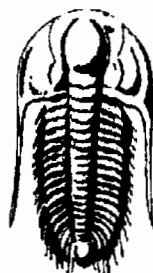


15-065-23439

19-10s-21w

110



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita KS 67202

KCC

OCT 28 2008

CONFIDENTIAL

ATTN: Bob Stolze

19 10S 21W Graham KS

Raymond Unit # 1-19

Start Date: 2008.06.30 @ 22:26:55

End Date: 2008.07.01 @ 06:35:25

Job Ticket #: 32793 DST #: 1

RECEIVED
KANSAS CORPORATION COMMISSION

OCT 28 2008

CONSERVATION DIVISION
WICHITA, KS

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling Co

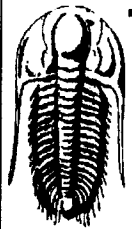
Raymond Unit # 1-19

19 10S 21W Graham KS

DST # 1

LKC "-D"

2008.06.30



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolzle

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32793

DST#: 1

Test Start: 2008.06.30 @ 22:26:55

GENERAL INFORMATION:

Formation: **LKC "-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:21:25

Time Test Ended: 06:35:25

Test Type: Conventional Bottom Hole

Tester: Jason M/ Kyle K

Unit No: 32

Interval: **3517.00 ft (KB) To 3600.00 ft (KB) (TVD)**

Total Depth: 3600.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2251.00 ft (KB)

2246.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8360

Outside

Press@RunDepth: 232.17 psig @ 3582.00 ft (KB)

Start Date: 2008.06.30

End Date:

2008.07.01

Start Time: 22:26:57

End Time:

06:35:25

Capacity: 7000.00 psig

Last Calib.: 2008.07.01

Time On Btm: 2008.07.01 @ 00:20:25

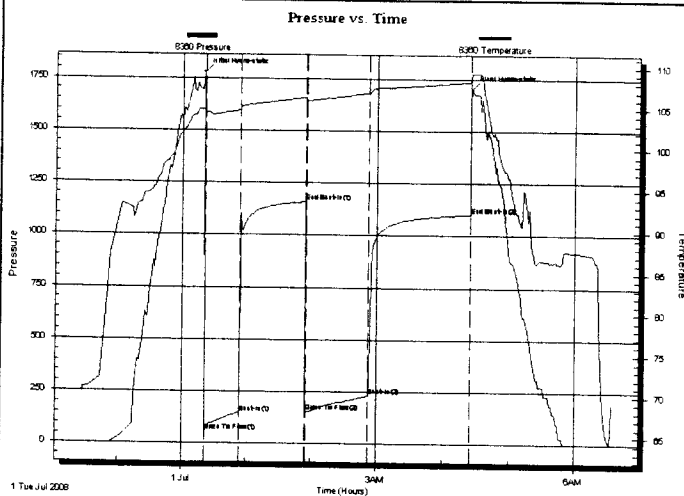
Time Off Btm: 2008.07.01 @ 04:25:25

TEST COMMENT: IF BOB 6 min

ISI 4 "

FF BOB 5 min

FSI 3 "



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1776.53	104.81	Initial Hydro-static
1	56.76	104.14	Open To Flow (1)
34	147.10	104.71	Shut-In (1)
94	1157.72	106.27	End Shut-In (1)
95	154.91	105.96	Open To Flow (2)
152	232.17	106.84	Shut-In (2)
244	1099.66	108.26	End Shut-In (2)
245	1700.21	109.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	GsyfreeO 15%G 85%O	2.43
0.00	950' GIP	0.00

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolze

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32793

DST#: 1

Test Start: 2008.06.30 @ 22:26:55

Tool Information

Drill Pipe:	Length: 3390.00 ft	Diameter: 3.82 inches	Volume: 48.05 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: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 48000.00 lb
		Total Volume: 48.64 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3517.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	83.00 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			3495.00	
Shut In Tool	5.00			3500.00	
Hydraulic tool	5.00			3505.00	
Safety Joint	2.00			3507.00	
Packer	5.00			3512.00	23.00 Bottom Of Top Packer
Packer	5.00			3517.00	
Stubb	1.00			3518.00	
Perforations	1.00			3519.00	
Change Over Sub	1.00			3520.00	
Blank Spacing	61.00			3581.00	
Change Over Sub	1.00			3582.00	
Recorder	0.00	8360	Outside	3582.00	
Recorder	0.00	6719	Inside	3582.00	
Perforations	15.00			3597.00	
Bullnose	3.00			3600.00	83.00 Bottom Packers & Anchor

Total Tool Length: 106.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

Raymond Unit # 1-19

250 N Water Ste 300
Wichita KS 67202

19 10S 21W Graham KS

Job Ticket: 32793

DST#: 1

ATTN: Bob Stolzle

Test Start: 2008.06.30 @ 22:26:55

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: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
250.00	GsyfreeO 15%G 85%O	2.433
0.00	950' GIP	0.000

Total Length: 250.00 ft

Total Volume: 5.977 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

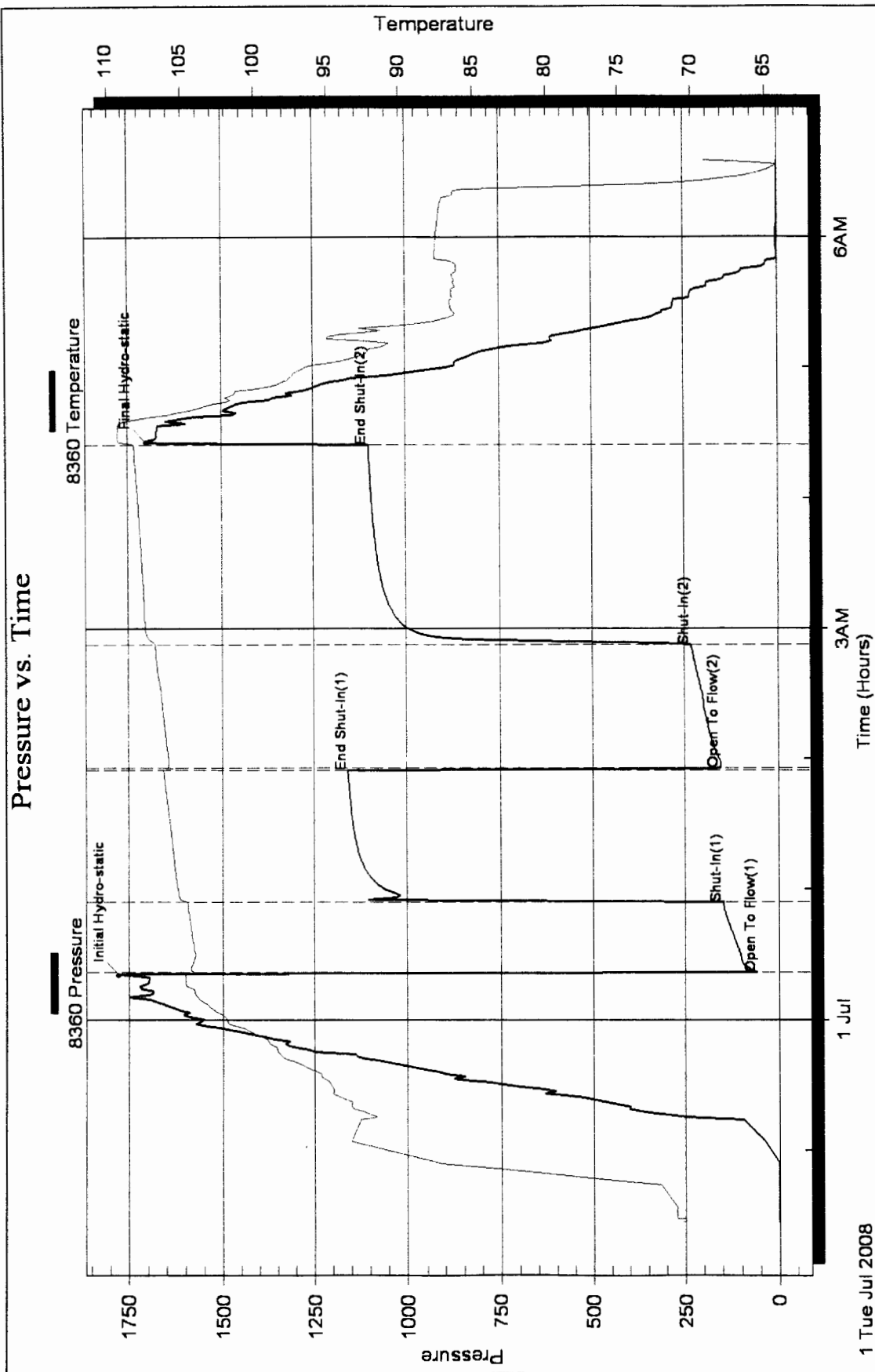
Serial #:

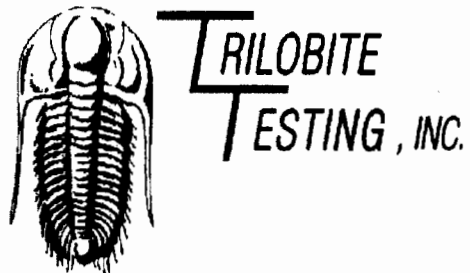
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolzle

19 10S 21W Graham KS

Raymond Unit # 1-19

Start Date: 2008.07.01 @ 14:35:15

End Date: 2008.07.01 @ 20:30:45

Job Ticket #: 32411 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co
250 N Water Ste 300
Wichita KS 67202
ATTN: Bob Stolze

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32411

DST#: 2

Test Start: 2008.07.01 @ 14:35:15

GENERAL INFORMATION:

Formation: **LKC "F-G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:12:45

Time Test Ended: 20:30:45

Test Type: Conventional Bottom Hole

Tester: Kyle Kinderknecht

Unit No: 32

Interval: **3608.00 ft (KB) To 3658.00 ft (KB) (TVD)**

Total Depth: 3658.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2251.00 ft (KB)

2246.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8360

Outside

Press@RunDepth: 21.36 psig @ 3611.00 ft (KB)

Start Date: 2008.07.01

End Date: 2008.07.01

Start Time: 14:35:17

End Time: 20:30:45

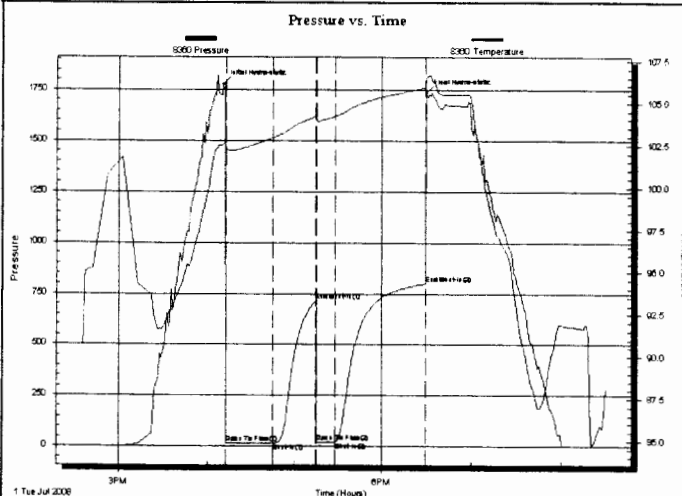
Capacity: 7000.00 psig

Last Calib.: 2008.07.01

Time On Btm: 2008.07.01 @ 16:11:15

Time Off Btm: 2008.07.01 @ 18:30:15

TEST COMMENT: IF Weak surface
FF Weak surface 10-15 min



PRESSURE SUMMARY

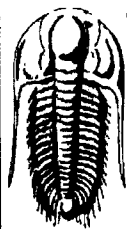
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1775.46	102.52	Initial Hydro-static
2	13.86	102.22	Open To Flow (1)
35	17.46	102.95	Shut-In(1)
64	713.94	104.19	End Shut-In(1)
65	19.93	103.95	Open To Flow (2)
77	21.36	104.22	Shut-In(2)
138	798.75	105.92	End Shut-In(2)
139	1732.52	106.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud	0.07

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 Ste 300
Wichita KS 67202

ATTN: Bob Stolze

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32411

DST#: 2

Test Start: 2008.07.01 @ 14:35:15

Tool Information

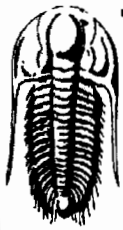
Drill Pipe:	Length: 3483.00 ft	Diameter: 3.82 inches	Volume: 49.37 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	45000.00 lb
		Total Volume:	49.96 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3608.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	50.00 ft				
Tool Length:	73.00 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			3586.00	
Shut In Tool	5.00			3591.00	
Hydraulic tool	5.00			3596.00	
Safety Joint	2.00			3598.00	
Packer	5.00			3603.00	23.00 Bottom Of Top Packer
Packer	5.00			3608.00	
Stubb	1.00			3609.00	
Perforations	1.00			3610.00	
Change Over Sub	1.00			3611.00	
Recorder	0.00	8360	Outside	3611.00	
Recorder	0.00	6719	Inside	3611.00	
Blank Spacing	32.00			3643.00	
Change Over Sub	1.00			3644.00	
Perforations	11.00			3655.00	
Bullnose	3.00			3658.00	50.00 Bottom Packers & Anchor

Total Tool Length: 73.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

Raymond Unit # 1-19

250 N Water Ste 300
Wichita KS 67202

19 10S 21W Graham KS

Job Ticket: 32411

DST#: 2

ATTN: Bob Stoizle

Test Start: 2008.07.01 @ 14:35:15

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: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Mud	0.074

Total Length: 15.00 ft

Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

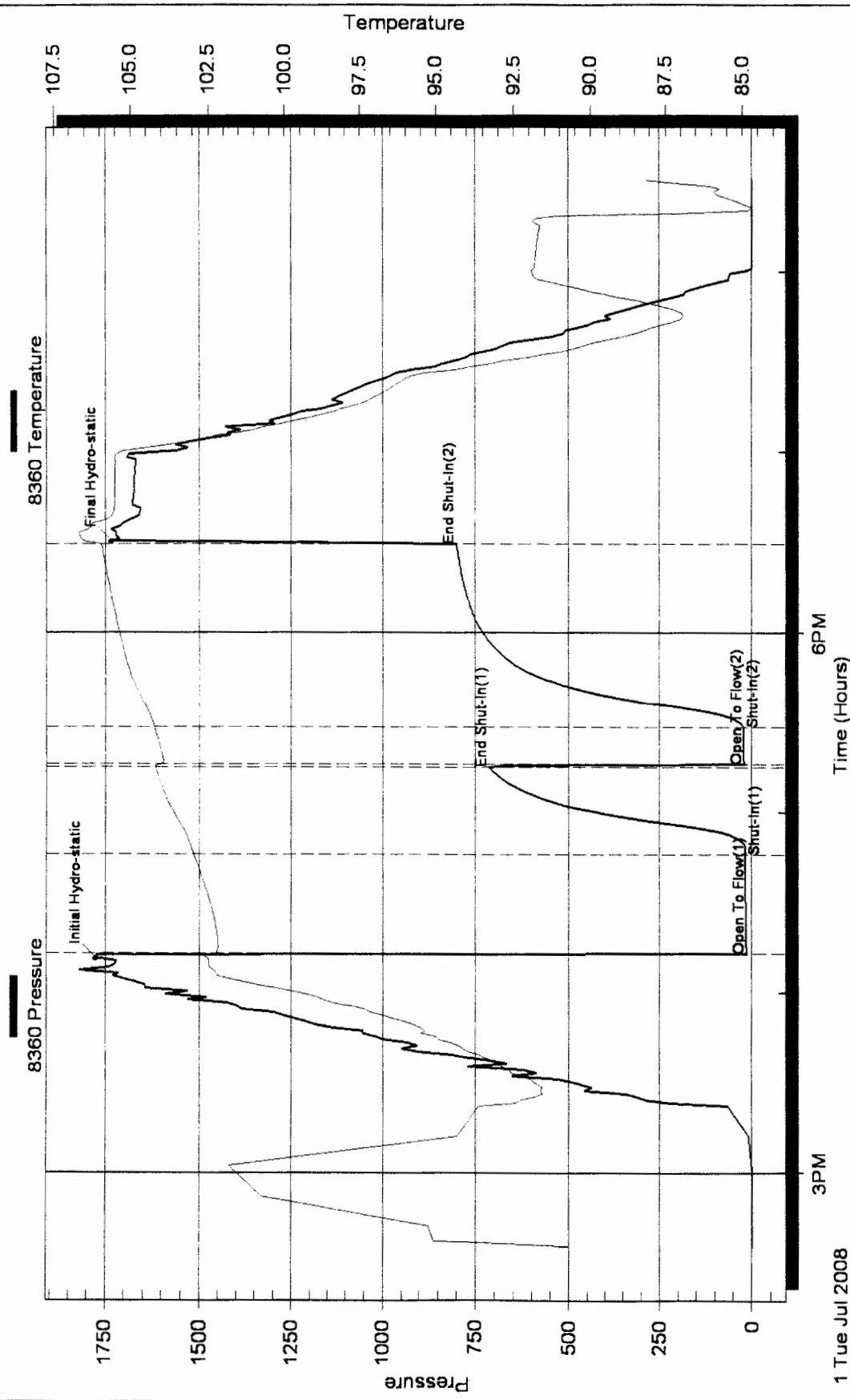
Serial #:

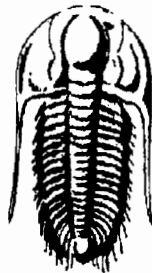
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolze

19 10S 21W Graham KS

Raymond Unit # 1-19

Start Date: 2008.07.02 @ 05:34:54

End Date: 2008.07.02 @ 13:41:54

Job Ticket #: 32412 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co
250 N Water Ste 300
Wichita KS 67202
ATTN: Bob Stolze

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32412

DST#: 3

Test Start: 2008.07.02 @ 05:34:54

GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:51:24

Time Test Ended: 13:41:54

Test Type: Conventional Bottom Hole

Tester: Kyle Kinderknecht

Unit No: 32

Interval: **3645.00 ft (KB) To 3750.00 ft (KB) (TVD)**

Total Depth: 3750.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2251.00 ft (KB)

2246.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8360

Outside

Press@RunDepth: 202.34 psig @ 3648.00 ft (KB)

Start Date: 2008.07.02

End Date:

2008.07.02

Start Time: 05:34:56

End Time:

13:41:54

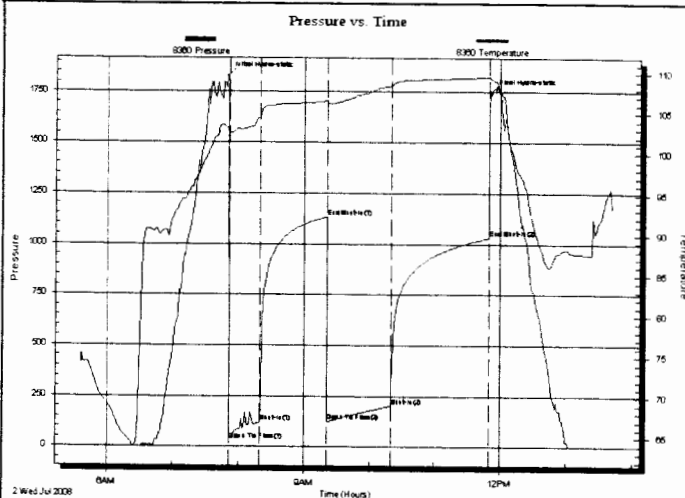
Capacity: 7000.00 psig

Last Calib.: 2008.07.02

Time On Btm: 2008.07.02 @ 07:49:54

Time Off Btm: 2008.07.02 @ 11:51:54

TEST COMMENT: IF Slow building to BOB 17
FF Slow building to BOB 30 min



PRESSURE SUMMARY

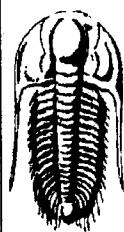
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.04	103.27	Initial Hydro-static
2	29.36	102.59	Open To Flow (1)
29	119.34	104.59	Shut-In (1)
90	1132.07	106.55	End Shut-In (1)
91	123.37	106.21	Open To Flow (2)
150	202.34	108.44	Shut-In (2)
241	1029.77	109.55	End Shut-In (2)
242	1749.22	109.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
185.00	MCW 75% W 25%M	1.51
165.00	OWCM 5% O 10%W 85% M	2.34
90.00	OWCM 10%O 10%W 80%M	1.28
2.00	FREE OIL	0.03

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 Ste 300
Wichita KS 67202

ATTN: Bob Stolze

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32412

DST#: 3

Test Start: 2008.07.02 @ 05:34:54

Tool Information

Drill Pipe:	Length: 3516.00 ft	Diameter: 3.82 inches	Volume: 49.84 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: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 50000.00 lb
		Total Volume: 50.43 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	3645.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	105.00 ft			
Tool Length:	128.00 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			3623.00	
Shut In Tool	5.00			3628.00	
Hydraulic tool	5.00			3633.00	
Safety Joint	2.00			3635.00	
Packer	5.00			3640.00	23.00 Bottom Of Top Packer
Packer	5.00			3645.00	
Stubb	1.00			3646.00	
Perforations	1.00			3647.00	
Change Over Sub	1.00			3648.00	
Recorder	0.00	8360	Outside	3648.00	
Recorder	0.00	6719	Inside	3648.00	
Blank Spacing	93.00			3741.00	
Change Over Sub	1.00			3742.00	
Perforations	5.00			3747.00	
Bullnose	3.00			3750.00	105.00 Bottom Packers & Anchor
Total Tool Length:		128.00			



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

Raymond Unit # 1-19

250 N Water Ste 300
Wichita KS 67202

19 10S 21W Graham KS

Job Ticket: 32412

DST#: 3

ATTN: Bob Stolzie

Test Start: 2008.07.02 @ 05:34:54

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:

40000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
185.00	MCW 75% W 25%M	1.512
165.00	OWCM 5% O 10%W 85% M	2.339
90.00	OWCM 10%O 10%W 80%M	1.276
2.00	FREE OIL	0.028

Total Length: 442.00 ft

Total Volume:

5.155 bbl

Num Fluid Samples: 0

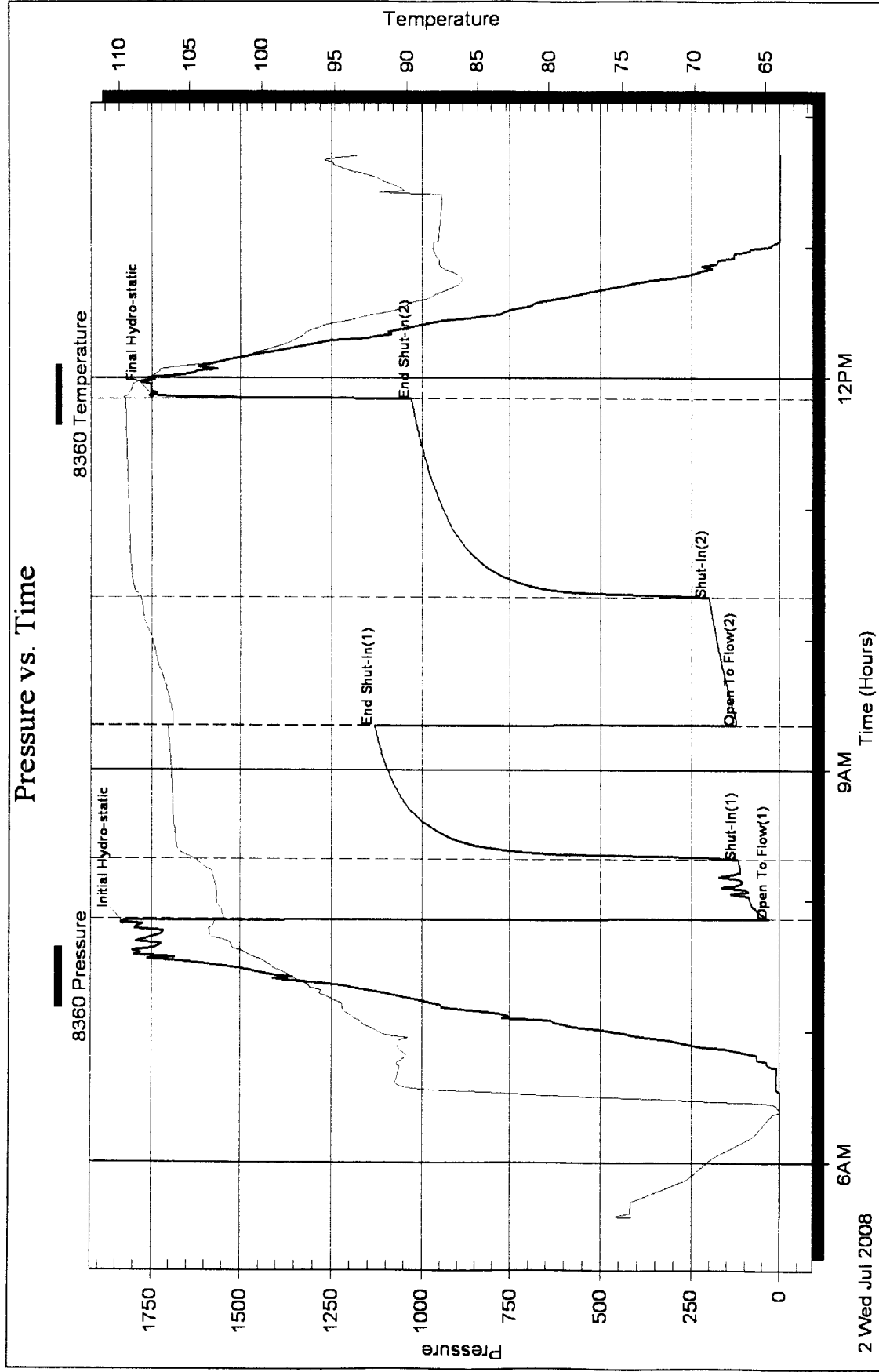
Num Gas Bombs: 0

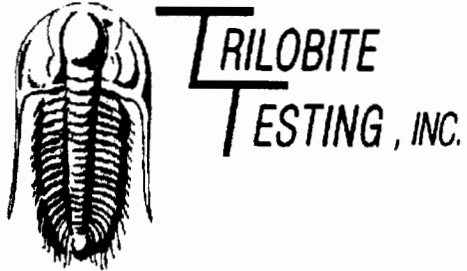
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .13 @ 103 deg





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolzie

19 10S 21W Graham KS

Raymond Unit # 1-19

Start Date: 2008.07.03 @ 03:59:09

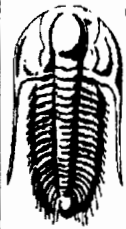
End Date: 2008.07.03 @ 12:56:09

Job Ticket #: 32413 DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co
250 N Water Ste 300
Wichita KS 67202
ATTN: Bob Stolze

Raymond Unit # 1-19
19 10S 21W Graham KS
Job Ticket: 32413 **DST#: 4**
Test Start: 2008.07.03 @ 03:59:09

GENERAL INFORMATION:

Formation: **Arb**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:54:09
Time Test Ended: 12:56:09
Interval: **3876.00 ft (KB) To 3890.00 ft (KB) (TVD)**
Total Depth: 3890.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

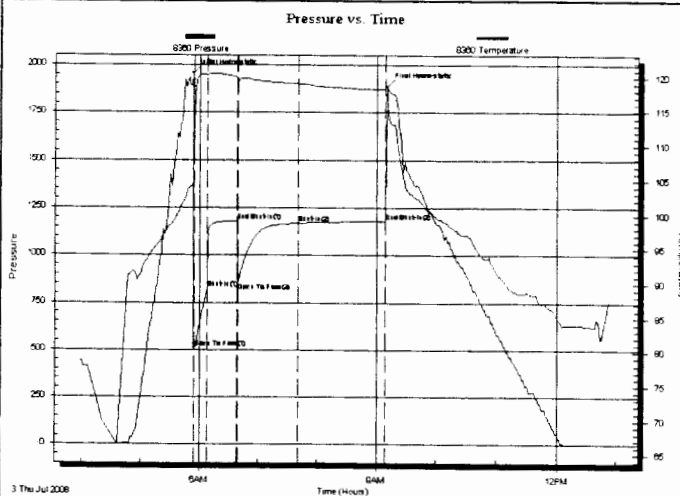
Test Type: Conventional Bottom Hole
Tester: Kyle Kinderknecht
Unit No: 32
Reference Elevations: 2251.00 ft (KB)
2246.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8360

Outside

Press@RunDepth: 1169.53 psig @ 3877.00 ft (KB)
Start Date: 2008.07.03 End Date: 2008.07.03 Capacity: 7000.00 psig
Start Time: 03:59:11 End Time: 12:56:09 Last Calib.: 2008.07.03
Time On Btm: 2008.07.03 @ 05:53:39
Time Off Btm: 2008.07.03 @ 09:10:39

TEST COMMENT: IF BOB 45 sec
ISI Weak blow to 1"
FF BOB 15 sec
FSI Weak surface



PRESSURE SUMMARY

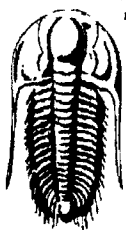
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1956.09	104.74	Initial Hydro-static
1	509.43	105.16	Open To Flow (1)
15	825.22	120.27	Shut-In(1)
45	1181.10	119.91	End Shut-In(1)
46	856.81	119.25	Open To Flow (2)
107	1169.53	119.06	Shut-In(2)
196	1179.82	118.23	End Shut-In(2)
197	1889.11	115.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	GsyHOCM20%G 40%O 40%M	0.22
3055.00	GsyFreeOil 25%G 75%O	42.61

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolzle

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32413

DST#: 4

Test Start: 2008.07.03 @ 03:59:09

Tool Information

Drill Pipe:	Length: 3737.00 ft	Diameter: 3.82 inches	Volume: 52.97 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:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	60000.00 lb
		Total Volume:	53.56 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3876.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	14.00 ft				
Tool Length:	37.00 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			3854.00	
Shut In Tool	5.00			3859.00	
Hydraulic tool	5.00			3864.00	
Safety Joint	2.00			3866.00	
Packer	5.00			3871.00	23.00 Bottom Of Top Packer
Packer	5.00			3876.00	
Stubb	1.00			3877.00	
Recorder	0.00	8360	Outside	3877.00	
Recorder	0.00	6719	Inside	3877.00	
Perforations	10.00			3887.00	
Bullnose	3.00			3890.00	14.00 Bottom Packers & Anchor

Total Tool Length: 37.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

Raymond Unit # 1-19

250 N Water Ste 300
Wichita KS 67202

19 10S 21W Graham KS

Job Ticket: 32413

DST#: 4

ATTN: Bob Stolzle

Test Start: 2008.07.03 @ 03:59:09

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 54.00 sec/qt

Water Loss: 7.20 in³

Resistivity: ohm.m

Salinity: 3600.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

28 deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	GsyHOCM 20%G 40%O 40%M	0.221
3055.00	GsyFreeOil 25%G 75%O	42.612

Total Length: 3100.00 ft

Total Volume: 42.833 bbl

Num Fluid Samples: 0

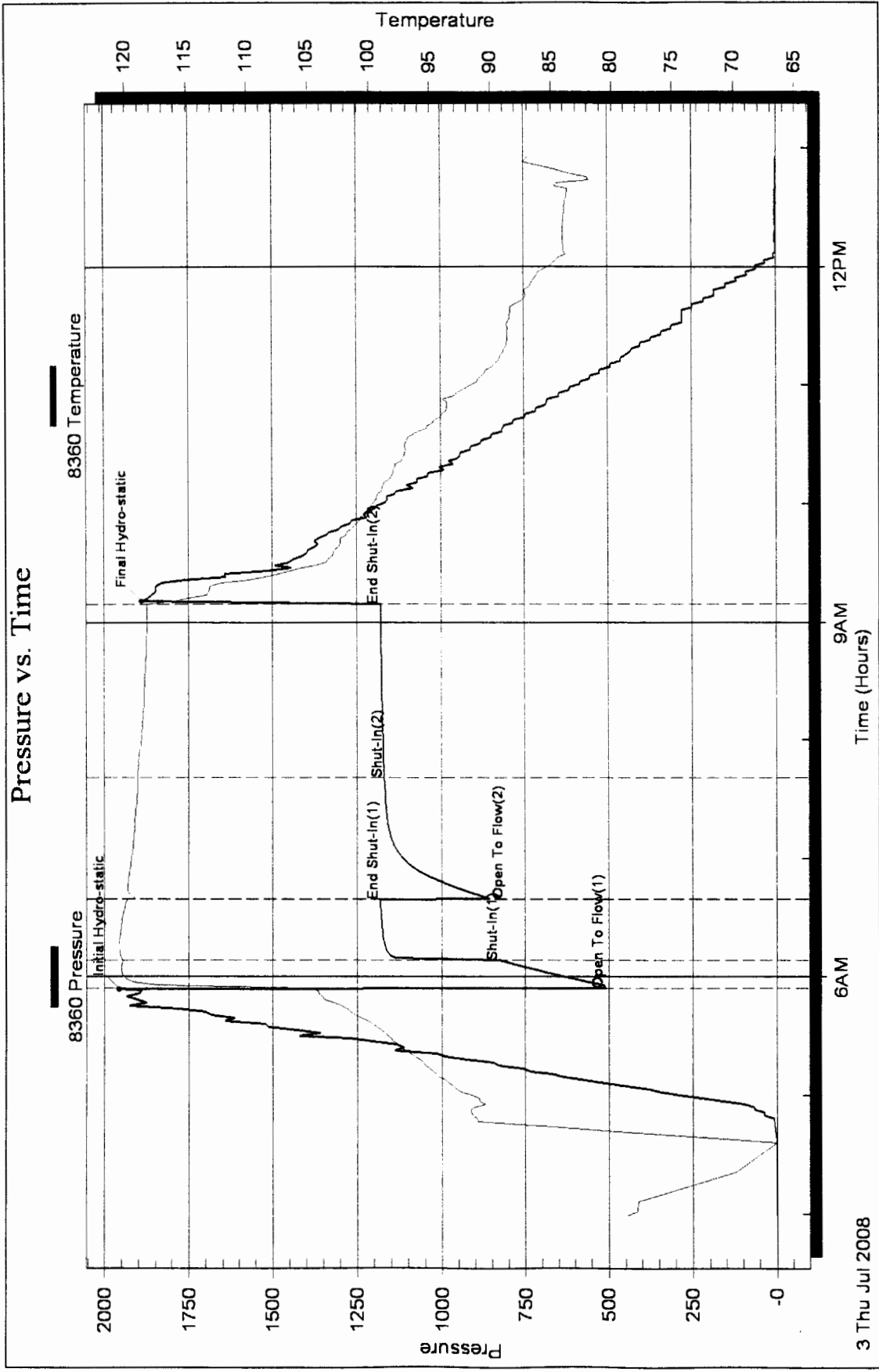
Num Gas Bombs: 0

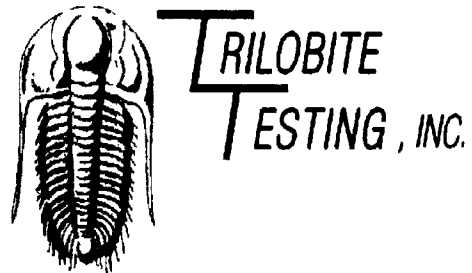
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolzle

19 10S 21W Graham KS

Raymond Unit # 1-19

Start Date: 2008.07.03 @ 19:45:56

End Date: 2008.07.04 @ 04:41:56

Job Ticket #: 32414 DST #: 5

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolze

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32414

DST#: 5

Test Start: 2008.07.03 @ 19:45:56

GENERAL INFORMATION:

Formation: **Arb**

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

Time Tool Opened: 21:37:26

Time Test Ended: 04:41:56

Test Type: **Conventional Bottom Hole**

Tester: **Kyle Kinderknecht**

Unit No: **32**

Interval: 3893.00 ft (KB) To 3904.00 ft (KB) (TVD)

Total Depth: **3904.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2251.00 ft (KB)**

2246.00 ft (CF)

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

Serial #: 8360

Outside

Press@RunDepth: **949.84 psig @ 3894.00 ft (KB)**

Start Date: **2008.07.03**

End Date: **2008.07.04**

Start Time: **19:45:58**

End Time: **04:41:56**

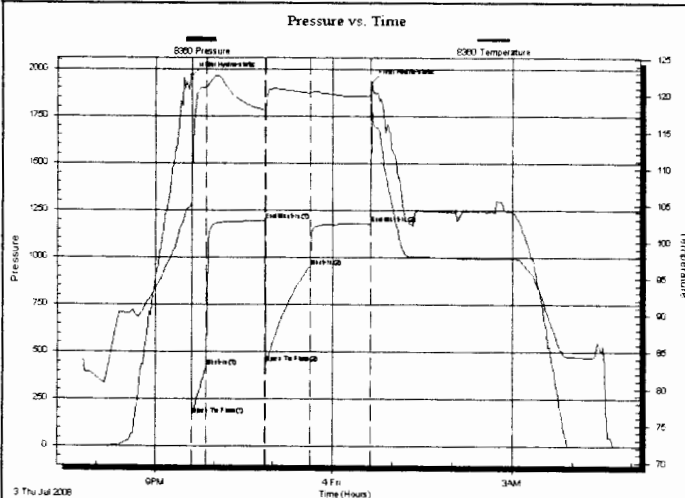
Capacity: **7000.00 psig**

Last Calib.: **2008.07.04**

Time On Btm: **2008.07.03 @ 21:36:56**

Time Off Btm: **2008.07.04 @ 00:38:56**

TEST COMMENT: IF BOB 1 min
ISI Surface blow back
FF BOB 1 min
FSI Surface



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1963.59	105.65	Initial Hydro-static
1	164.75	108.72	Open To Flow (1)
15	418.83	121.04	Shut-In (1)
75	1192.94	117.96	End Shut-In (1)
76	438.99	117.99	Open To Flow (2)
120	949.84	120.33	Shut-In (2)
181	1179.94	119.98	End Shut-In (2)
182	1927.20	118.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2500.00	GsyFreeOil 10%G 90%O	34.33

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolzle

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32414

DST#: 5

Test Start: 2008.07.03 @ 19:45:56

Tool Information

Drill Pipe:	Length: 3766.00 ft	Diameter: 3.82 inches	Volume: 53.38 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:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	60000.00 lb
		Total Volume:	53.97 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3893.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	11.00 ft				
Tool Length:	34.00 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			3871.00	
Shut In Tool	5.00			3876.00	
Hydraulic tool	5.00			3881.00	
Safety Joint	2.00			3883.00	
Packer	5.00			3888.00	23.00 Bottom Of Top Packer
Packer	5.00			3893.00	
Stubb	1.00			3894.00	
Recorder	0.00	8360	Outside	3894.00	
Recorder	0.00	6719	Inside	3894.00	
Perforations	7.00			3901.00	
Bullnose	3.00			3904.00	11.00 Bottom Packers & Anchor

Total Tool Length: 34.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

Raymond Unit # 1-19

250 N Water Ste 300
Wichita KS 67202

19 10S 21W Graham KS

Job Ticket: 32414

DST#: 5

ATTN: Bob Stolzle

Test Start: 2008.07.03 @ 19:45:56

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2500.00	GsyFreeOil 10%G 90%O	34.328

Total Length: 2500.00 ft

Total Volume: 34.328 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8360

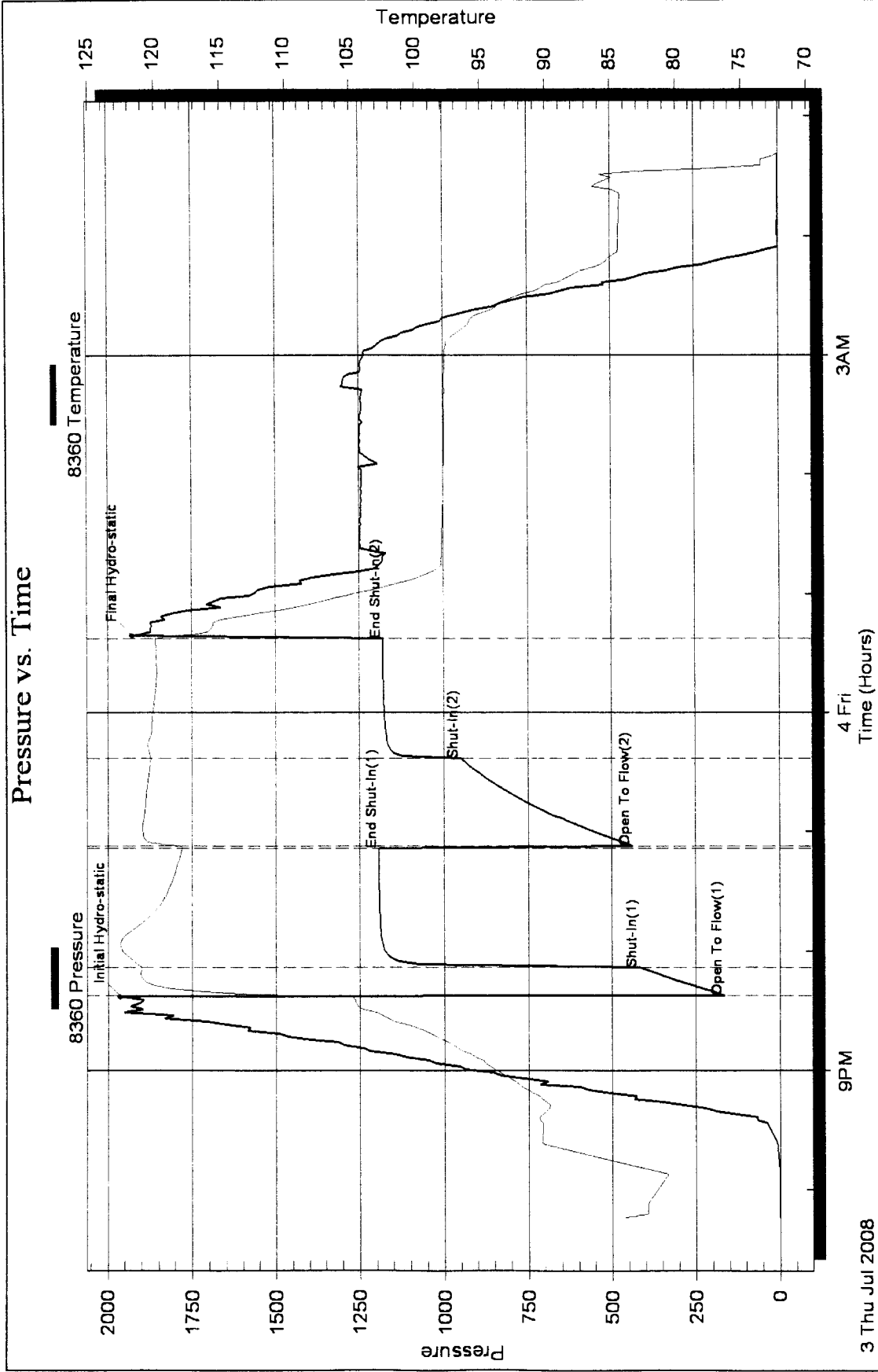
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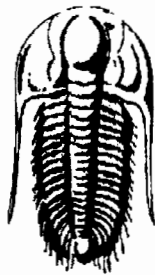
Murfin Drilling Co

19 10S 21W Graham KS

DST Test Number: 5

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolze

19 10S 21W Graham KS

Raymond Unit # 1-19

Start Date: 2008.07.04 @ 11:17:47

End Date: 2008.07.04 @ 19:13:17

Job Ticket #: 32415 DST #: 6

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolzle

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32415

DST#: 6

Test Start: 2008.07.04 @ 11:17:47

GENERAL INFORMATION:

Formation: **Arb**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:06:17

Time Test Ended: 19:13:17

Test Type: Conventional Bottom Hole

Tester: Kyle Kinderknecht

Unit No: 32

Interval: **3903.00 ft (KB) To 3920.00 ft (KB) (TVD)**

Total Depth: 3920.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2251.00 ft (KB)

2246.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8360 Outside

Press@RunDepth: 962.97 psig @ 3904.00 ft (KB)

Start Date: 2008.07.04

End Date: 2008.07.04

Start Time: 11:17:49

End Time: 19:13:17

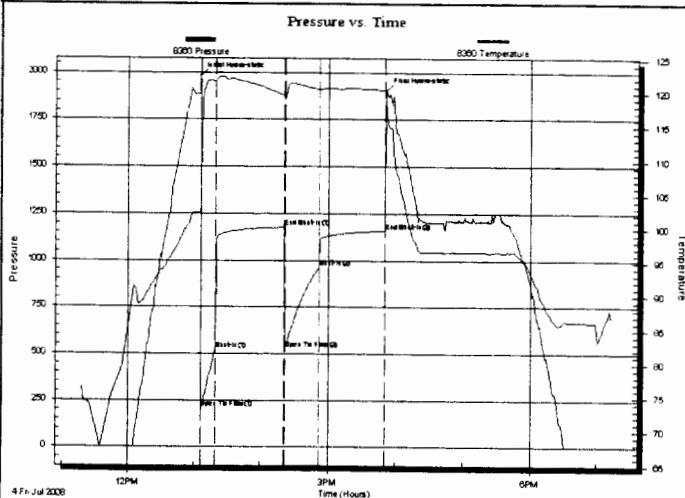
Capacity: 7000.00 psig

Last Calib.: 2008.07.04

Time On Btm: 2008.07.04 @ 13:05:17

Time Off Btm: 2008.07.04 @ 15:51:17

TEST COMMENT: IF BOB 1 min
ISI Surface
FF BOB 1 min
FSI Surface



PRESSURE SUMMARY

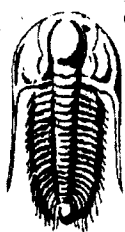
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1978.79	102.56	Initial Hydro-static
1	206.37	105.71	Open To Flow (1)
14	519.11	121.72	Shut-In(1)
76	1175.92	119.69	End Shut-In(1)
76	526.07	119.27	Open To Flow (2)
107	962.97	120.52	Shut-In(2)
165	1158.62	120.42	End Shut-In(2)
166	1902.75	119.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2400.00	GsyFreeOil 12%G 88%O	32.91

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

250 N Water Ste 300
Wichita KS 67202

ATTN: Bob Stolzle

Raymond Unit # 1-19

19 10S 21W Graham KS

Job Ticket: 32415

DST#: 6

Test Start: 2008.07.04 @ 11:17:47

Tool Information

Drill Pipe:	Length: 3768.00 ft	Diameter: 3.82 inches	Volume: 53.41 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:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	56000.00 lb
		Total Volume:	54.00 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	43000.00 lb
Depth to Top Packer:	3903.00 ft			Final	51000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	17.00 ft				
Tool Length:	40.00 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			3881.00	
Shut In Tool	5.00			3886.00	
Hydraulic tool	5.00			3891.00	
Safety Joint	2.00			3893.00	
Packer	5.00			3898.00	23.00 Bottom Of Top Packer
Packer	5.00			3903.00	
Stubb	1.00			3904.00	
Recorder	0.00	8360	Outside	3904.00	
Recorder	0.00	6719	Inside	3904.00	
Perforations	13.00			3917.00	
Bullnose	3.00			3920.00	17.00 Bottom Packers & Anchor

Total Tool Length: 40.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

Raymond Unit # 1-19

250 N Water Ste 300
Wichita KS 67202

19 10S 21W Graham KS

Job Ticket: 32415

DST#: 6

ATTN: Bob Stolzle

Test Start: 2008.07.04 @ 11:17:47

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2400.00	GsyFreeOil 12%G 88%O	32.910

Total Length: 2400.00 ft

Total Volume: 32.910 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

