

DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

26 4 22 Norton KS

Esslinger #1

Start Date: 2007.08.07 @ 08:41:34

End Date: 2007.08.07 @ 16:12:13

Job Ticket #: 28929 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

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28929

DST#: 1

ATTN: Tony Richardson

Test Start: 2007.08.07 @ 08:41:34

GENERAL INFORMATION:

Formation: **Maromton - Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:45:14

Time Test Ended: 16:12:13

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 41

Interval: **3638.00 ft (KB) To 3695.00 ft (KB) (TVD)**

Reference Elevations: 2242.00 ft (KB)

Total Depth: 3695.00 ft (KB) (TVD)

2238.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 4.00 ft

Serial #: 8018

Inside

Press@RunDepth: 79.41 psig @ 3645.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2007.08.07

End Date:

2007.08.07

Last Calib.: 2007.08.07

Start Time: 08:41:34

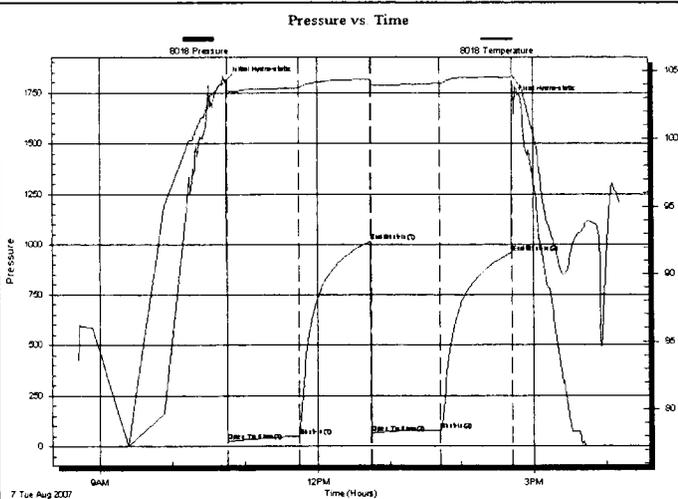
End Time:

16:12:13

Time On Btm: 2007.08.07 @ 10:44:59

Time Off Btm: 2007.08.07 @ 14:42:58

TEST COMMENT: IFP Weak blow throughout 1/2" - 2"
ISI No blow back
FFP No blow 30 min. - sur blow throughout
FSI No blow back



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1810.00 | 104.09 | Initial Hydro-static |
| 1 | 22.31 | 103.60 | Open To Flow (1) |
| 60 | 50.45 | 103.73 | Shut-In(1) |
| 119 | 1015.85 | 104.33 | End Shut-In(1) |
| 119 | 62.78 | 103.99 | Open To Flow (2) |
| 178 | 79.41 | 104.03 | Shut-In(2) |
| 238 | 959.82 | 104.50 | End Shut-In(2) |
| 238 | 1712.85 | 104.63 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------|--------------|
| 45.00 | MW 60%W 40%M | 0.22 |
| 45.00 | WM 15%W 85%M | 0.22 |
| 60.00 | OCM 10%O 90%M | 0.54 |
| | | |
| | | |

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28929

DST#: 1

ATTN: Tony Richardson

Test Start: 2007.08.07 @ 08:41:34

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3503.00 ft | Diameter: 3.80 inches | Volume: 49.14 bbl | Tool Weight: 2500.00 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: 123.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 65000.00 lb |
| | | | <u>Total Volume: 49.74 bbl</u> | Tool Chased 1.00 ft |
| Drill Pipe Above KB: | 8.00 ft | | | String Weight: Initial 54000.00 lb |
| Depth to Top Packer: | 3638.00 ft | | | Final 54000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 57.02 ft | | | |
| Tool Length: | 77.02 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:
Started off bottom 0730

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Shut In Tool | 5.00 | | | 3623.00 | |
| Hydraulic tool | 5.00 | | | 3628.00 | |
| Packer | 5.00 | | | 3633.00 | 20.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3638.00 | |
| Stubb | 1.00 | | | 3639.00 | |
| Perforations | 5.00 | | | 3644.00 | |
| Change Over Sub | 1.00 | | | 3645.00 | |
| Recorder | 0.01 | 8018 | Inside | 3645.01 | |
| Blank Spacing | 31.00 | | | 3676.01 | |
| Change Over Sub | 1.00 | | | 3677.01 | |
| Perforations | 15.00 | | | 3692.01 | |
| Recorder | 0.01 | 13548 | Outside | 3692.02 | |
| Bullnose | 3.00 | | | 3695.02 | 57.02 Bottom Packers & Anchor |

Total Tool Length: 77.02



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28929

DST#: 1

ATTN: Tony Richardson

Test Start: 2007.08.07 @ 08:41:34

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: 59.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.73 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbf |
|--------------|---------------|---------------|
| 45.00 | MW 60%W 40%M | 0.221 |
| 45.00 | WM 15%W 85%M | 0.221 |
| 60.00 | OCM 10%O 90%M | 0.541 |

Total Length: 150.00 ft

Total Volume: 0.983 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

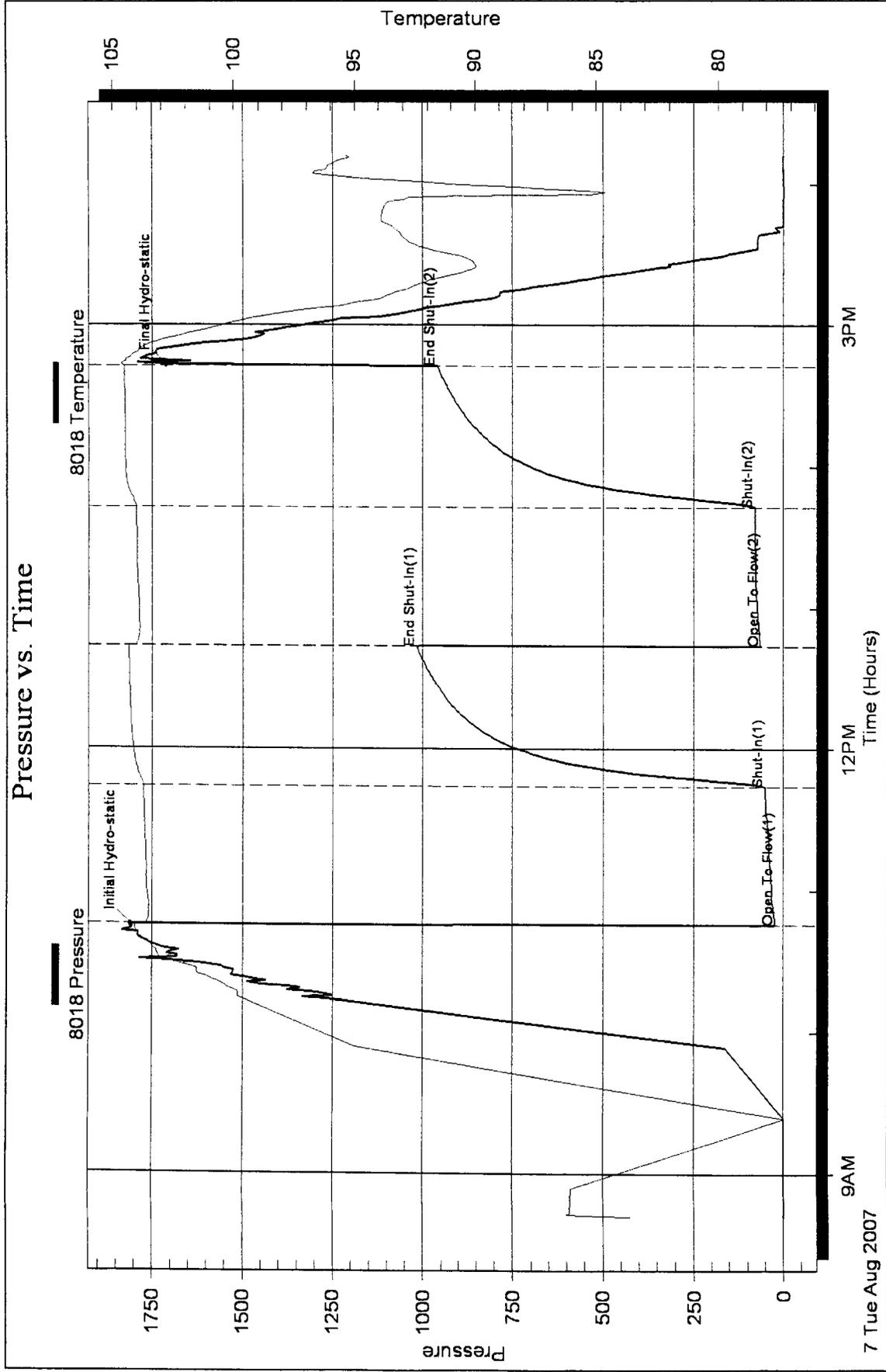
Serial #:

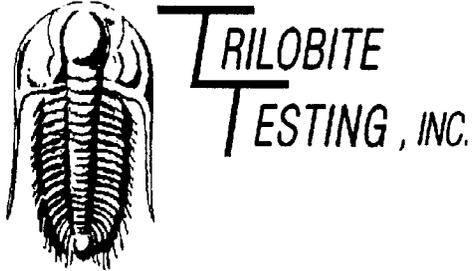
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

26 4 22 Norton KS

Esslinger #1

Start Date: 2007.08.07 @ 23:12:02

End Date: 2007.08.08 @ 06:41:56

Job Ticket #: 28930 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

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

ATTN: Tony Richardson

Job Ticket: 28930

DST#: 2

Test Start: 2007.08.07 @ 23:12:02

GENERAL INFORMATION:

Formation: **Toronto LKC "A-C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:21:27

Time Test Ended: 06:41:56

Test Type: Conventional Straddle

Tester: Brian Fairbank

Unit No: 41

Interval: **3395.00 ft (KB) To 3512.00 ft (KB) (TVD)**

Reference Elevations: 2242.00 ft (KB)

Total Depth: 3693.00 ft (KB) (TVD)

2238.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 4.00 ft

Serial #: 8018

Inside

Press@RunDepth: 138.83 psig @ 3409.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2007.08.07

End Date:

2007.08.08

Last Calib.: 2007.08.08

Start Time: 23:12:02

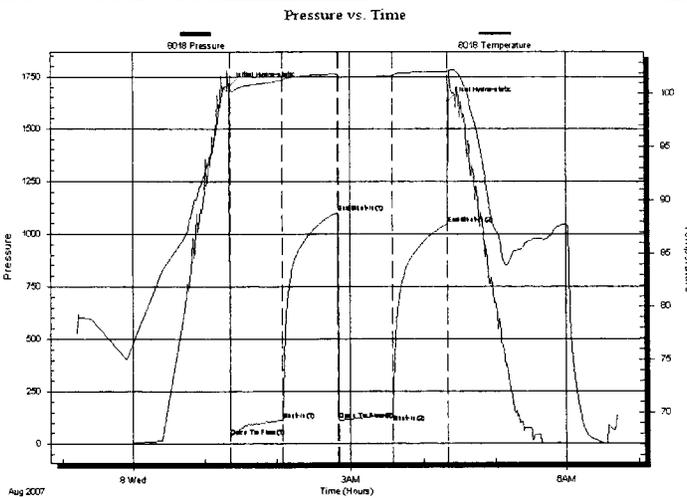
End Time:

06:41:56

Time On Btm: 2007.08.08 @ 01:21:12

Time Off Btm: 2007.08.08 @ 04:20:41

TEST COMMENT: IFP BOB 35 min.
ISI No blow back
FFP No blow 3 min. - 7 1/2"
FSI No blow back 20 min. - weak sur throughout



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1708.15 | 100.76 | Initial Hydro-static |
| 1 | 31.27 | 100.20 | Open To Flow (1) |
| 44 | 111.50 | 101.25 | Shut-In(1) |
| 89 | 1103.74 | 101.84 | End Shut-In(1) |
| 89 | 113.18 | 101.23 | Open To Flow (2) |
| 134 | 138.83 | 101.68 | Shut-In(2) |
| 180 | 1048.31 | 102.08 | End Shut-In(2) |
| 180 | 1633.58 | 102.23 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------------|--------------|
| 125.00 | WM 10%W 90%M | 0.63 |
| 135.00 | Mud mVO Spts 100%M | 1.89 |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28930

DST#: 2

ATTN: Tony Richardson

Test Start: 2007.08.07 @ 23:12:02

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3281.00 ft | Diameter: 3.80 inches | Volume: 46.02 bbl | Tool Weight: 3000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 35000.00 lb |
| Drill Collar: | Length: 123.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 80000.00 lb |
| | | | <u>Total Volume: 46.62 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 29.00 ft | | | String Weight: Initial 54000.00 lb |
| Depth to Top Packer: | 3395.00 ft | | | Final 56000.00 lb |
| Depth to Bottom Packer: | 3512.02 ft | | | |
| Interval between Packers: | 117.02 ft | | | |
| Tool Length: | 323.03 ft | | | |
| Number of Packers: | 3 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|--------------------------------|
| 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 | 5.00 | | | 3395.00 | |
| Stubb | 1.00 | | | 3396.00 | |
| Perforations | 12.00 | | | 3408.00 | |
| Change Over Sub | 1.00 | | | 3409.00 | |
| Recorder | 0.01 | 8018 | Inside | 3409.01 | |
| Blank Spacing | 93.00 | | | 3502.01 | |
| Change Over Sub | 1.00 | | | 3503.01 | |
| Perforations | 4.00 | | | 3507.01 | |
| Recorder | 0.01 | 13548 | Outside | 3507.02 | |
| Blank Off Sub | 1.00 | | | 3508.02 | |
| Blank Spacing | 4.00 | | | 3512.02 | 117.02 Tool Interval |
| Packer | 5.00 | | | 3517.02 | |
| Stubb | 1.00 | | | 3518.02 | |
| Perforations | 20.00 | | | 3538.02 | |
| Change Over Sub | 1.00 | | | 3539.02 | |
| Blank Spacing | 155.00 | | | 3694.02 | |
| Change Over Sub | 1.00 | | | 3695.02 | |
| Recorder | 0.01 | 13760 | Below | 3695.03 | |
| Bullnose | 3.00 | | | 3698.03 | 186.01 Bottom Packers & Anchor |

Total Tool Length: 323.03



TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28930

DST#: 2

ATTN: Tony Richardson

Test Start: 2007.08.07 @ 23:12:02

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: 59.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 8.71 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 1200.00 ppm | | | |
| Filter Cake: inches | | | |

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|--------------------|---------------|
| 125.00 | WM 10%W 90%M | 0.633 |
| 135.00 | Mud m/O Spts 100%M | 1.894 |

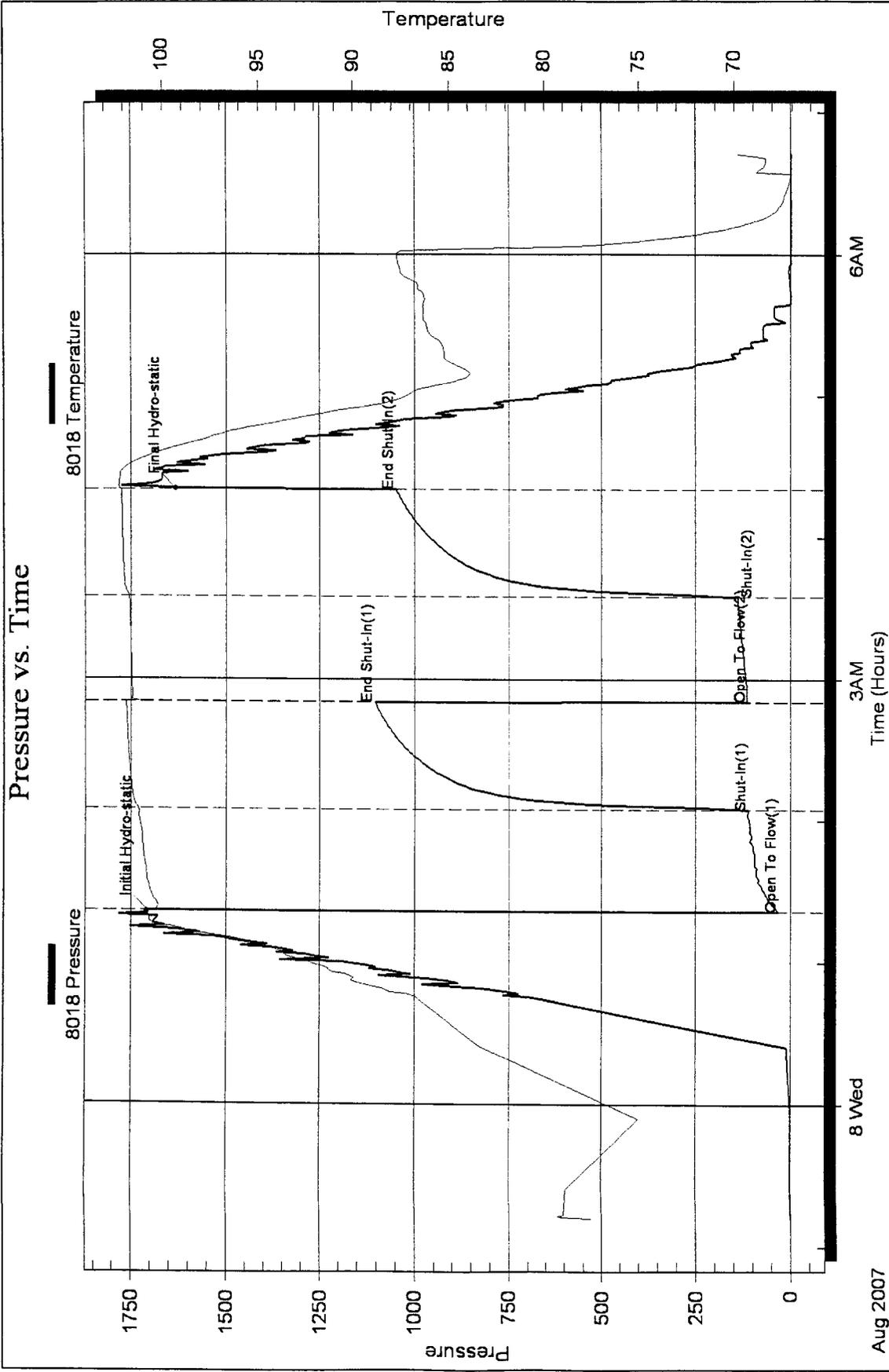
Total Length: 260.00 ft Total Volume: 2.527 bbl

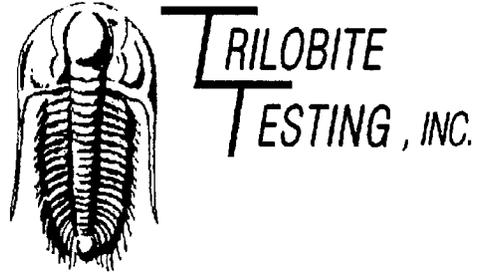
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

26 4 22 Norton KS

Esslinger #1

Start Date: 2007.08.08 @ 12:35:43

End Date: 2007.08.08 @ 16:11:23

Job Ticket #: 28931 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Black Diamond Oil

Esslinger #1

26 4 22 Norton KS

DST # 3

Arbuckle

2007.08.08



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28931

DST#: 3

ATTN: Tony Richardson

Test Start: 2007.08.08 @ 12:35:43

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:12:23

Time Test Ended: 16:11:23

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 41

Interval: **3686.00 ft (KB) To 3705.00 ft (KB) (TVD)**

Reference Elevations: 2242.00 ft (KB)

Total Depth: 3705.00 ft (KB) (TVD)

2238.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 4.00 ft

Serial #: 8018 Inside

Press@RunDepth: 24.60 psig @ 3687.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2007.08.08

End Date:

2007.08.08

Last Calib.: 2007.08.08

Start Time: 12:35:43

End Time:

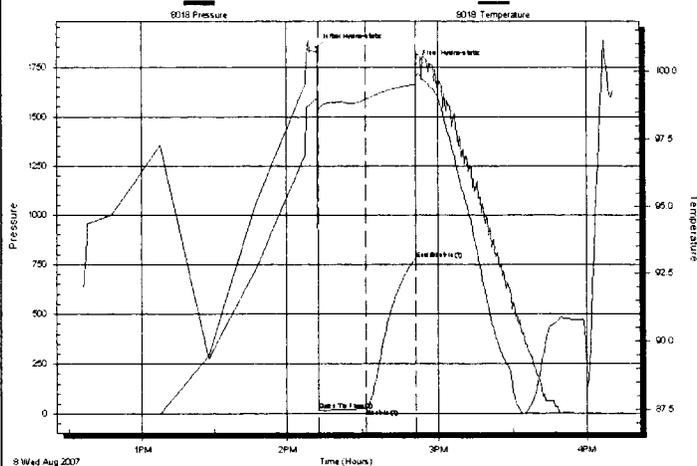
16:11:23

Time On Btm: 2007.08.08 @ 14:12:08

Time Off Btm: 2007.08.08 @ 14:51:23

TEST COMMENT: IFP Weak blow throughout sur - 1/4 "
ISI No blow back
TIME 20 20

Pressure vs. Time



PRESSURE SUMMARY

| Time (Mn.) | Pressure (psig) | Temp (deg F) | Annotation |
|------------|-----------------|--------------|----------------------|
| 0 | 1846.95 | 98.97 | Initial Hydro-static |
| 1 | 13.84 | 98.47 | Open To Flow (1) |
| 20 | 24.60 | 98.97 | Shut-In(1) |
| 39 | 773.91 | 99.50 | End Shut-In(1) |
| 40 | 1760.91 | 99.75 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|------------------|--------------|
| 15.00 | Mud Scum O 100%M | 0.07 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28931

DST#: 3

ATTN: Tony Richardson

Test Start: 2007.08.08 @ 12:35:43

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3561.00 ft | Diameter: 3.80 inches | Volume: 49.95 bbl | Tool Weight: 2500.00 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: 123.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 70000.00 lb |
| | | | <u>Total Volume: 50.55 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 18.00 ft | | | String Weight: Initial 52000.00 lb |
| Depth to Top Packer: | 3686.00 ft | | | Final 52000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 19.02 ft | | | |
| Tool Length: | 39.02 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|---------------------------|--------------|------------|----------|------------|-------------------------------|
| Shut In Tool | 5.00 | | | 3671.00 | |
| Hydraulic tool | 5.00 | | | 3676.00 | |
| Packer | 5.00 | | | 3681.00 | 20.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3686.00 | |
| Stubb | 1.00 | | | 3687.00 | |
| Recorder | 0.01 | 8018 | Inside | 3687.01 | |
| Perforations | 15.00 | | | 3702.01 | |
| Recorder | 0.01 | 13548 | Outside | 3702.02 | |
| Bullnose | 3.00 | | | 3705.02 | 19.02 Bottom Packers & Anchor |
| Total Tool Length: | 39.02 | | | | |



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28931

DST#: 3

ATTN: Tony Richardson

Test Start: 2007.08.08 @ 12:35:43

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: 59.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 8.71 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 1200.00 ppm | | | |
| Filter Cake: inches | | | |

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|------------------|---------------|
| 15.00 | Mud Scum O 100%M | 0.074 |

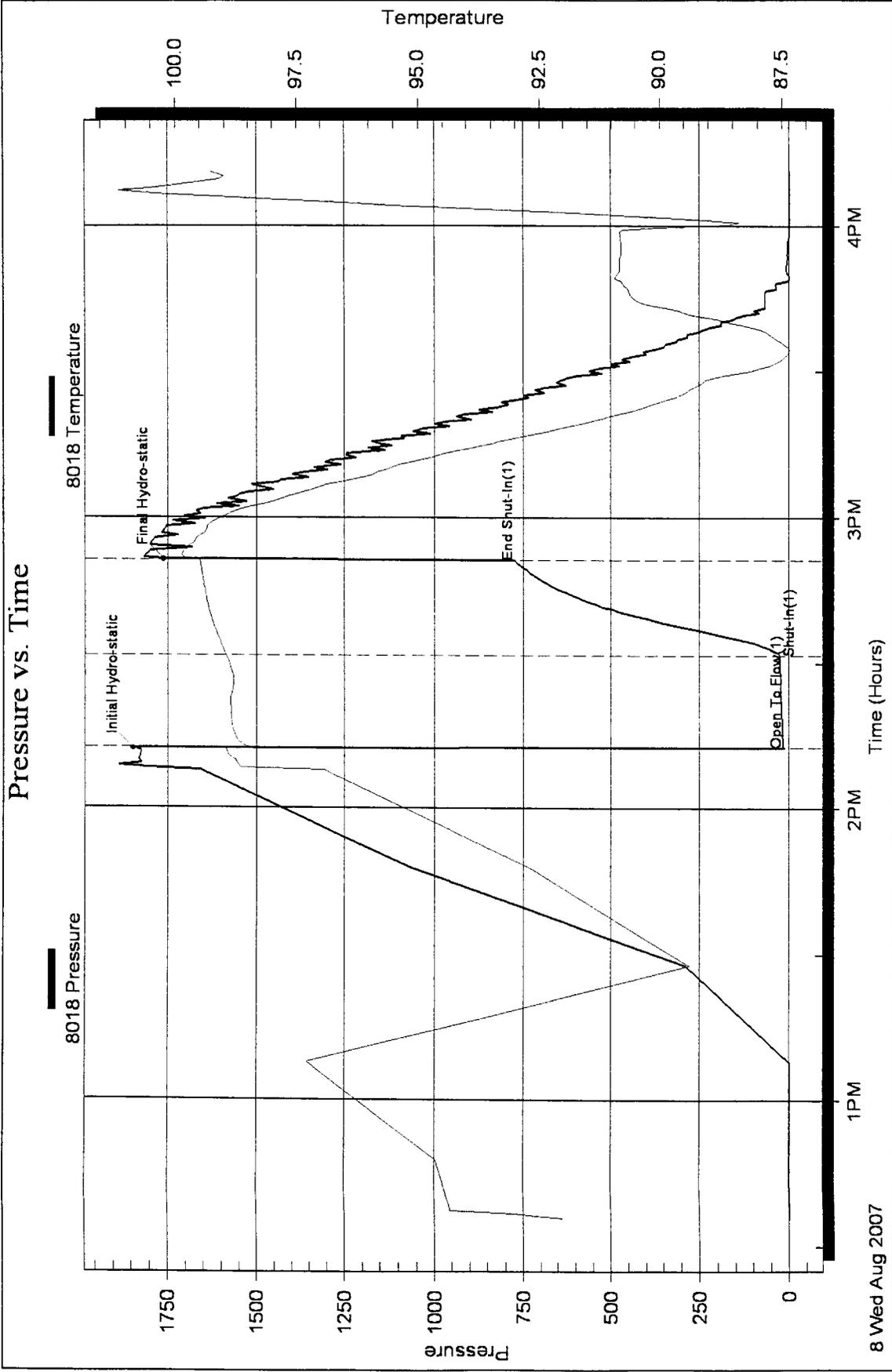
Total Length: 15.00 ft Total Volume: 0.074 bbl

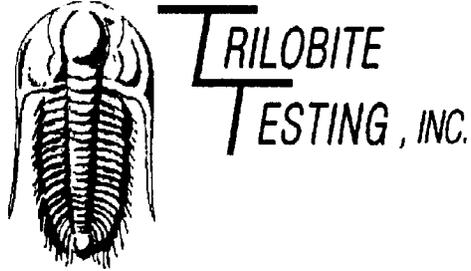
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays KS 67601

ATTN: Tony Richardson

26 4 22 Norton KS

Esslinger #1

Start Date: 2007.08.08 @ 23:52:44

End Date: 2007.08.09 @ 05:06:53

Job Ticket #: 28932 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Black Diamond Oil

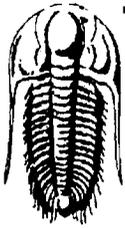
Esslinger #1

26 4 22 Norton KS

DST # 4

Arbuckle (2)

2007.08.08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

ATTN: Tony Richardson

Job Ticket: 28932

DST#: 4

Test Start: 2007.08.08 @ 23:52:44

GENERAL INFORMATION:

Formation: **Arbuckle (2)**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:51:39

Time Test Ended: 05:06:53

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 41

Interval: **3686.00 ft (KB) To 3721.00 ft (KB) (TVD)**

Reference Elevations: 2242.00 ft (KB)

Total Depth: 3721.00 ft (KB) (TVD)

2238.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 4.00 ft

Serial #: 8018

Inside

Press@RunDepth: 184.10 psig @ 3694.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2007.08.08

End Date: 2007.08.09

Last Calib.: 2007.08.09

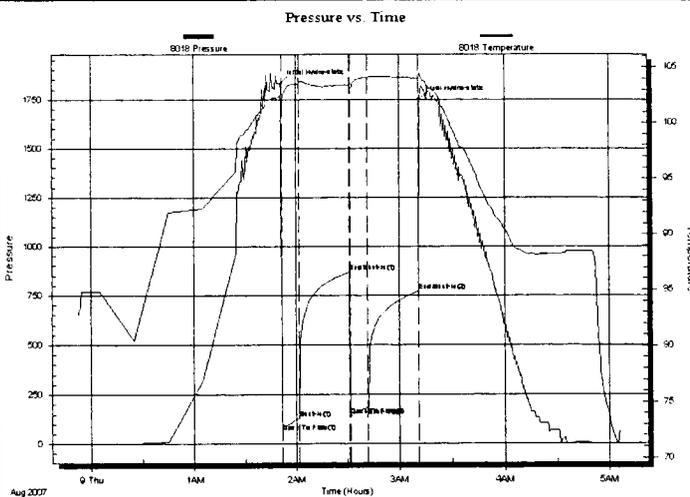
Start Time: 23:52:44

End Time: 05:06:53

Time On Btm: 2007.08.09 @ 01:51:24

Time Off Btm: 2007.08.09 @ 03:11:39

TEST COMMENT: IFP BOB 4 min.
ISI No blow back
FFP BOB 7 min.
FSI No blow back



PRESSURE SUMMARY

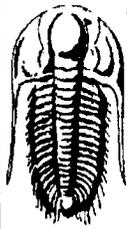
| Time (Mn.) | Pressure (psig) | Temp (deg F) | Annotation |
|------------|-----------------|--------------|----------------------|
| 0 | 1830.97 | 102.35 | Initial Hydro-static |
| 1 | 57.44 | 101.87 | Open To Flow (1) |
| 11 | 129.23 | 103.52 | Shut-In(1) |
| 40 | 865.91 | 103.41 | End Shut-In(1) |
| 41 | 142.31 | 103.18 | Open To Flow (2) |
| 51 | 184.10 | 104.06 | Shut-In(2) |
| 80 | 771.44 | 103.99 | End Shut-In(2) |
| 81 | 1749.89 | 104.54 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------|--------------|
| 185.00 | MW 80%W 20%M | 1.47 |
| 60.00 | MW 50%W 50%M | 0.84 |
| 125.00 | 100%M | 1.75 |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28932

DST#: 4

ATTN: Tony Richardson

Test Start: 2007.08.08 @ 23:52:44

Tool Information

| | | | | |
|---------------------------|--------------------|-------------------------|-------------------|------------------------------------|
| Drill Pipe: | Length: 3562.00 ft | Diameter: 3.80 inches | Volume: 49.97 bbl | Tool Weight: 2500.00 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: 123.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 85000.00 lb |
| | | Total Volume: 50.57 bbl | | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 19.00 ft | | | String Weight: Initial 52000.00 lb |
| Depth to Top Packer: | 3686.00 ft | | | Final 56000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 35.02 ft | | | |
| Tool Length: | 55.02 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|---------------------------|--------------|------------|----------|------------|-------------------------------|
| Shut In Tool | 5.00 | | | 3671.00 | |
| Hydraulic tool | 5.00 | | | 3676.00 | |
| Packer | 5.00 | | | 3681.00 | 20.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3686.00 | |
| Stubb | 1.00 | | | 3687.00 | |
| Perforations | 7.00 | | | 3694.00 | |
| Recorder | 0.01 | 8018 | Inside | 3694.01 | |
| Perforations | 24.00 | | | 3718.01 | |
| Recorder | 0.01 | 13548 | Outside | 3718.02 | |
| Bullnose | 3.00 | | | 3721.02 | 35.02 Bottom Packers & Anchor |
| Total Tool Length: | 55.02 | | | | |



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

Esslinger #1

PO Box 641
Hays KS 67601

26 4 22 Norton KS

Job Ticket: 28932

DST#: 4

ATTN: Tony Richardson

Test Start: 2007.08.08 @ 23:52:44

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:

12000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.72 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|--------------|---------------|
| 185.00 | MW 80%W 20%M | 1.475 |
| 60.00 | MW 50%W 50%M | 0.842 |
| 125.00 | 100%M | 1.753 |

Total Length: 370.00 ft

Total Volume: 4.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

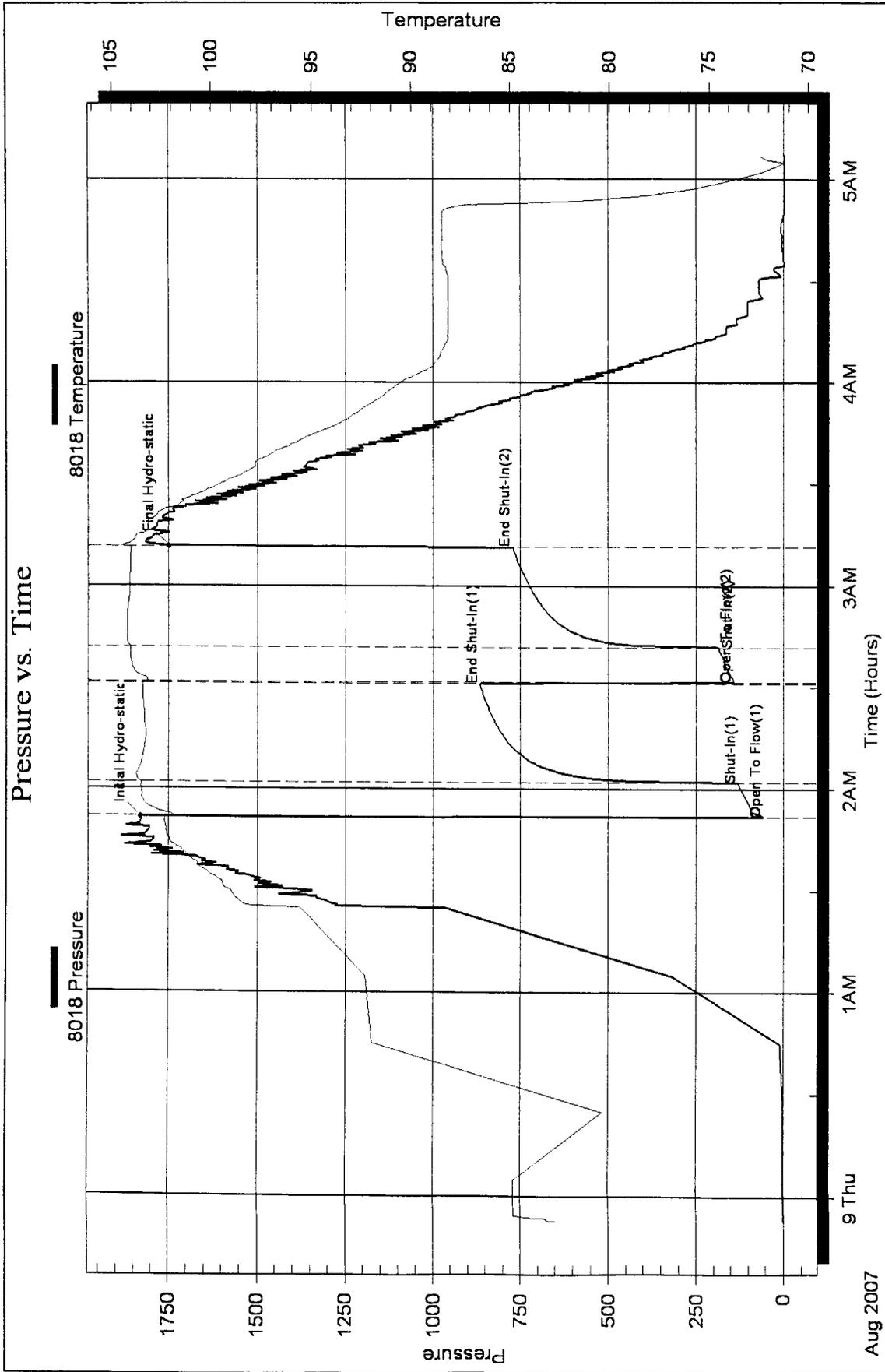
Serial #:

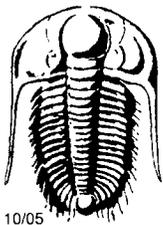
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

28929

10483

Test Ticket

Well Name & No. Esslinger #1 Test No. 1 Date 8-7-07
 Company Black Diamond Zone Tested Marion - Abbeville
 Address Po Box 641 Hays, K, 67601 Elevation 2242 KB 2238 GL
 Co. Rep / Geo. Tony Richardson Rig WW 4
 Location: Sec. 26 Twp. 4 Rge. 22 Co. Marion State K
 Comment: Started off bottom 0730 / tool slid 1' to bottom Release date / time: _____

Interval Tested 3638-3695 Initial Str Wt./Lbs. 54,000 Unseated Str Wt./Lbs. 54,000
 Anchor Length 57 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 65,000
 Top Packer Depth 3633 Tool Weight 2500
 Bottom Packer Depth 3638 Hole Size 7 7/8" Rubber Size 6 3/4"
 Total Depth 3695 Wt. Pipe Run - Drill Collar Run 123
 Mud Wt. 2.3 LCM _____ Vis. 59 WL 8.8 Drill Pipe Size 4 1/2 XH Ft. Run 3503

Blow Description IFP - weak blow throughout 1/2 - 2
IST - no blow back
FFP - no blow 30 min - sur blow throughout
FST - no blow back

| Recovery - Total Feet | GIP | Ft. in DC | Ft. in DP |
|----------------------------------|---|------------|-----------|
| <u>150</u> | <u>-</u> | <u>123</u> | <u>27</u> |
| Rec. <u>60</u> Feet of <u>OM</u> | %gas <u>10</u> %oil _____ %water <u>90</u> %mud _____ | | |
| Rec. <u>45</u> Feet of <u>WM</u> | %gas _____ %oil <u>15</u> %water <u>85</u> %mud _____ | | |
| Rec. <u>45</u> Feet of <u>MW</u> | %gas _____ %oil <u>60</u> %water <u>40</u> %mud _____ | | |
| Rec. _____ Feet of _____ | %gas _____ %oil _____ %water _____ %mud _____ | | |
| Rec. _____ Feet of _____ | %gas _____ %oil _____ %water _____ %mud _____ | | |

BHT 105 °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 RW .234 @ 94 °F Chlorides 22,000 ppm Recovery _____ Chlorides 1200 ppm System

| | AK-1 | Alpine | Recorder No. | Test |
|----------------------------------|-----------------|---------------------------|-----------------------------|-------------------------------------|
| (A) Initial Hydrostatic Mud | <u>1807</u> PSI | <u>8018</u> | <u>1100</u> | <input checked="" type="checkbox"/> |
| (B) First Initial Flow Pressure | <u>22</u> PSI | (depth) <u>3645</u> | Jars _____ | |
| (C) First Final Flow Pressure | <u>51</u> PSI | Recorder No. <u>13548</u> | Safety Jt. _____ | |
| (D) Initial Shut-In Pressure | <u>1016</u> PSI | (depth) <u>3692</u> | Circ Sub _____ | |
| (E) Second Initial Flow Pressure | <u>63</u> PSI | Recorder No. _____ | Sampler _____ | |
| (F) Second Final Flow Pressure | <u>79</u> PSI | (depth) _____ | Straddle _____ | |
| (G) Final Shut-In Pressure | <u>960</u> PSI | Initial Opening <u>60</u> | Ext. Packer _____ | |
| (Q) Final Hydrostatic Mud | <u>1707</u> PSI | Initial Shut-In <u>60</u> | Shale Packer _____ | |
| | | Final Flow <u>60</u> | Ruined Packer _____ | |
| | | Final Shut-In <u>60</u> | Mileage <u>✓ 206 RT 105</u> | |

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Approved By [Signature]
 Our Representative Don Farbank (Tob)
 T-Started 0841
 T-Open 1044
 T-Pulled 1444
 T-Out 1611
 Sub Total: 131.50
 Std. By 1231.50
 Acc. Chg: .50
 Other: _____
 Total: _____

9.50

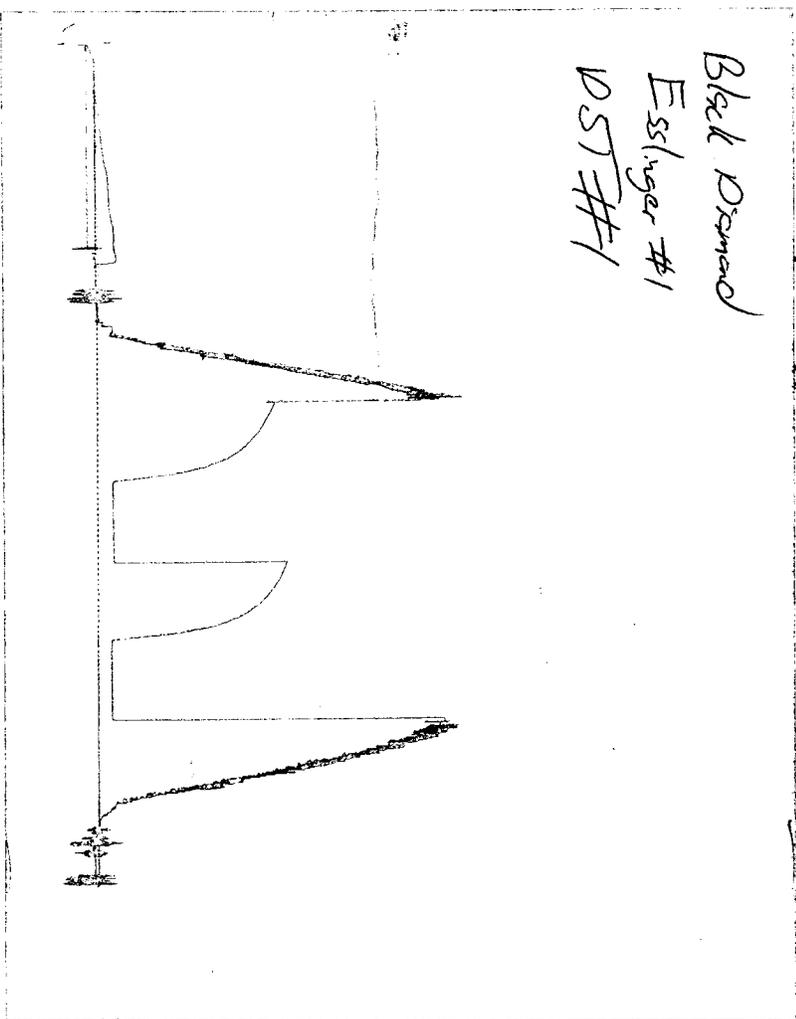
CHART PAGE

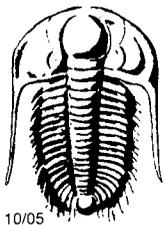
This is a photocopy of the actual AK-1 recorder chart

Black Diamond

Esslinger #1

DST #1





TRILOBITE TESTING INC.

28930

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

Well Name & No. Eslinger #1 Test No. 2 Date 8-7-07
 Company Black Diamond Zone Tested LKC "A-C" Terrace
 Address PO Box 641 Hays, KS 67601 Elevation 2242 KB 2238 GL
 Co. Rep / Geo. Tony Richardson Rig WWY
 Location: Sec. 26 Twp. 4^s Rge. 22^w Co. Neosho State K
 Comment: water loggers until 2311 Release date / time: _____

Interval Tested 3395-3512 Initial Str Wt./Lbs. 54,000 Unseated Str Wt./Lbs. 56,000
 Anchor Length 117 Wt. Set Lbs. 35,000 Wt. Pulled Loose/Lbs. 8,000
 Top Packer Depth 3390 Tool Weight 3,000
 Bottom Packer Depth 3395 Hole Size 7 7/8" - Rubber Size 6 3/4" -
 Total Depth 3673 Wt. Pipe Run - Drill Collar Run 123
 Mud Wt. 9.3 LCM _____ Vis. 59 WL 8.8 Drill Pipe Size 4 1/2 XH Ft. Run 3281
 Flow Description IFP- BOB 35 min

IST- no blow back
FFP- no blow 3min- 7 1/2
FST- no blow back 20 min- weak sur throughout

| Recovery - Total Feet | GIP | Ft. in DC | Ft. in DP |
|-----------------------|------------------------------|---------------------------|--|
| <u>260</u> | <u>-</u> | <u>123</u> | <u>140</u> |
| pc. <u>135</u> | Feet of <u>Mud w/ 0 spts</u> | %gas <u>spts</u> | %oil _____ %water <u>20</u> %mud _____ |
| pc. <u>125</u> | Feet of <u>WM</u> | %gas _____ %oil <u>10</u> | %water <u>90</u> %mud _____ |
| pc. _____ | Feet of _____ | %gas _____ %oil _____ | %water _____ %mud _____ |
| pc. _____ | Feet of _____ | %gas _____ %oil _____ | %water _____ %mud _____ |
| pc. _____ | Feet of _____ | %gas _____ %oil _____ | %water _____ %mud _____ |

HT 102 °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 V .574 @ 67 °F Chlorides 11,000 ppm Recovery _____ Chlorides 1200 ppm System

| AK-1 | Alpine | Recorder No. | Test |
|------------------------------|-----------------|----------------------------------|---|
| Initial Hydrostatic Mud | <u>1684</u> PSI | <u>8018</u> | <input checked="" type="checkbox"/> <u>1100</u> |
| First Initial Flow Pressure | <u>31</u> PSI | (depth) <u>3409</u> | Jars _____ |
| First Final Flow Pressure | <u>112</u> PSI | Recorder No. <u>13548</u> | Safety Jt. _____ |
| Initial Shut-In Pressure | <u>1104</u> PSI | (depth) <u>3507</u> | Circ Sub _____ |
| Second Initial Flow Pressure | <u>113</u> PSI | Recorder No. <u>13760</u> | Sampler _____ |
| Second Final Flow Pressure | <u>139</u> PSI | (depth) <u>3690</u> | Straddle <input checked="" type="checkbox"/> <u>600</u> |
| Final Shut-In Pressure | <u>1048</u> PSI | Initial Opening <u>45</u> | Ext. Packer _____ |
| Final Hydrostatic Mud | <u>1669</u> PSI | Initial Shut-In <u>45</u> | Shale Packer _____ |

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Approved By [Signature]
 Field Representative Brad Feibank (Sub 1)

Final Flow 45
 Final Shut-In 45
T-On Location 1945
 T-Started 2311 6"
 T-Open 0120 4.25
 T-Pulled 0420
 T-Out 0641

Mileage 105 131.50
 Sub Total: 1831.50
 Std. By 2 200
 Acc. Chg: 2031.50
 Other: _____
 Total: _____

CHART PAGE

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Black Demand

Esslinger #1

DST #2

Shedde

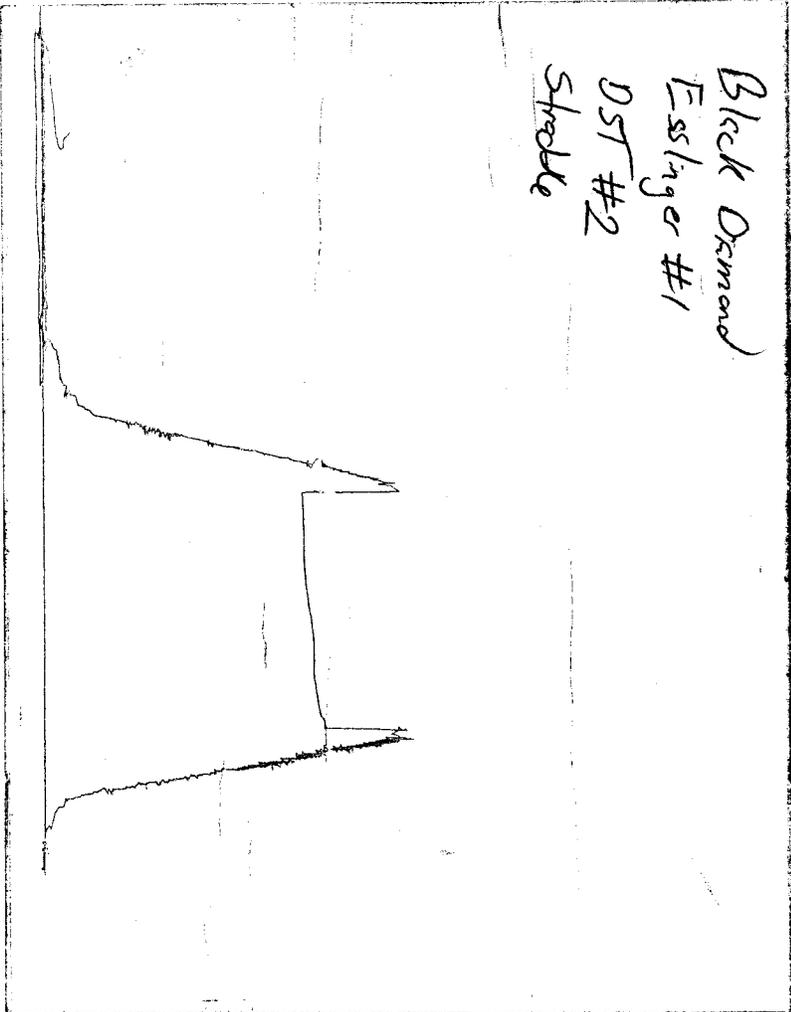
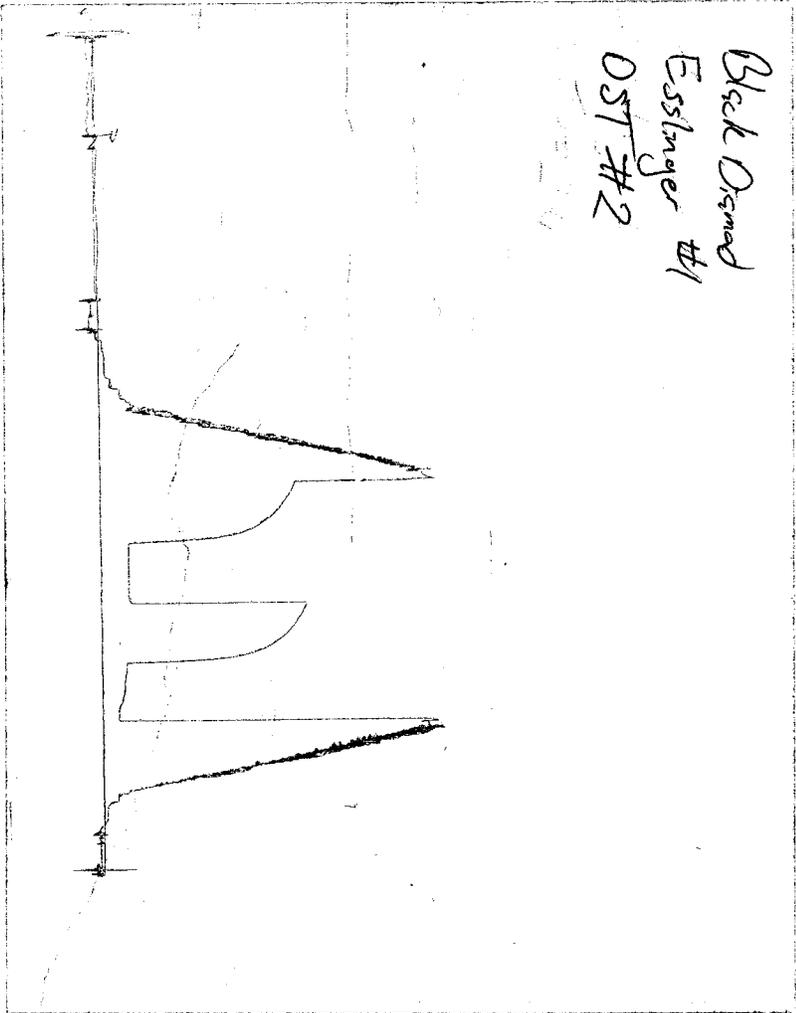
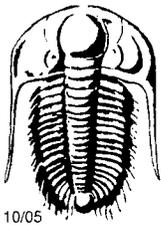


CHART PAGE

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Black Diamond
Esslinger #1
OST #2





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

28931

Test Ticket

Well Name & No. Esslinger #1 Test No. 3 Date 8-8-07
 Company Black Diamond Zone Tested A-Block
 Address PO Box 641 Hays, K 67601 Elevation 2242 KB 2238 GL
 Co. Rep / Geo. Tony Richardson Rig WW4
 Location: Sec. 26 Twp. 4^s Rge. 22^w Co. Neoto State K
 Comment: _____ Release date / time: _____

Interval Tested 3686 - 3705 Initial Str Wt./Lbs. 52000 Unseated Str Wt./Lbs. 52000
 Anchor Length 19 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 70,000
 Top Packer Depth 3681 Tool Weight 2500
 Bottom Packer Depth 3686 Hole Size 7 7/8" - Rubber Size 6 3/4" -
 Total Depth 3705 Wt. Pipe Run - Drill Collar Run 123
 Mud Wt. 9.3 LCM _____ Vis. 59 WL 8.8 Drill Pipe Size 4 1/2 XH Ft. Run 5561
 Blow Description IFP - weak blow throughout sur - 1/4
DST - no blow back
FFP - -
FSI - -

Recovery - Total Feet 15 GIP - Ft. in DC 15 Ft. in DP -
 Rec. 15 Feet of mud seen C %gas seen %oil _____ %water 100 %mud _____
 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 _____
 BHT 100 °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 1200 ppm System

| | AK-1 | Alpine | Recorder No. | Test |
|----------------------------------|------|--------|--------------------|--------------|
| (A) Initial Hydrostatic Mud | 1422 | PSI | 8018 | 1100 |
| (B) First Initial Flow Pressure | 14 | PSI | (depth) 3687 | Jars |
| (C) First Final Flow Pressure | 25 | PSI | Recorder No. 13548 | Safety Jt. |
| (D) Initial Shut-In Pressure | 774 | PSI | (depth) 3702 | Circ Sub |
| (E) Second Initial Flow Pressure | + | PSI | Recorder No. | Sampler |
| (F) Second Final Flow Pressure | - | PSI | (depth) | Straddle |
| (G) Final Shut-In Pressure | 1805 | PSI | Initial Opening 20 | Ext. Packer |
| (Q) Final Hydrostatic Mud | | PSI | Initial Shut-In 20 | Shale Packer |

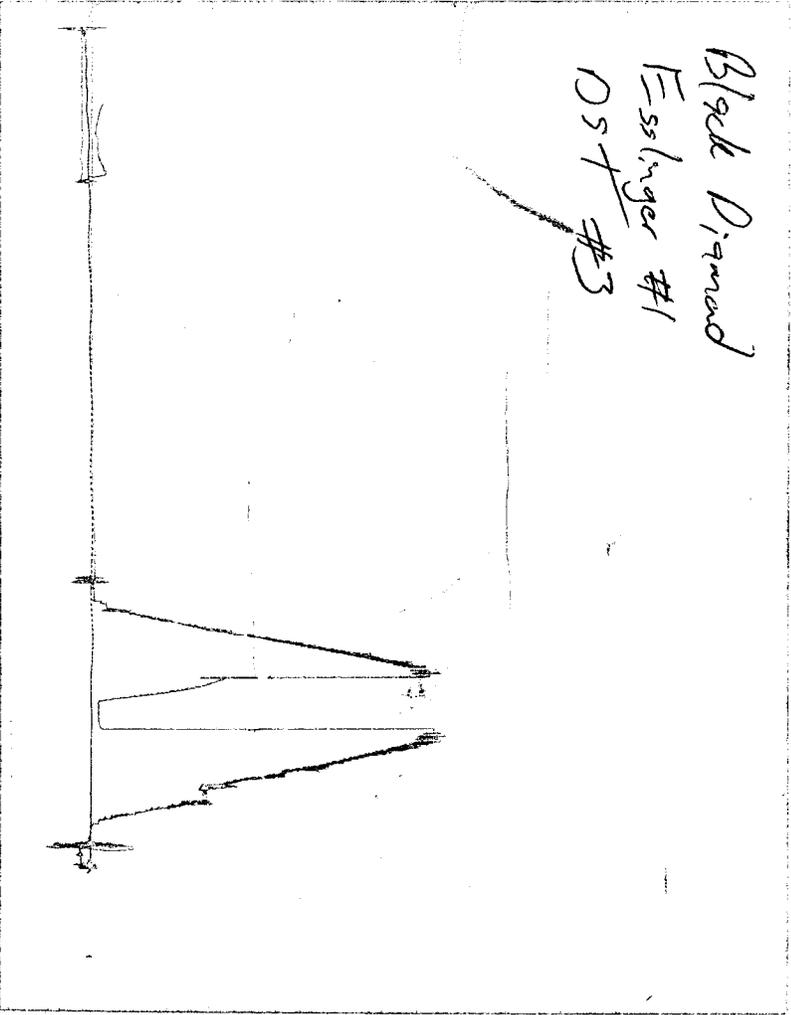
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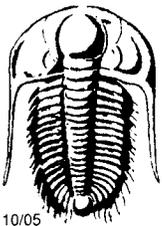
Approved By Tony Richardson
 Our Representative Brian Farber (Frab)
 T-Started 1235 Std. By _____
 T-Open 1412 Acc. Chg: _____
 T-Pulled 1452 Other: _____
 T-Out 1611 Total: _____

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart

Black Diamond
Esslinger #1
OST #3





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

28932

Test Ticket

Well Name & No. Esslinger #1 Test No. 4 Date 8-8-07
 Company Black Diamond Zone Tested A-Sum 16 (2)
 Address PO Box 641 Hays, Ks 67601 Elevation 2242 KB 2238 GL
 Co. Rep / Geo. Tony Richardson Rig WJW4
 Location: Sec. 26 Twp. 4^s Rge. 22^w Co. Nebraska State K
 Comment: _____ Release date / time: _____

Interval Tested 3686 - 3721 Initial Str Wt./Lbs. 52,000 Unseated Str Wt./Lbs. 56,000
 Anchor Length 35 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 85,000
 Top Packer Depth 3681 Tool Weight 2500
 Bottom Packer Depth 3686 Hole Size 7 7/8" - Rubber Size 6 3/4" -
 Total Depth 3721 Wt. Pipe Run - Drill Collar Run 123
 Mud Wt. 9.3 LCM Vis. 57 WL 8.8 Drill Pipe Size 4 1/2 XH Ft. Run 3562
 Blow Description IFP - BOB 4 min
ISI - no blow back
IFP - BOB 7 min
ISI - no blow back

| Recovery - Total Feet | GIP | Ft. in DC | Ft. in DP |
|---|----------|------------|-----------------------------------|
| <u>370</u> | <u>-</u> | <u>123</u> | <u>247</u> |
| Rec. <u>125</u> Feet of <u>mud</u> | %gas | %oil | %water <u>100%</u> %mud |
| Rec. <u>60</u> Feet of <u>MW</u> | %gas | %oil | <u>50%</u> %water <u>50%</u> %mud |
| Rec. <u>185</u> Feet of <u>MW</u> | %gas | %oil | <u>80%</u> %water <u>20%</u> %mud |
| Rec. _____ Feet of _____ | %gas | %oil | %water %mud |
| Rec. _____ Feet of _____ | %gas | %oil | %water %mud |
| BHT <u>104</u> °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API | | | |
| RW <u>.527</u> @ <u>70</u> °F Chlorides <u>12,000</u> ppm Recovery _____ Chlorides <u>2000</u> ppm System | | | |

| AK-1 | Alpine | Recorder No. | Test |
|----------------------------------|-----------------|----------------------------------|---|
| (A) Initial Hydrostatic Mud | <u>1830</u> PSI | <u>8018</u> | <input checked="" type="checkbox"/> <u>1100</u> |
| (B) First Initial Flow Pressure | <u>57</u> PSI | (depth) <u>3694</u> | Jars _____ |
| (C) First Final Flow Pressure | <u>129</u> PSI | Recorder No. <u>13548</u> | Safety Jt. _____ |
| (D) Initial Shut-In Pressure | <u>866</u> PSI | (depth) <u>3718</u> | Circ Sub _____ |
| (E) Second Initial Flow Pressure | <u>142</u> PSI | Recorder No. _____ | Sampler _____ |
| (F) Second Final Flow Pressure | <u>184</u> PSI | (depth) _____ | Straddle _____ |
| (G) Final Shut-In Pressure | <u>771</u> PSI | Initial Opening <u>10</u> | Ext. Packer _____ |
| (Q) Final Hydrostatic Mud | <u>1798</u> PSI | Initial Shut-In <u>30</u> | Shale Packer _____ |
| | | Final Flow <u>10</u> | Ruined Packer _____ |
| | | Final Shut-In <u>30</u> | Mileage <input checked="" type="checkbox"/> <u>105 131.50</u> |
| | | T-On Location <u>2310</u> | Sub Total: <u>1231.50</u> |
| | | T-Started <u>2352</u> | Std. By _____ |
| | | T-Open <u>0151</u> | Acc. Chg: _____ |
| | | T-Pulled <u>0311</u> | Other: _____ |
| | | T-Out <u>0506</u> | Total: _____ |

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Approved By [Signature]
 Our Representative Brian Farbank (Hubs.)

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart

Black Diamond
Esslinger #1
DST #4

