TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name KING #1 Test No. 1 Date 4/16/93

Company HESS OIL CO., INC. Zone MISSISSIPPI

Address 412 EAST DOUGLAS #1 WICHITA KS 67201 Elevation 2340

Co. Rep./Geo. JAMES C. HESS Cont. MALLARD RIG #2 Est. Ft. of Pay 40

Location: Sec. SS Twp. 21S Rge. 24W Co. HODGEMAN State KS

Interval Tested 4364-4468 Drill Pipe Size 4.5" FH

Anchor Length 104 Wt. Pipe I.D. - 2.7 Ft. Run

Top Packer Depth 4359 Drill Collar – 2.25 Ft. Run 299

Bottom Packer Depth 4364 Mud Wt. 9.1 lb/Gal.

Total Depth 4468 Viscosity 47 Filtrate 9.2

Tool Open @ 11:32 PM Initial Blow OPEN SURFACE TO 10 1/2" IN 60 MINUTES

Final Blow SURFACE TO 9 1/2" IN 60 MINUTES

Recovery - Total Feet 325 Flush Tool? NO

Rec. 100 Feet of GAS IN PIPE

Rec. 145 Feet of CLEAN GASSY OIL 2%GAS/98%OIL

Rec. 180 Feet of GASSY OILY MUD 2%GAS/30%OIL/68%MUD

Rec. Feet of

Rec. Feet of

BHT 114 °F Gravity 40 °API @ 80 °F Corrected Gravity 38 °API

RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud 2130.1 PSI AK1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 65.7 PSI @ (depth) 4366 w / Clock No. 17652

(C) First Final Flow Pressure 101.8 PSI AK1 Recorder No. 11057 Range 4500

(D) Initial Shut-in Pressure 874.8 PSI @ (depth) 4463 w / Clock No. 22992

(E) Second Initial Flow Pressure 130.7 PSI AK1 Recorder No. Range

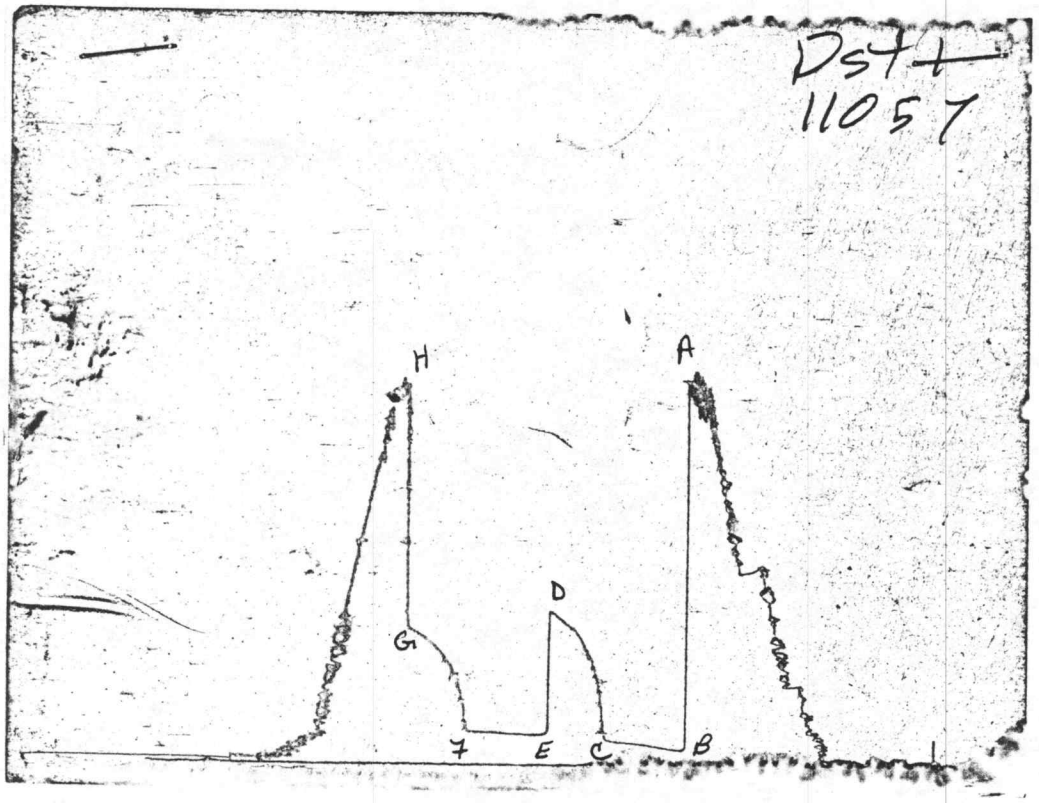
(F) Second Final Flow Pressure 147.5 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 745.9 PSI Initial Opening 60 Final Flow 60

(H) Final Hydrostatic Mud 2106.7 PSI Initial Shut-in 45 Final Shut-in 45

Our Representative MARK HERSKOWITZ

CHART PAGE



This is an actual photograph of recorder chart

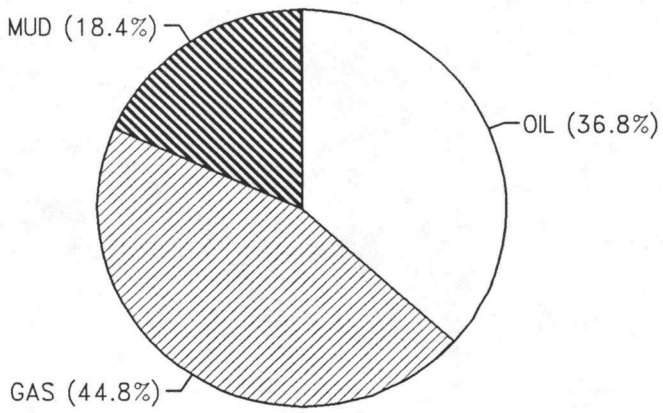
		FIELD READING	OFFICE READING
(A)	INITIAL HYDROSTATIC MUD	2128	2130.1
(B)	FIRST INITIAL FLOW PRESSURE	48	65.7
(C)	FIRST FINAL FLOW PRESSURE	97	101.8
(D)	INITIAL CLOSED-IN PRESSURE	865	874.8
(E)	SECOND INITIAL FLOW PRESSURE	109	130.7
(F)	SECOND FINAL FLOW PRESSURE	145	147.5
(G)	FINAL CLOSED-IN PRESSURE	745	745.9
(H)	FINAL HYDROSTATIC MUD	2104	2106.7

CALCULATED RECOVERY ANALYSIS

DST # 1 TICKET # 5784

SAMPLE #	TOTAL FEET	%	GAS FEET	%	OIL FEET	%	WATER FEET	%	MUD FEET
DRILL 1	100	100	100		0	0	0	0	0
PIPE 2	26	2	0.52	98	25.48		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
6			0		0		0		0
WEIGHT 1			0		0		0		0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
DRILL 1	119	2	2.38	98	116.62	0	0	0	0
COLLAR 2	180	2	3.6	30	54		0	68	122.4
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	425		106.5		196.1		0		122.4

			HRS OPEN	BBL/DAY
BBL OIL=	1.1966574	*	2	14.359889
BBL WATER=	0	*		0
BBL MUD=	0.598536			
BBL GAS =	1.4586366			



INITIAL FLOW

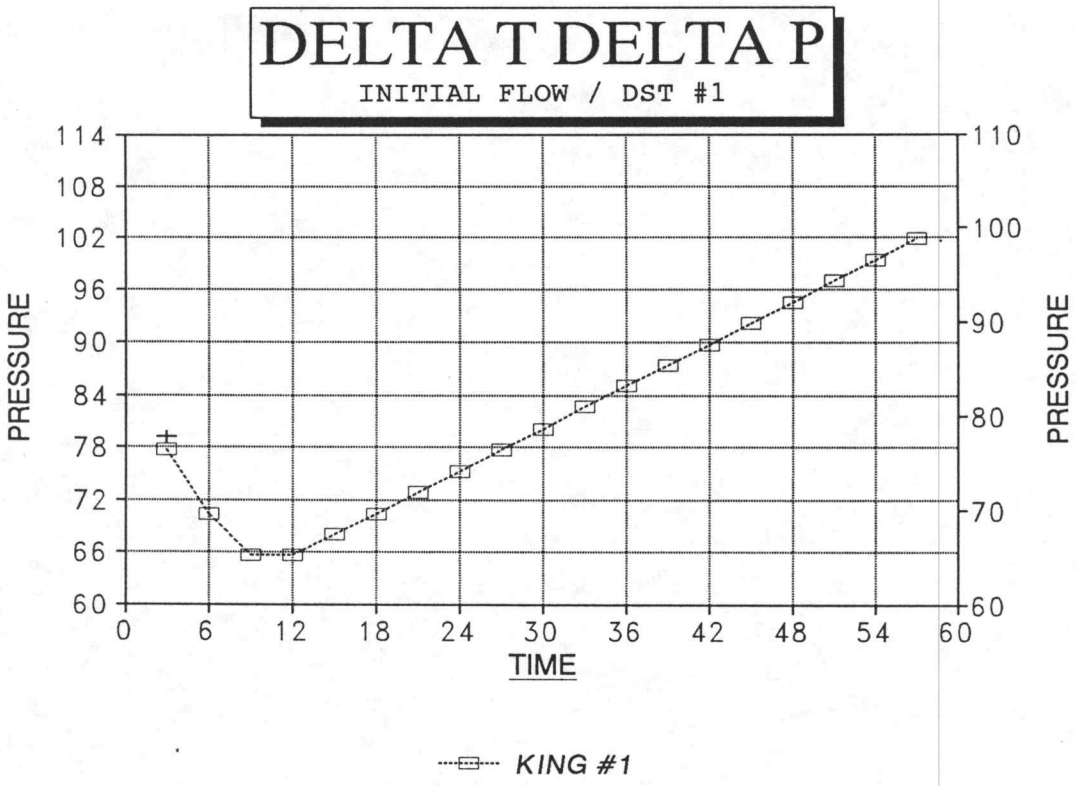
RECORDER # 13308 DST # 1

TIME(MIN)	PRESSURE	<> PRESSURE
3	77.7	77.7
6	70.5	-7.2
9	65.7	-4.8
12	65.7	0
15	68.1	2.4
18	70.5	2.4
21	72.9	2.4
24	75.3	2.4
27	77.7	2.4
30	80.1	2.4
33	82.6	2.5
36	85.1	2.5
39	87.4	2.3
42	89.8	2.4
45	92.2	2.4
48	94.6	2.4
51	97.1	2.5
54	99.4	2.3
57	101.8	2.4

FINAL FLOW

RECORDER # 13308 DST # 1

TIME(MIN)		<> PRESSURE
6	130.7	130.7
12	133.1	2.4
18	135.5	2.4
24	135.5	0
30	135.5	0
36	135.5	0
42	135.5	0
48	137.9	2.4
54	137.9	0
60	137.9	0
66	137.9	0
72	140.3	2.4
78	140.3	0
84	140.3	0
90	142.7	2.4
48	142.7	0
51	145.1	2.4
54	145.1	0
57	147.5	2.4
60	147.5	0



INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE: 15.608

KING #1 DST #1
INITIAL SHUTIN

60 TOTAL FLOW TIME

Slope P * psi/cycle psi

TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
3	101.8	1.322	101.8	21
6	430.6	1.041	328.8	11
9	496.7	0.885	66.1	8
12	583.8	0.778	87.1	6
15	628.5	0.699	44.7	5
18	673.1	0.637	44.6	4
21	691.9	0.586	18.8	4
24	734.1	0.544	42.2	4
27	748.2	0.508	14.1	3
30	776.4	0.477	28.2	3
33	795.1	0.450	18.7	3
36	816.2	0.426	21.1	3
39	832.6	0.405	16.4	3
42	856.1	0.385	23.5	2
45	874.8	0.368	18.7	2

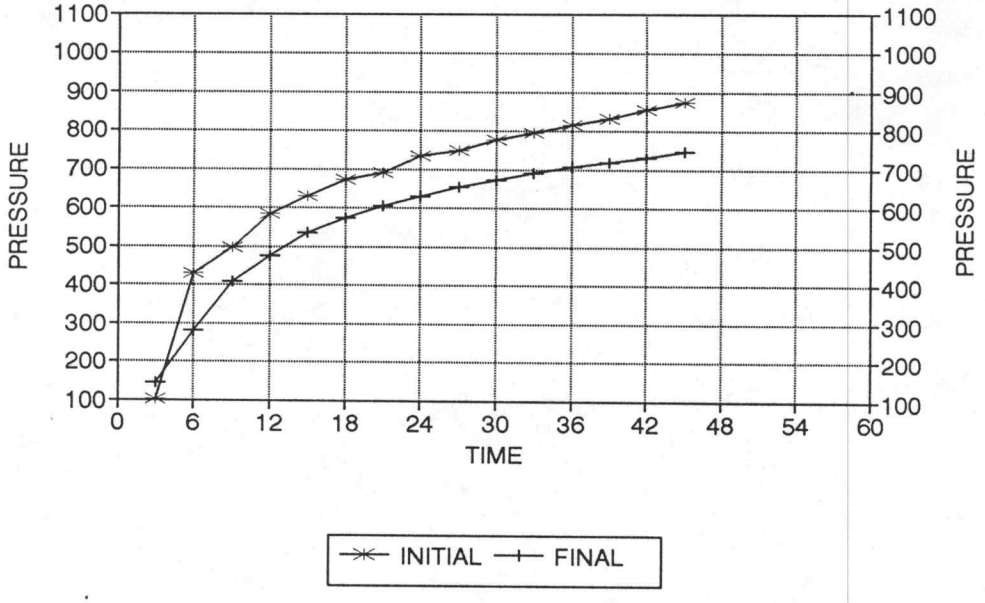
KING #1 DST #1
FINAL SHUTIN

120 TOTAL FLOW TIME

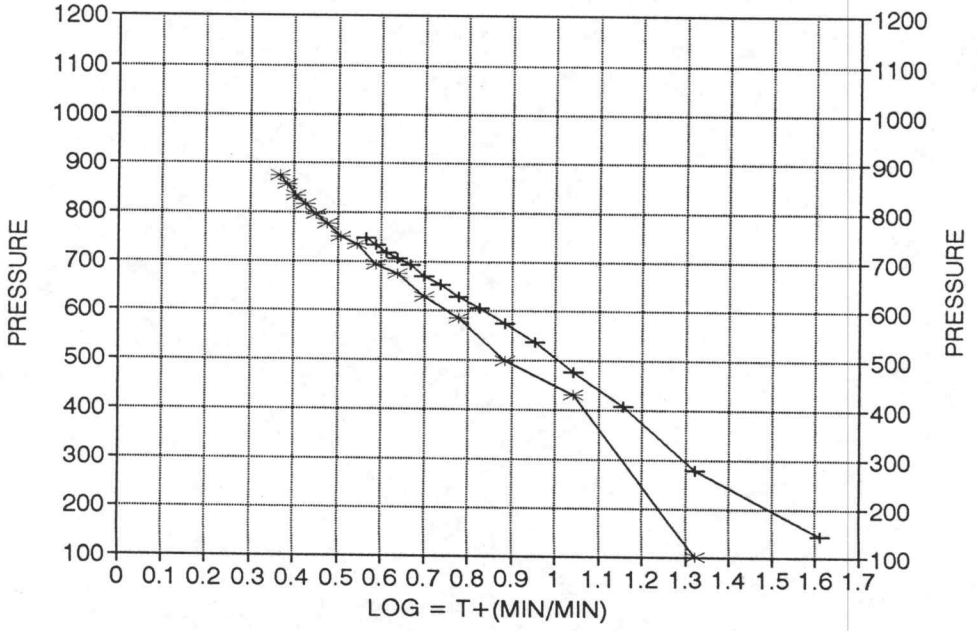
Slope P * psi/cycle psi

	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
3	145.1	1.613	145.1	41
6	278.9	1.322	133.8	21
9	407.1	1.156	128.2	14
12	475.5	1.041	68.4	11
15	536.8	0.954	61.3	9
18	574.4	0.885	37.6	8
21	605.1	0.827	30.7	7
24	628.5	0.778	23.4	6
27	652.1	0.736	23.6	5
30	670.8	0.699	18.7	5
33	691.9	0.666	21.1	5
36	706.1	0.637	14.2	4
39	717.7	0.610	11.6	4
42	731.8	0.586	14.1	4
45	745.9	0.564	14.1	4

KING #1 / DST #1
DELTA T DELTA P



HORNER PLOT



TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

№ 5784

Well Name & No. KING 1 FT Test No. 1 Date 4-16-93

Company HESS OIL Zone Tested MISS

Address 412E Douglas Wichita KS Elevation 2340 KB

Co. Rep./Geo. JAMES HESS Cont. MALLARD Est. Ft. of Pay 40

Location: Sec. 18 Twp. 21 Rge. 24 Co. HODGEMAN State KS

No. of Copies ____ Distribution Sheet ____ Yes ____ No Turnkey ____ Yes ____ No ____ Evaluation

Interval Tested 4364 - 4468 Drill Pipe Size 4½ FH

Anchor Length 104 Top Choke — 1" ____ Bottom Choke — ¾" ____

Top Packer Depth 4359 Hole Size — 7⅞" ____ Rubber Size — 6¾" ____

Bottom Packer Depth 4364 Wt. Pipe I.D. — 2.7 Ft. Run ____

Total Depth 4468 Drill Collar — 2.25 Ft. Run 299

Mud Wt. 9.1 LCM — lb/gal. Viscosity 47 Filtrate 9.2

Tool Open @ 11:32 PM Initial Blow OPEN SUR to 10½" IN 60 MIN

Final Blow SUR to 9½" IN 60 MIN

Recovery — Total Feet 325 Feet of Gas in Pipe 100 Flush Tool? ____

Rec. 45	Feet Of	C GAS OIL	2 %gas	98 %oil	%water	%mud
Rec. 180	Feet Of	GAS OIL MUD	2 %gas	30 %oil	%water 68	%mud
Rec. ____	Feet Of	____	%gas	%oil	%water	%mud
Rec. ____	Feet Of	____	%gas	%oil	%water	%mud
Rec. ____	Feet Of	____	%gas	%oil	%water	%mud

BHT 114 °F Gravity 40 °API @ 80 °F Corrected Gravity 38 °API

RW ____ @ ____ °F Chlorides ____ ppm Recovery Chlorides ____ ppm System

(A) Initial Hydrostatic Mud	2128 PSI	AK1 Recorder No.	13308	Range	4700
(B) First Initial Flow Pressure	48 PSI	@ (depth)	4364	w/Clock No.	17652
(C) First Final Flow Pressure	97 PSI	AK1 Recorder No.	11057	Range	4500
(D) Initial Shut-In Pressure	865 PSI	@ (depth)	4463	w/Clock No.	22992
(E) Second Initial Flow Pressure	109 PSI	AK1 Recorder No.	____	Range	____
(F) Second Final Flow Pressure	145 PSI	@ (depth)	____	w/Clock No.	____
(G) Final Shut-In Pressure	745 PSI	Initial Opening	60	Test	600
(H) Final Hydrostatic Mud	2104 PSI	Initial Shut-In	45	Jars	____
		Final Flow	60	Safety Joint	50
		Final Shut-In	45	Straddle	____
				Circ. Sub	NC
				Sampler	____
				Extra Packer	____
				Other	____
				TOTAL PRICE $	

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE 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 ____

Our Representative Mark Hershey

Printcraft Printers, Hays, KS