



DRILL STEM TEST REPORT

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

250 N Water STE #300
Wichita, KS 67202

ATTN: Keith Reavis

Gilbert 'A' #1-23

23-4s-31w Rawlins,KS

Start Date: 2014.05.30 @ 05:00:00

End Date: 2014.05.30 @ 13:14:30

Job Ticket #: 58228 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.09 @ 11:06:15

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

Gilbert 'A' #1-23

DST # 1

Toronto-LKC "A-B"

2014.05.30



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N Water STE #300
Wichita, KS 67202
ATTN: Keith Reavis

23-4s-31w Rawlins, KS

Gilbert 'A' #1-23

Job Ticket: 58228

DST#: 1

Test Start: 2014.05.30 @ 05:00:00

GENERAL INFORMATION:

Formation: **Toronto-LKC "A-B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:12:30

Time Test Ended: 13:14:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 3887.00 ft (KB) To 3969.00 ft (KB) (TVD)

Total Depth: 3969.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2895.00 ft (KB)

2890.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8874

Inside

Press@RunDepth: 35.18 psig @ 3888.00 ft (KB)

Start Date: 2014.05.30

End Date:

2014.05.30

Start Time: 05:01:00

End Time:

13:14:30

Capacity: 8000.00 psig

Last Calib.: 2014.05.30

Time On Btm: 2014.05.30 @ 08:10:30

Time Off Btm: 2014.05.30 @ 11:14:30

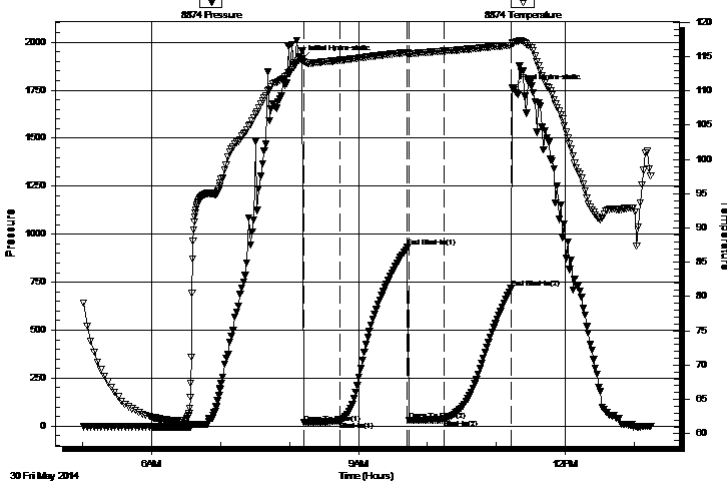
TEST COMMENT: 30 - IF- 1/4" Blow did not build or die.

60 - IS- No Return

30 - FF- No Blow

60 - FS- No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1909.34	114.61	Initial Hydro-static
2	17.47	114.25	Open To Flow (1)
33	25.77	114.45	Shut-In(1)
92	931.08	115.60	End Shut-In(1)
94	29.26	115.24	Open To Flow (2)
124	35.18	115.80	Shut-In(2)
182	717.84	116.66	End Shut-In(2)
184	1757.93	116.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 58228

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.05.30 @ 05:00:00

Tool Information

Drill Pipe:	Length: 3830.00 ft	Diameter: 3.80 inches	Volume: 53.72 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: 61.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.02 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3887.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	110.00 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			3860.00	
Shut In Tool	5.00			3865.00	
Hydraulic tool	5.00			3870.00	
Jars	5.00			3875.00	
Safety Joint	3.00			3878.00	
Packer	5.00			3883.00	28.00 Bottom Of Top Packer
Packer	4.00			3887.00	
Stubb	1.00			3888.00	
Recorder	0.00	8653	Outside	3888.00	
Recorder	0.00	8874	Inside	3888.00	
Perforations	11.00			3899.00	
Change Over Sub	1.00			3900.00	
Drill Pipe	63.00			3963.00	
Change Over Sub	1.00			3964.00	
Bullnose	5.00			3969.00	82.00 Bottom Packers & Anchor

Total Tool Length: 110.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 58228

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.05.30 @ 05:00:00

Mud and Cushion Information

Mud Type: Invert	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 71.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.39 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 700.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM 100M (oil spots)	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

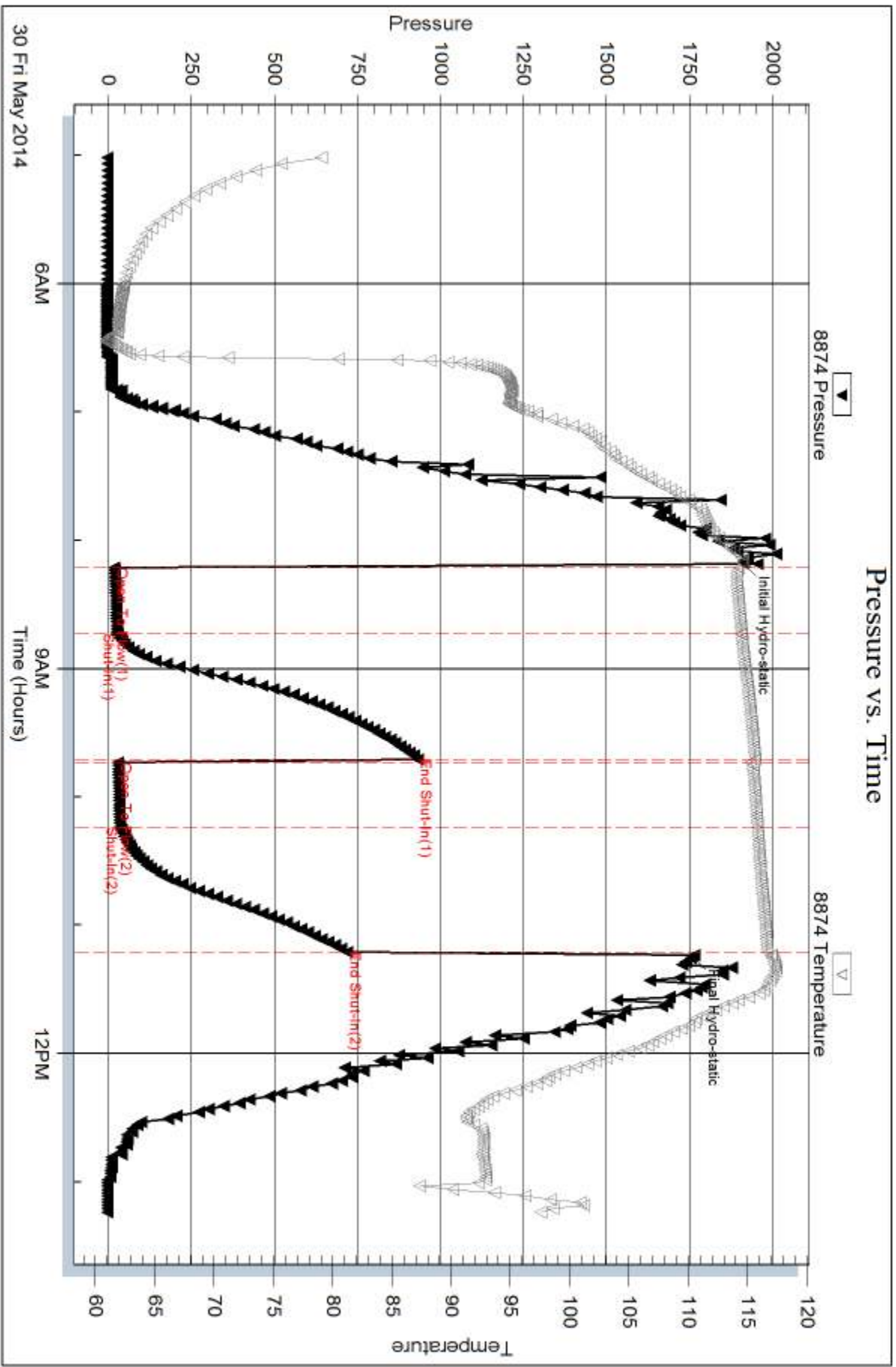
Num Gas Bombs: 0

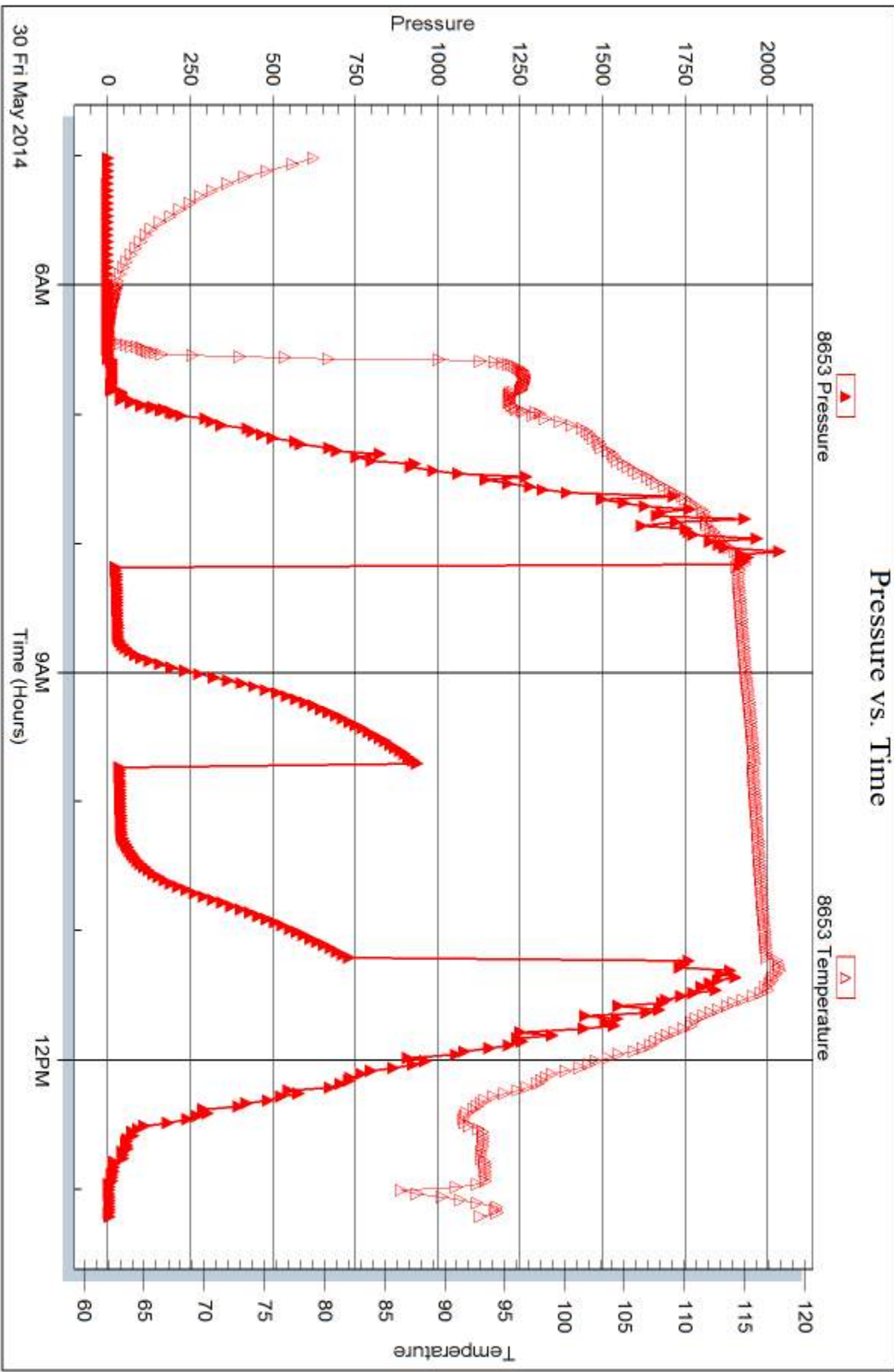
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N Water STE #300
Wichita, KS 67202

ATTN: Keith Reavis

Gilbert 'A' #1-23

23-4s-31w Rawlins,KS

Start Date: 2014.05.30 @ 23:26:00

End Date: 2014.05.31 @ 08:10:30

Job Ticket #: 56846 DST #: 2

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

Printed: 2014.06.09 @ 11:04:16



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 250 N Water STE #300
 Wichita, KS 67202
 ATTN: Keith Reavis

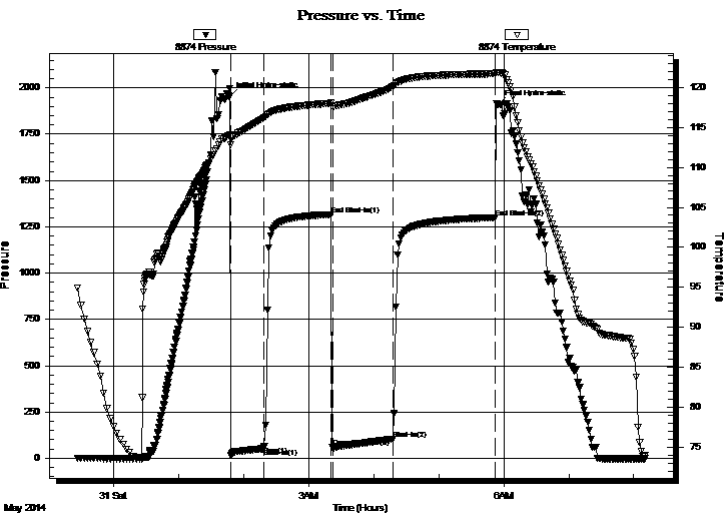
23-4s-31w Rawlins,KS
Gilbert 'A' #1-23
 Job Ticket: 56846 **DST#: 2**
 Test Start: 2014.05.30 @ 23:26:00

GENERAL INFORMATION:

Formation: **LKC "F-G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:48:00
 Time Test Ended: 08:10:30
 Interval: **3984.00 ft (KB) To 4022.00 ft (KB) (TVD)**
 Total Depth: 4022.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 66
 Reference Elevations: 2895.00 ft (KB)
 2890.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8874 Inside
 Press@RunDepth: 103.68 psig @ 3985.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.30 End Date: 2014.05.31 Last Calib.: 2014.05.31
 Start Time: 23:27:00 End Time: 08:10:30 Time On Btm: 2014.05.31 @ 01:47:00
 Time Off Btm: 2014.05.31 @ 05:55:00

TEST COMMENT: 30 - IF- BoB in 8 min
 60 - IS- No Return
 60 - FF- BoB in 9 min.
 90 - FS- Surface Return started at 3 min. Built to 2 1/2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1954.68	114.04	Initial Hydro-static
1	18.08	112.83	Open To Flow (1)
32	53.52	116.17	Shut-In(1)
94	1316.59	118.02	End Shut-In(1)
95	57.07	117.67	Open To Flow (2)
151	103.68	120.07	Shut-In(2)
245	1298.78	121.69	End Shut-In(2)
248	1910.42	121.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
61.00	MCO 60o 40M	0.30
189.00	Clean Gassy Oil 20G 80o	2.65
0.00	441 GIP	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.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 56846

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.05.30 @ 23:26:00

Tool Information

Drill Pipe:	Length: 3925.00 ft	Diameter: 3.80 inches	Volume: 55.06 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 61.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 55.36 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3984.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	66.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3957.00	
Shut In Tool	5.00			3962.00	
Hydraulic tool	5.00			3967.00	
Jars	5.00			3972.00	
Safety Joint	3.00			3975.00	
Packer	5.00			3980.00	28.00 Bottom Of Top Packer
Packer	4.00			3984.00	
Stubb	1.00			3985.00	
Recorder	0.00	8653	Outside	3985.00	
Recorder	0.00	8874	Inside	3985.00	
Perforations	1.00			3986.00	
Change Over Sub	1.00			3987.00	
Drill Pipe	31.00			4018.00	
Change Over Sub	1.00			4019.00	
Bullnose	3.00			4022.00	38.00 Bottom Packers & Anchor

Total Tool Length: 66.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 56846

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.05.30 @ 23:26:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 71.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
61.00	MCO 60o 40M	0.300
189.00	Clean Gassy Oil 20G 80o	2.651
0.00	441 GIP	0.000

Total Length: 250.00 ft Total Volume: 2.951 bbl

Num Fluid Samples: 0

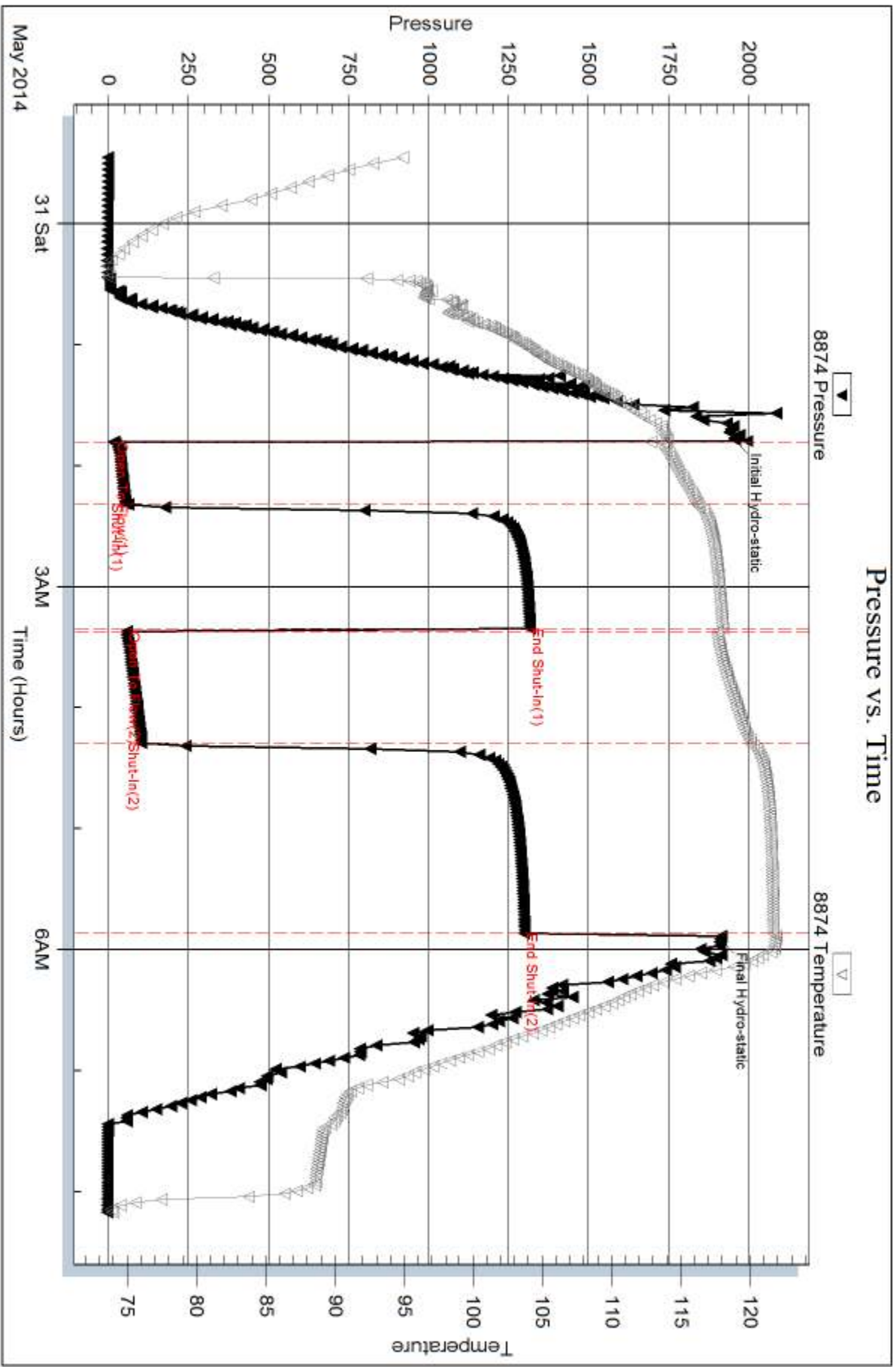
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API 37 @ 80 deg = 35 corr.

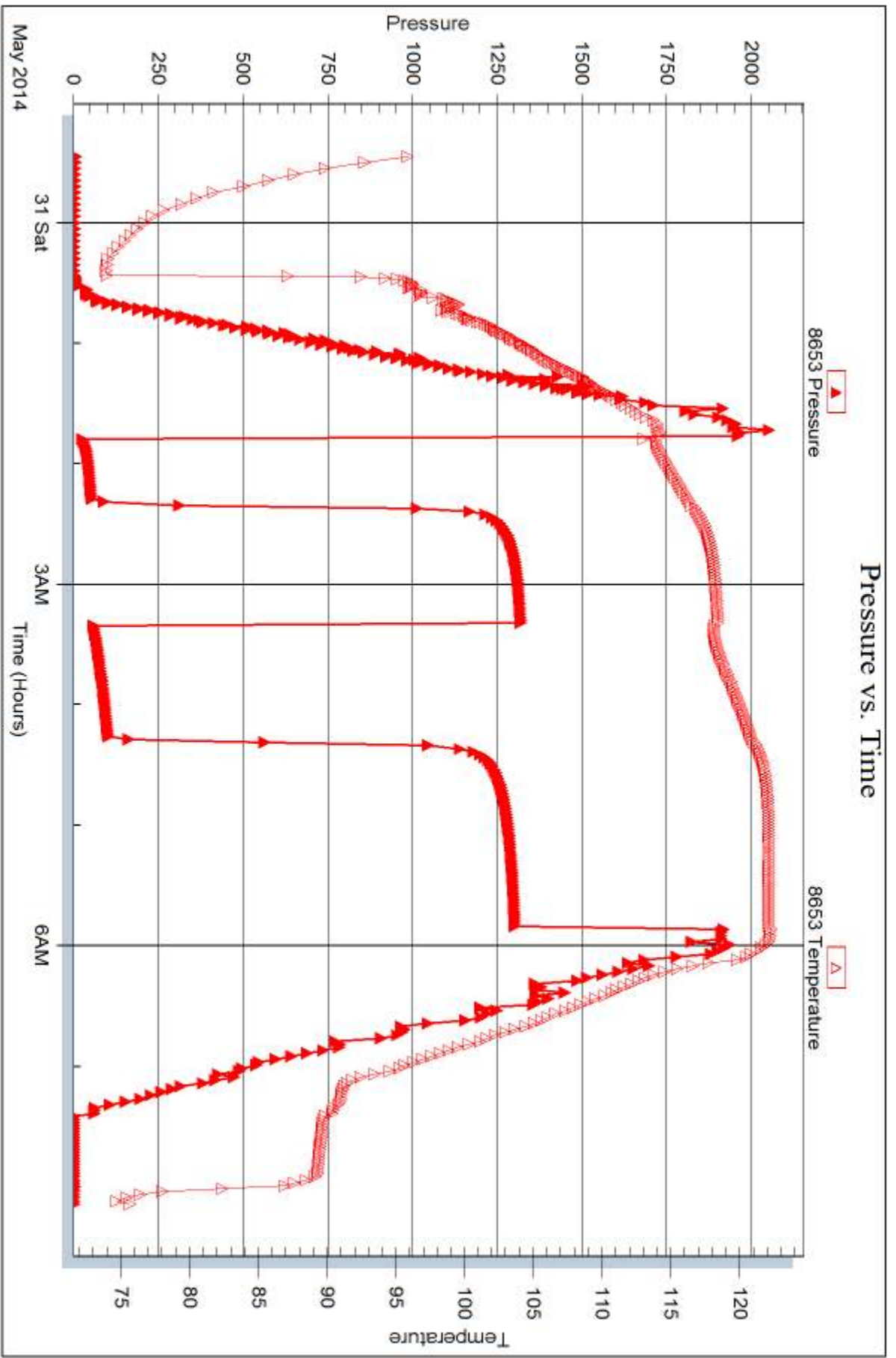


Serial #: 8653

Outside Murfin Drilling Co., Inc.

Gilbert A' #1-23

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 56846

Printed: 2014.06.09 @ 11:04:17



DRILL STEM TEST REPORT

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

250 N Water STE #300
Wichita, KS 67202

ATTN: Keith Reavis

Gilbert 'A' #1-23

23-4s-31w Rawlins,KS

Start Date: 2014.05.31 @ 19:00:00

End Date: 2014.06.01 @ 04:11:00

Job Ticket #: 56847 DST #: 3

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

Printed: 2014.06.09 @ 11:03:52



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 56847

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.05.31 @ 19:00:00

GENERAL INFORMATION:

Formation: **LKC "H-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:39:30

Time Test Ended: 04:11:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 4029.00 ft (KB) To 4105.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 4105.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8653 Outside

Press@RunDepth: 24.66 psig @ 4030.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.31

End Date:

2014.06.01

Last Calib.:

2014.06.01

Start Time: 19:01:00

End Time:

04:11:00

Time On Btm:

2014.05.31 @ 22:37:30

Time Off Btm:

2014.06.01 @ 01:42:30

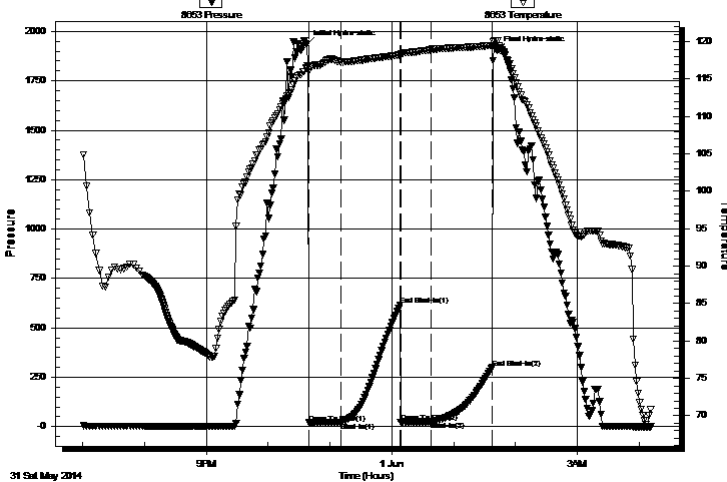
TEST COMMENT: 30 - IF- 1/4" Blow died in 20 min.

60 - IS- No Return

30 - FF- No Blow

60 - FS- No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1935.59	116.53	Initial Hydro-static
2	18.97	115.96	Open To Flow (1)
33	23.91	117.29	Shut-In(1)
91	614.62	118.23	End Shut-In(1)
91	23.58	118.14	Open To Flow (2)
121	24.66	118.94	Shut-In(2)
180	297.83	119.49	End Shut-In(2)
185	1905.05	120.09	Final Hydro-static

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N Water STE #300
Wichita, KS 67202
ATTN: Keith Reavis

23-4s-31w Rawlins, KS

Gilbert 'A' #1-23

Job Ticket: 56847

DST#: 3

Test Start: 2014.05.31 @ 19:00:00

GENERAL INFORMATION:

Formation: **LKC "H-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:39:30

Time Test Ended: 04:11:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 4029.00 ft (KB) To 4105.00 ft (KB) (TVD)

Total Depth: 4105.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2895.00 ft (KB)

2890.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8874

Inside

Press@RunDepth: psig @ 4030.00 ft (KB)

Start Date: 2014.05.31

End Date:

2014.06.01

Capacity: 8000.00 psig

Last Calib.:

2014.06.01

Start Time: 19:01:00

End Time:

04:12:30

Time On Btm:

Time Off Btm:

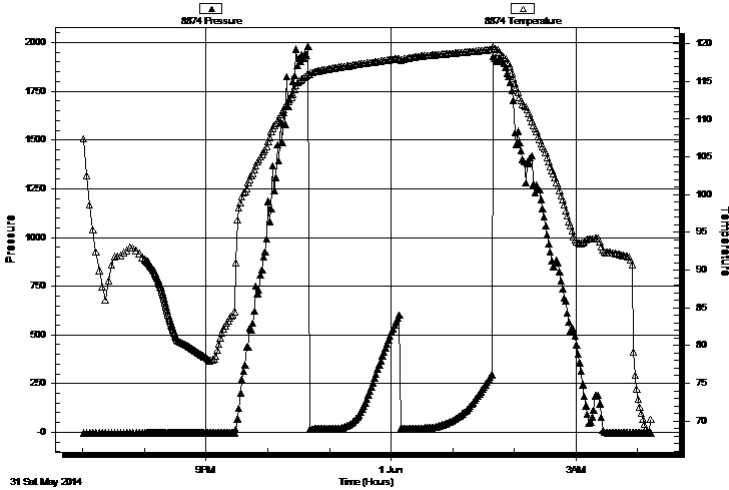
TEST COMMENT: 30 - IF- 1/4" Blow died in 20 min.

60 - IS- No Return

30 - FF- No Blow

60 - FS- No Return

Pressure vs. Time



PRESSURE SUMMARY

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

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

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 56847

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.05.31 @ 19:00:00

Tool Information

Drill Pipe:	Length: 3958.00 ft	Diameter: 3.80 inches	Volume: 55.52 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: 61.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.82 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4029.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	104.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4002.00	
Shut In Tool	5.00			4007.00	
Hydraulic tool	5.00			4012.00	
Jars	5.00			4017.00	
Safety Joint	3.00			4020.00	
Packer	5.00			4025.00	28.00 Bottom Of Top Packer
Packer	4.00			4029.00	
Stubb	1.00			4030.00	
Recorder	0.00	8653	Outside	4030.00	
Recorder	0.00	8874	Inside	4030.00	
Perforations	5.00			4035.00	
Change Over Sub	1.00			4036.00	
Drill Pipe	63.00			4099.00	
Change Over Sub	1.00			4100.00	
Bullnose	5.00			4105.00	76.00 Bottom Packers & Anchor

Total Tool Length: 104.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 56847

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.05.31 @ 19:00:00

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: 34.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	Mud 100M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

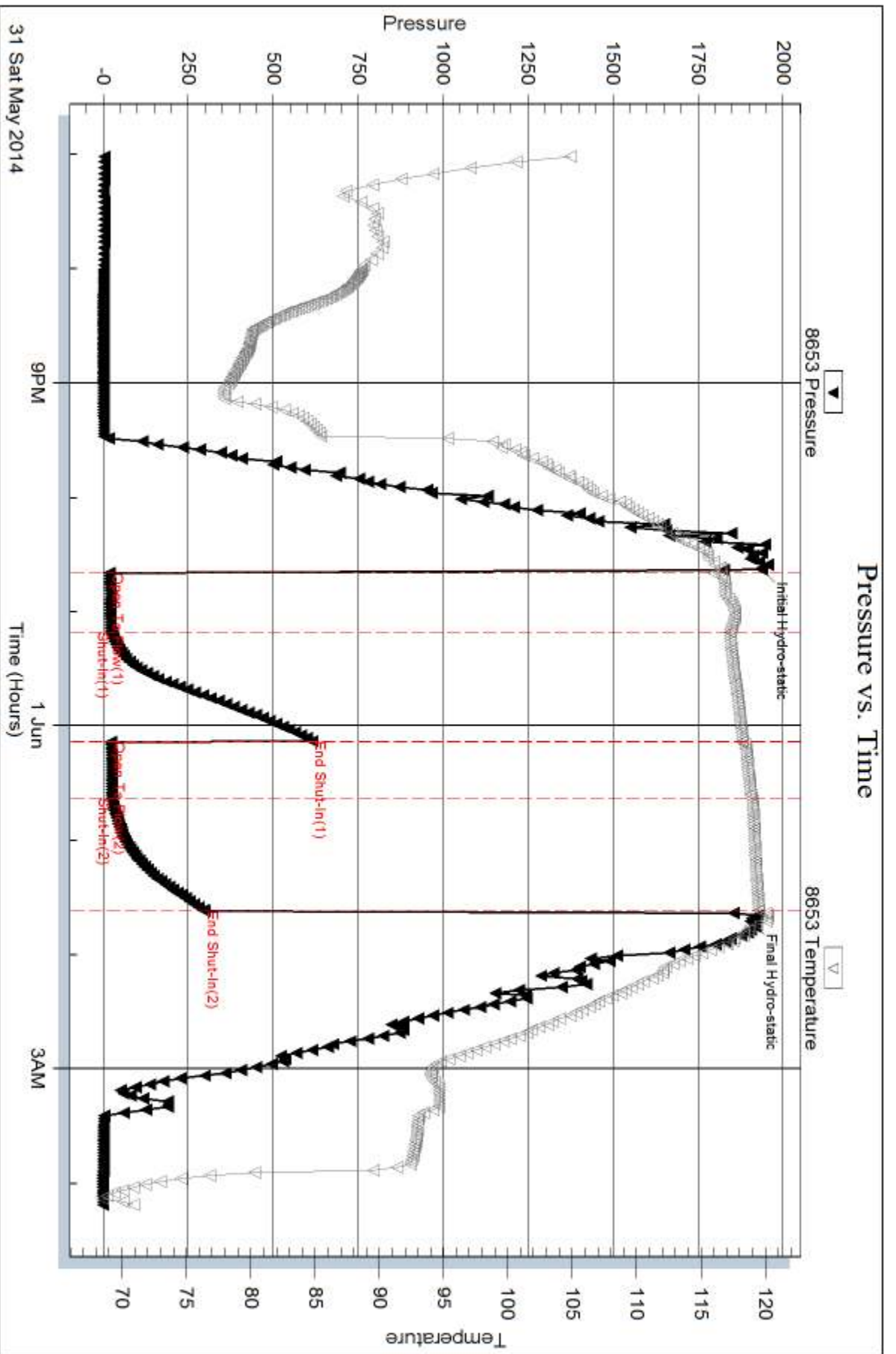
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



Serial #: 8874

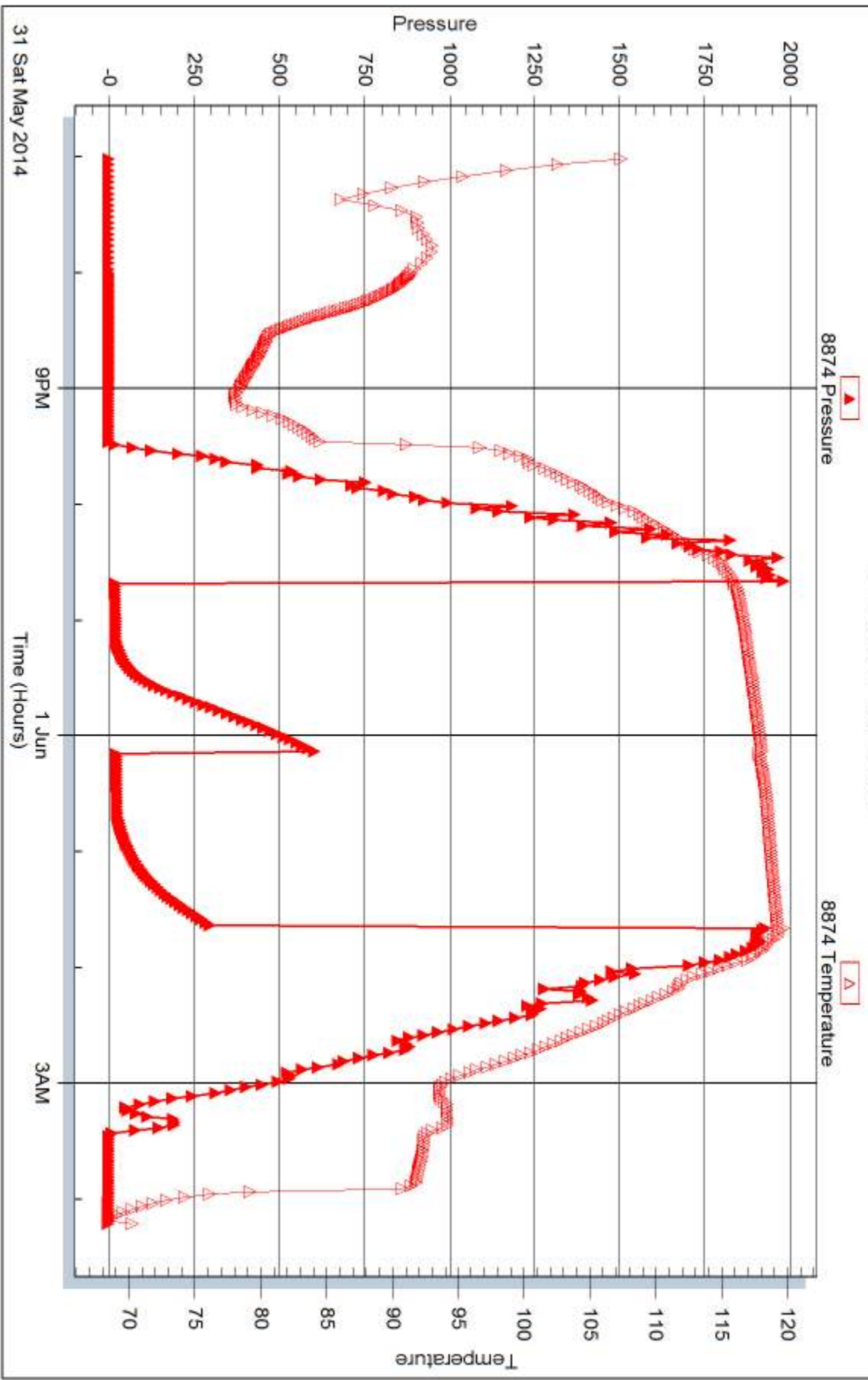
Inside

Murfin Drilling Co., Inc.

Gilbert A' #1-23

DST Test Number: 3

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 56847

Printed: 2014.06.09 @ 11:03:54



DRILL STEM TEST REPORT

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

250 N Water STE #300
Wichita, KS 67202

ATTN: Keith Reavis

Gilbert 'A' #1-23

23-4s-31w Rawlins,KS

Start Date: 2014.06.01 @ 13:55:00

End Date: 2014.06.01 @ 21:54:30

Job Ticket #: 56848 DST #: 4

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

Printed: 2014.06.09 @ 11:00:51



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 56848

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.06.01 @ 13:55:00

GENERAL INFORMATION:

Formation: **Stark - LKC "K-L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:22:00

Time Test Ended: 21:54:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 4095.00 ft (KB) To 4160.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 4160.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8874

Inside

Press@RunDepth: 32.40 psig @ 4096.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.01

End Date:

2014.06.01

Last Calib.:

2014.06.01

Start Time: 13:56:00

End Time:

21:54:30

Time On Btm:

2014.06.01 @ 16:20:30

Time Off Btm:

2014.06.01 @ 19:32:00

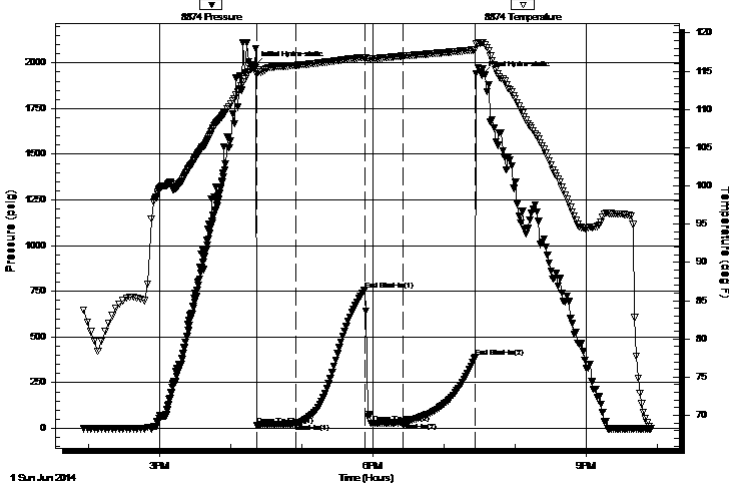
TEST COMMENT: 30 - IF- 1/4" Blow died back to weak surface blow .

60 - IS- No Return

30 - FF- No Blow

60 - FS- No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1985.03	115.46	Initial Hydro-static
2	16.58	114.56	Open To Flow (1)
35	24.87	115.75	Shut-In(1)
93	757.53	116.81	End Shut-In(1)
100	27.43	116.64	Open To Flow (2)
125	32.40	116.96	Shut-In(2)
186	388.82	117.79	End Shut-In(2)
192	1932.85	118.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM 70M 30o	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 56848

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.06.01 @ 13:55:00

Tool Information

Drill Pipe:	Length: 4021.00 ft	Diameter: 3.80 inches	Volume: 56.40 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: 61.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 56.70 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4095.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	93.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4068.00	
Shut In Tool	5.00			4073.00	
Hydraulic tool	5.00			4078.00	
Jars	5.00			4083.00	
Safety Joint	3.00			4086.00	
Packer	5.00			4091.00	28.00 Bottom Of Top Packer
Packer	4.00			4095.00	
Stubb	1.00			4096.00	
Recorder	0.00	8653	Outside	4096.00	
Recorder	0.00	8874	Inside	4096.00	
Perforations	25.00			4121.00	
Change Over Sub	1.00			4122.00	
Drill Pipe	32.00			4154.00	
Change Over Sub	1.00			4155.00	
Bullnose	5.00			4160.00	65.00 Bottom Packers & Anchor

Total Tool Length: 93.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

23-4s-31w Rawlins,KS

250 N Water STE #300
Wichita, KS 67202

Gilbert 'A' #1-23

Job Ticket: 56848

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.06.01 @ 13:55:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM 70M 30o	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

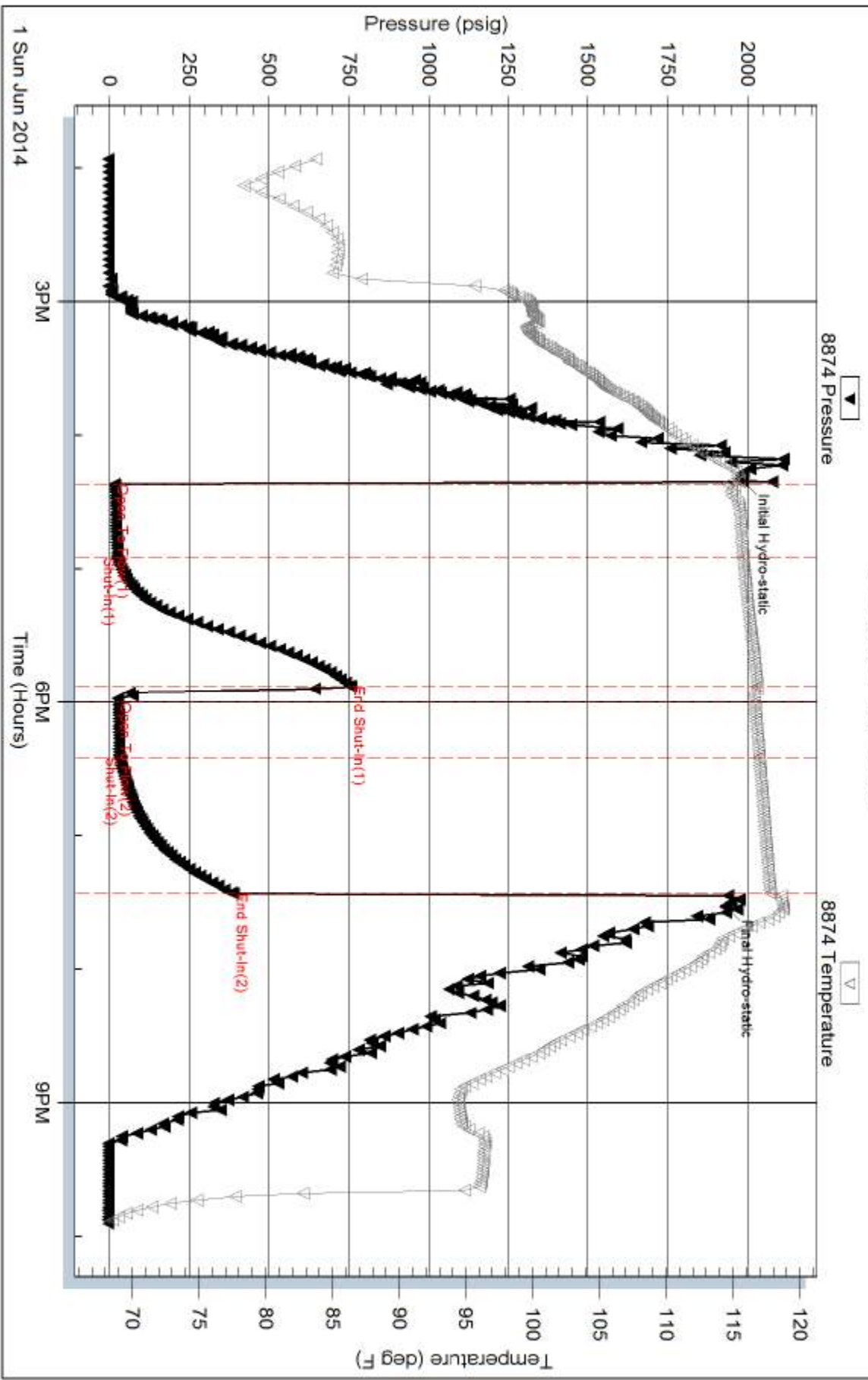
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

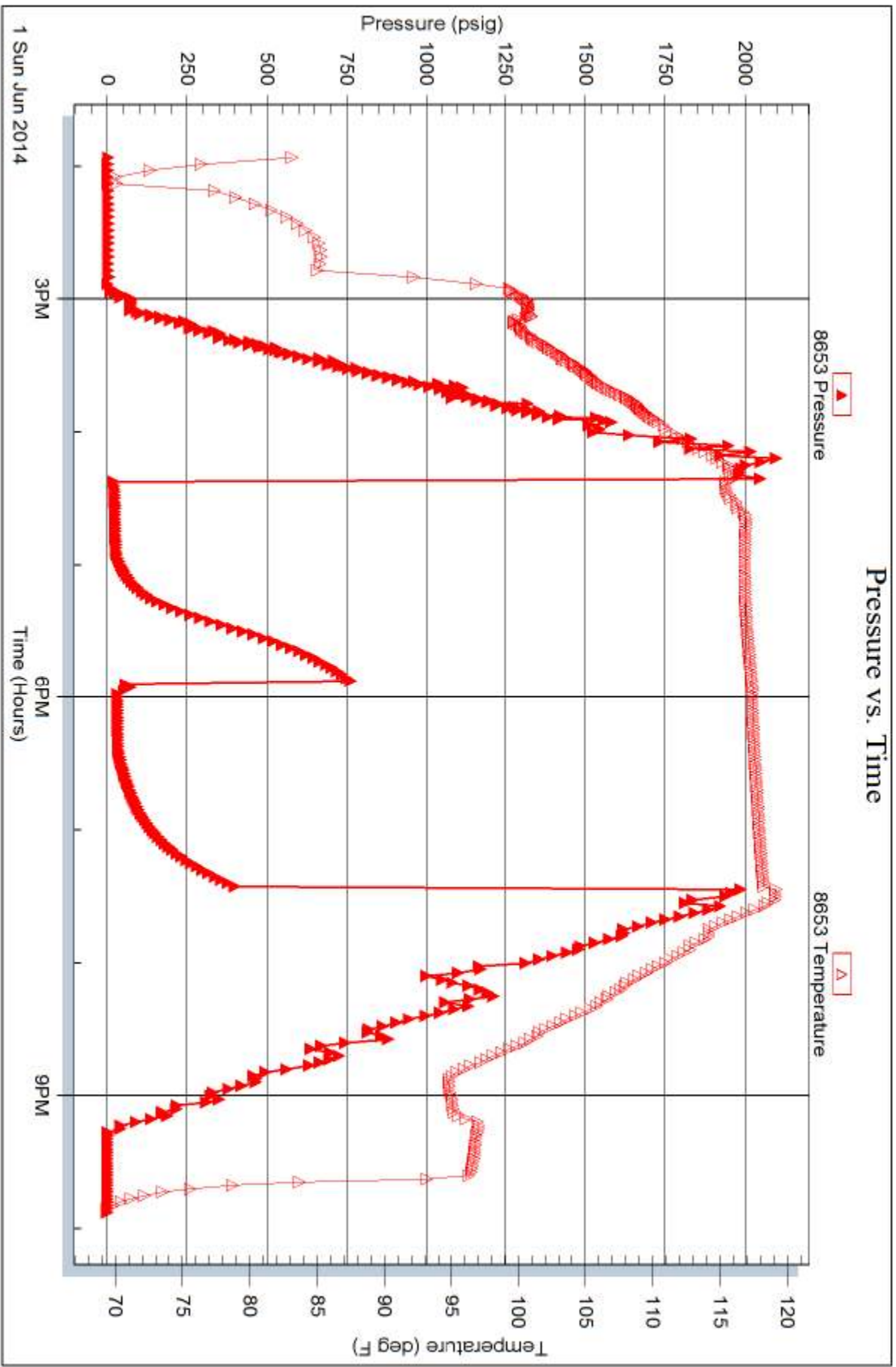


Serial #: 8653

Outside Murfin Drilling Co., Inc.

Gilbert A' #1-23

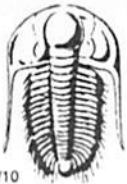
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 56848

Printed: 2014.06.09 @ 11:00:52



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58228**

4/10

Well Name & No. Gilbert 'A' #1-23 Test No. 1 Date 5-30-14
 Company Murphy Drilling Co., Inc Elevation 2895 KB 2890 GL
 Address 250 N Water STE # 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig MURPHY #7
 Location: Sec. 23 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3887-3964 Zone Tested Toronto - Like "A-B"
 Anchor Length 82' Drill Pipe Run 3830 Mud Wt. 8.6
 Top Packer Depth 3883 Drill Collars Run 61' Vis 71
 Bottom Packer Depth 3887 Wt. Pipe Run 0 WL 6.4
 Total Depth 3969 Chlorides 700 ppm System LCM 2#
 Blow Description IF- 1/4" Blow did not build or die.
ISI- No Return
FF- NO Blow
FSI- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>OSM</u>	<u>spots</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 105' BHT 117 Gravity — API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic <u>1909</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>4:10 AM</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>5:00 AM</u>
(C) First Final Flow <u>25</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>8:15 AM</u>
(D) Initial Shut-In <u>931</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>11:15 AM</u>
(E) Second Initial Flow <u>29</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1:15 PM</u>
(F) Second Final Flow <u>35</u>	<input checked="" type="checkbox"/> Mileage <u>71.30</u>	Comments
(G) Final Shut-In <u>717</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1757</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>1546.30</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1546.30</u>	

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56846

Well Name & No. Gilbert 'A' # 1-23 Test No. 2 Date 5-30-14
 Company Murphy Drilling Co, Inc Elevation 2895 KB 2895 GL
 Address 250 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavie Rig Murphy #7
 Location: Sec. 23 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3984-4022 Zone Tested LKC "F-6"
 Anchor Length 38' Drill Pipe Run _____ Mud Wt. 8.6
 Top Packer Depth 3980 Drill Collars Run 61' Vis 71
 Bottom Packer Depth 3984 Wt. Pipe Run 0 WL 6.4
 Total Depth 4022 Chlorides 700 ppm System LCM 2#
 Blow Description IF - BOB in 8 min
ISI - No Return
FF - BOB in 9 min
FSI - Surface Return started at 3 min. Built to 2 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>189</u>	<u>Clean Gassy Oil</u>	<u>20</u>	<u>80</u>		
<u>61</u>	<u>MCO</u>		<u>60</u>	<u>40</u>	
<u>441</u>	<u>GIP</u>	<u>1000</u>			

Rec Total 2505' BHT 122 Gravity 35 API RW - @ - ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1954</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>10:30 PM</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:26 PM</u>
(C) First Final Flow <u>53</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1:50 AM</u>
(D) Initial Shut-In <u>1316</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>5:50 AM</u>
(E) Second Initial Flow <u>57</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>2:10 AM</u>
(F) Second Final Flow <u>103</u>	<input checked="" type="checkbox"/> Mileage <u>46RT</u> 71.30	Comments _____
(G) Final Shut-In <u>1298</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1910</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

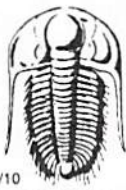
Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1546.30
 Total 1546.30
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56847

Well Name & No. Gilbert 'A' #1-23 Test No. 3 Date 5-31-14
 Company Murfin Drilling Co., Inc Elevation 2895 KB 2895 GL
 Address 2508 N Water STE #3000 Wichita KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 23 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 4029-4105 Zone Tested LKC "H-5"
 Anchor Length 76' Drill Pipe Run 3958 Mud Wt. 9.0
 Top Packer Depth 4025 Drill Collars Run 6' Vis 34
 Bottom Packer Depth 4029 Wt. Pipe Run 0 WL 8.8
 Total Depth 4105 Chlorides 800 ppm System LCM 3#
 Blow Description IF - 1/4" Blow died in 20 min.
ISI - NO Return
FF - NO Blow
FSI - NO Return

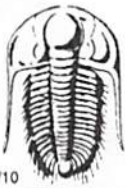
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>			<u>100%</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

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

(A) Initial Hydrostatic <u>1935</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>6:30 PM</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>7:00 PM</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>10:40 PM</u>
(D) Initial Shut-In <u>614</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>1:40 AM</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>4:15 AM</u>
(F) Second Final Flow <u>24</u>	<input checked="" type="checkbox"/> Mileage <u>71.30</u>	Comments _____
(G) Final Shut-In <u>297</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1905</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>1546.30</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total _____
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1546.30</u>	

Approved By _____ Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56848

4/10

Well Name & No. Gilbert 'A' #123 Test No. 4 Date 6-1-14
 Company Murphy Drilling Co, Inc. Elevation 2895 KB 2890 GL
 Address 2508 N Water STE #3000 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murphy #7
 Location: Sec. 23 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 4095-4168 Zone Tested STARK - LKC "K-L"
 Anchor Length 65' Drill Pipe Run 4021' Mud Wt. 9.1
 Top Packer Depth 4091 Drill Collars Run 61' Vis 56
 Bottom Packer Depth 4095 Wt. Pipe Run 0 WL 6:4
 Total Depth 4168 Chlorides 9000 ppm System LCM 3#
 Blow Description IF - 1/4" Blow died back to weak surface Blow
IST - No Return
FF - No Blow
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>0CM</u>		<u>30</u>		<u>70</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 118 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1985</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1:30 PM</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1:55 PM</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>4:25 PM</u>
(D) Initial Shut-In <u>757</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>7:25 PM</u>
(E) Second Initial Flow <u>27</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:00 PM</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>71.30</u>	Comments
(G) Final Shut-In <u>388</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1932</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>1546.30</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1546.30</u>	

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