

DRILL STEM TEST REPORT

Prepared For: **Hess Oil Co**

PO Box 1009
McPherson, Ks 67460

ATTN: Hess Oil Co

7-16-22

Ruby #3

Start Date: 2004.02.14 @ 04:31:37

End Date: 2004.02.14 @ 11:06:06

Job Ticket #: 18087 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Hess Oil Co

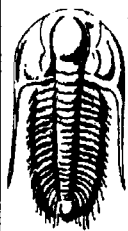
Ruby #3

7-16-22

DST # 1

cherokee sand

2004.02.14



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TESTING, INC.**

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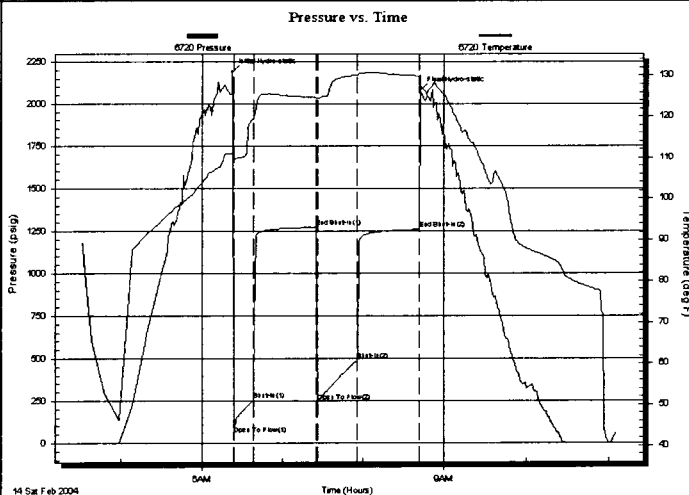
Ruby #3
7-16-22
Job Ticket: 18087 **DST#: 1**
Test Start: 2004.02.14 @ 04:31:37

GENERAL INFORMATION:

Formation: **cherokee sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:23:36
Time Test Ended: 11:06:06
Interval: **4280.00 ft (KB) To 4360.00 ft (KB) (TVD)**
Total Depth: 4360.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 25
Reference Elevations: 2405.00 ft (KB)
2400.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6720 Inside
Press@RunDepth: 487.03 psig @ 4281.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2004.02.14 End Date: 2004.02.14 Last Calib.: 1899.12.30
Start Time: 04:31:37 End Time: 11:06:06 Time On Btm: 2004.02.14 @ 06:22:36
Time Off Btm: 2004.02.14 @ 08:42:36

TEST COMMENT: B.O.B. in 4 1/2 min.
No return
B.O.B. in 6 min.
No return



PRESSURE SUMMARY

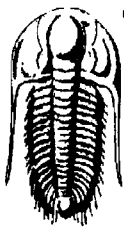
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2187.83	111.03	Initial Hydro-static
1	50.60	109.97	Open To Flow (1)
16	257.98	119.51	Shut-In(1)
63	1271.31	124.61	End Shut-In(1)
64	244.44	124.47	Open To Flow (2)
93	487.03	130.10	Shut-In(2)
139	1259.69	129.89	End Shut-In(2)
140	2079.50	127.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
420.00	s m c w 10% m 90% w	4.80
300.00	m c w 20% m 80% w	4.21
180.00	w c m 50% m 50% w	2.52
120.00	s w c m 20% w 80% m	1.68

Gas Rates

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



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TESTING, INC.**

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TOOL DIAGRAM

Hess Oil Co
PO Box 1009
McPherson, Ks 67460
ATTN: Hess Oil Co

Ruby #3
7-16-22
Job Ticket: 18087 **DST#: 1**
Test Start: 2004.02.14 @ 04:31:37

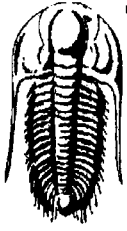
Tool Information

Drill Pipe:	Length: 4153.00 ft	Diameter: 3.80 inches	Volume: 58.26 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4280.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	100.00 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			4261.00	
Shut In Tool	5.00			4266.00	
Hydraulic tool	5.00			4271.00	
Packer	5.00			4276.00	20.00 Bottom Of Top Packer
Packer	4.00			4280.00	
Stubb	1.00			4281.00	
Recorder	0.00	6720	Inside	4281.00	
Perforations	10.00			4291.00	
Change Over Sub	1.00			4292.00	
Drill Pipe	62.00			4354.00	
Change Over Sub	1.00			4355.00	
Recorder	0.00	11058	Outside	4355.00	
Bullnose	5.00			4360.00	80.00 Bottom Packers & Anchor

Total Tool Length: 100.00



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FLUID SUMMARY

Hess Oil Co
PO Box 1009
McPherson, Ks 67460
ATTN: Hess Oil Co

Ruby #3
7-16-22
Job Ticket: 18087 **DST#: 1**
Test Start: 2004.02.14 @ 04:31:37

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:	27500 ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.97 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
420.00	s m c w 10%m 90%w	4.798
300.00	m c w 20%m 80%w	4.208
180.00	w c m 50%m 50%w	2.525
120.00	s w c m 20%w 80%m	1.683

Total Length: 1020.00 ft Total Volume: 13.214 bbl

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

Serial #: 6720

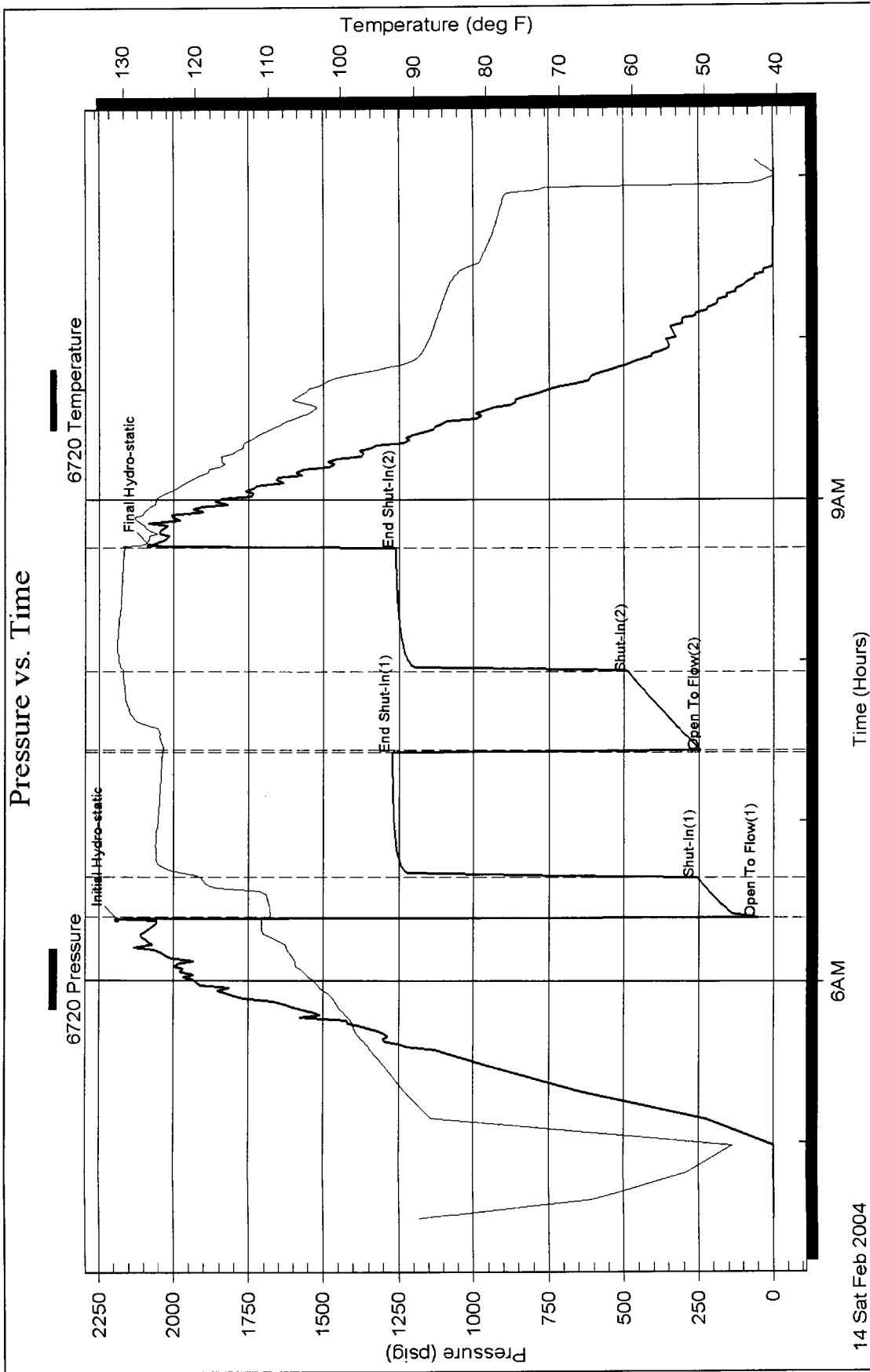
Inside

Hess Oil Co

7-16-22

DST Test Number: 1

Pressure vs. Time

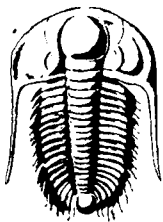


14 Sat Feb 2004

6AM

9AM

Time (Hours)



TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

INV
6211

Nº 18087

05/03

Test Ticket

Well Name & No. Ruby #3 Test No. #1 Date 2-14-04
 Company Hess Oil Co. Zone Tested Cherokee
 Address P.O. Box 1009 McPherson, Ks 67460 Elevation 2405 KB 2400 GL
 Co. Rep / Geo. Jamie Hess Cont. Martin #24 Est. Ft. of Pay _____ Por. _____ %
 Location: Sec. 7 Twp. 16 Rge. 22 Co. Hess State Ks
 No. of Copies None Disbtribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 4280 4360 Initial Str Wt./Lbs. 50000 Unseated Str Wt./Lbs. 57,000
 Anchor Length _____ 80 Wt. Set Lbs. 30,000 Wt. Pulled Loose/Lbs. 70,000
 Top Packer Depth _____ 4275 Tool Weight 1,500
 Bottom Packer Depth _____ 4280 Hole Size 7 7/8" ✓ Rubber Size 6 3/4" ✓
 Total Depth _____ 4360 Wt. Pipe Run _____ Drill Collar Run 120' xH
 Mud Wt. 9.1 LCM Ø Vis. 47 WL 8.0 Drill Pipe Size 4 1/2 xH Ft. Run 4153
 Blow Description B.O.B. in 4 1/2 min
No return
B.O.B. in 6 min
No return

Recovery - Total Feet	GIP	Ft. in DC	Ft. in DP
<u>1020'</u>	<u>—</u>	<u>120</u>	<u>900'</u>
Rec. <u>120</u> Feet of <u>SWCM</u>	%gas _____ %oil _____	<u>20%</u> water	<u>80%</u> mud
Rec. <u>180</u> Feet of <u>WCM</u>	%gas _____ %oil _____	<u>50%</u> water	<u>50%</u> mud
Rec. <u>300</u> Feet of <u>MCW</u>	%gas _____ %oil _____	<u>80%</u> water	<u>20%</u> mud
Rec. <u>420</u> Feet of <u>SMCW</u>	%gas _____ %oil _____	<u>90%</u> water	<u>10%</u> mud
Rec. _____ Feet of _____	%gas _____ %oil _____	_____ water	_____ mud
BHT <u>130°</u> °F Gravity _____ °API D @ _____ °F Corrected Gravity _____ °API			
RW <u>.245</u> @ <u>77°</u> °F Chlorides <u>27,500</u> ppm Recovery <u>27,500</u> Chlorides <u>1000</u> ppm System			

AK-1	Alpine	Recorder No.	Test X
(A) Initial Hydrostatic Mud	<u>2187</u> PSI	<u>6720</u>	<u>800.00</u>
(B) First Initial Flow Pressure	<u>50</u> PSI	(depth) <u>4281'</u>	Elec. Rec. X <u>150.00</u>
(C) First Final Flow Pressure	<u>257</u> PSI	Recorder No. <u>11058</u>	Jars _____
(D) Initial Shut-In Pressure	<u>1271</u> PSI	(depth) <u>4355'</u>	Safety Jt. _____
(E) Second Initial Flow Pressure	<u>244</u> PSI	Recorder No. _____	Circ Sub X <u>N/C</u>
(F) Second Final Flow Pressure	<u>487</u> PSI	(depth) _____	Sampler _____
(G) Final Shut-In Pressure	<u>1259</u> PSI	Initial Opening <u>15</u>	Straddle _____
(Q) Final Hydrostatic Mud	<u>2079</u> PSI	Initial Shut-In <u>45</u>	Ext. Packer _____
		Final Flow <u>30</u>	Shale Packer _____
		Final Shut-In <u>45</u>	Mileage X <u>75</u> \$ <u>75.00</u>
		T-On Location <u>04:00 A.M.</u>	Sub Total: <u>1025.00</u>
		T-Started <u>04:35 A.M.</u>	Std. By <u>\$1077.50</u>
		T-Open <u>06:25 A.M.</u>	Other _____
		T-Pulled <u>08:40 A.M.</u>	Total: <u>\$1025.00</u>
		T-Out <u>11:15 A.M.</u>	

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Approved By _____
 Our Representative Shumard

CHART PAGE

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

11658 #1

Less 0.1

