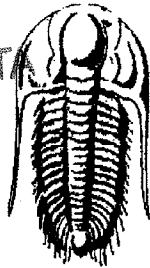


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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

4/9/18

Mosher-Simons Unit 1-4

SE SW NW

Start Date: 2005.07.24 @ 23:35:44

End Date: 2005.07.25 @ 09:35:14

Job Ticket #: 22428

DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

Mosher-Simons Unit 1-4

4/9/18

Job Ticket: 22428

DST#: 1

Test Start: 2005.07.24 @ 23:35:44

GENERAL INFORMATION:

Formation: **Toronto/Lansing**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 02:49:14

Time Test Ended: 09:35:14

Test Type: **Conventional Bottom Hole**

Tester: **Chris Hagman**

Unit No: **34**

Interval: **3133.00 ft (KB) To 3240.00 ft (KB) (TVD)**

Total Depth: **3240.00 ft (KB) (TVD)**

Hole Diameter: **7.78 inches** Hole Condition: **Good**

Reference Elevations: **2002.00 ft (KB)**

1997.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 6752 Inside

Press@RunDepth: **474.11 psig @ 3136.00 ft (KB)**

Start Date: **2005.07.24**

End Date: **2005.07.25**

Capacity: **7000.00 psig**

Last Calib.: **1899.12.30**

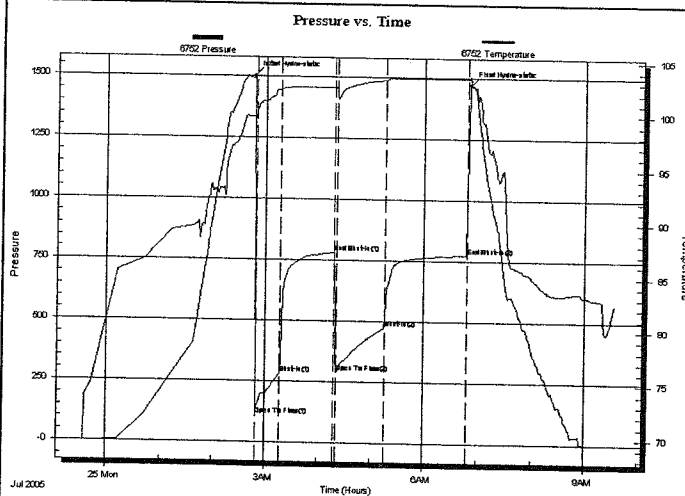
Start Time: **23:35:44**

End Time: **09:35:14**

Time On Btm: **2005.07.25 @ 02:46:34**

Time Off Btm: **2005.07.25 @ 06:51:14**

TEST COMMENT: IF: BOB 2 min., strong steady blow
IS: Blow back immediately, BOB 10 min.
FF: BOB ASAO, strong steady blow
FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1503.96	99.90	Initial Hydro-static
3	108.93	99.77	Open To Flow (1)
30	281.53	102.35	Shut-In(1)
93	781.84	102.56	End Shut-In(1)
95	289.38	102.31	Open To Flow (2)
150	474.11	103.29	Shut-In(2)
242	774.09	103.47	End Shut-In(2)
245	1472.12	103.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	30%G,60%O,10%W	0.93
930.00	20%G,80%O	13.05
124.00	20%G,20%O,60%M	1.74

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

Mosher-Simons Unit 1-4

250 N. Water, Suite 300 Wichita, KS 67202

4/9/18

Job Ticket: 22428

DST#: 1

ATTN: Kevin

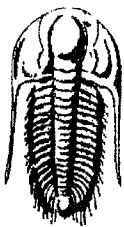
Test Start: 2005.07.24 @ 23:35:44

Tool Information

Drill Pipe:	Length: 2941.00 ft	Diameter: 3.80 inches	Volume: 41.25 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: 20000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 40000.00 lb
		Total Volume: 42.15 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3133.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	107.00 ft			
Tool Length:	127.00 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			3114.00	
Shut In Tool	5.00			3119.00	
Hydraulic tool	5.00			3124.00	
Packer	5.00			3129.00	20.00 Bottom Of Top Packer
Packer	4.00			3133.00	
Stubb	1.00			3134.00	
Perforations	2.00			3136.00	
Recorder	0.00	6752	Inside	3136.00	
Perforations	5.00			3141.00	
Recorder	0.00	13630	Inside	3141.00	
Change Over Sub	1.00			3142.00	
Drill Pipe	94.00			3236.00	
Change Over Sub	1.00			3237.00	
Bullnose	3.00			3240.00	107.00 Bottom Packers & Anchor
Total Tool Length:		127.00			



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

Mosher-Simons Unit 1-4

250 N. Water, Suite 300 Wichita, KS 67202

4/9/18

Job Ticket: 22428

DST#: 1

ATTN: Kevin

Test Start: 2005.07.24 @ 23:35:44

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	30%G,60%O,10%W	0.933
930.00	20%G,80%O	13.045
124.00	20%G,20%O,60%M	1.739

Total Length: 1240.00 ft

Total Volume: 15.717 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

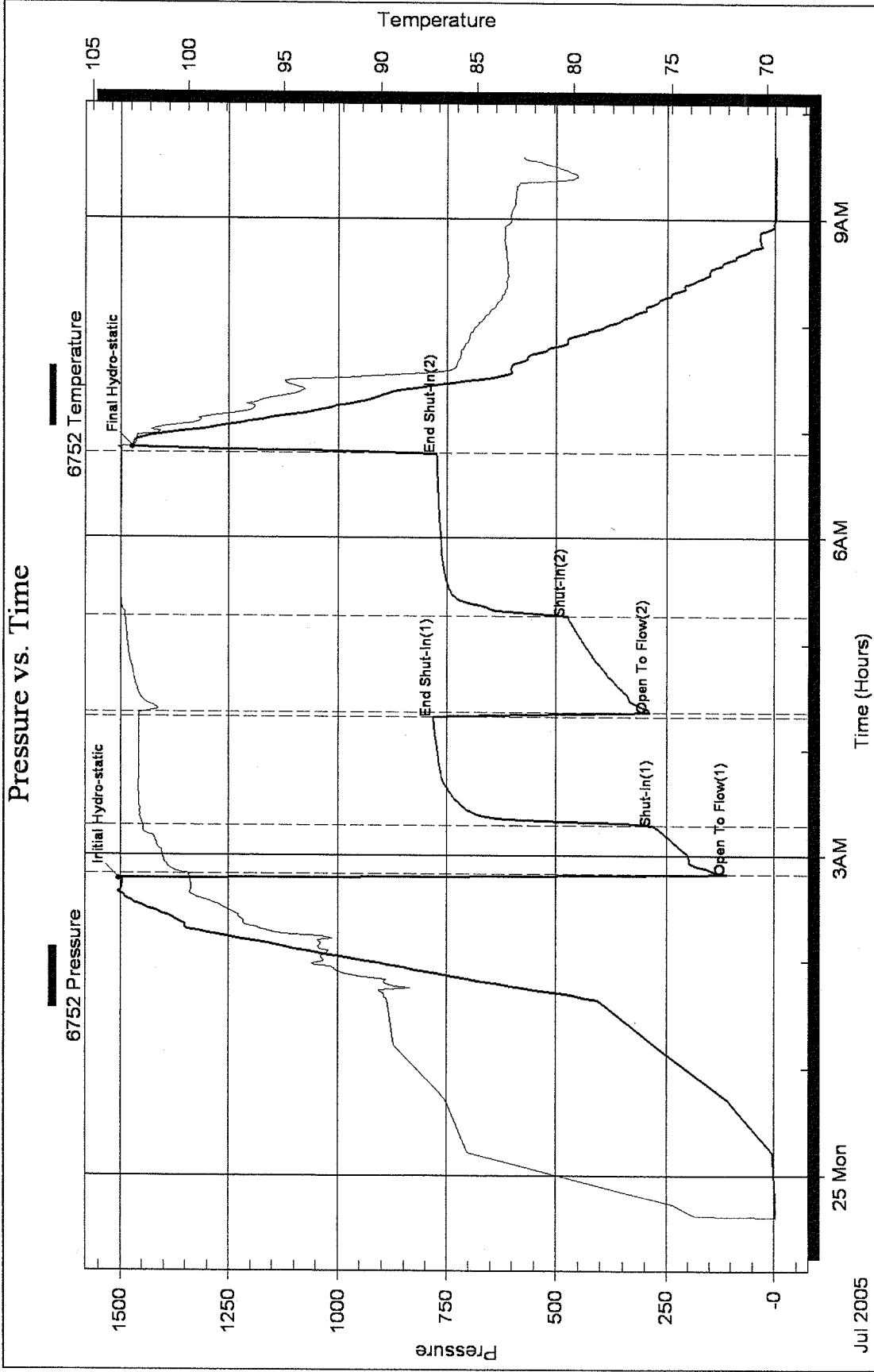
Serial #:

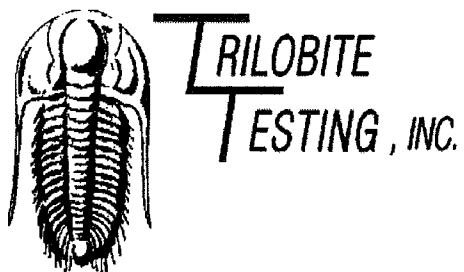
Laboratory Name:

Laboratory Location:

Recovery Comments: API=32@80F=30

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

4/9/18

Mosher-Simons Unit 1-4

Start Date: 2005.07.25 @ 17:41:38

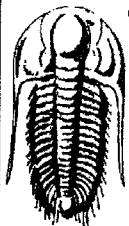
End Date: 2005.07.26 @ 03:40:47

Job Ticket #: 22429 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

Mosher-Simons Unit 1-4

4/9/18

Job Ticket: 22429

DST#: 2

Test Start: 2005.07.25 @ 17:41:38

GENERAL INFORMATION:

Formation: **Lansing EFG**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 20:29:28

Time Test Ended: 03:40:47

Test Type: **Conventional Bottom Hole**

Tester: **Chris Hagman**

Unit No: **34**

Interval: **3237.00 ft (KB) To 3276.00 ft (KB) (TVD)**

Total Depth: **3276.00 ft (KB) (TVD)**

Hole Diameter: **7.78 inches** Hole Condition: **Good**

Reference Elevations: **2002.00 ft (KB)**

1997.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 6752 **Inside**

Press@RunDepth: **494.25 psig @ 3240.00 ft (KB)**

Start Date: **2005.07.25**

End Date:

2005.07.26

Start Time: **17:41:38**

End Time:

03:40:48

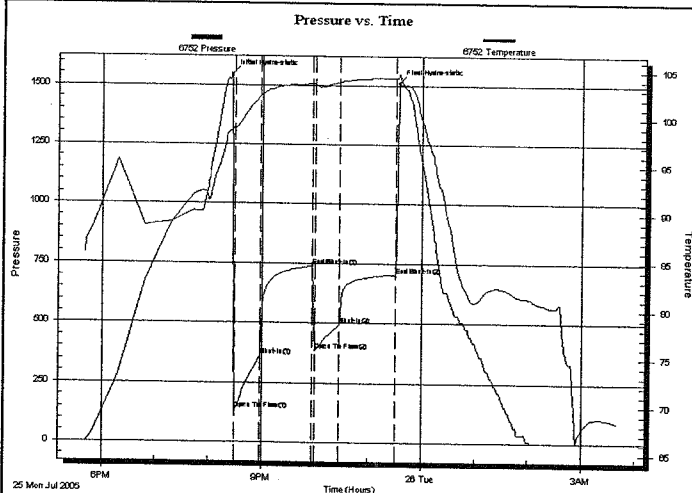
Capacity: **7000.00 psig**

Last Calib.: **1899.12.30**

Time On Btm: **2005.07.25 @ 20:26:28**

Time Off Btm: **2005.07.25 @ 23:33:58**

TEST COMMENT: IF: BOB 1 min., strong steady blow
IS: Blow back immediately, BOB 5 min.
FF: BOB 2 min., strong steady blow
FSI: Blow back immediately, BOB 5 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1545.79	98.78	Initial Hydro-static
3	138.55	98.97	Open To Flow (1)
32	361.88	102.43	Shut-In(1)
90	739.68	103.68	End Shut-In(1)
94	385.92	103.61	Open To Flow (2)
122	494.25	103.86	Shut-In(2)
185	704.92	104.35	End Shut-In(2)
188	1510.33	104.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	40%G,50%O,10%W	0.93
62.00	20%G,25%O,5%W,50%M	0.87
1116.00	30%G,70%O	15.65

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

Mosher-Simons Unit 1-4

4/9/18

Job Ticket: 22429

DST#: 2

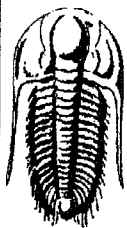
Test Start: 2005.07.25 @ 17:41:38

Tool Information

Drill Pipe:	Length: 3045.00 ft	Diameter: 3.80 inches	Volume: 42.71 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: 20000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 40000.00 lb
			Total Volume: 43.61 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft	String Weight: Initial 34000.00 lb		
Depth to Top Packer:	3237.00 ft	Final 39000.00 lb		
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	59.00 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			3218.00	
Shut In Tool	5.00			3223.00	
Hydraulic tool	5.00			3228.00	
Packer	5.00			3233.00	20.00 Bottom Of Top Packer
Packer	4.00			3237.00	
Stubb	1.00			3238.00	
Perforations	2.00			3240.00	
Recorder	0.00	6752	Inside	3240.00	
Change Over Sub	1.00			3241.00	
Drill Pipe	31.00			3272.00	
Change Over Sub	1.00			3273.00	
Recorder	0.00	13630	Inside	3273.00	
Bullnose	3.00			3276.00	39.00 Bottom Packers & Anchor

Total Tool Length: 59.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

Mosher-Simons Unit 1-4

250 N. Water, Suite 300 Wichita, KS 67202

4/9/18

Job Ticket: 22429

DST#: 2

ATTN: Kevin

Test Start: 2005.07.25 @ 17:41:38

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	40%G,50%O,10%W	0.933
62.00	20%G,25%O,5%W,50%M	0.870
1116.00	30%G,70%O	15.655

Total Length: 1364.00 ft

Total Volume: 17.458 bbl

Num Fluid Samples: 0

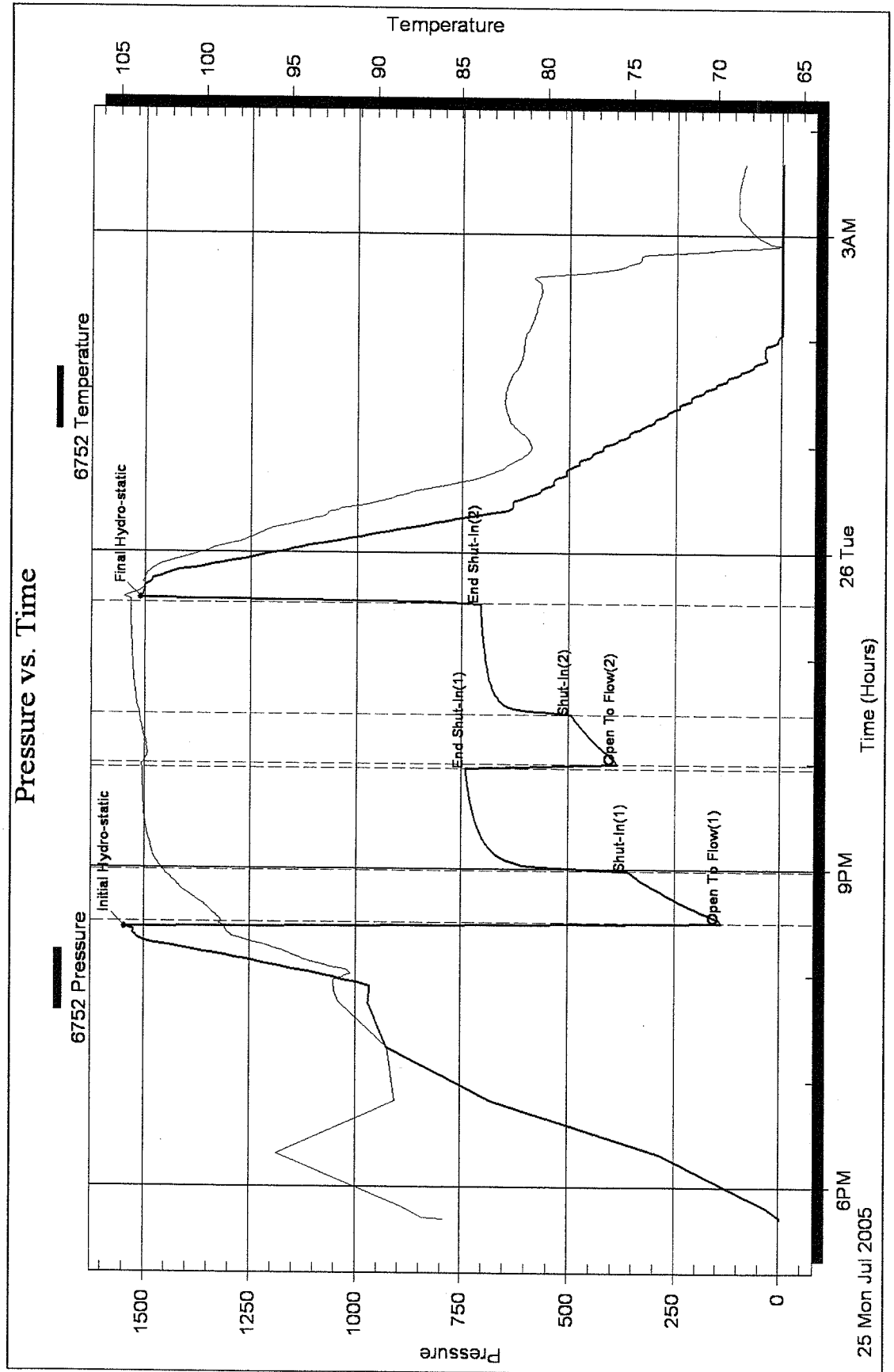
Num Gas Bombs: 0

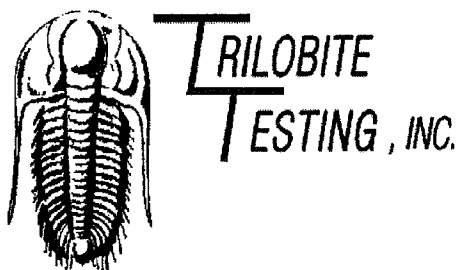
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API=31@80F=29





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

4/9/18

Mosher-Simons Unit 1-4

Start Date: 2005.07.26 @ 14:34:22

End Date: 2005.07.26 @ 21:43:22

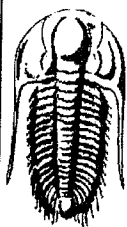
Job Ticket #: 22430

DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

Mosher-Simons Unit 1-4

4/9/18

Job Ticket: 22430

DST#: 3

Test Start: 2005.07.26 @ 14:34:22

GENERAL INFORMATION:

Formation: **Lansing**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 16:56:01

Time Test Ended: 21:43:22

Test Type: **Conventional Bottom Hole**

Tester: **Chris Hagman**

Unit No: **34**

Interval: **3294.00 ft (KB) To 3380.00 ft (KB) (TVD)**

Total Depth: **3380.00 ft (KB) (TVD)**

Hole Diameter: **7.78 inches** Hole Condition: **Good**

Reference Elevations: **2002.00 ft (KB)**

1997.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: **36.96 psig @ 3297.00 ft (KB)**

Start Date: **2005.07.26**

End Date:

2005.07.26

Start Time: **14:34:22**

End Time:

21:43:22

Capacity: **7000.00 psig**

Last Calib.: **1899.12.30**

Time On Btm: **2005.07.26 @ 16:53:01**

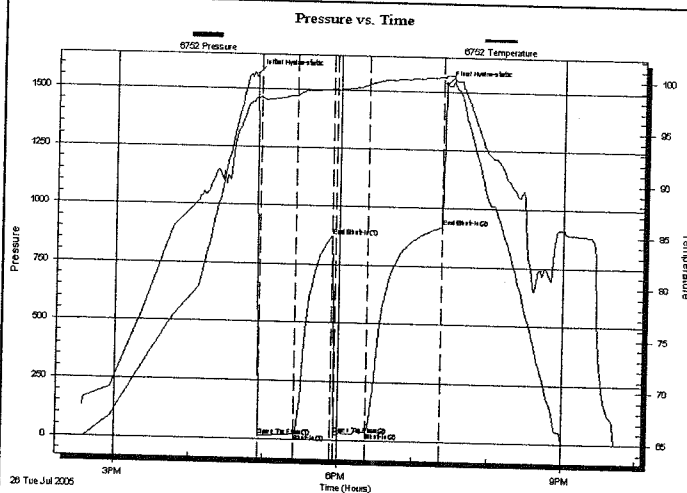
Time Off Btm: **2005.07.26 @ 19:25:02**

TEST COMMENT: IF: Weak surface blow, .5 inch in 10 min., died 20 min.

IS: No blow back

FF: No blow

FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1561.62	97.96	Initial Hydro-static
3	14.04	97.97	Open To Flow (1)
32	22.90	98.30	Shut-In(1)
62	871.50	98.96	End Shut-In(1)
64	24.17	98.74	Open To Flow (2)
90	36.96	99.47	Shut-In(2)
150	919.38	100.28	End Shut-In(2)
153	1532.11	100.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	100%M,Skim O	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

Mosher-Simons Unit 1-4

4/9/18

Job Ticket: 22430

DST#: 3

Test Start: 2005.07.26 @ 14:34:22

Tool Information

Drill Pipe:	Length: 3105.00 ft	Diameter: 3.80 inches	Volume: 43.55 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:	20000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose:	36000.00 lb
			Total Volume: 44.45 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	35000.00 lb
Depth to Top Packer:	3294.00 ft			Final	35000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	86.00 ft				
Tool Length:	106.00 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			3275.00	
Shut In Tool	5.00			3280.00	
Hydraulic tool	5.00			3285.00	
Packer	5.00			3290.00	20.00 Bottom Of Top Packer
Packer	4.00			3294.00	
Stubb	1.00			3295.00	
Perforations	2.00			3297.00	
Recorder	0.00	6752	Inside	3297.00	
Perforations	16.00			3313.00	
Change Over Sub	1.00			3314.00	
Drill Pipe	62.00			3376.00	
Change Over Sub	1.00			3377.00	
Recorder	0.00	13630	Inside	3377.00	
Bullnose	3.00			3380.00	86.00 Bottom Packers & Anchor

Total Tool Length: 106.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

Mosher-Simons Unit 1-4

250 N. Water, Suite 300 Wichita, KS 67202

4/9/18

Job Ticket: 22430

DST#: 3

ATTN: Kevin

Test Start: 2005.07.26 @ 14:34:22

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 39.00 sec/qt

Water Loss: 8.37 in³

Resistivity: ohm.m

Salinity: 3400.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

deg API

Water Salinity: 5600 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	100%M, Skim O	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=1.052@72F=5600ppm

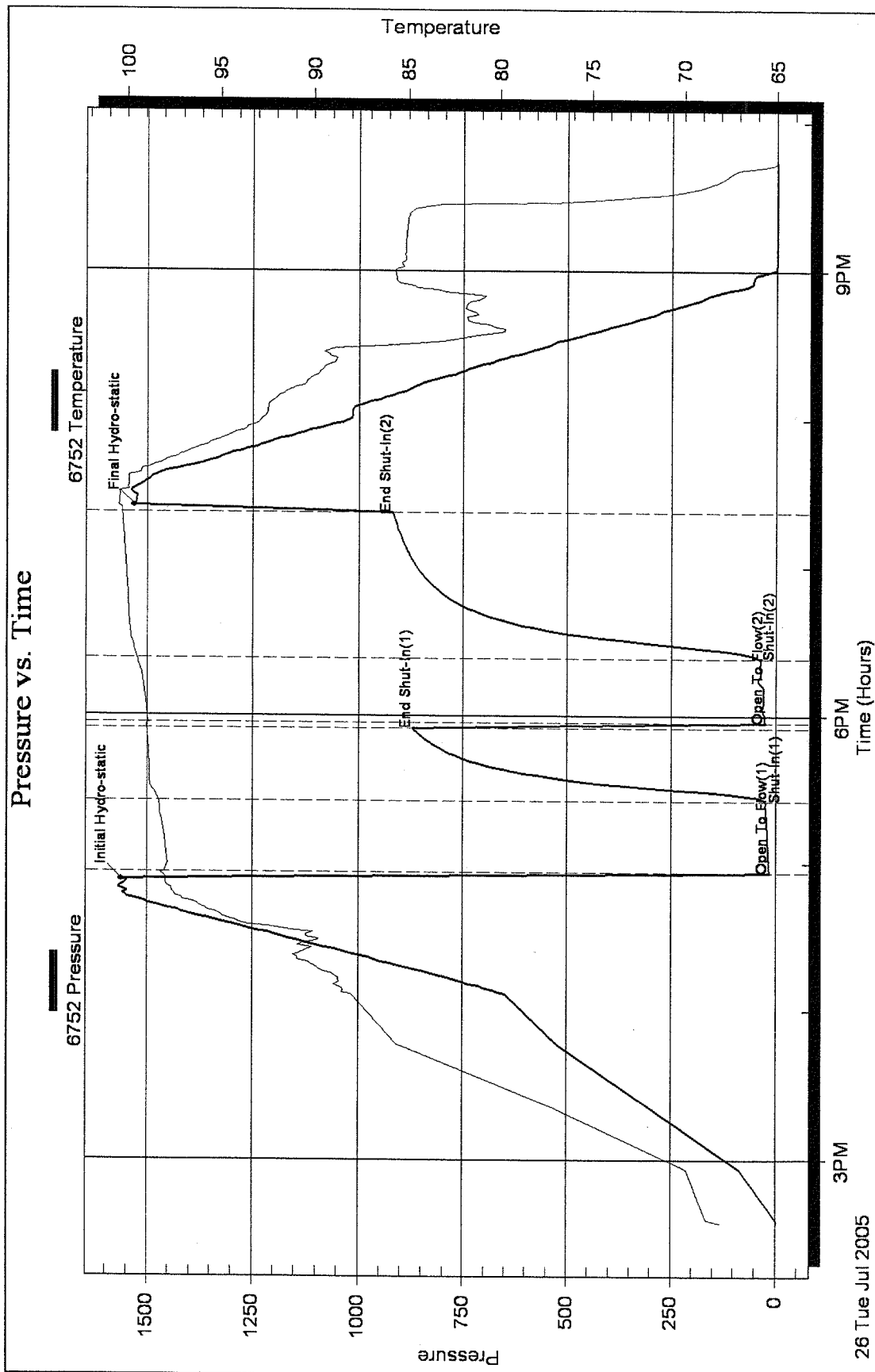
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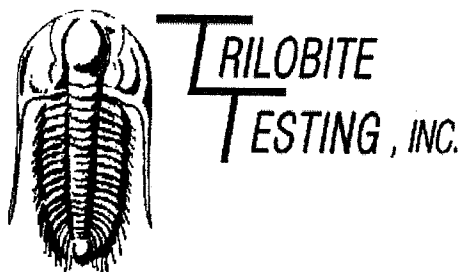
Inside

Murfin Drilling Co.

4/9/18

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

4/9/18

Mosher-Simons Unit 1-4

Start Date: 2005.07.27 @ 07:57:35

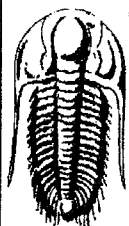
End Date: 2005.07.27 @ 13:26:35

Job Ticket #: 22431 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

Mosher-Simons Unit 1-4

4/9/18

Job Ticket: 22431

DST#: 4

Test Start: 2005.07.27 @ 07:57:35

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 09:37:05

Time Test Ended: 13:26:35

Test Type: **Conventional Bottom Hole**

Tester: **Chris Hagman**

Unit No: **34**

Interval: **3394.00 ft (KB) To 3458.00 ft (KB) (TVD)**

Total Depth: **3458.00 ft (KB) (TVD)**

Hole Diameter: **7.78 inches** Hole Condition: **Good**

Reference Elevations: **2002.00 ft (KB)**

1997.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 6752 **Inside**

Press@RunDepth: **21.78 psig @ 3397.00 ft (KB)**

Start Date: **2005.07.27**

End Date: **2005.07.27**

Start Time: **07:57:35**

End Time: **13:26:35**

Capacity: **7000.00 psig**

Last Calib.: **1899.12.30**

Time On Btm: **2005.07.27 @ 09:34:25**

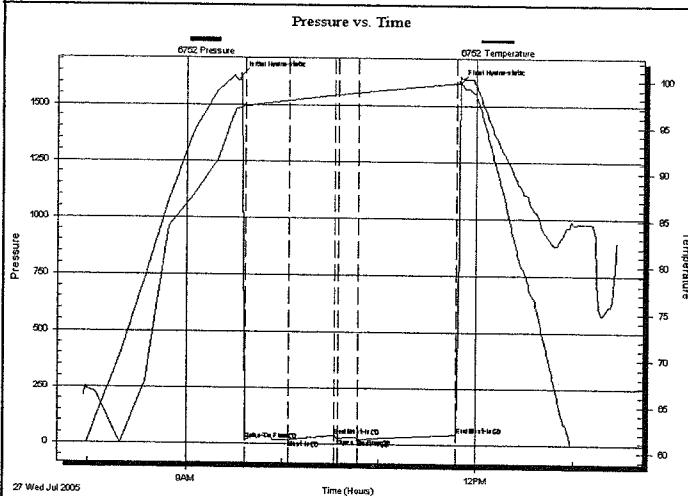
Time Off Btm: **2005.07.27 @ 11:50:05**

TEST COMMENT: IF: Weak surface blow, .25 inches in 10 min, died 15 min.

IS: No blow back

FF: No blow

FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1630.07	97.07	Initial Hydro-static
3	16.36	97.30	Open To Flow (1)
30	17.84	97.81	Shut-In(1)
59	38.60	98.41	End Shut-In(1)
61	23.67	98.45	Open To Flow (2)
73	21.78	98.70	Shut-In(2)
134	46.24	99.78	End Shut-In(2)
136	1600.40	100.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	100%M, SkimO	0.07

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.

Mosher-Simons Unit 1-4

250 N. Water, Suite 300 Wichita, KS 67202

4/9/18

Job Ticket: 22431

DST#: 4

ATTN: Kevin

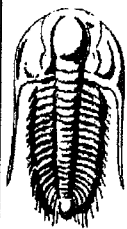
Test Start: 2005.07.27 @ 07:57:35

Tool Information

Drill Pipe:	Length: 3197.00 ft	Diameter: 3.80 inches	Volume: 44.85 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: 20000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 36000.00 lb
			Total Volume: 45.75 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3394.00 ft			Final 36000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	84.00 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			3375.00	
Shut In Tool	5.00			3380.00	
Hydraulic tool	5.00			3385.00	
Packer	5.00			3390.00	20.00 Bottom Of Top Packer
Packer	4.00			3394.00	
Stubb	1.00			3395.00	
Perforations	2.00			3397.00	
Recorder	0.00	6752	Inside	3397.00	
Perforations	25.00			3422.00	
Change Over Sub	1.00			3423.00	
Drill Pipe	31.00			3454.00	
Change Over Sub	1.00			3455.00	
Recorder	0.00	13630	Inside	3455.00	
Bullnose	3.00			3458.00	64.00 Bottom Packers & Anchor

Total Tool Length: 84.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

Mosher-Simons Unit 1-4

4/9/18

Job Ticket: 22431

DST#: 4

Test Start: 2005.07.27 @ 07:57:35

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 7.59 in³

Resistivity: ohm.m

Salinity: 3500.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

deg API

Water Salinity:

5000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	100%M SkimO	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1.045@82F=5000ppm

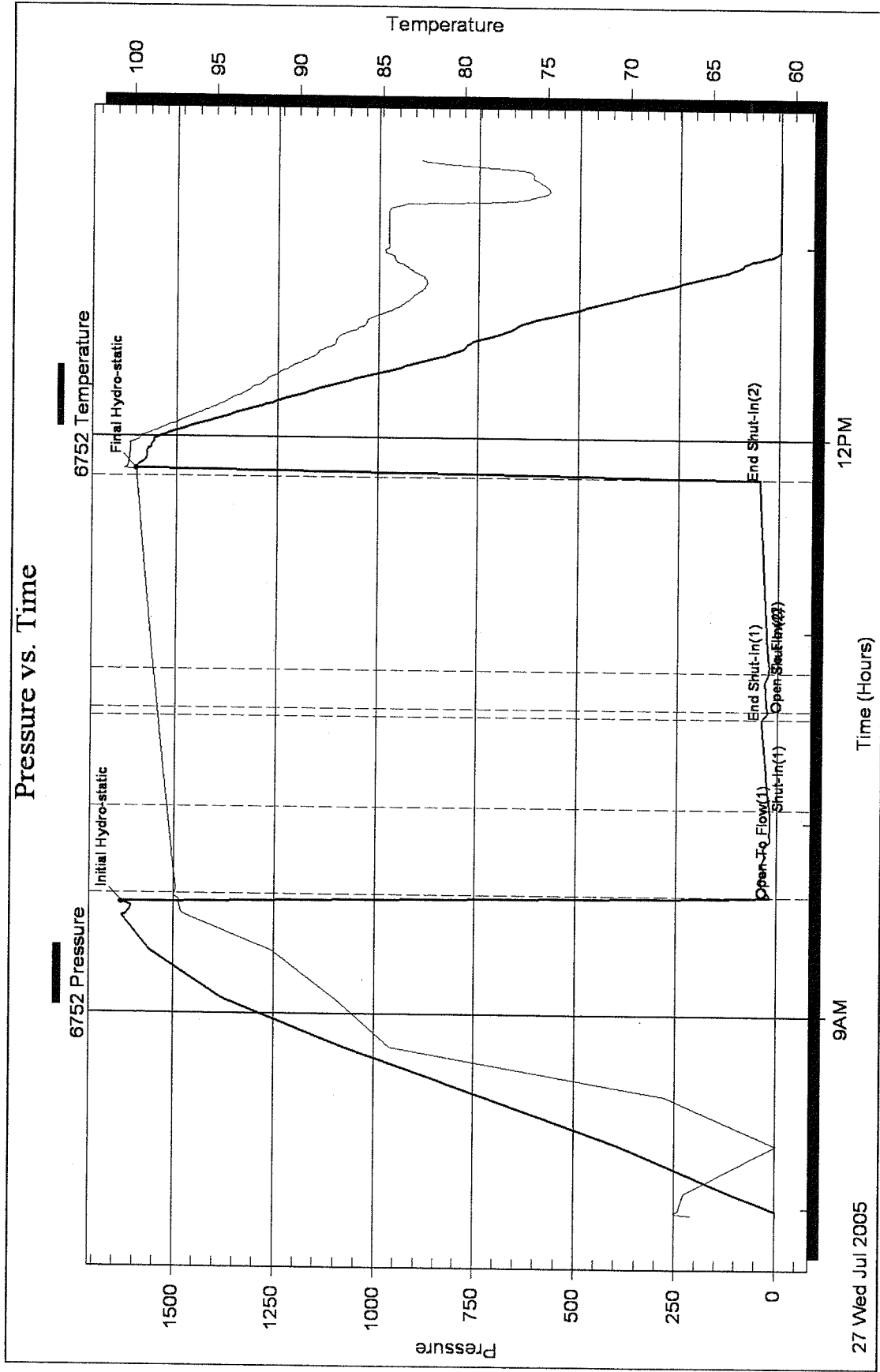
Serial #: 6752

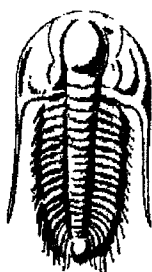
Inside

Murfin Drilling Co.

4/9/18

DST Test Number: 4





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

4/9/18

Mosher-Simons Unit 1-4

Start Date: 2005.07.27 @ 19:32:46

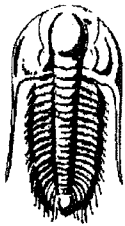
End Date: 2005.07.28 @ 02:07:16

Job Ticket #: 22720 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water, Suite 300 Wichita, KS 67202

ATTN: Kevin

Mosher-Simons Unit 1-4

4/9/18

Job Ticket: 22720

DST#: 5

Test Start: 2005.07.27 @ 19:32:46

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 21:53:46

Time Test Ended: 02:07:16

Test Type: **Conventional Bottom Hole**

Tester: **John Schmidt**

Unit No: **31**

Interval: **3458.00 ft (KB) To 3470.00 ft (KB) (TVD)**

Total Depth: **3470.00 ft (KB) (TVD)**

Hole Diameter: **7.78 inches** Hole Condition: **Fair**

Reference Elevations: **2002.00 ft (KB)**

1997.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 8018

Inside

Press@RunDepth: **45.65 psig @ 3464.00 ft (KB)**

Start Date: **2005.07.27**

End Date:

2005.07.28

Start Time: **19:32:47**

End Time:

02:07:16

Capacity: **7000.00 psig**

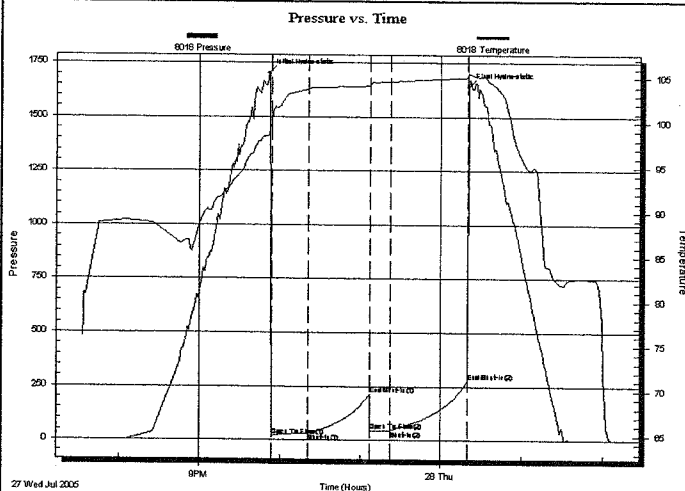
Last Calib.: **2005.07.28**

Time On Btm: **2005.07.27 @ 21:51:46**

Time Off Btm: **2005.07.28 @ 00:20:46**

TEST COMMENT: IF-Weak built to 1" in.
FF-Weak Dead in 12 min.

ISI-Dead
FSI-Dead



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1700.96	98.63	Initial Hydro-static
2	19.83	99.81	Open To Flow (1)
29	32.14	103.75	Shut-In (1)
75	212.24	104.14	End Shut-In (1)
76	42.97	104.22	Open To Flow (2)
91	45.65	104.58	Shut-In (2)
149	273.48	105.08	End Shut-In (2)
149	1640.19	105.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	Muddy S.Water-40%W-60%M	0.31

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.

Mosher-Simons Unit 1-4

250 N. Water, Suite 300 Wichita, KS 67202

4/9/18

Job Ticket: 22720

DST#: 5

ATTN: Kevin

Test Start: 2005.07.27 @ 19:32:46

Tool Information

Drill Pipe:	Length: 3262.00 ft	Diameter: 3.80 inches	Volume: 45.76 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 45000.00 lb
			Total Volume: 46.67 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3458.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	32.00 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			3439.00	
Shut In Tool	5.00			3444.00	
Hydraulic tool	5.00			3449.00	
Packer	4.00			3453.00	20.00 Bottom Of Top Packer
Packer	5.00			3458.00	
Stubb	1.00			3459.00	
Perforations	5.00			3464.00	
Recorder	0.00	8018	Inside	3464.00	
Perforations	3.00			3467.00	
Bullnose	3.00			3470.00	12.00 Bottom Packers & Anchor
Total Tool Length:	32.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

Mosher-Simons Unit 1-4

250 N. Water, Suite 300 Wichita, KS 67202

4/9/18

Job Ticket: 22720

DST#: 5

ATTN: Kevin

Test Start: 2005.07.27 @ 19:32:46

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:

20000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	Muddy S. Water-40%W-60%M	0.310

Total Length: 63.00 ft

Total Volume: 0.310 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8018

Inside

Murfin Drilling Co.

4/9/18

DST Test Number: 5

Pressure vs. Time

