



DRILL STEM TEST REPORT

Prepared For: **Larson Operating, Co.**

562 W. HYW. # 4
Olmitz, Ks. 67564-8561

ATTN: Tom Larson

18--16s--7w

Schroeder Trust # 2-18

Start Date: 2004.06.22 @ 07:58:52

End Date: 2004.06.22 @ 16:06:22

Job Ticket #: 19447 DST #: 1

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

Larson Operating, Co.

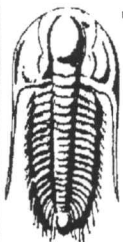
Schroeder Trust # 2-18

18--16s--7w

DST # 1

Grand Haven

2004.06.22



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Operating, Co.

562 W.HYW.# 4
Olmitz, Ks. 67564-8561

ATTN: Tom Larson

Schroeder Trust # 2-18

18--16s--7w

Job Ticket: 19447

DST#: 1

Test Start: 2004.06.22 @ 07:58:52

GENERAL INFORMATION:

Formation: **Grand Haven**

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

Time Tool Opened: 10:13:22

Time Test Ended: 16:06:22

Test Type: **Conventional Bottom Hole**

Tester: **John Schmidt**

Unit No: **18**

Interval: **1772.00 ft (KB) To 1800.00 ft (KB) (TVD)**

Total Depth: **1800.00 ft (KB) (TVD)**

Hole Diameter: **6.75 inches** Hole Condition: **Fair**

Reference Elevations: **1593.00 ft (KB)**

1588.00 ft (CF)

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

Serial #: 6742 **Inside**

Press@RunDepth: **135.66 psig @ 1794.00 ft (KB)**

Start Date: **2004.06.22**

End Date: **2004.06.22**

Capacity: **7000.00 psig**

Last Calib.: **2004.06.22**

Start Time: **07:58:57**

End Time: **16:06:21**

Time On Btm: **2004.06.22 @ 10:12:52**

Time Off Btm: **2004.06.22 @ 14:13:52**

TEST COMMENT: **IF-Strong B.O.B.30 Sec. G.T.S.2 min.**

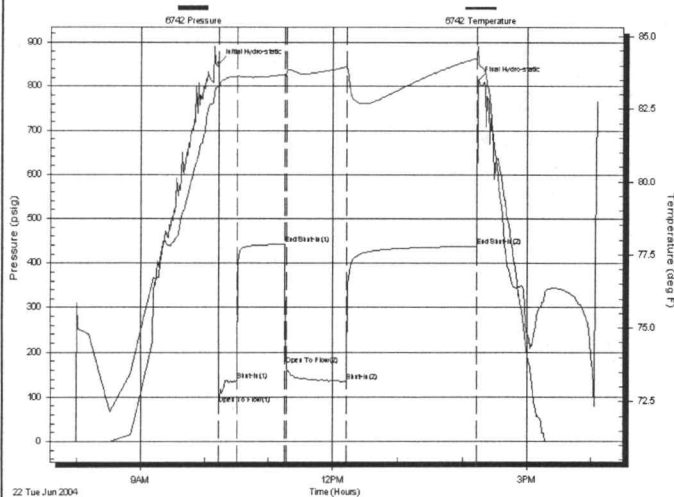
FF-Strong B.O.B.5 Sec.

ISI-Dead

FSI-Dead

Gas will Burn

Pressure vs. Time



PRESSURE SUMMARY

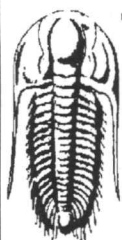
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	851.64	83.28	Initial Hydro-static
1	82.38	83.24	Open To Flow (1)
17	137.56	83.61	Shut-In(1)
63	441.63	83.70	End Shut-In(1)
64	170.62	83.77	Open To Flow (2)
120	135.66	83.96	Shut-In(2)
241	437.49	84.26	End Shut-In(2)
241	812.30	84.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	gas in pipe	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	13.00	427.98
Last Gas Rate	0.75	23.00	584.18
Max. Gas Rate	0.75	26.00	631.04



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Operating, Co.

Schroeder Trust # 2-18

562 W. HYW. # 4
Olmitz, Ks. 67564-8561

18--16s--7w

Job Ticket: 19447

DST#: 1

ATTN: Tom Larson

Test Start: 2004.06.22 @ 07:58:52

Tool Information

Drill Pipe:	Length: 1680.00 ft	Diameter: 2.80 inches	Volume: 12.79 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: 80.00 ft	Diameter: 2.00 inches	Volume: 0.31 bbl	Weight to Pull Loose: 38000.00 lb
			Total Volume: 13.10 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	1772.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	29.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.00 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			1751.00	
Shut In Tool	5.00			1756.00	
Sampler	2.00			1758.00	
Hydraulic tool	5.00			1763.00	
Packer	4.00			1767.00	22.00 Bottom Of Top Packer
Packer	5.00			1772.00	
Stubb	1.00			1773.00	
Perforations	1.00			1774.00	
Blank Spacing	20.00			1794.00	
Recorder	0.00	6742	Inside	1794.00	
Change Over Sub	1.00			1795.00	
Perforations	3.00			1798.00	
Recorder	0.00	11084	Outside	1798.00	
Bullnose	3.00			1801.00	29.00 Bottom Packers & Anchor

Total Tool Length: 51.00



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FLUID SUMMARY

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Schroeder Trust # 2-18

562 W.HYW.# 4

18--16s--7w

Olmitz, Ks. 67564-8561

Job Ticket: 19447

DST#: 1

ATTN: Tom Larson

Test Start: 2004.06.22 @ 07:58:52

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 45.00 sec/qt

Cushion Volume:

bbl

Water Loss: 10.18 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
0.00	gas in pipe	0.000

Total Length:

ft

Total Volume:

bbl

Num Fluid Samples: 0

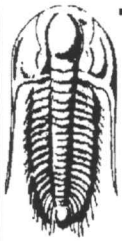
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler-5.4 cubic feet-no fluid



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TESTING, INC.

DRILL STEM TEST REPORT

GAS RATES

Larson Operating, Co.

Schroeder Trust # 2-18

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Olmitz, Ks. 67564-8561

18--16s--7w

Job Ticket: 19447

DST#: 1

ATTN: Tom Larson

Test Start: 2004.06.22 @ 07:58:52

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	13.00	427.98
1	10	0.75	14.00	443.60
1	15	0.75	16.00	474.84
2	5	0.75	21.00	552.94
2	10	0.75	24.00	599.80
2	15	0.75	26.00	631.04
2	20	0.75	26.00	631.04
2	30	0.75	25.00	615.42
2	40	0.75	25.00	615.42
2	50	0.75	24.00	599.80
2	60	0.75	23.00	584.18

Serial #: 6742

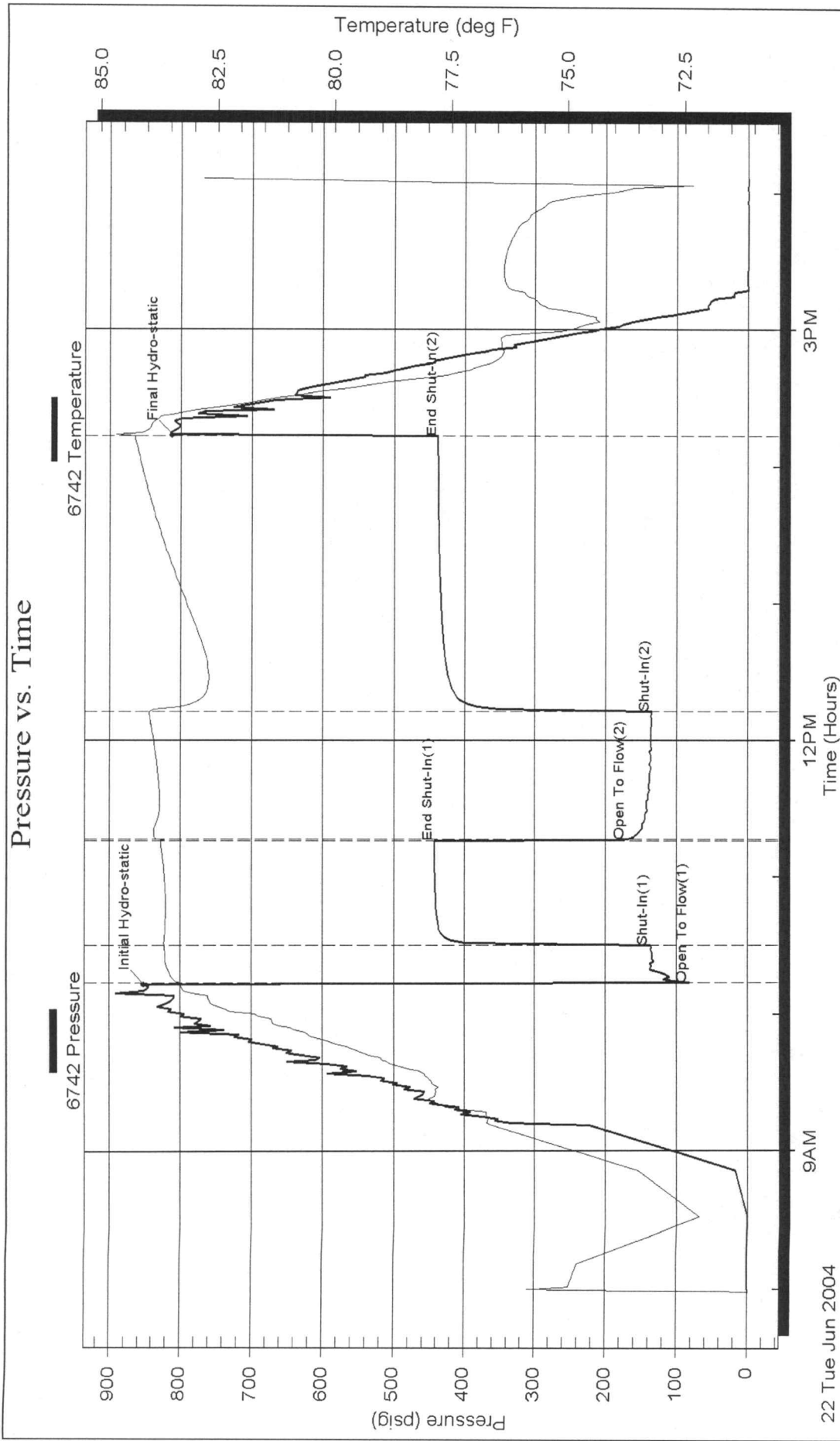
Inside

Larson Operating, Co.

18--16s--7w

DST Test Number: 1

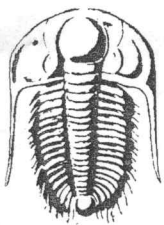
Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 19447

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TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No. 19447

05/03

Test Ticket

Well Name & No. SCHROEDER TRUST #2-18 Test No. #1 Date 6-22-04
Company LARSON OPERATING CO. Zone Tested GRAND HAVEN
Address 562 W. HWY. #4 OLMITZ, KS. 67564-8561 Elevation 1593 KB 1588 GL
Co. Rep / Geo. TIM HEDRICK Cont. MCGOWN 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 1772 TO 1800 Initial Str Wt./Lbs. 34000 Unseated Str Wt./Lbs. 34000
Anchor Length 28' Wt. Set Lbs. 20000 Wt. Pulled Loose/Lbs. 38000
Top Packer Depth 1767 Tool Weight 2000
Bottom Packer Depth 1772 Hole Size 77/8" 6 3/4 Rubber Size 6 3/4" 6"
Total Depth 1800 Wt. Pipe Run 0 Drill Collar Run 80'
Mud Wt. 9.9 LCM 0 Vis. 45 WL 10.2 Drill Pipe Size 3 1/2 XH Ft. Run _____
Blow Description IF. - STRONG B.O.B. 30 SEC, G.T.S. 2-min, FSI DEAD
FF. - STRONG B.O.B. 5-SEC, FSI - DEAD

GAS WILL BURN

Recovery - Total Feet _____ GIP _____ Ft. in DC _____ Ft. in DP _____
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 84 °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 10,000 ppm System

AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud	<u>851</u> PSI	<u>6742</u>	<u>B, HOLE</u>
(B) First Initial Flow Pressure	<u>82</u> PSI	<u>17094</u>	Elec. Rec. ☒
(C) First Final Flow Pressure	<u>137</u> PSI	<u>13308</u>	Jars _____
(D) Initial Shut-In Pressure	<u>441</u> PSI	<u>1797</u>	Safety Jt. _____
(E) Second Initial Flow Pressure	<u>170</u> PSI	Recorder No. _____	Circ Sub _____
(F) Second Final Flow Pressure	<u>135</u> PSI	(depth) _____	Sampler ☒
(G) Final Shut-In Pressure	<u>437</u> PSI	Initial Opening <u>15</u>	Straddle _____
(Q) Final Hydrostatic Mud	<u>812</u> PSI	Initial Shut-In <u>45</u>	Ext. Packer _____

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Approved By John F. Schmidt

Our Representative John F. Schmidt

Final Flow 60 Shale Packer _____
Final Shut-In 120 Mileage 77
T-On Location 02:00 Sub Total: 1180.90
T-Started 07:58 Std. By 120.00
T-Open 10:13 Other 120.00
T-Pulled 14:13 Total: 1420.90
T-Out 1406



GAS VOLUME REPORT

LARSON OPERATING CO.

OPERATOR

SCHROEDER TRUST #2-18

WELL NAME AND NO.

#

DST NO.

1ST OPEN

 $\frac{3}{4}$ pr

2ND OPEN

 $\frac{3}{4}$ Remarks:

GAS WILL BURN

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. #19447 Date 6-22-04
Company Name LARSON OPERATING CO.
Lease SCHROEDER TRUST #2-18 Test No. #1
County ELLSWORTH Sec. 18 Twp. 16S Rng. 7W

SAMPLER RECOVERY

Gas 4,000 ML
Oil 0 ML
Mud 0 ML
Water 0 ML
Other CUBIC FT. 6.08 ML
Pressure 710 PSI
Total NO FLUID ML

PIT MUD ANALYSIS

Chlorides 10,000 ppm.
Resistivity - ohms @ - F
Viscosity 45
Mud Weight 9.9
Filtrate 10.2
Other -

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

13308
DST#1

