

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

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

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

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

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

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Mary Ann 'A' 1-7
Doc ID	1275991

All Electric Logs Run

DIL
DUCP
MEL
BHCS

UCC#
Prod-MG



P.O. Box 205803
Dallas, TX 75320-5803

Voice: (832) 482-3742
Fax: (832) 482-3738

INVOICE

Invoice Number: 151260

Invoice Date: Nov 16, 2015

Page: 1

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	55402	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Russell	Nov 16, 2015	12/16/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Mary Ann A #1-7		
180.00	CEMENT MATERIALS	Class A Common	17.90	3,222.00
340.00	CEMENT MATERIALS	Gel	0.50	170.00
508.00	CEMENT MATERIALS	Chloride	1.10	558.80
180.00	CEMENT SERVICE	Cubic Feet Charge	2.48	446.40
440.00	CEMENT SERVICE	Ton Mileage Charge	2.75	1,210.00
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
50.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	220.00
50.00	CEMENT SERVICE	Pump Truck Mileage	7.70	385.00
1.00	JOB DISCOUNT	Job Discount if paid within terms – Material	1,975.40	-1,975.40
1.00	JOB DISCOUNT	Job Discount if paid within terms – Cement Service	1,886.83	-1,886.83
1.00	CEMENT SUPERVISOR	Robert Yakubovich		
1.00	OPERATOR ASSISTANT	Tracy Jordan		

ALL PRICES ARE NET, PAYABLE
30 DAYS FOLLOWING DATE OF
INVOICE. ONLY IF PAID ON OR
BEFORE

Dec 16, 2015

1 1/2% CHARGED
THEREAFTER.

Subtotal	3,862.22
Sales Tax	162.97
Total Invoice Amount	4,025.19
Payment/Credit Applied	
TOTAL	4,025.19

AKR



Asset
Prod-MG

P.O. Box 205803
Dallas, TX 75320-5803

INVOICE

Invoice Number: 151297
Invoice Date: Nov 27, 2015
Page: 1

Voice: (832) 482-3742
Fax: (832) 482-3738

Federal Tax I.D.#: 20-8651475

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	67706	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Nov 27, 2015	12/27/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Mary Ann A #1-7		
255.00	CEMENT MATERIALS	60/40/4% Gel Blend	18.92	4,824.60
64.00	CEMENT MATERIALS	Flo Seal	2.97	190.08
273.89	CEMENT SERVICE	Cubic Feet Charge	2.48	679.25
572.00	CEMENT SERVICE	Ton Mileage Charge	2.75	1,573.00
1.00	CEMENT SERVICE	Plug to Abandon	2,600.47	2,600.47
50.00	CEMENT SERVICE	Pump Truck Mileage	7.70	385.00
50.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	220.00
1.00	EQUIPMENT SALES	8-5/8 Wooden Plug	110.00	110.00
1.00	JOB DISCOUNT	Job Discount if paid within terms -- Material	2,507.34	-2,507.34
1.00	JOB DISCOUNT	Job Discount if paid within terms -- Cement Service	2,728.86	-2,728.86
1.00	CEMENT SUPERVISOR	Alan Ryan		
1.00	EQUIPMENT OPERATOR	Wayne McGhghy		
1.00	OPERATOR ASSISTANT	Cory Brown		

<p>ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. ONLY IF PAID ON OR BEFORE</p> <p>Dec 27, 2015</p> <p>1 1/2% CHARGED THEREAFTER.</p>	Subtotal	5,346.20
	Sales Tax	441.06
	Total Invoice Amount	5,787.26
	Payment/Credit Applied	
	TOTAL	5,787.26

JK
SR

Mary Ann 'A' #1-7
 1980 FNL 2140 FWL
 Sec. 7-1S-35W
 3251' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	3167	+84	-2	3169	+82	-4
B/Anhydrite	3202	+49	-1	3206	+45	-5
Foraker				3778	-527	-8
Topeka	3987	-736	-4	3987	-736	-4
Oread	4100	-849	-3	4102	-851	-5
Lansing	4210	-959	-4	4210	-959	-4
Stark	4426	-1175	-8	4424	-1173	-6
BKC	4476	-1225	-6	4477	-1226	-7
RTD	4576	-1325				
LTD				4578	-1327	



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Mary Ann 'A' #1-7

7/1s/35w Rawlins KS

Start Date: 2015.11.24 @ 00:10:00

End Date: 2015.11.24 @ 08:13:45

Job Ticket #: 62863 DST #: 1

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

Printed: 2015.11.27 @ 10:23:46

Murfin Drilling Co., Inc.

7/1s/35w Rawlins KS

Mary Ann 'A' #1-7

DST # 1

LKC "A - D"

2015.11.24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

ATTN: Robert Hendrix

Job Ticket: 62863

DST#: 1

Test Start: 2015.11.24 @ 00:10:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:09:45

Time Test Ended: 08:13:45

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: 4171.00 ft (KB) To 4275.00 ft (KB) (TVD)

Reference Elevations: 3251.00 ft (KB)

Total Depth: 4275.00 ft (KB) (TVD)

3240.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 6769

Inside

Press@RunDepth: 89.89 psig @ 4172.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.11.24

End Date:

2015.11.24

Last Calib.:

2015.11.24

Start Time: 00:10:05

End Time:

08:13:44

Time On Btm:

2015.11.24 @ 02:09:30

Time Off Btm:

2015.11.24 @ 06:13:15

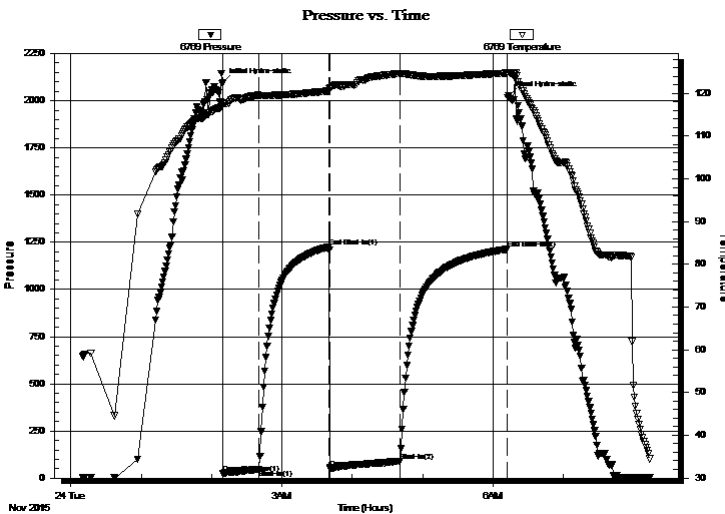
TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 3"

60 - IS: No blow back

60 - FF: Blow started at 7 min., built to 2"

90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2097.93	117.09	Initial Hydro-static
1	24.70	117.50	Open To Flow (1)
31	47.59	119.53	Shut-In(1)
91	1225.99	120.56	End Shut-In(1)
91	52.99	121.02	Open To Flow (2)
151	89.89	124.62	Shut-In(2)
243	1213.49	124.74	End Shut-In(2)
244	2026.58	124.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	Mud w/oil spots 98%m, 2%o	0.64

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

Job Ticket: 62863

DST#: 1

ATTN: Robert Hendrix

Test Start: 2015.11.24 @ 00:10:00

Tool Information

Drill Pipe:	Length: 3977.00 ft	Diameter: 3.80 inches	Volume: 55.79 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 175.00 ft	Diameter: 2.25 inches	Volume: 0.86 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.65 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4171.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	104.00 ft			
Tool Length:	132.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4148.00	
Hydraulic tool	5.00			4153.00	
Jars	5.00			4158.00	
Safety Joint	3.00			4161.00	
Packer	5.00			4166.00	28.00 Bottom Of Top Packer
Packer	5.00			4171.00	
Stubb	1.00			4172.00	
Recorder	0.00	6769	Inside	4172.00	
Recorder	0.00	8366	Outside	4172.00	
Perforations	35.00			4207.00	
Blank Spacing	65.00			4272.00	
Bullnose	3.00			4275.00	104.00 Bottom Packers & Anchor

Total Tool Length: 132.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

Job Ticket: 62863

DST#: 1

ATTN: Robert Hendrix

Test Start: 2015.11.24 @ 00:10:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	Mud w /oil spots 98%m, 2%o	0.639

Total Length: 130.00 ft Total Volume: 0.639 bbl

Num Fluid Samples: 0

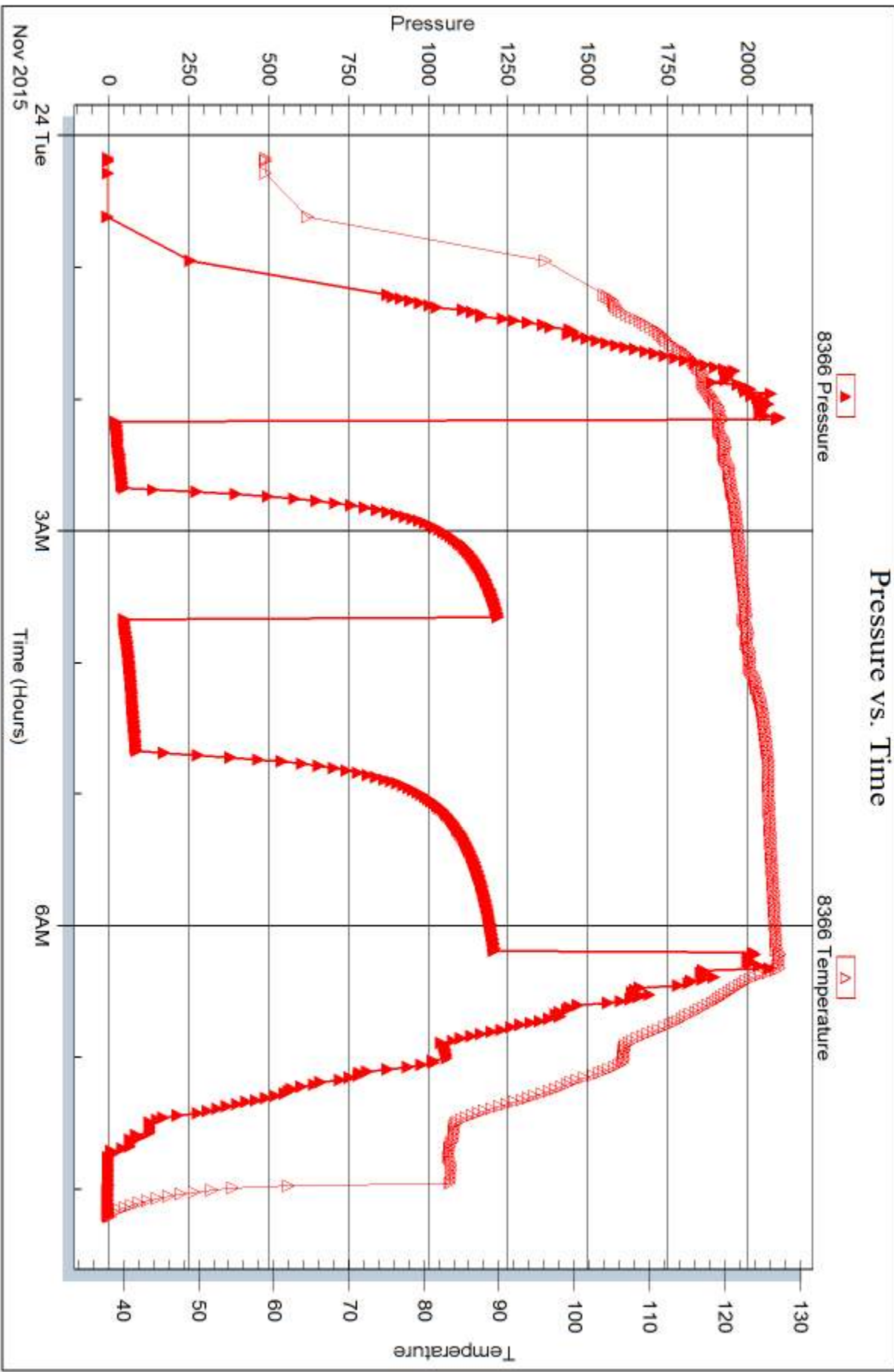
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Mary Ann 'A' #1-7

7/1s/35w Rawlins KS

Start Date: 2015.11.24 @ 19:03:00

End Date: 2015.11.25 @ 02:51:00

Job Ticket #: 62864 DST #: 2

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

Printed: 2015.11.27 @ 10:23:24

Murfin Drilling Co., Inc.
7/1s/35w Rawlins KS
Mary Ann 'A' #1-7
DST # 2
LKC "G"
2015.11.24



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

Job Ticket: 62864

DST#: 2

ATTN: Robert Hendrix

Test Start: 2015.11.24 @ 19:03:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:50:15

Time Test Ended: 02:51:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4276.00 ft (KB) To 4328.00 ft (KB) (TVD)

Reference Elevations: 3251.00 ft (KB)

Total Depth: 4328.00 ft (KB) (TVD)

3240.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 6769

Inside

Press@RunDepth: 31.76 psig @ 4277.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.11.24

End Date:

2015.11.25

Last Calib.:

2015.11.25

Start Time: 19:03:05

End Time:

02:50:59

Time On Btm:

2015.11.24 @ 20:50:00

Time Off Btm:

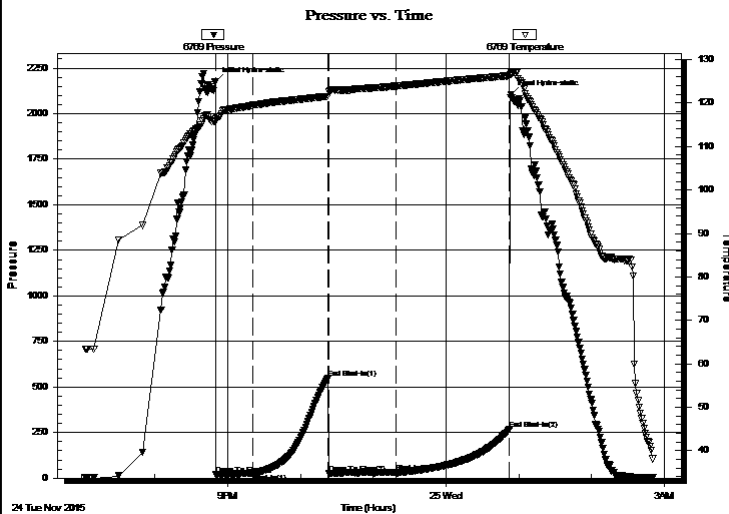
2015.11.25 @ 00:53:30

TEST COMMENT: 30 - IF: Blow built to just over 1"

60 - IS: No blow back

60 - FF: Blow started around 28 min., built slightly

90 - FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2177.52	115.85	Initial Hydro-static
1	20.31	116.37	Open To Flow (1)
31	25.88	119.55	Shut-In(1)
93	547.20	121.55	End Shut-In(1)
94	25.95	122.61	Open To Flow (2)
149	31.76	123.91	Shut-In(2)
243	267.69	126.31	End Shut-In(2)
244	2103.49	126.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OCM 74% m, 26% o	0.15

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.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

Job Ticket: 62864

DST#: 2

ATTN: Robert Hendrix

Test Start: 2015.11.24 @ 19:03:00

Tool Information

Drill Pipe:	Length: 4102.00 ft	Diameter: 3.80 inches	Volume: 57.54 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 175.00 ft	Diameter: 2.25 inches	Volume: 0.86 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 58.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4276.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	80.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4253.00	
Hydraulic tool	5.00			4258.00	
Jars	5.00			4263.00	
Safety Joint	3.00			4266.00	
Packer	5.00			4271.00	28.00 Bottom Of Top Packer
Packer	5.00			4276.00	
Stubb	1.00			4277.00	
Recorder	0.00	6769	Inside	4277.00	
Recorder	0.00	8366	Outside	4277.00	
Perforations	15.00			4292.00	
Blank Spacing	33.00			4325.00	
Bullnose	3.00			4328.00	52.00 Bottom Packers & Anchor

Total Tool Length: 80.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

Job Ticket: 62864

DST#: 2

ATTN: Robert Hendrix

Test Start: 2015.11.24 @ 19:03:00

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: 70.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OCM 74% _m , 26% _o	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

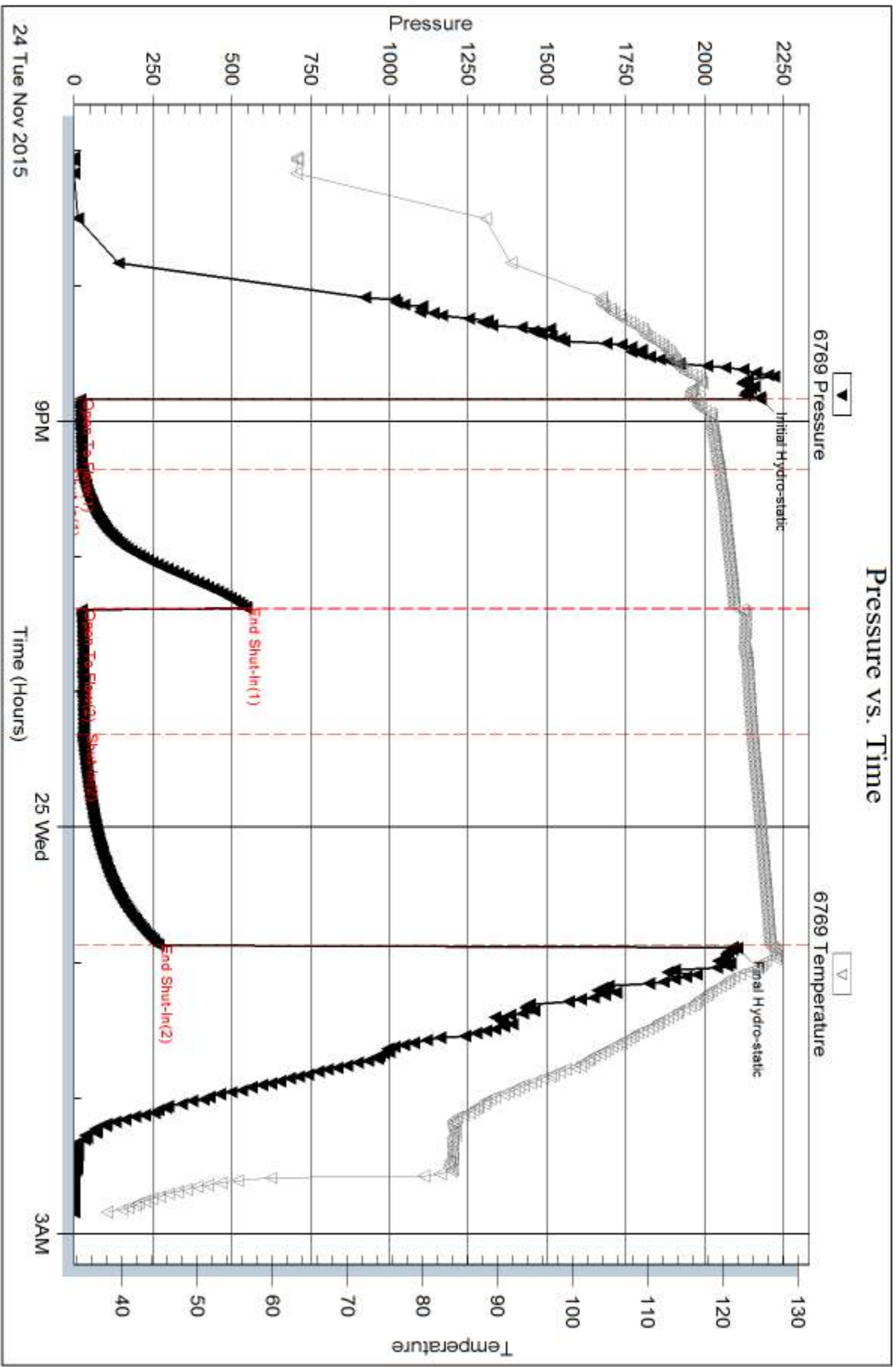
Num Gas Bombs: 0

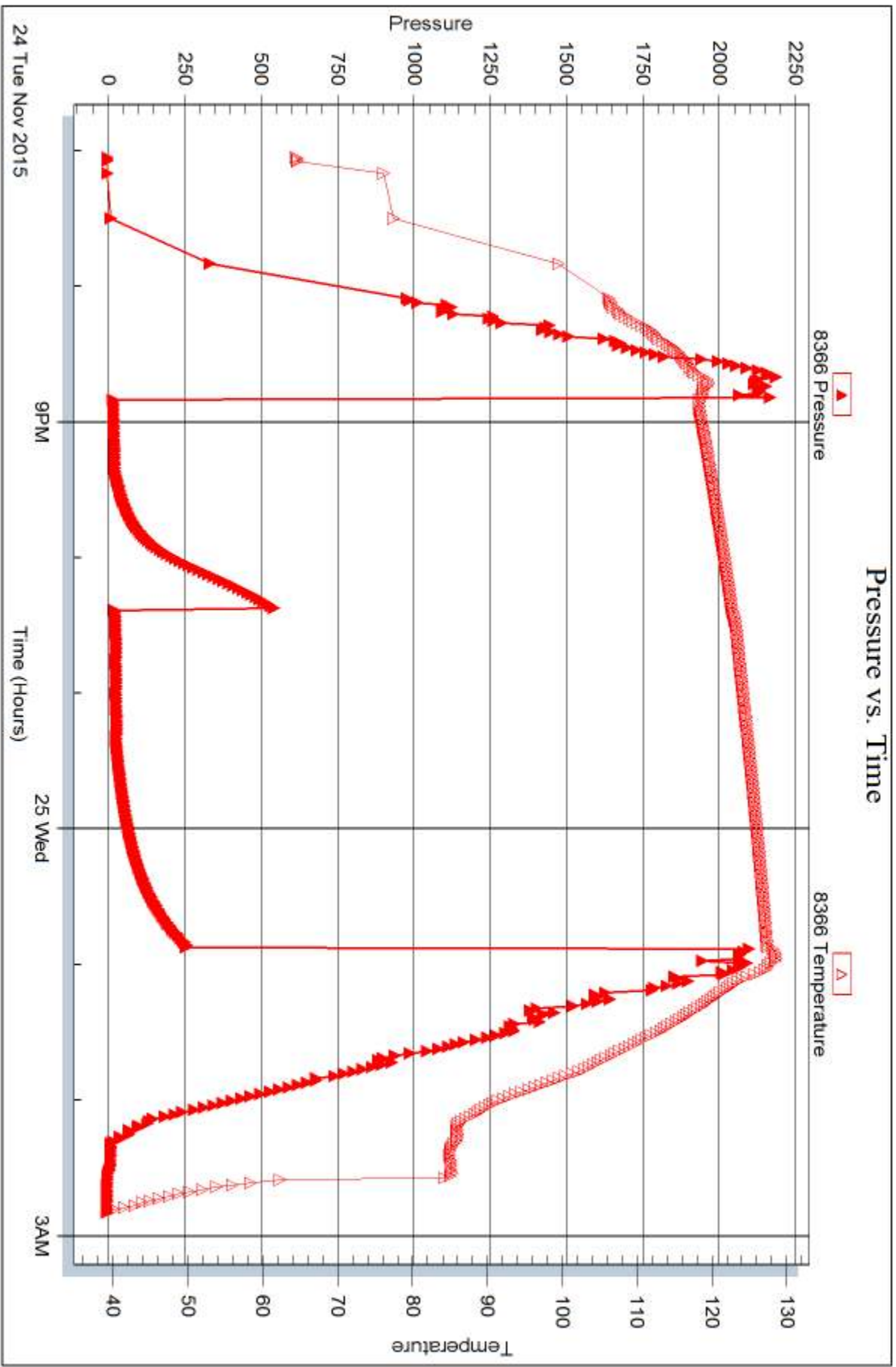
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Mary Ann 'A' #1-7

7/1s/35w Rawlins KS

Start Date: 2015.11.25 @ 17:37:00

End Date: 2015.11.26 @ 01:43:00

Job Ticket #: 62865 DST #: 3

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

Printed: 2015.11.27 @ 10:23:05



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

ATTN: Robert Hendrix

Job Ticket: 62865

DST#: 3

Test Start: 2015.11.25 @ 17:37:00

GENERAL INFORMATION:

Formation: **LKC "G - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:42:15

Time Test Ended: 01:43:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4332.00 ft (KB) To 4427.00 ft (KB) (TVD)

Reference Elevations: 3251.00 ft (KB)

Total Depth: 4427.00 ft (KB) (TVD)

3240.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 6769

Inside

Press@RunDepth: 69.45 psig @ 4333.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.11.25

End Date:

2015.11.26

Last Calib.:

2015.11.26

Start Time: 17:37:05

End Time:

01:42:59

Time On Btm:

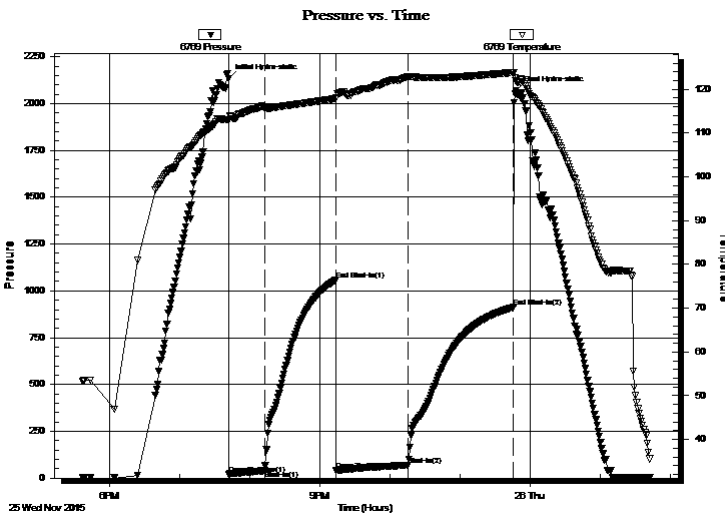
2015.11.25 @ 19:42:00

Time Off Btm:

2015.11.25 @ 23:47:45

TEST COMMENT: 30 - IF: Blow built to 2 1/4"
60 - IS: No blow back
60 - FF: Blow started at 11 min., built to just over 1"
90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2133.50	113.07	Initial Hydro-static
1	20.95	112.99	Open To Flow (1)
31	39.94	115.81	Shut-In(1)
92	1058.88	117.92	End Shut-In(1)
93	42.53	118.15	Open To Flow (2)
154	69.45	122.83	Shut-In(2)
244	912.65	123.86	End Shut-In(2)
246	2067.94	122.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
105.00	Mud w/oil spots 97% _m , 3% _o	0.52

* 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.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

Job Ticket: 62865

DST#: 3

ATTN: Robert Hendrix

Test Start: 2015.11.25 @ 17:37:00

Tool Information

Drill Pipe:	Length: 4136.00 ft	Diameter: 3.80 inches	Volume: 58.02 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 175.00 ft	Diameter: 2.25 inches	Volume: 0.86 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 58.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4332.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	95.00 ft			
Tool Length:	123.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4309.00	
Hydraulic tool	5.00			4314.00	
Jars	5.00			4319.00	
Safety Joint	3.00			4322.00	
Packer	5.00			4327.00	28.00 Bottom Of Top Packer
Packer	5.00			4332.00	
Stubb	1.00			4333.00	
Recorder	0.00	6769	Inside	4333.00	
Recorder	0.00	8366	Outside	4333.00	
Perforations	26.00			4359.00	
Blank Spacing	65.00			4424.00	
Bullnose	3.00			4427.00	95.00 Bottom Packers & Anchor

Total Tool Length: 123.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

7/1s/35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Mary Ann 'A' #1-7

Job Ticket: 62865

DST#: 3

ATTN: Robert Hendrix

Test Start: 2015.11.25 @ 17:37:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
105.00	Mud w /oil spots 97%m, 3%o	0.516

Total Length: 105.00 ft Total Volume: 0.516 bbl

Num Fluid Samples: 0

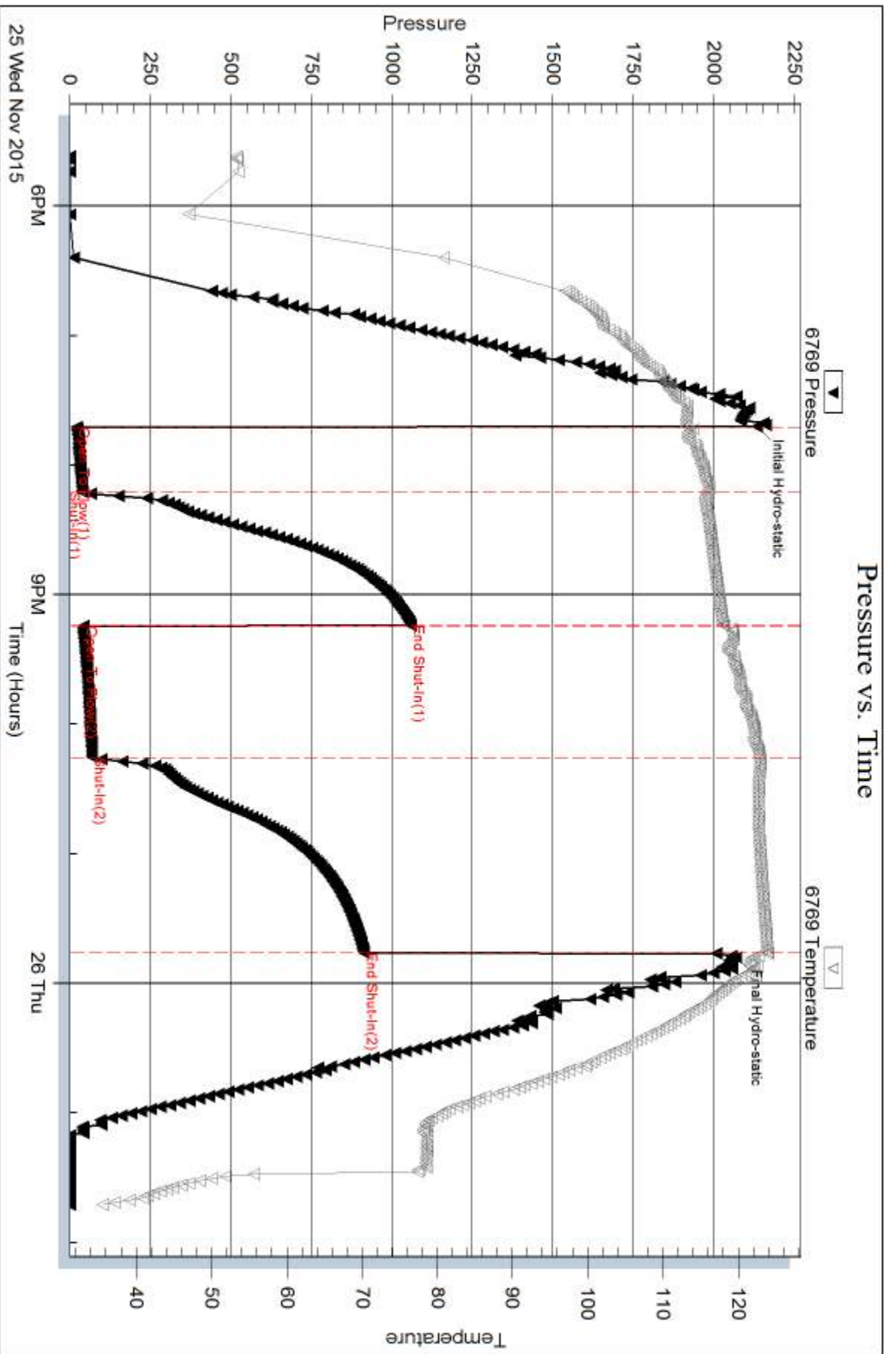
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

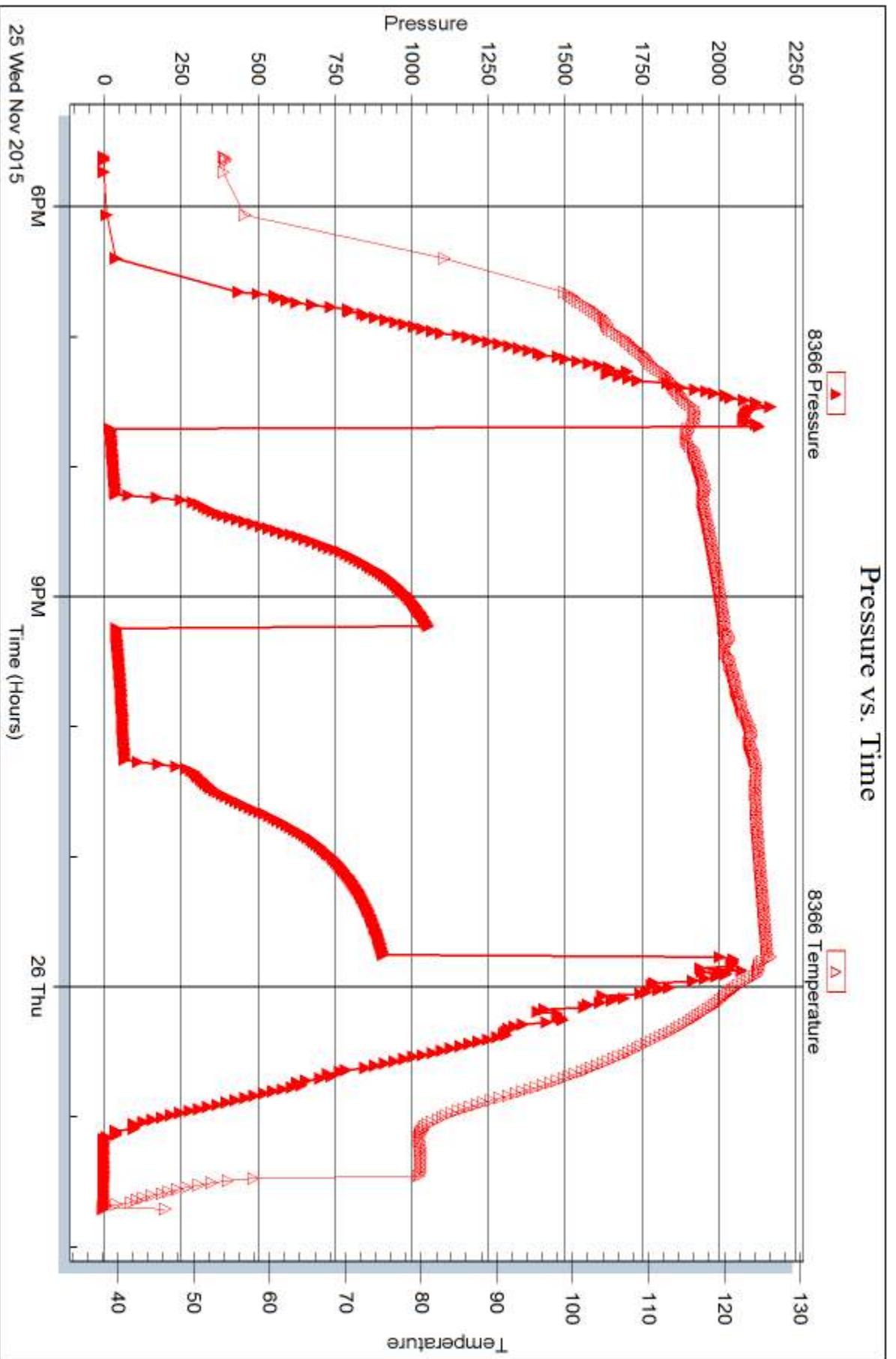


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Mary Ann 'A' #1-7

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 62965

Printed: 2015.11.27 @ 10:23:06



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62863

Well Name & No. Mary Ann 'A' #1-7 Test No. 1 Date 11-23-15
 Company Murfin Drilling Co. Inc Elevation 3251 KB 3240 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 7 Twp. 1s Rge. 35w Co. Rawlins State KS

Interval Tested 4171 - 4275 Zone Tested LKC "A-D"
 Anchor Length 104 Drill Pipe Run 3977 Mud Wt. 9.1
 Top Packer Depth 4166 Drill Collars Run 175 Vis 65
 Bottom Packer Depth 4171 Wt. Pipe Run - WL 6.0
 Total Depth 4275 Chlorides 1200 ppm System LCM 10

Blow Description IF: 1/4" Blow at open, built to 3"
ISI: No blowback
FF: Blow started at 7min, built to 2"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>130</u>	<u>Mud w/oil spots</u>		<u>2</u>		<u>98</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 130 BHT 125 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 2098 Test 1150 T-On Location 21:15 11/23
 (B) First Initial Flow 25 Jars 250 T-Started 00:10
 (C) First Final Flow 48 Safety Joint 75 T-Open 2:09
 (D) Initial Shut-In 1226 Circ Sub _____ T-Pulled 6:11
 (E) Second Initial Flow 53 Hourly Standby _____ T-Out 8:05 11/24
 (F) Second Final Flow 90 Mileage 110RT Comments _____
 (G) Final Shut-In 1213 Sampler _____
 (H) Final Hydrostatic 2027 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1585
 MP/DST Disc't _____
 Sub Total 1585

Approved By [Signature] Our Representative James Winder
 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. 62864

4/10

Well Name & No. Mary Ann 'A' #1-7 Test No. 2 Date 11-24-15
 Company Murfin Drilling Co. Inc Elevation 3251 KB 3240 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 7 Twp. 1s Rge. 35w Co. Rawlins State KS

Interval Tested 4276 - 4328 Zone Tested LKC "G"
 Anchor Length 52 Drill Pipe Run 4102 Mud Wt. 9.1
 Top Packer Depth 4271 Drill Collars Run 175 Vis 70
 Bottom Packer Depth 4276 Wt. Pipe Run - WL 5.2
 Total Depth 4328 Chlorides 1200 ppm System LCM 13

Blow Description IF: Blow built to just over 1"
ISI: No blowback
FF: Blow started around 28 min., built slightly
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>OCM</u>	<u>26</u>		<u>74</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 30 BHT 126 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 2178 Test 1150 T-On Location 18:15
 (B) First Initial Flow 20 Jars 250 T-Started 19:03
 (C) First Final Flow 26 Safety Joint 75 T-Open 20:50
 (D) Initial Shut-In 547 Circ Sub _____ T-Pulled 00:52
 (E) Second Initial Flow 26 Hourly Standby _____ T-Out 2:45
 (F) Second Final Flow 32 Mileage 110RT Comments _____
 (G) Final Shut-In 268 Sampler _____
 (H) Final Hydrostatic 2103 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1585 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1585
 MP/DST Disc't _____

Approved By R.D. [Signature] Our Representative James Winder

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. 62865

Well Name & No. Mary Ann 'A' #1-7 Test No. 3 Date 11-25-15
 Company Murfin Drilling Co. Inc Elevation 3251 KB 3240 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 7 Twp. 1S Rge. 35W Co. Rawlins State KS

Interval Tested 4332-4427 Zone Tested Lans "6-5"
 Anchor Length 95 Drill Pipe Run 4136 Mud Wt. 9.2
 Top Packer Depth 4327 Drill Collars Run 175 Vis 55
 Bottom Packer Depth 4332 Wt. Pipe Run - WL 5.6
 Total Depth 4427 Chlorides 1200 ppm System LCM 11

Blow Description IF: Blow built to 2 1/4"
ISI: No blowback
FF: Blow started at 11 min., built to just over 1"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>105</u>	<u>Mud w/oil spots</u>	<u>3</u>		<u>97</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 105 BHT 124 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2134 Test 1150 T-On Location 16:30 11/25
 (B) First Initial Flow 21 Jars 250 T-Started 17:37
 (C) First Final Flow 40 Safety Joint 75 T-Open 19:42
 (D) Initial Shut-In 1059 Circ Sub _____ T-Pulled 23:45
 (E) Second Initial Flow 43 Hourly Standby _____ T-Out 1:40 11/26
 (F) Second Final Flow 69 Mileage 110RT Comments _____
 (G) Final Shut-In 913 Sampler _____
 (H) Final Hydrostatic 2068 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1585
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1585

Approved By [Signature]

Our Representative James Winder

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.

Robert D. Hendrix

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Murfin Drilling Co. Inc.**

LEASE **Mary Ann 'A' #1-7**

FIELD **Wildcat**

LOCATION **1980' fml & 2140' fwl**

SEC **7** TWPSP **1s** RGE **35w**

COUNTY **Rawlins** STATE **Kansas**

CONTRACTOR **Murfin Drilling Co. Rig #2**

SPUD **11/16/2015** COMP **11/27/2015**

RTD **4:57⁶** LTD **4:57⁸**

MUD UP **3391'** TYPE MUD **Chemical**

SAMPLES SAVED FROM **3870'** TO **TD**

DRILLING TIME KEPT FROM **3870'** TO **TD**

SAMPLES EXAMINED FROM **3870'** TO **TD**

GEOLOGICAL SUPERVISION FROM **3784'**

GEOLOGIST ON WELL **Robert D. Hendrix**

ELEVATIONS

KB **3251'**

DF _____

GL **3240'**

Measurements Are All From **Kelly Bushing**

CASING

CONDUCTOR _____

SURFACE **8-5/8" at 264'**

PRODUCTION _____

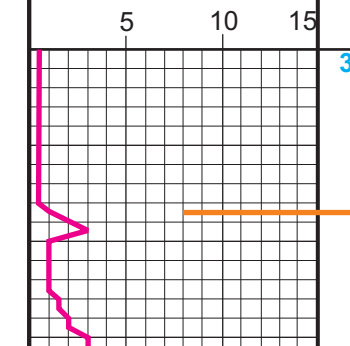
ELECTRICAL SURVEYS

FORMATION TOPS

ELECTRIC LOG

SAMPLE

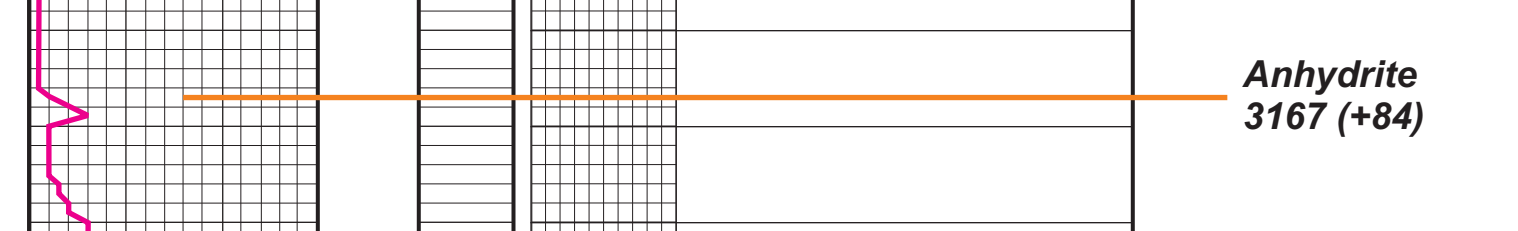
Anhydrite	3169 (+82)	3167 (-84)
Topeka	3987 (-735)	3987 (-736)
Oread	4100 (-850)	4100 (-849)
Lansing	4210 (-958)	4210 (-959)
Stark Shale	4427 (-1176)	4426 (-1175)
BKC	4476 (-1225)	4476 (-1225)



REMARKS:

11/16/2015, MIRT, spud at 4:00pm
 11/17/2016, set surface casing then drained up rig due to winter storm
 11/18/2015, off heavy snow
 11/19/2015, off due to snow
 11/20/2015, started up at 7:00am, drilling resumed as normal

LEGEND



DEPTH	LITHOLOGY	SAMPLE DESCRIPTION	REMARKS
3150	Anhydrite		Anhydrite 3167 (+84)
3200	Base Anhydrite		Base Anhydrite 2630 (+49)
3870	Shale: red, silty Limestone: tan, fxl, chalky, granular, no vis por Shale: red, silty		Geologist on location at 3784' 5:30 am 11/22/2015 8:00am, 11/22/2015 @ 3845'
3900	Shale: red, silty Limestone: tan to white, f-mxn, sl chalky, v-fossiliferous, no vis por, 2 pieces sl spotty stain, nfo, no odor Shale: gray, red, Limestone: gray to tan, fxl, fossiliferous, no vis por Shale: red, gray, muddy Limestone: white to lt gray, fxl, sandy, sl chalky, sl fossiliferous, no vis por		wt 9.0, vis. 51, lcm 8# Morgan Mud, Cade Lines
50	Shale: red, gray, silty Limestone: tan to lt gray, f-mxn, sl chalky, fossiliferous, no vis por Limestone: tan to white, f-mxn, oolitic, fossiliferous, no vis por Shale: red, gray, silty		
4000	Limestone: white to red, mxln, granular, fossiliferous, no vis por Limestone: white, f-mxn, oolitic, fossiliferous, no vis por Shale: gray, red Limestone: white to gray, v-fxl, dense, sl fossiliferous, no vis por Limestone: white to gray, v-fxl, dense, sl fossiliferous, no vis por Shale: red, gray, silty		Topeka 3987 (-736)
50	Limestone: tan to brown / red tinged, mxln, oolitic, fossiliferous, no vis por Shale: red, silty Shale: red, gray, green, silty		
4100	Limestone: white, f-mxn, chalky, oolitic, granular, fossiliferous, pr interxln por, spotty black flakey gilsonite stain, nfo, no odor Limestone: white, fxl, chalky, oolitic, fossiliferous, no vis por, ns Limestone: white, fxl, chalky, dense, sl fossiliferous, no vis por Limestone: gray, fxl, sl cherty, granular, no vis por Shale: gray, red, black, sl pyritic Shale: black, dark gray Limestone: brown, v-fxl, dense, fossiliferous, no vis por		Oread 4100 (-849)
50	Sandstone: white to lt green, opaque, fr-gr, mod sorted, md, soft/frable no vis por Shale: mostly red, gray, silty		8:00am, 11/23/2015 wt 9.1, vis. 62, lcm 16# Morgan Mud, Cade Lines
4200	Limestone: tan, fxl, sl chalky, fossiliferous, 5% sample fr pp to vug por, gd dark sat stain, frsfo (some slow bleeding), gd odor Sandstone: white, biotitic, lt, fr-md gr, mod sorted, sub-rd, fr intergran por, ns Shale: red, sandy Shale: red, gray silty, sandy Limestone: white, fxl, dense, sl oolitic, sl fossiliferous, no vis por, ns Shale: red, gray silty, sandy Limestone: tan, f-mxn, fossiliferous, pyritic, 25% sample fr interxln to gd vug por, black sat stain, gdsfo, fr odor Limestone: white, v-fxl, dense, sl oolitic, fossiliferous, pyritic, no vis por, ns Shale: gray, red Limestone: tan to white, fxl, chalky, sl fossiliferous, no vis por, ns Shale: red, gray, brown		Lansing 4210 (-959)
50	Limestone: white, f-mxn, oolitic, fossiliferous, gd interxln to vug por, ex lt to dark sat stain, exsfo, strong odor Limestone: white, f-trl, v-fossiliferous, fr vug por, gd dark sat stain, gdsfo, gd odor Shale: gray, red Limestone: gray to tan, fxl, chalky, dense, no vis por Shale: gray, black Limestone: tan to brown, fxl, dense, fossiliferous, no vis por, trace gilsonite, nfo, no odor		DST #1 4171-4275 30-60-30-60 1st open: blow built to 3" 2nd open: blow built to 2" no returns Rec: 130' mud w oil spots 2/98 hydro: 2098-2027 psi lf: 25-48 psi ff: 53-90 psi sip: 1226-1213 psi bht: 125°F
50	Limestone: tan to white, fxl, chalky, oolitic, fossiliferous, no vis por, Shale: red, gray, silty Limestone: white to tan to green, f-mxn, sl chalky, v-fossiliferous, no vis por, Shale: red, gray, silty		8:00am, 11/25/2015 wt 9.2, vis. 55, lcm 11# Morgan Mud, Cade Lines
4300	Shale: red, gray, silty Limestone: white to tan to green, f-mxn, sl chalky, v-fossiliferous, no vis por, Shale: red, gray, silty Limestone: white, f-mxn, oolitic, pr oolitic to vug por, 5% sample lt spotty to sat stain, slsfo more on break, faint odor Shale: gray, red		DST #2 4276-4328 30-60-60-90 1st open: blow slow build 1" 2nd open: blow started at 28 min surface slight build no returns Rec: 30' ocm 26/74 hydro: 2178-2103 psi lf: 20-26 psi ff: 26-32 psi sip: 547-268 psi bht: 126°F
50	Limestone: tan to white, fxl, chalky, oolitic, fossiliferous, no vis por, Shale: red, gray, silty Limestone: white, mxln, chalky, granular, oolitic in part, fossiliferous, no vis por Shale: gray, red		8:00am, 11/26/2015 wt 9.1, vis. 56, lcm 8# Morgan Mud, Cade Lines
4400	Limestone: tan to brown, fxl, granular in part, fossiliferous, no vis por Limestone: white, fxl, chalky, dense, fossiliferous, no vis por Shale: red, brown, gray, v-sandy, silty Shale: red, gray, muddy Limestone: tan to brown, fxl, cl chalky, dense, no vis por Shale: red, gray, brown, silty Shale: red, gray, muddy Limestone: gray, fxl, granular, silty, fossiliferous, no vis por Shale: gray, brown, red, silty Limestone: tan to gray, f-mxn, granular, fossiliferous, no vis por		DST #3 4332 - 4427 30-60-60-90 1st open: blow built to 1" 2nd open: blow started 11 min built to just over 1" no returns Rec: 105' oil spotted mud 3/97 hydro: 2134-2068 psi lf: 21-40 psi ff: 43-69 psi sip: 1059-913 psi bht: 124°F
50	Limestone: tan to brown, fxl, granular in part, fossiliferous, no vis por Limestone: white, fxl, chalky, dense, fossiliferous, no vis por Shale: red, brown, gray, v-sandy, silty Shale: red, gray, muddy Limestone: tan to brown, fxl, cl chalky, dense, no vis por Shale: red, gray, brown, silty Shale: red, gray, muddy Limestone: gray, fxl, granular, silty, fossiliferous, no vis por Shale: gray, brown, red, silty Limestone: tan to gray, f-mxn, granular, fossiliferous, no vis por		Stark 4426 (-1175)
4500	Limestone: tan to brown, fxl, granular in part, fossiliferous, no vis por Limestone: white, fxl, chalky, dense, fossiliferous, no vis por Shale: red, brown, gray, v-sandy, silty Shale: red, gray, muddy Limestone: tan to brown, fxl, cl chalky, dense, no vis por Shale: red, gray, brown, silty Shale: red, gray, muddy Limestone: gray, fxl, granular, silty, fossiliferous, no vis por Shale: gray, brown, red, silty Limestone: tan to gray, f-mxn, granular, fossiliferous, no vis por		BKC 4476 (-1225)
50	Limestone: tan to gray, f-mxn, granular, fossiliferous, no vis por		RTD 4576 (-1325) Geologist off location at 2:30am, 11/27/2015
4600			