

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

562 W. Hwy. 4
Olmitz, Ks 67564-8561

ATTN: Tom Larson

17--16s--7w

Hoffman # 1-17

Start Date: 2004.07.24 @ 16:17:22

End Date: 2004.07.25 @ 01:02:52

Job Ticket #: 19359 DST #: 1

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

Larson Operating, Co.
562 W. Hwy. 4
Olmitz, Ks 67564-8561
ATTN: Tom Larson

Hoffman # 1-17
17-16s-7w
Job Ticket: 19359 **DST#: 1**
Test Start: 2004.07.24 @ 16:17:22

GENERAL INFORMATION:

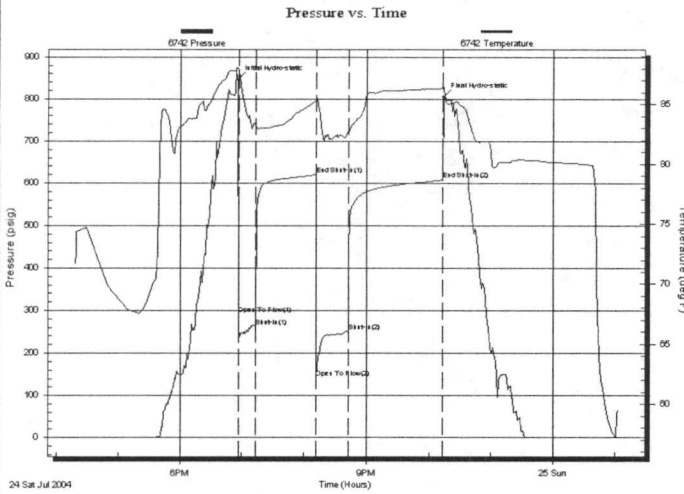
Formation: **Grand Haven**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:56:22
Time Test Ended: 01:02:52
Test Type: Conventional Bottom Hole
Tester: John Schmidt
Unit No: 18
Interval: **1761.00 ft (KB) To 1789.00 ft (KB) (TVD)**
Reference Elevations: 1570.00 ft (KB)
Total Depth: 1789.00 ft (KB) (TVD) 1560.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 6742

Inside

Press@RunDepth: 250.17 psig @ 1766.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2004.07.24 End Date: 2004.07.25 Last Calib.: 2004.07.25
Start Time: 16:17:27 End Time: 01:02:52 Time On Btm: 2004.07.24 @ 18:55:52
Time Off Btm: 2004.07.24 @ 22:13:52

TEST COMMENT: IF-Strong B.O.B. 10 Sec. G.T.S.in 2 min. Gas will burn.
FF-Strong B.O.B. 5 Sec.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	846.49	88.07	Initial Hydro-static
1	290.91	87.90	Open To Flow (1)
17	262.73	83.23	Shut-In(1)
76	620.82	85.29	End Shut-In(1)
76	140.45	85.34	Open To Flow (2)
107	250.17	82.60	Shut-In(2)
198	610.01	86.36	End Shut-In(2)
198	806.36	86.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	Drilling mud	0.64
60.00	Muddy Salt Water 40%M-60%W	0.30

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	40.00	849.72
Last Gas Rate	0.75	50.00	1005.92
Max. Gas Rate	0.75	50.00	1005.92



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TOOL DIAGRAM

Larson Operating, Co.

Hoffman # 1-17

562 W. Hwy.4
Olmitz, Ks 67564-8561

17--16s--7w

Job Ticket: 19359

DST#: 1

ATTN: TomLarson

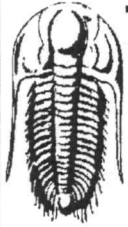
Test Start: 2004.07.24 @ 16:17:22

Tool Information

Drill Pipe:	Length: 1439.00 ft	Diameter: 3.00 inches	Volume: 12.58 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: 14.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	1761.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	50.00 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			1740.00	
Shut In Tool	5.00			1745.00	
Sampler	2.00			1747.00	
Hydraulic tool	5.00			1752.00	
Packer	4.00			1756.00	22.00 Bottom Of Top Packer
Packer	5.00			1761.00	
Stubb	1.00			1762.00	
Perforations	4.00			1766.00	
Recorder	0.00	6742	Inside	1766.00	
Perforations	20.00			1786.00	
Recorder	0.00	13308	Inside	1786.00	
Bullnose	3.00			1789.00	28.00 Bottom Packers & Anchor
Total Tool Length:	50.00				



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FLUID SUMMARY

Larson Operating, Co.

Hoffman # 1-17

562 W. Hwy.4
Olmitz, Ks 67564-8561

17--16s--7w

Job Ticket: 19359

DST#: 1

ATTN: Tom Larson

Test Start: 2004.07.24 @ 16:17:22

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: 45.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	Drilling mud	0.639
60.00	Muddy Salt Water 40%M-60%W	0.295

Total Length: 190.00 ft Total Volume: 0.934 bbl

Num Fluid Samples: 0

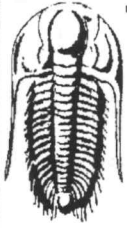
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



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GAS RATES

Larson Operating, Co.

Hoffman # 1-17

562 W. Hwy. 4
Olmitz, Ks 67564-8561

17--16s--7w

Job Ticket: 19359

DST#: 1

ATTN: Tom Larson

Test Start: 2004.07.24 @ 16:17:22

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	40.00	849.72
1	5	0.75	40.00	849.72
1	10	0.75	45.00	927.82
1	15	0.75	45.00	927.82
2	5	0.75	45.00	927.82
2	10	0.75	50.00	1005.92
2	15	0.75	50.00	1005.92
2	20	0.75	50.00	1005.92
2	25	0.75	50.00	1005.92

Serial #: 6742

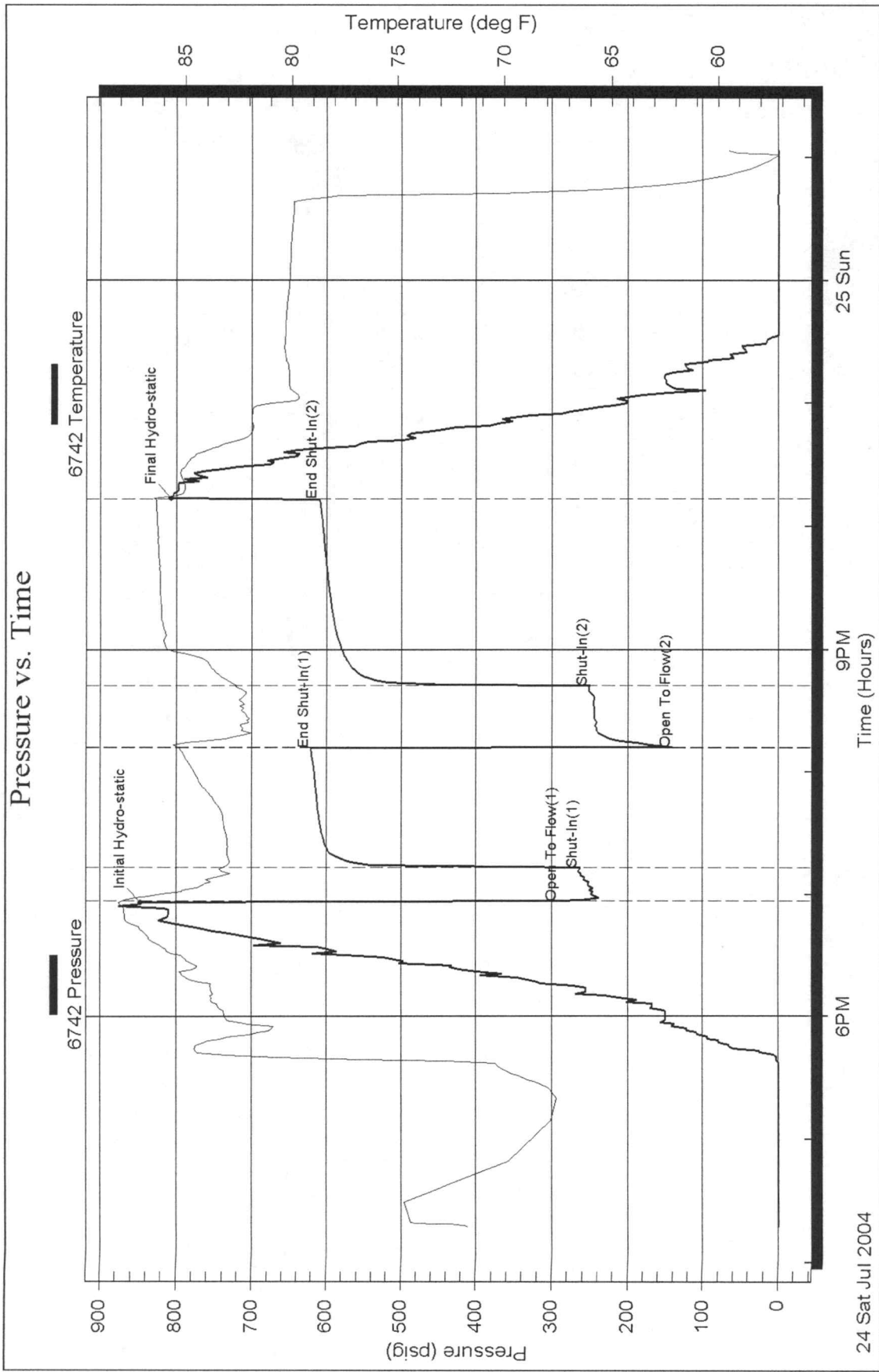
Inside

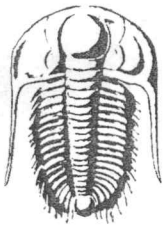
Larson Operating, Co.

17--16s--7w

DST Test Number: 1

Pressure vs. Time





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

INV 6634

No. 19359

05/03

Test Ticket

Well Name & No. HOFFMAN # 1-17 Test No. #1 Date 7-24-04
 Company LARSON OPERATING CO. Zone Tested GRAND HAVEN
 Address 562 W. HWY. 4 OLMITZ, KS 67564-8561 Elevation 1570 KB 1560 GL
 Co. Rep / Geo. TIM HEDRICK Cont. SUMMIT Est. Ft. of Pay _____ Por. _____ %
 Location: Sec. 17 Twp. 16S Rge. 7W Co. ELLSWORTH State KS
 No. of Copies _____ Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 1761 TO 1789 Initial Str Wt./Lbs. 34,000 Unseated Str Wt./Lbs. 34,000
 Anchor Length 28' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 40,000
 Top Packer Depth 1756 Tool Weight 2300
 Bottom Packer Depth 1761 Hole Size 7 7/8" Rubber Size 6 3/4"
 Total Depth 1789 Wt. Pipe Run 0 Drill Collar Run 311
 Mud Wt. 8.7 LCM 1# Vis. 45 WL 9.6 Drill Pipe Size 3 1/2 x H Ft. Run 1439'
 Blow Description IF-STRONG P.O.B. 10-SEC, G.T.S. 2-MIN WILL BURN
F.F-STRONG B.O.B. 5-SEC.

Recovery - Total Feet 190' GIP G.T.S. Ft. in DC 190' Ft. in DP 0
 Rec. 130' Feet of DRILLING MUD %gas _____ %oil _____ %water 100 %mud _____
 Rec. 60' Feet of MUDDY SALT W. %gas _____ %oil _____ %water 60 %mud 40
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud _____
 BHT 86 °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 RW -w1 @ 64 °F Chlorides 85,000 ppm Recovery _____ Chlorides 4,200 ppm System

	AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud		<u>846</u> PSI	<u>6742</u>	<u>B. HOLE 900</u>
(B) First Initial Flow Pressure		<u>290</u> PSI	(depth) <u>1766</u>	Elec. Rec. <input checked="" type="checkbox"/>
(C) First Final Flow Pressure		<u>262</u> PSI	Recorder No. <u>13308</u>	Jars _____
(D) Initial Shut-In Pressure		<u>620</u> PSI	(depth) <u>1786</u>	Safety Jt. _____
(E) Second Initial Flow Pressure		<u>140</u> PSI	Recorder No. _____	Circ Sub _____
(F) Second Final Flow Pressure		<u>250</u> PSI	(depth) _____	Sampler <input checked="" type="checkbox"/> <u>200</u>
(G) Final Shut-In Pressure		<u>610</u> PSI	Initial Opening <u>15</u>	Straddle _____
(Q) Final Hydrostatic Mud		<u>806</u> PSI	Initial Shut-In <u>60</u>	Ext. Packer _____
			Final Flow <u>30</u>	Shale Packer _____
			Final Shut-In <u>90</u>	Mileage <u>75</u> <u>63.75</u>
			T-On Location <u>14:00</u>	Sub Total: <u>1163.75</u>
			T-Started <u>16:17</u>	Std. By <u>3hrs</u> <u>90</u>
			T-Open <u>18:56</u>	Other _____
			T-Pulled <u>22:13</u>	Total: <u>\$1253.75</u>
			T-Out <u>01:02</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 John J. Schmidt

TRILOBITE TESTING L.L.C.

P.O. BOX 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. #19359 Date 7-24-04
Company Name LARSON OPERATING, CO.
Lease HOFFMAN # 1-17 Test No. #1
County ELLSWORTH Sec. 17 Twp. 16S Rng. 7W

SAMPLER RECOVERY

Gas 7.8 CU. FEET ML
Oil 0 ML
Mud 0 ML
Water 0 ML
Other 0 ML
Pressure 600 PSI
Total ALL GAS ML

PIT MUD ANALYSIS

Chlorides 4,200 ppm.
Resistivity ✓ ohms @ ✓ F
Viscosity 45
Mud Weight 8.7
Filtrate 9.6
Other LCM #

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 .1 ohms @ 64 F
Chlorides 85,000 ppm.

CHART PAGE

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

