

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LUCILLE #1 Test No. 1 Date 11/16/94
Company HESS OIL COMPANY Zone LKC 35-90
Address PO BOX 1089 MCPHERSON KS 67460 Elevation 2317
Co. Rep./Geo. GERALD HONAS Cont. MURFIN #2 Est. Ft. of Pay 4
Location: Sec. 26 Twp. 11S Rge. 21W Co. TREGO State KS

Interval Tested 3547-3682
Anchor Length 135
Top Packer Depth 3542
Bottom Packer Depth 3547
Total Depth 3682

Drill Pipe Size 4.5" XH
Wt. Pipe I.D. - 2.7 Ft. Run 403
Drill Collar - 2.25 Ft. Run 9.2 lb/Gal.
Mud Wt. 46 Viscosity 8.8 Filtrate

Tool Open @ 4:47PM Initial Blow 1" BLOW BUILDING TO BOTTOM OF BUCKET IN 4 MINUTES
(BLOW BACK BUILT TO BOTTOM OF BUCKET IN 20 MINUTES)
Final Blow STRONG - BOTTOM OF BUCKET IN 6 MINUTES
(BLOW BACK BUILT TO BOTTOM OF BUCKET IN 12 MINUTES)

Recovery - Total Feet 1010 Flush Tool? _____

380 GAS IN PIPE
Rec. 15 Feet of GASSY MUD
Rec. 60 Feet of HEAVY OIL CUT MUD - 25%OIL/75%MUD
Rec. 225 Feet of GASSY MUDDY OIL - 30%GAS/40%OIL/30%MUD
Rec. 650 Feet of CLEAN GASSY OIL - 10%GAS/90%OIL
Rec. 60 Feet of GASSY MUDDY OIL - 5%GAS/65%OIL/30%MUD

BHT 111 °F Gravity 35 °API @ 60 °F Corrected Gravity 35 °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 1850.6 PSI AK1 Recorder No. 22150 Range 3925

(B) First Initial Flow Pressure 173.3 PSI @ (depth) 3553 w / Clock No. 23839

(C) First Final Flow Pressure 328.1 PSI AK1 Recorder No. 24174 Range 3050

(D) Initial Shut-in Pressure 712.2 PSI @ (depth) 3675 w / Clock No. 22348

(E) Second Initial Flow Pressure 400.6 PSI AK1 Recorder No. _____ Range _____

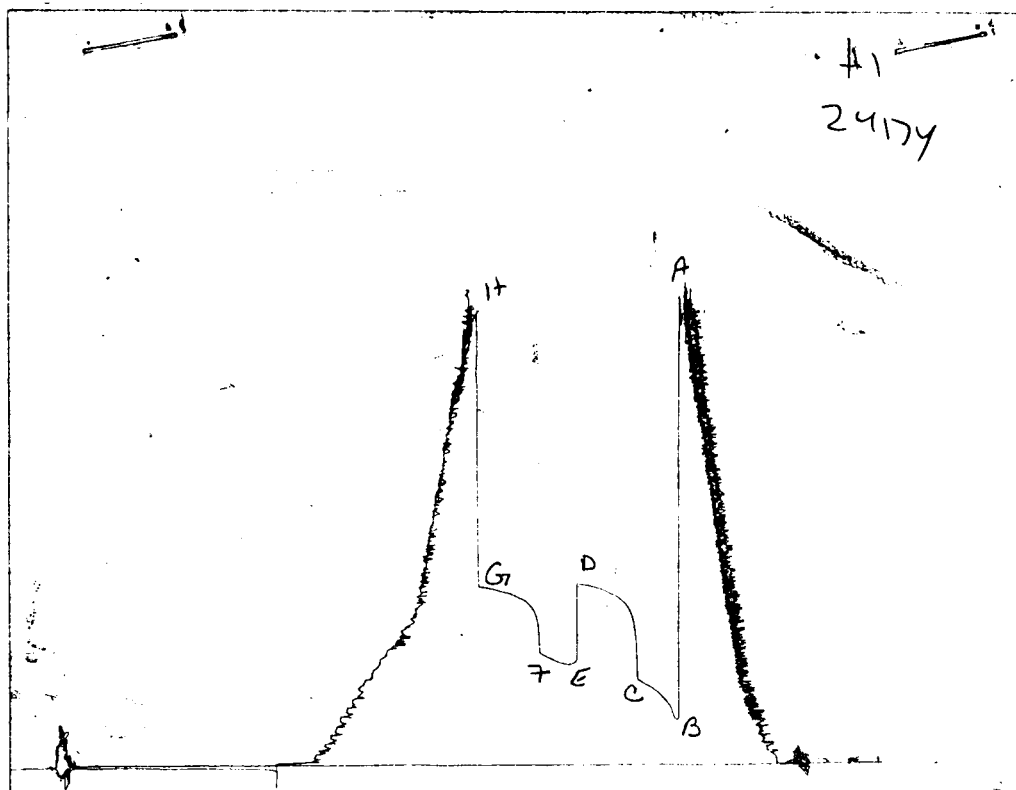
(F) Second Final Flow Pressure 438.0 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 701.5 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 1794.5 PSI Initial Shut-in 45 Final Shut-in 45

Our Representative PAUL SIMPSON

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1849	1850.6
(B) FIRST INITIAL FLOW PRESSURE	172	173.3
(C) FIRST FINAL FLOW PRESSURE	323	328.1
(D) INITIAL CLOSED-IN PRESSURE	713	712.2
(E) SECOND INITIAL FLOW PRESSURE	392	400.6
(F) SECOND FINAL FLOW PRESSURE	430	438
(G) FINAL CLOSED-IN PRESSURE	705	701.5
(H) FINAL HYDROSTATIC MUD	1788	1794.5

COMPUTER OIL EVALUATION BY TRILOBITE TESTING, L.L.C.

HESS OIL COMPANY

LUCILLE #1

DST 1

26 11S 21W

TREGO KS

ELEVATION: 2317 KB EST. PAY 4 FT

DATUM: -1359 ZONE TESTED: LKC 35-90

TEST INTERVAL: 3547-3682 TIME INTERVALS: 30-45-30-45

RECORDER DEPTH: 3675 VISCOSITY: 7.51 CP

BOTTOM HOLE TEMP: 111 HOLE SIZE: 7.875 IN

CUBIC FEET OF GAS IN PIPE: 54

TOTAL FEET OF RECOVERY: 1010.00 CORRECTED PIPE FILLUP: 1190.217

TOTAL BARRELS OF RECOVERY: 10.60 CORR. BARRELS OF RECOVERY: 13.165 BBL

BARRELS IN DRILL PIPE: 8.63 API GRAVITY: 35

BARRELS IN WEIGHT PIPE: 0.00 FLUID GRADIENT: 0.368

BARRELS IN DRILL COLLARS: 1.97

GAS OIL RATIO: 5.12 CU.FT/BBL

BUBBLE POINT PRESSURE: 49

UNCORRECTED INITIAL PRODUCTION: 254.45 BBL

INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: 315.96 BBL/DAY

INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE: 114.904

INITIAL SLOPE 212.09 PSI/CYCL FINAL SLOPE 146.56 PSI/CYCLE

INITIAL P* 759.22 PSI FINAL P* 753.12 PSI

TRANSMISSIBILITY 350.53 (MD.-FT./CP.)

PERMEABILITY 658.30 (MD.)

INDICATED FLOW CAPACITY 2633.22 (MD.FT)

PRODUCTIVITY INDEX 0.40 (BARREL/DAY/PSI)

DAMAGE RATIO 0.39

RADIUS OF INVESTIGATION 198.74 (FT.)

POTENTIOMETRIC SURFACE 388.48 (FT.)

DRAWDOWN FACTOR 0.804 (%)

INITIAL FLOW

DST # 1

RECORDER 24174

TIME(MIN)	PRESSURE	<>
		PRESSURE
0	173.3	173.3
3	186.1	12.8
6	229.3	43.2
9	248.2	18.9
12	265.7	17.5
15	280.9	15.2
18	293.1	12.2
21	304.5	11.4
24	311.3	6.8
27	321.2	9.9
30	328.1	6.9

FINAL FLOW

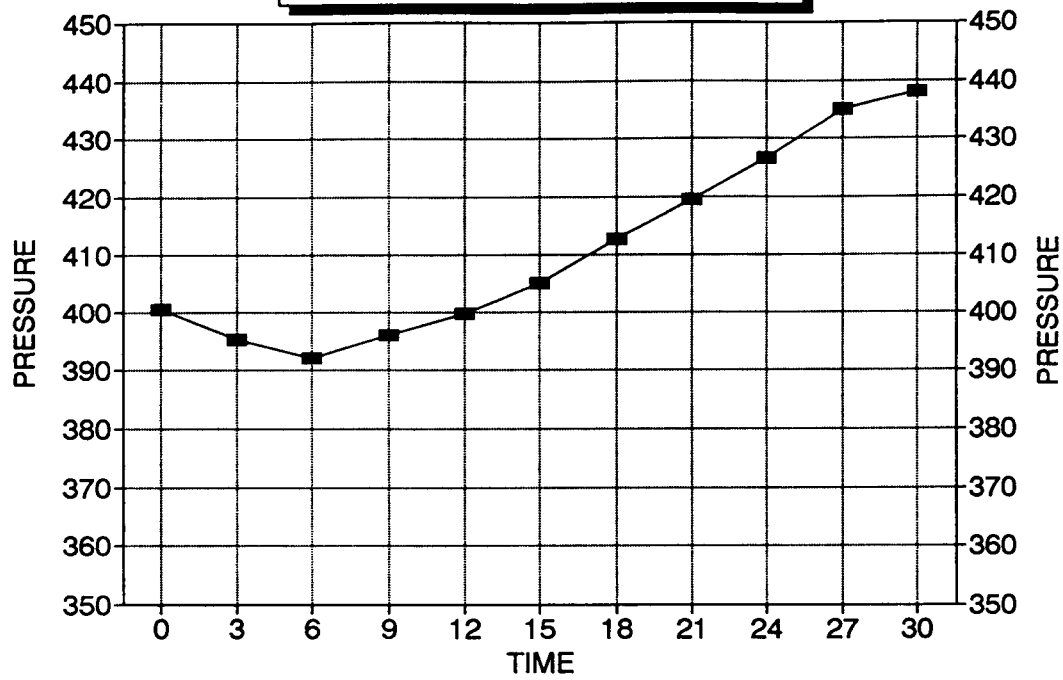
DST # 1

RECORDER 24174

TIME(MIN)	PRESSURE	<>
		PRESSURE
0	400.6	400.6
3	395.2	-5.3
6	392.2	-3.1
9	396.0	3.8
12	399.8	3.8
15	405.1	5.3
18	412.8	7.6
21	419.7	6.9
24	426.5	6.9
27	434.9	8.4
30	438.0	3.1

DELTA T DELTA P

FINAL FLOW / DST #1



INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:

114.904

INITIAL SHUT-IN

LUCILLE #1

DST # 1

INITIAL FLOW TIME 30

SLOPE 212.1 PSI/CYCLE
P* 759.22 PSI

	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	559.5	1.041	559.5	11
	6	606.9	0.778	47.4	6
	9	629.8	0.637	22.9	4
	12	645.0	0.544	15.3	4
X	15	658.0	0.477	13.0	3
	18	665.7	0.426	7.6	3
	21	674.1	0.385	8.4	2
	24	681.7	0.352	7.6	2
	27	688.6	0.325	6.9	2
	30	693.9	0.301	5.3	2
	33	698.5	0.281	4.6	2
	36	702.3	0.263	3.8	2
	39	705.3	0.248	3.0	2
	42	708.4	0.234	3.0	2
X	45	712.2	0.222	3.8	2

FINAL SHUT-IN

LUCILLE #1

DST # 1

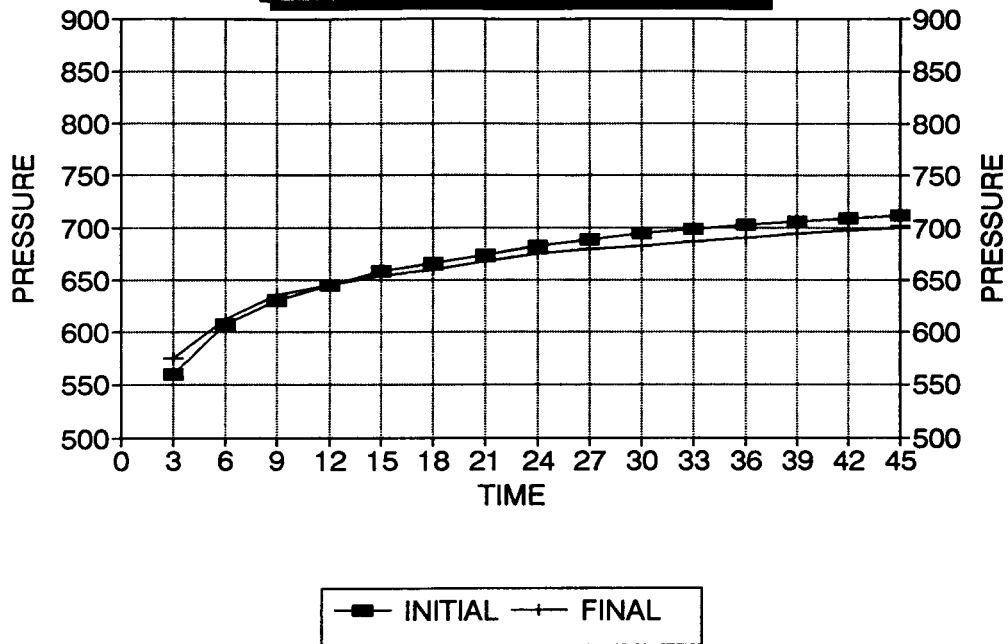
TOTAL FLOW TIME 60

SLOPE 146.6 PSI/CYCLE
P* 753.12 PSI

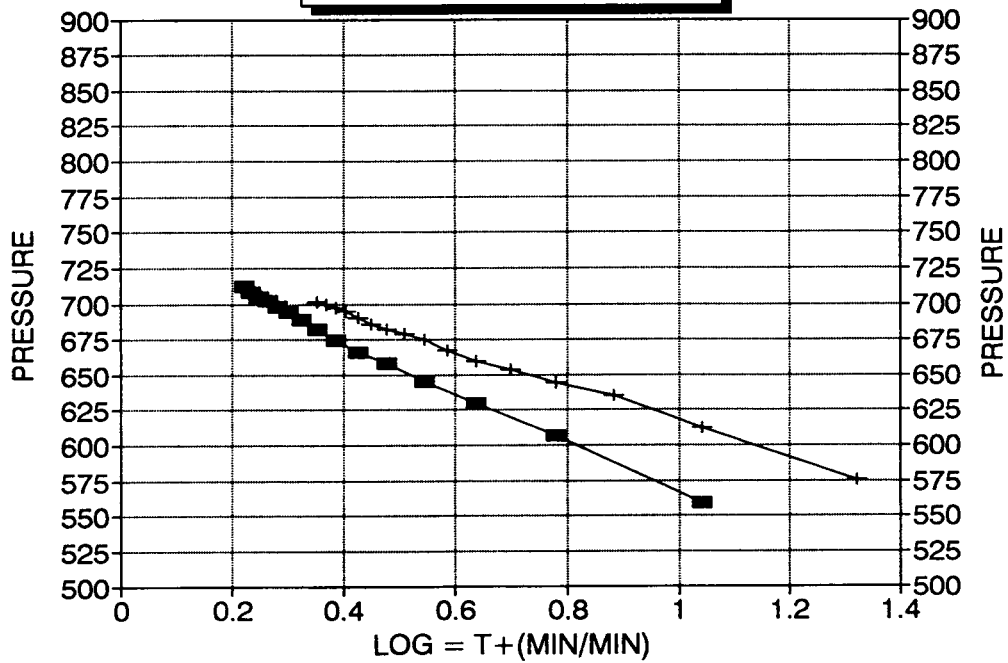
	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	575.6	1.322	575.6	21
	6	612.2	1.041	36.7	11
	9	635.1	0.885	22.9	8
	12	644.3	0.778	9.2	6
	15	653.4	0.699	9.2	5
	18	659.6	0.637	6.1	4
	21	667.2	0.586	7.6	4
	24	674.8	0.544	7.6	4
X	27	678.6	0.508	3.8	3
	30	681.7	0.477	3.1	3
	33	685.5	0.450	3.8	3
	36	690.1	0.426	4.6	3
	39	694.6	0.405	4.6	3
	42	697.7	0.385	3.0	2
	45	700.0	0.368	2.3	2
X	48	701.5	0.352	1.5	2

DELTA T DELTA P

LUCILLE #1 / DST #1



HORNER PLOT



CALCULATED RECOVERY ANALYSIS

DST # 1

TICKET # 7624

SAMPLE #	TOTAL FEET	GAS %	GAS FEET	OIL %	OIL FEET	WATER %	WATER FEET	MUD %	MUD FEET
DRILL PIPE 1	680	100	680		0		0		0
2	15		0		0		0	100	15
3	60		0	25	15		0	75	45
4	225	30	67.5	40	90		0	30	67.5
5	307	10	30.7	90	276.3		0		0
6			0		0		0		0
WEIGHT PIPE 1			0		0		0		0
2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
DRL COLLAR 1	343	10	34.3	90	308.7		0		0
2	60	5	3	65	39		0	30	18
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	1690		0		0		0		0

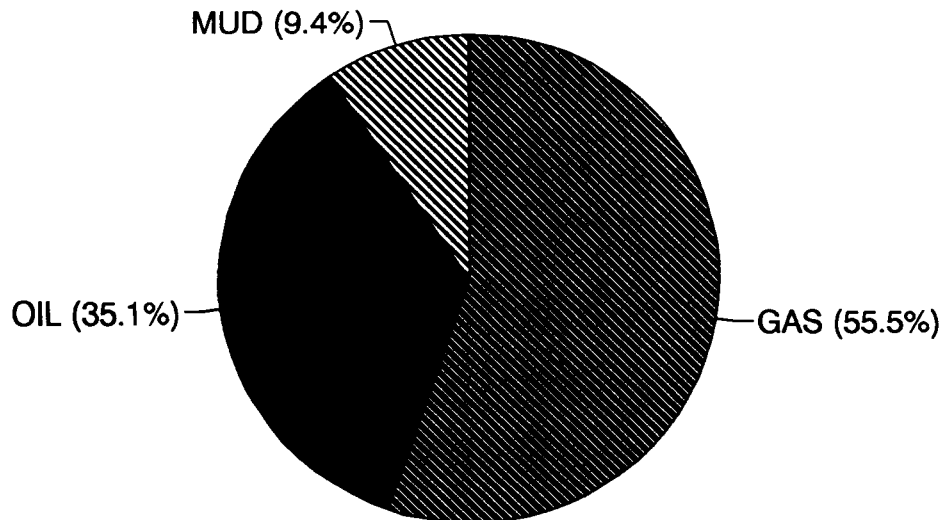
HRS OPEN BBL/DAY

BBL OIL= 7.122339 * 1.5 113.957424

BBL WATER= 0 * 0

BBL MUD= 1.90107

BBL GAS = 11.248401



WELL NAME Lucille DST # 1 RECORDER # 24174

INIT. HYD. MUD. 2.433 FINAL HYD. MUD 2.359

INITIAL FLOW MINUTES <u>30</u> INTERVAL	INITIAL SHUTIN MINUTES <u>45</u> INTERVAL	FINAL FLOW MINUTES <u>30</u> INTERVAL	FINAL SHUTIN MINUTES <u>45</u> INTERVAL
<u>.232</u>	<u>—</u>	1 <u>.531</u>	<u>—</u>
<u>.249</u>	<u>.739</u>	2 <u>.524</u>	<u>.760</u>
<u>.306</u>	<u>.801</u>	3 <u>.520</u>	<u>.808</u>
<u>.331</u>	<u>.831</u>	4 <u>.525</u>	<u>.838</u>
<u>.354</u>	<u>.851</u>	5 <u>.530</u>	<u>.850</u>
<u>.374</u>	<u>.868</u>	6 <u>.537</u>	<u>.862</u>
<u>.390</u>	<u>.878</u>	7 <u>.547</u>	<u>.870</u>
<u>.405</u>	<u>.889</u>	8 <u>.556</u>	<u>.880</u>
<u>.414</u>	<u>.899</u>	9 <u>.565</u>	<u>.890</u>
<u>.427</u>	<u>.908</u>	10 <u>.576</u>	<u>.895</u>
<u>.436</u>	<u>.915</u>	11 <u>.580</u>	<u>.899</u>
	<u>.921</u>	12	<u>.904</u>
	<u>.926</u>	13	<u>.910</u>
	<u>.930</u>	14	<u>.916</u>
	<u>.934</u>	15	<u>.920</u>
	<u>.939</u>	16	<u>.923</u>
		17	<u>.925</u>
		18	
		19	
		20	
		21	
		22	
		23	
		24	
		25	
		26	
		27	

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LUCILLE #1 Test No. 2 Date 11/17/94
Company HESS OIL COMPANY Zone LKC 'H-K'
Address PO BOX 1089 MCPHERSON KS 67460 Elevation 2317
Co. Rep./Geo. GERALD HONAS Cont. MURFIN #2 Est. Ft. of Pay _____
Location: Sec. 26 Twp. 11S Rge. 21W Co. TREGO State KS

Interval Tested	<u>3717-3802</u>	Drill Pipe Size	<u>4.5" XH</u>
Anchor Length	<u>85</u>	Wt. Pipe I.D. - 2.7 Ft. Run	_____
Top Packer Depth	<u>3712</u>	Drill Collar - 2.25 Ft. Run	<u>403</u>
Bottom Packer Depth	<u>3717</u>	Mud Wt.	<u>9.3</u> lb/Gal.
Total Depth	<u>3802</u>	Viscosity	<u>45</u>
		Filtrate	<u>8.8</u>

Tool Open @ 5:31PM Initial Blow VERY WEAK SURFACE BLOW THROUGHOUT

Final Blow VERY WEAK SURFACE BLOW
(HAD LOOSE HAMMER UNION ON FLOOR MANIFOLD)

Recovery - Total Feet 360 Flush Tool? _____

Rec. <u>30</u>	Feet of	<u>OIL CUT MUD 20%OIL-80%MUD</u>
Rec. <u>120</u>	Feet of	<u>HEAVY OIL CUT MUD 30%OIL-70%MUD</u>
Rec. <u>150</u>	Feet of	<u>MUD CUT OIL 50%OIL-50%MUD</u>
Rec. <u>60</u>	Feet of	<u>GASSY MUD CUT OIL 10%GAS/50%OIL/40%MUD</u>
Rec. _____	Feet of	_____

BHT 106 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 1967.9 PSI AK1 Recorder No. 22150 Range 3925

(B) First Initial Flow Pressure 107.1 PSI @ (depth) 3787 w / Clock No. 22340

(C) First Final Flow Pressure 141.7 PSI AK1 Recorder No. 24174 Range 3050

(D) Initial Shut-in Pressure 1123.9 PSI @ (depth) 3798 w / Clock No. 22336

(E) Second Initial Flow Pressure 192.9 PSI AK1 Recorder No. _____ Range _____

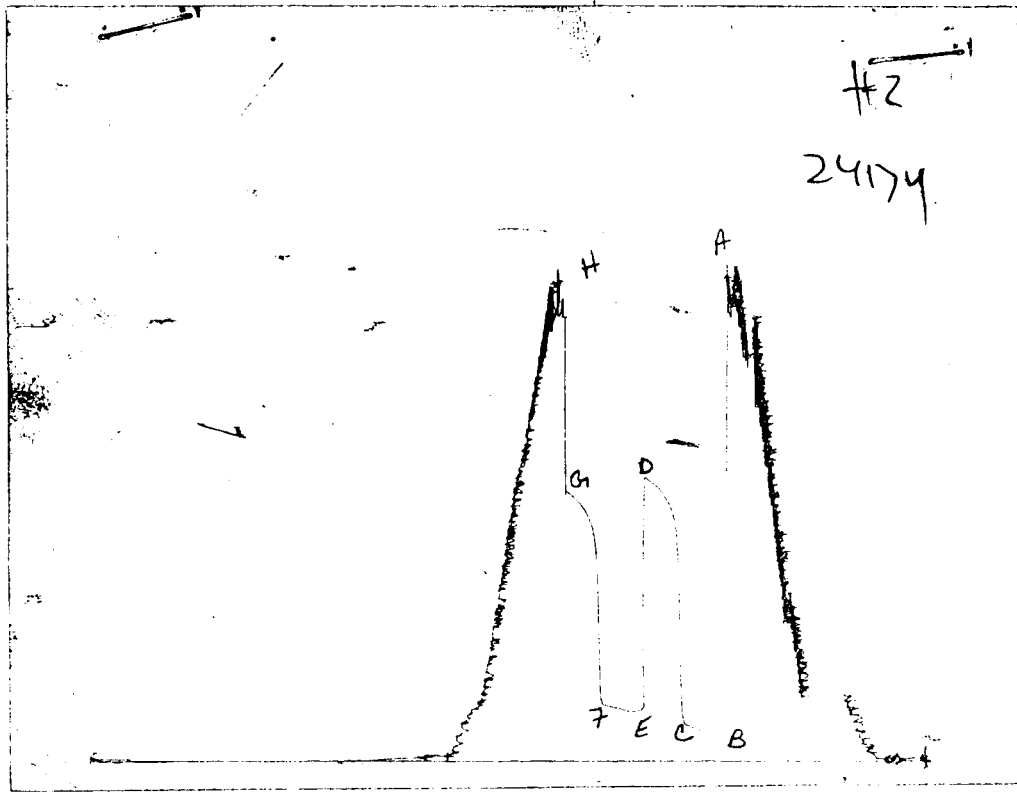
(F) Second Final Flow Pressure 220.2 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1068.8 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 1839.5 PSI Initial Shut-in 30 Final Shut-in 30

Our Representative PAUL SIMPSON

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1965	1967.9
(B) FIRST INITIAL FLOW PRESSURE	97	107.1
(C) FIRST FINAL FLOW PRESSURE	142	141.7
(D) INITIAL CLOSED-IN PRESSURE	1115	1123.9
(E) SECOND INITIAL FLOW PRESSURE	187	192.9
(F) SECOND FINAL FLOW PRESSURE	206	220.2
(G) FINAL CLOSED-IN PRESSURE	1062	1068.8
(H) FINAL HYDROSTATIC MUD	1834	1839.5

INITIAL FLOW

DST # 2

RECORDER 24174

TIME(MIN)	PRESSURE	<> PRESSURE
0	107.1	107.1
3	102.6	-4.5
6	99.6	-3.0
9	99.6	0.0
12	105.6	6.0
15	111.6	6.0
18	116.9	5.2
21	122.1	5.3
24	128.1	6.0
27	134.9	6.8
30	141.7	6.8

FINAL FLOW

DST # 2

RECORDER 24174

TIME(MIN)	PRESSURE	<> PRESSURE
0	192.9	192.9
3	192.9	0.0
6	192.9	0.0
9	198.2	5.3
12	204.3	6.1
15	208.8	4.5
18	212.6	3.8
21	215.6	3.0
24	218.7	3.0
27	220.2	1.5

INITIAL SHUT-IN

LUCILLE #1

DST # 2

INITIAL FLOW TIME 30

SLOPE 320.0 PSI/CYCLE
P* 1220.20 PSI

	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	730.5	1.041	730.5	11
X	6	971.2	0.778	240.8	6
	9	1011.3	0.637	40.1	4
	12	1040.8	0.544	29.5	4
	15	1064.2	0.477	23.4	3
	18	1082.3	0.426	18.1	3
	21	1095.2	0.385	12.8	2
	24	1106.5	0.352	11.3	2
	27	1118.6	0.325	12.1	2
X	30	1123.9	0.301	5.3	2

FINAL SHUT-IN

LUCILLE #1

DST # 2

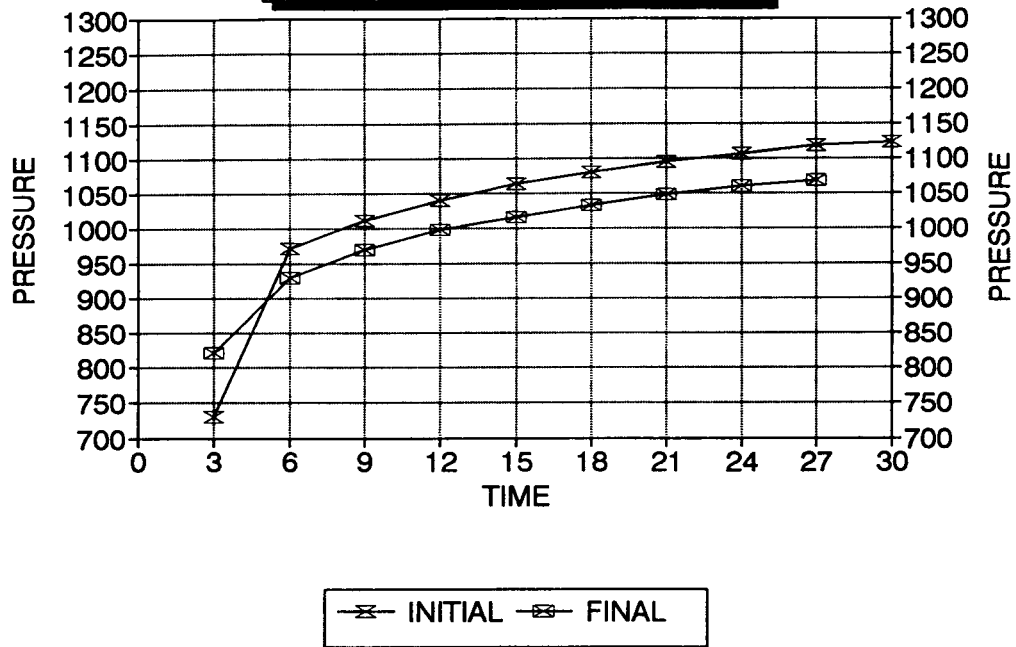
TOTAL FLOW TIME 60

SLOPE 261.1 PSI/CYCLE
P* 1201.42 PSI

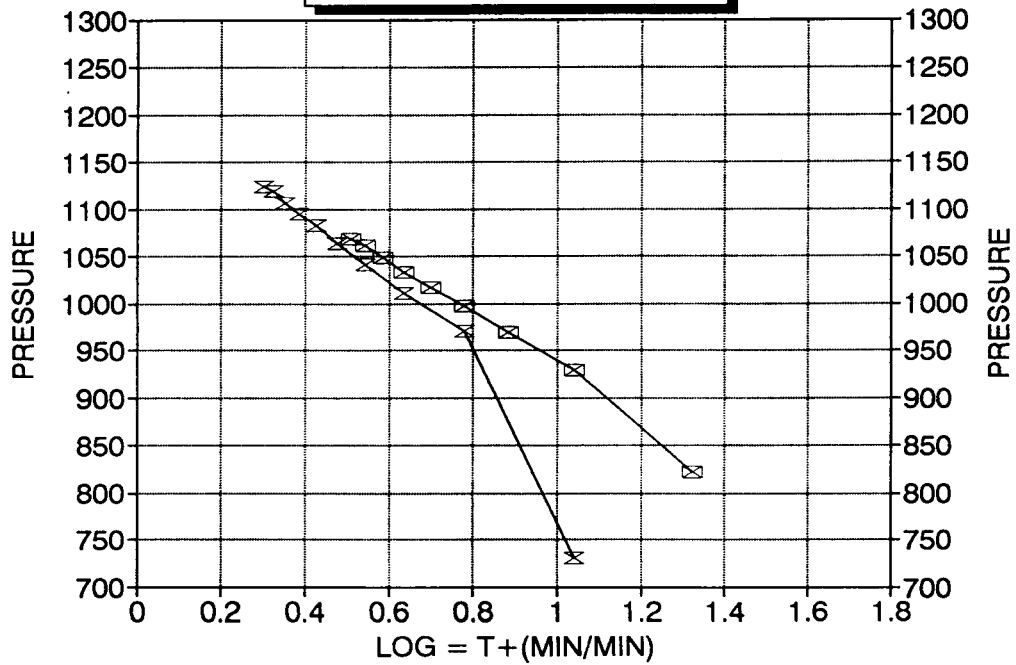
	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	822.5	1.322	822.5	21
X	6	929.5	1.041	107.0	11
	9	969.7	0.885	40.1	8
	12	997.7	0.778	28.0	6
	15	1016.6	0.699	18.9	5
	18	1033.2	0.637	16.6	4
	21	1048.4	0.586	15.1	4
	24	1062.0	0.544	13.6	4
X	27	1068.8	0.508	6.8	3

DELTA T DELTA P

LUCILLE #1 / DST #2



HORNER PLOT



CALCULATED RECOVERY ANALYSIS

DRILL COLLARS

DST #

2

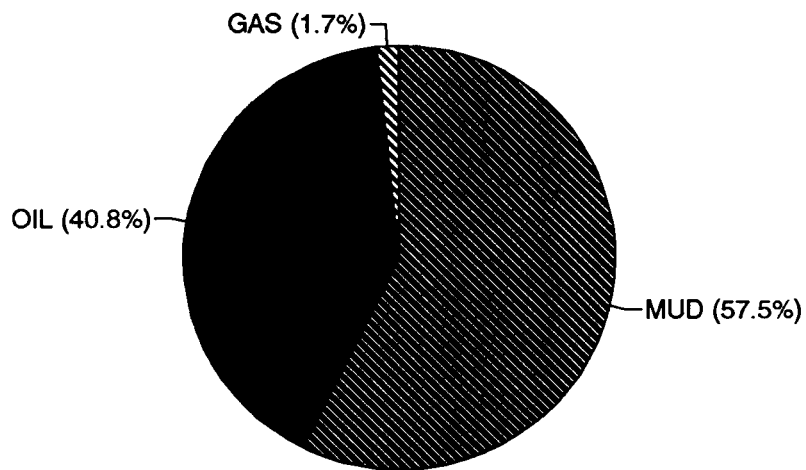
TICKET #

7625

SAMPLE	TOTAL	GAS		OIL		WATER		MUD	
#	FEET	%	FEET	%	FEET	%	FEET	%	FEET
1	30		0	20	6	0	0	80	24
2	120		0	30	36	0	0	70	84
3	150		0	50	75		0	50	75
4	60	10	6	50	30		0	40	24
5			0		0		0		0
TOTAL	360	1.67	6	40.83	147	0.00	0	57.5	207

HRS OPEN BBL/DAY

BBL OIL= 0.71883 * 1 17.25192
 BBL WATER= 0 * 0
 BBL MUD= 1.01223
 BBL GAS= 0.02934



WELL NAME _____ DST # _____ RECORDER # _____

INIT. HYD. MUD. _____

FINAL HYD. MUD _____

INITIAL FLOW MINUTES INTERVAL	INITIAL SHUTIN MINUTES INTERVAL	INITIAL SHUTIN MINUTES INTERVAL	FINAL FLOW MINUTES INTERVAL	FINAL SHUTIN MINUTES INTERVAL
.144	107.1	—	1 .258	192.9
.138		.963	2 .258	1.084
.134		1.280	3 .258	1.225
.134		1.333	4 .265	1.278
.142		1.372	5 .273	1.315
.150		1.403	6 .279	1.340
.157		1.427	7 .284	1.362
.164		1.444	8 .288	1.382
.172		1.459	9 .292	1.400
.181		1.475	10 .294	220.2
.190	141.7	1.482	11	1.409
		1123.9	12	1068.8
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LUCILLE #1 Test No. 3 Date 11/18/94
Company HESS OIL COMPANY Zone ARB
Address PO BOX 1089, MCPHERSON, KS 67460 Elevation 2317
Co. Rep./Geo. GERALD HONAS Cont. MURFIN DRILLING #21 Est. Ft. of Pay 5
Location: Sec. 26 Twp. 11S Rge. 21W Co. TREGO State KS

Interval Tested <u>3885-3900</u>	Drill Pipe Size <u>4.5" XH</u>
Anchor Length <u>15</u>	Wt. Pipe I.D. - 2.7 Ft. Run <u> </u>
Top Packer Depth <u>3880</u>	Drill Collar - 2.25 Ft. Run <u>403</u>
Bottom Packer Depth <u>3885</u>	Mud Wt. <u>9.4</u> lb/Gal.
Total Depth <u>3900</u>	Viscosity <u>49</u> Filtrate <u>9.2</u>

Tool Open @ 12:15 PM Initial Blow STRONG BLOW. BOTTOM OF BUCKET IN 13 MINUTES.
BLOW BACK BUILT UP TO 1/2".
Final Blow 1" BLOW BUILDING TO BOTTOM OF BUCKET IN 13 MINUTES

Recovery - Total Feet 800 Flush Tool? NO

Rec. <u>90</u>	Feet of <u>GAS IN PIPE</u>
Rec. <u>710</u>	Feet of <u>CLEAN GASSY OIL.</u>
Rec. <u>90</u>	Feet of <u>MUD CUT OIL. 60% OIL; 40% MUD.</u>
Rec. <u> </u>	Feet of <u> </u>
Rec. <u> </u>	Feet of <u> </u>

BHT 122 °F Gravity 37 °API @ 70 °F Corrected Gravity 36 °API
RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud 2017.3 PSI AK1 Recorder No. 22150 Range 3925

(B) First Initial Flow Pressure 78.5 PSI @ (depth) 3887 w / Clock No. 22336

(C) First Final Flow Pressure 186.8 PSI AK1 Recorder No. 24174 Range 3050

(D) Initial Shut-in Pressure 1008.8 PSI @ (depth) 3894 w / Clock No. 23839

(E) Second Initial Flow Pressure 244.3 PSI AK1 Recorder No. Range

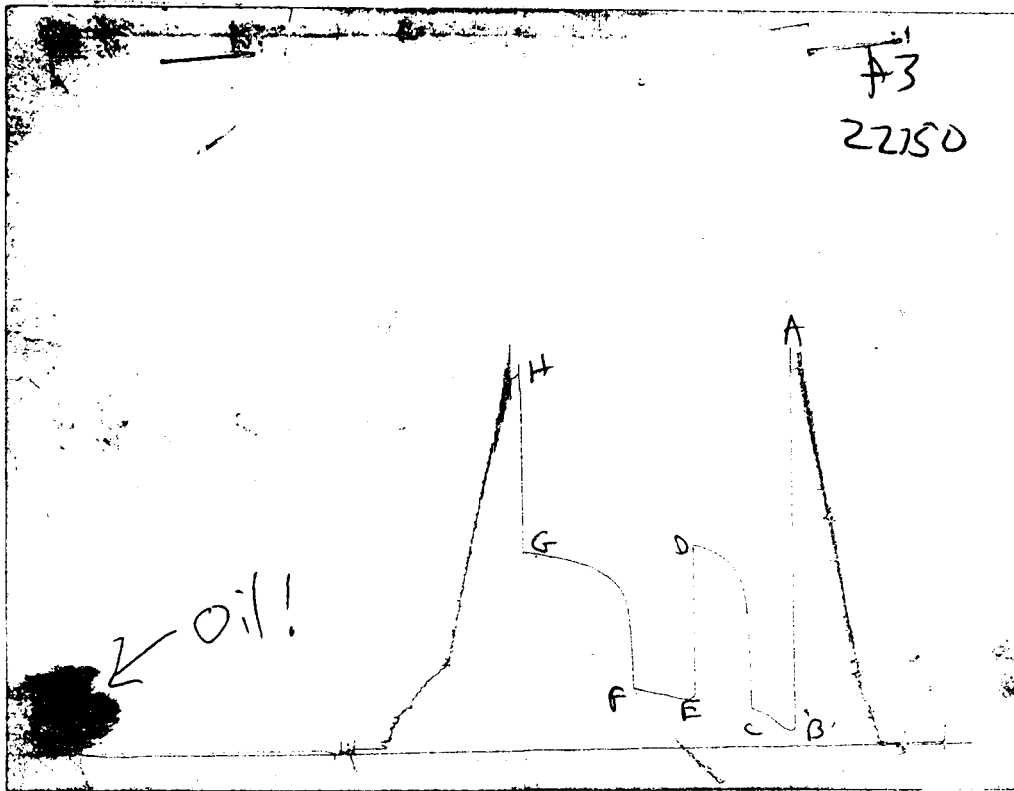
(F) Second Final Flow Pressure 294.1 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 984.5 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1941.0 PSI Initial Shut-in 45 Final Shut-in 75

Our Representative PAUL SIMPSON

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2020	2017.3
(B) FIRST INITIAL FLOW PRESSURE	67	78.5
(C) FIRST FINAL FLOW PRESSURE	182	186.8
(D) INITIAL CLOSED-IN PRESSURE	1012	1008.8
(E) SECOND INITIAL FLOW PRESSURE	239	244.3
(F) SECOND FINAL FLOW PRESSURE	287	294.1
(G) FINAL CLOSED-IN PRESSURE	992	984.5
(H) FINAL HYDROSTATIC MUD	1970	1941.0

COMPUTER OIL EVALUATION BY TRILOBITE TESTING, L.L.C.

HESS OIL COMPANY

LUCILLE #1

DST 3

26

11S

21W

TREGO KS

ELEVATION: 2317 KB EST. PAY 5 FT

DATUM: -1571 ZONE TESTED: LKC 'H-K'

TEST INTERVAL: 3717-3802 TIME INTERVALS: 30-45-45-75

RECORDER DEPTH: 3887 VISCOSITY: 8.87 CP

BOTTOM HOLE TEMP: 106 HOLE SIZE: 7.875 IN

CUBIC FEET OF GAS IN PIPE: 7

TOTAL FEET OF RECOVERY: 360.00 CORRECTED PIPE FILLUP: 601.639

TOTAL BARRELS OF RECOVERY: 1.76 CORR. BARRELS OF RECOVERY: 5.197 BBL

BARRELS IN DRILL PIPE: 0.00 API GRAVITY: 36

BARRELS IN WEIGHT PIPE: 0.00 FLUID GRADIENT: 0.366

BARRELS IN DRILL COLLARS: 1.76

GAS OIL RATIO: 4.08 CU.FT/BBL

BUBBLE POINT PRESSURE: 39

UNCORRECTED INITIAL PRODUCTION: 33.80 BBL

INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: 99.77 BBL/DAY

INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE: 34.402

INITIAL SLOPE 966.95 PSI/CYCL FINAL SLOPE 410.30 PSI/CYCLE

INITIAL P* 1194.35 PSI FINAL P* 1080.89 PSI

TRANSMISSIBILITY 39.54 (MD.-FT./CP.)

PERMEABILITY 70.17 (MD.)

INDICATED FLOW CAPACITY 350.86 (MD.FT)

PRODUCTIVITY INDEX 0.04 (BARREL/DAY/PSI)

DAMAGE RATIO 0.38

RADIUS OF INVESTIGATION 72.55 (FT.)

POTENTIOMETRIC SURFACE 936.59 (FT.)

DRAWDOWN FACTOR 9.499 (%)

INITIAL FLOW

DST # 3

RECORDER 22150

TIME(MIN)	PRESSURE	<>
		PRESSURE
0	74.7	74.7
3	76.6	1.9
6	95.8	19.2
9	108.2	12.5
12	126.4	18.2
15	137.9	11.5
18	152.3	14.4
21	157.1	4.8
24	160.9	3.8
27	170.5	9.6
30	181.0	10.5

FINAL FLOW

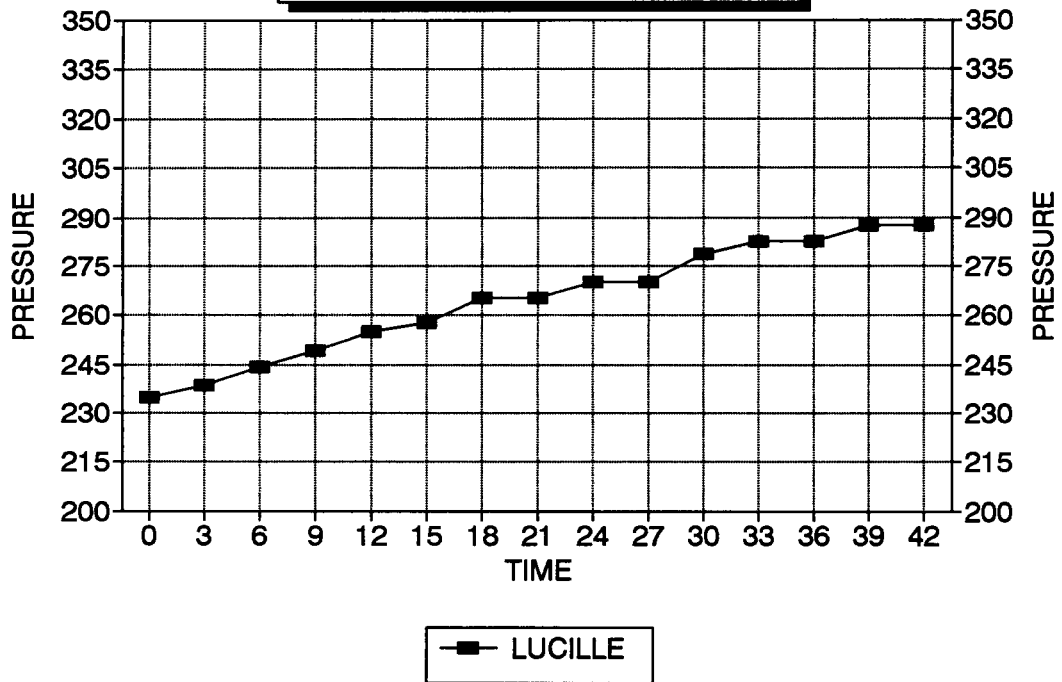
DST # 3

RECORDER 22150

TIME(MIN)	PRESSURE	<>
		PRESSURE
0	234.7	0.2
3	238.5	3.8
6	244.3	5.7
9	249.0	4.8
12	254.8	5.7
15	257.7	2.9
18	265.3	7.7
21	265.3	0.0
24	270.1	4.8
27	270.1	0.0
30	278.7	8.6
33	282.6	3.8
36	282.6	0.0
39	287.4	4.8
42	287.4	0.0
45	1000.1	712.7
48	1000.1	0.0

DELTA T DELTA P

FINAL FLOW / DST #3



INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:

34.402

INITIAL SHUT-IN

LUCILLE #1

DST # 3

INITIAL FLOW TIME 30

SLOPE 966.9 PSI/CYCLE
P* 1194.35 PSI

	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	298.9	1.041	298.9	11
	6	474.1	0.778	175.2	6
	9	648.2	0.637	174.1	4
	12	791.7	0.544	143.5	4
	15	888.6	0.477	96.9	3
	18	897.3	0.426	8.7	3
	21	897.3	0.385	0.0	2
	24	924.4	0.352	27.1	2
	27	924.4	0.325	0.0	2
	30	934.1	0.301	9.7	2
	33	951.1	0.281	17.0	2
	36	957.4	0.263	6.3	2
	39	967.1	0.248	9.7	2
X	42	968.0	0.234	0.9	2
	45	987.4	0.222	19.4	2
	48	1000.1	0.211	12.7	2
X	51	1000.1	0.201	-0.0	2

FINAL SHUT-IN

LUCILLE #1

DST # 3

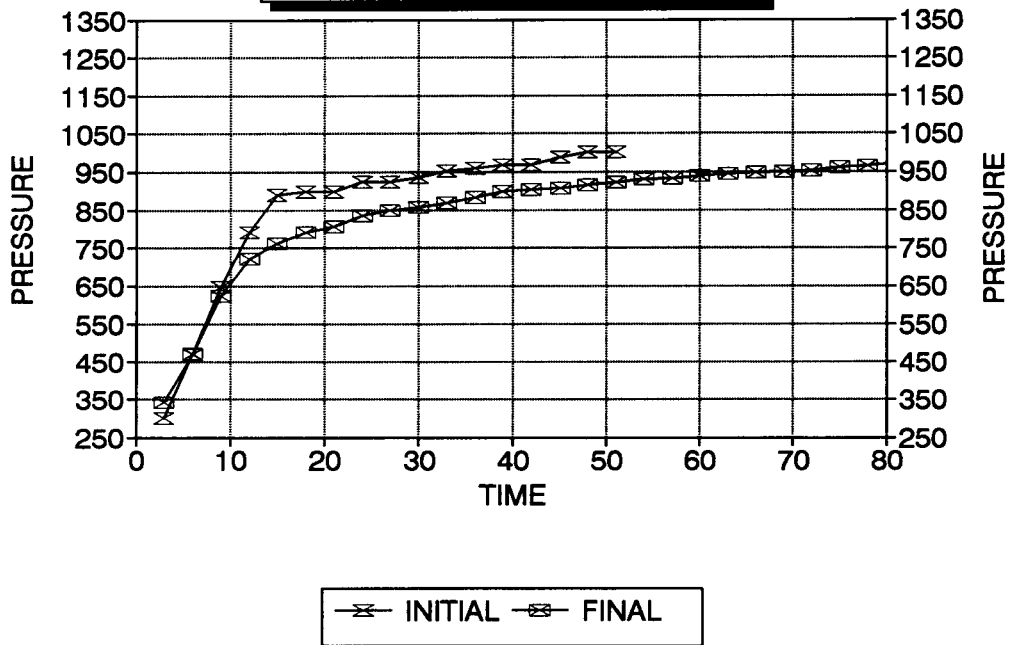
TOTAL FLOW TIME 75

SLOPE 410.3 PSI/CYCLE
P* 1080.89 PSI

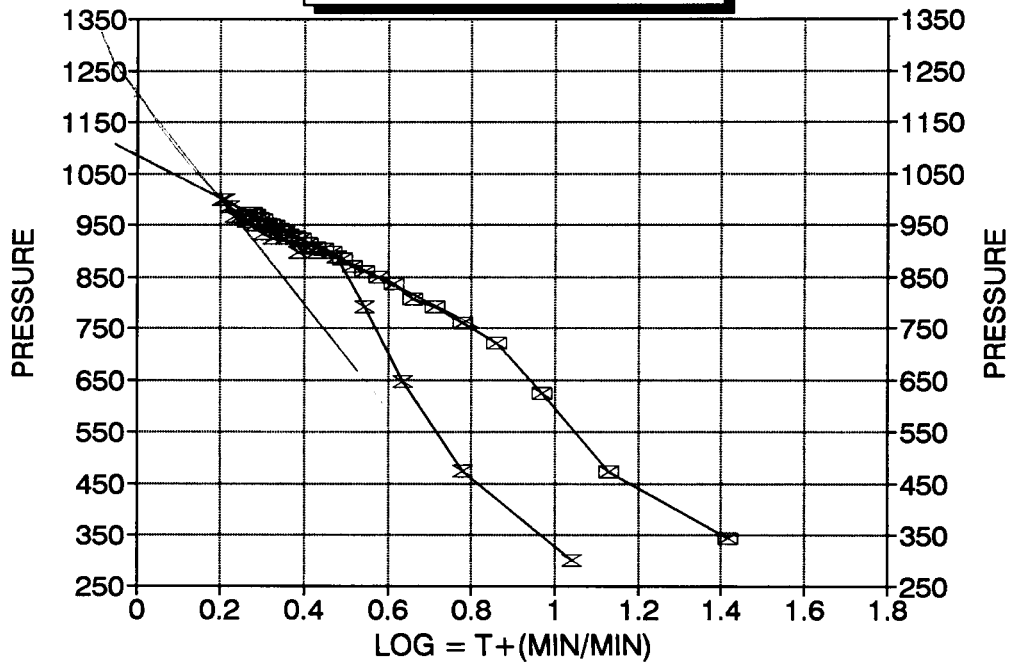
	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	342.9	1.415	342.9	26
	6	471.3	1.130	128.4	14
	9	624.0	0.970	152.7	9
	12	720.9	0.860	96.9	7
X	15	761.6	0.778	40.7	6
	18	793.6	0.713	32.0	5
	21	808.1	0.660	14.5	5
	24	836.2	0.615	28.1	4
	27	849.8	0.577	13.6	4
	30	859.5	0.544	9.7	4
	33	871.1	0.515	11.6	3
	36	884.7	0.489	13.6	3
	39	898.2	0.466	13.6	3
	42	905.0	0.445	6.8	3
	45	906.0	0.426	1.0	3
	48	914.7	0.409	8.7	3
	51	922.5	0.393	7.8	2
	54	928.3	0.378	5.8	2
	57	932.2	0.365	3.9	2
	60	938.0	0.352	5.8	2
	63	942.8	0.341	4.8	2
	66	947.7	0.330	4.8	2
	69	950.6	0.320	2.9	2
	72	952.5	0.310	1.9	2
	75	961.2	0.301	8.7	2
	78	963.2	0.293	1.9	2
	81	969.0	0.285	5.8	2
	84	972.9	0.277	3.9	2
	87	972.9	0.270	0.0	2
X	90	972.9	0.263	0.0	2

DELTA T DELTA P

LUCILLE #1 / DST #3



HORNER PLOT



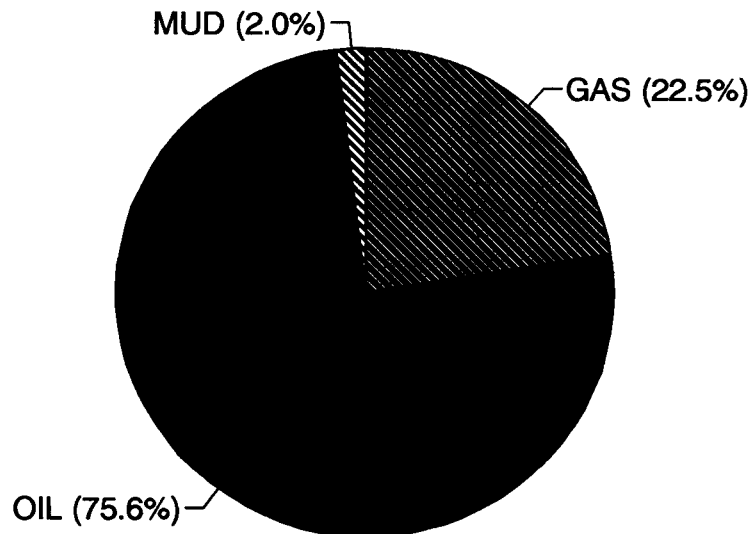
CALCULATED RECOVERY ANALYSIS

DST # 3

TICKET #

7801

SAMPLE		TOTAL	GAS		OIL		WATER		MUD	
#		FEET	%	FEET	%	FEET	%	FEET	%	FEET
DRILL PIPE	1	90	100	90		0		0		0
	2	397	10	39.7	90	357.3		0		0
	3			0		0		0		0
	4			0		0		0		0
	5			0		0		0		0
	6			0		0		0		0
WEIGHT PIPE	1			0		0		0		0
	2			0		0		0		0
	3			0		0		0		0
	4			0		0		0		0
DRL COLLAR	1	313	10	31.3	90	281.7		0		0
	2	90		0	60	54		0	40	36
	3			0		0		0		0
	4			0		0		0		0
	5			0		0		0		0
TOTAL		890		0		0		0		0
		HRS OPE		BBL/DAY						
BBL OIL=		6.722379	*	1.3	129.0696768					
BBL WATER=		0	*		0					
BBL MUD=		0.17604								
BBL GAS =		1.997391								



RECORDER # 22150

FINAL HYD. MUD 2.0

FINAL SHUTIN
MINUTES _____
INTERVAL _____

342.9	.358
471.3	.492
624.0	.650
700.0	.750
761.6	.792
793.6	.825
808.1	.840
836.2	.869
844.8	.873
877.1	.893
897.1	.905
905.1	.919
908.5	.933
908.0	.940
908.0	.941
914.7	.950
922.5	.958
928.3	.964
932.2	.968
938.0	.974
942.8	.979
947.7	.984
950.6	.987
952.5	.989
961.2	.998
963.2	1.00

072.4 1.010

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LUCILLE #1 Test No. 4 Date 11/19/94
Company HESS OIL COMPANY Zone ARB
Address PO BOX 1089, MCPHERSON, KS 67460 Elevation 2317
Co. Rep./Geo. GERALD HONAS Cont. MURFIN DRILLING #21 Est. Ft. of Pay 10
Location: Sec. 26 Twp. 11S Rge. 21W Co. TREGO State KS

Interval Tested 3900-3910 Drill Pipe Size 4.5" XH
Anchor Length 10 Wt. Pipe I.D. - 2.7 Ft. Run
Top Packer Depth 3895 Drill Collar - 2.25 Ft. Run
Bottom Packer Depth 3900 Mud Wt. 9.4 lb/Gal.
Total Depth 3910 Viscosity 48 Filtrate

Tool Open @ 4:35 AM Initial Blow STRONG BLOW. BOTTOM OF BUCKET IN 90 SECONDS.
BLOW BACK BUILT UP TO 1".
Final Blow STRONG BOTTOM OF BUCKET IN 2 MINUTES.

Recovery - Total Feet 2300 Flush Tool? NO

Rec. 2280 Feet of CLEAN GASSY OIL. 10% GAS; 90% OIL.
Rec. 20 Feet of MUDDY OIL. 60% OIL; 40% MUD.
Rec. Feet of REVERSED TO PIT.
Rec. Feet of
Rec. Feet of

BHT 123 °F Gravity 34 °API @ 40 °F Corrected Gravity 36 °API
RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud 1897.6 PSI AK1 Recorder No. 22150 Range 3925

(B) First Initial Flow Pressure 334.3 PSI @ (depth) 3902 w / Clock No. 22336

(C) First Final Flow Pressure 573.6 PSI AK1 Recorder No. Range

(D) Initial Shut-in Pressure 861.4 PSI @ (depth) w / Clock No.

(E) Second Initial Flow Pressure 657.0 PSI AK1 Recorder No. Range

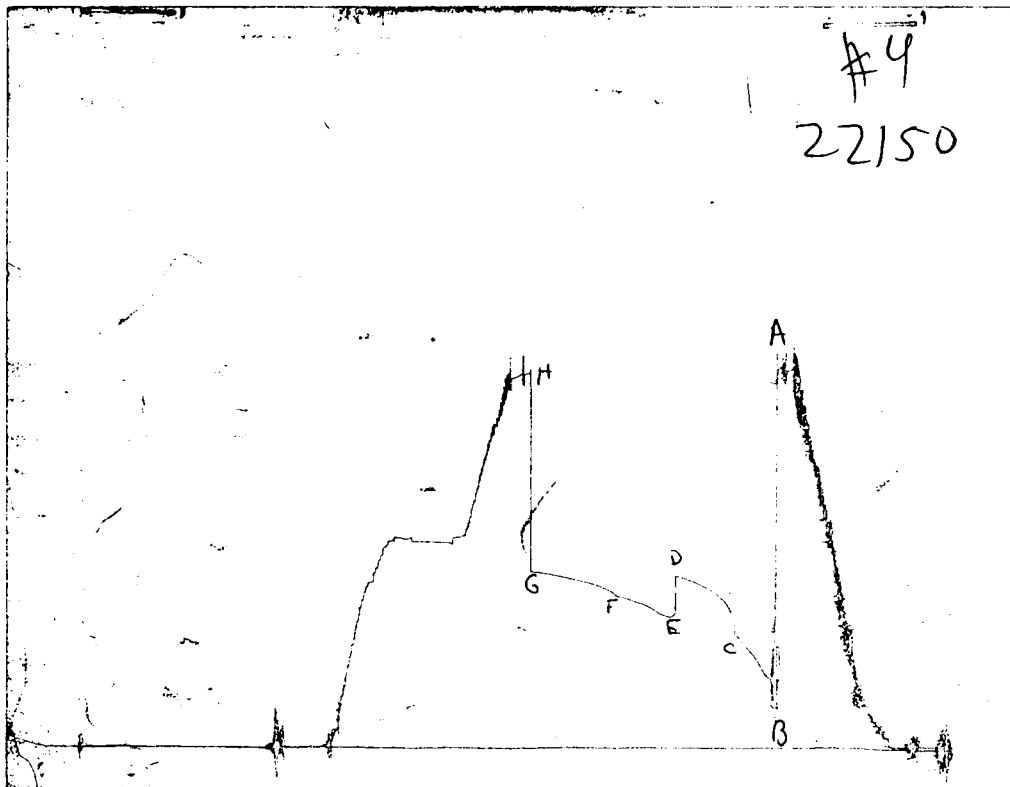
(F) Second Final Flow Pressure 764.5 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 882.7 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1891.7 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative PAUL SIMPSON

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1990	1897.6
(B) FIRST INITIAL FLOW PRESSURE	335	334.3
(C) FIRST FINAL FLOW PRESSURE	566	573.6
(D) INITIAL CLOSED-IN PRESSURE	856	861.4
(E) SECOND INITIAL FLOW PRESSURE	643	657.0
(F) SECOND FINAL FLOW PRESSURE	760	764.5
(G) FINAL CLOSED-IN PRESSURE	860	882.7
(H) FINAL HYDROSTATIC MUD	1911	1891.7