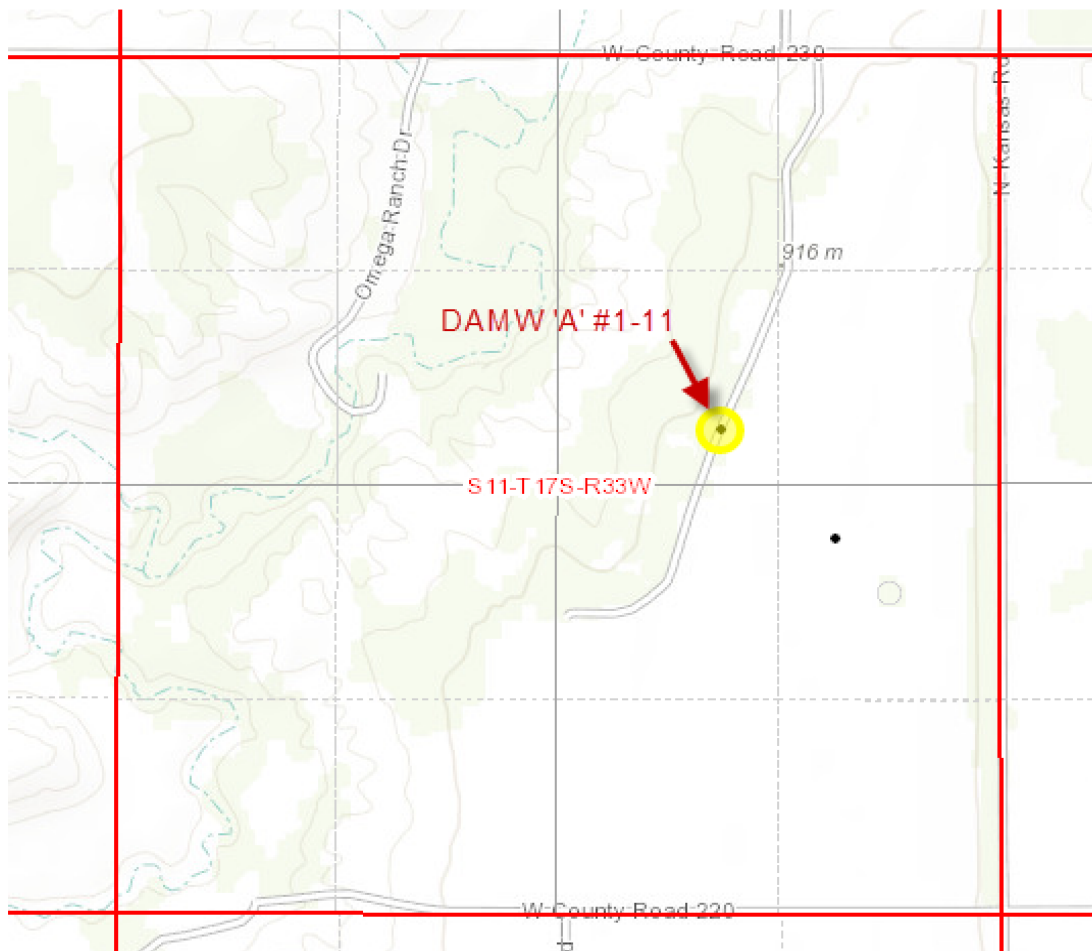
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

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

GEOLOGIST

Name: Kent R. Matson
Company: Matson Geological Services, LLC
Address: 33300 W. 15th Street S.
Garden Plain, Kansas 67050
316-644-1975



COMMENTS

Murfin Company Geologist: Michel Runnion, 316-267-3241.

Contractor: Murfin Drilling Company, Rig #21.

Tool Pusher: Juan Tinoco, 785-443-1421.

Surface Casing: 8 5/8" set at 271' (KB) w/235sx cement.

Production Casing: Based on field observations of drill cuttings, DST results and electric log evaluation, production casing was not installed and the hole was plugged and abandoned.

Mud by: Morgan Mud, Inc., Cade Lines, 308-345-2331.

DST's by: Trilobite Testing, Justin Harris & Chuck Smith, 800-728-5369.

Logs by: Pioneer (DI w/GR, CND, Sonic, and Micro), Y. Ruiz, 785-625-3858.

RTD= 4817'

LTD= 4810'

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Topeka	3709'	-688	3702'	-681
Heebner Shale	3948'	-927	3942'	-921
Lansing	3992'	-971	3984'	-963
Stark Shale	4275'	-1254	4268'	-1247
Pawnee	4502'	-1481	4493'	-1472
Fort Scott	4544'	-1523	4537'	-1516
Cherokee	4572'	-1551	4563'	-1542
Johnson	4614'	-1593	4607'	-1586
Morrow	4678'	-1657	4670'	-1649
Mississippian	4728'	-1707	4721'	-1700
RTD	4817'	-1796		
LTD			4810'	-1789

ROCK TYPES

LITHOLOGY

	Anhy
	Cht
	Coal
	Congl
	Dol
	Gyp
	Lmst
	Salt
	Shale
	Shcol
	Shgy
	Sltst
	Ss
	Carb sh
	Dol
	Dtd
	Gry sh
	Sandylms
	Shale
	Sltstn
	Shlyslts

	Sitysh
	Sdy dolo
	Silty dolo
	Shy dolo
	Shaly ls

FOSSIL

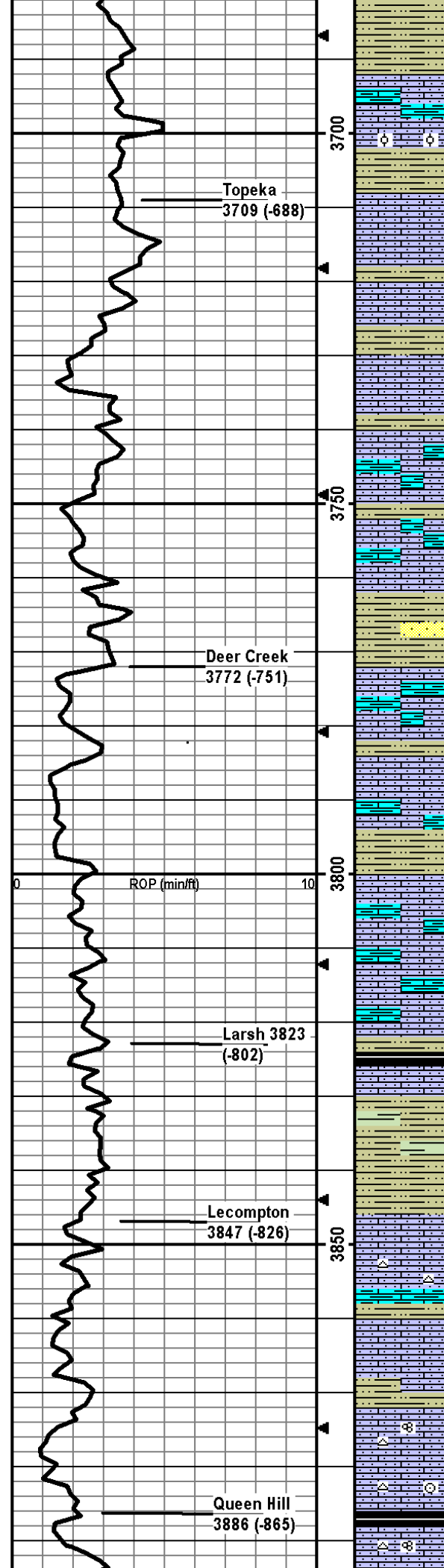
	Algae
	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral
	Crin
	Echin
	Fish
	Foram
	Fossil
	Gastro
	Oolite

MINERAL

	Ostra
	Pelec
	Pellet
	Pisolite
	Plant
	Strom
	Fuss
	Oomold
	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtlt
	Dol
	Feldspar

	Ferrpel
	Ferr
	Glau
	Gyp
	Hvymin
	Kaol
	Marl
	Minxl
	Nodule
	Phos
	Pyr
	Salt
	Sandy
	Silt
	Sil
	Sulphur
	Tuff
	Chlorite
	Dol
	Sand
	Sly

rop ROP (min/ft)	Depth	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks
	<p>35</p> <p>3550</p> <p>3600</p> <p>3650</p>				<p>Morning Report Depth/Activity 02/09/2015, Spud. 02/10, drill @ 271'. 02/11, drill @ 2997'. 02/12, drill @ 3778'. 02/13, DST#1 @ 4080'. 02/14, drill @ 4231'. 02/15, drill @ 4345'. 02/16, DST#3 @ 4490'. 02/17, DST#4 @ 4680'. 02/18, DST#5 @ 4730'; TD @ 4817'.</p> <p>Anhydrite: Top @ 2362', Base @ 2380' (based on drill time); Top @ 2287', Base @ 2375' (based on electric log).</p> <p>Formation tops and lithologies have been adjusted to correlate to the electric log.</p> <p>ROP Data begins @ 3600' on 02/11/2015</p> <p>Drill cutting samples at 10' intervals start at 3600'.</p> <p>SH: lt-dk gry/red brn, vry silty, slt carb, soft-firm. Some LS: lt brnsh gry, micro-med xtal, chalky, no vis por, no odor, ns.</p> <p>LS: gry/lt brn, micro-fn xtal, vry silty, no vis por, no odor, ns. Some SH as above.</p> <p>LS: lt-med gryish brn, micro-med xtal, vry silty, some chalky, few foss frags, no vis por, no odor, ns.</p> <p>LS: lt brn/lt-med gry, micro-med xtal, foss frags, silty, chalky, no vis por, no odor, ns.</p> <p>SH: lt-dk gry/dk brn, silty, slt carb, soft-firm, fissile, no odor, ns.</p> <p>LS: wht/crm/lt brn/min gry, micro-fn xtal, foss frags, some silty, arg, abund chalky pcs, some ppt-med in-xtal/frac por, no odor, ns.</p> <p>LS: same as above, no odor, ns.</p> <p>SH: lt-dk gry/brn, silty/sndy, carb, soft-firm, some brn sltstn no odor, ns.</p> <p>SH: lt-dk gry, silty/sndy, carb, soft-firm; sltstn/SS: brn, vf-f, sr-wr, arg, friable, no odor, ns.</p> <p>LS: med gry/lt brn, micro-fn xtal, min foss frags/brac, silty, no vis por, no odor, ns.</p>	<p>Morgan Mud Check #0 @ 0' 02/09/15, predrilling instructions.</p> <p>Morgan Mud Check #2 @ 3294' 02/11/15 11:20am wt vis pH chl 8.6 87 12 3000 Filt LCM 6.0 1</p> <p>Made bit trip at 3592', switched from PDC bit to rotary tri-cone bit.</p>



SH: lt-med gry, carb, vry silty, firm, friable, no odor, ns.

LS: med gry, micro-fn xtal, vry silty, vry arg, no vis por, no odor, ns. Some SH as above.

LS: crm/tan, micro-med xtal, foss frags/ool, silty, some chalky, some ppt-fn in-xtal por, no odor, ns. Some SH: med-dk gry, silty, carb, firm, fissile.

LS: crm/tan, micro-fn xtal, some foss frags, vry silty, some chalky, no vis por, no odor, ns. Some SH: med gry, silty, carb, firm, fissile.

LS: crm/lt brn/gry, micro-fn xtal, foss frags, vry silty/sndy, some chalky, some ppt-fn in-xtal por, no odor, ns. Some SH: lt-med gry, vry silty, carb, firm, fissile.

LS: lt gry/tan/brn, micro-fn xtal, min foss frags, silty, arg, min ppt-fn in-xtal por, no odor, ns.

LS: lt-med brn/lt gry, micro-fn xtal, foss frags, vry silty, arg, some chalky, min ppt in-xtal por, no odor, ns.

LS: tan/lt-med gryish-brn, micro-med xtal, foss frags, some vry silty, some chalky, arg, min ppt in-xtal por, no odor, ns.

SH: med gry, vry silty, carb, firm-vry firm, fissile, some SS: gry, vf-f, r-wr, hard, friable; some LS: tan/gry, micro-med xtal, foss frags, arg, silty, no vis por, no odor, ns.

LS: tan/lt brn/some gry, micro-fn xtal, foss frags, vry silty, vry arg, some chalky, some ppt-fn in-xtal por, no odor, ns.

LS: tan/lt gry-brn, micro-med xtal, foss frags, vry silty, arg, some chalky, some ppt-fn in-xtal por, no odor, ns. Some SH: med-dk gry, vry silty/sndy, carb, firm, fissile.

LS: as above, no odor, ns; SH: lt-med gry, vry silty, carb, soft-firm.

LS: crm/tan/min gry, micro-fn xtal, vry silty, some arg, some chalky, min ppt-fn in-xtal por, no odor, ns.

LS: tan/lt brn/gry, micro-fn xtal, min foss frags, silty, arg, min frac por, no odor, ns.

SH: dk gry/blk, slt carb, firm, fissile, no odor, ns.

LS: tan/gry, micro-fn xtal, foss frags, silty, arg, min ppt in-xtal por, no odor, ns. Some SH: lt-med gry, silty, soft-firm.

SH: med-dk gry, some vry silty, carb, firm, fissile.

LS: crm/lt-med brn/gry, micro-med xtal, min foss frags, some silty, some chalky, some ppt-fn in-xtal por, 4 pcs w/fn-med in-xtal por w/sfo, dul yel flor, slt crush odor, sfo.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags/fusln, some silty, some chalky, min wht chert, some ppt in-xtal por, no odor, ns. SH: med-dk gry/brn, silty, carb, firm, fissile.

LS: crm/gry/lt brn, micro-med xtal, foss frags, some vry silty, some chalky, min ppt-fn in-xtal por, no odor, ns

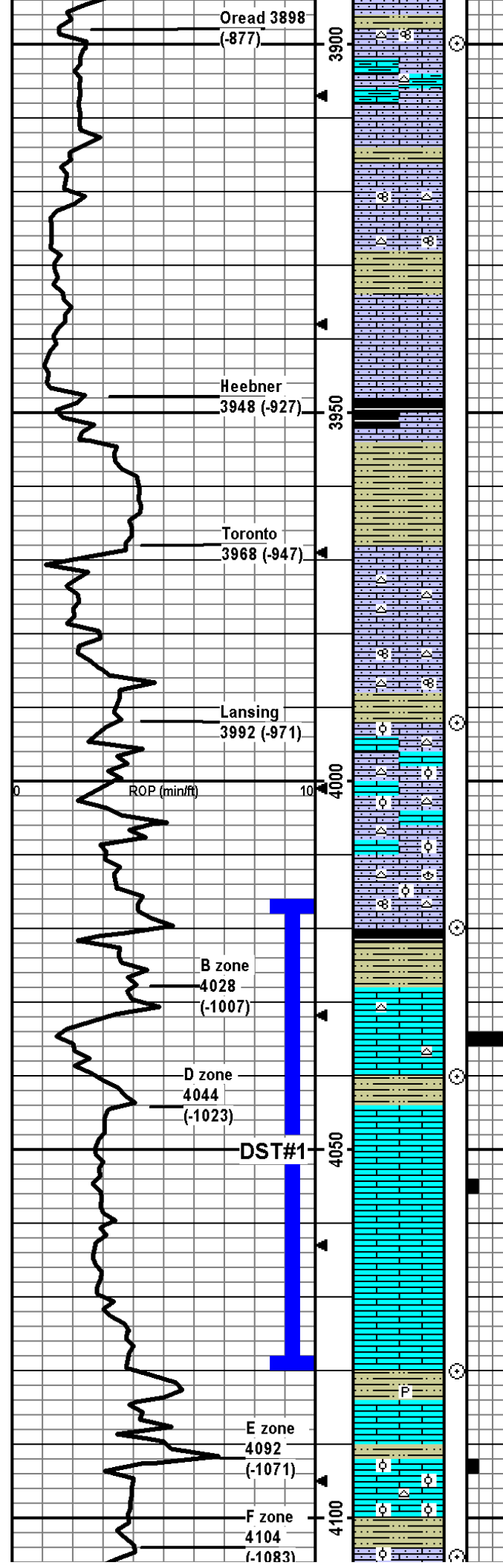
LS: crm/tan, micro-fn xtal, some foss frags/fusln, silty/sndy, min wht chert, 1 pce w/fn-med in-xtal por w/sfo, dul yel flor, no odor, ssfo.

LS: crm/tan, micro-fn w/some med xtal, foss frags/crin, silty/sndy, some chalky, min wht chert, some ppt-fn in-xtal por, no odor, ns.

SH: dk gry/blk, carb, silty, soft-firm, fissile, no odor, ns.

LS: crm/tan/lt brn, micro-fn xtal, min foss frags/fusln, silty, min wht

Morgan Mud Check #3 @
 3900' 02/12/15 11:50am
 wt vis pH chl
 9.2 49 10.5 5000
 Filt LCM
 7.2 4



chert, min ppt in-xtal por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-med xtal, some foss frags, vry silty, vry arg, vry chalky, min lt gry chert, some ppt in-xtal por, no odor, ns.

LS: lt-med brn w/gry mottling/gry, micro-med xtal, foss frags, silty, some chalky, some ppt-fn in-xtal por, no odor, ns.

SH: med-dk gry, silty, carb, firm, fissile, no odor, ns.

LS: lt-med brn/lt gry, micro-fn xtal, foss frags/fusln, silty, vry chalky, min lt brn chert, min ppt in-xtal por, no odor, ns.

LS: same as above, vry chalky, no odor, ns.

LS: crm/lt brn/lt-med gry, micro-med xtal, foss frags, vry silty/sndy, arg, chalky, some ppt-fn in-xtal por, no odor, ns.

SH: dk gry/blk, slt carb, silty, firm, fissile, no odor, ns.

LS: lt brn/gry, micro-fn xtal, foss frags, vry silty, vry chalky, some ppt in-xtal por, no odor, ns.

SH: med-dk gry/blk/dk brn, carb, vry silty/sndy, soft-firm, fissile, no odor, ns.

SH: crm/lt-med gry, vry silty, vry carb, soft-firm, no odor, ns.

LS: lt-med brn w/some gry, micro-med xtal, foss frags, silty, some chalky, min ppt-fn in-xtal por, no odor, ns.

LS: crm/tan, micro-fn xtal, foss frags/fusln, silty, some chalky, abund wht/crm/lt brn chert, some ppt-fn in-xtal por, no odor, ns.

LS: crm/tan/lt-gry, micro-med xtal, foss frags/fusln, vry silty, some chalky, wht/lt brn chert, some chalky, some ppt-fn in-xtal/frac por, no odor, ns.

LS: crm/lt brn/gry, micro-med xtal, foss frags/ool, some silty/sndy, vry chalky, some crm/lt brn chert, some ppt-fn in-xtal/in-oo por and fn-crs oo-castic por, no odor, ns.

LS: crm/lt brn/gry, micro-med xtal, foss frags/ool, some silty, vry chalky, wht/crm chert, some ppt-fn in-xtal/in-oo por and some med-crs oo-castic por, no odor, ns.

LS: crm/lt brn/lt gry, micro-fn xtal, foss frags/ool/fusln/brac, silty, some chalky, crm/lt brn chert, min ppt-fn in-xtal/in-oo por and min med-crs oo-castic por, no odor, ns.

SH: dk gry/blk, slt carb, slt silty, firm-hard, fissile.

SH: lt-dk gry/brn, some vry silty, slt carb, soft-firm, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, some foss frags, wht-lt brn chert, min ppt-med in-xtal por, 36 pcs in 30 min smpl w/sfo, slt crush odor, dul yel flor, gsfo.

SH: lt-dk gry/dk brn, some vry silty, slt carb, soft-firm, fissile.

LS: crm, micro-fn xtal, foss frags, abund chalky pcs, min ppt in-xtal por, no odor, ns.

LS: crm/lt brn, micro-fn xtal, foss frags, abund chalky pcs, min ppt in-xtal por, 1 pcs w/ppt-fn in-xtal por w/sfo, dul yel flor, no odor, ssfo.

LS: crm/tan/some lt gry, micro-fn xtal, foss frags, abund chalky pcs, some ppt-fn in-xtal por, no odor, ns.

LS: crm/lt gry, micro-fn xtal w/some med 2ndry xtal, min foss frags, abund chalky pcs, min ppt in-xtal/frac por, no odor, ns.

SH: lt-dk gry/dk brn, vry silty, carb, pyritic, soft-firm, fissile.

LS: crm/lt-med brn/some gry mottling, micro-med xtal, foss frags, some chalky, min frac por, no odor, ns.

LS: crm/lt brn/lt gry, micro-fn xtal, foss frags/abund ool, chalky, lt brn chert, mostly dense w/min ppt-fn in-xtal por and med-crs oo-castic por, 1 pce w/fn-med in-xtal/in-ool por w/sfo, yel flor, no odor, ssfo. Min SH: lt brn/lt-dk gry, silty, carb, soft-firm.

LS: lt-med brn/some gry, micro-med xtal, foss frags/fusln/ool, some silty/sndy, some chalky, some frac por, no odor, ns. Some SH: lt-dk gry, silty, carb, soft-firm.

CFS @ 3900'
30"60"

CFS @ 4092'
30"60"

CFS @ 4020'
30"60"

CFS @ 4040'
30"60"

**DST1) 4016-4080
Lansing B-D
zones**
30/60/60/90
1st) BOB in 2 min, no BB.
2nd) BOB in 3 min, no BB.
IFP 111-562#
ISIP 1034#
FFP 580-914#
FSIP 1041#
HP 2010-1948#
Recvd: 1929' MCW.

CFS @ 4080'
30"60"

Morgan Mud Check #4 @
4080' 02/13/15 01:00pm
wt vis pH chl
9.2 73 10.5 5000
Filt LCM
6.0 3

CFS @ 4105'

CFS @ 4105
30"60"

CFS @ 4125'
30"60"

CFS @ 4215'
30"60"

CFS @ 4245'
30"60"

Morgan Mud Check #5 @
4302' 02/14/15 01:30pm
wt vis pH chl
9.2 52 10.5 6500
Filt LCM
7.2 4

CFS @ 4280'
30"60"

DST2) 4272-4320
Lansing K-zone
30/60/60/90
1st) Surface blow built
to 4"; no BB.
2nd) Surface blow built
to 3.5"; no BB.
IFP 22-76#
ISIP 1100#
FFP 80-152#
FSIP 1062#
HP 2197-2134#
Recvd: 15' OSM, 277'

LS: crm/tan, micro-med xtal, foss frags, vry chalky, some ppt-fn in-xtal, no odor, ns.

LS: crm/lt-med brn/gry, micro-med xtal, foss frags/some ool, some chalky, min ppt-fn in-xtal/frac por, no odor, ns.

SH: lt-dk gry/dk brn, vry silty, carb, soft-firm, fissile.

LS: crm/min lt gry, micro-fn xtal, min foss frags, some silty/sndy, some chalky, slt pyritic, min frac por, 1 pcs w/ppt-fn in-xtal por w/sfo when crushed, no odor, ssfo.

LS: crm, micro-fn xtal, min foss frags, some chalky, min frac por, no odor, ns.

LS: crm/min lt brn, micro-fn xtal, min foss frags, chalky, wht chert, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt brn/min lt gry, micro-med xtal, chalky, min foss frags/ool, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-med xtal, some foss frags, some chalky, some crm/lt gry chert, min ppt-med in-xtal por, no odor, ns.

SH: dk gry/blk/some dk brn, silty, slt carb, firm, fissile.

LS: crm/lt brn, micro-med xtal, foss frags/ool, grainy, vry chalky, some silty/sndy, some ppt-med in-xtal/frac, no odor, ns.

SH: med-dk gry, slt silty, slt carb, slt pyritic, firm, fissile.

LS: crm/lt-med brn/min lt gry/gry mottling, micro-fn w/some med 2ndry xtal, min foss frags/fusln, some chalky, some silty/sndy, min ppt in-xtal por, no odor, ns. Some SH: lt-dk gry/lt green-gry, silty, firm.

LS: crm/lt-med brn/lt gry, micro-med xtal, foss frags/some ool, silty/sndy, some chalky, some ppt-fn in-xtal por, no odor, ns.

LS: wht/lt-med brn/gry, micro-med xtal, foss frags/brac, some silty/sndy, min ppt-fn in-xtal/frac por, no odor, ns.

SH: med-dk gry/blk, silty, slt carb, firm, fissile.

LS: crm/lt-med brn, micro-med xtal, foss frags, some silty/sndy, some frac por, no odor, ns.

SH: lt-med gry, vry silty, carb, soft-firm, some Sltstn: lt gry, pred qtz, arg, friable, no odor, ns.

LS: crm/lt brn/min gry, micro-med xtal, foss frags/ool, silty/sndy, some frac por, no odor, ns.

LS: crm/lt-med brn/min gry, micro-med xtal w/2ndry xtal, foss frags/min ool, some silty/sndy, some chalky, some frac por, no odor, ns.

SH: lt-med gry, silty-vry silty, some carb, soft-firm, some friable, fissile, no odor, ns.

LS: wht/crm/lt-med brn/lt gry, micro-med xtal, foss frags/abund ool pcs, some silty/sndy, some chalky, some pyritic, min wht chert, med-crs oo-castic/fn-med in-xtal por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags, silty/sndy, some chalky, min frac por, no odor, ns.

LS: crm/lt-med brn/lt-med gry, micro-med xtal, foss frags/brac/dense ool, some silty, some frac por, no odor, ns.

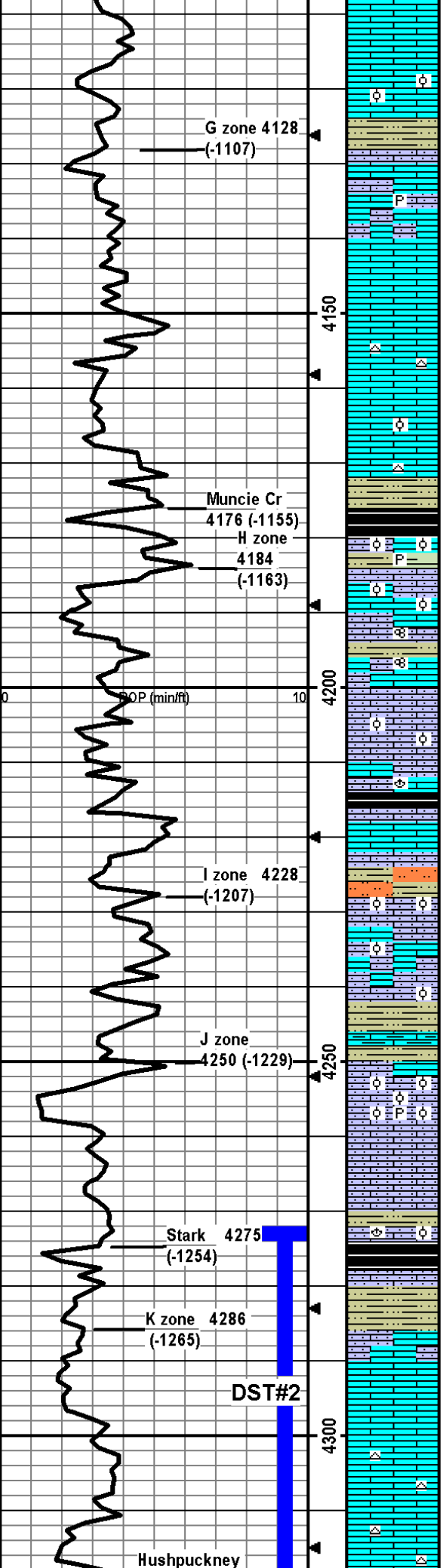
SH: blk/min dk brn, slt carb, firm, fissile.

LS: crm/lt-med brn/gry, micro-med xtal, some foss frags, some silty/sndy, min chalky, 34 pcs w/ppt-med in-xtal por w/sfo, yel flor, gd odor, gsfo.

LS: crm/lt brn/lt gry, micro-med xtal, some foss frags, some chalky, 3 pce w/ppt-med in-xtal por w/sfo, yel flor, slt crush odor, ssfo.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags, some chalky, wht/lt gry chert, 2 pcs w/ppt-fn in-xtal por w/sfo, yel flor, no odor, ssfo.

LS: crm/lt-med brn/gry/gry mottling, micro-med xtal, foss frags, some chalky, wht/crm/lt brn chert, some pyritic, some ppt-fn in-xtal por, no odor, ns.



G zone 4128
(-1107)

Muncie Cr
4176 (-1155)
H zone
4184
(-1163)

I zone 4228
(-1207)

J zone
4250 (-1229)

Stark 4275
(-1254)

K zone 4286
(-1265)

DST#2

Hushpuckney

4318 (-1297)

L zone 4330 (-1309)

B/KC 4358 (-1337)

Exline 4364 (-1343)

Pleasanton SH 4374 (-1353)

Lenapah 4392 (-1371)

ROP (min/ft)

Marmaton 4411 (-1390)

Marm B 4438 (-1417)

DST#3

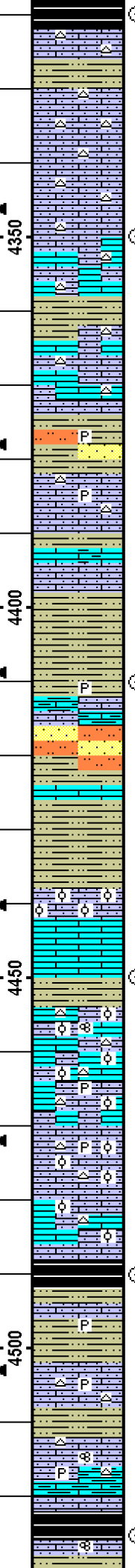
Marm C 4454 (-1433)

Labette SH 458 (-1567)

Pawnee 4502 (-1481)

Lt Osage 4522 (-1501)

Lr Pawnee



SH: dk gry/blk, silty, silt carb, silt pyritic, soft-firm, fissile.
 LS: crm/lt-med brn, micro-fn xtal, some foss frags, silty, chalky, abund wht/lt gry chert, no vis por, no odor, ns.

LS: crm/lt gry, micro-fn xtal, min foss frags, silty, abund chalky pcs, wht/lt gry chert, no vis por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags, silty, some chalky, wht/lt gry chert, some ppt-fn in-xtal por, no odor, 1 pcs w/sfo poss from K-zn above.

LS: crm/lt brn/gry, micro-med xtal, foss frags, some silty, some chalky, gry chert, min frac por, no odor, ns.
 SH: med-dk gry, silty, silt carb, firm, fissile.

LS: crm/lt-med brn, micro-med xtal, foss frags, silty/sndy, chalky, wht/lt gry/lt brn chert, some frac por, no odor, ns.

SH: lt-med gry, vry silty/sndy, carb, soft-hard; Siltstn/SS: lt-med gry, vf-f, pred qtz, carb, hard, friable, no odor, ns.

LS: crm/lt-dk brn, micro-med xtal, foss frags, silty/sndy, wht/lt gry chert, min pyritic, no vis por, no odor, ns.

LS: crm/lt brn, micro-med, foss frags, some silty/sndy, some chalky, some arg, min ppt-fn in-xtal por, no odor, ns.
 SH: med-dk gry/dk brn/med green-gry, silty, silt carb, firm, fissile.

SH: as above, 1 pce of LS w/fn-med por w/sfo.

SH: med-dk gry/dk brn, vry silty/sndy, carb, silt pyritic, firm, fissile; Siltstn/SS: lt-med gry, vf-f, pred qtz, carb, hard, friable, no odor, ns. Some LS: med-dk brn, arg, silty, no vis por, ns.

LS: crm/lt brn, micro-fn xtal, foss frags, silty/sndy, some chalky, no vis por, no odor, ns. SH: med-dk gry/brn, silty, carb, firm; some Siltstn: lt gry, pred qtz.

SH: med-dk gry/dk brn, silty, carb, firm, fissile.

LS: crm/lt-med brn, micro-med xtal, foss frags/abund ool, some silty, 23 pcs w/ppt-med in-xtal/in-oo por w/sfo, dul yel flor, silt odor, sfo.
 LS: crm/lt brn, micro-fn xtal, some foss frags/abund ool, vry chalky, some frac por, silt odor, 10 ool pcs w/ppt-med in-oo por w/sfo, gsfo.
 SH: lt-dk gry/blk, some silty, silt carb, firm, fissile.

LS: crm/lt-med brn, micro-med xtal, foss frags/fusln/ool, some silty/sndy, chalky, lt gry/lt brn chert, 2 pcs w/ppt-fn in-xtal/in-oo por w/sfo, ns odor, dul yel flor, ssfo.

LS: crm/lt brn, micro-med xtal, foss frags/ool, some silty/sndy, vry chalky, min pyritic, wht/lt gry/lt brn chert, 2 pcs w/ppt-med in-xtal/in-oo por w/sfo/staining, no odor, dul yel flor, ssfo.

LS: crm/lt brn/gry mottling, micro-med xtal, foss frags/fusln/ool, silty/sndy, chalky, min pyritic, lt gry/lt brn chert, 4 ool pcs w/staining w/ppt-fn in-xtal/in-oo por w/sfo when crushed, no no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags/dense ool, chalky, some silty/sndy, wht/lt gry/lt brn chert, min ppt-fn in-xtal/frac por, no odor, ns.

SH: med-dk gry/blk/dk brn/green-gry, some vry silty, carb, firm, fissile.

SH: med-dk gry/green-gry/dk brn, some vry silty, some pyritic, carb, soft-firm, fissile.

LS: crm/lt-med brn/lt gry, micro-fn xtal, foss frags, vry silty, some chalky, wht/lt gry-brn chert, silt pyritic, some frac por, no odor, ns.

LS: crm/lt-dk brn/gry, micro-med xtal, foss frags/fusln, silty/sndy, some arg, min pyritic, wht/lt gry chert, min ppt-fn in-xtal/frac por, no odor, ns.

SH: med-dk gry/blk/green-gry/dk brn, silt carb, silty, firm-vry firm, fissile.

LS: crm/lt-med brn/lt gry, micro-med xtal w/some 2ndry xtal, foss frags/fusln, some silty/sndy, some chalky, wht/lt gry, chert, some frac por, no odor, ns.

CFS @ 4320' 30"60"

CFS @ 4350' 30"60"

CFS @ 4410' 30"60"

Morgan Mud Check #6 @ 4415' 02/15/15 02:00pm
 wt vis pH chl
 9.3 50 10.0 7600
 Filt LCM
 8.4 4

CFS @ 4450' 30"60"

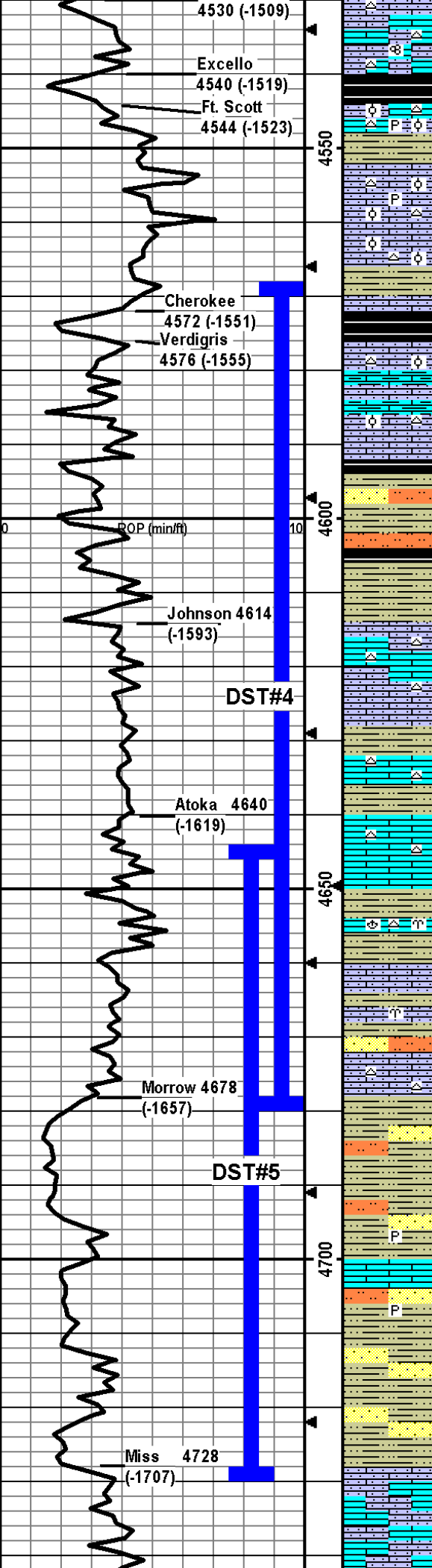
DST3) 4394-4490

Marmaton
 30/60/60/90
 1st) BOB in 7 min; no BB.
 2nd) BOB in 8 min; no BB.
 IFP 131-325#
 ISIP 1188#
 FFP 325-610#
 FSIP 1159#
 HP 2327-2270#
 Recvd: 280' OWCM (2%O), 370' GMCW (5%G), 680' OSMW.

CFS @ 4490' 30"60"

Morgan Mud Check #7 @ 4525' 02/16/15 01:55pm
 wt vis pH chl
 9.4 53 9.5 9600
 Filt LCM
 9.2 3

CFS @ 4525' 30"60"



LS: crm/lt-dk brn, micro-med xtal, foss frags, some silty/sndy, some chalky, crm/lt gry chert, some frac por, no odor, ns.

SH: dk gry/blk, slt carb, firm-hard, fissile.

LS: crm/lt-dk brn/gry, micro-med xtal, foss frags/ool, some chalky, some silty, slt pyritic, abund wht/lt gry/lt brn ool chert, some frac por, no odor, ns. Some SH: lt-med gry/gry-green, silty, firm, carb.

LS: crm/lt-med brn/lt gry, micro-fn xtal, foss frags/some ool, some chalky, silty/sndy, wht/lt gry/lt brn ool chert, slt pyritic, some frac por, no odor, ns.

LS: crm/lt-med brn/gry, micro-fn xtal, foss frags/few ool pcs, vry silty/sndy, arg, some chalky, some wht/lt gry/lt brn ool chert, 1 pce w/ppt in-xtal por w/brn staining fo when crushed, no odor, ssfo.

SH: lt-med gry/lt brn, vry silty, carb, soft-firm, fissile some friable.

SH: lt-dk gry/blk, some silty, slt carb, fissile.

LS: crm/lt-dk brn, foss frags/dense ool, vry silty/sndy, arg, vry chalky, some lt brn chert, some frac por, no odor, ns.

LS: crm/lt gry-brn, micro-med xtal, foss frags/min oo, silty/sndy, min brn chert. 5 pcs w/ppt-med in-xtal por w/sfo, dul yel flor, no odor, sfo.

SH: dk gry/blk/dk brn, silty, slt carb, firm; Sltstn/SS: wht/lt-med brn, pred qtz, vf-f, sr-wr, carb, soft-hard, friable, no odor, ns.

SH: lt-dk gry/blk/lt-med brn, vry silty, carb, some glauc, soft-firm, some vry silty is friable; LS: crm/lt-dk brn, micro-med xtal, vry silty/sndy, foss frags, frac por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-fn xtal, mn foss frags, some silty/sndy, some brn chert, 6 pcs w/ppt-fn in-xtal por w/sfo, dul yel flor, slt crush odor, sfo.

LS: as above, no odor, ns.

SH: med-dk gry/brn, some vry silty, carb, firm, silty is friable.

LS: crm/lt-med brn, micro-fn xtal, foss frags, some chalky, brn chert, 8 pcs w/ppt-fn in-xtal/frac por w/sfo or staining, dul yel flor, slt odor, sfo.

SH: lt-dk gry/lt green-gry/brn, some vry silty, carb; LS: as above w/12 pcs w/sfo.

LS: crm/lt-med brn, micro-med, foss frags, brn chert, some chalky, 8 pcs w/ppt in/xtal/frac por w/staining and fo on crush, dul yel flor, slt odor, sfo.

SH: lt-dk gry/lt-med brn, carb, vry silty, firm, fissile.

LS: crm/lt brn/lt gry, micro-fn xtal, foss frags/brac/bryz, some chalky, crm/lt brn chert, 14 pcs w/ppt-med in-xtal por w/sfo, yel flor, gd odor, gsfo. SH: med-dk gry/brn, silty, slt carb, firm, fissile.

LS: crm/lt brn/lt gry, micro-fn xtal, min foss frags/bryzn, vry silty/sndy, vry chalky, vry arg, no vis por, no odor, ns; SH: lt gry/lt brn, vry silty/sndy, carb, firm, some friable.

SH: lt-dk gry/green-gry/brn, silty, carb, firm; Sltstn/SS: lt gry/lt brn, pred qtz, vf, arg, carb, firm-hard, friable, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-fn xtal, min foss frags, some vry silty, some chalky, lt-dk brn chert, 2 w/ppt-fn in-xtal/frac por w/sfo, dul yel flor, no odor, sfo..

SH: med-dk gry/blk/dk brn/green-gry/mustard yel, some vry silty/sndy, carb, some glauc, soft-hard; min Sltstn/SS: lt gry/dk green, vf-f, sr-wr, hard-vry hard, friable-nonfria, no odor, ns.

SH w/min Sltstn/SS as above, some pyritic, no odor, ns.

SH/Sltstn/SS as above w/some increase in Sltstn/SS, no odor, ns. Min LS w/ 3 pcs w/sfo, crm-lt brn, micro-fn xtal, ppt-fn in-xtal por, dul yel flor, ssfo.

SH as above; SS: lt-med gry/green, vf-f, sr-wr, slt carb, some glauc, hard, friable, no odor, ns. Min LS w/2 pcs as above w/sfo, no odor, ssfo.

SH/SS w/min LS as above, no odor, ns.

LS: crm/lt brn, micro-med xtal, min foss frags, some vry sndy, some vry chalky, some frac por, no odor, ns.

CFS @ 4540'
30"60"

CFS @ 4570'
30"60"

**DST4) 4569-4680
Verdigris,
Johnson &
Atoka
30/60/30/60
1st) 1/2" blow
decreased; no BB.
2nd) No blow; no BB.
IFP 24-74#
ISIP 179#
FFP 27-28#
FSIP 93#
HP 2333-2304#
Recvd: 5' OSM.**

CFS @ 4635'
30"60"

Morgan Mud Check #8 @
4680' 02/17/15 02:20pm
wt vis pH chl
9.3 100 10 7000
Filt LCM
8.0 3

CFS @ 4680'
30"60"

**DST5) 4644-4730
Morrow & Upper
Miss
30/60/30/60
1st) decreasing blow;
no BB.
2nd) No blow; no BB.
IFP 24-75#
ISIP 149#
FFP 27-60#
FSIP 90#
HP 2366-2314#
Recvd: 5' OSM.**

CFS @ 4730'
30"60"

LS: crm/lt brn, micro-med xtal, min foss frags, some vry silty, some vry chalky, min pyritic, some frac por, no odor, ns.

LS: as above w/min SS: wht, vf-f, r-wr, carb cement, no odor, ns.

LS: crm/lt brn/lt gry-brn, micro-med xtal, some dense ool pcs, some vry silty, some chalky, min pyritic, some frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, min foss frags/ool, some vry silty, some vry chalky, slt pyritic, some frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, some ool pcs, vry silty, some vry chalky, no vis por, no odor, ns.

LS: tan, micro xtal, some chalky, min frac por, no odor, ns.

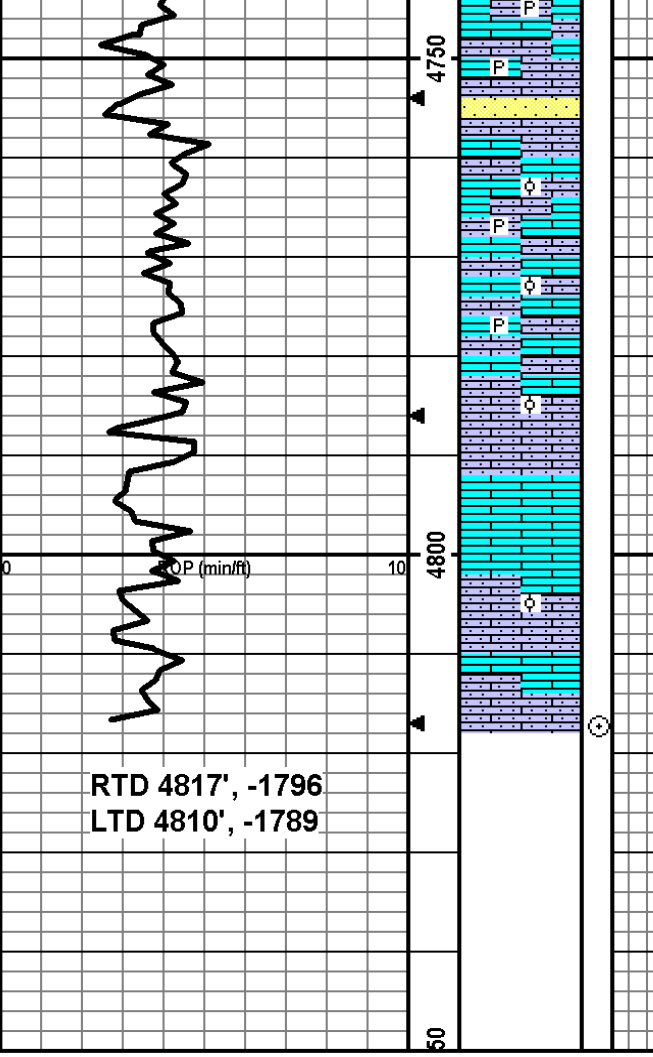
LS: wht/crm/tan, micro-fn xtal, min ool, some vry silty/silty, some vry chalky, min frac por, no odor, ns.

LS: wht/crm/tan, micro-fn xtal, some vry silty/silty, some vry chalky, min frac por, no odor, ns.

Morgan Mud Check #9 @
4775' 02/18/15 01:35pm
wt vis pH chl
9.2 59 10.5 6100
Filt LCM
8.0 4

CFS @4817'
30"/60"
Cir 1 hr to collect samples
and clean hole, conducted 5
stand short trip, circulated 1
hr and TOH for logging.

RTD 4817', -1796
LTD 4810', -1789





*Acct
Prod-Mos*

INVOICE

Invoice Number: 148587

Invoice Date: Feb 9, 2015

Page: 1

Federal Tax I.D.#: 20-8651475

PO Box 93999
Southlake, TX 76092

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

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	64650	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Feb 9, 2015	3/11/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	DAMWA #1-11		
235.00	CEMENT MATERIALS	Class A Common	17.90	4,206.50
663.00	CEMENT MATERIALS	Chloride	1.10	729.30
246.75	CEMENT SERVICE	Cubic Feet Charge	2.48	611.94
455.20	CEMENT SERVICE	Ton Mileage Charge	2.75	1,251.80
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	Manifold Rental	275.00	275.00
40.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	176.00
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	EQUIPMENT OPERATOR	Wayne Mc Ghghy		
1.00	OPERATOR ASSISTANT	George Grant		

±0203 3 1858.0001 5391.21 Cement S. Csg. #1-11

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

\$ 4,081.85

ONLY IF PAID ON OR BEFORE

Mar 11, 2015

Subtotal	9,070.79
Sales Tax	402.27
Total Invoice Amount	9,473.06
Payment/Credit Applied	
TOTAL	9,473.06

(4081.85)

mJ-62

5391.21

ALLIED OIL & GAS SERVICES, LLC 064650

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley, TX

DATE <u>2-9-15</u>	SEC. <u>11</u>	TWP. <u>17</u>	RANGE <u>33</u>	CALLED OUT	ON LOCATION <u>2:00 pm</u>	JOB START <u>10:30 am</u>	JOB FINISH <u>11:00 am</u>
LEASE <u>D.A. # 21</u>	WELL # <u>1-11</u>	LOCATION <u>Scott City 60 (210)</u>			COUNTY <u>Scott</u>	STATE <u>TX</u>	
OLD OR NEW (Circle one)				<u>192 W/ 1/2" water</u>			

CONTRACTOR Merfin 21 OWNER Same

TYPE OF JOB <u>Surface</u>	CEMENT AMOUNT ORDERED <u>235 sfs com 3% cc</u>
HOLE SIZE <u>12 1/4" I.D. 271'</u>	
CASING SIZE <u>8 7/8" DEPTH 275'</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>16,696.61</u>	

EQUIPMENT			
PUMP TRUCK # <u>422</u>	CEMENTER <u>LaRue & Wain</u>		
	HELPER <u>Wayne McLaughlin</u>		
BULK TRUCK # <u>818/287</u>	DRIVER <u>George Grant</u>		
BULK TRUCK # _____	DRIVER _____		

REMARKS:
Mix 235 sfs cement
Displace with water
Cement did circulate
1661 to pit

CHARGE TO: Merfin
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 Juan Tinoco
SIGNATURE [Signature]

COMMON <u>235 sfs</u>	@ <u>17.90</u>	<u>4206.50</u>
POZMIX _____	@ _____	_____
GEL _____	@ _____	_____
CHLORIDE <u>663#</u>	@ <u>1.10</u>	<u>729.30</u>
ASC _____	@ _____	_____
Material Total		<u>4,935.80</u>
<u>(2,221.11 / 45%)</u>		_____
HANDLING <u>296.75</u>	@ <u>2.98</u>	<u>616.99</u>
MILEAGE <u>1138 mi x 40 x</u>	<u>2.25</u>	<u>1251.80</u>
TOTAL		_____

SERVICE		
DEPTH OF JOB <u>275'</u>		
PUMP TRUCK CHARGE		<u>1512.25</u>
EXTRA FOOTAGE _____	@ _____	_____
MILEAGE <u>MT HO 40</u>	@ <u>7.70</u>	<u>308.00</u>
MANIFOLD _____	@ _____	<u>275.00</u>
<u>MILCO 40</u>	@ <u>4.40</u>	<u>176.00</u>
TOTAL		<u>4,134.99</u>

PLUG & FLOAT EQUIPMENT		
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
TOTAL		_____

SALES TAX (if Any) _____
TOTAL CHARGES 9,070.79
DISCOUNT 4,081.85 (45%) IF PAID IN 30 DAYS
4,988.93 Net.



*acct.
Prod-MG*

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 148666
Invoice Date: Feb 19, 2015
Page: 1

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

Federal Tax I.D.#: 20-8651475

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	64686	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Feb 19, 2015	3/21/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	DAMW A #1-11		
300.00	CEMENT MATERIALS	60/40/4% Gel Blend	18.92	5,676.00
75.00	CEMENT MATERIALS	Flo Seal	2.97	222.75
322.20	CEMENT SERVICE	Cubic Feet Charge	2.48	799.06
538.00	CEMENT SERVICE	Ton Mileage Charge	2.75	1,479.50
1.00	CEMENT SERVICE	Plug to Abandon	2,483.59	2,483.59
40.00	CEMENT SERVICE	Pump Truck Mileage	7.70	308.00
40.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	176.00
1.00	CEMENT SUPERVISOR	Andrew Forslund		
1.00	EQUIPMENT OPERATOR	Brandon Wilkinson		
1.00	CEMENT SUPERVISOR	Paul Beaver		
		<i>TD203 3 1858.0001</i>	<i>7038.02</i>	<i>PYA * 1-11</i>

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

\$ ✓ *gn*

ONLY IF PAID ON OR BEFORE

Subtotal	11,144.90
Sales Tax	908.31
Total Invoice Amount	12,053.21
Payment/Credit Applied	
TOTAL	12,053.21

- 5015.19

01/28

7038.02

MDCI
 DAMW 'A' #1-11
 2305' FNL 1675' FEL
 Sec. 11-T17S-R33W
 3021' KB

Formation	Sample Top	Datum	Ref	Log tops	Datum	Ref
Anhydrite				2287	+734	+2
B/Anhydrite	2380	+641	-4	2375	+646	+1
Topeka	3709	-688	-7	3702	-681	Flat
Heebner	3948	-927	-7	3942	-921	-1
Lansing	3992	-971	-9	3984	-963	-1
Stark	4275	-1254	-6	4268	-1247	+1
Pawnee	4502	-1481	-10	4493	-1472	-1
Ft. Scott	4544	-1523	-9	4537	-1516	-2
Mississippi	4715	-1694	-8	4721	-1700	-14
RTD	4817					
LTD				4810		