



DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co.**

562 W.Hwy.# 4
Olmitz KS 67564-8561

ATTN: Tom Larson

18--16s--7w

Schroder Trust # 2x-18

Start Date: 2004.07.31 @ 04:29:25

End Date: 2004.07.31 @ 12:12:25

Job Ticket #: 19360 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Larson Operating Co.

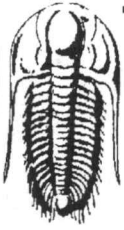
Schroder Trust # 2x-18

18--16s--7w

DST # 1

Grand Haven

2004.07.31



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating Co.
562 W.Hwy.# 4
Olmitz KS 67564-8561
ATTN: Tom Larson

Schroder Trust # 2x-18

18-16s-7w

Job Ticket: 19360

DST#: 1

Test Start: 2004.07.31 @ 04:29:25

GENERAL INFORMATION:

Formation: **Grand Haven**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:01:55

Time Test Ended: 12:12:25

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **1796.00 ft (KB) To 1822.00 ft (KB) (TVD)**

Total Depth: 1822.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1598.00 ft (KB)

1588.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6742

Inside

Press@RunDepth: 308.35 psig @ 1799.00 ft (KB)

Start Date: 2004.07.31

End Date:

2004.07.31

Start Time: 04:29:30

End Time:

12:12:24

Capacity: 7000.00 psig

Last Calib.: 2004.07.31

Time On Btm: 2004.07.31 @ 06:58:25

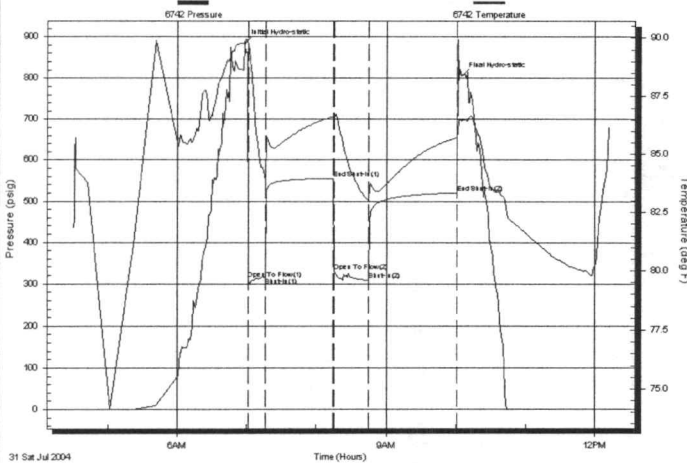
Time Off Btm: 2004.07.31 @ 10:04:55

TEST COMMENT: IF-Strong B.O.B. 5-Sec. G.T.S. in 2 min.
FF-Strong B.O.B.5-Sec.
Gas will burn.

ISI-Dead

FSI-Dead

Pressure vs. Time



PRESSURE SUMMARY

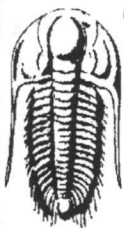
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 883.81 | 89.80 | Initial Hydro-static |
| 4 | 311.31 | 89.67 | Open To Flow (1) |
| 18 | 314.69 | 83.87 | Shut-In(1) |
| 76 | 555.20 | 86.64 | End Shut-In(1) |
| 77 | 329.55 | 86.56 | Open To Flow (2) |
| 107 | 308.35 | 82.96 | Shut-In(2) |
| 183 | 520.83 | 85.72 | End Shut-In(2) |
| 187 | 805.93 | 86.47 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------|--------------|
| 90.00 | Drilling Mud | 0.44 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

| | Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) |
|----------------|----------------|-----------------|------------------|
| First Gas Rate | 0.75 | 60.00 | 1162.12 |
| Last Gas Rate | 0.75 | 80.00 | 1474.51 |
| Max. Gas Rate | 0.75 | 80.00 | 1474.51 |



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating Co.

Schroder Trust # 2x-18

562 W.Hwy.# 4
Olmitz KS 67564-8561

18--16s--7w

Job Ticket: 19360

DST#: 1

ATTN: TomLarson

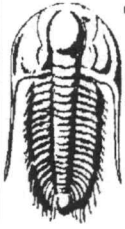
Test Start: 2004.07.31 @ 04:29:25

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 1470.00 ft | Diameter: 3.00 inches | Volume: 12.85 bbl | Tool Weight: 2300.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 2.70 inches | Volume: 0.00 bbl | Weight set on Packer: 25000.00 lb |
| Drill Collar: | Length: 311.00 ft | Diameter: 2.25 inches | Volume: 1.53 bbl | Weight to Pull Loose: 40000.00 lb |
| | | | <u>Total Volume: 14.38 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 7.00 ft | | | String Weight: Initial 38000.00 lb |
| Depth to Top Packer: | 1796.00 ft | | | Final 38000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 26.00 ft | | | |
| Tool Length: | 48.00 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 | | | 1775.00 | |
| Shut In Tool | 5.00 | | | 1780.00 | |
| Sampler | 2.00 | | | 1782.00 | |
| Hydraulic tool | 5.00 | | | 1787.00 | |
| Packer | 4.00 | | | 1791.00 | 22.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 1796.00 | |
| Stubb | 1.00 | | | 1797.00 | |
| Perforations | 2.00 | | | 1799.00 | |
| Recorder | 0.00 | 6742 | Inside | 1799.00 | |
| Perforations | 20.00 | | | 1819.00 | |
| Recorder | 0.00 | 13308 | Inside | 1819.00 | |
| Bullnose | 3.00 | | | 1822.00 | 26.00 Bottom Packers & Anchor |
| Total Tool Length: | 48.00 | | | | |



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Operating Co.

Schroder Trust # 2x-18

562 W.Hwy.# 4
Olmitz KS 67564-8561

18--16s--7w

Job Ticket: 19360

DST#: 1

ATTN: Tom Larson

Test Start: 2004.07.31 @ 04:29:25

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|--------------|---------------|
| 90.00 | Drilling Mud | 0.443 |

Total Length: 90.00 ft Total Volume: 0.443 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Larson Operating Co.

Schroder Trust # 2x-18

562 W.Hwy.# 4
Olmitz KS 67564-8561

18-16s-7w

Job Ticket: 19360

DST#: 1

ATTN: Tom Larson

Test Start: 2004.07.31 @ 04:29:25

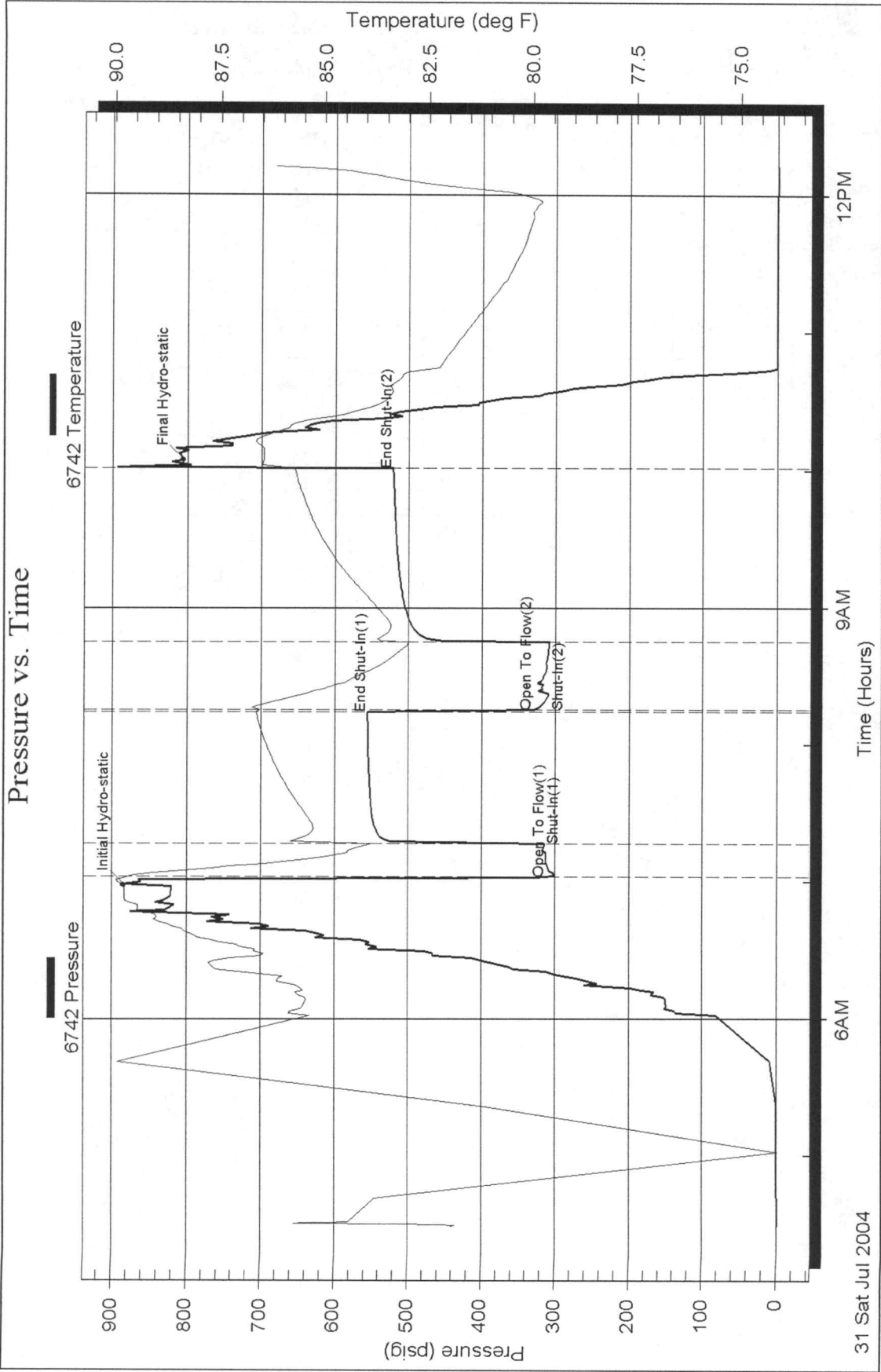
Gas Rates Information

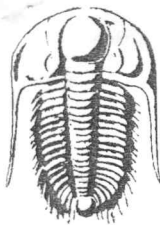
Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

| Flow Period | Elapsed Time | Choke (mm) | Pressure (kPaa) | Gas Rate (m ³ /d) |
|-------------|--------------|------------|-----------------|------------------------------|
| 1 | 5 | 0.75 | 60.00 | 1162.12 |
| 1 | 5 | 0.75 | 60.00 | 1162.12 |
| 1 | 10 | 0.75 | 65.00 | 1240.22 |
| 1 | 15 | 0.75 | 70.00 | 1318.32 |
| 2 | 5 | 0.75 | 70.00 | 1318.32 |
| 2 | 10 | 0.75 | 75.00 | 1396.41 |
| 2 | 15 | 0.75 | 75.00 | 1396.41 |
| 2 | 20 | 0.75 | 75.00 | 1396.41 |
| 2 | 25 | 0.75 | 80.00 | 1474.51 |

Pressure vs. Time





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

INV 0641

No. 19360

05/03

Test Ticket

Well Name & No. SCHROEDER TRUST #2X-18 Test No. #1 Date 7-31-04
 Company LARSON OPERATING, Co. Zone Tested GRAND HAVEN
 Address 562 W. HWY. #4 OLMITZ, KS. 67564-8561 Elevation 1598 KB 1588 GL
 Co. Rep / Geo. TIM HEPRICK Cont. SUMMIT Est. Ft. of Pay _____ Por. _____ %
 Location: Sec. 18 Twp. 16S Rge. 7W Co. ELLSWORTH State KS
 No. of Copies _____ Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 1796 TO 1822 Initial Str Wt./Lbs. 38,000 Unseated Str Wt./Lbs. 38,000
 Anchor Length 26' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 40,000
 Top Packer Depth 1791 Tool Weight 2,300
 Bottom Packer Depth 1796 Hole Size 7 7/8" ✓ Rubber Size 6 3/4" ✓
 Total Depth 1822 Wt. Pipe Run 0 Drill Collar Run 311
 Mud Wt. 8.9 LCM 0 Vis. 50 WL 8.8 Drill Pipe Size 3 1/2 XH Ft. Run ~~1518~~ 1470
 Blow Description IF - STRONG B.O.B. 5-SEC. GAS TO SURFACE IN 2-MIN.
FF - STRONG B.O.B. 5-SEC.

(GAS WILL BURN)

Recovery - Total Feet 90' GIP G.T.S. Ft. in DC 90' Ft. in DP 0
 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
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 BHT 85 °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 1,000 ppm System

| | | | | | | | |
|----------------------------------|-------------|---------------|-----------------|------------------------|--------------|--------------|---------------------|
| (A) Initial Hydrostatic Mud | <u>AK-1</u> | <u>Alpine</u> | <u>883</u> PSI | Recorder No. | <u>6742</u> | Test | <u>B. HOLE 900</u> |
| (B) First Initial Flow Pressure | | | <u>311</u> PSI | (depth) | <u>1799</u> | Elec. Rec. | <u>✓</u> |
| (C) First Final Flow Pressure | | | <u>314</u> PSI | Recorder No. | <u>13308</u> | Jars | |
| (D) Initial Shut-In Pressure | | | <u>555</u> PSI | (depth) | <u>1819</u> | Safety Jt. | |
| (E) Second Initial Flow Pressure | | | <u>329</u> PSI | Recorder No. | | Circ Sub | |
| (F) Second Final Flow Pressure | | | <u>308</u> PSI | (depth) | | Sampler | <u>✓ 200</u> |
| (G) Final Shut-In Pressure | | | <u>520</u> PSI | Initial Opening | <u>15</u> | Straddle | |
| (Q) Final Hydrostatic Mud | | | <u>80.5</u> PSI | Initial Shut-In | <u>60</u> | Ext. Packer | |
| | | | | Final Flow | <u>30</u> | Shale Packer | |
| | | | | Final Shut-In | <u>75</u> | Mileage | <u>156-2-632y60</u> |
| | | | | T-On Location | <u>03:00</u> | Sub Total: | <u>1232.60</u> |
| | | | | T-Started | <u>04:29</u> | Std. By | <u>14 37.50</u> |
| | | | | T-Open | <u>07:01</u> | Other | |
| | | | | T-Pulled | <u>10:04</u> | Total: | <u>1270.10</u> |
| | | | | T-Out | <u>12:12</u> | | |

TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGED OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By [Signature]
 Our Representative [Signature]

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. #19360 Date 7-31-04
Company Name LARSON OPERATING CO.
Lease SCHROEDER TRUST #2X-18 Test No. #1
County ELLSWORTH Sec. 18 Twp. 16 S Rng. 7W

SAMPLER RECOVERY

Gas 8.4 CU. FT. ML
Oil - ML
Mud - ML
Water - ML
Other GAS ML
Pressure _____ PSI
Total ALL GAS ML

PIT MUD ANALYSIS

Chlorides 1,000 ppm.
Resistivity - ohms @ - F
Viscosity 50
Mud Weight 8.9
Filtrate 8.8
Other LCM O

SAMPLER ANALYSIS

Resistivity - ohms @ - F
Chlorides - ppm.
Gravity - corrected @ 60 F

PIPE RECOVERY

TOP
Resistivity - ohms @ - F
Chlorides - ppm.
MIDDLE
Resistivity - ohms @ - F
Chlorides - ppm.
BOTTOM
Resistivity - ohms @ - F
Chlorides - ppm.

CHART PAGE

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

