

DRILL STEM TEST REPORT

Prepared For: **Brungart Oil & Leasing Co**

PO box 871
Russell KS

ATTN: Brad Hutchison

16-13s-12w RS

Heffel 1

Start Date: 2005.11.06 @ 20:31:48

End Date: 2005.11.07 @ 01:58:48

Job Ticket #: 23590 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

Brungart Oil & Leasing Co

Heffel 1

PO box 871
Russell KS

16-13s-12w RS

Job Ticket: 23590

DST#: 1

ATTN: Brad Hutchison

Test Start: 2005.11.06 @ 20:31:48

GENERAL INFORMATION:

Formation: **LKC B-C**

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

Time Tool Opened: 21:58:03

Time Test Ended: 01:58:48

Test Type: **Conventional Bottom Hole**

Tester: **Michael**

Unit No: **22**

Interval: **2775.00 ft (KB) To 2820.00 ft (KB) (TVD)**

Reference Elevations: **1634.00 ft (KB)**

Total Depth: **2820.00 ft (KB) (TVD)**

1629.00 ft (CF)

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

KB to GRVCF: **5.00 ft**

Serial #: 8166

Inside

Press@RunDepth: **25.07 psig @ 2781.00 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2005.11.06**

End Date: **2005.11.07**

Last Calib.: **2005.11.07**

Start Time: **20:31:49**

End Time: **01:58:48**

Time On Btm: **2005.11.06 @ 21:57:33**

Time Off Btm: **2005.11.07 @ 00:57:03**

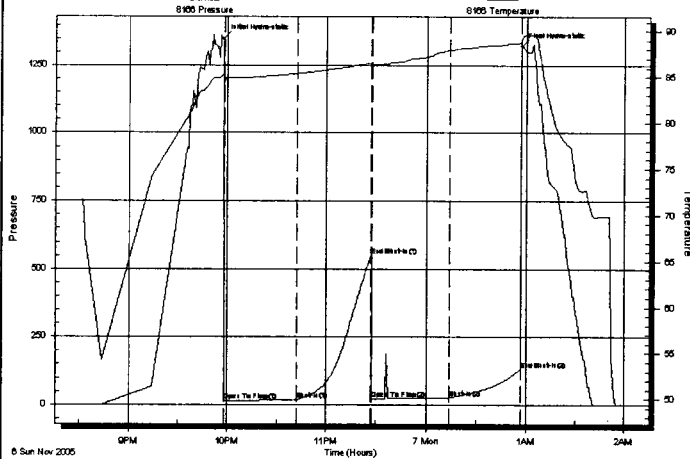
TEST COMMENT: **IF- 1/8" Blow died 25m**

IS- No blow

FF- No blow

FSI- No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1347.37	85.23	Initial Hydro-static
1	12.49	84.42	Open To Flow (1)
45	17.46	85.37	Shut-In(1)
90	547.35	86.54	End Shut-In(1)
90	19.50	86.43	Open To Flow (2)
136	25.07	87.91	Shut-In(2)
179	130.67	88.75	End Shut-In(2)
180	1320.84	89.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling Mud	0.05

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Brungart Oil & Leasing Co

Heffel 1

PO box 871
Russell KS

16-13s-12w RS

Job Ticket: 23590

DST#: 1

ATTN: Brad Hutchison

Test Start: 2005.11.06 @ 20:31:48

Tool Information

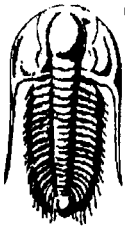
Drill Pipe:	Length: 2396.00 ft	Diameter: 3.80 inches	Volume: 33.61 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 372.00 ft	Diameter: 2.25 inches	Volume: 1.83 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 33000.00 lb
			<u>Total Volume: 35.44 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	2775.00 ft			Final 32000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	66.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			2755.00	
Shut In Tool	5.00			2760.00	
Hydraulic tool	5.00			2765.00	
Packer	5.00			2770.00	21.00 Bottom Of Top Packer
Packer	5.00			2775.00	
Blank Spacing	1.00			2776.00	
Perforations	5.00			2781.00	
Recorder	0.00	8166	Inside	2781.00	
Drill Pipe	31.00			2812.00	
Recorder	0.00	10991	Outside	2812.00	
Perforations	5.00			2817.00	
Bullnose	3.00			2820.00	45.00 Bottom Packers & Anchor

Total Tool Length: 66.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Brungart Oil & Leasing Co

Heffel 1

PO box 871
Russell KS

16-13s-12w RS

Job Ticket: 23590

DST#: 1

ATTN: Brad Hutchison

Test Start: 2005.11.06 @ 20:31:48

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 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
10.00	Drilling Mud	0.049

Total Length: 10.00 ft

Total Volume: bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8166

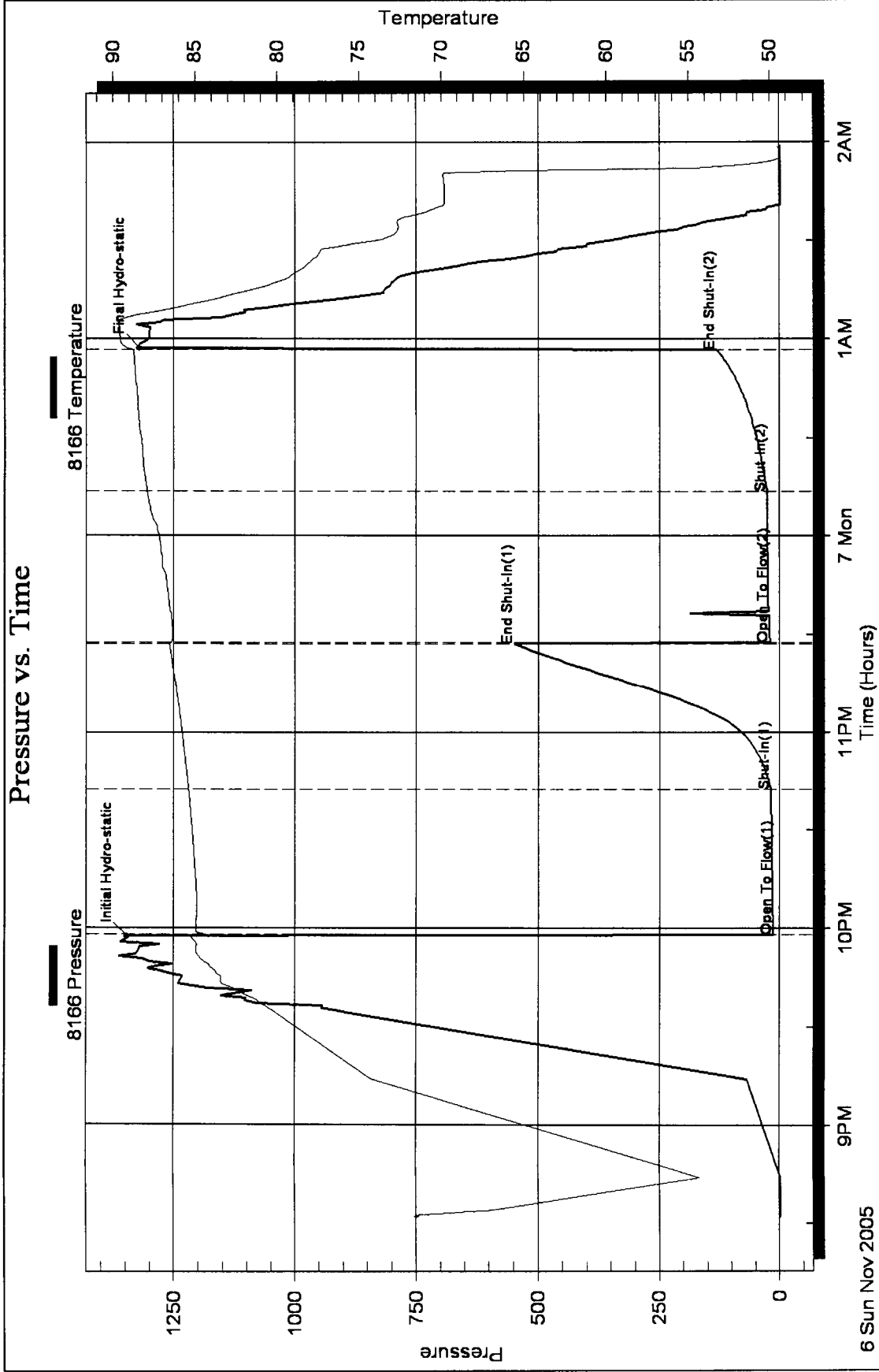
Inside

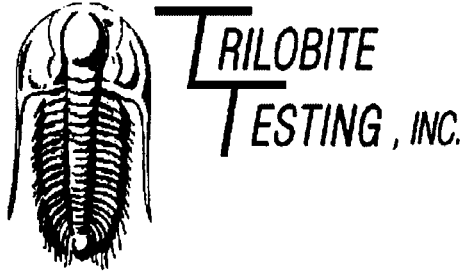
Brungart Oil & Leasing Co

16-13s-12w RS

DST Test Number: 1

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Brungart Oil & Leasing Co**

PO box 871
Russell KS

ATTN: Brad Hutchison

16-13s-12w RS

Heffel 1

Start Date: 2005.11.07 @ 08:56:56

End Date: 2005.11.07 @ 14:36:56

Job Ticket #: 23591 DST #: 2

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

Brungart Oil & Leasing Co

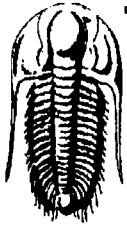
Heffel 1

16-13s-12w RS

DST # 2

LKC

2005.11.07



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Brungart Oil & Leasing Co

Heffel 1

PO box 871
Russell KS

16-13s-12w RS

Job Ticket: 23591

DST#: 2

ATTN: Brad Hutchison

Test Start: 2005.11.07 @ 08:56:56

GENERAL INFORMATION:

Formation: **LKC**

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

Time Tool Opened: 10:23:26

Test Type: **Conventional Bottom Hole**

Tester: **Michael**

Time Test Ended: 14:36:56

Unit No: **22**

Interval: **2828.00 ft (KB) To 2865.00 ft (KB) (TVD)**

Reference Elevations: **1634.00 ft (KB)**

Total Depth: **2865.00 ft (KB) (TVD)**

1629.00 ft (CF)

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

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

Serial #: 8166

Inside

Press@RunDepth: **47.76 psig @ 2829.00 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2005.11.07**

End Date: **2005.11.07**

Last Calib.: **2005.11.07**

Start Time: **08:56:57**

End Time: **14:36:56**

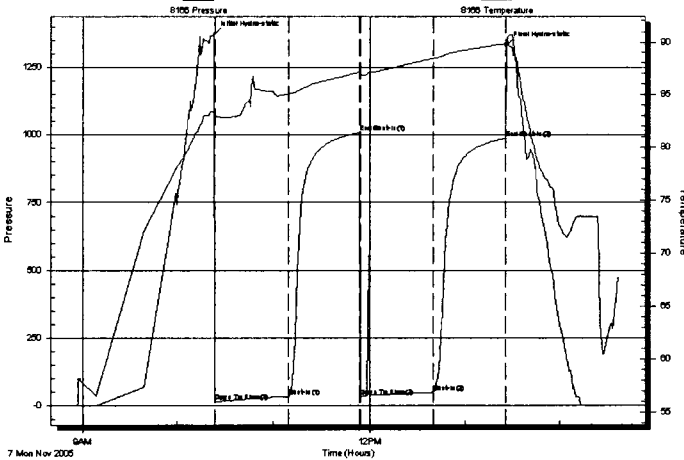
Time On Btm: **2005.11.07 @ 10:23:11**

Time Off Btm: **2005.11.07 @ 13:26:11**

TEST COMMENT:

F- Weak surface blow
IS- No blow
FF- Flushed tool Weak surface blow
FSI- No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1372.96	83.35	Initial Hydro-static
1	12.40	82.96	Open To Flow (1)
47	31.63	85.08	Shut-In(1)
91	1008.75	87.13	End Shut-In(1)
91	32.95	86.90	Open To Flow (2)
137	47.76	88.44	Shut-In(2)
183	988.70	89.86	End Shut-In(2)
183	1332.48	90.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	Drilling mud	0.34
0.00	Oil Scum on top of tool	0.00

Gas Rates

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



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TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Brungart Oil & Leasing Co

Heffel 1

PO box 871
Russell KS

16-13s-12w RS

Job Ticket: 23591

DST#: 2

ATTN: Brad Hutchison

Test Start: 2005.11.07 @ 08:56:56

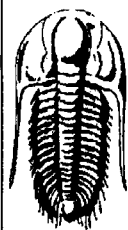
Tool Information

Drill Pipe:	Length: 2455.00 ft	Diameter: 3.80 inches	Volume: 34.44 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 372.00 ft	Diameter: 2.25 inches	Volume: 1.83 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 34000.00 lb
			<u>Total Volume: 36.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	2828.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	58.00 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			2808.00	
Shut In Tool	5.00			2813.00	
Hydraulic tool	5.00			2818.00	
Packer	5.00			2823.00	21.00 Bottom Of Top Packer
Packer	5.00			2828.00	
Blank Spacing	1.00			2829.00	
Recorder	0.00	8166	Inside	2829.00	
Perforations	33.00			2862.00	
Recorder	0.00	10991	Outside	2862.00	
Bullnose	3.00			2865.00	37.00 Bottom Packers & Anchor
Total Tool Length:	58.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

Brungart Oil & Leasing Co

Heffel 1

PO box 871
Russell KS

16-13s-12w RS

Job Ticket: 23591

DST#: 2

ATTN: Brad Hutchison

Test Start: 2005.11.07 @ 08:56:56

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 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
70.00	Drilling mud	0.344
0.00	Oil Scum on top of tool	0.000

Total Length: 70.00 ft

Total Volume: 0.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

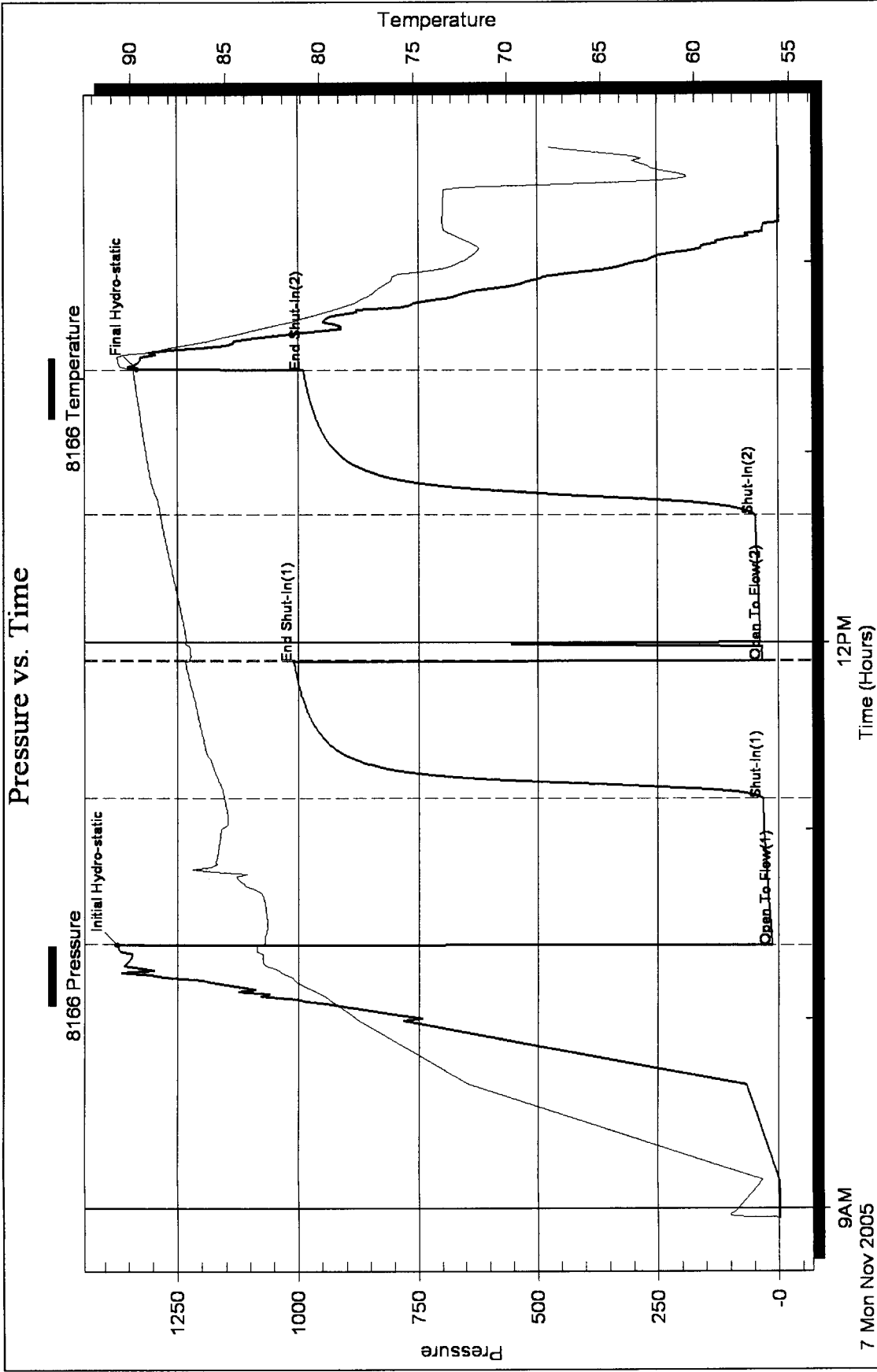
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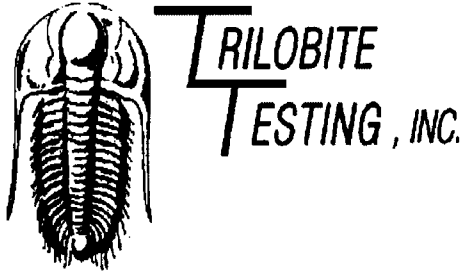
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Brungart Oil & Leasing Co**

PO box 871
Russell KS

ATTN: Brad Hutchison

16-13s-12w RS

Heffel 1

Start Date: 2005.11.07 @ 19:00:13

End Date: 2005.11.08 @ 01:15:28

Job Ticket #: 23592 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Brungart Oil & Leasing Co

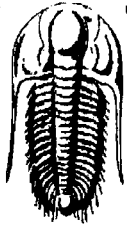
Heffel 1

16-13s-12w RS

DST # 3

LKC

2005.11.07



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Brungart Oil & Leasing Co

Heffel 1

PO box 871
Russell KS

16-13s-12w RS

Job Ticket: 23592

DST#: 3

ATTN: Brad Hutchison

Test Start: 2005.11.07 @ 19:00:13

GENERAL INFORMATION:

Formation: **LKC**

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

Time Tool Opened: 20:28:28

Time Test Ended: 01:15:28

Test Type: **Conventional Bottom Hole**

Tester: **Michael**

Unit No: **22**

Interval: **2863.00 ft (KB) To 2873.00 ft (KB) (TVD)**

Reference Elevations: **1634.00 ft (KB)**

Total Depth: **2873.00 ft (KB) (TVD)**

1629.00 ft (CF)

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

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

Serial #: 8166

Inside

Press@RunDepth: **251.15 psig @ 2864.00 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2005.11.07**

End Date:

2005.11.08

Last Calib.: **2005.11.08**

Start Time: **19:00:14**

End Time:

01:15:28

Time On Btm: **2005.11.07 @ 20:28:13**

Time Off Btm: **2005.11.07 @ 23:32:28**

TEST COMMENT:

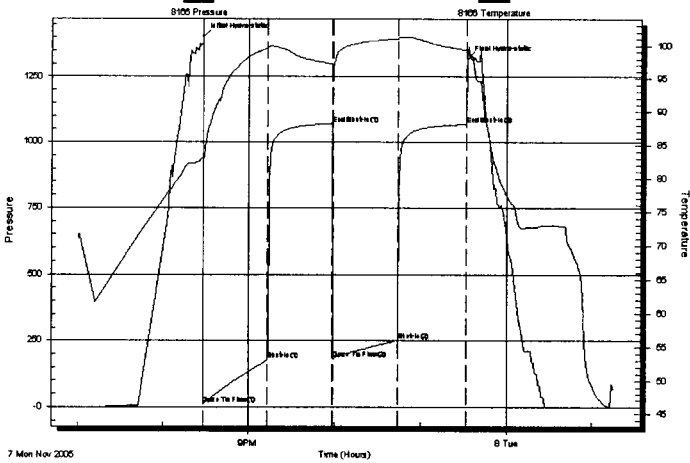
IF- B of B 17m

IS- No blow

FF- B of B 22m

FS- No blow

Pressure vs. Time



PRESSURE SUMMARY

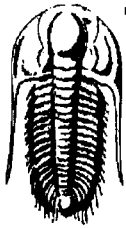
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1401.55	83.03	Initial Hydro-static
1	12.53	82.83	Open To Flow (1)
46	176.79	99.59	Shut-In(1)
91	1071.57	97.16	End Shut-In(1)
91	182.40	96.74	Open To Flow (2)
136	251.15	100.99	Shut-In(2)
184	1069.54	99.33	End Shut-In(2)
185	1318.84	99.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
480.00	Gassy Salt w ater 100,000 Chlorides	3.34

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Brungart Oil & Leasing Co

Heffel 1

PO box 871
Russell KS

16-13s-12w RS

Job Ticket: 23592

DST#: 3

ATTN: Brad Hutchison

Test Start: 2005.11.07 @ 19:00:13

Tool Information

Drill Pipe:	Length: 2485.00 ft	Diameter: 3.80 inches	Volume: 34.86 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 372.00 ft	Diameter: 2.25 inches	Volume: 1.83 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 34000.00 lb
			<u>Total Volume: 36.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 33000.00 lb
Depth to Top Packer:	2863.00 ft			Final 33000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	31.00 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			2843.00	
Shut In Tool	5.00			2848.00	
Hydraulic tool	5.00			2853.00	
Packer	5.00			2858.00	21.00 Bottom Of Top Packer
Packer	5.00			2863.00	
Blank Spacing	1.00			2864.00	
Recorder	0.00	8166	Inside	2864.00	
Perforations	6.00			2870.00	
Recorder	0.00	10991	Outside	2870.00	
Bullnose	3.00			2873.00	10.00 Bottom Packers & Anchor
Total Tool Length:	31.00				



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DRILL STEM TEST REPORT

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Russell KS

16-13s-12w RS

Job Ticket: 23592

DST#: 3

ATTN: Brad Hutchison

Test Start: 2005.11.07 @ 19:00:13

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.78 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
480.00	Gassy Salt water 100,000 Chlorides	3.344

Total Length: 480.00 ft Total Volume: 3.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

