

DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

P. O. Box 109
McPherson KS. 67460

ATTN: Jamie Hess

32-15S-22W Trego KS

Linda #1

Start Date: 2004.05.25 @ 18:11:34

End Date: 2004.05.25 @ 21:46:04

Job Ticket #: 19562 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Hess Oil Company

Linda #1

32-15S-22W Trego KS

DST # 1

Cherokee

2004.05.25



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Hess Oil Company
P. O. Box 109
McPherson KS. 67460
ATTN: Jamie Hess

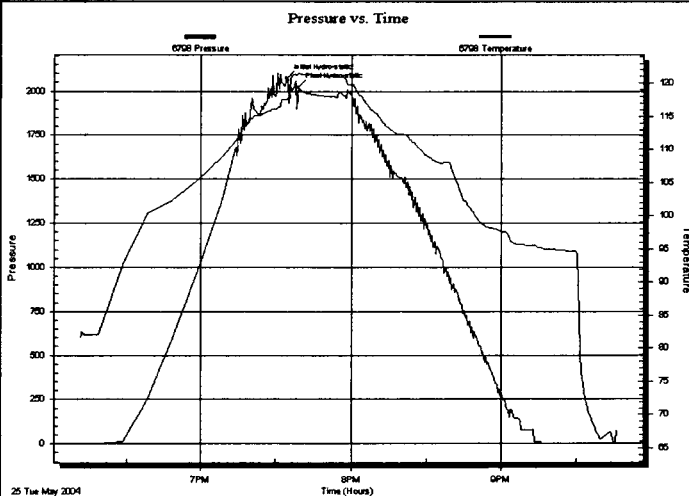
Linda #1
32-15S-22W Trego KS
Job Ticket: 19562 **DST#: 1**
Test Start: 2004.05.25 @ 18:11:34

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: **No Whipstock:** ft (KB)
Time Tool Opened: 19:35:00
Time Test Ended: 21:46:04
Interval: **4214.00 ft (KB) To 4289.00 ft (KB) (TVD)**
Total Depth: **4289.00 ft (KB) (TVD)**
Hole Diameter: **7.78 inches** Hole Condition: **Good**
Test Type: **Conventional Bottom Hole**
Tester: **Rod Steinbrink**
Unit No: **22**
Reference Elevations: **2370.00 ft (KB)**
2365.00 ft (CF)
KB to GR/CF: **5.00 ft**

Serial #: 6798 **Inside**
Press@RunDepth: psig @ 4215.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2004.05.25 End Date: 2004.05.25 Last Calib.: 1899.12.30
Start Time: 18:11:36 End Time: 21:46:04 Time On Btm: 2004.05.25 @ 19:34:19
Time Off Btm: 2004.05.25 @ 19:38:49

TEST COMMENT: IF; Packer seat failed - tried to reset - no help (TOH)



PRESSURE SUMMARY

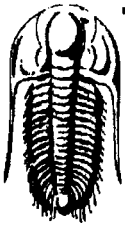
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2074.29	117.65	Initial Hydro-static
5	2024.45	121.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
340.00	Drig. Mud	2.53

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hess Oil Company
P. O. Box 109
McPherson KS. 67460

ATTN: Jamie Hess

Linda #1
32-15S-22W Trego KS
Job Ticket: 19562 **DST#: 1**
Test Start: 2004.05.25 @ 18:11:34

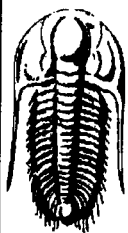
Tool Information

Drill Pipe:	Length: 3975.00 ft	Diameter: 3.80 inches	Volume: 55.76 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: 246.00 ft	Diameter: 2.25 inches	Volume: 1.21 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 56.97 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4214.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.00 ft			
Tool Length:	99.00 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			4195.00	
Hydraulic tool	5.00			4200.00	
Jars	5.00			4205.00	
Packer	4.00			4209.00	24.00 Bottom Of Top Packer
Packer	5.00			4214.00	
Stubb	1.00			4215.00	
Recorder	0.00	6798	Inside	4215.00	
Perforations	5.00			4220.00	
Change Over Sub	1.00			4221.00	
Anchor	62.00			4283.00	
Change Over Sub	1.00			4284.00	
Recorder	0.00	13276	Outside	4284.00	
Bullnose	5.00			4289.00	75.00 Bottom Packers & Anchor

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hess Oil Company

Linda #1

P. O. Box 109
McPherson KS. 67460

32-15S-22W Trego KS

Job Ticket: 19562

DST#: 1

ATTN: Jamie Hess

Test Start: 2004.05.25 @ 18:11:34

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: 46.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
340.00	Drig. Mud	2.528

Total Length: 340.00 ft Total Volume: 2.528 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

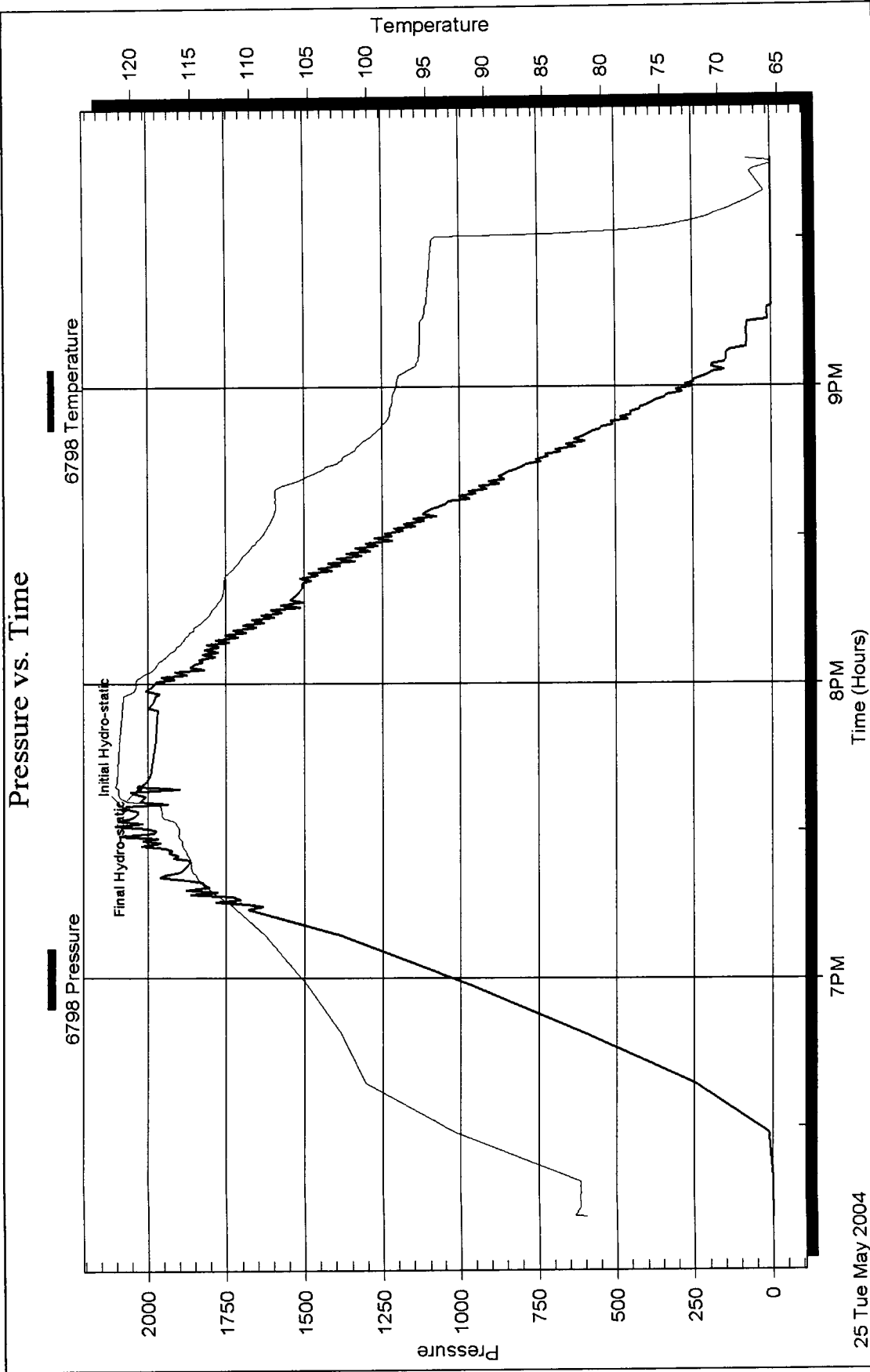
Serial #: 6798

Inside

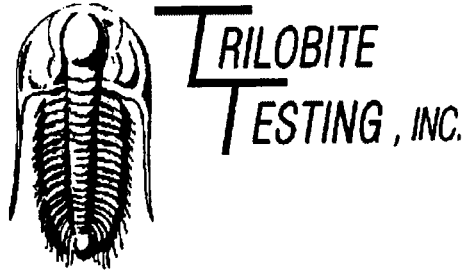
Hess Oil Company

32-15S-22W Trego KS

DST Test Number: 1



25 Tue May 2004



DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

P. O. Box 109
McPherson KS. 67460

ATTN: Jamie Hess

32-15S-22W Trego KS

Linda #1

Start Date: 2004.05.25 @ 21:57:30

End Date: 2004.05.26 @ 04:12:15

Job Ticket #: 19563 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Hess Oil Company

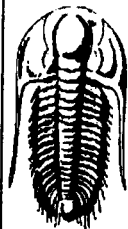
Linda #1

32-15S-22W Trego KS

DST # 2

Cherokee

2004.05.25



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Hess Oil Company

Linda #1

P. O. Box 109
McPherson KS. 67460

32-15S-22W Trego KS

ATTN: Jamie Hess

Job Ticket: 19563

DST#: 2

Test Start: 2004.05.25 @ 21:57:30

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:23:30

Time Test Ended: 04:12:15

Test Type: Conventional Bottom Hole

Tester: Rod Steinbrink

Unit No: 22

Interval: **4180.00 ft (KB) To 4289.00 ft (KB) (TVD)**

Total Depth: 4289.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Good

Reference Elevations: 2370.00 ft (KB)

2365.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6798 Inside

Press@RunDepth: 149.87 psig @ 4181.00 ft (KB)

Start Date: 2004.05.25

End Date:

2004.05.26

Start Time: 21:57:32

End Time:

04:12:15

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2004.05.25 @ 23:19:00

Time Off Btm: 2004.05.26 @ 02:12:15

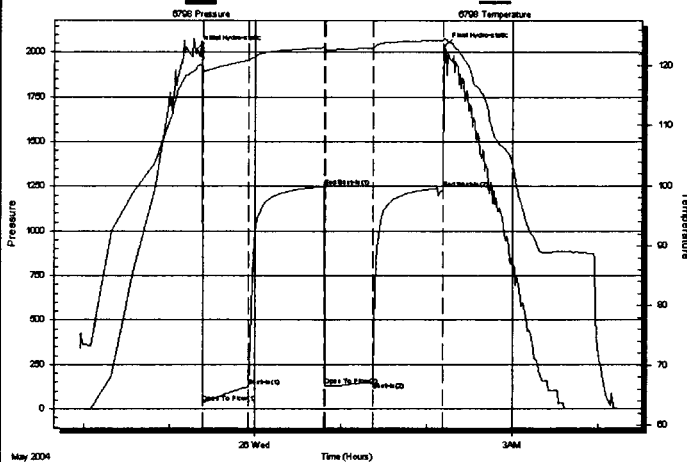
TEST COMMENT: F; Weak building blow to 4"

IS; No return

FF; Weak blow built to 1"

FS; No return

Pressure vs. Time



PRESSURE SUMMARY

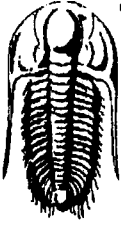
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2015.94	119.69	Initial Hydro-static
5	31.59	119.13	Open To Flow (1)
37	123.34	120.89	Shut-In(1)
89	1249.45	122.98	End Shut-In(1)
90	128.17	122.69	Open To Flow (2)
124	149.87	122.96	Shut-In(2)
173	1233.46	124.21	End Shut-In(2)
174	2032.08	124.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
295.00	SGOCM 15%gas 35%oil 50%mud	1.90
45.00	FO 5%gas 95%oil	0.63

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hess Oil Company
P. O. Box 109
McPherson KS. 67460
ATTN: Jamie Hess

Linda #1
32-15S-22W Trego KS
Job Ticket: 19563 **DST#: 2**
Test Start: 2004.05.25 @ 21:57:30

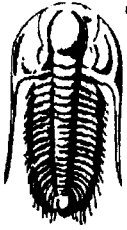
Tool Information

Drill Pipe:	Length: 3941.00 ft	Diameter: 3.80 inches	Volume: 55.28 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: 246.00 ft	Diameter: 2.25 inches	Volume: 1.21 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 56.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4180.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	109.00 ft			
Tool Length:	133.00 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			4161.00	
Hydraulic tool	5.00			4166.00	
Jars	5.00			4171.00	
Packer	4.00			4175.00	24.00 Bottom Of Top Packer
Packer	5.00			4180.00	
Stubb	1.00			4181.00	
Recorder	0.00	6798	Inside	4181.00	
Perforations	8.00			4189.00	
Change Over Sub	1.00			4190.00	
Anchor	93.00			4283.00	
Change Over Sub	1.00			4284.00	
Recorder	0.00	13276	Outside	4284.00	
Bullnose	5.00			4289.00	109.00 Bottom Packers & Anchor

Total Tool Length: 133.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hess Oil Company
P. O. Box 109
McPherson KS. 67460
ATTN: Jamie Hess

Linda #1
32-15S-22W Trego KS
Job Ticket: 19563 **DST#: 2**
Test Start: 2004.05.25 @ 21:57:30

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	39 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	46.00 sec/qt	Cushion Volume:	bbbl		
Water Loss:	7.39 in ³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3500.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
295.00	SGOCM 15%gas 35%oil 50%mud	1.897
45.00	FO 5%gas 95%oil	0.631

Total Length: 340.00 ft Total Volume: 2.528 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 6798

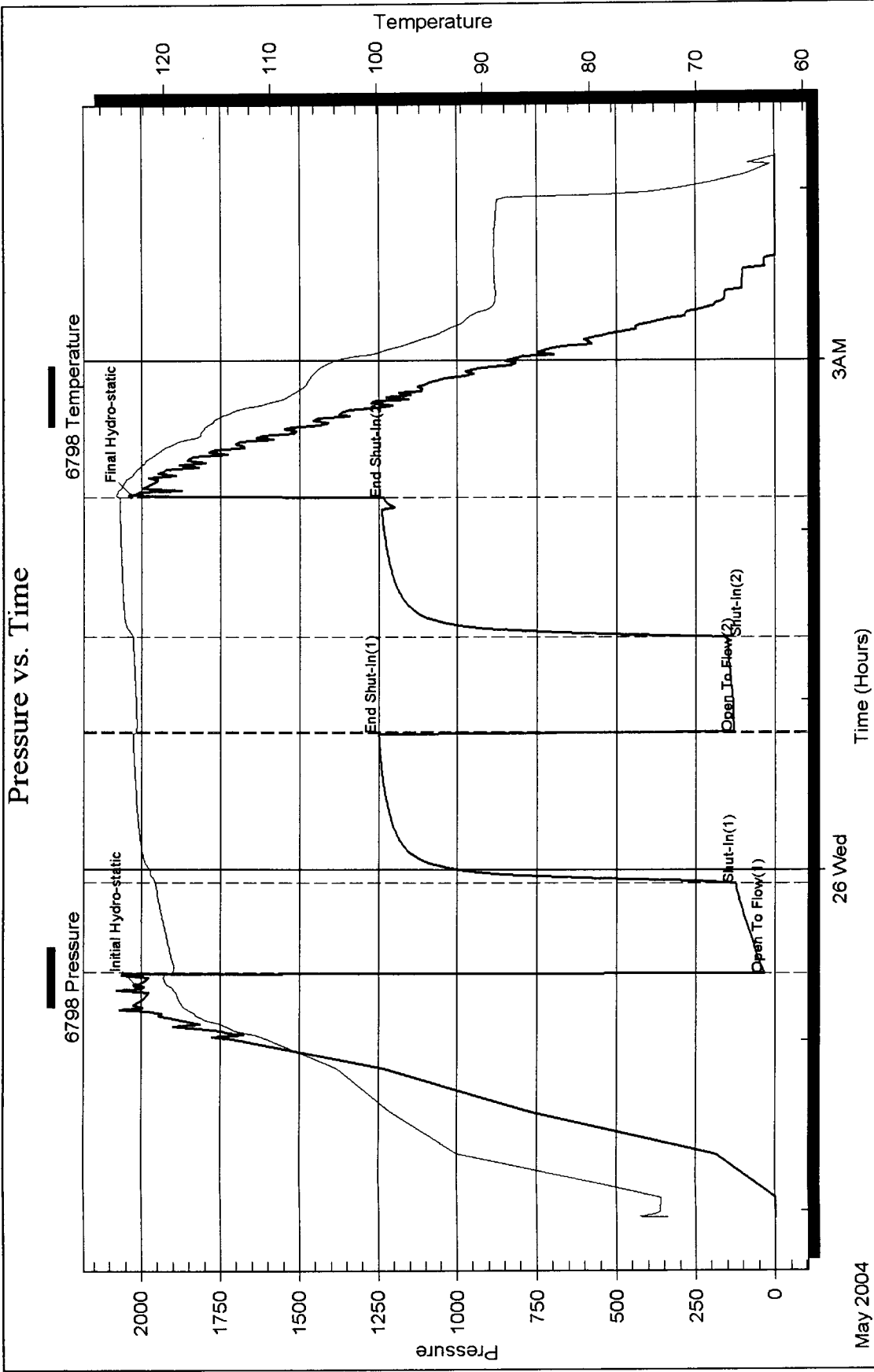
Inside

Hess Oil Company

32-15S-22W Trego KS

DST Test Number: 2

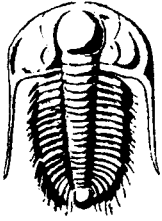
Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 19563

Printed: 2004.06.03 @ 11:00:14 Page 5



TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No. 19562

05/03

Test Ticket

Well Name & No. Linda #1 Test No. 1 Date 5-25-04
 Company Hess Oil Company Zone Tested Cherokee
 Address P.O. Box 109 McPherson KS. 67460 Elevation 2370 KB 2365 GL
 Co. Rep / Geo. Jamie Hess Cont. Mallard #2 Est. Ft. of Pay _____ Por. _____ %
 Location: Sec. 32 Twp. 15^s Rge. 22^w Co. Trego State KS.
 No. of Copies _____ Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 4214 - 4289 Initial Str Wt./Lbs. 60,000 Unseated Str Wt/Lbs. 65,000
 Anchor Length 75' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 70,000
 Top Packer Depth 4209 Tool Weight 2,500
 Bottom Packer Depth 4214 Hole Size 7 7/8" ✓ Rubber Size 6 3/4" ✓
 Total Depth 4289 Wt. Pipe Run _____ Drill Collar Run 246'
 Mud Wt. 9.1 LCM _____ Vis. 46 WL 7.4 Drill Pipe Size 4 1/2" XH Ft. Run 3975'
 Blow Description 1F: Packer seat failed - tried to reset - no help
TDH.

Recovery - Total Feet 340' GIP _____ Ft. in DC 246' Ft. in DP 94'
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. 340' Feet of Drty. Mud %gas _____ %oil _____ %water 100 %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 BHT 121° °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 3,500 ppm System

	AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud	<u>2074</u>	PSI	<u>6198</u>	<u>Misrun 600</u>
(B) First Initial Flow Pressure		PSI	(depth) <u>4215</u>	Elec. Rec. <u>X 150</u>
(C) First Final Flow Pressure		PSI	Recorder No. <u>13276</u>	Jars <u>X 200</u>
(D) Initial Shut-In Pressure		PSI	(depth) <u>4293</u>	Safety Jt. _____
(E) Second Initial Flow Pressure		PSI	Recorder No. _____	Circ Sub <u>X N/C</u>
(F) Second Final Flow Pressure		PSI	(depth) _____	Sampler _____
(G) Final Shut-In Pressure		PSI	Initial Opening _____	Straddle _____
(Q) Final Hydrostatic Mud	<u>2024</u>	PSI	Initial Shut-In _____	Ext. Packer _____
			Final Flow _____	Shale Packer _____
			Final Shut-In _____	Mileage <u>1¹⁶⁰ way 80 136</u>
			T-On Location <u>1745</u>	Sub Total: <u>1086</u>
			T-Started <u>1811</u>	Std. By _____
			T-Open <u>1935</u>	Other _____
			T-Pulled <u>1938</u>	Total: _____
			T-Out <u>2146</u>	

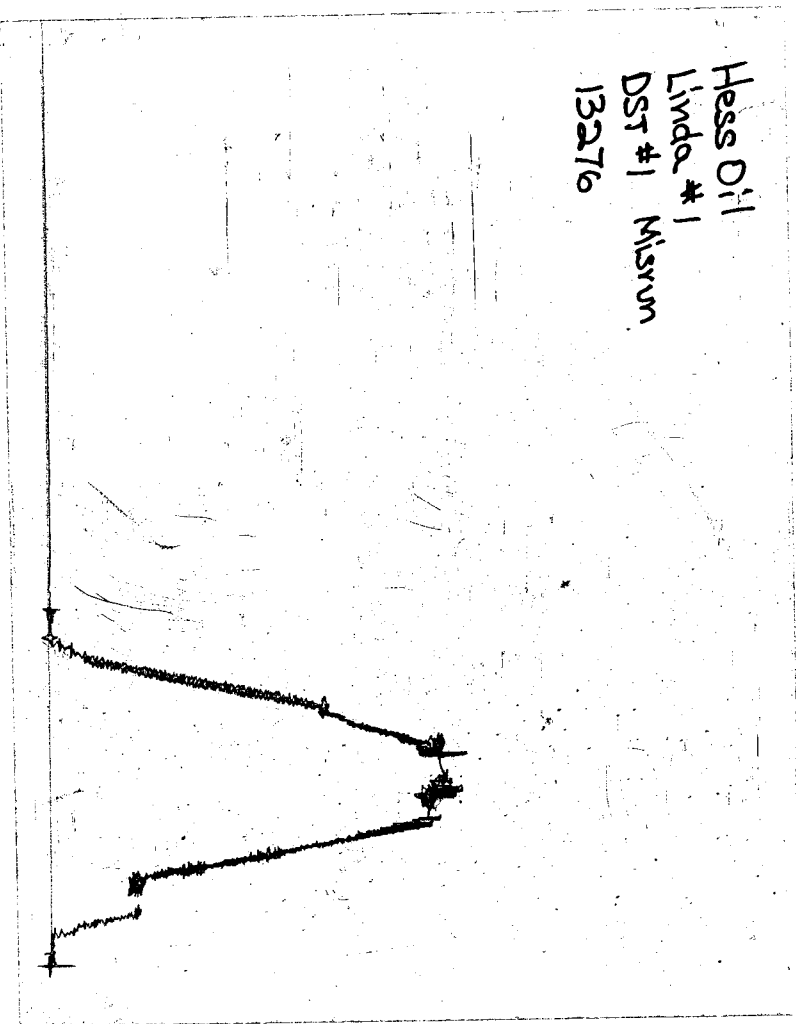
TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGED OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST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

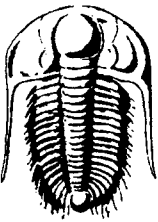
Approved By [Signature]
 Our Representative Rod Steinbrink

CHART PAGE

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

Hess D:1
Lynda #1
DST #1 Misrum
13276





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No. 19563

05/03

Test Ticket

Well Name & No. Linda #1 Test No. 2 Date 5-25-04
 Company Hess Oil Company Zone Tested Cherokee
 Address P.O. Box 109 McPherson KS. 67460 Elevation 2370 KB 2365 GL
 Co. Rep / Geo. Jamie Hess Cont. Mallard #2 Est. Ft. of Pay _____ Por. _____ %
 Location: Sec. 35 Twp. 15^S Rge. 22^W Co. Trego State KS.
 No. of Copies _____ Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 4180 - 4289 Initial Str Wt./Lbs. 60,000 Unseated Str Wt/Lbs. 60,000
 Anchor Length 109' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 70,000
 Top Packer Depth 4175 Tool Weight 2,500
 Bottom Packer Depth 4180 Hole Size 7 7/8" ✓ Rubber Size 6 3/4" ✓
 Total Depth 4289 Wt. Pipe Run — Drill Collar Run 246'
 Mud Wt. 9.0 LCM — Vis. 46 WL 7.4 Drill Pipe Size 4 1/2" xH Ft. Run 3941'
 Blow Description IF: Weak building blow to 4"
ISI: No return.
FF: Weak blow built to 1"
FSI: No return.

Recovery - Total Feet 340' GIP — Ft. in DC 246' Ft. in DP 94'
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. 45' Feet of FO 5 %gas 95 %oil — %water — %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 Rec. 295' Feet of SGDCM 15 %gas 35 %oil — %water 50 %mud
 Rec. _____ Feet of _____ %gas _____ %oil _____ %water _____ %mud
 BHT 124° °F Gravity 39 °API D @ 60° °F Corrected Gravity 39 °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides 3,500 ppm System

	AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud	<u>2015</u>	PSI	<u>6798</u>	<u>800</u>
(B) First Initial Flow Pressure	<u>31</u>	PSI	(depth) <u>4181</u>	Elec. Rec. <u>X</u> <u>150</u>
(C) First Final Flow Pressure	<u>123</u>	PSI	Recorder No. <u>13276</u>	Jars <u>X</u> <u>200</u>
(D) Initial Shut-In Pressure	<u>1249</u>	PSI	(depth) <u>4284</u>	Safety Jt. _____
(E) Second Initial Flow Pressure	<u>128</u>	PSI	Recorder No. _____	Circ Sub <u>X</u> <u>N/C</u>
(F) Second Final Flow Pressure	<u>149</u>	PSI	(depth) _____	Sampler _____
(G) Final Shut-In Pressure	<u>1233</u>	PSI	Initial Opening <u>30</u>	Straddle _____
(Q) Final Hydrostatic Mud	<u>2032</u>	PSI	Initial Shut-In <u>45</u>	Ext. Packer _____
			Final Flow <u>30</u>	Shale Packer _____
			Final Shut-In <u>45</u>	Mileage _____
			T-On Location _____	Sub Total: <u>1150</u>
			T-Started <u>2157</u>	Std. By _____
			T-Open <u>2323</u>	Other _____
			T-Pulled <u>0211 5-26-04</u>	Total: _____
			T-Out <u>0412</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 Jamie Hess
 Our Representative Rod Steinbrink

CHART PAGE

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

