



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.11 @ 13:42:00

End Date: 2014.04.11 @ 22:05:54

Job Ticket #: 57239 DST #: 1

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

Printed: 2014.04.24 @ 11:38:50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

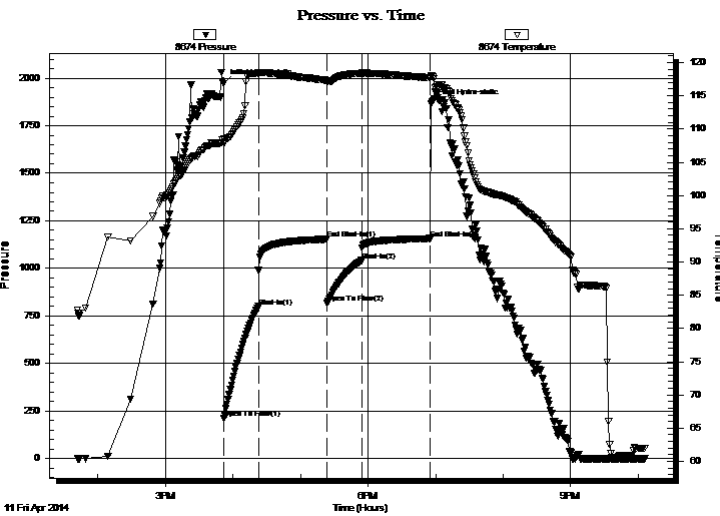
12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57239 **DST#: 1**
Test Start: 2014.04.11 @ 13:42:00

GENERAL INFORMATION:

Formation: **Toronto**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:52:10
Time Test Ended: 22:05:54
Interval: **3968.00 ft (KB) To 4010.00 ft (KB) (TVD)**
Total Depth: 4010.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Will MacLean
Unit No: 72
Reference Elevations: 3044.00 ft (KB)
3032.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8674 Inside
Press@RunDepth: 1041.27 psig @ 3969.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.11 End Date: 2014.04.11 Last Calib.: 2014.04.11
Start Time: 13:42:00 End Time: 22:05:54 Time On Btm: 2014.04.11 @ 15:51:40
Time Off Btm: 2014.04.11 @ 18:56:09

TEST COMMENT: IF- Surface Blow Built to BOB in 1 1/4 min
IS- No Blow
FF- Surface Blow Built to BOB in 2 1/2 min
FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1969.99	108.45	Initial Hydro-static
1	214.35	107.85	Open To Flow (1)
31	799.36	118.38	Shut-In(1)
92	1153.99	117.32	End Shut-In(1)
92	816.71	117.19	Open To Flow (2)
123	1041.27	118.38	Shut-In(2)
184	1156.78	117.72	End Shut-In(2)
185	1866.33	117.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1354.00	MCW 3% <i>m</i> 97% <i>w</i>	16.82
434.00	MCW 8% <i>m</i> 92% <i>w</i>	6.09
248.00	MCW 37% <i>m</i> 63% <i>w</i>	3.48
171.00	WCM 42% <i>w</i> 58% <i>m</i> with a Few Oil Sp	2.40

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan, KS.

Racette #2-12

Job Ticket: 57239

DST#: 1

Test Start: 2014.04.11 @ 13:42:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:52:10

Time Test Ended: 22:05:54

Test Type: Conventional Bottom Hole (Initial)

Tester: Will MacLean

Unit No: 72

Interval: 3968.00 ft (KB) To 4010.00 ft (KB) (TVD)

Reference Elevations: 3044.00 ft (KB)

Total Depth: 4010.00 ft (KB) (TVD)

3032.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

Serial #: 8355

Outside

Press@RunDepth: psig @ 3969.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.11

End Date:

2014.04.11

Last Calib.:

2014.04.11

Start Time: 13:42:05

End Time:

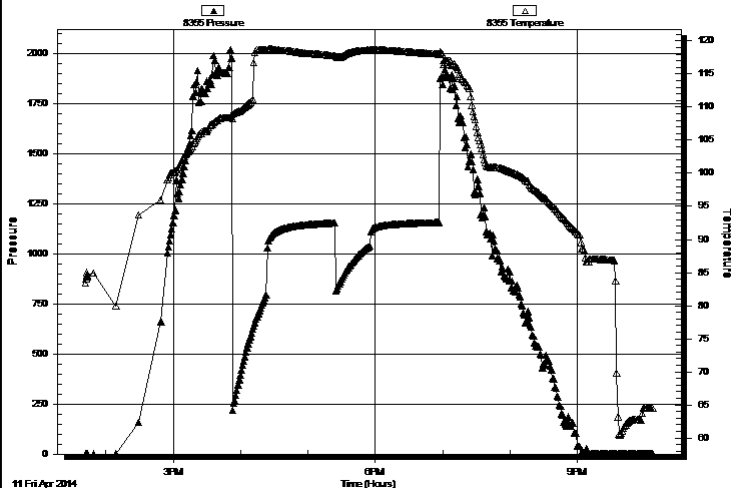
22:07:29

Time On Btm:

Time Off Btm:

TEST COMMENT: IF- Surface Blow Built to BOB in 1 1/4 min
IS- No Blow
FF- Surface Blow Built to BOB in 2 1/2 min
FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1354.00	MCW 3%m 97%w	16.82
434.00	MCW 8%m 92%w	6.09
248.00	MCW 37%m 63%w	3.48
171.00	WCM 42%w 58%m with a Few Oil Spo	2.40

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57239 **DST#: 1**
Test Start: 2014.04.11 @ 13:42:00

Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	16000.00 lb
			<u>Total Volume: 53.48 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	76000.00 lb
Depth to Top Packer:	3968.00 ft			Final	86000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	42.00 ft				
Tool Length:	69.00 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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Change Over Sub	1.00			3942.00	
Shut In Tool	5.00			3947.00	
Hydraulic tool	5.00			3952.00	
Jars	5.00			3957.00	
Safety Joint	2.00			3959.00	
Packer	5.00			3964.00	27.00 Bottom Of Top Packer
Packer	4.00			3968.00	
Stubb	1.00			3969.00	
Recorder	0.00	8355	Outside	3969.00	
Recorder	0.00	8674	Inside	3969.00	
Perforations	3.00			3972.00	
Change Over Sub	1.00			3973.00	
Drill Pipe	31.00			4004.00	
Change Over Sub	1.00			4005.00	
Bullnose	5.00			4010.00	42.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57239 **DST#: 1**
Test Start: 2014.04.11 @ 13:42:00

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:	41000 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.30 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5900.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

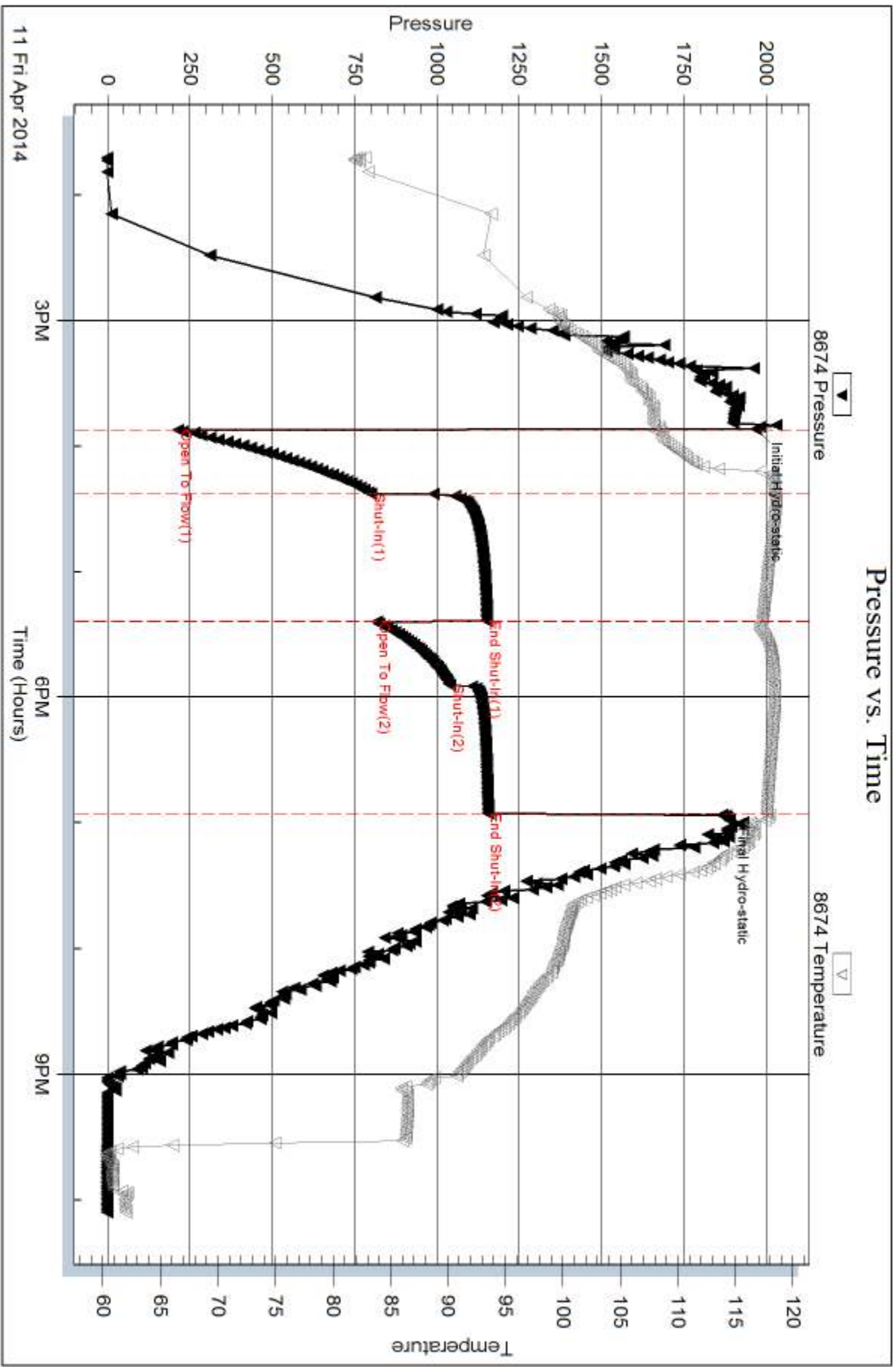
Length ft	Description	Volume bbl
1354.00	MCW 3%m 97%w	16.825
434.00	MCW 8%m 92%w	6.088
248.00	MCW 37%m 63%w	3.479
171.00	WCM 42%w 58%m with a Few Oil Spots	2.399

Total Length: 2207.00 ft Total Volume: 28.791 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: RW is.138 @ 84f = 41000

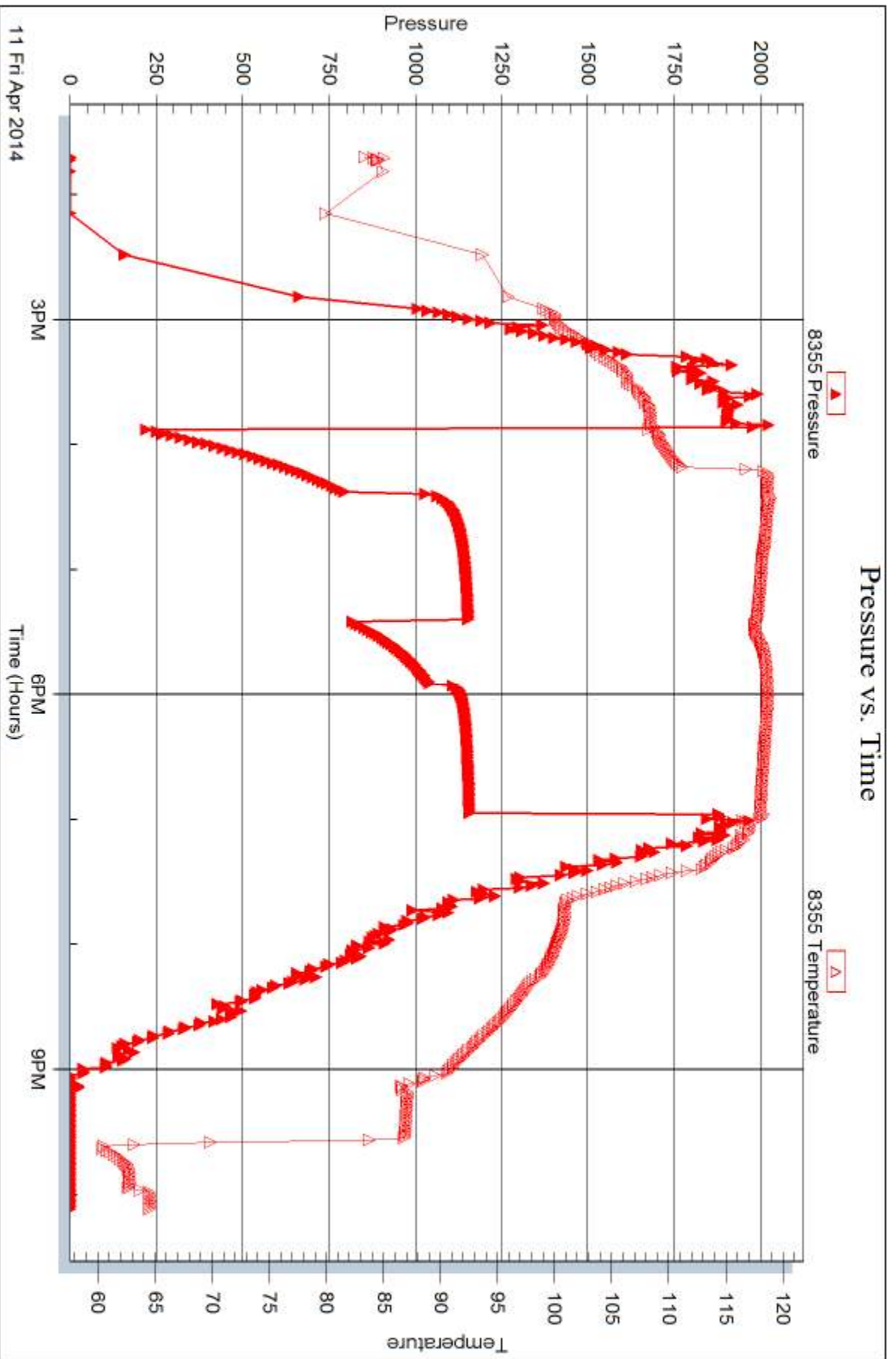


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57239

Printed: 2014.04.24 @ 11:38:51



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.12 @ 13:06:00

End Date: 2014.04.12 @ 21:34:24

Job Ticket #: 57240 DST #: 2

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

Printed: 2014.04.24 @ 11:38:27



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

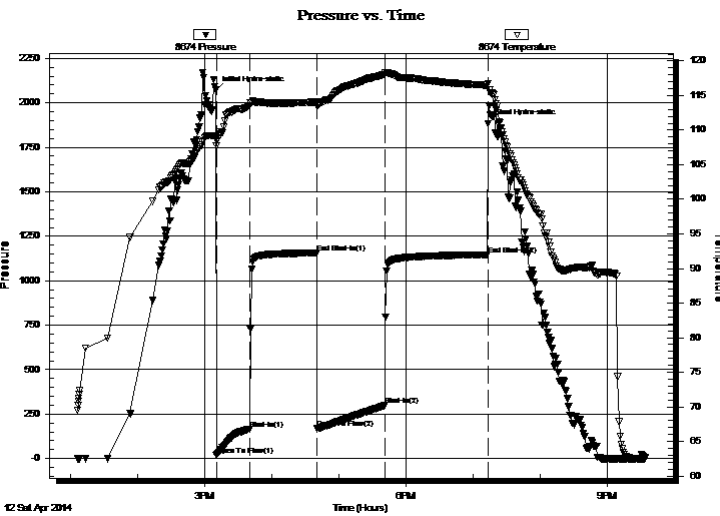
12-13s-33w Logan, KS.
Racette #2-12
 Job Ticket: 57240 **DST#: 2**
 Test Start: 2014.04.12 @ 13:06:00

GENERAL INFORMATION:

Formation: **LKC "B-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:10:10
 Time Test Ended: 21:34:24
 Interval: **4041.00 ft (KB) To 4100.00 ft (KB) (TVD)**
 Total Depth: 4100.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 72
 Reference Elevations: 3044.00 ft (KB)
 3032.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8674 Inside
 Press@RunDepth: 299.09 psig @ 4042.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.12 End Date: 2014.04.12 Last Calib.: 2014.04.12
 Start Time: 13:06:00 End Time: 21:34:24 Time On Btm: 2014.04.12 @ 15:09:55
 Time Off Btm: 2014.04.12 @ 19:13:39

TEST COMMENT: IF- Weak Surface Blow Built to 11"
 IS- No Blow
 FF- Weak Surface Blow Built to BOB in 52 min
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2069.89	109.15	Initial Hydro-static
1	20.67	107.72	Open To Flow (1)
31	166.70	113.54	Shut-In(1)
91	1156.42	114.02	End Shut-In(1)
91	168.14	113.45	Open To Flow (2)
152	299.09	118.06	Shut-In(2)
244	1146.61	116.49	End Shut-In(2)
244	1882.13	116.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	MCW 21%m 79%w	2.04
186.00	MCW 34%m 66%w	2.61
122.00	WCM 41%w 59%m	1.71

* 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
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
Job Ticket: 57240 **DST#: 2**
Test Start: 2014.04.12 @ 13:06:00

Tool Information

Drill Pipe:	Length: 3794.00 ft	Diameter: 3.80 inches	Volume: 53.22 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 34000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 10000.00 lb
			<u>Total Volume: 54.39 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4041.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	86.00 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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Change Over Sub	1.00			4015.00	
Shut In Tool	5.00			4020.00	
Hydraulic tool	5.00			4025.00	
Jars	5.00			4030.00	
Safety Joint	2.00			4032.00	
Packer	5.00			4037.00	27.00 Bottom Of Top Packer
Packer	4.00			4041.00	
Stubb	1.00			4042.00	
Recorder	0.00	8355	Outside	4042.00	
Recorder	0.00	8674	Inside	4042.00	
Perforations	20.00			4062.00	
Change Over Sub	1.00			4063.00	
Drill Pipe	31.00			4094.00	
Change Over Sub	1.00			4095.00	
Bullnose	5.00			4100.00	59.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57240 **DST#: 2**
Test Start: 2014.04.12 @ 13:06:00

Mud and Cushion Information

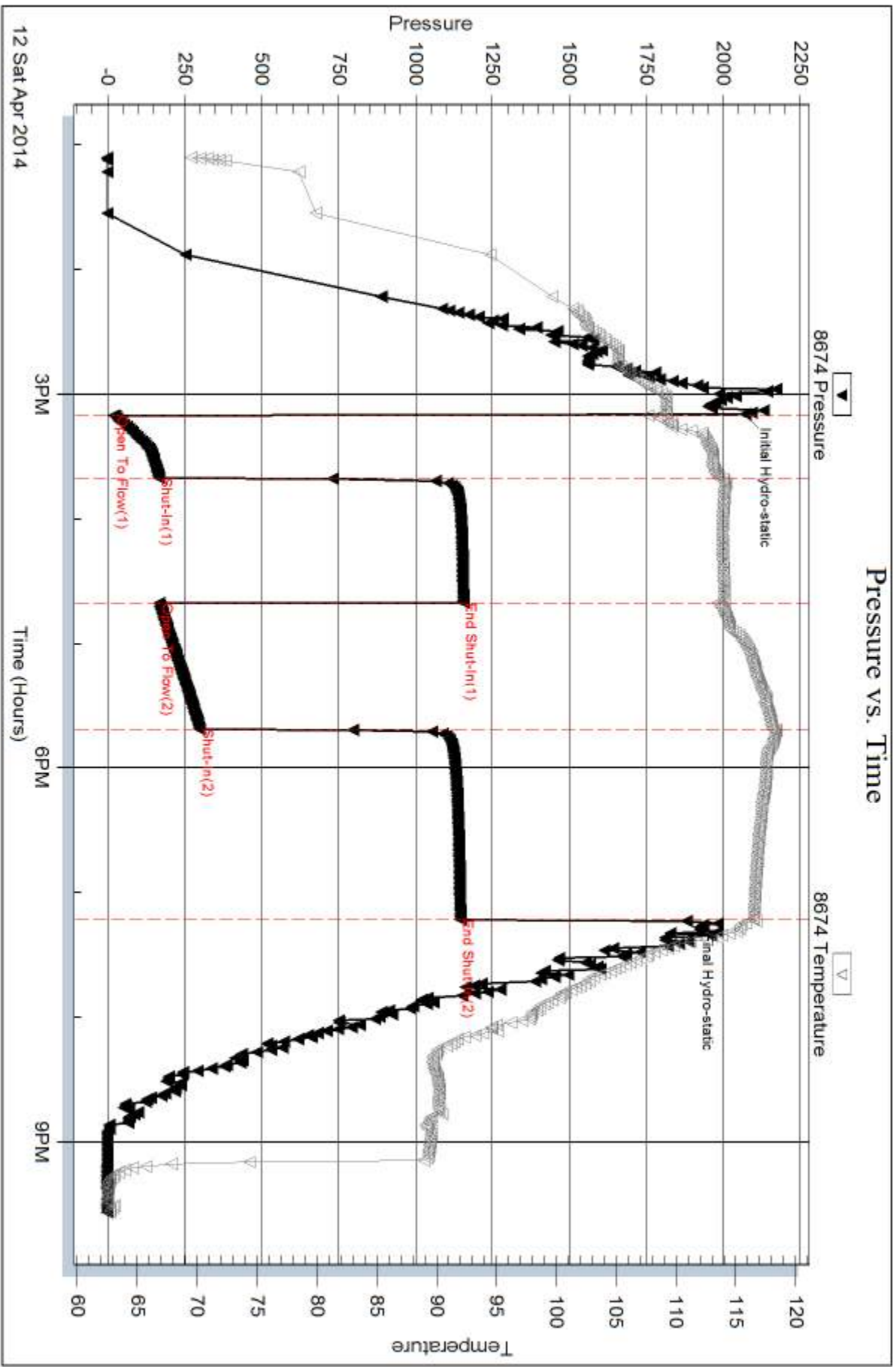
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	43500 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.32 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5900.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	MCW 21%m 79%w	2.040
186.00	MCW 34%m 66%w	2.609
122.00	WCM 41%w 59%m	1.711

Total Length: 608.00 ft Total Volume: 6.360 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is .165 @ 65f = 43500

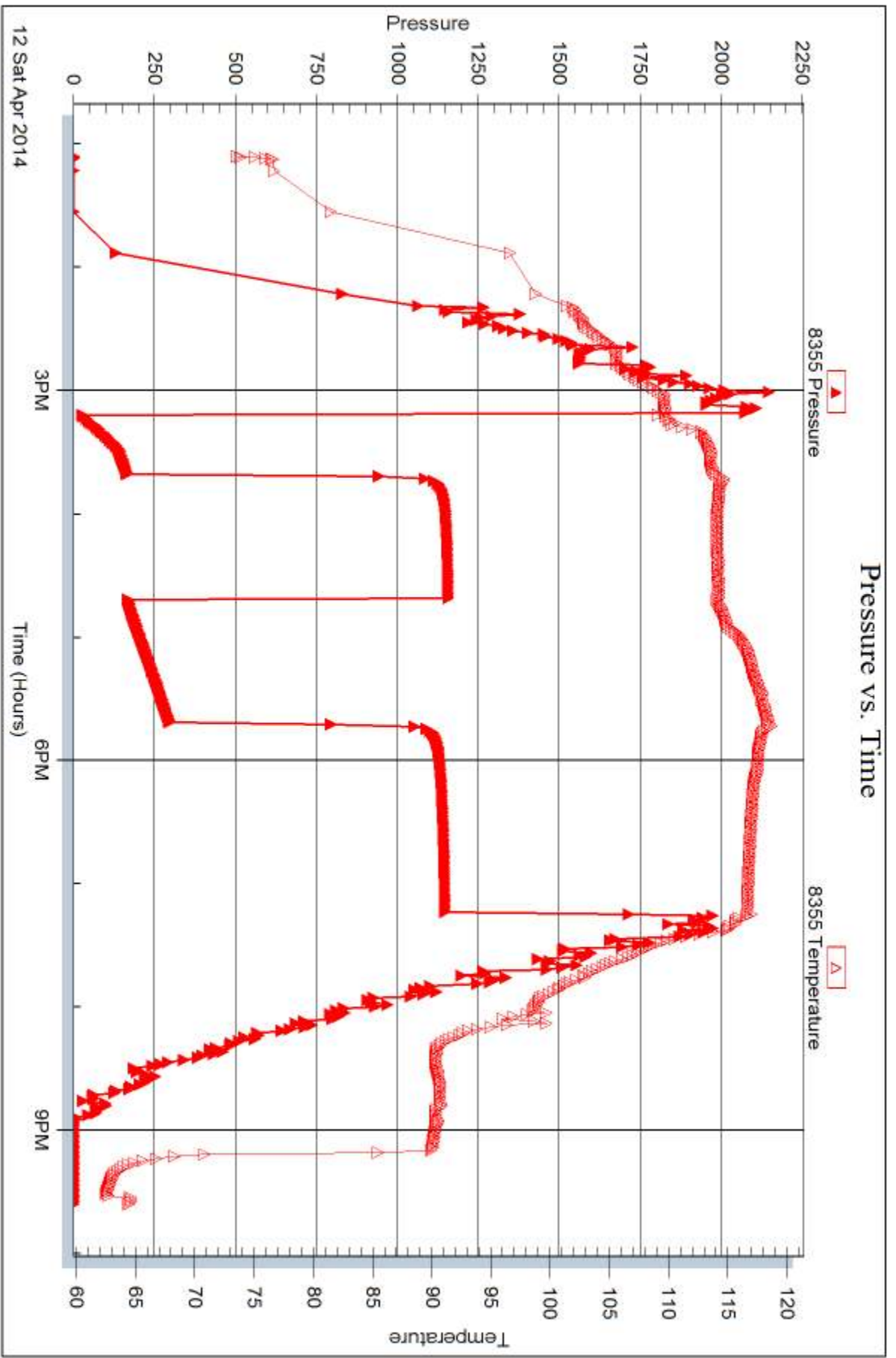


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 57240

Printed: 2014.04.24 @ 11:38:28



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.14 @ 08:40:00

End Date: 2014.04.14 @ 17:33:40

Job Ticket #: 57241 DST #: 3

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

Printed: 2014.04.24 @ 11:38:02



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
 Job Ticket: 57241 **DST#: 3**
 Test Start: 2014.04.14 @ 08:40:00

GENERAL INFORMATION:

Formation: **LKC " E "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:01:25
 Time Test Ended: 17:33:40
 Interval: **4100.00 ft (KB) To 4118.00 ft (KB) (TVD)**
 Total Depth: 4118.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 72
 Reference Elevations: 3044.00 ft (KB)
 3032.00 ft (CF)
 KB to GR/CF: 12.00 ft

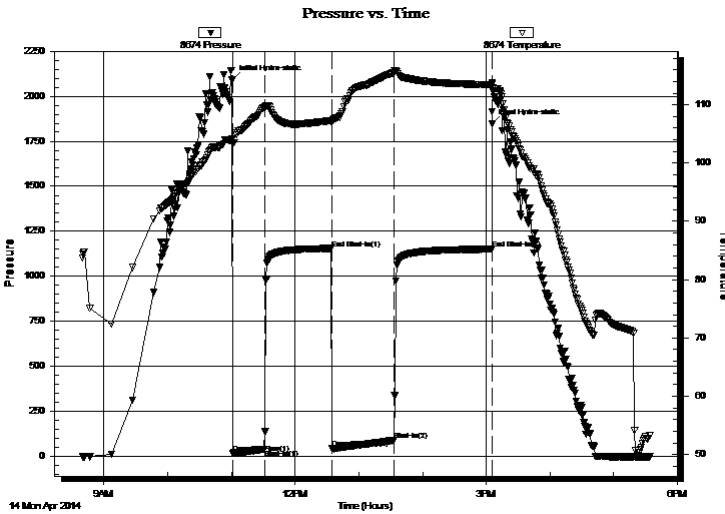
Serial #: 8674

Inside

Press@RunDepth: 91.57 psig @ 4103.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.14 End Date: 2014.04.14 Last Calib.: 2014.04.14
 Start Time: 08:40:00 End Time: 17:33:40 Time On Btm: 2014.04.14 @ 11:01:10
 Time Off Btm: 2014.04.14 @ 15:05:24

TEST COMMENT: IF- Weak Surface Blow Built to 1 3/4"
 IS- No Blow
 FF- Weak Surface Blow Built to 3"
 FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2089.62	104.20	Initial Hydro-static
1	19.46	103.22	Open To Flow (1)
30	41.57	109.52	Shut-In(1)
93	1155.44	107.32	End Shut-In(1)
94	43.79	106.87	Open To Flow (2)
152	91.57	115.57	Shut-In(2)
244	1151.17	113.42	End Shut-In(2)
245	1845.84	113.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW 39%w 61%w	0.59
30.00	WCM 46%w 54%w	0.15

* Recovery from multiple tests

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: Wes Hansen

12-13s-33w Logan,KS.

Racette #2-12

Job Ticket: 57241

DST#: 3

Test Start: 2014.04.14 @ 08:40:00

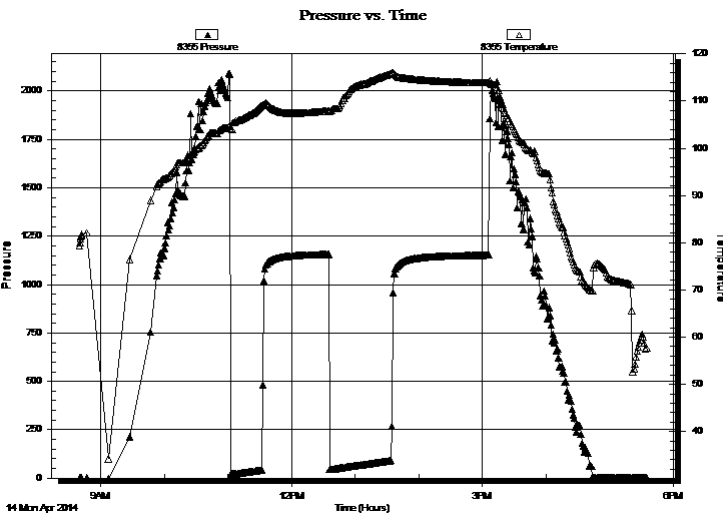
GENERAL INFORMATION:

Formation: **LKC " E "**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 11:01:25 Tester: Will MacLean
 Time Test Ended: 17:33:40 Unit No: 72
Interval: 4100.00 ft (KB) To 4118.00 ft (KB) (TVD) Reference Elevations: 3044.00 ft (KB)
 Total Depth: 4118.00 ft (KB) (TVD) 3032.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

Serial #: 8355 Outside

Press@RunDepth: psig @ 4103.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.14 End Date: 2014.04.14 Last Calib.: 2014.04.14
 Start Time: 08:40:05 End Time: 17:35:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to 1 3/4"
 IS- No Blow
 FF- Weak Surface Blow Built to 3"
 FS- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW 39%w 61%w	0.59
30.00	WCM 46%w 54%w	0.15

* 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
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
Job Ticket: 57241 **DST#: 3**
Test Start: 2014.04.14 @ 08:40:00

Tool Information

Drill Pipe:	Length: 3855.00 ft	Diameter: 3.80 inches	Volume: 54.08 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 14000.00 lb
			<u>Total Volume: 55.25 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4100.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4074.00	
Shut In Tool	5.00			4079.00	
Hydraulic tool	5.00			4084.00	
Jars	5.00			4089.00	
Safety Joint	2.00			4091.00	
Packer	5.00			4096.00	27.00 Bottom Of Top Packer
Packer	4.00			4100.00	
Stubb	1.00			4101.00	
Perforations	2.00			4103.00	
Recorder	0.00	8355	Outside	4103.00	
Recorder	0.00	8674	Inside	4103.00	
Perforations	10.00			4113.00	
Bullnose	5.00			4118.00	18.00 Bottom Packers & Anchor

Total Tool Length: 45.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57241 **DST#: 3**
Test Start: 2014.04.14 @ 08:40:00

Mud and Cushion Information

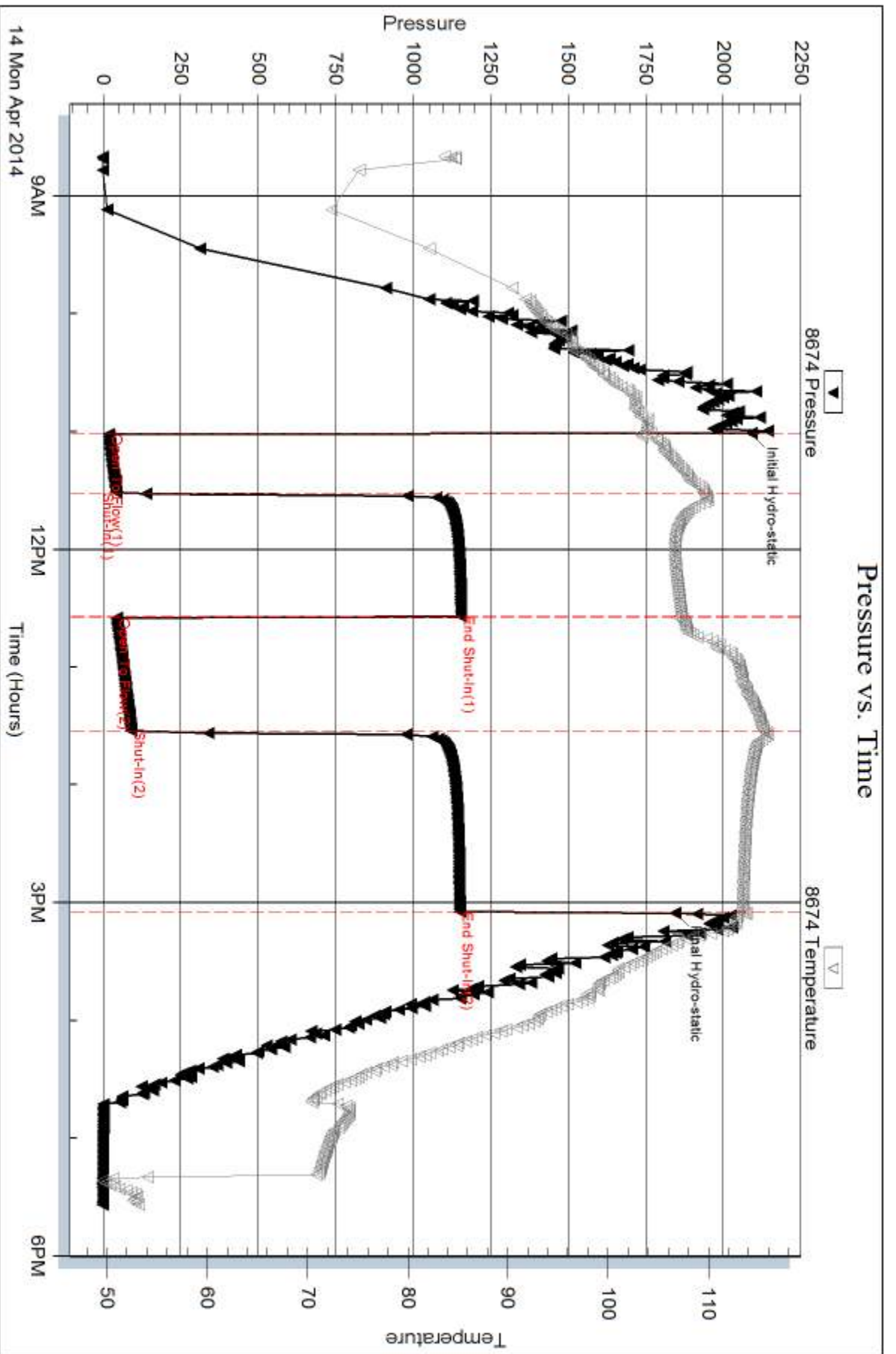
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	22500 ppm
Viscosity: 151.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.92 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7700.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MCW 39%m 61%w	0.590
30.00	WCM 46%w 54%m	0.148

Total Length: 150.00 ft Total Volume: 0.738 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is .521 @ 40f = 22500

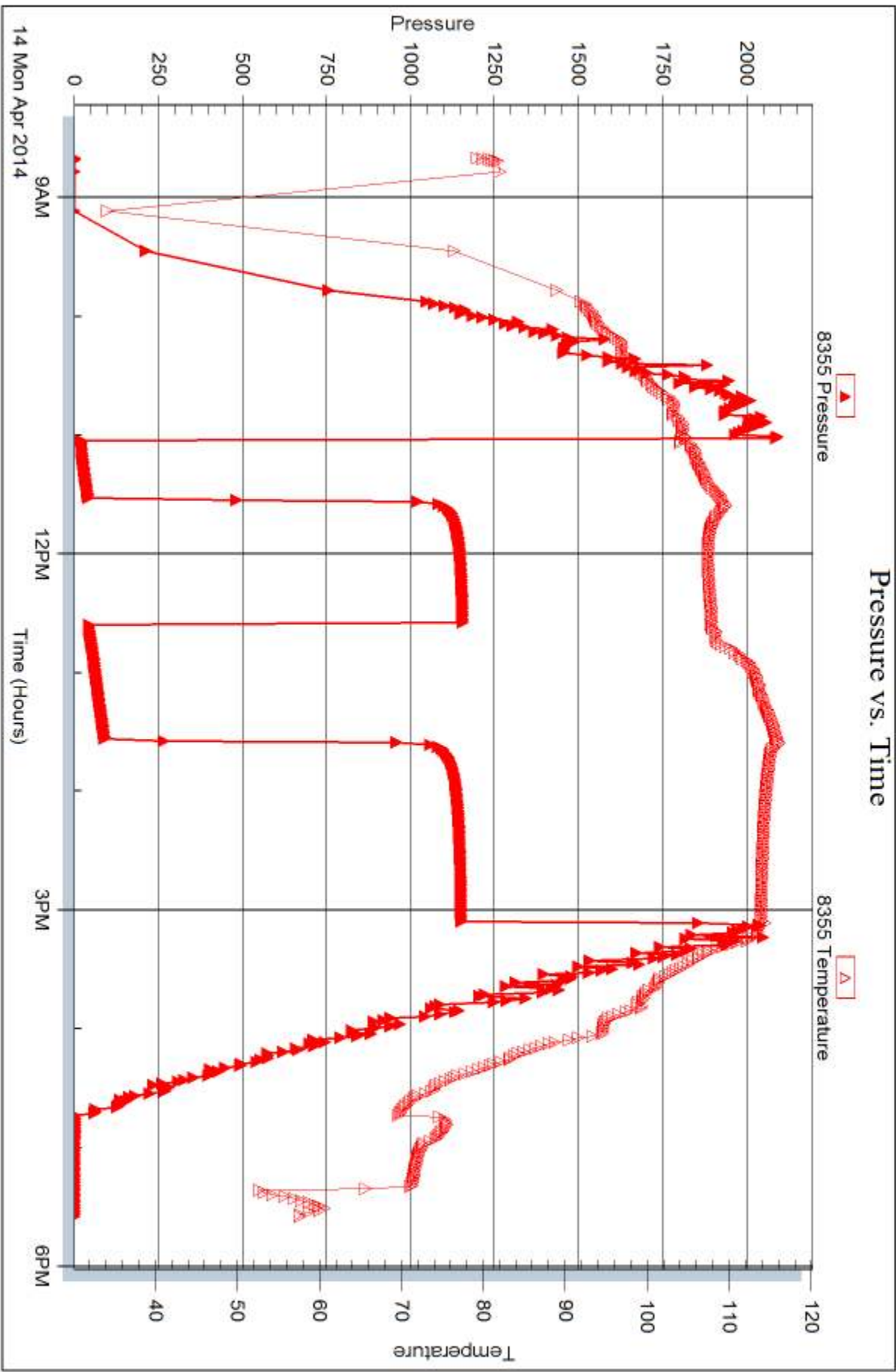


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 57241

Printed: 2014.04.24 @ 11:38:03



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.15 @ 09:46:00

End Date: 2014.04.15 @ 17:27:39

Job Ticket #: 57242 DST #: 4

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

Printed: 2014.04.24 @ 11:37:38



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.

Racette #2-12

Job Ticket: 57242

DST#: 4

Test Start: 2014.04.15 @ 09:46:00

GENERAL INFORMATION:

Formation: **LKC "H-1"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:32:25

Time Test Ended: 17:27:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 72

Interval: 4168.00 ft (KB) To 4230.00 ft (KB) (TVD)

Reference Elevations: 3044.00 ft (KB)

Total Depth: 4230.00 ft (KB) (TVD)

3032.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

Serial #: 8674

Inside

Press@RunDepth: 78.00 psig @ 4171.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.15

End Date:

2014.04.15

Last Calib.:

2014.04.15

Start Time: 09:46:00

End Time:

17:27:39

Time On Btm:

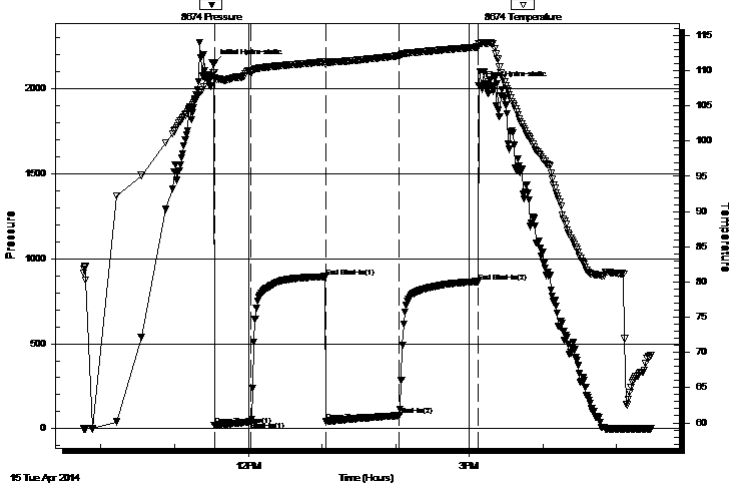
2014.04.15 @ 11:32:10

Time Off Btm:

2014.04.15 @ 15:07:39

TEST COMMENT: IF- Weak Surface Blow Built to 3/4"
IS- No Blow
FF- Weak Surface Blow in 25 min Built to 1"
FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2149.32	109.77	Initial Hydro-static
1	19.88	108.84	Open To Flow (1)
30	40.70	109.76	Shut-In(1)
91	895.20	111.28	End Shut-In(1)
92	43.11	110.91	Open To Flow (2)
151	78.00	112.12	Shut-In(2)
215	866.57	113.37	End Shut-In(2)
216	2019.16	113.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM 23%w 77% m with a Skim of Oil on 0.30	
61.00	WCM 4%w 96% m with a Skim of Oil on 0.30	

* Recovery from multiple tests

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: Wes Hansen

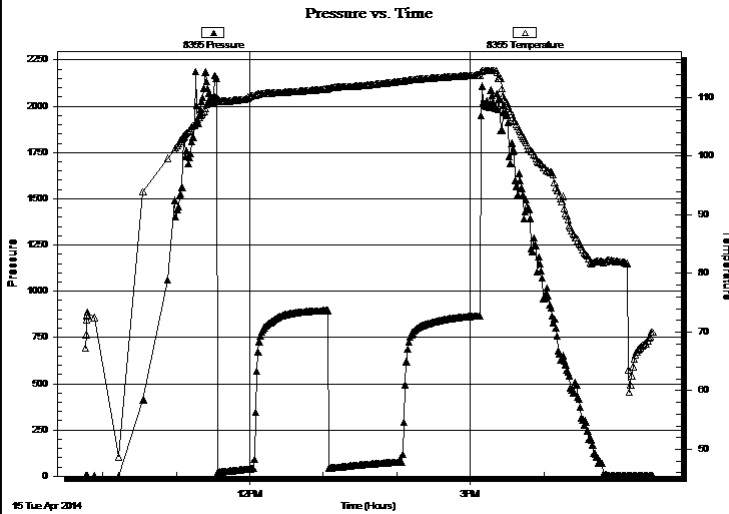
12-13s-33w Logan, KS.
Racette #2-12
 Job Ticket: 57242 **DST#: 4**
 Test Start: 2014.04.15 @ 09:46:00

GENERAL INFORMATION:

Formation: **LKC "H-1"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 11:32:25 Tester: Will MacLean
 Time Test Ended: 17:27:39 Unit No: 72
 Interval: **4168.00 ft (KB) To 4230.00 ft (KB) (TVD)** Reference Elevations: 3044.00 ft (KB)
 Total Depth: 4230.00 ft (KB) (TVD) 3032.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

Serial #: 8355 Outside
 Press@RunDepth: psig @ 4171.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.15 End Date: 2014.04.15 Last Calib.: 2014.04.15
 Start Time: 09:46:05 End Time: 17:29:14 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to 3/4"
 IS- No Blow
 FF- Weak Surface Blow in 25 min Built to 1"
 FS- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM 23%w 77% m w ith a Skim of Oil or 0.30	
61.00	WCM 4%w 96% m w ith a Skim of Oil on 0.30	

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
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57242 **DST#: 4**
Test Start: 2014.04.15 @ 09:46:00

Tool Information

Drill Pipe:	Length: 3919.00 ft	Diameter: 3.80 inches	Volume: 54.97 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 56.14 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4168.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	89.00 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			4142.00	
Shut In Tool	5.00			4147.00	
Hydraulic tool	5.00			4152.00	
Jars	5.00			4157.00	
Safety Joint	2.00			4159.00	
Packer	5.00			4164.00	27.00 Bottom Of Top Packer
Packer	4.00			4168.00	
Stubb	1.00			4169.00	
Perforations	2.00			4171.00	
Recorder	0.00	8355	Outside	4171.00	
Recorder	0.00	8674	Inside	4171.00	
Perforations	20.00			4191.00	
Change Over Sub	1.00			4192.00	
Drill Pipe	31.00			4223.00	
Change Over Sub	1.00			4224.00	
Perforations	1.00			4225.00	
Bullnose	5.00			4230.00	62.00 Bottom Packers & Anchor
Total Tool Length:	89.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57242 **DST#: 4**
Test Start: 2014.04.15 @ 09:46:00

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:	25200 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.30 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5900.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	WCM 23%w 77%w with a Skim of Oil on To	0.295
61.00	WCM 4%w 96%w with a Skim of Oil on Top	0.300

Total Length: 121.00 ft Total Volume: 0.595 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is .261 @ 71f = 25200

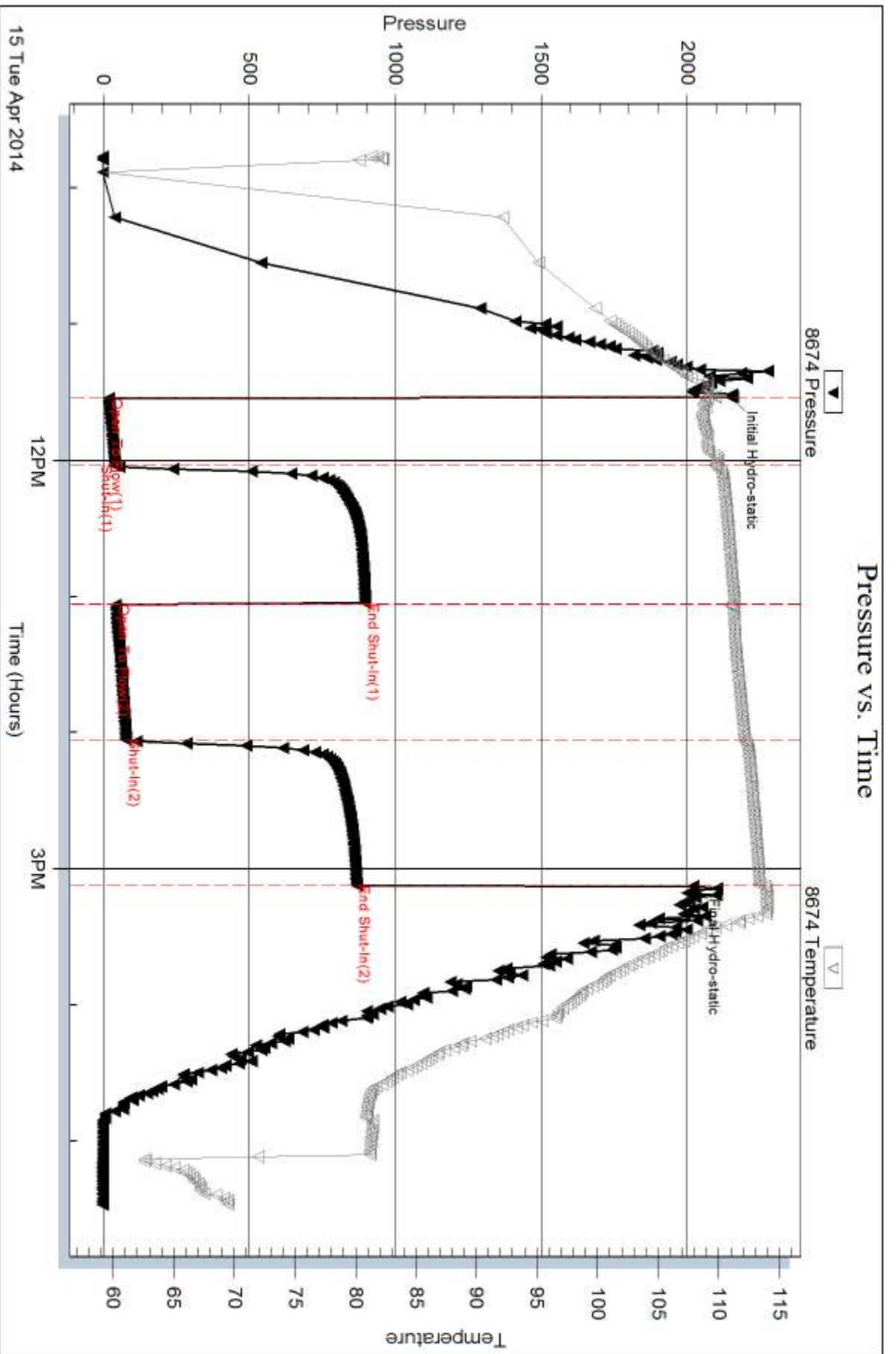
Serial #: 8674

Inside

Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 57242

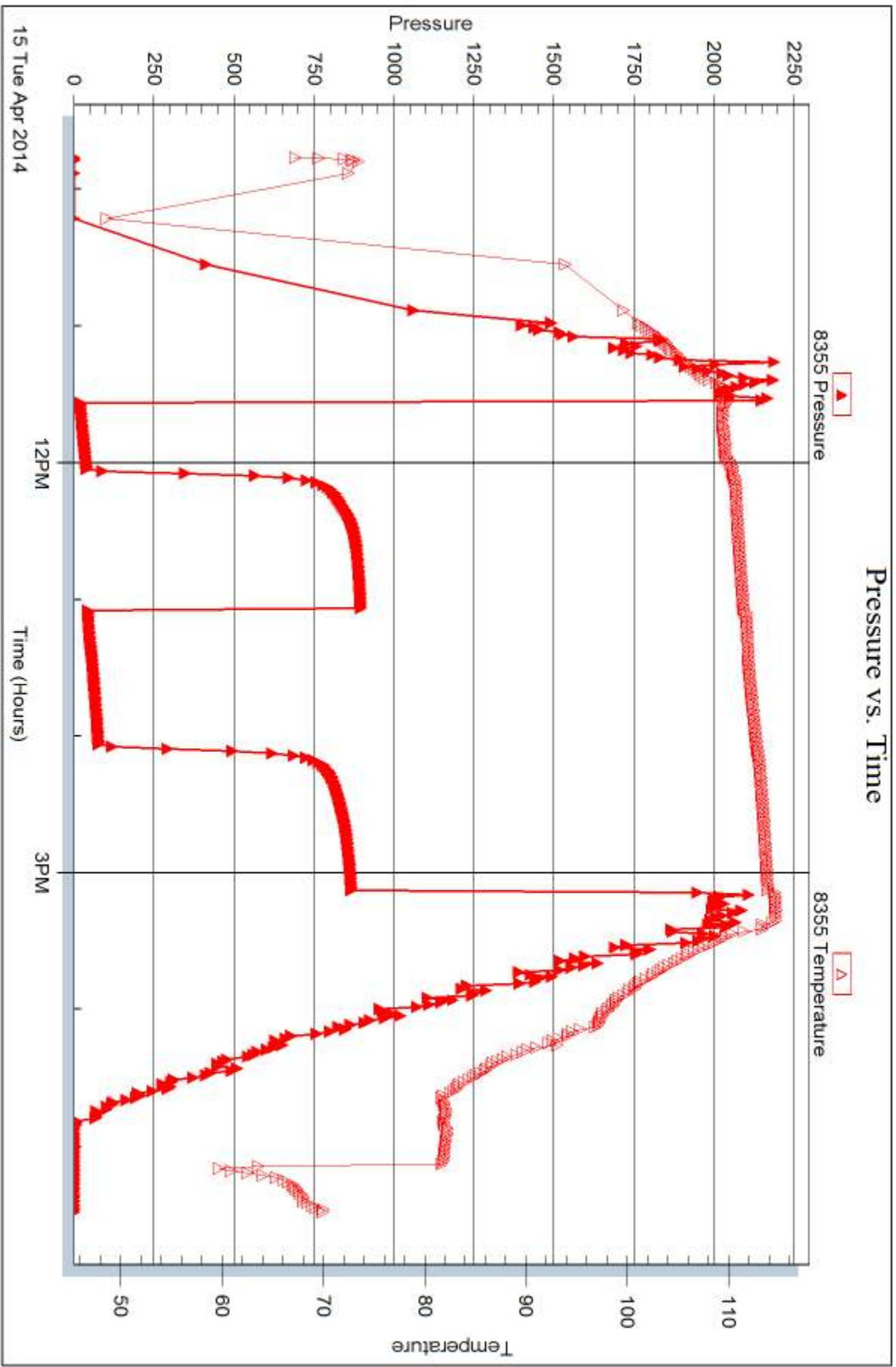
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Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 57242

Printed: 2014.04.24 @ 11:37:40



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.16 @ 05:34:00

End Date: 2014.04.16 @ 14:00:09

Job Ticket #: 57243 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.04.24 @ 11:37:04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
 Job Ticket: 57243 **DST#: 5**
 Test Start: 2014.04.16 @ 05:34:00

GENERAL INFORMATION:

Formation: **LKC "J - K"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 07:29:40 Tester: Will MacLean
 Time Test Ended: 14:00:09 Unit No: 72
 Interval: **4230.00 ft (KB) To 4286.00 ft (KB) (TVD)** Reference Elevations: 3044.00 ft (KB)
 Total Depth: 4286.00 ft (KB) (TVD) 3032.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

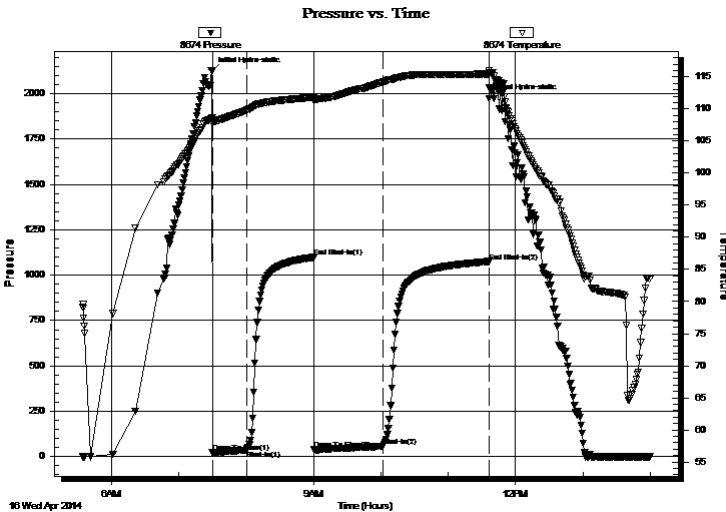
Serial #: 8674

Inside

Press@RunDepth: 56.97 psig @ 4233.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.16 End Date: 2014.04.16 Last Calib.: 2014.04.16
 Start Time: 05:34:00 End Time: 14:00:09 Time On Btm: 2014.04.16 @ 07:29:25
 Time Off Btm: 2014.04.16 @ 11:36:24

TEST COMMENT: IF- Weak Surface Blow Built to 1"
 IS- No Blow
 FF- Very Weak Surface Blow in 50 min
 FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2124.95	108.57	Initial Hydro-static
1	22.00	107.69	Open To Flow (1)
31	34.79	109.79	Shut-In(1)
91	1098.88	111.82	End Shut-In(1)
92	38.87	111.30	Open To Flow (2)
153	56.97	114.19	Shut-In(2)
247	1075.49	115.43	End Shut-In(2)
247	1973.39	116.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	WGOCM 2%w 3%g 6%oil 89%m	0.30
5.00	WOCM 2%w 5%oil 93%m	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
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57243 **DST#: 5**
Test Start: 2014.04.16 @ 05:34:00

Tool Information

Drill Pipe:	Length: 3981.00 ft	Diameter: 3.80 inches	Volume: 55.84 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 32000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 28000.00 lb
			<u>Total Volume: 57.01 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4230.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	83.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Change Over Sub	1.00			4204.00	
Shut In Tool	5.00			4209.00	
Hydraulic tool	5.00			4214.00	
Jars	5.00			4219.00	
Safety Joint	2.00			4221.00	
Packer	5.00			4226.00	27.00 Bottom Of Top Packer
Packer	4.00			4230.00	
Stubb	1.00			4231.00	
Perforations	2.00			4233.00	
Recorder	0.00	8355	Outside	4233.00	
Recorder	0.00	8674	Inside	4233.00	
Perforations	15.00			4248.00	
Change Over Sub	1.00			4249.00	
Drill Pipe	31.00			4280.00	
Change Over Sub	1.00			4281.00	
Bullnose	5.00			4286.00	56.00 Bottom Packers & Anchor
Total Tool Length:	83.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57243 **DST#: 5**
Test Start: 2014.04.16 @ 05:34:00

Mud and Cushion Information

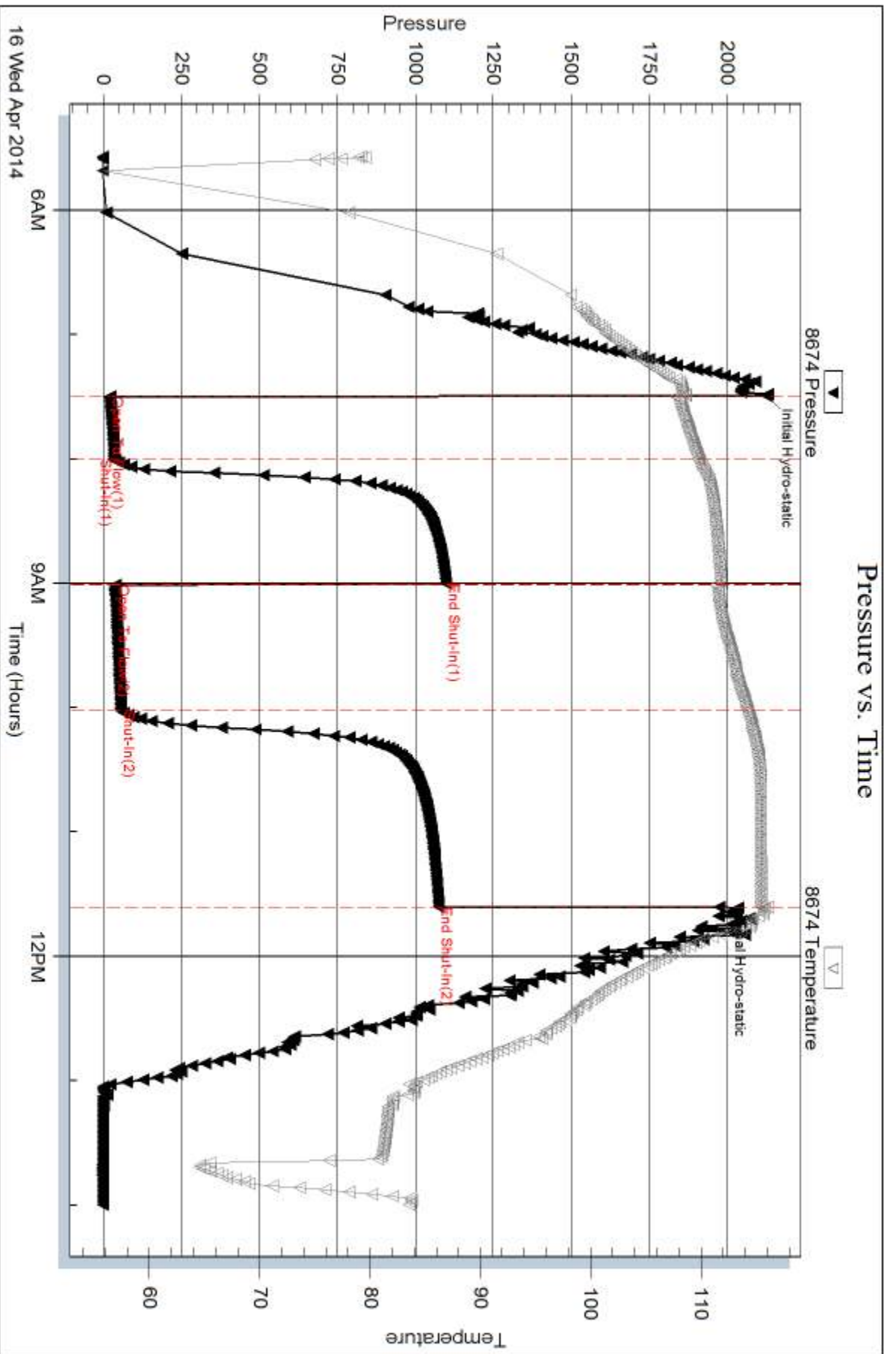
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.73 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8400.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	WGOCM 2%w 3%g 6%oil 89%m	0.295
5.00	WOCM 2%w 5%oil 93%m	0.025

Total Length: 65.00 ft Total Volume: 0.320 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

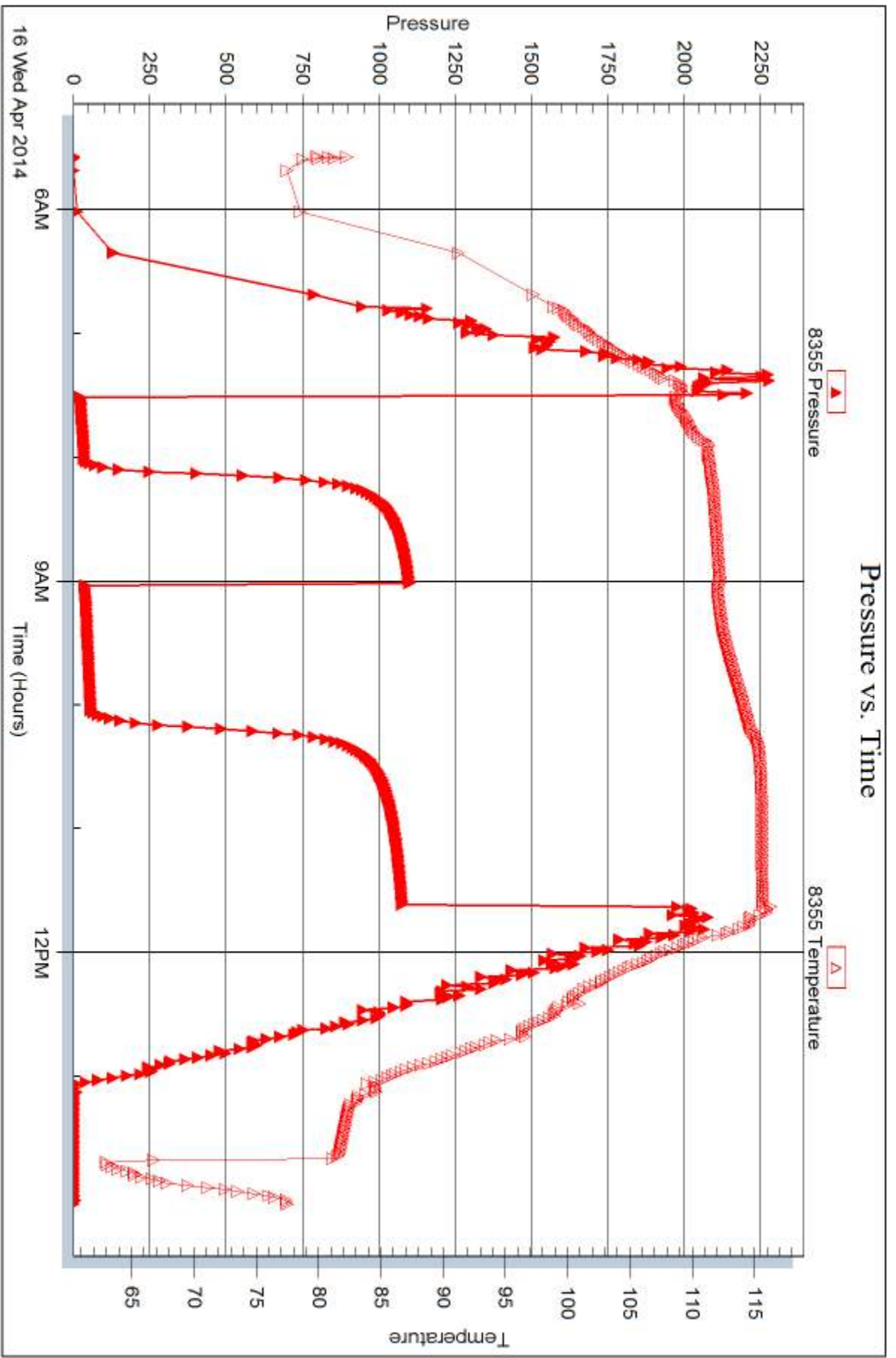


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 57243

Printed: 2014.04.24 @ 11:37:05



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.17 @ 19:22:00

End Date: 2014.04.18 @ 03:39:24

Job Ticket #: 57244 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.04.24 @ 11:36:40



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

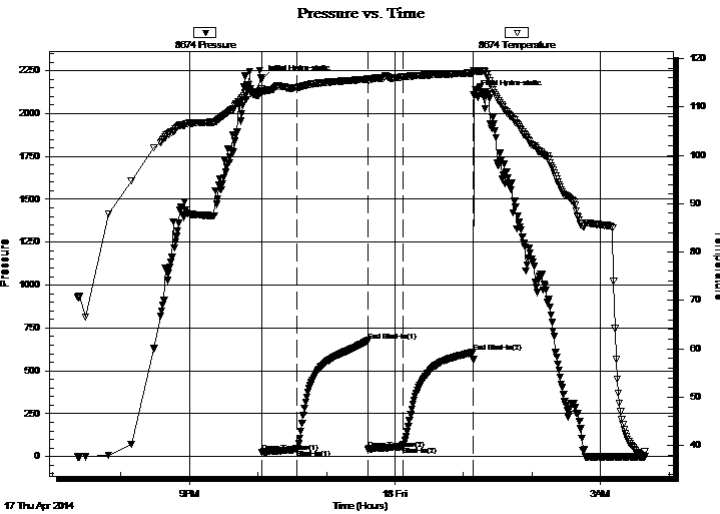
12-13s-33w Logan,KS.
Racette #2-12
 Job Ticket: 57244 **DST#: 6**
 Test Start: 2014.04.17 @ 19:22:00

GENERAL INFORMATION:

Formation: **Marmanton - Pawnee**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 22:03:25 Tester: Will MacLean
 Time Test Ended: 03:39:24 Unit No: 72
 Interval: **4345.00 ft (KB) To 4507.00 ft (KB) (TVD)** Reference Elevations: 3044.00 ft (KB)
 Total Depth: 4507.00 ft (KB) (TVD) 3032.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

Serial #: 8674 Inside
 Press@RunDepth: 57.97 psig @ 4347.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.17 End Date: 2014.04.18 Last Calib.: 2014.04.18
 Start Time: 19:22:00 End Time: 03:39:24 Time On Btm: 2014.04.17 @ 22:03:10
 Time Off Btm: 2014.04.18 @ 01:08:54

TEST COMMENT: IF- Weak Surface Blow Built to 1/2"
 IS- No Blow
 FF- No Blow
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.42	113.77	Initial Hydro-static
1	24.22	112.79	Open To Flow (1)
31	41.25	113.98	Shut-In(1)
94	676.48	115.71	End Shut-In(1)
94	44.10	115.31	Open To Flow (2)
124	57.97	116.15	Shut-In(2)
186	608.60	116.99	End Shut-In(2)
186	2110.21	117.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	GOCM 2%g 2%oil 96%m	0.30

* 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
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
Job Ticket: 57244 **DST#: 6**
Test Start: 2014.04.17 @ 19:22:00

Tool Information

Drill Pipe:	Length: 4104.00 ft	Diameter: 3.80 inches	Volume: 57.57 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 58.74 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4345.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	162.00 ft			
Tool Length:	189.00 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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Change Over Sub	1.00			4319.00	
Shut In Tool	5.00			4324.00	
Hydraulic tool	5.00			4329.00	
Jars	5.00			4334.00	
Safety Joint	2.00			4336.00	
Packer	5.00			4341.00	27.00 Bottom Of Top Packer
Packer	4.00			4345.00	
Stubb	1.00			4346.00	
Perforations	1.00			4347.00	
Recorder	0.00	8355	Outside	4347.00	
Recorder	0.00	8674	Inside	4347.00	
Perforations	28.00			4375.00	
Change Over Sub	1.00			4376.00	
Drill Pipe	125.00			4501.00	
Change Over Sub	1.00			4502.00	
Bullnose	5.00			4507.00	162.00 Bottom Packers & Anchor
Total Tool Length:	189.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57244 **DST#: 6**
Test Start: 2014.04.17 @ 19:22:00

Mud and Cushion Information

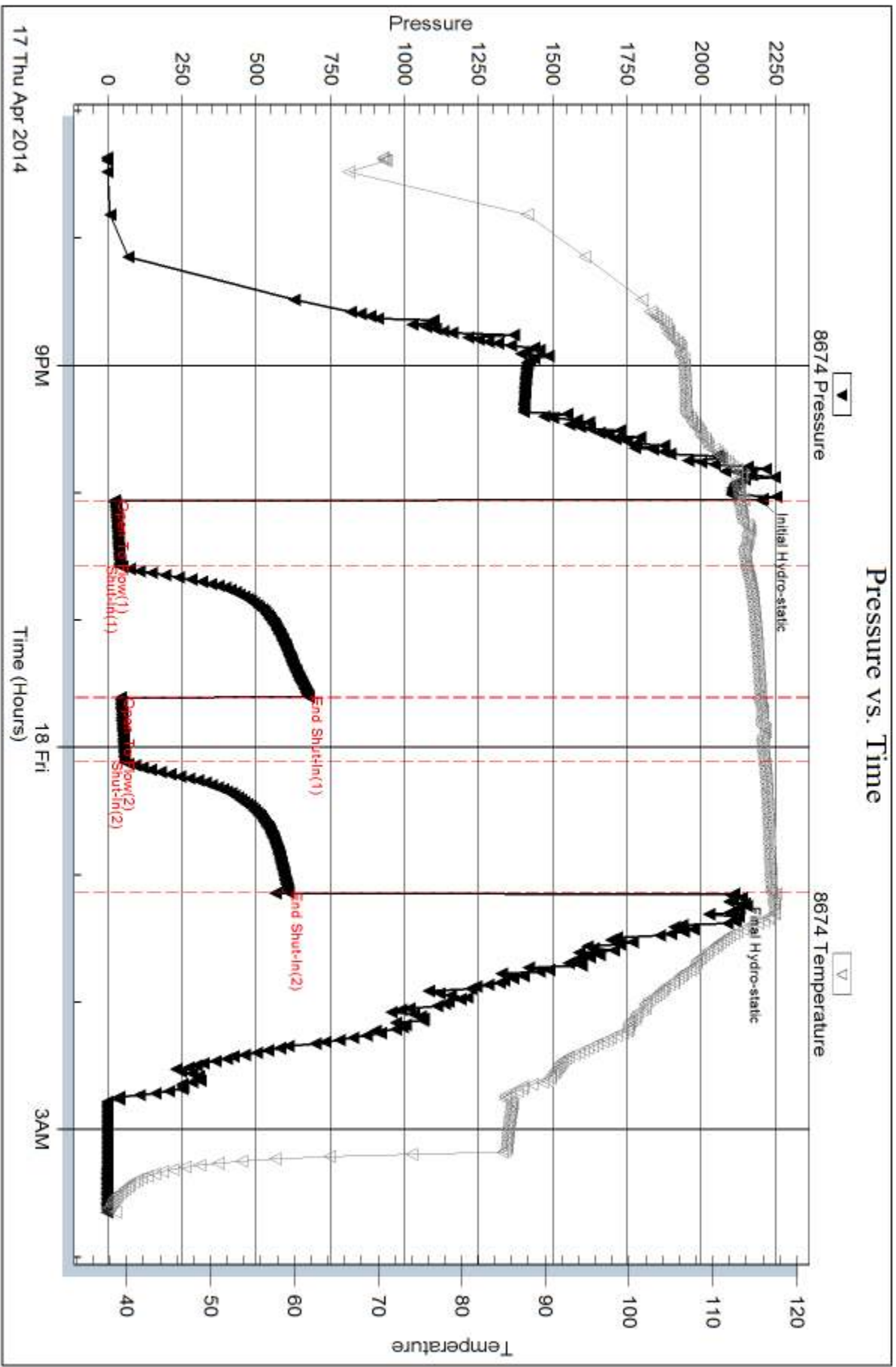
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	GOCM 2%g 2%oil 96%m	0.305

Total Length: 62.00 ft Total Volume: 0.305 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

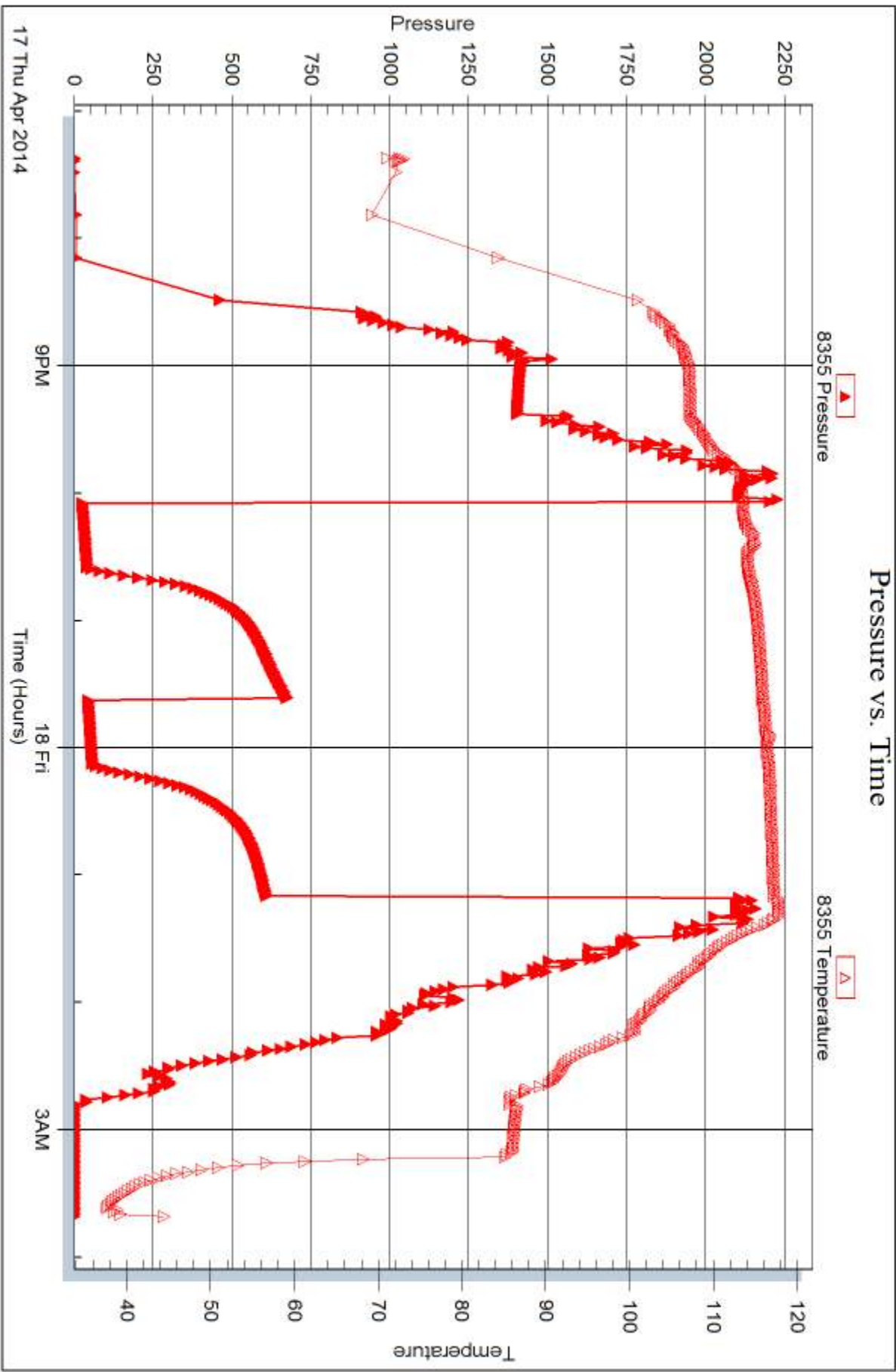


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 57244

Printed: 2014.04.24 @ 11:36:41



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.18 @ 19:48:00

End Date: 2014.04.19 @ 03:15:39

Job Ticket #: 57245 DST #: 7

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

Printed: 2014.04.24 @ 11:36:13

Murfin Drilling Co. Inc

12-13s-33w Logan,KS.

Racette #2-12

DST # 7

Ft. Scott / Johnson

2014.04.18



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

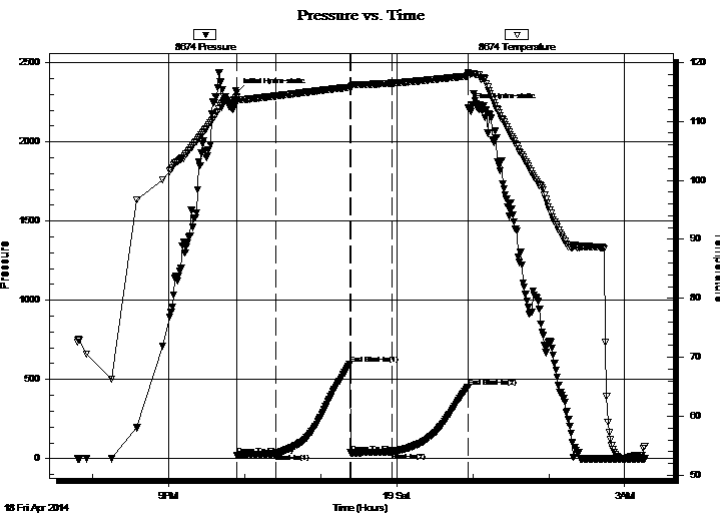
12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57245 **DST#: 7**
Test Start: 2014.04.18 @ 19:48:00

GENERAL INFORMATION:

Formation: **Ft. Scott / Johnson**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 21:53:40 Tester: Will MacLean
Time Test Ended: 03:15:39 Unit No: 72
Interval: 4504.00 ft (KB) To 4610.00 ft (KB) (TVD) Reference Elevations: 3044.00 ft (KB)
Total Depth: 4610.00 ft (KB) (TVD) 3032.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

Serial #: 8674 Inside
Press@RunDepth: 41.77 psig @ 4505.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.18 End Date: 2014.04.19 Last Calib.: 2014.04.19
Start Time: 19:48:00 End Time: 03:15:39 Time On Btm: 2014.04.18 @ 21:53:25
Time Off Btm: 2014.04.19 @ 00:56:24

TEST COMMENT: IF- Weak Surface Blow Built to 3/4"
IS- No Blow
FF- No Blow
FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2311.97	114.10	Initial Hydro-static
1	21.45	113.14	Open To Flow (1)
31	30.80	114.29	Shut-In(1)
90	598.84	115.77	End Shut-In(1)
90	36.26	115.58	Open To Flow (2)
123	41.77	116.49	Shut-In(2)
183	449.24	117.65	End Shut-In(2)
183	2217.43	118.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	GOCM 2%g 3%oil 95%m	0.20

* 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
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57245 **DST#: 7**
Test Start: 2014.04.18 @ 19:48:00

Tool Information

Drill Pipe:	Length: 4261.00 ft	Diameter: 3.80 inches	Volume: 59.77 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 28000.00 lb
			<u>Total Volume: 60.94 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4504.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	106.00 ft			
Tool Length:	133.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4478.00	
Shut In Tool	5.00			4483.00	
Hydraulic tool	5.00			4488.00	
Jars	5.00			4493.00	
Safety Joint	2.00			4495.00	
Packer	5.00			4500.00	27.00 Bottom Of Top Packer
Packer	4.00			4504.00	
Stubb	1.00			4505.00	
Recorder	0.00	8355	Outside	4505.00	
Recorder	0.00	8674	Inside	4505.00	
Perforations	35.00			4540.00	
Change Over Sub	1.00			4541.00	
Drill Pipe	63.00			4604.00	
Change Over Sub	1.00			4605.00	
Bullnose	5.00			4610.00	106.00 Bottom Packers & Anchor

Total Tool Length: 133.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57245 **DST#: 7**
Test Start: 2014.04.18 @ 19:48:00

Mud and Cushion Information

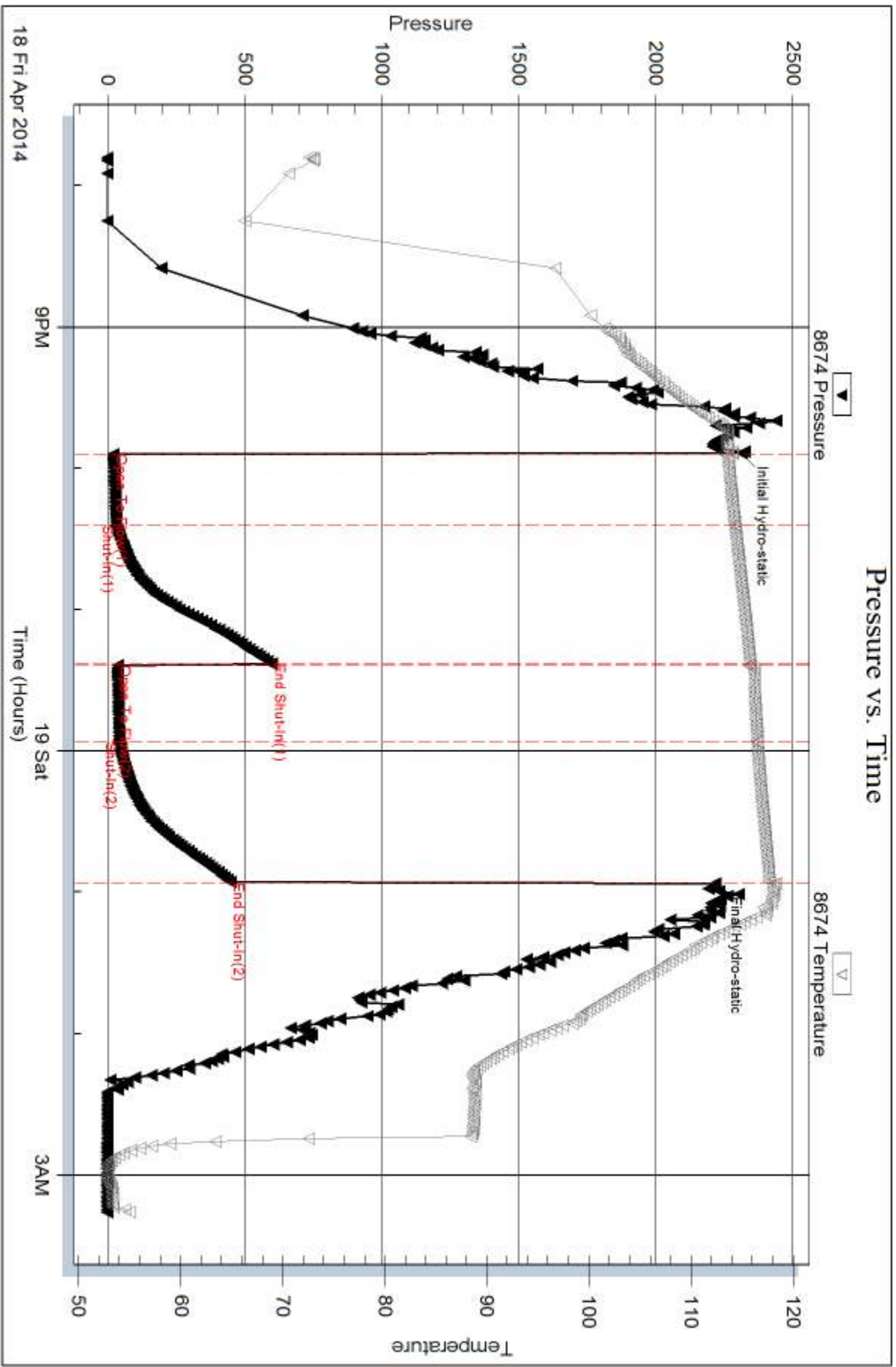
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.36 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	GOCM 2%g 3%oil 95%m	0.197

Total Length: 40.00 ft Total Volume: 0.197 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

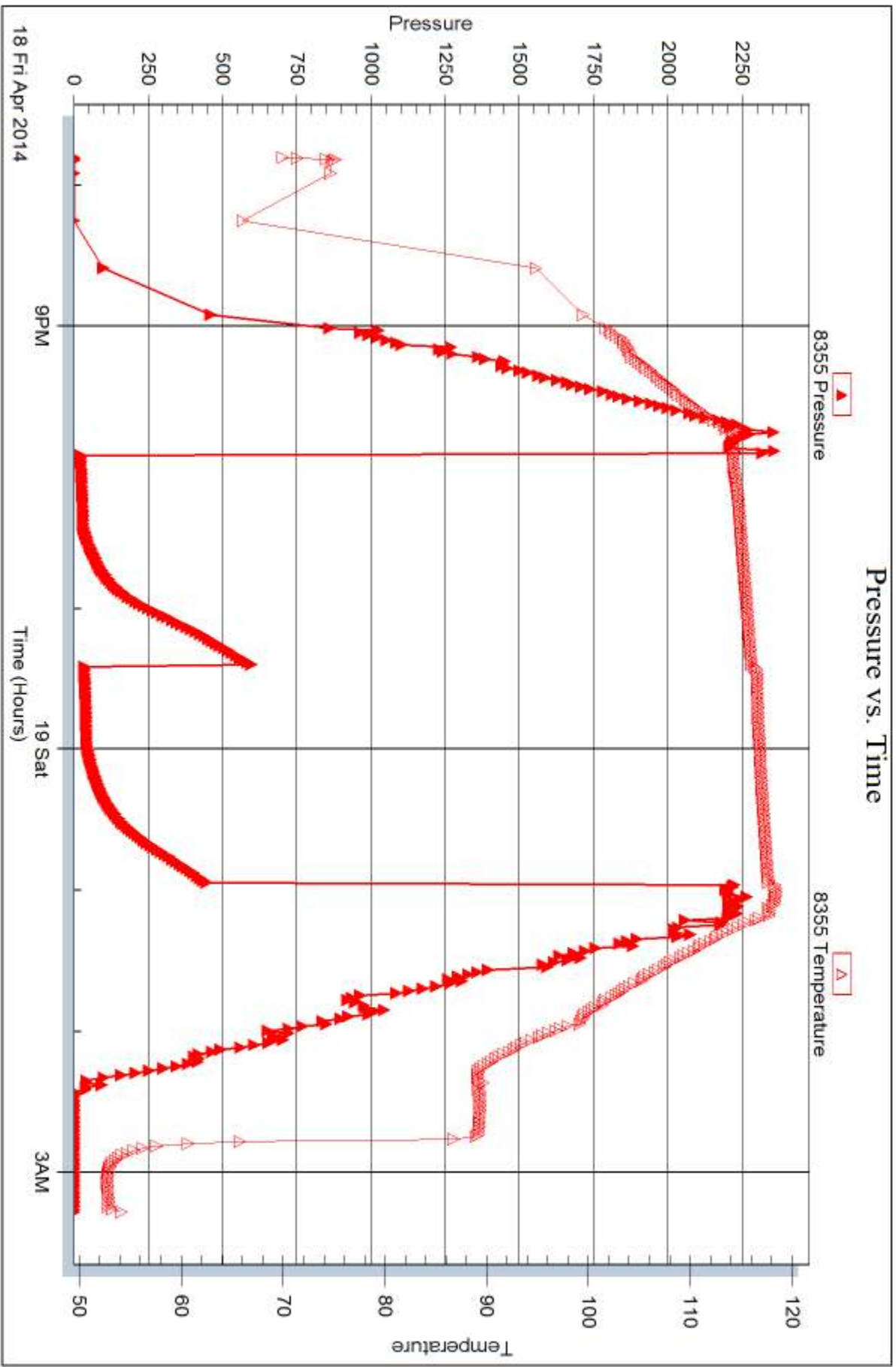


Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 7



Triobite Testing, Inc

Ref. No: 57245

Printed: 2014.04.24 @ 11:36:14



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS. 67202

ATTN: Wes Hansen

Racette #2-12

12-13s-33w Logan,KS.

Start Date: 2014.04.19 @ 14:10:00

End Date: 2014.04.19 @ 23:36:10

Job Ticket #: 57246 DST #: 8

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

Printed: 2014.04.24 @ 11:35:32



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc
 250 N. Water Ste 300
 Wichita KS. 67202
 ATTN: Wes Hansen

12-13s-33w Logan, KS.
Racette #2-12
 Job Ticket: 57246 **DST#: 8**
 Test Start: 2014.04.19 @ 14:10:00

GENERAL INFORMATION:

Formation: **Basal Penn Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:18:40
 Time Test Ended: 23:36:10
 Interval: **4610.00 ft (KB) To 4685.00 ft (KB) (TVD)**
 Total Depth: 4685.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 72
 Reference Elevations: 3044.00 ft (KB)
 3032.00 ft (CF)
 KB to GR/CF: 12.00 ft

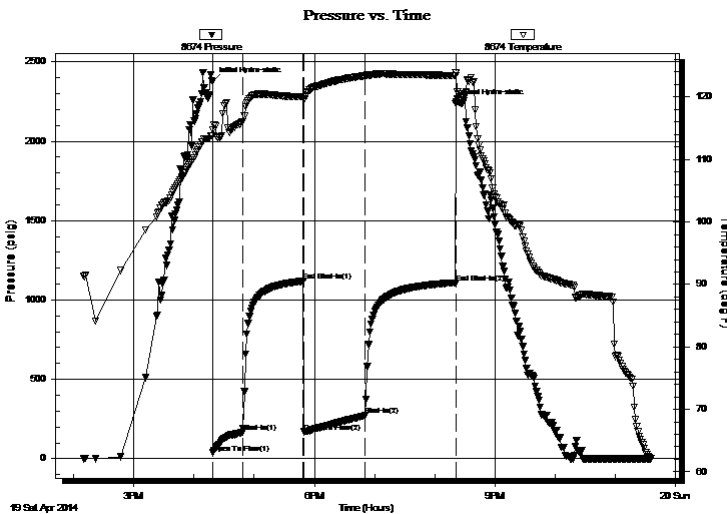
Serial #: 8674

Inside

Press@RunDepth: 271.60 psig @ 4611.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.19 End Date: 2014.04.19 Last Calib.: 2014.04.19
 Start Time: 14:10:00 End Time: 23:36:10 Time On Btm: 2014.04.19 @ 16:18:10
 Time Off Btm: 2014.04.19 @ 20:20:54

TEST COMMENT: IF- Weak Surface Blow Built to BOB in 20 min
 IS- Very Weak Surface Blow in 26 min Died in 45 min
 FF- Weak Surface Blow Built to BOB in 10 1/4 min
 FS- Weak Surface Blow in 2 min Built to 7"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2374.61	113.82	Initial Hydro-static
1	35.92	113.85	Open To Flow (1)
31	167.71	116.04	Shut-In(1)
91	1118.86	120.04	End Shut-In(1)
92	169.18	119.60	Open To Flow (2)
153	271.60	123.41	Shut-In(2)
243	1108.86	123.48	End Shut-In(2)
243	2238.54	123.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GOWCM 4%g 7%oil 30%w 59%m	0.59
60.00	WOGCM 16%w 24%oil 27%g 33%m	0.30
60.00	GOCM 19%g 22%oil 59%m	0.31
186.00	OGCM 18%oil 35%g 47%m	2.61
124.00	GOCM 15%g 24%oil 61%m	1.74
47.00	GMCO 6%g 8%m 86%oil	0.66

* Recovery from multiple tests

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: Wes Hansen

12-13s-33w Logan,KS.

Racette #2-12

Job Ticket: 57246

DST#: 8

Test Start: 2014.04.19 @ 14:10:00

GENERAL INFORMATION:

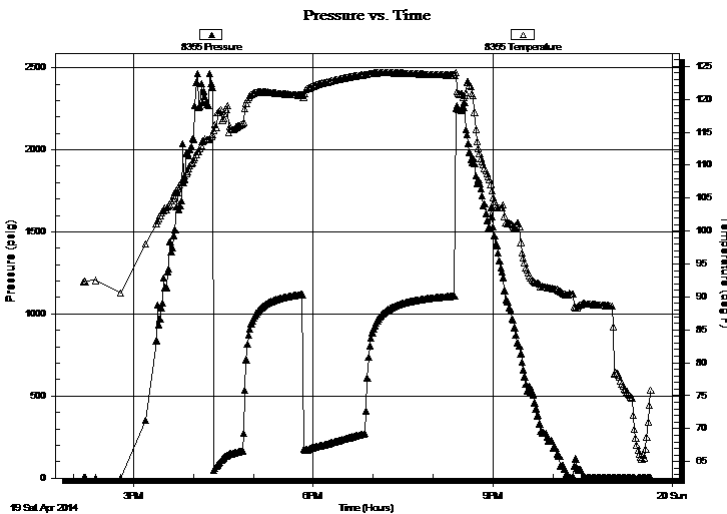
Formation: **Basal Penn Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:18:40
 Time Test Ended: 23:36:10
 Interval: **4610.00 ft (KB) To 4685.00 ft (KB) (TVD)**
 Total Depth: 4685.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 72
 Reference Elevations: 3044.00 ft (KB)
 3032.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8355 Outside

Press@RunDepth: psig @ 4611.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.19 End Date: 2014.04.19 Last Calib.: 2014.04.19
 Start Time: 14:10:05 End Time: 23:38:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to BOB in 20 min
 IS- Very Weak Surface Blow in 26 min Died in 45 min
 FF- Weak Surface Blow Built to BOB in 10 1/4 min
 FS- Weak Surface Blow in 2 min Built to 7"

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GOWCM 4%g 7%oil 30%w 59%m	0.59
60.00	WOGCM 16%w 24%oil 27%g 33%m	0.30
60.00	GOCM 19%g 22%oil 59%m	0.31
186.00	OGCM 18%oil 35%g 47%m	2.61
124.00	GOCM 15%g 24%oil 61%m	1.74
47.00	GMCO 6%g 8%m 86%oil	0.66

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
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57246 **DST#: 8**
Test Start: 2014.04.19 @ 14:10:00

Tool Information

Drill Pipe:	Length: 4357.00 ft	Diameter: 3.80 inches	Volume: 61.12 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	32000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	30000.00 lb
			<u>Total Volume: 62.29 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	82000.00 lb
Depth to Top Packer:	4610.00 ft			Final	82000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	75.00 ft				
Tool Length:	102.00 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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Change Over Sub	1.00			4584.00	
Shut In Tool	5.00			4589.00	
Hydraulic tool	5.00			4594.00	
Jars	5.00			4599.00	
Safety Joint	2.00			4601.00	
Packer	5.00			4606.00	27.00 Bottom Of Top Packer
Packer	4.00			4610.00	
Stubb	1.00			4611.00	
Recorder	0.00	8355	Outside	4611.00	
Recorder	0.00	8674	Inside	4611.00	
Perforations	5.00			4616.00	
Change Over Sub	1.00			4617.00	
Drill Pipe	62.00			4679.00	
Change Over Sub	1.00			4680.00	
Bullnose	5.00			4685.00	75.00 Bottom Packers & Anchor

Total Tool Length: 102.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc
250 N. Water Ste 300
Wichita KS. 67202
ATTN: Wes Hansen

12-13s-33w Logan,KS.
Racette #2-12
Job Ticket: 57246 **DST#: 8**
Test Start: 2014.04.19 @ 14:10:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 26 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 28100 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.15 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 9000.00 ppm		
Filter Cake: 2.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GOWCM 4%g 7%oil 30%w 59%m	0.590
60.00	WOGCM 16%w 24%oil 27%g 33%m	0.295
60.00	GOCM 19%g 22%oil 59%m	0.313
186.00	OGCM 18%oil 35%g 47%m	2.609
124.00	GOCM 15%g 24%oil 61%m	1.739
47.00	GMCO 6%g 8%m 86%oil	0.659
0.00	759' of Weak GIP	0.000

Total Length: 597.00 ft Total Volume: 6.205 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is .235 @ 70f = 28100
 API is 27 @ 70f =26

Serial #: 8674

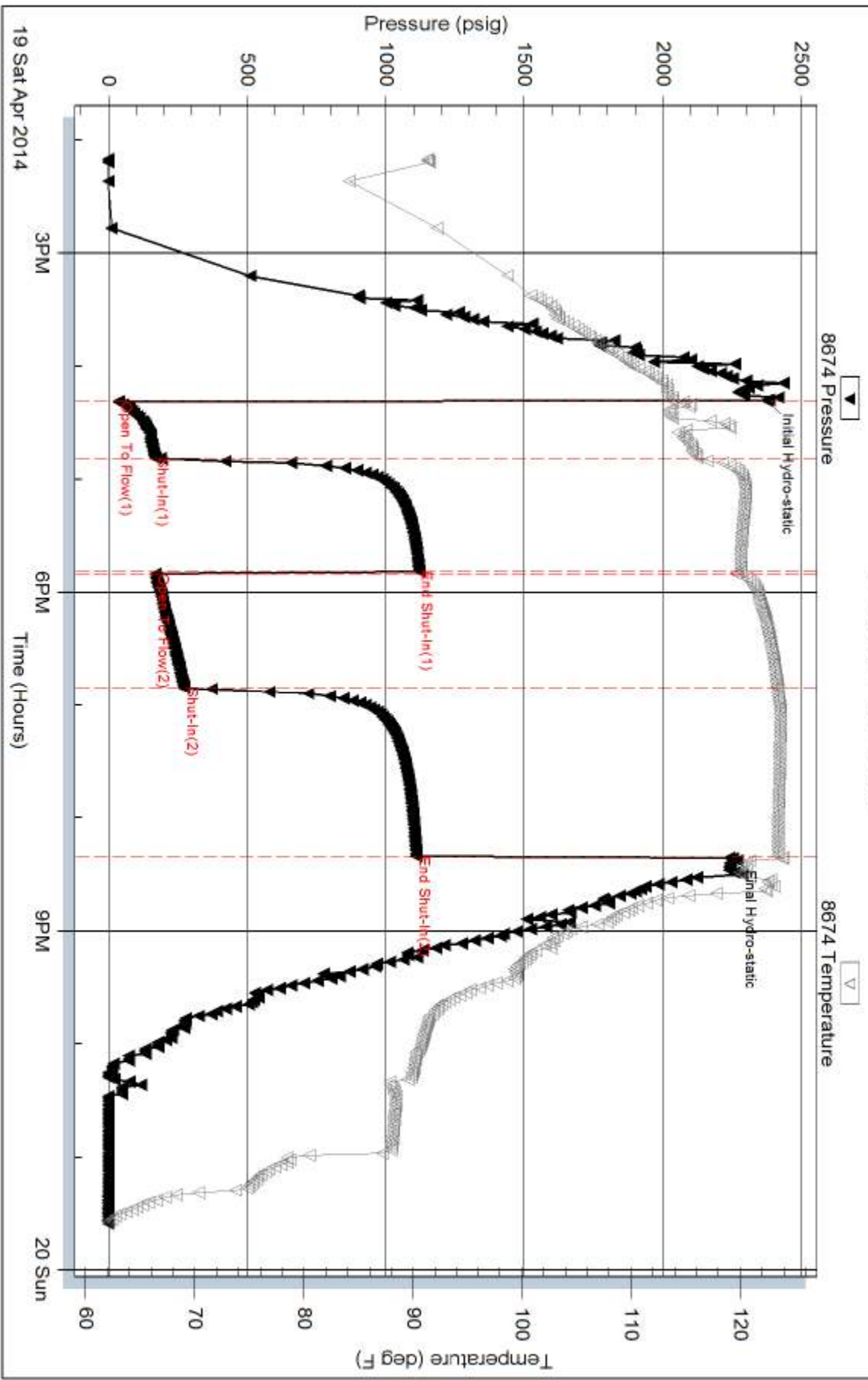
Inside

Murfin Drilling Co. Inc

Racette #2-12

DST Test Number: 8

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 57246

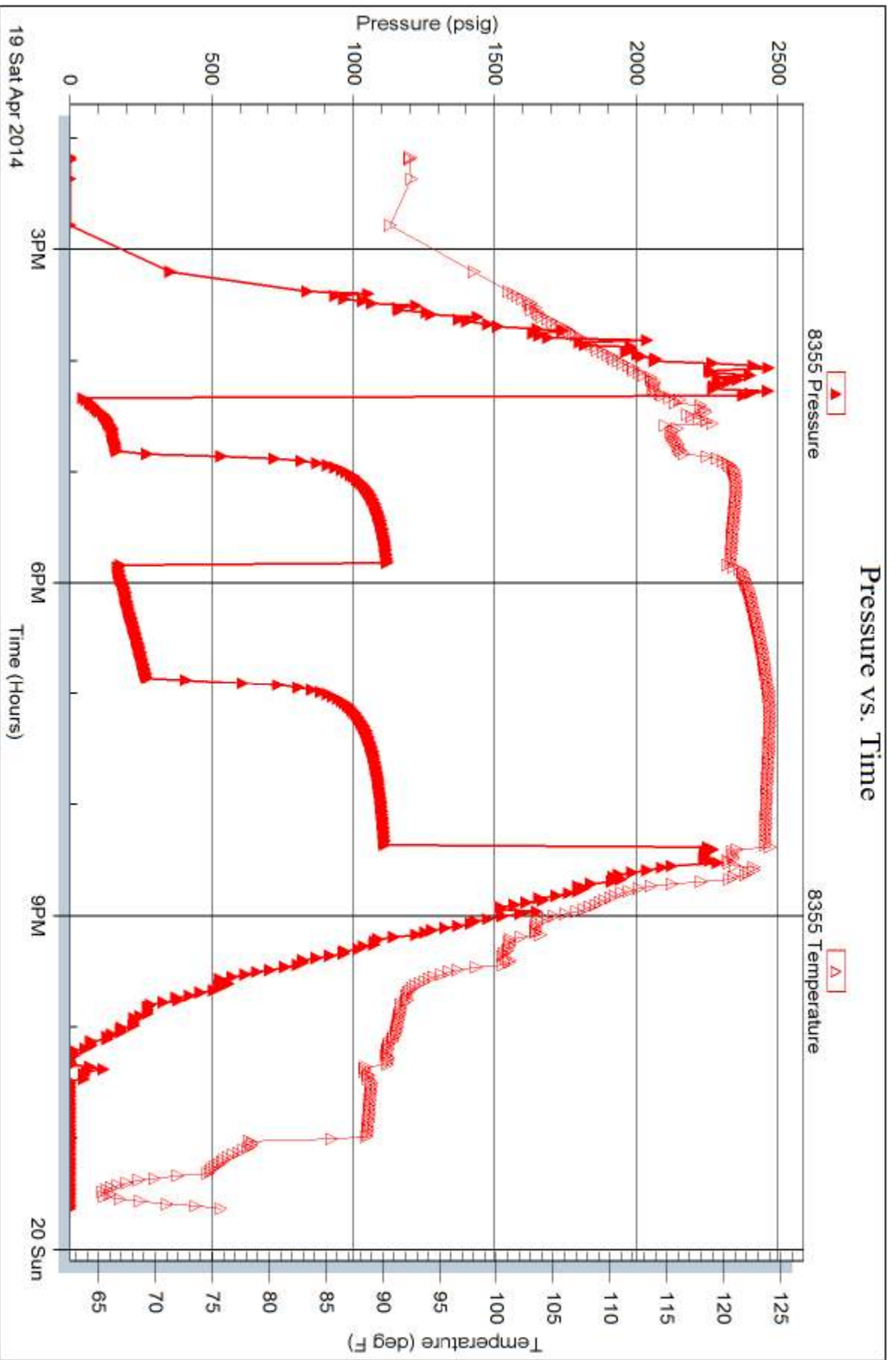
Printed: 2014.04.24 @ 11:35:33

Serial #: 8355

Outside Murfin Drilling Co. Inc

Racette #2-12

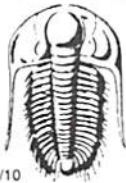
DST Test Number: 8



Trilobite Testing, Inc

Ref. No: 57246

Printed: 2014.04.24 @ 11:35:33



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57239

Well Name & No. Racette # 2-12 Test No. DST #1 Date 4-11-14
 Company Murfin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita KS, 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 3968-4010 Zone Tested Toronto
 Anchor Length 42 Drill Pipe Run 3729 Mud Wt. 9.0
 Top Packer Depth 3964 Drill Collars Run 238 Vis 6.1
 Bottom Packer Depth 3968 Wt. Pipe Run 0 WL 6.4
 Total Depth 4010 Chlorides 5900 ppm System LCM 4/6
 Blow Description IF - Surface Blow Built to BOB in 1 1/4 min
ISI - No Blow
FF - Surface Blow Built to BOB in 2 1/2 min
FST - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>171</u>	<u>WCM a few oil spots</u>		<u>42</u>	<u>58</u>	
<u>248</u>	<u>MCW</u>		<u>63</u>	<u>37</u>	
<u>334</u>	<u>MCW</u>		<u>92</u>	<u>8</u>	
<u>1354</u>	<u>MCW</u>		<u>97</u>	<u>3</u>	

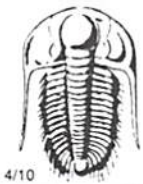
Rec Total 2207 BHT 117 Gravity 1.38 @ 84 ° F Chlorides 41000 ppm
 Test 1250 T-On Location 13:14
 Jars 250 T-Started 13:42
 Safety Joint 75 T-Open 15:52
 Circ Sub N/C T-Pulled 18:56
 Hourly Standby T-Out 22:05
 Mileage 84 R/T 130.20
 Sampler
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 1705.20

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

Sub Total 0
 Total 1705.20
 MP/DST Disc't

Approved By _____ Our Representative Wes Hansen

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. 57240

Well Name & No. Racette # 2-12 Test No. DST #2 Date 4-12-14
 Company Murfin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita Ks 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 4041 - 4100 Zone Tested LKC "B + D"
 Anchor Length 59 Drill Pipe Run 3794 Mud Wt. 9.0
 Top Packer Depth 4037 Drill Collars Run 238 Vis 61
 Bottom Packer Depth 4041 Wt. Pipe Run 0 WL 6.4
 Total Depth 4100 Chlorides 5900 ppm System LCM 416

Blow Description IF - Weak Surface Blow Built to 11"
FSI - No Blow
FF - Weak Surface Blow Built to BOB in 52 min
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>122</u>	<u>WC M</u>			<u>41</u>	<u>59</u>
<u>186</u>	<u>M CW</u>			<u>66</u>	<u>34</u>
<u>300</u>	<u>M CW</u>			<u>79</u>	<u>21</u>

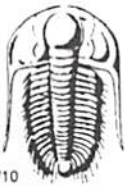
Rec Total 608 BHT 116 Gravity _____ API RW 165 @ 65 °F Chlorides 43500 ppm

(A) Initial Hydrostatic 2069 Test 1250 T-On Location 12:26
 (B) First Initial Flow 20 Jars 250 T-Started 13:06
 (C) First Final Flow 166 Safety Joint 75 T-Open 15:10
 (D) Initial Shut-In 1156 Circ Sub N/C T-Pulled 19:13
 (E) Second Initial Flow 168 Hourly Standby _____ T-Out 21:34
 (F) Second Final Flow 299 Mileage 84 RIT 130.20 Comments _____
 (G) Final Shut-In 1146 Sampler _____
 (H) Final Hydrostatic 1882 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 30 Sub Total 0
 Initial Shut-In 60 Total 1705.20
 Final Flow 60 MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1705.20

Approved By Wesley Hansen Our Representative Tim M...

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. 57241

Well Name & No. Racette # 2-12 Test No. DST #3 Date 4-13-14/4-14-14
 Company Murfin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 No Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 4100-4118 Zone Tested LRC "E"
 Anchor Length 18 Drill Pipe Run 3855 Mud Wt. 9.3
 Top Packer Depth 4096 Drill Collars Run 238 Vis 151
 Bottom Packer Depth 4100 Wt. Pipe Run 0 WL 8.0
 Total Depth 4118 Chlorides 7700 ppm System LCM 516

Blow Description IF- Weak Surface Blow Built to 134
ISI- No Blow
FF- Weak Surface Blow Built to 3"
FST- No Blow

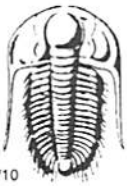
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>WCM</u>		<u>46</u>	<u>34</u>	
<u>120</u>	<u>MCW</u>		<u>61</u>	<u>39</u>	

Rec Total 150 BHT 113 Gravity _____ API RW, 521 @ 40 °F Chlorides 22500 ppm
 (A) Initial Hydrostatic 2089 Test 1250 T-On Location 5:46 | 7:56
 (B) First Initial Flow 19 Jars 250 T-Started 6:56 | 8:40
 (C) First Final Flow 41 Safety Joint 75 T-Open _____ | 11:01
 (D) Initial Shut-In 1155 Circ Sub N/C T-Pulled _____ | 15:05
 (E) Second Initial Flow 43 Hourly Standby _____ T-Out 10:02 | 17:33
 (F) Second Final Flow 91 Mileage 84 RIT x 2 Comments _____
 (G) Final Shut-In 1151 Sampler _____ | 260.40
 (H) Final Hydrostatic 1845 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1835.40
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 80
 Final Shut-In 90
 Sub Total 1835.40

Approved By Wesley Hansen Our Representative Wesley Hansen

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. 57242

4/10

Well Name & No. Racette # 2-12 Test No. DST #4 Date 4-15-14
 Company Murfin Drilling Co Inc Elevation 3044 KB 3032 GL
 Address 250 W. Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

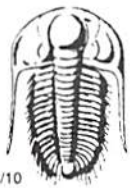
Interval Tested 4168-4230 Zone Tested LKC "H-I"
 Anchor Length 62 Drill Pipe Run 3919 Mud Wt. 9.0
 Top Packer Depth 4164 Drill Collars Run 238 Vis 61
 Bottom Packer Depth 4168 Wt. Pipe Run 0 WL 6.4
 Total Depth 4230 Chlorides 5900 ppm System LCM 515
 Blow Description JF- Weak Surface Blow Built to 34"
TSI- No Blow
FF- Weak Surface Blow Built to 1"
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>61</u>	<u>WCH with skin of oil</u>		<u>4</u>	<u>96</u>	
<u>60</u>	<u>WCM with skin of oil</u>		<u>23</u>	<u>77</u>	

Rec Total 121 BHT 114 Gravity _____ API RW 261 @ 71 °F Chlorides 25,200 ppm
 (A) Initial Hydrostatic 2149 Test 1250 T-On Location 9:02
 (B) First Initial Flow 19 Jars 250 T-Started 9:46
 (C) First Final Flow 40 Safety Joint 75 T-Open 11:32
 (D) Initial Shut-In 895 Circ Sub NIC T-Pulled 15:07
 (E) Second Initial Flow 43 Hourly Standby _____ T-Out 17:27
 (F) Second Final Flow 78 Mileage 84 RIT 130.20 Comments _____
 (G) Final Shut-In 866 Sampler _____
 (H) Final Hydrostatic 2019 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1705.20
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1705.20

Approved By Wesley Hansen 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. 57243

Well Name & No. Racette #2-12 Test No. DST #5 Date 4-16-14
 Company Martin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Martin 22
 Location: Sec. 12 Twp. 13s Rge. 33w Co. Logan State KS

Interval Tested 4230-4286 Zone Tested LRC "J-K"
 Anchor Length 56 Drill Pipe Run 3981 Mud Wt. 9.4
 Top Packer Depth 4226 Drill Collars Run 238 Vis 62
 Bottom Packer Depth 4230 Wt. Pipe Run 0 WL 8.8
 Total Depth 4286 Chlorides 8400 ppm System LCM 6/b
 Blow Description IF - Weak Surface Blow Built to 1"
ISI - No Blow
FF - Very Weak Surface Blow in 50 min
FSI - No Blow

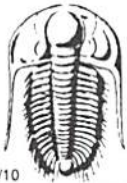
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>WOCM</u>	<u>5</u>	<u>2</u>	<u>93</u>	
<u>60</u>	<u>WOCM</u>	<u>3</u>	<u>6</u>	<u>89</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2124 Test 1250 T-On Location 5:16
 (B) First Initial Flow 22 Jars 250 T-Started 5:34
 (C) First Final Flow 34 Safety Joint 75 T-Open 7:29
 (D) Initial Shut-In 1098 Circ Sub NIC T-Pulled 11:36
 (E) Second Initial Flow 38 Hourly Standby _____ T-Out 14:00
 (F) Second Final Flow 56 Mileage 84 R/T 130.20 Comments _____
 (G) Final Shut-In 1075 Sampler _____
 (H) Final Hydrostatic 1973 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1705.20
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1705.20

Approved By Wes Hansen Our Representative Wes Hansen

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57244

4/10

Well Name & No. Racette #2-12 Test No. DST #6 Date 4-17-14
 Company Murfin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita KS. 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin 22
 Location: Sec. 12 Twp. 13s Rge. 33W Co. Logan State KS

Interval Tested 4345-4507 Zone Tested Marmanton - Pawnee
 Anchor Length 162 Drill Pipe Run 4104 Mud Wt. 9.3
 Top Packer Depth 4341 Drill Collars Run 238 Vis 54
 Bottom Packer Depth 4345 Wt. Pipe Run 0 WL 68
 Total Depth 4507 Chlorides 7000 ppm System LCM 516
 Blow Description IF- Weak Surface Blow Built to 1/2"
ISI- No Blow
FF- No Blow
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>60 CM</u>	<u>2</u>	<u>2</u>	<u>96</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

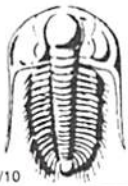
Rec Total 62 BHT 117 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2200 Test 1250 T-On Location 18:58
 (B) First Initial Flow 24 Jars 250 T-Started 19:22
 (C) First Final Flow 41 Safety Joint 75 T-Open 22:03
 (D) Initial Shut-In 676 Circ Sub NIC T-Pulled 1:08
 (E) Second Initial Flow 44 Hourly Standby _____ T-Out 3:39
 (F) Second Final Flow 57 Mileage 84 R/T 130.20 Comments _____
 (G) Final Shut-In 608 Sampler _____
 (H) Final Hydrostatic 2110 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1705.20
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1705.20

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

Approved By _____ Our Representative Will Moore

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57245

Well Name & No. Racette #2-12 Test No. DST #17 Date 4-18-14
 Company Martin Drilling Co. Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Martin 22
 Location: Sec. 12 Twp. 13S Rge. 33W Co. Logan State KS

Interval Tested 4504-4610 Zone Tested Ft. Scott - Johnson
 Anchor Length 106 Drill Pipe Run 4261 Mud Wt. 9.2
 Top Packer Depth 4500 Drill Collars Run 238 Vis 51
 Bottom Packer Depth 4504 Wt. Pipe Run 0 WL 8.4
 Total Depth 4610 Chlorides 8000 ppm System LCM 516
 Blow Description IF- Weak Surface Blow Built to 34"
ISI- No Blow
FF- No Blow
FST- No Blow

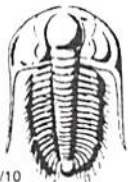
Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>60CM</u>	<u>2</u>	<u>3</u>	<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 40 BHT 118 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2311</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>19:28</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:48</u>
(C) First Final Flow <u>30</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:53</u>
(D) Initial Shut-In <u>598</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>00:56</u>
(E) Second Initial Flow <u>36</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>3:15</u>
(F) Second Final Flow <u>41</u>	<input checked="" type="checkbox"/> Mileage <u>84 RIT</u> 130.20	Comments _____
(G) Final Shut-In <u>449</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>2217</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1705.20</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1705.20</u>	

Approved By Wes Hansen Our Representative Wes Hansen

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57246

Well Name & No. Racette #2-12 Test No. DST #8 Date 4-19-14
 Company Martin Drilling Co Inc Elevation 3044 KB 3032 GL
 Address 250 N. Water St 300 Wichita KS 67202
 Co. Rep / Geo. Wes Hansen Rig Martin 22
 Location: Sec. 12 Twp. 13s Rge. 33w Co. Logan State KS

Interval Tested 4600-4685 Zone Tested Basal Perm Sand
 Anchor Length 75 Drill Pipe Run 4357 Mud Wt. 9.4
 Top Packer Depth 4606 Drill Collars Run 238 Vis 57
 Bottom Packer Depth 4610 Wt. Pipe Run 0 WL 9.2
 Total Depth 4685 Chlorides 9000 ppm System LCM 515

Blow Description TF - Weak Surface Blow Built to B&B in 20min
ISI - Very Weak Surface in 26min Died in 45min
FF - Weak Surface Blow Built to B&B in 10 1/4
FSL Weak Surface Blow in 2min Built to 7"

Rec	Feet of	%gas	%oil	%water	%mud
47	G-MCO	6	86	8	
124	G-OCM	15	24	61	
186	O-GCM	35	18	47	
60	G-OCM	19	22	59	
60	WOG-EM	27	24	16	33
120	G-OWCM	4	235	30	59
Rec Total	597 BHT 123	Gravity 26	API RW 235 @ 70 °F	Chlorides 28,100	ppm

(A) Initial Hydrostatic 2374 Test 1250 T-On Location 13:34
 (B) First Initial Flow 35 Jars 250 T-Started 14:10
 (C) First Final Flow 167 Safety Joint 75 T-Open 16:18
 (D) Initial Shut-In 1118 Circ Sub NIC T-Pulled 20:20
 (E) Second Initial Flow 169 Hourly Standby T-Out 23:36
 (F) Second Final Flow 271 Mileage 84 RIT 130.20 Comments API is 27 @ 70t = 26
 (G) Final Shut-In 1108 Sampler 759' of GJP
 (H) Final Hydrostatic 2238 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies

Initial Open 30 Sub Total 0
 Initial Shut-In 60 Total 1705.20
 Final Flow 60 MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1705.20

Approved By Wesley Hansen Our Representative [Signature]

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