

15-025-21331

CONFIDENTIAL



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Diversified Operating Corp.**

15000 W. 6th Ste 102
Golden CO 80401

ATTN: Austin Garner

2-31s-21w Clark

Birney 2-13-6

Start Date: 2006.02.05 @ 18:00:07

End Date: 2006.02.06 @ 04:20:37

Job Ticket #: 23620 DST #: 1

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

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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Diversified Operating Corp.

15000 W. 6th Ste 102
Golden CO 80401

ATTN: Austin Garner

Birney 2-13-6

2-31s-21w Clark

Job Ticket: 23620

DST#: 1

Test Start: 2006.02.05 @ 18:00:07

GENERAL INFORMATION:

Formation: **Lans.**

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

Time Tool Opened: 20:45:37

Time Test Ended: 04:20:37

Test Type: **Conventional Straddle**

Tester: **Michael Armbrister**

Unit No: **1**

Interval: **4500.00 ft (KB) To 4535.00 ft (KB) (TVD)**

Total Depth: **4683.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

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

2240.00 ft (CF)

KB to GRVCF: **11.00 ft**

Serial #: 8018

Inside

Press@RunDepth: **1053.16 psig @ 4531.00 ft (KB)**

Start Date: **2006.02.05**

End Date:

2006.02.06

Capacity: **7000.00 psig**

Last Calib.: **2006.02.06**

Start Time: **18:00:12**

End Time:

04:20:37

Time On Btm: **2006.02.05 @ 20:42:37**

Time Off Btm: **2006.02.06 @ 00:23:07**

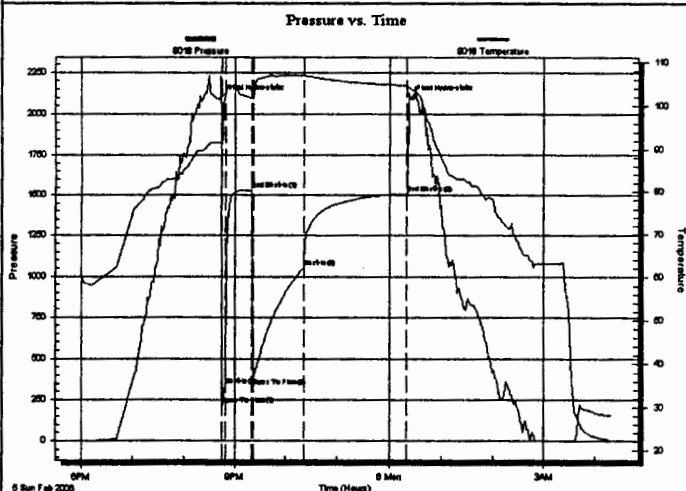
TEST COMMENT: **F- B of B 1m**

IS- No blow Back

FF- B of B 2m

FS- No blow back

BOTTOM PACKER FAILURE



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2090.92	91.44	Initial Hydro-static
3	223.60	91.32	Open To Flow (1)
8	334.89	103.24	Shut-In (1)
38	1534.90	101.81	End Shut-In (1)
40	381.51	101.66	Open To Flow (2)
99	1053.16	106.81	Shut-In (2)
218	1510.10	104.71	End Shut-In (2)
221	2093.88	104.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2000.00	Gassy Salt water 80000 Chlorides	25.52
300.00	Mud cut salt water	4.21
0.00	180 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

Diversified Operating Corp.

15000 W. 6th Ste 102
Golden CO 80401

ATTN: Austin Garner

Birney 2-13-6

2-31s-21w Clark

Job Ticket: 23620

DST#: 1

Test Start: 2006.02.05 @ 18:00:07

Tool Information

Drill Pipe:	Length: 4224.00 ft	Diameter: 3.80 inches	Volume: 59.25 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 278.00 ft	Diameter: 2.25 inches	Volume: 1.37 bbl	Weight to Pull Loose: 710000.0 lb
			Total Volume: 60.62 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4500.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	4535.00 ft			
Interval between Packers:	35.00 ft			
Tool Length:	214.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4469.00	
Shut In Tool	5.00			4474.00	
Sampler	3.00			4477.00	
Hydraulic tool	5.00			4482.00	
Jars	5.00			4487.00	
Safety Joint	3.00			4490.00	
Packer	5.00			4495.00	32.00 Bottom Of Top Packer
Packer	5.00			4500.00	
Stubb	1.00			4501.00	
Perforations	30.00			4531.00	
Recorder	0.00	8018	Inside	4531.00	
Recorder	0.00	13308	Outside	4531.00	
Blank Off Sub	1.00			4532.00	
Blank Spacing	3.00			4535.00	35.00 Tool Interval
Packer	0.00			4535.00	
Stubb	1.00			4536.00	
Perforations	5.00			4541.00	
Change Over Sub	1.00			4542.00	
Recorder	0.00	11084		4542.00	
Blank Spacing	126.00			4668.00	
Change Over Sub	1.00			4669.00	
Perforations	10.00			4679.00	
Bullnose	3.00			4682.00	147.00 Bottom Packers & Anchor
Total Tool Length:		214.00			



TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Diversified Operating Corp.

Birney 2-13-6

15000 W. 6th Ste 102
Golden CO 80401

2-31s-21w Clark

Job Ticket: 23620

DST#: 1

ATTN: Austin Garner

Test Start: 2006.02.05 @ 18:00:07

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: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.78 in*

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2000.00	Gassy Salt water 80000 Chlorides	25.522
300.00	Mud cut salt water	4.208
0.00	180 GP	0.000

Total Length: 2300.00 ft

Total Volume: 29.730 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

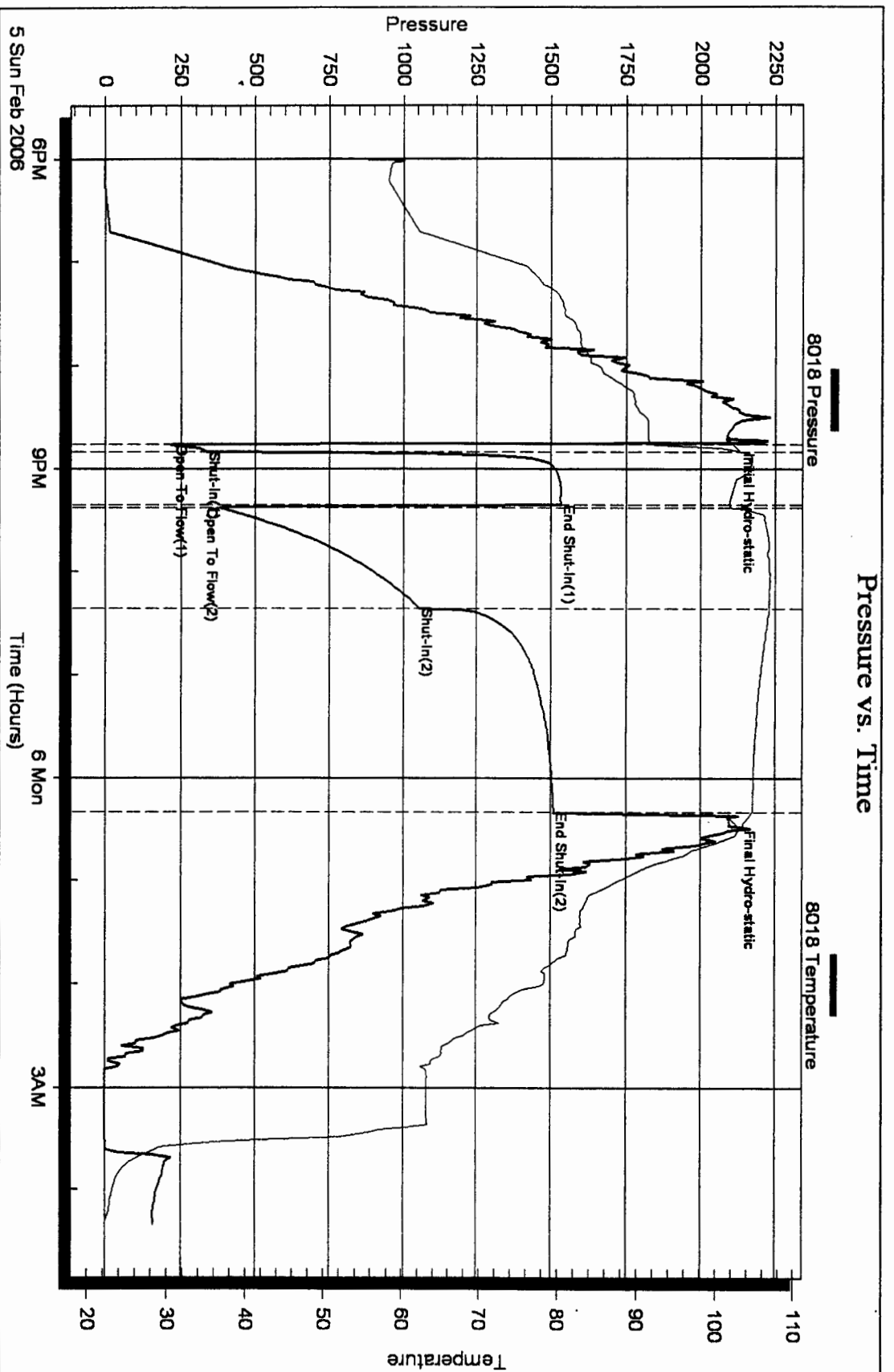
Recovery Comments:

Serial #: 8018

Inside Diversified Operating Corp.

2-31s-21w Clark

DST Test Number: 1



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**TRILOBITE
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DRILL STEM TEST REPORT

Prepared For: **Diversified Operating Corp.**

15000 W. 6th Ste 102
Golden CO 80401

ATTN: Austin Garner

2-31s-21w Clark

Birney 2-13-6

Start Date: 2006.02.08 @ 09:38:03

End Date: 2006.02.08 @ 20:03:03

Job Ticket #: 23519 DST #: 2

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

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DRILL STEM TEST REPORT

Diversified Operating Corp.

15000 W. 6th Ste 102
Golden CO 80401

ATTN: Austin Garner

Birney 2-13-6

2-31s-21w Clark

Job Ticket: 23519

DST#: 2

Test Start: 2006.02.08 @ 09:38:03

GENERAL INFORMATION:

Formation: **St. Louis**

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

Time Tool Opened: 12:32:18

Time Test Ended: 20:03:03

Test Type: **Conventional Bottom Hole**

Tester: **Davy Cline**

Unit No: **24**

Interval: **5436.00 ft (KB) To 5474.00 ft (KB) (TVD)**

Total Depth: **5474.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

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

2240.00 ft (CF)

KB to GR/CF: **11.00 ft**

Serial #: **6799** Inside

Press@RunDepth: **318.94 psig @ 5437.00 ft (KB)**

Start Date: **2006.02.08**

End Date: **2006.02.08**

Start Time: **09:38:08**

End Time: **20:03:03**

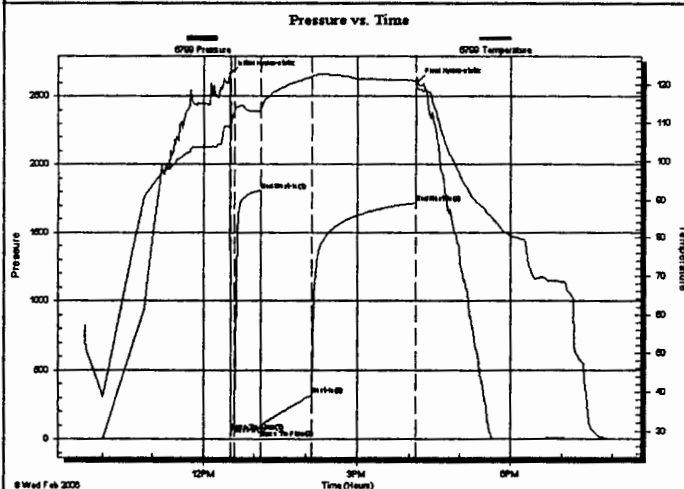
Capacity: **7000.00 psig**

Last Calib.: **2006.02.08**

Time On Btm: **2006.02.08 @ 12:31:33**

Time Off Btm: **2006.02.08 @ 16:10:18**

TEST COMMENT: IF: Strong blow . BOB 3 min.
IS: Bled off. No blow back.
FF: Strong blow . BOB 10 sec. GTS 21 min. Gauged gas.
FS: Bled off for 8 min. Had a strong BOB blow in 90 sec.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2659.79	109.90	Initial Hydro-static
1	55.51	109.37	Open To Flow (1)
6	97.68	113.18	Shut-In(1)
36	1810.76	113.17	End Shut-In(1)
37	69.26	113.79	Open To Flow (2)
96	318.94	121.96	Shut-In(2)
217	1719.49	121.04	End Shut-In(2)
219	2603.46	118.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	G&WCM 14%g 16%w 70%m	0.61
125.00	G&MCW 8%g 52%w 40%m	0.82
490.00	G&MCW 4%g 90%w 6%m	5.03
0.00	Gas in all fluid free pipe.	0.00

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	1.75	25.62
Last Gas Rate	0.25	2.00	26.02
Max. Gas Rate	0.25	3.10	27.76



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Diversified Operating Corp.

Birney 2-13-6

15000 W. 6th Ste 102
Golden CO 80401

2-31s-21w Clark

Job Ticket: 23519

DST#: 2

ATTN: Austin Garner

Test Start: 2006.02.08 @ 09:38:03

Tool Information

Drill Pipe:	Length: 5201.00 ft	Diameter: 3.25 inches	Volume: 53.37 bbl	Tool Weight: 2400.00 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: 211.00 ft	Diameter: 2.25 inches	Volume: 1.04 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 54.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 73000.00 lb
Depth to Top Packer:	5436.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 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
Change Over Sub	1.00			5406.00	
Shut In Tool	5.00			5411.00	
Sampler	3.00			5414.00	
Hydraulic tool	5.00			5419.00	
Jars	5.00			5424.00	
Safety Joint	2.00			5426.00	
Packer	5.00			5431.00	31.00 Bottom Of Top Packer
Packer	5.00			5436.00	
Stubb	1.00			5437.00	
Recorder	0.00	6799	Inside	5437.00	
Perforations	34.00			5471.00	
Recorder	0.00	13400	Outside	5471.00	
Bullnose	3.00			5474.00	38.00 Bottom Packers & Anchor

Total Tool Length: 69.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Diversified Operating Corp.

Birney 2-13-6

15000 W. 6th Ste 102
Golden CO 80401

2-31s-21w Clark

Job Ticket: 23519

DST#: 2

ATTN: Austin Garner

Test Start: 2006.02.08 @ 09:38:03

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: 72600 ppm

Viscosity: 54.00 sec/qt

Cushion Volume: bbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	G&WCM 14%g 16%w 70%m	0.615
125.00	G&MCW 8%g 52%w 40%m	0.823
490.00	G&MCW 4%g 90%w 6%m	5.028
0.00	Gas in all fluid free pipe.	0.000

Total Length: 740.00 ft

Total Volume: 6.466 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



TRILOBITE
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DRILL STEM TEST REPORT

GAS RATES

Diversified Operating Corp.

Birney 2-13-6

15000 W. 6th Ste 102
Golden CO 80401

2-31s-21w Clark

Job Ticket: 23519

DST#: 2

ATTN: Austin Garner

Test Start: 2006.02.08 @ 09:38:03

Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m ³ /d)
2	30	0.25	1.75	25.62
2	35	0.25	2.50	26.81
2	40	0.25	2.75	27.21
2	45	0.25	3.10	27.76
2	50	0.25	2.90	27.45
2	55	0.25	2.60	26.97
2	60	0.25	2.00	26.02

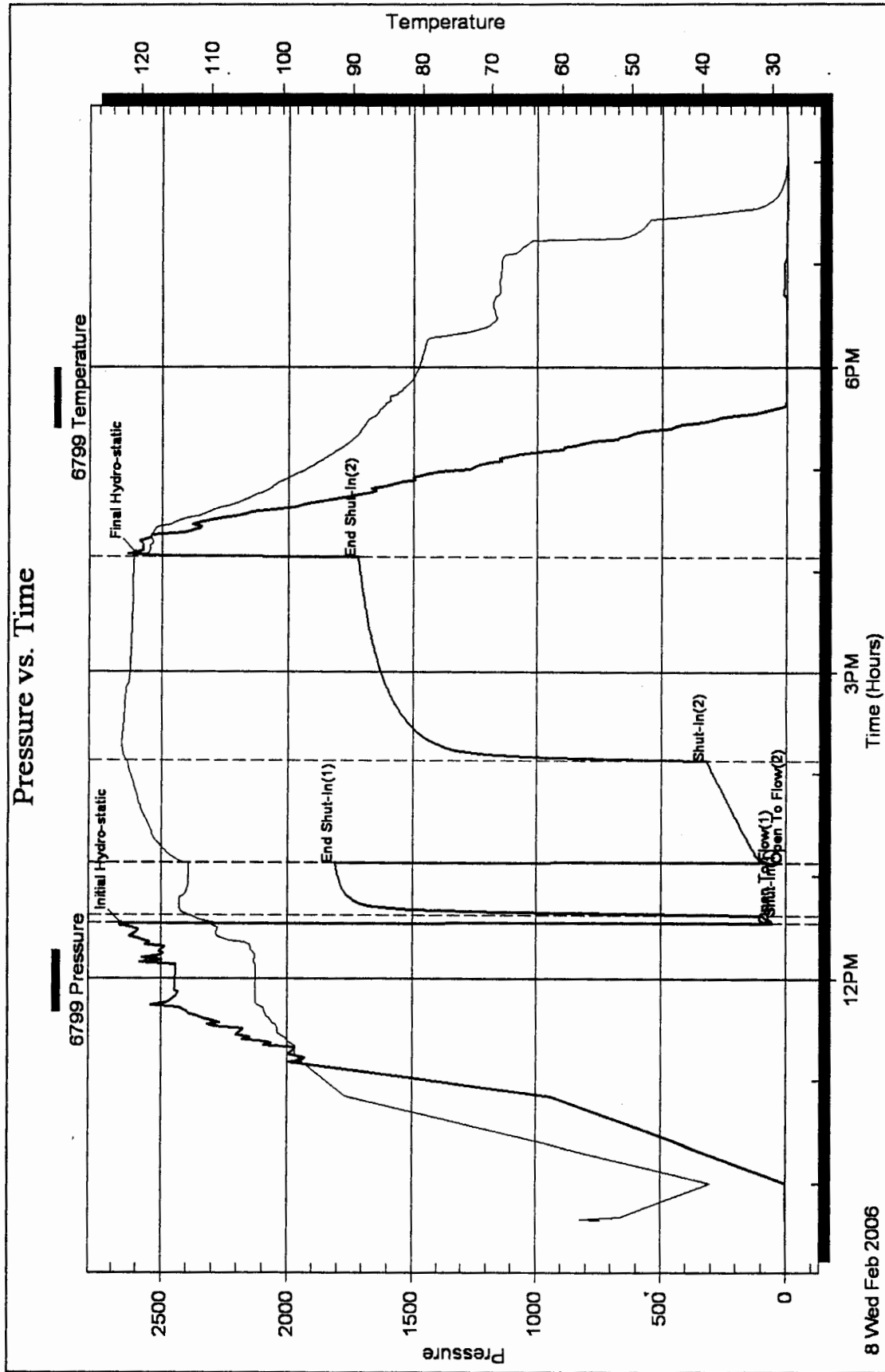
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Inside

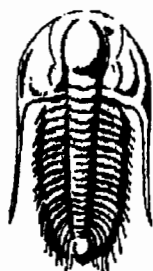
Diversified Operating Corp.

2-31s-21w Clark

DST Test Number: 2



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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Diversified Operating Corp.**

15000 W. 6th Ste 102
Golden CO 80401

ATTN: Austin Garner

2-31s-21w Clark

Birney 2-13-6

Start Date: 2006.02.11 @ 04:49:03

End Date: 2006.02.11 @ 18:56:03

Job Ticket #: 22023 DST #: 3

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

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DRILL STEM TEST REPORT

Diversified Operating Corp.

15000 W. 6th Ste 102
Golden CO 80401

ATTN: Austin Garner

Birney 2-13-6

2-31s-21w Clark

Job Ticket: 22023

DST#: 3

Test Start: 2006.02.11 @ 04:49:03

GENERAL INFORMATION:

Formation: **Simpson**

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

Time Tool Opened: 08:11:48

Time Test Ended: 18:56:03

Test Type: **Conventional Bottom Hole**

Tester: **Gary Pevoteaux**

Unit No: **23**

Interval: **6206.00 ft (KB) To 6258.00 ft (KB) (TVD)**

Total Depth: **6258.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Poor**

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

2240.00 ft (CF)

KB to GR/CF: **11.00 ft**

Serial #: 6771 **Inside**

Press@RunDepth: **482.63 psig @ 6207.00 ft (KB)**

Start Date: **2006.02.11**

End Date:

2006.02.11

Start Time: **04:49:08**

End Time:

18:56:03

Capacity: **7000.00 psig**

Last Calib.: **2006.02.11**

Time On Btm: **2006.02.11 @ 08:10:48**

Time Off Btm: **2006.02.11 @ 11:53:18**

TEST COMMENT: **FF: Strong blow . B.O.B. in 30 secs.**

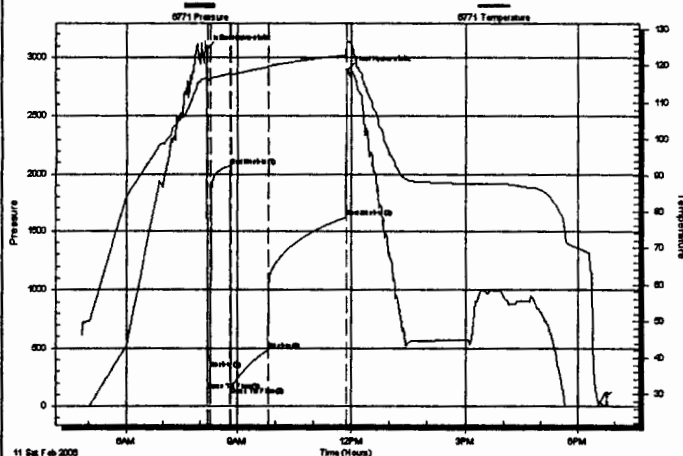
IS: Fair blow . 1 - 5".

FF: Strong blow . B.O.B. in 20 secs.

FS: Fair to strong blow . B.O.B. in 40 mins. GTS 1 min. in to FSIP.

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Pressure vs. Time



11 Feb 2006

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3071.38	116.61	Initial Hydro-static
1	131.71	115.44	Open To Flow (1)
7	318.36	115.94	Shut-In(1)
38	2070.89	117.68	End Shut-In(1)
39	164.36	117.26	Open To Flow (2)
98	482.63	119.51	Shut-In(2)
221	1618.24	122.80	End Shut-In(2)
223	2889.89	126.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	GOCM 30%g 20%o 50%w	0.61
2085.00	CGO 39%g 61%o	28.13
0.00	3983 ft. of 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

Diversified Operating Corp.

Birney 2-13-6

15000 W. 6th Ste 102
Golden CO 80401

2-31s-21w Clark

Job Ticket: 22023

DST#: 3

ATTN: Austin Garner

Test Start: 2006.02.11 @ 04:49:03

Tool Information

Drill Pipe:	Length: 5945.00 ft	Diameter: 3.80 inches	Volume: 83.39 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	21000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose:	89000.00 lb
		Total Volume:	84.61 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	75000.00 lb
Depth to Top Packer:	6206.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	52.00 ft				
Tool Length:	82.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

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Tool Description

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

Change Over Sub	1.00			6177.00		
Shut In Tool	5.00			6182.00		
Sampler	3.00			6185.00		
Hydraulic tool	5.00			6190.00		
Jars	5.00			6195.00		
Safety Joint	2.00			6197.00		
Packer	4.00			6201.00	30.00	Bottom Of Top Packer
Packer	5.00			6206.00		
Stubb	1.00			6207.00		
Recorder	0.00	6771	Inside	6207.00		
Perforations	8.00			6215.00		
Change Over Sub	1.00			6216.00		
Blank Spacing	31.00			6247.00		
Change Over Sub	1.00			6248.00		
Perforations	5.00			6253.00		
Recorder	0.00	13222	Outside	6253.00		
Bullnose	5.00			6258.00	52.00	Bottom Packers & Anchor
Total Tool Length:		82.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

Diversified Operating Corp.

Birney 2-13-6

15000 W. 6th Ste 102
Golden CO 80401

2-31s-21w Clark

Job Ticket: 22023

DST#: 3

ATTN: Austin Garner

Test Start: 2006.02.11 @ 04:49:03

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

4000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	GOCM 30%g 20%o 50%m	0.615
2085.00	CGO 39%g 61%o	28.127
0.00	3983 ft. of GIP	0.000

Total Length: 2210.00 ft

Total Volume: 28.742 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

CONFIDENTIAL

DST Test Number: 3

2-31s-21w Clark

Diversified Operating Corp.

Inside

Serial #: 6771

Pressure vs. Time

