



HALLIBURTON SERVICES

TICKET NO. 53376900

24-JUL-87

LIBERAL

WELL LOG

FORMATION TESTING SERVICE REPORT

LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
ELLIS	1-31	1	5033.4 - 5085.0	DONALD C. SILKSON
LEGAL LOCATION	FIELD AREA	COUNTY	STATE	
SEC. - TWP. - RNG.	31-31S-40M	MORTON	KANSAS	DR

31-31-40M

PANL

07/20/87

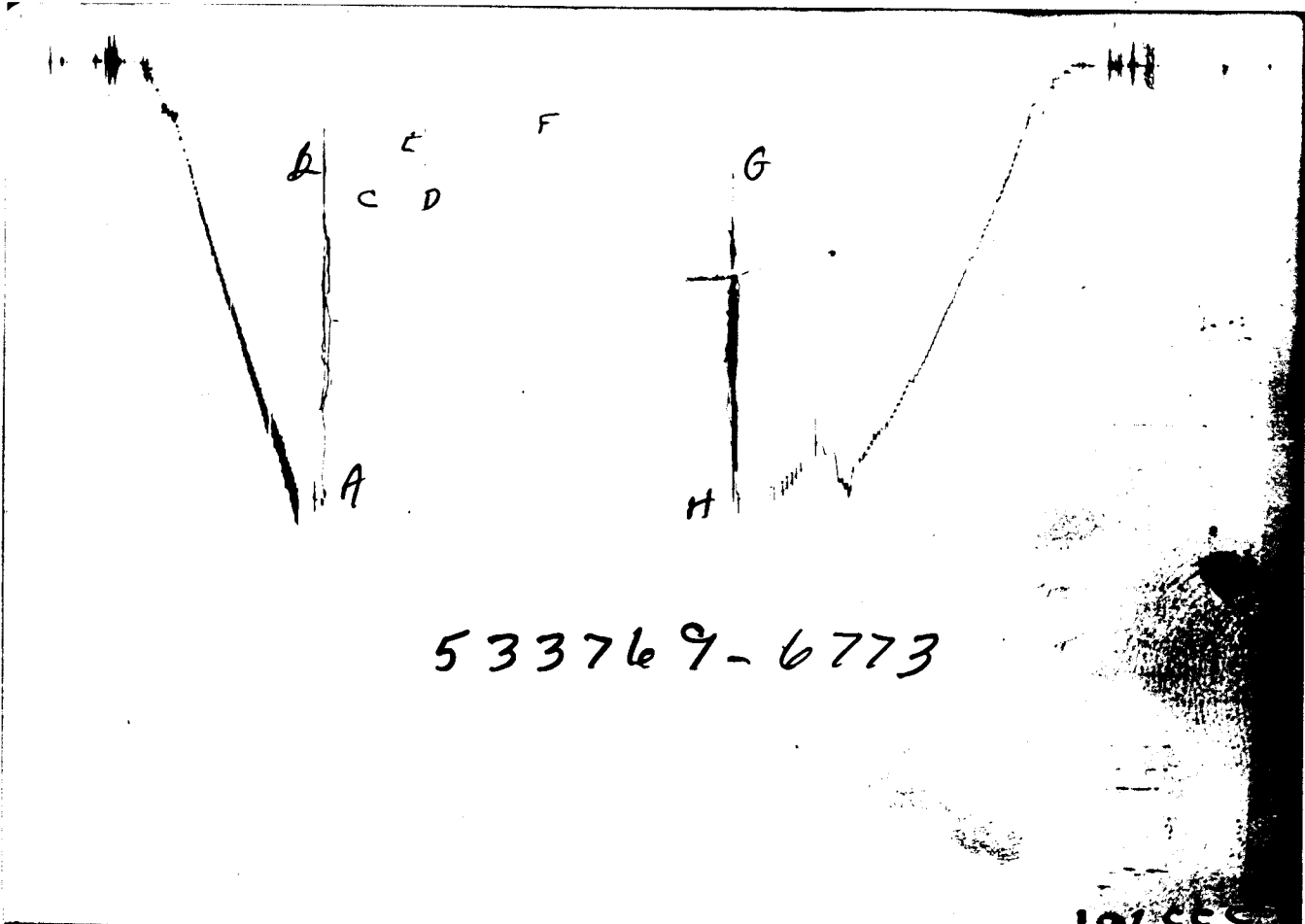
WELL IDENTIFICATION

DONALD SLAWSON
ELLIS 1-31
KANSAS
UPPER MORROW
5033-5085
7/18/87

DST#1

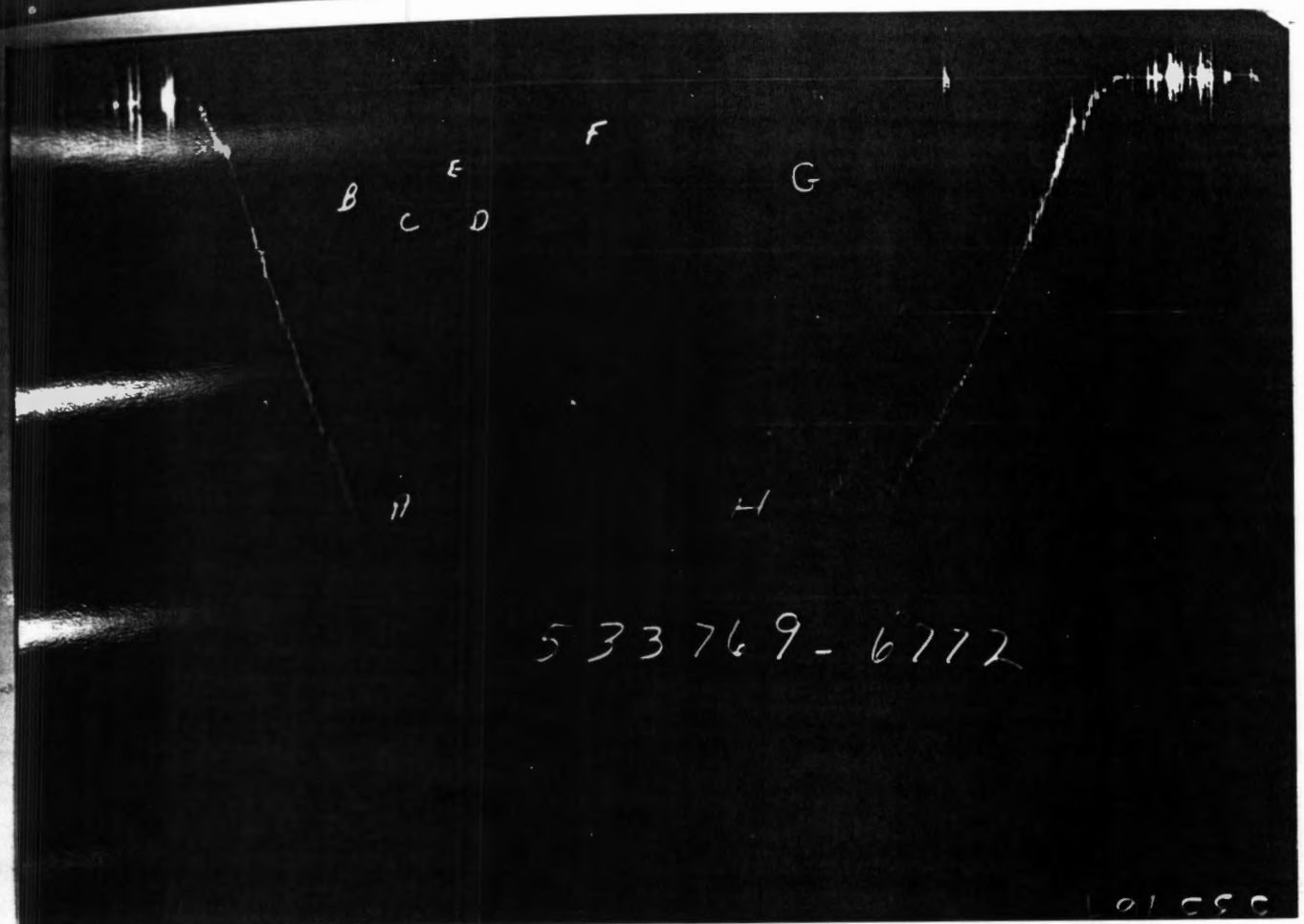
TEST INFORMATION

TEST TYPE	BUILD UP	
WELL TYPE	GAS	
FLOW TIME	1.5	HOURS
MAXIMUM TEST PRESSURE	616.9	PSI
BOTTOM HOLE TEMPERATURE	120.0	F
GAS GRAVITY	0.6500	
MOLE PERCENT OF IMPURITIES		
HYDROGEN SULFIDE	0.0	%
CARBON DIOXIDE	0.0	%
NITROGEN	0.0	%
CALCULATED VALUES		
PSEUDO-CRITICAL TEMPERATURE	370.26	R
PSEUDO-CRITICAL PRESSURE	671.44	PSIA
FOR HIGHEST PRESSURE		
Z FACTOR	0.923	
COMPRESSIBILITY	0.0017467	1/PSI
GAS VISCOSITY	0.012	CP
FOR AVERAGE PRESSURE		
Z FACTOR	0.934	
COMPRESSIBILITY	0.0020181	1/PSI
GAS VISCOSITY	0.012	CP



GAUGE NO: 6773 DEPTH: 5012.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2431	2425.8			
B	INITIAL FIRST FLOW	249	584.0			
C	FINAL FIRST FLOW	663	655.7	30.0	29.7	F
C	INITIAL FIRST CLOSED-IN	663	655.7			
D	FINAL FIRST CLOSED-IN	675	662.2	30.0	29.9	C
E	INITIAL SECOND FLOW	361	351.3			
F	FINAL SECOND FLOW	421	419.6	60.0	61.6	F
F	INITIAL SECOND CLOSED-IN	421	419.6			
G	FINAL SECOND CLOSED-IN	598	601.6	120.0	118.8	C
H	FINAL HYDROSTATIC	2431	2407.9			



GAUGE NO: 6772 DEPTH: 5082.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2464	2458.2			
B	INITIAL FIRST FLOW	506	629.4			
C	FINAL FIRST FLOW	698	696.6	30.0	29.7	F
C	INITIAL FIRST CLOSED-IN	698	696.6			
D	FINAL FIRST CLOSED-IN	698	699.4	30.0	29.9	C
E	INITIAL SECOND FLOW	444	429.9			
F	FINAL SECOND FLOW	438	435.1	60.0	61.6	F
F	INITIAL SECOND CLOSED-IN	438	435.1			
G	FINAL SECOND CLOSED-IN	620	611.1	120.0	118.8	C
H	FINAL HYDROSTATIC	2464	2443.5			

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER MORROW
 NET PAY (ft): 12.0
 GROSS TESTED FOOTAGE: 51.6
 ALL DEPTHS MEASURED FROM: KELLY BUSHING
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 7.875
 ELEVATION (ft): 3394.0 KELLY BUSHING
 TOTAL DEPTH (ft): 5085.0
 PACKER DEPTH(S) (ft): 5027. 5033
 FINAL SURFACE CHOKE (in): 0.62500
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 8.90
 MUD VISCOSITY (sec): 50
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 120 @ 5080.0 ft

TICKET NUMBER: 53376900
 DATE: 7-17-87 TEST NO: 1
 TYPE DST: OPEN HOLE
 HALLIBURTON CAMP: LIBERAL
 TESTER: JEFF CLARK
 WITNESS: BRAD NASH, M. HARPER
JACK RICHARDSON
 DRILLING CONTRACTOR: SLAWSON DRILLING #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u>0.770 @ 85 °F</u>	<u>4880 ppm</u>
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm

SAMPLER DATA

Psig AT SURFACE: 421.3
 cu.ft. OF GAS: 25.200
 cc OF OIL: _____
 cc OF WATER: _____
 cc OF MUD: _____
 TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 42.4 @ 60 °F
 GAS/OIL RATIO (cu.ft. per bbl): _____
 GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED :

APPROXIMATELY 4 BBLs. (660') OF LIVE OIL.
 125' OF GAS CUT MUD AND OIL; ALL REVERSED TO PIT.
 (RECOVERY WAS ESTIMATED DUE TO FLARING OF GAS AT PIT).

MEASURED FROM TESTER VALVE

REMARKS :

CHARTS INDICATE AND TESTER CONFIRMED THAT THE DUAL CIP VALVE WAS PLUGGED OFF DURING THE FIRST FLOW PERIOD; ESSENTIALLY NO FLOW FROM THE RESERVOIR OCCURRED.

CHOKE SIZE MEASURING DEVICE :

6" CHOKE

TICKET NO : 53376900

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
0857-87					
0900					CALLED OUT
0900					JOB READY
0945					ON LOCATION
					RIG TRIPPED OUT OF HOLE WITH
					BIT
0900					OUT OF HOLE
0910					STARTED PICKING UP TOOL
0950					TOOL MADE UP
					TRIPPED IN HOLE WITH DST #1
1139					TOOL ON BOTTOM
1140	1/4BH				OPENED TOOL WITH NO BLOW
1210					CLOSED TOOL
1240	1/4BH				OPENED TOOL WITH BLOW OFF
					BOTTOM OF BUCKET IN 20 SECONDS
1242					OPENED TO PIT
1243					GAS TO SURFACE
1248					TIGHTEN SWIVEL CONNECTION
1251					CLOSED IN MASTER VALVE TO
					REPLACE 1/4" NIPPLE
1253	.625				OPENED MASTER VALVE
1253	.625	235	2346.6		
1258		330	3295.2		
1303		335	3345.2		
1308		335	3345.2		
1313		330	3295.2		
1318		330	3295.2		
1323		330	3295.2		
1328		330	3295.2		
1333		330	3295.2		
1338		330	3295.2		
1340	.625	330	3295.2		CLOSED TOOL
1540					OPENED BYPASS
1543					RIGGED OFF SURFACE EQUIPMENT
					AND RIGGED UP SLAWSON WET PLUGS
1600					STAND BY 6 STANDS AND RIGGED UP
					TO REVERSE OUT TO PIT

WELL NO: 53376900
 NO: 13668 HOUR: 12



GAUGE NO: 6773
 DEPTH: 5012.0

MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
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FIRST FLOW

1	0.0	584.0		
2	5.0	598.2	14.2	
3	10.0	622.2	24.1	
4	15.0	639.2	16.9	
5	20.0	645.4	6.3	
6	25.0	652.0	6.5	
C 7	29.7	655.7	3.7	

FIRST CLOSED-IN

C 1	0.0	655.7			
2	1.0	660.0	4.3	1.0	1.490
3	2.0	661.2	5.6	1.9	1.197
4	3.0	661.5	5.8	2.7	1.036
5	4.0	661.5	5.8	3.5	0.925
6	5.0	662.5	6.8	4.3	0.844
7	6.0	662.5	6.8	5.0	0.777
8	7.0	662.5	6.8	5.7	0.721
9	8.0	662.5	6.8	6.3	0.674
10	9.0	662.5	6.8	6.9	0.635
11	10.0	662.5	6.8	7.5	0.599
12	12.0	662.5	6.8	8.6	0.540
13	14.0	662.5	6.8	9.5	0.494
14	16.0	662.5	6.8	10.4	0.455
15	18.0	662.5	6.8	11.2	0.424
16	20.0	662.5	6.8	12.0	0.395
17	22.0	662.5	6.8	12.7	0.371
18	24.0	662.5	6.8	13.3	0.350
19	26.0	662.5	6.8	13.9	0.331
D 20	28.0	662.5	6.8	14.4	0.314
D 21	29.9	662.2	6.5	14.9	0.300

SECOND FLOW

E 1	0.0	351.3		
1 2	1.2	399.4	48.1	
2 3	4.0	330.0	-69.4	
4	5.0	332.2	2.3	
5	10.0	371.3	39.0	
3 6	13.2	408.5	37.3	
7	15.0	417.6	9.0	
8	20.0	418.2	0.6	
9	25.0	418.2	0.0	
10	30.0	418.2	0.0	
11	35.0	418.2	0.0	
12	40.0	418.9	0.7	
13	45.0	418.9	0.0	
14	50.0	418.9	0.0	
15	55.0	418.9	0.0	

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
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SECOND FLOW - CONTINUED

F 16	61.6	419.6	0.7		
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SECOND CLOSED-IN

F 1	0.0	419.6			
2	1.0	569.0	149.4	1.0	1.961
3	2.0	577.4	157.8	1.9	1.671
4	3.0	581.1	161.5	2.9	1.495
5	4.0	583.6	164.1	3.9	1.375
6	5.0	586.1	166.5	4.7	1.288
7	6.0	587.5	167.9	5.6	1.212
8	7.0	588.9	169.3	6.5	1.145
9	8.0	589.5	169.9	7.3	1.096
10	9.0	590.2	170.6	8.2	1.049
11	10.0	590.8	171.2	9.1	1.004
12	12.0	591.2	171.6	10.6	0.935
13	14.0	592.6	173.0	12.1	0.877
14	16.0	593.5	173.9	13.6	0.826
15	18.0	593.5	173.9	15.1	0.783
16	20.0	594.7	175.1	16.4	0.745
17	22.0	594.7	175.1	17.7	0.712
18	24.0	594.7	175.1	19.0	0.682
19	26.0	594.7	175.1	20.3	0.654
20	28.0	594.7	175.1	21.4	0.630
21	30.0	595.6	176.0	22.6	0.607
22	35.0	596.2	176.6	25.3	0.557
23	40.0	596.2	176.6	27.8	0.516
24	45.0	597.0	177.4	30.1	0.481
25	50.0	597.9	178.3	32.3	0.451
26	55.0	598.2	178.6	34.3	0.425
27	60.0	598.4	178.8	36.2	0.402
28	70.0	599.1	179.6	39.6	0.363
29	80.0	599.1	179.6	42.6	0.331
30	90.0	599.7	180.1	45.3	0.304
31	100.0	599.7	180.1	47.7	0.282
32	110.0	599.7	180.1	49.9	0.262
G 33	118.8	601.6	182.0	51.6	0.248

LEGEND:
 UNEXPLAINED PRESSURE CHANGE MINIMUM FLOW PRESSURE POSSIBLE CHOKER CHANGE

REMARKS:

TICKET NO: 53376900
 CLOCK NO: 10432 HOUR: 12



GAUGE NO: 6772
 DEPTH: 5082.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B	1	0.0	629.4		
	2	5.0	643.0	13.6	
	3	10.0	667.5	24.5	
	4	15.0	683.7	16.2	
	5	20.0	688.8	5.1	
	6	25.0	693.2	4.4	
C	7	29.7	696.6	3.4	
FIRST CLOSED-IN					
C	1	0.0	696.6		
	2	1.0	700.8	4.2	1.0 1.478
	3	2.0	702.0	5.4	1.9 1.201
	4	3.0	702.4	5.8	2.7 1.039
	5	4.0	702.4	5.8	3.5 0.929
	6	5.0	702.9	6.3	4.3 0.844
	7	6.0	702.9	6.3	5.0 0.772
	8	7.0	703.2	6.6	5.6 0.722
	9	8.0	703.2	6.6	6.3 0.672
	10	9.0	703.2	6.6	6.9 0.634
	11	10.0	702.4	5.8	7.5 0.600
	12	12.0	702.4	5.8	8.5 0.542
	13	14.0	702.4	5.8	9.5 0.494
	14	16.0	702.4	5.8	10.4 0.455
	15	18.0	702.4	5.8	11.2 0.424
	16	20.0	701.0	4.4	12.0 0.395
	17	22.0	701.0	4.4	12.6 0.371
	18	24.0	700.5	3.9	13.3 0.350
	19	25.0	699.9	3.4	13.9 0.331
	20	28.0	699.9	3.4	14.4 0.314
D	21	29.9	699.4	2.8	14.9 0.300
SECOND FLOW					
E	1	0.0	429.9		
1	2	1.2	453.1	23.3	
2	3	4.0	346.0	-107.1	
	4	5.0	353.4	7.4	
	5	10.0	393.0	39.6	
3	6	13.2	433.3	40.3	
	7	15.0	435.7	2.4	
	8	20.0	434.5	-1.2	
	9	25.0	434.5	0.0	
	10	30.0	434.5	0.0	
	11	35.0	434.5	0.0	
	12	40.0	434.5	0.0	
	13	45.0	434.5	0.0	
	14	50.0	434.5	0.0	
	15	55.0	434.5	0.0	

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	log
SECOND FLOW - CONTINUED					
F	16	61.6	435.1	0.6	
SECOND CLOSED-IN					
F	1	0.0	435.1		
	2	1.0	587.1	152.1	1.0 1
	3	2.0	591.8	156.7	2.0 1
	4	3.0	594.6	159.5	2.9 1
	5	4.0	596.9	161.8	3.8 1
	6	5.0	598.1	163.0	4.8 1
	7	6.0	599.4	164.3	5.6 1
	8	7.0	599.4	164.3	6.5 1
	9	8.0	599.7	164.6	7.4 1
	10	9.0	600.4	165.3	8.2 1
	11	10.1	601.7	166.7	9.1 1
	12	12.0	602.6	167.5	10.6 0
	13	14.0	603.5	168.4	12.1 0
	14	16.0	603.5	168.4	13.6 0
	15	18.0	604.1	169.0	15.1 0
	16	20.0	604.1	169.0	16.4 0
	17	22.0	604.8	169.7	17.7 0
	18	24.0	604.9	169.9	19.0 0
	19	26.0	605.5	170.5	20.2 0
	20	28.0	606.0	170.9	21.4 0
	21	30.0	606.0	170.9	22.6 0
	22	35.0	606.6	171.5	25.3 0
	23	40.0	607.0	171.9	27.8 0
	24	45.0	607.0	171.9	30.1 0
	25	50.0	608.0	172.9	32.3 0
	26	55.0	608.5	173.4	34.3 0
	27	60.0	608.5	173.4	36.2 0
	28	70.0	609.2	174.1	39.6 0
	29	80.0	609.2	174.1	42.6 C
	30	90.0	610.6	175.6	45.3 C
	31	100.0	610.6	175.6	47.7 C
	32	110.0	610.6	175.6	49.9 C
G	33	118.8	611.1	176.0	51.6 C

LEGEND:
 UNEXPLAINED PRESSURE CHANGE MINIMUM FLOW PRESSURE POSSIBLE CHOKE CHANGE

REMARKS:

1.5
1.6
1.4
1.3
1.2
1.2
1.1
1.05
1.04
1.00
0.93
0.87
0.82
0.78
0.74
0.71
0.68
0.65
0.62
0.60
0.55
0.51
0.48
0.45
0.42
0.40
0.36
0.33
0.30
0.28
0.26
0.24



	O.D.	I.D.	LENGTH	DEPTH
DRILL PIPE.....	4.500	3.826	4412.8	
DRILL COLLARS.....	6.000	2.250	451.0	
IMPACT REVERSING SUB.....	6.000	2.500	1.0	4863.0
DRILL COLLARS.....	6.000	2.250	124.0	
CROSSOVER.....	6.000	2.500	1.0	
BUMPER SUB.....	6.000	1.500	6.8	4996.0
HANDLING SUB & CHOKE ASSEMBLY...	4.500	3.826	4.0	
DUAL CIP SAMPLER.....	5.000	0.750	6.8	
HYDROSPRING TESTER.....	5.000	0.750	5.0	5010.0
AP RUNNING CASE.....	5.000	2.250	4.0	5012.0
JAR.....	5.000	1.750	5.0	
VR SAFETY JOINT.....	5.000	1.000	3.0	
OPEN HDLE PACKER.....	6.750	1.580	6.0	5027.4
OPEN HOLE PACKER.....	6.750	1.580	6.0	5033.4
FLUSH JOINT ANCHOR.....	5.000	2.370	5.0	
CROSSOVER.....	6.000	2.500	1.0	
DRILL COLLARS.....	6.000	2.250	31.6	
CROSSOVER.....	6.000	2.500	1.0	
CROSSOVER.....	6.000	2.500	1.0	
FLUSH JOINT ANCHOR.....	5.000	2.370	5.0	
HT-500 TEMPERATURE CASE.....	5.000		1.0	5080.0
BLANKED-OFF RUNNING CASE.....	5.000		4.0	5082.0

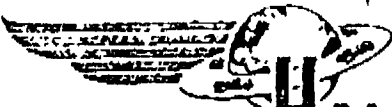
TOTAL DEPTH 5085.0

EQUIPMENT DATA

CHART BREAKDOWN - 5 min. increments

by VON PARKEY

DATE: 7/18/87



HALLIBURTON SERVICES c Liberal, Ks



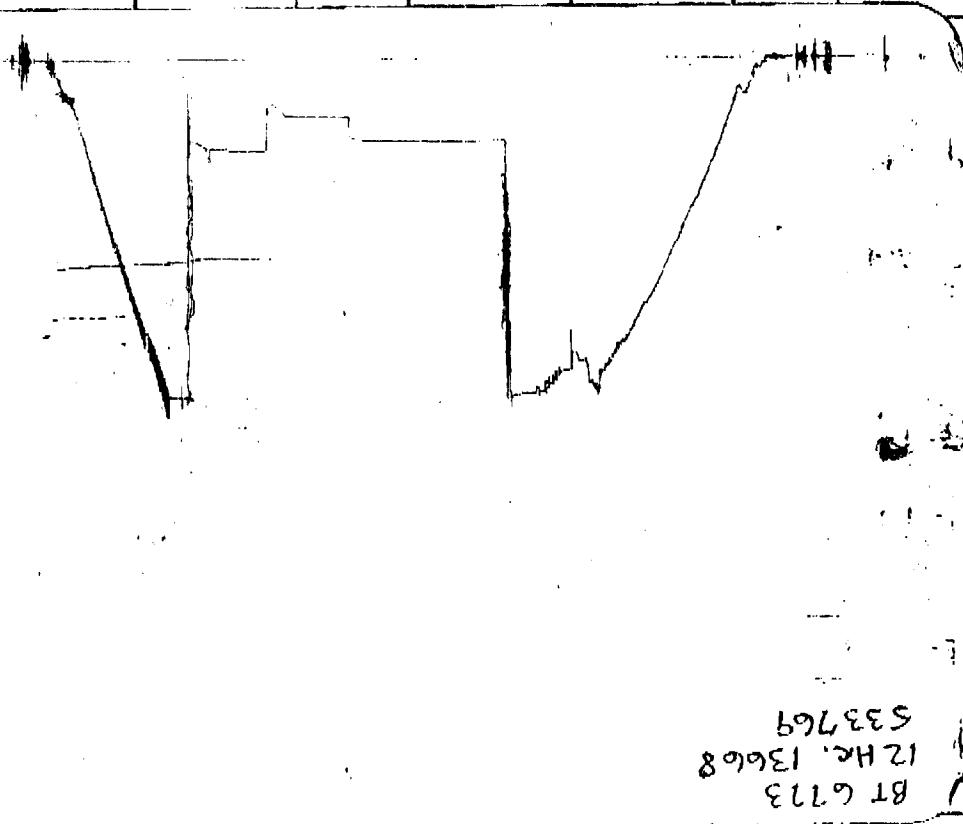
Donald C. Slawson

LEASE: Ellis

WELL #: 1-31 DST#: 1 TICKET #: 533769

INTERVAL: 5033'-85' TESTER VALVE DEPTH: GAUGE DEPTH: 5083' GAUGE #: 6772

30 mins.		30 mins.			61 mins.			119 mins.		
Flow		1st Closed In			2nd Flow			2nd Closed In		
Press. Defl. Inches	Press. PSI	Time Defl. Inch	Press. Defl. Inches	Press. PSI	Time Defl. Inch	Press. Defl. Inches	Press. PSI	Time Defl. Inch	Press. Defl. Inches	Press. PSI
.432	634.2	0	.480	704.1	0	.296	435.3	0	.388	570.0
.442	648.7	5	.484	710.0	5	.244	358.9	5	.412	605.0
.458	672.1	10	.484	710.0	10	.274	403.0	10	.414	607.7
.470	689.6	15	.484	710.0	15	.300	441.2	15	.416	610.8
.474	695.4	20	.484	710.0	20	.300	"	20	.416	610.8
.476	698.3	25	.483	708.5	25	.300	"	25	.417	612.3
.480	704.1	30	.482	707.0	30	.300	"	30	.418	613.8
					35	"	"	35	"	"
					40	"	"	40	"	"
					45	"	"	45	"	"
					50	"	"	50	"	"
					55	"	"	55	"	"
					60	"	"	60	.419	615.3
					61	"	"	65	"	"
								70	"	"
								75	"	"
								80	.420	616.7
								85	"	"
								90	"	"
								95	"	"
								100	"	"
								105	"	"
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								115	"	"
								119	"	"



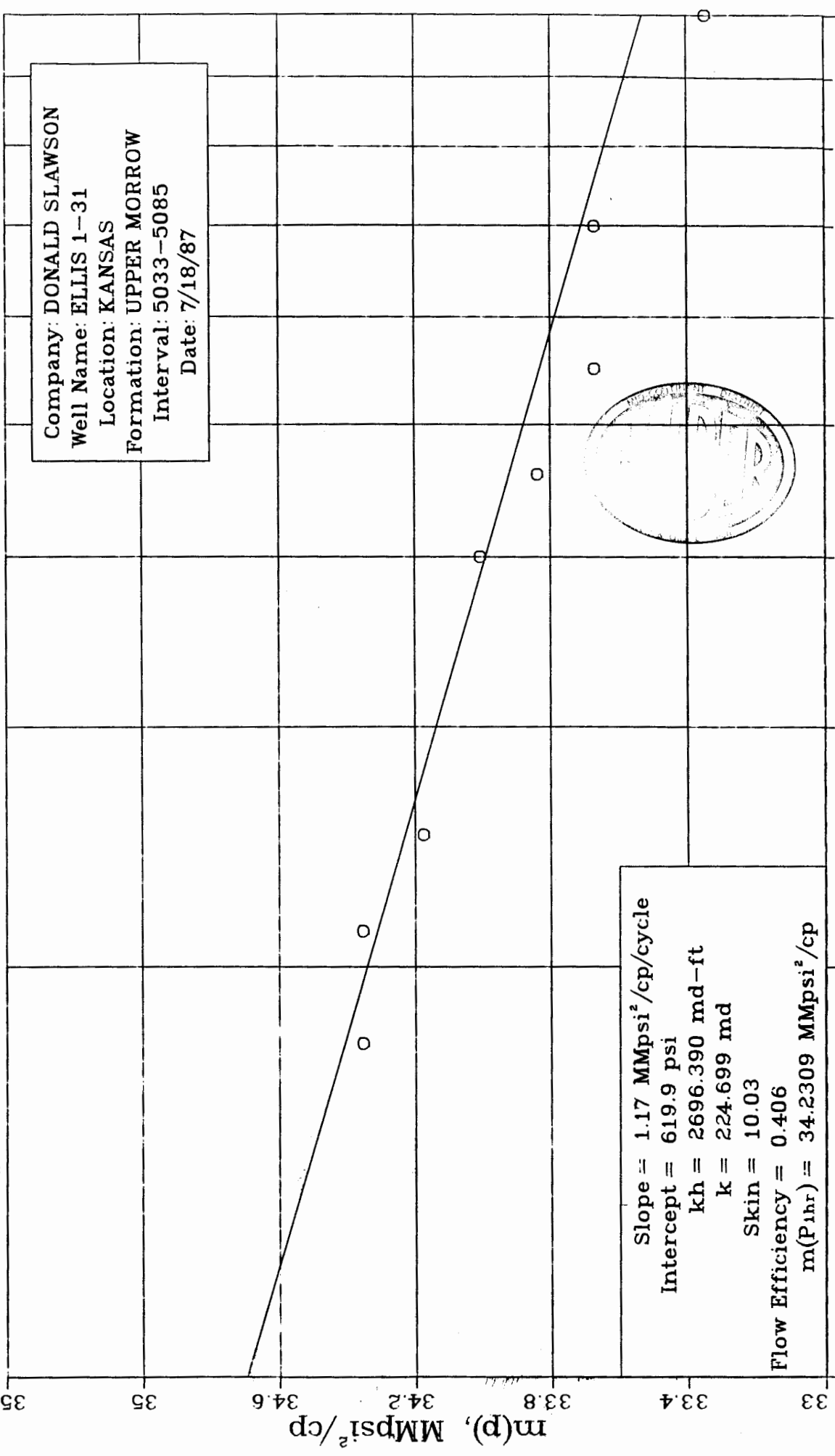
3.2952 MMCFD

4 BBL OIL
125' GCO
h=12'

Hydrostatic: 2470 psi Final Hydrostatic: 2455.6 psi Temp.: 119 °F

End Points = 2.125 4.000 Viscosity = 0.012 cp Porosity = 0.15
 Gas Flow Rate = 3.295 MMCF/D Compressibility = 1.80×10^{-3} 1/psi Net Pay = 12. feet
 Bottom Hole Temperature = 125.° F Well Bore Radius = 0.33 feet

Company: DONALD SLAWSON
 Well Name: ELLIS 1-31
 Location: KANSAS
 Formation: UPPER MORROW
 Interval: 5033-5085
 Date: 7/18/87



Slope = 1.17 MMpsi²/cp/cycle
 Intercept = 619.9 psi
 kh = 2696.390 md-ft
 k = 224.699 md
 Skin = 10.03
 Flow Efficiency = 0.406
 m(P_{1hr}) = 34.2309 MMpsi²/cp

(t+Δt)/Δt

DST
 ELLIS 1-31

NOMENCLATURE

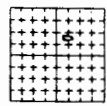
HALIBURTON
 REPORT

- B = Formation Volume Factor (Res Vol/Stc)
- c_t = System Total Compressibility (Vol/Vol)/psi
- DR = Damage Ratio
- h = Estimated Net Pay Thickness Ft
- k = Permeability md
- m { = (Liquid) Slope Extrapolated Pressure Plot psi/cycle
 = (Gas) Slope Extrapolated m(P) Plot MM psi²/cp/cycle
- m(P*) = Real Gas Potential at P* MM psi²/cp
- m(P_i) = Real Gas Potential at P_i MM psi²/cp
- AOF₁ = Maximum Indicated Absolute Open Flow at Test Conditions ... MCFD
- AOF₂ = Minimum Indicated Absolute Open Flow at Test Conditions MCFD
- P* = Extrapolated Static Pressure Psig
- P_f = Final Flow Pressure Psig
- Q = Liquid Production Rate During Test BPD
- Q₁ = Theoretical Liquid Production w/Damage Removed BPD
- Q_g = Measured Gas Production Rate MCFD
- r_i = Approximate Radius of Investigation Ft
- r_w = Radius of Well Bore Ft
- S = Skin Factor
- t = Total Flow Time Previous to Closed-in Minutes
- Δt = Closed-in Time at Data Point Minutes
- T = Temperature Rankine °R
- φ = Porosity (fraction)
- μ = Viscosity of Gas or Liquid cp
- Log = Common Log



Dst Report
Lawson
1-31 ELLIS

STATE KANS COUNTY MORTON RE-ISSUE 31-31S-40W
 FIELD KINSLER-3/4 MI SE PROD (MULTIPAY) N2 SW NE
 OPER SLAWSON DONALD C 3630FSL 1980FEL SEC
 WELL 1-31 ELLIS WELL CLASS WOE
 API 15-129-20877-0000 STATUS GAS
 SPUD 07/09/1987 COMP 08/31/1987
 DTD 5700 LTD FTD MISS P8TD



LOC 4 1/2 MI NE RICHFIELD, KS Petroleum Information Corporation

IP IPF 8 BOPD 1200 MCFD 3 BW GTY 42 NATURAL EL: 3344 KB 3338 GR
 PROD ZONE: MORROW 5032-5042
 (MORROW EXTENSION)

LOG TOPS:
 WOLFCAMPIAN 2178 +1166
 COUNCIL GROVE 2553 +791
 WABAUNSEE 2898 +446
 TOPEKA 3204 +140
 LANSING 3667 -323
 MARMATON 4342 -998
 MORROW 4944 -1600
 CHESTER 5438 -2094
 ST GENEVIEVE 5493 -2149
 ST LOUIS 5548 -2204
 TD 5700 -2356

CSGS: 8 5/8 @ 1620 W/ 435 SACKS
 4 1/2 @ 5486 W/ 430 SACKS

TBGS: 2 3/8 PKR @ 4944
 DRLG COMP 7/21/87 RIG REL 7/21/87

DSTS: DST 1 5034-5085 MORROW
 GAS TS IN 2M @ 3295 MCFD 2ND OP
 REC 282 FT OIL (GTY 42.4)
 1829 FT G&OCM 5 CC GCO
 INIT OP 30M IFP 249 FFP 663
 FINAL OP 1H IFP 361 FFP 421
 ISIP 675 30M FSIP 598 2H IHP 2431 FHP 2431

PERFS: MORROW PERF W/ 2/FT 5032-5042
 DID NOT TREAT

HP KS R10-041189 CONTINUED Copyright 1989 Petroleum Information Corporation





HALLIBURTON SERVICES

TICKET NO. 53376900

24-JUL-87

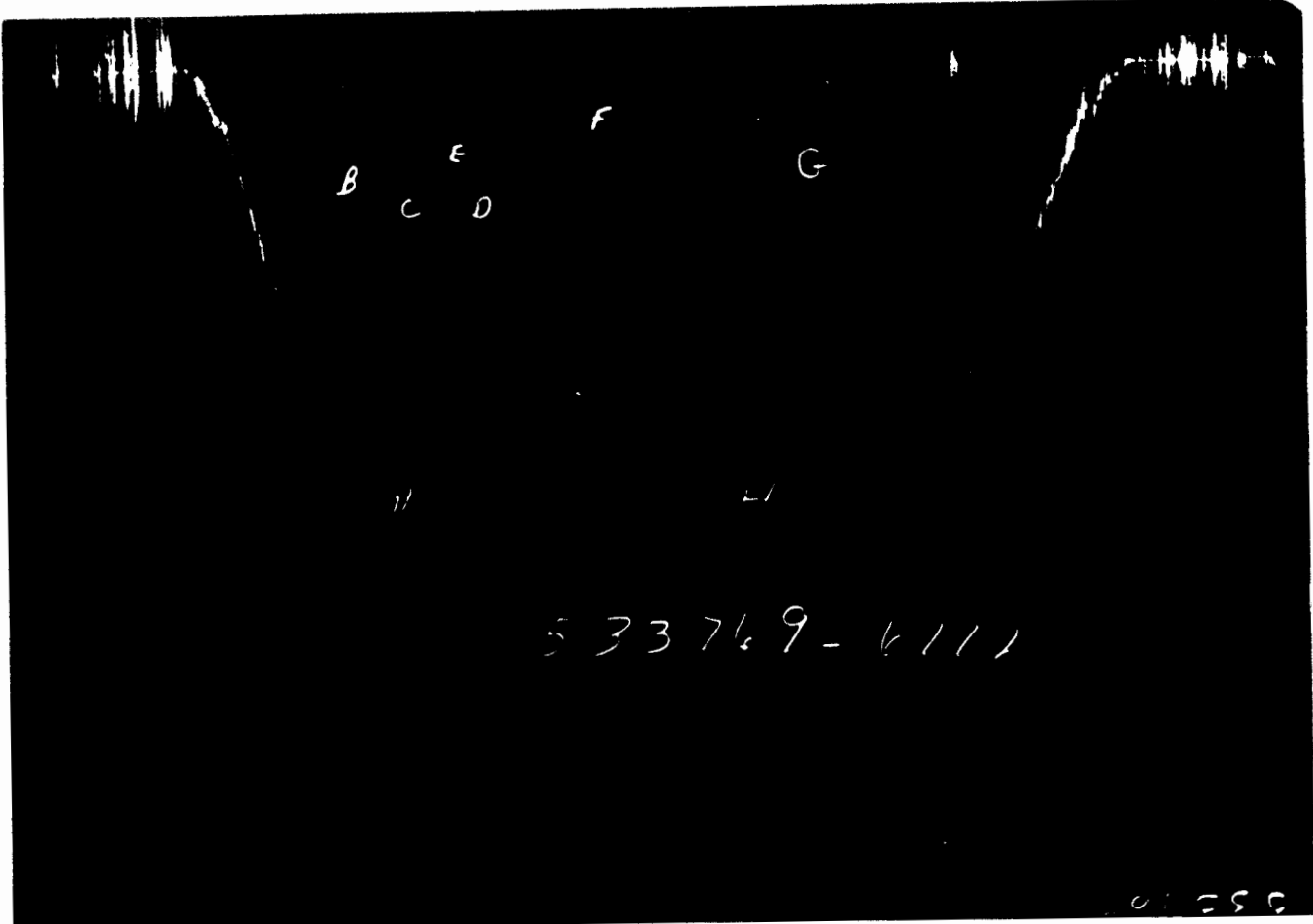
LIBERAL

WELL DATA

GAUGE NO : 6773 DEPTH : 5012.0 BLANKED OFF : NO HOUR OF CLOCK : 12

19/5/55

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2431	2425.8			
B	INITIAL FIRST FLOW	249	584.0			
C	FINAL FIRST FLOW	663	655.7	30.0	29.7	F
C	INITIAL FIRST CLOSED-IN	663	655.7			
D	FINAL FIRST CLOSED-IN	675	662.2	30.0	29.9	C
E	INITIAL SECOND FLOW	361	351.3			
F	FINAL SECOND FLOW	421	419.6	60.0	61.6	F
F	INITIAL SECOND CLOSED-IN	421	419.6			
G	FINAL SECOND CLOSED-IN	598	601.6	120.0	118.8	C
H	FINAL HYDROSTATIC	2431	2407.9			



GAUGE NO: 6772 DEPTH: 5082.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2464	2458.2			
B	INITIAL FIRST FLOW	506	629.4	30.0	29.7	F
C	FINAL FIRST FLOW	698	696.6			
C	INITIAL FIRST CLOSED-IN	698	696.6	30.0	29.9	C
D	FINAL FIRST CLOSED-IN	698	699.4			
E	INITIAL SECOND FLOW	444	429.9	60.0	61.6	F
F	FINAL SECOND FLOW	438	435.1			
F	INITIAL SECOND CLOSED-IN	438	435.1	120.0	118.8	C
G	FINAL SECOND CLOSED-IN	620	611.1			
H	FINAL HYDROSTATIC	2464	2443.5			

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER MORROW
 NET PAY (ft): 12.0
 GROSS TESTED FOOTAGE: 51.6
 ALL DEPTHS MEASURED FROM: KELLY BUSHING
 CASING PERFS. (ft): _____
 PIPE OR CASING SIZE (in): 7.875
 ELEVATION (ft): 3394.0 KELLY BUSHING
 TOTAL DEPTH (ft): 5085.0
 THICKER DEPTH(S) (ft): 5027. 5033
 ANNULAR SURFACE CHOKE (in): 0.62500
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 8.90
 MUD VISCOSITY (sec): 50
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 120 @ 5080.0 ft

TICKET NUMBER: 53376900

DATE: 7-17-87 TEST NO: _____

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: LIBERAL

TESTER: JEFF CLARK

WITNESS: BRAD NASH, M. HAF
JACK RICHARDSON

DRILLING CONTRACTOR: SLAWSON DRILLING #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
_____	<u>0.770 @ 85 °F</u>	<u>4880 ppm</u>
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm

SAMPLER DATA

P_{sig} AT SURFACE: 421.3
 cu.ft. OF GAS: 25.200
 cc OF OIL: _____
 cc OF WATER: _____
 cc OF MUD: _____
 TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

GRAVITY (°API): 42.4 @ 60 °F
 G/OIL RATIO (cu.ft. per bbl): _____
 G GRAVITY: _____

CUSHION DATA

TYPE AMOUNT WEIG

RECOVERED :

APPROXIMATELY 4 BBLS. (660') OF LIVE OIL.
 125' OF GAS CUT MUD AND OIL; ALL REVERSED TO PIT.
 (RECOVERY WAS ESTIMATED DUE TO FLARING OF GAS AT
 PIT).

MARKS :

TESTS INDICATE AND TESTER CONFIRMED THAT THE DUAL CIP VALVE WAS PLUGGED
 DURING THE FIRST FLOW PERIOD; ESSENTIALLY NO FLOW FROM THE RESERVOIR

TYPE & SIZE MEASURING DEVICE :

6" CHOKE

TICKET NO :

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
7-17-87					
0400					CALLED OUT
0800					JOB READY
0745					ON LOCATION
					RIG TRIPPED OUT OF HOLE WITH
					BIT
0900					OUT OF HOLE
0910					STARTED PICKING UP TOOL
0950					TOOL MADE UP
					TRIPPED IN HOLE WITH DST #1
1139					TOOL ON BOTTOM
1140	1/4BH				OPENED TOOL WITH NO BLOW
1210					CLOSED TOOL
1240	1/4BH				OPENED TOOL WITH BLOW OFF
					BOTTOM OF BUCKET IN 20 SECONDS
1242					OPENED TO PIT
1243					GAS TO SURFACE
1248					TIGHTEN SWIVEL CONNECTION
1251					CLOSED IN MASTER VALVE TO
					REPLACE 1/4" NIPPLE
1253	.625				OPENED MASTER VALVE
1253	.625	235	2346 .6		
1258		330	3295 .2		
1303		335	3345 .2		
1308		335	3345 .2		
1313		330	3295 .2		
1318		330	3295 .2		
1323		330	3295 .2		
1328		330	3295 .2		
1333		330	3295 .2		
1338		330	3295 .2		

TICKET NO: 53376900
 CLOCK NO: 13668 HOUR: 12

























GAUGE NO: 6773
 DEPTH: 5012.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
FIRST FLOW					
B	1	0.0	584.0		
	2	5.0	598.2	14.2	
	3	10.0	622.2	24.1	
	4	15.0	639.2	16.9	
	5	20.0	645.4	6.3	
	6	25.0	652.0	6.5	
C	7	29.7	655.7	3.7	
FIRST CLOSED-IN					
C	1	0.0	655.7		
	2	1.0	660.0	4.3	1.0 1.490
	3	2.0	661.2	5.6	1.9 1.197
	4	3.0	661.5	5.8	2.7 1.036
	5	4.0	661.5	5.8	3.5 0.925
	6	5.0	662.5	6.8	4.3 0.844
	7	6.0	662.5	6.8	5.0 0.777
	8	7.0	662.5	6.8	5.7 0.721
	9	8.0	662.5	6.8	6.3 0.674
	10	9.0	662.5	6.8	6.9 0.635
	11	10.0	662.5	6.8	7.5 0.599
	12	12.0	662.5	6.8	8.6 0.540
	13	14.0	662.5	6.8	9.5 0.494
	14	16.0	662.5	6.8	10.4 0.455
	15	18.0	662.5	6.8	11.2 0.424
	16	20.0	662.5	6.8	12.0 0.395
	17	22.0	662.5	6.8	12.7 0.371
	18	24.0	662.5	6.8	13.3 0.350
	19	26.0	662.5	6.8	13.9 0.331
	20	28.0	662.5	6.8	14.4 0.314
D	21	29.9	662.2	6.5	14.9 0.300
SECOND FLOW					
E	1	0.0	351.3		
<input type="checkbox"/>	2	1.2	399.4	48.1	
<input type="checkbox"/>	3	4.0	330.0	-69.4	
	4	5.0	332.2	2.3	
	5	10.0	371.3	39.0	
<input type="checkbox"/>	6	13.2	408.5	37.3	
	7	15.0	417.6	9.0	
	8	20.0	418.2	0.6	
	9	25.0	418.2	0.0	
	10	30.0	418.2	0.0	
	11	35.0	418.2	0.0	
	12	40.0	418.9	0.7	
	13	45.0	418.9	0.0	
	14	50.0	418.9	0.0	
	15	55.0	418.9	0.0	

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
SECOND FLOW - CONTINUED					
F	16	61.6	419.6	0.7	
SECOND CLOSED-IN					
F	1	0.0	419.6		
	2	1.0	569.0	149.4	1.0 1.961
	3	2.0	577.4	157.8	1.9 1.671
	4	3.0	581.1	161.5	2.9 1.495
	5	4.0	583.6	164.1	3.9 1.375
	6	5.0	586.1	166.5	4.7 1.288
	7	6.0	587.5	167.9	5.6 1.212
	8	7.0	588.9	169.3	6.5 1.145
	9	8.0	589.5	169.9	7.3 1.096
	10	9.0	590.2	170.6	8.2 1.049
	11	10.0	590.8	171.2	9.1 1.004
	12	12.0	591.2	171.6	10.6 0.935
	13	14.0	592.6	173.0	12.1 0.877
	14	16.0	593.5	173.9	13.6 0.826
	15	18.0	593.5	173.9	15.1 0.783
	16	20.0	594.7	175.1	16.4 0.745
	17	22.0	594.7	175.1	17.7 0.712
	18	24.0	594.7	175.1	19.0 0.682
	19	26.0	594.7	175.1	20.3 0.654
	20	28.0	594.7	175.1	21.4 0.630
	21	30.0	595.6	176.0	22.6 0.607
	22	35.0	596.2	176.6	25.3 0.557
	23	40.0	596.2	176.6	27.8 0.516
	24	45.0	597.0	177.4	30.1 0.481
	25	50.0	597.9	178.3	32.3 0.451
	26	55.0	598.2	178.6	34.3 0.425
	27	60.0	598.4	178.8	36.2 0.402
	28	70.0	599.1	179.6	39.6 0.363
	29	80.0	599.1	179.6	42.6 0.331
	30	90.0	599.7	180.1	45.3 0.304
	31	100.0	599.7	180.1	47.7 0.282
	32	110.0	599.7	180.1	49.9 0.262
G	33	118.8	601.6	182.0	51.6 0.248

LEGEND:
 UNEXPLAINED PRESSURE CHANGE MINIMUM FLOW PRESSURE POSSIBLE CHOKE CHANGE

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE	4.500	3.826	4412.8	
3		DRILL COLLARS	6.000	2.250	451.0	
50		IMPACT REVERSING SUB	6.000	2.500	1.0	4863.0
3		DRILL COLLARS	6.000	2.250	124.0	
5		CROSSOVER	6.000	2.500	1.0	
97		BUMPER SUB	6.000	1.500	6.8	4996.0
11		HANDLING SUB & CHOKE ASSEMBLY...	4.500	3.826	4.0	
13		DUAL CIP SAMPLER	5.000	0.750	6.8	
60		HYDROSPRING TESTER	5.000	0.750	5.0	5010.0
80		AP RUNNING CASE	5.000	2.250	4.0	5012.0
15		JAR	5.000	1.750	5.0	
16		VR SAFETY JOINT	5.000	1.000	3.0	
70		OPEN HOLE PACKER	6.750	1.580	6.0	5027.4
70		OPEN HOLE PACKER	6.750	1.580	6.0	5033.4
20		FLUSH JOINT ANCHOR	5.000	2.370	5.0	
5		CROSSOVER	6.000	2.500	1.0	
3		DRILL COLLARS	6.000	2.250	31.6	
5		CROSSOVER	6.000	2.500	1.0	
5		CROSSOVER	6.000	2.500	1.0	
20		FLUSH JOINT ANCHOR	5.000	2.370	5.0	
83		HT-500 TEMPERATURE CASE	5.000		1.0	5080.0
81		BLANKED-OFF RUNNING CASE	5.000		4.0	5082.0
TOTAL DEPTH						5085.0

EQUIPMENT DATA

TICKET NO: 53376900

CLOCK NO: 10432 HOUR: 12



GAUGE NO: 6772

DEPTH: 5082.0

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
FIRST FLOW					
B	1	0.0	629.4		
	2	5.0	643.0	13.6	
	3	10.0	667.5	24.5	
	4	15.0	683.7	16.2	
	5	20.0	688.8	5.1	
	6	25.0	693.2	4.4	
C	7	29.7	696.6	3.4	
FIRST CLOSED-IN					
C	1	0.0	696.6		
	2	1.0	700.8	4.2	1.0 1.478
	3	2.0	702.0	5.4	1.9 1.201
	4	3.0	702.4	5.8	2.7 1.039
	5	4.0	702.4	5.8	3.5 0.929
	6	5.0	702.9	6.3	4.3 0.844
	7	6.0	702.9	6.3	5.0 0.772
	8	7.0	703.2	6.6	5.6 0.722
	9	8.0	703.2	6.6	6.3 0.672
	10	9.0	703.2	6.6	6.9 0.634
	11	10.0	702.4	5.8	7.5 0.600
	12	12.0	702.4	5.8	8.5 0.542
	13	14.0	702.4	5.8	9.5 0.494
	14	16.0	702.4	5.8	10.4 0.455
	15	18.0	702.4	5.8	11.2 0.424
	16	20.0	701.0	4.4	12.0 0.395
	17	22.0	701.0	4.4	12.6 0.371
	18	24.0	700.5	3.9	13.3 0.350
	19	26.0	699.9	3.4	13.9 0.331
	20	28.0	699.9	3.4	14.4 0.314
D	21	29.9	699.4	2.8	14.9 0.300
SECOND FLOW					
E	1	0.0	429.9		
1	2	1.2	453.1	23.3	
2	3	4.0	346.0	-107.1	
	4	5.0	353.4	7.4	
	5	10.0	393.0	39.6	
3	6	13.2	433.3	40.3	
	7	15.0	435.7	2.4	
	8	20.0	434.5	-1.2	
	9	25.0	434.5	0.0	
	10	30.0	434.5	0.0	
	11	35.0	434.5	0.0	
	12	40.0	434.5	0.0	
	13	45.0	434.5	0.0	
	14	50.0	434.5	0.0	
	15	55.0	434.5	0.0	

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
SECOND FLOW - CONTINUED					
F	16	61.6	435.1	0.6	
SECOND CLOSED-IN					
F	1	0.0	435.1		
	2	1.0	587.1	152.1	1.0 1.975
	3	2.0	591.8	156.7	2.0 1.663
	4	3.0	594.6	159.5	2.9 1.495
	5	4.0	596.9	161.8	3.8 1.377
	6	5.0	598.1	163.0	4.8 1.282
	7	6.0	599.4	164.3	5.6 1.212
	8	7.0	599.4	164.3	6.5 1.147
	9	8.0	599.7	164.6	7.4 1.092
	10	9.0	600.4	165.3	8.2 1.047
	11	10.1	601.7	166.7	9.1 1.004
	12	12.0	602.6	167.5	10.6 0.934
	13	14.0	603.5	168.4	12.1 0.877
	14	16.0	603.5	168.4	13.6 0.826
	15	18.0	604.1	169.0	15.1 0.783
	16	20.0	604.1	169.0	16.4 0.746
	17	22.0	604.8	169.7	17.7 0.712
	18	24.0	604.9	169.9	19.0 0.681
	19	26.0	605.5	170.5	20.2 0.654
	20	28.0	606.0	170.9	21.4 0.629
	21	30.0	606.0	170.9	22.6 0.606
	22	35.0	606.6	171.5	25.3 0.557
	23	40.0	607.0	171.9	27.8 0.516
	24	45.0	607.0	171.9	30.1 0.481
	25	50.0	608.0	172.9	32.3 0.451
	26	55.0	608.5	173.4	34.3 0.425
	27	60.0	608.5	173.4	36.2 0.402
	28	70.0	609.2	174.1	39.6 0.362
	29	80.0	609.2	174.1	42.6 0.331
	30	90.0	610.6	175.6	45.3 0.304
	31	100.0	610.6	175.6	47.7 0.282
	32	110.0	610.6	175.6	49.9 0.262
G	33	118.8	611.1	176.0	51.6 0.248

LEGEND:

1 UNEXPLAINED PRESSURE CHANGE

2 MINIMUM FLOW PRESSURE

3 POSSIBLE CHOKE CHANGE

REMARKS: